



**MMH Architects Inc.**  
Architects & Planning Consultants

# TOWN OF MARKHAM



## EMERGENCY OPERATIONS CENTRE (EOC)

8100 Warden Avenue

Presented By : Fouad Captan



# THE EOC



- ✓ What is the EOC?
- ✓ Why at the current location ?
- ✓ Purpose and functions of the EOC.
- ✓ Who makes up the EOC ?
- ✓ What happens when an emergency/disaster strikes ?
- ✓ What happens to the offices & boardrooms in non-emergency situations ?
- ✓ The designed space.
- ✓ Dollars and Sense.



# THE EOC

## ✓ What is the EOC ?

The EOC, is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, and disaster management functions at a strategic level in an emergency situation ensuring the continuity of operation of a company, political subdivision or other strategic organization.





# THE EOC

## ✓ Advantages of the New Location

- ✓ Will allow for the continuation of emergency response operations in the event of power interruptions in the form of current backup power supply (i.e., UPS, generator) located at 8100 Warden.
- ✓ Sufficient and appropriate resources would be incorporated in order to supply uninterrupted communications, decision-making capability, and administration and coordination capacity in order to manage the emergency event.
- ✓ Allow for decreased disruption of Town operations in the event of long-term EOC activation by the elimination of the need to utilize key meeting rooms currently used by staff and the public at the Civic Centre.
- ✓ Serve as a training area and meeting rooms that can be converted quickly into a functioning EOC.







# THE EOC

## ✓ Purpose and functions of the EOC.

- ✓ An Emergency Operations Centre is a pre-designated facility, set up off site, to provide support to onsite responders that may require policy, coordination and resource direction for site activities in larger emergencies.
- ✓ The EOC has overall responsibility for the following strategic site support activities:
  - Policy, direction and support
  - Information, collection, evaluation and dissemination
  - Coordination of participating agencies and operations
  - Establishment of priorities for emergency response and recovery
  - Resource management ( people and equipment)
  - Communications ( internal and external)
  - Public Information and warnings.



# THE EOC

## ✓ Who makes up the EOC ?

Trained professionals representing different departments of the Town, Region, Province and /or Country. They Include:



- Policy Group: Mayor, Legal Advisor, CAO, Commissioners
- Management: CAO, Emergency Preparedness Coordinator/Planner, Communications (Media) Officer.
- Operations: Department/Divisions that would direct communication with the site activity and provide direct support to the site Incident Manager e.g. Fire, Police, Health Department, Water/Wastewater, Transit, etc.
- Planning: Staff who possess an ability to analyze and summarize information, knowledge of information management systems and familiarity with use of maps and plotting information



# THE EOC

## ✓ What happens when an emergency/disaster strikes ?

The Town of Markham has the responsibility for supplying the initial response to an emergency. Upon warning of an impending situation or notification of an emergency, The Mayor, CAO, the Fire Chief or their designate(s) may request that the Fire and Emergency Services Communications Centre activate the Town's Emergency Alerting system.



# THE EOC

✓ What happens to the offices & boardrooms in non-emergency situations ?

The space continues in regular capacity as convertible meeting rooms, kitchen, lunchroom, classroom and fitness area.





# THE EOC

The designed space.



