

**SPACE ANALYSIS of the
WORLD TRADE & CONVENTION CENTRE**

TRADE CENTRE LIMITED
Halifax, Nova Scotia

May 18, 2010



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1. Executive Summary

Introduction

JDA Architects has been tasked by Trade Centre Limited (TCL) of Halifax, Nova Scotia to conduct an objective and unbiased analysis of TCL's existing World Trade and Convention Centre (WTCC) on in order to determine whether the building footprint, spatial characteristics and structural fabric can be renovated to meet 'Schedule 4- Design Output Specifications' of the October 1, 2009 New WTCC procurement tender.

Statement of Objective

The intent of this report is to provide a brief overview of the constraints or opportunities presented by the existing WTCC site, and identify any potential avenues for further investigation. It is not intended to be a feasibility report, nor a cost estimate.

The analysis was conducted with a 3 step methodology:

1. Review and summarize the existing WTCC capacity and essential elements
2. Review and summarize the New WTCC space requirements and essential functional requirements
3. Test New WTCC requirements against existing WTCC

Conclusions

We have concluded that it is not possible to renovate the existing WTCC to meet the New WTCC specifications: the floor areas specified for the new WTCC amount to more than twice that of the existing floor areas, and the required room heights would each encompass 3 existing floors. A more effective strategy would be to demolish the existing building. But a New WTCC with 3 storeys on the same site could at the most provide two thirds of the specified New WTCC rentable space, and that only with a reduced ratio of pre-event and service spaces.

2. Existing WTCC Facility

The existing **WTCC site**, which includes one city block and part of former Grafton Street, occupies approximately 50,000 sf. Levels 2 and 3 achieve a greater floor area of up to 77,000 sf by extending below the Metro Centre arena seating.



The existing **WTCC building** consists of 8 floors, the lower 3 of which contain the convention facilities. The 8th floor restaurant is also available for convention functions, but is not included in the area summaries below. The building is directly attached to the Metro Centre arena. The total **WTCC rentable area** available on the three convention floors including the Ballroom, Multi-Purpose Function (MPF) Space and Meeting Rooms is 55,968 sf. The convention floors additionally provide 33,274 sf of pre-event space and 71,067 sf of service space, for a total net area of 160,309 sf. The total **gross floor area** of the three convention floors is approximately 165,000 sf.

The **MPF Space** is located on Level 1 and constitutes the second largest space in the WTCC with 15,524 sf rentable area and a ceiling height of 8'9". The space is interrupted by columns on a 30' by 21'6" grid pattern. Combined pre-event and service space on this level amounts to 26,379 sf.

The **Ballroom** is located on Level 2 and offers the largest single space in the WTCC with 20,141 sf rentable area. Nine columns are located in the room: with a span of 84' east-west, and 30' north-south. The ballroom extends up through Level 3 and is the only space other than the atria with increased ceiling height. Ceiling heights in the Ballroom vary from 16'1" at the u/s of the bulkheads to 19'6" between beams. Level 2 combined pre-event and service spaces amount to 29,301 sf.

Meeting rooms, a boardroom and a Level 3 Atrium are located around the perimeter of Levels 2 and 3, amounting to another 20,303 sf of rentable area.

Public access: The main public entrance is at street level off Argyle Street leading to the Level 2 lobby. A secondary entrance is located at the corner of Duke and Argyle Streets leading to the Level 1 lobby. Additional access to the WTCC is by underground tunnels from the north (Scotia Square to Level 1 lobby) and south (Prince George Hotel to Level 2 lobby). The main circulation routes are north-south parallel to Argyle Street.

Service access: There are two loading docks located on Level 3 accessible from Duke Street. One service elevator and one 25,000 lb freight elevator serve the entire facility.

3. **New WTCC Specifications**

The site of the proposed **New WTCC site** consists of two city blocks separated by Grafton Street. Each block is about 40,000 sf in area, which is slightly smaller than the existing WTCC building site.

The **New WTCC building** should spread all rentable convention facilities over no more than 2 adjacent levels.

The **New WTCC rentable area** including Ballroom, MPF Space and Meeting Rooms is specified at 120,000 sf. To calculate the pre-event and service area requirements, we have used ratios similar to those of the existing WTCC. While the New WTCC has some increased service requirements, it is reasonable to calculate a new layout which is more space efficient than the existing one.



The required area for pre-function space is then approximately 66,000 sf, and the required area for service space is approximately 144,000 sf. The total required net area is 330,000 sf, with an estimated required **gross floor area** of 360,000 sf.

The **MPF Space** is specified at 50,000 sf of rentable space. Minimum ceiling height should be 30', with column spacing at least 90'. Directly related pre-event and service spaces are estimated to amount to 87,500 sf, resulting in a minimum gross floor area for the MPF floor of approximately 150,000 sf.

The **Ballroom** is specified at 35,000 sf of rentable area. Minimum ceiling height should be 30'. The room must be free of columns. Directly related pre-event and service spaces are estimated to amount to 61,250 sf, resulting in a minimum gross floor area for the Ballroom floor of approximately 110,000 sf.

The **Meeting Spaces** that are specified amount to another 35,000 sf of rentable area spread throughout the 2 levels of the new facility. Minimum ceiling height should be 16'. Room areas are required to be between 600 sf and 4500 sf. The associated pre-event and service spaces would also add to the above noted gross floor areas in a 2 level convention centre.

Public Access should be from street level. Internal circulation must be provided in both east-west and north-south directions.

Service Access should include 5 loading docks with direct access to the MPF space and the freight and service elevators. One 25,000 lb freight elevator, two 20,000 lb freight elevators, and one 10,000 lb service elevator are required.

4. **Fit of New WTCC Specifications in the Existing WTCC Building**

The existing WTCC **building structure** consists of steel columns and beams with concrete foundation and shear-walls. Floor-to-floor heights on the convention floors vary from 13' on the lowest level to 12' on the upper two convention levels. With all 8 floors the total building height is about 97'6" at Argyle Street (see Appendix 3: sketch 3.1). While it would generally be feasible to revise the existing structure to increase column-free space, it would not be possible even with major renovations to accommodate the New WTCC specifications within the existing building envelope. The rentable area and gross building area requirements for the New WTCC are twice as large as those currently available at the WTCC.

In order to achieve the required **floor areas** within the existing building footprint, the convention facilities would have to be spread over 6 or 7 floors. By expanding the existing convention centre underground below the Metro Centre and at the same time reducing the space requirements the spread may be reduced to 5 floors, but such an expansion would be structurally extremely challenging.

Another difficulty is posed by the required **ceiling heights**. Even if only three levels with 30' ceiling height are developed within the existing building fabric, the existing building height would be exceeded unless the lowest floor was excavated below existing Level 1.



Additional floors would have to be built above the existing roof level to accommodate the remaining space requirements. These additional floors could expand over the Metro Centre to provide larger floor-plates, but again such measures would be structurally very challenging.

In either scheme the upper floors would be far removed from street level **public and service access**.

5. Fit of New WTCC Specifications on the Existing WTCC Site

Given these constraints, the most effective way to accommodate the New WTCC specifications on the existing site is to **demolish** the existing building and replace it with a new facility which completely fills the site (see Appendix 4: sketch 4.1). However the spatial as well as structural constraints discussed above apply in a similar fashion.

