

# CASSIE CAMPBELL COMMUNITY CENTRE, FIELD HOCKEY DOME

The Corporation of the City of Brampton

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EX-1.0	EXISTING CONDITIONS / SITE PREPARATION PLAN
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L-2.2	LAYOUT PLAN ENLARGEMENTS
L-3.0	GRADING PLAN
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## Sheet No. Title

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A5.02	CONSTRUCTION DETAILS
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A8.00	FINISHING IMAGE BOARD
A8.01	FINISHING IMAGE BOARD

## MEPS - FIELDHOUSE

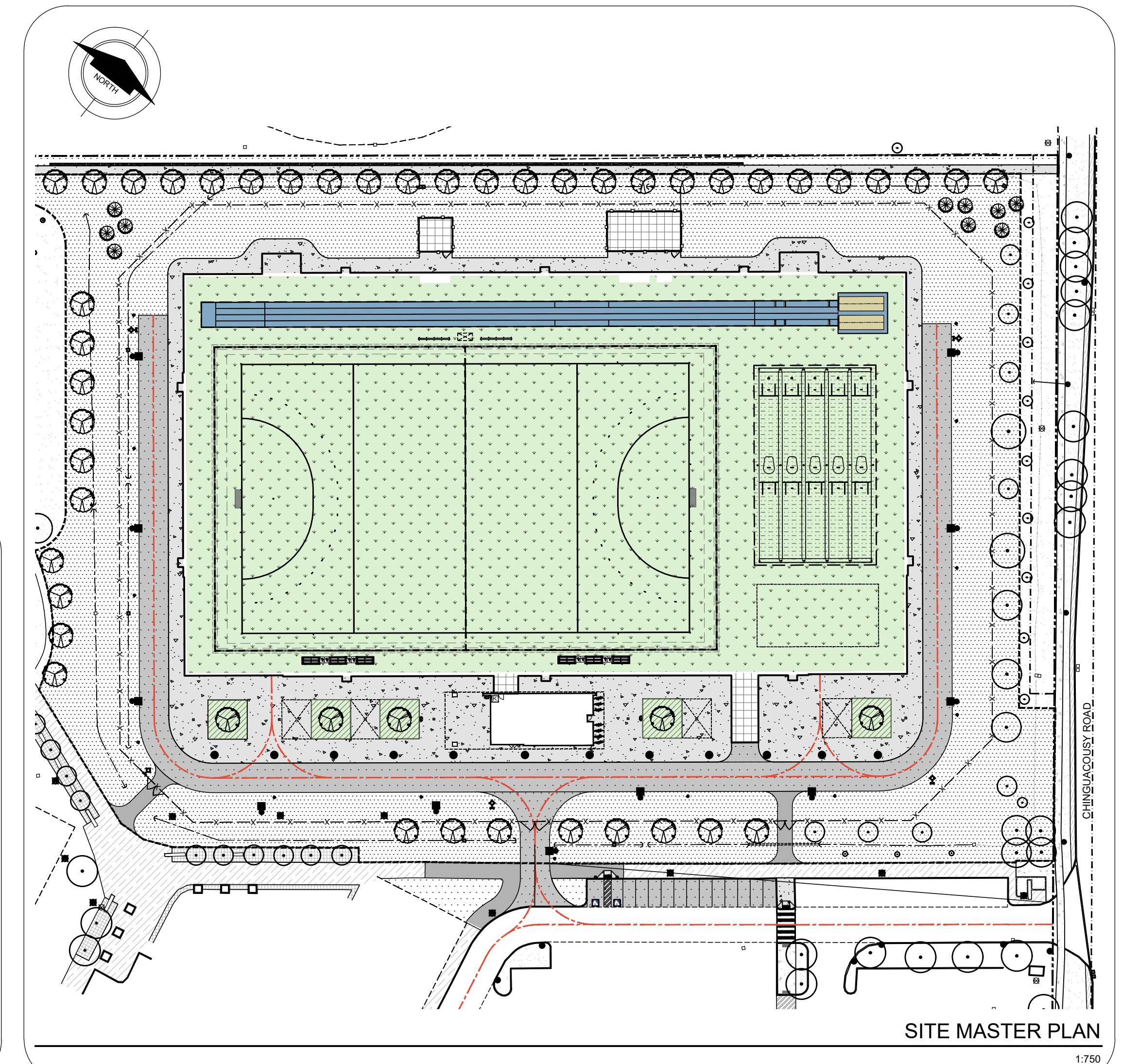
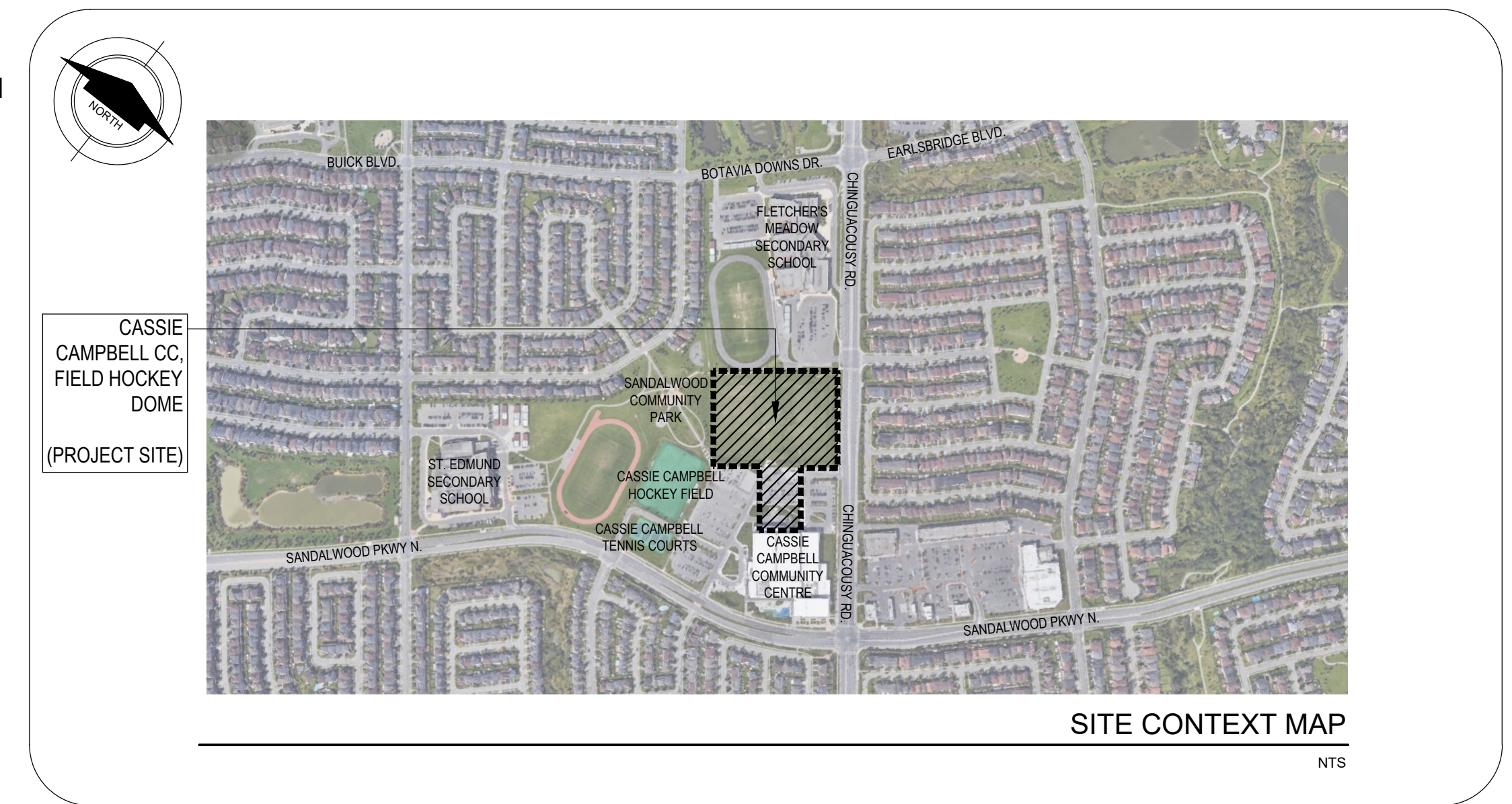
S1.00	STRUCTURAL SPECIFICATIONS
S2.00	STRUCTURAL SPECIFICATIONS
S3.00	STRUCTURAL SPECIFICATIONS
S4.00	FOUNDATION PLAN AND DETAILS
S5.00	ROOF FRAMING PLAN AND DETAILS
S6.00	STRUCTURAL DETAILS
S7.00	STRUCTURAL DETAILS
M1.00	PLUMBING PLAN AND DETAILS
M2.00	HVAC PLAN AND DETAILS
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E1.00	LIGHTING PLAN AND DETAILS
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## Sheet No. Title

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## Sheet No. Title

ELECTRICAL	
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E-4	ELECTRICAL NOTES
SITE SERVICING	
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GSP-1	GENERAL SERVICING PLAN
STM-1	STORM DRAINAGE PLAN
DET-1	NOTES & DETAILS PLAN
DET-2	NOTES & DETAILS PLAN
DET-3	NOTES & DETAILS PLAN
MECHANICAL	
M1	MECHANICAL DRAWING LIST, LEGENDS AND DETAILS
M2	MECHANICAL NEW WORK



## CLIENT:



The Corporation of the City of Brampton  
Community Services - Parks Projects

1975 Williams Parkway,  
Brampton, Ontario  
L6S 6E5  
Tel: 905.874.3955  
Attn: Mr. Paul Van de Gevel, OALA, CSLA  
Tel: 905.874.3955

## PRIME CONSULTANT:



95 Mural Street, Suite 207, Richmond Hill, ON L4B 3G2  
Tel: 905.669.6838, www.landscapeplan.ca

## SUB-CONSULTANTS:

### SITE SERVICING

Valdor Engineering Inc.  
571 Chrislea Road, Unit 4, 2nd Floor  
WOODBRIIDGE ONTARIO  
L4L 8A2  
TEL: 905.264.0054

### ELECTRICAL

MJS Consultants Inc.  
420 Main Street East, Suite 473  
MILTON ONTARIO  
L9T 5G3  
TEL: 416.402.1525

### ARCHITECTURAL

Pylons Architecture Inc.  
20 Rivermede Road, Unit 101  
CONCORD ONTARIO  
L4K 3N3  
TEL: 289.637.1375

### FIELDHOUSE - MEPS

Robert E. Dale Limited  
429 Exmouth Street, Suite 208  
SARNIA ONTARIO  
N7T 5P1  
TEL: 519.337.7211

### AIR STRUCTURE

The Farley Group  
6 Kerr Crescent  
PUSLINC ONTARIO  
N0B 2J0  
TEL: 1.888.445.3223

### MECHANICAL

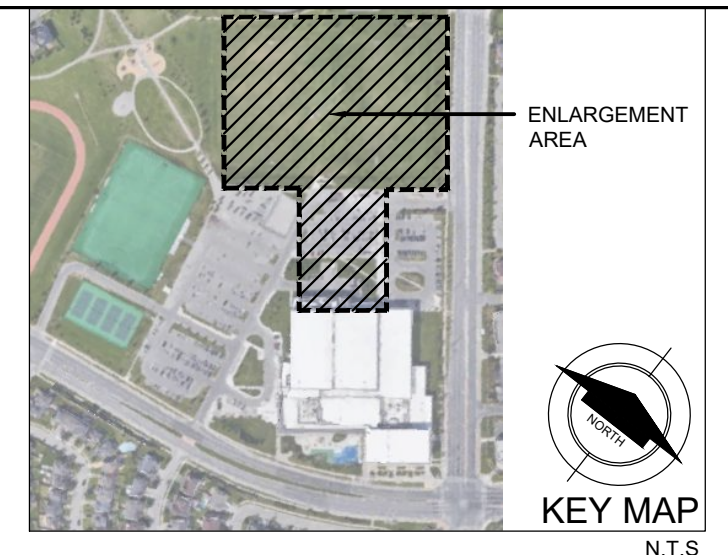
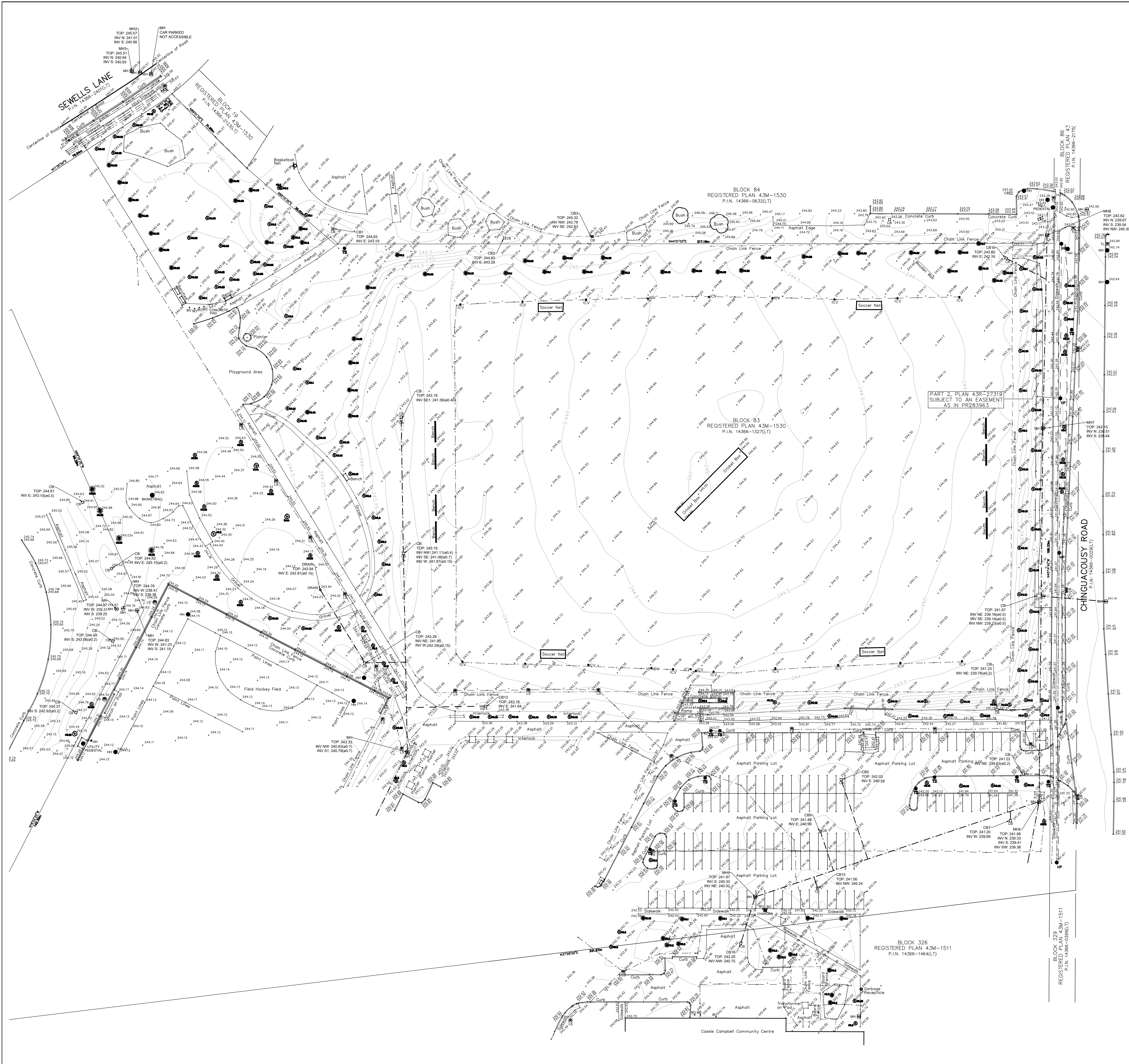
Goodkey, Weedmark & Associates Ltd.  
1688 Woodward Drive  
OTTAWA ONTARIO  
K2C 3R8  
TEL: 613.727.5111

ISSUED FOR:  
Tender  Construction

LPL No. 2023-093

ISSUED FOR TENDER





# CASSIE CAMPBELL COMMUNITY CENTRE, CITY OF BRAMPTON TOPOGRAPHICAL PLAN

**LEGEND**

SYMBOL		
CSP	DENOTES CORRUGATED STEEL PIPE	UNDERGROUND HYDRO.
CB	DENOTES CATCH BASIN	UNDERGROUND TV
HP	DENOTES HYDRO POLE	UNDERGROUND WATER
ICV	DENOTES IRRIGATION CONTROL VALVE	UNDERGROUND ELECTRICAL
LS	DENOTES LIGHT STANDARD	UNDERGROUND GAS
MH	DENOTES MANHOLE	UNDERGROUND BELL
TS	DENOTES TRAFFIC SIGN	STORMLINE
WV	DENOTES WATER VALVE	
BO	DENOTES BOLLARD	
DM	DENOTES DIAMETER	
OW	DENOTES OVERHEAD WIRE	
OT	DENOTES OBTUSUS TREE	
CT	DENOTES CONIFEROUS TREE	
CD	DENOTES CEDAR HEDGE	
B	DENOTES BUSH	

**BENCHMARK**  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND DETERMINED BY CITY OF BRAMPTON BENCHMARK 042100345 HAVING AN ELEVATION OF 241.664m.

**NOTE**  
BEARINGS AND DISTANCES SHOWN HEREON ARE COMPILED FROM REGISTERED PLAN 1530

THIS SURVEY WAS UNDERTAKEN ON JULY 10, 2023

**CAUTION**  
THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK

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**METRIC**  
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

**SOURCE DATA**

RG	Re-issued for Tender	2024-12-06	DP
RS	Issued for Tender	2024-11-13	DP
RL	Re-issued for SPA	2024-11-08	DP
no.	revision	date	by

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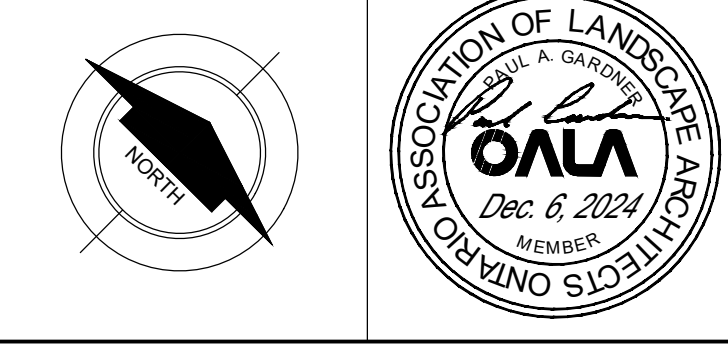
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Delph & Jenkins North Ltd. Ontario Land Surveyors 220 Industrial Parkway S., Unit 6, Aurora, Ontario L4G 3V6 www.djnw.com Tel: 905-841-8526	23271-2	DRAWN: GJ	CHECKED: JL
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project number  
**2023-093**



project title  
**CASSIE CAMPBELL  
COMMUNITY CENTRE  
FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

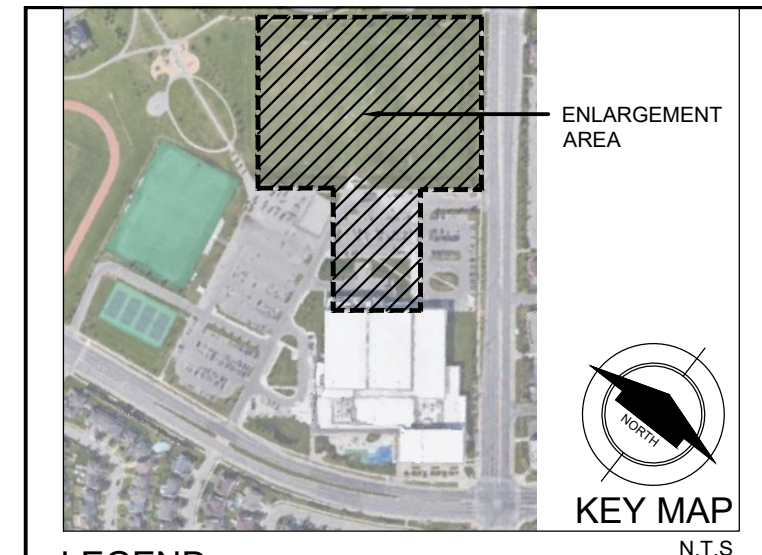
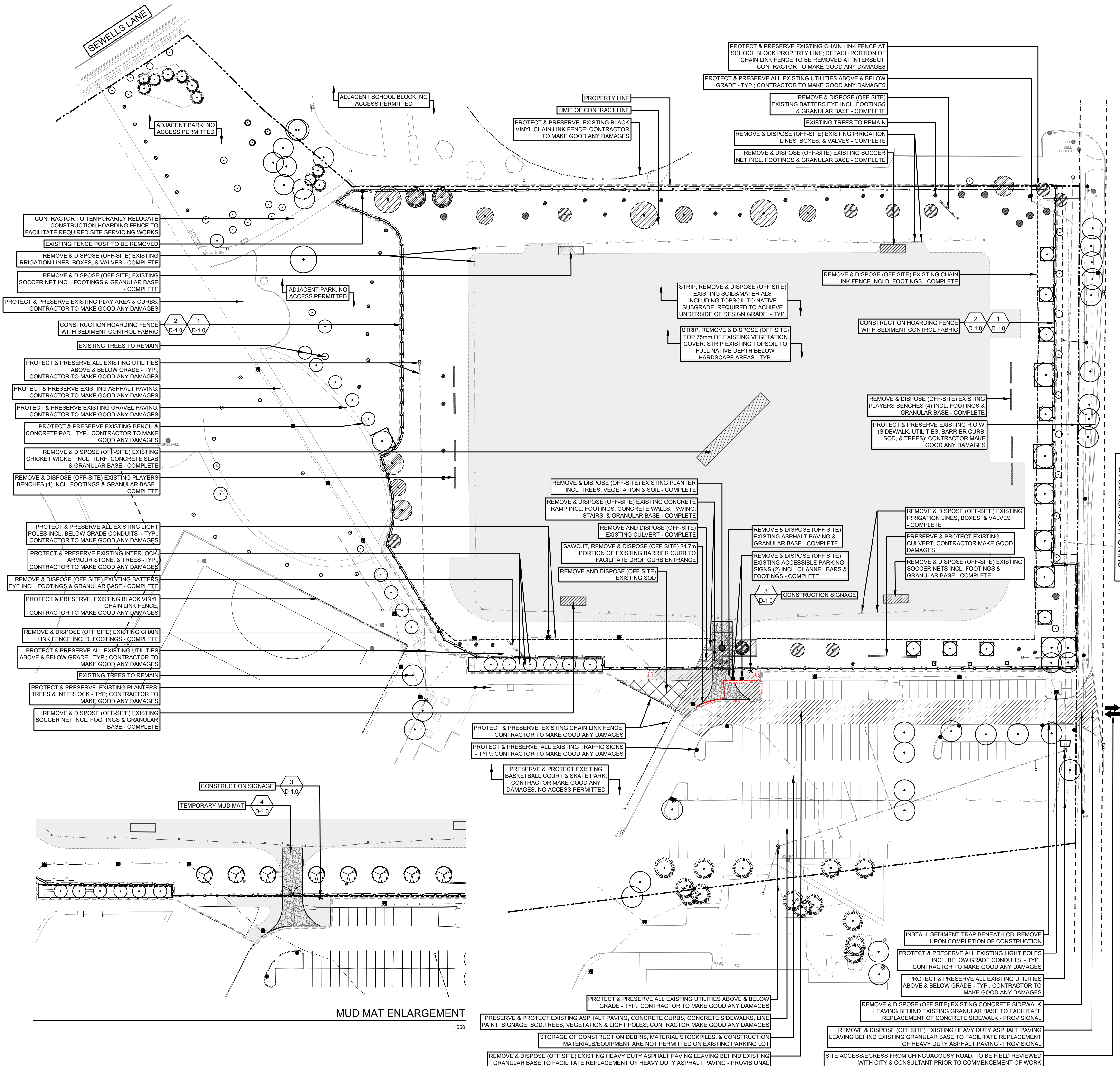
drawing title  
**EXISTING SITE  
SURVEY**

drawn by AN	reviewed by PG	drawing number: <b>ES-1.0</b>
date NOV 2024	scale 1:550	



**GENERAL CONSTRUCTION NOTES:**

1. THE CONTRACTOR, UPON ACCEPTANCE OF THE CONTRACT, ASSUMES COMPLETE RESPONSIBILITY AND LIABILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION, AND WILL ENSURE PUBLIC SAFETY AND CLEANLINESS OF MUNICIPAL ROADS NEAR THE SITE.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, GRADES AND SITE CONDITIONS BEFORE PROCEEDING WITH THE WORK, AND REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING. NO ALLOWANCE SHALL BE MADE ON BEHALF OF THE CONTRACTOR FOR FAILURE TO DO SO.
3. THE CONSULTANT IS NOT RESPONSIBLE FOR ACCURACY OF SURVEY OR ENGINEERING DRAWINGS. REFER TO APPROPRIATE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
4. ALL CONSTRUCTION TO BE CARRIED OUT IN ACCORDANCE WITH THE MOST CURRENT PROVINCIAL AND MUNICIPAL STANDARDS AND SPECIFICATIONS.
5. CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
6. SITE SHALL BE MAINTAINED IN A CLEAN AND ORDERLY STATE FOR THE DURATION OF CONSTRUCTION; ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT.
7. CONTRACTOR SHALL BE RESPONSIBLE TO CLEAN ROADS DAILY TO THE SATISFACTION OF THE CONSULTANT / OWNER.
8. **DUST CONTROL:** THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL DUST ON THIS PROJECT SITE ON A DAILY BASIS AND TO THE SATISFACTION OF THE CONSULTANT.
9. REFUELING, LUBRICATION AND/OR MAINTENANCE OF CONSTRUCTION VEHICLES IS NOT PERMITTED ON SITE UNLESS APPROVED BY THE OWNER IN WRITING.
10. THE CONTRACTOR SHALL ESTABLISH ALL PROPERTY BOUNDARIES AND CORNER STAKES, AND SHALL BE RESPONSIBLE FOR ALL COSTS OF RE-ESTABLISHING THEM SHOULD THEY BE DISTURBED.
11. CONTRACTOR SHALL BE PERMITTED ONE (1) POINT OF ACCESS FROM CHINGUACOUSY ROAD. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ONE (1) CONSTRUCTION GATE WITH LOCK.
12. THE CONTRACTOR SHALL BE REQUIRED TO HAVE A FLAGMAN DIRECTING ALL DELIVERIES OF MACHINERY OR MATERIALS TO THE SITE.
13. STORAGE OF MATERIALS, VEHICLES AND EQUIPMENT SHALL NOT BE PERMITTED WITHIN THE MUNICIPAL ROAD ALLOWANCE OR ON PRIVATE PROPERTY.
14. AREAS FOR THE STORAGE OF MATERIALS AND EQUIPMENT SHALL BE APPROVED BY INSPECTOR. MATERIAL AND EQUIPMENT STORAGE SHALL NOT BE PERMITTED WITHIN 15m OF RESIDENTIAL LOTS.
15. THE CONTRACTOR SHALL NOTIFY CONSULTANT 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE INSPECTION SCHEDULES.
16. ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR UTILITY STAKEOUT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED TO EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL GIVE UTILITIES ADVANCE NOTICE PRIOR TO DIGGING AND SHALL ASSUME ALL LIABILITIES OF DAMAGE DURING CONSTRUCTION.
17. THE CONDITION OF CURBS, SIDEWALKS, STREET TREES AND UTILITIES LOCATED WITHIN THE MUNICIPAL R.O.W. SHALL BE REVIEWED AND DOCUMENTED BETWEEN ALL PARTIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR WILL RECTIFY ANY DAMAGES, AT THEIR OWN COST, TO THE SATISFACTION OF THE OWNER / MUNICIPALITY.
18. ALL EXISTING VEGETATION AND UTILITIES SHALL BE PROTECTED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. REFER TO DETAILS FOR APPROVED FENCING TYPES. ANY DAMAGES NOTED TO BE RECTIFIED AT THE COST OF THE CONTRACTOR.
19. NO MACHINE ACCESS OR GRADE CHANGES ARE PERMITTED WITHIN THE DRIP LINE OF EXISTING TREES. ANY ROOTS OR BRANCHES WHICH EXTEND BEYOND THE TREE PROTECTION HOARDING INDICATED ON THIS PLAN WHICH REQUIRE PRUNING, MUST BE DONE IN ACCORDANCE WITH GOOD ARBORICULTURAL STANDARDS. ANY EXCAVATIONS WITHIN THE DRIP LINE MUST BE HAND DUG. THE CONTRACTOR TO REMOVE AND DISPOSE HOARDING FENCING UPON CONSTRUCTION COMPLETION.
20. ALL TEMPORARY PROTECTIVE FENCING INCLUDING TREE PROTECTIVE FENCING SHALL BE MAINTAINED BY THE CONTRACTOR TO THE SATISFACTION OF THE INSPECTOR FOR THE DURATION OF CONSTRUCTION AND REMOVED FOLLOWING SUBSTANTIAL COMPLETION UPON APPROVAL BY CONSULTANT; FENCING LOCATIONS TO BE REVIEWED AND APPROVED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
21. THE CONTRACTOR IS EXPECTED TO PROVIDE MODULAR HOARDING FENCE AROUND ALL AREAS OF ACTIVE CONSTRUCTION. THE CONTRACTOR MAY REMOVE MODULAR FENCING ONLY UPON WRITTEN APPROVAL OF THE CONSULTANT THAT ACTIVE CONSTRUCTION AREA HAS BEEN SUBSTANTIALLY COMPLETED AND SAFE FOR PUBLIC USE.
22. NO HOARDING FENCING COMPONENT, INCLUDING BRACES AND FOOT SUPPORTS, SHALL ENCUMBER THE PUBLIC SIDEWALK AT ANY TIME.
23. CONTRACTOR SHALL ENSURE THAT EXISTING RESIDENTIAL / SCHOOL FENCING IS PROTECTED AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR AT HIS COST ANY DAMAGE ARISING DURING THE PARK CONSTRUCTION.
24. ANY ACCESS FROM THE REAR YARDS OF RESIDENTIAL LOTS SHALL BE RESTRICTED BY INSTALLING WIRE ON GATES.
25. CONTRACTOR SHALL SUPPLY AND INSTALL FILTER FABRIC PROTECTION ON ALL EXISTING CATCH BASINS AND UTILITIES THAT ARE TO REMAIN AND THAT MAY BE AFFECTED BY THE CONSTRUCTION.
26. REMOVE AND DISPOSE OF ALL ITEMS NECESSARY TO PERMIT NEW CONSTRUCTION
27. REMOVAL OF ITEMS INCLUDES FULL REMOVAL OF ANY FOOTINGS.
28. REMOVE ALL SOD AND SOIL AS MAY BE REQUIRED TO PERMIT NEW CONSTRUCTION.
29. THE COSTS ASSOCIATED WITH THE ABOVE ITEMS 1 THROUGH 28, WHERE SUCH COSTS ARE NOT IDENTIFIED SPECIFICALLY ON THE FORM OF TENDER (BID FORM) SHALL BE DEEMED TO BE INCLUDED IN BID ITEM A2.0.
30. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT OF THE CONSULTANT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN WHOLE OR IN PART IS FORBIDDEN WITHOUT THE CONSULTANT'S PERMISSION. DRAWINGS ARE NOT TO BE SCALED.



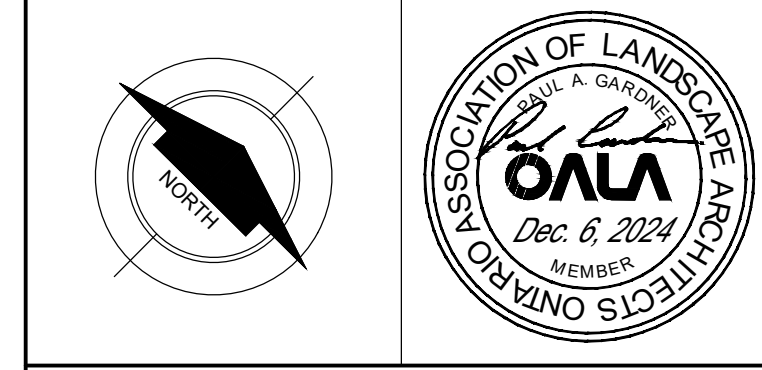
**LEGEND:**

1	DETAIL #
D-0	SHEET #
	PROPERTY LINE
	LIMIT OF CONTRACT
	EASEMENT
	CONSTRUCTION HOARDING FENCING
	TREE PROTECTION FENCING
	SEDIMENT CONTROL FABRIC
	FENCE REMOVAL
	EXISTING FENCE TO REMAIN
	EXISTING CURB TO BE REMOVED
	SITE ACCESS / EGRESS
	CONSTRUCTION SIGNAGE
	SITE REMOVALS (HARDSCAPE)
	SITE REMOVALS (SOFTSCAPE)
	MUD MAT
	LIMIT OF PROPOSED HARDSCAPE
	EXISTING DECIDUOUS TREE TO REMAIN
	EXISTING CONIFEROUS TREE TO REMAIN
	EX. LIGHTING; REFER TO ELEC.
	EX. CATCH BASIN; REFER TO CIVIL
	EX. MAN HOLE; REFER TO CIVIL
	EX. TRAFFIC SIGN
	EX. HYDRO POLE; REFER TO ELEC.

