



DSD Design Standards ^{for} Nursing Homes

version 3.0

Prepared for Department of Social Development
by Department of Transportation and Infrastructure
Buildings Division

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Attachment:

DRAWING LEGEND

LEGEND/LÉGENDE

WC -----	WATER CLOSET TOILETTE	MH -----	MOUNTING HEIGHT HAUTEUR DE MONTAGE
T.B. -----	TACKBOARD PANNEAU DE POINTE	AFF -----	ABOVE FINISH FLOOR AU-DESSUS DU PLANCHER FINI
NIC. -----	NOT IN CONTRACT PAS DANS CE CONTRAT	HPB -----	HIGH PERFORMANCE BUILDING BÂTIMENT HAUT RENDEMENT
TYP. -----	TYPICAL TYPIQUE	FRP -----	FIBREGLASS REINFORCED PANELS PANNEAUX LATÉRAUX RENFORCÉS DE FIBRE DE VERRE
EQ. -----	EQUAL ÉGALE	A.H.J. -----	AUTHORITY HAVING JURISDICTION AUTORITÉS COMPÉTENTES
N/A -----	NOT APPLICABLE NON APPLICABLE	B.M.S. -----	BUILDING MANAGEMENT SYSTEM SYSTÈME DE GESTION DES IMMEUBLES
℄ -----	CENTER LINE LINGE DU CENTRE	V.O.C. -----	VOLATILE ORGANIC COMPOUND COMPOSÉ ORGANIQUE VOLATIL
NBC CNB -----	NATIONAL BUILDING CODE CODE NATIONAL DES BÂTIMENTS	SCAQMD -----	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
FE -----	FIRE EXTINGUISHER EXTINCTEUR	DSD -----	DEPARTMENT OF SOCIAL DEVELOPMENT MINISTÈRE DU DÉVELOPPEMENT SOCIAL
T.B.D. -----	TO BE DETERMINED À DÉTERMINER	NH -----	NURSING HOME FOYER DE SOINS
STC -----	SOUND TRANSMISSION CLASS INDICE DE TRANSMISSION DU SON		
NRC -----	NOISE REDUCTION COEFFICIENT COEFFICIENT DE RÉDUCTION DU BRUIT		
DTI -----	Department of Transportation and Infrastructure/ Ministère des Transports et de l'Infrastructure		

INTRODUCTION

OBJECTIVES

The Design Standards have been jointly developed by the Department of Social Development and the Department of Transportation and Infrastructure.

The purpose of this document is to provide definitive requirements for building performance, building quality and building function to the consultants who are designing nursing homes funded by the Province of New Brunswick.

The intent is to standardize system elements based on proven success, so that the final product is homelike and safe, yet cost effective, energy efficient, maintainable, and functional for residents and staff. Good quality daylight design is considered an essential component.

These Standards do not supplant any mandatory codes or regulations.

PRESENTATION FORMAT

This document is subdivided into two component parts:

A. PROGRAMMING STANDARDS

The programming standards are a statement of definite standards for the programming or content and organization of the spaces being provided.

Room sizes that are listed, in the written text and sketches, are considered as being representational of typical sizes.

B. PERFORMANCE STANDARDS

Statement of design expectations from a performance based criteria.

AUTHORSHIP

This document has been prepared by the Buildings Division of the Department of Transportation and Infrastructure.

The Standards will be updated periodically in response to program/technical changes and as a result of discrepancies in or interpretation of the contents which have been identified by its users and post-occupancy evaluation by the Department of Social Development.

OTHER DOCUMENTS

The Department of Social Development may in addition issue the following separate documents:

- .1 **NURSING HOME FUNCTIONAL PROGRAM**
This document is prepared by the Department of Social Development and is unique to each Nursing Home project. It usually contains the following information:
 - .1 Nursing home background.
 - .2 Summary of the area requirements.
 - .3 General descriptions of space requirements.
 - .4 The Nursing Home Functional Program overrules any size and or description of space which may be outlined further in this standard.
- .2 **PROJECT SPECIFIC TEMPLATE**
30, 60 and 90 bed Nursing Home designs will use a project specific template. For additions, the template will form the basis of design.

Notes:

- 1. The drawings in this standard are for reference only. The text in this standard overrules the drawings.
- 2. Casework dimensions are approximate. Final dimensions are at the discretion of the consultant.

PROGRAMMING STANDARDS**OBJECTIVES**

The Programming Standards are to be used to establish and communicate to designers minimum performance standards for the functionality, the quality and the performance of Department of Social Development Projects for Nursing Homes.

It is envisioned that this document will be used by:

1. The Department of Social Development.
2. The Buildings Division of the Department of Transportation and Infrastructure.
3. The Architectural Consultants and Sub Consultants engaged by the Department of Transportation and Infrastructure.

The standardized system elements in this Section are intended to show:

1. Content of the spaces.
2. The standardized system elements are mandatory.

GENERAL PROGRAMMING STANDARDS

Resident areas in nursing homes shall be developed in a homelike scale, detail, and in a manner comprising small group living spaces without dead-end corridors. Each resident house shall have a minimum of 25 beds to a maximum of 30 beds, except under special circumstances approved by NB Nursing Home Services. See Nursing Home Functional Program for sizes of Resident Houses. All communal spaces used by residents must have views to the outside.

All facilities shall be designed to respect a spatial hierarchy allowing an appropriate transition from public space, to semi-public space, to semi-private space to the private resident areas of the complex.

Residents shall have access from each resident house to outdoor courtyards or gardens, walking paths, balconies or terraces. Exterior doors for public and resident use shall be installed with power assisted openers.

Residents, staff and families shall not travel through one resident house to access another resident house and administration areas shall be separate from all resident areas.

SITE DEVELOPMENT**1. Site Location**

The facility should be in an area that is conducive to residential development and the building should occupy the site as a one or two storey building, depending on size of facility, with resident access from each storey to outdoor courtyards, gardens, balconies or terraces. Single storey facilities shall be wood frame construction where possible.

Facilities ninety (90) beds or smaller shall be designed as 1 storey buildings.

2. Site Requirements

Landscaped outdoor resident spaces are required, complete with barrier-free and wheelchair accessible walkways, fencing, outdoor seating and furniture that are barrier free and wheelchair accessible. Pathways must not dead end and preferably be looped in configuration with a paved 2% gradient at building entrances with a maximum gradient of 5% for parking areas and related sidewalks. Pavement in outdoor resident concrete surfaces should be coloured to reduce glare. Handrails must be provided for all stairs, ramps, and used to assist residents on level outdoor walkways. Outdoor, non-glare lighting must be provided with no impact on indoor spaces. Lighting shall maintain safe light levels while avoiding off-site lighting and night sky pollution. Shade for residents must be provided through porches and verandas to allow protection from harsh weather elements and their transition from indoor to daylight conditions. Ensure pathways are wide enough to accommodate a Bariatric wheelchair. Stamped concrete is not permitted to be used for outdoor walkways.

Landscaping shall be water efficient and shall make use of native plantings.

Provision must be given to accommodate sufficient snow storage on-site in winter months for all pathways, roads and parking lots.

The site design must provide unobstructed access for fire department and ambulance vehicles, adequate parking for visitors and staff, and, for shipping and receiving activities. Site design shall allow for pickup for recycling program. Service areas including emergency generators, mechanical equipment, fuel tanks, and waste storage areas must be screened to minimize visual impact.

Pedestrian and cyclist traffic should be separate from vehicle traffic.

SITE DEVELOPMENT (continued)**3. Standards for Outdoor Recreation Areas**

The pursuit of outdoor recreational activities is an important component of quality of life for all of us. For those individuals with cognitive impairments ready access to the outdoors is crucial to building self-esteem, fostering a sense of independence, and decreasing restlessness and the frustration associated with a restrictive environment. In creating a successful outdoor environment for residents, there should be suitable motivators for the residents to proceed outside. Activities such as gardening in raised planter beds, barbeques, afternoon teas, and stacking wood are a few possibilities to encourage residents to participate in outdoor activities.

The success of an outdoor recreation area for the cognitively impaired is dependent upon its location, accessibility and layout in terms of its spatial and conceptual relationship to the building. A successful outdoor garden area:

- Provides sensory stimulation through variation in daylight, weather, seasonal changes, native birds, fragrant blossoms
- Is highly accessible visually and physically
- Is well integrated with the building, have visual background without view of distance vistas for cognitively impaired residents
- Direction should be limited to avoid confusion
- An outdoor space must be of a human scale for the cognitively and physically impaired
- Outdoor seating must occur adjacent to a level wandering path with non-toxic plants and bushes located around the bench areas to provide an additional sense of security

4. Outdoor Walkway

The outdoor walkway will be looped, no greater than 500 meters in total length. It will have a width of 1800 mm to permit 2 persons to pass one another easily using mobility aids such as walkers, canes or wheelchairs. The walkway must be level and flush with the surrounding garden with no gutters, embankments or barriers. Throughout the length of the path, the grade should remain the same with no stairs or ramps. The walkway will be constructed of a continuous hard material. It must be constructed of slip-resistant material, with no cracks, pebbles or stones.

The walkway should be free of ice and snow in the winter. The walkway must be unobstructed with grates, drains and kept clear of debris.

SITE DEVELOPMENT (continued)**5. Gardening and Outdoor Activities**

Residents living in a secured resident house must be provided with fresh air, sensory stimulation and independence through access to the outdoors. Some residents may be able to perform gardening tasks while others may wish to watch. Trellises, gazebos and umbrella tables can provide shade protection and intimate seating areas. Outdoor seating must be equipped with vertical backs and armrests.

The building entrance must be recognizable from the garden/outdoor space. A washroom must be located in close proximity to the entrance, so that residents will not be discouraged from remaining in the outdoors for a long duration.

6. Seating

Seating must be arranged at frequent intervals along the walkway. Seating arrangements should serve both individuals and groups. Wheelchairs must be accommodated on 36 inches (900 mm) wide hard surfaces minimum, adjacent fixed outdoor seating.

SITE DEVELOPMENT (continued)**7. Landscaping**

Appropriate landscaping must be designed to create a safe, human scaled, private garden. The landscaping must not completely conceal the building from any point along the outdoor walkway. Frequent views of the building will reassure the resident, and must provide important visual cues for orientation.

The outdoor space must be planted with trees and shrubs. Trees, shrubs planted adjacent to walkways and seating areas provide a sense of enclosure. Immature plants and trees should be planted in clusters. Mature plants massed or clustered serve as dividers, visual screens, or wind shelters. Deciduous trees can provide summer shade and allow winter light.

Plant material must be chosen for its climatic tolerance to specific hardiness zones and geographic location. Trees and shrubs should be selected for their variety of collared foliage and bark, texture, blossoms and fragrance. Plant materials that attract birds and provide color in winter can be selected in addition to evergreen shrubs and conifers.

Landscaping shall be water efficient and shall make use of native plantings. Collection of rainwater for irrigation may be considered.

Avoid poisonous or hazardous plants. (The Appendix lists poisonous or otherwise hazardous plants). Pest-resistant varieties may be selected to avoid or decrease the use of pesticides or insecticides. Plants with thorns or other prickly parts must be avoided. Plants with obvious messy fruit, obnoxious odour, or those with a heavy production of catkins or large seed pods (e.g. Halka Honeylocust or Ginkgo biloba) cause litter problems and should be avoided. The use of guy wires must be avoided in areas where residents' activities take place.

Plants may be used to develop differentiated fragrance gardens. Fragrant flowers and plants are particularly attractive to those with limited or impaired vision. Fragrance will stimulate the senses and evoke memories of the past. These plants may include a combination of annuals and perennials, shrubs and trees. Example: sunflowers, geraniums, begonias, impatiens, dahlias, carnations, daylilies, tiger lilies, gladiolus, peonies, iris, daffodils, tulips, potentilla, spirea, lilacs, forsythia, honeysuckle, viburnum. The opportunity to pick flower bouquets might be welcomed. To allow limited practice of this, mixed, fast-growing flowers can border walkways.

Trees and plants must be well maintained and pruned as needed. Prune tree branches overhanging walkways to a height of 8.5 feet (2600 mm) measured from the ground. Leaf litter must not be allowed to accumulate on the pathway, as it can become a hazardous impediment to walking.

SITE DEVELOPMENT (continued)**8. Fences**

Fences shall not be constructed of chain link. Their construction should deter climbing, and their height should be sufficient to contain panoramic vistas.

9. Shade Protection

Arbours, trellises, umbrella tables, shaded swings provide protection from the hot sun and wind. Gazebos can provide a protected environment. They must be stable, of sturdy construction and non-climbable. There should be no grade change between the walkway and the gazebo floor.

10. Outdoor Furniture and Amenity Finishes

Benches, tables, fences, walls, and any other surfaces accessed by residents should be sanded smooth with no rough edges, sharp corners, or checks and splinters. Where wooden members are finished with toxic or poisonous preservatives, stains or paints, ensure manufacturer's directions are followed closely and refuse is disposed of in the correct manner. Ensure that wooden furnishings are completely dry before allowing their use. Where ever possible use non-toxic environmentally friendly products. Finishes shall contain low or no VOCs.

11. Gardens and Planters

Gardening can provide appropriate stimulation of all five senses: seeing, hearing, smelling, touching, and tasting. Gardening activities should be kept simple. Raking leaves or weeding are repetitive activities that keep the individual occupied and focused on the activity.

Raised flowerbeds and planters along walkways or at seating areas provide access for those who wish to participate by tending to flowers and shrubs. Raised beds also provide access for residents using wheelchairs. Ensure that non-toxic, non-poisonous plants are used. Pre-manufactured mobile garden planters can be used outside and indoors during cold weather seasons.

Garden plots for vegetable gardens should also be designated. Activities may include planting, watering, hoeing, weeding, cultivating, and picking ripe produce.

Landscaping shall be water efficient and shall make use of native plantings. Collection of rainwater for irrigation may be considered.

SITE DEVELOPMENT (continued)**12. Specialty Items**

Specialty items may include old-fashioned tools, garden implements, water fountains, bird feeders, bird baths, clothes lines, flower beds or pet kennels. These objects can be placed around the walking loop or on adjacent lawns as orientation markers. They provide reflection on past experiences and stimulate conversation.

Exterior handrails or physical supports along the perimeter of the walking loop shall be incorporated to make mobility easier for mentally impaired and frail residents. Handrails shall meet CSA Standard B651 Accessible Design for the Built Environment, latest edition.

13. Splash Apron

Provide a clean/washed, stone splash apron around perimeter of building with geotextile filter fabric under splash apron to eliminate vegetation growth.

14. Electrical Exterior Light Fixtures

Night-time exterior lighting for the outdoor garden will improve safety and security for users and encourage evening use of the space. Outdoor electrical outlets may also be provided for patio activities. Outdoor garden lights should not shine into residents' bedrooms at night and disturb sleep patterns. Lighting shall maintain safe light levels while avoiding off-site lighting and night sky pollution

15. Call Buttons

The outdoor space shall be equipped with emergency call buttons.

16. Entrance Canopy

Provide a canopy at main entrance which will protect residents from the elements during vehicle pick-up and drop off. Entrance canopy shall be designed for one way traffic. Entrance canopy shall not be designed for fire truck access. Provide alternative access for fire department response meeting requirements of NBC and Authority having Jurisdiction.

17. Building/Facilities Identification Signs – Outdoor

A permanent sign is to identify the Nursing Home and will be provided by the Owner (NIC).

BUILDING PERFORMANCE**.1 Daylighting and Views**

Provide building occupants with a connection between indoors and outdoors by providing good quality daylight into the Nursing Home's regularly occupied areas. Strategies include building orientation and layout, courtyards, atria, light wells, exterior and interior shading devices, high performance glazing, light shelves, window treatments and light sensors.

Provide residents, visitors and staff with a connection to the natural environment by providing views to landscape. Strategies include building orientation and siting, layout of site development, window placement in resident bedrooms and resident common areas, glazing in corridors, glazing in staff rooms, borrowed lights between perimeter spaces and interior spaces, and use of core areas for service rooms.

Visible light transmittance (VT) of glazing shall be as required in "Performance Standards B.8 Doors and Windows" to maximize daylight and views.

U Value of windows shall be as required in "Performance Standards B.7 Thermal and Moisture Protection/Building Performance".

Glare shall be controlled through building orientation, exterior and interior sun shading devices, light shelves, window treatments and translucent insulated glazing.

Interior room walls and ceilings shall be light coloured in order to improve daylight penetration into spaces. Dark colours shall be avoided. Minimum Room Finish Reflectance's shall be as required by "Performance Standards B.9 Finishes".

.2 Acoustic Enhancements

Provide residents with surroundings free of disruptive levels of noise. Strategies include locating resident bedrooms away from elevators/stairs, care office or visitor spaces, acoustically isolate resident rooms from each other and corridors, use sound absorbing finishes, locate noise generating mechanical and electrical equipment away from resident and staff areas and isolate equipment from the building structure.

BUILDING PERFORMANCE (continued)**.3 Mould Prevention**

Reduce the potential presence of mould in Nursing Homes through preventive design and construction measures. (HVAC systems and controls and an Indoor Air Quality management program).

Reference CSA S478 Guideline on Durability in Buildings, latest edition.

.4 Water Use Reduction

Limit or eliminate the use of potable water for landscape irrigation and maximize water efficiency to reduce the burden on water supply and wastewater systems. Strategies include use of captured rain water for irrigation, planting of indigenous species to eliminate irrigation requirements, and use of high-efficiency fixtures.

.5 Recycling Program

Set up a collection system and provide designated areas serving the Nursing Home for the separation, storage and collection of materials for recycling including, but not limited to, newsprint, paper, corrugated cardboard, glass, plastics, metals, fluorescent lamps and batteries.

.6 Erosion and Sedimentation Control

Prepare and implement an Erosion and Sedimentation Control plan for construction. The plan shall prevent the following: loss of soil during construction by controlling storm water run-off and wind erosion; sedimentation of waterways; and airborne dust generation. The plan shall describe implementation measures for the following: preservation of natural vegetation, drainage swales, sediment basins, dust control, permanent seeding and planting, buffer zones, geotextiles, dewatering and silt fencing during construction and be supported with construction drawings and specifications.

.7 Storm Water Management

Storm water collection and treatment systems can lessen the burden on municipal water treatment systems.

Minimize storm water runoff by reducing the amount of impervious area such as roads and sidewalk, and maximizing pervious material and vegetated areas on the site. Strategies to minimize or lessen storm water runoff may also include designing infiltration swales, detention or retention basins, and planting vegetated filter strips.

.8 Construction Waste Management

Create a Construction Waste Management Plan including reasonable ways to reduce, reuse or recycle waste including on site separation. Check with local authorities on what opportunities are available for recycling of construction waste materials

A.

Performance Standards

LISTING OF SPACES**A.1 RESIDENT HOUSE****Function and Space Relationships**

Residential houses must meet the special needs of residents to maximize their health, functional abilities and quality of life. To achieve this aim, resident houses will have these functions:

- Care staff will plan, coordinate, implement, monitor assess and evaluate all aspects for resident care regularly
- Care staff will provide clinical, consultative, educational, and management services designed to maintain and improve quality of care and respond to the changing needs of residents within the facility
- Services include practices and procedures necessary to meet the needs of residents and include, but is not limited to the following:
 - personal care
 - activities of daily living
 - nutrition
 - skin care and infection control
 - elimination
 - ambulation
 - pain control and end of life supportive care
 - medication control and administration
 - treatments
 - recreation
 - respiratory care and therapies
 - physiotherapy and occupational therapy

Family and resident-centred care will be the focus on the resident houses.

- The resident houses shall be adjacent to the communal spaces and rehabilitation areas for easy transportation of residents requiring therapy.
- The activity and recreation therapy areas shall be convenient to the resident houses. Residents and staff require access to spaces within the resident houses for small group activities. Individual resident and staff consultations will be accommodated in single resident bedrooms.
- Dietary services shall be convenient to the resident houses so that there is good access to satellite dining rooms.
- Residents, staff and families shall not have to travel through one resident house to access another resident house.
- There shall be no dead end corridors in resident areas.
- Long corridors shall be avoided.

The resident care teams will have links with external care providers from physicians and allied health professionals who provide services for residents. Space must be provided for these specific functions within the home. Planning consideration must be given for ambulance and emergency medical staff access to the facility.

LISTING OF SPACES (continued)**A.1 RESIDENT HOUSE (continued)****Space Planning Standards**

Houses shall have 25 to 30 residents. See Nursing Home Functional Program for size of Resident Houses. This concept enables the physical environment to be home-like, with residents' bedrooms in close proximity to de-centralized dining, living and activity rooms to provide a quiet environment with shorter travel distances to the semi-private dining and activity areas.

Entering the Resident House, the doors and view of entrance shall be designed to mimic the entrance to a house.

A.1 RESIDENT HOUSE (continued)**.1 RESIDENT BEDROOMS**

Resident bedrooms in nursing homes are to support single resident room accommodation to meet residents' need for private space and infection control complete with ensuite washroom facilities. The resident bedroom represents the core of the resident's personal space accommodating the most private of all activities – sleeping, grooming and dressing. It must meet residents' need for comfort, safety and promote independence and dignity for utmost privacy.

.1 Components**.1 Single Resident Bedroom****.2 Bariatric Single Bedroom**

A single resident bedroom designed for bariatric residents.

.3 Double Resident Bedroom**.2 Spatial Relationships**

.1 Bedrooms shall be located to provide a quiet environment for the residents. Avoid locating bedrooms adjacent to elevators, stairwells, and visitor/public spaces.

.2 Resident bedroom configuration shall allow for personalization.

.3 The toilet must be visible to the resident when the resident is in bed.

.4 The entrance to the ensuite washrooms shall be from within the resident bedroom.

.5 Direct views into the ensuite washroom from the communal corridor are not permitted.

.6 Ensuite washrooms shall not be shared between two single bedrooms unless situated in double room configuration.

.7 The bedrooms shall provide views to the exterior landscape.

A.1 RESIDENT HOUSE (continued)**.1 RESIDENT BEDROOMS (continued)****.3 Unit Spaces**

(The following notes apply to table A.1.1.3 and all items shall be in construction contract unless otherwise noted).

- .1 One bariatric single room shall be provided per 30 beds. This will substitute a regular single room when applicable. Consideration will be given for additional bariatric resident rooms where required to address the needs of special resident populations.
- .2 STC Ratings shall be as follows:

Bedroom to Service Area	STC 60
Bedroom to all other spaces in building	STC 50
- .3 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .4 For purposes of planning minimum clearances around beds, unless otherwise specified by the Nursing Home Functional Program, the dimensions of the bed shall be 890mm wide x 2235mm long. For planning purposes the composite bariatric bed is 1118mm wide x 2286mm long in the normal position and 1550mm wide x 2489mm long with safety sides in place.
- .5 The bedroom doorway must provide a minimum clear width of 1220mm. Doors to resident rooms can be combined with smaller leaves to achieve the same opening width, but no clear opening shall be less than 914mm width. Doors used by residents shall be colour coded to contrast walls to prompt resident use. The Bariatric Resident Bedroom doors shall provide a minimum clear width of 1524mm. Washroom doors in bariatric room shall be a minimum width of 1524mm.
- .6 Windows shall restrict the resident elopement through the operable section of the mechanism. Operable sections shall be fitted with screens. Opening dimension shall be a maximum of 150mm.
- .7 A variety of different interior design treatments should be considered for resident rooms including colour and texture balanced with quality daylighting.
- .8 Depending on a residents care requirements, the resident rooms shall permit flexibility in the placement of some furnishings to accommodate personal wishes.

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)

.1 RESIDENT BEDROOMS (continued)

.3 Unit Spaces (continued)

- .9 Rigid vinyl/acrylic wall covering shall be complete with vertical and horizontal moldings for a wainscoting effect. Complex wall covering designs shall be avoided so as not to cause disorientation among residents. Walls must be distinctly coloured from the abutting floor and ceiling colours to properly define the surface edges for the elderly.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.1 RESIDENT BEDROOMS (continued)****A.1.1.3 Unit Spaces TABLE** (refer to previous page for related notes)

Content	Single Resident Bedroom	Bariatric Single Bedroom	Double Resident Bedroom
Number Required per House	80% of bedrooms	1 per 30 beds See Note 1	3
Clear Area	15.71 sq.m. Note 4, 8	27.00 sq.m. including washroom Note 4, 8	18.4 sq.m. per individual bed area. Note 4, 8
Ceiling Height	Min 2.44m	Min 2.44m	Min 2.44m
Daylight and Views	Must achieve a minimal Daylight Factor of 2% in all bedrooms. Provide views to the outdoors/landscape.		
Finishes Walls	Abuse resistant gypsum board STC: Note 2 Rigid wall covering to 1220mm A.F.F. at bed. Note 7, Note 9	Abuse resistant gypsum board STC: Note 2 Rigid wall covering to 1220mm A.F.F. at bed. Note 7, Note 9	Abuse resistant gypsum board STC: Note 2 Rigid wall covering to 1220mm A.F.F. at bed. Note 7, Note 9
Floors	Resilient sheet flooring with sealed rubber base. See Note 3	Resilient sheet flooring with sealed rubber base. See Note 3	Resilient sheet flooring with sealed rubber base. See Note 3
Ceilings	Gypsum Board	Gypsum Board	Gypsum Board
Casework	Built in resident wardrobe, see drawing. Built-in memory boxes with laminated safety glass and cork board back on corridor walls at entry door	Built in resident wardrobe, see drawing. Built-in memory boxes with laminated safety glass and cork board back on corridor walls at entry door	Built in resident wardrobe, see drawing. Built-in memory boxes with laminated safety glass and cork board back on corridor walls at entry door
Doors			
Solid	Solid door See Note 5	Solid door See Note 5	Solid door See Note 5
Glazed Side Light	No	No	No
Operable Windows	Yes, Note 6	Yes, Note 6	Yes, Note 6
Window Sills	Max 630 mm A.F.F.	Max 630 mm A.F.F.	Max 630 mm A.F.F.
Window Treatment	Blinds	Blinds	Blinds
Ceiling Lift Track	Yes, See Drawings	Yes, See Drawings	Yes, See Drawings
Motion sensor Switching	No	No	No

A.**Performance Standards**

A.1 RESIDENT HOUSE (continued)**.1 RESIDENT BEDROOMS (continued)****A.1.1.3 Unit Spaces TABLE (continued)**

Content	Single Resident Bedroom	Bariatric Single Room	Double Resident Bedroom
Resident/Staff Response System	Resident station at bed Corridor dome light over resident room door	Resident station at bed Corridor dome light over resident room door	Resident station at bed Corridor dome light over resident room door
Voice and data communication outlet	Yes	Yes	Yes
Cable TV	Yes	Yes	Yes
Air Conditioning	Yes see Part B	Yes see Part B	Yes see Part B

A.

Performance Standards

.4 Typical Drawings

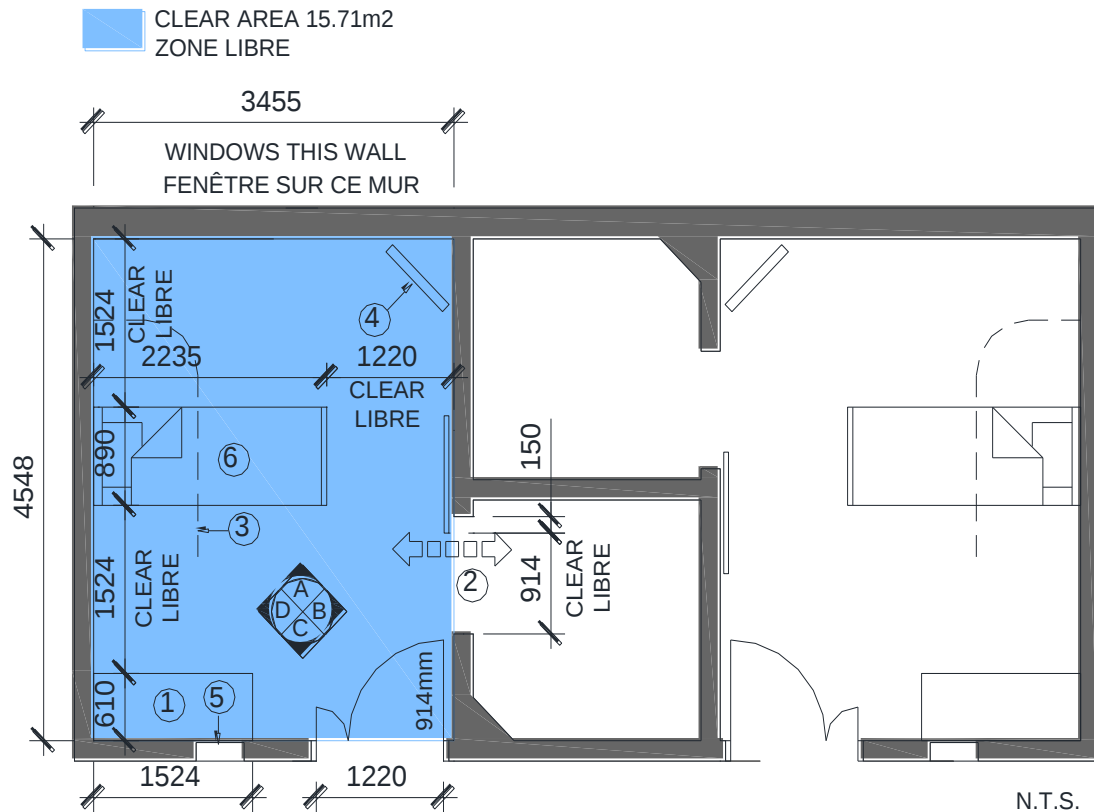
.1 Single Resident Bedroom Floor Plan

- ① WARDROBE
GARDE-ROBES
- ② WASHROOM ACCESS
ACCÈS AUX TOILETTES
- ③ CEILING LIFT TRACK
RAIL POUR LÈVE-PERSONNES
FIXÉ AU PLAFOND
- ④ WALL MOUNTED TELEVISION
AND BRACKET N.I.C.
TÉLÉVISEUR ET SUPPORT
FIXÉS AU MUR, PAS DANS CE
CONTRAT
- ⑤ MEMORY BOX
BOÎTE DE RANGEMENT
- ⑥ BED 890mm X 2235mm (N.I.C.)
LIT 890 mm X 2235 mm

NOTES / REMARQUES:

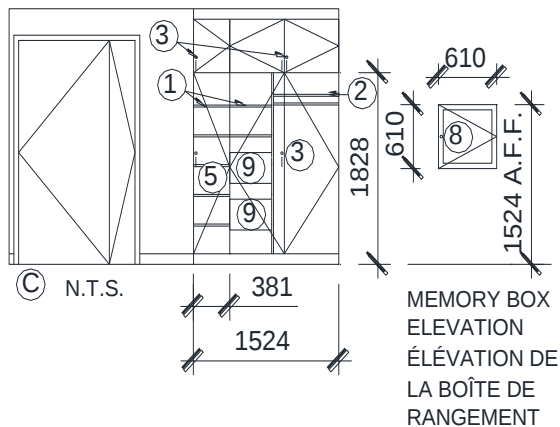
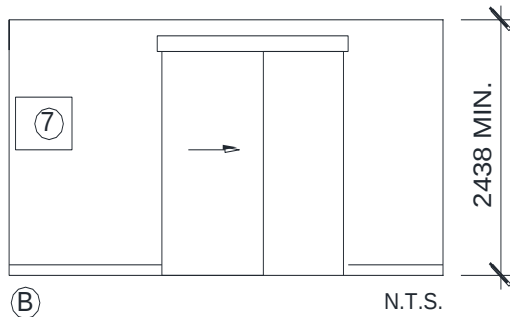
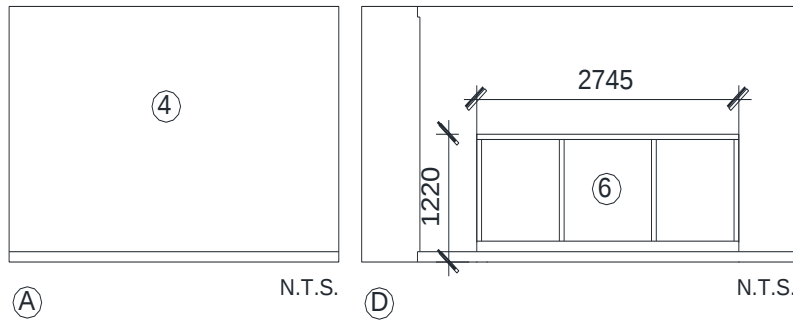
1. CEILING LIFT TRACK CONFIGURATION AT DISCRETION OF NURSING HOME.
CONFIGURATION DU RAIL POUR LÈVE-PERSONNES FIXÉ AU PLAFOND SI LE FOYER DE SOINS LE JUGE OPPORTUN.

2. TELEVISION BRACKET PROVIDED BY NURSING HOME INSTALLED BY CONTRACTOR, PROVIDE ADEQUATE BACKING IN WALL FOR SUPPORT. SUPPORT POUR TÉLÉVISEUR FOURNI PAR LE FOYER DE SOINS, INSTALLÉ PAR UN ENTREPRENEUR. INSTALLER DES PIÈCES DE RENFORT DANS LES MURS POUR LE SUPPORT



Performance Standards

.2 Single Resident Bedroom Elevations



- ① ADJUSTABLE SHELVES
ÉTAGÈRES RÉGLABLES
- ② CLOSET ROD AND SHELF
PLACARD MUNI D'UNE TRINGLE ET D'UNE ÉTAGÈRE
- ③ LOCKABLE DOOR (KEYED LOCK)
PORTE MUNIE D'UNE SERRURE (SERRURE À CLÉ)
- ④ WINDOWS THIS WALL
FENÊTRE SUR CE MUR
- ⑤ LOCKABLE CUPBOARD FOR STAFF USE (MAGNETIC LOCK)
ARMOIRE VERROUILLABLE POUR LE PERSONNEL (VERROU MAGNÉTIQUE)
- ⑥ RIGID WALL COVERING TO 1220mm A.F.F. AT BED
REVÊTEMENT MURAL RIGIDE 1220 mm
AU-DESSUS DU PLANCHER FINI AU NIVEAU DU LIT
- ⑦ WALL MOUNTED TELEVISION AND BRACKET
N.I.C.PROVIDE ADEQUATE BACKING IN WALL
FOR SUPPORT
TÉLÉVISEUR ET SUPPORT FIXÉS AU MUR (HORS CONTRAT). INSTALLER DES PIÈCES DE RENFORT DANS LES MURS POUR LE SUPPORT
- ⑧ LOCKABLE DOOR WITH LAMINATED SAFETY GLASS
PORTE EN VERRE DE SÉCURITÉ FEUILLETÉ
MUNIE D'UNE SERRURE
- ⑨ DRAWER
TIROIR

A.

Performance Standards

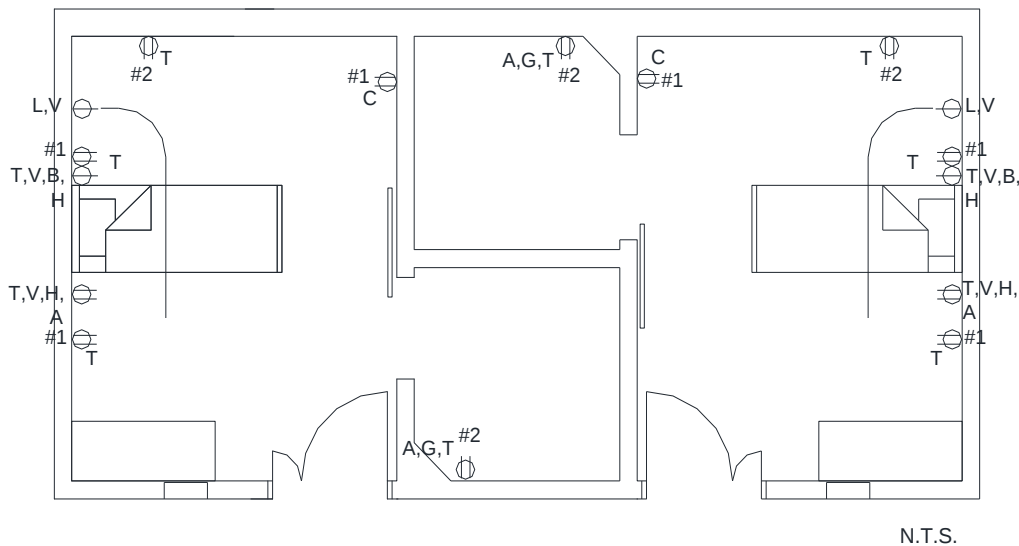
.3 Single Resident Bedroom Power Layout

LEGEND/LÉGENDE:

Q	DUPLEX RECEPTACLE, 15A, 125V COMMERCIAL SPEC GRADE, PRISE DE COURANT DOUBLE, 15A, 125V, DE QUALITÉ COMMERCIALE	L	LIFT TRACK, MOUNTED CLOSE TO CEILING RAIL POUR LÈVE-PERSONNES INSTALLÉ PRÈS DU PLAFOND
Q	SINGLE RECEPTACLE, 15A, 125V COMMERCIAL SPEC V GRADE, PRISE DE COURANT SIMPLE, 15A, 125V, DE QUALITÉ COMMERCIALE	F	FED FROM PANEL ON VITAL ESSENTIAL POWER ALIMENTÉE PAR LE PANNEAU D'ÉNERGIE ESSENTIELLE
A	ABOVE COUNTER HEIGHT PLUS HAUTE QUE LE COMPTOIR	B	DEDICATED FOR BED CONNECTION ONLY RÉSERVÉE À L'ENTRETIEN MÉNAGER
T	TAMPERPROOF INVOLABLE	C	CABLE TV RECEPT, MOUNTED ABOVE BRACKET PRISE DE COURANT POUR LA TÉLÉVISION, PLUS HAUTE QUE LE SUPPORT
G	GFI RECEPTACLE PRISE DDFT (DISJONCTEUR DE FUITE DE TERRE)	H	HOSPITAL GRADE QUALITÉ HÔPITAL

NOTES/REMARQUES:

- PATIENT ROOMS SHALL BE FED FROM 2 SEPARATE (1 NORMAL & 1 ESSENTIAL) PANELS ONLY. LES CHAMBRES DES PATIENTS NE DOIVENT ÊTRE RACCORDÉES QU'À DEUX PANNEAUX DISTINCTS (UN POUR L'ALIMENTATION NORMALE ET UN POUR L'ALIMENTATION ESSENTIELLE).
- RECEPTACLES FOR HOUSE-KEEPING SHALL BE LOCATED OUTSIDE THE BEDROOMS. LES PRISES POUR L'ENTRETIEN DOIVENT ÊTRE À L'EXTÉRIEUR DES CHAMBRES.
- THERE SHALL BE TWO PATIENT BEDS PER CIRCUIT. CHAQUE CIRCUIT DOIT COMPORTER DEUX LITS.
- THERE SHALL BE TWO RECEPTACLES FOR MEDICAL USE PER CIRCUIT. CHAQUE CIRCUIT DOIT COMPORTER DEUX PRISES À USAGE MÉDICAL
- THERE SHALL BE TWO PATIENT LIFTS PER CIRCUIT. CHAQUE CIRCUIT DOIT COMPORTER DEUX LÈVE-PERSONNES.
- THERE SHALL BE TWO PATIENT ROOMS ON NORMAL POWER CIRCUITS #1 & #2. DEUX CHAMBRES DE PATIENT DOIVENT ÊTRE RACCORDÉES AUX CIRCUITS D'ALIMENTATION ÉLECTRIQUE NORMALE 1 ET 2.
- ALL CIRCUITS SERVING RECEPTACLES WITHIN THE PATIENT CARE ENVIRONMENT SHALL BE SUPPLIED ON THE SAME PHASE. TOUS LES CIRCUITS AUXQUELS SONT RACCORDÉES LES PRISES DANS LES AIRES DE SOINS DOIVENT ÊTRE ALIMENTÉS PAR UN COURANT DE MÊME PHASE.



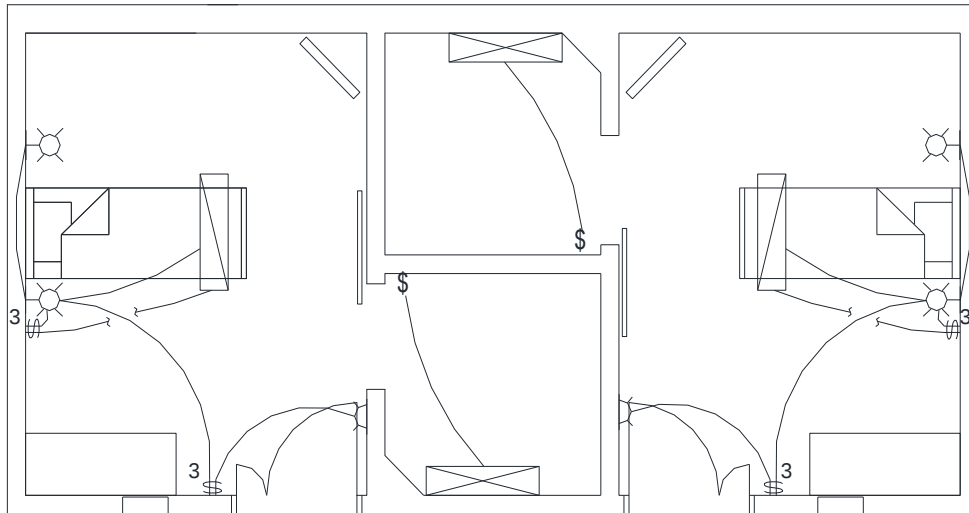
A.

Performance Standards

.4 Single Resident Bedroom Lighting Layout

LEGEND/LÉGENDE:

- \$ SINGLE LIGHT SWITCH, 15A, 125V COMMERCIAL SPEC GRADE
INTERRUPTEUR SIMPLE (ÉCLAIRAGE), 15A, 125V, DE QUALITÉ COMMERCIALE
- # TWO LIGHT SWITCHES GANGED IN SAME OUTLET BOX
INTERRUPTEUR DOUBLE (ÉCLAIRAGE), DANS LA MÊME BOÎTE À PRISES
- ☾ NIGHT LIGHT - LED
LUMIÈRE DE NUIT, DEL
- ☼ WALL SCONCE - 1 - 26W OR 32W CFL
APPLIQUE MURALE, - 1 AMPOULE FLUO COMPACTE, 26W OU 32W
- ☒ WASHROOM LIGHT - 2 - 32W T8
LUMIÈRE DE LA SALLE DE BAIN, 2 AMPOULES T8, 32W
- ☐ BED/EXAM LIGHT - 2 - 32W T8 ON SEPARATELY
& 3RD T8 ON WITH WALL SCONCES
LAMPE DE LIT ET LAMPE D'EXAMEN - 2 T8 (32 W) S'ALLUMENT SÉPARÉMENT ET LE 3E T8 S'ALLUME À PARTIR D'APPLIQUES
- 3 3-WAY SWITCH
COMMUTATEUR À TROIS DIRECTIONS



N.T.S.

NOTES/REMARQUES:

1. ALL LIGHTS ON SAME LIGHTING CIRCUIT, MINIMUM 3 OOMS/CCT.
TOUS LES APPAREILS D'ÉCLAIRAGE DOIVENT ÊTRE RACCORDÉS AU MÊME CIRCUIT D'ÉCLAIRAGE
(MINIMUM 3 CHAMBRES PAR CIRCUIT).

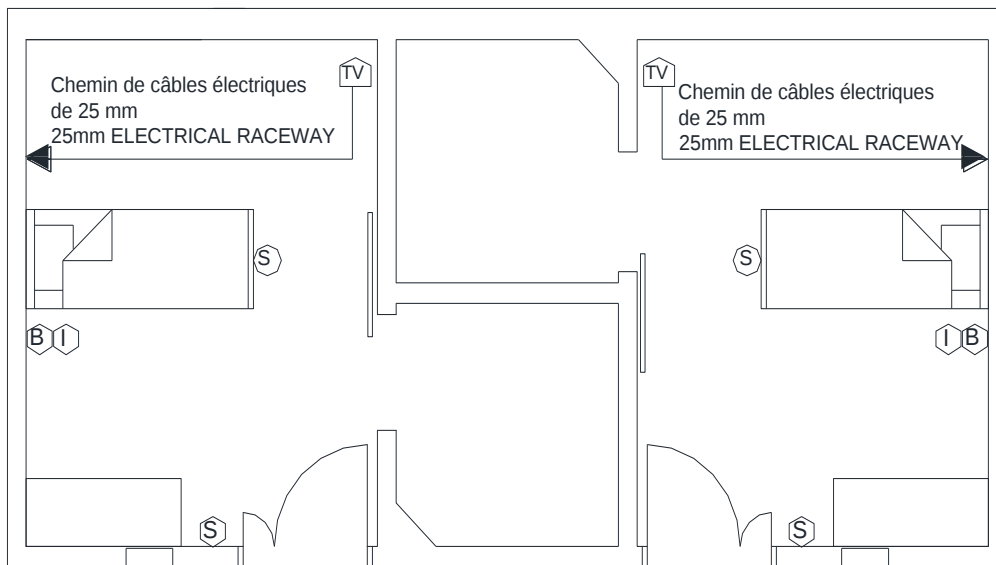
A.

Performance Standards

.5 Single Resident Bedroom Communications Layout

LEGEND/LÉGENDE:

- Ⓢ FIRE ALARM SMOKE DETECTOR
DÉTECTEUR DE FUMÉE CONNECTÉ À L'ALARME-INCENDIE
- ▼ TELEPHONE IN SINGLE GANG BOX ⓘ
TÉLÉPHONE DANS UNE SEULE BOÎTE À PRISES
- TV CABLE TV OUTLET, ADJACENT TO CABLE TV
SORTIE DU CÂBLE DE TÉLÉVISION PRÈS DE LA PRISE DE COURANT DE LA TÉLÉVISION
- ⓑ NURSE CALL - BEDSIDE STATION WITH PUSH BUTTON CALL CHORD
SYSTÈME D'APPEL INFIRMIER - POSTE DE CHEVET AVEC CORDON D'APPEL À BOUTON-POUSOIR
- Ⓢ NURSE CALL - STAFF PRESENCE PUSH BUTTON
SYSTÈME D'APPEL INFIRMIER - BOUTON-POUSOIR
- Ⓟ NURSE CALL - WASHROOM EMERGENCY PULLCORD
SYSTÈME D'APPEL INFIRMIER - CORDE DANS LA SALLE DE BAIN
- Ⓜ NURSE CALL - AUXILIARY INPUT STATION
SYSTÈME D'APPEL INFIRMIER - POSTE D'ENTRÉE AUXILIAIRE



N.T.S.

A.

Performance Standards

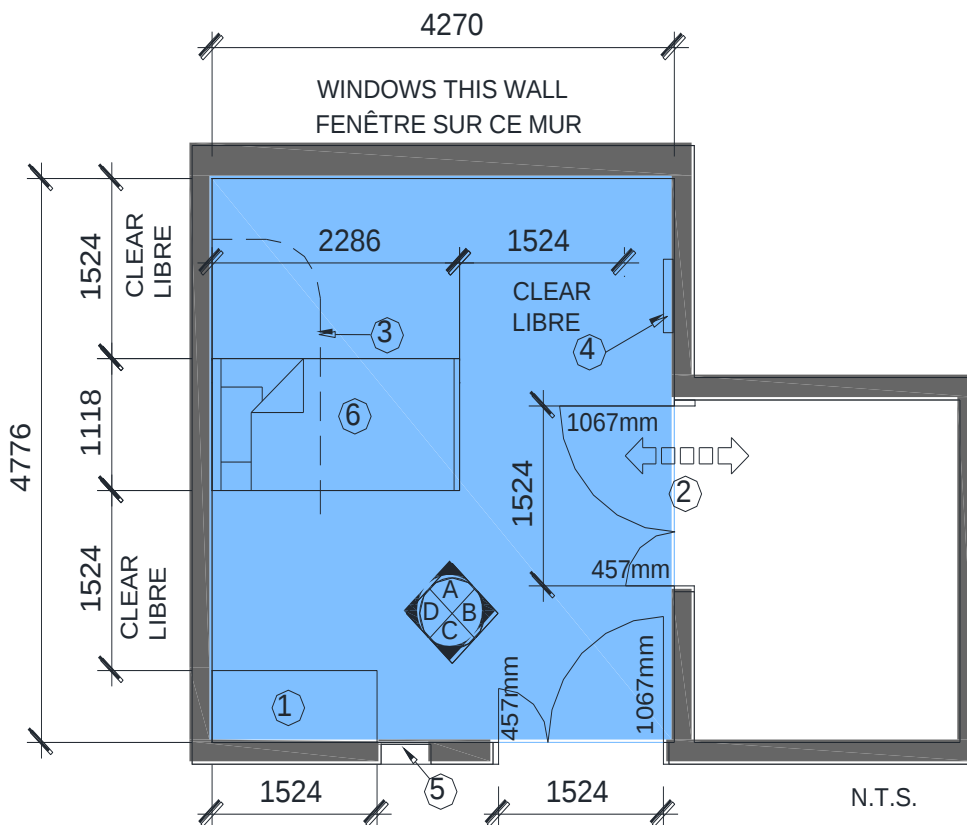
.6 Single Bariatric Resident Bedroom Floor Plan

- ① WARDROBE
GARDE-ROBES
- ② WASHROOM ACCESS
ACCÈS AUX TOILETTES
- ③ CEILING LIFT TRACK
RAIL POUR LÈVE-PERSONNES
FIXÉ AU PLAFOND
- ④ WALL MOUNTED TELEVISION
AND BRACKET N.I.C.
TÉLÉVISEUR ET SUPPORT
FIXÉS AU MUR, PAS DANS CE
CONTRAT
- ⑤ MEMORY BOX
BOÎTE DE RANGEMENT
- ⑥ BED 1118mm X 2286mm (N.I.C.)
LIT 1118 mm X 2286 mm

NOTES / REMARQUES:

1. CEILING LIFT TRACK CONFIGURATION AT
DISCRETION OF NURSING HOME.
CONFIGURATION DU RAIL POUR
LÈVE-PERSONNES FIXÉ AU PLAFOND À LA
DISCRÉTION DU FOYER DE SOINS.
2. TELEVISION BRACKET PROVIDED BY
NURSING HOME INSTALLED BY CONTRACTOR,
PROVIDE ADEQUATE BACKING IN WALL FOR
SUPPORT. SUPPORT POUR TÉLÉVISEUR
FOURNI PAR LE FOYER DE SOINS, INSTALLÉ
PAR UN ENTREPRENEUR. INSTALLER DES
PIÈCES DE RENFORT DANS LES MURS POUR
LE SUPPORT

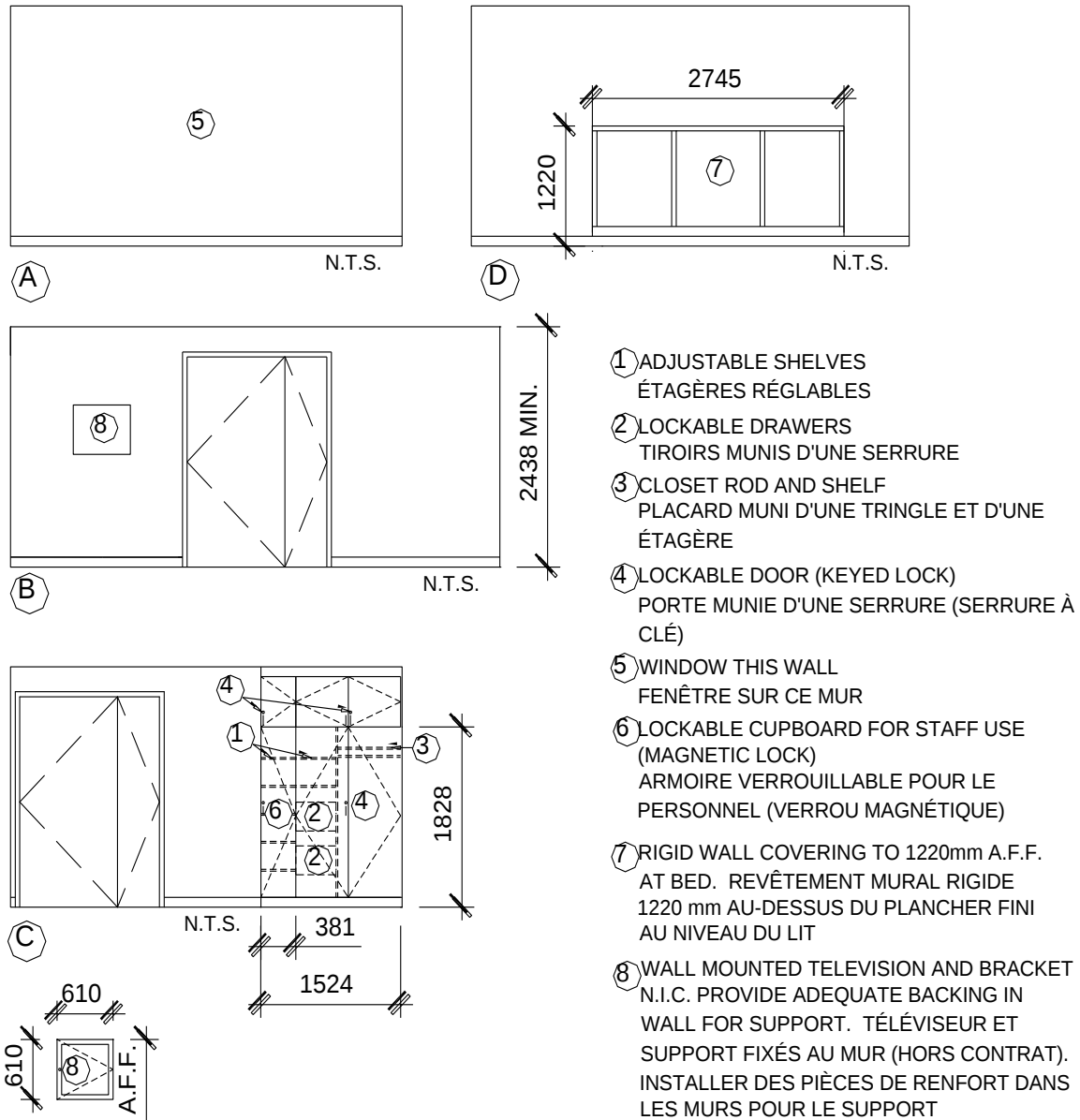
CLEAR AREA 20.3m²
ZONE LIBRE



A.

Performance Standards

.7 Single Bariatric Resident Bedroom Elevations



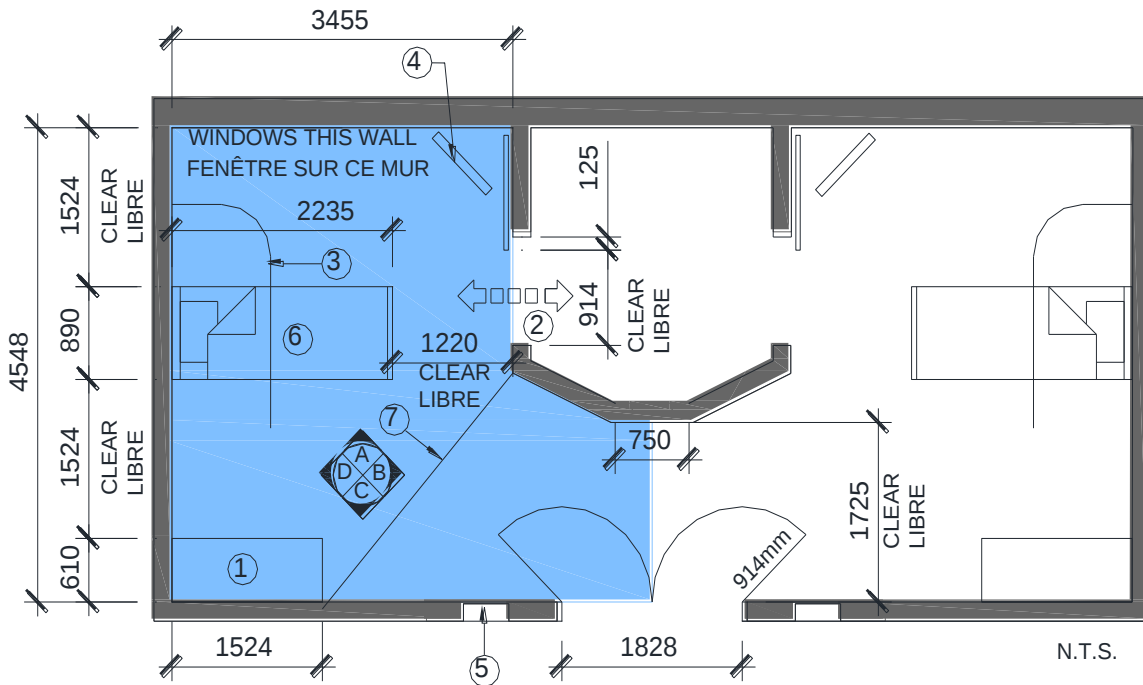
.8 Double Resident Bedroom Floor Plan

- ① WARDROBE
GARDE-ROBES
- ② WASHROOM ACCESS
ACCÈS AUX TOILETTES
- ③ CEILING LIFT TRACK
RAIL POUR LÈVE-PERSONNES
FIXÉ AU PLAFOND
- ④ CEILING MOUNTED TELEVISION
AND SWIVEL BRACKET N.I.C.
TÉLÉVISEUR ET SUPPORT DE
LA BAGUE MOBILE FIXÉS AU
PLAFOND, PAS DANS CE
CONTRAT
- ⑤ MEMORY BOX
BOÎTE DE RANGEMENT
- ⑥ BED 890mm X 2235mm (N.I.C.)
LIT 890 mm X 2235 mm
- ⑦ CURTAIN TRACK
TRINGLE À RIDEAUX

 CLEAR AREA 18.4m² PER INDIVIDUAL BED
ZONE LIBRE DE 18.4 m² PAR LIT INDIVIDUEL

NOTES / REMARQUES:

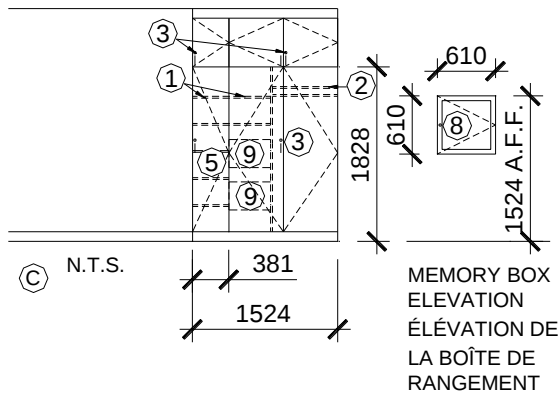
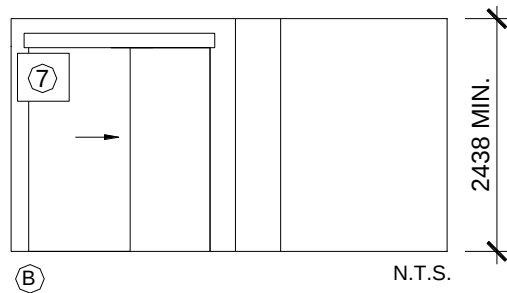
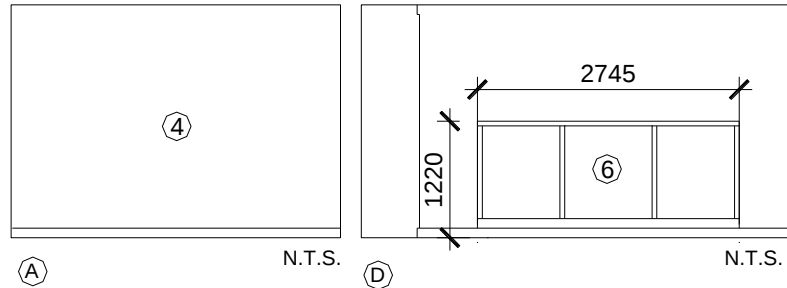
1. CEILING LIFT TRACK CONFIGURATION AT DISCRETION OF NURSING HOME.
- CONFIGURATION DU RAIL POUR LÈVE-PERSONNES FIXÉ AU PLAFOND SI LE FOYER DE SOINS LE JUGE OPPORTUN.
2. TELEVISION BRACKET PROVIDED BY NURSING HOME INSTALLED BY CONTRACTOR, PROVIDE ADEQUATE BACKING FOR SUPPORT.
- SUPPORT POUR TÉLÉVISEUR FOURNI PAR LE FOYER DE SOINS, INSTALLÉ PAR UN ENTREPRENEUR. INSTALLER DES PIÈCES DE RENFORT POUR LE SUPPORT



A.

Performance Standards

.9 Double Resident Bedroom Elevations



- ① ADJUSTABLE SHELVES
ÉTAGÈRES RÉGLABLES
- ② CLOSET ROD AND SHELF
PLACARD MUNI D'UNE TRINGLE ET
D'UNE ÉTAGÈRE
- ③ LOCKABLE DOOR
PORTE MUNIE D'UNE SERRURE
- ④ WINDOWS THIS WALL
FENÊTRE SUR CE MUR
- ⑤ LOCKABLE CUPBOARD FOR STAFF USE
(MAGNETIC LOCK)
ARMOIRE VERROUILLABLE POUR LE
PERSONNEL (VERROU MAGNÉTIQUE)
- ⑥ RIGID WALL COVERING TO 1220mm
A.F.F. AT BED. REVÊTEMENT MURAL
RIGIDE 1220 mm AU-DESSUS DU
PLANCHER FINI AU NIVEAU DU LIT
- ⑦ CEILING MOUNTED TELEVISION AND SWIVEL
BRACKET N.I.C. PROVIDE ADEQUATE BACKING IN
WALL FOR SUPPORT. TÉLÉVISEUR ET SUPPORT
DE LA BAGUE MOBILE FIXÉS AU PLAFOND (HORS
CONTRAT). INSTALLER DES PIÈCES DE RENFORT
DANS LES MURS POUR LE SUPPORT
- ⑧ LOCKABLE DOOR WITH LAMINATED
SAFETY GLASS. PORTE EN VERRE DE
SÉCURITÉ FEUILLETÉ MUNIE D'UNE
SERRURE
- ⑨ LOCKABLE DRAWERS
TIROIRS MUNIS D'UNE SERRURE

A.1 RESIDENT HOUSE (continued)**.2 DINING ROOM/FOOD SERVICES**

The dining area is a flexible space that can accommodate 25 to 30 residents seated at tables or in other individual seating arrangements and can be divided into two or three small spaces. (See Nursing Home Functional Program for size of Resident Houses.) Bulk meals will be transported from the main dietary kitchen to the satellite food servery for plating in the adjacent resident kitchen by the dietary staff.

Residents can use the resident kitchen for washing and drying dishes, cooking, wiping tables, and informal round table discussions in small groups. The resident kitchen shall also serve as a refreshment centre for residents and family members during non-mealtime hours of the day. Rehabilitation therapy activities will be organized around this space.

.1 Components

- .1 Dining Room Area
- .2 Satellite Food Servery, See Dietary Services
- .3 Resident Kitchen, also see Dietary Services for Resident Nutrition Counter Description

.2 Spatial Relationships

- .1 The dining area and resident kitchen shall be centrally located within each resident house with good access from the resident room areas.
- .2 The dining room shall provide maximum visibility of residents by staff.
- .3 The dining room shall provide views to the exterior landscape.
- .4 The resident dining rooms shall be adjacent to the resident kitchen and a housekeeping closet.
- .5 A communal resident washroom shall be located in close proximity to the dining areas. This washroom shall not open directly into the dining or food preparation areas.
- .6 The satellite food servery shall be adjacent to the dining rooms spaces.
- .7 One food servery shall be shared between two houses to service the house dining rooms and resident kitchens.
- .8 Food serveries and resident kitchens must be linked and are used in conjunction with each other to promote a homelike and residential dining experience.
- .9 Space for storage of wheelchairs and walkers shall be located near dining room.

.3 Unit Spaces

(The following notes apply to table A.1.2.3 and all items shall be in construction contract unless otherwise noted).

- .1 All surface treatment shall be selected for their noise reduction and homelike properties.