We investigated two options: the first one, to reduce the New WTCC areas to fit on the existing site; the second one, to expand the building beyond the site in order to accommodate the New WTCC specifications.

In order to **fit on the existing site**, the New WTCC would have to have reduced MPF Spaces of about 35,000 sf, while the Ballroom and Meeting Rooms could be around 25,000 sf each. The convention facilities would be spread over 3 levels, for a total gross floor area of up to approximately 200,000 sf. The ratio of pre-event and service space to rentable space would also be lower than specified. By excavating below the existing Level 1, the building could be limited to about 85'6", equivalent to the existing first seven storeys. It would require further study to determine exactly how much of the specified service spaces, particularly the loading docks, would be lost in this scheme. A crucial factor is how far under the Metro Centre the lower levels of a New WTCC could be expanded (see Appendix 3: sketches 3.2 and 3.3).

For the second option, the imposition of the New WTCC specifications on the existing site, the site would have to **expand** to at least twice the current area (see Appendix 4: sketch 4.2). Even at twice the area, the convention facilities would still be spread over at least 3 levels with a total building height of nearly 100' (less if there is below-grade construction). However it does not appear feasible to expand beyond the property line. Duke Street is a major traffic artery. Argyle Street bounds Grand Parade and City Hall. And Carmichael Street is an iconic view corridor connecting the Town Clock and harbour.



APPENDIX 1

EXISTING WTCC SPACE DATA

EXISTING WTCC

Large Event Rooms

Name	Floor	Area (sq ft)	Ceiling
Room 100	Level 1	16,884 15,524	9'-2"
Room 200	Level 2	20,141	19'-6"
		37,025 35,665	

Meeting Rooms

Name	Floor	Area (sq ft)	Ceiling
Suite 101	Level 1	1,360	9'-2"
Suite 201	Level 2	957	8'-9"
Suite 202	Level 2	1,416	8'-9"
Suite 203	Level 2	1,416	8'-9"
Suite 204	Level 2	1,416	8'-9"
Suite 205	Level 2	1,416	8'-9"
Level 2 Boardroom	Level 2	1,585	
Suite 301	Level 3	1,700	8'-9"
Suite 302	Level 3	1,570	8'-9"
Suite 303	Level 3	1,500	8'-9"
Suite 304	Level 3	1,124	8'-9"
Suite 305	Level 3	1,037	8'-9"
Suite 306	Level 3	991	8'-9"
Suite 307	Level 3	615	8'-9"
Level 3 Atrium	Level 3	2,200	
		<u>20,303</u>	

Pre-event & Public Circulation

Name	Floor	Area (sq ft)	Ceiling
	Level 1	10,317	
	Level 2	11,521	
	Level 3	11,436	
		<u>33,274</u>	

Service Space

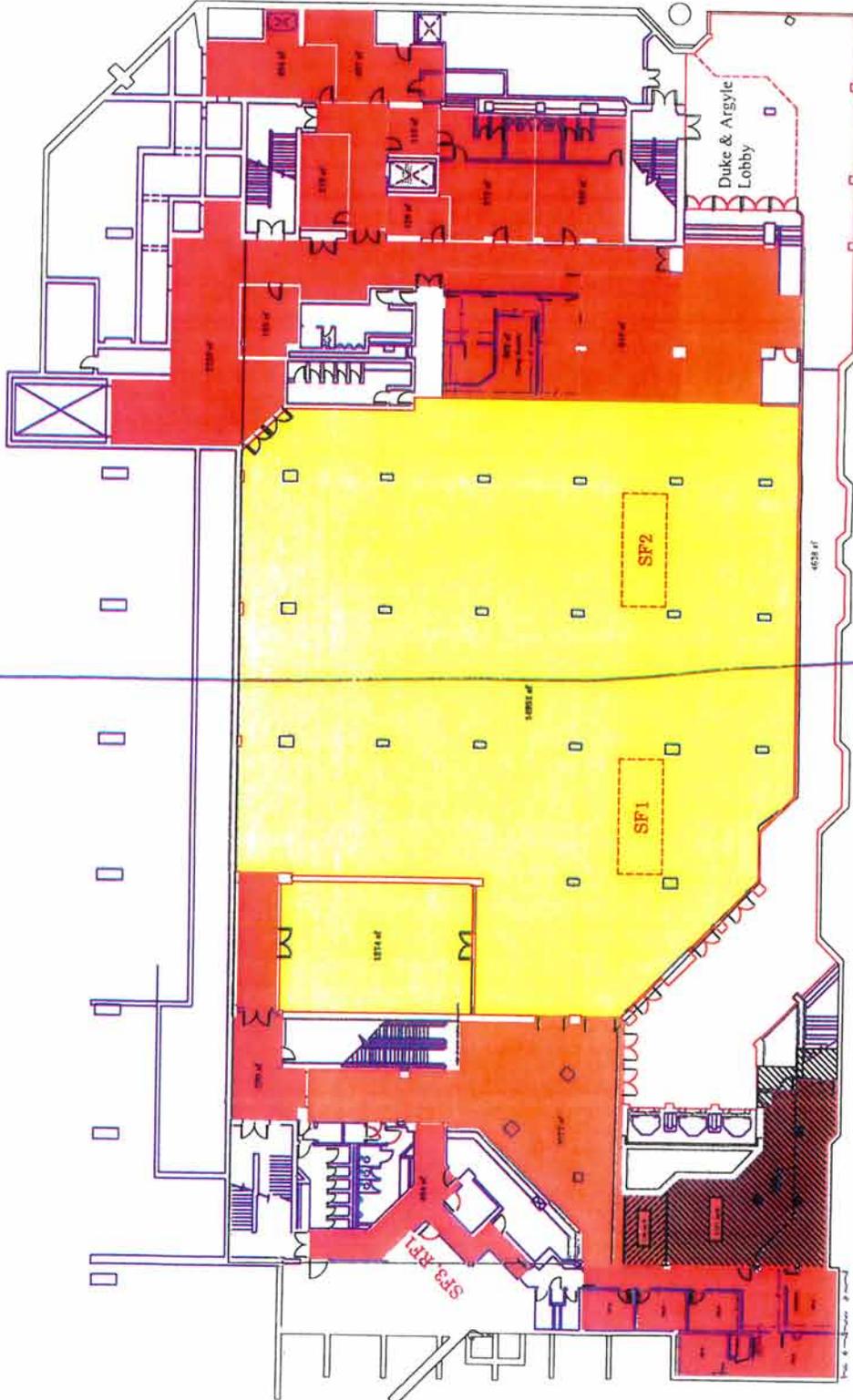
Name	Floor	Area (sq ft)	Ceiling
Level 1 North c/w catering staff areas	Level 1	10,317	
Level 1 South c/w Property Services	Level 1	5,745	
Level 2 North c/w main kitchen	Level 2	11,455	
Level 2 South	Level 2	6,325	
Level 3 c/w loading bays, security control rm & kitchen	Level 3	37,225	
		<u>71,067</u>	