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no.	revision	date	by
R6	Re-issued for Tender	2024-12-06	DP
R5	Issued for Tender	2024-11-13	DP
R4	Re-issued for SPA	2024-11-08	DP

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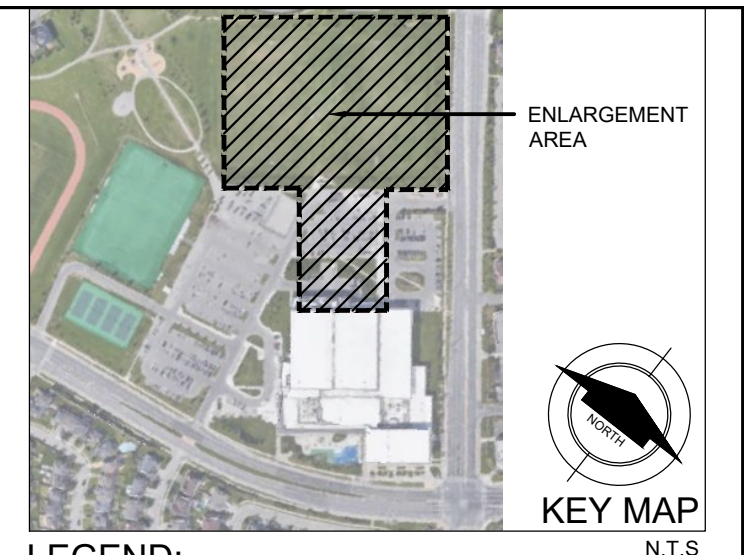
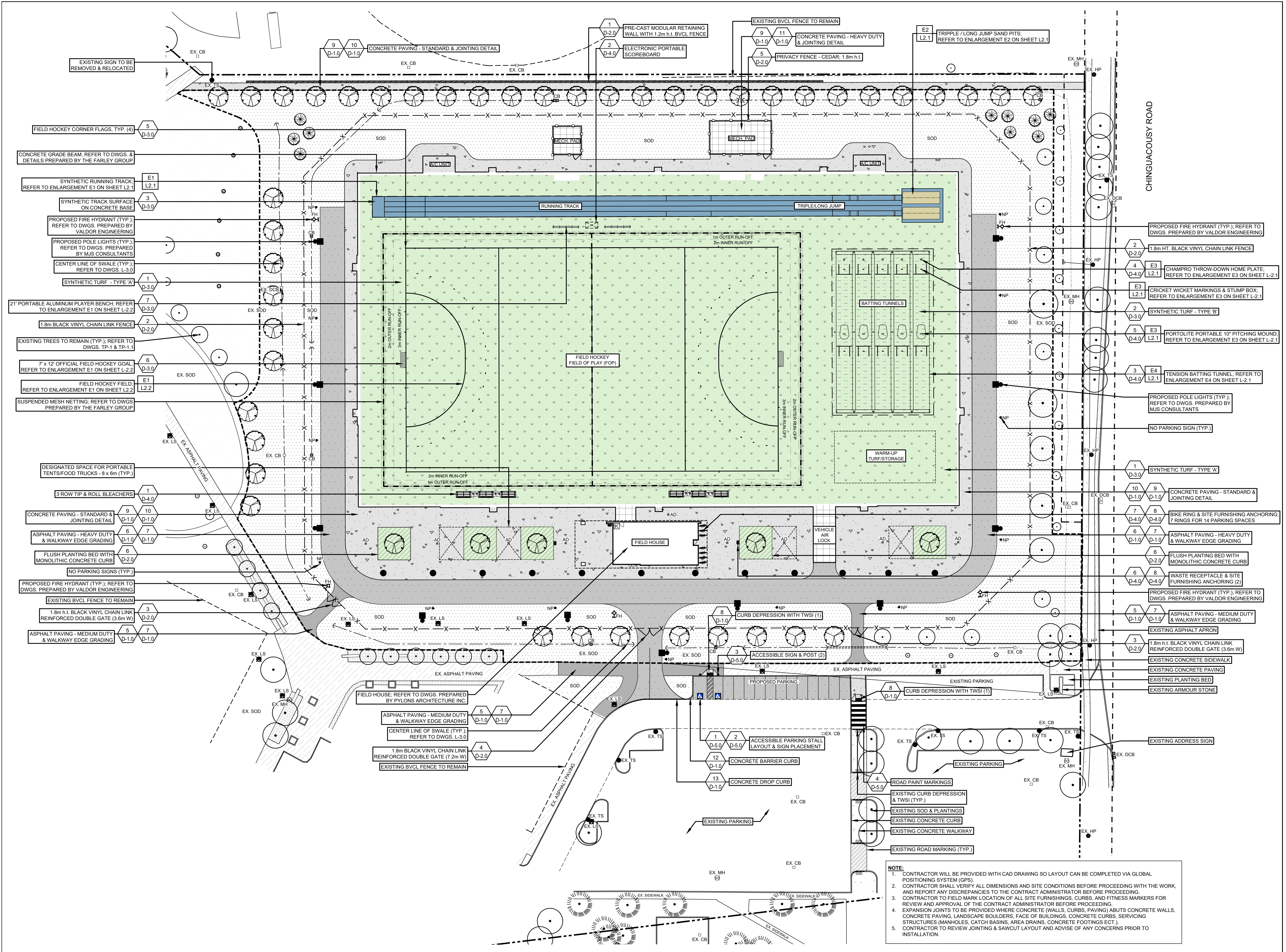
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**EXISTING  
CONDITIONS / SITE  
PREPARATION PLAN**

drawn by	reviewed by	drawing number:
AN	PG	<b>EX-1.0</b>
date	scale	
NOV 2024	1:550	



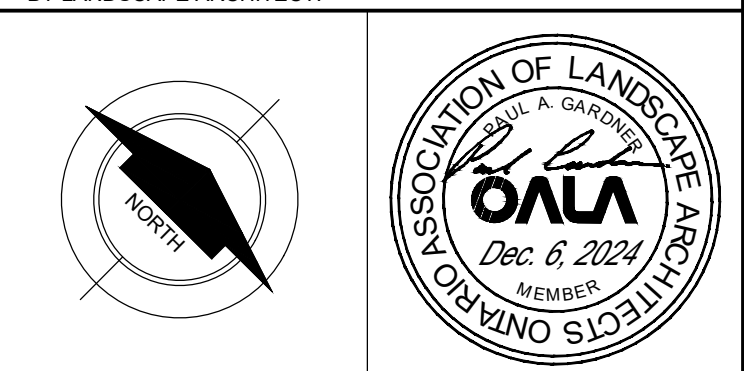


**LEGEND:**

Symbol	DETAIL #	SHEET #	Description
---			PROPERTY LINE
- - - -			EASEMENT
- - - -			EXISTING BVCL FENCE TO REMAIN
- - - -			1.8m h.t. BVCL FENCE
- - - -			1.2m h.t. BVCL FENCE
- - - -			1.8m h.t. PRIVACY FENCE - CEDAR
- - - -			SUSPENDED MESH NETTING
- - - -			PROPOSED DROP CURB
- - - -			EXISTING DROP CURB
■			CONCRETE PAVING - STANDARD
■			CONCRETE PAVING - HEAVY DUTY
■			ASPHALT PAVING - MEDIUM DUTY
■			ASPHALT PAVING - HEAVY DUTY
■			EXISTING ASPHALT
■			EXISTING CONCRETE
■			SOD
■			EXISTING SOD
■			ARTIFICIAL TURF - TYPE 'A'
■			ARTIFICIAL TURF - TYPE 'B'
■			RUBBER SURFACING
■			SAND PIT
■			PLANT BED
■			BIKE RING
■			WASTE RECEPTACLE
■			3 ROW BLEACHER
■			PORTABLE PLAYERS BENCH
■			CONCRETE WALL WITH BENCH
LS			EX. LIGHT STANDARD
TS			EX. TRAFFIC SIGN
HP			EX. HYDRO POLE
CB			EX. CATCH BASIN
MH			EX. MAN HOLE
CB			PROP. CATCH BASIN
MH			PROP. MAN HOLE
FH			PROP. FIRE HYDRANT
NP			PROP. FIRE ROUTE & NO PARKING SIGN

Revised	Issued for	Revision	Date	By
R6	Re-issued for Tender		2024-12-06	DP
R5	Issued for Tender		2024-11-13	DP
R4	Re-issued for SPA		2024-11-08	DP

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1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**LANDSCAPE / SURFACE MATERIALS PLAN**

drawn by	reviewed by	drawing number:
AN	PG	<b>L-1.0</b>
date	scale	
NOV 2024	1:400	

**NOTE:**

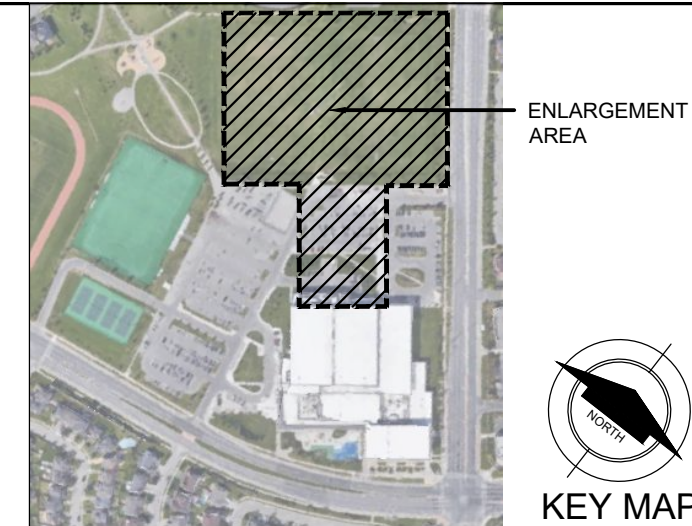
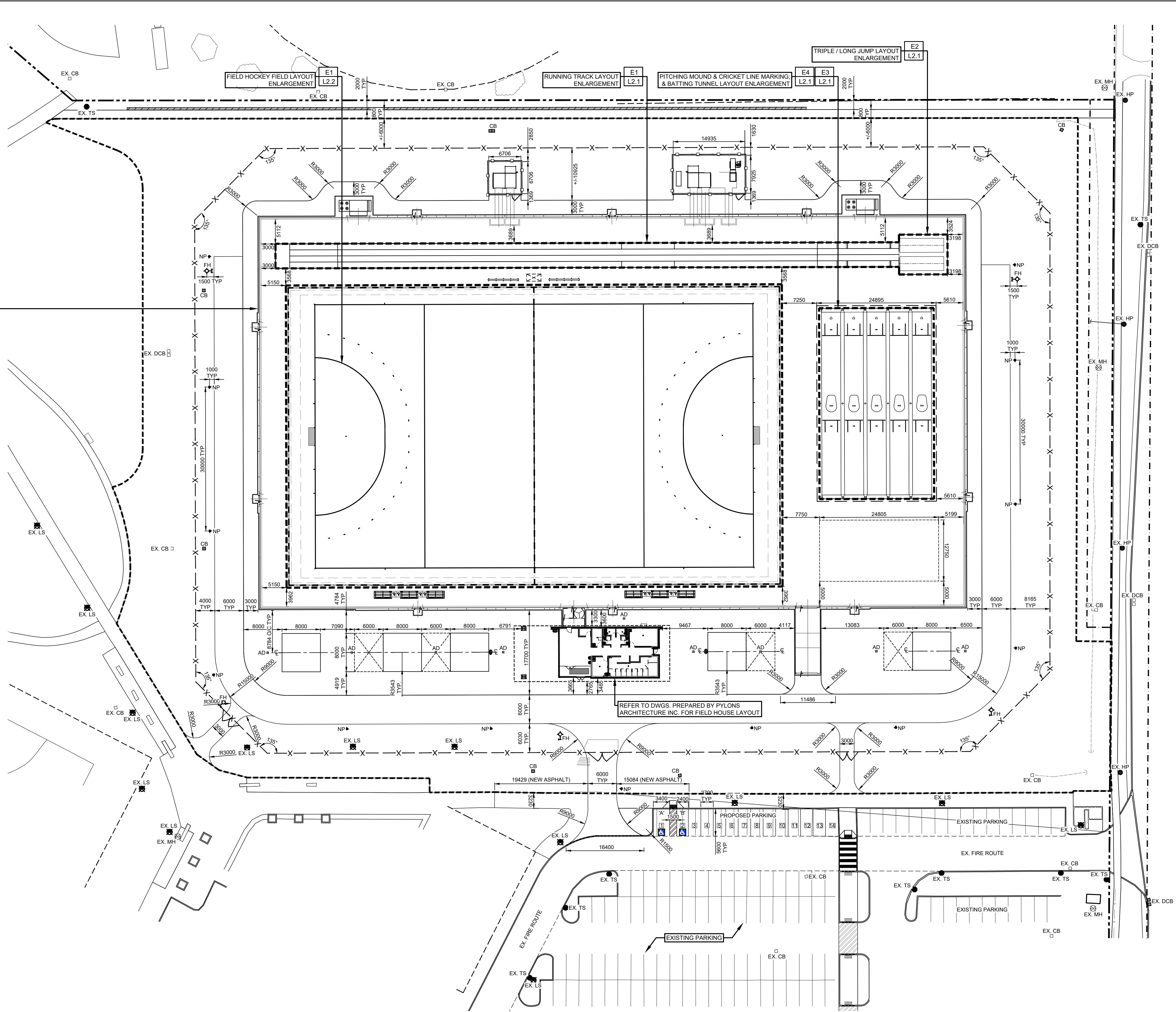
- CONTRACTOR WILL BE PROVIDED WITH CAD DRAWING SO LAYOUT CAN BE COMPLETED VIA GLOBAL POSITIONING SYSTEM (GPS).
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE PROCEEDING WITH THE WORK, AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.
- CONTRACTOR TO FIELD MARK LOCATION OF ALL SITE FURNISHINGS, CURBS, AND FITNESS MARKERS FOR REVIEW AND APPROVAL OF THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.
- EXPANSION JOINTS TO BE PROVIDED WHERE CONCRETE (WALLS, CURBS, PAVING) ABUTS CONCRETE WALLS, CONCRETE PAVING, LANDSCAPE BOULDERS, FACE OF BUILDINGS, CONCRETE CURBS, SERVICING STRUCTURES (MANHOLES, CATCH BASINS, AREA DRAINS, CONCRETE FOOTINGS ECT.).
- CONTRACTOR TO REVIEW JOINTING & SAWCUT LAYOUT AND ADVISE OF ANY CONCERNS PRIOR TO INSTALLATION.



**NOTE:**

1. CONTRACTOR WILL BE PROVIDED WITH CAD DRAWING SO LAYOUT CAN BE COMPLETED VIA GLOBAL POSITIONING SYSTEM (GPS).
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE PROCEEDING WITH THE WORK, AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.
3. CONTRACTOR SHALL FIELD STAKE ALL PATHWAYS, CURBS AND FURNISHINGS FOR REVIEW AND APPROVAL BY THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.
4. CONTRACTOR TO FIELD MARK LOCATION OF ALL SITE FURNISHINGS FOR REVIEW AND APPROVAL OF THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.

REFER TO DWGS. PREPARED BY THE FARLEY GROUP FOR GRADE BEAM, VEHICLE AIRLOCK, MECHANICAL PAD, & EGRESS DOORS LAYOUT (TYP.)



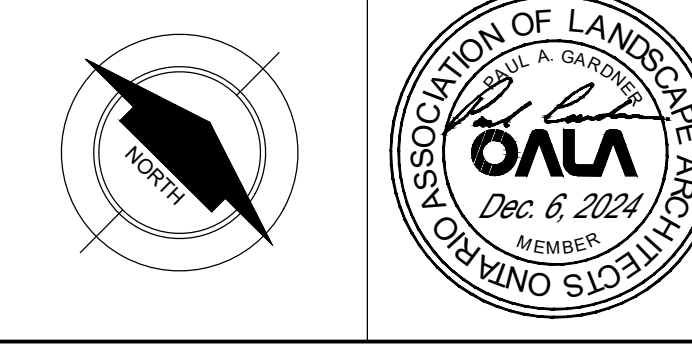
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E2 ENLARGEMENT #  
L2.1 SHEET #

--- PROPERTY LINE  
--- EASEMENT  
--- DIMENSION  
RXX RADIUS

no.	revision	date	by
R6	Re-issued for Tender	2024-12-06	DP
R5	Issued for Tender	2024-11-13	DP
R4	Re-issued for SPA	2024-11-08	DP

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project number  
**2023-093**

**landscape planning**  
LANDSCAPE ARCHITECTS  
Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2.  
Tel. 905.669.8636, www.landscapeplan.ca

project title  
**CASSIE CAMPBELL  
COMMUNITY CENTRE  
FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

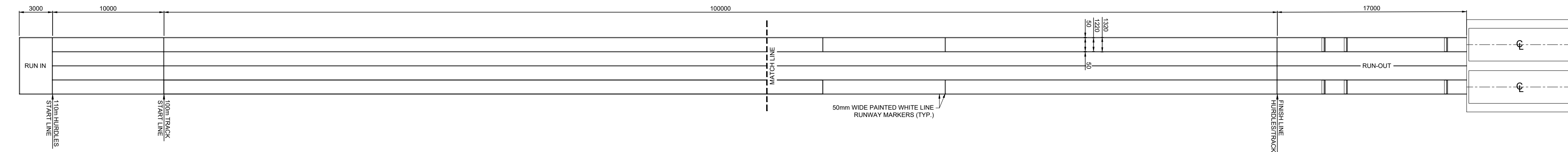
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**LAYOUT PLAN**

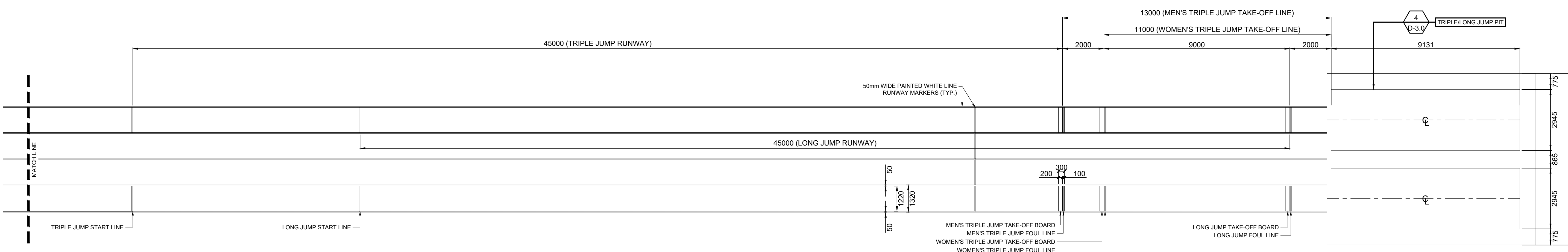
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date NOV 2024	scale 1:400	





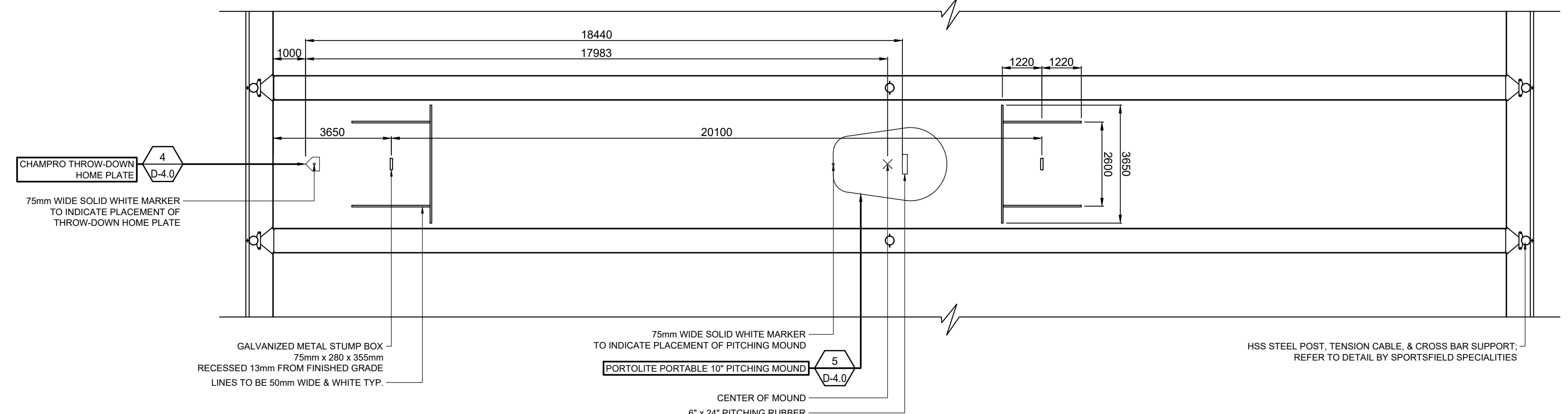
**RUNNING TRACK LAYOUT ENLARGEMENT**

1:200



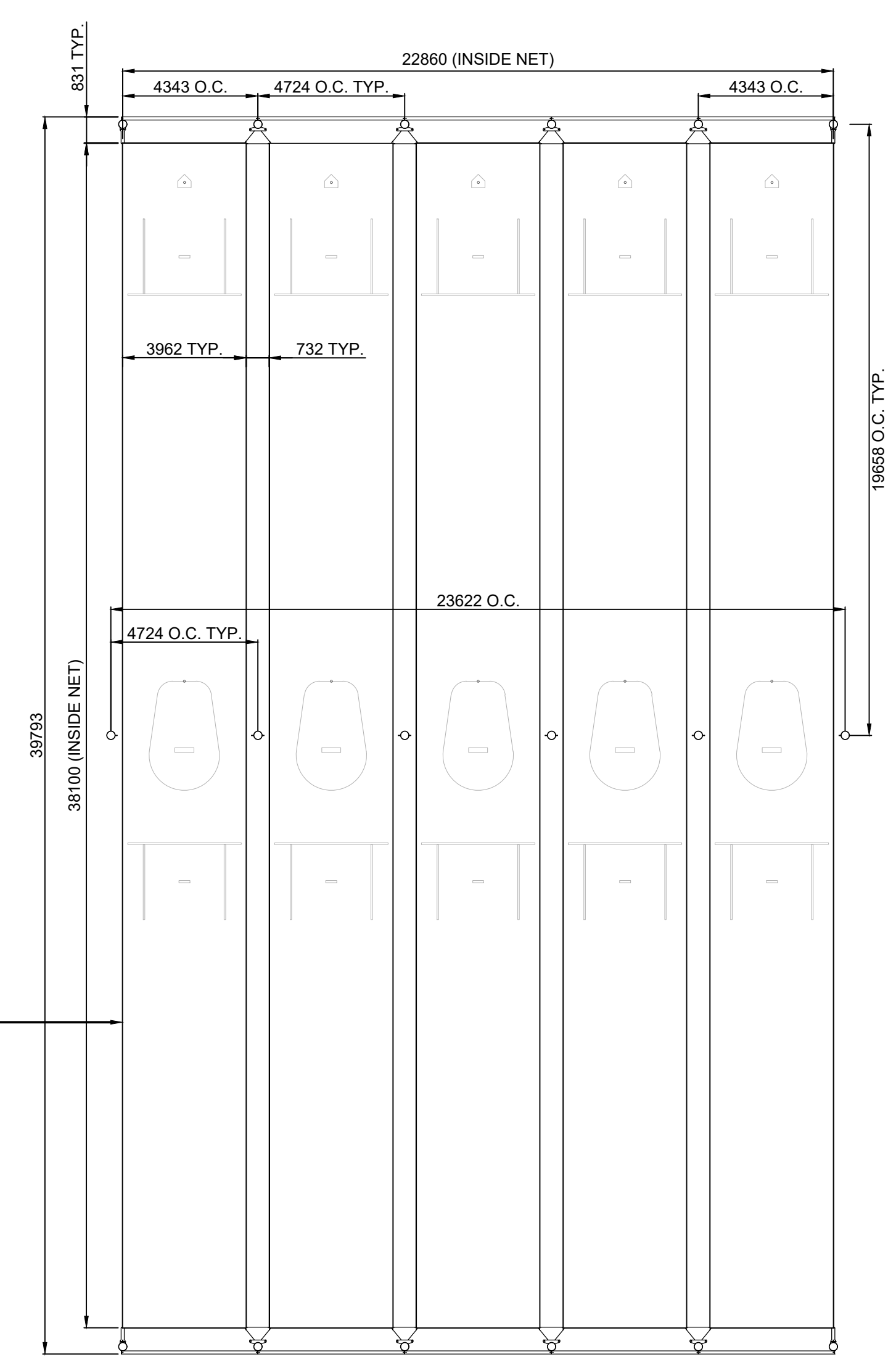
**TRIPLE/LONG JUMP LAYOUT ENLARGEMENT**

1:100



**PITCHING MOUND & CRICKET LINE MARKING LAYOUT ENLARGEMENT**

1:100

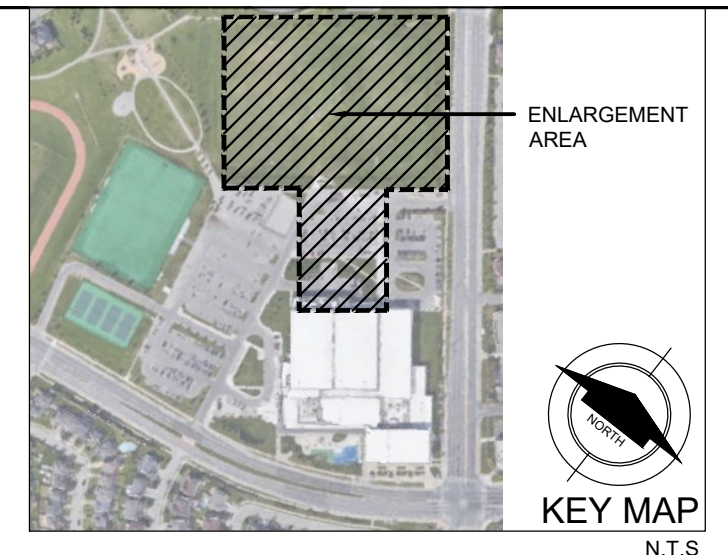


**BATTING TUNNEL LAYOUT ENLARGEMENT**

1:150

**NOTE:**

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- CONTRACTOR TO FIELD MARK LOCATION OF ALL SITE FURNISHINGS FOR REVIEW AND APPROVAL OF THE CONSULTANT BEFORE PROCEEDING.



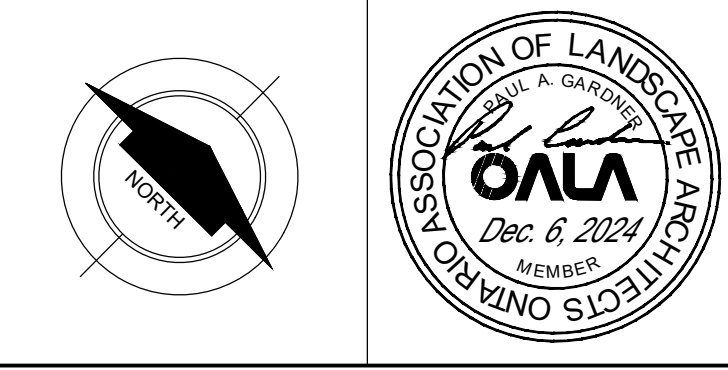
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E2	ENLARGEMENT #	1	DETAIL #
L2.1	SHEET #	D-0	SHEET #

---XXX--- DIMENSION  
 RXX RADIUS

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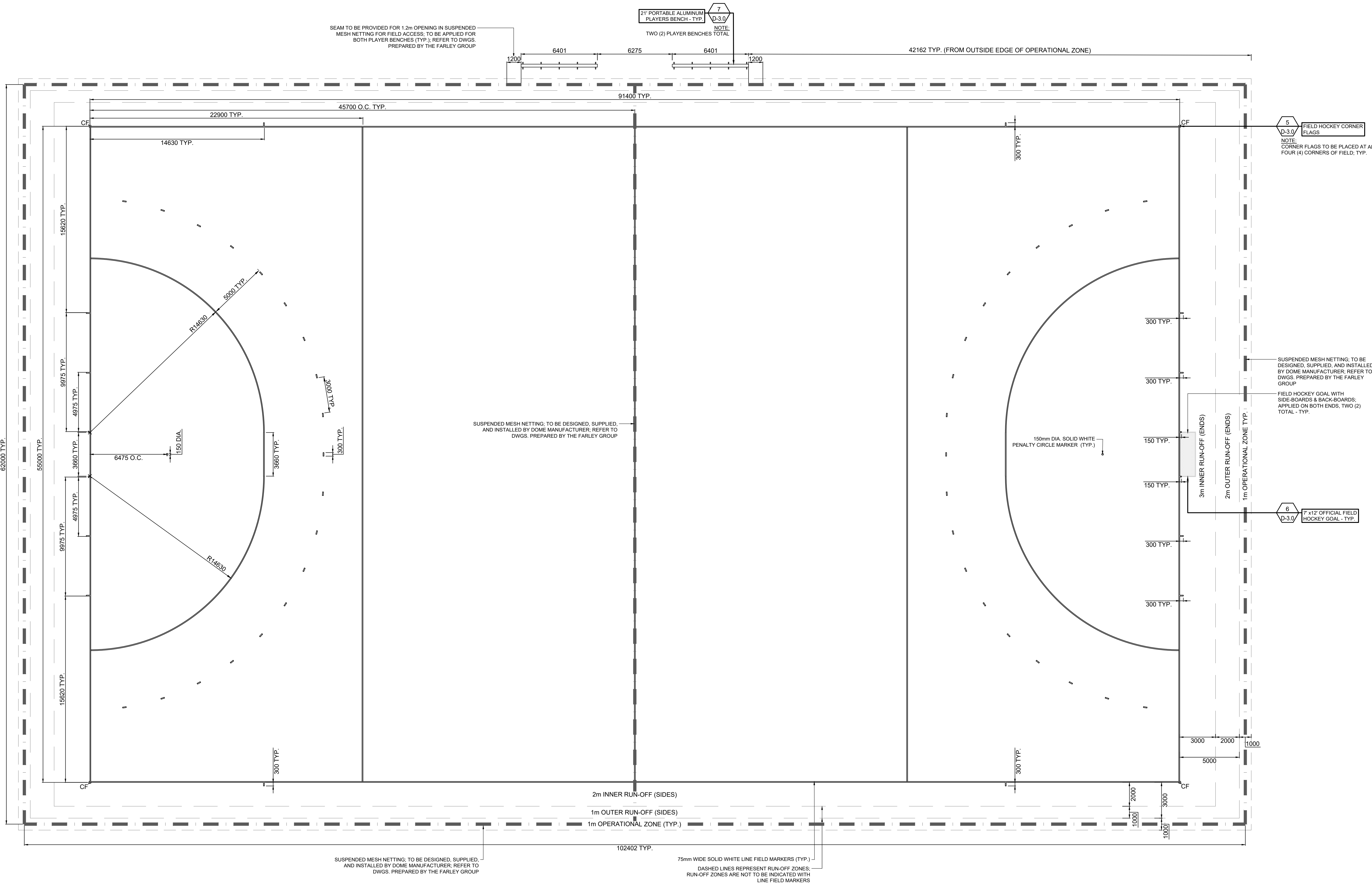
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**LAYOUT PLAN  
 ENLARGEMENTS**

drawn by AN	reviewed by PG	drawing number: <b>L-2.1</b>
date NOV 2024	scale As Shown	

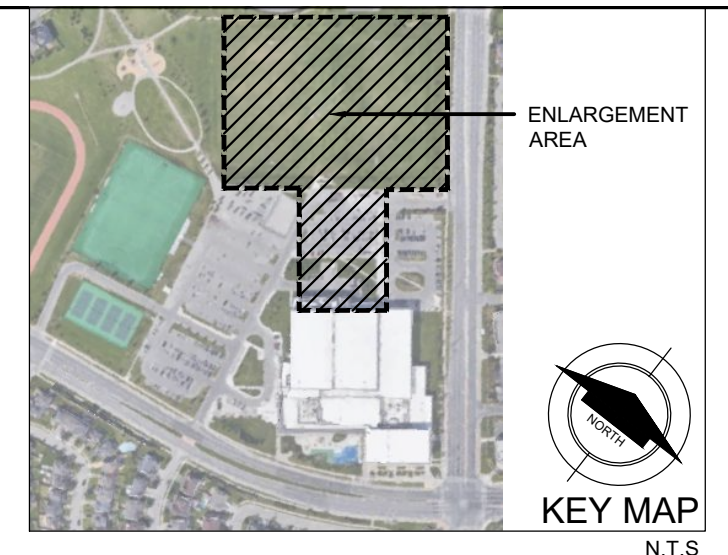




E1  
L2.2

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 4. CONTRACTOR TO FIELD MARK LOCATION OF ALL SITE FURNISHINGS FOR REVIEW AND APPROVAL OF THE CONSULTANT BEFORE PROCEEDING.