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)

.2 DINING ROOM/FOOD SERVICES (continued)

.3 Unit Spaces (continued)

- .2 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .3 STC Ratings shall be as follows:

Public Space to Bedroom	STC 50
Public Space to Exam Room	STC 50
Public Space to Toilet Room	STC 45
Public Space to Consultation Room	STC 50
Service Area to Bedroom	STC 60
- .4 Acoustic tile shall have an anti-microbial treatment. Size of tile shall respond to scale of room.
- .5 Windows shall restrict the elopement through the operable section of the mechanism. Operable sections shall be fitted with screens. Opening dimension to be a maximum of 150mm.
- .6 Dining rooms shall have finishes that reduce noise including window coverings, wall and floor treatments in a homelike appearance.
- .7 Rigid vinyl/acrylic wall covering shall be complete with vertical and horizontal moldings for a wainscoting effect. Complex wall covering designs shall be avoided so as not to cause disorientation among residents. Walls must be distinctly coloured from the abutting floor and ceiling colours to properly define the surface edges for the elderly.
- .8 Resident kitchen shall be home-like in appearance with cupboards on front of servery to create the appearance that food is coming from the Resident Kitchen.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.2 DINING ROOM/FOOD SERVICES (continued)****A.1.2.3 Unit Spaces TABLE (refer to previous page for related notes)**

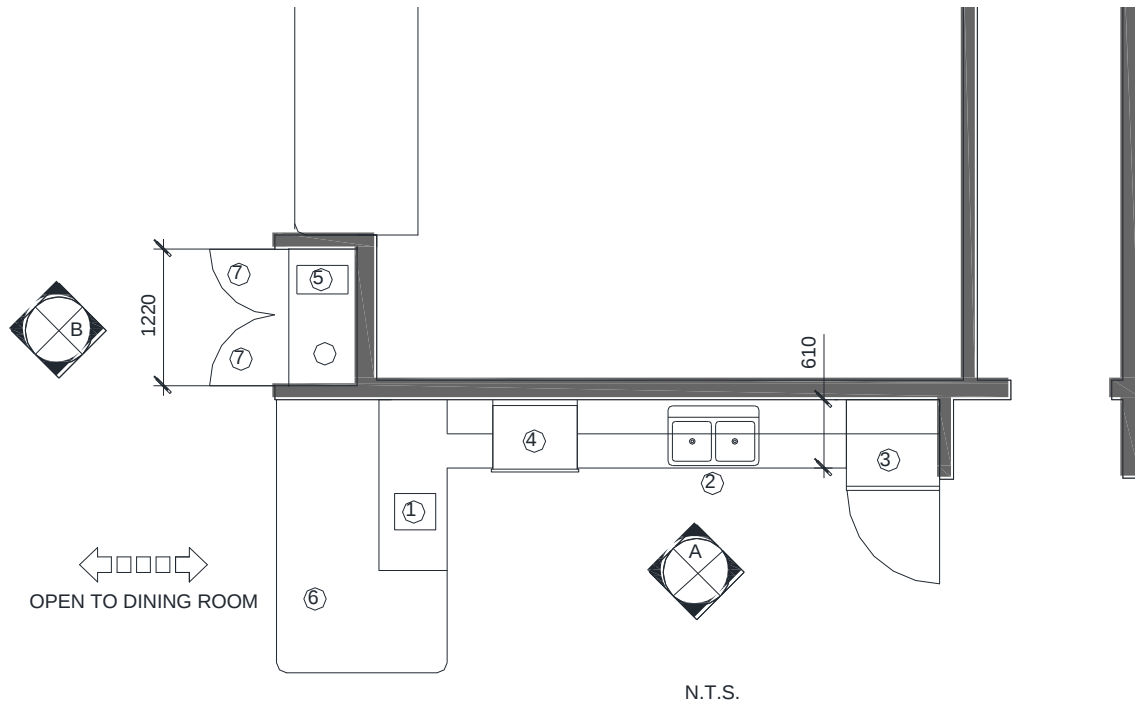
Content	Dining Room Area	Resident Kitchen
Number required per House	1	1
Clear Area	3.5 sq.m/person	5 sq.m.
Ceiling Height	Min 2.745m	Min 2.44m
Daylight and Views	Must achieve a minimal Daylight Factor of 2%. Provide views to the exterior landscape.	
Finishes Walls	Abuse resistant gypsum board. Rigid wall covering to 1200mm A.F.F. Note 6&7 STC: See Note 3	Note 8 Abuse resistant gypsum board, Ceramic tile backsplash Note 6, STC: See Note 3
Floors	Resilient sheet flooring with sealed rubber base Note 1, 2,& 6	Slip resistant resilient sheet floor with flash cove base, Note 1, 2&6
Ceilings	Acoustic Tile NRC: 0.80 min/ Gypsum board bulkheads, Note 4	Acoustic Tile NRC: 0.80 min/ Gypsum board bulkheads, Note 4
Casework		Storage cabinets & drawers (lockable), barrier free wheelchair accessible countertop, See Drawing. Note 8
Doors Solid Glazed Side Light	Wide portal entrances without doors, minimum width 2000mm.	No, open to Dining Room
Operable Windows	Yes, Note 5	
Window Sill	Max 914 A.F.F	
Window Treatment	Yes, Blinds	
Motion sensor switching	No	No
Sink	No	Yes
Electrical deactivation switch (inaccessible to residents)	No	Yes
Voice and Data Communication	Yes	Yes
Air Conditioning	Yes	Yes
Resident/Staff Response System	One call device central to dining/resident kitchen	One call device central to dining/resident kitchen
Receptacles	See Part B for electrical requirements	
Soap Dispenser		Yes
Paper Towel Dispenser		Yes
Waste Receptacle		Yes

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.2 DINING ROOM/FOOD SERVICES (continued)****A.1.2.3 Unit Spaces TABLE (continued)**

Content	Dining Room Area	Resident Kitchen
Equipment		Built in range/oven, domestic refrigerator with freezer, magnetic induction hotplate. Nutrition Counter: microwave oven, countertop icemaker

.4 Typical Drawings

.1 Resident Kitchen Floor Plan



① MAGNETIC INDUCTION HOTPLATE*
PLAQUE CHAUFFANTE À INDUCTION
ÉLECTROMAGNÉTIQUE

② SINK
ÉVIER

③ REFRIGERATOR
RÉFRIGÉRATEUR

④ WALL OVEN*
FOUR MURAL

⑤ ICE DISPENSER WITH SHUT OFF
SWITCH
DISTRIBUTEUR DE GLAÇONS AVEC
INTERRUPTEUR D'ARRÊT

⑥ BARRIER FREE ACCESSIBLE
COUNTER
COMPTOIR À ACCÈS FACILE

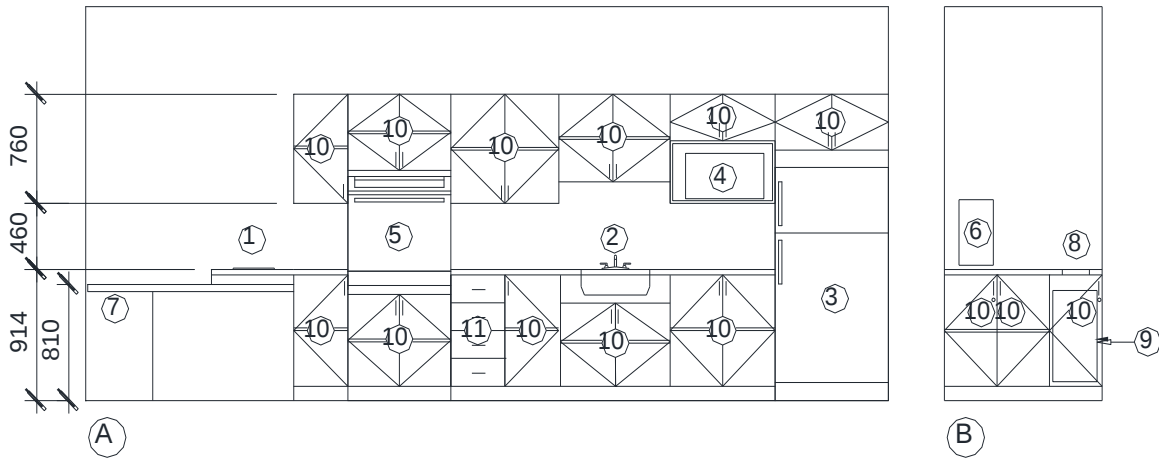
⑦ LOCKABLE DOORS
PORTES MUNIES D'UNE SERRURE

*STOVE MAY BE USED IN LIEU OF
MAGNETIC INDUCTION HOTPLATE
AND WALL OVEN AT DISCRETION
OF NURSING HOME.
IL EST POSSIBLE D'UTILISER UNE
CUISINIÈRE À LA PLACE DE LA PLAQUE
CHAUFFANTE À INDUCTION
ÉLECTROMAGNÉTIQUE ET UN FOUR
MURAL (SI LE FOYER DE SOINS LE JUGE OPPORTUN)

A.

Performance Standards

.2 Resident Kitchen Elevations



N.T.S.

*STOVE MAY BE USED IN LIEU OF MAGNETIC INDUCTION HOTPLATE AND WALL OVEN AT DISCRETION OF NURSING HOME.
IL EST POSSIBLE D'UTILISER UNE CUISINIÈRE À LA PLACE DE LA PLAQUE CHAUFFANTE À INDUCTION ÉLECTROMAGNÉTIQUE ET UN FOUR MURAL (SI LE FOYER DE SOINS LE JUGE OPPORTUN)

- ① MAGNETIC INDUCTION HOTPLATE*
PLAQUE CHAUFFANTE À INDUCTION
ÉLECTROMAGNÉTIQUE
- ② SINK
ÉVIER
- ③ REFRIGERATOR
RÉFRIGÉRATEUR
- ④ MICROWAVE
FOUR À MICRO-ONDES
- ⑤ WALL OVEN*
FOUR MURAL
- ⑥ ICE DISPENSER WITH SHUT OFF
SWITCH
DISTRIBUTEUR DE GLAÇONS AVEC
INTERRUPTEUR D'ARRÊT
- ⑦ BARRIER FREE ACCESSIBLE
COUNTER
COMPTOIR À ACCÈS FACILE
- ⑧ 200 mm DIA. HOLE
OUVERTURE
- ⑨ WASTE BIN
POUBELLE
- ⑩ LOCKABLE DOORS
PORTES MUNIES D'UNE SERRURE
- ⑪ LOCKABLE DRAWERS
TIROIRS MUNIES D'UNE SERRURE

A.1 RESIDENT HOUSE (continued)

.3 ACTIVITY AND SOCIAL SPACES

.1 Components

.1 Living Rooms

Living rooms provide maximum visibility of residents by staff and allow for activities such as reading, conversing, visiting and watching with other residents, family and staff. Living rooms shall have a residential homelike atmosphere.

.2 Resident Smoking Room

Resident smoking room is at the discretion of the nursing home board. Refer to Nursing Home Functional Program.

.2 Spatial Relationships

.1 Living spaces shall be centrally located within each house for good access from resident room areas.

.2 Living rooms shall have views to the exterior landscape.

.3 The two living room areas should be different sizes and configurations to provide comfortable and intimate resident spaces.

.4 One living room shall be designed to have seating for 10 to 13 residents, accommodating wheelchairs and other customized seating for residents.

.5 The resident smoking room shall be close to the public spaces within the house.

.6 A portion of the living room area can be allocated for an Activity Room.

.3 Unit Spaces

(The following notes apply to table A.1.3.3 and all items shall be in construction contract unless otherwise noted).

.1 Interior design treatment should consider non-glare and noise reductions materials to create a homelike environment.

.2 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.

.3 Acoustic tile shall have an anti-microbial treatment. Size of tile shall respond to scale of room.

.4 Windows shall restrict the elopement through the operable section of the mechanism. Operable sections shall be fitted with screens. Opening dimension to be a maximum of 150mm.

.5 Rigid vinyl/acrylic wall covering shall be complete with vertical and horizontal moldings for a wainscoting effect. Complex wall covering designs shall be avoided so as not to cause disorientation among residents. Walls must be distinctly coloured from the abutting floor and ceiling colours to properly define the surface edges for the elderly.

.6 A variety of different lighting shall be used in living areas including task lights, pot lights, valance lighting and uplighting.

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)

.3 ACTIVITY AND SOCIAL SPACES (continued)

.3 Unit Spaces (continued)

.7 STC Ratings shall be as follows:

Public Space to Bedroom	STC 50
Public Space to Exam Room	STC 50
Public Space to Toilet Room	STC 45
Public Space to Consultation Room	STC 50

.8 Smoking room shall be enclosed with impermeable floor to underside of structure partitions. All finishes shall be non-combustible and washable.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.3 ACTIVITY AND SOCIAL SPACES (continued)****A.1.3.3 Unit Spaces TABLE** (refer to previous page for related notes)

Content	Living Room	Resident Smoking Lounge
Number Required per House	1 (2 will be considered but combined area not to exceed 2.5sq.m/resident)	1 at discretion of nursing home board
Clear Area	2.5 sq.m/resident	11 sq.m.
Ceiling Height	Min. 2.745m	Min. 2.44m
Daylight and Views	Must achieve a minimum Daylight Factor of 2%. Provide a view to the exterior landscape.	Must achieve a minimum Daylight Factor of 2%. Provide a view to the exterior landscape.
Finishes Walls		Note 8
	Abuse resistant gypsum board. Rigid wall covering to 1200mm A.F.F. Note 5 STC: See Note 7	Abuse resistant gypsum board. Rigid wall covering to 1200mm A.F.F. Note 5 STC: See Note 7
Floors	Resilient sheet flooring with sealed rubber base Note 1 & 2	Resilient sheet flooring with sealed rubber base Note 1 & 2
Ceilings	Acoustic Tile NRC: 0.80 min/Gypsum board bulkheads, Note 3	Gypsum board
Casework	Bookshelves, see Drawing	
Doors	Wide portal entrances without doors, minimum width 2000mm.	Minimum door width of 1524mm clear.
Solid		Solid door and weather-stripping
Glazed Sidelight		No Window for supervision
Locked		Yes, access control
Operable Windows	Yes, Note 4	Yes, Note 4
Window Sills	Max 914 A.F.F	Max 914 A.F.F
Window Treatment	Yes Note 1	Yes Note 1
Motion Sensor Switching	No	No
Resident/Staff Response System	Yes	Yes

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.3 ACTIVITY AND SOCIAL SPACES (continued)****A.1.3.3 Unit Spaces TABLE (continued)**

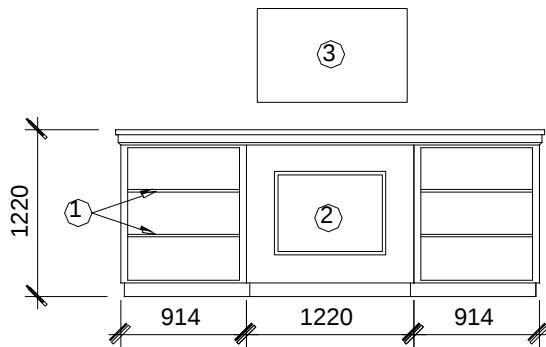
Content	Living Room	Resident Smoking Lounge
Voice and data communication outlet	Yes	Yes
Cable TV	Yes	No
Independent ventilation		Yes, for mechanical requirements see Part B
Receptacles	See Part B for electrical requirements	
Air Conditioning	Yes	Yes
Lighting	See Note 6	See Note 6
Electric Fireplace	Yes	No
Equipment	Wall mounted television in each living room above fireplace.	
Furniture		All furnishings shall be non-combustible.

A.

Performance Standards

.4 Typical Drawings

.1 Living Room Fireplace/Bookshelves Elevation



N.T.S.

- ① ADJUSTABLE SHELVES
ÉTAGÈRES
- ② ELECTRIC FIREPLACE
FOYER ÉLECTRIQUE
- ③ WALL MOUNTED TELEVISION AND
BRACKET N.I.C.* TÉLÉVISEUR ET
SUPPORT FIXÉS AU MUR, PAS DANS
CE CONTRAT

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)**.4 STAFF ROOMS****.1 Components****.1 Care Office**

One care office is required to support a resident house and provide space for staff to work. This space must allow for the entire care team to communicate together in order to plan, implement, assess, coordinate, and assign resident care. Confidential resident records are kept in this area. The care office is the primary area to perform resident care documentation, information verification, manual or electronic data recording, phone calls, faxes, as well as some scheduling activities. The care office also hosts the care support clerk work station which is the primary receptionist for the resident house.

.2 Staff Washroom**.3 Conference Room**

The conference room shall provide staff with private space for shift change reporting, family/care conferences, team meetings, staff education and provide visiting clinicians a space for record reporting.

.4 Medication Room

A separate and secure room for medication storage and preparation shall be provided for the safe provision of medications and medical/nursing supplies.

.2 Spatial Relationship

- .1 The care office shall be the point of contact for residents, family members and visitors and as an information centre.
- .2 The care office may be linked to the director of nursing office depending upon the administrative preference.
- .3 A staff washroom shall be adjacent to each care office.
- .4 Conference room shall be located adjacent the care office areas.
- .5 Each care office will accommodate a separate, but linked medication preparation room.
- .6 Food and beverage vending machines shall be accommodated off the residential houses.

.3 Unit Spaces

(the following notes apply to tables A.1.4.3 and all items shall be in construction contract unless otherwise noted.)

- .1 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .2 Acoustic tile shall have an anti-microbial treatment. Size of tile shall respond to scale of room.
- .3 STC Ratings shall be as follows:

Toilet Room to Public Space	STC 45
-----------------------------	--------
- .4 Doors not used by residents shall be colour coded to blend in with wall colours.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.4 STAFF ROOMS (continued)****A.1.4.3 Unit Spaces TABLE** (refer to previous page for related notes)

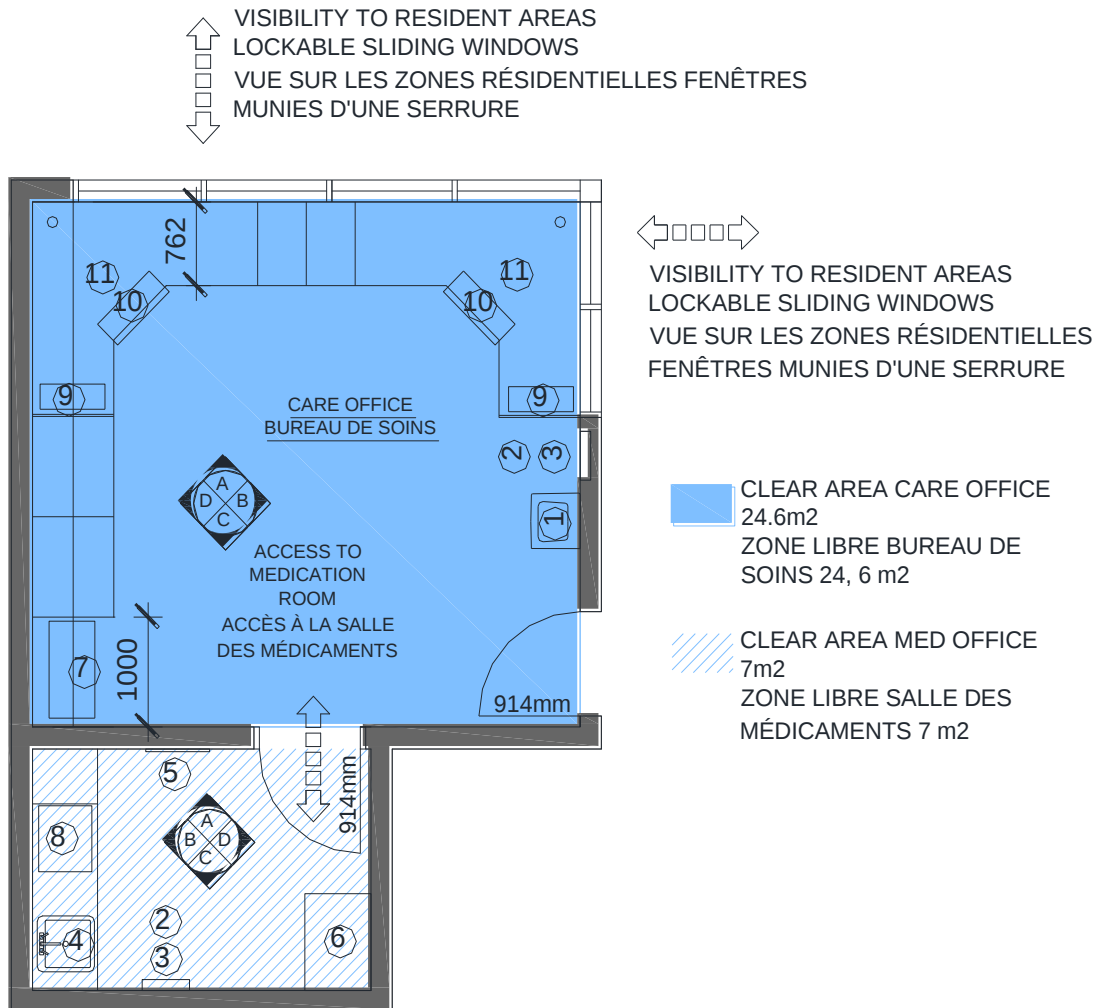
Content	Care Office	Staff Washroom	Conference Room	Medication Room
Number Required per House	1	1	1	1
Clear Area Dimensions	24.60 sq.m.	3.72 sq.m.	14.90 sq.m.	7 sq.m.
			Accommodate 6 people	Space will accommodate a medication cart.
Ceiling Height	Min. 2.44m	Min. 2.44m	Min 2.44m	Min. 2.44m
Daylight and Views	Borrowed light windows to allow for visibility to resident areas. (Lockable sliding windows with safety glass)			
Finishes Walls	Abuse resistant gypsum board	Moisture Resistant Gypsum board STC: See Note 3	Gypsum board	Abuse resistant gypsum board/ FRP Panels to 1220mm A.F.F.
Floors	Resilient sheet flooring with sealed rubber base, Note 1,	Slip resistant resilient sheet floor with flash cove base, Note 1	Resilient sheet flooring with sealed rubber base, Note 1	Resilient sheet flooring with sealed rubber base, Note 1
Ceilings	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2	Moisture Resistant Gypsum board	Acoustic Tile NRC 0.70 min, CAC 35 min, Note 2	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2
Casework	Counter, resident record storage, See Drawings	Vanity and storage cabinet		Storage shelving, upper and lower cabinets with adjustable shelving, work countertop, above counter refrigerator and small sink

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.4 STAFF ROOMS (continued)****A.1.4.3 Unit Spaces TABLE (continued)**

Content	Care Office	Staff Washroom	Conference Room	Medication Room
Doors	Note 4	Note 4	Note 4	Note 4
Solid	Solid door	Solid door	Solid door	
Glazed	Borrowed lights			Yes, 152 x 711mm - laminated safety glass
Sidelight				
Locked	Yes, keypad and delay action closer	Keypad lock with deadbolt	Yes	Yes, access control
Motion Sensor Switching	Yes	Yes	Yes	Yes
Resident/Staff Response System	Yes			
Voice and Data Communication	Yes		Yes	
Receptacles	See Part B for electrical requirements			
Sink	Yes	Yes	No	Yes
Water Closet	No	Wall mounted tank, MH=460mm A.F.F.	No	No
Mirror	No	Yes, MH=1000 max (bottom edge A.F.F)	No	No
Soap Dispenser	Yes	Yes	No	Yes
Paper towel dispenser	Yes	Yes	No	Yes
Waste Receptacle	Yes	Yes	No	Yes
Air Conditioning Equipment	Yes	No	Yes	Yes
	Allowance shall be made for central music system in Care Office with portable speakers (N.I.C.)			

.4 Typical Drawings

.1 Care Office and Medication Room Floor Plan



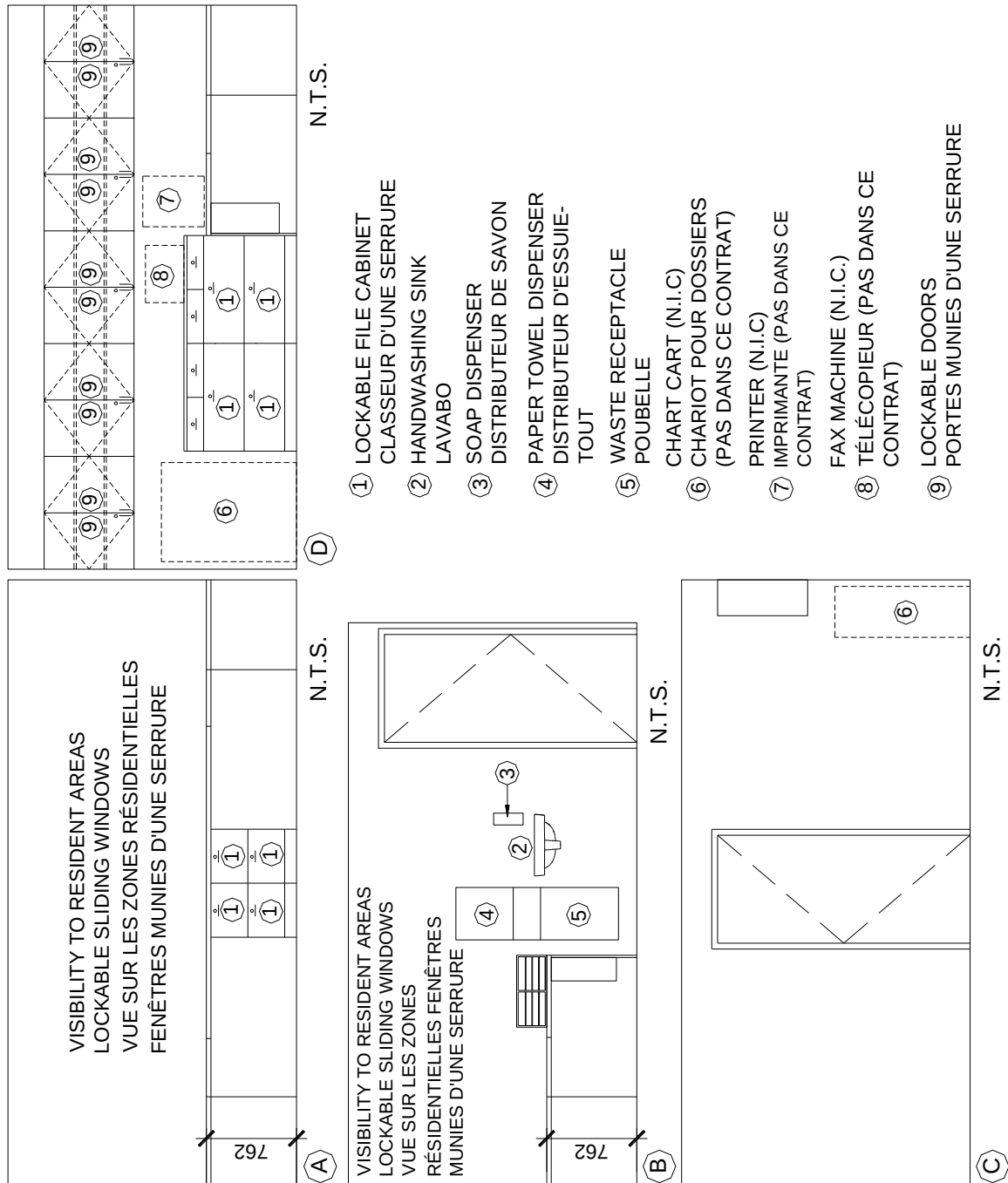
N.T.S.

- | | | |
|---|--|---|
| ① HANDWASHING SINK
LAVABO | ⑥ MEDICATION CART (N.I.C.)
CHARIOT À MÉDICAMENTS,
PAS DANS CE CONTRAT | ⑨ ADJUSTABLE CPU HOLDER
SUPPORT RÉGLABLE POUR
UCT |
| ② PAPER TOWEL DISPENSER
DISTRIBUTEUR
D'ESSUIE-TOUIT | ⑦ CHART CART (N.I.C.)
CHARIOT POUR DOSSIERS,
PAS DANS CE CONTRAT | ⑩ ADJUSTABLE KEYBOARD
TRAY SUPPORT DE
CLAVIER |
| ③ WASTE RECEPTACLE
POUBELLE | ⑧ ABOVE COUNTER
REFRIGERATOR (N.I.C.)
RÉFRIGÉRATEUR DE
COMPTOIR,
PAS DANS CE CONTRAT | ⑪ WORKSTATION
POSTE DE TRAVAIL |
| ④ SINK
ÉVIER | | |
| ⑤ TACKLESS BOARD
PANNEAU DE POINTE | | |

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Performance Standards

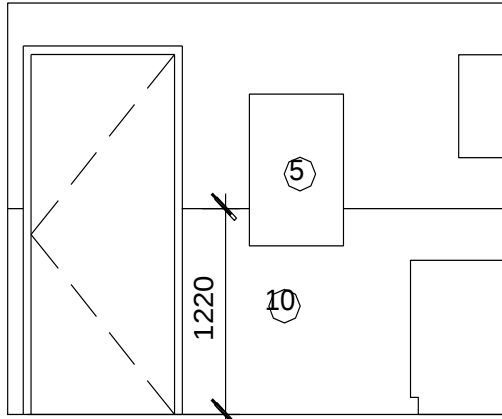
.2 Care Office Elevations



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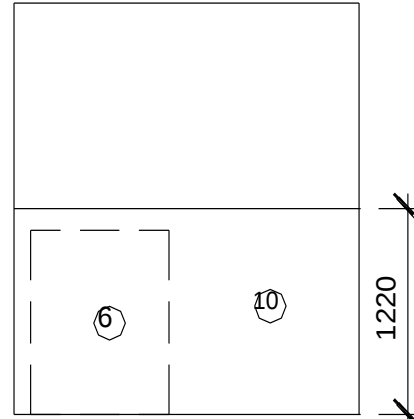
Performance Standards

.3 Medication Preparation Room Elevations



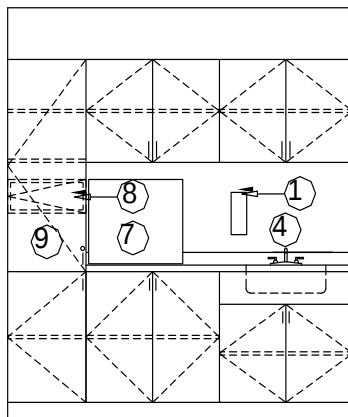
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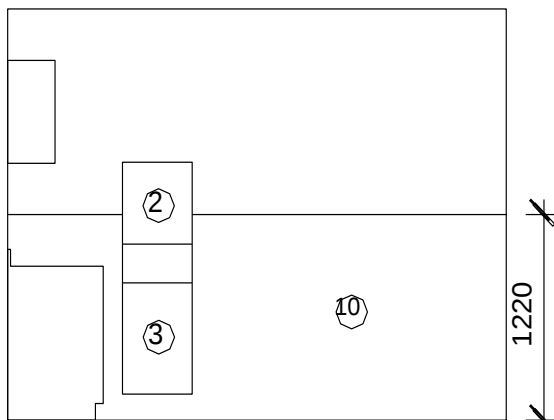
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N.T.S.



B

N.T.S.



C

N.T.S.

- ① SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ② PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ③ WASTE RECEPTACLE
POUBELLE
- ④ SINK
ÉVIER
- ⑤ TACKLESS BOARD
PANNEAU DE POINTE
- ⑥ MEDICATION CART (N.I.C.)
CHARIOT À MÉDICAMENTS
(PAS DANS CE CONTRAT)
- ⑦ ABOVE COUNTER
REFRIGERATOR (N.I.C.)
RÉFRIGÉRATEUR DE
COMPTOIR (PAS DANS CE
CONTRAT)
- ⑧ LOCKED CONTROLLED
MEDICATION CABINET
(INSIDE) ARMOIRE À
MÉDICAMENTS CONTRÔLÉS
MUNIE D'UNE SERRURE
(À L'INTÉRIEUR)
- ⑨ LOCKABLE DOOR
PORTES MUNIES D'UNE

A.1 RESIDENT HOUSE (continued)**.5 BATHING/SHOWER ROOMS AND WASHROOMS**

Private ensuite washrooms shall be provided in all bedrooms to support residents', safety, dignity and independence. Resident bathing and shower rooms shall provide an environment that is safe, dignified, private and comfortable for all residents. The resident bathing suite is comprised of two separate rooms for showering and therapeutic bathing.

.1 Components

- .1 Resident Ensuite Washroom
 - .2 Resident Washroom
 - .3 Resident Bathtub Room and Bathing Suite
 - .4 Resident Shower Room
 - .5 Bathing Suite Storage
 - a. Bathing Suite Storage may be used as a washroom.
 - b. Space allocation for Bathing Suite Storage may be used to increase size of Resident Shower Room.
- (See Nursing Home Functional Program)

.2 Spatial Relationship

- .1 The entrance to the resident ensuite washroom shall be from within the resident bedroom.
- .2 Direct views into the washroom from the communal corridor are not permitted.
- .3 Windows may be incorporated into the design of the bathing suite.
- .4 Provide visual privacy from access corridors when the door to the bathing suite is open.
- .5 The resident washroom shall be adjacent to the dining area, living room and/or outdoor recreation space.
- .6 A storage room shall be located adjacent the bathing suite.

.3 Unit Spaces

(the following notes apply to tables A.1.5.3 I, II and III and all items shall be in construction contract unless otherwise noted)

- .1 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .2 Top of toilet seat shall be 460mm from the floor. Toilet seat shall be a contrasting colour to porcelain toilet fixture. Provide wall mounted, fold-up bars on either side of toilet to accommodate wheelchair transfers.
- .3 Blade type, operating handle faucets must be easy to use by residents with visual and physical impairments affecting hand eye coordination and movement. Hand washing stations must be constructed with sufficient clearance for those in wheelchairs and for those standing.

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)

.5 BATHING/SHOWER ROOMS AND WASHROOMS (continued)

.3 Unit Spaces (continued)

- .4 Shower room fixtures must include either a self-contained shower cabinet unit (complete with water closet capability) or a wheelchair accessible built-in shower stall, complete with an adequate seating area and wall mounted grab bars.
- .5 Bathtub fixture must have 1200mm minimum access on three sides. Mechanical whirlpool bathtubs are not acceptable. Tub selection shall be at the discretion of the Nursing Home.
- .6 Windows shall restrict the resident elopement through the operable section of the mechanism. Operable sections shall be fitted with screens.
- .7 Lavatory countertops must have 45° bevelled surface edges and be installed in washroom corner to avoid sharp countertop angles which could potentially be injurious to staff.
- .8 Provide a separate and secure storage space for resident's personal toiletries and staff supplies in each washroom.
- .9 Shower fixtures may be considered in single room, ensuite washroom applications for special resident populations, such as young adults, under the specific authority and approval of the Department of Transportation and Infrastructure.
- .10 STC Ratings shall be as follows:
Toilet Room to Public Space STC 45
- .11 Door shall be capable of unlocking from the outside in emergency conditions.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.5 BATHING/SHOWER ROOMS AND WASHROOMS (continued)****A.1.5.3 Unit Spaces TABLE I (refer to previous page for related notes)**

Content	Resident Ensuite Washroom	Bariatric Ensuite Washroom	Double Resident Ensuite Washroom
Number Required per House	1 per Single Resident Bedroom	1 per Bariatric Resident Bedroom	1 per Double Resident Bedroom
Clear Area	4.76 sq.m.	27 sq.m. including Bariatric Resident Room	6.14 sq. m.
Ceiling Height	Min. 2.44m	Min 2.44m	Min 2.44m
Finishes			
Walls	Moisture resistant gypsum board STC: See Note 10 Rigid vinyl/acrylic wall covering behind toilet.	Moisture resistant gypsum board STC: See Note 10 Rigid vinyl/acrylic wall covering behind toilet.	Moisture resistant gypsum board STC: See Note 10 Rigid vinyl/acrylic wall covering behind toilet.
Floors	Slip resistant resilient sheet floor with flash cove base, Note 1	Slip resistant resilient sheet floor with flash cove base, Note 1	Slip resistant resilient sheet floor with flash cove base, Note 1
Ceilings	Moisture resistant gypsum board	Moisture resistant gypsum board	Moisture resistant gypsum board
Casework	Vanity and toiletry storage Note 7 & 8, see drawings	Vanity and toiletry storage Note 7 & 8, see drawings	Vanity and toiletry storage Note 7 & 8, see drawings
Doors			
Solid	Solid side mounted sliding door	Solid doors (1524mm clear opening)	Solid side mounted sliding door
Locked	No	Yes, privacy lock Note 11	Yes, privacy lock Note 11
Ceiling Lift Track	No	No	No
Motion sensor switching	No	No	No
Resident/Staff Response System	Emergency station	Emergency station	Emergency station
Sink	Yes, Note 3	Wall mounted sink/counter with a rating of 137kg (300 lbs.), Note 3	Yes, Note 3
Water Closet	Wall mounted tank, MH = 460mm A.F.F. See Note 2	Wall mounted with drop weight rating of 319kg (700lbs) MH = 460mm A.F.F. See Note 2	Wall mounted tank, MH = 460mm A.F.F. See Note 2
Shower	See Note 9	See Note 9	See Note 9
Mirrors	Yes, MH=1000mm max (bottom edge A.F.F.)	Yes, MH=1000mm max (bottom edge A.F.F.)	Yes, MH=1000mm max (bottom edge A.F.F.)

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.5 BATHING/SHOWER ROOMS AND WASHROOMS (continued)****A.1.5.3 Unit Spaces TABLE I (Continued)**

Content	Resident Ensuite Washroom	Bariatric Ensuite Washroom	Double Resident Ensuite Washroom
Medicine Cabinet	Yes, recessed, lockable, MH=1000mm max (bottom edge A.F.F.)	Yes, recessed, lockable, MH=1000mm max (bottom edge A.F.F.)	Yes, recessed, lockable, MH=1000mm max (bottom edge A.F.F.)
Soap Dispenser	Yes	Yes	Yes
Paper towel dispenser	Yes	Yes	Yes
Waste Receptacle	Yes	Yes	Yes
Coat Hook	Yes	Yes	Yes
Air Conditioning	No	No	No

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.5 BATHING/SHOWER ROOMS AND WASHROOMS (continued)****A.1.5.3 Unit Spaces TABLE II** (refer to previous page for related notes)

Content	Resident Washroom
Number Required per House	1
Clear Area	4.76 sq.m.
Ceiling Height	Min 2.44m
Finishes	
Walls	Moisture resistant gypsum board STC: See Note 10 Rigid vinyl/acrylic wall covering behind toilet.
Floors	Slip resistant resilient sheet floor with flash cove base, Note 1
Ceilings	Moisture resistant gypsum board
Casework	Vanity
Doors	
Solid	Solid door, double swing door
Locked	Yes, privacy lock Note 11
Ceiling Lift Track	No
Motion sensor switching	No
Resident/Staff Response System	Emergency station
Sink	Yes, Note 3
Water Closet	Wall mounted tank, MH = 460mm A.F.F. See Note 2 Provide access on both sides with fold up grab bars.
Mirrors	Yes, MH=1000mm max (bottom edge A.F.F.)
Soap Dispenser	Yes
Paper towel dispenser	Yes
Waste Receptacle	Yes
Coat Hook	Yes
Air Conditioning	No
Shelf	Yes, 200x 400

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.5 BATHING/SHOWER ROOMS AND WASHROOMS (continued)****A.1.5.3 Unit Spaces TABLE III (refer to previous page for related notes)**

Content	Resident Bathtub Room	Resident Shower Room	Bathing Suite Storage
Number Required per House	1(for 30 bed home 2 required)	1	1
Clear Area	15.80 sq.m.	8.40 sq.m.	4.76
Ceiling Height	Min. 2.44m	Min 2.44m	Min 2.44m
Finishes			
Walls	Moisture resistant gypsum board/Ceramic tile to 1220 A.F.F. (on concrete backer board) STC: See Note 10	Moisture resistant gypsum board/ Ceramic tile to 1220 A.F.F. (Full height in shower on concrete backer board) STC: See Note 10	Moisture resistant gypsum board STC See Note 10/FRP Panels to 1220 A.F.F.
Floors	Slip resistant resilient sheet floor with flash cove base, Note 1	Slip resistant resilient sheet with flash cove base/ Anti-slip tile in shower, Note 1	Slip resistant resilient sheet floor with flash cove base, Note 1
Ceilings	Moisture resistant gypsum board	Moisture resistant gypsum board	Moisture resistant gypsum board
Casework	Shelving for linen and secure storage for supplies, see drawing.	Shelving for linen and secure storage for supplies, see drawing.	
Doors			
Solid	Solid door	Solid door	Solid side mounted sliding
Locked	Yes, keypad, delay action closer	Yes, keypad, delay action closer	
Operable windows	Windows may be incorporated into the bathing suite, Note 6		
Ceiling Lift Track	Functional Program will indicate whether an integral tub lift will be supplied by tub supplier or a ceiling lift track is required in contract.	No	No
Motion sensor switching	No	No	No
Resident/Staff Response System	Emergency station (close to bathtub)	Emergency station	
Sink	Yes, Note 3	Yes, Note 3	
Shower	No	Yes, Note 4	No
Therapeutic bathtub	Yes, Note 5. Tub drain location shall be coordinated with lift hygiene chair location.	No	No

A.**Performance Standards**

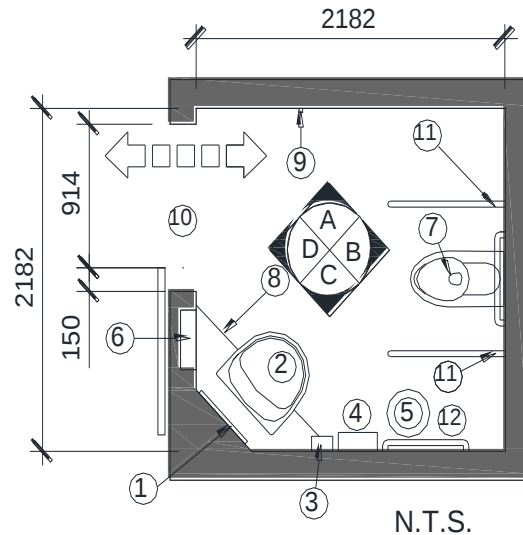
Mirrors	No	No	
Content	Resident Bathtub Room	Resident Shower Room	Bathing Suite Storage
Soap Dispenser	Yes	Yes	
Paper towel dispenser	Yes	Yes	
Waste Receptacle	Yes	Yes	
Coat Hook	Yes	Yes	
Curtain Track	Yes, see drawing	Yes, see drawing	No
Air Conditioning	No	No	No
Equipment	Blanket Warmer; Heated Towel Bar	Heated Towel Bar	

A.

Performance Standards

.4 Typical Drawings

.1 Single Resident Ensuite Washroom Floor Plan

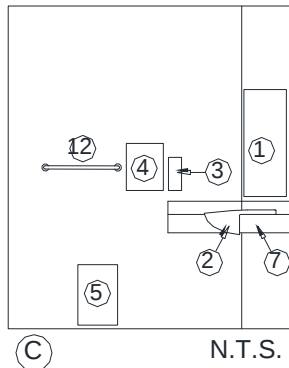
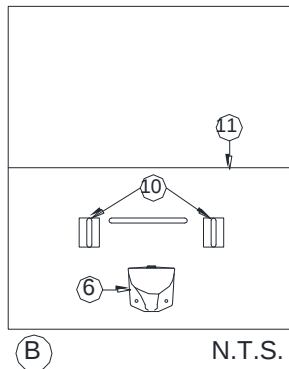
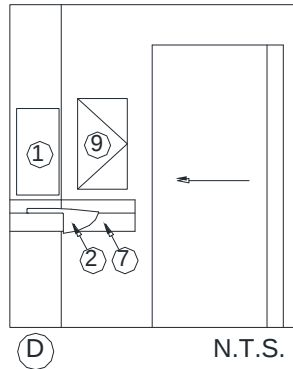
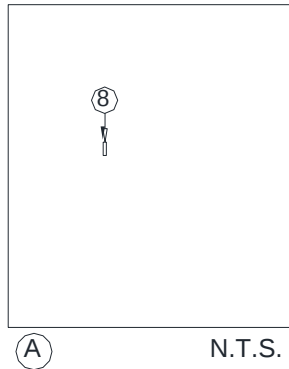


- | | |
|---|---|
| ① FIXED MIRROR
MIROIR FIXE | ⑧ VANITY
MEUBLE-LAVABO |
| ② SINK
ÉVIER | ⑨ COAT HOOK
CROCHET POUR VÊTEMENTS |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑩ BEDROOM ACCESS
ACCÈS À LA CHAMBRE |
| ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT | ⑪ FOLD-UP GRAB BARS
WITH TOILET PAPER
DISPENSER
BARRES D'APPUI PLIABLES
AVEC DISTRIBUTEUR DE
PAPIER HYGIÉNIQUE |
| ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS SUR PIEDS | ⑫ TOWEL RACK
PORTE-SERVIETTES |
| ⑥ RECESSED MEDICINE CABINET
(LOCKABLE)
ARMOIRE À MÉDICAMENTS
ENCASTRÉE (VERROUILLABLE) | |
| ⑦ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR | |

A.

Performance Standards

.2 Single Resident Ensuite Washroom Elevations

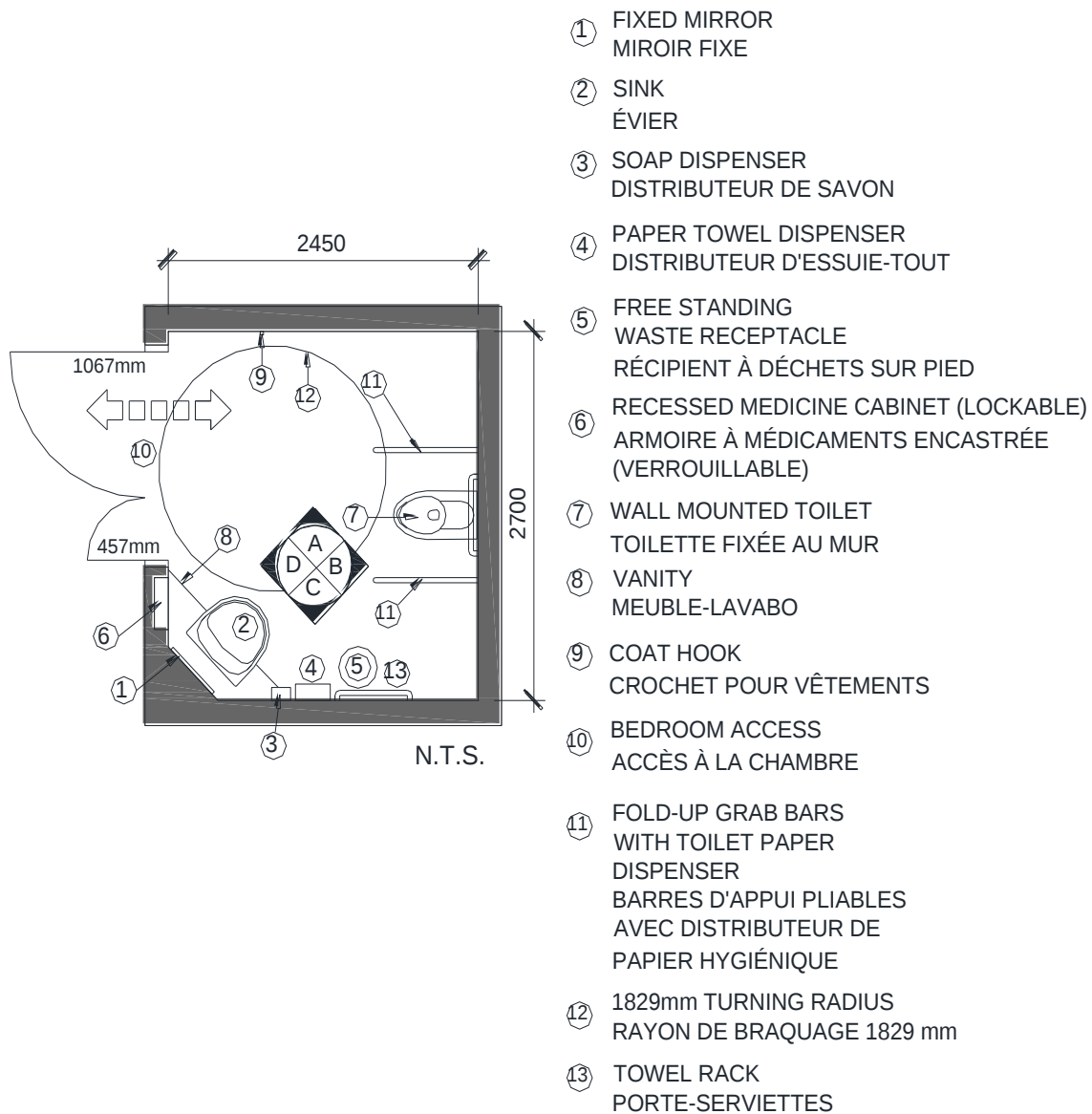


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|---|--|
| ① FIXED MIRROR
MIROIR FIXE | ⑨ RECESSED MEDICINE CABINET
(LOCKABLE)
ARMOIRE À MÉDICAMENTS
ENCASTRÉE (VERROUILLABLE) |
| ② SINK
ÉVIER | ⑩ FOLD-UP GRAB BARS
WITH TOILET PAPER
DISPENSER
BARRES D'APPUI PLIABLES
AVEC DISTRIBUTEUR DE
PAPIER HYGIÉNIQUE |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑪ RIGID VINYL ACRYLIC WALL
COVERING TO 1220 A.F.F.
REVÊTEMENT DE MUR EN
VINYLE/ACRYLIQUE RIGIDE
JUSQU'À 1 220 MM AU-DESSUS
DU PLANCHER FINI |
| ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT | ⑫ TOWEL RACK
PORTE-SERVIETTES |
| ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS SUR
PIEDS | |
| ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR | |
| ⑦ VANITY
MEUBLE-LAVABO | |
| ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS | |

A.

Performance Standards

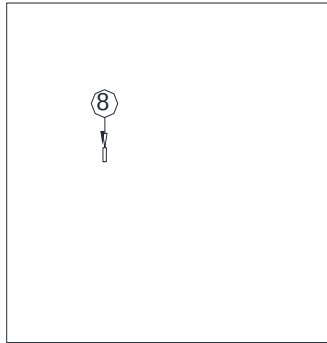
.3 Bariatric Ensuite Washroom Floor Plan



A.

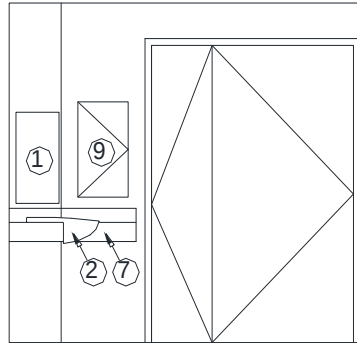
Performance Standards

.4 Bariatric Ensuite Washroom Elevations



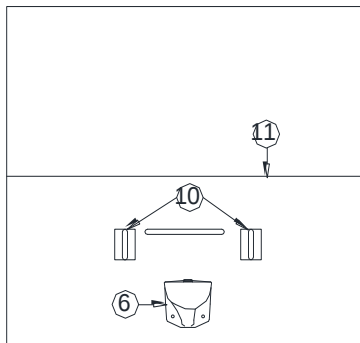
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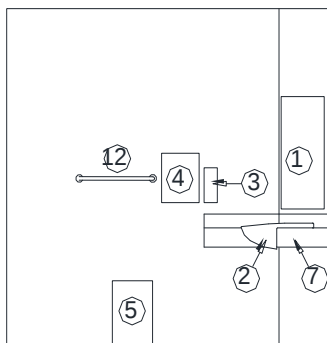
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(B)

N.T.S.



(C)

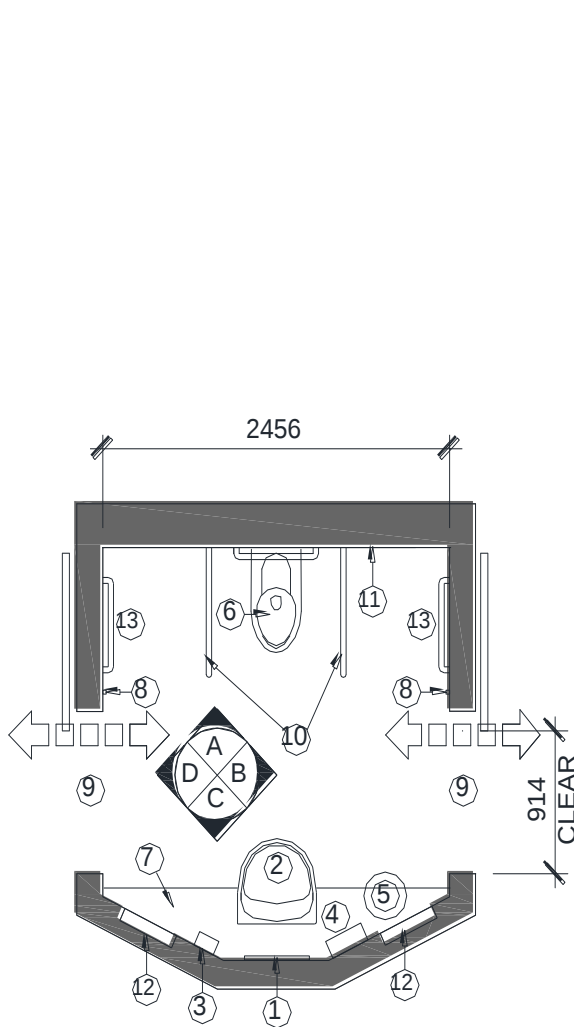
N.T.S.

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|--|--|
| ① FIXED MIRROR
MIROIR FIXE | ⑨ RECESSED MEDICINE CABINET
(LOCKABLE)
ARMOIRE À MÉDICAMENTS
ENCASTRÉE (VERROUILLABLE) |
| ② SINK
ÉVIER | ⑩ FOLD-UP GRAB BARS
WITH TOILET PAPER
DISPENSER
BARRES D'APPUI PLIABLES
AVEC DISTRIBUTEUR DE
PAPIER HYGIÉNIQUE |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑪ RIGID VINYL ACRYLIC WALL
COVERING TO 1220 A.F.F.
REVÊTEMENT DE MUR EN
VINYLE/ACRYLIQUE RIGIDE
JUSQU'À 1 220 MM AU-DESSUS
DU PLANCHER FINI |
| ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR
D'ESSUIE-TOUT | ⑫ TOWEL RACK
PORTE-SERVIETTES |
| ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS
SUR PIED | |
| ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR | |
| ⑦ VANITY
MEUBLE-LAVABO | |
| ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS | |

A.

Performance Standards

.5 Double Resident Ensuite Washroom Floor Plan



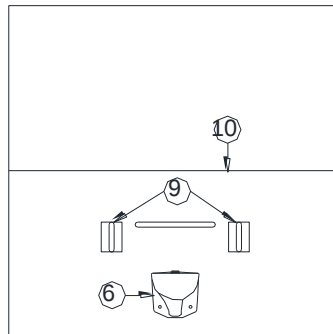
N.T.S.

- ① FIXED MIRROR
MIROIR FIXE
- ② SINK
ÉVIER
- ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS SUR PIED
- ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR
- ⑦ VANITY
MEUBLE-LAVABO
- ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS
- ⑨ BEDROOM ACCESS
ACCÈS À LA CHAMBRE
- ⑩ FOLD-UP GRAB BARS
WITH TOILET PAPER
DISPENSER
BARRES D'APPUI PLIABLES
AVEC DISTRIBUTEUR DE
PAPIER HYGIÉNIQUE
- ⑪ RIGID VINYL ACRYLIC WALL
COVERING TO 1220 A.F.F.
REVÊTEMENT DE MUR EN
VINYLE/ACRYLIQUE RIGIDE
JUSQU'À 1 220 MM AU-DESSUS
DU PLANCHER FINI
- ⑫ RECESSED MEDICINE CABINET
(LOCKABLE)
ARMOIRE À MÉDICAMENTS
ENCASTRÉE (VERROUILLABLE)
- ⑬ TOWEL RACK
PORTE-SERVIETTES

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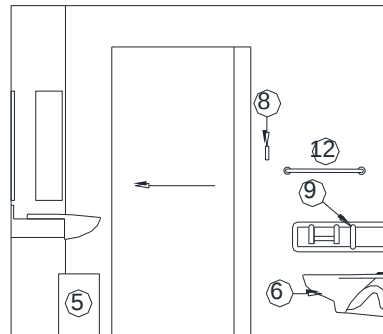
Performance Standards

.6 Double Resident Ensuite Washroom Elevations



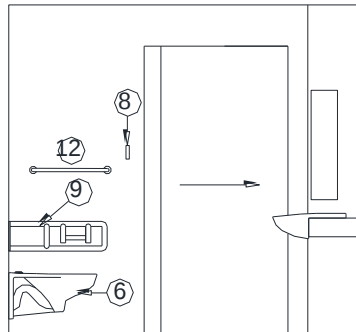
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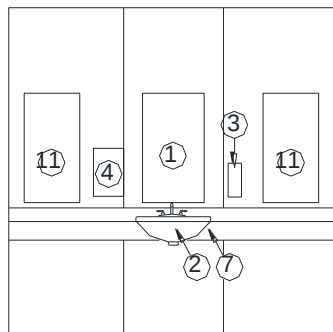
(D)

N.T.S.



(B)

N.T.S.



(C)

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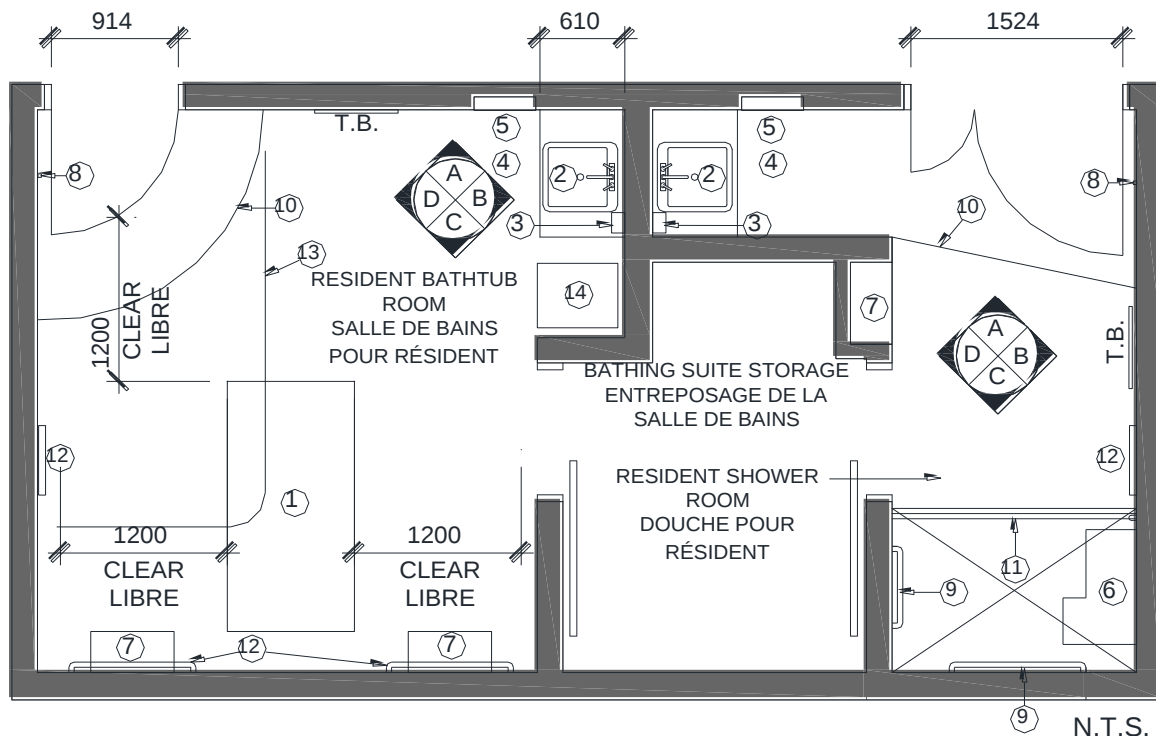
- | | |
|--|--|
| ① FIXED MIRROR
MIROIR FIXE | ⑨ FOLD-UP GRAB BARS
WITH TOILET PAPER
DISPENSER
BARRES D'APPUI PLIABLES
AVEC DISTRIBUTEUR DE
PAPIER HYGIÉNIQUE |
| ② SINK
ÉVIER | ⑩ RIGID VINYL ACRYLIC WALL
COVERING TO 1220 A.F.F.
REVÊTEMENT DE MUR EN
VINYLE/ACRYLIQUE RIGIDE
JUSQU'À 1 220 MM AU-DESSUS
DU PLANCHER FINI |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑪ RECESSED MEDICINE CABINET
(LOCKABLE)
ARMOIRE À MÉDICAMENTS
ENCASTRÉE (VERROUILLABLE) |
| ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR
D'ESSUIE-TOUT | ⑫ TOWEL RACK
PORTE-SERVIETTES |
| ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS SUR
PIED | |
| ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR | |
| ⑦ VANITY
MEUBLE-LAVABO | |
| ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS | |

A.

Performance Standards

.7 Bathing Room Suite Floor Plan Option A

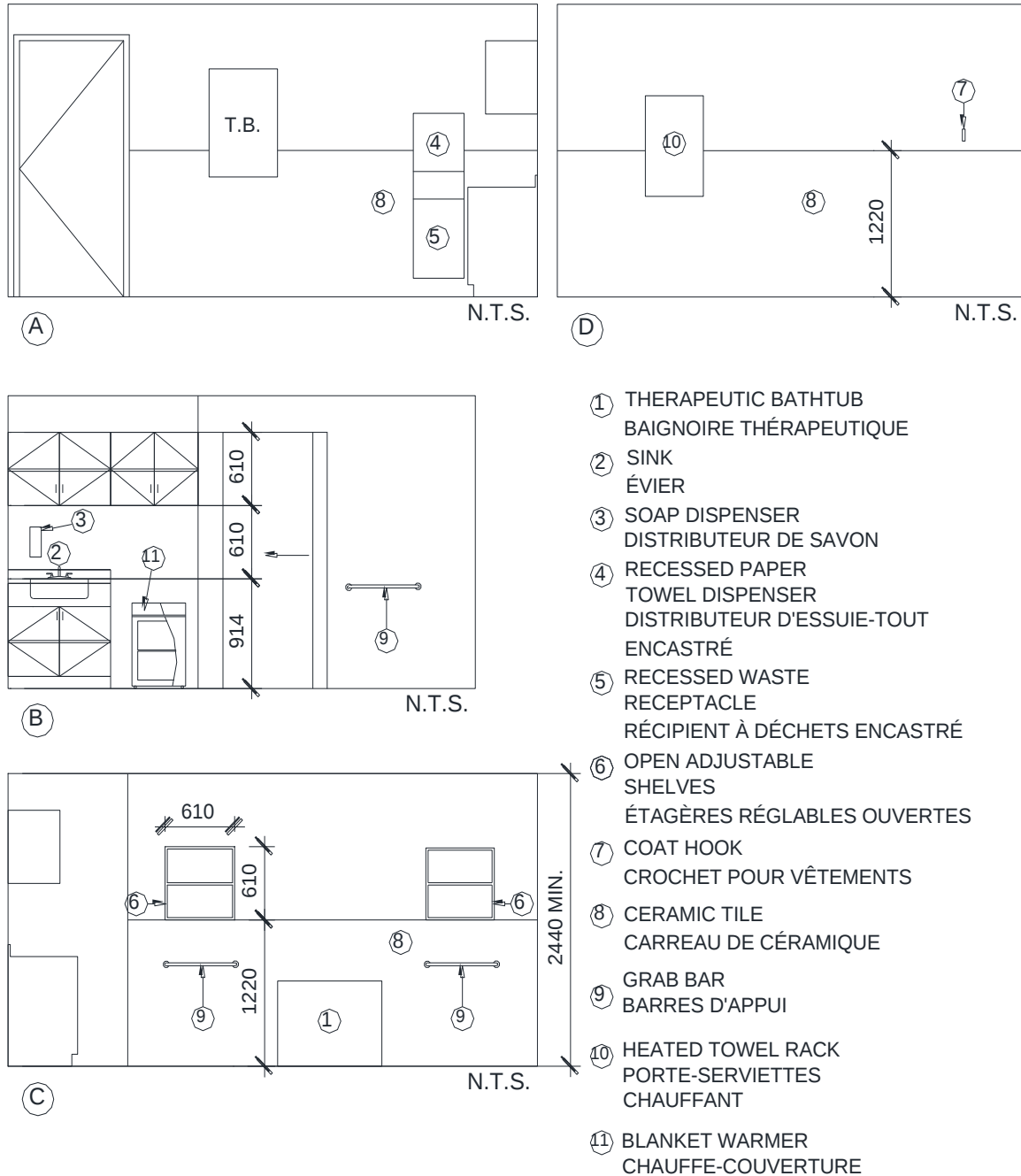
- | | |
|---|---|
| ① THERAPEUTIC BATHTUB
BAIGNOIRE THÉRAPEUTIQUE | ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS |
| ② SINK
ÉVIER | ⑨ GRAB BAR
BARRES D'APPUI |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑩ CURTAIN TRACK
RAILLE DE RIDEAU |
| ④ RECESSED PAPER
TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
ENCASTRÉ | ⑪ SHOWER CURTAIN ROD
TRINGLE POUR RIDEAU DE DOUCHE |
| ⑤ RECESSED WASTE
RECEPTACLE
RÉCIPIENT À DÉCHETS ENCASTRÉ | ⑫ HEATED TOWEL RACK
PORTE-SERVIETTES CHAUFFANT |
| ⑥ FOLDING SHOWER SEAT
SIÈGE DE DOUCHE PLIABLE | ⑬ CEILING LIFT TRACK
RAIL POUR LÈVE-PERSONNES
FIXÉ AU PLAFOND |
| ⑦ OPEN ADJUSTABLE
SHELVES
ÉTAGÈRES RÉGLABLES OUVERTES | ⑭ BLANKET WARMER
CHAUFFE-COUVERTURE |



A.

Performance Standards

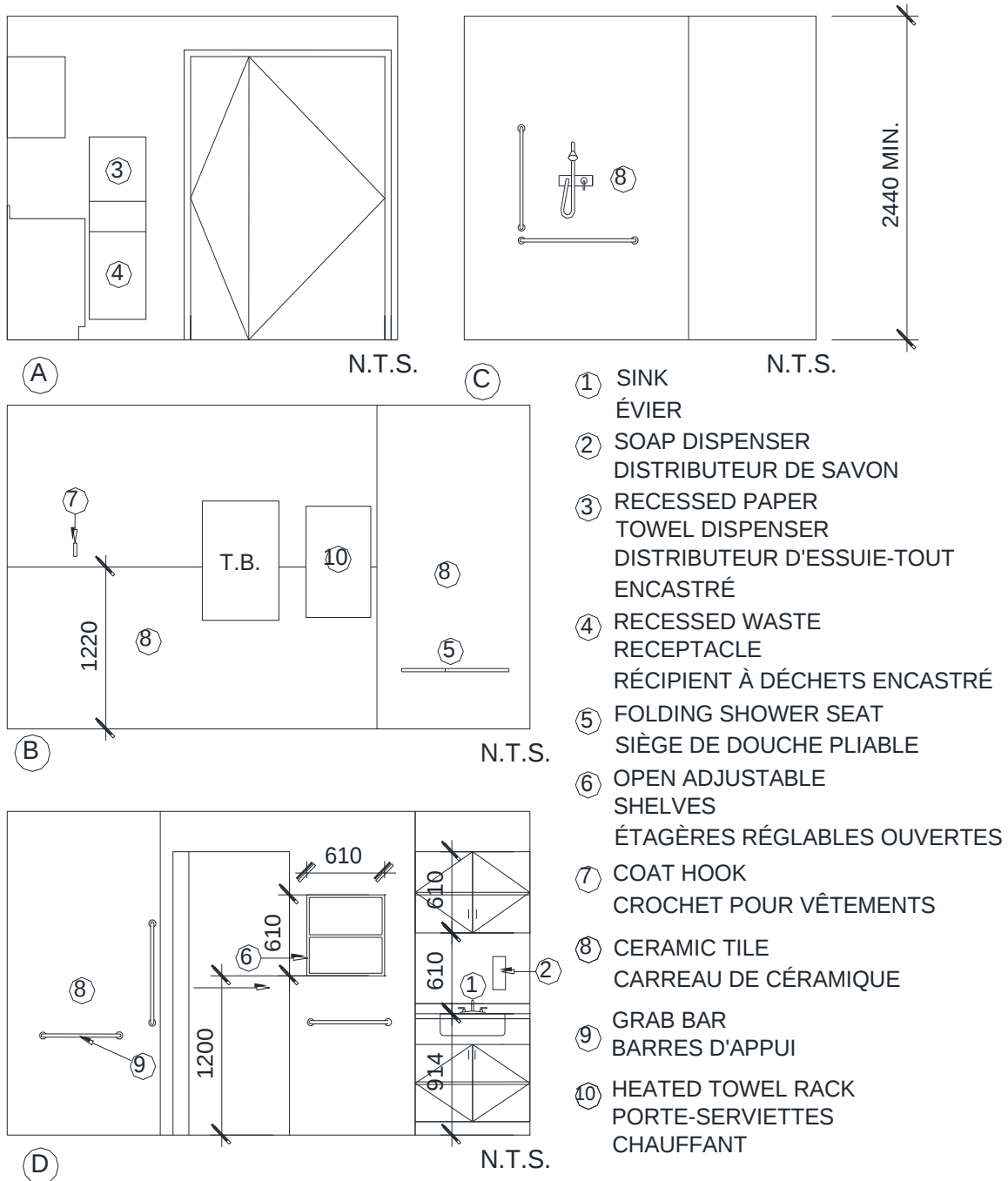
.8 Resident Bathtub Room Elevations Option A



A.