Total ~~164,009~~ 160,309



APPENDIX 2

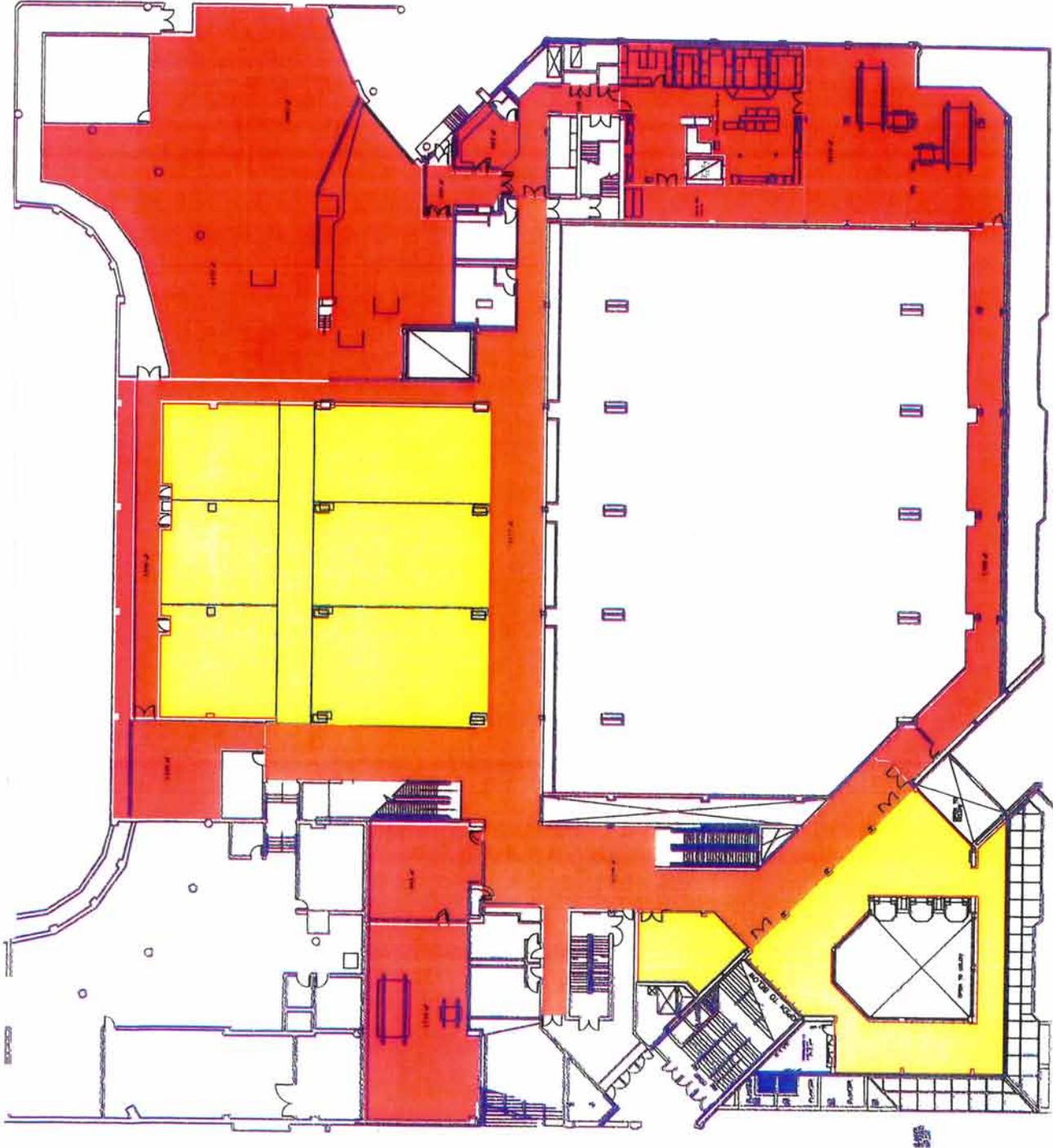
EXISTING WTCC PLAN DIAGRAMS





WORLD TRADE &
CONVENTION CENTRE
1800 ARNOLE ST.
HALIFAX, NOVA SCOTIA

WTCC
3RD FL
85 EAST





APPENDIX 3

NEW WTCC DESIGN SPECIFICATIONS

Schedule 4 Design Output Specifications

Table 6: Design Output Specifications

Section No. and Title	Contents
<p>1. Minimum Areas and Facility Layout</p>	<p>(a) Based on the user groups and event load identified as potential for the Facility, the core useable and Client Rentable Spaces of the Facility and the minimum square feet requirements are summarized as follows, (collectively the "Client Rentable Space"):</p> <ul style="list-style-type: none"> - MPF space – 50,000 square feet - Ballroom – 35,000 square feet - Meeting space – 35,000 square feet - Total space – 120,000 square feet <p>(b) In addition to the above Client Rentable Spaces, consideration must be given to the arrival area, registration area, pre-function spaces, and back-of-house areas including the kitchen. More detail is provided on each of these areas in this Schedule 4.</p> <p>(c) These Client Rentable Spaces should be spread over no more than two adjacent levels.</p> <p>(d) Multiple user groups in the Facility at the same time (e.g. an exhibit dominated event with some meeting space requirements co-located with a conference requiring the ballroom for plenary / meal functions and significant meeting space) will be the norm and the design must clearly accommodate this expected event mix through divisibility of space, sound alternation, multiple points of access / exit, etc.</p> <p>(e) Vertical circulation will efficiently connect all Facility levels as well as the entrances and parking areas. Vertical circulation will require the ability to move 2000 people within a 10-15 minute period. Vertical circulation must be from both north and south or east and west.</p> <p>(f) Washrooms must be accessible from each end of the Facility.</p> <p>(g) The capability must exist to completely segregate the Client Rentable Space from traffic through the balance of the Complex.</p>
<p>2. Multi-purpose function space</p>	<p>(a) The MPF space is the anchor area of the Facility. The MPF space will be optimized to support meetings and other events as well as be used as a full-featured exhibition hall.</p> <p>(b) The MPF space will be divisible into at least three main sections (not necessarily of equal size); each main section will have a separate loading dock and service access. At least one of the three main sections will be further sub-dividable into no less than eight rooms suitable for meetings, other events or similar uses. The Sponsor will consider two main sections combined which will be further sub-dividable into no less than eight rooms provided it would accommodate meeting other requirements in this Schedule.</p> <p>(c) The minimum height to the lowest ceiling projection will be 35 30 FEET feet. The ceiling structure must be designed to allow for lighting trusses, projection screens, banners or other convention-related materials to be hung from the ceiling at specific locations.</p> <p>(d) Access to water and in-floor electrical outlets are required as they are critical for many trade shows.</p>