**FIELD HOCKEY FIELD LAYOUT ENLARGEMENT**  
 1:150



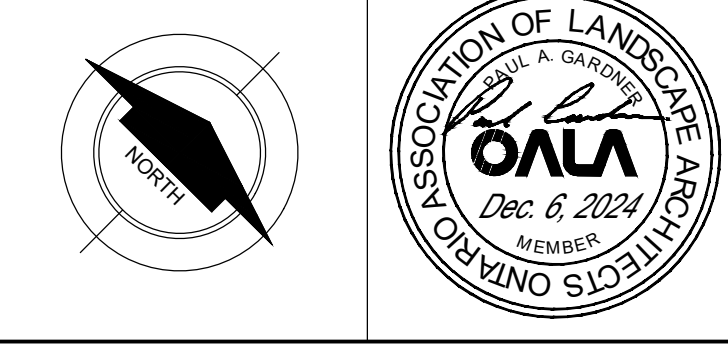
**LEGEND:**

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L2.1	SHEET #	D-0	SHEET #

---XXX--- DIMENSION  
 RXX RADIUS

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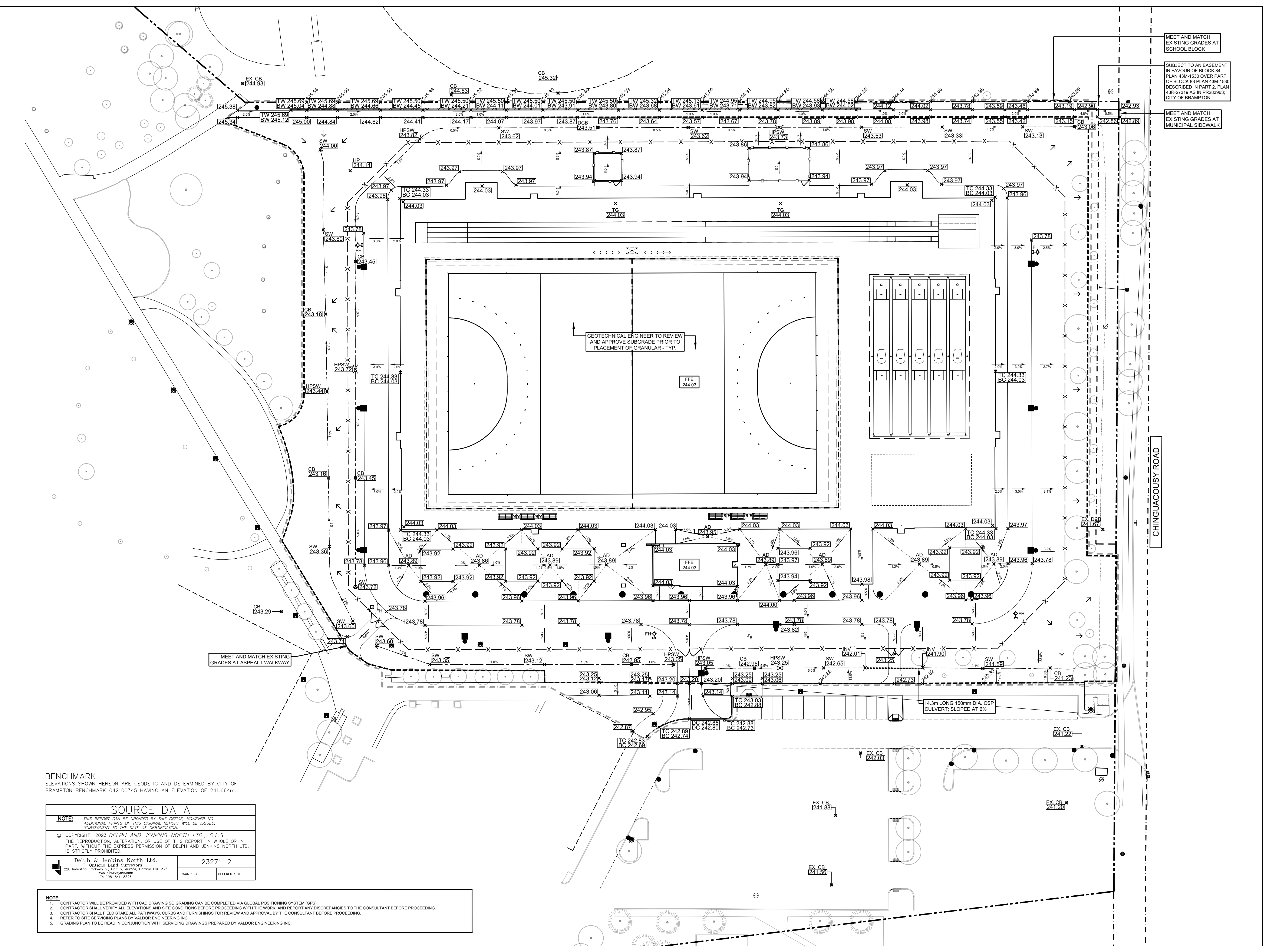
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**LAYOUT PLAN  
 ENLARGEMENTS**

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date NOV 2024	scale As Shown	

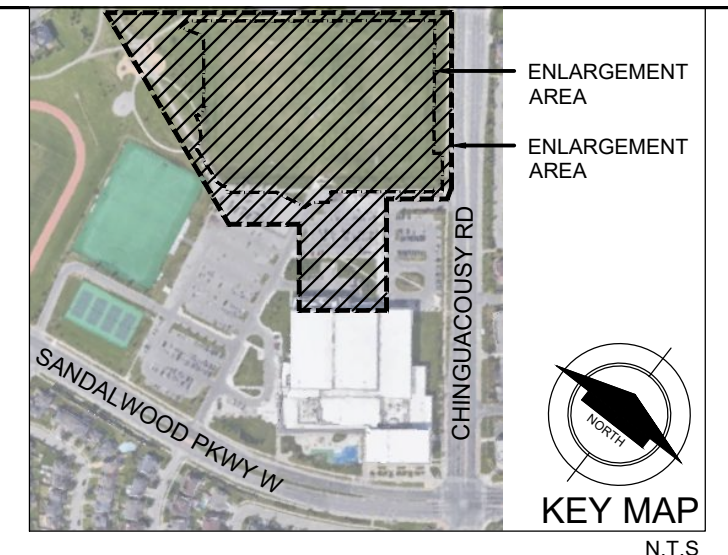




MEET AND MATCH EXISTING GRADES AT SCHOOL BLOCK

SUBJECT TO AN EASEMENT IN FAVOUR OF BLOCK #4 PLAN 43M-1530 OVER PART OF BLOCK #3 PLAN 43M-1530 DESCRIBED IN PART 2, PLAN 43R-27319 AS IN PR283963, CITY OF BRAMPTON

MEET AND MATCH EXISTING GRADES AT MUNICIPAL SIDEWALK

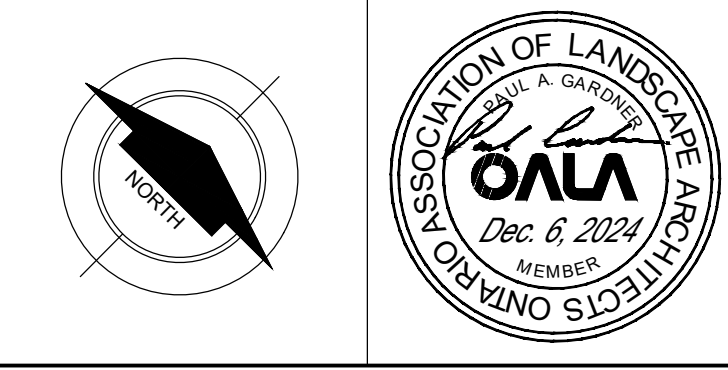


**LEGEND:**

1	DETAIL #
D-0	SHEET #
---	PROPERTY LINE
---	EASEMENT
---	LIMIT OF GRADING
X-X	1.8m h.t. BVCL FENCE
---	EXISTING SWALE
---	EXISTING CONTOUR
---	EXISTING SPOT ELEVATION
100.00	PROPOSED SPOT ELEVATION
TW	TOP OF WALL
BW	BOTTOM OF WALL
TC	TOP OF CURB
BC	BOTTOM OF CURB
SW	SWALE
HP	HIGH POINT
AD	AREA DRAIN
CB	CATCHBASIN RIM
MH	MANHOLE RIM
INV	INVERT
TG	TOP OF GRATE
DC	DEPRESSED CURB
FH	FIRE HYDRANT
---	PROPOSED CONTOUR
---	PROPOSED SWALE
---	SLOPE GRADIENT
AD	PROPOSED AREA DRAIN
CB	PROPOSED CATCH BASIN
MH	PROPOSED MANHOLE
EX. CB	EXISTING CATCH BASIN
EX. MH	EXISTING MAN HOLE
---	PROPOSED LIGHT STANDARD
---	PROPOSED CULVERT
---	OVERLAND FLOW

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project number  
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project title  
**CASSIE CAMPBELL COMMUNITY CENTRE FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**GRADING PLAN**

drawn by AN	reviewed by PG	drawing number: <b>L-3.0</b>
date NOV 2024	scale 1:400	

**BENCHMARK**  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND DETERMINED BY CITY OF BRAMPTON BENCHMARK 042100345 HAVING AN ELEVATION OF 241.664m.

**SOURCE DATA**

NOTE: THIS REPORT CAN BE UPDATED BY THIS OFFICE, HOWEVER NO ADDITIONAL PRINTS OF THIS ORIGINAL REPORT WILL BE ISSUED, SUBSEQUENT TO THE DATE OF CERTIFICATION.

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Delph & Jenkins North Ltd. Ontario Land Surveyors 220 Industrial Parkway S., Unit 6, Aurora, Ontario L4G 3V6 www.djgroup.com Tel. 905-841-8526	23271-2
DRAWN : GJ	CHECKED : AJ

- NOTE:**
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  - REFER TO SITE SERVING PLANS BY VALDOR ENGINEERING INC.
  - GRADING PLAN TO BE READ IN CONJUNCTION WITH SERVING DRAWINGS PREPARED BY VALDOR ENGINEERING INC.



**GENERAL PLANTING AND BED PREPARATION NOTES:**

**PLANT PERFORMANCE:**

1. ALL PLANT MATERIAL SHALL BE NURSERY STOCK CONFORMING TO THE LATEST EDITION OF THE CANADIAN STANDARDS FOR NURSERY STOCK AS PUBLISHED BY THE CANADIAN NURSERY LANDSCAPE ASSOCIATION.
2. ALL PLANTS SHALL BE HEALTHY, VIGOROUS PLANTS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN-SCALD INJURIES, BARK ABRASIONS, PLANT DISEASES AND PESTS AND ALL FORMS OF INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS.
3. ALL PLANTS SHALL BE TRUE TO NAME, SIZE, CONDITION AND QUANTITY AS PER PLAN AND PLANT LIST SPECIFICATIONS.
4. ALL PLANT MATERIAL SHALL BE UNWRAPPED PRIOR TO INSPECTION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT ALL PLANT MATERIAL AND REJECT ALL MATERIAL THAT DOES NOT MEET THE STANDARDS LISTED HEREIN.
5. SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN REQUEST BY THE CONSULTING LANDSCAPE ARCHITECT. ADDITIONAL PLANT QUANTITIES WILL BE REQUIRED TO COMPENSATE FOR APPROVED REDUCTION IN SIZE DUE TO UNAVAILABILITY OF MATERIALS, TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.
6. ALL TREES SHALL BE OPEN-GROWN FOR WIND-FIRMNESS. TREES SHALL NOT BE LEANING OR HAVE SIGNIFICANT SWEEP, CROOK OR BEND. DECIDUOUS TREES SHALL HAVE APPROXIMATELY TWO-THIRDS OF THEIR TOTAL HEIGHT IN LIVING BRANCHES. ALL TREES SHALL HAVE GOOD CROWN SHAPE AND COLOUR (EVERGREENS) CHARACTERISTIC OF THEIR SPECIES. TREES SHALL HAVE A SINGLE DOMINANT LEADER WITH NO SIDE BRANCHES TALLER / LONGER THAN THE MAIN LEADER.
7. IF REQUIRED, TREES SHALL BE PROPERLY TARGET PRUNED (NEVER FLUSH CUT, TRIMMED, ROUNDED-OVER, HEDGED, TIPPED OR TOPPED) AND DEAD / DAMAGED BRANCHES SHALL BE REMOVED. BRANCHES THAT CROSS-OVER EACH OTHER OR RUB AGAINST EACH OTHER, CO-DOMINANT LEADERS, AND BRANCHES GROWING UPWARD INSIDE THE CROWN SHALL BE PROPERLY PRUNED. TREES SHALL NOT BE TREATED AT ANY TIME WITH WOUND PAINT.
8. ALL TREES SHALL HAVE ROOT BALL SIZES THAT MEET OR EXCEED NURSERY STANDARDS. ROOT BALLS SHALL BE FIRM AND STRUCTURALLY INTEGRAL WITH THE TRUNK.
9. SHRUBS AND GROUND COVERS SHALL HAVE FULL, WELL BRANCHED CROWNS TYPICAL OF SPECIES OR VARIETY. ROOT SYSTEMS SHALL BE AMPLE, WELL-BALANCED AND FIBROUS, CAPABLE OF SUSTAINING VIGOROUS GROWTH. PLANTS THAT ARE WEAK OR THIN, UNDERSIZED, OR HAVE BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFICATIONS SHALL BE REJECTED.
10. ALL SOD SHALL BE TURFGRASS NURSERY SOD CONFORMING TO THE LATEST SPECIFICATIONS OF THE ONTARIO SOD ASSOCIATION AND THE THE NURSERY SOD GROWERS ASSOCIATION.

**TOPSOIL REQUIREMENTS:**

1. SOD AND SEED: 150mm DEPTH  
TOPSOIL MAKE UP: TOPSOIL SHALL BE A FERTILE, NATURAL LOAM, CAPABLE OF SUSTAINING HEALTHY GROWTH; CONTAINING A MINIMUM OF 4% ORGANIC MATTER FOR CLAY LOAMS AND 2% ORGANIC MATTER FOR SANDY LOAM, TO A MAXIMUM OF 25% BY VOLUME. TOPSOIL SHALL BE LOOSE AND FRAGILE, FREE OF SUBSOIL, CLAY LUMPS, STONES, ROOTS OR ANY OTHER DELETERIOUS MATERIAL GREATER THAN 50MM DIAMETER. TOPSOIL SHALL BE FREE OF ALL LITTER AND TOXIC MATERIALS THAT MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL CONTAINING SOD CLUMPS, CRABGRASS, COUCHGRASS OR OTHER NOXIOUS WEEDS IS NOT ACCEPTABLE. TOPSOIL SHALL NOT BE DELIVERED OR PLACED IN A FROZEN OR EXCESSIVELY WET CONDITION. TOPSOIL ACIDITY / ALKALINITY SHALL BE IN THE RANGE OF 6.0PH TO 7.5PH.
2. TREE PITS: 600mm DEPTH (OR AS INDICATED ON PLANS)  
TRIPLE MIX
3. CONTINUOUS TREE PITS: 1000mm DEPTH (OR AS INDICATED ON PLANS)  
TRIPLE MIX
4. CONTINUOUS SHRUB BEDS: 500mm DEPTH (OR AS INDICATED ON PLANS)  
TRIPLE MIX
5. CONTINUOUS PERENNIAL BEDS: 300mm DEPTH (OR AS INDICATED ON PLANS)  
TRIPLE MIX

**SERVICES, STAKEOUTS & PLANTING ADJUSTMENTS**

1. CONTRACTORS SHALL OBTAIN STAKEOUTS FROM ALL UTILITIES PRIOR TO LANDSCAPE INSTALLATIONS.

Count	Key	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT	SPREAD	SPACING (m)
12	AR	Acer rubrum	Red Maple	70mm	-	-	-	As Shown
8	CC	Carpinus caroliniana	American Hornbeam	70mm	-	-	-	As Shown
11	CE	Celtis occidentalis	Common Hackberry	70mm	-	-	-	As Shown
10	CSP	Catalpa speciosa	Northern Catalpa	70mm	-	-	-	As Shown
6	LS	Liquidambar styraciflua	Sweetgum	70mm	-	-	-	As Shown
2	ULA	Ulmus japonica x wilsoniana 'Morton'	Accolade Elm	70mm	-	-	-	As Shown

Count	Key	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT	SPREAD	SPACING (m)
48	Spf	Spiraea japonica 'Goldflame'	Goldflame Spiraea	-	-	2 gal. pot	-	0.75m o.c.

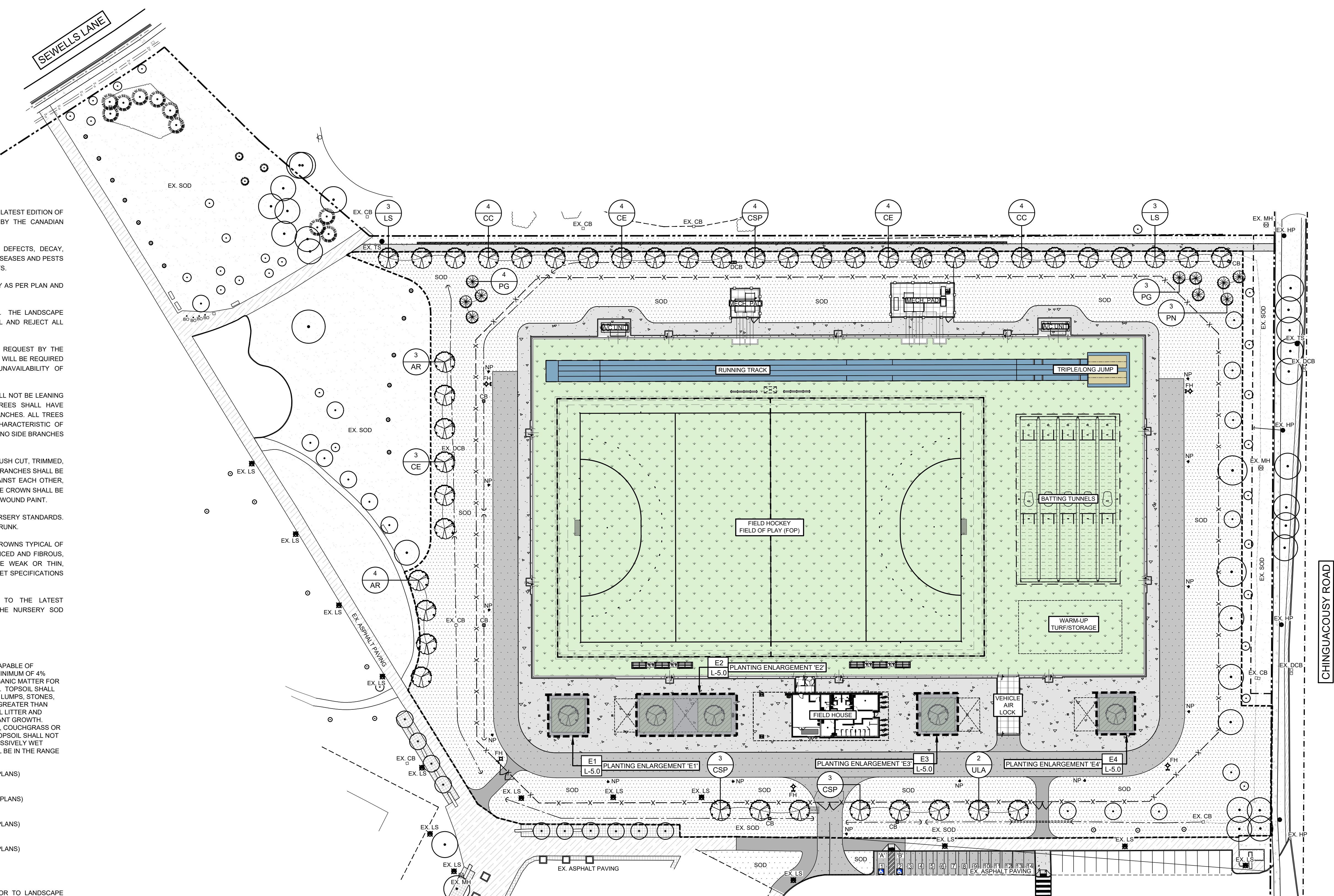
Count	Key	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT	SPREAD	SPACING (m)
7	PG	Picea glauca	White Spruce	-	1800mm	-	-	As Shown
3	PN	Pinus nigra	Austrian Pine	-	1800mm	-	-	As Shown

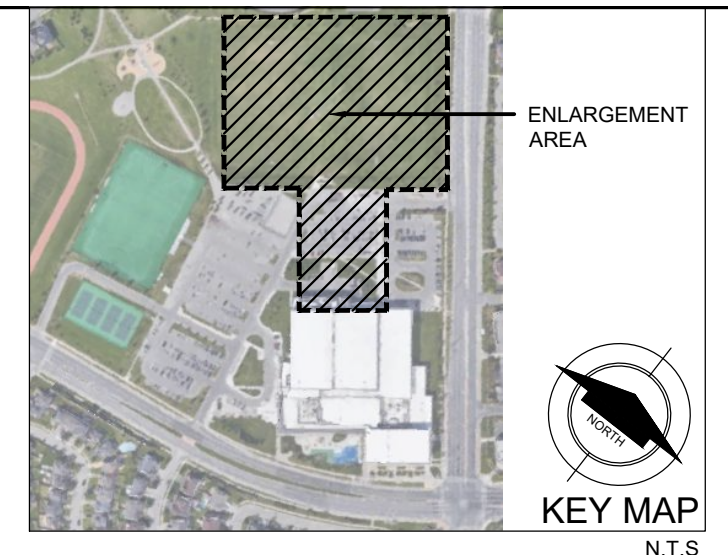
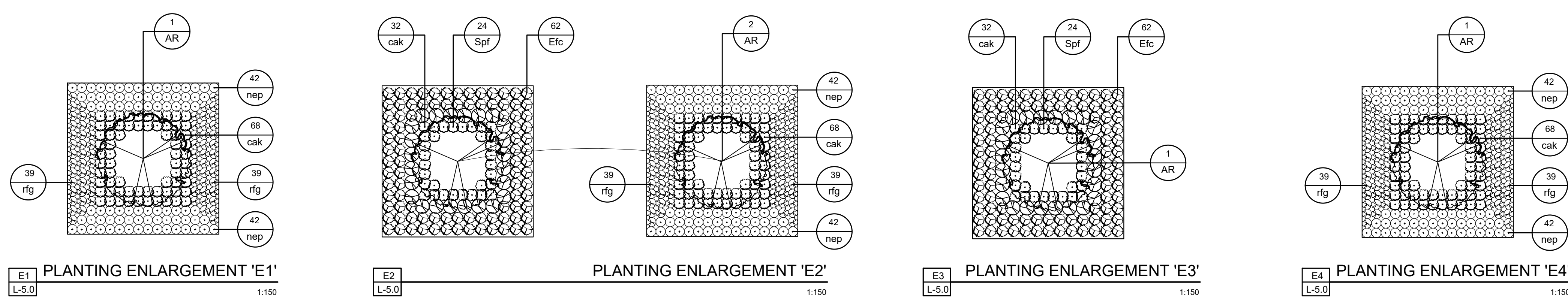
Count	Key	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT	SPREAD	SPACING (m)
124	Efc	Euonymus fortunei 'Coloratus'	Coloratus Euonymus	-	-	2 gal. pot	-	0.6m o.c.

Count	Key	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	ROOT	SPREAD	SPACING (m)
268	cak	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	-	-	1 gal. pot	-	0.5m o.c.
252	nep	Nepeta racemosa	Catmint	-	-	1 gal. pot	-	0.5m o.c.
234	rfg	Rudbeckia fulgida 'Goldsturm'	Black-eyed Susan	-	-	1 gal. pot	-	0.6m o.c.



OVERALL PLANTING PLAN  
1:400

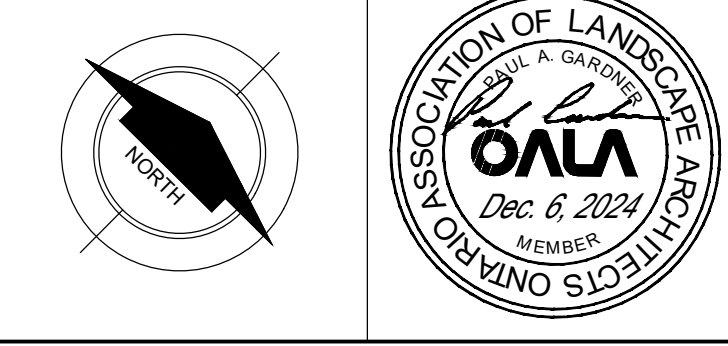


**LEGEND:**

---	PROPERTY LINE	---	PROPERTY LINE
- - -	EASEMENT	○	EXISTING TREES
○	EXISTING TREES	○	PROPOSED DECIDUOUS TREE
○	PROPOSED DECIDUOUS TREE	○	PROPOSED CONIFEROUS TREE
○	PROPOSED CONIFEROUS TREE	○	PROPOSED DECIDUOUS SHRUB
○	PROPOSED DECIDUOUS SHRUB	○	PROPOSED CONIFEROUS SHRUB
○	PROPOSED CONIFEROUS SHRUB	○	PROPOSED PERENNIALS
○	PROPOSED PERENNIALS	○	SOD
○	SOD	○	EXISTING SOD
○	EXISTING SOD	○	LIMIT OF SOD

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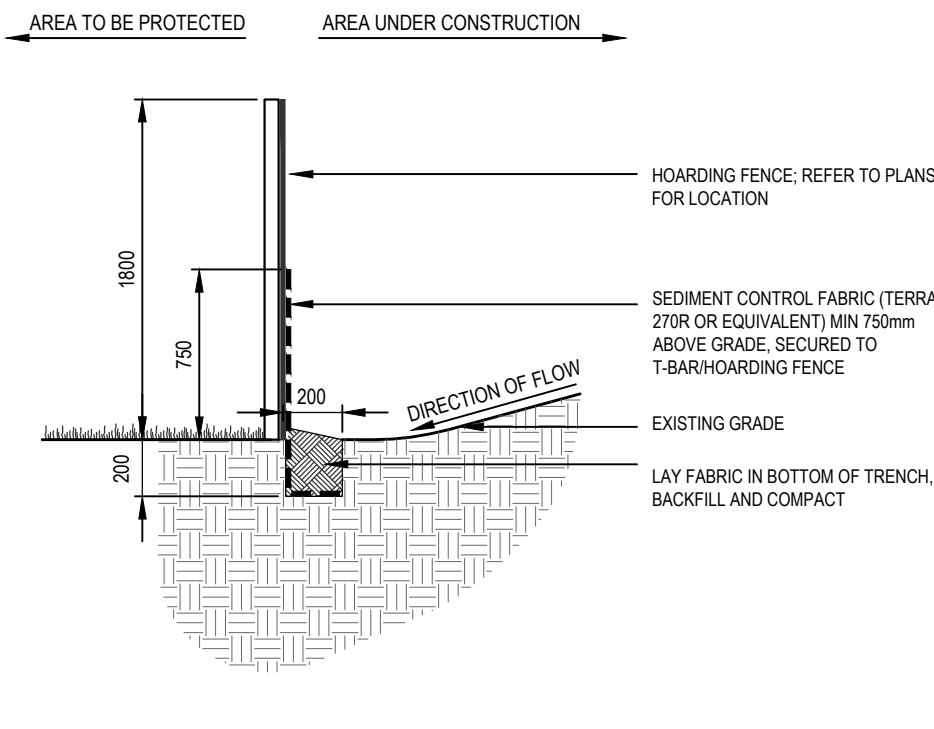
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**PLANTING PLAN**

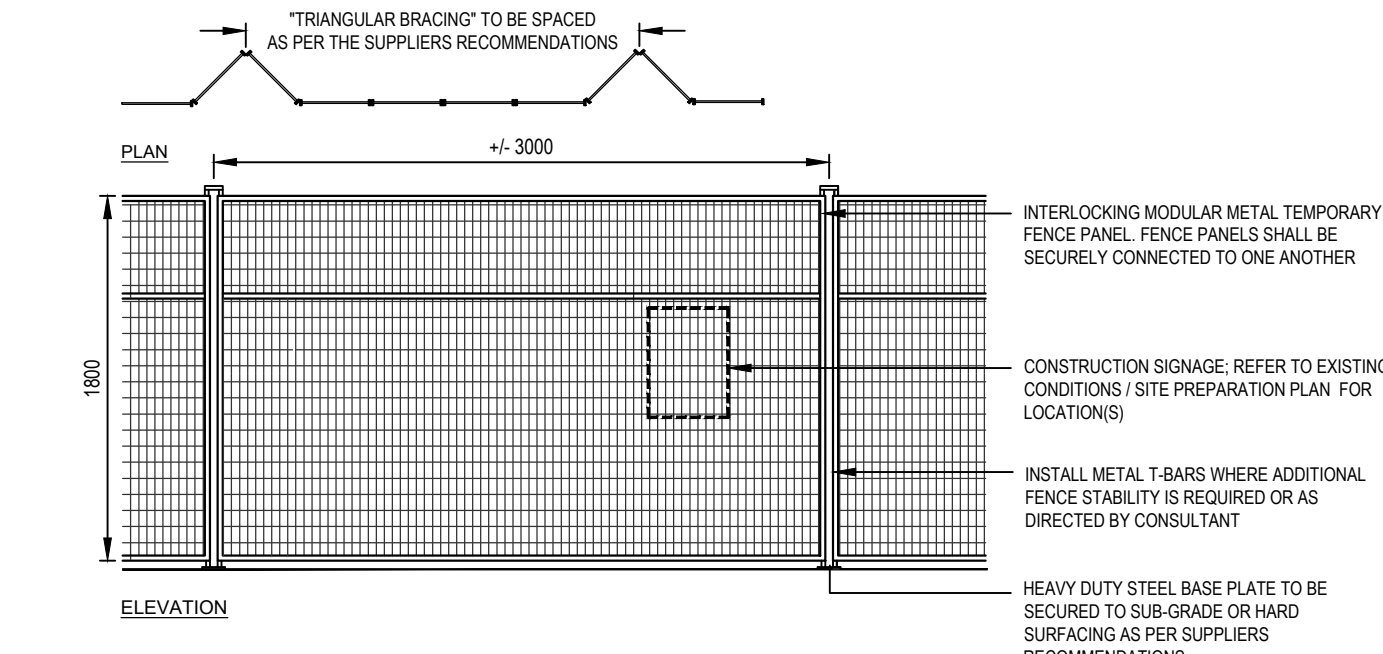
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NOV 2024	As Shown	





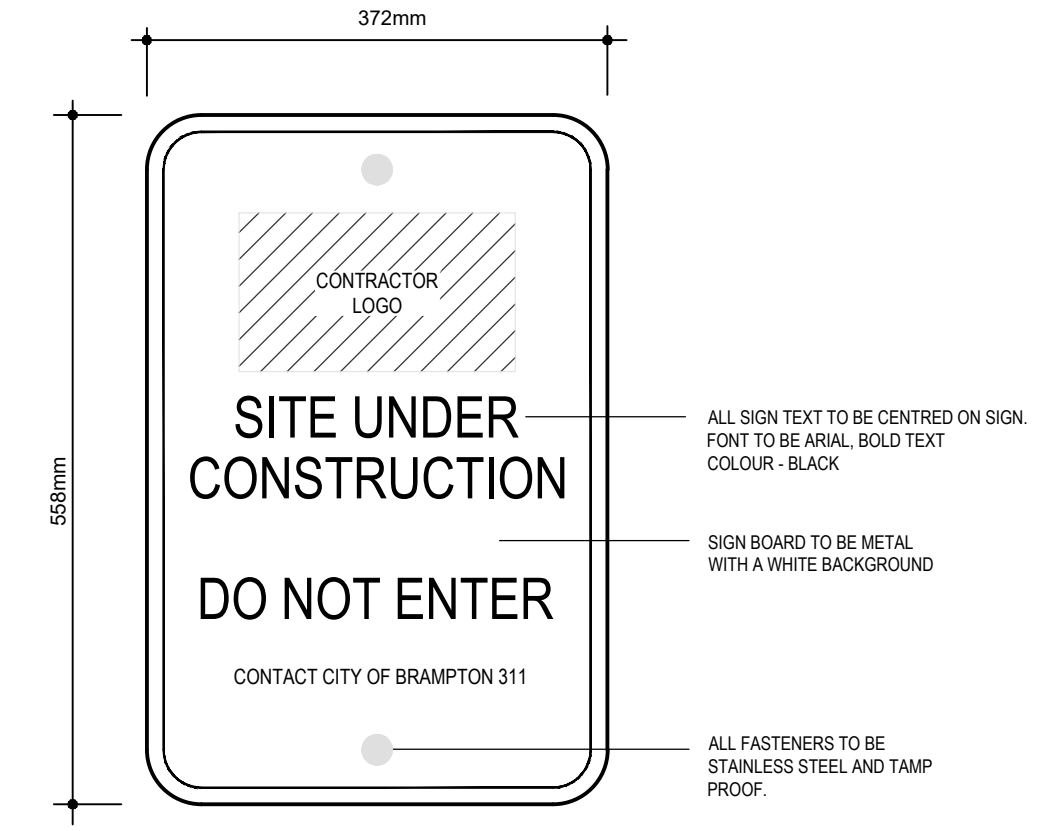
- NOTES:**
- CONSULTANT TO REVIEW AND APPROVE PROPOSED TEMPORARY FENCE LAYOUT BEFORE INSTALLATION COMMENCES.
  - FENCING TO BE INSTALLED PRIOR TO START OF CONSTRUCTION AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
  - SEDIMENT CONTROL FABRIC TO HAVE HORIZONTAL OVERLAP OF 100mm AT ALL JOINTS.
  - CREATE A 1.5m x 1.5m SQUARE AROUND UTILITY STRUCTURES.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS FOR FENCE LOCATION.