Performance Standards

.9 Resident Shower Room Elevations Option A

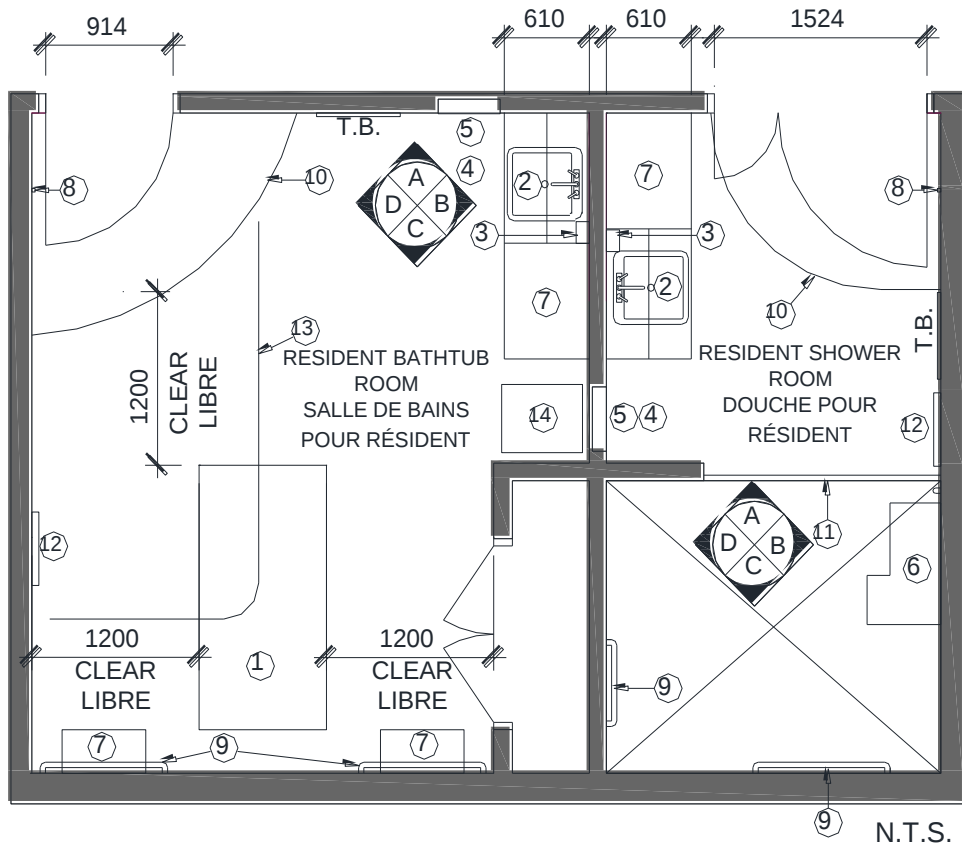


A.

Performance Standards

.10 Bathing Room Suite Floor Plan Option B

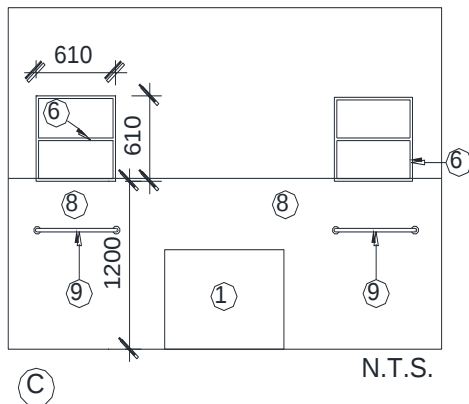
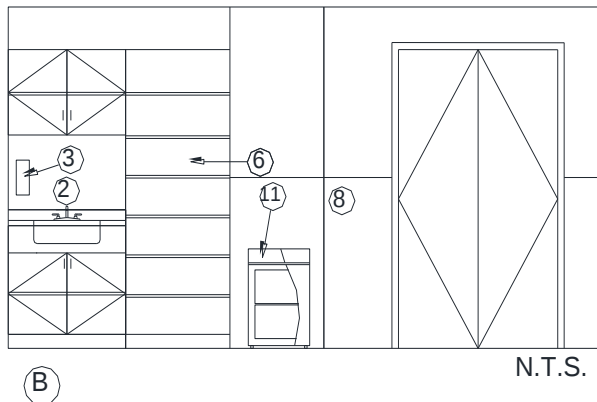
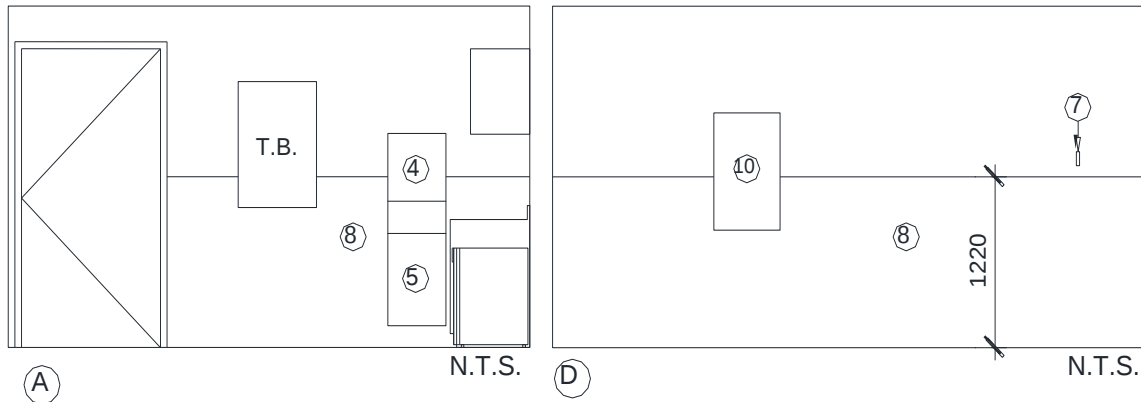
- | | |
|--|---|
| ① THERAPEUTIC BATHTUB
BAIGNOIRE THÉRAPEUTIQUE | ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS |
| ② SINK
ÉVIER | ⑨ GRAB BAR
BARRES D'APPUI |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON | ⑩ CURTAIN TRACK
RAIL POUR RIDEAUX |
| ④ RECESSED PAPER
TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUIT
ENCASTRÉ | ⑪ SHOWER CURTAIN ROD
TRINGLE POUR RIDEAU DE DOUCHE |
| ⑤ RECESSED WASTE
RECEPTACLE
RÉCIPIENT À DÉCHETS ENCASTRÉ | ⑫ HEATED TOWEL RACK
PORTE-SERVIETTES CHAUFFANT |
| ⑥ FOLDING SHOWER SEAT
SIÈGE DE DOUCHE PLIABLE | ⑬ CEILING LIFT TRACK
RAIL POUR LÈVE-PERSONNES
FIXÉ AU PLAFOND |
| ⑦ OPEN ADJUSTABLE
SHELVES
ÉTAGÈRES RÉGLABLES OUVERTES | ⑭ BLANKET WARMER
CHAUFFE-COUVERTURE |



A.

Performance Standards

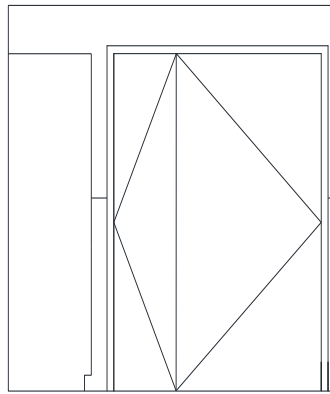
.11 Resident Bathtub Room Elevations Option B



A.

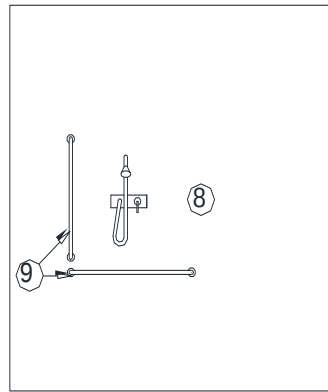
Performance Standards

.12 Resident Shower Room Elevations Option B



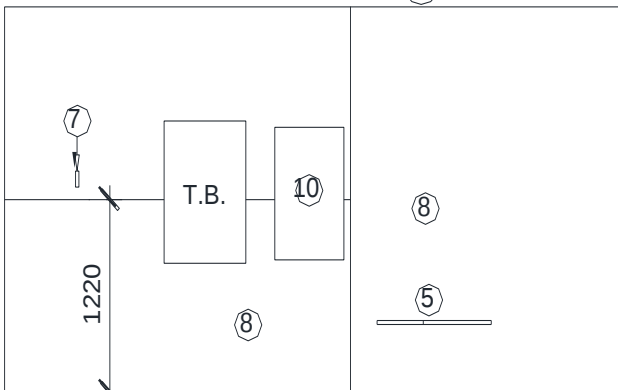
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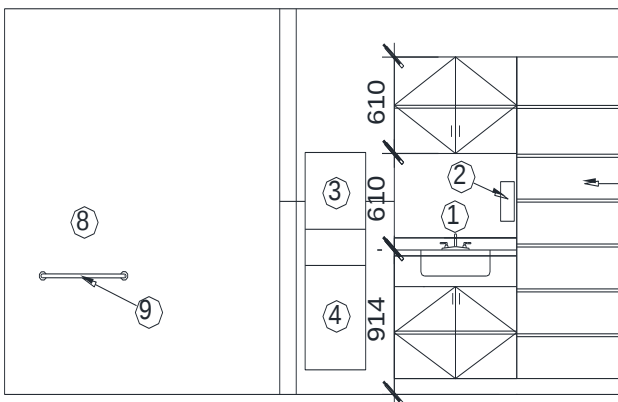
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B

N.T.S.



D

N.T.S.

- ① SINK
ÉVIER
- ② SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ③ RECESSED PAPER
TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
ENCASTRÉ
- ④ RECESSED WASTE
RECEPTACLE
RÉCIPIENT À DÉCHETS ENCASTRÉ
- ⑤ FOLDING SHOWER SEAT
SIÈGE DE DOUCHE PLIABLE
- ⑥ OPEN ADJUSTABLE
SHELVES
ÉTAGÈRES RÉGLABLES OUVERTES
- ⑦ COAT HOOK
CROCHET POUR VÊTEMENTS
- ⑧ CERAMIC TILE
CARREAU DE CÉRAMIQUE
- ⑨ GRAB BAR
BARRES D'APPUI
- ⑩ HEATED TOWEL RACK
PORTE-SERVIETTES
CHAUFFANT

A.

Performance Standards

A.1 RESIDENT HOUSE (continued)

.6 SERVICE SPACES

.1 Components

- .1 Housekeeping Closet
- .2 Clean Utility Room
- .3 Resident Care Supply Room
- .4 Linen Cart Storage Closet
- .5 Soiled Utility Room
- .6 Equipment Storage Room

.2 Spatial Relationships

- .1 Housekeeping closets shall be located closest to the areas of highest use and be situated such that the transportation of waste and equipment is minimized through resident areas.
- .2 Clean utility room shall be separate from spaces dedicated to soiled material and conveniently located for staff to reduce cart movement in the residential house.
- .3 Clean utility room must not be accessible to residents and will be a secure storage area.
- .4 The resident care supply room will be separate from the clean utility room for the supplies required per resident house.
- .5 Linen cart storage closet shall be at opposite ends to the clean utility room location for easy staff access and in proximity to resident rooms to reduce staff travel distance. Linen carts should be easily moved in and out of the closet for access by staff. They should be in close proximity to the resident rooms to reduce staff travel distances. Linen cart storage closet shall accommodate linen service provider's standard carts accessed on long side. (See Nursing Home Functional Program)
- .6 Soiled utility room shall not be accessible to residents.
- .7 Equipment storage shall be conveniently located central to high use areas.
- .8 See Nursing Home Functional Program for location of oxygen tank storage.
- .9 Housekeeping closets must accommodate safe storage of floor cleaners, cleaning carts, mops and pails, vacuum cleaners, floor buffers, supplies, etc.

.3 Unit Spaces

(The following notes apply to table A.1.6.3 I and II, (all items shall be in construction contract unless otherwise noted).

- .1 STC Rating shall be as follows:

Service area to bedroom	STC 60
-------------------------	--------
- .2 Acoustic tile shall have an anti-microbial treatment.
- .3 Doors not for use by residents shall be colour coded to match wall colour.

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.6 SERVICE SPACES (continued)****A.1.6.3 Unit Spaces TABLE I** (refer to previous page for related notes)

Content	Housekeeping Closet	Clean Utility Room	Resident Care Supply Room
Number required per house	1	1 (if 30 bed home, 2 required)	1
Clear Area	5.10 sq. m.	11.00 sq. m.	9.29 sq. m.
Minimal Ceiling Height	Min 2.44m	Min. 2.44m	Min. 2.44m
Finishes			
-Walls	Abuse resistant gypsum board/FRP Panel to 1220 A.F.F. STC See Note 1	Abuse resistant gypsum board STC See Note 1/	Abuse resistant gypsum board STC See Note 1/
-Floors	Slip resistant resilient sheet flooring with flash cove base	Resilient sheet flooring with sealed rubber base	Resilient sheet flooring with sealed rubber base
-Ceilings	Gypsum board	Acoustic Tile, Note 2	Acoustic Tile, Note 2
Casework	Storage Shelving Mop rack.	Work counter with sink	Adjustable storage shelving with cleanable surfaces
Doors			
Solid	Note 3 1070mm wide solid door	Note 3 1070mm wide solid door	Note 3 1070mm wide solid door
Glazed Side Light			
Locked	Yes, keypad, delayed action closer	Yes, keypad, delayed action closer	Yes, keypad, delayed action closer
Motion Sensor Switching	Yes	Yes	Yes
Sink	Curbed floor sink	Yes	No
Soap Dispenser	No	Yes	No
Paper towel dispenser	No	Yes	No
Waste Receptacle	No	Yes	No
Electrical Outlets	See Part B for electrical requirements		
Electric Recharge Outlets	No	No	No
Voice and data communication outlet	No	No	No
Equipment	Chemical dispensing (N.I.C.)	Resident blanket warmer	
Air Conditioning	No	No	No

A.**Performance Standards****A.1 RESIDENT HOUSE (continued)****.6 SERVICE SPACES (continued)****A.1.6.3 Unit Spaces TABLE II (refer to previous page for related notes)**

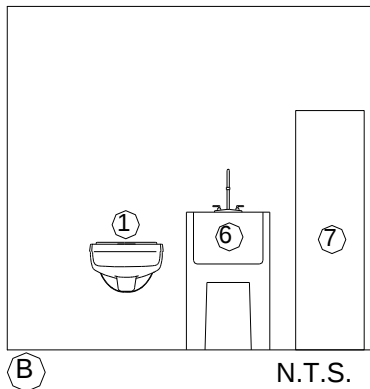
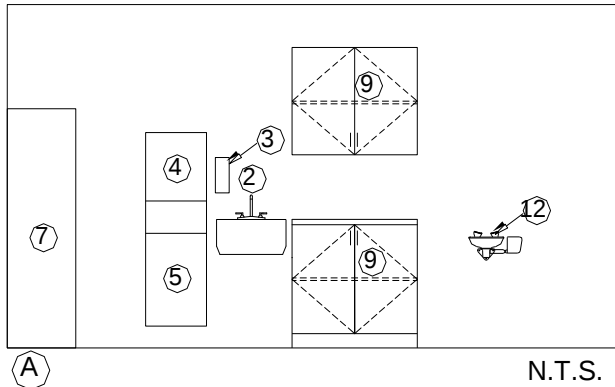
Content	Soiled Utility Room	Equipment Storage Room	Linen Cart Storage Closet
Number required per house	1	1	1
Clear Area	12 sq.m.	14.00 sq. m.	2.30 sq.m.
Minimal Ceiling Height	Min 2.44m	Min. 2.44m	Min 2.44m
Finishes			
-Walls	Abuse resistant gypsum board FRP Panels to 1828 A.F.F. STC See Note 1	Abuse resistant gypsum board STC See Note 1	Abuse resistant gypsum board/FRP Panels to 1220 A.F.F. STC See Note 1
-Floors	Slip resistant resilient sheet floor and flash cove base	Resilient sheet flooring with sealed rubber base	Resilient sheet flooring with sealed rubber base
-Ceilings	Acoustic Tile, Note 2	Acoustic Tile, Note 2	Acoustic tile, Note 2
Casework	Clean storage cupboards		Shelving above cart height
Doors Solid Glazed Side Light	Note 3 1070mm solid door	Note 3 1070mm solid door	Note 3 Solid double doors opening out
Locked	Yes, keypad, delayed action closer	Yes, keypad, delayed action closer	Yes, keypad, delay action closer
Motion Sensor Switching	Yes	Yes	Yes
Sink	Hopper sink, set-tub, hand washing sink	No	No
Soap Dispenser	Yes	No	No
Paper towel dispenser	Yes	No	No
Waste Receptacle	Yes	No	No
Electrical Outlets	See Part B for Electrical Requirements		
Electric Recharge Outlets	No	Yes	No
Equipment	One sanitizer, two soiled linen carts (NIC), two large garbage cans (NIC), space for garbage /recycling		
Air Conditioning	No	No	No

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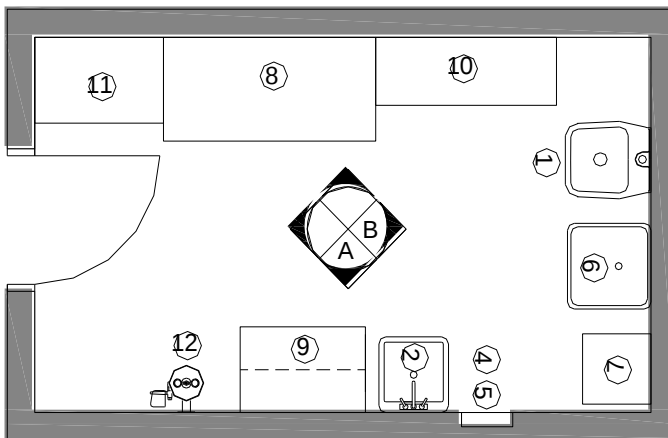
Performance Standards

.4 Typical Drawings

.1 Soiled Utility Floor Plan and Elevations



ELEVATIONS/ÉLÉVATIONS



PLAN VIEW/VUE EN PLAN

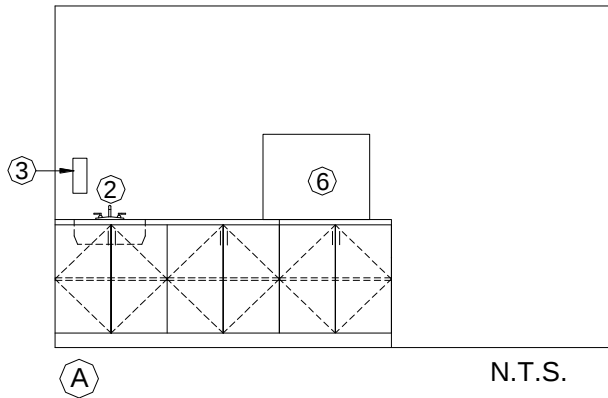
N.T.S.

- ① HOPPER SINK
ÉVIER À TRÉMIE
- ② SINK
ÉVIER
- ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ⑤ WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS
- ⑥ SET-TUB
BAC À LAVER
- ⑦ SANITIZER
DÉSINFECTANT
- ⑧ GARBAGE AND SOILED LINEN
CART N.I.C.
CHARIOT À DÉCHETS ET À
LINGE SALE
- ⑨ CLEAN STORAGE CUPBOARDS
ARMOIRES D'ENTREPOSAGE
DU LINGE PROPRE
- ⑩ LINEN SORTING CART
CHARIOT DE TRI DU LINGE
- ⑪ SOILED LINEN ROOM CART
CHARIOT DE LINGERIE
- ⑫ EYE WASH STATION
POSTE DE LAVAGE DES YEUX

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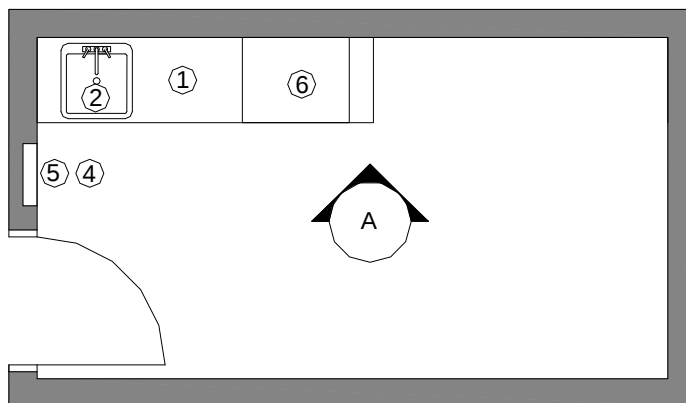
Performance Standards

.2 Clean Utility Floor Plan and Elevations



ELEVATIONS/ÉLÉVATIONS

- ① WORK COUNTER
COMPTOIR DE TRAVAIL
- ② SINK
ÉVIER
- ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ⑤ WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS
- ⑥ BLANKET WARMER (N.I.C.)
RÉCHAUFFEUR POUR
COUVERTURES, PAS DANS
CE CONTRAT



PLAN VIEW / VUE EN PLAN N.T.S.

A.

Performance Standards

A.2**COMMUNAL AND PUBLIC SPACES**

Communal spaces must be accessible to residents and their families from the resident house areas. All communal spaces must be clustered to maximize activity usage by users and visitors.

The public entrance will have an inviting and welcoming atmosphere to the facility and contain seating. This area may provide convenient access to other public functions like the hair salon, and the volunteer canteen/gift shop. The main entrance will include the facility reception/clerical area to greet and provide information for family members and visitors.

The aesthetics of the communal and public spaces shall be designed as a streetscape with the vernacular of a community. The entrances to the Resident Houses shall be designed as an entrance to a home.

Key Service Components

The activity director collaborates in providing programming to the resident houses. Staff and volunteers support the delivery of programs with pastoral care contributing to the resident's social, emotional and spiritual quality of life.

Residents living in long-term care facilities are provided with a range of recreational activities. From one-on-one activities, small group activities, to large group activities. Large group activities may include music therapy, bingo, bowling, milestone celebrations and socials. Smaller group activities for example can include current events, card games and kitchen therapy while one-on-one activities could include reminiscing, reading or puzzles. Many resident activities can also be performed outdoors, such as gardening, summertime picnics and barbecues. Other therapeutic activities may include external agencies such as schools or daycares for intergenerational activities or pet therapy with visiting trained domestic animals from private organizations or individuals.

The main lobby reception area will provide way finding information for families and visitors, as well as, clerical support to administration. The volunteer canteen/gift shop offers access to residents, families and staff. It may provide sales of personal care items, gifts, greeting cards, small craft items, snack foods and other items. The hair salon will be operated by hairstylists, barbers and beauticians, as required and may offer services to residents and the public.

Function and Space Relationships

Recreation therapy requires space within the resident house for small group programming and one-on-one activities. Large group events require a recreation/multipurpose space with convenient access for residents and guests.

Access to a safe and secure outdoor courtyard, patio, terrace and/or garden is required for all residents.

A.2 COMMUNAL AND PUBLIC SPACES (continued)

Recreation Therapy may develop community links with:

- Local schools
- Local service groups
- Veteran organizations
- Social groups
- Local seniors' groups
- Day Care
- Others

Space Planning Requirements for Communal and Public Spaces

Recreation therapy services require a variety of spaces to enhance the residents' quality of life. Residents require activities that are easily accessible. Small group activities will be regular and frequent with larger gatherings reserved for special events.

The main lobby will provide access to the residential houses and communal spaces. Visitors to the facility will receive directional information at the main lobby in a welcoming and home-like atmosphere.

.1 Components**.1 Volunteer/Pastoral Care**

A volunteer/pastoral care resource room is required for each facility to support and assist residents in maintaining their links with the outside community and their spiritual beliefs and practices.

.2 Activity Director Office/Nursing Unit Clerk

Offices will be provided to accommodate the Activity Director and/or Nursing Unit Clerk with adequate room for small group meetings.

.3 Director of Nursing Office**.4 Multi Purpose/Chapel Room**

One large multipurpose/chapel room will be provided to accommodate the residents and staff.

.5 Multi Purpose Storage Room**.6 Resident Washroom****.7 Lobby, Reception Foyer****.8 Public Washroom****.9 Canteen/Gift Shop and Storage Closet****.10 Hair Salon****.11 Family Quiet Room including ensuite washroom**

A.2 COMMUNAL AND PUBLIC SPACES (continued)**.2 Spatial Relationships**

- .1 The Volunteer/Pastor Care Room shall be located close to the multipurpose room and the activity director's office.
- .2 The Activity Director Office shall be in close proximity to resident communal spaces to support the delivery of activity and leisure programs from a central location.
- .3 The Director of Nursing office will have adequate space for small meetings of four people and be conveniently located close to the resident houses and communal spaces for access by families and residents. This office should be collocated with the communal spaces so that the director is closer to care services, activities and functions.
- .4 The canteen/gift shop and hair salon will be visible from the main public entrance area of the facility to maximize customer support and revenue generation.
- .5 A small storage room will adjoin the canteen/gift shop.
- .6 The Multi Purpose/Chapel Room shall be centrally located to all resident houses and convenient to the main facility entrance. The space shall be situated outside the resident houses for use by all residents.
- .7 The Multi Purpose Storage Room shall be adjacent the Multi Purpose Room.
- .8 The Resident Washroom shall be adjacent communal area.
- .9 The Housekeeping Closet shall be located close to communal areas.
- .10 The Public Washroom shall be adjacent the public area.
- .11 The hair salon should be located away from the resident houses and in proximity to the canteen/gift shop area for centralized accessibility.
- .12 An ensuite washroom with a shower shall adjoin the quiet room for use by family.
- .13 The Family Quiet Room shall be located outside the Resident House in the Communal Area.

.3 Unit Spaces

(The following notes apply to table A.2.3 I to IV and all items shall be in construction contract unless otherwise noted).

- .1 STC of walls shall be:

Public Space to Exam Room	STC 50
Public Space to Toilet Room	STC 45
Public Space to Bedroom	STC 50
Public Space to Consultation Room	STC 50
Family Quiet Room to Service Area	STC 60
Family Quiet Room to all other spaces	STC 50
- .2 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.

A.2**COMMUNAL AND PUBLIC SPACES (continued)****.3 Unit Spaces (continued)**

- .3 Windows shall restrict the elopement through the operable section of the mechanism. Operable sections shall be fitted with screens. Opening dimension to be a maximum of 150mm.
- .4 Top of toilet seat shall be 460mm from the floor. Toilet seat shall be a contrasting colour to porcelain toilet fixture. Provide wall mounted, fold-up bars on either side of toilet to accommodate wheelchair transfers.
- .5 Blade type, operating handle faucets must be easy to use by residents with visual and physical impairments affecting hand eye coordination and movement. Hand washing stations must be constructed with sufficient clearance for those in wheelchairs and for those standing.
- .6 Lavatory countertops must have 45° bevelled surface edges and be installed in washroom corner to avoid sharp countertop angles which could potentially be injurious to staff.
- .7 Door shall be capable of unlocking from the outside in emergency conditions.
- .8 Acoustic tile shall have anti-microbial treatment.
- .9 Entrances to Multi Purpose Chapel Room, Canteen/Gift Shop, and Hair Salon shall be designed as a community street.
- .10 The Family Quiet Room shall be designed to be homelike in appearance, colour and wall and floor treatment.
- .11 Acoustic tile shall have anti-microbial treatment. Size of tile shall respond to scale of room.
- .12 The Family Quiet Room doorway shall provide a minimum clear width of 1220mm. Doors to Family Quiet Rooms can be combined with smaller leaves to achieve the same opening width, but no clear opening shall be less than 914mm wide.
- .13 Each Family Quiet Room must be equipped with appropriately located, aesthetically appealing light fixtures which have a non-institutional appearance. Indirect lighting and wall sconces are acceptable.
- .14 Acoustic tile shall have an anti-microbial treatment. Size of tile shall respond to scale of room.

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES****A.2.3 Unit Spaces TABLE I** (refer to previous page for related notes)

Content	Volunteer/ Pastoral Care	Activity Director / Nursing Unit Clerk Office	Director of Nursing Office	Multi Purpose/ Chapel Room
Number Required	1	30 bed: 1 office (either for Activity Dir. or Nursing Unit Clerk) 60 and 90 bed: 2 offices (1 for Activity Dir. And 1 for Nursing Unit Clerk)	1	1
Clear Area	10.20 sq.m.	10.20 sq.m.	10.20 sq.m.	30 bed facility=90 sq.m; 60 bed facility = 165 sq.m.; Facilities 90 beds and larger allow 2.5m ² / resident total (14 sq.m. of spiritual space integrated with multi-purpose room).
Ceiling Height	Min. 2.44m	Min. 2.44m	Min. 2.44m	Min. 2.75m
Daylight and Views		Must achieve a minimum daylight factor of 2%. Provide views to the exterior/ landscape.	Must achieve minimum daylight factor of 2%. Provide views to the exterior.	Must achieve a minimum daylight factor of 2%. Provide views to the exterior/ landscape.
Finishes				
Walls	Gypsum board STC: See Note 1	Gypsum board STC: See Note 1	Gypsum board STC: See Note 1	Abuse resistant gypsum board STC: See Note 1
Floors	Resilient sheet floor with sealed rubber base, Note 2	Resilient sheet floor with sealed rubber base, Note 2	Resilient sheet flooring with sealed rubber base, Note 2	Resilient sheet floor with sealed rubber base, Note 2
Ceilings	Acoustic Tile, NRC 0.70, CAC 35 min, Note 8.	Acoustic Tile, NRC 0.70, CAC 35 min., Note 8	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2	Acoustic Tile NRC 0.80 min, Note 8

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES****A.2.3 Unit Spaces TABLE I (Continued))**

Content	Volunteer/Pastoral Care	Activity Director Office	Director of Nursing Office	Multi Purpose/ Chapel Room
Casework	Coat closet, purse lockers			Kitchenette, see drawing, enclosed behind doors. Coat closet Lectern for spiritual space.
Doors Solid	Solid door	Solid door	Solid door	Solid double doors, See Note 9 Minimum clear opening of 1524mm through use of double doors
Glazed Side Light	Sidelight with translucent glazing	Sidelight with translucent glazing	Sidelight with translucent glazing	
Locked	Yes	Yes	Yes	Yes
Operable Windows	Yes, Note 3	Yes Note 3	Yes, Note 3	Yes Note 3
Window Treatment		Blinds	Blinds	Blinds
Motion Sensor Switching	Yes	Yes	Yes	No
Sink			No	Counter sink
Resident/Staff Response System				Yes
Voice and data communication outlet	Yes	Yes	Yes	Yes
Cable TV				Yes
Receptacles	See Part B for electrical requirements			
Furniture (NIC)	Desk, 2-4 chairs	Desk, file cabinet, two side chairs	Workstation desk, file cabinet, bookcase, small meeting table and 2 chairs.	Flexible: Group table and lecture style seating.
Equipment				Refrigerator , Microwave Operable partition may be provided in 30 bed facilities to divide room.

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE II** (refer to previous page for related notes)

Content	Multi Purpose Storage Room	Resident Washroom	Lobby, Reception Foyer
Number Required	1	1	1
Clear Area	10% of Multipurpose Room area	4.76 sq.m.	13.93 – 27.90 sq.m. (depends on size of facility-see Nursing Home Functional Program)
Ceiling Height	Min. 2.44m	Min 2.44m	Min. 2.75m
Daylight and Views			Must achieve a minimal daylight factor of 2%. Provide views to the exterior landscape.
Finishes			
Walls	Abuse resistant gypsum board STC: See Note 1	Moisture resistant gypsum board /Rigid vinyl/acrylic wall covering on wall behind toilet to 1220 A.F.F. STC: See Note 1	Abuse resistant gypsum board STC: See Note 1
Floors	Resilient sheet floor with sealed rubber base, Note 2	Slip resistant resilient sheet floor with flash cove base, Note 2	Resilient sheet floor with sealed rubber base, Note 2
Ceilings	Acoustic Tile, Note 8	Moisture resistant gypsum board	Acoustic Tile NRC 0.80 min/ Gypsum Board Bulkheads, Note 8
Casework	Adjustable shelving	Vanity, See Note 6	
Doors			
Solid	1070mm wide solid door, delayed action closer	Solid door, Double swing door	Exterior entrance doors shall have entry vestibule air lock, barrier-free power operators
Glazed Side Light			
Locked	Yes	Yes, privacy lock Note 7	Yes, See Part B Section 08 71 00
Operable Windows Window Sill			Yes, Note 3 Max 914mm A.F.F.
Window Treatment			No

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE II (continued)**

Content	Multi Purpose Storage Room	Resident Washroom	Lobby, Reception Foyer
Motion Sensor Switching			Yes
Resident/ Staff Response System	Yes	Emergency Station	
Sink		Yes, Note 5	
Water Closet		Wall mounted tank, MH=460mm A.F.F, Note 4 Provide access on both sides with swing up grab bars.	
Mirrors		Yes, MH=1000 max (bottom edge A.F.F)	
Soap Dispenser		Yes	
Paper Towel Dispenser		Yes	
Waste Receptacle		Yes,	
Coat Hook		Yes	
Shelf		Yes, 200x 400	
Security System			Security system at main entrance, see Part B
Intercom System	No	No	Intercom system at main entrance, See Part B
Voice and data communication outlet		No	Yes
Receptacles	See Part B for electrical requirements		
Cable TV			
Furniture (NIC)	Storage for TV cart		Seating for 8
Equipment			

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE III** (refer to previous page for related notes)

Content	Public Washroom	Canteen/Gift Shop and Storage Closet	Hair Salon
Number Required	1 per 30 bed facility 2 per 60 bed facility 3 per 90 bed facility For all others see Functional Program	1 per facility	1 per facility
Clear Area	4.76 sq.m.	11.20 sq.m.	11.2 sq.m.
Ceiling Height	Min. 2.44m	Min. 2.44m	Min. 2.75m
Daylight and Views			
Finishes			
Walls	Moisture resistant gypsum board STC: See Note 1	Abuse resistant gypsum board STC: See Note 1	Abuse resistant gypsum board STC: See Note 1
Floors	Slip resilient sheet floor with flash cove base, Note 2	Resilient sheet floor with sealed rubber base, Note 2	Slip resistant resilient sheet floor with sealed rubber base, Note 2
Ceilings	Moisture resistant gypsum board	Acoustic Tile, NRC 0.70, CAC 35 min, Note 8.	Acoustic Tile, NRC 0.70, CAC 35 min, Note 8.
Casework	Vanity	Hand washing sink with under counter cabinet, see drawing, coat rack	Secure storage cupboards and work counters, two hair dressing stations, see drawing
Doors			
Solid	Solid door and clear signage identifying room function	Solid doors, Note 9 Minimum clear opening of 1524mm through use of double doors	Solid door, Note 9 Minimum clear opening of 1524mm through use of double doors
Glazed Side Light			

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE III (continued)**

Content	Public Washroom	Canteen/Gift Shop and Storage Room	Hair Salon
Locked	Yes, privacy lock, double swing door Note 7	Yes	Yes
Operable Windows			
Window Sill			
Window Treatment			
Motion Sensor Switching	No	Yes	Yes
Resident/ Staff Response System	Emergency station		
Sink	Yes Note 4	Hand washing sink	One hair washing sink, one hand-washing sink
Water Closet	Wall mounted tank, MH=460mm A.F.F, Note 4		
Mirrors	Yes, MH=1000 max (bottom edge A.F.FO		Yes, 2 required for hair dressing stations, see drawing.
Soap Dispenser	Yes	Yes	Yes
Paper Towel Dispenser	Yes	Yes	Yes
Waste Receptacle	Yes	Yes	Yes
Coat Hook	Yes		
Shelf	Yes, 200x400		
Voice and data communication outlet	No	Yes	Yes
Cable TV			
Receptacles	See Part B for electrical requirements		
Furniture (NIC)		Coat rack in small storage room	Two hair dressing station chairs, one shampoo chair, one hair drying chair
Equipment			

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE IV (refer to previous page for related notes)**

Content	Family Quiet Room	Family Quiet Room Washroom
Number Required	1 per facility	1 per facility
Clear Area	23.22sq.m. (including ensuite washroom)	23.22sq.m. (including Family Quiet Room)
Ceiling Height	Min 2.44m	Min. 2.44m
Daylight and Views	2% Daylight Factor, provide views to outdoors/landscapes	
Finishes		
Walls	Abuse resistant gypsum board STC: See Note 1	Moisture resistant gypsum board STC: See Note 11 Rigid vinyl/acrylic wall covering behind toilet.
Floors	Resilient sheet floor with sealed rubber base, Note 2 and 10	Slip resistant resilient sheet floor with flash cove base, Note 1
Ceilings	Acoustic Tile, NRC 0.70 min; CAC: 35 min Note 11	Moisture resistant gypsum board
Casework	Wardrobe and kitchenette, see drawing	Vanity and toiletry storage Note 7 & 8, see drawings
Doors		
Solid	Solid door, Note 12	Solid side mounted sliding
Locked	Yes	Yes, privacy lock Note 12
Operable windows	Yes Note 3	
Window Sill	Max 630 A.F.F.	
Window Treatment	Blinds	
Ceiling Lift Track	No	No
Motion sensor switching	No	No
Resident/Staff Response System	No	Emergency station
Sink	Kitchenette	Yes, Note 3
Water Closet	See washroom requirements	Wall mounted tank, MH = 460mm A.F.F. See Note 2
Shower	See washroom requirements	Yes

A.**Performance Standards****A.2 COMMUNAL AND PUBLIC SPACES (continued)****A.2.3 Unit Spaces TABLE IV (continued)**

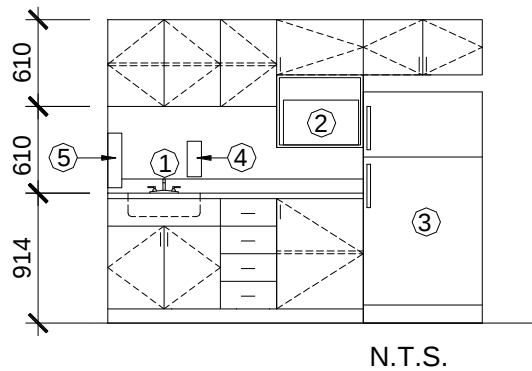
Content	Family Quiet Room	Family Quiet Room Washroom
Mirrors	See washroom requirements	Yes, MH=1000mm max (bottom edge A.F.F.)
Soap Dispenser	See washroom requirements	Yes
Paper towel dispenser	See washroom requirements	Yes
Waste Receptacle	See washroom requirements	Yes
Night Lighting	See washroom requirements	Yes See Note 9
Coat Hook	See washroom requirements	Yes
Air Conditioning		No
Shelf	See washroom requirements	See drawings
Voice and data communication	Yes	
Cable TV	Yes	
Equipment	Below counter refrigerator and microwave	
Receptacles		

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Performance Standards

.4 Typical Drawings

.1 Multipurpose Room Kitchenette Elevation

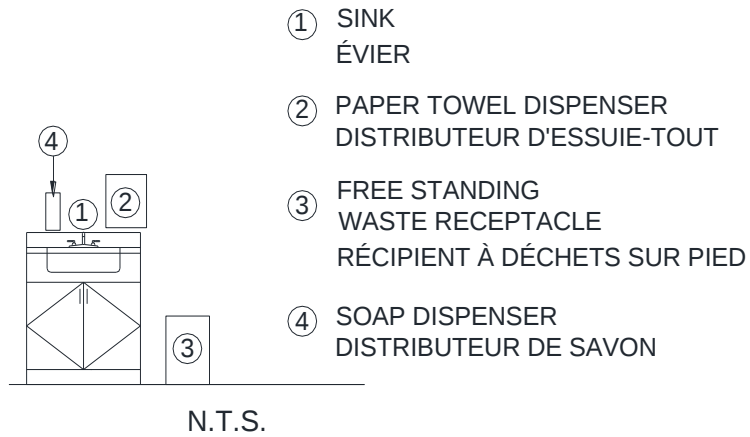


- ① SINK
ÉVIER
- ② MICROWAVE N.I.C.
FOUR À MICRO-ONDES
(PAS DANS CE CONTRAT)
- ③ REFRIGERATOR N.I.C.
RÉFRIGÉRATEUR
(PAS DANS CE CONTRAT)
- ④ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ⑤ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUIT

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Performance Standards

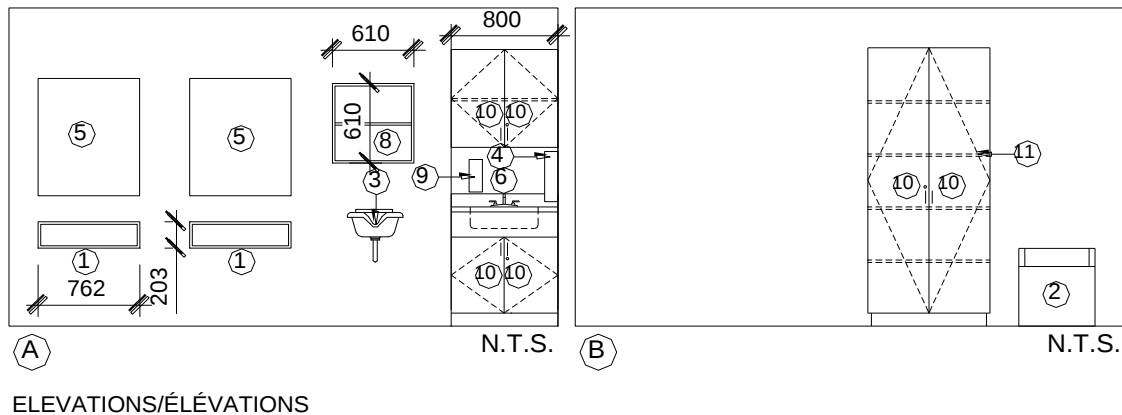
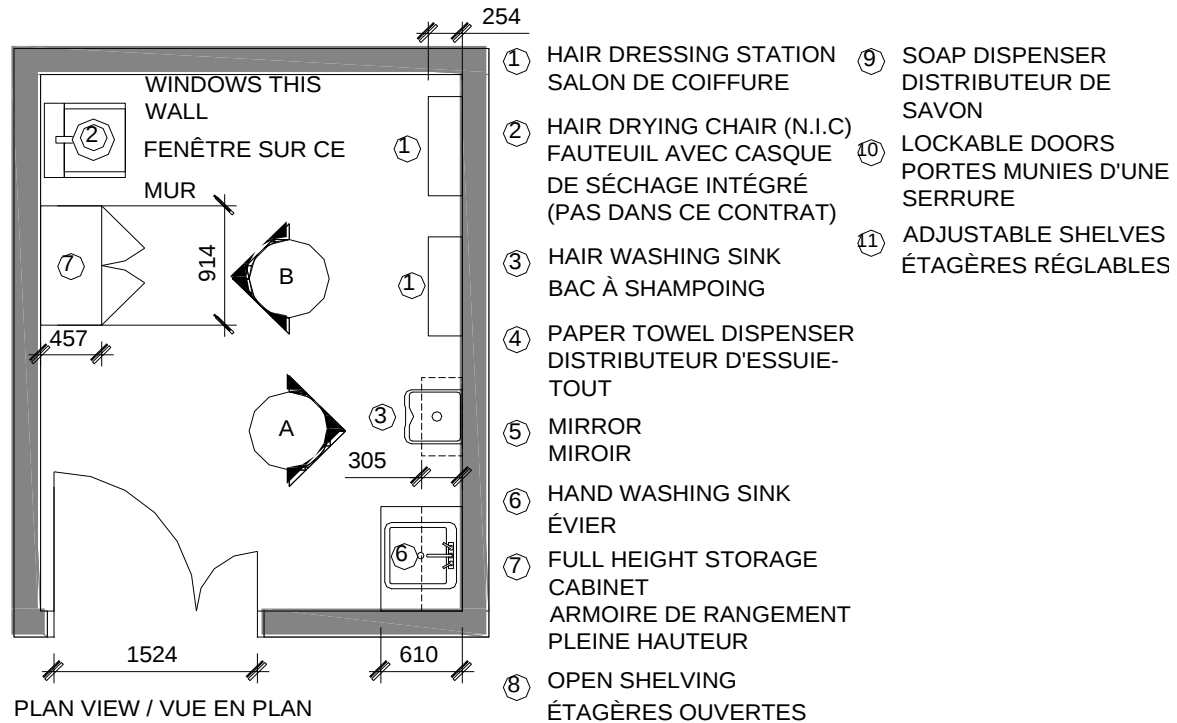
.2 Canteen/Gift Shop Casework Elevation



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Performance Standards

.3 Hair Salon Floor Plan and Elevation

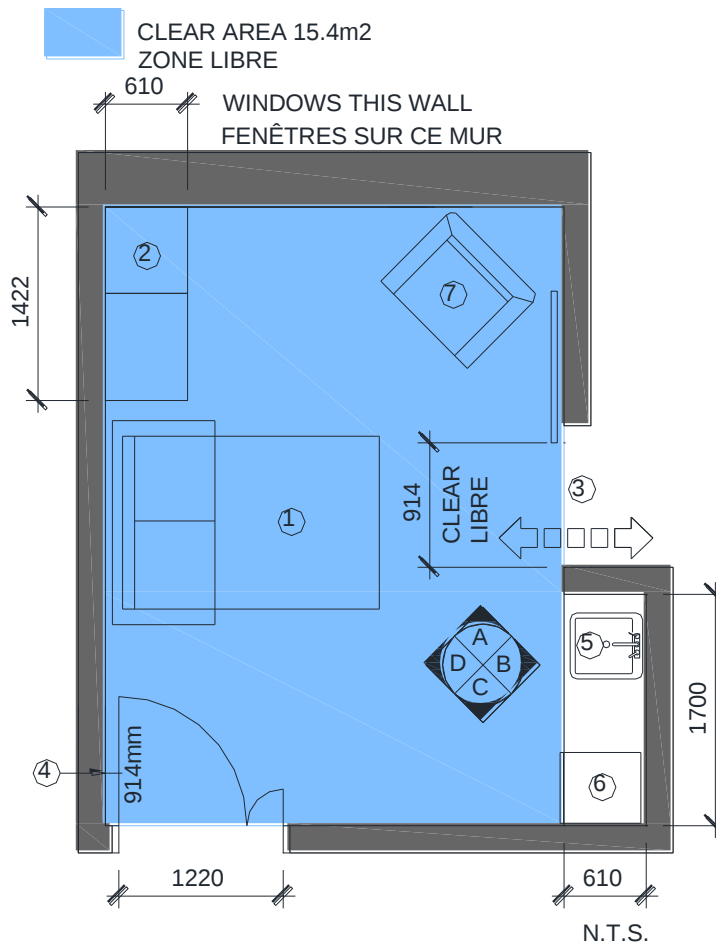


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Performance Standards

.4 Family Quiet Room Floor Plan

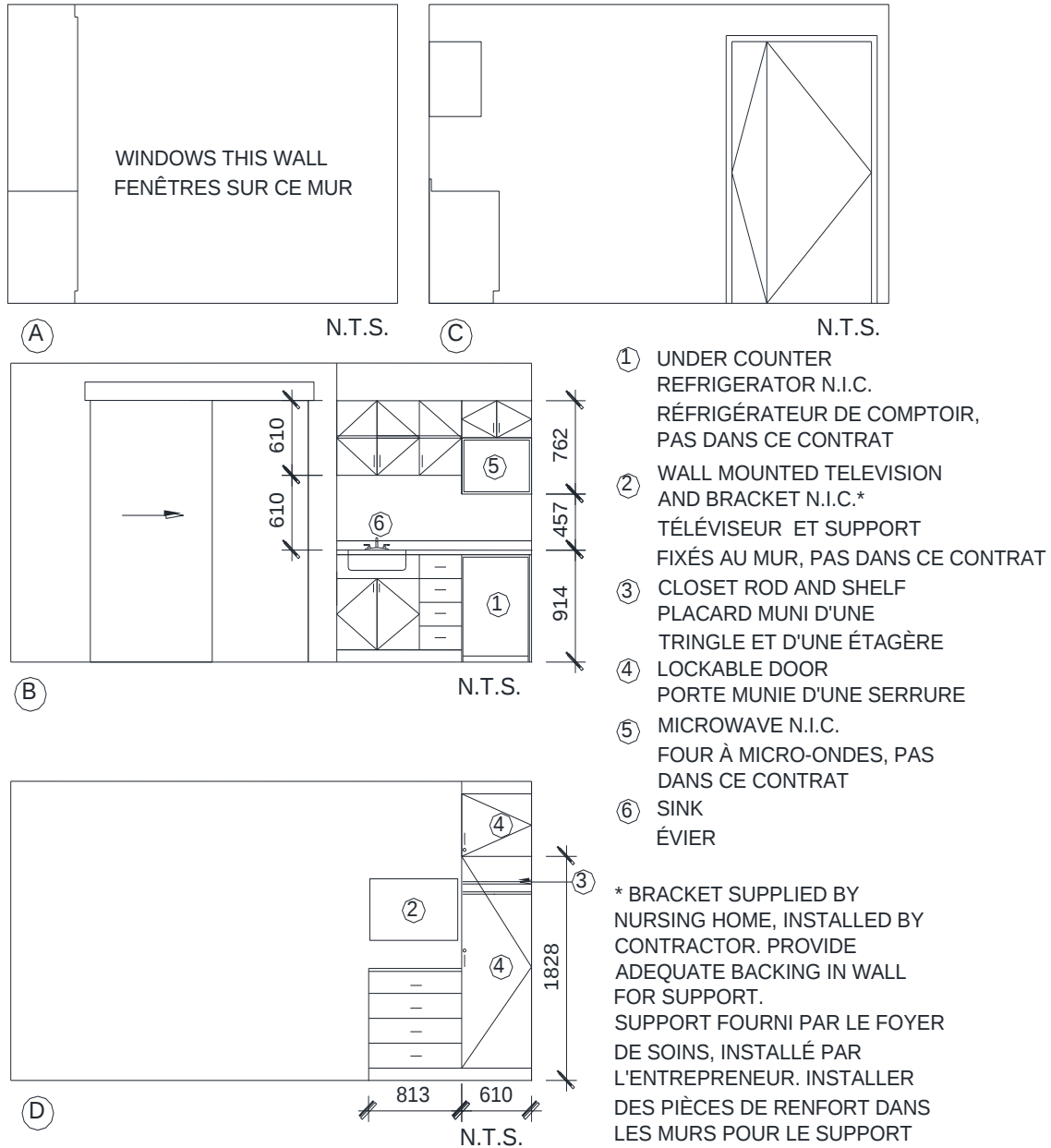
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|---|--|
| ① SOFA BED N.I.C.
CANAPÉ-LIT, PAS DANS
CE CONTRAT | ⑤ SINK
ÉVIER |
| ② WARDROBE
GARDE-ROBES | ⑥ UNDER COUNTER
REFRIGERATOR N.I.C.
RÉFRIGÉRATEUR DE
COMPTOIR, PAS DANS
CE CONTRAT |
| ③ WASHROOM ACCESS
ACCÈS AUX TOILETTES | ⑦ CHAIR N.I.C.
CHAISE, PAS DANS CE
CONTRAT |
| ④ COAT HOOK
CROCHET POUR
VÊTEMENTS | |



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Performance Standards

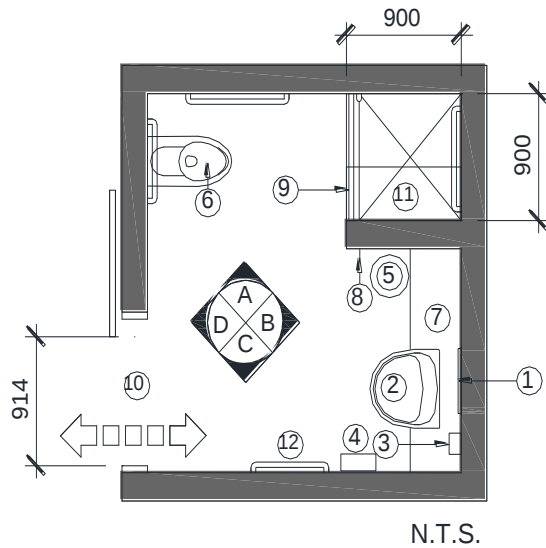
.5 Family Quiet Room Elevations



A.

Performance Standards

.6 Family Quiet Room Ensuite Washroom Floor Plan

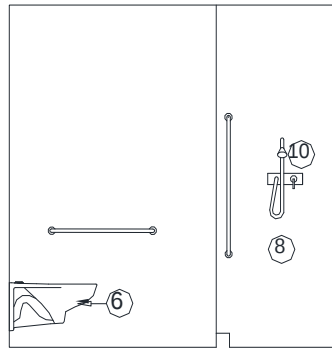


- ① FIXED MIRROR
MIROIR FIXE
- ② SINK
ÉVIER
- ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS SUR
PIED
- ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR
- ⑦ VANITY
MEUBLE-LAVABO
- ⑧ COAT HOOK
CROCHET POUR VÊTEMENTS
- ⑨ SHOWER CURTAIN ROD
TRINGLE POUR RIDEAU DE DOUCHE
- ⑩ FAMILY QUIET ROOM
ACCESS
ACCÈS À LA SALLE DE SÉJOUR
POUR LES FAMILLES
- ⑪ FOLDING SHOWER SEAT
SIÈGE DE DOUCHE PLIABLE
- ⑫ TOWEL RACK
PORTE-SERVIETTES

A.

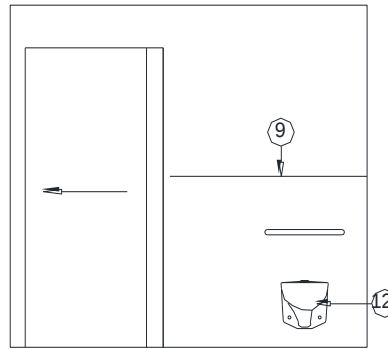
Performance Standards

.7 Family Quiet Room Ensuite Washroom Elevations



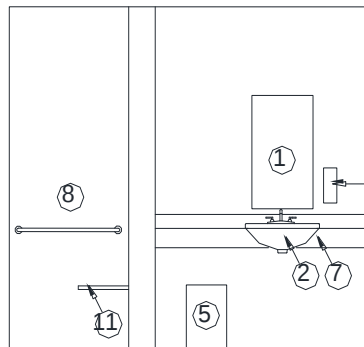
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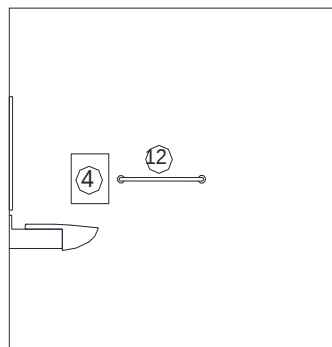
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(B)

N.T.S.



(C)

N.T.S.

- | | |
|--|--|
| ① FIXED MIRROR
MIROIR FIXE | ⑨ RIGID VINYL ACRYLIC WALL
COVERING TO 1220 A.F.F.
REVÊTEMENT DE MUR EN
VINYLE/ACRYLIQUE RIGIDE
JUSQU'À 1 220 MM AU-DESSUS
DU PLANCHER FINI |
| ② SINK
ÉVIER | ⑩ SHOWER CONTROLS
COMMANDES DE DOUCHE |
| ③ SOAP DISPENSER
DISTRIBUTEUR DE
SAVON | ⑪ FOLDING SHOWER SEAT
SIÈGE DE DOUCHE PLIABLE |
| ④ PAPER TOWEL
DISPENSER
DISTRIBUTEUR
D'ESSUIE-TOUIT | ⑫ TOWEL RACK
PORTE-SERVIETTES |
| ⑤ FREE STANDING
WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS
SUR PIED | |
| ⑥ WALL MOUNTED TOILET
TOILETTE FIXÉE AU MUR | |
| ⑦ VANITY
MEUBLE-LAVABO | |
| ⑧ CERAMIC TILE
CARREAU DE CÉRAMIQUE | |

A.

Performance Standards

A.3**REHABILITATION AND RESTORATIVE SERVICES**

Rehabilitation services have two goals, to maintain the residents' level of functioning and to improve the level of functioning through slow-paced rehabilitation.

Key Service Components

Physiotherapy, occupational therapy, speech pathology, respiratory therapy and audiology, services are provided for residents through the Extra Mural program and contracted services. These services are supported by the Rehab Licensed Practical Nurse.

Function and Space Relationships

This space is shared with external clinical care providers that are contracted by the facility to provide service to the residents.

Space Planning Requirements

Spaces in the rehabilitation area must be flexible and meet the needs of various care providers.

.1 Components**.1 Rehabilitation Therapy Room and Work Station****.2 Spatial Relationships**

- .1 Rehabilitation Therapy Room and Work Station shall allow for daylighting with views to the exterior.

A.3 REHABILITATION SERVICES (continued)**.3 Unit Spaces**

(The following notes apply to table A.3.3 and all items shall be in construction contract unless otherwise noted).

- .1 The therapy space should be comfortable for residents through the use of appropriate wall, floor and ceiling finishes.
- .2 STC of walls shall be:

Toilet Room to Public Space	STC 45
Exam Room to Corridor (with entrance)	STC 35
Exam Room to Public Space	STC 50
Exam Room to Exam Room	STC 50
- .3 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .4 Windows shall restrict the elopement through the operable section of the mechanism. Operable sections shall be fitted with screens. Opening dimension to be a maximum of 150mm.
- .5 Top of toilet seat shall be 460mm from the floor. Toilet seat shall be a contrasting colour to porcelain toilet fixture. Provide wall mounted, fold-up bars on either side of toilet to accommodate wheelchair transfers.
- .6 Blade type, operating handle faucets must be easy to use by residents with visual and physical impairments affecting hand eye coordination and movement. Hand washing stations must be constructed with sufficient clearance for those in wheelchairs and for those standing.
- .7 Door shall be capable of unlocking from the outside in emergency conditions.
- .8 Acoustic tiles shall have anti-microbial treatment.
- .9 The doorway must provide a minimum clear width of 1524mm. Doors can be combined with smaller leaves to achieve the same opening width, but no clear opening shall be less than 914 mm.

A.**Performance Standards****A.3 REHABILITATION SERVICES (continued)****A.3.3 Unit Spaces TABLE I** (refer to previous page for related notes)

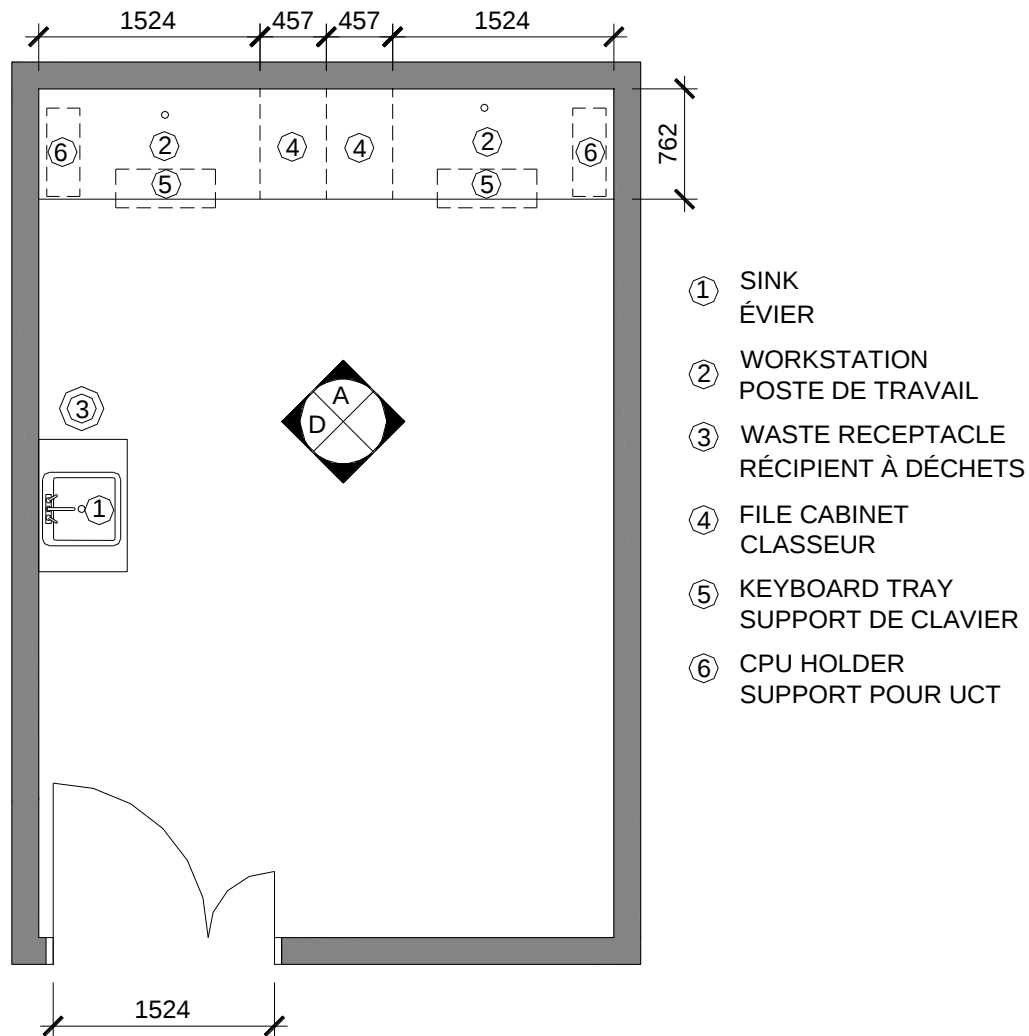
Content	Rehabilitation Therapy Room and Work Station
Number Required	1 per facility
Clear Area	23.22 sq.m.
Ceiling Height	Min. 2.44m
Daylight and Views	Must achieve a minimal Daylight Factor of 2%. Provide views to the outdoors.
Finishes	Note 1
Walls	Abuse resistant gypsum board, STC: See Note 2
Floors	Resilient sheet flooring with sealed rubber base. Note 3
Ceilings	Acoustic Tile: NRC: 0.70 min, CAC 35 min, See Note 8
Casework	Built-in workstation (2) see drawing
Doors	
Solid	Solid doors, Note 9. Minimum clear opening of 1524mm through use of double doors
Glazed Side Light	
Locked	Yes
Operable Window	Yes See Note 4
Window Treatment	Blinds
Motion Sensor Switching	No
Resident/ Staff Response System	Yes
Sink	Hand washing sink
Water Closet	
Mirror	
Soap Dispenser	Yes
Paper Towel Dispenser	Yes
Waste Receptacle	Yes
Voice and data communication outlet	Yes
Cable TV	
Receptacles	See Part B for Electrical Requirements
Furniture (NIC)	
Equipment	

A.

Performance Standards

.4 Typical Drawings

.1 Rehabilitation Therapy Room Floor Plan

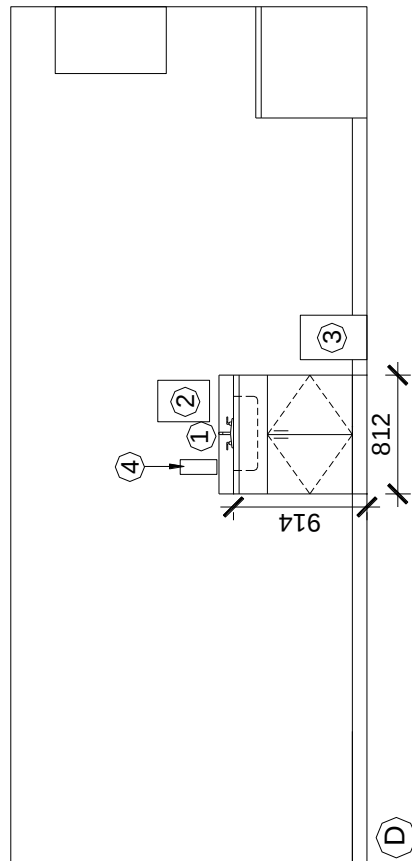
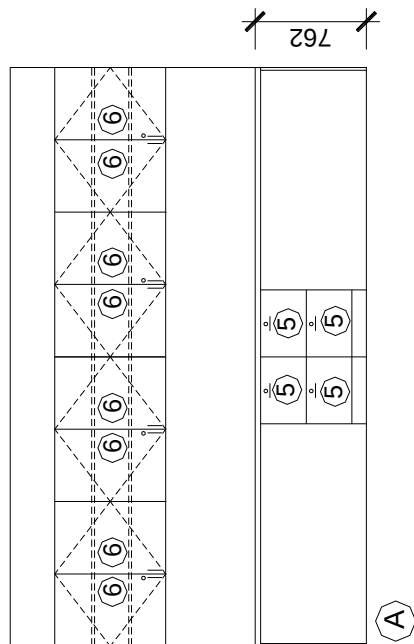


A.

Performance Standards

.2 Rehabilitation Therapy Room Elevations

- ① SINK
ÉVIER
- ② PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUIT
- ③ WASTE RECEPTACLE
RÉCIPIENT À DÉCHETS
- ④ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ⑤ LOCKABLE FILE CABINET
CLASSEUR MUNI D'UNE SERRURE
- ⑥ LOCKABLE DOOR
PORTE MUNIE D'UNE SERRURE



A.

Performance Standards

A.4 DIETARY SERVICES

Local, provincial and federal codes and standards must be reviewed by the authorities of jurisdiction before project tendering in relation to the following:

Dietary food service provides meals to satisfy individual resident needs.

Dietary food services have the following goals:

- Must provide resident home-like dining areas appropriate to serve the needs of a frail resident population;
- Must trigger a positive association visually as well as through aroma;
- Must satisfy residents through meal service;
- Must provide a balanced menu with variety and choice and modified textures as required.

Key Service Components

Dietary staff must provide three meals per day plus additional nourishments and snacks.

Resident Meals:

Resident house meals are provided in the dining room area next to the resident kitchen and food servery including breakfast, lunch and dinner. Breakfast service must be flexible to meet resident needs, as they will not have a regimented wake up routine. Afternoon snacks and night lunches are also served, while adhering to current regulations of no more than 15 hours between supper and breakfast.

Meals will be served to residents in dining rooms located in resident houses. Hot and Cold bulk food carts will be delivered to the server where they will be plated by the staff. The plated meal is then served to residents in a relaxing, home like dining environment.

Meals on Wheels:

Some facilities prepare foods for their “Meals on Wheels” program to offer dietary services to the elderly in the community that cannot or have a difficult time preparing meals for themselves. If this outreach program is provided a volunteer pick up area should be designated so that the volunteers do not have access to food production or storage areas.

Catering:

Dietary Services cater special events for the facility and various meetings.

These meetings can range from board or committee style meetings to full facility events with the local community or resident families.

A.4**DIETARY SERVICES (continued)****Key Service Components (continued)****Dishwashing**

Dishwashing will occur within the servery area for dishes and flatware for each house. The bulk food containers will be returned to the main kitchen dish and pot wash area.

Staff Meals

Early in the planning of the facility a model for staff meal service should be established and agreed upon. The implications for staff meal service should be incorporated into the planning process, documented and included in the functional program. Some areas which need to be addressed include:

- Staff access to the meals without having access to the kitchen production and service areas (i.e. vending, delivery to staff area, use of servery, staff service counter.....)
- The timing of the meal service and the implications on staff scheduling and resident activities / care.
- Price calculations including food and labour costs.
- Requirements in staff lounge for space and equipment.

.1**Selection of Meal Delivery System**

Before the physical planning of the main kitchen and satellite server can be planned, the facility must identify the resident meal delivery system they will utilize. The meal delivery system has a direct impact on the size and components of the kitchen and satellite serveries.