SEE
ADDENDUM #C
DATED
JAN. 22, 2011
ITEM # 5.B

Section No. and Title	Contents
<p>* * (1) x 25,000 lb FREIGHT ELEVATOR</p> <p>→ SEE ADDENDUM #03 DATED JAN. 22, 2010</p> <p>ITEM # 5.d</p>	<p>(e) Dimmable and theatrical lighting, enhanced AV systems, support and acoustical treatment will be necessary in this space (see other sections of this Schedule 4 for details).</p> <p>(f) Flooring/carpet must accommodate the flexible nature of the events that may be hosted in this space (e.g. ranging from consumer boat shows to large international congress plenary sessions).</p> <p>(g) There will be direct access from the loading dock into the MPF space to facilitate move-in/move-out. This access must allow for direct access for vehicles. Each division shall have its own service entrance. A ratio of one dock for every 10,000 square feet of useable MPF space should be used as a basis for determining truck access. Cross circulation on the loading dock shall allow each vehicle parking space to have access to each service entrance. Service and freight elevators shall be accessible directly from the dock. Minimum Facility dedicated freight and service elevator requirements are as follows:</p> <ul style="list-style-type: none"> * * 25,000 pound <ul style="list-style-type: none"> • One 25,000 pound freight elevator accessible to all levels of the Facility (ability to handle a vehicle), • Two 20,000 pound freight elevators (one to kitchen and one to Ballroom), and • One 10,000 pound service elevator for food transportation to the Main Kitchen. <p>(h) Other MPF space considerations include:</p> <ol style="list-style-type: none"> i) Columns: Large open column-free spaces are required for MPF space. Recommended column spacing is 90 feet in each direction with 120 feet preferred in at least one direction. ii) Floor loads: The floor should be designed to accommodate 350 pounds per square foot loading, which is typical for a trade show floor. Fixed hanging points shall be coordinated with the structure overhead to provide for minimum 2,000 pounds at 15 feet on center each direction, braced for lateral loading. <p>(i) Water, drains and compressed air must be provided at perimeter walls and in floor boxes, but at not less than 60 foot staggered grid.</p> <p>(j) Numerous functions typically compete for space along the interior back wall of the MPF space. Public restrooms and concessions require visibility and internationally recognized signage for attendee use. Support functions will include storage rooms, workshops and closets for electrical and telephone equipment. Emergency exits will be either stair towers or horizontal exits, depending on the building configuration</p>
<p>3. Ballroom</p>	<p>(a) The ballroom will be a large, column-free space, divisible into at least three sections, with at least one section further sub-dividable to create additional meeting space. The ballroom will be finished to AAA/CAA 4-diamond ranking hotel quality level and offer a finished ceiling, a mixture of lighting sources (including fluorescent and incandescent or dimmable quartz; specialty lighting for architectural features and special events) and AAA/CAA 4-diamond ranking quality carpet. Clear height to ceiling obstructions will be no less than 30 feet. Rigging points and the ability for state of the art audio/visual lighting options are required. Fixed hanging points shall be coordinated with the structure overhead to provide for minimum 2,000 pounds.</p> <p>(b) The layout is based on a structural 30 foot wide service corridor across the long dimension of this space for use as a staging area during these</p>

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	<p>events. This dimension includes table and chair storage in niches, food service work areas, and food cart staging areas. A minimum of 20 feet (clear) should be provided for back of house circulation.</p> <p>(c) The kitchen shall be located on the same floor as the ballroom and have direct access to the service corridor as well as to dedicated standard food service elevators to service the other level(s).</p> <p>(d) For general sessions or banquet presentations, some form of track lighting or plug-in connections for clamp-on lights will be required, with flexible circuiting and programmable dimming controls to be coordinated with the basic illumination system.</p>
<p>4. Meeting rooms / Breakout space</p>	<p>(a) A minimum of 18 meeting rooms will be required in addition to meeting areas created from sub dividing the ballroom. The largest meeting room will not exceed 4,500 square feet and the smallest, excluding board rooms, will not be less than 600 square feet.</p> <p>(b) Groups of meeting rooms should be distributed throughout the Facility. A mix of sizes is acceptable as long as access and support facilities such as restrooms, telephones and vertical circulation (e.g. escalators) are conveniently located nearby.</p> <p>(c) Signage and way finding will be important if meeting rooms are spread over multiple floors.</p> <p>(d) Areas designated to meeting space are to be subdivided with movable partitions 30 foot on centre, with the minimum room division a 20 ft. x 30 ft. module using a 30 foot structural grid. Optimal proportions for full-open meeting rooms are 1.5:1 and should not exceed 2:1 in any case.</p> <p>(e) All divisible meeting rooms must have a 16 foot minimum ceiling height to accommodate the use of AV projectors. Larger meeting rooms should increase the ceiling heights proportionally.</p> <p>(f) Each meeting room will have:</p> <ul style="list-style-type: none"> i) Pre-programmed lighting scenes; ii) Full internet access (wireless and hard wire); iii) Access to nearby storage areas for stackable seating and tables; iv) Tackable surfaces and picture hanging rail on at least one permanent wall, but more durable materials should be used for at least the lowest four feet for maintenance considerations; v) Carpeted floors using an island/border pattern at the perimeter to assist room layout; vi) Head table locations (typically one in each individual room break and at two walls when the room is used in the full-open condition) providing: microphone jacks, individual light circuit for featuring key speakers or dimming for A/V use, track lighting, overhead speakers wired to a kill switch to reduce feedback and access for a remote lighting control switch; vii) Signal light system between meeting rooms and service entrances; viii) Coffered ceilings to provide incandescent lighting for low level, and a combination of incandescent and fluorescent cove lighting should be used for the ambient lighting system. Lighting controls for on/off

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	<p>and dimming shall be compatible with the room divisions; and</p> <p>ix) All meeting rooms shall have AAA/CAA 4-diamond ranking quality finishes.</p> <p>(g) Sound attenuation between meeting rooms, service corridors, and mechanical systems must be addressed. Depending on meeting room layout, air wall systems may be insufficient. Structure-borne vibration will not be acceptable.</p> <p>(h) Service corridors shall provide access to the rear of meeting rooms without crossing public spaces.</p>
<p>5. Executive Meeting Rooms</p>	<p>(a) While all meeting / banquet / breakout space shall have AAA/CAA 4-diamond ranking finishing, the Facility will be required to have the following to attract high profile events:</p> <p>i) A video conferencing room to accommodate 15 people with high end finishing and built in AV and teleconferencing capabilities; and</p> <p>ii) An executive boardroom complete with finished executive style table for a minimum of 20 people with built in laptop and internet hook up at each seat. Built in service area is required. This boardroom may potentially be used for interviews with media and therefore appropriate cable feeds etc. as well as studio quality sound proofing need to be considered. Access control and ability for enhanced security will be required.</p>
<p>6. Arrival Zone</p>	<p>(a) Access to the Facility will require arrival zone(s) along one face of the building to be used for shuttle buses (including coach buses), taxis and limousines to drop off passengers. It is recommended that a designated and separate "group" drop off area that can accommodate a minimum of 3 coaches be available. This open air space should serve as a covered outdoor entrance to the Complex, with a visual line of demarcation between pedestrians and vehicles. This separation may be composed of features which provide for free flow of pedestrians while restricting vehicular access.</p> <p>(b) The arrival area (lobby) shall contain a permanent built in concierge / reception desk and welcome signage in multiple languages to welcome guests from across the globe.</p> <p>(c) For feature events a portion of this area must be convertible to a ceremonial entrance. The feature treatment should be created with temporary decoration; built-in features are not desirable. A combination of lighting sources will be required to allow for multiple scenes to be programmed.</p> <p>(d) Access and/or a staging area will be provided for limousine service and valet parking. Convenient access to parking is necessary for private vehicles dropping off passengers at the door. Directional signage should be provided near the entrance to the property to separate attendees whose first stop is the parking area.</p> <p>(e) The arrival zone(s) should be dedicated specifically to the Facility; the arrival zone(s) should not be co-located with arrival areas for other parts of the Complex, including the proposed hotel.</p> <p>(f) Other access points from the Complex and from walkways / speedways need to be commented on and designed in context of access to this primary arrival zone.</p>