**1** SEDIMENT CONTROL FABRIC  
D-1.0 N.T.S.



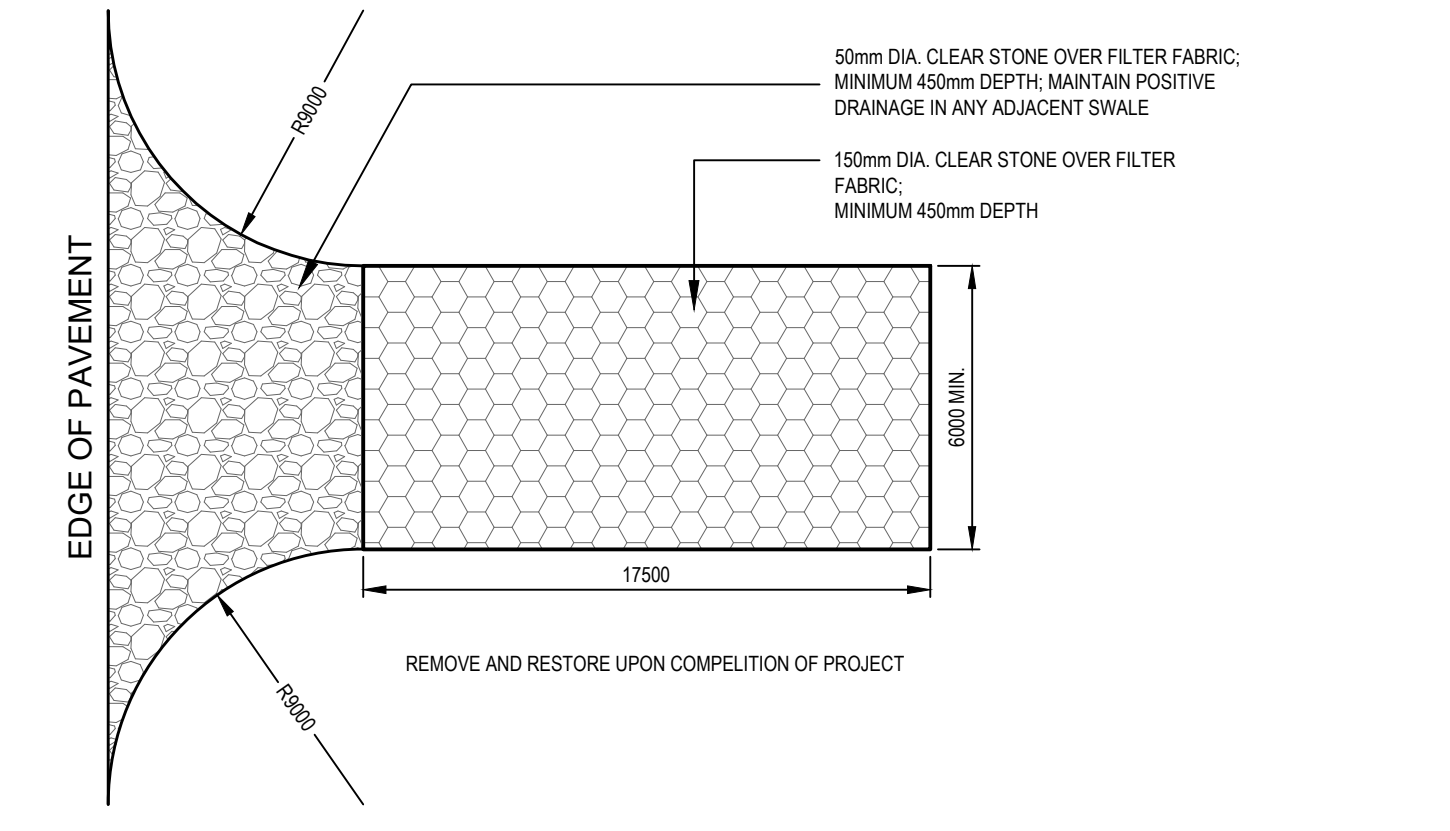
- NOTES:**
- CONSULTANT TO REVIEW AND APPROVE PROPOSED TEMPORARY FENCE SYSTEM BEFORE INSTALLATION COMMENCES.
  - FENCING TO BE INSTALLED PRIOR TO START OF CONSTRUCTION AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
  - FENCING TO BE INSTALLED ALONG INSIDE EDGE OF CONSTRUCTION LIMIT LINE OR AS OTHERWISE DIRECTED BY CONSULTANT. **NO FENCING SHALL BE INSTALLED ON THE MUNICIPAL SIDEWALK.**
  - FENCING MAY REQUIRE RELOCATION FROM TIME TO TIME TO FACILITATE CONSTRUCTION AND CO-ORDINATION WITH ADJACENT PROPERTIES.
  - TEMPORARY FENCING TO BE INSTALLED BY THE SUPPLIER AS PER MANUFACTURER'S RECOMMENDATION AND INSTALLATION PROCEDURES. PROVIDE ALL NECESSARY HARDWARE AND ACCESSORIES FOR EXTRA SUPPORT AND STABILITY TO FENCE SYSTEM.
  - ATTACHMENT OF FENCE TO TREES IS NOT PERMITTED. ENSURE FENCE IS LOCATED BEYOND THE DRIP LINE OF TREES.
  - CONSTRUCTION HOARDING FENCE TO BE MAINTAINED UNTIL PROJECT IS DEEMED SAFE FOR PUBLIC USE AS DETERMINED BY THE CONSULTANT AND CITY STAFF.
  - CONTRACTOR TO SUPPLY CONSTRUCTION SIGN UNLESS OTHERWISE DIRECTED.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS FOR HOARDING FENCE LOCATION.

**2** CONSTRUCTION HOARDING FENCE  
D-1.0 N.T.S.



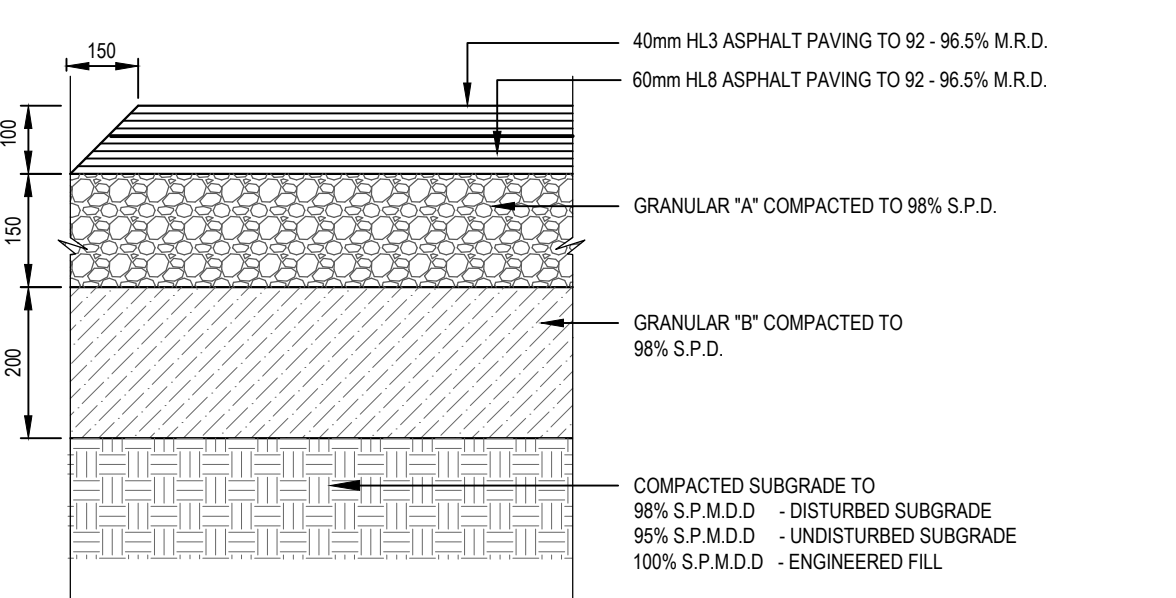
- NOTES:**
- ALL DIMENSIONS IN MILLIMETERS.
  - SIGNAGE TO BE INSTALLED ON CONSTRUCTION FENCING AS SHOWN ON FENCING DETAIL, AND/OR AS DIRECTED BY L.A.
  - REFER TO EXISTING CONDITIONS / SITE PREPARATION PLANS.

**3** CONSTRUCTION SIGNAGE  
D-1.0 N.T.S.



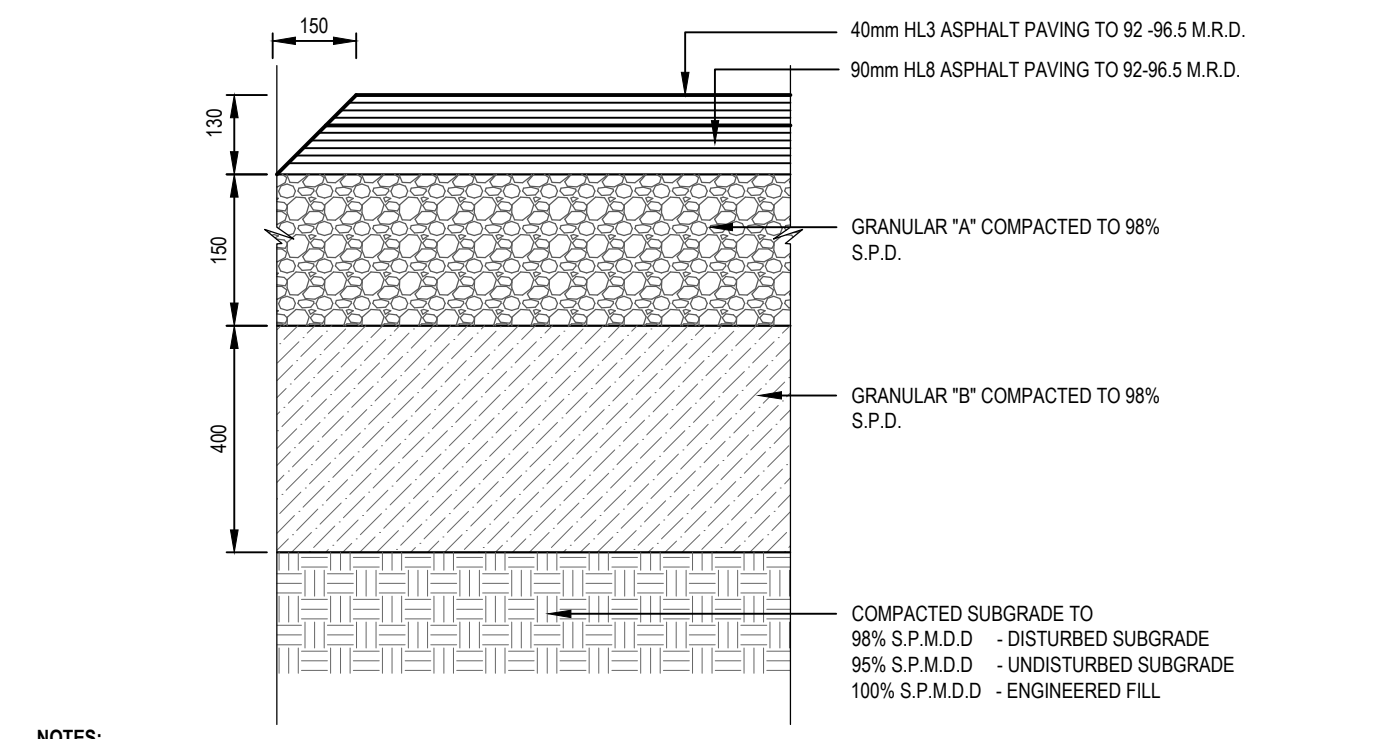
- NOTES:**
- CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.
  - MUD MAT TO BE INSTALLED AT THE TEMPORARY CONSTRUCTION ACCESS LOCATION. REFER TO PLAN.
  - GRANULAR MATERIAL TO BE PERIODICALLY REPLACED AS IT BECOMES CONTAMINATED.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO EXISTING CONDITIONS PLAN / SITE PREPARATION PLAN.

**4** TEMPORARY MUD MAT  
D-1.0 N.T.S.



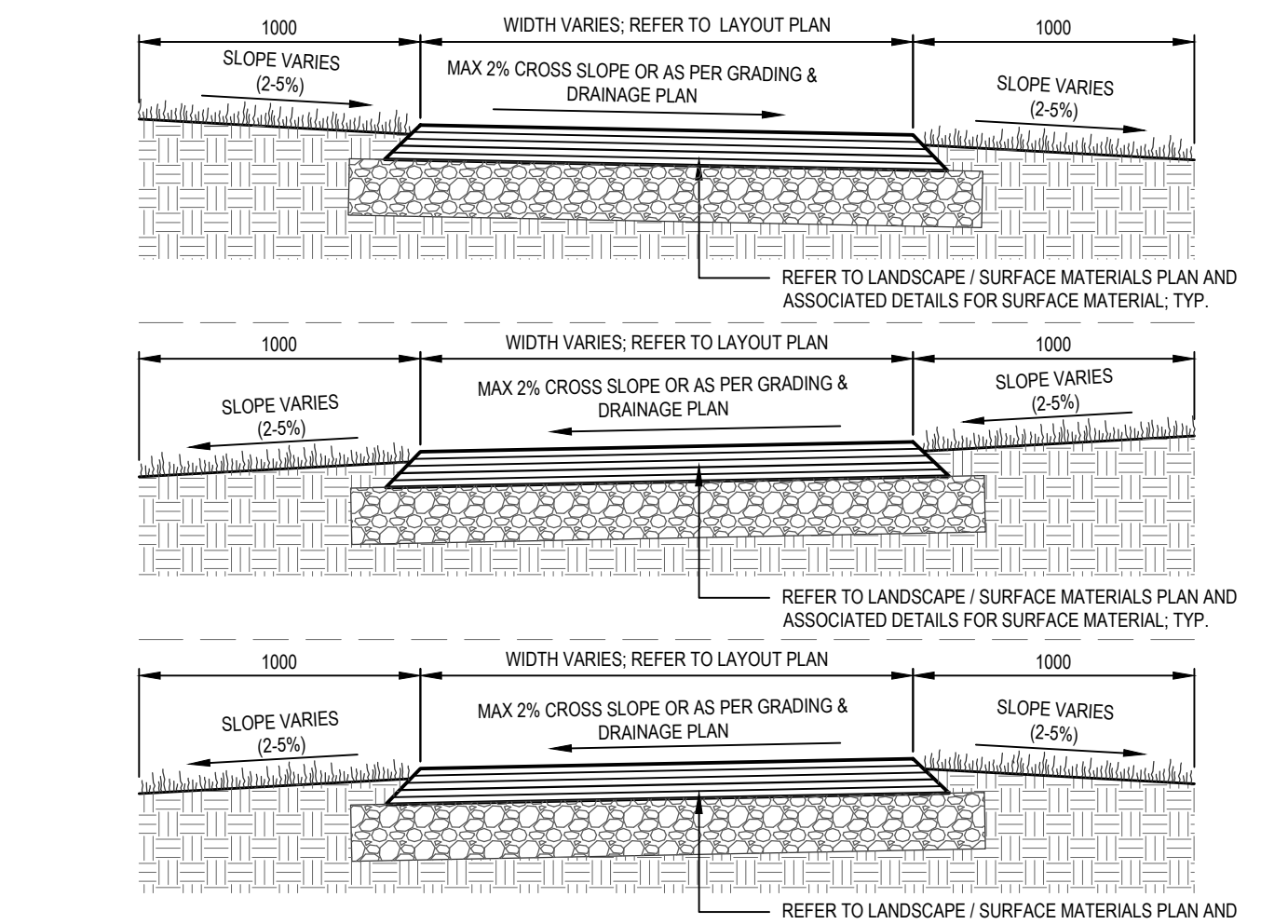
- NOTES:**
- CONTRACTOR SHALL CONTACT THE CONSULTANT IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.
  - ASPHALT EDGE TO BE 45 DEGREES, TAMPED TO FORM UNIFORMLY, SMOOTH, CLEAN EDGES, WITHOUT LATERAL DEVIATIONS.
  - DO NOT BACKFILL AGAINST ASPHALT FOR A MINIMUM OF 48 HOURS.
  - GRANULAR EDGE TO EXTEND MIN. 300mm BEYOND ASPHALT.
  - SOD TO MEET & MATCH EXISTING GRADES, WITH SMOOTH TRANSITIONS AT A MAXIMUM SLOPE OF 4:1. REFER TO GRADING.
  - ALL SEEDED & OR SODDED AREAS SHALL BE SET 25mm BELOW WITH THE FINISH ELEVATION OF ASPHALT.
  - GRADE PAVING WITH A MIN 2.0% CROSS-SLOPE OR AS INDICATED ON GRADING PLAN. **PONDING WATER ON ASPHALT PAVING WILL NOT BE ACCEPTED.**
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO GRADING & SURFACE MATERIAL PLANS.

**5** ASPHALT PAVING - MEDIUM DUTY  
D-1.0 N.T.S.



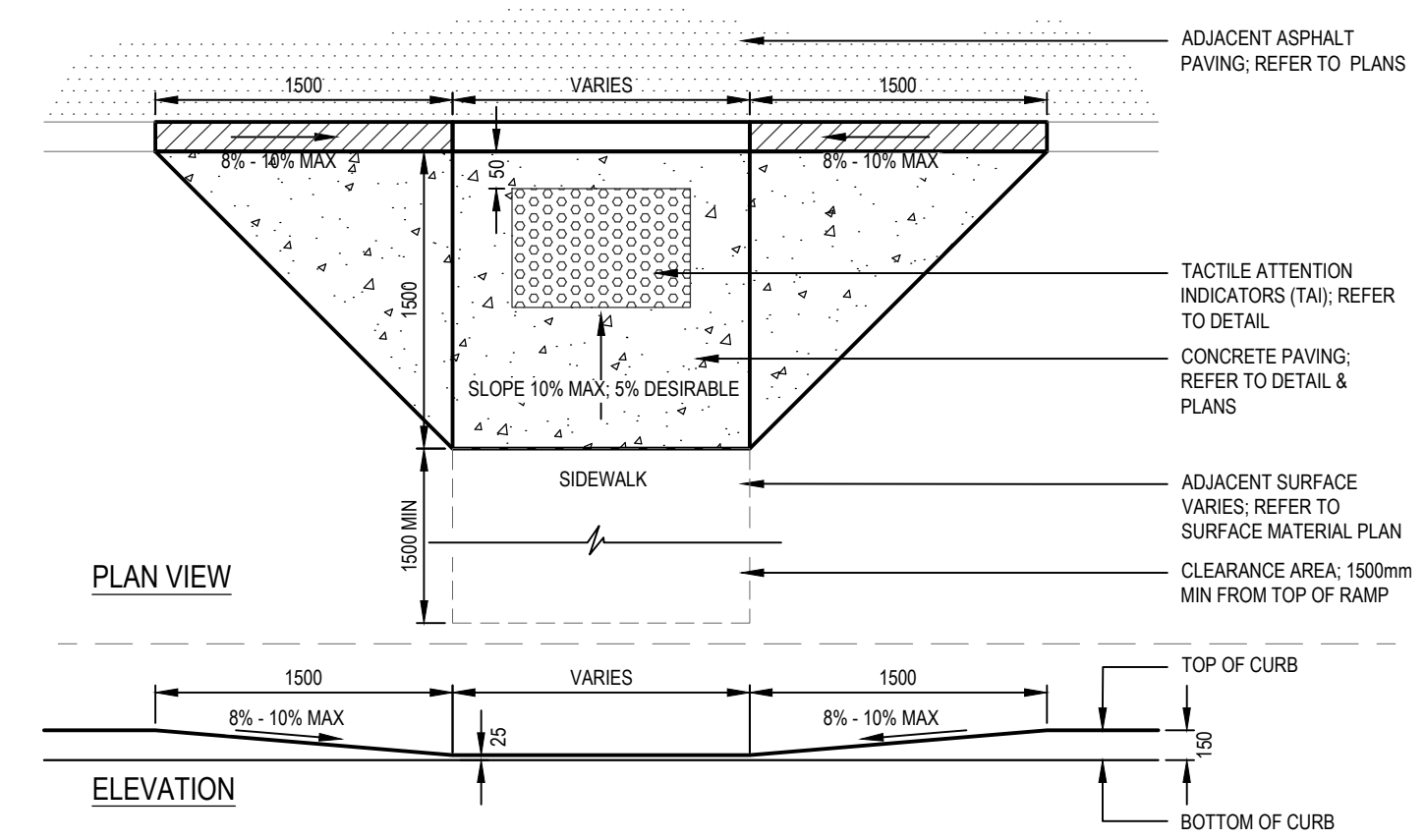
- NOTES:**
- CONTRACTOR SHALL CONTACT THE CONSULTANT IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.
  - ASPHALT EDGE TO BE 45 DEGREES, TAMPED TO FORM UNIFORMLY, SMOOTH, CLEAN EDGES, WITHOUT LATERAL DEVIATIONS.
  - DO NOT BACKFILL AGAINST ASPHALT FOR A MINIMUM OF 48 HOURS.
  - GRANULAR EDGE TO EXTEND MIN. 300mm BEYOND ASPHALT.
  - SOD TO MEET & MATCH EXISTING GRADES, WITH SMOOTH TRANSITIONS AT A MAXIMUM SLOPE OF 4:1. REFER TO GRADING.
  - ALL SEEDED & OR SODDED AREAS SHALL BE SET 25mm BELOW WITH THE FINISH ELEVATION OF ASPHALT.
  - GRADE PAVING WITH A MIN 2.0% CROSS-SLOPE OR AS INDICATED ON GRADING PLAN. **PONDING WATER ON ASPHALT PAVING WILL NOT BE ACCEPTED.**
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO GRADING & SURFACE MATERIAL PLANS.

**6** ASPHALT PAVING - HEAVY DUTY  
D-1.0 N.T.S.



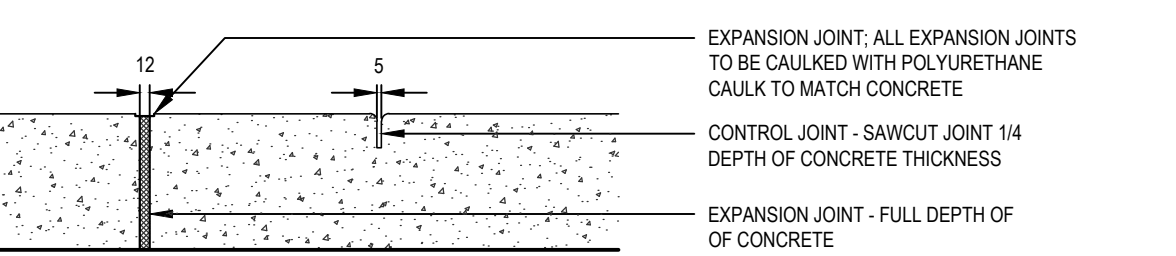
- NOTES:**
- ALL SEEDED & OR SODDED AREAS SHALL BE 25mm BELOW THE FINISH ELEVATION OF ASPHALT.
  - GRADE WALKWAY WITH A 2% CROSS-SLOPE OR AS PER GRADING PLANS. **PONDING WATER ON ASPHALT WILL NOT BE ACCEPTED.**
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS.

**7** WALKWAY EDGE GRADING  
D-1.0 N.T.S.



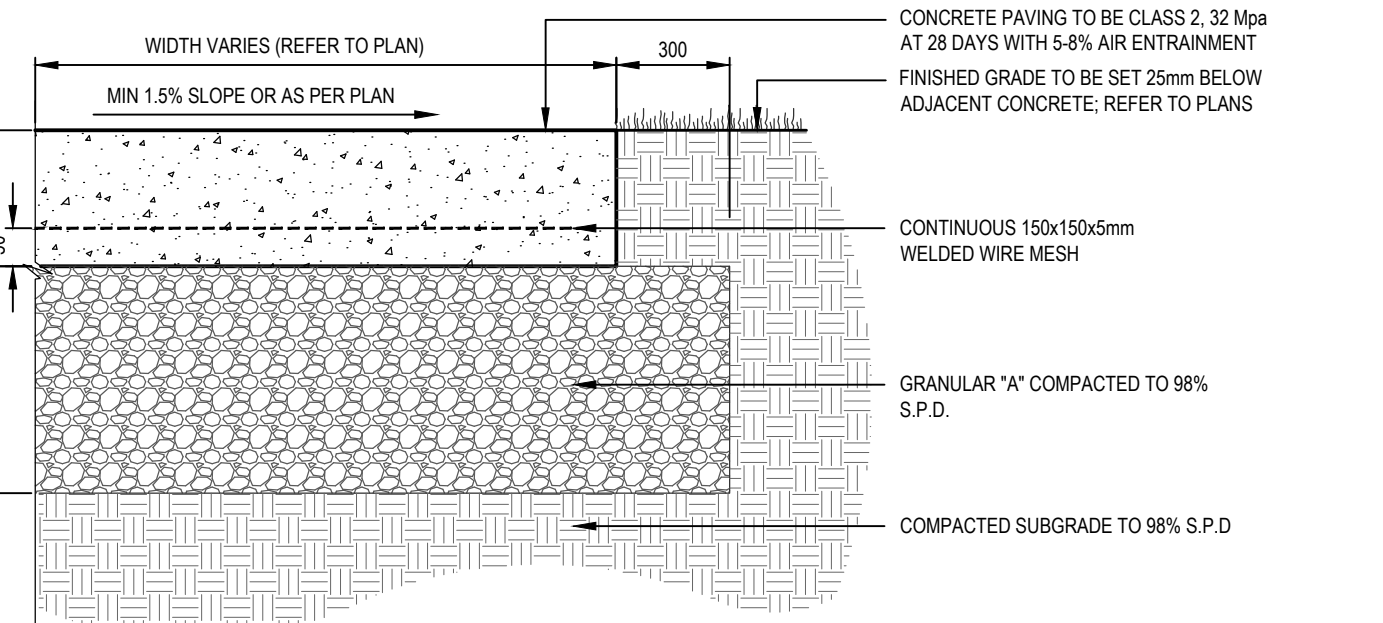
- NOTES:**
- REFER TO CONCRETE PAVING DETAIL.
  - CONSULTANT TO REVIEW & APPROVE CURB DEPRESSION LAYOUT PRIOR TO PLACEMENT OF CONCRETE.
  - CONCRETE EDGE TO BE FORMED UNIFORMLY, SMOOTH WITH CLEAN EDGES, WITHOUT LATERAL DEVIATIONS.
  - TACTILE ATTENTION INDICATOR (TAI) TO BE SUPPLIED BY ACCESS TILE (OR APPROVED EQUAL), SIZE TO BE 600mm x 800mm, COLOUR TO BE: FEDERAL YELLOW. REFER TO MANUFACTURER'S SPECIFICATIONS.
  - TACTILE ATTENTION INDICATOR (TAI) TO BE TRUNCATED DOME.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS.

**8** CURB DEPRESSION WITH TWSI  
D-1.0 N.T.S.



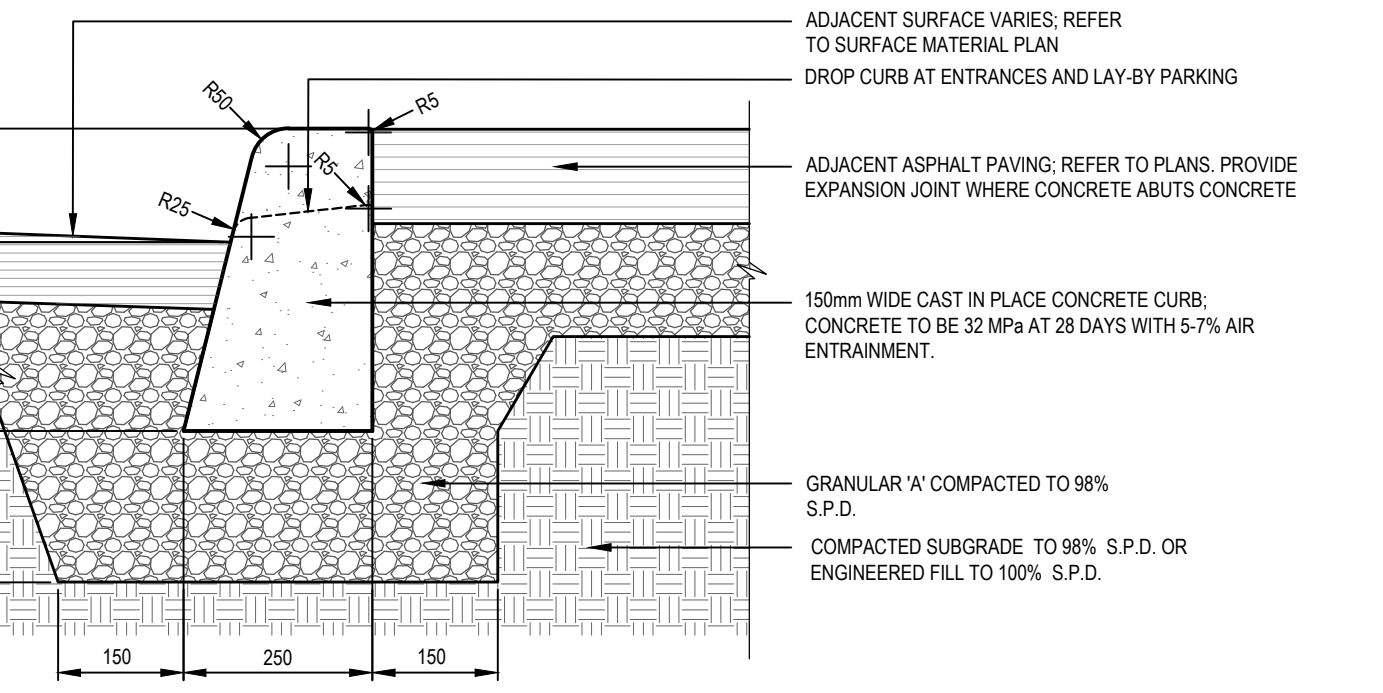
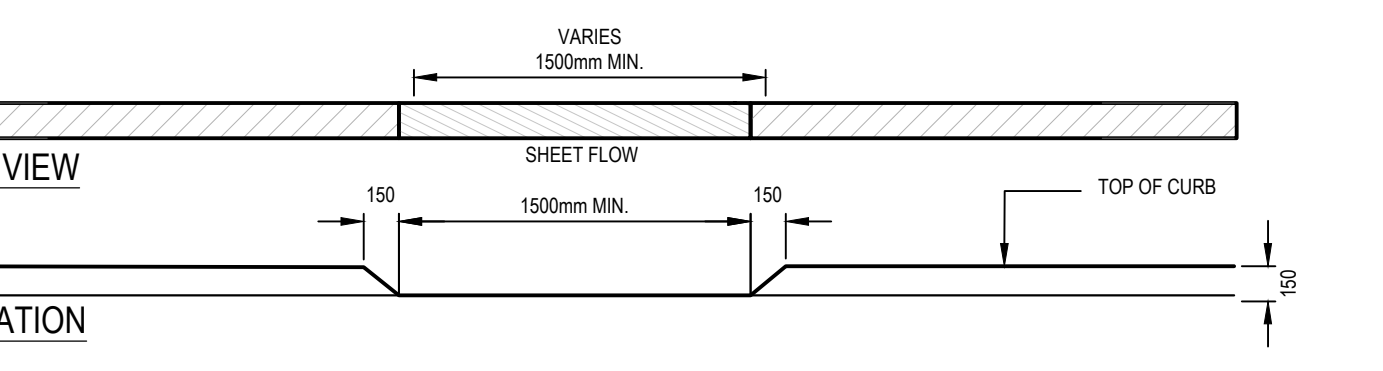
- NOTES:**
- ALL DIMENSIONS IN MILLIMETERS.
  - EXPANSION JOINT SPACING @ 6000mm O.C. UNLESS OTHERWISE SHOWN ON DRAWINGS.
  - CONTROL JOINT SPACING @ 1500mm O.C. UNLESS OTHERWISE SHOWN ON DRAWINGS.
  - SEE SEPARATE DETAIL FOR CONCRETE PAVING.
  - EXPANSION JOINTS TO BE PROVIDED ADJACENT TO ALL STRUCTURES, CURBS, & WALLS THAT ABUT CONCRETE PAVING, UNLESS OTHERWISE SPECIFIED.