GENERAL MEAL DELIVERY SYSTEM ASSUMPTIONS:

1. All food delivery systems will be decentralized.
2. All food will be prepared in bulk format until resident mealtime, where it will be individually plated.
3. Dishwashing will be decentralized and is included in the satellite kitchens; pot and pan washing will be in central kitchen.
4. All systems require nutrition centers, which will provide between meal snacks and beverages; these centers are to be easily accessible from the dining room, nursing station and to visiting family members.
5. Satellite Food Servery Space Requirement: 35m² (serving 1 dining room) to 55 m² (serving 2 dining rooms) plus food pick up crush space (can be part of dining room or in servery area if more than one dining room is being served). – For all concepts.

A.4 DIETARY SERVICES (continued)**.1 Selection of Meal Delivery System (continued)**POSSIBLE SYSTEM PROFILES:

1. TRADITIONAL COOK SERVE (Conventional)

Description:

- Food Items are purchased in an unprepared or semi prepared state.
- Food orders are received twice per week with a stand by inventory of cooking staples.
- Food production is done with some pre-preparation; most meals are prepared for immediate hot consumption.
- Cooking techniques used are traditional including steaming, simmering, baking and roasting.
- Staffing is generally all included in the facilities payroll.
- Menu items are prepared in a kitchen in the same facility where meals are served

1. TRADITIONAL COOK SERVE (Conventional) (continued)

Advantages:

1. There is flexibility in menu production.
2. Regional and facility taste preferences can be addressed.
3. Large function catering can easily be accommodated.
4. If recipes are followed and volumes managed food cost can be kept to a minimum.
5. Not dependant on availability or variety of commercially prepared products.
6. Take advantage of seasonal fluctuations in food cost.
7. Less freezer storage required.

Disadvantages:

1. Food quality can be compromised if food is held hot for extended periods of time before meal service times.
2. Food quality and cost management is highly a result of the skills of the immediate staff and foodservice management and supervision of the facility.
3. Food inventories require constant management to insure minimum required levels and shrinkage.
4. Cooking equipment maintenance is an ongoing cost of the facility.
5. This system requires significant building infrastructure and energy consumption to support (i.e. ventilation, plumbing, electrical).
6. Cost of equipment needed for production.
7. Busier work day/workload.
8. Skilled workers required – ie journeyman cooks.

A.4 DIETARY SERVICES (continued)**.1 Selection of Meal Delivery System (continued)****2. ENHANCED COOK SERVE**Description:

- This system has all of the characteristics of the 'TRADITIONAL COOK SERVE' system as described above; the difference is that meals for 2-3 days per week would be produced on other production days and chilled.
- Cooks would produce 4-5 meals per production day, 3 for immediate service and 1-2 for non-production days.

Advantages:

1. Primary job function for skilled cooks would be production.
2. Flexibility in staffing scheduling.
3. Equipment, which would be used only for production (Combi Oven) is multi tasked for the reheating of chilled meals.
4. The Blast Chiller enhances general food safety of the kitchen operation by providing the capacity to take all hot food through the 'danger zone' with little risk.

Disadvantages:

1. Same as 'TRADITIONAL COOK SERVE'
2. Food service staff roles are more defined
3. Busier work days – potential for error

3. IN HOUSE COOK CHILLDescription:

- This system has all of the characteristics of the 'ENHANCED COOK SERVE' system as described above; the difference is that meals for all of the days of the week would be produced on designated production days and chilled.
- Products would be made in large quantity and include blast freezing for future menu cycles.
- Cooking / Chilling / Freezing Equipment will be engineered to be higher volume to maximize cooks utilization.
- Production could be reduced to 2-3 days of 10- 12 hours per day.
- All reheating of meal products would be done in the satellite kitchens utilizing advanced bulk meal carts.
- Some light cooking / breakfast capability would be maintained.
- Some specialty products such as texture modified would be supplemented with outsourced prepared products.
- Production designed to meet future needs not present.
- Foods are prepared by conventional methods on the premises then chilled bringing temperature down to 37C in 90 minutes or less or frozen for use at a later time; reheated/rethermed on the unit prior to service.
- There is a separation between time of prep and time of service.
- Mainly for larger food volumes however seeing shift towards smaller production.

A.4 DIETARY SERVICES (continued)**.1 Selection of Meal Delivery System (continued)****3. IN HOUSE COOK CHILL (continued)**Advantages:

1. One consistent meal delivery system for entire menu cycle.
2. Increased likelihood of consistent portion and quality control.
3. Capability of taking advantage of raw ingredient price savings (supplier specials).
4. Potential to have volume and expertise to supply similar outside operation (s).
5. Slight reduction in Central kitchen footprint.
6. Reduction in peaks and valleys of workloads.
7. Production can be a regular 8 hour day versus early morning or late evening shifts – decreased employee turnover with reasonable work hours.
8. Decrease in labour cost – less reliant on skilled labour.
9. Greater menu variety.
10. Less delivery concerns.
11. Better food safety controls.

Disadvantages:

1. Loss of flexibility in menu production.
2. Increased fridge and freezer space required.
3. Need for specialized equipment for chilling, freezing and rethermalization.

4. COOK CHILL FROM ANOTHER NURSING HOME FACILITY (this could work in reverse with the new kitchen feeding the existing)Description:

- This system has all of the characteristics of the 'IN HOUSE COOK CHILL' system as described above; the difference is that all main meal production and planning would be shifted to another property.
- Menu production could be prepared in advance, producing 1-2 days' worth of menu items, panning, chilling and storing products for service at a later date.
- Possible merging of overall purchase power could be considered.
- Delivery system and infrastructure to be established and maintained.

Advantages:

1. Cooking Equipment requirements and related building infrastructure would be reduced.
2. Reduction in Foodservice management / administration requirements.
3. Start up Planning would be simplified by utilizing the existing Nursing Homes expertise and systems.

A.4 DIETARY SERVICES (continued)**.1 Selection of Meal Delivery System (continued)****.4 COOK CHILL FROM ANOTHER NURSING HOME FACILITY
(continued)**Disadvantages:

1. Coordination, costs and maintenance of a transportation system may be a barrier to developing system.
2. Long term cost and quality control is dependent on other Nursing Home.

5. OUTSOURCED PREPARED W/ IN HOUSE PRODUCTIONDescription:

- Menu products would be split approximately 60 – 70% outsourced prepared, 30% in house production (cook-serve and chilled / frozen).
- Outsourced products would be from approved suppliers with preference to New Brunswick based businesses.
- All reheating of meal products would be done in the satellite kitchens utilizing advanced bulk meal carts.
- All prepared products will be delivered by an industry distributor.
- Menu planning and maintenance can be Coordinated by all parties involved.

Advantages:

1. Takes advantage of high quality prepared foods while maintaining production of products which cannot be satisfactorily outsourced.
2. The capability for catering and special events production remains in house.
3. Support of a well-developed purchasing and operating system with full expertise and high client satisfaction; From facilities currently operating with this system.
4. Benefit from established purchasing power of other facilities.
5. This system is highly flexible and can adopt most of the other systems as presented.

Disadvantages:

1. Customizing menu to resident's preferences may be limited.
2. Long term cost and quality control is partially dependent on industry offerings and staff for the meal delivery system.

A.4 DIETARY SERVICES (continued)**.1 Selection of Meal Delivery System (continued)****6. TOTAL OUTSOURCING:**Description:

- Kitchenless Kitchen
- No on-site food production
- Fully prepared food purchased
- Requires storage, assembly, heating and service
- Variety of available high quality frozen entrees is increasing
- Decreased labour costs
- Less need for skilled employees
- Nutrients/ingredients available as well as production dates for nutrient analyses and food safety
- Various diet modifications and texture modification options available
- IQF (Individual quick froze) items available upon demand of resident

Advantages:

1. Decreased labour cost
2. Less personnel needed
3. Less highly skilled labour needed
4. Better portion control
5. Less waste
6. Less pilferage
7. Less equipment needed

Disadvantage:

1. Availability of products on the market mainly regional is limited
2. Higher food cost
3. Dependant on customer acceptability
4. Not as flexible to adapt to residents needs
5. Increased freezer space required
6. Increased energy consumption
7. Recycling/disposal of packaging materials must be considered

GENERAL NOTE:

When deciding on one system over another, one must look at all aspects from food availability to skilled workers; study labour availability, space allotment, cost of equipment, food cost and most importantly customer needs, preference and acceptability.

A.**Performance Standards**

Summary of the characteristics of the various food service systems:						
	READY PREPARED					
	<i>Conventional/traditional</i>	<i>Enhanced Cook Serve</i>	<i>In house cook chill</i>	<i>Cook chill from other facility</i>	<i>Outsourced with in-house production</i>	<i>Total outsourced</i>
<i>Location of food preparation kitchen in relation to where served</i>	On premises where food is served	On premises where food is served	On premises where food is served	In other facility	Products from supplier as well as minimal on premises	Products from suppliers
<i>Form of food purchased</i>	Raw: some convenience	Raw: some convenience	Raw: some convenience	Prepared ready for heating	Some Prepared ready for heating and some raw	Prepared ready for heating
<i>Food procurement</i>	Purchase for production of foods from raw state	Purchase for production of foods from raw state	Purchase for production of foods from raw state	Purchase from other facility prepared	Purchase some for own use and some for production from raw state	Purchase for own use
<i>Time span between preparation and service; method of holding</i>	Food prepared for immediate service (may be held hot or chilled for 2 hours)	Food prepared and cooked then held for 1-2 days depending on system	Food prepared and cooked then chilled and held for 1-3 days or 46-60 days, depending on system	Food prepared off site and distributed in bulk chilled and stored for later use	Some on site preparation however mainly foods purchased prepared and stored and ready for reheating and service at any time needed	Foods purchased prepared and stored and ready for reheating and service at any time needed
<i>Amount and kind of equipment required</i>	All prepreparation, cooking and serving equipment needed.	All prepreparation, cooking and serving equipment needed.	All prepreparation, cooking and serving equipment needed. One or more blast chillers; large amount of refrigerated space	large amount of refrigerated space; serving equipment needed	All prepreparation, cooking and serving equipment needed.	large amount of refrigerated space; serving equipment needed
<i>Labour needs</i>	Skilled cooks and prepreparation workers as well as less skilled for prepreparation and service	Skilled cooks and prepreparation workers as well as less skilled for prepreparation and service	Fewer highly skilled cooks needed ; workers needed to reheat foods, operate equipment and assemble and serve	workers needed to reheat foods, operate equipment and assemble and serve	Less numbers of skilled cooks and prepreparation workers as well as less skilled for prepreparation and service	workers needed to reheat foods, operate equipment and assemble and serve

A.4 DIETARY SERVICES (continued)**Function and Space Relationships**

Food cart access to the servery should remain outside the residential house when possible to reduce traffic and noise associated with this function. The main foodservice kitchen requires convenient access to a servery for bulk food cart delivery. The main foodservice kitchen must have access to the shipping and receiving area for deliveries and waste management.

In some locations, the main foodservice kitchen may provide meal service for other outside community agencies.

Space Planning Requirements**Design Objective:**

The dietary service areas of the long term care facility must respond to residents' physical, social and nutritional care needs through the delivery of quality food service. The space must be flexible to respond to changing dietary models and different preparation methods, as well as, different cultural and therapeutic requirements.

Equipment selection and design of the meal service program must occur during the facility design period in order for proper coordination and is dependent on menu analysis. During this time consideration must be given to other food service programs that might be supported from the facility i.e. meals-on-wheels, non-resident dining etc.

Design Standards:

- Dietary service space must be provided to accommodate the equipment required to support the facility meal service program. The equipment to be provided must be appropriate in size and design to prepare and serve a variety of food products and beverages that meet the nutritional care needs of residents, retain the texture, colour and palatability of food items and allow the facility to meet the cultural requirements, therapeutic needs and food preferences of all of the resident of the long-term care facility.
- The design of the dietary service space must have a layout that: allows for an efficient work flow; prevents cross-contamination between clean and soiled areas; and, supports production and delivery of food in a safe manner.
- The design of dietary service space must allow for the preparation of a range of food products prepared in a variety of methods.

A.4**DIETARY SERVICES (continued)****Function and Space Relationships (continued)**

- There must be storage space for non-refrigerated (dry) good and supplies that meets usual and peak capacity volume storage requirements. This storage space must be well ventilated, have a temperature control system that can keep the temperature between 10 and 20 °C, and be designed to prevent goods from being exposed to pipes, motors, condensers and direct sunlight. Frequency of delivery and the type of meal delivery program will impact storage sizes.
- There must be storage space for refrigerated and frozen food supplies. This storage space must meet usual and peak capacity volume storage requirements. Refrigeration is to be situated for direct receiving of deliveries and be accessible from production.
- The dietary service space must be designed so that the storage areas for small equipment and utensils and for non-refrigerated and frozen food are conveniently located for easy access and use for dietary staff. Storage areas must be in close proximity to dietary work areas.
- The dietary service space must provide secure storage space for chemicals, cleaning supplies and equipment used to clean the dietary service space (for example, kitchen mops and pails) and equipment used to deliver meals and snacks to residents, (for example, food carts).
- The dietary service space must include a separate housekeeping/janitor's closet that is equipped with a "curbed sink".
- The dietary service space must include convenient access to electrical services and to hot and cold water supply services.
- The dietary service space must include hand washing area(s).
- The dietary service space must provide, depending upon the food service program, space for scraping, soaking, pre-rinsing, washing, rinsing, sanitizing, air drying and sorting of dishes, pots/pans, utensils, large equipment and carts.
- The dietary service space must provide separate and sufficient space for garbage cans/recycling bins.
- The dietary service space must be designed in a manner that minimizes excessive noise, steam, and heat.
- The dietary service space must include adequate floor drainage.

A.4 DIETARY SERVICES (continued)**Function and Space Relationships (continued)**

- The dietary service space must include a work area for dietary staff that:
 - is secure for records and references;
 - accommodates appropriate furnishings and equipment; and
 - is accessible without passing through the food production area.
- The design of the dietary service space must support the delivery of a bulk food service system to the serveries so that meals can be served by individual course.
- The design of the dietary service space must include serving areas adjacent to the dining area(s) so that residents have the opportunity to see and smell food, snacks can be prepared, and residents can make food choices at the point of meal service.

Functional Considerations/Recommendations:

- When designing the dietary service space, the extent to which meals will be prepared centrally and the extent to which meals will be prepared in a decentralized location should be considered. Dietary service space must combine the use of a central kitchen and decentralized house servery, to promote a "home-like" atmosphere in food service delivery to residents.
- Food preparation is a familiar activity of daily living and can be part of a "home-like" environment. If possible, the dietary service space should be designed to allow residents to view and visit the dietary staff to discuss food preferences and other dietary issues at the decentralized servery.
- Flooring in all dietary service space areas should be non-slip and walls should be moisture resistant.
- The design of the dietary service space should incorporate some flexibility so that the food service program can be adjusted/changed as residents' needs change.

A.4 DIETARY SERVICES (continued)**.2 Shape and Access – Main Kitchen**

The shape and access to the kitchen space has a significant impact on the success in planning the kitchen and how it operates within the entire flow of the facility. Access to the kitchen can significantly impact the flow of products in and out, as well as, the ability to minimize the crossover of soiled and clean processes. It is also important that the kitchen production space has access to an outside wall to introduce natural light to the work space.

Shape:

- A rectangular works best, the rectangle should not be long and narrow.
- A minimum clearance of 8m for kitchens in facilities 50 and less is best; a minimum of 12m is required for larger kitchens.
- Angles are not recommended for the shape of the main kitchen; particularly in facilities with less than 80 beds.

Access:

- The kitchen space is to have access to building circulation corridors on at least two sides of its space.
- One side of access is into the building service area with easy access to receiving and soiled/ waste handling.
- Another side of access is to be oriented towards the resident households and not in the direct view of any significant public or resident areas.
- Access to natural light from production areas is required.
- The foodservice manager's office is to have access both from a public corridor and directly into the main kitchen.

A.4

DIETARY SERVICES (continued)

.3 Space Allocations – Main Kitchen Calculation

The space allocation calculation as outlined below is based on a traditional Cook Serve Meal delivery system model.

Space Allocation:

This does not include the space required for a servery (attached or satellite).

30 resident beds = 120m²

60 resident beds = 148 m²

90 resident beds = 190m²

* For Nursing Homes greater than 90 beds see Nursing Home Functional Program for size of Kitchen.

The various meal delivery systems as discussed previously in this section can impact the space requirements of the main kitchen. The following guidelines provide a point of reference for space impact when considering alternative to tradition Cook Serve:

Enhanced Cook Serve:	same as traditional Cook Serve
In House Cook Chill:	same as traditional Cook Serve; some space may be shifted from General Prep and Production to Refrigerated Storage
Cook Chill from Other Facility:	reduce General Prep and Production space allocations by 80%
Outsourced with In House Production:	reduce General Prep and Production space allocations by 50%
Total Outsourced:	reduce General Prep and Production space allocations by 80%

A.4 DIETARY SERVICES (continued)**Alternative Meal Delivery Systems General Requirement – Main Kitchen:**

When an alternative meal delivery is chosen by a facility; The above space reallocations are guidelines.

The range of spaces as in the individual functional space descriptions below reflect the fact that the sizes of this area have some flexibility to suit the meal delivery system they facilitating. It is also acknowledged that some of the names of the areas may have more suitable alternatives for the system chosen.

Alternative Meal Delivery Systems General Requirement – Satellite Food Servery:

If an advanced meal system is selected, the facility is to identify the impacts of the system on the satellite food server. Some impacts include the need for retherm ovens and alternative hot holding techniques; increased refrigerated storage for holding the prepared foods and plans for pan washing if the pans are to be sent back to the main kitchen on a schedule other than the finish of meal periods (i.e. once per day).

.4 Foodservice Functional Areas and Descriptions – Main Kitchen

Note: All space calculations are based on a TRADITIONAL COOK SERVE (Conventional).

The space allocations listed under the following functional areas are listed in either percentage of the total allocated space and as fixed allocations. The ranges are intended to provide flexibility in allocations based on food receiving schedules, cooking techniques and the meal delivery systems to be utilized. The shape and access points to the kitchen can also impact the size of the functional area.

FUNCTIONAL AREA: Kitchen Receiving & Break out**Bulk Product Break Out**

Space Allotment: 4-6% of total Space

Function: The immediate receiving and holding area for foodservices. The break out of cases and removal of all packaging and handling materials.

Occupancy: 1-2 people

Potential Equipment: SS break out table
break out cart
receiving scale

Architectural: receiving desk

FUNCTIONAL AREA: Kitchen Receiving & Break out (continued)

Mechanical (if not nearby): hand sink with eye wash station
janitor's slope sink.

- All exterior packaging or handling materials are removed in the BREAK OUT AREA and returned to the facilities central recycling and waste handling areas.
- The receiving area has a RECEIVING DESK for the holding of receiving administrative materials; there is also a janitors sink proposed for this area for quick clean ups.
- Bulk food products are moved to their designated bulk storage areas (DRY STORAGE, BULK FREEZER, PRODUCE / DAIRY COOLER,).

Dry Storage

Space Allotment:	9-12 % of total space
Function:	bulk storage of non-perishable food products.
Occupancy:	1-2 people
Potential Equipment:	sealed wire shelving (mobile and high density)

Space Allotment:	5-7 % of total space
Function:	bulk storage of frozen food products
Occupancy:	1-2 people
Potential Equipment:	sealed wire shelving (mobile and high density)
Architectural:	floor depression for insulated panel; finished freezer floor to be flush with kitchen finished floor.

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****General Cooler**

Space Allotment: 5-7 % of total space

Function: holding of products being tempered from frozen state to 3°C holding temperature: holding of bulk product (recipe ready or intermediate food ingredients under 50 beds).

Occupancy: 1 person

Potential Equipment: polypropylene shelving with dishwasher capable shelving inserts.

Functional Area Tasks:

- As the food product is required for production it is either tempered (thawed) in the GENERAL COOLER, COOKS COOLER or delivered to the INGREDIENT CONTROL w/ PREP area where it will be removed and prepared to a recipe or bulk deliver state.
- As products are prepared to a recipe or bulk deliver state, they are delivered to the holding and prep areas for main kitchen production or satellite food service delivery; these holding areas include the COOKS COOLER, PREPARED COOLER or individual workstation day storage locations.

FUNCTIONAL AREA: Preparation**Cooks Cooler**

Space Allotment: 3 -5 % of total space (only required for 50+ beds)

Function: holding of foods ready for production or in a semi state of preparedness; can also be used for assembly of product for satellite kitchens when there is not a holding cooler (less than 120 beds).

Occupancy: 1 person

Potential Equipment: polypropylene shelving with dishwasher capable shelving inserts

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)
General Prep**

Space Allotment:	6 -7 % of total space
Function:	the preparation of food products for use in recipes or ready for the cooking process; tasks such as peeling, slicing, panning and portioning are accomplished in this area.
Occupancy:	1-3 people
Potential Equipment:	SS work stations ingredient bins SS prep sinks slicer food processor pan storage units food product racks day storage units counter top scale general utility carts
Mechanical: HVAC	SS hand sink with eye wash station air conditioned

FUNCTIONAL AREA: Food Production**Food Production / Baking**

Space Allotment:	13 – 16% of total space
Function:	the cooking process of food products including baking, roasting, simmering, grilling, steaming.
Occupancy:	1-4 people
Potential Equipment:	SS work stations bakers table ingredient bins SS sinks bulk mixer counter top mixer production kettle (s) convection oven steamer combi oven cooking range

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Food Production / Baking (continued)**

Potential Equipment (continued): griddle top
 food racks
 cooking exhaust hoods

Mechanical: SS hand sink with eye wash station
 cooking exhaust ventilation
 make up air
 air conditioned HVAC

Functional Area Tasks:

- The PRODUCTION area has three distinct functions. The first is the bulk production area where large volume batches will be produced and portioned into bulk service containers. The second is the small batch production area which will focus on preparing special orders or short order style products such as grill items. The third is the baking function.

FUNCTIONAL AREA: Assembly Panning**Assembly Panning / Texture Modified**

Space Allotment: 4 –6 % of total space

Function: the assembly, portioning and panning of food products to be shipped to the household kitchens; texture modification of food products.

Occupancy: 1-2 people

Potential Equipment: SS work stations
 blast chiller (self-contained)
 two door freezer
 day shelving
 blixer
 juice dispenser
 pan holding
 hot holding unit – carts
 refrigeration

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)**

Mechanical (continued): SS hand sink with eye wash station air conditioned HVAC

Chilling

Space Allotment: 2 % of total space (120+ beds)

Function: the mechanical chilling of food products for future use in the menu cycle or for shipping to satellite serveries for use in a reheating system.

Occupancy: 1-2 people

Potential Equipment: SS work stations
food racks
pan racks
packaging equipment
blast chiller (self-contained)
roll in blast chiller w/ remote refrigeration

Mechanical: SS hand sink

Holding Cooler

Space Allotment: 3 % of total space (120+ beds)

Function: holding of prepared products requiring refrigeration ready for shipment to the household kitchens.

Occupancy: 1 person

Potential Equipment: polypropylene shelving with dishwasher capable shelving inserts
mobile food racks

Day Storage

Space Allotment: 2 % of total space (120+ beds)

Function: holding of products frequently accessed in the PREPERATION, PRODUCTION and ASSEMBLY areas for easy access by staff.

Occupancy: 1 person

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Dry Storage (continued)**

Potential Equipment: combination of wire and polypropylene shelving mobile ingredient bins

Functional Area Tasks:

- When food is placed into bulk service containers, it will be either delivered to the household kitchens for immediate service or it will be rapidly chilled to a food safe holding temperature. The ASSEMBLY / PANNING or CHILLING area will support the bulk portioning process and the chilling process; this area will also support the further portioning of chilled products for eventual delivery to the household kitchens.
- The assembly of bulk deliveries will be accomplished through the 'picking' of servery specific labelled products from HOLDING COOLER. Servery product delivery carts (insulated / two compartment) are held in the CART PARK area until they are loaded and delivered to the satellite food servery (there can be a double compliment of carts to simplify the dropping of food products and retrieval of wares).
- All food products which are shipped to the satellite servery will exit from the ASSEMBLY / PANNING area into the building corridor.

FUNCTIONAL AREA: Ware washing, Cart Handling & Wash Up**Wares Storage**

Space Allotment: 2 - 4 % of total space

Function: storage for pots, pans and utensils

Occupancy: 1-2 people

Potential Equipment: sealed wire shelving racks

A.**Performance Standards**

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Ware Washing**

Space Allotment:	7 - 11 % of total space
Function:	washing and sanitizing of all foodservice pans, pots and utensils generated from the central kitchen or returned from the satellite food servery.
Occupancy:	1-2 people
Potential Equipment:	SS soiled wares table pot sinks garburator upright pot and pan washer steam condensate exhaust hood SS clean landing table SS floor trough soiled wares shelving (polypropylene) clean wares shelving (polypropylene)
Mechanical:	SS hand sink with eye wash station condensate exhaust ventilation air conditioned HVAC

Cart Park

Space Allotment:	2 - 3 % of total space
Function:	parking for foodservice carts.
Occupancy:	1-2 people
Potential Equipment:	foodservice bulk carts hot food cart utility carts and racks

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Cart Wash / Janitors Wash up**

Space Allotment:	3 - 5 % of total space
Function:	area for holding, unloading, sanitizing foodservice related carts; bucket filling station; enclosed storage for janitorial items such as mops, brooms and bucket.
Occupancy:	1-2 people
Mechanical:	SS hand sink with eye wash station wall mount janitor's faucet trough style floor drain air conditioned HVAC

Housekeeping Closet

Space Allotment:	2 - 4 % of total space
Function:	an enclosed room for the storage of mops, brooms, buckets, cleaning and chemical materials required for easy access; this room also has a standard janitors slop sink for the dumping of buckets and for hanging wet mops above.
Occupancy:	1 person
Potential Equipment:	sealed wire storage shelving wall mount broom & mop holder
Mechanical:	janitors slop sink wall mount janitor's faucet

Note:

In a larger home where a mechanical floor washer may be required for the kitchen floor; this room may be the location for parking it and also for recharging the batteries.

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)
Housekeeping Closet (continued)**

Functional Area Tasks:

- Bulk delivery wares and carts will travel from the households to the main kitchen and enter through the door from the corridor into the WARE WASHING where pans will be washed in an upright pan and pot washer. Returned carts will be washed in the CART WASH / JANITORS WASH UP area with a manual hose and spray system.
- Back up washing materials in open cases, mops, brooms and other daily cleaning tools for the main kitchen areas will be held in the JANITORS WASH UP area storage closet.
- All pots, pans and cooking utensils used in the main kitchen will be returned to the WARE WASHING for cleaning and sanitizing.
- Cleaned carts will be parked in the CART PARK area ready for the household delivery cycle; pots, pans and utensils can be held in the PAN /WARES STORAGE area until delivered to their specific work stations.

FUNCTIONAL AREA: Foodservices Administration**Foodservice Managers Office**Space Allotment: 10 m²

Function: for administrative duties and meetings with staff.

Occupancy: 1 - 3 people

Furnishings:

- computer desk
- administrative / meeting desk
- desk chair
- filing cabinet
- bookcase
- fax machine
- 2 visitor chairs
- tackboard
- waste receptacle

Mechanical: air conditioned HVAC

Electrical:

- telephone
- fax machine
- computer

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)
Dieticians Office (150+ beds only)**

Space Allotment:	10 m ²
Function:	for nutritional planning and administrative duties and meetings with foodservice team, residents and families.
Occupancy:	1 - 3 people
Furnishings:	computer desk administrative / meeting desk desk chair filing cabinet bookcase fax machine 2 visitor chairs tackboard waste receptacle
Mechanical:	air conditioned HVAC
Electrical;	telephone fax machine computer

In Kitchen Admin Area

Space Allotment:	4 -5 m ²
Function:	This is an area open to the kitchen (production / assembly) areas which is used by kitchen supervisors and staff to store and access information needed on a daily bases. This area can include a printer or computer, depending on the menu management system being utilized.
Occupancy:	1 - 2 people
Potential Furnishings:	work counter desk chair filing cabinet over counter bookcase phone / fax machine tackboard waste receptacle
Electrical:	telephone fax machine computer

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****FUNCTIONAL AREA: Foodservices Support Areas****Refrigeration Systems**

Space Allotment:	2 % of total space Note: can be in nearby mechanical room
Function:	remote location for condenser units for central kitchen refrigerated rooms.
Occupancy:	1 person
Major Equipment:	condenser units and racks
Mechanical:	removal of heat rejection

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Garbage / Recycling Holding / Waste Handling**

Space Allotment: 4-5 % of total space

Note: if bulk waste holding to be included in base building (building waste systems); only space for interim waste holding is required.

Function: holding of wet and dry waste, as well as, recyclables for removal.

Occupancy: 1 person

Major Equipment: bulk waste receptacles
recycling holding and support equipment
refrigerated waste storage

Seasonal /Catering Stores / Paper

Space Allotment: 4 – 6 % of total space

Function: storage for food related items not used on a daily basis

Occupancy: 1 person

Potential Equipment: sealed wire shelving racks

Room Name: Chemical Storage

Space Allotment: 2 – 3 % of total space

Function: holding of bulk chemicals used in foodservice areas

Occupancy: 1 person

Major Equipment: WHMIS approved storage

A.4 DIETARY SERVICES (continued)**.4 Foodservice Functional Areas and Descriptions – Main Kitchen (continued)****Room Name: Dietary Washroom**

Space Allotment:	6 m ² (for one) 12 m ² (for two –150+ beds)
Function:	designated washroom for central foodservices staff
Occupancy:	1 person
Architectural:	must have vestibule; cannot open directly into kitchen production or storage areas.

GENERAL CHARACTERISTICS OF CENTRAL KITCHEN

- All central kitchen individual areas and work stations will have designated
- systems for the interim holding of waste and recycling yield; all waste and recycling will be shipped to the facilities central waste and recycling handling area on a regular basis.
- Preparation and production areas to be air conditioned.
- Walls in wet and production areas are to have wall protection panels which are smooth and easily cleaned; all other wall and ceiling surfaces to have an easily cleaned finish.
- Flooring to be slip resistant and easily cleaned with thermal shock absorption capability where required.

.5 Shape and Access – Satellite Servery

The shape and access to the satellite servery space has a significant impact on the success in planning the kitchen and how it operates within the immediate environment of the resident households. Access to the satellite servery can significantly impact the flow of products in and out, as well as, the ability to minimize the crossover of soiled and clean processes. Natural light is a nice feature in these areas, but not necessarily mandatory, if the adjacent dining room natural light spills into the serving area.

Shape:

- A rectangular or square works best for a servery serving two dining rooms; an 'L' shape can be beneficial for a servery serving a single dining room.
- A front to back clearance of 7- 8m for a servery serving two dining rooms can provide good circulation.
- Angles are not recommended for the shape of the server.

Access:

- The server space works best if it works as a peninsula in the dining room area. This shape allows for soiled dishes to be returned on either side, near the corridor wall, reducing the need for soiled designated circulation space in the server foot print.
- Direct access to a corridor in the back of the server allows for product to flow in and out without passing through the resident living space.

A.4 DIETARY SERVICES (continued)**.6 Space Allocations – Satellite Servery**

Sizes: 20 - 25 m² - if attached to main kitchen and shares ware washing
 30 - 35 m² - if stand alone and serving one dining room
 50 - 55 m² - if stand alone and serving two dining rooms

.7 Foodservice Functional Areas and Descriptions – Satellite Servery**Resident Meal Servery**

Space Allotment: single dining room: 15 m²
 double dining room: 25 m²

Function: to facilitate all direct nutritional needs and food related activities for the residents in each household.

Note: an admin counter space for communications and resident reference info is required in this space.

Occupancy: 1-3 people

Potential Equipment: hot food holding system
 prepared food cooler
 bulk freezer
 bulk cooler
 toaster
 soup crock
 hot beverage prep
 plate warmer
 juice dispensing
 dry goods pantry
 microwave
 coffee brewer
 pass through cooler

Electrical: phone line for admin counter space

Mechanical: SS hand sink
 built in double sink
 air conditioned HVAC

Architectural: built in kitchen cabinets with solid surface tops

A.4 DIETARY SERVICES (continued)

.7 Foodservice Functional Areas and Descriptions – Satellite Servery
(continued)**Ware Washing**

Space Allotment:	single dining room: 15 m ² double dining room: 25 m ²
Function:	washing and sanitizing of all resident wares generated from the adjacent dining room and stored / maintained in the Servery:
Occupancy:	1-2 people
Potential Equipment:	SS soiled wares table w/ pre rinse garburator upright dish washer steam condensate exhaust hood SS clean landing table clean wares shelving (polypropylene)
Mechanical:	SS hand sink with eye wash station condensate exhaust ventilation air conditioned HVAC

Resident Nutrition Counter (can be part of Resident Kitchen)

Space Allotment:	included in dining room or resident kitchen
Function:	To provide a location for the storage and preparation of resident daily nutritional needs including hydration, between meal nourishment and support to the main meal service.
Occupancy:	1-2 people
Potential Equipment:	counter top icemaker microwave oven
General Requirement:	if this is incorporated into the resident kitchen, a stove and fridge would be required.
Electrical:	receptacles for domestic counter top equipment such as kettles & toasters (provide lock outs if required).
Mechanical:	built in sink
Architectural:	built in kitchen cabinets

A.4 DIETARY SERVICES (continued)**.8 Spatial Relationships**

- .1 The main kitchen central production area will be located close to the receiving and shipping areas for delivery access.
- .2 Storage for bulk dry goods should be located adjacent to the facility's shipping and receiving area, but not such that deliveries would travel through the main kitchen area.
- .3 A separate space for dish and pot wash will be located adjacent the food production area of the main dietary kitchen. The pot wash section will be close to the cooking area for easy access to drop pots and should be close to the return door to allow the larger items to be delivered to the pot wash sink without transport through the preparation areas.
- .4 Hand washing stations shall be located conveniently throughout the main dietary kitchen area in accordance with the NB Department of Health.
- .5 The Dietary Office shall have a door to easily access the main kitchen and a door to the corridor for access by vendors and suppliers.
- .6 A staff washroom shall be located close to the main dietary kitchen production area for use by designated food handlers. The washroom shall not open directly into the food production or food storage areas of the kitchen.
- .7 A dedicated housekeeping closet is required within the main foodservice kitchen area.
- .8 Access to the refrigerator units should be within close proximity to receiving and kitchen area to allow for easy access.
- .9 Access to the freezer unit(s) should be from the receiving and kitchen area to allow for easy access.

A.4 DIETARY SERVICES (continued)**.9 General Standards**

- .1 The Main Dietary Kitchen shall be sized to accommodate the food preparation and equipment necessary for the facility to be self-sustaining. This facility will be designed to prepare 3 meals per day for residents, staff meals, while maintaining high quality and variety for users. The kitchen must be designed with multi-tasking and distinct functions including cold preparation, baking, cooking and production and assembly areas. The cold production area must allow for the cleaning, cutting and portioning of raw products. The baking area will consist of a bakery and general preparation and production and must be adjacent the main cooking line to include an oven, kettle, baker tables, storage racks and various bins. The cooking cell must have ample circulation space for safety and include the following type of equipment: exhaust hoods, stainless steel preparation counter surfaces, steamer, cooking range, griddle, ovens, fryer, etc. The production area is coupled with the cooking area and cold preparation space to handle the final assembly of hot bulk food to be transported to the satellite serveries. This last area will include microwave and holding cabinet equipment.
- .2 Main dietary kitchen shall be ergonomically designed to reduce work related injuries.
- .3 The dietary receiving area shall allow for easy processing of products entering the facility. Delivered goods will then be unpackaged and grouped for storage with packaging and other waste delivered to the garbage or recycling rooms.
- .4 Refrigerated storage for vegetables, dairy, and meat are required in the main food service kitchen area. The holding temperature is 4°C or 40°F or less. The refrigerator storage area will provide for bulk purchasing and will include shelving and angle cart storage.
- .5 Freezer storage is required in the main food service kitchen area. The freezer should hold a temperature of -20 °C. The freezer storage compartment will include shelving and space for angle carts.
- .6 A garburator must be included in dish and pot wash area for the disposal of leftover food items. Some municipalities may not allow garburators. If this is the case a collection system (scraper) will need to be used. Dishwashing will be designed to handle a large volume of soiled dishes and utensils. A dishwash condensate hood is required. Both dishwashing and pot washing need to have a sanitization cycle minimum of 30 seconds @ 180°C, or chemical sanitization.
- .7 Hand wash sink should be efficient for staff use and can be either electronic or manually operated.

A.4**DIETARY SERVICES (continued)****.9 General Standards (continued)**

- .8 If the cooler and freezer storage areas are walk in units, then a separate ventilated compressor room is required to house the refrigeration equipment.
- .9 Cart washing will be designed to permit the washing of soiled foodservice carts. The cart wash area will be equipped with a floor drain, wall mounted faucet and waterproof finished surfaces. This space may be combined with the kitchen housekeeping function.
- .10 A miscellaneous storage room is required to store items such as catering equipment, back up wares, and any other inventories.

.10 Unit Spaces

(The following notes apply to table A.4.10 I, II and III and all items shall be in construction contract unless otherwise noted).

- .1 STC of walls shall be as follows:
 - Service area to bedroom STC 60
- .2 Acoustic tiles shall have anti-microbial treatment.

A.**Performance Standards****A.4 DIETARY SERVICES****A.4.10 Unit Spaces TABLE I** (refer to previous page for related notes)

Content	Main Dietary Kitchen	Cart Wash Area	Offices
Minimal Area	See space allocations in written description.	See space allocations in written description.	See space allocations and quantities in written description.
Ceiling Height	Min. 2.75m	Min. 2.75m	Min. 2.44m
Daylight and views			
Finishes			
Walls (General)	FRP Panel (Polyester Resin Reinforced with Glass Fibre)	FRP Panel (Polyester Resin Reinforced with Glass Fibre)	Abuse resistant gypsum board
Soiled Dish Area And Prep Area	FRP Panel (Polyester Resin Reinforced with Glass Fibre)	N/A	N/A
Production Area	22 ga. SST 304 satin finish sheet from floor base to 25mm above bottom hood.	N/A	N/A
Floors	Epoxy Quartz Floor, textured slip resistant finish in open areas and smooth floor finish under equipment	Epoxy Quartz Floor, textured slip resistant finish in open areas and smooth floor finish under equipment	Resilient sheet flooring with sealed rubber base.
Ceiling	Gypsum board	Gypsum board	Acoustic Tile, Note 2
Voice and Data Communication	Yes		Yes
Air Conditioning	Yes		
Doors	1070mm wide solid		Solid
Solid Glazed Side Light			
Locked	Yes		Yes
Sink	See Sketch	Wall mounted faucet	
Floor Drain		Yes	
Operable Windows			Yes
Window Treatment			Blinds
Electrical Outlets	See Part B for electrical requirements		
Strobe light, fire alarm signalling	Yes		
Motion sensor switching	Yes	Yes	Yes
Furniture (NIC)			Desk, filing cabinet, small meeting table and seating for two

A.**Performance Standards****A.4 DIETARY SERVICES****A.4.10 Unit Spaces TABLE II** (refer to previous page for related notes)

Content	Miscellaneous Storage Room	Staff Washroom	Housekeeping Closet and Storage Room
Number Required	See space allocations and quantities in written description.	See space allocations and quantities in written description.	See space allocations and quantities in written description.
Clear Area	See space allocations and quantities in written description.	See space allocations and quantities in written description.	See space allocations and quantities in written description.
Ceiling Height	Min. 2.44m	Min. 2.44m	Min. 2.44m
Finishes			
Walls (General)	Abuse resistant gypsum board	Moisture resistant gypsum board	Abuse resistant gypsum board
Floors	Resilient sheet flooring with sealed rubber base.	Slip resistant resilient sheet flooring with flash cove base.	Resilient sheet flooring with flash cove base.
Ceiling	Acoustic tile, See Note 2	Moisture resistant gypsum board	Acoustic Tile, See Note 2
Voice and Data Communication	No		
Air Conditioning			
Doors			
Solid	Solid	Solid	Solid
Glazed			
Side Light			
Locked	Yes	Yes, privacy lock	Yes
Floor Drain	No	No	No
Electrical Outlets	See Part B for electrical requirements		
Equipment			Mop Rack
Sink	No	Yes	Curbed floor sink
Water Closet		Wall mounted tank, MH=460mm A.F.F.	
Mirror		Yes, MH=1000 max (bottom edge A.F.F)	
Soap Dispenser		Yes	
Paper Towel Dispenser		Yes	
Waste Receptacle		Yes	
Coat Hook		Yes	
Shelf		Yes, 200x400	
Motion Sensor Switching	Yes	Yes	Yes

A.**Performance Standards****A.4 DIETARY SERVICES****A.4.10 Unit Spaces TABLE III** (refer to previous page for related notes)

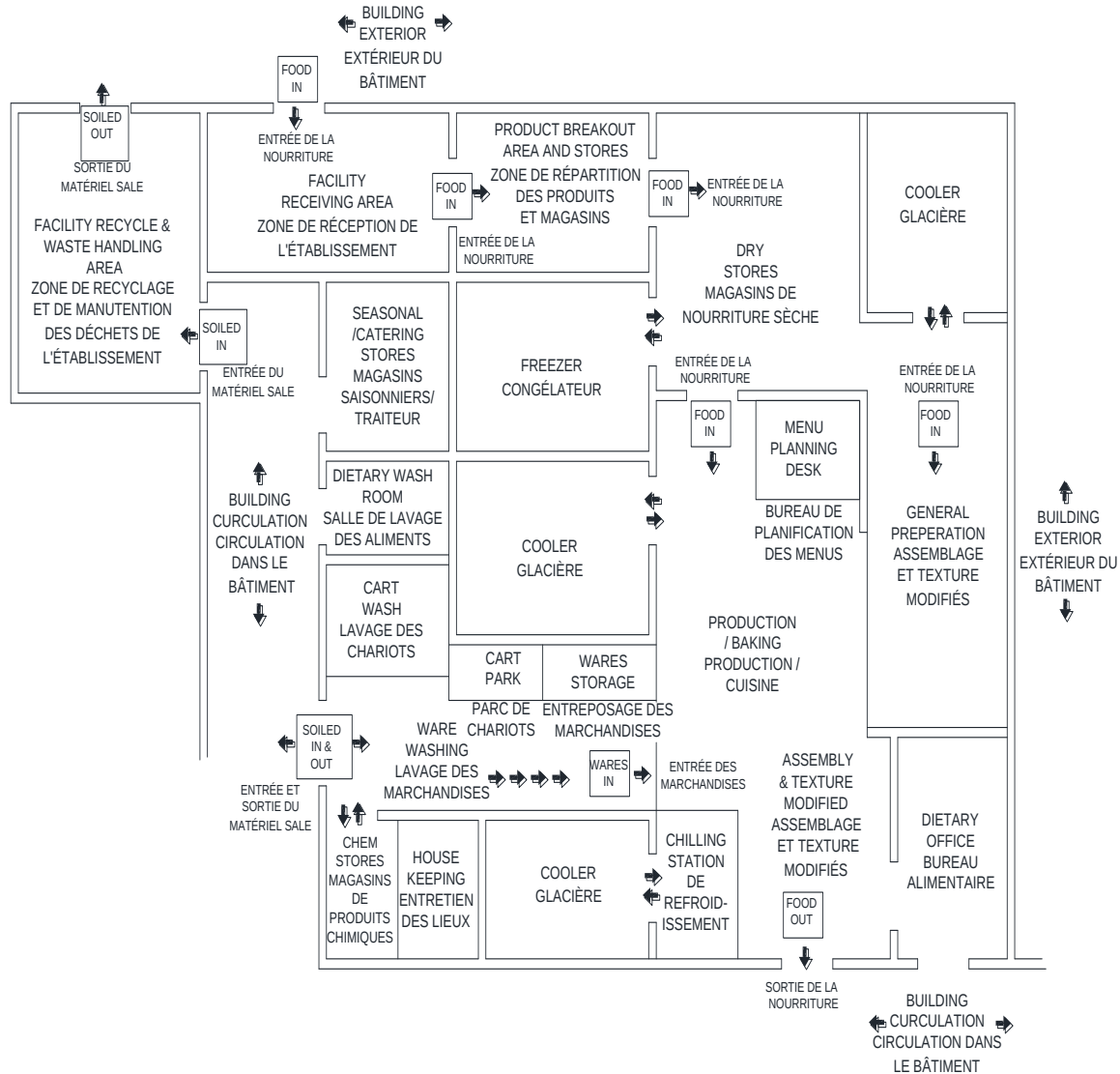
Content	Satellite Food Servery
Number required per House	1
Clear Area	See space allocations in written description.
Ceiling Height	Min 2.745m
Finishes Walls	Abuse resistant gypsum board. FRP Panels full height. STC, See Note 1
Floors	Epoxy Quartz Floor, textured slip resistant finish in open areas and smooth floor finish under equipment
Ceilings	Gypsum board
Casework	
Doors Solid Glazed Side Light	1070mm wide solid doors
Locked	Yes, keypad and delay action closer
Motion sensor switching	Yes
Sink	Yes
Voice and Data Communication	Yes
Air Conditioning	Yes
Strobe light, fire alarm signalling	Yes
Receptacles	See Part B for electrical requirements.
Soap Dispenser	Yes
Paper Towel Dispenser	Yes
Waste Receptacle	Yes
Equipment	

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Performance Standards

.11 Typical Drawings

.1 Main Kitchen Diagram

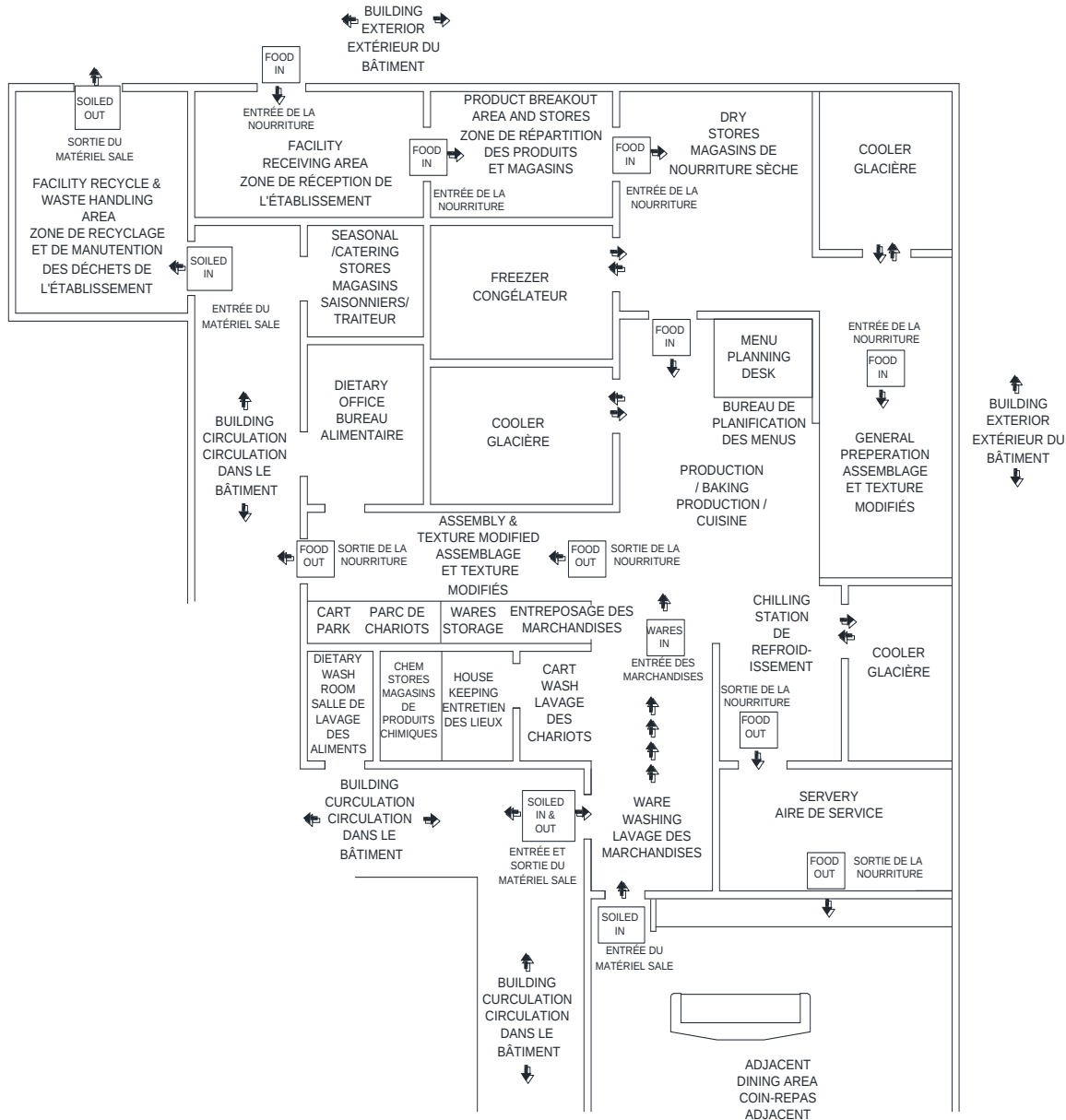


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.2 Main Kitchen with Attached Servery Diagram

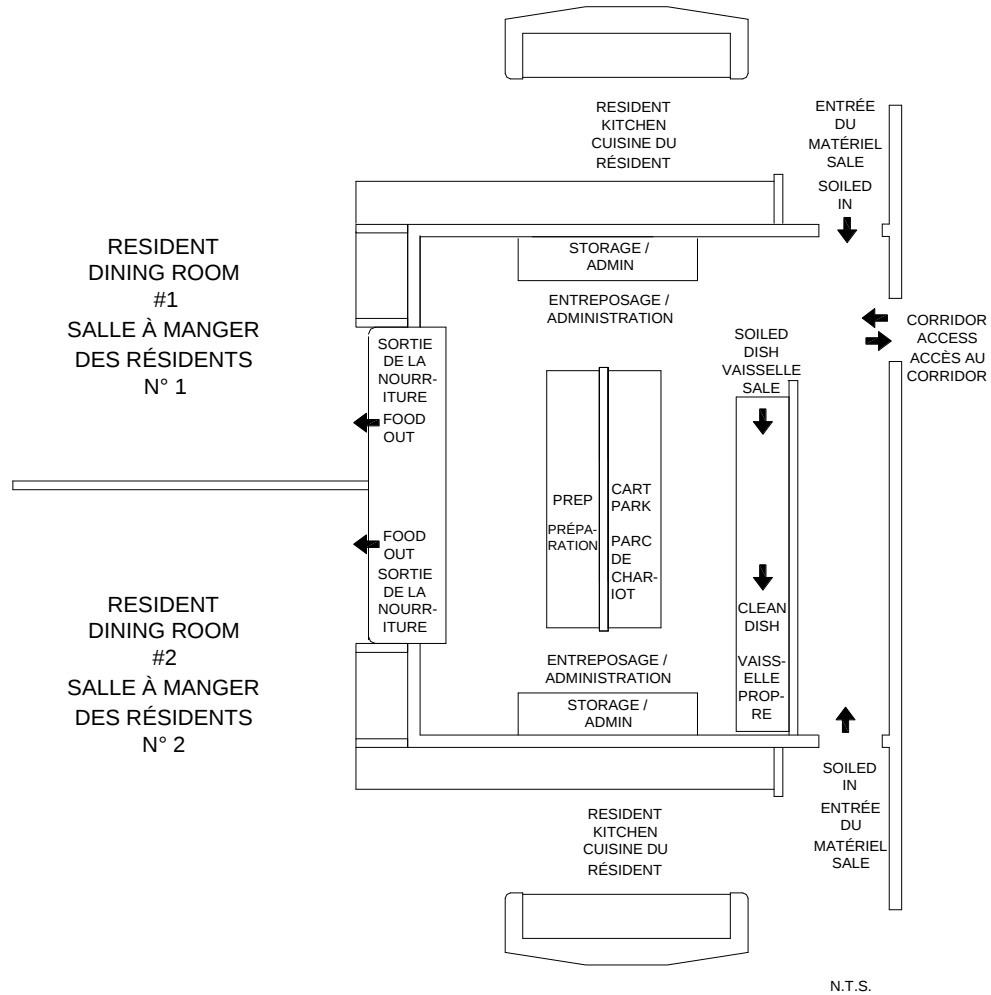


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.3 Satellite Food Servery Diagram



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Performance Standards

A.5 ENVIRONMENTAL SERVICES

Housekeeping and laundry services are components of support services to provide a clean, safe, home-like environment for residents and families. This includes:

- To provide clean personal clothing and articles for residents, in a routine and cost-effective manner.
- Tracking and responding to residents' personal laundry needs and family requests.
- To maintain the facility in a clean and sanitary fashion, as well as, handling and disposing of waste products.
- To provide storage of soiled linen for pickup of laundry service provider

Key Service Components

Housekeeping staff interact with residents, families and volunteers, and their key functions include:

- Cleaning walls, floors, ceilings, furniture, windows, etc.
- Maintaining soiled utility rooms and transferring waste for removal from the facility
- Maintaining a recycling program for the facility

Laundry staff work and interact with residents, families and volunteers, and their key functions include:

- Delivery of clean linen and personal clothing to resident houses, dietary and other areas of the facility as required etc.
- Collecting soiled linen and resident clothing from the resident houses, dietary and other areas of the facility as required
- Sorting, washing and drying personal clothing and articles for residents and shipping soiled linen to outside services
- Receiving clean linen from outside services
- Providing some minor laundry repairs

Function and Space Relationships

Housekeeping and laundry staff will service the entire facility.

A.5 ENVIRONMENTAL SERVICES (continued)**.1 Components**

- .1 Soiled Laundry Wash Area
- .2 Clean Laundry, Drying and Sorting Area
- .3 Soiled Linen Storage
- .4 Housekeeping Supply Central Storage
- .5 Refrigerated Garbage (A self-contained refrigerated garbage unit is acceptable.)
- .6 Housekeeping Closet
- .7 Resident Storage Area (optional)

.2 Spatial Relationships

- .1 The soiled laundry area must be separate and distinct from the clean drying area for safety and infection control.
- .2 The laundry must allow for separately delineated, soiled laundry and clean areas so the soiled laundry flows through a soiled holding area, to the washing area and then into the drying area.
- .3 The laundry must include an area for the collection, storage and sorting of soiled laundry until it can be processed.
- .4 A separate laundry storage area for holding soiled linen and receiving/distributing clean laundry is required.
- .5 The clean laundry drying area shall be separate and distinct from the soiled wash area for safety and infection control.
- .6 Main laundry area requires direct access to the exterior through a minimum 1830 mm opening.
- .7 Housekeeping supply central storage shall be collocated with other environmental service functions away from resident areas.
- .8 A refrigerated garbage holding room is required for garbage and must be located in the main shipping and receiving area with direct access to the outside for external collection. This room shall be easily accessed for housekeeping, maintenance and dietary staff.
- .9 The recycling room shall be located in the main shipping and receiving area with direct access to the outside for external collection. The recycling material space shall be divided into compartments to store the various materials. This room shall be easily accessed for housekeeping, maintenance and dietary staff.
- .10 Housekeeping closets shall be located close to communal use and support areas. Housekeeping closets shall be located close to areas of high use and avoid the transport of waste and garbage through resident houses. Housekeeping closets should be close to the laundry facility.
- .11 Resident storage area shall be located away from the resident and public areas in close proximity to maintenance and utility rooms.
- .12 All service rooms shall be located in a service area or wing which is locked and inaccessible to residents and public.

A.5 ENVIRONMENTAL SERVICES (continued)

.3 Unit Spaces

(The following notes apply to table A.5.3 I and II and all items shall be in construction contract unless otherwise noted).

- .1 STC of walls shall be as follows:
Service area to bedroom STC 60
- .2 Acoustic tiles shall have anti-microbial treatment.
- .3 Allow space for cleaning soiled laundry equipment.
Consideration should be given for wash down capability in this area.
- .4 Walls and floors must have ability for wash down.
- .5 Allow space for cleaning soiled waste collection carts.
Consideration shall be given for wash down capability in this area.
- .6 Allow space for cleaning soiled recyclable collection carts.
Consideration shall be given for wash down capability in this area.
- .7 Area of Housekeeping Central Supply Storage shall be as follows:

Number of beds	Housekeeping Central Supply Storage Room Area (m ²)
30-49	11.2
50-99	13.9
100-149	16.7
150+	19.5
200+	22.3

- .8 Area of Refrigerated Garbage Room shall be as follows:

Number of beds	Refrigerated Garbage Room Area (m ²)
30-99	12
100-199	14.86
200+	17.65

- .9 Area of Resident Storage Area shall be as follows:

Number of beds	Resident Storage Room Area (m ²)
30-49	11.2
50-99	13.9
100-149	16.7
150+	19.5
200+	22.3

A.**Performance Standards****A.5 ENVIRONMENTAL SERVICES (continued)****A.5.3 Unit Spaces TABLE I** (refer to previous page for related notes)

Content	Soiled Laundry and Wash Area	Clean Laundry, Drying and Sorting Area	Housekeeping Central Supply Storage	Soiled Linen Storage
Number required	1	1	1	1
Clear Area	See Nursing Home Functional Program Allow 900mm of service space behind washer equipment for maintenance. Note 3	See Nursing Home Functional Program Allow 900mm of service space behind dryer equipment for maintenance.	Note 7	See Nursing Home Functional Program
Ceiling Height	Min. 2.44m	Min. 2.44m	Min. 2.44m	Min. 2.44m
Daylight and Views	Must achieve a minimal Daylight Factor of 2%. Provide views to the exterior.			
Finishes				
-Walls	Glass mat gypsum sheathing/FRP panels full height on plumbing walls STC See Note 1	Abuse resistant gypsum board, FRP Panels to 1828mm A.F.F. STC See Note 1	Abuse resistant gypsum board STC See Note 1	Abuse resistant gypsum board, FRP Panels to 1828mm A.F.F. STC See Note 1
-Floors	Epoxy Quartz Flooring	Resilient sheet flooring with sealed rubber base	Resilient sheet flooring with sealed rubber base	Resilient sheet flooring with sealed rubber base
-Ceilings	Moisture resistant gypsum board	Acoustic tile, Note 2	Acoustic tile, Note 2	Acoustic tile, Note 2
Casework	Secure storage for supplies	A folding area, and storage space, see drawing.		
Doors				
Solid	1070mm wide solid door.	1070mm wide solid door.	1070mm wide solid door.	1070mm wide solid door.
Glazed Side Light	Must have access to the exterior through 1830mm wide opening			
Locked	Yes, access control and power operator	Yes, access control and power operator	Yes	Yes, access control and power operator
Motion Sensor Switching	Yes	Yes	Yes	Yes
Sink	Mop sink, set tub, hand washing sink	Hand washing sink		
Floor Drain	Yes			

A.**Performance Standards****A.5 ENVIRONMENTAL SERVICES (continued)****A.5.3 Unit Spaces TABLE I (continued)**

Content	Soiled Laundry and Wash Area	Clean Laundry, Drying and Sorting Area	Housekeeping Central Supply Storage	Soiled Linen Storage
Soap Dispenser	Yes	Yes		
Paper towel dispenser	Yes	Yes		
Waste Receptacle	Yes	Yes		
Electrical Outlets	See Part B for electrical requirements			
Voice and data communication outlet		Yes		
Cable TV				
Equipment	Commercial washers, hot and cold water hose bibs Chemical dispenser (N.I.C.), soiled linen carts (N.I.C.)	Commercial dryers, personal clothing racks Clean linen storage carts(N.I.C)		Soiled linen storage carts(N.I.C)
Furniture (N.I.C.)		Folding table (NIC) and ergonomic stool (NIC)		
Air Conditioning	Yes	Yes		Yes

A.**Performance Standards****A.5 ENVIRONMENTAL SERVICES (continued)****A.5.3 Unit Spaces TABLE II** (refer to previous page for related notes)

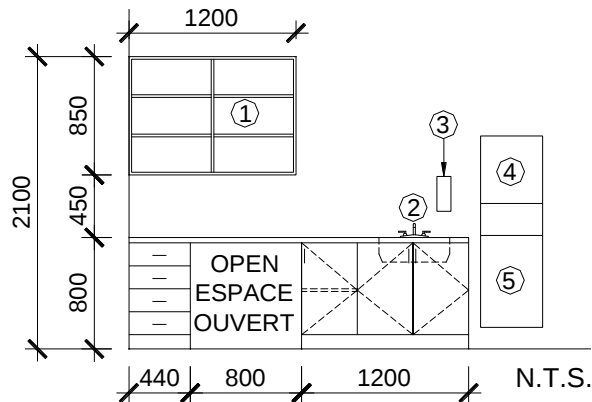
Content	Refrigerated Garbage	Housekeeping Closet	Resident Storage Area (optional)
Number required	1	1	1
Clear Area	Note 5, Note 8	5.10 sq. m.	Note 9
Minimal Ceiling Height	Min 2.44m	Min. 2.44m	Min. 2.44m
Finishes			
-Walls	Glass mat gypsum sheathing board/FRP panels full height STC See Note 1, Note 4	Moisture resistant gypsum board/FRP panels to 1220mm A.F.F. STC See Note 1	Abuse resistant gypsum board, STC See Note 1
-Floors	Epoxy Quartz Floor	Slip resistant sheet flooring with flash cove base	Resilient sheet flooring with sealed rubber base.
-Ceilings	Moisture resistant gypsum board	Acoustic Tile, Note 2	Acoustic Tile, Note 2
Casework		Storage shelving, mop rack	
Doors			
Solid Glazed Side Light	Solid exterior and interior double doors	1070mm wide solid	1070mm wide solid
Locked	Yes	Yes	Yes
Motion Sensor Switching	Yes	Yes	Yes
Sink		Curbed floor sink	
Floor Drain	Yes	Yes	
Electrical Outlets	See Part B for electrical requirements		
Voice and data communication outlet			
Cable TV			
Equipment	Hot and cold water hose bibs	Chemical dispensing system (N.I.C.)	Personal storage lockers for each resident in facility.

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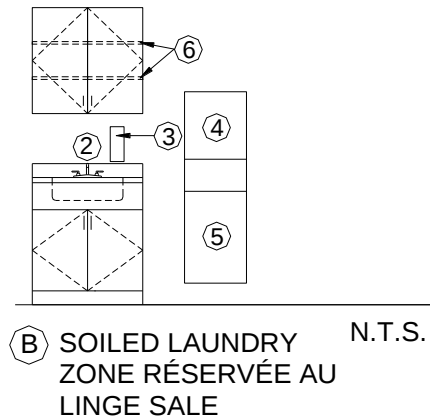
Performance Standards

.4 Typical Drawings

.1 Soiled Laundry and Clean Laundry Casework Elevations



A CLEAN LAUNDRY
ZONE RÉSERVÉE AU
LINGE PROPRE



B SOILED LAUNDRY
ZONE RÉSERVÉE AU
LINGE SALE

- ① OPEN ADJUSTABLE SHELVING
300 mm DEEP
ÉTAGÈRES RÉGLABLES OUVERTES
DE 300 mm DE PROFONDEUR
- ② HANDWASHING SINK
LAVABO
- ③ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ④ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUT
- ⑤ WASTE RECEPTACLE
POUBELLE
- ⑥ ADJUSTABLE SHELVING
ÉTAGÈRES RÉGLABLES

A.

Performance Standards

A.6**PLANT MAINTENANCE AND OPERATIONS**

Plant maintenance and operations department areas provide for:

- A safe and comfortable physical environment for residents, families, visitors and staff;
- Preventative maintenance and repairs for building systems, equipment and grounds.
- Monitor all building systems including, environmental, security and fire safety.
- Contracting services for building systems and grounds maintenance.
- Coordination of external inspections.

Key Service Components

- Maintenance and repairs to resident care equipment and furniture;
- Maintaining dietary, housekeeping, laundry, the building and its systems, equipment, and lawn care equipment;
- Coordinating fire and building safety procedures for staff, volunteers, residents and visitors;
- Shipping and receiving duties.

Function and Space Relationships

The plant maintenance should be located close to the shipping and receiving area and have an outside access door. It should be centrally located within the facility. Plant maintenance shall not be located in close proximity to resident areas of the building.

Plant maintenance interacts with several outside agencies including the local fire department, health authority and private contractors.

.1 Components

- .1 Maintenance Workshop
- .2 Maintenance Office
- .3 Exterior Storage Shed:
Storage of Furniture & Equipment and Property Maintenance Equipment
- .4 Shipping and Receiving Area
- .5 Mechanical and Electrical Service Rooms
- .6 Communication Closets
- .7 Pandemic Storage Room

.2 Spatial Relationship

- .1 The maintenance shop must be separated from all other areas of the facility to control noise transmission to the resident's personal and communal areas. The maintenance shop shall be a secured area, inaccessible to residents and the public.
- .2 The maintenance shop must have easy access to the exterior through a minimum 1830 mm opening.
- .3 A maintenance office must be collocated with the maintenance workshop area for easy storage of facility reference files, building documents and other related records, and shall have a view of the shipping and receiving area.

A.6**PLANT MAINTENANCE AND OPERATIONS (continued)****.2 Spatial Relationships (continued)**

- .4 A secure furniture and equipment storage room, inaccessible to residents and the public shall be located in close proximity to the maintenance and utility room areas of the facility.
- .5 A designated shipping and receiving loading dock area is required for all long term care facilities that is separate and secure from all other resident, staff and public spaces.
- .6 The receiving area must be separate from shipping of garbage and soiled laundry.
- .7 Temporary storage space for received goods shall be included adjacent to the receiving area.
- .8 This dedicated service entrance must be physically separated from the main public entry of the facility to avoid undesirable cross traffic between vehicles and pedestrians, and also, to prevent exposure to unwanted noise, fumes and other hazards. The service entrance must provide adequate turn space for tractor trailer deliveries.
- .9 The loading dock area must have overhead eave protection and a separate service access driveway connected to the main roadway to facilitate efficient pickup and delivery.
- .10 The loading dock area must be a secured area, inaccessible to residents and the public.
- .11 The shipping receiving area must be located convenient to the dietary service space for the receipt of food items.
- .12 The mechanical and electrical service room shall be a secured area, inaccessible to residents and the public and should be collocated with other maintenance and storage spaces for the facility.
- .13 Communication closets shall be a secured area, inaccessible to residents and the public and shall be located for easy access by maintenance and technical staff.
- .14 The shipping and receiving area shall be located convenient to service elevators.
- .15 If metal grating is used at loading dock to allow for snow clearing, grating shall not be raised to interfere with cart wheels.
- .16 All service rooms shall be located in a service area or wing which is locked and inaccessible to residents and public.

A.6

PLANT MAINTENANCE AND OPERATIONS (continued)

.3 Unit Spaces

(the following notes apply to tables A.6.3 I and II and all items shall be in construction contract unless otherwise noted.