Section No. and Title	Contents
<p>7. Pre-function Area</p>	<p>(a) Pre-function areas can be an interior extension of the arrival zone, incorporated with the registration area or stand-alone areas. In addition to the other spaces identified in this document, the Facility requires a pre-function area within the Complex that is:</p> <ul style="list-style-type: none"> i) Capable of accommodating up to 2,000 people for reception events; ii) Located above grade to maximize natural light; and iii) Capable of showcasing HRM and the Province in the required iconic manners either through design, views or other characteristics.
<p>8. Registration Area</p>	<p>(a) Large scale registration capability will be required within the Facility, however, the number and scale of registration space(s) will depend on the overall layout, in particular the location of the MPF space and ballroom.</p> <p>(b) As a rule, the registration area will be located just inside the arrival zone or in the pre-function space outside of the MPF space. The depth of the pre-function space will allow for registration nodes to be set up in lobby vestibules or in a widened concourse so as not to interfere with lateral circulation. There should be space available to leave registration booths set up outside the MPF area for the entire event and to use the remaining lobby area for pre-function activities.</p> <p>(c) This configuration must provide ample depth in the registration area for queuing. However, the openness of the lobby space should allow enough space for flexible setup of registration using either strip or island configurations.</p> <p>(d) Coat check capabilities will be required at each designated registration area (and adjacent to the ballroom, if not proximate to a designated registration area). Total coat check capacity must accommodate 2,000 garments.</p> <p>(e) Registration for smaller events using only the meeting rooms will have space in the meeting room pre-function areas for table-top check-in.</p>
<p>9. Central Kitchen</p>	<p>(a) A central kitchen that is a banquet kitchen able to serve the ballroom, MPF space as well as the various meeting rooms is required in the Facility.</p> <p>(b) The Facility will have a stand-alone kitchen that will be self supporting from a food and beverage production and service standpoint.</p> <p>(c) Minimum requirements for the kitchen area include:</p> <ul style="list-style-type: none"> i) Designed in context of HACCP protocols - "Hazard Analysis Critical Control Point" to address food safety, food handling, cross contamination, traffic flow, etc, all with an eye to food safety and staff safety; ii) Design capacity for serving salad, a main course, vegetables and dessert at a production rate of 2,000 meals (likely 3 events averaging 700/event); iii) Separate air conditioned pastry kitchen and garde manger areas; iv) A minimum of 4 prep lines; v) Separate dishwashing room with 2 standard commercial dishwashers: <ul style="list-style-type: none"> - 2 belts (One for glass and one for dishes leading to respective

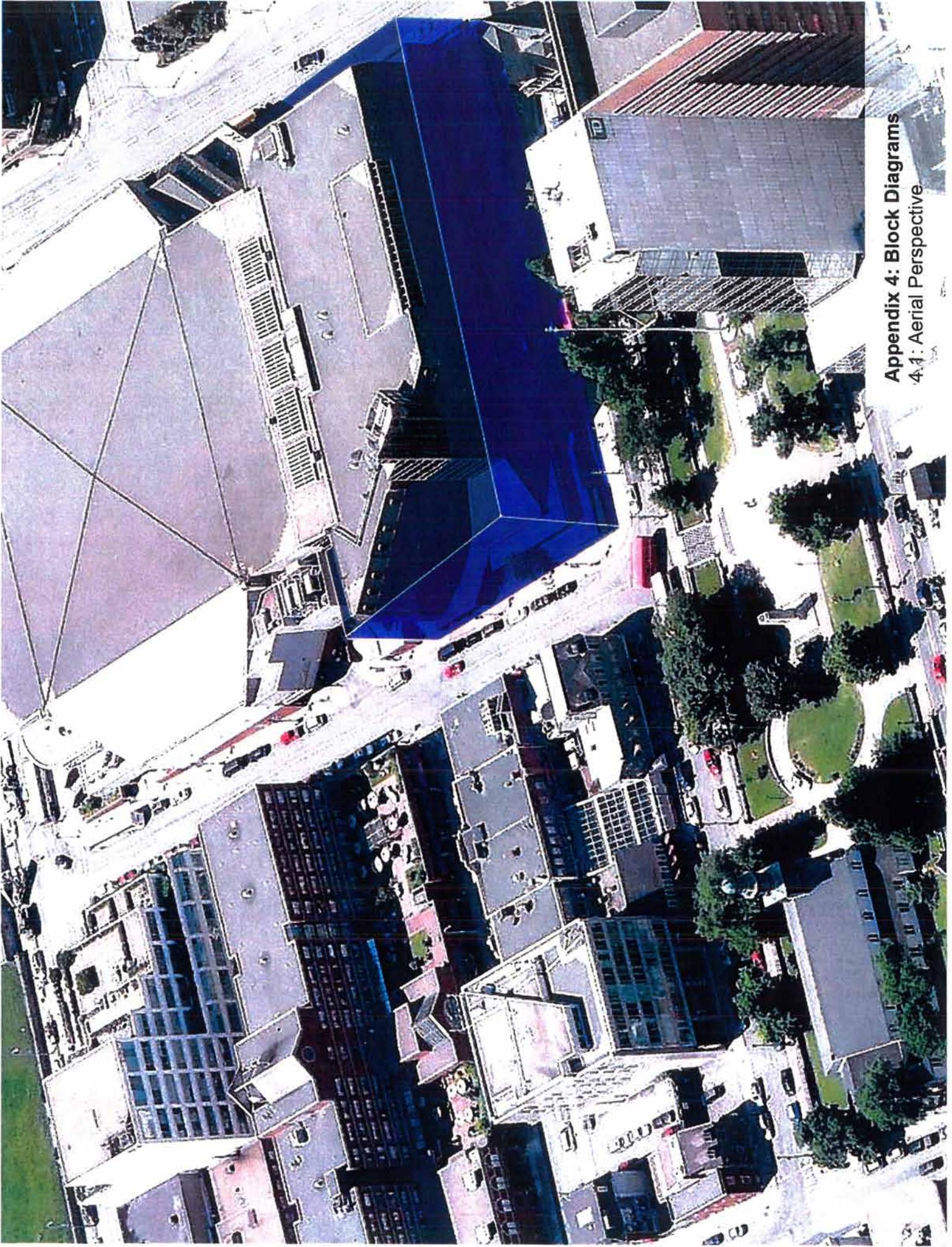
Section No. and Title	Contents
	<p>storage areas); and</p> <ul style="list-style-type: none"> - Non slip highly durable flooring. vi) A display kitchen / chef's table with capacity of 12; vii) Expediting or holding area on all floors; viii) Minimum equipment requirements as described in Schedule 6 (Kitchen Equipment Specifications); ix) Countertops and work services throughout to be high-grade stainless steel; x) Non skid, hygienic, highly durable flooring; xi) Automatic hygiene and safety stations; xii) Ability to easily and effectively clean all areas on a daily basis with pressure hose (drainage system in floor; access to clean behind equipment, etc.); xiii) Full storage for kitchen equipment and supplies (i.e. dishes, pots and pans, etc.); xiv) A dedicated dock area with a minimum of 2 refrigeration units (one for off-site catering and one for beverage); xv) A vertical core for service elevators and waste management between levels is required with back-of-house access to all areas on all levels; xvi) A separate building entrance for food service employees is desirable with staff support areas such as dedicated staff washroom, uniform issue and locker rooms nearby; and xvii) The use of an air conditioned waste management room (that will have significant compostable levels) at the dock is suggested. <p>(d) Built-in concession stands (or space to accommodate portable stands) shall be provided in or adjacent to exhibit halls.</p>
10. Quality of finishing	<p>(a) The Facility will maintain AAA/CAA 4-diamond ranking quality of finish detail throughout all rentable spaces and "front-of-the house" areas (i.e. arrival, pre-function and registration areas) with the exception of the MPF space as previously noted.</p> <p>(b) All materials should convey a welcoming sense of arrival. AAA/CAA 4-diamond ranking hotel quality vinyl, carpet, public area lighting and warm finishings will soften the common perception of many large centers as being concrete, cold and cavernous.</p> <p>(c) The Facility will be host to many black tie social events as well as national and international conferences which will attract executive audiences and speakers and finishings must reflect this prestige visitor.</p>
11. Operations Support Areas	<p>(a) A variety of spaces are required to support the Facility operations ranging from public sector staff areas to security. The Proponent is expected to outline the location, size and functional relationships of these areas and any other areas deemed relevant:</p> <ul style="list-style-type: none"> i) Storage: Sufficient areas will be provided on site, in close proximity to the Facility, to store all tables, chairs, small wares, seasonal