**9** JOINTING DETAIL  
D-1.0 N.T.S.



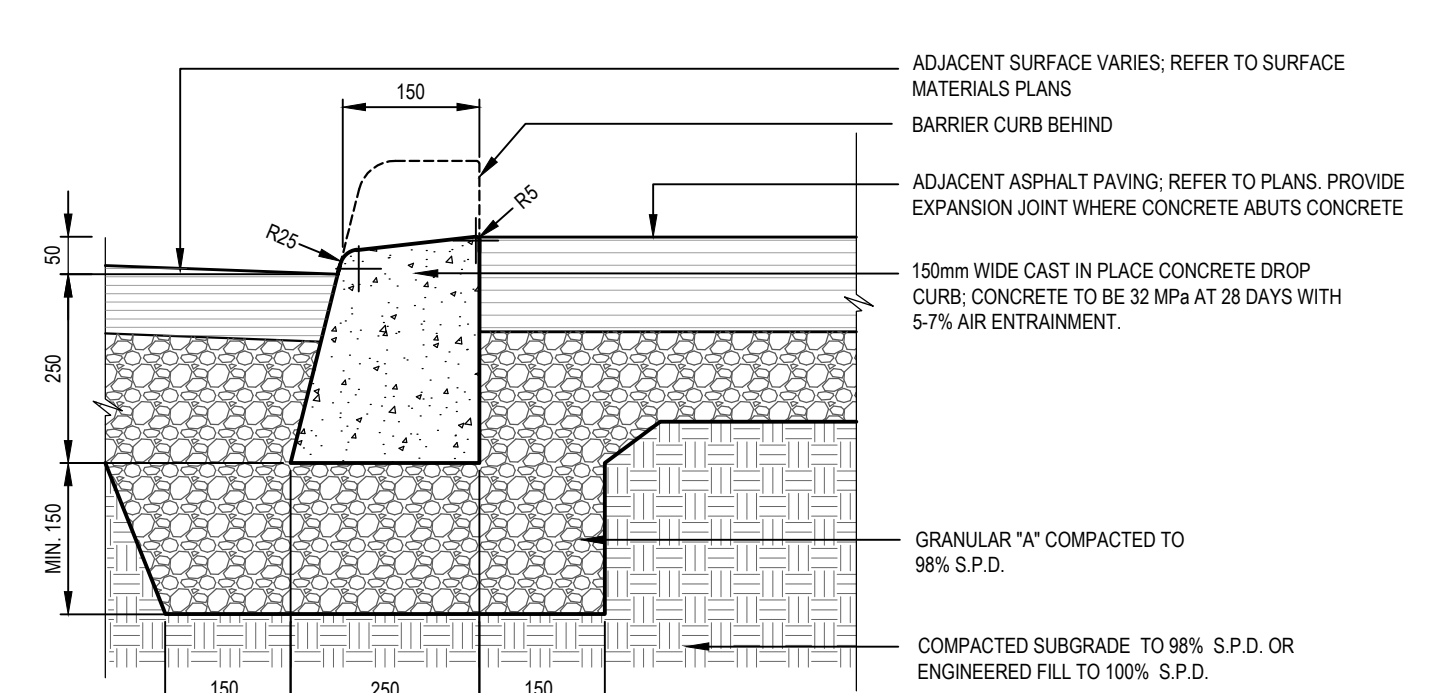
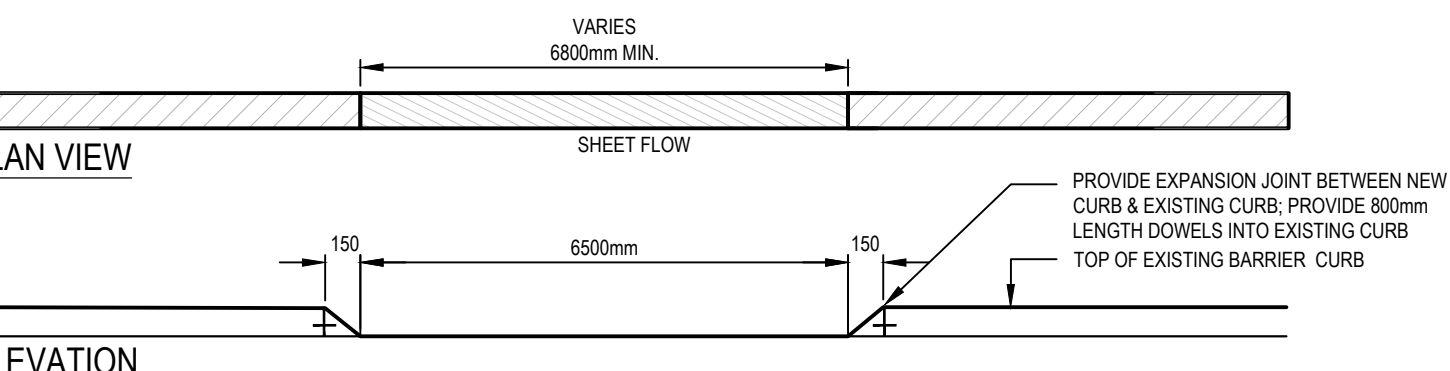
- NOTES:**
- CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.
  - CONTINUOUS BROOM FINISH PERPENDICULAR TO PATH OF TRAVEL, OR AS OTHERWISE STATED ON PLANS.
  - CONTRACTOR TO PROVIDE SAMPLES (TEST POURS) FOR CONSULTANT APPROVAL PRIOR TO COMPLETING INSTALLATION AND IN ACCORDANCE TO SPECIFICATIONS.
  - REFER TO JOINTING DETAIL FOR CONTROL AND EXPANSION JOINTS.
  - GRANULAR EDGE TO EXTEND MIN. 300mm BEYOND CONCRETE.
  - CONCRETE EDGE TO BE FORMED UNIFORMLY WITH SMOOTH CLEAN EDGES, AND WITHOUT LATERAL DEVIATIONS.
  - GRANULAR EDGE TO EXTEND MIN. 300mm BEYOND CONCRETE.
  - ADJACENT AND ABUTTING SURFACES TO MEET FLUSH WITH CONCRETE SURFACE.
  - GRADE CONCRETE WITH A MIN 1.5% CROSS-SLOPE OR AS INDICATED ON PLANS. **PONDING WATER ON CONCRETE WILL NOT BE ACCEPTED.**
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS.

**11** CONCRETE PAVING - HEAVY DUTY  
D-1.0 N.T.S.



- NOTES:**
- CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.D.
  - REFER TO JOINTING DETAIL FOR CONTROL AND EXPANSION JOINTS.
  - GRANULAR BASE EDGE TO EXTEND MIN. 150mm BEYOND CONCRETE CURB.
  - PROVIDE CONSULTANT WITH CONCRETE MIX DESIGN TWO (2) WEEKS PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE SAMPLES (TEST POURS) IN ACCORDANCE WITH SPECIFICATION.
  - EXPANSION JOINTS TO BE PLACED EVERY 6000mm O.C.; CONTROL JOINTS TO BE PLACED EVERY 1500mm O.C.; EXPANSION JOINTS TO BE SEALED WITH POLYURETHANE CALK. COLOUR TO MATCH CONCRETE.
  - CURB TOP TO BE CONSTANT. REFER TO GRADING PLAN.
  - CONSULTANT TO REVIEW & APPROVE CURB LAYOUT & FORMS PRIOR TO PLACEMENT OF CONCRETE.
  - CONCRETE EDGE TO BE FORMED UNIFORMLY, SMOOTH WITH CLEAN EDGES, WITHOUT LATERAL DEVIATIONS.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS.

**12** CONCRETE BARRIER CURB  
D-1.0 N.T.S.



- NOTES:**
- CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY IF UNSUITABLE OR UNSTABLE SUBGRADE IS ENCOUNTERED, SUCH AS EXCESSIVE TOPSOIL, SOFT SPOTS, & OR ORGANIC MATTER. METHODS & OR MATERIAL MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.D.
  - REFER TO JOINTING DETAIL FOR CONTROL AND EXPANSION JOINTS.
  - GRANULAR BASE EDGE TO EXTEND MIN. 150mm BEYOND CONCRETE CURB.
  - PROVIDE CONSULTANT WITH CONCRETE MIX DESIGN TWO (2) WEEKS PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE SAMPLES (TEST POURS) IN ACCORDANCE WITH SPECIFICATION.
  - EXPANSION JOINTS TO BE PLACED EVERY 6000mm O.C.; CONTROL JOINTS TO BE PLACED EVERY 1500mm O.C.; EXPANSION JOINTS TO BE SEALED WITH POLYURETHANE CALK. COLOUR TO MATCH CONCRETE.
  - WHERE MEETING EXISTING CURB PROVIDE TWO (2) 8mm DOWELS EMBEDDED MIN 150mm INTO EXISTING & PROPOSED CURB.
  - CONSULTANT TO REVIEW & APPROVE CURB LAYOUT & FORMS PRIOR TO PLACEMENT OF CONCRETE.
  - CONCRETE EDGE TO BE FORMED UNIFORMLY, SMOOTH WITH CLEAN EDGES, WITHOUT LATERAL DEVIATIONS.
  - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
  - REFER TO PLANS.

**13** CONCRETE DROP CURB  
D-1.0 N.T.S.

RG	Re-issued for Tender	2024-12-06	DP
RS	Issued for Tender	2024-11-13	DP
R4	Re-issued for SPA	2024-11-08	DP
no.	revision	date	by

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project number  
**2023-093**

**landscape planning**  
LANDSCAPE ARCHITECTS

Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.8836, www.landscapepln.ca

project title  
**CASSIE CAMPBELL  
COMMUNITY CENTRE  
FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title

**DETAILS**

drawn by  
**AN**

reviewed by  
**PG**

drawing number:  
**D-1.0**

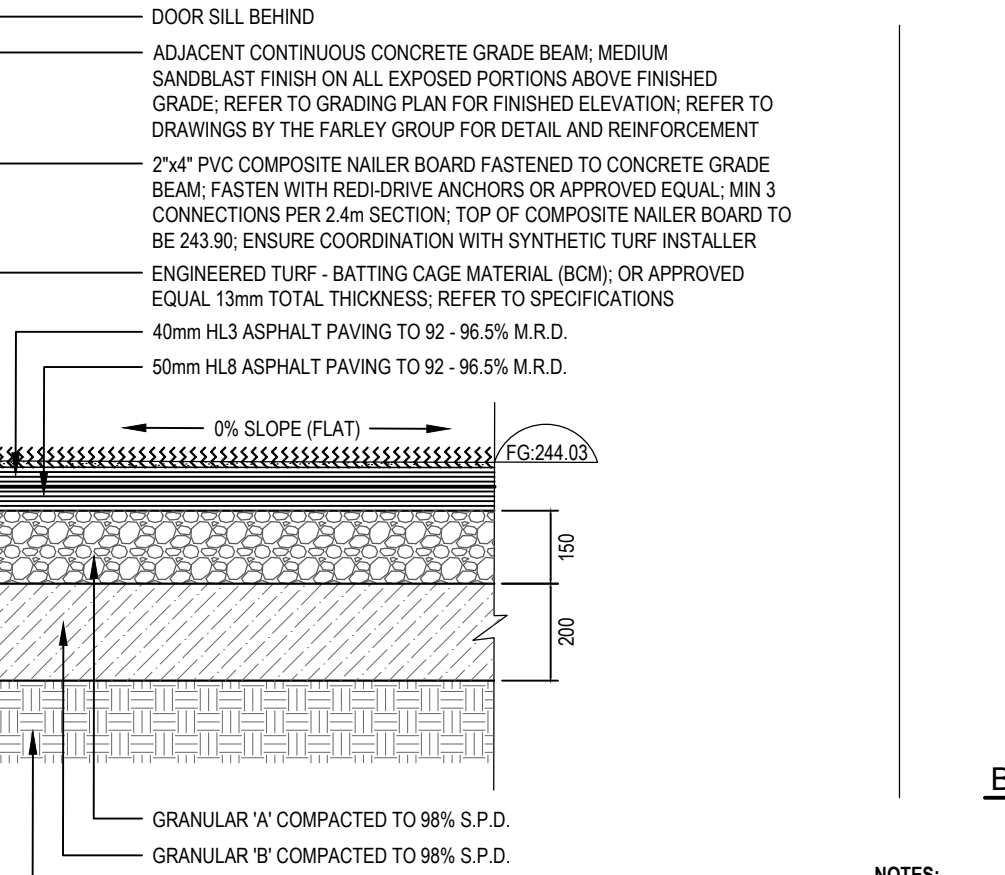
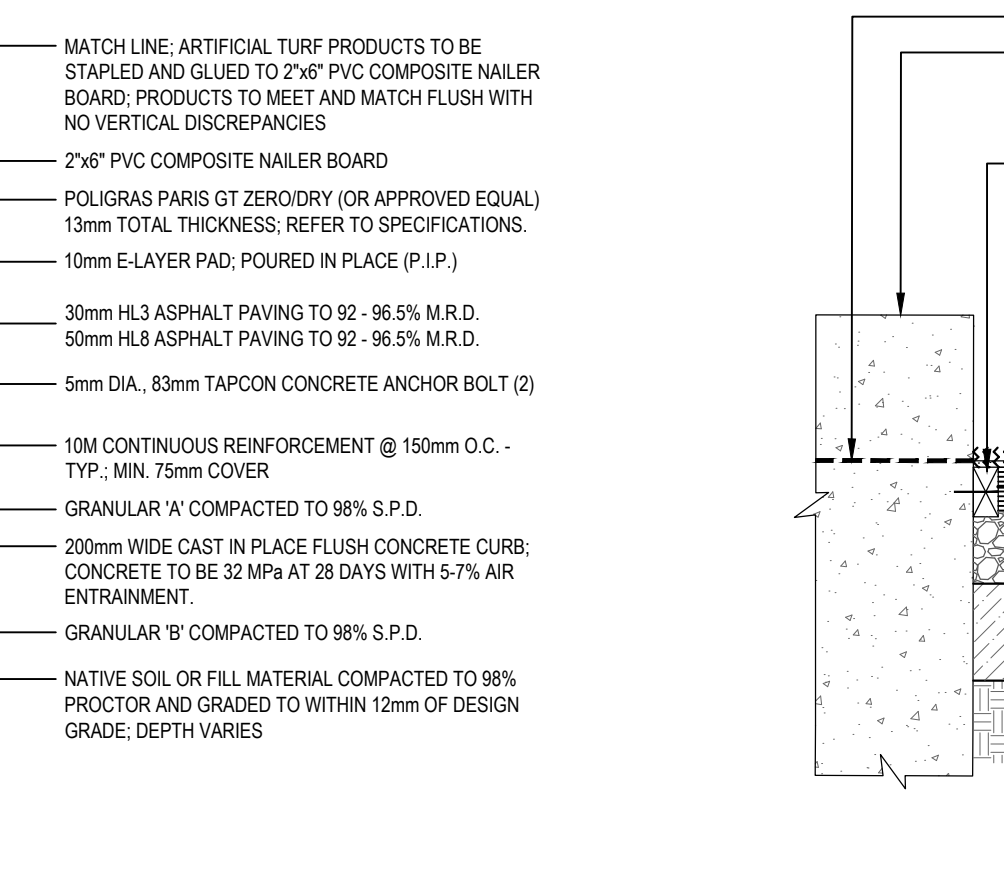
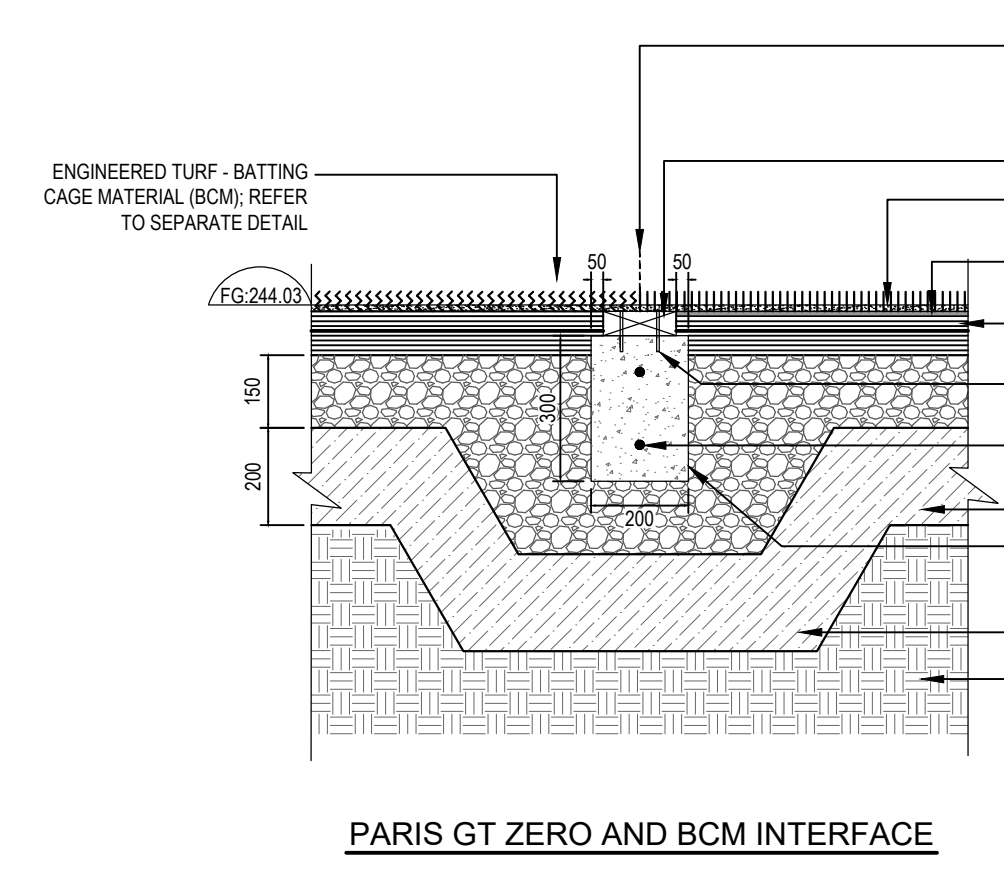
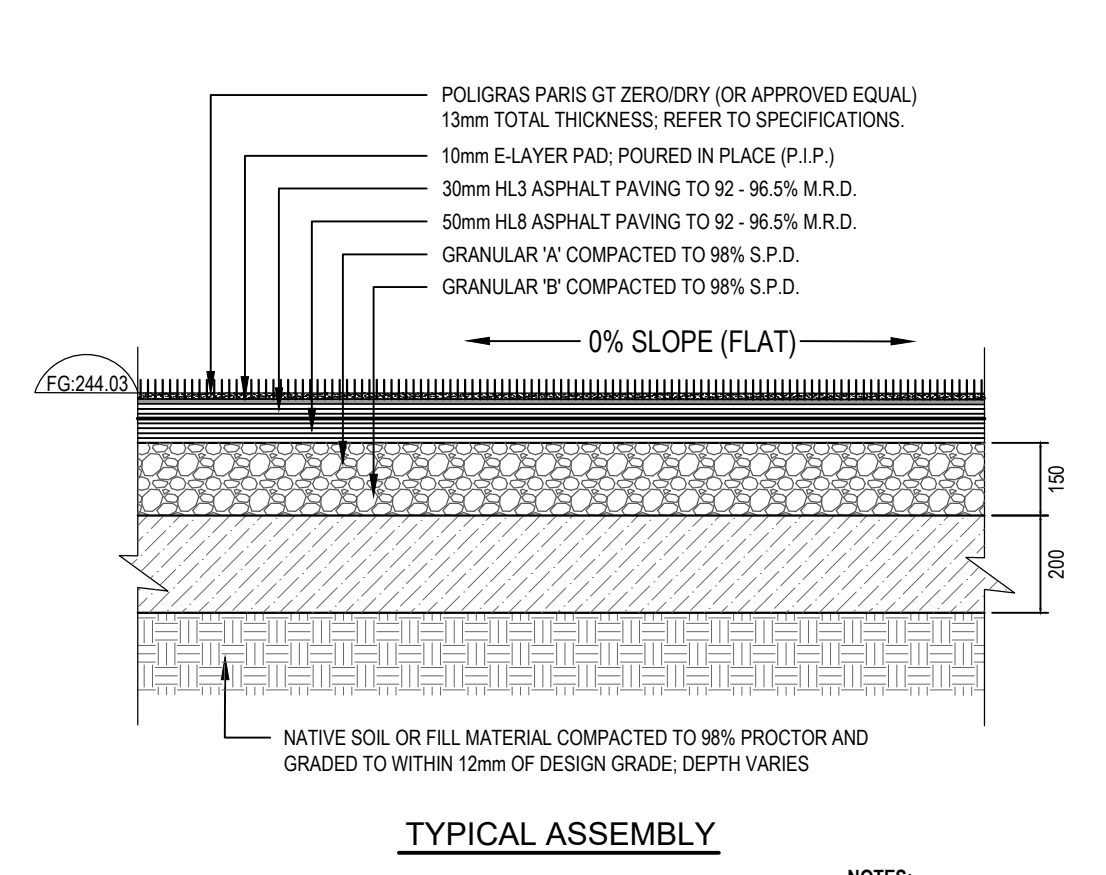
date  
**NOV 2024**

scale  
**NTS**









NOTES:

- SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.D.
- ASPHALT TOLERANCE TO BE 6mm DEVIATION OVER 3.0m; REFER TO SPECIFICATIONS
- ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
- REFER TO PLANS.

NOTES:

- SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.D.
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- REFER TO PLANS.

1  
D-3.0

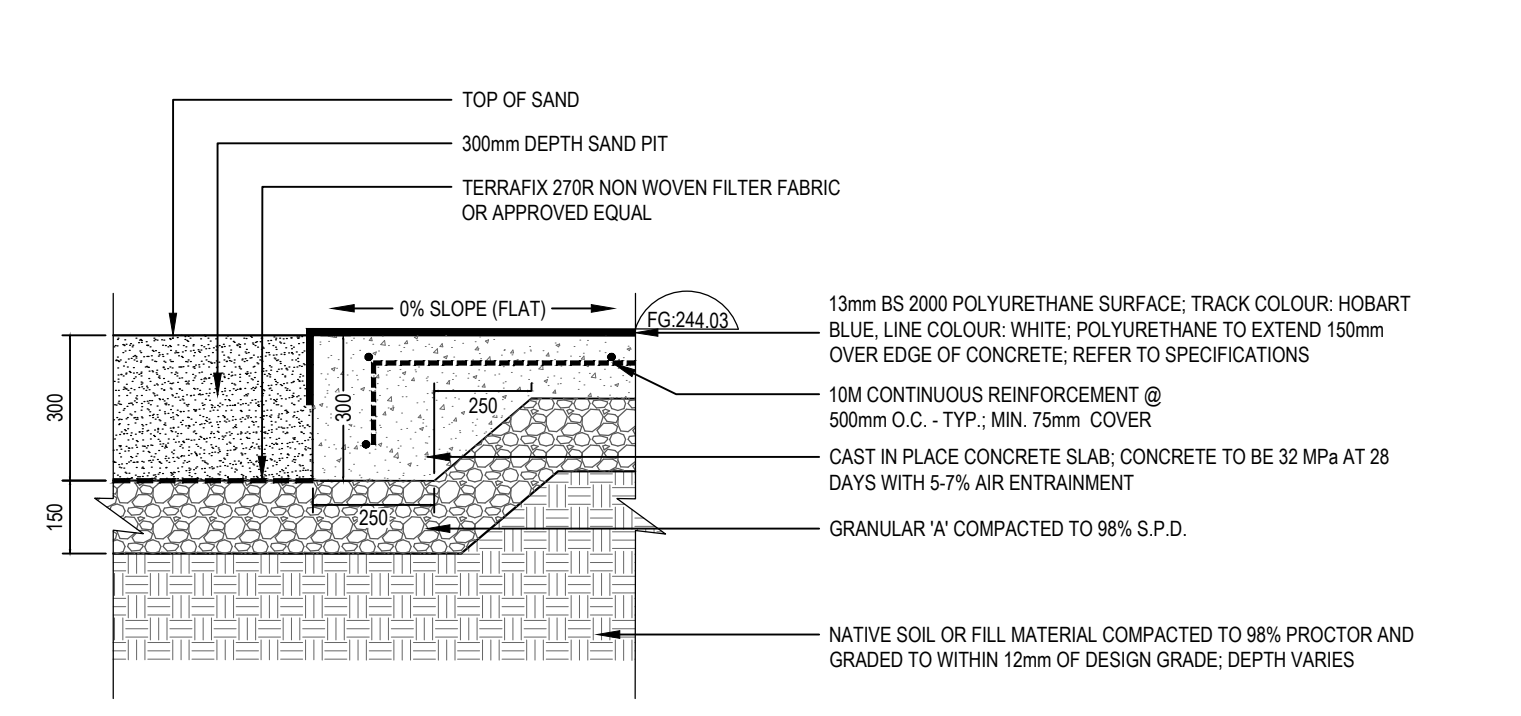
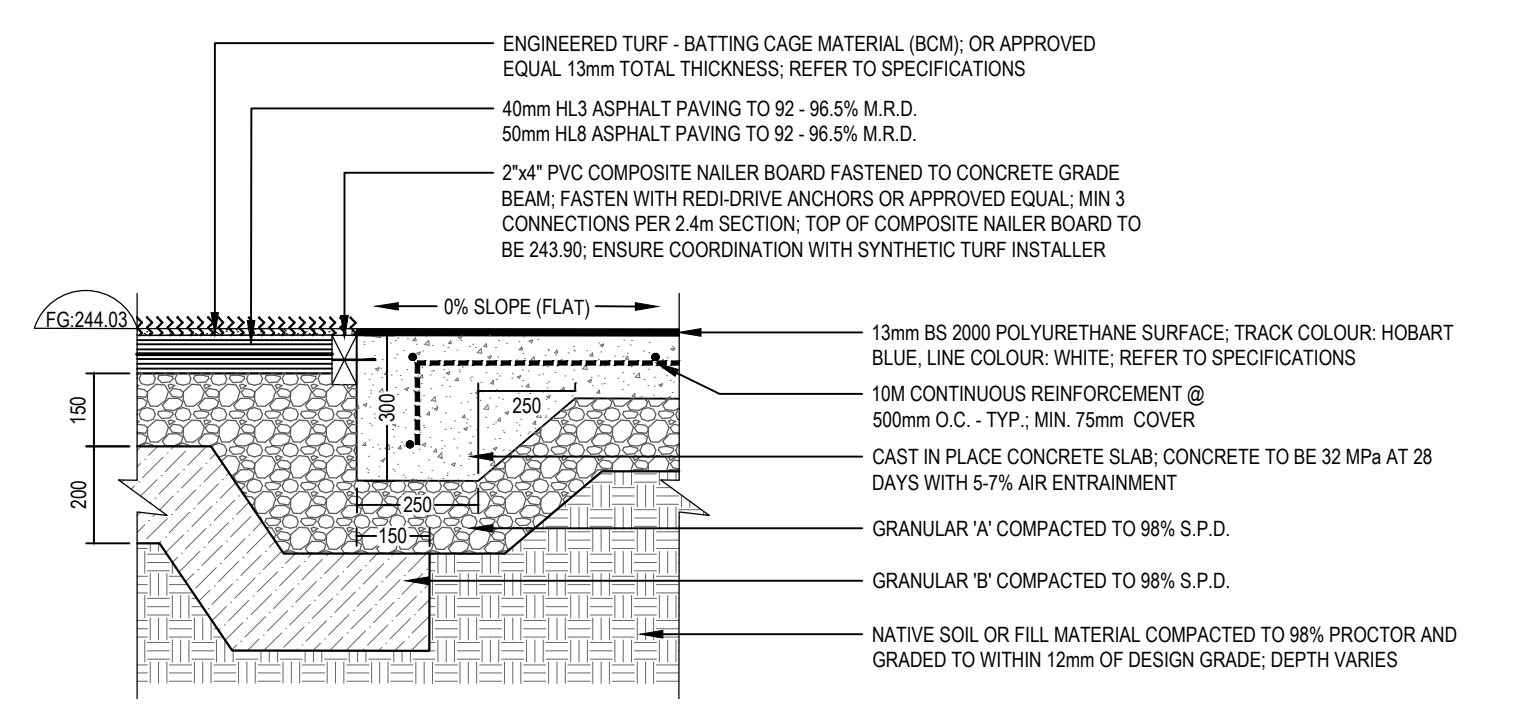
2  
D-3.0

SYNTHETIC TURF - TYPE 'A'

N.T.S.

SYNTHETIC TURF - TYPE 'B'

N.T.S.



NOTES:

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- ASPHALT TOLERANCE TO BE 6mm DEVIATION OVER 3.0m; REFER TO SPECIFICATIONS
- ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
- REFER TO PLANS.

NOTES:

- SUBGRADE TO BE CONSOLIDATED & TESTED TO 98% S.P.M.D.D. MIN. ENGINEERED FILL TO BE CONSOLIDATED & TESTED TO 100% S.P.M.D.D.
- ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
- REFER TO PLANS.

3  
D-3.0

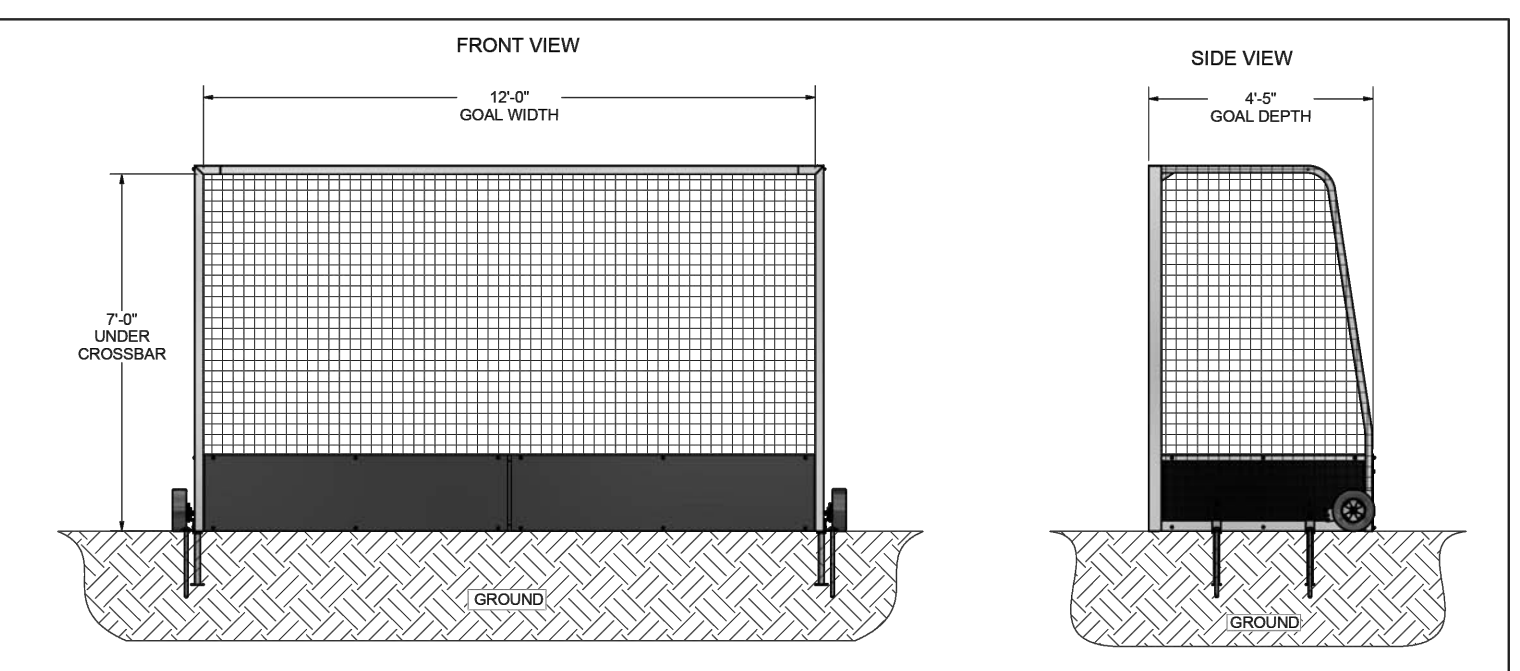
4  
D-3.0

SYNTHETIC TRACK SURFACE ON CONCRETE BASE

N.T.S.

TRIPLE/LONG JUMP PIT

N.T.S.



- FEATURES:
- ALUMINUM GOAL FRAME WITH HOPE BOTTOM BOARDS
  - FINISH: GOAL FRAME - WHITE POWDER COAT, BOTTOM BOARDS - BLACK
  - INCLUDED: SEMI-PERMANENT GROUND ANCHORS (4), NO-FLAT TIRES (2), GROUND ANCHOR PEGS (4), SADDLE ANCHOR BAGS (2), TAMPER RESISTANT NET CLIPS
  - ASSEMBLED HEIGHT: GOAL, 181 LBS.
  - EXCEEDS: NCAA SPECIFICATIONS, NFHSIA SPECIFICATIONS, FIH SPECIFICATIONS

OR APPROVED EQUAL

Approved By: [Signature] Date: 11/12/2023 Part #: 2F501  
 Drawn By: CSpick Date: 01/12/2023 Sheet: 1 of 4 Desc: 7' X 12' OFFICIAL FIELD HOCKEY GOAL  
 Revision #: 4  
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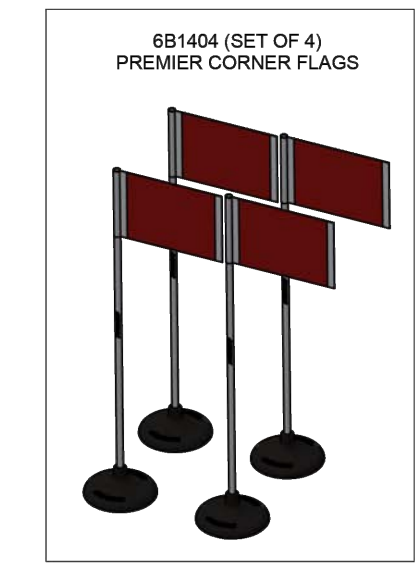
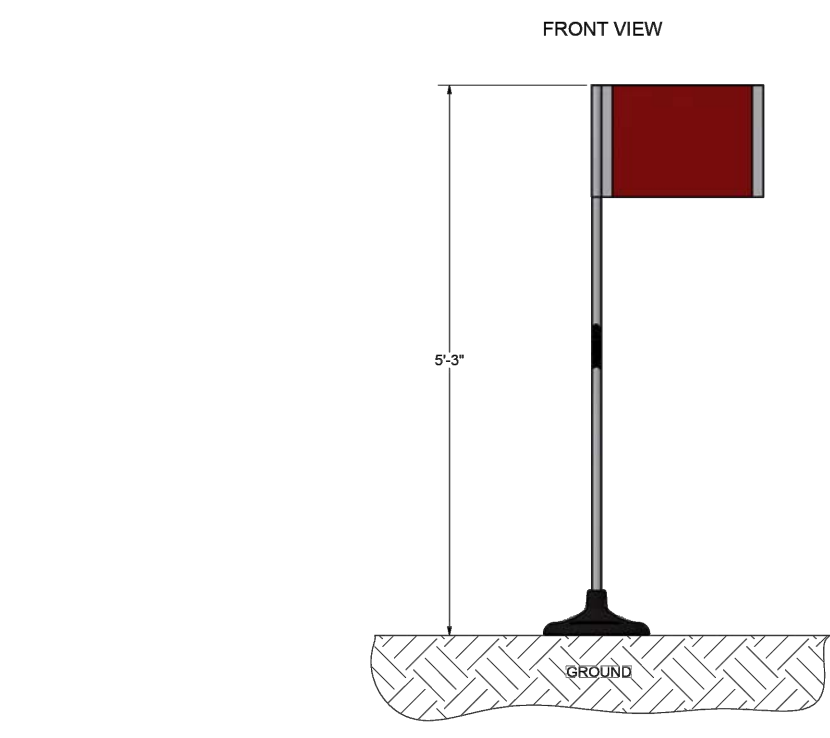
NOTES:

- REFER TO SPECIFICATIONS FOR FIELD HOCKEY GOAL MANUFACTURER, MODEL, AND COLOUR.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

6  
D-3.0

7' X 12' OFFICIAL FIELD HOCKEY GOAL

N.T.S.