# THE EOC

CONTROL GROUP  
CONFERENCE ROOM

COMMUNICATIONS  
ROOM

OPERATIONS  
ROOM

KITCHEN &  
LUNCH ROOM

FINANCE  
BREAKOUT  
ROOM

PLANNING  
BREAKOUT  
ROOM

LOGISTICS  
BREAKOUT  
ROOM

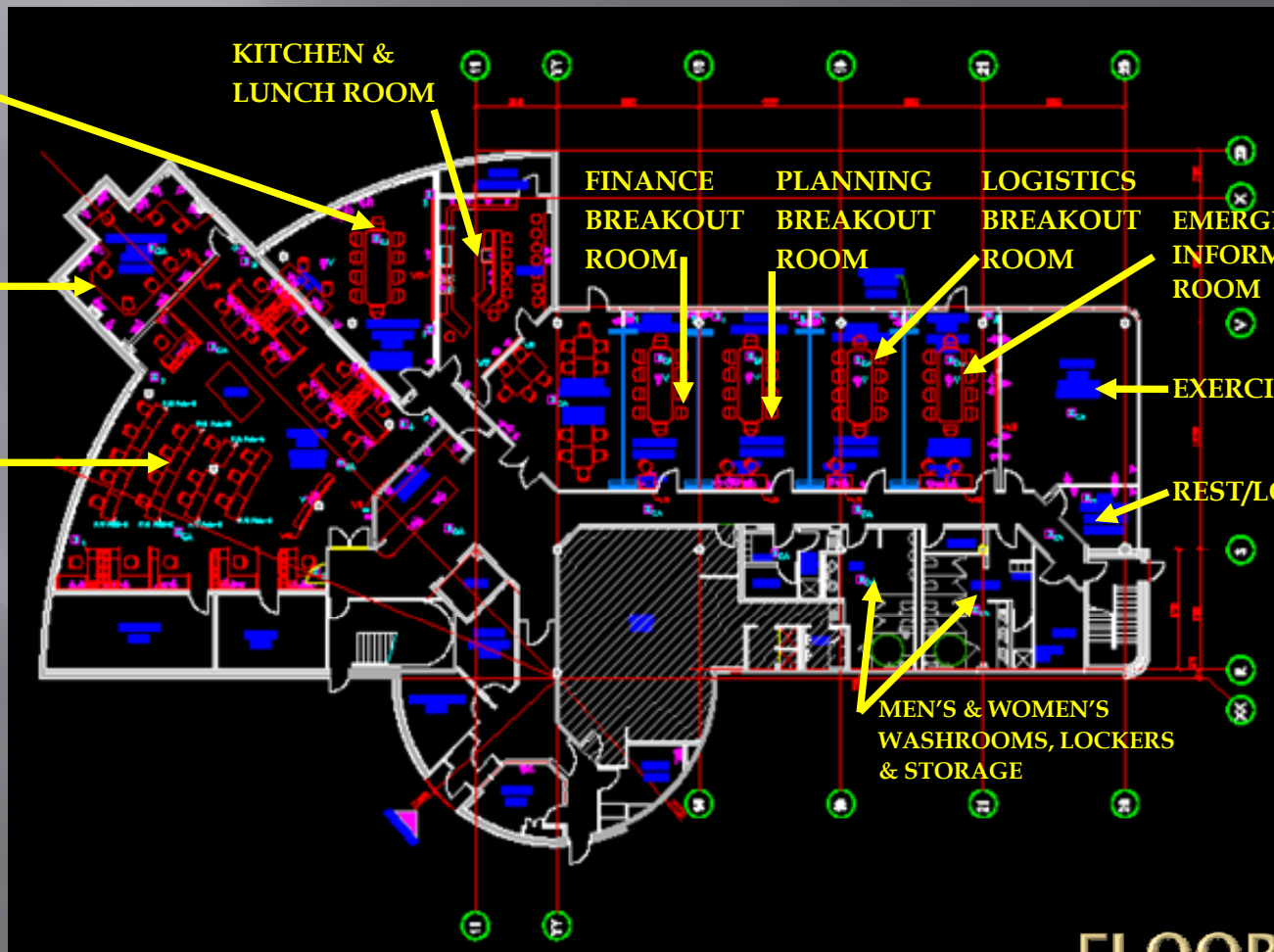
EMERGENCY PUBLIC  
INFORMATION  
ROOM

EXERCISE ROOM

REST/LOUNGE ROOM

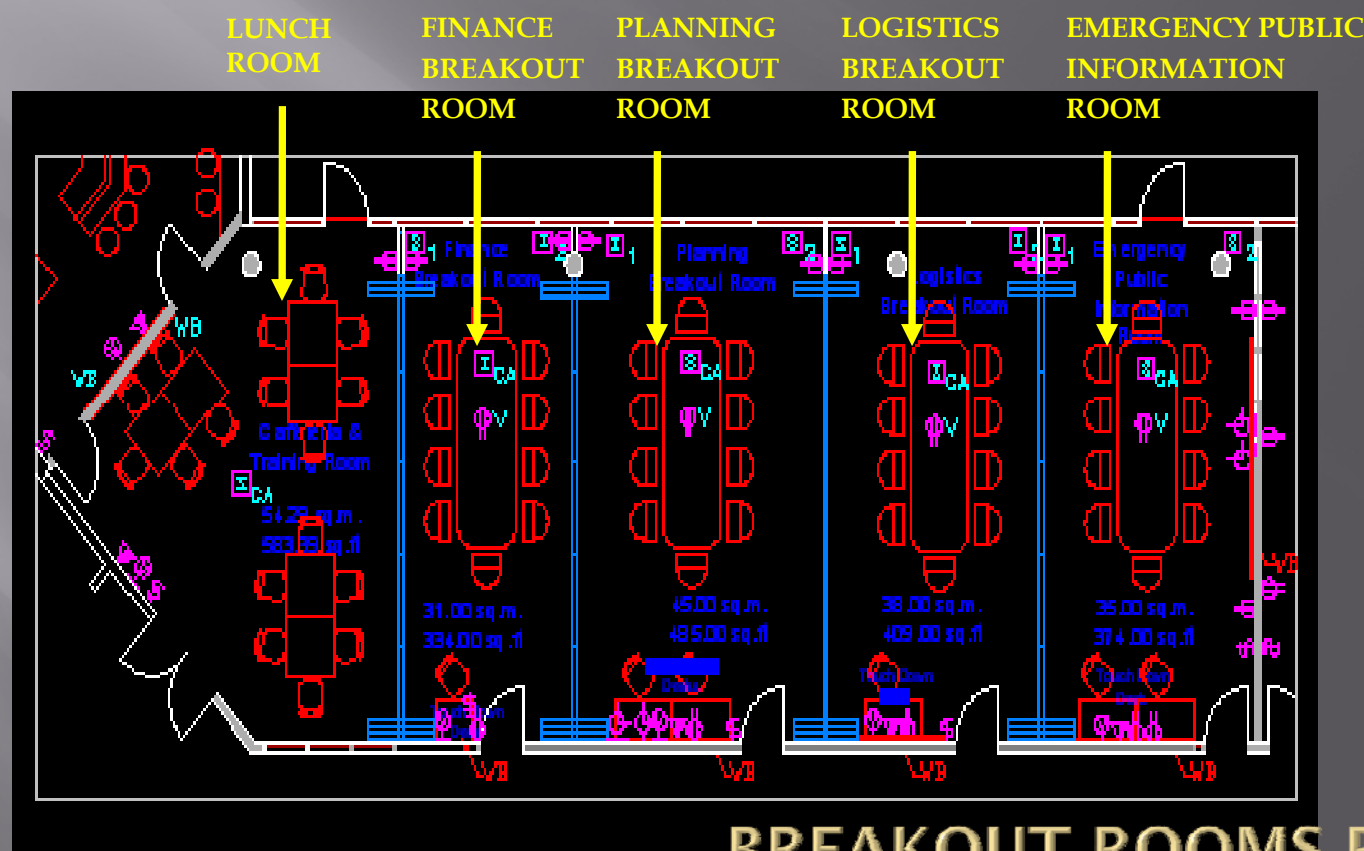
MEN'S & WOMEN'S  
WASHROOMS, LOCKERS  
& STORAGE