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	<p>decoration, removable carpeting or protection of permanent carpet, portable bars and registration desks, props for events, staging, portable dance floor, portable electric equipment (i.e. transformers, spot lights, electrical equipment / supplies for events) and related requirements;</p> <p>ii) Facility staff support: Staff support areas should be centralized near a dedicated employee entrance and have easy access to the back-of-house service corridors. Once past the building security office, full time staff members will have access to locker areas. Uniform storage, ironing and issuing areas should be proximate to the entrance and change areas. An area for staff to take their breaks and meals is required;</p> <p>iii) Administrative offices: At this time the identification and number of Facility staff expected is not known. At a minimum the sales and marketing as well as event operations staff are expected to be required on site of the Facility. Therefore, consideration should be given to at least 5,000 square feet of contiguous, flexible office space; and</p> <p>iv) Non-technical area: This area will house non-technical inventory and supplies, as required for setup and housekeeping crews.</p>
<p>12. Technical Services</p>	<p>(a) A Central Equipment Room ("CER") will be required to support the efficient delivery of technical services. The CER will:</p> <ul style="list-style-type: none"> i) Be secured via card reader; ii) House all technical service systems and equipment; iii) Have ample work space for repairing and maintaining equipment; and iv) Be supplied with emergency generator power that shall be distributed to various systems.
<p>12.1 Audio Systems</p>	<p>(a) A permanently installed audio system will be required as designed by an audio specialist with experience specific to Canadian audio projects installed in convention centers.</p> <p>(b) The central audio system will consist of the following:</p> <ul style="list-style-type: none"> i) Peavey architectural acoustics Digital Sound Processor ("DSP") processing equipment or an approved equivalent; ii) Peavey architectural acoustics remote control device for the above specified DSP (X Controls Touch Screen) or approved equivalent in every space and sub-divisible space; iii) Meyer Sound Labs self-powered UPA-2P provides mid to high powered output speakers with a narrow field of coverage, low distortion and consistent polar response in a compact enclosure (UPM) self powered speakers in all meeting rooms (quantities will be dictated by design). There shall be 100 % coverage in all Client Rentable Spaces pre function areas, arrival zones and registration



APPENDIX 4

BLOCK DIAGRAMS



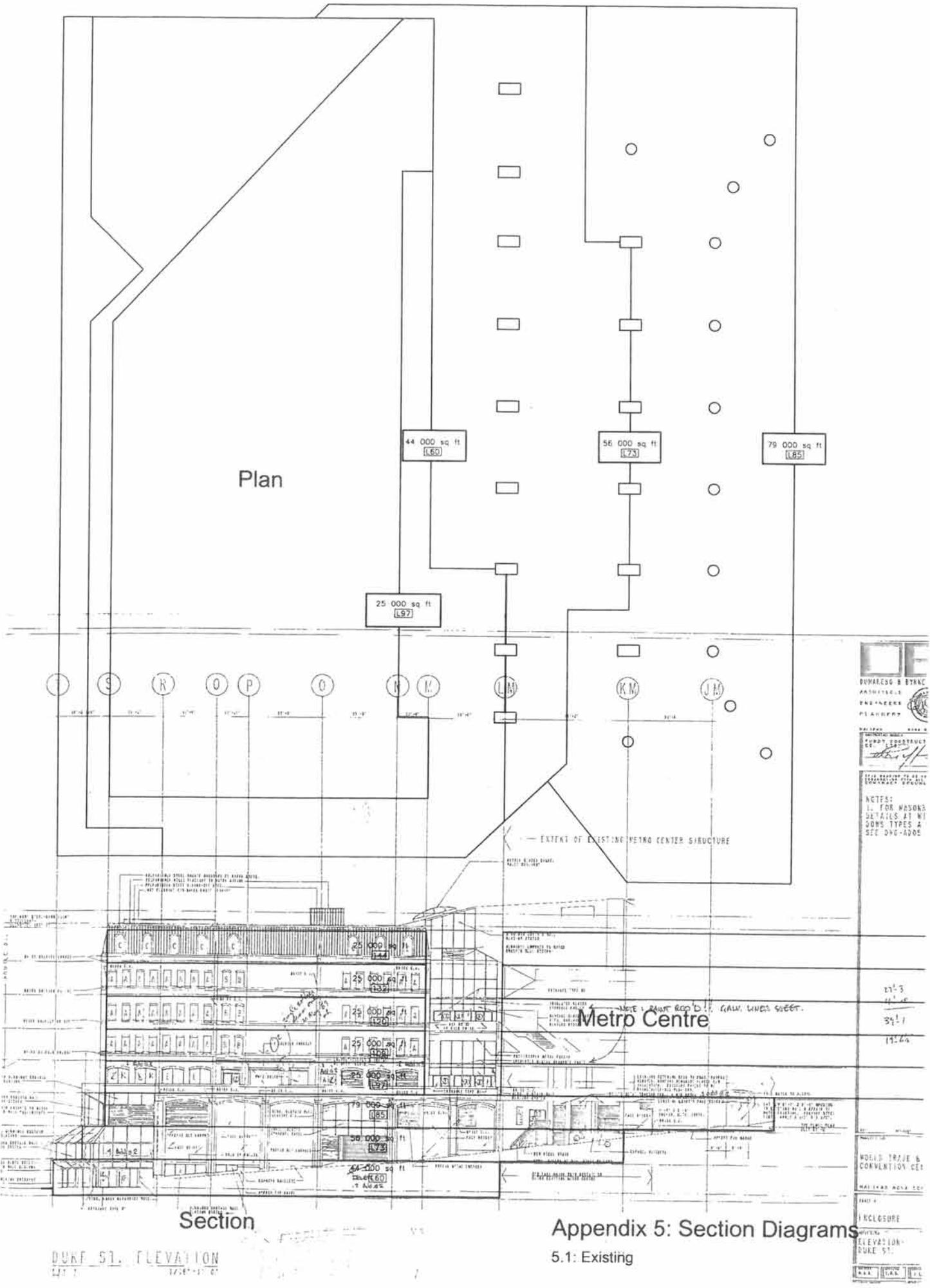
Appendix 4: Block Diagrams
4.1: Aerial Perspective