- .1 STC Ratings shall be as follows:
Service area to bedroom STC 60
- .2 Acoustic tiles shall have anti-microbial treatment.
- .3 Provide sufficient clearance around all mechanical and electrical equipment to enable proper service and maintenance.
- .4 Sprinkler Rooms require additional area see Appendix a.1 Area Analysis Calculations.
- .5 General Storage Room areas shall be as follows:

Number of beds	General Storage Room Area (m ²)
30-49	18.58
50-99	23.22
100-149	27.87
150+	32.5
200+	37.16

- .6 Shipping and Receiving Room area shall be as follows:

Number of beds	Shipping and Receiving Room Area (m ²)
30-49	18.58
50-99	23.22
100-149	27.87
150+	32.5
200+	37.16

- .7 Pandemic Storage Room areas shall be as follows:

Number of beds	Pandemic Storage Room Area (m ²)
30-49	10
50-99	15
100-149	20
150+	25

A.**Performance Standards****A.6 PLANT MAINTENANCE AND OPERATIONS (continued)****A.6.3 Unit Spaces TABLE I** (refer to previous page for related notes)

Content	Maintenance Workshop	Maintenance Office	Exterior Storage Shed	Pandemic Storage Room
Number required	1	1	1	1
Clear Area	30 bed:17.00 sq. m. 60 bed: 26 sq.m. 90 bed: 30 sq.m. For all other facilities see Functional Program	9.30 sq. m.	55m2 (15m2 for Furniture and Equipment Storage and 40m2 for Property Maintenance Equipment	See Note 7
Ceiling Height	2.75m	2.44m	Refer to functional program for project specific requirements.	Min 2.44m
Finishes				
-Walls	Glass mat gypsum sheathing/FRP panels full height on cart wash walls STC: See Note 1	Abuse resistant gypsum board STC: See Note 1		Abuse resistant gypsum board STC See Note 1.
-Floors	Epoxy Quartz Flooring	Resilient sheet floor with sealed rubber base.		Resilient sheet floor with sealed rubber base.
-Ceilings	Acoustic Tile, See Note 2	Acoustic Tile, See Note 2		Acoustic Tile Note 2
Casework	Workbench and storage, see drawing			
Doors				
Solid Glazed Side Light	Solid double doors	Yes,152x711mm		1070mm wide solid door.
Locked	Yes, see Part B	Yes		Yes
Motion Sensor Switching	Yes	Yes		Yes
Sink	Yes, set tub			No
Floor Drain	Yes			No
Electrical Outlets	Refer to Part B for electrical requirements			
Voice and data communication outlet	Yes	Yes	Refer to functional program for project specific requirements.	
Cable TV				
Equipment				
Cart wash station	Yes, with curtain			

A.**Performance Standards****A.6 PLANT MAINTENANCE AND OPERATIONS (continued)****A.6.3 Unit Spaces TABLE II** (refer to previous page for related notes)

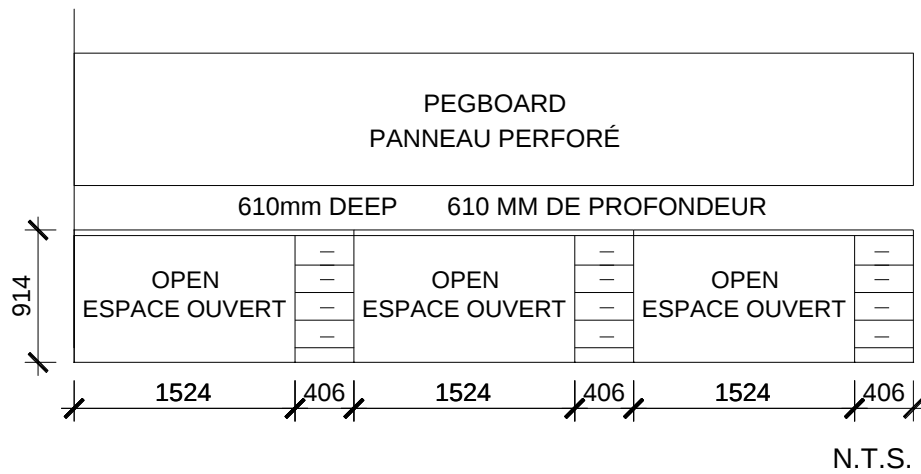
Content	Shipping and Receiving Area	Mechanical and Electrical Service Rooms	Communication Closet	General Storage Room
Number required	1		1 per house	1
Clear Area	See Note 6	See Functional Program. Note 3, 4	3.7 sq.m. each.	See Note 5
Ceiling Height	Min 2.75m	Min 2.75m	Min 2.44m	Min 2.75m
Finishes				
-Walls	Abuse resistant gypsum board. STC: See Note 1 FRP Panels to 1220 A.F.F.	Abuse resistant gypsum board. STC: See Note 1	Abuse resistant gypsum board. STC: See Note 1	Abuse resistant gypsum board FRP Panels to 1220mm A.F.F.
-Floors	Epoxy floor with integral cove base	Concrete (painted)	Concrete (painted)	Concrete (Painted)
-Ceilings	Acoustic Tile, Note 2	Acoustic Tile, Note 2	Acoustic Tile, Note 2	Acoustic Tile Note 2
Doors	Overhead door may be considered for this area. Interior and exterior solid double doors, dietary to have 1070 wide solid single door.	Solid double door	Solid	Solid double doors
Solid				
Glazed				
Side Light				
Locked	Yes, see Part B	Yes	Yes	Yes
Motion Sensor Switching	Yes	Yes	Yes	Yes
Floor Drain	Yes, where equipment is cleaned			
Electrical Outlets	As required	As required	As required	As required
Voice and data communication outlet		Yes	See Part B	
Cable TV			See Part B	
Equipment	External scissor lift equipment may be considered for truck deliveries			
Intercom	Yes, see Part B Section 27 51 30			

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Performance Standards

.4 Typical Drawings

.1 Maintenance Shop Workbench Elevation



A.7 ADMINISTRATION SERVICES

The administration services department manages the daily operations of the home.

Key Service Components

The administration manages the facility operation on behalf of the Board of Directors.

Function and Space Relationships

The administration suite should be adjacent the main entrance lobby with a clearly visible and accessible reception area. The Boardroom should be located close to the lobby and administration area.

The administration has collaborative relationships with NB Department of Social Development, NB Nursing Home Services, health authorities, home care, physicians, physiotherapy and occupational therapy services, clergy and the local community in general.

Space Planning Requirements for Administration Areas

The main administration area will include management offices and will accommodate waiting space for visitors, a reception clerical area, and file storage. It will be easily accessible and adjacent to the main entrance.

.1 Components

- .1 Administrator Office
- .2 Accountant Office (for facilities 50 beds or greater)
- .3 General Business Office and Main Reception
- .4 Archive File Storage Room
- .5 Boardroom (for facilities 60 beds and over)

.2 Spatial Relationship

- .1 The Administrator office shall have adequate space for small meetings of four people and be conveniently located close to the main facility entrance for access by visitors and residents. This office should be situated away from high use areas within the administrative space cluster to reduce noise and provide occupants with privacy
- .2 The accountant office shall have controlled access for staff, family members and visitors.
- .3 The entrance to the nursing home facility should be a welcoming area for family members, visitors, residents and staff. A general business office area will be designed in an open office concept to allow easy access for visitors and residents and to provide information and direction.

A.7 ADMINISTRATION SERVICES (continued)**.2 Spatial Relationships (continued)**

- .4 The main reception area shall include a reception counter that adjoins the lobby and is visible to visitors and residents as they enter the lobby from the main entrance.
- .5 The main reception shall include a private work area behind the reception counter that is integral with the general office area and have physical linkages to private administration offices. This space should be clustered with other administration functions.
- .6 The boardroom will serve as a dedicated meeting space for medium sized groups of individuals in larger facilities. Smaller facilities under 60 beds will utilize the multi-purpose room for the board room function and staff education.
- .7 A Boardroom must accommodate seating for 20 people.
- .8 The boardroom should be located close to the main entrance and administrative areas for easy access by board members, staff and visitors.

.3 Unit Spaces

(the following notes apply to tables A.7.3 and all items shall be in construction contract unless otherwise noted.)

- .1 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .2 Acoustic tiles shall have an anti-microbial treatment. Size of tile shall respond to scale of room.
- .3 Windows shall restrict resident elopement through the operable portion of the mechanism. Operable sections shall be fitted with screens.

A.**Performance Standards****A.7 ADMINISTRATION SERVICES (continued)****A.7.3 Unit Spaces TABLE I** (refer to previous page for related notes)

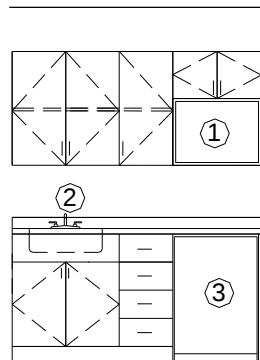
Content	Administrator Office	Accountant Office
Number Required	1	1
Clear Area	11.14 sq.m.	11.00 sq.m. (for facilities over 50 beds)
Dimensions		
Ceiling Height	Min. 2.44m	Min 2.44m
Daylight and views	Must achieve a minimum daylight factor of 2%. Provide views to exterior landscape.	
Finishes		
Walls	Gypsum board	Gypsum board
Floors	Resilient sheet flooring with sealed rubber base, or carpet tile Note 1	Resilient sheet flooring with sealed rubber base, or carpet tile, Note 1
Ceilings	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2
Casework		
Doors		
Solid	Solid door	Solid door
Glazed		
Sidelight	Sidelight with translucent glazing	Sidelight with translucent glazing
Locked	Yes	Yes
Operable Windows	Yes, Note 3	Yes, Note 3
Window Sills		
Window Treatments	Blinds	Blinds
Motion Sensor Switching	Yes	Yes
Resident/Staff Response System	No	No
Voice and Data Communication	Yes	Yes
Receptacles	See Part B for electrical requirements	
Furniture (NIC)	Workstation desk, bookcase, filing cabinet, small meeting table and 2 chairs.	Workstation desk, file cabinet, bookcase and 2 chairs.

A.**Performance Standards****A.7 ADMINISTRATION SERVICES (continued)****A.7.3 Unit Spaces TABLE II** (refer to previous page for related notes)

Content	General Business Office and Main Reception	Archive File Storage Room	Boardroom
Number Required	1	1	1 per facility over 60 beds
Clear Area	30-99 beds: 17.70 sq.m. 100-149 beds: 21.4 sq.m. 150+ beds: See Nursing Home Functional Program	11.20 sq.m.	37.20 sq.m.
Ceiling Height	Min. 2.44m	Min. 2.44m	Min 2.44m
Daylight and Views	Must achieve a minimum daylight factor of 2%. Provide views to the exterior.		Must achieve a minimum daylight factor of 2%. Provide views to the exterior.
Finishes			
Walls	Gypsum board	Gypsum board	Gypsum board
Floors	Resilient sheet flooring with sealed rubber base, or carpet tile Note 1	Resilient sheet flooring with sealed rubber base, or carpet tile Note 1	Resilient sheet flooring with sealed rubber base, or carpet tile Note 1
Ceilings	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2/Gypsum board bulkheads	Acoustic Tile: NRC 0.70min, CAC 35 min., Note 2	Acoustic Tile: NRC 0.70min, CAC 35 min., Note 2/Gypsum board bulkheads
Casework	Reception counter adjoining lobby visible to residents and visitors. Layout table, shelving for paper supplies, cabinets, see drawing.		Kitchenette with counter sink, under counter refrigerator, microwave, see drawing. Enclose kitchenette behind doors.
Sink	No	No	Yes, counter sink
Doors			
Solid	Solid door	Solid door	Solid door
Glazed			
Sidelight	Counter window		
Locked	Yes	Yes	Yes
Operable Windows	Yes, Note 4	No	Yes, Note 4
Window Treatments	Blinds		Blinds
Motion Sensor Switching	Yes	Yes	Yes
Voice and Data Communication	Yes	Yes	Yes
Receptacles	See Part B for electrical requirements		

A.**Performance Standards****A.7 ADMINISTRATION SERVICES (continued)****A.7.3 Unit Spaces TABLE II (continued)**

Content	General Business Office and Main Reception	Archive File Storage Room	Boardroom
Furniture (NIC)	Lockable file cabinets, photocopier supplies	Lockable file cabinets, shelving.	Boardroom table and seating for 20 people. Note: In facilities 75 beds and under, furniture shall be modular to accommodate both boardroom functions and staff education.
Whiteboard			Yes

.4 Typical Drawings**.1 Boardroom Kitchenette Elevation**

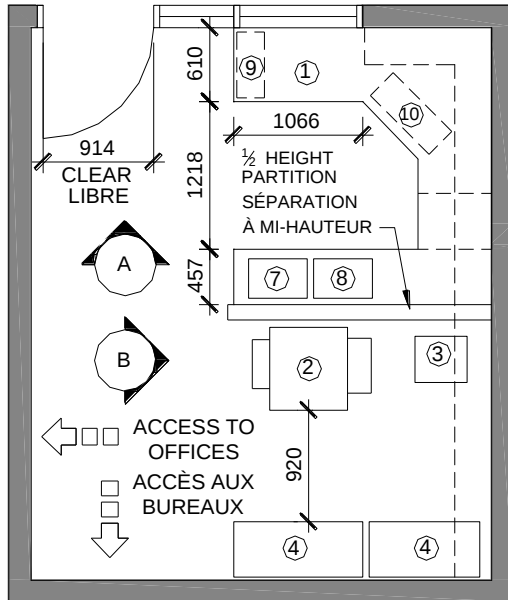
N.T.S.

- ① MICROWAVE (N.I.C.)
FOUR À MICRO-ONDES
(PAS DANS CE CONTRAT)
- ② SINK
ÉVIER
- ③ UNDER COUNTER
REFRIGERATOR (N.I.C.)
RÉFRIGÉRATEUR DE
COMPTOIR (PAS DANS CE
CONTRAT)

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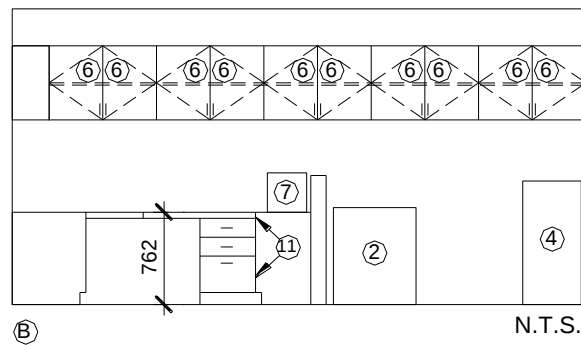
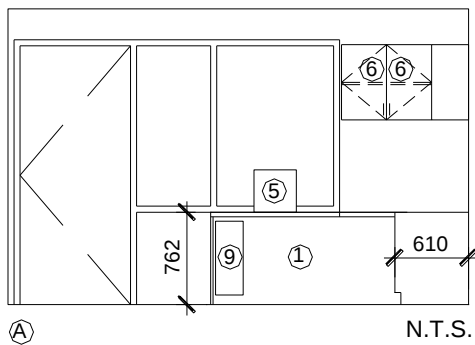
Performance Standards

.2 General Business Office and Main Reception Floor Plan and Elevations: 30-99 Beds



- | | |
|--|--|
| ① WORK COUNTER
COMPTOIR DE TRAVAIL | ⑦ FAX MACHINE (N.I.C.)
TÉLÉCOPIEUR (PAS DANS CE CONTRAT) |
| ② PHOTOCOPIER (N.I.C.)
PHOTOCOPIEUR (PAS DANS CE CONTRAT) | ⑧ CARD MACHINE (N.I.C.)
TERMINAL DE CARTE (PAS DANS CE CONTRAT) |
| ③ SHREDDER (N.I.C.)
DÉCHIQUEUSE (PAS DANS CE CONTRAT) | ⑨ ADJUSTABLE CPU HOLDER
SUPPORT RÉGLABLE POUR UCT |
| ④ FILE CABINET (N.I.C.)
CLASSEUR (PAS DANS CE CONTRAT) | ⑩ ADJUSTABLE KEYBOARD TRAY
SUPPORT DE CLAVIER RÉGLABLE |
| ⑤ PASS THROUGH
LUNETTE AMOVIBLE | ⑪ LOCKABLE DRAWERS
TIROIRS MUNIS D'UNE SERRURE |
| ⑥ LOCKABLE DOORS
PORTE MUNIE D'UNE SERRURE | |

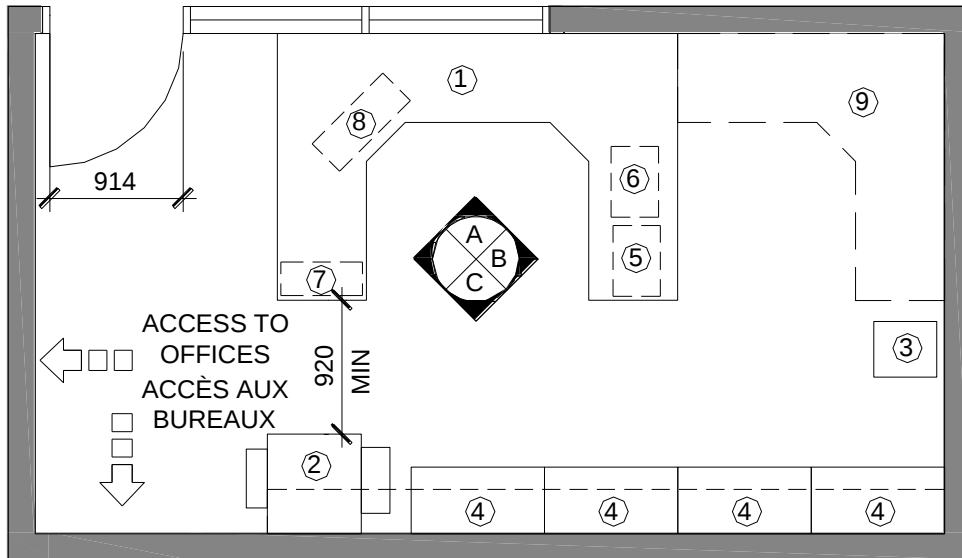
N.T.S.



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Performance Standards

.3 General Business Office and Main Reception Floor Plan: 100-149 Beds



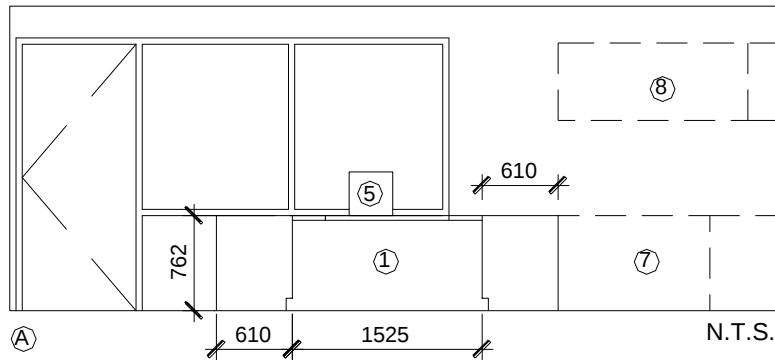
N.T.S.

- | | |
|--|--|
| ① WORK COUNTER
COMPTOIR DE TRAVAIL | ⑤ FAX MACHINE (N.I.C.)
TÉLÉCOPIEUR (PAS DANS CE CONTRAT) |
| ② PHOTOCOPIER (N.I.C.)
PHOTOCOPIEUR (PAS DANS CE CONTRAT) | ⑥ CARD MACHINE (N.I.C.)
TERMINAL DE CARTE (PAS DANS CE CONTRAT) |
| ③ SHREDDER (N.I.C.)
DÉCHIQUETEUSE (PAS DANS CE CONTRAT) | ⑦ CPU HOLDER
SUPPORT POUR UCT |
| ④ FILE CABINET (N.I.C.)
CLASSEUR (PAS DANS CE CONTRAT) | ⑧ KEYBOARD TRAY
SUPPORT DE CLAVIER |
| | ⑨ LOCKABLE DRAWERS
TIROIRS MUNIS D'UNE SERRURE |

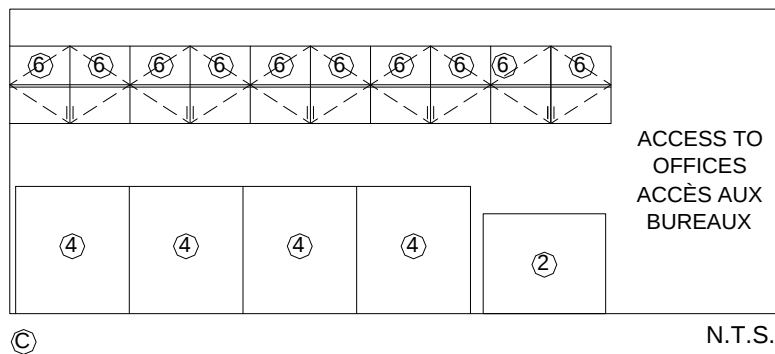
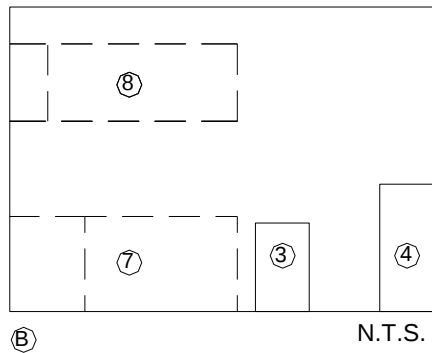
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Performance Standards

.4 General Business Office and Main Reception Elevations: 100-149 Beds



- ① WORK COUNTER
COMPTOIR DE TRAVAIL
- ② PHOTOCOPIER (N.I.C.)
PHOTOCOPIEUR (PAS DANS CE CONTRAT)
- ③ SHREDDER (N.I.C.)
DÉCHIQUEUSE (PAS DANS CE CONTRAT)
- ④ FILE CABINET (N.I.C.)
CLASSEUR (PAS DANS CE CONTRAT)
- ⑤ PASS THROUGH
LUNETTE AMOVIBLE
- ⑥ LOCKABLE DOORS
PORTE MUNIE D'UNE SERRURE
- ⑦ WORKSTATION (N.I.C.)
POSTE DE TRAVAIL (PAS DANS CE CONTRAT)
- ⑧ CABINETS (N.I.C.)
ARMOIRES (PAS DANS CE CONTRAT)



A.

Performance Standards

A.8 STAFF SPACES

The staff spaces provide support to the daily staff activities and operations of the nursing home.

Key Service Components

The staff areas provide support for staff employed by the facility to undertake their roles and responsibilities in delivery of care and service.

Function and Space Relationships

The staff spaces should be located in areas separate from the resident areas and in close proximity to the staff entrance for easy access.

Space Planning Requirements for Staff Spaces

The staff spaces will be easily accessible and adjacent the staff entrance.

.1 Components

- .1 Staff Education Room
- .2 Unisex Staff Shower and Washrooms
- .3 Staff lounge:
The staff lounge space allows staff a private area to retreat during coffee breaks and mealtimes, away from the resident areas.
- .4 Staff Locker Rooms

.2 Spatial Relationships

- .1 Staff education will be provided in a centrally located area close to administration and other staff facilities.
- .2 Staff facilities should be colocated with other staff room functions and be in close proximity with the staff entrance.
- .3 The Unisex Staff Shower and Washroom shall be linked to the Staff Locker Rooms.

.3 Unit Spaces

(The following notes apply to table A.8.3 I and II and all items shall be in construction contract unless otherwise noted).

- .1 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .2 Acoustic tiles shall have an anti-microbial treatment. Size of tile shall respond to scale of room.
- .3 Doors not used by residents shall be colour coded to match adjacent wall colours.
- .4 Windows shall restrict resident elopement through the operable portion of the mechanism. Operable sections shall be fitted with screens.

A.**Performance Standards****A.8 STAFF SPACES (continued)****A.8.3 Unit Spaces TABLE I**(refer to previous page for related notes)

Content	Staff Education Room	Staff Shower and Washrooms	Staff Lounge
Number Required	1 for facilities over 90 beds, for facilities 90 beds and under use boardroom	1 (Unisex Shower and Washroom)	1 per facility
Clear Area	27.87sq.m.	7.00 sq.m. See Functional Program.	1.2 sq.m. x maximum number of staff on lunch simultaneously (see Nursing Home Functional Program)
Dimensions	Accommodate 15 people		Area for staff dining
Ceiling Height	Min. 2.44m	Min 2.44m	Min 2.44m
Daylight and Views	Yes, must achieve a minimum daylight factor of 2%. Provide views to the outdoors	No	Must achieve a minimum daylight factor of 2%. Provide views to the outdoors.
Finishes			
Walls	Gypsum board	Moisture resistant gypsum board/Ceramic tile to 1220 A.F.F (Full height in shower on concrete backer board)	Gypsum board
Floors	Resilient sheet flooring with sealed rubber base, Note 1	Slip resistant resilient sheet with flash cove base/ Anti-slip porcelain tile in shower	Resilient sheet flooring with sealed rubber base Note 1
Ceilings	Acoustic Tile: NRC 0.70 min, CAC 35 min., Note 2	Moisture resistant gypsum board (painted)	Acoustic Tile, NRC 0.70min, CAC 35 min. Note 2
Casework	No	Vanity	Kitchenette to accommodate a refrigerator with freezer compartment, microwave, counter sink, see drawing for kitchenette layout.
Doors			
Solid	Solid double doors, Note 3	Solid door, Note 3	Solid Door
Glazed	Yes, 152mm x 711mm		
Sidelight			
Locked	Yes	Yes	No

A.**Performance Standards****A.8 STAFF SPACES (continued)****A.8.3 Unit Spaces TABLE I(continued)**

Content	Staff Education Room	Staff Shower and Washroom	Staff Lounge
Operable Windows	Yes, Note 4	No	Yes, Note 4
Window Sills			
Window Treatments	Blinds		Blinds
Motion Sensor Switching	Yes	Yes	Yes
Voice and Data Communication	Yes	No	Yes
Receptacles	See part B for electrical Requirements		
Sink	No	Yes	Yes
Water Closet	No	Wall mounted tank, MH=460mm A.F.F	No
Shower	No	Yes	No
Mirror	No	Yes, MH=1000mm max (bottom edge A.F.F.)	No
Soap Dispenser	No	Yes	Yes
Paper towel dispenser	No	Yes	Yes
Waste Receptacle	No	Yes	Yes
Lockers	No	No	No
Bench Seating	No	No	No
Coat and Boot Racks			No
Air Conditioning			Yes

A.**Performance Standards****A.8 STAFF SPACES (continued)****A.8.3 Unit Spaces TABLE II**(refer to previous page for related notes)

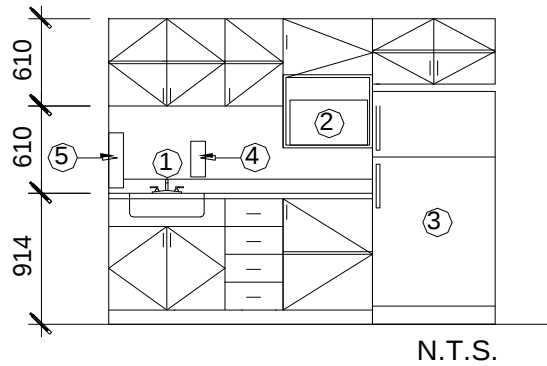
Content	Staff Locker Rooms
Number Required	2 (1 for female staff and 1 for male staff)
Clear Area	Varies with staffing see Nursing Home Functional Program
Dimensions	
Ceiling Height	Min. 2.44m
Daylight and Views	No
Finishes	
Walls	Moisture resistant gypsum board/Ceramic tile to 1220 A.F.F.
Floors	Slip resistant resilient sheet with flash cove base
Ceilings	Moisture resistant gypsum board (painted)
Casework	Vanity
Doors	
Solid	Solid door, Note 3
Glazed	
Sidelight	
Locked	Yes, closer
Operable Windows	No
Window Sills	
Window Treatments	
Motion Sensor Switching	Yes
Voice and Data Communication	No
Receptacles	See Part B for Electrical Requirements
Sink	No
Water Closet	No
Shower	No
Mirror	Yes, MH=1000mm max (bottom edge A.F.F.)
Soap Dispenser	No
Paper towel dispenser	No
Waste Receptacle	No
Lockers	Yes, half height, provide 1 locker for each staff member.
Bench Seating	Yes, hardwood
Coat and Boot Racks	Yes, two, one on opposite sides of room, sufficient length to allow for coat and boot storage for each staff member

A.

Performance Standards

.4 Drawings

.1 Staff Lounge Kitchenette Elevation



- ① SINK
ÉVIER
- ② MICROWAVE N.I.C.
FOUR À MICRO-ONDES
(PAS DANS CE CONTRAT)
- ③ REFRIGERATOR N.I.C.
RÉFRIGÉRATEUR (PAS DANS
CE CONTRAT)
- ④ SOAP DISPENSER
DISTRIBUTEUR DE SAVON
- ⑤ PAPER TOWEL DISPENSER
DISTRIBUTEUR D'ESSUIE-TOUIT

A.

Performance Standards

A.9

CIRCULATION

.1 Components

- .1 Lobby/Vestibules
- .2 Corridors
- .3 Stairwells

.2 Unit Spaces

(The following notes apply to table A.9.3 and all items shall be in construction contract unless otherwise noted).

- .1 Flooring shall be matte finish and solid colour. Patterned flooring or contrasting colour changes shall not be used. Floor colours shall contrast wall colours.
- .2 Acoustic tiles shall have an anti-microbial treatment. Size of tile shall respond to scale of space.
- .3 Rigid high impact vinyl/acrylic wall covering shall be complete with vertical and horizontal moldings for a wainscoting effect and be homelike in appearance. Complex wall covering designs shall be avoided so as not to cause disorientation among residents. Walls must be distinctly coloured from the abutting floor and ceiling colours to properly define the surface edge for the elderly. Rigid vinyl/acrylic wall covering shall be installed in corridors **only in Resident Houses**.
Linoleum may be used for wall protection in corridors of Resident Houses.
Communal space corridors shall have wood wainscoting and/or bumper guards and corner guards.
Service corridors shall have bumper guards and corner guards.
- .4 Handrails are required in all communal and resident area corridors at 914 A.F.F.
- .5 STC Ratings shall be as follows:

Corridor to Bedroom	STC 50
Corridor to Exam Room (with entrance)	STC 35
Corridor to Consultation Room (with entrance)	STC 35
Public Space to Exam Room	STC 50
Public Space to Toilet Room	STC 45
Public Space to Bedroom	STC 50
Public Space to Consultation Room	STC 50
- .6 Doors not used by residents shall be colour coded to match wall colour. (Leaving the resident house, doors shall be colour coded to match wall colour.)
- .7 Entering the Resident House, the doors and view of entrance shall be designed to mimic the entrance to a house.

A.**Performance Standards****A.9 CIRCULATION (continued)****A.9.2 Unit Spaces TABLE** (refer to previous page for related notes)

Content	Lobby/Vestibule	Corridor	Stairwells
Minimum Area	See Nursing Home Functional Program		
Typical Dimensions		Minimum Clear Width 1828mm Service Wing 2286mm Resident House	
Ceiling Height	Minimum 2.44m	Minimum 2.44m	Minimum 2.44m
Finishes			
Walls	Abuse resistant gypsum board/Rigid wall covering to 1220mm A.F.F., Note 3 and 4 STC See Note 5	Abuse resistant gypsum board/Rigid wall covering to 1220mm A.F.F. in Resident Houses, Note 3 and 4 STC See Note 5	Abuse resistant gypsum board STC See Note 5
Floors	Porcelain tile with porcelain tile base See Note 1	Resilient sheet flooring with sealed rubber base, See Note 1	Porcelain Tile with non-chipping nosing See Note 1
Ceiling	Acoustic Tile, NRC 0.80min/ Gypsum Board Bulkheads Note 2	Acoustic Tile, NRC 0.80min/ Gypsum Board Bulkheads, Note 2	Gypsum Board (painted)
Doors			
Solid	Aluminum door top and bottom panel glazed	Solid double doors into houses and service areas. (Note 6 and 7)	Solid doors with top panel glazed
Glazed			
Side Light			
Intercom System	Yes		
Security System	Yes		
Sink	No	No	No
Blinds	Yes	No	No
Window Area	No	No	No
Electrical Outlets	See Part B for Electrical Requirements		
Handrail	Yes, Note 4	Yes, Note 4	As required by NBC CAN/CSA B651

PERFORMANCE STANDARDS**OBJECTIVES and REQUIREMENTS**

The Performance Standards provide specific information on current design practices and experience. It is presented in the National Master Specification format.

This document shall be used in conjunction with, and shall not supersede, the minimum requirements of the following Codes and Standards. The Codes and Standards referenced herein shall include all amendments, revisions, supplements and/or editions currently enforced by the AHJ.:

1. National Building Code of Canada (NBCC), and all Supplements and Revisions. Nursing Homes fall into the ***Normal Importance Category*** with Reference to NBCC Division B Table 4.1.2.1.
2. National Fire Code of Canada, and all Supplements and Revisions.
3. Occupancy Health and Safety Act.
4. All applicable Provincial and Municipal Acts and Bylaws.
5. All Authorities having Jurisdiction.
6. All applicable CSA, ULC, CGSB and similar reference standards.
7. NRC Model National Energy Code of Canada for Buildings.
8. SCAQMD (South Coast Air Quality Management District) Rule.
9. Province of New Brunswick Nursing Homes Act and Regulations
10. New Brunswick Nursing Home Services Standard and Policy Manual
11. Nursing Homes shall follow all National Building Code of Canada referenced CAN/CSA Standards applicable to Nursing Homes as Class B Health Care Facilities including the latest version of CAN/CSA-Z317.1, CAN/CSA-Z317.2 and CAN/CSA-Z32.

.1 Nursing Homes and Sustainable Design Requirements.

Nursing homes shall be designed, constructed and operated with the intention of providing environments that are not only energy and resource efficient, but also healthy, comfortable, safe and well lit. All nursing homes shall be designed and constructed as HIGH PERFORMANCE BUILDINGS using sustainable design best practices. Sustainable design principles are to be applied to all renovation work.

.2 General Building Performance Requirements.

The expectation of the Department of Social Development and Department of Transportation and Infrastructure is to achieve a nursing home facility that will meet all social and physical comfort mandates of the Department of Social Development including:

1. Performance, safety and security requirements for the building users and owners.
2. Building and site aesthetic concerns.
3. Good Quality Daylighting.

OBJECTIVES and REQUIREMENTS (continued)**.2 General Building Performance Requirements. (continued)**

4. Enhanced Acoustic Performance.
5. Budget and construction schedule constraints.
6. Operating and maintenance budget concerns.
7. Integration with long range expansion plans.
8. Building Design Service Life: 25 years
9. Construction Waste Management Plan is required on all new nursing homes and all major renovations and additions.

.3 Initial Site Visit (new and renovation work).

Consultants are required to make an initial site investigation to review existing site and or building conditions. If the building history, site data or information provided by Facility Staff warrants additional investigation to determine the scope of work, the Consultant shall notify the Department of Transportation and Infrastructure and request authority to perform further investigations. For example: asbestos testing of ceiling tile, opening wall/ceiling in area of leaking windows, cutting patch in roof.

.4 Information supplied by the Department of Transportation and Infrastructure

At the request of the Consultant, the Department of Transportation and Infrastructure may provide hard copy drawings and electronic drawing files where available. The Consultant is responsible for verifying on site, the accuracy of any drawings provided by the Department of Transportation and Infrastructure.

.5 Building Code Analysis.

On projects that are not considered maintenance; the Architect is to verify that there are or are not any outstanding Order Documents issued by the Department of Public Safety and Solicitor General Office of the Fire Marshal. If there are outstanding Order Documents the Architect is to advise the Department of Transportation and Infrastructure and include it in the Scope of Work submission or Design Brief.

Building Code Review with AHJ (Authority having Jurisdiction).

Design Consultants are to have design reviewed by AHJ at Schematic Design and 75% Working Drawing stage.

A code analysis is a requirement for every project (new or renovation) and shall be submitted to the Department of Transportation and Infrastructure as per the Consultant Submittal Requirements (SURE).

A code analysis is required for ventilation upgrades.

A code analysis is required also for maintenance projects unless advised differently by the Department of Transportation and Infrastructure Project Manager.

OBJECTIVES and REQUIREMENTS (continued)**.6 Area Analysis Calculations.**

All area analysis for Major Capital Projects shall follow the definition and procedures. (Reference Appendix).

.7 Accessibility.

All facilities shall be designed to the National Building Code and CAN/CSA B-651 "Accessible Design for the Built Environment" latest edition whichever is more stringent.

When approved by the Department of Transportation and Infrastructure, the concept of Universal Access, will be applied to new construction.

The following shall apply for all new construction and major renovation projects. Existing conditions may restrict the implementation of some of these requirements; any deletions shall be approved by the Department of Transportation and Infrastructure.

- All floor areas are to be accessible. Levels at different elevations on the same storey are to be connected by ramps or elevators. Wherever possible, Universal Design principles are encouraged. Minimize use of ramps.
- In existing Buildings only; vertical platform lifts may be an acceptable solution but must be verified with Department of Transportation and Infrastructure and the Department of Public Safety's Chief Elevator Inspector.
- Ancillary items such as bulletin boards and lockers shall be suitable designed to enable barrier free usage.
- All washrooms are to be designed to provide barrier free access.
- All staff washrooms (both male and female) are to be barrier-free accessible.
- All public entrances to the nursing home shall be designed to be barrier free accessible. This includes automatic door operators and buttons.
- All public corridors and service corridors shall have a minimum clear width of **1828 mm** except in Resident Houses where corridors shall have a minimum clear width of **2286 mm**.

OBJECTIVES and REQUIREMENTS (continued)**.8 Hazardous Materials Survey.**

The Consultant is to evaluate the Work for its impact on existing building assemblies and determine if hazardous materials will be encountered or disturbed during the course of the Work. When the presence of hazardous materials is suspected, coordinate third party testing with the Department of Transportation and Infrastructure. Costs of testing will be paid for by the Owner. The results of the survey and testing are to be used in the development of the Contract Documents. Hazardous material removal and/or handling is to be specified in accordance with the regulations governing the place of the Work.

The following is a list of hazardous materials commonly encountered during construction and renovation work (not intended to be complete list of hazardous materials):

- asbestos containing materials (ACMs);
- lead-based paint;
- mould;
- radon;
- ozone depleting substances (ODSs);
- polychlorinated biphenyl materials (PCBs), and
- petroleum products.

Design must consider and accommodate for radon gas potential.

.9 Consultants hiring Professionals for other services.

The Prime Consultant shall hire sub-consultants when projects involve multiple trades as noted in the APEGNB/AANB Joint Practice Agreement. For example, it is expected that a Mechanical Consultant would hire an Architect to design roof curb details and/or analyze requirements for fire separations on ventilation projects. Architects would hire Mechanical and Electrical Engineers for design of mechanical and electrical work on washroom upgrade projects.

Please note that all civil engineering design shall be design by a professional engineer and a member in good standing with the Association of Professional Engineers and Geoscientists Province of New Brunswick.

.10 Working Drawing Requirements.

All drawings and Specification shall be prepared in metric.

Prime Consultants shall coordinate all title blocks and specification headers between Consultants. All drawings shall be prepared on the Department of Transportation and Infrastructure title blocks, standard sheet size - B1. An electronic copy of the title block is available from the Department of Transportation and Infrastructure.

OBJECTIVES and REQUIREMENTS (continued)**.11 Contract Administration.**

Consultants are reminded that Construction Progress Claims from Contractors are to be processed **within ten days** of receiving the claim.

B. Division 02 Architectural Performance Standards

B. Division 02 Architectural Performance Standards

B.2 EXISTING CONDITIONS

02 41 13 Selective Site Demolition

- .1 All demolition debris is considered waste to be disposed of at provincially recognized disposal sites, unless materials are scheduled for salvage, to be reused, reincorporated into work and or turned over to Owner. A "Construction Waste Management Plan" is to be included in the Specifications.
- .2 Coordinate salvage schedule with the Department of Transportation and Infrastructure. Establish schedule during Design Development Phase.
- .3 All salvageable material shall become the property of the Owner unless otherwise noted.
- .4 Demolished materials are to be removed from site and disposed of in an approved disposal site as authorized by Department of Environment and Local Government. Contractors may be requested to provide certified weigh bills or receipts from authorized disposal sites.
- .5 Include/coordinate all construction waste bins in Construction Waste Management Plan.

02 81 01 Hazardous Materials

- .1 For Type III removals, continuous monitoring is not required, however clearance testing shall be done before removal of negative air units and job site enclosures.

B. Division 03 Architectural Performance Standards

B. Division 03 Architectural Performance Standards

B.3 CONCRETE

03 10 00 Concrete Forming and Accessories

- .1 All concrete formwork shall be in accordance with CAN/CSA-S269.3. Form release agents shall be of low VOC content and formaldehydes shall be restricted.
- .2 Formwork shall be designed and inspected prior to placing concrete by a Professional Engineer licensed in the Province of New Brunswick and experienced in formwork design.
- .3 Formwork shall not be removed until authorized by Consultant.

03 11 19 Insulated Concrete Forms

- .1 Insulated Concrete Form wall construction shall not be used.

03 20 00 Concrete Reinforcing

- .1 Reinforcing work shall be done in accordance with CSA A23.1 and welding reinforcing in accordance with CSA W186.
- .2 Reinforcement shall be designed and detailed by a Professional Engineer licensed in the Province of New Brunswick. The Consultant shall detail placement of reinforcing where special conditions occur.
- .3 Reinforcing steel shall be detailed in accordance with the Manual of Standard Practice of the Reinforcing Steel Institute (RSCI). Consultant shall review shop drawings prior to fabrication.
- .4 Reinforcement shall be securely tied and supported at locations shown on the reviewed placement drawings to prevent movement during placement and pouring.
- .5 Consultant shall inspect all reinforcement prior to placement of concrete. Contractor shall provide Consultant with a minimum of 24 hour notice and shall notify the Consultant before closing in wall forms.
- .6 Specify metal reinforcing with a minimum recycled content of 25%.

B. Division 03 Architectural Performance Standards

B.3 CONCRETE (continued)

03 30 00 Cast-in-Place Concrete

- .1 Cast-in-place concrete works shall be done in accordance with CSA A23.1 and testing with A23.2.
- .2 All concrete shall be proportioned as defined in CSA A23.1.
- .3 The Owner will pay for the cost of inspection and testing of concrete performed by an independent inspection and testing company who is to be certified in accordance with CSA A283. No cash allowances shall be identified for this work.
- .4 Payments for retesting required due to unsatisfactory results shall be the responsibility of the Contractor.
- .5 Cold weather concreting requirements shall be clearly specified for projects with winter construction or anticipated winter construction. Only referencing CSA A23.1 is not acceptable.
- .6 Specify sealants, curing agents, compounds, sealers, and any additives with low VOC content that meets or exceeds the SCAQMD Rule 1168.
- .7 Specify supplementary cementing materials (SCM's), such as fly-ash, in concrete design mixes.
- .8 Concrete curing and finishing shall be in accordance with CSA A23.1. Curing compounds shall not be used where bond is required by subsequent topping or coating. Curing and sealing compounds shall meet ASTM C-1315 and shall be applied per manufacturer's written instructions.
- .9 Consultant shall confirm the compatibility of surface treatments, coatings, and/or additives.
- .10 Where no floor finish is to be provided over a concrete slab, the slab shall be treated to prevent dusting by incorporating additives in the mix or by sealing with a topcoat.
- .11 All joints shall be constructed in accordance with CSA A23.1. Location and details of joints shall be shown on the drawings.
- .12 Install moisture protection under concrete slabs-on-grade inside building as specified by Consultant and in accordance with manufacturer's recommendations.

B. Division 04 Architectural Performance Standards

B.4 MASONRY

04 05 00 Common Work Results for Masonry

- .1 Masonry construction shall not be used except where applicable to fire walls.
- .2 All Masonry construction shall conform to CSA-A371.
- .3 Specify the following in PART 1 – GENERAL: Contractors are required to provide proof that the Masonry Trade is in accordance with the 'Apprenticeship and Occupational Certification Act', Compulsory Occupations, Section 17 (2).
- .4 Cold weather masonry requirements shall be clearly specified for projects with winter construction or anticipated winter construction. Only referencing CSA A371 is not acceptable.
- .5 Temporary bracing of masonry work shall be provided during and after erection until permanent lateral support is in place. Bracing shall be reviewed by Consultant.

04 05 12 Masonry Mortar and Grout

- .1 Consultant shall ensure that the appropriate mortar is specified for the type of masonry material and work involved.
- .2 Grouting of masonry shall be in accordance with CSA A179 – Mortar and Grout for Unit Masonry Construction.
- .3 Specify all additives with low VOC content to meet or exceed SCAQMD.

04 20 00 Masonry Units

- .1 Reinforced masonry shall be designed and detailed by a Professional Engineer licensed in the Province of New Brunswick.
- .2 For all masonry units, design proper control and expansion joints in accordance with CSA A371.
- .3 Prior to placing concrete, mortar or grout, obtain Consultant's approval of placement of reinforcement and connectors.

B. Division 05 Architectural Performance Standards

B. Division 05 Architectural Performance Standards

B.5 METALS

05 10 00 Structural Steel Framing

- .1 Structural steel work shall be done in accordance with CAN/CSA-S16.1 and the latest edition of the Canadian Institute of Steel Construction Code of Standard Practices for Structural Steel.
- .2 Welding shall be done in accordance with CSA W59.
- .3 Design calculations shall be carried out by or under the supervision of a qualified Professional Engineer licensed in the Province of New Brunswick with a minimum of 5 years Canadian experience in the design of structural steel, including connections and weldments.
- .4 Shop and erection drawings shall be reviewed by Consultant prior to fabrication. These drawings shall be sealed by fabricator's Professional Engineer licensed to practice in the Province of New Brunswick.
- .5 The following requirements shall be specified for welding of structural steel components:
 - .1 The Contractor shall provide documentation from the Canadian Welding Bureau stating that the steel fabricator/erector is certified under Division 1 or 2.1 of CSA W47.1 for fusion welding of steel structures and/or CSA W55.3 for resistance welding of structural components.
 - .2 The documentation shall be submitted in accordance with Section
00 73 37 - Supplementary Information.
- .6 The Consultant shall arrange for inspection and testing of materials, welds, and bolts to be performed by an independent inspection and testing company at a cost to the Owner. No cash allowances shall be identified for this work.
- .7 Welding Inspector shall be certified to CSA W178.2.
- .8 Erection procedures and erection bracing shall be the sole responsibility of the Contractor.
- .9 Specify primer and paint with low VOC content to meet or exceed SCAQMD.
- .10 Specify structural steel framing with a minimum recycled content of 25%.

B. Division 06 Architectural Performance Standards

B. Division 06 Architectural Performance Standards

B.6 WOOD, PLASTICS and COMPOSITES

06 05 73 Wood Treatment

- .1 Do not use Chromated Copper Arsenate (CCA) pressure treated lumber in the design of decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.
- .2 Consultants to specify CCA treated lumber alternatives such as wood treated with Alkaline-Quat-recycled Copper (ACQ), Copper Boron Azole (CBA) and borate compounds, and untreated wood (e.g. cedar and redwood) and non-wood alternatives, such as plastics, metal, and composite materials.
- .3 Pressure treated wood is not to be used on roofs.
- .4 Treated lumber is only to be used on exterior site elements.

06 10 00 Rough Carpentry

- .1 Consider using lumber and panel products that are extracted and manufactured within the region.
- .2 Panel products shall not contain any added urea-formaldehyde resins.

06 40 00 Architectural Woodwork

- .1 Kitchenettes, casework, computer stations, and integrated bedroom furniture should be designed and graded in accordance with the current edition of the Architectural Woodwork Manufacturers Association of Canada's (AWMAC) 'Quality Standards for Architectural Woodwork'.
- .2 All casework shall be laminated casework, Custom grade. The design to be flush overlay style as defined by Section 400-G-4 in the AWMAC Quality Standards, unless otherwise directed by the Department of Transportation and Infrastructure. Design case dimensions, construction, material thickness and tolerances to Section 300 and 400 in the AWMAC Quality Standards.
- .3 Adhesives and sealants shall comply with the South Coast Air Quality Management District (SCAQMD) Rule #1168. Composite wood and agrifibre products shall contain no added urea-formaldehyde resins. Laminating adhesives used shall not contain added urea-formaldehyde.
- .4 Materials - Grading and types:
 - .1 Plastic laminates and melamine: to NEMA LD 3-2000, High-Pressure Decorative Laminates (HPDL). Types as follows:
 - .1 Horizontal Surfaces: HGS 1.2mm
 - .2 Vertical Surfaces: HGL 1.0mm
 - .2 Particleboard composite panels: Grade M3 to ANSI A208.1, EPP certified Particleboard for Interior Use. Manufactured using 100% recycled and/or recovered (pre-consumer) wood material, with no-added urea-formaldehyde resins; must be less than 0.01 ppm

B. Division 06 Architectural Performance Standards

B.6 WOOD, PLASTICS and COMPOSITES (continued)

06 40 00 Architectural Woodwork (continued)

formaldehyde emissions. Provide running-match wood veneer face where scheduled.

- .4 Materials - Grading and types: (continued)
 - .3 MDF: to ANSI A208.2, EPP certified Medium Density Fibreboard (MDF) for Interior Applications. Manufactured using 100% recycled and/or recovered (pre-consumer) wood material, with no-added urea-formaldehyde resins. Must be less than 0.01 ppm formaldehyde emissions. Provide running-match wood veneer face where scheduled.
 - .4 Agrifibre panels: composite panel manufactured using renewable fibres and particles for 100% of cellulosic content, exceeding ANSI A208.1 Grade M3 and ANSI 208.2 Grade 130, less than 0.01ppm formaldehyde emissions to ASTM E1333, no VOC to ASTM D5116.
 - .5 Hardboard: to ANSI A208.2, Basic Hardboard (also called high density fiberboard), manufactured using 100% recycled/recovered wood content and be "EPP" certified.
- .5 Select materials in accordance with the AWMAC Quality Standards amended as follows:
 - .1 Finishes shall be plastic laminate (HPDL) or thermally fused low-pressure laminate (melamine). Melamine used at exposed case bodies subject to impact or wear to be mechanically abraded as preparation to receive HPDL finish.
 - .2 Core material to be particleboard or MDF for vertical components (including ends, dividers, doors and drawer fronts) and light duty horizontal surfaces (including tops, bottoms, shelving and light duty countertops). Case backs and drawer bottoms to be particleboard, MDF or hardboard.
 - .3 Core materials in contact with the floor to be edge banded or sealed to prevent absorption of water and moisture.
 - .4 Douglas fir plywood (DFP): to CSA O121, CANPLY Grade G1S, free from urea-formaldehyde resins. (Use only when directed by the Department of Transportation and Infrastructure).
 - .5 Birch plywood: Natural birch face veneer, AWMAC QSI Grade A, rotary cut, plywood veneer core, free from urea-formaldehyde resins. (Use only when directed by the Department of Transportation and Infrastructure.)
- .6 Countertops:
 - .1 Countertops are to receive High Pressure Decorative Laminate (HPDL). Specify chemical resistant where required.

B. Division 06 Architectural Performance Standards

B.6 WOOD, PLASTICS and COMPOSITES (continued)

06 40 00 Architectural Woodwork (continued)

- .6 Countertops: (continued)
 - .2 Backer sheets are to be applied to reverse side of all HPDL laminated countertops in accordance with Section 300 and 400 in the AWMAC Quality Standards.
 - .3 Core materials for countertops in wet areas shall be exterior grade plywood. All other areas are to have particleboard or MDF. Plywood or nominal lumber are to be used for cabinet bases in contact with floor.
 - .4 Where semi-countertop sinks are being mounted to the countertop, core shall be plywood.
 - .4 All concealed countertop core material in wet areas to be sealed using silicone sealant or other similar method.
 - .5 Specify products with minimal VOC content for all materials, sealants, paints and adhesives.
 - .6 Post-formed countertops are not acceptable.
- .7 Edgebanding:
 - .1 All HPDL and melamine countertop core are to be edgebanded with 3 mm thick PVC edge banding.
 - .2 All laminate and PVC edgebanding are to be shop-bonded to core using hot melt edgebanding machine.
 - .3 All four edges of doors and drawer fronts are to be edgebanded (AWMAC Premium grade).
 - .4 Edge banding secured using site applied contact cement or other adhesive is not acceptable.
 - .5 Wood edge trim to be secured using concealed fastening techniques including biscuits, splines or other.
- .8 Joinery:
 - .1 Assembly of casework with wood screws, nails or staples is not acceptable unless used in combination with recommended AWMAC joinery methods listed in Section 308.2 in the AWMAC Quality Standards. Consultants are encouraged to note this requirement in the appropriate specification section to avoid conflicts during review of Work.
 - .2 Exposed fasteners are not acceptable.
- .9 Hardware:
 - .1 Shelving shall be adjustable. Adjustable recessed shelving standards: steel with zinc finish, length as required c/w heavy duty metal shelf clips (4 per shelf).
 - .2 Doors to open a minimum of 125° and be equipped with self-closing hinges.
 - .3 Door and drawer pulls to be wire pulls, minimum size 96 mm c.c.
 - .4 Lockable cabinets for staff use in Resident Rooms shall be latch type with magnetic key.
 - .5 All cabinet keying shall be coordinated with the Owner.

B. Division 06 Architectural Performance Standards

B.6 WOOD, PLASTICS and COMPOSITES (continued)

06 40 00 Architectural Woodwork (continued)

- .10 Resident Bedroom wardrobes, Resident Kitchens, and Activity Room and Living Rooms casework shall be designed to feel home-like. MDF raised panel doors with vinyl thermofoil finish and raised panel hardwood doors are permitted on Resident Bedroom wardrobes, Resident Kitchens, Activity Room casework and Living Room casework only.
- .11 Windows sills shall have linoleum or plastic laminate finish with solid hardwood edge trim.

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE

.1 STRUCTURAL SYSTEMS

Utilize a cost effective structural system which integrates with the building concept and meets all code and safety requirements.

Optimum efficiency of erection time, building safety, the availability of materials and the overall building economy are to be considered paramount in the selection of a structural system.

All proposed design loading criteria shall incorporate any required specific architectural, structural, mechanical or electrical loads (dead and/or live loads), unique to the building concept.

Structural components shall be designed to prevent thermal bridges and differential movements.

The roof shall be structurally sloped to incorporate positive roof drainage.

.2 BUILDING DURABILITY

1. Adequate detailing of exterior walls/roof assemblies as well as critical building components and elements is required for long term performance of the building envelope.
2. Adequately detailing the building envelope system at exterior openings/tie-ins, etc. in the building assembly is required for long term performance of the building envelope.
3. Building components are to be assembled/designed to support the selection and use of appropriate materials.
4. The building envelope shall be designed to a standard for the climate, location and building occupancy. Building assemblies and components are to be researched.
5. The design/building components shall incorporate ease of access for installation, repairs, replacements or alterations throughout the construction phase and the intended service life.
6. Working drawings to be developed outlining specific components of the systems and assemblies used in the project and evaluate their Design Service Life for compliance with durability requirements as outlined in the Guideline on Durability in Buildings, CSA Standard S478-95. The design service life for nursing home facilities is 25 years.

.3 ROOFS

The roof shall be designed by a systems approach. All components of the roof shall be evaluated for:

1. History of performance.
2. Durability.
3. Cost.
4. Maintenance.
5. Compatibility.

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

.3 ROOFS (continued)

6. The following list may be considered:
 1. Recycled content.
 2. VOC content.
 3. Durable construction building requirements.
 4. Solar reflectance.
 5. Emissivity of roofing material.

These components include the: roof deck, roof insulation, air and vapour barriers, roofing membranes, flashing materials, structural system, curbs and integration into walls assembly.

The roofing principles utilized shall be in keeping with good roofing practice as outlined by the Canadian Roofing Contractors Association and the Master Roofers Guarantee of New Brunswick.

All built up roofs shall be designed to comply with the Five Year Roof Program as outlined by the MRGNB. All roof surfaces shall slope to drain at a low point. The Architect shall ensure that a continuous and well supported vapour barrier and air barrier are properly detailed.

Asphalt shingle applications are to be designed to CRCA's "Roofing Specification Guidelines."

The Architect shall ensure that all penetrations, wall/roof junctions, mechanical/electrical equipment and connections are properly detailed and constructed to eliminate any moisture entering into the roof system.

The Architect shall design for wind uplift of a roof, fire safety and occupational safety.

The Architect shall design the roof assembly to allow for the adequate expansion and contraction of all components, including building movement.

Specify products such as adhesives, sealants, any type of bonding agents with minimal VOC content.

.1 INSULATION FOR ROOFS

It will be the Architect's responsibility to select the insulation best suited for the design of the roof area and include in the Roof Section of the specification.

- .1 The Architect is to evaluate all insulation types and base the design on the type best suited for each roof project. Insulation should be evaluated for the following design criteria:
 1. An average RSI value of 5.28 (R30) for the built up roof assembly for new construction and RSI 3.5 (R20) for existing renovation projects unless

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

.3 ROOFS (continued)

.1 INSULATION FOR ROOFS (continued)

- otherwise directed by the Department of Transportation and Infrastructure.
- 2. An average RSI value of 7 (R40) for non-built up roof assembly for new construction and existing renovation projects unless otherwise directed by the Department of Transportation and Infrastructure.
- 3. Proper slope to drains (tapered insulation on existing roofs only when roof deck is flat or to avoid ponding in poorly situated corners and oddly shaped areas.)
- 4. Compatibility with other materials.
- 5. MRGNB and CRCA specifications.
- 6. ULC standards
- 7. Environmentally Friendly Materials. Specify materials with low VOC content, recycled material, minimal urea formaldehyde and no HCFH or CFC content.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

.3 ROOFS (continued)

.1 INSULATION FOR ROOFS (continued)

- .2 Built up roof assemblies:
It is the intent that the Architect will not consider more than one type of insulation but will consider more than one manufacturer of equivalent materials at the design stage. Once the appropriate insulation has been specified there will be no changes to the design to incorporate different types of insulation without prior approval from Department of Transportation and Infrastructure.

.2 ROOF EDGE

For built-up roofs, provide a cant at the roof edge and a cap flashing that is fastened on the fascia to ensure securement, fasteners are not allowed on the top face of the cap flashing. Standard flat roofs are to drain to the interior. Gravel stop flashings are not to be used for roofs that drain to the interior. Drainage to the exterior should be avoided, however if design calls for drainage to exterior of a building ensure roof overhang (soffit) is adequate to protect wall façade from ice build-up. Roofs that slope to exterior should not allow ice and snow build up to endanger the Public or damage the Building and its components.

On steep slope roofs ensure proper ventilation is provided. Design must indicate how ice dams and overhanging icicles are eliminated from the edge.

.3 ROOF DRAINS

For built-up roofs, replace existing drains in roof replacements with mechanical drains rather than retrofit drains. Retrofits should only be used where there is no access from under the deck. Care should be taken when detailing and installing retrofit drains for water tightness and connection to existing drain. All drains are to include an Aluminum cover. Ensure interior drain body and rain water leaders are adequately insulated.

.4 ROOF AREA DIVIDERS

For built-up roofs, drainage bays are to have Roof Area Dividers surrounding each bay that provide a water cut-off down to and including the vapour barrier.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued) **.3 ROOFS (continued)**

.5 SKYLIGHTS

In new construction do not include skylights or sloped glazing on the building. In roof replacements replace sloped glazing and skylights with components that allow natural light into the building and are free from water and condensation.

.6 ROOF PENETRATIONS AND ANCHORAGE

Design round or odd shaped protrusions through the roof system with prefabricated supports and covers. Anchorage of supports is to be into the structural component of the roof and sealed without the use of pitch pockets.

Curb height of typical roof projections to be a minimum of 300mm above roof. Include cant strip at base. Specify crickets where necessary (behind projection on a high slope or corrugated roof, between sleepers, or between closely packed projections) to avoid water ponding.

For safety purposes during maintenance, attempt to place projections at least 3 meters away from the roof edge, otherwise install guardrails according to Occupational Health and Safety Standards.

.7 VENT STACK COVERS

Design vent stack covers with telescoping cap and insulated flange sleeve of aluminum, sized to suit vents. Install sealant between cap and vent pipe to ensure vapour tightness. Provide a seal at vent pipe and vapour barrier.

.8 SHINGLE ROOF APPLICATIONS

.1 Design of roof slope as per Canadian Standards Association, using a recommended 1: 3 and steeper slope.

.2 Ventilation in the attic space must provide flow of outdoor air through the eave flowing up directly under the deck to the peak of the roof ensuring the temperature of the roof sheathing and shingles are same as the outside air and avoiding build-up of condensation in the attic.

.3 Provide a self-adhering eave protection from the edge of the roof to a line not less than 600mm from inside the inner face of the exterior wall.

.4 Provide underlayment between shingles and roof deck.

.5 Roof Valleys are to be designed as "Open Valleys" using corrosion resistant metal.

.6 Design flashings as per CRCA standards and for thru wall flashings follow MRGNB standards for flat roofs.

.7 Design fall arrest anchors at the roof peaks to provide anchorage for fall protection as per Occupational Health and Safety Regulations.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

.3 ROOFS (continued)

.9 ROOF ACCESS

Access shall be provided to all roofs. When designing access to roof indicate protection so as to prevent damage to the roof membrane. Access shall be provided for the roof traffic required to maintain roofs and equipment. Design all access methods according to Occupational Health and Safety Standards.

Provide fixed metal roof ladders to allow access to all roof levels where there is more than 600mm difference. All exterior ladders to have platforms at access level to roof. If access to another portion of the roof requires the user to come within 3 meters of the roof edge, such as a catwalk or narrow portion of the building, provide guardrails which comply with Occupational Health and Safety.

Provide access to roof level from the building interior through a penthouse. Exit doors at penthouses are the preferred method of access. Access through a hatch is to be designed to meet Occupational Safety Codes and provide ease of access for maintenance of roofs. . Include an extendable safety post on ladders used to access a hatch. Ensure all roof levels have permanent accessibility.

.10 EAVESTROUGH AND DOWNSPOUTS

Provide eavestrough and downspouts at courtyards fabricated from prefinished sheet aluminum. Eavestrough shall be minimum 18 gauge, and downspouts shall be minimum 22 gauge. Eavestrough and downspouts shall be sized to accommodate runoff. Connect downspouts to storm piping sized in accordance with Canadian Plumbing Code. Eavestrough is also required at door locations without canopies or cover.

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

.4 EXTERIOR WALLS

The selection of an exterior wall system and its components shall be based on the following criteria:

1. NRC Model National Energy Code of Canada for Buildings.
2. Building Aesthetics.
3. Building Design Service Life
4. Good Quality Daylighting
5. Initial Costs.
6. Maintenance and Life Cycle Cost.
7. Material Availability.
8. Environmentally Friendly Materials. Specify materials with low VOC content, recycled material, minimal urea formaldehyde and no HCFH or CFC content.

These components include the: exterior cladding, insulation, air and vapour barriers, window and door components, flashing and structural system.

All exterior walls are to be designed to prevent water penetration to control air infiltration and exfiltration and vapour diffusion.

The Architect shall design and detail the building envelope so that water cannot stand or collect on any surface and winter ice formation is minimized.

All horizontal portions of the wall cladding system shall be adequately sloped to prevent the accumulation of water and particulate matter. Flash to prevent water penetration and to control water movement within the wall assembly. Flashings are to be used to direct water back to the exterior.

To prevent galvanic corrosion or staining, the path of run-off water should be prevented from running off one type of material to another.

The Architect shall determine the potential for movement in the wall assembly and ensure provision for movement by control and expansion joints, is made to relieve the excessive stresses expected to develop from such movement.

Exterior walls are to be designed so that all connections, penetrations and joints are adequately detailed to ensure the design integrity of the wall assembly.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

07 20 00 Thermal Protection

- .1 The minimum thermal resistance of exterior walls (wall assembly) shall be:
 - .1 Above Grade Walls: RSI 3.75 (R21).
 - .2 Foundation Perimeter Walls: RSI 3.34 (R19).
 - .3 Windows: overall U-value of 2.68 W/m² C, RSI 0.37 (R 2.12)
- .2 Variations from these values must be supported by documentary data that justifies the change on energy, economic and practical levels and approved by the Department of Transportation and Infrastructure.
- .3 All in place insulation shall be inspected and approved prior to the installation of any covering materials.

07 26 00 Vapour Retarders

07 27 00 Air Barriers

- .1 Exterior walls and roofs are to be designed to incorporate a continuous air barrier and vapour retarder.
- .2 The air barrier and vapour retarder may or may not be the same material. When the material forms a dual role it must meet all the requirements of air tightness control and vapour diffusion control in accordance with ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen and E96 - Standard Test Methods for Water Vapour Transmission of Materials.
- .3 The Consultant is to design the wall system so that the barriers are on a flat and consistent plane.
- .4 Connections to the roof, window and door systems are to be continuous.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

07 42 13 Preformed Metal Siding and Roofing

- .1 Metal siding applications are acceptable. Metal siding shall be minimum 26 gauge pre-painted galvanized steel sheet.
- .2 Sloped metal roofing applications are not acceptable.

07 46 00 Siding

- .1 Wood siding applications (clapboard, board & batten, shingle) are acceptable.
- .2 Vinyl siding applications are acceptable, **if approved by the Department of Transportation and Infrastructure.**
- .3 High density hardboard siding applications are not acceptable.
- .4 Fibre cement siding applications (shingle, lap, etc.) are not acceptable.
- .5 EIFS (Exterior Insulation Finish Systems) applications are not acceptable.

07 50 00 Roofing

- .1 All roof assemblies shall be designed in accordance with the MGRNB Roofing Specification Manual (current edition).
- .2 Consultants shall verify that work on existing roofs does not void any active warranties that may exist.
- .3 Roofing insulation shall be compatible with the other elements in the roofing system. The thermal resistance of built-up roof system shall be an average RSI 5.28 (R30) for new construction and RSI 3.5 (R20) for existing renovation projects unless otherwise directed by the Department of Transportation and Infrastructure. An average RSI value of 7 (R40) for non-built up roof assembly for new construction and existing renovation projects shall be used unless otherwise directed by the Department of Transportation and Infrastructure.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

07 50 00 Roofing (continued)

- .4 All new roofs shall have a minimum slope of 1:50 in the structure. Existing roofs shall have a minimum slope of 1: 100 however 1: 50 is preferred.
- .5 New construction shall provide for positive roof drainage by designing slopes into the building roof structure. New built-up roofs shall have two roof drains for all divided roof areas unless the roof area is very small as required by MRGNB.
- .6 The following requirements are to be specified under the appropriate articles in the PART 1 – GENERAL of the specification:
 - .1 Quality Assurance: Roofing Work to be done in accordance with applicable standard in Master Roofers Guarantee of New Brunswick, MRGNB (5) Year Guarantee Roofing Specifications Manual.
 - .2 Warranty: Contractor shall warrant all workmanship related to the installation of the Roofing System and that the roof membrane will remain leak proof for a period of five (5) years from the date of Interim Certificate of Completion. This warranty letter **MUST** be submitted with sealed tender submission for certain projects. Failure to do so will result in tender submission being rejected.
 - .3 Scheduling of Work (Roof Replacement):
Work at Nursing Home Facilities:
 - .1 Work scheduled during normal hours of operations must be approved by the Engineer-Architect and Department of Transportation and Infrastructure representatives. Provide detailed information indicating how the emissions are kept to a minimum. Use of the site and type of work performed may be limited to after hours of operations.
 - .2 Demolition work is not to commence until all material has been ordered and date of arrival of products has been verified. Contractor may be required to provide copy of order to Engineer-Architect. Submit copy of work order when requested indicating materials have been ordered and delivery dates.
- .4 Submittals: Provide laboratory certified test reports when requested and provide product data sheets **for all materials specified in this Section.** including but not limited to: bitumen, membrane, flashing, insulation, fibreboard, mastic, sealant and accessories. Submit copy of work order indicating materials have been ordered and delivery dates.
- .5 Environmental Protection: (Roof Replacement) Disposal of demolished materials is to be removed from site and disposed of in an approved disposal site as authorized by authority having jurisdiction. Contractors may be requested to provide certified weigh bills or receipts from authorized disposal sites. Requirements shall be referenced in Project's Construction Waste Management Plan.