## FLOOR PLAN





# THE EOC



**BREAKOUT ROOMS PLAN**



# THE EOC

COMMUNICATIONS  
ROOM

OPERATIONS  
ROOM



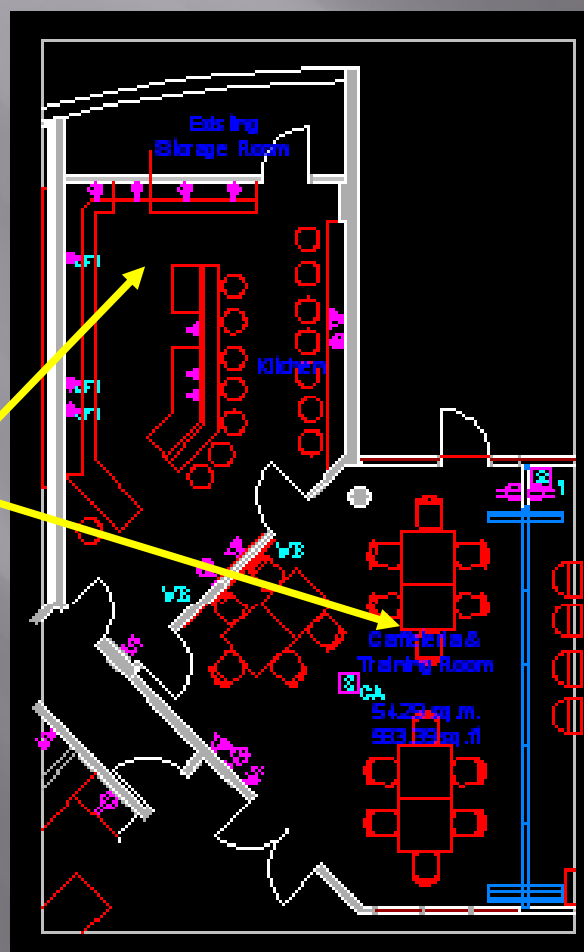
CONTROL GROUP  
CONFERENCE  
ROOM

THE HUB

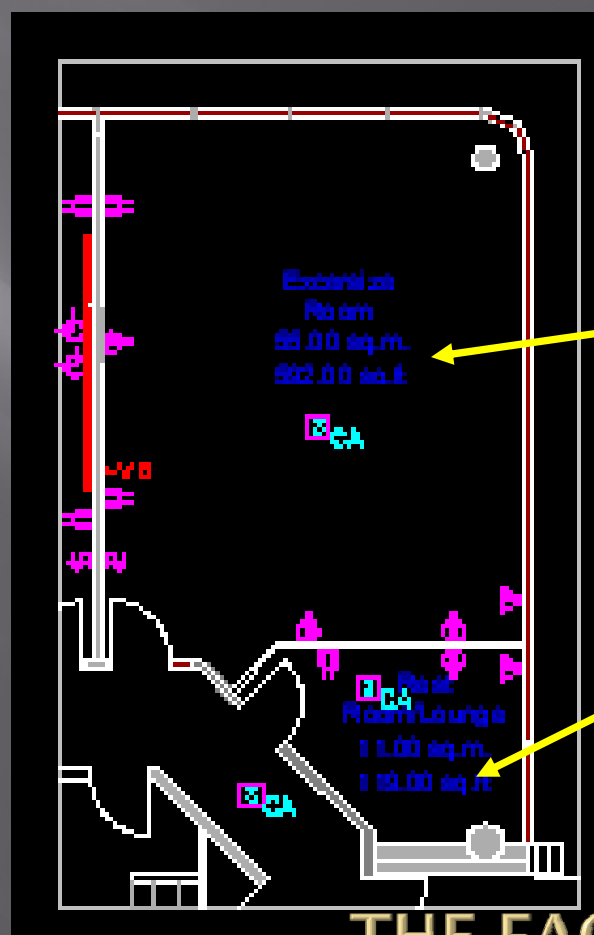


# THE EOC

KITCHEN &  
LUNCH ROOM



EXERCISE  
ROOM



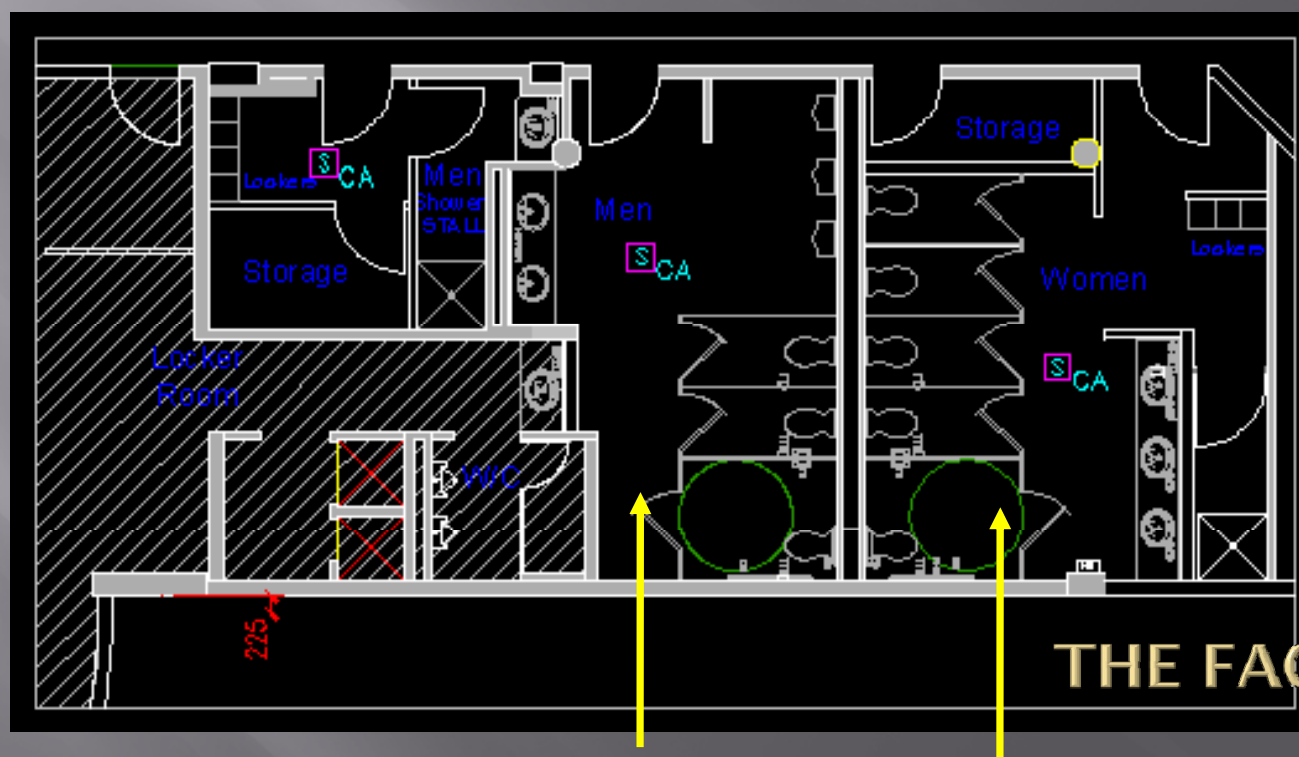
REST/LOUNGE  
ROOM

## THE FACILITIES





# THE EOC



## THE FACILITIES

MEN'S WASHROOMS,  
LOCKERS & STORAGE

WOMEN'S WASHROOMS,  
LOCKERS & STORAGE



# THE EOC

- ✓ The impact of the renovation.
- ✓ Use and or re-use of existing building components.
- ✓ Existing and new furniture.
- ✓ Existing and new equipment.
- ✓ Finishes including floors, walls ceilings etc.



# THE EOC

## ORDER OF MAGNITUDE COST ESTIMATE

This Order of Magnitude Cost Estimate, reflects the cost of construction for elements and components selected thus far but also takes into consideration the approximate cost of portions of the project that are yet to be finalized. This estimate also provides contingencies for the cost of design or construction modifications that may be required as part of the completed project.