Appendix 4: Block Diagrams

4-2 Total footprint required to meet Design Specification

APPENDIX 5
SECTION DIAGRAMS



OF
 DUMALESC & STANEC
 ARCHITECTS
 ENGINEERS
 PLANNERS

PROJECT: **WORLD TRADE & CONVENTION CENTER**
 LOCATION: **DUKE ST.**

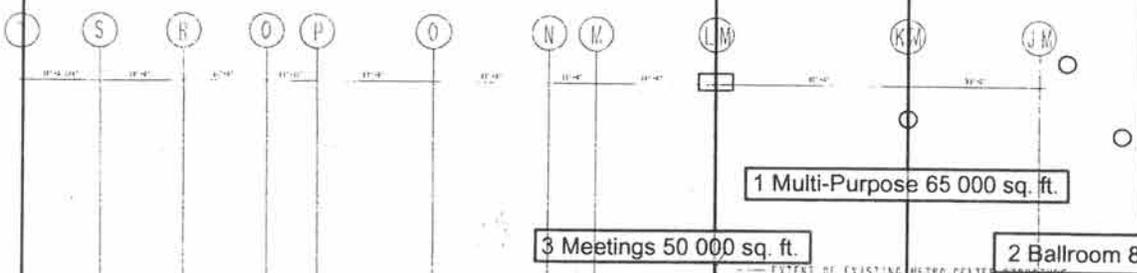
DATE: **12/15/01**

SCALE: **AS SHOWN**

NOTES:
 1. FOR MASONRY
 DETAILS AT JOINTS
 SEE TYPES A
 SEE DWG-AD05

WORLD TRADE & CONVENTION CTR
 ENCLOSURE
 ELEVATION - DUKE ST.