OR APPROVED EQUAL

- FEATURES:
- HIGH IMPACT PVC CONSTRUCTION - IDEAL FOR TURF, INDOOR/OUTDOOR USE
  - FINISH: WHITE
  - INCLUDED: 12\"/>
  - ASSEMBLED WEIGHT: 34 LBS. PER SET  
SINGLE FLAG POLE WEIGHT: 8.5 LBS.

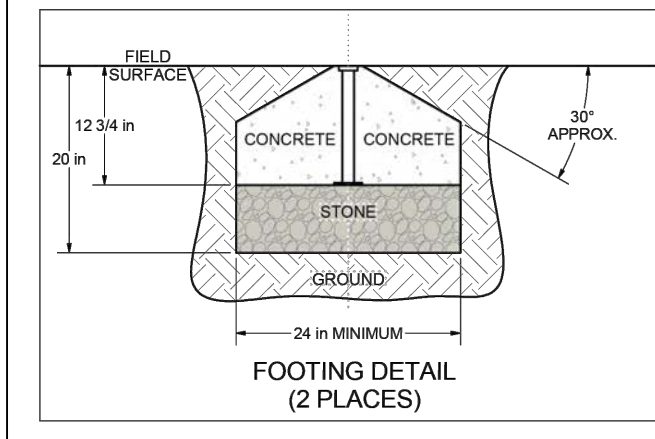
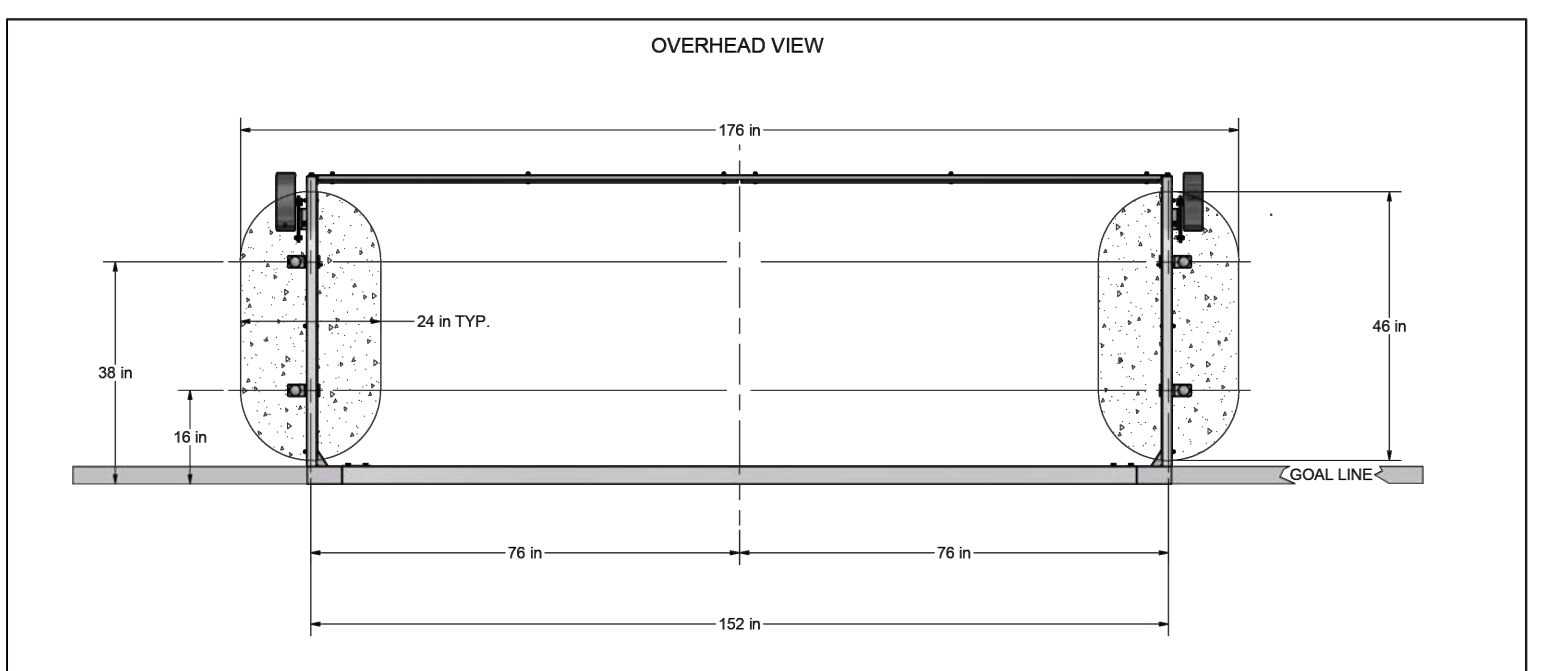
OR APPROVED EQUAL

Approved By: [Signature] Date: 12/20/2010 Part #: 6B1404  
 Drawn By: KFinch Date: 12/20/2010 Sheet: 1 of 4 Desc: PREMIER CORNER FLAG  
 Revision #: 3  
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5  
D-3.0

FIELD HOCKEY CORNER FLAGS

N.T.S.

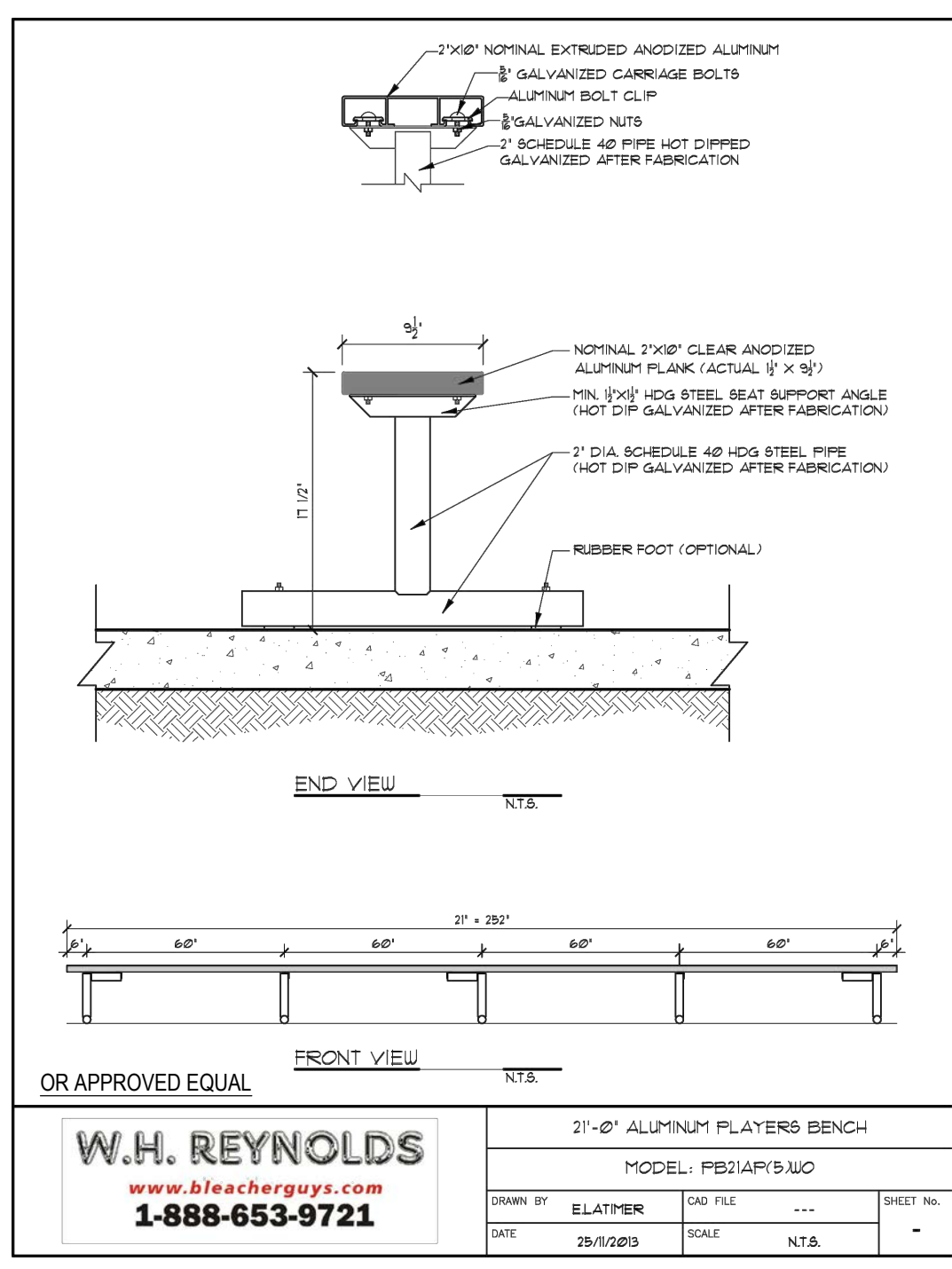


- NOTES:
- DIMENSIONS ARE FOR PLANNING PURPOSES. INSTALLATION MUST BE IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS.
- MATERIAL REQUIRED, BUT NOT SUPPLIED:
- 0.6 cubic yard - CONCRETE
  - 0.3 cubic yard - CLEAN STONE (1 1/4\"/>
- ABOVE AMOUNTS ARE PER GOAL INSTALLATION

OR APPROVED EQUAL

Approved By: [Signature] Date: 01/12/2023 Part #: 2F501  
 Drawn By: CSpick Date: 01/12/2023 Sheet: 2 of 4 Desc: 7' X 12' OFFICIAL FIELD HOCKEY GOAL  
 Revision #: 4  
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NOTES:

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

7  
D-3.0

21' PORTABLE ALUMINUM PLAYERS BENCH

N.T.S.

RG	Re-issued for Tender	2024-12-06	DP
RS	Issued for Tender	2024-11-13	DP
RL	Re-issued for SPA	2024-11-08	DP
no.	revision	date	by

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project number  
**2023-093**



project title  
**CASSIE CAMPBELL  
COMMUNITY CENTRE  
FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**DETAILS**

drawn by AN	reviewed by PG	drawing number: <b>D-3.0</b>
date NOV 2024	scale NTS	



**PLAN VIEW**  
7'-1-1/2"

**GENERAL NOTES:**

- ALL WORK SHALL MEET THE REQUIREMENTS OF THE ONTARIO BUILDING CODE ORDINANCES.
- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS ACT AND ANY SUBSEQUENT AMENDMENTS.
- STRUCTURAL STEEL SHALL CONFORM TO CSA G40.31-448 YIELD STRENGTH FOR IRON PIPE SHALL BE 58 KSI.
- WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA S458 AND SHALL BE WELDED BY A FABRICATOR FULLY APPROVED BY THE CANADIAN WELDING SOCIETY TO THE REQUIREMENTS OF CSA STANDARD W41.
- WELDING ELECTRODES SHALL CONFORM TO ELECTRODE CLASSIFICATION E70C8.
- BOLTED CONNECTIONS SHALL USE GALVANIZED F.D.A. X 8 LONG BOLTS WITH A MINIMUM YIELD STRENGTH OF 36 KSI UNLESS NOTED OTHERWISE.

**CROSS BRACING:**

- BRACES ARE CROSS BRACED WHERE INDICATED FROM EITHER 8'-0" TO 16'-0" SPACINGS OF TUBES.
- CROSS BRACING IS AT MINIMUM OF EVERY OTHER BAY.
- CROSS BRACING TO BE 1-1/2" X 1/4" MINIMUM.
- ALTERNATIVELY BRACES CAN BE 1-1/2" X 1/4" X 1/2"

**GENERAL NOTES:**

- ALL STEEL TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION TO CAN/CSA-G164 ORDINANCES.
- BLEACHERS SHALL BE CHECKED BY THE INSPECTOR AFTER ERECTION TO ENSURE THAT ALL STRUCTURAL REQUIREMENTS SPECIFIED IN THE DESIGN HAVE BEEN INSTALLED.
- BEFORE INSTALLATION OF OUR BLEACHER, THE SITE SHALL BE PREPARED TO ENSURE THAT THE BEARING STRATA IS LEVEL, AND CAPABLE OF SUPPORTING THE BLEACHER LOADS WITHOUT DETRIMENTAL SETTLEMENT.
- THE MINIMUM REQUIREMENTS FOR THE SOIL OF FILL BENEATH THE BLEACHERS IS AS FOLLOWS:
  1. NET ALLOWABLE SOIL BEARING CAPACITY - 3000 PSF (80KPA)
  2. COMPACTION - 98 PER CENT STANDARD PROCTOR MAXIMUM DRY DENSITY
- A SOIL INVESTIGATION MUST BE REVIEWED TO ENSURE SOIL CONDITIONS PRIOR TO START OF CONSTRUCTION AND BE RETAINED TO VERIFY THAT ALL ABOVE NOTED MINIMUM REQUIREMENTS ARE MET PRIOR TO INSTALLATION OF THE BLEACHERS.

**W.H. REYNOLDS**  
www.bleacherguys.com  
1-888-653-9721

**TYPICAL PLAN VIEW DRAWING**

FILE: 3 ROW X 12'-0" ALUMINUM BLEACHER WITH RISER  
LOCATION: N/A  
DATE: 03/09/2013  
SCALE: N.T.S.

**END VIEW**  
7'-1-1/2"

**GENERAL NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**W.H. REYNOLDS**  
www.bleacherguys.com  
1-888-653-9721

**TYPICAL END VIEW DRAWING**

FILE: 3 ROW ALUMINUM BLEACHER TIP & ROLL WITH PIPE RISER  
LOCATION: N/A  
DATE: 07/08/2013  
SCALE: N.T.S.

**GENERAL SPECIFICATIONS:**

- OVERALL SIZE: 9'-11" (L) x 5' (W) x 7'-3 1/4" (H)
- APPROXIMATE TOTAL WEIGHT: 350 lbs

**SCOREBOARD SPECIFICATIONS:**

- MODEL: M3010AUCV
- REFERENCE SCOREBOARD INFO DRAWING FOR DETAILED SPEC.

**GENERAL NOTES:**

- NOT FOR CONSTRUCTION. SPECIFICATIONS SUBJECT TO CHANGE.

**REVISION HISTORY**

REV	DESCRIPTION	DATE	AUTHOR
A	INITIAL DESIGN	9/8/2023	M.LI
B	UPDATE TO 8" CASTER WHEEL	9/8/2023	M.LI

**W.H. REYNOLDS**  
www.bleacherguys.com  
1-888-653-9721

**DESIGN**

FILE: M3010AUCV  
DATE: 9/8/2023  
SCALE: N.T.S.

**W.H. REYNOLDS**  
www.bleacherguys.com  
1-888-653-9721

**DESIGN**

FILE: M3010AUCV  
DATE: 9/8/2023  
SCALE: N.T.S.

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**3 ROW TIP & ROLL BLEACHERS**  
N.T.S.

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**ELECTRONIC PORTABLE SCOREBOARD**  
N.T.S.

**Cassie Campbell Sports Dome: Tension Batting Tunnel**

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**SPORTSFIELD SPECIALTIES**  
www.sportfield.com

**CHAMPRO THROW-DOWN HOME PLATE**  
301-905-049

**FEATURES:**

- All rubber construction with waffle bottom design
- Ideal for gym, batting cage/bulpen, or other temporary applications

**BERCON ATHLETICS**  
FIELD MAINTENANCE & TRAINING EQUIPMENT • EXPERTS IN THE FIELD SINCE 1948

**OR APPROVED EQUAL**

**Portolite**  
PITCHING MOUND

**9550 RUBBER LOC**

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**MRR-0250-0000**  
Legacy # MRC25-MTO-MBC

**DESCRIPTION:** 200 Series - 250 Recycle Receptacle: Heavy Duty Steel Flat Bar Frame, Metal Lid, Metal Bottles/ Cans Lid, 2 Stream, 2 x 20 Gallon Polyethylene Liners, Vinyl Graphics

**FINISH:** All steel components are protected with E-Coat rust proofing. The Maglin Powdercoat System provides a durable finish on all metal surfaces.

**INSTALLATION:** The recycling station is delivered pre-assembled. Holes (0.5") are provided in each mounting foot for securing to base.

**TO SPECIFY:** Select MRR-0250-0000  
Choose:  
- Powdercoat Color  
- Vinyl Graphics (Fill out approval form)

**HEIGHT: 37 7/8" (96.2cm) WIDTH: 21 1/8" (53.7cm) LENGTH: 37 5/8" (95.6cm) WEIGHT: 306lbs (138.8kg)**

**OR APPROVED EQUAL**

**MAGLIN**  
Site Furniture

**MBR-0100-0003**  
Legacy # MBR100-S

**DESCRIPTION:** 100 Series - 100 Bike Rack: H.S. Steel Tube, Aluminum Spin Top, Surface Mount, 2 Bike Configuration

**FINISH:** All steel components are protected with E-Coat rust proofing. The Maglin Powdercoat System provides a durable finish on all metal surfaces.

**INSTALLATION:** The bike rack is delivered pre-assembled.

**TO SPECIFY:** Select MBR-0100-0003  
Choose:  
- Powdercoat Color

**HEIGHT: 37" (94.5cm) WIDTH: 20" (50.8cm) WEIGHT: 14.48lbs (6.6kg)**

**OR APPROVED EQUAL**

**MAGLIN**  
Site Furniture

**SITE FURNISHING ANCHORING**  
N.T.S.

**NOTES:**

- CONTRACTOR TO DEFORM END OF THREADED ROD ONCE INSTALLATION IS COMPLETE
- REFER TO PLANS.

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**CHAMPRO THROW-DOWN HOME PLATE**  
N.T.S.

**NOTES:**

- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- REFER TO PLANS.

**PORTOLITE PORTABLE 10" PITCHING MOUND**  
N.T.S.

**NOTES:**

- REFER TO SPECIFICATIONS FOR WASTE RECEPTACLE MANUFACTURER, MODEL, AND COLOUR.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- CONTRACTOR TO LEVEL WASTE RECEPTACLE AND SECURE.
- CONTRACTOR TO DEFORM END OF THREADED ROD ONCE INSTALLATION IS COMPLETE
- REFER TO PLANS.

**WASTE RECEPTACLE**  
N.T.S.

**NOTES:**

- REFER TO SPECIFICATIONS FOR BIKE RING MANUFACTURER, MODEL, AND COLOUR.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT.
- CONTRACTOR TO LEVEL BIKE RING AND SECURE.
- CONTRACTOR TO DEFORM END OF THREADED ROD ONCE INSTALLATION IS COMPLETE
- REFER TO PLANS.

**BIKE RING**  
N.T.S.

**ASSOCIATION OF LANDSCAPE ARCHITECTS**  
ONARIO PROVINCE  
MEMBER  
Dec 6, 2024

project number  
**2023-093**

**landscape planning**  
LANDSCAPE ARCHITECTS

Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.8836, www.landscapeplan.ca

project title  
**CASSIE CAMPBELL COMMUNITY CENTRE FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

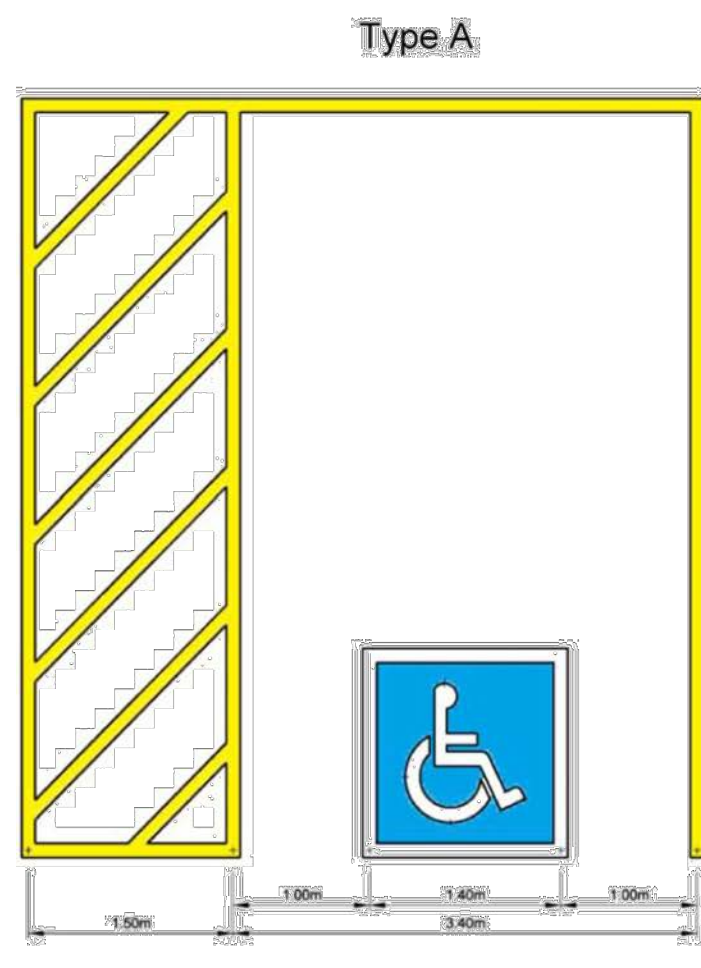
client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

drawing title  
**DETAILS**

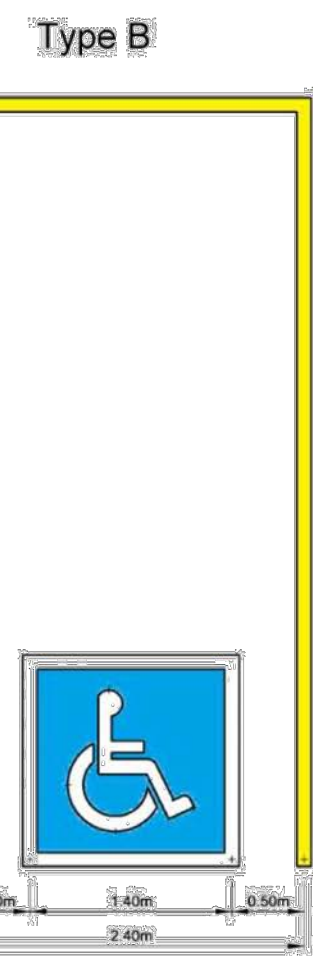
drawn by AN	reviewed by PG	drawing number: <b>D-4.0</b>
date NOV 2024	scale NTS	





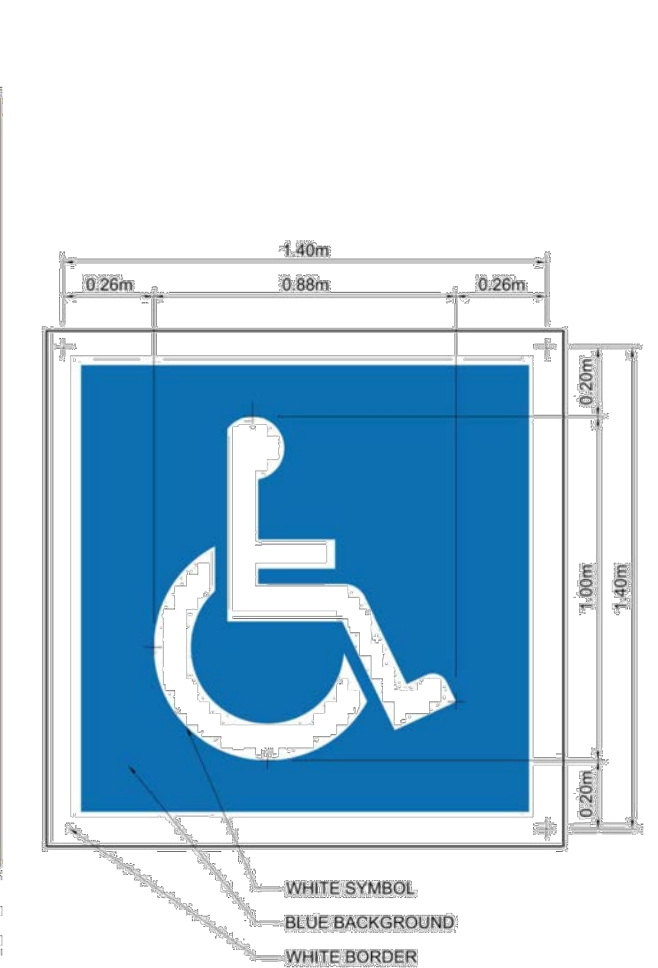
TYPE A & B STALL LAYOUT. REFER TO PLAN FOR LOCATION.