B. Division 07 Architectural Performance Standards

B.7 THERMAL and MOISTURE PROTECTION/BUILDING ENVELOPE (continued)

07 50 00 Roofing (continued)

- .6 Fire Protection:
 - .1 Fire extinguishers: maintain one cartridge operated type or stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection. Size 9 kg on roof per torch applicator, within 10m of torch applicator.
 - .2 Maintain a minimum fire watch for 1 hour after each days roofing operations cease and as according to Hot Works requirement of the National Fire Code of Canada (latest edition). Monitor for hot spots on roofs with a heat- seeking device during work and fire watch.
- .7 The Department of Transportation and Infrastructure will hire and pay for the services of a Roof Inspector.
- .8 The use of green roofs may be considered for use as roof top gardens or terraces for residents. Green roofs shall be designed to include walking paths, grass lawns, shrubs, and annuals and perennials in raised planters. Green roofs may be built up modified with concrete pavers for patio (wheelchair compatible) and capable of supporting furniture. Planters may be built out of wood curbs and flashed with modified bit and metal counter flashing also lined with waterproof lining and bottom of planter with filter material for water absorption and to protect liner from roots. Provide a shaded and protected area on roof for residents. See requirements for outdoor spaces in Programming Standards, Site Development section of this document.

07 92 00 Joint Sealants

- .1 All sealants, primers and preparation work shall conform to minimal SCAQMD requirements.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS

The architect shall minimize the potential for condensation on window and door frames and glazing by evaluating window and door characteristics and their placement within the wall assembly.

Good Quality Daylighting is a design requirement; a minimum daylight factor of 2% is required in all occupied areas. Integrated design is required between design disciplines to ensure a high performance building. The criteria for window selection and window placement should include glare control, transmissivity, heat gain control, ventilation and safety. Glazing placed on east and west facing elevations shall be minimal.

When operable windows are specified the amount of operable windows shall meet the minimum ventilation requirements of the Occupational Health and Safety Act.

Doors – General Notes

- .1 Door in fire separations to be rated in accordance with NFPA 80 by a certified listing agency (i.e. Underwriters Laboratory, Warnock Hersey). Labels may be riveted metal tags or embossing. Labelling is to be done at the manufacturer's facility.
- .2 Site applied fire labelling is not acceptable.
- .3 All stairwell and corridor doors are to have a viewing panel with the exception of the double doors into Resident House and service wing. Doors into Resident Houses and service wing shall not have viewing panel.
- .4 No door is to have glazing below the latch set height except the exterior main entrance doors and vestibule doors and doors to courtyard areas.
- .5 At least one (1) entrance to the building shall allow a full clear opening width of 1950mm. This includes sets of double doors with removable mullions.
- .6 Fire Separation Doors in Corridor: Continuous hinges are required on these doors. No glazing in doors when on hold open devices. In new construction, doors on hold open devices to be recessed in walls in held open position or a return wall designed such that access to release of doors is limited. Listed labels on frames are to be visible when using continuous hinges.
- .7 Fire Separation Doors – Listing Labels Required: Listing labels are to be installed on doors and frames at place of manufacture and not on site; stamped listings **will not** be acceptable (*as they are painted and difficult to verify at site reviews and future inspections*). Factory applied labels **must not** be painted over.

B.8 OPENINGS (continued)

Doors – General Notes (continued)

- .8 Minimum required door width where wheelchair access is required is 914 mm. This dimension is clear and free from any obstruction including protruding hardware; refer to latest edition of “B651 - Accessible Design for the Built Environment” for additional information.
- .9 All exterior doors used by residents (courtyards, etc.) must be equipped with automatic door openers to promote freedom of movement to safe and secure outdoor spaces for residents. Provide 1524mm opening to courtyard.
- .10 Doors used by residents can be colour coded to contrast walls to prompt resident use. Staff areas that are off limits to residents must have doors the same colour as adjacent walls and door frame.
- .11 Unless noted otherwise, standard door height to be 2135mm.

Frames - General Notes

- .1 All frames and fire-rated frames for pairs of doors in new construction and renovation work to have removable mullions and doors equipped with mortise or rim exit devices.
- .2 The use of frames for pairs of doors without mullions for interior applications only to be approved by the Engineer-Architect and must meet the following requirements:
 - .1 Frame opening to have a threshold at the sill for bottom latching exit devices.
 - .2 Surface vertical rod device bottom rods shall have protective covers.
 - .3 Surface vertical rod devices that do not have bottom rods must meet the fire rating requirements of the intended opening (where required by the Authority having Jurisdiction).

08 11 00 Metal Doors and Frames

- .1 All doors are to be pressed steel, galvanized to ASTM A653/A653M, 45 mm thickness.
- .2 Exterior steel doors are to be insulated.
- .3 Exterior frames are to be thermally broken.
- .4 Interior doors are to have a minimum honeycomb core.
- .5 Specify products with low VOC content, urea formaldehyde, HCFC, CFC for entire door composition.
- .6 Specify materials with recycled content.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 11 00 Metal Doors and Frames (continued)

- .7 Interior flush steel doors are only to be used in the service wing of the Nursing Home. Steel paneled doors embossed with wood grain pattern and factory finished are permitted at **entrances** to Resident Houses and all communal spaces.
- .8 Interior steel frames in resident and public areas shall be finished with wood casing trims to have homelike appearance.
- .9 All interior steel doors in service areas shall be equipped with kick plates.
- .10 Interior doors and frames to be 1.2mm thick and exterior doors and frames to be 1.6mm thick.

08 11 16 Aluminum Doors and Frames

- .1 Main entrance exterior doors and interior vestibule doors shall be insulated with thermal break. Doors shall have suggested dimensions of 117mm door stile, 98mm top reinforced top rail and 149mm bottom rail with upper and lower glazing panel, designed to meet the requirements of the NBC regarding power assisted doors unless approved by the Department of Transportation and Infrastructure.
- .2 All aluminum door frames are to be thermally broken.
- .3 Fluoropolymer coatings with a minimum pencil hardness of H-2H or AAMA 2604 compliant powder paint finishes will be accepted.
- .4 Secondary entrance doors are to be insulated metal doors in insulated pressed steel frames.

08 14 00 Wood Doors and Frames

- .1 All interior doors shall have solid particle core, 45 mm thick. Stiles and rails shall be designed to resist warping.
- .2 Provide wood doors with plastic laminate faces and edges in Resident Houses.
- .3 Flush wood doors with wood veneer faces are not acceptable in Resident Houses, unless directed in the Nursing Home Functional Program.
- .4 Flush wood doors in communal areas shall have plastic laminate faces and edges.
- .5 All door edges shall be finished to prevent core from absorbing moisture.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 14 00 Wood Doors and Frames (continued)

- .6 Solid particle core urea formaldehyde free (UFF) wood: stile and rail frame bonded to core. Hardwood face veneer as selected by architect. Integrated lock block and type 1 PVA Cross-link (UFF) glue. Door assembly should be made of recycled content from rapidly renewable material and should be **FSC Certified**.
 - 1. Stile and rails: Manufacturers standards
 - 2. Solid wood core:
 - .1 Glued particle core (UFF) with wood edge band.
 - .2 Styles bonded to core.
 - .3 5-ply construction.
- .7 Raised panel wood doors with wood veneer faces are permitted at entrances to Resident Houses.
- .8 Wood door frames are not permitted.

08 51 13 Aluminum Windows

- .1 All windows in Nursing Home facilities are to be aluminum or fibreglass.
- .2 All windows are to be tested in accordance with the current edition CSA A440, Windows and meet following criteria:
 - .1 Air Tightness A3 or Fixed
 - .2 Water Tightness B7
 - .3 Wind Load Resistance C5
- .3 All windows shall have operable vents.
- .4 The type of operable vent (ex. awning, casement, hopper, etc.) to be carefully considered using the following minimum considerations:
 - .1 Windows shall restrict the resident elopement through the operable section. Opening dimension shall be a maximum of 150mm.
 - .2 Vents at ground level should not open into user-occupied areas (ex. walkways, etc.). Mount vents in the upper portion of the assembly.
 - .3 Vents should not open into the room to a point where they may be struck by passing occupants. Consider using limiting devices (to minimize opening angle of vent), provide deeply recessed jambs or mount vent in the upper portion of the assembly.
 - .4 An awning-type vent should not be installed in the upper portion of an assembly unless the opening hardware can be manipulated from a standing position. Clerestory-style opening hardware (i.e. double universal joints) is not acceptable.
 - .5 For renovation work, consider using window and vent types that match or complement the existing architectural style, or match styles of previous window replacement phases.

B.8 OPENINGS (continued)

08 51 13 Aluminum Windows (continued)

- .6 For renovation work, the Consultant is to ensure that any existing window treatments are relocated to clear the vents in the fully open position. Modification of window treatment hardware should be considered.
- .5 When using awning vents; provide pivot shoe roto-operators complete with stainless steel guide tracks. Telescoping push bars are not acceptable.
- .6 Provide **25 mm overall thickness** insulating glass units in accordance with Section 08800 – Glazing.
- .7 All operable windows shall come complete with screens.
- .8 All aluminum frames are to be thermally broken.
- .9 Windows are to be positioned so that the structural frame of the window is within the main wythe of the wall.
- .10 Windows shall lock.
- .11 Windows shall be at a level that outdoor viewing can be done from a wheelchair. Mullions shall not restrict viewing from wheelchair.
- .12 In resident rooms, window sill height shall be maximum 630mm A.F.F. In all other areas, window sill height shall be maximum 914mm A.F.F.

08 53 00 Vinyl, PVC, uPVC Windows

- .1 Plastic windows shall not be used unless the new windows are to match an existing installation.
- .2 All windows shall have operable vents.
- .3 The type of operable vent (ex. awning, casement, hopper, etc.) to be carefully considered using the following minimum considerations:
 - .1 Windows shall restrict the resident elopement through the operable section.
 - .2 Vents at ground level should not open into user-occupied areas (ex. walkways, etc.). Mount vents in the upper portion of the assembly.
 - .3 Vents should not open into the room to a point where they may be struck by passing occupants. Consider using limiting devices (to minimize opening angle of vent), provide deeply recessed jambs or mount vent in the upper portion of the assembly.
 - .4 An awning-type vent should not be installed in the upper portion of an assembly unless the opening hardware can be manipulated from a standing position. Clerestory-style opening hardware (i.e. double universal joints) is not acceptable.
 - .5 For renovation work, consider using window and vent types that match or complement the existing architectural style, or match styles of previous window replacement phases.
 - .6 For renovation work, the Consultant is to ensure that any existing window treatments are relocated to clear the vents in the fully open position. Modification of window treatment hardware should be considered.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 53 00 Vinyl, PVC, uPVC Windows (continued)

- .4 When using awning vents provide pivot shoe roto-operators complete with stainless steel guide tracks. Telescoping push bars are not acceptable.
- .5 Provide **22 mm overall thickness** insulating glass units in accordance with Section 08800 – Glazing.
- .6 All operable windows shall come complete with screens.
- .7 Windows shall lock.
- .8 Windows shall be at a level that outdoor viewing can be done from a wheelchair. Mullions shall not restrict viewing from wheelchair.
- .9 In resident rooms, window sill height shall be maximum 630mm A.F.F. In all other areas, window sill height shall be maximum 914mm A.F.F.
- .10 Vinyl, PVC, uPVC windows are acceptable on new construction, only when the architect or designer has provided the information indicating that they meet or exceed the requirements listed in 08 51 00 Aluminum Windows and also as follows:
 - .1 The Architect or designer will also:
 - .1 Provide documentation with their proposed window recommendation/modifications to the Standard and will submit to the Department of Transportation and Infrastructure for review and approval.
 - .2 Provide documentation and comparison tables indicating that these proposed windows are as durable and also meet or exceed the requirements in section 08 51 00.
 - .3 Provide documentation (product no., name, location and owner contact info in NB) of minimum life expectancy of the proposed product.

08 54 13 Fibreglass Windows

- .1 Fibreglass windows are acceptable provided they meet the requirements listed in 08 51 00 Aluminum Windows.

08 71 00 Door Hardware

- .1 Hardware Descriptions
 - .1 The hardware sets are a guideline only and should not be considered a detailed hardware schedule.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .2 All locksets and latchsets in the Nursing Homes shall be as follows: Exterior locks and for locks in all pairs of doors to be Mortise locks and latches: to ANSI/BMHA A156.13, Series 1000 mortise lock. Interior Locks to be Bored locks and latches: Locks shall exceed the requirements of ANSI/BHMA A156.2 -2003, series 4000 bored lock, grade 1, designed for function as stated in Hardware Performance Standards. All cylinders shall be interchangeable core in a patented keyway. They shall have lever handles as recommended by CSA B651. All locks and latchsets are to have a satin chrome finish in accordance with ANSI/BHMA A156.18, Materials and Finishes, unless an alternate finish is requested by the Department of Transportation and Infrastructure.
- .3 Standalone access control cylindrical locks (Keypad Lockset): Locks shall be ANSI/BHMA A156.2 -2003, series 4000 bored lock, grade 1, designed for function as stated in Hardware Schedule. Cylinders are to be high security interchangeable core. Provide access control products with non-volatile memory. Provide keypad operated products with a minimum of 100 user codes. In addition to user codes, provide a Master Code as standard. The Master Code assigns emergency, supervisory, and user codes. Provide the ability to print the last fifteen entries via infrared printer. Locking and unlocking of the lever handle shall be done by a motor-driven battery powered unit (solenoids not acceptable) contained completely within the body of the cylindrical lock. The inside lever is always free for egress. Provide lever design to match other locks on the project. Provide LED's on unit to indicate status – unlocked and programming mode. Provide weatherseal gasketing for keypad at exterior applications.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .4 Standalone Digital Entry System (Wall Mounted Digital Keypad). Provide exterior doors with weatherproof and vandal resistant keypad. Interior keypad would not need to be weather resistant. The digital keypad shall have a lifetime replacement warranty. The Digital keypad shall be of a telephone type with and paint filled numbers in plastic keys. Provide keypad operated products with a minimum of 59 to 119 user codes. The digital keypad shall have LED lights. The digital keypad system circuit board shall be mounted in a metal enclosure and provide for multiple users. The digital keypad shall have a DT/DT relay output for lock control and alarm shunt, camera call up or other device interface as well as a REX input. Power consumption at rest shall not exceed 7mA@12VDC and 20mA@24VDC. The power consumption maximum shall not exceed 160mA@12VDC and 190mA@24VDC. The system shall have user/installer programmable options such as anti-tailgate, anti-door prop and duress code alarm.
- .5 Access control system: Card access to be located on the Main Entrance Vestibule, Staff Entrance, one leaf of the double doors swinging out of the Resident House, Medication Room, double doors to the Service Wing, Main Dietary Kitchen Entrance, Main Dietary Kitchen Exit, Soiled Laundry, Clean Laundry, Satellite Servery and Main Dietary Kitchen Receiving. The access control system shall be open architecture, hard wired and wireless platform supports centralized control of locking units with new or existing Wiegand compatible access control systems. Latchbolt monitoring and door position switch act in conjunction to report door-in-frame (DPS) and door latched (door closed and latched) conditions. Readers and Integrated reader supports the following credentials:125kHz proximity credentials: HID, AWID, Indala, EM4102 and13.56 MHz proximity credentials: HID iClass, HID iClass SE, SE for MIFARE Classic, DESFire EV1. External power supply required for reader and lock, with optional 24VDC lock solenoid. Fail safe or fail secure options. Energy Efficient Design: Provide lock bodies which have a holding current draw of 15mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation. Installation requires only one cable run from the lock to the access control panel without requirements for additional proprietary lock panel interface boards or modules. Installation to include manufacturer's access control panel interface board or module where required for Wiegand output protocol. Communication Hub: Provide the necessary number of hubs which is connected to the access control system via RS-485 or Wiegand as required by the system. Provide hubs factory paired with the locks, but allow for field configuration as needed. Complete installation to include manufacturer's Installation Tool.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

- .1 Hardware Descriptions (continued)
- .5 (continued)
and USB Radio Dongle for initial lock set-up and configuration. Electronic on-line access control system platform, including communication cabling and software, by others. Installation and training by certified installers.
- .6 Elopement System: The elopement system is to be located on the Main Vestibule doors, the Resident House Exterior Exit door, Double Egress Doors to Houses, and the Resident House Interior Courtyard doors. The elopement system shall be specified and supplied through the electrical contractor but to be integrated with the hardware so there will be no duplication of products. The elopement system is designed to alarm when a person with a bracelet comes within a certain distance from the antennas, this will activate a pre-alert. If the bracelet is within the pre-alert distance for a certain amount of time or moves closer to the door the maglock will activate and an audible alarm will sound. If the maglock is activated by pushing on the exit device rail and activating a switch in the maglock the maglock will alarm for 15 seconds then de- activate. The alarm can be deactivated by the 4 digit keypad on the wall.
- .7 The exterior door of the Resident House is required to alarm locally if the door is opened. Nurse to manually reset the alarm at the door. Exterior door requires a door position switch, alternating key switch, mortise cylinder and piezo alarm.
- .8 Main Entrance Exterior Doors: Aluminum exterior entrance doors will be unlocked at all times but have the ability to be locked. Hardware will consist of: 2 - continuous hinges, 2 - concealed vertical rod exit devices with cylinder dogging, 2 - HD power operator x full header x sensors, required switches, relays and actuator buttons x escutcheons, 2 - concealed overhead stops, threshold and sweeps. Exterior trim shall consist of a pull, with a key in cylinder and/or auxiliary control to ANSI F03 (i.e. night latch function). In pairs of doors only one door will require an exterior cylinder. The actuator buttons will activate both Power Operators from the exterior and interior vestibule. If sensors are required for the power operators lock out relays will be required. Weatherstrip shall be supplied by the Door Manufacturer. A key switch will be required to disable the exterior actuator button and/or deactivate the power operator.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .9 Main Entrance Vestibule Doors: Aluminum interior vestibule doors will be secured at all times. These doors shall consist of the following hardware: 2 - continuous hinges, 2 – dummy exit devices x pulls, 2 - electromagnetic locks x bond sensor and door position switch x blade stop spacer, 2 - HD power operator x full header x sensors, required switches, relays and actuator buttons x escutcheons, 2 - concealed overhead stops, 1 - motion sensor in vestibule, 2 - door position switches, power supply x fire alarm relay x manual reset keyswitch. Proximity card reader x keypad mounted on the interior side of the door. Exterior trim shall consist of a pull, with a key in cylinder and/or auxiliary control to ANSI F03 (i.e. night latch function). In pairs of doors only one door will require an exterior cylinder. Mode of operation (daytime): Doors to be secured at all times by maglocks to prevent the residents from leaving. When entering the vestibule the motion sensor will pick up movement deactivating the maglocks and enabling the actuator button. The doors can be manually pulled open or activate both Power Operators by depressing the actuator button. Exiting by authorized card or code. Authorized card or code will deactivate the maglocks and enable the actuator button. The door can be manually opened or automatically by depressing the interior actuator button. Mode of operation (after hours of operation): Doors to be secured at all times. Motion sensor to be deactivated. Entry by authorized card only. Entry by authorized card will deactivate maglocks and enable the actuator button. The doors can be manually pulled open or activate both Power Operators by depressing the actuator button. The Code will be posted above keypad. Maglocks locks to deactivate on fire alarm and power failure and will need to be manually reset on fire alarm. A key switch will be required to disable the exterior actuator button and/or deactivate the power operator. Doors can be manually released and opened from the Care Office or Administration Reception. Maglocks to be integrated with the elopement system. A door controller will be required for the access control system.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .10 Staff Entrance Door: Exterior door to be secured at all times. These doors shall consist of the following hardware: Electrified continuous hinges, Electrified exit devices or Mortise Lock as required by the occupant load x wiegand card reader, cam action closer, concealed overhead stop, weatherstrip, sweep, door position switch, power supply and molex connectors. A door controller will be required for the access control system. Access by authorized card or key. Authorized card to activate the solenoid in the lever allowing the lever to be depressed and the door manually pulled open. Free exit at all times.
- .11 Resident House Interior Courtyard Single: Aluminum court yard doors from Resident House to interior courtyard shall be secured at all times. These doors shall consist of the following hardware: Continuous hinge, adams rite deadlock keyed both sides, classroom function lock, Digital Keypad, electric strike x latch bolt monitor, door position switch, delay action closer, concealed overhead stops, threshold, sweeps, door position switches, mortise cylinder, power supply and wall mounted digital keypad. Weatherstrip shall be supplied by the Door Manufacturer. Entry by authorized code or key. Entry by authorized code in digital keypad to activate the electric strike allowing the door to be manually pushed open. Free entry from pull side. An Adams Rite deadlock keyed both sides to lock the door from both sides for extended periods of time at the discretion of the staff from the corridor side. Door shall restrict residents to the exterior unless accompanied by staff or visitor. Authorized code or keypad will deactivate the electric strike allowing the door to be pulled open. The Code will be posted above keypad. Door shall be locked by deadlock in the winter. The Code will be posted above keypad. Electric strike to be integrated with the elopement system.

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .12 Resident House Interior Courtyard Double: Double doors with the larger leaf 1067mm and the smaller leaf 457mm. Aluminum court yard doors from Resident House to interior courtyard shall be secured at all times. These doors shall consist of the following hardware: 1 - Continuous hinges, 1 – Electrified continuous hinge, constant latching flush bolt x dust proof strike, 1 - HD power operator x full header x sensors, required switches, relays and actuator buttons x escutcheons, 1 - concealed overhead stops adams rite deadlock keyed both sides, classroom function lock, Digital Keypad with electric strike x latch bolt monitor, door position switch, threshold, sweeps. Weatherstrip shall be supplied by the Door Manufacturer. Entry by authorized code or key. Entry by authorized code in digital keypad to activate the electric strike allowing the door to be manually pushed open. Free entry from pull side. An Adams Rite deadlock keyed both sides to lock the door from both sides for extended periods of time at the discretion of the staff from the corridor side. Door shall restrict residents to the exterior unless accompanied by staff or visitor. Authorized code or keypad will deactivate the electric strike allowing the door to be pulled open. The Code will be posted above keypad. Door shall be locked by deadlock in the winter. The Code will be posted above keypad. Electric strike to be integrated with the elopement system.
- .13 Resident House Exterior Exit Doors: Door to be secured at all times by the maglock. These doors shall consist of the following hardware: Continuous hinges, exit device passage function with lever trim design, Maglock x stop filler plate, cam action closer, concealed overhead stop, door position switch, piezo key switch, mortise cylinder, power supply and wall mounted digital keypad. Digital Keypad code will deactivate the maglock allowing the door to be pushed open. The Code will be posted above keypad. Maglock to release on power failure and fire alarm for free entry by fire department in emergency situations. Manual reset by key switch on fire alarm. Opening the door will activate the Piezo alarm which must be manually reset locally by staff on duty. The Code will be posted above keypad. Maglock to be integrated with the elopement system.
- .14 Exterior Receiving Door: HM Insulated Door and secured at all times. This door shall consist of the following hardware: Continuous hinge, mortise lock, parallel stop arm with holder closer, kickplate 900mm high, weatherstrip, threshold and sweep. Door to be used by staff only. Intercom at door to notify delivery. When notified staff will need to open the receiving door.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .15 Exterior Garbage Door: HM Insulated Door and secured at all times. This door shall consist of the following hardware: Continuous hinge, mortise lock, parallel stop arm with holder closer, kickplates 900mm high, weatherstrip, threshold and sweep. Door to be used by staff only.
- .16 Single Resident Bedroom Doors: Requires two different sized wood doors with plastic laminate faces and edges. Doors shall be unlocked at all times. These doors shall consist of the following hardware: Swing clear hinges (6), top and bottom flush bolts, dust proof strike, passage set and wall stop. Kick plates are not required. Door shall be used by resident and staff. Door shall open and swing out of opening to allow for movement of beds and wheel chairs. Bottom flush bolt and dust proof strike may be removed if in floor heating is required.
- .17 Double Resident Bedroom Doors: Requires two 914mm wood doors with plastic laminate faces and edges. Doors shall be unlocked at all times. These doors shall consist of the following hardware: Swing clear hinges (6), top and bottom flush bolts, dust proof strike, passage set and wall stop. Kick plates are not required. Door shall be used by resident and staff. Door shall open and swing out of opening to allow for movement of beds and wheel chairs. Bottom flush bolt and dust proof strike may be removed if in floor heating is required.
- .18 Resident Bariatric Bedroom Doors: Requires two different sized wood doors with the larger leaf 1067mm and the smaller leaf 457mm plastic laminate faces and edges. Doors shall be unlocked at all times. These doors shall consist of the following hardware: Swing clear hinges (8), top and bottom flush bolts, dust proof strike, passage set and wall stop. Kick plates are not required. Doors will be the same as the resident bedroom except they are larger. Door shall be used by resident and staff. Door shall open and swing out of opening to allow for movement of beds and wheel chairs. Bottom flush bolt and dust proof strike may be removed if in floor heating is required.

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .19 Family Quiet Room Doors: Doors shall be locked by key at all times. These doors shall consist of the following hardware: 6 - Hinges, top and bottom flush bolts, dust proof strike, storeroom lock, closer and wall stop. Kick plates are not required. Door shall be used by visitors only. Bottom flush bolt and dust proof strike may be removed if in floor heating is required.
- .20 Single Resident Ensuite Washroom Doors: Side mounted sliding wood doors with plastic laminate faces and edges. These doors shall consist of the following hardware: Side mount track c/w with fascia and fascia end caps by length to suite, hangers to be quick release for door weight required, two nine inch stainless steel door pulls, guide channel full width of the door with roller guide, the roller guide is located so the guide is to remain in the track when in the fully opened and closed position, two heavy duty floor stops will stop and align the door in the fully opened and closed position. Two stop and catches in the track will stop the doors held in the open or closed position.
- .21 Double Resident Ensuite Washroom Doors: Side mounted sliding wood doors with plastic laminate faces and edges. These doors shall consist of the following hardware: Side mount track c/w with fascia and fascia end caps by length to suite, hangers to be quick release for door weight required, two nine inch stainless steel door pulls, sliding door lock with lever handle, guide channel full width of the door with roller guide, the roller guide is located so the guide is to remain in the track when in the fully opened and closed position, two heavy duty floor stops will stop and align the door in the fully opened and closed position. Two stop and catches in the track will stop the doors held in the open or closed position.
- .22 Resident Bariatric Ensuite Washroom Doors: Requires two different sized wood doors with the larger leaf 1067mm and the smaller leaf 457mm and plastic laminate faces and edges. These doors shall consist of the following hardware: Swing clear hinges (8), top and bottom flush bolts, dust proof strike, privacy set and wall stop. Kick plates are not required on these doors. Door shall open and swing out of opening to allow for movement of wheel chairs. Bottom flush bolt and dust proof strike may be removed if in floor heating is required.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .23 Resident and Public Washroom Door: Wood door with plastic laminate faces and edges. Inswing doors will require double swing hinges with emergency release stop. These doors shall consist of the following hardware: Double swing continuous hinge, continuous emergency release stop, double lipped strike, privacy set, and wall stop. Kick plates are not required on these doors. Door shall be used by visitors and residents. If an object is stuck behind the door the emergency stop can be depressed and the door will swing out into the hallway.
- .24 Staff Washroom Door: Wood door with plastic laminate faces and edges. Door shall be locked by Keypad Lock at all times with Indicator deadbolt. These doors shall consist of the following hardware: 3 - Hinges, 1 – Keypad Lock, indicator deadbolt, closer and wall stop. Kick plates are not required on these doors. Door shall be used by staff only. Indicator Deadbolt to be thrown when washroom is in use. Throwing the deadbolt will have an occupancy indicator to indicate when the washroom is in use.
- .25 Medication Room Door: Wood door with plastic laminate faces and edges. Door shall be locked by access control locks at all times. These doors shall consist of the following hardware: 2 - Hinges, 1 – Electrified Hinge, access control lock, closer – delay action, wall stop, power supply and door controller. Kick plates are not required on these doors. Door shall be used by staff only. Access control door controller and power supply required and can be located and shared in the Resident House.
- .26 Care Office Door: Wood door with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 3 – hinges, keypad function HD Cylindrical Lock, closer –delay action, wall stop. Doors shall be used by staff only.
- 27. Clean Utility Room and Soiled Utility Room Doors: Doors shall be oversized wood door with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 4 – swing clear hinges, Keypad Function HD Cylindrical Lock, closer – delayed action, kick plates, and wall stop. Door shall be used by staff only.
- .28 Supply Room, Equipment Storage, and Housekeeping in Resident House: Wood door with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 3 –hinges, Keypad Function HD Cylindrical Lock, closer – delay action, kick plates, wall stop. Doors shall be used by staff only.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .29 Linen Cart Storage in Resident House: Pair of wood doors with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 6-swing clear hinges, automatic top flush bolt, Keypad Function HD Cylindrical Lock, closer – delay action, kick plates, wall stop. Doors shall be used by staff only. Doors shall be sized to accommodate linen service providers standards carts 610mm x 914mm accessed on long side.
- .30 Resident Bathtub Room: Wood door with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 3-hinges, Keypad Function HD Cylindrical Lock, closer – delay action, wall stop. Kick plates are not required on these doors. Doors shall be used by staff only.
- .31 Resident Shower Room: Double doors (1067mm x 457mm). Wood doors with plastic laminate faces and edges. Doors shall be locked at all times. These doors shall consist of the following hardware: 6-hinges, top automatic flush bolt, Keypad Function HD Cylindrical Lock, closer – delay action, wall stop. Kick plates are not required on these doors. Doors shall be used by staff only.
- .32 Communication Room in the Resident House: Wood door with plastic laminate faces and edges. These doors shall consist of the following hardware: 3-hinges, storeroom function lock, closer, wall stop. Doors to be used by staff only.
- .33 Double Egress Doors in the Houses: Fire rated wood doors with plastic laminate faces and edges or fire rated steel paneled doors embossed with wood grain pattern and factory finished. Doors to be held open with electromagnetic holders at all times. These doors shall consist of the following hardware: 2 Continuous hinges, 2 – fire rated surface vertical rod exit devices less bottom rod, 2 – closers with double egress track arms. Closers to suite frame profile of frame manufacturer, 2 - electromagnetic holders, gasketing, overlapping astragal, Kick plates are not required on these doors. No exterior trim is required on double egress doors. Both doors can also be held open by the electromagnetic hold opens on the wall. In both situations doors will release and latch on fire alarm or loss of power.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .34 Double Egress Doors to Houses: Fire rated wood doors with plastic laminate faces and edges or fire rated steel paneled doors embossed with wood grain pattern and factory finished. Doors shall be secured by maglocks at all times with the option to be held open at all times. These doors shall consist of the following hardware: 2 - continuous hinges, 2 - push plates, 2 – maglocks x door position switch x stop filler plate, 2 - HD power operator x full header x sensors, required switches, relays and actuator buttons x escutcheons, motion sensor, 2 - door position switches, power supply x fire alarm relay x manual reset keyswitch. Proximity card reader x keypad mounted on the interior side of the door. 2 - electromagnetic wall holders, gasketing, overlapping astragal key switch. No exterior trim is required on double egress doors. Kick plates are not required on these doors. When entering into the house the motion sensor will pick up movement deactivating the maglocks and enabling the actuator button. The doors can be manually pushed open or activate both Power Operators by depressing the actuator button. Exiting by authorized card or code. Authorized card or code will deactivate the maglocks and enable the actuator button. The door can be manually pushed open or automatically by depressing the interior actuator button activating both power operators. The Code will be posted above keypad. Maglocks locks to deactivate on fire alarm and power failure and will need to be manually reset on fire alarm. Maglocks to be integrated with the elopement system. A door controller will be required for the access control system. Both doors can also be held open by the electromagnetic hold opens on the wall. In both situations doors will release and latch on fire alarm or loss of power. A key switch will be required to deactivate the maglocks when doors are to be held open by the electromagnetic wall holders. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. Door shall be used by staff only. A door controller will be required for the access control system.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .35 Double Doors to Service Wing: Doors will both swing in the same direction. Doors shall be secured at all times. These doors shall consist of the following hardware: 2 - continuous hinges, 2 - push and pull combination plates, 2 - maglocks x door position switch x stop filler plate, 2 - HD power operator x full header x sensors, required switches, relays and actuator buttons x escutcheons, gasketing, brush astragal, 2 - door position switches, power supply x fire alarm relay x manual reset keyswitch. Proximity card reader, key switch and proximity card reader. stainless steel kickplate to be 900mm high and wall stop. Doors to be secured at all times by maglocks . Access by card only. Authorized card will deactivate both Maglocks and simultaneously activate both power operators. Depressing the actuator button from the service area will simultaneously deactivate the maglocks and activate both power operators. Maglocks to release on power failure or loss of power. A door controller will be required for the access control system. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. A door controller will be required for the access control system. Door shall be used by staff only.
- .36 Main Dietary Kitchen Entrance and exit door: Hollow Metal Door shall be secured at all times. Prox card access. Electric strike to be released by authorised card or key. These doors are larger and shall consist of the following hardware: Continuous swing clear hinge, storeroom lock, prox card reader on the wall, electric strike c/w latchbolt monitor, smart pack and transformer, power operator (full header) with door sensors, actuator switch with escutcheon, switches and relays, stainless steel kickplate to be 900mm high and wall stop. The prox card reader to be located in the corridor. The actuator switch to be located in the kitchen. Activating either prox reader or actuator button will simultaneously activate the power operator and electric strike. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. Door shall be used by staff only. A door controller will be required for the access control system.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .37 Main Dietary Kitchen Receiving Door: Hollow Metal Door shall be secured at all times. Prox card access. Electric strike to be released by authorised card or key. These doors are larger and shall consist of the following hardware: Continuous swing clear hinge, storeroom lock, prox card reader on the wall, electric strike c/w latchbolt monitor, smart pack and transformer, power operator (full header) with door sensors, actuator switch with escutcheon, switches and relays, stainless steel kickplate to be 900mm high and wall stop. The prox card reader to be located in the corridor. The actuator switch to be located in the kitchen. Activating either prox reader or actuator button will simultaneously activate the power operator and electric strike. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. Door shall be used by staff only. A door controller will be required for the access control system.
- .38 Soiled Laundry and Clean Laundry door: Hollow Metal Door shall be secured at all times. Prox card access. Electric strike to be released by authorised card or key. These doors are larger and shall consist of the following hardware: Continuous swing clear hinge, storeroom lock, prox card reader on the wall, electric strike c/w latchbolt monitor, smart pack and transformer, power operator (full header) with door sensors, actuator switch with escutcheon, switches and relays, stainless steel kickplate to be 900mm high and wall stop. The prox card reader to be located in the corridor. The actuator switch to be located in the laundry room. Activating either prox reader or actuator button will simultaneously activate the power operator and electric strike. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. Door shall be used by staff only. A door controller will be required for the access control system.
- .39 Staff Locker Room Door: Door to be push/pull function. This door shall consist of the following hardware: 3- hinges, push pull combination with concealed screw mount, closer and wall stop.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .40 Staff unisex shower and washroom: Doors to be closed and unlocked. When entering room a push button is to be activated on the wall activating and locking the locks on both doors. Depressing the interior and exiting will deactivate both levers. Locks to have mechanical key override. Electrified lock to be fail safe and power supply, relay and push button closers This door shall consist of the following hardware: 2 - Hinges, 1-electrified centre hinge, electrified fail safe lock, parallel arm closer, wall stop, door position switch, power supply, relay board and push button located in center of the room.
- .41 Maintenance Workshop Doors: A pair of hollow metal doors locked by key at all times. These doors shall consist of the following hardware: 6 – hw hinges, automatic flush bolts, dust proof strike, storeroom function mortise lock, closers with mechanical holders, steel astragal 900mm high, stainless steel kickplate and gasketing. Door shall be used by staff only.
- .42 General Service Room and Storage Room Doors in Service Wing: Hollow metal door shall be locked at all times. These doors shall consist of the following hardware: 3 –hinges, storeroom function lock, closer – delay action, stainless steel kick plates, wall stop. Doors to be used by staff only.
- .43 Shipping and Receiving Interior Doors: A pair of hollow metal doors locked by key at all times. These doors shall consist of the following hardware: 2 - continuous hinge, automatic flush bolts, dust proof strike, classroom function mortise lock, steel astragal, closers with mechanical holders, stainless steel kickplate 900 mm high. Door shall be used by staff only.
- .44 Garbage Interior Door: Hollow metal doors locked by key at all times. These doors shall consist of the following hardware: 3 – hinges, storeroom function lock, closer, door holders, stainless steel kickplate 900mm high, wall stop and gasketing. Door shall be used by staff only.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.1 Hardware Descriptions (continued)

- .45 Satellite Food Servery: Wood door with plastic laminate faces and edges. Door to be secured at all times. Prox card access. Electric strike to be released by authorised card or key. These doors are larger and shall consist of the following hardware: Continuous swing clear hinge, storeroom lock, prox card reader on the wall, electric strike c/w latchbolt monitor, smart pack and transformer, power operator (full header) with door sensors, actuator switch with escutcheon, switches and relays, stainless steel kickplate to be 900mm high and wall stop. The prox card reader to be located in the corridor. The actuator switch to be located in the kitchen. Activating either prox reader or actuator button will simultaneously activate the power operator and electric strike. The prox card and actuator switch to be located in a location far enough from the door that staff can stand behind the cart activate the power operator and the door will open without hitting or having to move the cart. Door shall be used by staff only. A door controller will be required for the access control system.
- .46 Offices, Boardrooms and Care Conference Room Doors: Doors can be locked and unlocked and shall consist of the following hardware: 3 – hinges, office lockset, wall stop. Doors to be used by staff only.
- .47 Staff Lounge Door: If lounge is located in Service Wing, door shall be unlocked at all times. Door to be passage function. This door shall consist of the following hardware: 3 - Hinges, passage function and wall stop. If lounge is located on main corridor, door shall be locked at all times. Door shall consist of the following hardware: 3- hinges, Keypad Function HD Cylindrical Lock, closer and wall stop. Kick plates are not required.
- .48 Archives Room: Doors shall be locked at all times. These doors shall consist of the following hardware: 3 –hinges, Storeroom function lock, wall stop. Kick plates are not required. Doors shall be used by staff only.
- .49 Hair Salon, Canteen and Gift shop: Requires two different sized wood doors with the larger leaf 1067mm and the smaller leaf 457mm. Doors shall be unlocked during the day and locked at night. These doors shall consist of the following hardware: Swing clear hinges (8), top automatic flush bolt, lockset wall stop. Kick plates are not required on these doors. Door shall be used by resident and staff. Door shall open and swing out of opening to allow for movement of wheel chairs.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

- .1 Hardware Descriptions (continued)
 - .50 Smoking Room Door: Wood door with plastic laminate faces and edges. Door shall be locked at all times. Door shall consist of the following hardware: 3 –hinges, Keypad Function HD Cylindrical Lock, closer – delayed action, wall stop and smoke seal x 3 sides. Kick plates are not required. Door shall be used by residents and staff.
 - .51 Multipurpose Room Storage: Doors shall be locked at all times. These doors shall consist of the following hardware: 3 –hinges, Storeroom function lock, wall stop. Kick plates are required. Doors shall be used by staff only.
- .2 The Consultant is to provide a complete door and hardware schedule in the Contract Documents. No cash allowances will be permitted.
- .3 Hardware specifications are not to be closed and should allow multiple manufacturers to supply hardware. Consultants are to ensure the competitive bidding process is not limited when retaining the services of an Architectural Hardware Consultant.
- .4 All louvers and vents for doors shall be heavy duty, commercial type.
- .5 Hardware installed on doors in fire separations to be rated by a certified listing agency (i.e. Underwriter's Laboratory, Warnock Hersey).
- .6 Keying and Key Control:
 - .1 Authority:
 - .1 The Facility Manager is appointed Central Key Control Officer, responsible for the coordination of all requests for door keys, cylinder modifications, lock combinations, and changes in keying systems.
 - .2 Unless notified otherwise, the facility manager appointed Key Control Officer, responsible for securing key control cabinets, key control software management, requests for additional keys or changes to existing keying systems through the Central Key Control Officer, and key recovery.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

- .6 Keying and Key Control: (continued)
 - .2 New Construction:
 - .1 Provide interchangeable core patented key control to ensure the supply of quality key blanks and cylinders, maintain cylinder performance and prevent unauthorized key duplication.
 - .2 Keys and keying are to be factory and end-user (i.e. Central Key Control Officer) controlled. Restricted keyways are to be geographically exclusive and never dealer exclusive. Consult with the Nursing Home to determine whether the factory will provide keying or if keying will be done by the end-user or local locksmith.
 - .3 Key Control Cabinet: Provide a 3-way key control system including envelopes, labels and self-locking clips, receipt forms, card index, temporary markers and permanent markers and a standard metal cabinet. Cabinet is to be set up by the hardware supplier and place keys on markers and hooks in the key cabinet as per the final key schedule. Allow for 150% expansion. Install and give instructions to the owner.
 - .4 Provide key control software: Key Control Officer is to receive training on software application and instruction on key control management techniques. Manufacturer is to provide one-year technical support to Key Control Officer at no additional cost.
 - .5 Key duplicating machine is required for 50 or more bed facilities. The key machine should be a Semi-Automatic.

B. Division 08 Architectural Performance Standards

.8 OPENINGS (continued)

08 71 00 Door Hardware (continued)

.6 Keying and Key Control: (continued)

.2 New Construction: (continued)

- .6 Keying requirements: All locks to be factory master keyed, construction keyed and visually keyed (conceal codes). Consult with the facilities manager and secure written approval before placing the order. Brass construction cores shall be provided for all exterior doors, doors with exit devices and storage room doors.

Supply:

Permanent I/C Cores	10
Grand Master Keys	10
Master Keys	10 per group
Extra keys/lock	2
Construction control keys	10
Permanent control keys	10
Key Blanks	400
Prox Cards	400

.3 Renovations:

- .1 Consultants should make inquiries into the existing keying system – if any - so that the new cylinders can be incorporated into the existing system. The details of the keying system and keyway are to be disclosed in the applicable specification sections.

.7 Power Openers: Barrier-Free Activated Doors

- .1 On projects where barrier free access to a building is part of the scope of work, a barrier free ramp and one door operated switch shall be provided at the main entrance (2 control buttons - 1 exterior/1 interior).
- .2 In cases where there is a vestibule a control button will be required within the vestibule, that means 4 control buttons total.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 80 50 Glazing

- .1 All exterior windows and scheduled doors to have factory sealed double insulating glass units, conforming to IGMA standards.
- .2 Insulating sealed glass units to be constructed as follows:
 - .1 Aluminum doors and windows and steel doors: **Overall thickness 25 mm** with visible light transmittance (VT) of 0.70 and Solar Heat Gain Coefficient (SHGC) of 0.40.
 - .1 Outer light: 6 mm
 - .2 Inter-cavity air space: 13 mm
 - .3 Inner light: 6 mm
 - .2 Plastic windows: Overall thickness 22 mm with visible light transmittance (VT) of 0.70 and Solar Heat Gain Coefficient (SHGC) of 0.40.
 - .1 Outer light: 5 mm
 - .2 Inter-cavity air space: 13 mm
 - .3 Inner light: 5 mm
- .3 Tempered safety glass shall be used for the outer light of insulating glass units.
- .4 Insulating glass units shall be constructed to maximize thermal performance. Provide the following: Low-E film on the second or third surface, low conductivity spacers (Warm Edge Technology) and insulating gas fill. Location of Low-E film shall be determined by heating and cooling capacity of facility's HVAC system, and site exposure.
- .5 Laminated safety glass shall be used for all single-paned lights located in doors, transoms and sidelights. Use in insulating glass units permitted only where IGU manufacturer guarantees that thermal expansion/contraction will not affect performance of IGU.
- .6 Wired glass shall be used where required by the NBC in fire separations. In areas requiring impact resistance, a transparent film overlay must be specified. Alternatively, use fire-rated glazing tested for fire resistance and, where required, impact resistance.
- .7 Glazing in doors, sidelights, borrowed lights, and windows where glazing is less than 457mm from the floor must be constructed of safety glass, wired glass, tempered glass, or plastic glazing material that resists breaking and creates no dangerous cutting edges when broken.
- .8 Tempered safety glass shall be used in areas specified in Resident House.

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 80 50 Glazing (continued)

- .9 Coordinate minimum window quantity, size and locations per room to achieve daylight factor required in Part A Programming Standards.
- .10 Choose glazing to optimize natural daylighting and provide occupant comfort, while minimizing energy consumption. Vary the glazing by elevation, if possible. Consider the Solar Heat Gain Coefficient (SHGC) of the glazing and its effect on the heating and cooling loads. Utilize exterior shading strategies such as overhangs, louvers and vegetation to shade windows in the summer and allow for solar penetration in the winter. Interior shading, such as blinds, shades or light shelves can also be used to help reduce solar heat gain and occupant discomfort.

08 80 50 Glazing (High Performance Insulated Translucent Glazing)

High Performance Insulated Translucent Glazing Unit (HPIT), this is a **Sample specification for this type of glazing**. Coordinate with manufacturers for actual numbers, description and thicknesses. Depending on building orientation certain variables will change.

- .1 The Translucent Glazing Unit shall be of a design such as to present a monolithic glass section without visible internal framing, support or other solid member inside of the perimeter spacer. The system must include the ability to use nearly any type or manufacture of architectural flat glass. It shall enable the visual integration of translucent surfaces with those of nearby vision glass as well as ensuring that the appearance of the translucent glazing surfaces. It shall not deteriorate over the life of the building. The employment of separate technologies for thermal insulation and light diffusion shall be such as to ensure that different thermal insulation specifications do not affect light transmission.
- .2 HPIT Description:
 - .1 Air filled preassembled units consisting of:
 - .1 Two lites of glass;
 - .2 Proprietary honeycomb transparent insulation core aligned perpendicular to glazing, for HPIT thermal insulation;
 - .3 Translucent, veils attached to both glass surfaces;
 - .4 Continuous perimeter metal spacer bar separated from glass surfaces with foam tape;
 - .5 Glass lites connected together with spacer bar using structural silicone sealant.
 - .6 Air space within HPIT filled with air pressure equalized to atmospheric pressure with stainless steel capillary pressure equalization (vent) tube located at top right corner of HPIT, positioned with tube opening pointing downward (as viewed from building interior).
 - .7 Glazing unit shall not contain in excess of .01 parts per million by weight each of Volatile Organic Compounds, asbestos,

B. Division 08 Architectural Performance Standards

B.8 OPENINGS (continued)

08 80 50 Glazing (High Performance Insulated Translucent Glazing) (continued)

resorcinol-formaldehyde, pheono-resorcinol formaldehyde, urea formaldehyde, CFC, HFC, HCFC, Halon, Benzene, Cadmium (and compounds, Carbon tetrachloride, Cyanide (and compounds) Toluene, Xylenes, Lead. 1,1,1,Trichlorethane, Trichlorethylene, MEK, and MIK

- .3 Overall thickness and size (these dimensions are variable depending on manufacturer)
 - .1 Thickness: 63.5mm (2.5") plus glass lites.
 - .2 Maximum overall size, edge of glass: 1524mm X 3658mm (60" x 144") or as directed by manufacturer.
- .4 Frame Compatibility:
 - .1 Must be compatible with window frame of remainder of project.
- .5 HPIT performance: (These numbers are variable depending on manufacturer)
 - .1 Thermal insulation (U-value): 0.2
 - .2 Daylight transmittance: 55 % (this number is variable depending on manufacturer and building orientation)
 - .3 Light Diffusion Power (LDP): excellent
 - .4 Daylight to solar heat gain ratio: LSG=1.08
 - .5 Solar heat gain coefficient (no shade): SHGC=0.51
 - .6 Sound transmittance class (STC) (ASTM E 70-97): 35
 - .7 Maximum color shift: 2 DELTA E over 5 years.
 - .8 Flame spread (ASTM E 84-05e1): 5.
 - .9 Smokes developed (ASTM E 84-054e1): 10.
 - .10 Spacer resistances to crushing: 500 lbs/lineal Ft.
- .6 Glass:
 - .1 Minimum visible light transmittance (VT) of 0.73 for all glazing.
 - .2 Outboard lite: 6mm tempered Clear glass.
 - .3 Inboard lite: 6mm tempered Clear glass.
- .7 Veil set: (These are variables depending on building orientation and manufacturer)
 - .1 AGL401 exterior, AGL401 interior.
- .8 Spacer bar:
 - .1 Must be compatible with window frame of remainder of project and all other components of this entire system.
- .9 Capillary pressure equalization (vent) tube:
 - .1 Stainless steel, diameter to allow for pressure equalization while also preventing uptake of particulate matter. 152-305mm (6-12") in length with a .508mm(.020") inner diameter.

B.9 FINISHES

Provide finished surfaces which are functional, practical, durable, safe and cost effective, and will minimize the maintenance and life cycle costs of the building. Finishes shall reflect a residential appearance and tradition, to be compatible with a desired home-like environment.

All finishes shall be commercial grade and rated for anticipated foot traffic/abuse levels.

Ceilings: Ceilings must be well lit if drop panels or recesses are employed to avoid light and dark sections. Drywall ceilings must have a matte finish to diminish reflected glare.

Walls: Complex wall covering designs must be avoided so as not to cause disorientation among residents. Walls must be distinctly coloured from the abutting floor and ceiling colours to properly define surface edges for the elderly. Wall finishes must be washable, smooth and moisture resistant adjacent plumbing fixtures.

Floors: Floors will be level and comprised of hard surfacing with a non-glare (matte) finish, medium density and solid colour. Patterned flooring can cause disorientation while contrasting colour changes from one room to the next creates a false sense of depth.

Contrasts: Building surfaces and edges must be designed to incorporate strong contrasts to minimize recognition and perception problems. Wall, floor and ceiling surfaces must maintain strong contrasts to enhance residents' independence and sense of security. Some architectural elements must be disguised, such as doorways for staff use etc., to redirect a resident's attention and ensure a safer environment for them

Colour: The use of light and colour is increasingly recognized as having an emotional and physical therapeutic value on residents. Research has indicated that elderly residents discriminate bright colours, at the warmer end of the spectrum (red, peach, yellow), better than those that are cool hues. Since the lens of the elderly eye tends to yellow with age, colours that would normally be considered cool, like blues, pastel greens and purple can appear gray for residents beyond age 70. Choice of colour must maintain a level of comfort for residents by diminishing unimportant and meaningless features in their environment. Colours, which have slight variation in value and hue, can be difficult for residents to distinguish and must be avoided in combination. Dark colours shall be avoided since they interfere with daylight penetration. Colours shall be chosen which are homelike in appearance while providing the following Minimum Room Finish Reflectance's:

Ceilings	80% reflectance
Walls	50% reflectance
Floors	20% reflectance

B.9 FINISHES

The Consultant should be aware of volatile organic compound (VOC) levels of products used during the installation and finishing of items supplied in this Division. The Consultant is responsible to minimize disruption of Owner occupied areas of the construction site and should specify materials with low VOC emissions where a choice of material is available (i.e. low VOC adhesives versus solvent-based adhesives). Where materials with objectionable VOC odours are required because of physical and performance attributes critical to the application, the Consultant should specify that all such Work be done after regular hours.

B. Division 09 Architectural Performance Standards

B.9 FINISHES (continued)

09 00 00 General

- .1 Provide recessed mats in vestibules.
- .2 Slip resistant flooring materials are to be provided at main/public entrances (including vestibules and stairwells subject to direct wetting from outdoors), kitchens, food preparation areas, dishwashing areas, changing rooms, shower rooms, and other areas designated by the Department of Transportation and Infrastructure. Do not install slip resistant flooring under equipment in kitchen areas.
- .3 Refer to the appropriate Section of this Division for classification of slip resistant surfaces for each type of flooring material.
- .4 Consultants should be aware that manufacturers listing static coefficient of friction (SCOF) for their products are tested in accordance with either ASTM D2047 or ASTM D1894 on dry surfaces. Do not meet the slip resistant requirements of the Department of Transportation and Infrastructure.

09 21 16 Gypsum Board Assemblies

- .1 Extend sound rated partitions from floor to underside of structure.
- .2 STC Rating of partitions to be as follows:

Bedroom to Service Area	STC 60
Bedroom to all other spaces in building	STC 50
Public Space to Exam Room	STC 50
Public Space to Toilet Room	STC 45
Public Space to Consultation Room	STC 50
Exam Room to Corridor (with entrance)	STC 35
Exam Room to Exam Room	STC 50
Family Quiet Room to Service Area	STC 60
Family Quiet Room to All Other Spaces	STC 50
Consultation Room (with Entrance) to Corridor	STC 35
- .2 Gypsum board ceilings are to be used in areas of high humidity and areas of required cleanliness. The appropriate quality and type of board and suitable finish is to be specified. Consider paint containing a mildewicide additive.
- .3 Standard board: to ASTM C 36/C 36M-01 regular, thickness and type as indicated and should meet the following requirements: 1200 mm wide x maximum practical length, ends square cut, edges bevelled, SCS certified with minimum 99% recycled content using flue gas desulphurization gypsum. The recycled content is to be 5% post-consumer and 94% pre-consumer (post-industrial). Products are available as manufactured in Saint John, New Brunswick using re-cycled gypsum from NB Power's Belledune Plant or from approved equivalent source and location.

B. Division 09 Architectural Performance Standards

B.9 FINISHES (continued)

09 30 00 Tiling

- .1 The following slip resistant ratings have been determined using the standard DIN 51130 - Testing of Floor Coverings; Determination of the Anti-slip Properties; Workrooms and Fields of Activities with Raised Slip Danger; Walking Method; Ramp Test and DIN 51097 - Testing of Floor Coverings; Determination of the Anti-slip Properties; Wet-loaded Barefoot Areas; Walking Method - Ramp Test.

- .2 Manufactured tiles of impervious, vitreous, semi-vitreous and non-vitreous materials such as ceramic tile, porcelain tile and quarry tile are required to be slip resistant in areas scheduled in Table 09 30 00.2.

Table 09 30 00.2 - DIN 51130		
Item	Area	Classification group
1	Entrance areas (zones with direct access from outdoors subject to wetting)	R 9
2	Stairways (direct or outdoor access stairways subject to outdoor wetting)	R 9
3	Facilities (e.g. Toilets, bathrooms)	R 10
4	Halls, corridors, recreation rooms (only to replace tile in existing tiles)	R 9
5	Dining areas (only to replace tile in existing tiles)	R 9

- .3 Slip resistant characteristics for tile for floors in wet zones for bare walking shall have profiled surfaces rated for use in wet areas to be walked on barefoot, as scheduled in Table 09 30 00.3.

Table 09 30 00.3 - DIN 51097		
Item	Area	Classification group
1	Bare foot traffic (mainly dry area). Common changing rooms.	A
2	Bare foot traffic in situations other than Group A. Showers.	B

- .4 Flooring material complete assemblies including but not limited to adhesives, sealants, primers, leveller and cleaning solvents should meet minimum SCAQMD requirements.
- .5 Adhesives and grout shall meet VOC limits of the South Coast Air Quality Management District (SCAQMD) Rule 1168.

B. Division 09 Architectural Performance Standards

B.9 FINISHES (continued)

09 50 00 Ceilings

- .1 Resident bedrooms are to have gypsum board ceilings.
- .2 Dining rooms, lounges, activity rooms, lobbies and public spaces are to have primarily acoustic tile ceilings with light reflectance of 80% or higher and NRC of 0.80 or better.
- .3 Wood ceilings may be specified in common areas with the approval of the Department of Transportation and Infrastructure. Wood trim may be used at ceiling recesses.
- .4 The architect is not to specify a suspended acoustical tile ceiling where the ceiling height is below 2400mm.
- .5 Acoustic ceiling tiles shall have a microbial treatment.
- .6 Gypsum board bulkheads shall not be used for recessed cove lighting.

09 65 00 Resilient Flooring

- .1 The following properties of resilient flooring products are considered slip resistant:
 - .1 Surfaces with a simulated slate profile/texture.
 - .2 Surfaces with raised, traction-aiding profiles.
 - .3 Materials manufactured with embedded abrasive particles.
- .2 Resilient sheet flooring is to be used in corridors and porcelain tile at entrances and in lobbies.
- .3 The selection of resilient sheet flooring products will be limited to the following materials:
 - .1 Inlaid vinyl to ASTM F1303 Type II, Grade 1, Class A backing, minimum 2.0 mm thickness, heat welded seams, intended for commercial use. Printed sheet vinyl and rotovinyl flooring are not acceptable.
 - .2 Homogeneous vinyl to ASTM F1913, minimum 2.0mm thickness, heat welded seams, intended for commercial use.
 - .3 Homogeneous rubber to ASTM F1859, minimum 2.0mm thickness, heat welded seams, intended for commercial use.
 - .4 Heterogeneous rubber ASTM F1860, minimum 2.0mm thickness, heat welded seams, intended for commercial use.
 - .5 Linoleum to ASTM F2034 Type I, minimum 2.0mm thickness, heat welded seams.
- .4 Select sheet floor which does not require waxing.
- .5 Compliance with the listed reference standards of this section does not guarantee inclusion in Nursing Home's specifications. Problematic performance of existing or previous installations may identify specific products to be ineligible for use.

B.9 FINISHES (continued)

09 65 00 Resilient Flooring (continued)

- .6 Selection of flooring materials will depend on the moisture emission and pH levels of the concrete slab. Testing shall be done in accordance with flooring manufacturer's instructions. Copies of test reports shall be included as part of the Contract submittals.
- .7 Proper floor preparation techniques should be carefully outlined in the specification, including: mechanical removal of existing adhesives, testing of sub-floor moisture and pH levels, review of sub-floor by manufacturer's representative prior to installation of finished flooring, joining details to dissimilar materials, etc. Removal procedures should be specified in Construction Waste Management Plan.
- .8 All flooring materials are to be installed by flooring mechanics that have undergone training specific to the installation of the products being installed and have minimum 5 years' experience. Proof of training and/or certification is required.
- .9 Complete assembly including preparation work, primers, adhesives, levelling materials, and sealants should meet minimum SCAQMD requirements.
- .10 Specify flooring materials with recycled content where possible.
- .11 Specify rapidly renewable flooring materials where possible.
- .12 All components of flooring system including but not limited to adhesives, sealants and backing shall meet the VOC limits of the South Coast Air Quality Management District (SCAQMD) Rule 1168.

B.9 FINISHES (continued)

09 65 00 Resilient Flooring (continued)

- .13 Consider the occupancy of the facility when specifying adhesives and other related flooring accessories. Specify low odour products with minimal VOC levels.
- .14 When specifying adhesives for flooring, consideration are to be taken regarding concrete slab moisture content. For example floor leveller or sealer to separate the concrete slab from the adhesive.
- .15 Provide metal top edge trim caps for integral flash cove base.
- .16 Height of base to be 100mm.
- .17 Provide mildew resistant silicone under resilient base.

09 68 00 Carpet Tile

- .1 Carpet tile shall be used only in administration areas indicated in Part A of this document.
- .2 Carpet base shall be specified with bound exposed edge.
- .3 Height of base shall be 100mm.
- .4 Where possible, specify carpet with very low VOC emissions.

B. Division 09 Architectural Performance Standards

B.9 FINISHES (continued)

09 67 00 Epoxy Quartz Flooring

- .1 Where epoxy flooring is scheduled in an area to have slip resistant flooring, the epoxy system shall incorporate quartz aggregate to provide a slip resistant surface texture.
- .2 The Consultant shall schedule submission of samples showing the slip resistant finish required. The specification is to allow for modification of the sample profile to increase or decrease the level of slip resistance.
- .3 The specification shall include requirements for a mock-up installation in an inconspicuous area designated by the Engineer-Architect.
- .4 Specify low odour products with minimal VOC levels.
- .5 Provide textured floor finish in open areas of dietary services for slip resistance and smooth floor finish under equipment for cleaning purposes.

09 80 00 Acoustical Treatment

- .1 See 09 21 16.1 and 09 21 16.2.
- .2 The walls surrounding mechanical rooms, elevator shafts and other rooms where noise is generated shall be insulated to the Sound Transmission Class (STC) recommendations in the ASHRAE Handbook of Fundamentals. **Divide mechanical rooms from remainder of building with a buffer room such as an electrical room, Janitor room or similar room to help reduce the noise level transferred from the mechanical room to remainder of building.**

B. Division 09 Architectural Performance Standards

B.9 FINISHES (continued)

09 90 00 Painting

- .1 New painting: all interior and exterior surfaces scheduled to receive paint; stain or other coating shall be prepared and finished in accordance with the Master Painters Institute (MPI) Architectural Painting Specification Manual.
- .2 Maintenance and painting of existing surfaces: all existing interior and exterior surfaces scheduled to receive paint; stain or other coating shall be prepared and finished in accordance with the Master Painters Institute (MPI) Maintenance Repainting Manual.
- .3 All products used shall be listed in the current edition of the Master Painters Institute's Approved Product List (APL).
- .4 All colours shall be approved by the Department of Transportation and Infrastructure.
- .5 Architectural paints and coatings on interior walls and ceilings shall not exceed the VOC content limits of Green Seal Standard GS-11.
- .6 Anti-corrosive and anti-rust paints on interior ferrous metal substrates shall not exceed the VOC content limits of Green Seal Standard GC-03.
- .7 Clear wood finishes, floor coatings, stains, primers and shellacs on interior components shall not exceed the VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule 1113.
- .8 Gloss level rating of paint on gypsum board walls shall be G3 eggshell finish.

B. Division 10 Architectural Performance Standards

B. Division 10 Architectural Performance Standards

B.10 SPECIALTIES

Ensure that all Nursing Homes have the required accessories to function within their program requirements and that all accessories are of a commercial quality, durable, practical, safe and relatively maintenance free. The Architect shall include the following specialty items in the contract:

1. Tackless boards.
2. Flagpoles.
3. Lockers.
4. Signage.
5. Toilet and Bath Accessories.
6. Toilet and Shower compartments.

All products specified should have low VOC content and minimal urea formaldehyde content.

10 10 00 Visual Display Boards

- .1 Tackless boards and whiteboards are to have trim.
- .2 Tackless board shall have non-residue, non-permanent, self-adhesive surface.
- .3 Whiteboard construction as follows: porcelain enamel on steel sheet, 13mm solid core material, and stabilizing backer sheet. Joints are to be tight and reinforced.
- .4 Whiteboards to have full length marker trays with capped ends.

10 14 00 Signage (Exterior)

- .1 Exterior signage is limited to building identification only. Exterior sign shall be provided by Nursing Home.
- .2 Exterior signage shall avoid off-site lighting and night sky pollution.

10 14 00 Signage (Interior)

- .1 Signage shall be provided to aid residents and shall comply with CAN/CSA B651 Accessible Design for the Built Environment.
- .2 All interior doors are to be numbered and identified by function.
- .3 Signage shall be located at key decision points such as corridors, intersections and the outdoor area.
- .4 Pictograms are preferred over text where applicable in resident areas.
- .5 Signage shall be clear, concise and simple using contrasting colours.
- .6 Signage shall be placed at eye level of a person sitting in a wheelchair approximately 900mm to 1300mm from the floor surface.

B. Division 10 Architectural Performance Standards

B.10 SPECIALTIES

10 14 00 Signage (Interior) (continued)

- .7 Minimum letter height shall be 75mm. Larger letters may need to be used to meet the CAN/CSA B651 Accessible Design for the Built Environment.
- .8 Signage for non-resident areas in Resident House to be limited to a discreet plaque located on top corner of door frame.

10 21 13 Toilet Compartments

- .1 Staff washrooms and shower rooms: Compartment components (including pilasters, doors, side panels) to be solid phenolic core with laminate faces. Acceptable products: Bobrick Duraline 1080 series, Decolam Option A, Watrous Phenolic or approved equals.
- .2 Since verification of core construction is not possible after factory assembly; Contractors are to submit proof that installed components are constructed as specified.
- .3 Hardware shall be specified as heavy-duty grade, stainless steel. Provide continuous hinges and continuous door stops.
- .4 Anchorage to be overhead braced and/or floor-to-ceiling where applicable.

10 21 23 Curtain Track

- .1 Curtains: Provide curtain fabric with the following characteristics:
 - 1. Fabrics are flame resistant and are identical to those that have passed NFPA 701 when tested by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - 2. Identify fabrics with appropriate markings of applicable testing and inspecting agency.
- .2 Curtain Tracks:
 - .1 Extruded Aluminum Track: Cubicle track shall be extruded aluminum, .058" wall thickness, one piece, and surface mounted.
 - 2. Finishes: Satin anodized or electrostatic white paint finish.
- .3 Track Accessories: Fabricate splices, end caps, and snap outs from same material and with same finish as track.
- .4 End Stop: Removable with carrier hook.
- .5 Curtain Carriers: two wheel nylon roller with steel bead chain and hard aluminum hook.

B.10 SPECIALTIES

10 26 00 Wall Protection and Handrails

- .1 Rigid wall covering shall be used in Resident House and Washroom areas indicated in Part A Programming Standards section of this document. Wall covering shall be constructed of high impact resistant rigid vinyl/acrylic or high-impact resistant acrylic/polyvinyl chloride co-polymer extrusions. Rigid wall covering shall be designed to be homelike in appearance. Where required in Part A, rigid wall covering shall be complete with vertical and horizontal moldings for a wainscoting effect. Linoleum may be used for wall covering in Resident House corridors.
- .2 Wood wainscoting shall not be used as wall protection in Resident Houses unless directed in Nursing Home Functional Program. Wood wainscoting in Resident Houses shall consist of maple or birch species with a clear finish.
- .3 Wood wainscoting used as wall protection in communal areas of Nursing Home may be stained.
- .4 Provide adequate backing in walls as required for securing handrails, wainscoting, wall coverings, bumpers and guards.
- .5 FRP Panels shall have a smooth surface for cleaning.

10 28 10 Toilet, Bath and Laundry Accessories

- .1 All washroom accessories shall be heavy duty, institutional quality and vandal proof.
- .2 In Resident Bedroom ensuite washrooms, fold down grab bars are to be provided with integrated toilet tissue dispenser.
- .3 In each Toilet Stall provide:
 - .1 Coat Hook
 - .2 Toilet Tissue Dispenser
- .4 In each Washroom provide:
 - .1 One (1) Wall Mounted Liquid Soap Dispenser. All soap dispensers to be wall mounted. Criteria will be at discretion of Owner.
 - .2 One (1) 400 x 760mm metal framed mirror over each lavatory.
 - .3 One paper towel dispenser, criteria will be at the discretion of Owner.
 - .4 One waste receptacle, criteria will be at the discretion of the Owner.
 - .5 One towel bar 610mm in length. (Double resident room ensuite washroom shall have 2 towel bars.)

Note: at least one (1) mirror must be barrier free accessible.