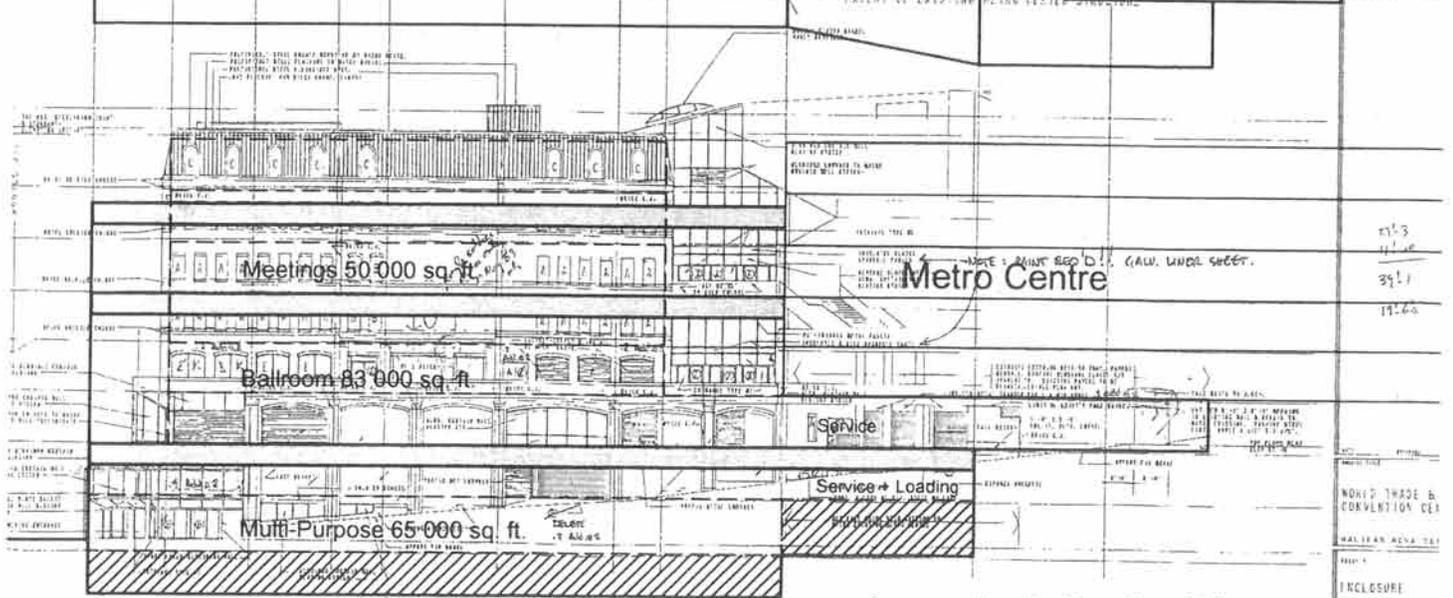
Plan



DE
DUMARESCO & BYRNE
ARCHITECTS
ENGINEERS
PLANNERS

PROJECT: METRO CENTRE
DATE: 11/11/00

NOTES:
1. FOR MASONRY
DETAILS AT WALL
BOWNS TYPES A
SEE DWG-4006



Hatched = excavated

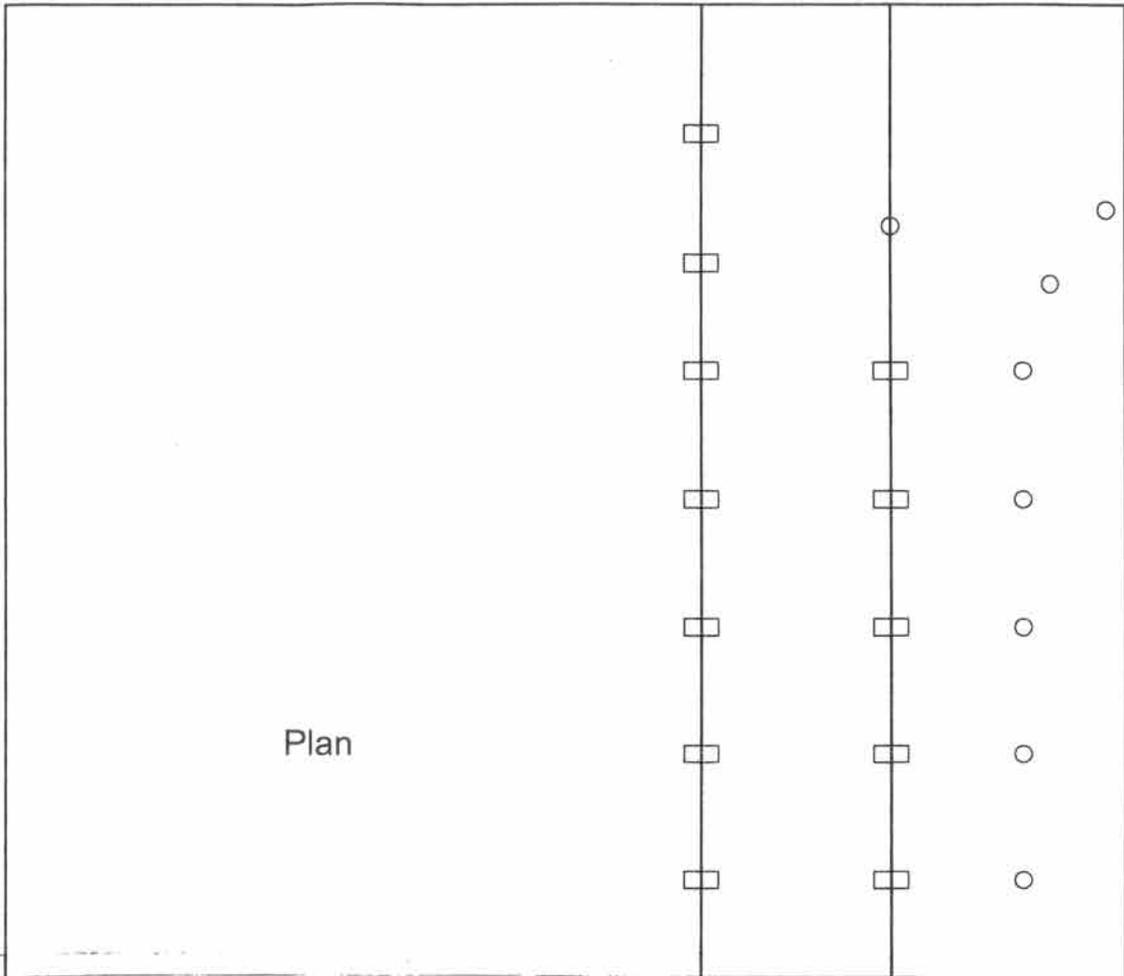
Section

DUKE ST. ELEVATION
11/11/00

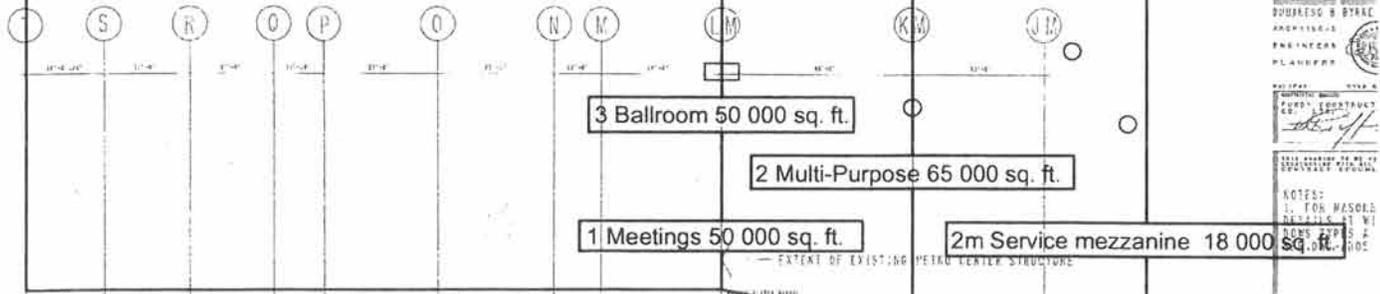
Appendix 5: Section Diagrams

5.2: Excavation under Metro Centre & WTCC

NOVUS TRADE & CONVENTION CE
DUAL SPAN ACQUA TET
APPENDIX 5
ENCLOSURE
NOVUS TRADE & CONVENTION CE
DUKE ST.



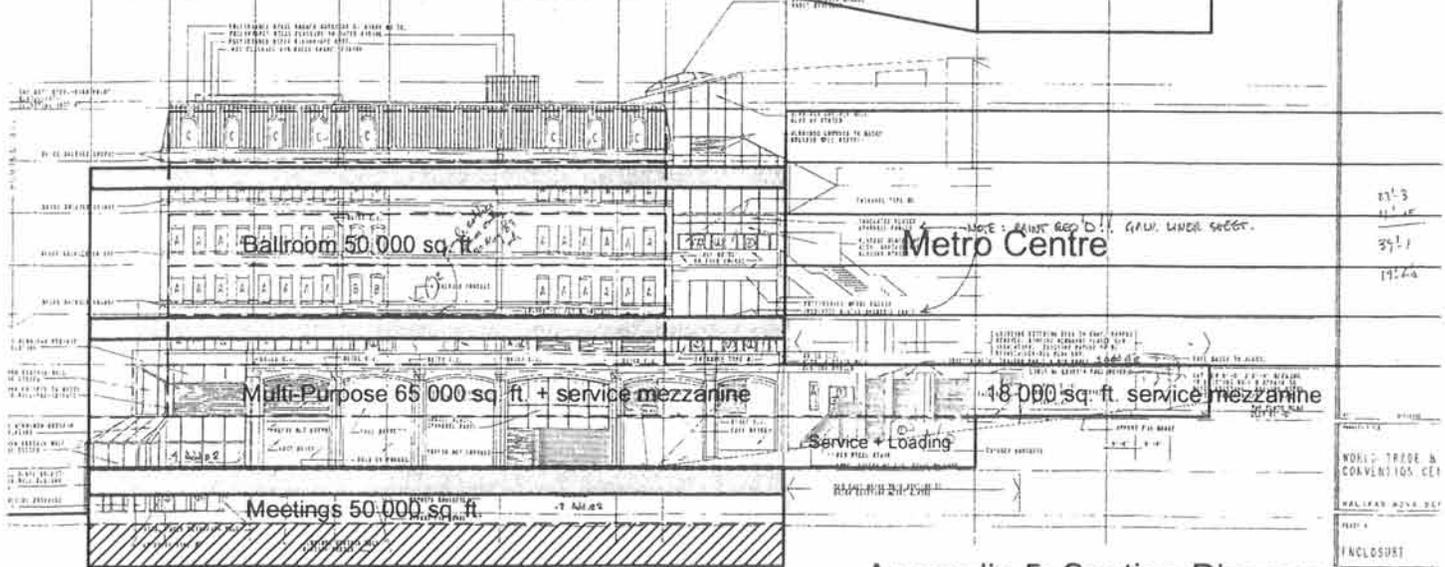
Plan



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 WWW: www.progress.com

CONTRACT NO. 100-0000000000000000
 DATE: 10/1/00

NOTES:
 1. FOR MASONRY
 2. SEE SHEET 5.3
 3. SEE SHEET 5.4



Hatched = excavated

Section

Appendix 5: Section Diagrams

5.3: Excavation under WTCC only

DUKE ST. ELEVATION
17.28' - 17.44'

5.3
 5.4
 17.44

WORK: TRADE & CONVENTIONS CEN
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