1  
D-5.0



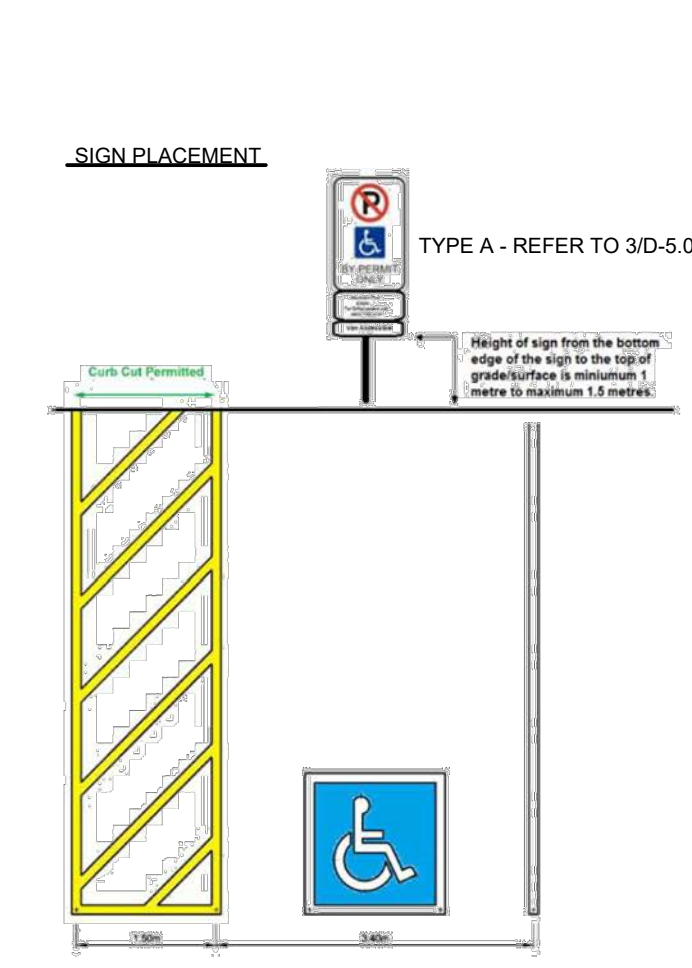
TYPE A - REFER TO 3/D-5.0

2  
D-5.0



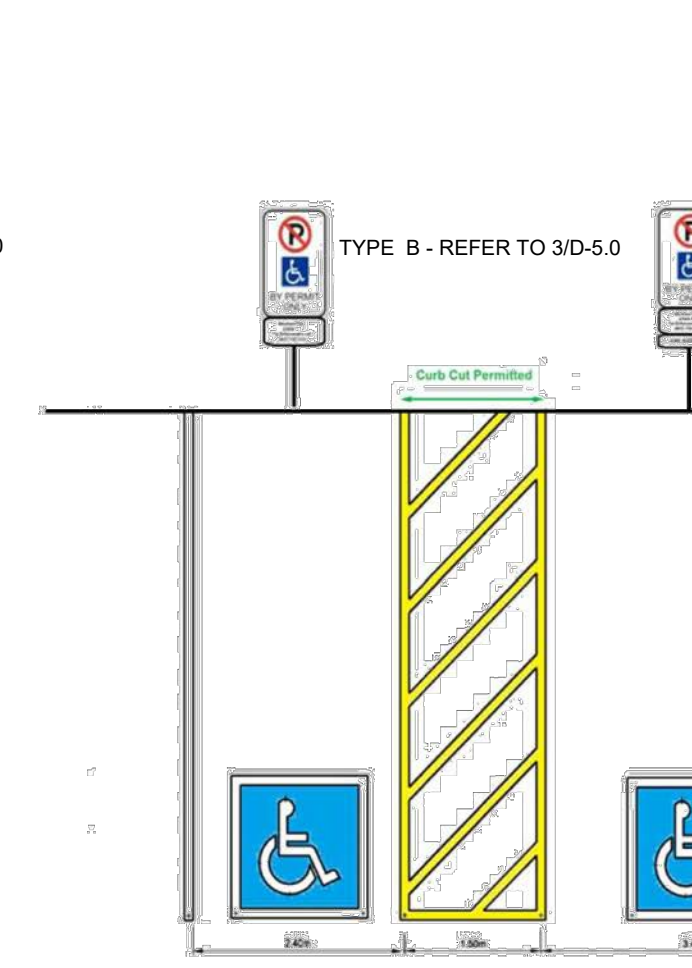
TYPE B - REFER TO 3/D-5.0

3  
D-5.0



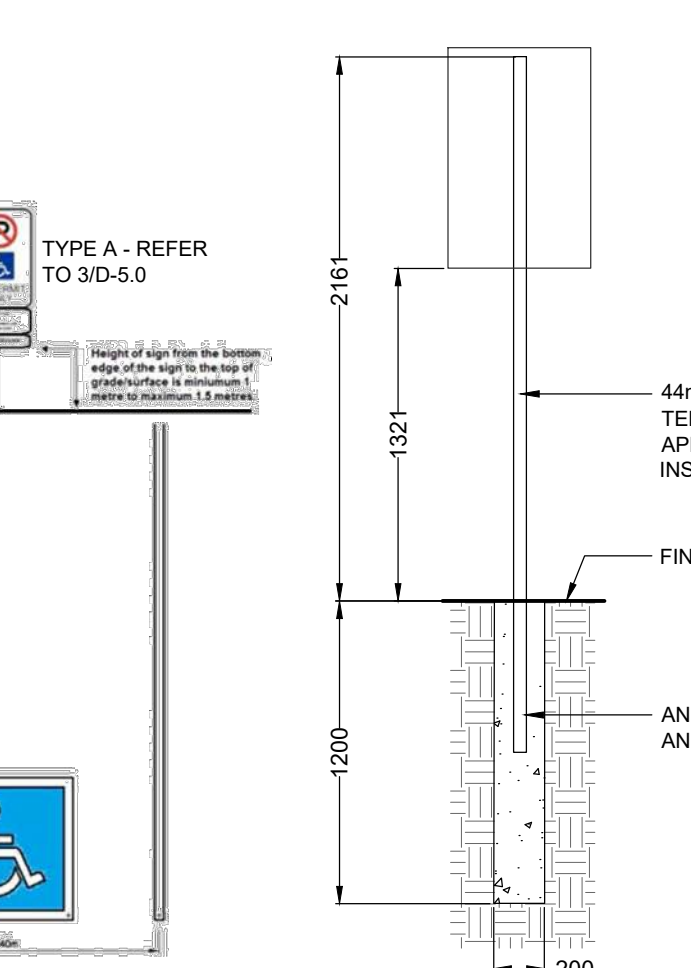
TYPE A - REFER TO 3/D-5.0

4  
D-5.0



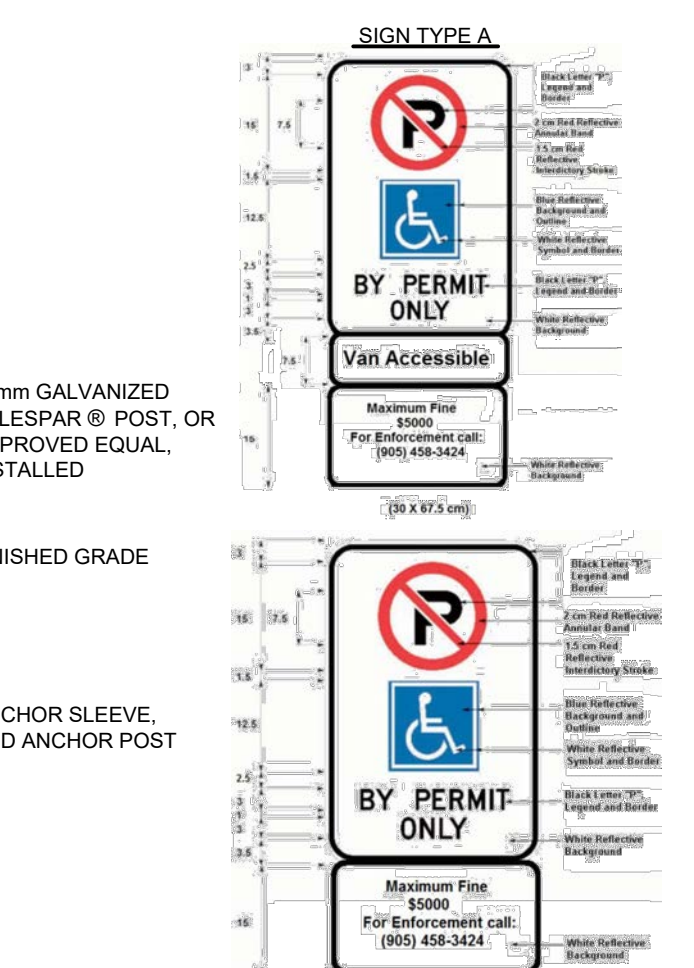
TYPE A - REFER TO 3/D-5.0

5  
D-5.0



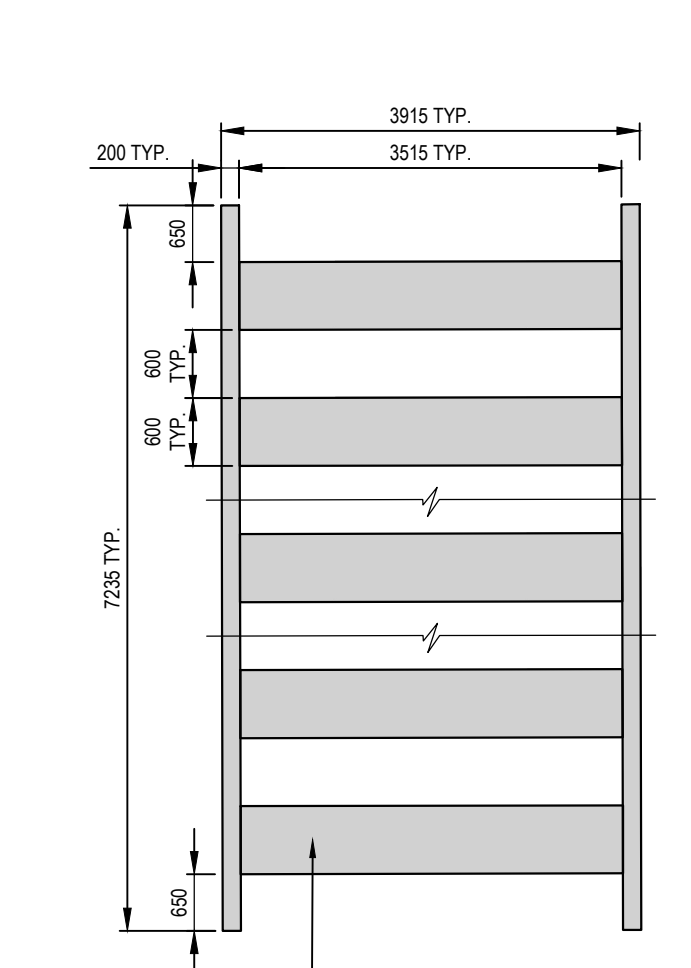
TYPE A - REFER TO 3/D-5.0

6  
D-5.0



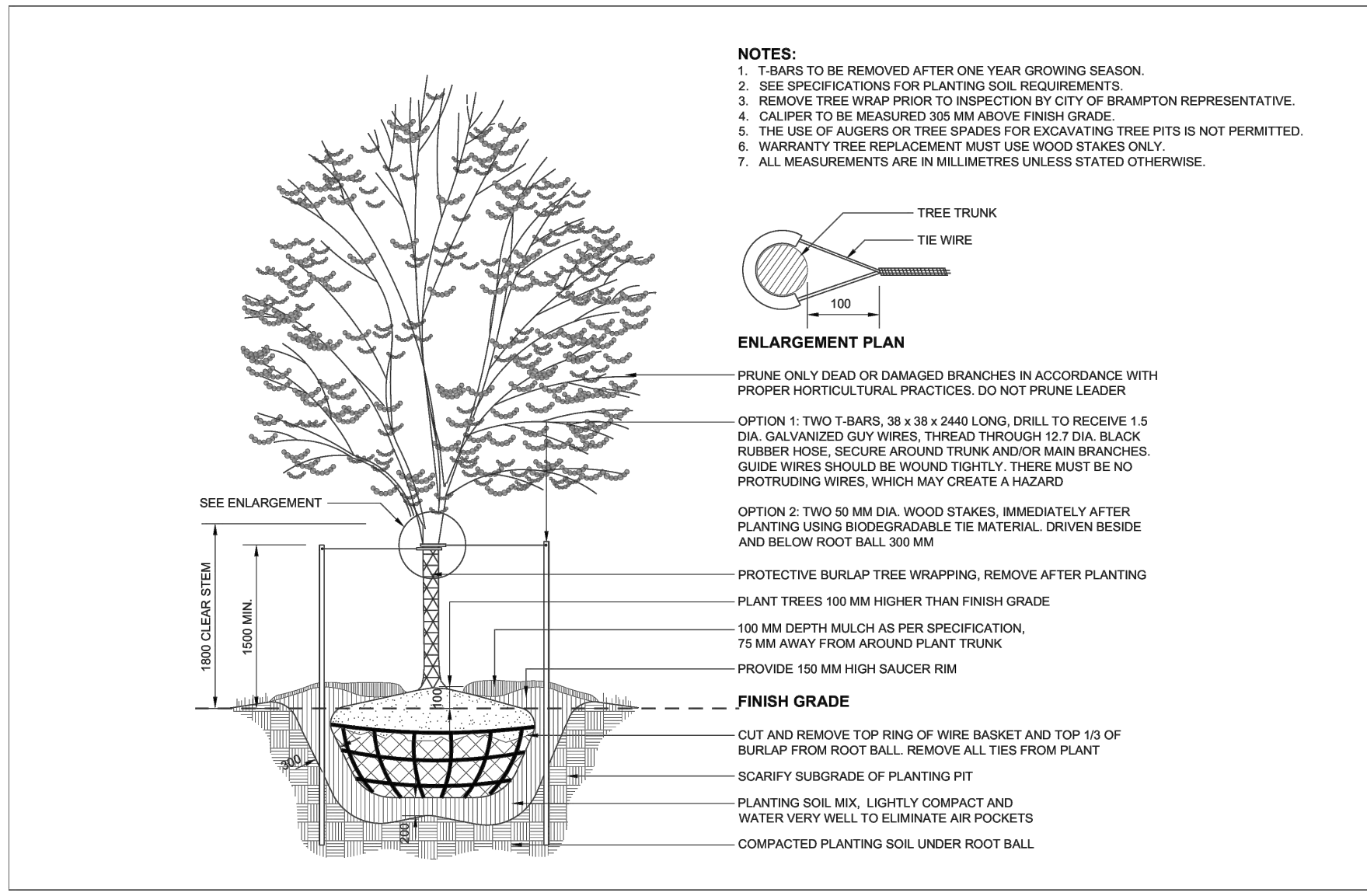
TYPE A - REFER TO 3/D-5.0

7  
D-5.0



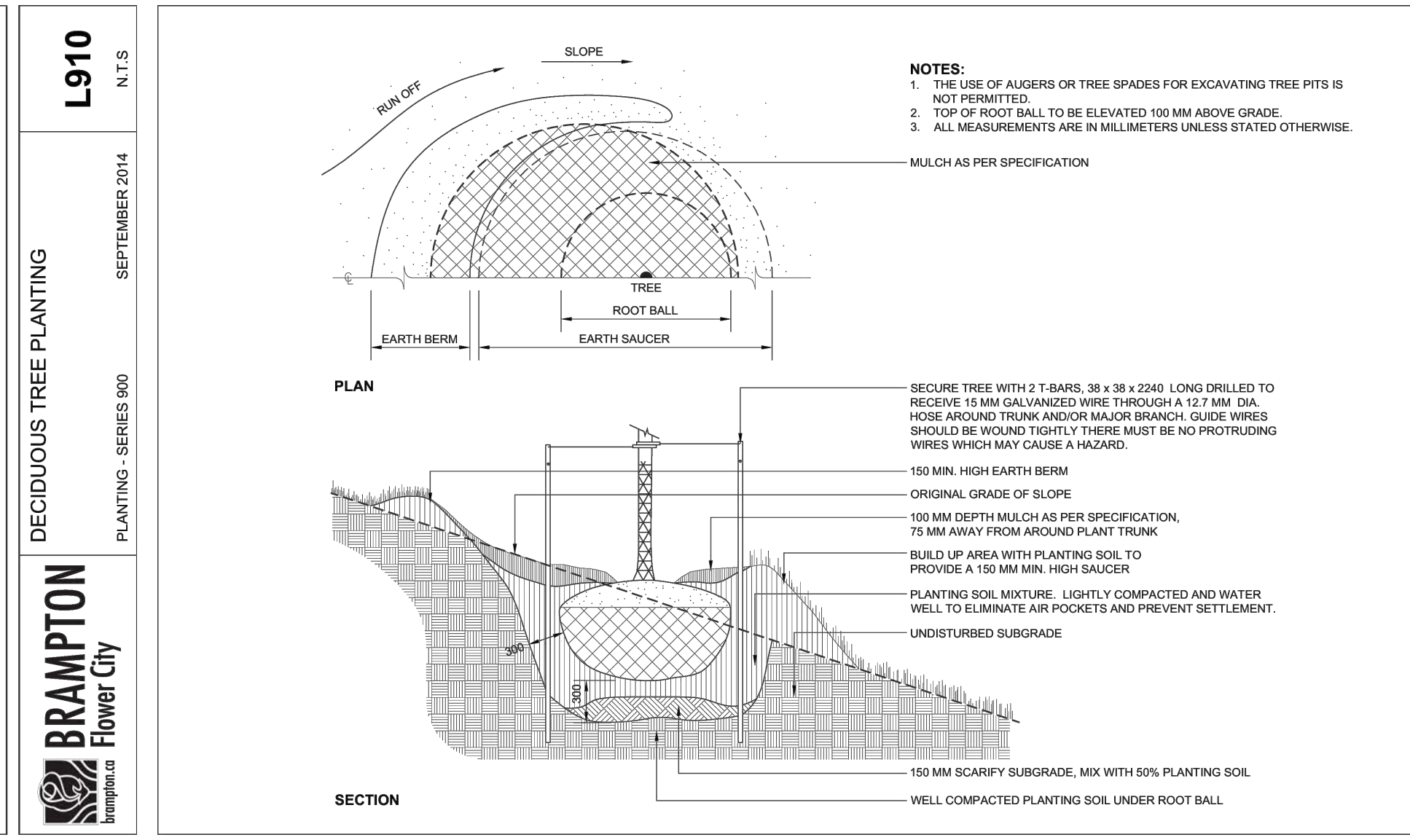
TYPE A - REFER TO 3/D-5.0

8  
D-5.0



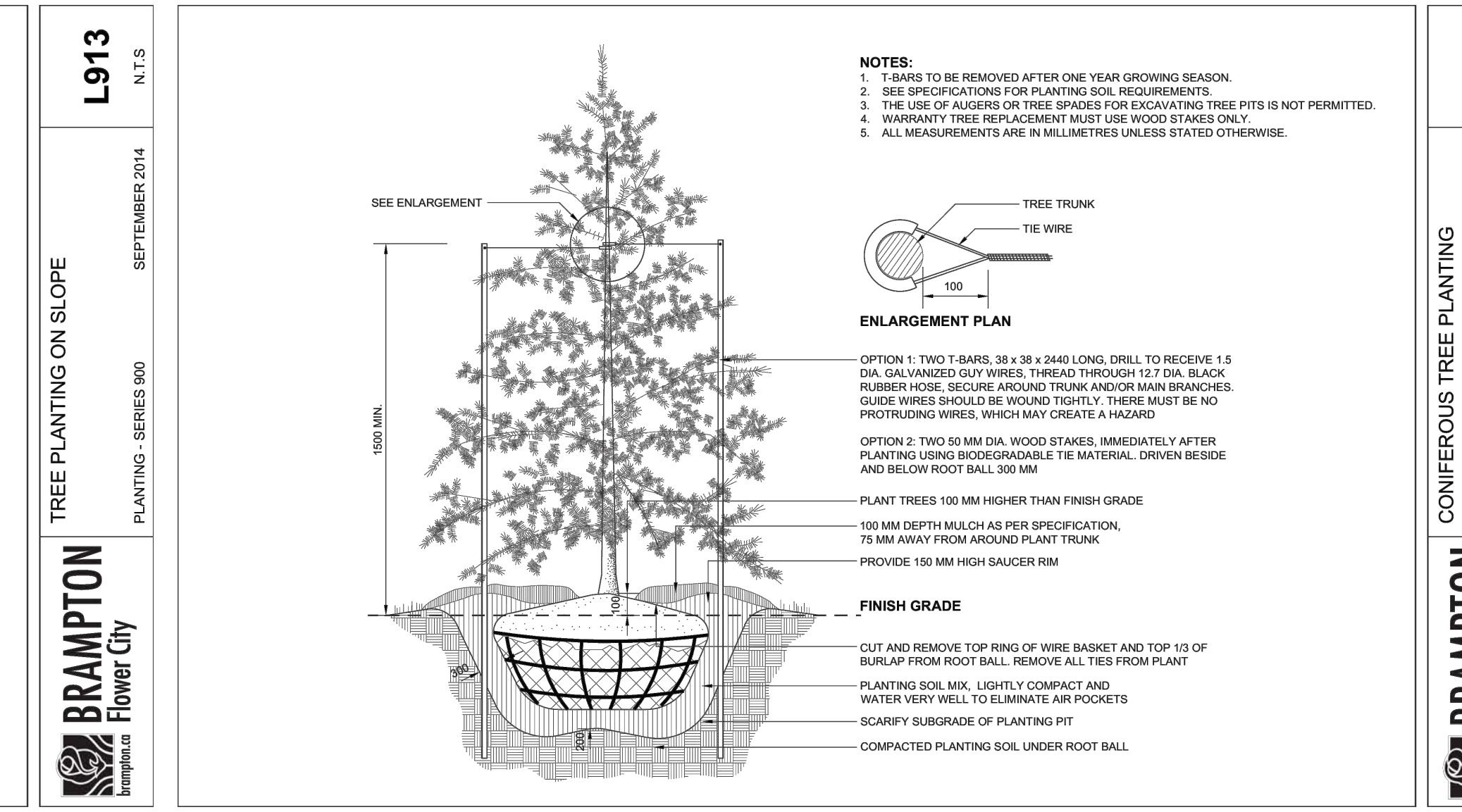
CITY OF BRAMPTON - DECIDUOUS TREE PLANTING

N.T.S.



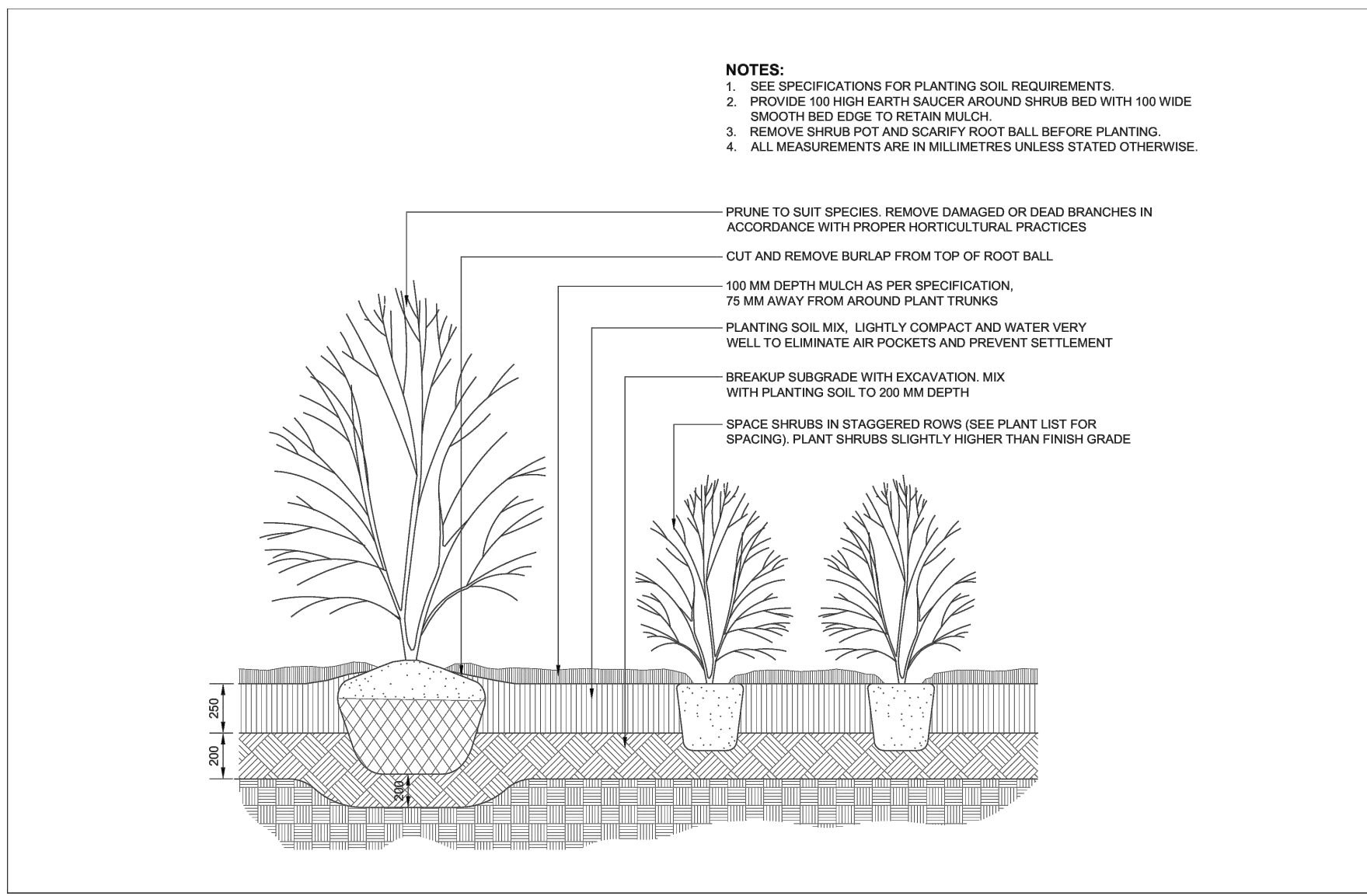
CITY OF BRAMPTON - TREE PLANTING ON SLOPE

N.T.S.



CITY OF BRAMPTON - CONIFEROUS TREE PLANTING

N.T.S.

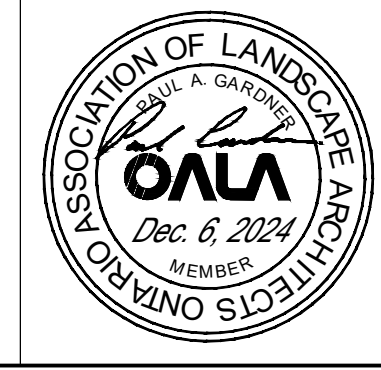


CITY OF BRAMPTON - SHRUB PLANTING

N.T.S.

RG	Re-issued for Tender	2024-12-06	DP
RS	Issued for Tender	2024-11-13	DP
R4	Re-issued for SPA	2024-11-08	DP
no.	revision	date	by

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project number  
**2023-093**



project title  
**CASSIE CAMPBELL  
COMMUNITY CENTRE  
FIELD HOCKEY DOME**  
1060 Sandalwood Pkwy W., Brampton ON, L7A 2Z8

client  
**CITY OF BRAMPTON**

city file number  
**SPA-2024-0106**

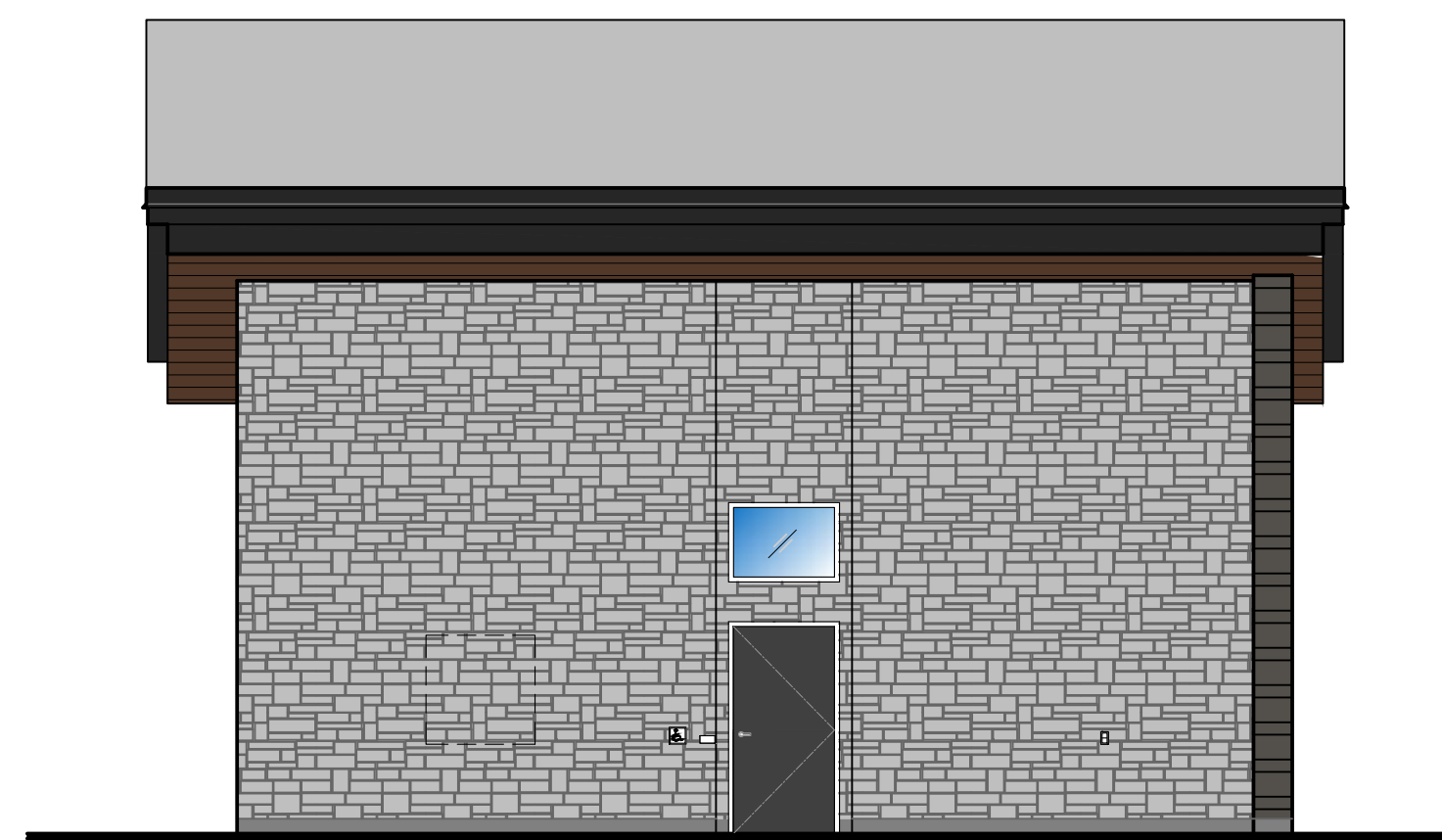
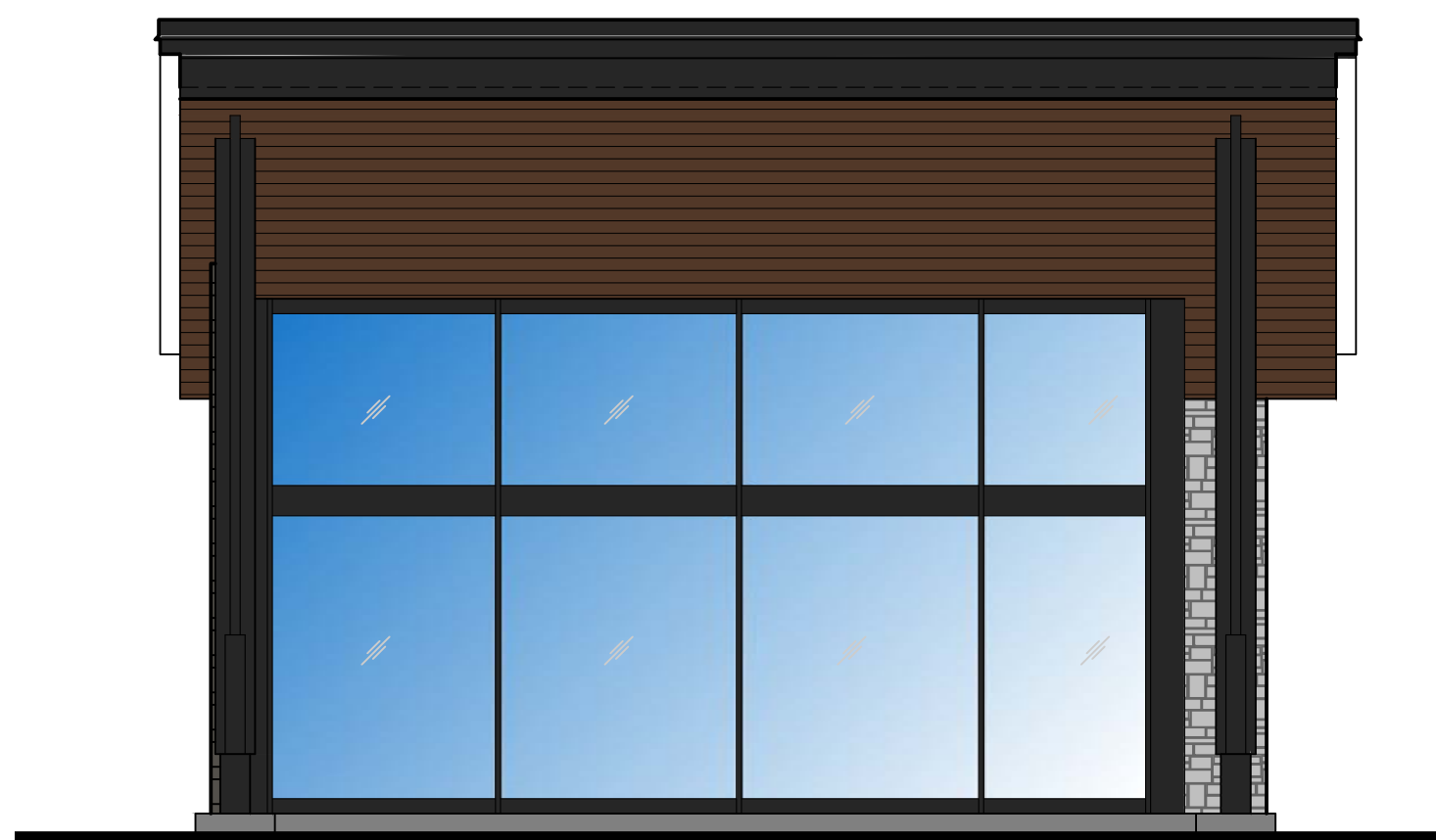
drawing title

**DETAILS**

drawn by AN	reviewed by PG	drawing number: <b>D-5.0</b>
date NOV 2024	scale NTS	

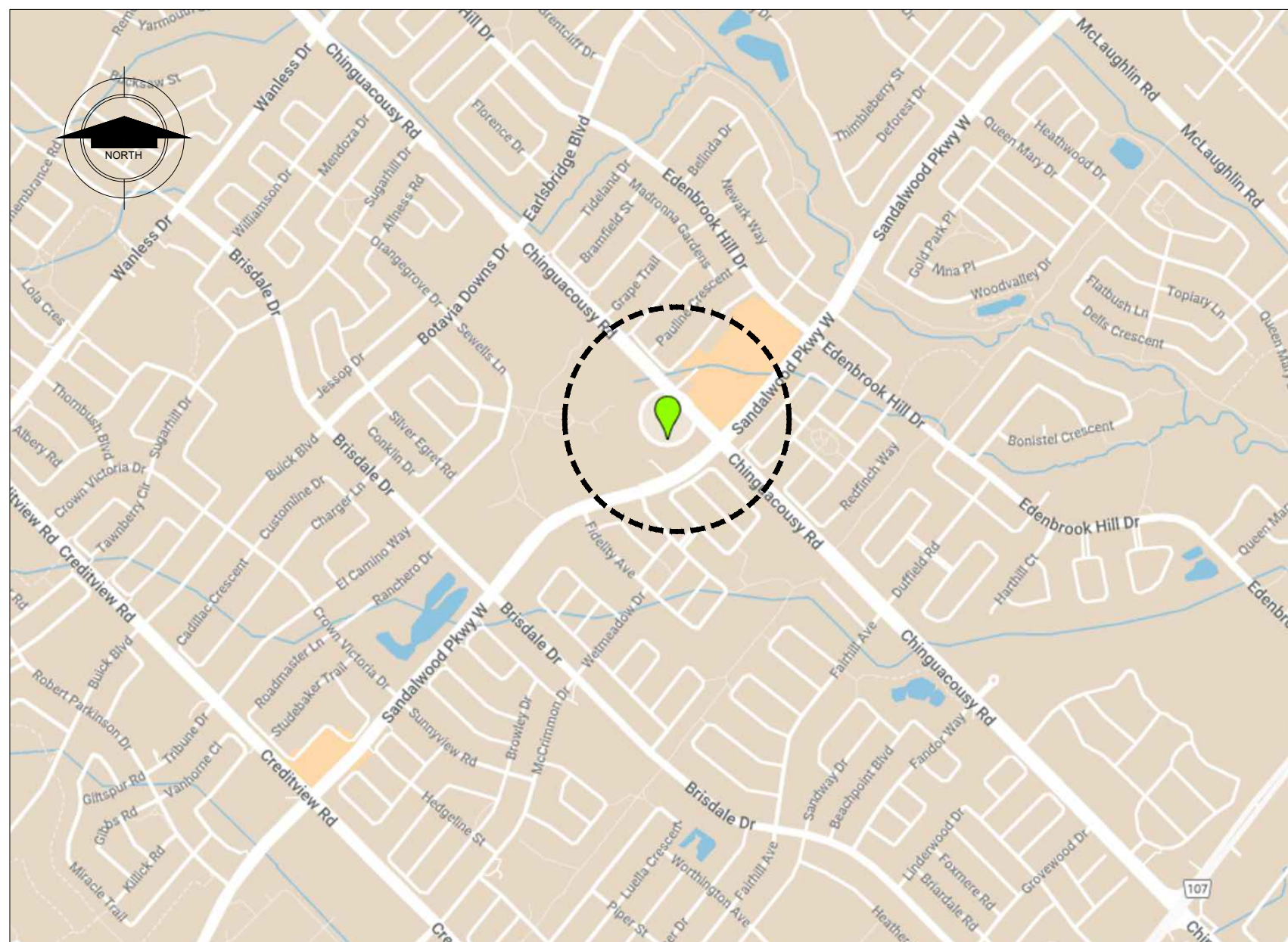


# CASSIE CAMPBELL COM. CEN. PAVILION BUILDING BRAMPTON, ON



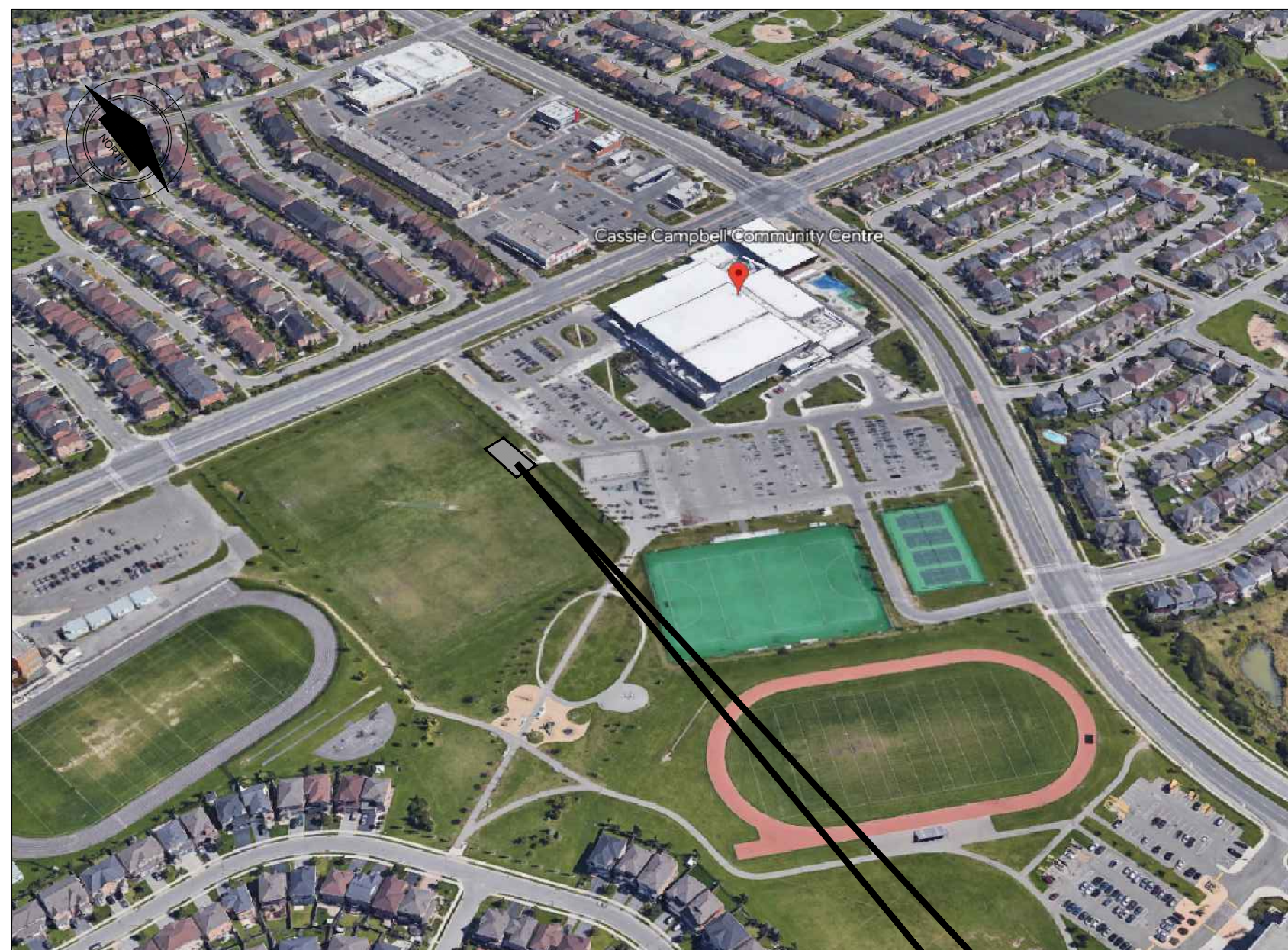
## 01 coloured elevations

SCALE | NTS



## 02 location map

SCALE | NTS



## 03 key plan

SCALE | NTS

PAVILION BUILDING  
LOCATION

### GENERAL NOTES

- IN ADDITION TO THESE GENERAL NOTES, THE CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR OTHER SPECIFIC INSTRUCTIONS AS THEY MAY AFFECT THE GENERAL CONSTRUCTION OF THIS PROJECT. DISCREPANCIES BETWEEN PORTIONS OF THE CONTRACT DOCUMENTS ARE NOT INTENDED. THE CONTRACTOR IS TO CLARIFY WITH THE ARCHITECT AND OWNER ANY SUCH DISCREPANCIES PRIOR TO COMMENCING WORK.
- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE BUILDING CODES AND LOCAL RESTRICTIONS. CONTRACTOR MUST COMPLY WITH CONTRACTORS REGISTRATION REQUIREMENTS OF ALL GOVERNING AUTHORITIES. ALL REQUIRED PERMITS SHALL BE ACQUIRED BEFORE COMMENCING ANY CONSTRUCTION.
- APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS IN GOOD CONDITION ON THE PREMISES AT ALL TIMES.
- THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY WORK AND SHALL BE RESPONSIBLE FOR ALL WORK AND MATERIALS INCLUDING THOSE FURNISHED BY SUBCONTRACTORS AND OWNER.
- STATED DIMENSIONS TAKE PRECEDENCE OVER GRAPHICS. DO NOT SCALE DRAWINGS TO DETERMINE LOCATIONS. THE ARCHITECT SHALL BE NOTIFIED PRIOR TO CONTINUING WITH WORK IF ANY DISCREPANCIES OCCUR.
- CONTRACTOR SHALL REFER AND CONFORM TO ALL RECOMMENDATIONS AND FINDINGS AS SET FORTH IN SOILS GEOLOGICAL REPORT. THE OWNER AND/OR ARCHITECT ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF THE FINDINGS, OR FOR THE FINAL RECOMMENDATIONS, GRADING, TRENCHING, ETC.
- CONTACT OWNER FOR INSTRUCTIONS PRIOR TO THE CONTINUATION OF WORK SHOULD ANY UNUSUAL CONDITIONS BECOME APPARENT DURING GRADING OR FOUNDATION CONSTRUCTION. EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OWNER SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK.
- MEANS, METHODS, SAFETY MEASURES, CONSTRUCTION SITE PROTECTION AND TEMPORARY SERVICES REQUIRED DURING CONSTRUCTION SHALL BE AT THE SOLE EXPENSE AND THE RESPONSIBILITY OF THE CONTRACTOR.
- ANY DETAILS OR NOTES REQUIRING FIELD VERIFICATION BY THE CONTRACTOR ARE TO BE DONE DURING THE BID PROCESS. DISCREPANCIES FOUND AFTER THE GENERAL CONTRACTOR IS SELECTED WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND CORRECTED AT HIS/HER EXPENSE.