B. Division 10 Architectural Performance Standards

B.10 SPECIALTIES

10 28 10 Toilet, Bath and Laundry Accessories (continued)

- .5 Grab bars are to be installed in Barrier Free Toilet Stalls and Barrier Free washrooms. Barrier Free Toilet Stalls and Barrier Free washrooms shall meet requirements of CAN/CSA B651 Accessible Design for the Built Environment.
- .6 Architect to ensure adequate support in walls for securing grab bars and fold down grab bars.
- .7 Grab bars in Bariatric Ensuite Washroom and Resident Shower Room shall be rated for bariatric use.
- .8 Female Staff Locker Room Washroom shall be equipped with one (1) sanitary napkin disposal unit in each toilet cubicle. Female Staff Locker Room Washroom shall be equipped with one (1) recessed sanitary napkin dispensing unit.
- .9 All public and staff unisex washrooms shall be equipped with one (1) sanitary napkin disposal unit.
- .10 The architect shall insure adequate backing is present in walls for securing recessed and surface mounted accessories.
- .11 Each shower cubicle shall be equipped with the following:
 - .1 One (1) Soap Dish
 - .2 One (1) Coat Hook
 - .3 Shower curtain and rod.
 - .4 Slope each shower to drain.
- .12 One (1) Shower Stall in each Female and Male Staff Locker Room shall be designed to the CAN/CSA B651-95.
- .13 Provide paper towel dispensers and waste receptacles where indicated. Criteria will be at discretion of Owner.
- .14 Public washroom shall be equipped with a baby changing station.

B. Division 10 Architectural Performance Standards

B.10 SPECIALTIES

10 51 00 Lockers

- .1 Provide lockers in staff locker rooms.
- .2 Lockers are to be installed on wood curbing with baseboard to match adjacent areas.
- .3 Lockers shall be half height.

10 57 00 Coat and Boot Rack

- .1 Provide 2 coat and boot racks in locker room, each on opposite sides of the room.
- .2 Coat and boot racks shall be prefabricated units constructed of 18 gauge steel, with powder coated finish.
- .3 Each rack shall have a bar and open shelf above, and boot rack with open bars for drainage below.

10 75 00 Flagpoles

- .1 Refer to Nursing Home Functional Program for quantity of flagpoles.

10 95 00 Miscellaneous Specialties

- .1 Electric fireplaces shall have the ability to be capped at a low heat or turned off (for appearance only).
- .2 Room verification system shall be provided to indicate the status of rooms during emergency conditions. System shall be provided on each door at 559mm A.F.F. Once room has been checked, system shall have capability to be opened and fastened to door frame. If door is opened, system shall automatically close. System's reflective finish shall be visible in low light and smoke filled conditions.

B. Division 11 Architectural Performance Standards

B. Division 11 Architectural Performance Standards

B.11 EQUIPMENT

All products specified should have low VOC content and minimal urea formaldehyde content.

11 40 00 Food Service Equipment

- .1 The Architect shall consult with a Commercial Kitchen Consultant to coordinate the layout of the Kitchen and Satellite Food Servery.

11 73 00 Ceiling Mounted Lift

- .1 Type of ceiling mounted lift system shall be at the discretion of the Owner, and shall be outlined in the Functional Program.
- .2 Ceiling track system shall be recessed and colour shall match adjacent ceiling.
- .3 Electrical wiring for ceiling track system shall not be surface mounted.
- .4 Ceiling mounted lift track in Bariatric Resident Bedroom shall have a capacity of 273kg (600 lbs.).

B. Division 12 Architectural Performance Standards

B. Division 12 Architectural Performance Standards

B.12 FURNISHINGS

All products specified should have low VOC content and minimal urea formaldehyde content.

12 20 00 Window Treatments

- .1 Windows with integral blinds are not to be used.
- .2 Provide Blinds (light filtering Sunscreens) as follows:
 - .1 Opaque, Fire retardant. Made of Fibreglass Laminated on P.V.C. Thermoban insulated. Use openness from 3% to 5% depending on the building orientation and the room function. Department of Transportation and Infrastructure project manager to provide location of which openness percentage to use and where to use it.

B. Division 14 Architectural Performance Standards

B. Division 14 Architectural Performance Standards

B.14 CONVEYING EQUIPMENT

When required, vertical transportation shall be provided by an elevator in all nursing homes. Wheelchair Lifts shall only be used on retrofits in existing buildings when elevators are not possible to be installed, subject to approval by Authority having Jurisdiction. Use of Wheelchair Lifts require review with the Department of Public Safety Chief Elevator Inspector.

14 20 00 Elevators

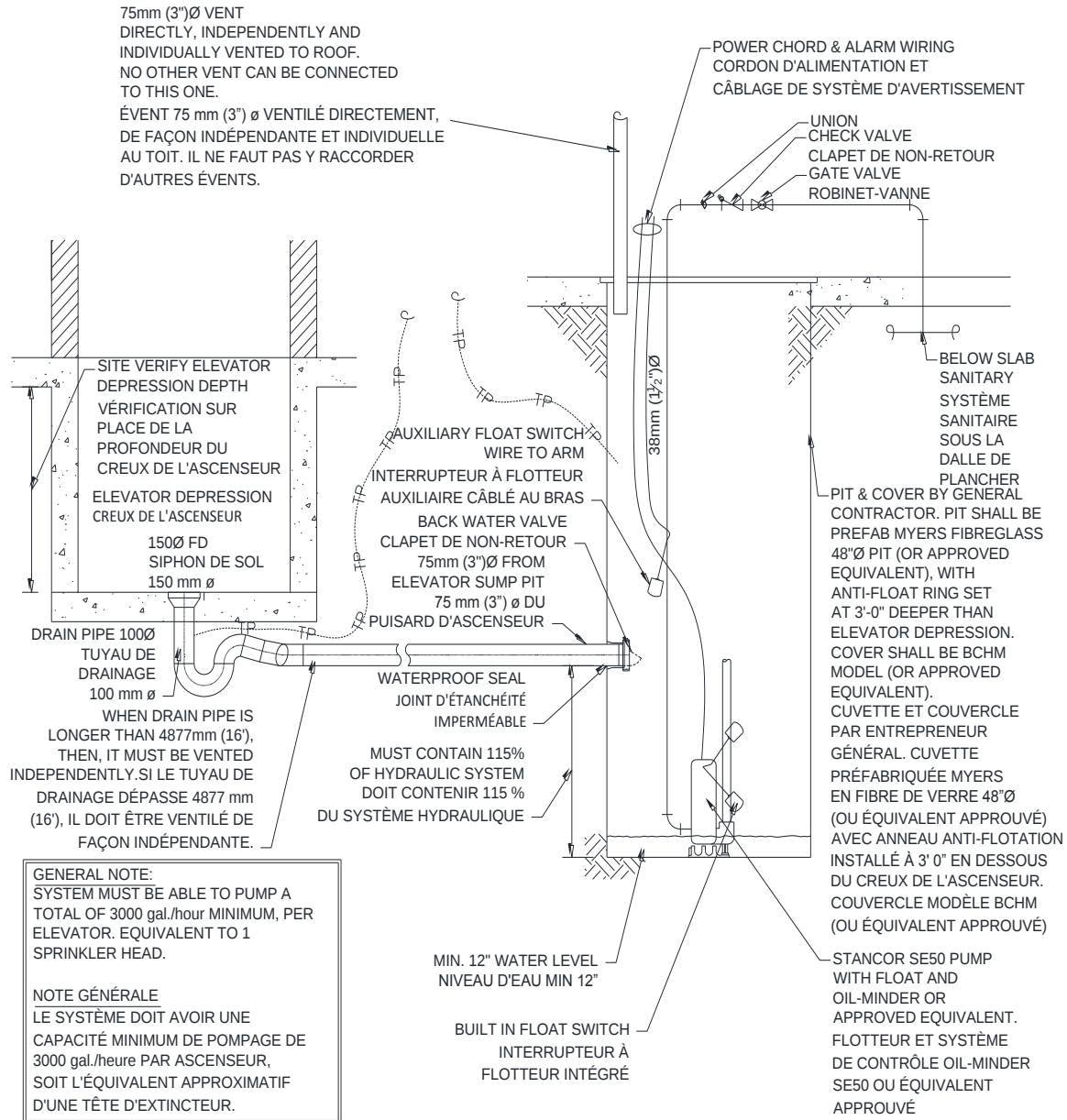
- .1 Cab-mounted emergency telephones are to be provided in all new elevator installations and controls modernization projects.
- .2 Elevators shall be sized to accommodate a bed, gurney, medical carts and wheelchairs where residents are housed on floors other than the main floor.
- .3 Where 1 to 200 residents are housed on floors other than the main floor, two elevators shall be provided, one of which shall have clear inside dimensions of 1.62m wide by 2.43m deep.
- .4 Where 201 to 350 residents are housed on floors other than the main entrance floor, at least three elevators shall be provided, one of which shall have clear inside dimensions for 1.62m wide by 2.43m deep.
- .5 Where more than 350 residents are house above the main entrance floor, the number of elevators shall be dictated by the Department of Transportation and Infrastructure.
- .6 Elevator car doors shall have a minimum clear opening of 1.12metres.
- .7 Elevators shall be equipped with handrails on all sides except entrance door and shall have an automatic two way levelling device with an accuracy of $\pm 7\text{mm}$.
- .8 All elevators shall accommodate wheelchairs.
- .9 Elevators shall have access control with card/keypad readers to restrict resident elopement.
- .10 If a service elevator is to be provided it will be identified in the functional program.

B. Division 14 Architectural Performance Standards

14 42 00 Wheelchair Lifts

- .1 All lifts shall be equipped with key operation.
- .2 All lifts shall be equipped with a device that will bring the platform to the lowest exit floor level and open the doors in the event of an electrical failure. Keying shall be setup with a sign-in and sign-out system, provide lockable cabinet as directed by project manager.
- .3 Consultant is to provide the following product in their specification, which will be included in the bidder's stipulated price:
 - .1 System description: Hydraulic vertical platform lift with two-way automatic levelling. Holeless, direct acting plunger type with cylinder and plunger in hoist way.
 - .2 Acceptable manufacturers:
 - .1 Model V1504-STD by Savaria Inc.
 - .2 Model Horizon by Maritime Lifts Inc.
 - .3 or approved equivalent by project manager at design stage.
- .4 Consultants shall allow for the provision of alternate manufacturers by specifying the manufacturer below and referencing appropriate article in Section 00300 – Tender Form.
 - .1 Alternate system description: Lift similar to product specified except it has a cable hydraulic platform lift.
 - .2 Alternate acceptable manufacturer: Concord Prolift or approved equivalent.
- .5 Consultants shall send a copy of the design to the Authority having Jurisdiction on elevators and lifts for review and approval of the design, before tender submission. Written approval must be obtained and any modifications requested by the said Authority having Jurisdiction shall be reviewed with the Department of Transportation and Infrastructure.
- .6 Elevators and Lifts: Design Consultants are to have elevator design approved by Chief Elevator Inspector, Technical Services, Public Safety, at 75% Construction Documents.

Elevator Sump Pit Detail N.T.S.



B. Division 21, 22, 23, 25&33 Mechanical Performance Standards

B. Division 21, 22, 23, 25&33 Mechanical Performance Standards

B. 21, 22, 23, 25 & 33 GENERAL REQUIREMENTS

- .1 Tender Documents for Mechanical Systems for Nursing Homes shall be stamped by a Registered Professional Engineer licensed to practice in the Province of New Brunswick.
- .2 All designs are subject to detailed review by the Department of Transportation and Infrastructure.
- .3 Energy Performance:
 1. Energy Performance of Nursing Homes shall meet or exceed the requirements of the New Brunswick Green Building Policy.
 2. All applicable mandatory provisions of National Research Council Canada (NRC) Model National Energy Code of Canada for Buildings (NRC MNECB) 1997 shall be complied with. Nursing Homes shall perform at a minimum 33% better than the reference building.
 3. Energy Utilization Index: Energy Utilization Index shall not exceed 270 eKwh/m²/yr. Energy modelling shall be provided using DOE 2 based (eQuest or canQuest) software and shall be submitted to DTI for technical review to determine compliance of building.
- .4 Testing
 - .1 All mechanical systems shall be tested in compliance with the individual specification sections and to authority having jurisdiction.

B. Division 21 Mechanical Performance Standards

B. Division 21 Mechanical Performance Standards

B.21 FIRE SUPPRESSION

Sprinkler System

.1 Provide automatic sprinkler protection.

.2 Reference Standards

- .1 NFPA 10: Portable Fire Extinguishers
- .2 NFPA 13: Installation of Sprinkler Systems
- .3 NFPA 14: Installation of Standpipe and Hose Systems
- .4 NFPA 17: Standard for Dry Chemical Extinguishing Systems
- .5 NFPA 17A: Standard for Wet Chemical Extinguishing Systems
- .6 NFPA 20: Installation of Stationary Pumps for Fire Protection
- .7 NFPA 22: Water Tanks for Private Fire Protection
- .8 NFPA 24: Installation of Private Fire Service Mains and Their Appurtenances
- .9 NFPA 25: Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
- .10 NFPA 96: Ventilation Control and Fire Protection of Commercial Cooking Operations
- .11 National Building Code of Canada
- .12 National Plumbing Code of Canada
- .13 National Fire Code of Canada

.3 General Requirements

- .1 Standpipe systems shall not be specified except where required by code. Standpipe systems shall conform to NFPA 14.
- .2 Double check valve backflow assemblies shall be installed on water supplies to all sprinkler systems.
- .3 Zone sprinkler systems in accordance with NFPA 13. Provide minimum number of zones required and match fire alarm zoning.
- .4 In locations where municipal water supply is not available, a water reservoir shall be incorporated into the foundations. Water storage for sprinkler systems to be separate from potable.
- .5 Glycol installations are not acceptable. Use dry pipe sprinkler systems for small unheated areas.
- .6 At each flow switch (including kitchen hood / elevator) an inspector's test connection and drain are required. A remote inspector's test connection is required for the highest most remote point.
- .7 Sprinkler drains (main) are to be piped to the exterior and 150 mm floor drain.

B. Division 21 Mechanical Performance Standards

B.21 FIRE SUPPRESSION

Sprinkler System (continued)

.3 General Requirements (continued)

- .8 A floor plan of the building indicating sprinkler and fire alarm zoning shall be placed at the main fire alarm panel and annunciators. Sprinkler valve locations shall be indicated. Coordinate with fire alarm.
- .9 Maintenance manuals shall include a copy of hydraulic calculations and shop drawings for pipe and fittings and sprinkler equipment.
- .10 Provide sprinkler hazard table on plans.
- .11 Provide site plan indicating location of fire hydrants and fire department connections.
- .12 Flow test shall be conducted to determine water supply where the latest test results available are over 1 year old.
- .13 The consultant shall perform hydraulic calculations and indicate pipe sizing on plans. Calculations shall be submitted to Department of Transportation and Infrastructure for review. A 15 percent safety margin shall be allowed in all calculations.
- .14 The consultant shall thoroughly coordinate routing of sprinkler system piping with building structure and other trades. Offsets required in sprinkler piping shall be indicated on plans.
- .15 The contractor shall be made responsible to produce installation drawings and submit corresponding hydraulic calculations to the Consultant and the Department of Public Safety, Technical Inspection Services Branch. The drawings and calculations shall be in accordance with NFPA 13.
- .16 Sprinkler system shall be provided with permanently attached nameplate at the base of the riser that indicates maximum water demand and pressure.
- .17 Schedule 40 galvanized steel piping to ASTM A53 shall be utilized on all dry pipe systems. Schedule 10 galvanized steel piping to ASTM A53 shall be utilized on wet pipe systems with pipe of a diameter greater than 65 mm. All piping smaller than 65 mm in diameter shall follow Schedule 40. Piping shall be galvanized inside and outside.
- .18 Gaskets for roll grooved piping systems used on dry pipe systems shall be designed to keep the joints dry and shall be listed for dry pipe systems. Cut grooving not permitted.
- .19 In areas requiring regular cleaning and sanitation of sprinkler head, concealed sprinkler heads shall be used.
- .20 Grease exhaust hoods exhausting grease laden vapours shall be provided with wet chemical extinguishing systems. All other grease exhaust systems shall be provided with wet sprinklers.

B. Division 21 Mechanical Performance Standards

B.21 FIRE SUPPRESSION

Sprinkler System (continued)

.3 General Requirements (continued)

- .21 Consultant shall specify that off shore piping is not acceptable. Pipe to be manufactured in Canada or United States. Fittings on dry systems to be galvanized.
- .22 Consultant shall specify commissioning of all systems and identify the parties who shall be required to attend. Coordinate commissioning verification by Department of Transportation and Infrastructure representative.
- .23 Contractor shall provide training on the system. Allow 1 day for training.
- .24 All underground piping shall be ductile iron suitable to withstand a hydro test of 200 psi for 2 hours per NFPA 13.
- .25 Attic Sprinklers shall not be used.
- .26 Pump rooms shall be monitored for low temperature. Cisterns shall be monitored for low water level and low temperature. All are to be connected to the fire alarm system and be ULC listed.
- .27 All equipment to be ULC listed.

.4 Site Inspections

- .1 Consultant shall provide inspection of complete sprinkler system installations ensuring that pipe materials and connections are in conformance with NFPA 13. Consultant shall verify that dry systems are installed properly graded and provided with the appropriate type gaskets at connections.

.5 Sprinkler System - Installer Qualifications

- .1 The Province of New Brunswick has legislated that all sprinkler installations be performed by person meeting the requirements of the Apprenticeship and Occupational Certification Act. All underground water supply piping shall be installed by a sprinkler system installer or licensed plumber.
- .2 Provide the following information in Sprinkler System Specifications:
Compulsory Occupation Requirements.
 - .1 Contractors are required to ensure that their workers are certified in accordance with the Apprenticeship and Occupational Certification Act. Section 17 (2).
 - .2 Contractors foreman shall hold a current Bronze Provincial Sprinkler Installation Certificate.

B. Division 21 Mechanical Performance Standards

B.21 FIRE SUPPRESSION

Sprinkler System (continued)

.6 21 30 00 Packaged Fire Pump

- .1 Horizontal split case pumps shall be specified. Reduced voltage type starters shall be used. Vertical pumps not permitted with the exception of vertical turbine pumps on reservoir systems.
- .2 Commissioning: Consultant shall specify that the contractor is responsible for Acceptance Testing, Performance and Maintenance Procedures for fire pumps in accordance with NFPA 20. Testing shall be witnessed by the authority having jurisdiction, Department of Transportation and Infrastructure representative and the Consultant. The Contractor shall be responsible for coordination of testing, and shall provide written notice of proposed time of testing a minimum of 7 days prior to that date.
- .3 A complete set of graphs and all test data and reports shall be submitted upon completion of testing. Specify one day of additional testing to be carried out by the contractor during the warranty period.

.7 21 24 00 Portable Fire Extinguishers.

- .1 Provide portable fire extinguishers in accordance with NFPA 10.
- .2 Provide a Type 'K' fire extinguisher within the kitchen
- .3 Portable Fire Extinguishers height to be in accordance with NFPA 10.

B. Division 22 Mechanical Performance Standards

B.22

PLUMBING

.1 Reference Standards

- .1 National Plumbing Code of Canada.
- .2 CAN/CSA Standard B651: Barrier Free Design for Washrooms.
- .3 CAN/CSA-B64.10: Manual for the Selection, Maintenance and Field Testing of Backflow Prevention Devices.
- .4 NRC National Energy Code of Canada for Buildings, 2011
- .5 ANSI/ASHRAE Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings.
- .6 CSA 317.1-09: Special Requirements for Plumbing Installations in Health Care Facilities. Class 'B' Facility.

.2 General

- .1 Catalogue cuts of proposed plumbing fixture selections shall be included with design development submissions for review by Department of Transportation and Infrastructure.
- .2 Provide identification for all piping systems.
- .3 Valve tagging is required on plumbing systems. Valve location identifiers to be provided on ceilings.
- .4 Drainage and vent piping: ABS DWV to CSA B181.1, SCH 40 PVC DWV to CSA B181.2 and cast iron with bituminous coating are acceptable for underground piping. Copper, cast iron or PVC piping systems conforming to National Building Code are considered acceptable on above ground applications.
- .5 Water Piping: Copper type L for above ground applications; soft copper type K for buried applications. Plastic piping systems meeting requirements of the National Building Code will be permitted for domestic water supply. Insulation is required on all plastic potable water piping systems with the exception of final fixture rough in.
- .6 Provide digital water meter in conformance with local municipality on water supply to building.

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.2 General (continued)

- .7 Sinks in resident rooms and care areas shall not have overflows as per CSA 317.1-09.
- .8 Potable water and fire protection systems shall not share storage tanks.
- .9 All trap primers shall be solenoid valves controlled by the BMS.

.3 Cross Contamination Protection

- .1 Provide point of use cross contamination protection as required by National Plumbing code of Canada, local municipal by-laws and local authority having jurisdiction and as indicated herein.
- .2 Premise Isolation: Provide double check valve assemblies for domestic water connections to all municipalities.
- .3 Testable reduced pressure backflow devices shall be provided to water supplies on fixtures including but not limited to kitchens, boilers, humidifier, bathing/shower units, trap seal primers and bedpan washers.

.4 22 42 02 Sanitary Fixtures

- .1 All fixtures and fittings shall be provided in accordance with CAN/CSA.B-45, CSA B-125 Standard and CAN/CSA-B651.
 - .1 Water Closets
 - .1 All water closets shall:
 - .1 be wall-mounted
 - .2 made of vitreous china
 - .3 be designed to have a maximum flush volume of 6L
 - .4 have an open front contrasting colour seat with integral check hinges and with a seat cover
 - .5 have a quiet flush action

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.4 22 42 02 Sanitary Fixtures (continued)

- .6 If the water closet is to be used for bedpan washing, it shall:
 - .1 be equipped with bedpan lugs
 - .2 have a pressure-reducing valve (PRV)
- .7 Wheelchair-accessible water closets shall meet the requirements of CAN/CSA-B651.
- .8 Water closets for bariatric residents shall be equipped with carriers or supports designed to support the extra weight of such residents.
- .9 Automatic flushing shall not be installed in resident care areas.
- .2 Resident Lavatories
 - .1 All lavatories shall:
 - .1 be made of vitreous china
 - .2 be equipped with concealed arm carriers for wall hung installations
 - .3 have 102mm blade handle hot & cold water faucets
 - .4 be equipped with open grid strainers
 - .5 have supply fittings equipped with moderators designed to produce laminar flow to eliminate aeration of water.
 - .6 not be equipped with an overflow
 - .7 be equipped with gooseneck spouts
 - .2 Other Lavatory Locations
 - .1 Lavatories for nursing stations, examination rooms, treatment rooms, and other similar locations shall be provided with
 - .1 blade handles(102mm) and open strainers
- .3 Flushing-rim-type Sinks (Hoppers)
 - .1 In areas where equipment such as bedpans are intended to be flushed or rinsed, sinks shall be
 - .1 of the flushing-rim type
 - .2 equipped with a PRV on bedpan cleanser
 - .3 equipped with manually controlled supply fittings.

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.4 22 42 02 Sanitary Fixtures (continued)

.4 Janitor or Soiled Utility Sinks

- .1 Service sinks shall be equipped with manually controlled supply fittings with a wall brace.**
- .2 Service sinks shall be Terrazzo.**
- .3 Reduced pressure principle back flow preventer required on hot and cold water supplies.**

.5 Bathtubs and Showers

- .1 All resident and staff bathing and shower facilities shall be**
 - .1 protected by a temperature-and/or pressure-compensating actuating valve**
 - .2 equipped with grab bars and supports**
 - .3 shall meet the applicable requirements of the CAN/CSA-B45 Series.**
- .2 Residents Requiring Assistance**
 - .1 A bathtub intended for use by residents who require assistance in bathing shall**
 - .1 meet the requirements of CAN/CSA-B651.**

.6 Showers

- .1 A shower that is intended to be wheelchair-accessible shall**
 - .1 be curbless or have a curb that is designed to accommodate wheelchair traffic**
 - .2 be equipped with a hand held shower for use by resident in a wheelchair**

.7 Shampoo Sink

- .1 Shall be wall mounted vitreous china hair wash sink with dual controls diverter faucet vacuum breaker and hand spray.**

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.4 22 42 02 Sanitary Fixtures (continued)

- .8 Bedpan Sanitizers
 - .1 To be provided in each soiled utility room. Sanitizer to be certified to DIN EN ISO 15883
- .9 Eye/face wash
 - .1 Eye/face washer units to be provided in medication rooms, kitchen, laundry, soiled utility and all maintenance areas.

.5 Plumbing

- .1 Roof Drainage
 - .1 Roof drains with plastic domes are not acceptable. Provide all necessary accessories for installation of roof drains, deck clamp, stainless steel gravel guard, extensions, bearing pan, etc.
 - .2 Flow control roof drainage systems are not acceptable.
 - .3 Provide insulation systems for storm drainage systems including piping and roof drain bodies.
- .2 Non Freeze Wall Hydrants
 - .1 Fully recessed in brass enclosure, complete with vacuum breaker.
 - .2 Removable key operator.
 - .3 Provide dedicated isolation valve inside building for water supply to each non-freeze wall hydrant.
 - .4 Provide non-freeze wall hydrant in locations to be determined in consultation with DTI.
- .3 Water Systems
 - .1 Initial system treatment. The complete potable water system shall be treated immediately prior to occupancy by the hyper chlorination method described in CSA 317.1-09.
 - .2 Potable water distribution system shall be designed in accordance with CSA 317.1-09-6.3.

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.5 Plumbing (continued)

.4 Domestic Hot Water System

1. In oil-fired facilities, domestic hot water shall be heated by heat exchangers (supplied with hot water from the boilers) in storage tanks. In gas fired facilities, high efficiency direct fired hot water heaters with stainless steel heat exchangers shall be used.
2. Hot water temperatures shall be adjustable
3. Temperature of the hot water shall be in accordance with Table 1 CSA 317.01-09.
4. Stops and supplies on barrier free fixtures shall be insulated to prevent injury.
5. Provide re-circulation for domestic hot water distribution systems so that hot water is available at every outlet in 10 seconds. NOTE: Low flow supply fittings require re-circulation piping closer to fixtures than traditional supply fittings. Domestic return shall be piped down wall at fixture.

.5 Piping Location

- .1 Do not route piping through electrical rooms, elevator machine rooms, server rooms, etc.
- .2 Do not route piping in areas in which freezing may occur, for example vestibules.
- .3 Do not route piping through exit stairwells.

B. Division 22 Mechanical Performance Standards

B.22 PLUMBING (continued)

.5 Plumbing (continued)

.6 Isolation

.1 Provide isolation for all fixtures and equipment in accordance with National Plumbing Code of Canada..

.2 Provide strategically located, ball type isolation valves to isolate different sections of the building from water distribution mains. All connections to water distribution mains to be made with ball type isolation valves. Isolation of groups of fixtures or equipment in any section of a building shall be made possible without disruption of water supply to large sections of the building.

.3 Locate all isolation valves above removable ceilings such as in corridors. Do not locate over drywall ceilings in washrooms, janitors rooms, etc.

.7 Elevator Pits

.1 Elevator pits require the installation of a NeilEffluent to be discharged by an oil sensing pump and control system in accordance with CSA B-44 Safety Code for Elevators and the latest requirements of Public Safety and local plumbing inspector.

.8 Garbage rooms, recycling rooms and soiled utility rooms shall be equipped with floor drain and hot and cold water hose bibs for wash down purposes.

.9 Commissioning

.1 Plumbing fixtures shall be commissioned to ensure installations are secure and fixtures function with no leaks.

B. Division 23 Mechanical Performance Standards

B.23 PROPANE AND NATURAL GAS

23 11 23 Propane and Natural Gas Systems

.1 Reference Standards

- .1 CSA B149.1: Natural Gas Installation Code
- .2 CSA B149.2: Propane Installation Code

.2 General

- .1 Natural gas and propane shall be considered for space heating, kitchen use, commercial clothes dryers and humidification.

.3 Isolation

- .1 Provide main shut off at point of entry to building, inside the building.
- .2 Provide an electrically operated solenoid isolation valve at the point of entry to the building, inside the building. This main solenoid isolation valve shall close when an alarm condition is initiated at the fire alarm panel or on loss of power. The solenoid must be manually reset.

.4 Propane Storage

- .1 Propane storage systems shall be provided by the propane supplier for the building. Building contracts shall provide for mounting pads, fencing, electrical and mechanical work required to complete the installation of the storage system. Coordinate with Architectural and Electrical.
- .2 Consultant shall calculate storage system requirements to provide for two week frequency of delivery at peak load conditions and based on vaporization rate required to meet peak load.
- .3 Propane is not to be considered as the primary fuel for heating.

B. Division 23 Mechanical Performance Standards

B.23

HEATING SYSTEMS

.1 Reference Standards

- .1 ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings except Low-Rise Residential Buildings.
- .2 NRC Model National Energy Code of Canada for Buildings.
- .3 New Brunswick Environment Act Regulations 87-97.
- .4 CAN/CSA-B 139-M91: Installation code for Oil Burning Equipment.
- .5 ASHRAE.
- .6 CSA B149.1 Natural Gas Installation Code.
- .7 CAN/CSA-A317.2-01 Special requirements for heating, ventilation and air-conditioning (HVAC) systems in Health Care Facilities.

.2 Source of Energy

- .1 Source of energy for heating shall be natural gas. In locations where natural gas is not available, propane or light oil shall be used.
- .2 Electric resistance heating is not accepted for new or renovation projects including significant additions to electrically heated nursing homes which shall be provided with natural gas, propane or light oil fired hot water heating systems.
- .3 Alternate Energy sources:
 - 1. Geothermal heating will not be considered.
 - 2. Selected projects will be considered for biomass heating system to cover base load with oil fired or propane backup.

B.23 HEATING SYSTEMS (continued)

.3 General

- .1 This standard provides criteria for the aspects of HVAC systems that are particular to Class 'B' Health Care Facilities.
- .2 This standard is not intended to dictate the design concept, but rather to provide guidance. The standard prompts discussion and assists in the formulation of rational, practical decisions.

.4 Space Temperature Control Design Criteria

- .1 Occupied temperature heating: 24 °C and cooling 26 °C for residents.
- .2 Occupied temperature heating: 22 °C and 24 °C cooling for administration offices and staff areas.
- .3 Occupied temperature heating: 22 °C and 26 °C cooling for kitchen and dietary.

.5 Terminal Units.

- .1 Commercial grade sloping top hot water perimeter convectors are acceptable in all non-residential areas.
- .2 Ceiling mounted radiant heating panels are acceptable for resident areas. Perimeter convectors shall not be used in resident areas.
- .3 In-floor heating distribution systems will be permitted where Consulting Team can demonstrate that first cost is less than or equal to the cost of ceiling radiant. Detailed cost comparison considering all associated mechanical, structural and architectural costs shall be provided. Perimeter convectors shall be utilized in administration areas. Floors with in-floor radiant heating shall be insulated in accordance with National Energy Code of Canada for Buildings 2011.
- .4 Provide force flow or cabinet heaters with heavy gauge steel cabinets and freeze protection at entrances.
- .5 Unit heaters may be utilized in storage areas, shops and mechanical or electrical rooms. Mount at heights sufficient so as not to disrupt the normal function of the areas and to prevent damage to the heating unit. Provide directional diffusers, fan guards and select for low speed operation.

B.23**HEATING SYSTEMS (continued)****5. Terminal Units (continued)**

- .6 Ceiling mounted heat pump and fan coil systems shall not be utilized in resident areas.
- .7 Heating terminals shall be accessible for inspection, cleaning and disinfection.
- .8 When in floor systems with low grade heating water are utilized, all space heating applications in the building shall utilize low grade heating water, including entrance heaters.
- .9 Reheat coils shall not be provided for resident spaces with the exception of tub rooms.

.6 Pressure Testing of Piping Systems

- .1 Consultants shall witness pressure testing of all piping systems and submit written test reports to Department of Transportation and Infrastructure. Indicate medium, type of piping system including pipe material and type of joints, test pressure and duration of test. Contractor shall provide adequate notification of time of testing to Consultant and Department of Transportation and Infrastructure.

.7 Glycol Systems

- .1 Glycol heat recovery loops are acceptable only when adequate space for energy recovery wheel is not available. Prior approval by Department of Transportation and Infrastructure is required.

.8 Oil Storage Systems

- .1 Provide sufficient storage for fuel delivery frequency of 7 days at peak load condition. Remote locations may require additional storage for less frequent delivery.
- .2 Installations shall comply with the New Brunswick Environment Act Regulations 87-97.
- .3 Underground oil storage systems are not allowed. Provide aboveground storage systems or indoor oil storage tanks for small heating systems.

.9 Propane Storage Systems

- .1 Provide sufficient storage for fuel delivery frequency of 7 days at peak load condition. Remote locations may require additional storage for less frequent delivery.

B. Division 23 Mechanical Performance Standards

B.23 HEATING SYSTEMS (continued)

.9 Propane Storage Systems (continued)

- .2 Propane storage and vaporizer to provide sufficient capacity to cover peak load. Consultants to size and coordinate requirements with fuel supplier.

.10 23 52 00 Boiler Plants

- .1 Boiler Control: EMCS shall enable boiler and run heating water circulators and blend pump when outside temperature drops below 18 °C. Boiler water temperature to be controlled at 87 °C by boiler aquastat or shall be controlled on an outdoor reset schedule for plants with condensing equipment. Provide heating water temperature sensor connected to EMCS for monitoring and alarm. Low and high water temperature to be programmed to dial out to pager. All hot water boilers shall be specified with one manual reset low water cut-off and one manual reset high temperature controller.
- .2 Heating Water Circulators and Blend Pump: EMCS shall provide start/stop and status for heating water circulators and blend pump where applicable.
- .3 Heating Water Supply Temperature Control: EMCS shall provide heating water supply temperature scheduling by positioning three way mixing valves. Heating water temperature shall be scheduled based on outside air temperature. Provide monitoring from EMCS for heating water supply and return temperatures.
- .4 Provide two (2) boilers sized at 2/3 peak heating and ventilation loads. Heating capacity of heat recovery systems shall be used to reduce the size of the boiler plant. Condensing boilers shall be used in conjunction with standard boilers to optimize plant efficiency of natural gas installations. Condensing boilers shall not be utilized when oil is the energy source.
- .5 All cast iron boilers shall be protected from thermal shock by providing blend pumps, or automatically controlled thermal shock prevention system.
- .6 The Boiler Inspector shall be notified of each boiler installation and shall be notified by Contractor at start up. Start up shall be carried out by qualified manufacturer's representatives. Provide written commissioning reports and combustion efficiency test. Once boiler start up is complete, provide 1 day training for building maintenance personnel.

B. Division 23 Mechanical Performance Standards

B.23 HEATING SYSTEMS (continued)

.10 23 52 00 Boiler Plants (continued)

- .7 Boiler Types:
 - .1 High quality cast iron sectional with swing out burners.
- .8 Burner Controls:
 - .1 Fully modulating.
- .9 Provide housekeeping pads for all equipment.
- .10 Provide natural ventilation for boiler plants. Do not use positive pressure systems.
- .11 Provide manual boiler drain valve for periodic flushing.
- .12 Place heating water circulators on heating water supply when required to prevent accidental activation of pressure relief valve on pump start.
- .13 Do economic comparison of low pressure to high pressure gas from PRV to boiler. Consider high pressure gas to boiler only where distance from PRV to boiler is of considerable length.
- .14 Boiler plants shall be located at grade level and accessible from outdoors. Provide boiler plant doors of adequate size for complete boiler replacement. Locate boiler room for flue gas discharge clear of air intakes to building.
- .15 Heating water pump shall be located such that they are readily accessible for maintenance. Do not locate at elevations where ladder access is required.
- .16 All plants with total capacity over 150 BHP shall be equipped with Guarded Plant Control Panel approved by authority having jurisdiction.

B. Division 23 Mechanical Performance Standards

B.23 HEATING SYSTEMS (continued)

.11 HVAC Treatment

- .1 Flush and clean with degreaser and silt/rust remover.
- .2 Provide pot feeder for hydronic systems and initial treatment for protection against corrosion and bacteria growth.
- .3 Provide test lab kit for water analysis to remain on site.
- .4 Provide on site training by chemical supplier to maintenance personnel.
- .5 Provide 5 micron filter across main heating water circulator.

.12 23 51 00 Chimneys and Breeching

- .1 Provide ULC listed chimneys designed for the intended application.
Exterior sections shall be stainless steel.
- .2 Provide appropriate insulation system for breeching.
- .3 Stainless steel breeching required for natural gas installations.
- .4 Flue liners required for natural gas applications.
- .5 Locate boiler room to minimize stack height requirements.

.13 23 05 19.1 Thermometers and Pressure Gauges

- .1 Provide sufficient thermometers and liquid filled pressure gauges so that heating system performance may be evaluated.
- .2 Select appropriate ranges and dial sizes for each thermometer and gauge.

B. Division 23 Mechanical Performance Standards

B.23 HEATING SYSTEMS (continued)

.14 Air Removal

- .1 Provide automatic air removal devices at strategic locations in distribution systems. Provide manually operated air removal devices for all terminal units.

.15 Hydronic System Balancing

- .1 Provide flow measuring devices to allow for hydronic balancing of major equipment including in-floor heating manifolds.
- .2 Provide flow measuring devices at strategic locations on major hydronic distribution loops to various areas of buildings.
- .3 Provide self-balancing reverse return distribution systems for perimeter heating terminal units. Flow measuring devices on each heating terminal unit are not required.
- .4 Provide complete schedule of flow measuring devices indicating design flow and pressure drop for each device.

.16 Expansion Tanks

- .1 Provide diaphragm type expansion tanks for hydronic systems connected to suction side of circulators.

.17 Piping Location

- .1 Do not route piping through electrical rooms or elevator machine rooms.
- .2 Do not route piping in areas in which freezing may occur.
- .3 Do not route horizontal piping on roofing systems.
- .4 Do not route piping through exit stairwells.

.18 Hot Water Distribution

- .1 Utilize high delta T for primary circulation of heating water.
- .2 Utilize variable flow pumping using variable frequency drives to maintain system pressure at varying load conditions.

.19 Essential Power

- .1 The heating plant shall be connected to emergency power in accordance with CSA Standard Z32 providing a minimum of 2/3 plant capacity.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING

.1 Reference Standards

- .1 ANSI/ASHRAE Standard 62-2010: Ventilation for Acceptable Indoor Air Quality.
- .2 NFPA 96 Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.
- .3 CAN/CSA-Z317.2-10: Special Requirements for heating, ventilation and air-conditioning (HVAC) systems in Health Care Facilities.
- .4 ASHRAE and SMACNA Standards.
- .5 ANSI/ASHRAE/IESNA Standard 90.1-2010: Energy Standard for Buildings except Low-Rise Residential Buildings.
- .6 NRC National Code of Canada for Buildings, 2011

.2 General

- .1 Ventilation systems shall be designed to provide adequate ventilation and humidification to maintain acceptable indoor air quality under occupied conditions. Outdoor air quantities shall be as recommended by ANSI/ASHRAE Standard 62, latest edition, Ventilation for Acceptable Indoor Air Quality. and CAN/CSA-Z317.2-10 Special Requirements for heating, ventilation and air-conditioning (HVAC) systems in Health Care Facilities.
- .2 All rooms and areas within Nursing Home shall be ventilated to ensure an air change rate adequate to control contaminant levels, temperature and humidity with air movement that is generally from clean to less clean areas.
- .3 Adequate access and service clearance shall be provided for maintenance and replacement.
- .4 HVAC systems shall provide for measurement, monitoring and alarming of air handling system parameters.
- .5 Energy conservation principles shall be incorporated in the design of HVAC systems to the reference standards. Where feasible, include in the design for energy recovery and reclaim, economizers, variable speed pumping and control strategies to maximize energy conservation.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.2 General (continued)

- .6 Isolation valves shall be provided at mechanical equipment.
- .7 Identification of piping and ductwork for HVAC systems shall be clearly labelled as to their function and direction of flow. Identification to be to the requirements of CGSB Standard 24-GP-3a.
- .8 Locate fresh air intakes so that contamination will not occur and exhaust air, relief air, flue gas and sewer gas will not be re-circulated. Outdoor air intakes shall be located at least 7.5m from any source of contaminant.
- .9 Ventilation systems shall be located to minimize distribution cost and space requirements. Provide multiple fan rooms or penthouses to locate fan systems near the areas to be served as part of the integrated design process.
- .10 Locate fresh air intakes and relief openings to limit the risk of water penetration. Intakes or relief openings shall be provided with drainage systems.
- .11 The bottom of outdoor intakes shall be at least 2 meters above grade or 1 meter above roof level.
- .12 Provide air-conditioning to the administration, care offices, dietary areas, laundry and staff areas, corridors, dining and lounges. Kitchen and laundry air conditioning systems shall be designed for minimum space temperature of 26 °C during cooling season.
- .13 Resident bedrooms, bath and shower areas to be air-conditioned to maintain temperatures not exceeding 26°C. Air conditioning shall be limited to one zone per house or air handling system with cooling stages being controlled by average space temperature for all resident spaces in the house. Hot gas bypass modulation to control supply air temperature and reheat shall not be provided.
- .14 Mini-split air-conditioning/heat pumps may be considered for supplementary air conditioning for nursing stations or areas with potentially high heat gains.
- .15 All distribution ductwork shall be located in heated space. Ductwork shall not be routed in unheated attic space.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.2 General (continued)

- .16 All air handling equipment to be located with penthouses or mechanical rooms. Roof-top units are not acceptable
- .17 Sidewall air diffusion is not permitted except where it is the only option. Sidewall diffusers are not permitted in resident rooms, dining or other areas where drafts would be objectionable.

.3 Air Circulation Rate

- .1 Provide minimum outdoor air and total air changes, relative pressurization and exhaust rates in accordance with Table 1 HVAC criteria in CAN/CSA 317.2-10.

.4 Space Humidity Setpoints

- .1 Occupied relative humidity during heating season to be maintained at 30%.

.5 23 72 00 Energy Recovery

- .1 Provide energy recovery for air handling systems serving resident houses and other systems with a fresh air percentage of outside air in excess of 30%.
- .2 Energy Recovery Wheels with sensible and latent heat reclaim shall be specified for all projects. Provide 30% efficient pleated filters on fresh and relief air inlets to energy recovery wheels. Configure air systems for draw through both sides of heat wheels. Provide monitoring of fresh and relief air entering and leaving temperatures. Provide variable frequency drive for full modulating control of energy wheel capacity. Dedicated fans are required to move fresh air relief over the energy recovery wheels to avoid problems with balancing at mixing sections. Fresh air and relief air systems shall bypass the energy recovery device during economizer cycle and fans dedicated to energy recovery device shall be shutdown.
- .3 Frost control shall be by modulation of wheel speed to reduce energy transfer when differential pressure across wheel exceeds set point.
- .4 Glycol heat recovery loops are acceptable only in retrofit installations when adequate space for energy recovery wheel is not available or fresh air and exhaust air systems are not in close proximity. Prior approval by the Department of Transportation and Infrastructure is required.
- .5 Provide access for complete removal of energy recovery wheels.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.6 23 44 00 Filtration

- .1 Fresh air and re-circulation air shall be filtered on all central air handling systems by 30% efficient preliminary filters followed by 90% efficient final filters to ANSI/ASHRAE Standard 52.1. Filters to be disposable type mounted in factory made housings which allow separate side access to each bank of filters.

.7 23 01 31 Duct Cleaning

- .1 All opened ducts shall be sealed during construction.
- .2 All air handling units and ductwork shall be thoroughly cleaned prior to occupancy.

.8 Preheat Coils

- .1 Glycol coils shall be used as preheat coils for air systems serving resident areas.
- .2 Preheat coils upstream of energy recovery wheels for frost control is not permitted.
- .3 Preheat coils shall be sized allowing credit for heat to be recovered by heat recovery devices. When heat wheel is on frost cycle or out of service EMCS shall reduce fresh air quantity as required to maintain supply air setpoint.

.9 Fan Discharge

- .1 Provide adequate space to accommodate the installation of properly designed fan discharge connections.

.10 High Concentration Fresh Air System

- .1 Constant volume, single zone, built up air handling system with air to air energy recovery devices, preheat coil, humidifier and economizer cycle for free cooling is the preferred ventilation system for resident houses.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.10 High Concentration Fresh Air System (continued)

- .2 Roof mounted systems are not accepted, and will be considered only in retrofit projects where space for mechanical room is not available. Approval from The Department of Transportation and Infrastructure shall be required prior to proceeding with design.

.11 Kitchen Exhaust and Make-Up

- .1 When grease producing equipment is installed in kitchens, kitchen grease exhaust systems shall be designed to NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. Utilize capture jet hoods or VAV to reduce energy requirements.
- .2 Provide air handling system with heating coil and filter mixing section. When kitchen hood is off, ventilation system shall operate at reduced volumes, maintain negative pressurization in the space during cooking periods.
- .3 Gas fired make-up air equipment is not permitted.

.12 Electrical Rooms

- .1 Provide exhaust fan and fresh air intake controlled by reverse acting thermostat for heat removal. Coordinate with electrical.

.13 Sound Control

- .1 Noise criteria for ventilation systems in all occupied spaces shall be as per ASHRAE.
- .2 Select fans at low speeds for acceptable sound levels.
- .3 Acoustical lining for ductwork shall be as per CSA 317.2-10 6.9.5.
- .4 Duct mounted silencers are not accepted.
- .5 Diffuser mounted combination butterfly fire/balance dampers are not accepted.
- .6 Locate mechanical equipment in areas that naturally protect occupied spaces from sound. Do not locate fan rooms directly above or adjacent to resident rooms. Locate adjacent to or above washrooms, storage spaces, etc.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AIR CONDITIONING (continued)

.14 Exhaust Fans

- .1 Provide built in disconnect switches with roof mounted exhaust fans.
- .2 Belt drives to be used when available.
- .3 Provide command and status for EMCS for all exhaust fans.
- .4 Provide operating dampers.

.15 Soiled Laundry Holding Areas

- .1 Soiled laundry will be stored in air tight bags prior to shipping. Provide air conditioning for soiled laundry holding areas and exhaust to maintain negative pressure relative to adjacent spaces. Refrigeration of soiled laundry holding areas is not required.

.16 Hair Salon Ventilation

- .1 Hair salon to be kept under negative pressure at all times and to be provided with a dedicated exhaust fan operated by a manual timer. Fan to be capable of exhausting 12 air changes per hour.

.17 Maintenance Shop

- .1 Provide a dedicated heat recovery ventilator for the maintenance shop.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AIR CONDITIONING (continued)

.18 23 84 13 Humidification

- .1 Humidification shall be sized allowing credit for humidity to be recovered by energy recovery devices.
- .2 When specifying packaged electrode steam generating humidifiers specify that supplier is responsible to inspect installation, do start-up and verify in writing that units are operating correctly with all permissives in place.
- .3 Hard wire in series with humidifier, high humidity switch, air flow switch and load side of fan starter. Any one condition shall prevent operation of the humidifier.
- .4 Testable reduced pressure principle backflow devices with air gap shall be provided for electric steam humidifiers. Protection may be shared with connection of other equipment to potable water distribution system such as boilers. Water piping downstream of backflow devices shall be labelled as non-potable water supply.
- .5 Where humidification is being provided for a facility supplied with water by a well system, the water shall be tested to determine water treatment requirements. Recommendations for water treatment shall be determined by the Consultant and provided to The Department of Transportation and Infrastructure for review. Water treatment shall be included in the project only with prior approval by The Department of Transportation and Infrastructure.
- .6 Install distribution grids or manifolds such that condensation in the ductwork will not occur. Acoustical duct liner systems to be avoided immediately downstream of distribution manifold. Drain pans at humidifiers are considered to create the potential for mould growth and are not accepted.
- .7 Gas fired humidifiers shall be utilized for buildings heated with natural gas.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.19 Air Distribution

- .1 Supply diffusers shall be square plaque type, non-adjustable white in colour.
- .2 Round balance dampers shall be good quality factory manufactured dampers or equivalent construction shop fabricated.
- .3 Flexible duct connections to diffusers shall be limited to 1.5 meters in length.
- .4 Provide rigid elbow connection to all diffusers.
- .5 Use low velocity ductwork fabricated to SMACNA and ASHRAE Standards.
- .6 Provide for leakage testing of ductwork systems. Include test report with air balance report.
- .7 Resident Areas: Ceiling space shall not be used as return air plenum. Return air systems are to be fully ducted. Administration and other staff areas: Ceiling space may be utilized as return air plenum.
- .8 Access doors shall be provided for inspection of all duct mounted components and cleaning of the duct system. Refer to CAN/CSA 317.2-10 6.9.6 for locations.

.20 Operating Dampers

- .1 Provide insulated operating dampers on fresh air, relief and exhaust openings for main air handling systems.

.21 Roof Mounted Equipment

- .1 Where roof mounted equipment is permitted by the Department of Transportation and Infrastructure, it shall be mounted on field fabricated curbs rather than on factory curbs. Factory curbs may be used to interface between the field fabricated curb and the equipment to be mounted. Fresh air intakes shall be minimum 1m above roof level.

.22 Emergency Power

- .1 Control systems for HVAC systems shall be connected to an emergency power supply to CSA Standard Z32.

.23 Smoking Rooms

- .1 Smoking rooms shall be exhausted at the required rate by ASHRAE and to maintain a minimum negative pressure of 5 Pa.

B. Division 23 Mechanical Performance Standards

B.23 VENTILATION AND AIR CONDITIONING (continued)

.24 Duct Lining

- .1 Ductwork and equipment with acoustic liners shall be protected by an impervious lining such that no unprotected acoustic insulation is exposed to the air stream.

23 82 39 ELECTRIC HEATING

- .1 Heat loss calculations shall be performed by the consultant in accordance with applicable ASHRAE Standards. The mechanical consultant shall determine the source of energy.
- .2 Electric resistance heating shall not be considered for new construction. Additions to existing Nursing Homes with electric resistance heating may continue with the same however prior approval is required from the Department of Transportation and Infrastructure.
- .3 If electric heating is to be used, it shall be supplied and installed by the Electrical trade. Baseboard electric heat shall consist of low density slope top heaters with grills covering the inlet and outlet where accessible to residents. Provision shall be made for duct heaters as supplied by the Mechanical trade. Heating control shall be by individual room thermostats.
- .4 Residential grade baseboard convectors may be used in the following areas: Offices and Administration Areas, and in Mechanical, Electrical and Communication Rooms.
- .5 The drawings shall include a heater schedule indicating: wattage, type, voltage, phase, type of control, location, branch circuit wire size and branch circuit overcurrent protection size.
- .6 Ceiling Radiant heat must be approved by The Department of Transportation and Infrastructure.
- .7 Electric heat to be controlled using triac relays and pulsing electronic thermostats tied into the building EMS.

B. Division 25 Mechanical Performance Standards

B.25 INTEGRATED AUTOMATION

.1 25 05 01 General Requirements

- .1 All new EMCS and existing EMCS requiring significant modifications and additions to accomplish renovation projects shall be web based Native BACnet DDC systems conforming to ANSI/ASHRAE Standard 135, A Data Communication Protocol for Building Automation and Control Networks. Systems shall be BACnet to the input/output level. Where existing buildings with non Native BACnet systems require significant additions preference will be given to replacing the entire system rather than adding on to or interfacing with redundant generations of controllers.
- .2 Communication: The building controller shall be capable of communicating with all Operator Work Stations either locally or remotely by using ISO 8802-3 (Ethernet) LAN Data Link/Physical Layer protocol (UDP/IP).
- .3 Provide minimum 10 percent spare capacity for main controller and all sub controllers communicating with the EMCS.
- .4 Specify critical alarms that are to be programmed to dial out to pager.
Critical Alarms shall include but not be limited to:
 - .1 Heating water supply temperature high/low.
 - .2 Energy Recovery Device failure.
 - .3 Supply air high humidity.
 - .4 Supply air temperature /high low.
 - .5 Fan status off when commanded on.
 - .6 Fan status on when commanded off.
 - .7 Pump status off when commanded on.
 - .8 Pump status on when commanded off.
 - .9 Boiler ignition failure.
 - .10 Freezers and cold rooms.
- .5 All field controllers shall be installed in suitable enclosures.
- .6 Do not locate OWS or master controllers in Boiler Plant.
- .7 Control cable jacket insulation colour; colour shall not be red, blue or yellow.

B. Division 25 Mechanical Performance Standards

B.25 INTEGRATED AUTOMATION (continued)

.2 Hard Wired Safeties

- .1 Provide hard wired air flow switch, high humidity limit switch and interlock to fan starter as permissives for humidifier operation.
- .2 Provide hard wired air flow switch and high temperature cut out as permissives for electric preheat coil operation.
- .3 Provide hard wired freezestat for all air systems.

.3 Standard Control Strategies

- .1 Energy Recovery Device or Preheat Coil Failure:
 - .1 On failure of energy recovery device or preheat coils and supply air temperature is not being maintained at set point, energy management control system shall be programmed to override fresh air minimum position and modulate dampers toward closed position until supply air temperature is satisfied. Energy recovery device or preheat coil failure shall be programmed to dial out to pager.
- .2 Low Limit Protection:
 - .1 DDC systems may include programmable low temperature limits to be used in conjunction with hard wired freezestats; however they are not to be used in lieu of hard wired freezestats.
- .3 Energy Recovery Wheel:
 - .1 Modulate variable wheel frequency drive to increase/decrease energy recovery wheel capacity. Systems without provisions for bypass; operate wheel drive at all times that air handler is in operation to prevent dirt loading of the energy exchange media. System with provisions for bypass, shut energy recovery device and fans down in economizer mode.
 - .2 Frost Control: Modulate wheel speed to maintain differential pressure set point across energy recovery wheel.
- .4 Economizer Control:
 - .1 Provide economizer cycle (free cooling) for all mixed air-handling systems. Bypass energy recovery device on economizer cycle.
- .5 Humidity Control:
 - .1 Control humidity level based on return air humidity.

B. Division 25 Mechanical Performance Standards

B.25 INTEGRATED AUTOMATION (continued)

.3 Standard Control Strategies (continued)

- .6 Resident Area Space Temperature Control:
 - 1. Heating – Modulate hot water valve to space to maintain heating units to maintain heating set point.
 - 2. Cooling (OAT>22C) – When the average resident room temperature rises above set point of 26C position fresh air dampers to minimum position and initiate first stage mechanical cooling. If average resident room temperature increases 1 C over set point of 26C start second stage cooling.
 - 3. Cooling (OAT>17C and <22C) – When the average resident room temperature rises above set point of 26C modulate fresh air and return air dampers to provide free cooling.

.4 Graphics

- .1 Graphics shall be provided for complete EMCS including all heating and ventilation systems, individual room controls and control sequences. Provide floor plans that indicate final room numbers, location of all controllers, field devices and wiring. Access system graphics from floor plans.
- .2 Graphics shall clearly indicate which spaces are served by each air handling system.

.5 25 01 11 Commissioning Verification

- .1 It is the responsibility of the Consultant to verify that control systems installation and contract pre-commissioning activities are complete prior to commissioning verification by The Department of Transportation and Infrastructure. The contractor shall be required to submit to the Consultant and the Department of Transportation and Infrastructure signed off points lists indicating that each point has been physically verified on site prior to the start of commissioning verification by the Department of Transportation and Infrastructure.
- .2 Upon receipt of written confirmation from the Consultant that all systems are complete and operational and upon receipt of the contractor's signed off points lists, the Department of Transportation and Infrastructure will begin a commissioning verification process with the installing contractor on site. The duration of this process will depend on the complexity and operational capability of the control system. Specify one day for ventilation or control retrofit projects and two days for major capital projects.

B. Division 25 Mechanical Performance Standards

B.25 INTEGRATED AUTOMATION (continued)

.6 Water Metering

- .1 EMCS shall monitor and track domestic water consumption.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL

26 05 00 COMMON WORK RESULTS – ELECTRICAL

.1 Reference Standards

- CSA C22.1, Canadian Electrical Code, Part I, Latest Edition
- National Energy Code of Canada for Buildings, Latest Edition
- CSA Z32, Electrical Safety and Essential Electrical Systems in Health Care Facilities, Latest Edition
- National Building Code of Canada, Latest Edition
- CAN/ULC S524, Installation of Fire Alarm Systems, Latest Edition
- CSA Z318.0, Commissioning of Health Care Facilities, Latest Edition
- EIA/TIA-568, Commercial Building Telecommunications Cabling Standards, Latest Edition
- ANSI-J-S-607-A, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, Latest Edition
- NFPA 20, Installation of Stationary Pumps for Fire Protection, Latest Edition

.2 Classification

- .1 CSA Z32 defines Nursing Homes as a class B health care facility and electrical systems within the 'patient care environment' are to conform to this standard.

.3 Energy Performance

- 1. Nursing Homes shall meet or exceed the requirements of the New Brunswick Green Building Policy.
- 2. All applicable mandatory provisions of National Research Council Canada (NRC) Model National Energy Code of Canada for Buildings (NRC MNECB) 1997 shall be complied with. Nursing Homes shall perform at a minimum 33% better than the reference building.
- 3. Energy Utilization Index: Energy utilization index shall not exceed 270 eKwh/m²/yr .Energy modelling shall be provided using DOE 2 based (eQuest or canQuest) software and shall be submitted to DTI for technical review to determine compliance of building.
- .4 Special exemption was obtained for the MNECB rule 7.2.1.2., 2a and as such the lighting distribution need not be separated from other building loads. Lighting circuits shall be fed from general distribution panel boards.

.4 Electrical Rooms/Generator Enclosures

- .1 Ensure Electrical Rooms containing transformers are remote from occupied areas that are either adjacent to, above, or below such rooms and that rooms have the appropriate fire separation as required by code.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 00 COMMON WORK RESULTS – ELECTRICAL (continued)

.4 Electrical Rooms/Generator Enclosures (continued)

- .2 The generator and all associated shall be located outside of the building in a dedicated enclosure. Enclosure shall have appropriate sound rating in relation to the proximity of the building.
- .3 Ensure that no water lines are run in or on walls or ceilings except where required by other applicable codes, (i.e. sprinkler systems). Avoid locating electrical/generator rooms under washrooms, locker rooms, shower rooms, janitor's closets, kitchens, staff rooms with sinks, or any other areas where flooding could occur.
- .4 Ensure rooms are large enough to house all required electrical equipment while maintaining the required working space clearances indicated in the Canadian Electrical Code, (CEC).
- .5 In electrical rooms, provide mechanical ventilation where transformers are present, based on calculated temperature rises due to equipment heat losses. Coordinate with mechanical.
- .6 In generator enclosure, provide mechanical ventilation that ensures adequate fresh air is drawn across the generator. Coordinate with mechanical.
- .7 Ensure doors are large enough and properly located to allow the removal of equipment for repairs or replacement and to meet the CEC requirements for entrance to, and exit from working spaces. Coordinate with architectural.
- .8 The main electrical room shall be located on the ground floor.

.5 Communication Rooms/Closets

- .1 Provide communications rooms/closets throughout the building. Ensure that all systems have adequate work space around them and minimum capacity for 25% expansion. Ensure the longest practical run of structured cabling is 90m.
- .2 Coordinate ventilation of communication rooms and closets, based on calculated temperature rises due to equipment heat losses. Coordinate with mechanical.
- .3 Provide adequate power outlets to supply communication equipment, including servers, switches, routers, hubs, and rack mounted power outlets, etc. Consult with the Department of Transportation and Infrastructure and the suppliers of equipment

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 00 COMMON WORK RESULTS – ELECTRICAL (continued)

.5 Communication Rooms/Closets (continued)

requiring electrical connection to ensure the appropriate voltage and phase characteristics are available.

- .4 Ensure that no water lines are run in or on walls or ceilings. Avoid locating communication rooms under washrooms, locker rooms, shower rooms, janitor's closets, kitchens, staff rooms with sinks, or any other areas where flooding could occur.

.6 Equipment Identification

- .1 Permanently affixed identification labels/nameplates are required for electrical distribution equipment. Identification shall be in English and/or in French.
- .2 All switchboards, panels, disconnect switches, transformers, control panels, magnetic and manual starters, and time clocks are to be provided with 'lamicoid' nameplates. Nameplates are to be mechanically affixed to all metal surfaces with metal type "pop-rivets" if possible.
- .3 Nameplates are to be affixed to other surfaces with contact type cement. Contact type cement is to be applied to complete back side of plate, as opposed to several points or locations on same.
- .4 Nameplates are to be affixed to building exterior surfaces with nylon inserts and self tapping screws unless specifically indicated otherwise.
- .5 Lamicoid nameplates installed on distribution panelboards, motor control centres, splitter troughs, transformers, shall indicate the following information in the following order:
 - .1 Designated name of equipment.
 - .2 Voltages, number of phases and wires.
 - .3 Designation of power source and circuit #.

Example:

PANEL N - 150 A 120/208V - 3PH - 4W FED FROM PNL CDP-A, CCT # 1,3,5
--

- .6 Lamicoid nameplates installed on combination starters, magnetic starters, manual starters and all various system controls, control panels, and disconnect switches shall contain the following information in the following order:
 - .1 Designated name of equipment.
 - .2 Voltage(s), number of phases and wires.
 - .3 Branch circuit breaker number(s).

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 00 COMMON WORK RESULTS – ELECTRICAL (continued)

.6 Equipment Identification (continued)

- .7 All junction and/or pull boxes shall be marked with an indelible ink marker to designate the circuit number of enclosed wiring, the designated panel name and electrical characteristics where applicable.
- .8 Identify branch circuit wiring including neutral conductors at both ends, including in all junction boxes located in between, with permanent indelible identifying markings, indicating panel and circuit number; i.e. A1-25.
- .9 Install an additional "Lamicoid" nameplate on all, or any piece of electrical equipment, or apparatus, i.e. Main Switchboard, CDP panels, panelboards, motor control centres, and fusible switches, etc. that may contain overcurrent devices, i.e. circuit breakers and/or fuses, that have been designed for, and incorporate an interrupting capacity sized "larger" than 10 kAIC.

Example:

Example:

Minimum interrupting capacity of breakers installed in this panel is to be not less than 22 kAIC	Minimum interrupting capacity of fuses installed in this MCC is to be not less than 100 kAIC
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- .10 Throughout the building, provide lamicoid nameplates indicating circuit number above all receptacles. Nameplates shall be mechanically fastened to the wall using screws.
- .7 **Quality Control, Electrical System Testing and Commissioning**
 - .1 Commissioning and Training shall be in accordance with the standard Commissioning and Training Specifications that have been developed by the Department of Transportation and Infrastructure. The Consultant shall familiarize themselves with the contents of the document as it relates to the roles and responsibilities related to the commissioning process. The standardized specification shall become part of the project.

B.26**ELECTRICAL (continued)****26 05 21 WIRES & CABLES (0-1000 V)**

- .1 Power feeders and branch circuit wiring shall be RW90–XLPE wire, Minimum wire size shall be #12 AWG solid for power and lighting loads, and for continuous loads over 10A. Stranded conductors will be permitted for conductors sized #8 AWG and larger. Minimum wire size for control circuit wiring exceeding 50 volts to ground shall be #14 AWG. Systems rated for 600 volts and less shall have the conductor insulation rated for 600 volts.
- .2 Feeders fed from an overcurrent device rated up to and including 100A are to utilize copper conductors. Feeders fed from an overcurrent device rated above 100A may utilize either copper or aluminum conductor material (ACM).
- .3 Wiring methods related to the installation of main feeders: Unless specifically indicated otherwise, feeder conductors are to be installed in rigid conduit. AC-90 cable is not permitted for feeders. The use of single conductor metal sheathed cable will not be permitted unless specifically approved by the Department of Transportation and Infrastructure.
- .4 Branch circuit work to be RW90 wire in conduit AC-90 or non-metallic sheathed cable where its use is acceptable in accordance with the CEC installed in accordance with the following guidelines:
 - RW90 wire in EMT shall be used for all horizontal distribution work above accessible ceilings (T-bar) and where exposed.
 - AC-90 or non-metallic sheathed cable may be used for fixture drops, above non-accessible ceilings and in wall partitions. When used for fixture drops install only from junction box to fixture. Loops between fixtures are not acceptable.
 - Maximum exposed length of AC-90 cable from junction box in accessible ceiling is 1500mm.
 - When AC-90 is used it must be ISO-BX with a #12 AWG insulated bond wire in patient care areas.
 - Conduit and armoured cable are to be:
 - Installed concealed in finished areas, parallel and perpendicular to building lines and adequately secured at not less than 1500mm intervals and as required by the CEC or as otherwise indicated, and in a manner to ensure they are protected from potential types of mechanical damage occurring.
 - Installed on independent supports specifically installed for cabling directly from the building structure. In ceiling spaces, do not use supports of other trades. Do not secure cables to mechanical systems piping, ducts, or suspended ceiling support wires.
 - Not laid 'un-supported' directly on top of ceiling grid system.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 21 WIRES & CABLES (0-1000 V) (continued)

- .5 All wires and cables shall be installed on the warm side of the vapour barrier where possible with vapour barrier penetrations kept to a minimum.
- .6 All cables are to be secured to concrete, concrete block, brick, and metal decking/siding; with inserts complete with self-tapping metal screws. Cables must be installed a minimum of 38mm below the bottom of roof decking. Pliable type cables are to be secured to building structure at 1220mm intervals and tie-wrapped together at mid-point between each structure support.
- .7 Voltage drop: in no instance shall the voltage drop exceed 3% of the line voltage for branch circuit runs. Voltage drop shall be based on the connected load or at 80% of the overcurrent device rating where the load is not known.

26 05 28 GROUNDING - SECONDARY

- .1 The main service entrance and distribution shall be a solidly grounded system.
- .2 Indicate grounding details on drawings including conductor sizes and insulation type, and the quantity and type of grounding electrodes for the incoming service and distribution transformers.
- .3 All grounding and bonding requirements shall be in accordance with the Canadian Electrical Code, Part 1.
- .4 Bonding and grounding conductors shall be copper with a green insulation covering. Bonding and grounding conductors up to and including #10 AWG shall be solid and have RW90 X-link insulation. For sizes of #8 AWG and larger, stranded TW75 green insulation is acceptable.
- .5 All feeders and branch circuit conductors installed in conduits shall include a separate green bond wire, sized in accordance with the CEC, minimum size #14 (solid) AWG except as follows:
 - .1 In patient care areas minimum bond wire size is #12 AWG.
 - .2 Where bond wire sizes larger than #14 AWG are required, they are to be increased as required by Table 16 of the CEC, or as otherwise noted.
- .6 Minimum size #14 AWG (solid) green insulated conductors are acceptable for bonding purposes associated with various control systems rated 50 volts or less.
- .7 Isolated ground systems and/or isolated ground type receptacles shall not be used unless prior approval is obtained from the Department of Transportation and Infrastructure.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 28 GROUNDING – SECONDARY (continued)

- .8 Where structural steel is used as part of the construction, the building steel is to be bonded to ground. The connection of the bonding conductor to the steel shall be by exothermic welding.
- .9 Communication systems such as telephone, data, cable T.V., sound, and fire alarm are to be grounded in accordance with the Canadian Electrical Code, ANSI J-S-607-A and manufacturer's requirements. Provide a minimum #6 AWG green insulated conductor in EMT from the main ground bus to the telephone and cable T.V. service entrance locations and to the main data communication racks.
- .10 Coordinate additional grounding and bonding requirements of communications systems with service provider to ensure compliance.