# THE EOC



## THE ESTIMATE

CITY OF MARKHAM  
OPERATIONS OPERATIONS CENTRE RETROFITS  
MARKHAM, ONTARIO

FILE: \NN\1\2009\CLASS C 10 ESTIMATE 100-EMERGENCY OPERATIONS CENTRE 1.XLS

APRIL 22, 2010  
CLASS C

GFA : 841 m²

ELEMENT/Sub Element	Ratio to GFA	Elemental Cost		Elemental Amount		Ratio/m2		
		Quantity	Unit Rate	Sub-total	Total	Sub-Total	Total	
A SHELL					\$0		\$0.00	0.00%
A1 SUBSTRUCTURE					\$0		\$0.00	0.00%
A11 Foundations	0.00	0 m²	0.00	\$0		\$0.00		
A12 Basement Excavation	0.00	0 m²	0.00	\$0		\$0.00		
A13 Special Conditions	0.00	0 m²	0.00	\$0		\$0.00		
A2 STRUCTURE					\$0		\$0.00	0.00%
A21 Lowest Floor Construction	0.00	0 m²	0.00	\$0		\$0.00		
A22 Upper Floor Construction	0.00	0 m²	0.00	\$0		\$0.00		
A222 Stair Construction	0.00	0 fts	0.00	\$0		\$0.00		
A23 Roof Construction	0.00	0 m²	0.00	\$0		\$0.00		
A3 EXTERIOR ENCLOSURE					\$0		\$0.00	0.00%
A31 Walls Below Grade	0.00	0 m²	0.00	\$0		\$0.00		
A32 Walls Above Grade	0.00	0 m²	0.00	\$0		\$0.00		
A33 Windows & Entrances	0.00	0 m²	0.00	\$0		\$0.00		
A34 Roof Covering	0.00	0 m²	0.00	\$0		\$0.00		
A35 Projections	0.00	0 m²	0.00	\$0		\$0.00		
B INTERIORS					\$291,548		\$346.67	30.95%
B1 PARTITIONS & DOORS					\$120,479		\$142.83	12.79%
B11 Partitions	#REF!	#REF! m²	#REF!	\$103,120		\$122.83		
B12 Doors	0.01	8 no.	2,169.75	\$17,350		\$20.83		
B2 FINISHES					\$89,600		\$106.54	9.51%
B21 Floor Finishes	0.78	658 m²	82.33	\$54,178		\$64.42		
B22 Ceiling Finishes	0.34	289 m²	47.60	\$13,755		\$16.39		
B23 Wall Finishes	1.90	1,597 m²	13.57	\$21,669		\$25.77		
B3 FITTINGS & EQUIPMENT					\$91,469		\$96.87	8.65%
B31 Fittings & Fixtures	1.00	841 m²	79.04	\$66,469		\$79.04		
B32 Equipment	1.00	841 m²	17.94	\$15,000		\$17.94		
B33 Conveying Systems	0.00	0 stu	0.00	\$0		\$0.00		
C SERVICES					\$343,215		\$408.10	36.44%
C1 MECHANICAL					\$222,415		\$264.46	23.81%
C11 Plumbing & Drainage	1.00	841 m²	118.71	\$98,150		\$116.71		
C12 Fire Protection	1.00	841 m²	17.69	\$14,885		\$17.69		
C13 HVAC	1.00	841 m²	112.25	\$94,400		\$112.25		
C14 Controls	1.00	841 m²	17.84	\$15,000		\$17.84		
C2 ELECTRICAL					\$120,800		\$143.64	12.82%
C21 Service & Distribution	1.00	841 m²	8.46	\$7,111		\$8.46		
C22 Lighting, Devices & Heating	1.00	841 m²	64.15	\$53,950		\$64.15		
C23 Systems & Ancillaries	1.00	841 m²	71.03	\$59,739		\$71.03		
NET BUILDING COST - EXCLUDING SITE & ANCILLARY				\$634,762	\$634,762		\$754.77	67.39%
D SITE & ANCILLARY WORK					\$67,470		\$80.23	7.16%
D1 SITE WORK					\$4,000		\$4.78	0.42%
D11 Site Development	1.00	841 m²	4.78	\$4,000		\$4.78		
D12 Mechanical Site Services	1.00	841 m²	0.00	N/A		\$0.00		
D13 Electrical Site Services	1.00	841 m²	0.00	N/A		\$0.00		
D2 ANCILLARY WORK					\$63,470		\$75.47	6.74%
D21 Demolition	0.00	0 m²	0.00	\$0		\$0.00		
D22 Alterations	1.00	841 m²	75.47	\$63,470		\$75.47		
D23 Cash Allowances	0.00	0 m²	0.00	\$0		\$0.00		
NET BUILDING COST - EXCLUDING GENERAL REQUIREMENTS				\$702,232	\$702,232		\$835.00	74.55%
Z GENERAL REQUIREMENTS					\$105,335		\$125.25	11.18%
Z1 GENERAL REQUIREMENTS & FEE					\$105,335		\$125.25	11.18%
Z11 General Requirements (%)		10%		\$70,223		\$83.50		
Z12 Fee (%)		5%		\$35,112		\$41.75		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES				\$807,567	\$807,567		\$960.25	85.73%
Z2 ALLOWANCES					\$134,379		\$159.78	14.27%
Z21 Design & Pricing (%)		8%		\$64,805		\$76.82		
Z22 Escalation Allowance (%)		0%		\$0		\$0.00		
Z23 Construction Allowance (%)		8%		\$69,774		\$82.97		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING TAXES				\$941,946	\$941,946		\$1,120.03	100.00%
GOODS & SERVICES TAX					\$0		\$0.00	
Goods & Services Tax		0%		\$0		\$0.00		
TOTAL CONSTRUCTION ESTIMATE					\$941,946			
Cost per SF							\$104.05	



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# THE EOC

THANK YOU FOR THE OPPORTUNITY TO  
MAKE THIS PRESENTATION

QUESTIONS