26 05 34 CONDUITS, CONDUIT FASTENINGS and CONDUIT FITTINGS

- .1 Where conduit is used for interior wiring it shall be in EMT, except where prohibited by code, unless noted otherwise. Panel feeders must be installed in conduit. Branch circuit power and lighting circuits, fire alarm, security and sound systems, communications and control wiring may be installed in conduit. All conduits shall be concealed except in electrical or mechanical rooms. Conduits shall be run parallel and perpendicular to building lines.
- .2 EMT connectors and couplings shall be the steel setscrew type. Where the probability of moisture exists, steel compression type fittings are acceptable or PVC conduit may be substituted provided it is installed in accordance with the latest Edition of the NBC. Aluminum conduits are not acceptable. Concrete embedded and under ground floor slab conduit shall be PVC or rigid conduit. Solvent cement for PVC duct joints to have a VOC content which meets or exceeds SCAQMD.
- .3 Flexible metal conduit, liquid tight flexible conduit and armoured cable are acceptable for short drops to motors, ceiling mounted equipment, etc. Anti-short insulators are required at each termination.
- .4 All EMT stubs are to be bonded to ground in accordance with the CEC.
- .5 Where metal type Q-Deck is being used, all conduits are to be installed on room sides of upper portions of same (directly above tops of, and at right angles to steel joists) and secured directly to sides of metal flutes and/or structure except for roofs. For roofs, conduits must be installed 38mm from bottom of decking in accordance with New Brunswick Electrical Inspection Bulletin No. 2-1-10.
- .6 All conduits to be installed on the warm side of the vapour barrier where possible with vapour barrier penetrations kept to a minimum.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 05 34 CONDUITS, CONDUIT FASTENINGS and CONDUIT FITTINGS (continued)

- .7 Conduit Fastenings shall be:
 - .1 One hole steel straps to secure surface conduits 53mm and smaller. Two hole steel straps for conduits larger than 53mm.
 - .2 Beam clamps to secure conduits to exposed steel work.
 - .3 Channel type supports for two or more conduits spaced at 1.5m o.c.; minimum 6mm diameter threaded rods to support suspended channels.
- .8 Conduit Fittings shall be:
 - .1 Fittings manufactured for use with conduit specified. Coating shall be same as conduit.
 - .2 Factory 'LB's': where 90 deg. bends are required for conduits larger than 40mm.
 - .3 Fish Cord shall be polypropylene.

26 05 81 MOTORS

- .1 Motors to be high efficiency type.
- .2 Motor 3.7kW (5HP) and larger shall be protected from phase loss, phase reversal and low line voltage.
- .3 Motors operated from a variable frequency drive are to be approved for use as an inverter-duty motor.
- .4 A motor list shall be incorporated on the drawings indicating location, feeder size, motor characteristics (HP; kW), phase, type, voltage, overcurrent protection size, etc.

26 12 16.01 DRY TYPE TRANSFORMERS UP TO 600 V PRIMARY

- .1 All transformers 600V and below are to be dry type.
- .2 Transformers rated over 75 kVA are to be bolted securely to concrete housekeeping pads.
- .3 Rubber vibration isolating pads are to be placed between transformer support channels at each of four corners, in locations where transformer has been secured to concrete housekeeping pad. Isolation pads shall be loosened until no compression is visible.
- .4 All dry type transformers shall meet the requirements of the latest Edition of CSA Standard C802 – Maximum Losses for Distribution Power, and Dry-Type Transformers. Use harmonic mitigating transformers when required for non-linear loads.
- .5 Ensure that shipping supports for transformers are removed only after transformers are installed and just before they are put into service.
- .6 The placement of wall mounted transformers shall be carefully selected to avoid high ambient temperatures.

B. Division 26 Electrical Performance Standards

B.26

ELECTRICAL (continued)

26 12 19 PAD MOUNTED, LIQUID FILLED, MEDIUM VOLTAGE TRANSFORMERS

- .1 Coordinate the incoming power supply with the Utility. Maintain the utility service entrance overhead for as long as possible to reduce the length of underground electrical services to the building.
- .2 Use of unit substations for service entrance require prior approval from Department of Transportation and Infrastructure. Padmount transformer installations shall be in compliance with the New Brunswick Utility Service Entrance Standards (NBSES) and the Canadian Electrical Code, Part 1.
- .3 Padmount transformers are to be located as close as practical to the electrical room preferably at the rear side of the building.

26 24 01 SERVICE EQUIPMENT

- .1 The electrical service conductors to the building to run underground.
- .2 The electrical service shall be sized based on the demand calculations in Section 8 of the Canadian Electrical Code, Part I. A detailed load calculation shall be included on the single line diagram and shall include the calculated connected load, relevant demand factors and the final calculated demand load. Obtain from the utility the 3-Phase symmetrical short circuit fault level at their electrical service entrance transformer(s) to determine the interrupting capacity required for the service equipment.
- .3 Electrical service entrance equipment rated in excess of 800 Amps shall be marked for continuous operation at 100% of the ampere rating of the main overcurrent device and shall include overcurrent protective devices, instrument transformers, metering equipment and other requirements of the local power utility.
- .4 The main service shall provide for minimum 25% load growth with appropriate space for future expansion.
- .5 A copy of the electrical distribution single line diagram, in a metal frame with clear polycarbonate glazing, to be located in the main electrical room.
- .6 Each individual load fed from the service entrance equipment to utilize wiring sized for 125% of the current rating of the load.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 24 01 SERVICE EQUIPMENT (continued)

- .7 When a fire pump is required for the building, the following design procedures shall be followed:
 - .1 It shall have a dedicated service from the utility as the primary source of power and use an approved fire pump controller in accordance with NFPA 20.
 - .2 It shall be connected to the generator as the alternate source of power using an approved fire pump controller and transfer switch.
 - .3 The wiring from the load side of the main overcurrent protection is sized according to 125% of the fire pump motor's full load current, plus 125% of the current for the associated electrical equipment. (CEC 32-200)

26 24 02 SERVICE ENTRANCE BOARD

- .1 Use metal enclosed assemblies complete with insulated case or moulded case (depending upon the application) circuit breakers where current, voltage and short circuit characteristics are within their limits. Draw-out type air circuit breakers are not permitted unless an application specifically warrants their use.
- .2 Main switchboards rated 600A and larger are to be free-standing complete with minimum working space of not less than 1220mm between any portion of the board and all walls surrounding same. The additional 220mm of space provided above and beyond the minimum one meter requirements of the CEC permits additional panels, cabinets, etc. of nominal depths to be installed on walls surrounding the switchboard without compromising minimum working clearance distances as required by the CEC.
- .3 All freestanding switchboards are to be rigidly secured (bolted) to concrete housekeeping pads.
- .4 Freestanding switchboards rated 1000A and larger are to include a bussed wireway enclosure for terminating incoming service conductors. Bussed wireway section shall not be less than 610mm in width.
- .5 Copper or aluminum phase and neutral bus, copper ground bus.
- .6 Customer's digital metering shall not be provided.
- .7 Switchboards readily identified and approved by the manufacturer as being suitable for a specific use, shall not be field modified to suit any other applications.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 24 02 SERVICE ENTRANCE BOARD (continued)

- .8 If not specifically designed for, and designated as such by the manufacturer as suitable for freestanding application, electrical equipment shall be raised off floors, secured directly to walls and or terminated (directly to) the enclosures with appropriate steel type connectors. Additional supports as may be required are to be installed between floor and underside, or bottom of enclosure.

26 24 16.01 PANELBOARDS BREAKER TYPE

- .1 All panelboards shall have bolt on breakers.
- .2 Allow 25% space in all types of panelboards for future growth.
- .3 Recessed panelboards shall have minimum of 3 - 21mm empty conduits to the ceiling space for future growth.
- .4 Panelboards are to be fitted with key locked type door complete with 2 keys. All panelboards shall be keyed alike.
- .5 Panelboards are to be complete with factory installed bonding terminal strips.
- .6 Breaker locking devices shall be provided as necessary for circuits supplying safety equipment.
- .7 Branch circuit panelboards shall be located within the area it serves to minimize lengths of branch circuit wiring runs. Preferable locations would be non-public areas that would allow easy access to the panel without interrupting the function of the space. Panelboards shall be recess mounted except in areas such as electrical and mechanical rooms or other types of service rooms.
- .8 Provide details for each new and/or existing panel on the drawings or panel schedule as per the following:
 - Physical Location
 - Voltage and phase(s)
 - Mounting options
 - Bus capacity in Amps
 - Total load
 - Ampacity of panel feeder of (main breaker)
 - Interrupting Capacity rating
- .9 Where more than one bonding terminal strip is present in any one panelboard, both shall be hard-wired together using identical size bonding conductor as the one accompanying the panel feeder conductors.
- .10 Where two panels serve the same area they are to be bonded together using #6 AWG minimum.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 24 16.01 PANELBOARDS BREAKER TYPE (continued)

- .11 Kitchen panels shall incorporate shunt trip breakers for the shutting down of ranges, grills, etc. in the event of a fire alarm.

- .12 Power distribution will normally be at 600/347 volt for HVAC and mechanical loads and 120/208 volt for lighting, convenience receptacles, kitchen equipment and miscellaneous loads.

- .13 Aluminum bus is acceptable in panelboards.

26 24 19 MOTOR CONTROL CENTRES

- .1 Wall mounted "grouped motor control" type MCC's may be used for groups of up to four starters.
 - 1. Use standard motor control centres where more than four (4) motor starters are required in the same location. Centres should be enclosed, dead front, free-standing structures. Use combination starters. Mount centres on continuous mounting channels on raised concrete housekeeping pads. Control centres can be high density IEC style. Cells shall be 'minimum' 508mm wide and 380mm deep. Wiring shall be EEMAC 1 type B. Provide wireways at the top, bottom or side for proper installation of all wires.
 - 2. Free standing MCC's are to be bolted to concrete housekeeping pads.
 - 3. Provide minimum 20% spare bussed space in all MCC's, for future growth.

B.26 ELECTRICAL (continued)**26 27 26 WIRING DEVICES**

- .1 Devices shall be commercial specification grade, except receptacles in 'patient care area' as defined in CSA Z32 are to be hospital grade, complete with high-impact resistant polycarbonate cover plates and as identified on Single Resident Bedroom Floor Plan Power Layout Drawing A.1.1.4.3. Receptacles in areas accessible by residents shall be tamperproof. Designs requiring switches rated more than 15A are not recommended for lighting control.
- .2 The location of receptacles and related outlets shall be coordinated with equipment layouts and indicated accordingly on the drawings.
- .3 Refer to Single Resident Bedroom Floor Plan Lighting Layout Drawing A.1.1.4.4. and Single Resident Bedroom Floor Plan Communications Layout A.1.1.4.5 indicating power and circuiting requirements for a typical resident bedroom.
- .4 15A, 120V receptacles located within 1.5m of a sink or washbasin shall be GFCI protected.
- .5 Provide dining spaces with 15A, 120V duplex receptacles on perimeter walls spaced at 6 meters maximum.
- .6 Receptacles for cleaning equipment are to be the combination 15 / 20A, 120V duplex type, CSA configuration 5-20R, located in corridors and large rooms. Limit the number of these types of receptacles in large rooms to those specifically requiring this configuration. The receptacles in each corridor shall be grouped on separate dedicated circuits, maximum spacing of 10m.
- .7 Exterior receptacles: a 120V GFCI protected duplex receptacle c/w lockable cover, hinged at the top, on separate circuits, shall be placed adjacent to every entry to the building and at 45m intervals away from the building entries.
- .8 Areas where computers are used: provide a quadplex receptacle, (or two duplex receptacles grouped together in a common 2 gang device box), adjacent to each single or dual data outlet jack. Branch circuits feeding computer locations are to have a maximum of three duplex receptacles per circuit or a maximum of three workstations per circuit. Provide same size branch circuit neutral conductor as accompanying phase conductor. Do not share branch circuit neutral conductors between different phases. Not more than one printer is to be fed from the same branch circuit. Locate printer as per user requirements.
- .9 Light switches throughout the building shall be installed at 1050 mm AFF.

B. Division 26 Electrical Performance Standards

B.26

ELECTRICAL (continued)

26 28 16.02 MOULDED CASE CIRCUIT BREAKERS

- .1 Breakers shall have sufficient interrupting capacity to withstand the available fault current.
- .2 Circuit breakers shall be bolt-on type only. Multi-pole breakers are to have a single handle. Tie-bars are not permitted.
- .3 Mini circuit breakers, twin, or tandem breakers are not acceptable.
- .4 Ground fault interrupting circuit breakers used in place of ground fault receptacles shall have a maximum, 5 mA trip.

26 28 23 DISCONNECT SWITCHES – FUSED AND NON-FUSED

- .1 Both fusible and non-fusible types of disconnect switches are to be rated 'heavy duty' and shall incorporate the following:
 - .1 A quick make-quick break mechanism, load make load break rated.
 - .2 Provision for padlocking the switch in either the 'on' or 'off' position.
 - .3 Doors shall be mechanically interlocked so as to prevent opening when the handle is in 'on' position.
 - .4 Fuse holders shall be suitable for the size and type of fuses as specified.
 - .5 On-off position of switch is to be indicated on enclosure.
 - .6 Provision of disconnect switches are to be coordinated with the mechanical equipment specified as some equipment may come with disconnecting means. Provide local non-fusible type disconnect switches typically for:
 - Humidifiers
 - De-humidifiers
 - Duct Heaters
 - Water Heaters
 - Electric Forced Air Heaters
 - Motor Loads
 - Air Handling Units
 - Exhaust Fans
 - Refrigeration

26 29 01 CONTACTORS

- .1 Where contactors are located near quiet areas, they shall be of the mechanical held type and shall be equipped with a HOA switch and pilot light.
- .2 Contactors and controls must be installed on all outlets serving comfort stations accessible to residents so they can be de-energized after hours.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 29 10 MOTOR STARTERS to 600 V

- .1 Coordinate control sequences to provide starters, and other auxiliary control equipment with the proper characteristics and features to obtain the performance intended.
- .2 Provide disconnect switches, starters and auxiliary control equipment which are not an integral part of packaged units described in equipment specifications, but which are required for performance and sequence of operation of equipment specified under other Divisions.
- .3 When a manual-automatic operation is required use a 'Hand-Off-Automatic' (H-O-A) selector switch. Connect the selector switch so that only the normal automatic regulating control devices will be bypassed when the switch is in the manual position. Connect 'all' safety control devices, such as low or high-pressure cutouts, high temperature cutouts, and motor overload, are in the control circuit in 'both' the Hand and Automatic positions of the selector switch.
- .4 Provide the following for all three-phase type motor starters:
 - .1 Magnetically operated motor starter.
 - .2 Fused 24V or 120V control transformer as required.
 - .3 Solid-state single phasing protection, phase reversal protection and low line voltage protection for all motor sizes 3.7kW (5HP) and larger.
 - .4 LED type red and green pilot lights.
- .5 Soft-start devices and solid-state starters are not to be used unless proven cost effective or required by the Utility.

26 32 13.01 POWER GENERATION DIESEL

- .1 An emergency electrical power distribution system must be provided and be designed to supply on-site generated emergency power to carry loads considered essential for the life safety and care of the residents. This includes the building lighting system and power distribution system in all resident areas, the entire building heating system, food preparation, laundry, systems such as nurse call, access control, fire alarm and other selected loads during a loss of normal utility power. The system must be in conformance with CSA-Z32 Electrical Safety and Essential Electrical Systems in Health Care Facilities. Generally, the system will consist of the following:
 - .1 Diesel engine driven, radiator cooled generator, located within a dedicated enclosure located outside.
 - .2 A dedicated fuel oil storage tank with capacity to operate the genset at full load for at least 24 hours.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 32 13.01 POWER GENERATION DIESEL(continued)

- .3 Automatic transfer switch(es) complete with the following;
 - .1 Solenoid operating mechanism.
 - .2 Double throw, interlocked transfer mechanism.
 - .3 Programmable microprocessor controller.
 - .4 Bypass and isolation feature.
 - .5 In-phase monitor.
 - .6 Normal source surge protection.
 - .7 Auxiliary contact sets.
 - .8 CSA Type 1 enclosure, with drip shield.
- .4 An automatic temperature control system must be installed to ensure generator enclosure temperatures are maintained within acceptable parameters. A ventilation system must be installed to provide air for combustion and for cooling.
- .5 Generator supplier must have established maintenance and service facilities in New Brunswick.

26 41 20 TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS)

- .1 Provide TVSS protection at the electrical power service entrance and all distribution panels that feed branch circuit panels which in turn feed computerized and electronic equipment.
- .2 Protection Modes: Transient voltage surge suppression paths shall be provided for all possible common and normal modes (between each line and ground, neutral and ground, line to line, and each line and neutral).
- .3 General Features:
 - 1. Connectors: Terminals shall be provided for all of the necessary input and output power and ground connections on the TVSS.
 - 2. Enclosure: The specified system shall be provided in a heavy duty NEMA 12 dust tight, enclosure with no ventilation openings.
 - 3. Unit Status Indicators: Red status indicators shall be provided on the hinged front cover to indicate unit phase status. The absence of the red light shall reliably indicate that one or more surge current diversion phases have failed and that service is needed to restore full operation.
 - 4. Fuses: The unit shall utilize internal fuses rated 600 VAC or greater and with a minimum interrupting capability of 200,000A or greater.
 - 5. Identification: The unit shall include manufacturer's nameplate, UL rating, and a CSA approval on the exterior of the enclosure.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 50 00 LIGHTING

- .1 Lighting in Nursing Homes shall follow IESNA Standards in general and IESNA RP-28, Lighting and the Visual Environment for Senior Living in particular in areas for resident use. Lighting that minimizes glare is preferred in areas for resident use.
- .2 Each resident bedroom must be equipped with appropriately located, aesthetically appealing light fixtures. Refer to Single Resident Bedroom Floor Plan Lighting Layout Drawing A.1.1.4.4. indicating the lighting requirements for a typical resident bedroom.
- .3 Corridor lighting to be designed such that it provides multi-level illumination for after hour periods.
- .4 Lighting Designers must coordinate with the Architect so as to maintain minimum room reflectance's as follows:

Ceiling	80%
Walls	50%
Floors	20%
- .5 Site lighting shall utilize pulse start metal halide or LED light sources and have an initial luminous efficiency of not less than 80 lm/W. Generally, site lighting will be accomplished by utilizing pole mounted and building wall mounted luminaires. Site lighting shall be laid out and/ or have shielding such that light from the luminaires will not cross the property boundaries or shine into resident's bedrooms. Luminaires for all site lighting shall use cutoff or full cutoff light distribution and shall be IP65 rated. Controlling of exterior luminaires shall be accomplished through the building management system.

B. Division 26 Electrical Performance Standards

B.26 ELECTRICAL (continued)

26 50 00 LIGHTING (continued)

- .6 Interior lighting circuits must be supplied at 120V, 347V is not acceptable. Exterior lighting circuits may be 347V.
- .7 Use of metric lamps, incandescent, u-shaped lamps, luminous ceilings and special color lamps that are not cost effective are not acceptable. Building flood lighting is to be avoided.
- .8 For capital cost as well as operation and maintenance reasons, the use of 1220 mm long high efficiency T8 lamps shall be used as the lamp of choice in as much of the area as possible. Lamps shall be high performance grade as identified on www.cee1.org website. The intent is to discourage the use of more costly (and sometime less efficacious) T5, 610mm T8 and compact fluorescent lamps wherever possible. Fluorescent lamps used generally to be high quality, high performance T8 lamps, high lumen where acceptable, minimum 3500K colour temperature, with Colour Rendering Index (CRI) minimum 86.
- .9 Fluorescent ballasts are to be electronic, CSA/ULC and CBM certified, high efficiency instant start, with a high power factor and total harmonic distortion of less than 10%. Fluorescent ballasts shall have a minimum ballast factor of 0.88 and an operating frequency greater than 40 kHz. When used in conjunction with occupancy sensors or daylighting control, only rapid start ballasts are acceptable. Electronic ballasts shall conform to ANSI C82.11 High Frequency Fluorescent Lamp Ballasts.
- .10 HID ballasts are to be high power factor, encased and potted. Only tested lamp ballast combinations are acceptable.
- .11 All fluorescent and HID lamps shall not contain more than 5mg of mercury per lamp.
- .12 Controls:
 - .1 Occupancy sensors or a combination of switching and occupancy sensors shall be used to control lighting in spaces such as offices, storage rooms, service rooms, staff lounge, and other spaces where practical.
 - .2 Analyze the use of daylight and/or vacancy sensors to reduce artificial lighting output in spaces when natural lighting is available. The preferred method of lighting reduction is to reduce number of energized lamps. Provide pay back analysis for review, prior to incorporating sensors into the project.

B. Division 26 Electrical Performance Standards

B.26

ELECTRICAL (continued)

26 52 00 EMERGENCY LIGHTING

- .1 Provide emergency egress lighting as required by the latest edition of the National Building Code. Units shall incorporate sealed maintenance free batteries complete with LED heads, solid-state charger, automatic self-diagnostic circuitry, test switch, and LED indicators for 'on' and 'charge'.

26 53 00 EXIT SIGNS

- .1 Provide exit lighting as required by the latest edition of the National Building Code.
- .2 Exit signs shall be LED type complete with battery backup.
- .3 In addition to CSA or equivalent certification, exit signs must meet C860 requirements.
- .4 Housing shall be high quality metallic.

B. Division 27 Electrical Performance Standards

B. Division 27 Electrical Performance Standards

B.27 COMMUNICATIONS

27 05 13 COMMUNICATIONS SERVICES

- .1 The incoming telephone service shall be supplied underground. Coordinate the telephone entrance installation with the telephone utility. A duct shall be installed underground from the service entrance pole to the main telephone equipment backboard in the main communications room for both telephone and cable TV utility use. Provide one spare duct for future additions or maintenance.
- .2 The data system shall be designed on an individual project basis and may be a wired or wireless system, or a combination of both. System requirements are to be determined in conjunction with the Department of Transportation and Infrastructure.
- .3 The telephone system installation shall be coordinated with the telephone utility to meet their and the Department of Transportation and Infrastructure requirements. A complete telephone system shall be provided.
- .4 Each resident bedroom and each living room in the resident households, resident communal and staff spaces must be wired for voice and data.
- .5 50 x 75 mm boxes are to be used with single or dual jacks for outlets. Wireless access point locations, if required, are to be coordinated with the Department of Transportation and Infrastructure.
- .6 Cables, jacks and all terminations shall be rated a minimum of CAT 6 for both data and telephone systems. Cables must meet applicable minimum NBC requirements.
- .7 Ensure that there is a minimum 25% spare capacity in patch panels for future growth.
- .8 Data and telephone cables must be installed following CSA T530 standards, avoiding routes that pass in close proximity to radiating electrical devices such as florescent lights, motors, photocopiers etc. Individual cable runs must not exceed 90 meters.
- .9 For a wired system a J-Hook or wire basket type tray system or combination of both shall be used where possible to allow for the installation and expansion of data, telephone system and other compatible services etc. All corridor ceiling areas from data and telephone outlets back to the distribution closet that are not accessible (e.g. gypsum board ceilings) are to be provided with suitable empty conduits to allow for future access.

B. Division 27 Electrical Performance Standards

B.27

COMMUNICATIONS (continued)

27 05 13

COMMUNICATIONS SERVICES (continued)

- .10 In distribution closets, equipment racks for the data system shall have EIA standard spacing, tapped, complete with 19 inch mounting rails and minimum 44U rack space. Equipment racks shall be complete with vertical cable management on both rack sides and of the same height as the rack.
- .11 In distribution closets, the telephone system shall be terminated using the BIX technology.

B. Division 27 Electrical Performance Standards

B.27 COMMUNICATIONS (continued)

27 05 13 COMMUNICATIONS SERVICES (continued)

- .11 An as-built plan view drawing showing both the location and numbering system for all data and telephone outlets as well as J-hook system or cable tray system routing is required for every project. When this is not available the installer will indicate on the existing plan all locations of information outlets and cable routing pathways. The installer is to leave 1 copy of the plan view at the site and submit 1 copy to the documentation file. All data and telephone cabling shall be identified in accordance with CSA T528.

27 51 30 DOOR INTERCOM

- .1 A doorbell/intercom system shall be provided between shipping and receiving area loading dock and reception.
- .2 A doorbell/intercom system shall be provided between the public entrance door, reception and between the ambulance door and reception if the ambulance doesn't use the public entrance.
- .3 Each system shall be linked to the staff paging/phone system and arranged so the link can be activated when reception is not occupied during afterhours operation.

B.27 COMMUNICATIONS (continued)

27 52 24 NURSE CALL SYSTEM

- .1 A complete audio/visual nurse/staff call system shall be provided.
- .2 Resident bedroom call station:
 - .1 Each bed location and/or resident shall be provided with a call device.
 - .2 Two call devices serving adjacent beds or residents may be served by one calling station.
 - .3 Calls shall be initiated by a resident activating either a call device attached to a resident's call station or a portable device that sends a call signal to the call station and shall:
 - .1 Activate a visual signal with no audio signal in the corridor at the resident's door or other appropriate location. In multi-corridor or cluster resident units, additional visual signals shall be installed at corridor intersections;
 - .2 Provide audio/visual indication of a resident call at the nursing station and at duty stations and provide for communication between the nurse and duty stations and the resident.
 - .3 Activate a pager/phone worn by a staff member, identifying the specific resident and/or room from which the call has been placed.
- .3 Emergency call station.
 - .1 An emergency call station shall be provided at each resident toilet, bath, and shower room.
 - .2 It shall be accessible to a resident lying on the floor. Inclusion of a pull cord will satisfy this requirement.
 - .3 The emergency call shall be designed so that a call activated by a resident is of higher priority than a regular call and initiate a signal distinct from the regular staff call. The emergency call can only be turned off at the resident's location.
 - .4 The signal shall activate an annunciator panel or screen at the staff work area or other appropriate location and at other areas defined by the functional program. In addition, the signal shall activate a visual signal in the corridor at the resident's door or other appropriate location and a staff pager/phone indicating the calling resident's name and/or room location.
- .4 Call device shall be provided at public gathering areas such as dining and living room areas.
- .5 In selected resident room door frames in each house, provide a motion sensor that alarms to the nursing station and pager/phone system if the resident leaves the room. The alarm may be activated and bypassed with a switch located on the corridor side of the door frame. Number and location of sensors to be identified in the functional program.

B.27 COMMUNICATIONS (continued)

27 52 24 NURSE CALL SYSTEM (continued)

- .6 All exit doors, except the main entrance, leading to the outside of the nursing home and to which residents have access shall be connected to an automatic alarm system registering at the Care Office and pager/phone and the alarm shall have a cancel and reset switch at each door.
- .7 Call cord receptacles to be mounted at ergonomically correct height.
- .8 Nurse Call System shall reference rooms by their name (Living Room, Multipurpose / Chapel Room, Dining Room, etc.) instead of their architectural room number.

27 53 30 TELEVISION

- .1 Coordinate requirements with service provider. Arrange for installation of service cable from street to the communications room.
- .2 Install a television distribution system within the facility.
- .3 System to consist of individual coaxial cables from the communications room to outlets provided in each resident room, lounge, and staff room. In accessible ceiling spaces cables may be supported using J-hooks or installed in a common wire basket tray used for communications cabling as an alternate to conduit.
- .4 Where acceptable with the cable and telephone utilities, the incoming cable TV service cable is to be run in the same duct as the telephone cable to the main communications room.

B.28 ELECTRONIC SAFETY AND SECURITY

28 13 00 ACCESS CONTROL

- .1 Electronic door access shall only be provided at limited locations as per the instructions from the Department of Transportation and Infrastructure. Exterior doors must be alarmed and separately annunciated at the central nursing station. This must include exterior doors accessible to residents. Local control must be provided through the use of electric latches, keypads, swipe cards and magnetic locks. System is subject to approval from the Department of Public Safety and Solicitor General, Technical Inspection Services Branch. Electronic door access shall only be provided at limited locations as per Department of Transportation and Infrastructure approval.
- .2 Each facility must have the ability to be secured to prevent resident elopement.
- .3 A connection to the fire system must provide an override where required by code. A single override button that releases all doors must be located in the fire alarm annunciator located at the Firemen's entrance.
- .4 In accessible ceiling spaces wires and cables may be supported using J-hooks or installed in a common wire basket tray used for communications cabling as an alternate to conduit.

28 23 00 VIDEO SURVEILLANCE

- .1 A video surveillance system to be installed with CCTV camera coverage in combination with proper lighting of parking lot, exterior entrance/exit doors and shipping and receiving.
- .2 Interior camera coverage to be provided for corridors and lounges.
- .3 Monitoring to be done at Reception and at the nursing station(s).
- .4 System to be complete with recording and storage of recorded material.
- .5 In accessible ceiling spaces wires and cables may be supported using J-hooks or installed in a common wire basket tray used for communications cabling as an alternate to conduit.

B. Division 28 Electrical Performance Standards

B.28 ELECTRONIC SAFETY AND SECURITY (continued)

28 31 00 FIRE ALARM SYSTEMS

A complete, fully supervised, addressable Fire Alarm System shall be provided to meet the requirements of the latest Edition of the National Building Code and the applicable CAN/ULC Standards for the installation of fire alarm systems in all Nursing Homes. The fire alarm system shall have the following characteristics:

- .1 Meet relevant code requirements. Wiring methods shall be in accordance with Section 32 of the CEC and may be wire in EMT or 300V armoured fire alarm and security rated cable. The fire alarm panel shall be connected, via a ULC Listed dual channel digital communicator, to notify a ULC certified monitoring station. The monitoring station shall be supplied the necessary information in order to relay alarms to the local fire fighters and other responsible persons as approved by the end user.
- .2 All the components of the fire alarm system shall be indicated on a single line drawing including alarm and signalling devices, zones, power connections, sprinkler connections, door holder connections and shut down circuits, etc.
- .3 Only manufacturers providing a complete service in parts, service and maintenance shall be specified. The Department of Transportation and Infrastructure reserves the right to reject manufacturers who have shown deficiencies in this area.

B.28 ELECTRONIC SAFETY AND SECURITY (continued)

28 31 00 FIRE ALARM SYSTEMS (continued)

- .4 The System shall include, but not necessarily be limited to the following:
 - .1 Fire Alarm Control Panel (FACP):
 - .1 Fully supervised, microprocessor based, zoned, non-coded, two stage.
 - .2 Installed in a separate enclosure complete with an integrated (built-in) TVSS protected point for power source termination.
 - .3 Power supplies.
 - .4 Annunciator.
 - .5 Stand-by batteries.
 - .6 Central processor complete with microprocessor and logic interface.
 - .7 Main system memory.
 - .8 A lamicoid nameplate shall be installed on the FACP cover indicating its designated power source and branch circuit breaker number. Use white lettering on red core. Provide a circuit breaker lock-on device for the FACP circuit.
 - .2 Input-output interfaces for alarm receiving, annunciation display, signalling, and program control:
 - .1 Initiating input circuits.
 - .2 Output circuits.

B. Division 28 Electrical Performance Standards

- .3 Auxiliary circuits.
- .3 Manual and automatic initiating devices.
- .4 Audible signalling devices, use chimes or similar to reduce resident stress. Ensure adequate number to meet audibility requirements. Chime with strobe should be utilized in areas where ambient noise level increases at times (tub room, kitchen, boiler room, etc.)
- .5 Visual signalling devices.
- .6 Remote annunciator at fire fighters entrance and nursing stations if FACP is remotely located.
- .7 Output control circuits for fire door holders, fan control, equipment shutdown, etc.
- .8 End-of-line resistors.

B. Division 28 Electrical Performance Standards

B.28 ELECTRONIC SAFETY AND SECURITY (continued)

28 31 00 FIRE ALARM SYSTEMS (continued)

.4 (continued):

- .9 Passive graphic display(s) on white photo bond paper in metal frame(s) with polycarbonate or Plexiglas glazing. In compliance with NFPA-72 6-2.3, the graphic(s) shall be designed and fabricated and installed in a manner to render them damaged and tamper resistant. The display(s) shall be securely attached to the wall adjacent to the fire alarm annunciator panel(s) and near the main fire alarm panel. The labelling on the graphic must closely correspond to the displays on the fire alarm annunciator or the labels for each fire panel alarm indication. Each graphic display must be oriented to match the direction of the location at which it is to be posted, i.e; oriented to the direction in which the person viewing the display is facing. All wording shall be in English and/or French depending upon location of facility. The floor plan drawing is to indicate:
 - .1 The building outline showing all exterior doors.
 - .2 The building's corridors, stairways and elevators.
 - .3 The location of, and divisions between, the fire alarm zones.
 - .4 The location of the main fire alarm panel (and annunciators where relevant).
 - .5 The location of the main sprinkler system valve and the supervised valve for each sprinkler zone. (Use of a legend and symbols is recommended).
 - .6 The duct smoke detector locations and zone numbers, where relevant. (Use of a legend and symbols is recommended).
 - .7 Kitchen fire suppression system, where relevant.
 - .8 An accurate "You are here" indicator.
- .10 ULC listed monitoring station service connection.
- .11 Propane gas supplied equipment shall be shut down upon activation of the fire alarm system. A key operated (manual reset) contactor is required in the power circuit for the propane gas solenoid, to achieve safe restoration of supply after an automatic shut-down.
- .12 Use alarm strobes or combination horn/strobes only in high ambient noise areas such as mechanical rooms. Do not use in areas accessible to residents.
- .13 Sprinkler system flow switches and supervised valves are required by ULC to include two micro switches. One contact indicates alarm (fire or supervisory, respectively) and the other contact is a tamper contact to initiate a trouble signal.

B. Division 28 Electrical Performance Standards

B.28 ELECTRONIC SAFETY AND SECURITY (continued)

28 31 00 FIRE ALARM SYSTEMS (continued)

.4 (continued):

.14 Duct smoke detectors shall be installed on the supply air side of the air handling unit and prevent the recirculation of smoke. Coordinate the air-handling systems operation upon fire alarm activation with the Department of Public Safety and Solicitor General Technical Inspection Services Branch. The shutdown of the air handling system shall occur only upon the activation of the duct smoke alarm.

.5 Each resident bedroom must be equipped with a smoke detector, separately annunciated at the FACP and remote annunciators.

B.32**EXTERIOR IMPROVEMENTS****.1 PERFORMANCE OBJECTIVE**

To develop the site in a cost effective method that is practical, functional and well designed and that meets all code and local bylaw requirements.

.2 TOPOGRAPHY

Qualified professionals shall develop the site to ensure an attractive, suitable and economical solution.

The Architect shall preserve the natural character of the site and any existing aesthetic resources of the site where possible by minimizing the disturbance of existing ground forms.

The Architect is to preserve, where possible, existing trees, ground covers, grades and land forms. Site disturbance must be kept to a minimum. Soils and Erosion Plan shall be written into the Specifications so the General Contractor is responsible to coordinate during Construction.

The site shall be adequately sloped to divert surface and subsurface water flow and surface run-off away from the building, walkways, parking areas and roadway. Existing grades are to be utilized where possible to facilitate positive drainage. The site shall not drain onto adjacent properties; run offs must be contained within property limits.

The building is to be situated for the optimum on site balance of cut and fill material. Existing topsoil and excavated material are to be reused where possible, when deemed suitable and compatible. The building should be oriented on the site to achieve good quality daylighting in occupied areas, especially resident bedrooms.

A geotechnical investigation will be done by the Department of Transportation and Infrastructure in cooperation with the Architect. Soil conditions are to be analyzed to determine the physical properties of the soil; the type and bearing capacity of the soil, the presence of a water table and rock locations. Rock removal procedures shall be outlined in the Tender Specification.

A topographic survey will be undertaken by the Department of Transportation and Infrastructure to provide information on:

- all relevant topographic features
- geotechnical elevations at determined grid points
- buried and overhead services
- boreholes or test pit locations
- site encumbrances

B.32 EXTERIOR IMPROVEMENTS (continued)**.3 SITE DEVELOPMENT**

The site shall be accessible to all pedestrians, services vehicles, buses, passenger vehicles and emergency vehicles. All roadways, parking areas and walkways are to be hard surfaced. All other areas affected by construction are to be seeded or sodded. Landscaping is to be limited to finish grading, seeding or sodding, trees and shrubs unless prior approval is received from the Department of Transportation and Infrastructure. Seeding and planting should be indigenous to the area. Testing of existing site conditions may be required to be able to specify the correct mix. Staff parking areas shall be gravel surface where feasible.

Roadways.

Site should be laid out to minimize length of roadways; roadways should be a minimum of six (6) metres wide for one way traffic and nine (9) metres wide for two-way traffic. Consideration should be given to snow clearing, buses and emergency vehicles. The service entrance must provide adequate turn space for tractor trailer deliveries.

Parking

See Nursing Home Functional Program for parking requirements. Parking spaces should also be 2500 x 5500mm, and barrier free spaces should be 3900mm x 5500mm. Barrier free spaces shall be provided at a rate of 1 per 25 parking spaces. Coordinate parking space quantities and dimensions with Municipal rules and regulations.

Pedestrian and Cyclist Traffic

It is highly recommended that pedestrian and cyclist traffic be separated from vehicle traffic (for example by grassed area, curbs, or sidewalk). Sidewalks should be two (2) metres wide for major walkways and 1.2 metres for others.

32 01 13 Flexible Pavement

- .1 All hot asphalt paving to be designed to New Brunswick Department of Transportation (NBDOT) Standard Specifications (current edition) for Asphalt Concrete – Item 260. All materials, mixes, compacting and laying of pavement to conform to NBDOT standards.
- .2 Paved areas shall have a minimum slope of 1% and a maximum slope of 4%.
- .3 Provide curb cuts at all driveway and walkway connections to ensure barrier free access.

B.32 EXTERIOR IMPROVEMENTS (continued)**32 93 10 Trees, Shrubs and Ground Cover Planting**

- .1 The Consultant is to provide a soil and planting mix design that supports minimal irrigation and materials that are indigenous to the site location.
- .2 Soil-mix design to include a properly proportioned mix of sand, silt and clay along with organic materials to achieve proper pH and organic levels in order to support finish vegetation without supplementary additives (i.e. fertilizers, lime, etc.).
- .3 Investigate existing subsoil conditions and design topsoil depth to suit.
- .4 Topsoil to be free of debris and stones larger than 25 mm in greatest dimension.
- .5 All areas to be top soiled to be scarified or otherwise loosened to a depth of 50 mm within one day preceding the placement of topsoil.
- .6 Contractor to submit grading and drainage plan and details of new and existing soil structure prior to commencement of Work.
- .7 Calculate quantities of material before hauling to site. Prevent bringing on site too much material and having to dispose of it afterwards. When possible as directed by project manager, return excess material to originating destination.
- .8 A minimum of 150 mm (rolled depth) topsoil is required in seeded areas and 100 mm (rolled depth) in sodded areas or as municipality dictates.
- .9 Consultant to specify finish vegetation requirements.
- .10 All seed mixes for finish vegetation to meet or exceed the requirements of the Canada Seeds Act for Canada No. 1 Lawn Grass Mixture.
- .11 Seeded and sodded areas are to be appropriately maintained until completion of the warranty period.
- .12 Sodding is to be specified instead of seeding except where less expedient results are acceptable.
- .13 Existing topsoil identified for reuse must meet vegetation requirements or be amended.
- .14 Existing topsoil intended for reuse to be stockpiled on site for future application. The topsoil shall be stored in a way that will not allow compaction of material. Top soil may be utilized as part of erosion and sedimentation control plan.

B.32 EXTERIOR IMPROVEMENTS (continued)**32 93 10 Trees, Shrubs and Ground Cover Planting (continued)**

- .15 The Consultant is to clearly outline maintenance schedule required during establishment period
- .16 The Consultant is to clearly outline maintenance schedule required during the warranty period.
- .27 Best practice principles would be to reuse the exiting topsoil promoting the growth of indigenous soil mix and planting materials.

B.33 UTILITIES**.1 SERVICES**

Site services are to include the supply of water (for domestic and fire protection systems), sanitary sewer and storm sewer installations, energy sources, telephone and power installations. Keep site disturbance to a minimum.

The source of domestic water, fire protection water and the treatment of sewage, if not readily available on site, shall be determined prior to design commencement. All site services are to be coordinated by the Architect with the municipality as applicable.

Services and utilities shall be designed in an efficient and flexible manner which will satisfy the user requirements with an optimum balance between capital and maintenance costs.

33 21 00 Water Supply – Potable Water

- .1 Water Quality Regulation (82-126) under the Clean Environment Act states “No person shall, without an approval, which approval must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks”.
- .2 Once site layout has been determined and proposed well location/s identified, Water Supply Source Assessment (WSSA) Initial Application shall be submitted to DELG. The required information as listed in Appendix B of DELG EIA Water Supply Source Assessment Guidelines shall be provided by the consulting team. The Engineer-Architect shall confirm the location for all wells prior to submission of the WSSA Initial Application.
- .3 For projects that require on site water supply systems, maximum well pump capacity shall be 9 USGPM. Provide pressure tanks to control well pump cycling and water storage systems vented to atmosphere coupled with water booster stations designed to meet hourly and daily water demand for the facility. Calculations for peak hourly demand and maximum daily water consumption shall be submitted to DTI.
- .4 With prior approval of DELG, drilling of water well on the site will be commissioned by DTI. Well capacity and water quality testing shall be carried out in accordance with requirements of DELG.
- .5 Well drilling, capacity testing and water quality testing shall be completed prior to finalization of design for water supply system. The designation and coordination of equipment prior to going on site shall be established in order to minimize site disturbance.

B.33 UTILITIES (continued)**33 21 00 Water Supply – Potable Water (continued)**

- .6 Water treatment systems shall be provided where water quality testing indicates the requirement. All treatment systems are to be approved by the Department of Transportation and Infrastructure prior to incorporation into tender documents. A description of each treatment system shall be provided and the purpose for the treatment indicated.
- .7 Consultant shall submit complete water supply system approval package to DTI and DELG for review 90 days prior to start of construction. Complete 'Approval Package' shall include well production test results, water quality tests results, Engineering drawings, specifications and application forms stamped and signed by a Registered Professional Engineer.
- .8 Minimum well diameter 150mm, connect to well using pit less adapter, provide lockable, vented well cap.
- .9 Well drilling as well as all excavations shall be coordinated with Erosion and Sedimentation Control Plan.
- .10 Ultra violet protection systems are to be provided for all on site water supply systems.
- .11 Water quality shall be tested after final commissioning of water supply and treatment systems. In the event that water quality is not acceptable, appropriate action shall be recommended by the Consultant. All recommended corrective actions shall be approved by the Owner's Representative prior to implementation.
- .12 Insulate atmospheric and pressurized water storage tanks and other cold surfaces to prevent condensation.

B.33 UTILITIES (continued)**33 36 00 Sewage Treatment Facilities**

- .1 In locations where municipal sewage connections are not available provide on-site sewage treatment system. Minimization of site disturbance shall be taken into consideration.
- .2 All sewage treatment facilities must receive prior approval from Department of Environment and Local Government and Department of Transportation and Infrastructure. All submissions for necessary approvals at all stages shall be by the Consultants.
- .3 Sewage treatment facilities must be located on the Nursing Home property.
- .4 In order of preference, acceptable sewage treatment facilities are as follows:
 - .1 Septic tank, siphon box and disposal field.
 - .2 Engineered wetland.
 - .3 Sewage lagoon discharging to a receiving brook. Requires minimum 305 m distance to Nursing Home and neighbouring occupancies.

B.33 UTILITIES (continued)**33 71 73 UNDERGROUND ELECTRICAL SERVICES**

- .1 Coordinate the site locations of all buried electrical services, i.e. telephone, cable TV, power, site lighting, with water and sewer lines, gas mains, etc. Where feasible communication ducts (telephone and cable TV) shall follow the same underground routing as the service conductors except where they must separate to terminate in their respective service rooms.
- .2 Coordinate electrical utility services to the Home with the respective utility.
- .3 Trench details for all electrical underground services shall be clearly shown on the electrical drawings. Define responsibility for work.
- .4 Underground duct banks for power, telephone and cable T.V. shall be direct buried except for high voltage cables or where ducts are located under sidewalk or paved areas or anywhere there is vehicular traffic; where they are to be concrete encased. Concrete re-enforcing is not normally required.
- .5 Exterior wiring other than the power, telephone and cable T.V. service entrances shall be underground and run in PVC conduit. Concrete encasement is not normally required.
- .6 All underground duct runs shall be marked with underground warning tape buried to a depth of 300mm directly over the entire length of the runs. The exact centerline location of all buried ducts and cables are to be on the 'record' drawings. Dimensioning shall refer to the building or other permanent fixtures for future reference.
- .7 All underground ducts are to be properly sealed with an appropriate sealant after the installation of wiring to prevent the entrance of water. Sealants to be verified for use to ensure there are no detrimental effects to the wiring insulation. Solvent cement for PVC duct joints with VOC content must meet or exceed SCAQMD requirements.

APPENDIX

a.1 AREA ANALYSIS CALCULATIONS

All area analyses for major capital projects shall adhere to the following definitions and procedures:

a.1.1 Net Area Calculations

The net area of all programmed or service and system spaces shall be calculated from face of interior wall to face of interior wall. Design elements such as outdoor verandas and courtyard shelters are not be included in the building area calculations as they do not have a basement.

Any space open to another storey shall not be included in the net area calculations of that second storey space. (See example).

Non-programmed area includes: Circulation space such as corridors, stairs and vestibules, interior walls and exterior walls.

The following net-to-gross building area conversions shall be used:

Resident House: 1.5

Functional programmed spaces are areas identified in the building program used to support the buildings mandate.

Service spaces within a programmed space and for its exclusive use count as part of that space's area. For example: Washroom in Family Quiet Room; Janitor's Closet and Washroom in Kitchen.

For Nursing Homes with Sprinkler Storage Tank Rooms, an additional area of 70 sq.m. will be added to the Nursing Home Functional Program. Area calculations for an underground cistern shall not be included in the building area.

a.1.2 Net Area Comparisons

All functional programmed areas shall be compared individually to the proposed areas. All differences shall be indicated.

The total of all functional programmed areas shall be compared to the total proposed areas. All differences shall be indicated.

These two analysis shall be done for both service and system spaces and functional spaces.

a.1.3 Gross Building Area Calculation

The total gross building area is calculated from face of exterior wall to face of exterior wall. The gross building area includes only the useable net floor area of any multi level vertical space. (See example).

a.1 AREA ANALYSIS CALCULATIONS (continued)

a.1.4 Gross Building Area Comparisons

The total programmed gross building area shall be compared to the proposed gross building area. Any differences shall be indicated.

a.1.5 Area Analysis Calculations

1. Net Area Calculations

$$\text{Net Area of a Resident Room (M)} = a \times b$$

$$\text{Total Net Resident Room area} = 4(a \times b)$$

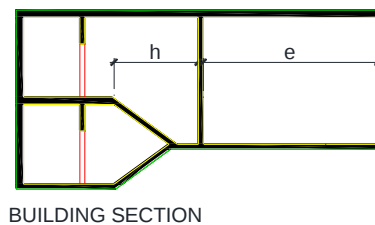
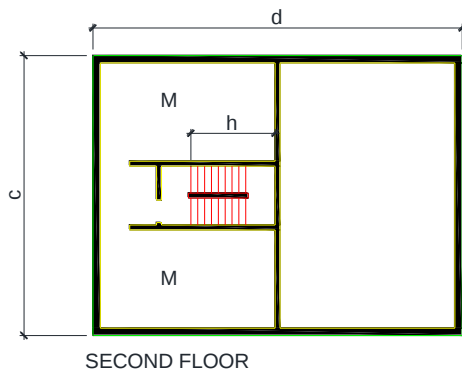
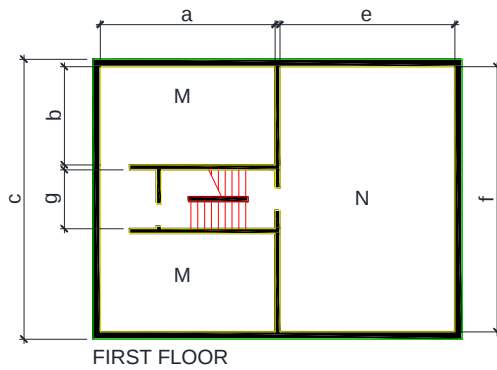
$$\text{Net Area of Multipurpose Room (N)} = (e \times f)$$

2. Gross Building Area Calculation

$$\text{Gross Area First Floor (P)} = c \times d$$

$$\text{Gross Area Second Floor (Q)} = P - (e \times f) - (g \times h) = Q$$

$$\text{Total Gross Building Area} = P + Q$$



a.2 PLANT MATERIAL

TOXIC PLANTS

PLANT INGESTION AND ALLERGIC SKIN REACTIONS POISON CONTROL CENTRE

Some residents may ingest plants or parts of trees; therefore it is essential that all plant life be non-toxic. Trees which drop fruit should also be avoided.

Poisonous or Toxic Plants:

Aconitum (Monkshood) (roots)	Diantus (irritates skin; gastro-intestinal)
Allamanda	Dictamus (gas plant - all parts)
Amaryllis (bulbs and leaves)	Diefenbachia (especially leaves)
Anemone	Digitalis (leaves)
Angel's Trumpet	Dumcane (especially leaves)
Anthurium (Boy Plant)	Dusty Miller
Apple Seeds	Eggplant (all except fruit)
Apricot (kernels)	Elderberry (all parts except ripe berries and flowers)
Arrowhead	Elephant's Ear (all parts)
Asparagus Fern (irritates skin)	English Holly (all parts)
Avocado (leaves)	English Ivy
Azelea (all parts)	Euonymus
Bane Berry	Euphorbia
Betel Nut Palm	Ficus Elastica
Bird of Paradise (seeds, pod)	Flax (all parts)
Bittersweet	Four O'Clock
Black Locust	Foxglove (leaves)
Bleeding Heart (leaves and root)	Gas Plant (all parts)
Boy Plant (all parts)	Geranium
Buckeye	Golden Trumpet
Burro's Tail	Gloriosa Lily
Buttercups (leaves)	Hedera
Caladium (all parts)	Hellenium (sneeze weed) (all parts)
Calla Lily (leaves and roots)	Hippeastrum
Carnation (irritates skin; gastro-intestinal)	Holly Berries
Castor Bean (seeds)	Horsechestnut (leaves, flowers, sprouts, nuts)
Cineraria	Horsetail Reed
Cherries -wild or cultivated	Hyacinth (bulb)
Choke Cherry	Hydrangea (all parts)
Chrysanthemum	Ilex (red berries)
Clematis (all parts)	India Rubber Tree
Clivia	Ipomoea (seeds)
Colchicum (bulb)	Iris (roots, leaves)
Coneflower (all parts)	Ivy - Boston, English and others
Cowslip	Jack-in-the-pulpit (all parts)
Convalaria (all parts)	Japanese Knotweed
Corn Lily (foliage)	Jasmine (leaves)
Crocus, autumn	
Crown of Thorns (sap)	
Cyclamen (bulb)	
Daffodil (all parts)	
Daphne (all parts)	
Death Camas	
Delphinium (young plant and seeds)	
Devil's Ivy	

Poisonous or Toxic Plants: (continued)

Jequirity Bean or Pea
Jerusalem Cherry (all parts)
Jessamine
Jimson Weed (all parts)
Jonquil (bulb)
Laburnum
Lantana Camara (green berries)
Larkspur (all parts)
Lathyrus (Seeds)
Laurels
Lily of the Valley (all parts)
Lingustrum (leaves and berries)
Lobelia (all parts)
Lupine (all parts)
Mango (all except fruit)
Marijuana (all parts)
May Apple
Milk Bush (sap)
Mistletoe (berries)
Monkshood (all parts)
Monstera
Moonseed
Morning Glory (seeds)
Mother-in Law Plant
Mum
Mushrooms (all parts)
Mustard (all parts)
Narcissus (all parts)
Nerium
Nicotiana (all parts)
Nightshade (berries, leaves, roots)
Oak Tree (raw acorns, young sprouts)
Oleander very toxic (all parts)
Ornamental poppy
Papaver (poppy) (all parts)
Parthenocissus (Virginia Creeper) (all parts)
Peach (except fruit, especially seeds)
Pepper (ornamental)
Pelargonium
Periwinkle
Persea
Peyote
Philodendron (leaves and stem)
Plum (American, wild)
Poinciana (green seed pods)
Poinsettia (sap and leaves)
Poison Ivy
Poison Hemlock
Poison Oak
Pokeweed (all parts)
Poppy (except California poppy)
Potato (all parts except tuber)
Pothos
Primula

Primrose
Privet (leaves and berries)
Ranunculus (leaves)
Red Sage
Raphidephara
Rhododendron (all parts)
Rhubarb (leaves)
Rosemary Pea (Seeds)
Rose (miniature)
Rudbeckia (Cone flower) (all parts)
Scilla (all parts)
Scindapsus
Scotch Broom (seeds and leaves)
Shrub Verbena
Shingle Plant
Skunk Cabbage
Sneezeweed (all parts)
Snow Drop (all parts)
Spathe Flower
Spurge (all parts)
Star of Bethlehem
Strelitzia (Bird of paradise (seeds, pods)
Sweet Pea (seeds)
Swiss Cheese Plant
Tobacco (all parts)
Thorn Apple (all parts)
Tomato (except fruit)
Tulip (bulb)
Umbrella Plant
Virginia Creeper (all parts)
Wandering Jew
Water Hemlock (root and stock)
Water Lily (all parts)
Weeping Fig
White Flag
Wisteria (pods and seeds)
Yew (all parts)
Zantedeschia
Zebra

Safe Plants:

African Grape
African Lily (of the Nile)
African Violet
Air Pine
Aloe
Aluminum Plant
Aralia (false)
Areca Palm
Aspidistra
Baby's Tears
Begonia
Birds Nest Fern
Black Eyed Susan
Bloodleaf
Bromeliad
Butterfly Palm
Canterbury Bells
Carrot Fern
Chenille Plant
Chilean Jasmine
Chinese Evergreen
Christmas Cactus
Club Moss
Copperleaf
Coral Bead Plant
Coralberry
Corn Plant
Creeping Charlie
Croton
Cupid's Bow
Date Palm
Dracaena
European Fan Palm
False Aralia
Fingernail Plant
Firecracker Flower
Flame Violet
Friendship Plant
Fuchsia
Gardenia
Gasteria
Gloxinia
Gold Dust Tree
Goldfish Plant
Harebell
Heather
Holly Fern
House Lime
Hoya (wax plant)
Impatiens
Ixora
Jade Plant
Kangaroo Vine
Kentia

Lily of the Nile
Lipstick Plant
London Pride
Maidenhair Fern
Maranta
Mother-in-Laws Tongue
Nerve Plant
Norfolk Island Pine
Orchid
Palms
Panda Plant
Parlour Maple
Passion Flower
Peacock Plant
Persian Violet
Piggy Back Plant
Pittosporum
Pouch Flower
Prayer Plant
Purple Heart
Purple Passion Vine
Rosary Plant
Ruellia
Sakaki
Saucer Plant
Saxifraga
Sedum
Schefflera
Shrimp Plant
Snake Plant
Staghorn Fern
Stephanotis
Stove Fern
Tapestry Vine
Thunbergia
Ti
Umbrella Plant
Waxplant
Zebra Plant

a.3 COMMISSIONING AND TRAINING SPECIFICATION SECTION 01 91 13

The following standard Commissioning and Training Specification shall be used on all Nursing Home projects.

PART 1 - GENERAL**1.1 GENERAL**

- .1 Commissioning is a planned program of tests, procedures and checks carried out systematically on systems and integrated systems of the finished Project. Commissioning is performed after systems and integrated systems are completely installed, functional and Contractor's Performance Verification responsibilities have been completed and approved. Objectives:
 - .1 Verify installed equipment, systems and integrated systems operate in accordance with design criteria and intent.
 - .2 Ensure appropriate documentation is compiled into the Operating and Maintenance Manual.
 - .3 Effectively train Operating and Maintenance staff.
- .2 Provide a fully functional facility with systems, equipment and components integrated to satisfy functional requirements prior to date of acceptance. Facility users and operating and maintenance personnel shall be trained prior to occupancy.
- .3 No later than 8 weeks after the award of tender, the contractor shall submit the name of the contractor's commissioning coordinator, preliminary commissioning schedule and proposed commissioning procedures.
- .4 Provide 14 days written notice prior to closing in walls or ceilings to provide Owner's Representative Commissioning Agent an opportunity to inspect systems for service and maintenance related issues.
- .5 The contractor shall provide written notice 21 days prior to start of commissioning verification.
- .6 Mechanical and electrical contractors and equipment manufacturer's installers and specialists shall be retained by the contractor to provide assistance as required through the commissioning process.
- .7 The contractor shall provide communication devices and equipment required to carry out commissioning activities and shall cooperate with the Owner's Representative commissioning agent for third-party verification of the performance of systems which have been integrated into the building.

- .8 The contractor shall be responsible to provide start up instructions, technical information and testing procedures for all equipment. They shall also provide all of the personnel and equipment required by the contract documents during inspection, start up, verification and performance testing phases.

1.2 ROLES AND RESPONSIBILITIES

- .1 **Contractor:**
 - .1 Provide commissioning schedule.
 - .2 Assign contractor commissioning coordinator. The contractor's commissioning coordinator shall coordinate all contractors involvement in the commissioning process.
 - .3 Complete all commissioning activities to bring the project to a functional state with equipment and systems operating in an optimized state, fully commissioned.
 - .4 Collect and assemble pre-commissioning verification submittals into indexed Operation and Maintenance Manuals prior to start of Commissioning Verification.
 - .5 Perform tests, pre-start up checks, start up procedures and performance testing. Report results on contractor developed forms completed by the contractor. Manufacturer pre-start check sheets and start up procedures and performance test forms shall be acceptable.
 - .6 Complete Commissioning Verification under the direction of the Owner's Representative Commissioning Agent.
- .2 **Owner's Representative Commissioning Agent**
 - .1 Maintain an overview of the contractor's commissioning process and activities.
 - .2 Review pre-commissioning verification submittals for accuracy, organization and completeness.
 - .3 Periodically visit the construction site to review installations and report operational and maintenance issues including but not limited to: access for service and maintenance, integrity of pipe, equipment and ductwork insulation systems, adequacy of support for equipment and distribution systems, vibration and acoustic control systems, moisture control, cleanliness and protection of open ductwork and air handling equipment and compliance with electrical codes and standards.
 - .4 Review contractors commissioning schedule for accuracy and completeness.
 - .5 Initiate commissioning verification process. Provide a written report indicating operational deficiencies and make recommendation for remedial action and report results on commissioning

verification forms provided by the Owner's Representative Commissioning Agent.

.6 Witness tests, pre-start up checks, start up procedures and performance testing being carried out by the contractor.

.3 Facility Users and Operating and Maintenance Personnel:

.1 Become familiar with building systems through periodic site tours to be facilitated by the contractor's commissioning coordinator.

.2 Review pre-commissioning verification documentation prior to receipt of training.

.3 Witness tests, start up procedures and performance testing being carried out by the contractor.

.4 Attend training session(s) provided by contractor.

1.3 NON-CONFORMANCE TO PERFORMANCE VERIFICATION REQUIREMENTS

.1 Should equipment, system components, and associated controls be incorrectly installed or malfunction during Commissioning, contractor to correct deficiencies, re-verify equipment and components within the unfunctional system, including related systems as deemed required by Owner's Representative, to ensure effective performance.

.2 Costs for corrective work, additional tests, inspections, to determine acceptability and proper performance of such items to be borne by Contractor.

1.4 WITNESSING OF COMMISSIONING ACTIVITIES

.1 The contractor's Commissioning Coordinator, the Owner's Representative Commissioning Agent, consultants, operating and maintenance personnel and facility Users will witness tests, start up procedures, performance testing and other relevant commissioning activities that are to be carried out by factory trained technicians.

1.5 PRE-COMMISSIONING VERIFICATION SUBMITTALS

.1 The following documentation shall be submitted by the contractor prior to the start of commissioning:

.1 Written statements that all systems are fully operational, inspected and deficiencies corrected.

.2 List of sub-contractors and suppliers involved in construction of the facility.

.3 Record drawings and maintenance manuals including shop drawings.

.4 Maintenance materials, special tools and spare parts inventory for operating and maintenance.

.5 WHMIS and MSDS data sheets.

.6 Permits, licenses and warranties.

.7 Hydronic and air balancing reports.

- .8 Minimum fresh air volumes for each air handling system.
- .9 Static air and water pressure setpoints for variable speed fans and pumps respectively.
- .10 Obtain certificates of approval, acceptance and compliance with rules and regulation of authority having jurisdiction.
- .11 Sprinkler system test certificates.
- .12 EMCS sign off sheets indicating that the contractor has verified each point to be terminated correctly and verification that operating sequences have been tested and verified.
- .13 Final sequence of operations for systems.
- .14 Copy of inspection reports and written confirmation that deficiencies have been corrected.
- .15 Emergency power test reports.
- .16 Fire alarm certificates.
- .17 Security systems certificates.
- .18 Data and voice communication systems certificates.
- .19 Control setpoints for lighting control system.
- .20 Start up reports for all equipment indicating equipment tag number, nameplate data, electrical rating and power draw. Start up forms to be provided by the contractor and completed by the contractor. Manufacturers start up forms are acceptable. Include factory and on site test certificates for specified equipment and signed pre-start check lists.
- .21 Pipe pressure test forms.
- .22 Flushing, cleaning and chemical treatment reports.
- .23 Confirmation that all cleaning has been done and that filters have been replaced and strainers cleaned.
- .24 Training Plan developed by contractor in accordance with 1.8 Training.
- .25 Verification that all systems are programmed using the permanent room numbers/designations. This would apply to EMCS, fire alarm, security etc.

1.6 COMMISSIONING

- .1 The contractor shall submit the following to the Owner's Representative Commissioning Agent:
 - .1 Commissioning Schedule coordinated with project construction schedule.
 - .2 Commissioning Team members.
 - .3 Sub-contractor and equipment supplier requirements.
 - .4 Indexed pre-start up check lists, equipment start up testing forms, and equipment performance test forms.
 - .5 Detailed list of equipment, systems and sub-systems to be commissioned.

- .2 The following system types shall be subject to commissioning:
 - .1 Potable water storage and delivery systems (where applicable).
 - .2 Fire protection water storage and delivery systems (where applicable).
 - .3 100% of control points and sequences.
 - .4 Lighting Controls
 - .5 Emergency Power Plant and transfer systems. (where applicable)
 - .6 Electrical Switchgear and power monitoring systems.
 - .7 Energy Monitoring Systems. (where applicable)
 - .8 Sewage treatment facilities. (where applicable)
 - .9 All HVAC systems including cooling equipment, complete air handling systems and associated equipment, complete heating plant and heating distribution equipment including water treatment systems.
- .10 Fire alarm system.
- .11 Nurse call system.
- .12 Emergency lighting (battery units).
- .13 Public address and mass notification system.
- .14 Door intercom.
- .15 Access control.
- .16 Video Surveillance.
- .17 Other electrical/communication systems that may be present but not listed above.

1.7 COMMISSIONING VERIFICATION

- .1 The primary focus of Commissioning Verification will consist of on-site commissioning activities to verify control wiring termination and control sequences. Specialty systems such as emergency power systems, lighting, fire and life safety systems, communication systems and security systems shall be fully commissioned by factory trained technicians/specialists and reports submitted prior to Commissioning Verification.
- .2 The contractor shall carry out Commissioning Verification under the direction of the Owner's Representative Commissioning Agent. Commissioning Verification will occur only after the contractor's start up and equipment performance test procedures have been completed. All systems shall be complete, fully functional and inspected with all deficiencies corrected.
- .3 Commissioning Verification activities will include verification of EMCS through the manipulation of control systems to activate control sequences, verification of TAB and a thorough review of the facility to ensure adequate space for service and maintenance of equipment.
- .4 Systems to be operated at full capacity under

various modes to determine if they function correctly and consistently. Systems to function interactively with each other as intended in accordance with Contract Documents and design criteria.

- .5 During Commissioning Verification, adjustments to be made to enhance performance to meet environmental or user requirements.
- .6 Mechanical and electrical contractors shall provide assistance as required through the Commissioning Verification process.

1.8 TRAINING

- .1 Training to be detailed and duration to ensure:
 - .1 Safe, reliable, cost effective, energy efficient operation of systems in normal and emergency modes under all conditions.
 - .2 Effective on-going inspection, measurements of system performance.
 - .3 Proper preventative maintenance, diagnosis and troubleshooting.
 - .4 Ability to update documentation.
 - .5 Ability to operate equipment and systems under emergency conditions until appropriate qualified assistance arrives.
- .2 The contractor and certified factory-trained manufacturer's personnel shall provide instruction on the following:
 - .1 Start-up, operation and shut down of equipment, components and systems.
 - .2 Control features, reasons for, results of, implications on associated systems of adjustment of setpoints of control and safety devices.
 - .3 Instructions on servicing, maintenance and adjustment of systems, equipment and components.
 - .4 Contractor and equipment manufacturer to provide instruction for equipment and systems for which they have certified installation, started up and carried out performance verification testing.
- .3 Contractor shall be responsible for providing the following:
 - .1 Record drawings, operating manual, maintenance manual, management manual, TAB and performance verification reports, etc.
 - .2 Submit materials for review by the Owner's Representative Commissioning Agent and Facility Manager 8 weeks prior to substantial completion.
 - .3 Training materials to be in format that permits future training procedure to same degree of detail.
 - .4 Supplement training materials with multimedia

presentations and manufacturer's training videos.

- .4 Deliver individual training sessions during regular working hours, each training session to be maximum 4 hours in length. Training to be completed prior to final acceptance of facility.
- .5 Contractor shall be responsible for provision of training activities, quality of training and training manuals.
 - .1 Upon completion of training, provide written documentation that training has been completed and provide a list of all trainees. Trainees must sign documentation stating that training has been provided. Documentation shall indicate which systems each trainee received training.
- .6 Training to include demonstrations by instructors using installed equipment and systems.
 - .1 Content to include:
 - .1 Review of facility and occupancy profile.
 - .2 Functional requirements.
 - .3 System philosophy, limitations of systems and emergency procedures.
 - .4 Review of system layout, equipment, components and controls.
 - .5 Equipment and system start up, operation, monitoring, servicing, maintenance and shut down procedures.
 - .6 System operating sequences, including step-by-step directions for start up, shut down, operation of valves, dampers, switches, adjustment of control settings and emergency procedures.
 - .7 Maintenance and servicing.
 - .8 Trouble shooting diagnosis.
 - .9 Inter-Action among systems during integrated operation.
 - .10 Review of Operating and Maintenance documentation.
 - .11 Provide specialized training as specified in relevant Technical Sections of the construction specifications.
 - .2 Provide training for the following:
 - .1 Plumbing systems
 - .2 Energy Management Control Systems.
 - .3 Fire and life safety systems.
 - .4 Public address and mass notification system.
 - .5 Emergency power plant and transfer systems (where applicable).
 - .6 Door intercoms, access control and nurse call system.
 - .7 Video surveillance.
 - .8 Emergency lighting (battery units).
 - .9 Energy Monitoring Systems (where

- applicable).
 - .10 Sewage treatment facilities.(where applicable).
 - .11 All HVAC systems including cooling equipment, complete air handling systems and associated equipment, complete heating plant and heating distribution equipment including water treatment systems.
 - .12 Other electrical/communication systems that may be present but not listed above.
- .7 Training shall be digitally recorded and 3 copies provided to Owner's Representative on CD/DVD.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not used.