### DRAWING INDEX

#### ARCHITECTURAL

NO.	TITLE	REVISION
A0.00	COVER SHEET	
A1.00	TABLES AND SYMBOLS	
A2.00	CONSTRUCTION PLAN	
A2.01	FURNITURE PLAN	
A2.02	PLAN DETAILS	
A3.00	REFLECTED CEILING PLAN	
A3.01	ROOF PLAN	
A4.00	EXTERIOR ELEVATIONS 1	
A4.01	EXTERIOR ELEVATIONS 2	
A5.00	BUILDING SECTIONS	
A5.01	WALL SECTIONS	
A5.02	CONSTRUCTION DETAILS	
A5.03	CONSTRUCTION DETAILS	
A5.04	CONSTRUCTION DETAILS	
A6.00	UNIVERSAL WASHROOM DETAILS	
A6.01	UNIVERSAL CHANGE ROOM DETAILS	
A6.02	BARRIER FREE STANDARD DETAILS	
A6.03	TYPICAL WASHROOM DETAILS	
A6.04	MILLWORK DETAILS	
A7.00	SCHEDULES AND DETAILS	
A7.01	WINDOWS AND GLAZING SCHEDULES	
A8.00	FINISHING IMAGE BOARD	
A8.01	FINISHING IMAGE BOARD	

#### STRUCTURAL

NO.	TITLE	REVISION
S1.00	STRUCTURAL SPECIFICATIONS	
S2.00	STRUCTURAL SPECIFICATIONS	
S3.00	STRUCTURAL SPECIFICATIONS	
S4.00	FOUNDATION PLAN AND DETAILS	
S5.00	ROOF FRAMING PLAN AND DETAILS	
S6.00	STRUCTURAL DETAILS	
S7.00	STRUCTURAL DETAILS	

#### MECHANICAL

NO.	TITLE	REVISION
M1.00	PLUMBING PLAN AND DETAILS	
M2.00	HVAC PLAN AND DETAILS	
M3.00	MECHANICAL SPECIFICATIONS	

#### ELECTRICAL

NO.	TITLE	REVISION
E1.00	LIGHTING PLANS AND DETAILS	
E2.00	POWER/DATA PLAN AND DETAILS	
E3.00	ELECTRICAL SPECIFICATIONS	

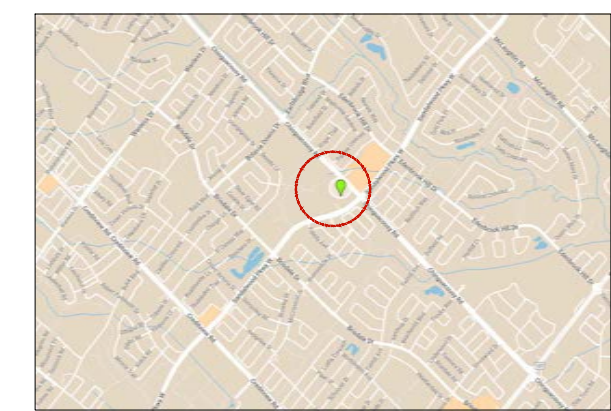
### MATERIAL INDICATIONS

	EARTH
	GRANULAR FILL
	CONCRETE
	BRICK
	CONCRETE MASONRY
	STONE
	WOOD, FINISH GRAIN
	STEEL OR METAL
	WOOD, END GRAIN (NON-STRUCTURAL)
	WOOD FRAMING, CONTINUOUS MEMBER
	WOOD BLOCKING, INTERRUPTED MEMBER
	PLYWOOD, EDGE
	ACOUSTIC TILE
	GYPSUM BOARD
	BATT INSULATION
	RIGID INSULATION / E.I.F.S.
	SHEAR WALL

NOTE: MATERIALS SHOWN ARE FOR WALL SECTIONS AND/OR LARGE SCALE DETAILS ONLY. MATERIAL PATTERNS FOR SMALL SCALE PLANS AND/OR ELEVATIONS MAY VARY. REFER TO INDIVIDUAL LEGENDS AND/OR SCHEDULES FOR VARIATIONS.

### PROJECT CONTACT LIST

<b>OWNER</b> THE CITY OF BRAMPTON 2 WELLINGTON STREET WEST BRAMPTON, ON L6Y 4R2 905-874-2000	<b>LANDSCAPE ARCHITECT</b> LANDSCAPE PLANNING LTD 95 MURAL STREET, SUITE 207 RICHMOND HILL, ON L4B 3G2 PAUL GARDNER 905-669-6838
<b>ARCHITECT</b> PYLONS ARCHITECTURE INC 20 RIVERMEDE ROAD, UNIT# 101 CONCORD, ON L4K 3N3 RAFIK NASSIF 289-637-1375 EXT. 100	<b>STRUCTURAL ENGINEER</b> ROBERT E. DALE LTD. 310 CHRISTINA STREET NORTH SARNIA, ON N7T 5V5 GEOFFREY DALE 519-337-7211 EXT.225
<b>MECHANICAL ENGINEER</b> ROBERT E. DALE LTD. 310 CHRISTINA STREET NORTH SARNIA, ON N7T 5V5 GEOFFREY DALE 519-337-7211 EXT.225	<b>ELECTRICAL ENGINEER</b> ROBERT E. DALE LTD. 310 CHRISTINA STREET NORTH SARNIA, ON N7T 5V5 GEOFFREY DALE 519-337-7211 EXT.225



KEY MAP  
N.T.S.

**PYLONS**  
architecture inc.  
Architecture • Interior Design • Project Management  
T | 289-637-1375 E | info@pylons.ca W | www.pylons.ca  
A | 20 Rivermede Road, Unit# 101, Concord, Ontario, Canada



NO.	revision	date	BY
R7	Re-issued for Tender	Dec 06/24	RN
R6	Rev. 01 for SPA	Nov 08/24	RN
R5	Rev. 01 for SPA	Sep 25/24	RN
R4	Issued for SPA	Jun 24/24	RN
R3	Issued for 90% Progress	May 10/24	RN
R2	Issued for Completeness Review	Apr 03/24	RN
R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN

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reviewed by RN drawn by RN

date JUN 2023

scale AS SHOWN

drawing title

### COVER SHEET

drawing number

A0.00

client

CITY OF BRAMPTON

project title

CASSIE CAMPBELL CC  
PAVILION BUILDING  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

project number

PRE-2023-0128

landscape planning  
LANDSCAPE ARCHITECTS  
Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.6838, www.landscapeplan.ca



TAG	FIRE RATING	SOUND RATING	MIN. R-VALUE	CONSTRUCTION PLAN/SECTION	DISCRIPTION
W1	1 HOUR CBC SB-3 B16	N/A	R-20 MIN		EXTERIOR WALL - CORRUGATED METAL WALL CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS - METAL CHANNEL CLIP AS REQUIRED - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W1A	1 HOUR CBC SB-3 B16	N/A	R-20 MIN		EXTERIOR WALL - CORRUGATED METAL WALL CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS - METAL CHANNEL CLIP AS REQUIRED - CORRUGATED METAL WALL CLADDING - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W2	N/A	N/A	R-20 MIN		EXTERIOR WALL - 90 [3 1/2"] MANUFACTURED STONE CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS
W2A	N/A	N/A	R-20 MIN		EXTERIOR WALL - 90 [3 1/2"] MANUFACTURED STONE CLADDING - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS
W3	N/A	N/A	N/A		CONCRETE BLOCK PARTITION - 190 [8"] CONCRETE BLOCK - FILL FIRST ROW OF BLOCK SOLID - BULLNOSE CORNERS
W4	1 HOUR CBC SB-3 B16	N/A	N/A		1H FRR CONCRETE BLOCK PARTITION - 190 [8"] CONCRETE BLOCK - FILL FIRST ROW OF BLOCK SOLID - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W5	N/A	N/A	N/A		WASHROOM PARTITION - 90 [3 1/2"] CONCRETE BLOCK - FILL FIRST & TOP ROWS OF BLOCK SOLID - BULLNOSE CORNERS

**GENERAL NOTES**  
1. EXTEND WALL AND PARTITIONS TO UIS METAL DECK UNLESS OTHERWISE NOTED. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

## PAVILION BUILDING AT CASSIE CAMPBELL COMMUNITY CENTRE

Item	Ontario's 2012 Building Code Data Matrix Part 3 or 9	BC Reference
1	Project Description: <input type="checkbox"/> New <input type="checkbox"/> Part 11 <input type="checkbox"/> Part 3 <input type="checkbox"/> Part 9 <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> Change of Use <input type="checkbox"/>	1.1.2, [A] 1.1.2, [A] & 9.10.1.3.
2	Major Occupancy(s) Group D	3.1.2.1.(1) 9.10.2.
3	Building Area (m <sup>2</sup> ) Existing 0.00 New 200.0 Total 200.0 (+78.4 Patio)	1.4.1.2, [A] 1.4.1.2, [A]
4	Gross Area Existing 0.00 New 200.0 Total 200.0 (+78.4 Patio)	1.4.1.2, [A] 1.4.1.2, [A]
5	Number of Storeys Above grade 1 Below grade 0	1.4.1.2, [A] & 3.2.1.1. 1.4.1.2, [A] & 9.10.4
6	Number of Streets/Fire Fighter Access 1	3.2.2.10. & 3.2.5.
7	Building Classification 3.2.2.55, Group D, Up to 2 Storeys	3.2.2.20.-83 9.10.2.
8	Sprinkler System Proposed <input type="checkbox"/> Entire Building <input type="checkbox"/> Selected Compartments <input type="checkbox"/> Selected Floor Areas <input type="checkbox"/> Basement <input type="checkbox"/> In Lieu of Roof Rating <input type="checkbox"/> Not Required <input type="checkbox"/> Existing	3.2.2.20.-83 3.2.1.5. 3.2.2.17. INDEX INDEX
9	Standpipe required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Existing	3.2.9. N/A
10	Fire Alarm required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Existing	3.2.4. 9.10.18.
11	Water Service/Supply is Adequate <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Existing	3.2.5.7. N/A
12	High Building <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Existing	3.2.6. N/A
13	Construction Restrictions <input type="checkbox"/> Combustible permitted <input type="checkbox"/> Non-combustible <input type="checkbox"/> Both	3.2.2.20.-83 9.10.6.
14	Actual Construction <input type="checkbox"/> Combustible <input checked="" type="checkbox"/> Non-combustible <input type="checkbox"/> Both	
14	Mezzanine(s) Area m <sup>2</sup> N/A	3.2.1.1.(3)-(8) 9.10.4.1.
15	Occupant load based on <input type="checkbox"/> m <sup>2</sup> /person <input checked="" type="checkbox"/> Design of building 40	3.1.17. 9.9.1.3
16	Barrier-free Design <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain)	3.8. 9.5.2.
17	Hazardous Substances <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.3.1.2. & 3.3.1.19. 9.10.1.3.(4)
18	Required Fire Resistance Rating (FRR) FRR (Hours) Floors N/A Hours Roof N/A Hours Mezzanine N/A Hours FRR of Supporting Members Listed Design No. or Description (SG-2) Listed Design No. Or Description (SG-2)	3.2.2.20.-83 & 3.2.1.4. 9.10.8. 9.10.9.
19	Spatial Separation - Construction of Exterior Walls Wall Area of EBF (m <sup>2</sup> ) L.D. (m) L.H. or H.L. Permitted Max. % of Openings Proposed % of Openings FRR (Hours) Listed Design or Description Comb Const. Comb. Constr. Non-comb. Constr.	3.2.3. 9.10.14.
20	Plumbing Fixture Requirements Male/Female Count @ 50 % / 50 % Occupancy A3 (For the Dome) Occupant Load Number BC Table Number Fittings Required Fittings Provided 180 3.7.4.3.C 3 5 (Unisex) 3.7.4.3.(3)	BC Reference Part 3 Part 9 Occupant load is that of the attached dome
21	Other (describe)	

THE PAVILION BUILDING WILL HAVE AN OCCUPANT LOAD OF AROUND 40 PEOPLE AT A TIME, BUT IT WILL PROVIDE PLUMBING FACILITIES FOR THE OCCUPANT LOAD USING THE DOME.  
THE PAVILION BUILDING WILL ACT AS AN ATTACHED FACILITY BUILDING TO THE AIR SUPPORTED STRUCTURE (THE DOME) WITHIN THE 200 SQM AREA LIMIT PERMITTED BY OBC 3.14.2.3.(1)(a).

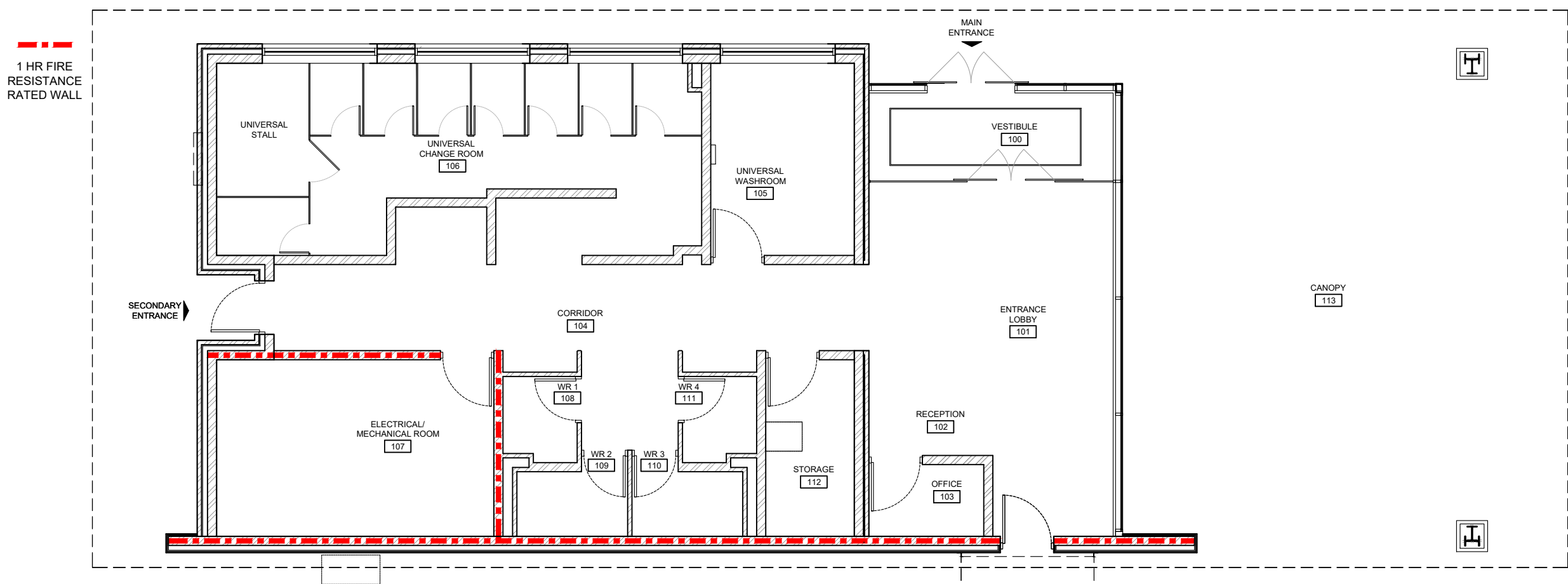
## 02 O.B.C. matrix

SCALE | NTS

TAG	FIRE RATING	SOUND RATING	MIN. R-VALUE	CONSTRUCTION PLAN/SECTION	DISCRIPTION
R1	N/A	N/A	R-40 MIN		PITCHED ROOF (INSIDE THE BUILDING) - STANDING SEAM METAL ROOF PANELS ON ROOF UNDERLAYMENT - FELT OR HOUSE WRAP - 12.7 [1/2"] FIBERBOARD - 51 [2"] RIGID INSULATION, R-10 VALUE - 12.7 [1/2"] PLYWOOD SHEATHING - ROOF FRAMING PER STRUCTURAL DRAWINGS. - 152 [6"] BAT INSULATION BETWEEN JOISTS, R-30 VALUE - 10 MIL POLY VAPOUR BARRIER - SUB-FRAMING AS REQUIRED - PRE-FINISHED ALUMINUM PANELS
R2	N/A	N/A	N/A		PITCHED ROOF (CANOPY) - STANDING SEAM METAL ROOF PANELS ON ROOF UNDERLAYMENT - FELT OR HOUSE WRAP - 12.7 [1/2"] FIBERBOARD - 51 [2"] RIGID INSULATION, R-10 VALUE - 12.7 [1/2"] PLYWOOD SHEATHING - ROOF FRAMING PER STRUCTURAL DRAWINGS. - 10 MIL POLY VAPOUR BARRIER - SUB-FRAMING AS REQUIRED - PRE-FINISHED ALUMINUM PANELS

## 01 wall/roof type schedule

SCALE | NTS



## 03 fire separation key plan

SCALE | NTS

## SYMBOLS

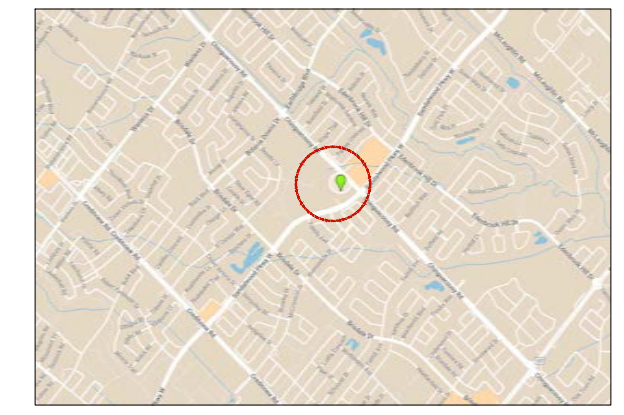
EXTERIOR/INTERIOR ELEVATION REFERENCE		ELEVATION NUMBER SHEET NUMBER	WINDOW SCHEDULE REFERENCE		WINDOW NUMBER INDICATES WINDOW
DETAIL REFERENCE		DETAIL NUMBER SHEET NUMBER	DOOR SCHEDULE REFERENCE		DOOR NUMBER
BUILDING SECTION REFERENCE		SECTION NUMBER SHEET NUMBER	WALL TYPE REFERENCE		WALL TYPE NUMBER INDICATES WALL
WALL SECTION REFERENCE		SECTION NUMBER SHEET NUMBER	SPACE DESIGNATION		ROOM SPACE NAME SPACE NUMBER
REVISION SYMBOL		REVISION NUMBER	CODED NOTE REFERENCE		CODED NOTE NUMBER SUPPLEMENTARY NOTE
ELEVATION HEIGHT REFERENCE		HEIGHT ITEM REFERENCE	CODED NOTE REFERENCE		FINISHING TYPE NUMBER FINISHING TYPE NOTE

## ABBREVIATIONS

ABV	ABOVE	GB	GYPSUM WALL BOARD	SCH	SCHEDULE
AFF	ABOVE FINISHED FLOOR	GL	GLASS	SECT	SECTION
AL	ALUMINUM	GVS	GALVANIZED STEEL	SHT	SHEET
A/C	AIR CONDITIONING	HDW	HARDWARE	SIM	SIMILAR
ARCH	ARCHITECTURAL	HDWH	HARDWOOD	SC	SOLID CORE
@	AT	HM	HOLLOW METAL	SC SUR	SOLID SURFACE
BCT	BABY CHANGE TABLE	HMIN	HOLLOW METAL INSULATED	SS	STAINLESS STEEL
BLK	BLOCKING	HVAC	HEATING/VENTILATION AIR CONDITIONING	STO	STORAGE
BOT	BOTTOM BUILDING	IN (*)	INCH	STR	STRUCTURAL
CH	COAT HOOK	ID	INSIDE DIMENSION	SUSP	SUSPENDED
CLG	CEILING	INT	INTERIOR	TEL	TELEPHONE </td
CIRC	CIRCUIT CLEAR	INT	INTERIOR	TYP	TYPICAL
CL	CLEAR	INT	INTERIOR	THRU	THRU
COL	COLUMN	INT	INTERIOR	UNO	UNLESS NOTED OTHERWISE
CONC	CONCRETE	MFG	MANUFACTURE(R)	VCT	VINYL COMPOSITION TILE
CONST	CONSTRUCTION	MECH	MECHANICAL		
CONT	CONTINUOUS (OR) CONTINUE	MISC	MISCELLANEOUS		
CTR	COUNTER	MM	MILLIMETERS		
		MULL	MULLION		
CTL	CURTAIN TRANSFORMER	N/A	NOT APPLICABLE		
		NIC	NOT IN CONTRACT		
		NDM	NOMINAL		
		NTS	NOT TO SCALE		
DIA	DIAMETER	OFF	OFFICE		
DM	DIMENSION	O.C.	ON CENTER(S)		
DN	DOWN	OPNG	OPENING		
DWR	DRAWER	OPH	OPPOSITE HAND		
DWG	DRAWING	OD	OUTSIDE DIMENSION		
EA	EACH	PT	PAINT(ED)		
ECB	EMERGENCY CALL BUTTON	PLAM	PLASTIC LAMINATE		
		PLY	PLYWOOD		
EGB	EDGE BAND	PM	PROJECT MANAGER		
ELEV	ELEVATION	POL	POLISHED		
EQ	EQUAL	POP	PORCELAIN		
EQPT	EQUIPMENT	PROJ	PROJECT		
EX	EXISTING	P TRE	PRESSURE TREATED		
EXP	EXPOSED	REFR	REFERENCE / REFRIGERATOR		
EXT	EXTERIOR				
EG	EXTERIOR GRADE				
		REM	REMOVE(D)ABLE		
FT (*)	FEET FOOT FINISHED	REQD	REQUIRED		
FL	FLOORING	RELS	RESILIENT		
FD	FLOOR DRAIN	REV	REVISION(S)		
FLUR	FLOOR	RM	REVISED ROOM		
F.R.R.	FIRE RESISTANCE RATING	RO	ROUGH OPENING		
FUR	FURRED(ING)	RND	ROUND		

## ENERGY NOTES

BUILDING INFORMATION	
LOCATION/ CLIMATIC ZONE	Brampton, Zone 6
ELECTRIC HEATING	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
BUILDING TYPE	Non-Residential
SB-10 TABLE NUMBER	Table SB 5.5.7 - 2017
ROOFS	
INSULATION INFO	Insulation Entirely Above Deck
MIN R-VALUE	R-40 Continuous Insulation
WALLS	
CONSTRUCTION TYPE	Mass
MIN R-VALUE	R-20 Continuous Insulation
SLAB-ON-GRADE	
HEATED/ UNHEATED	Unheated
MIN R-VALUE	R-15 For 48 in
FENESTRATION	
METAL FRAMING: FIXED	Max. U-Value: U-0.34 - Max. SHGC: 0.45 - Min. VT/SHGC: 1.10
SKYLIGHTS	N/A



KEY MAP N.T.S



R7	Re-issued for Tender	Dec 06/24	RN
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R5	Rev. 01 for SPA	Sep 25/24	RN
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no.	revision	date	by

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reviewed by RN drawn by RN  
date JUN 2023  
scale AS SHOWN  
drawing title

## TABLES AND SYMBOLS

drawing number  
**A1.00**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**





**CONSTRUCTION PLAN GENERAL NOTES**

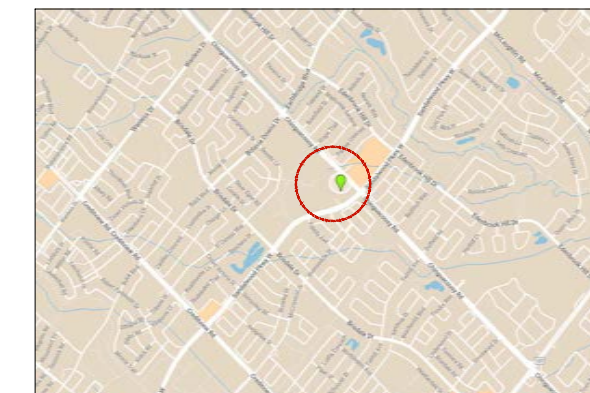
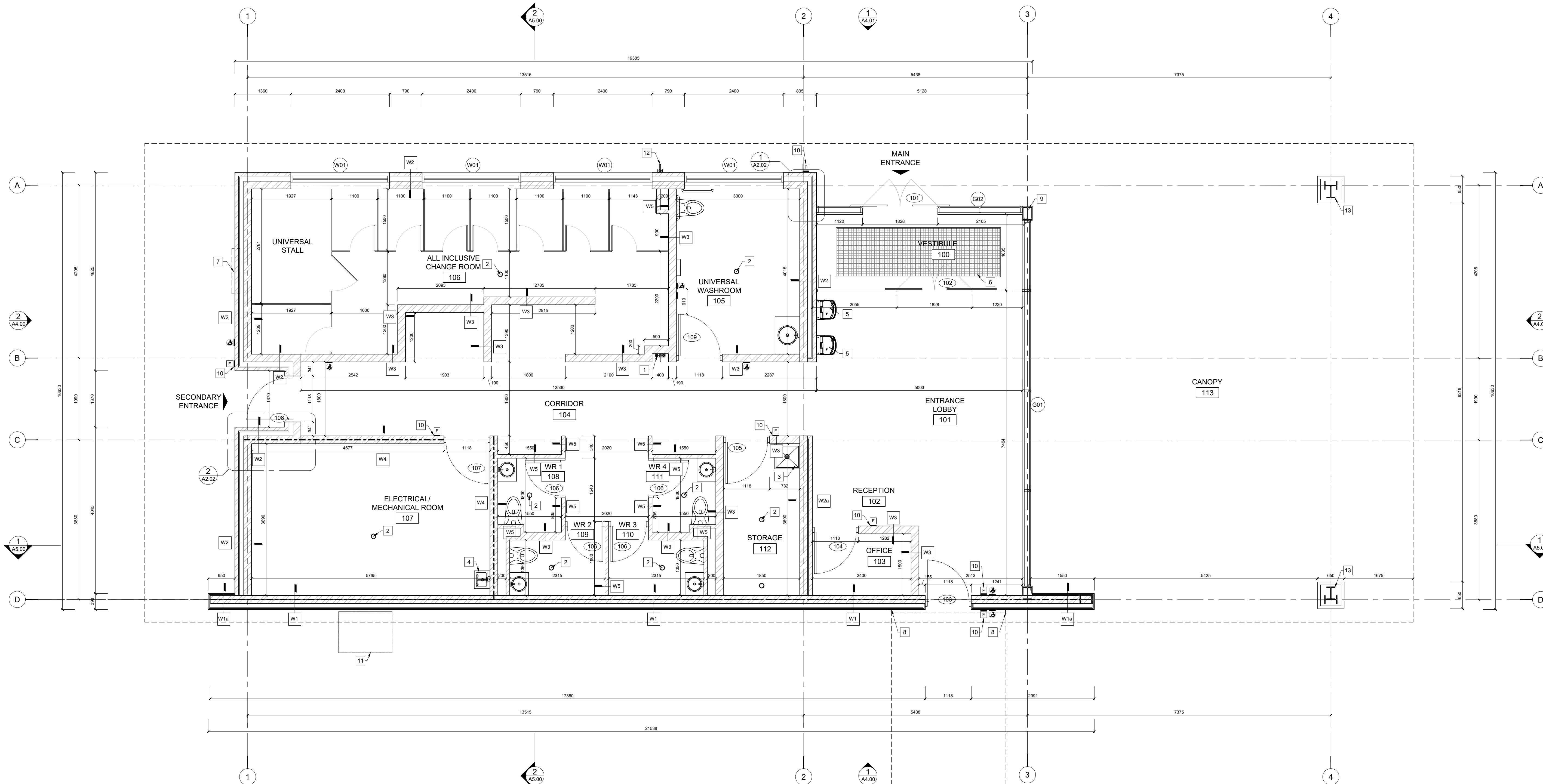
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- DIMENSIONS ARE FROM FINISH FACE OF WALLS. REFER TO FOUNDATION PLAN FOR FACE OF CONCRETE DIMENSIONS.
- PROVIDE BULLNOSE CONCRETE BLOCK AT ALL CORNERS AND EXPOSED BLOCK EDGES. FIRST COURSE AND TOP COURSE TO BE A STANDARD BLOCK WITH SQUARE EDGE TO ACCEPT WALL BASE AND CEILING TILE (TYPICAL).
- TOP COURSE OF INTERIOR BLOCK WALL CAVITIES TO BE FILLED WITH GROUT AND MADE SMOOTH AND LEVEL.
- PROVIDE BRACING AT THE TOP OF EACH NEW CONCRETE BLOCK WALL TO STRUCTURE ABOVE.
- REFER TO STRUCTURAL DRAWINGS FOR ALL STRUCTURAL COMPONENTS.
- REFER TO ELECTRICAL/MECHANICAL DRAWINGS FOR ALL ELECTRICAL/MECHANICAL COMPONENTS.
- STRUCTURAL, MECHANICAL AND ELECTRICAL ENGINEERS' DRAWINGS TO SUPERCEDE STRUCTURAL, MECHANICAL AND ELECTRICAL INFORMATION SHOWN IN THIS DRAWING. CONTRACTOR TO REPORT ANY CONFLICTED INFORMATION TO ARCHITECT AS SOON AS POSSIBLE.

**CONSTRUCTION PLAN LEGEND**

SYM	DISCRPTION
ROOM 101	ROOM NAME ROOM NUMBER
1 A1.00	BUILDING SECTION NUMBER SHEET NUMBER
1 A1.00	WALL SECTION NUMBER SHEET NUMBER
1 A1.00	ELEVATION NUMBER SHEET NUMBER
103	DOOR NUMBER
I&	BARRIER FREE PUSH BUTTON
W1	WALL TYPE NUMBER
W01	WINDOW NUMBER
1	CODED NOTE
---	1 HOUR FIRE RESISTANCE RATING
F	FOB READER

**CONSTRUCTION PLAN NOTES**

- WATER STATION. REFER TO PLUMBING DRAWINGS FOR DETAILS.
- FLOOR DRAIN. SLOPE FINISHED FLOOR TO DRAIN (TYP). REFER TO PLUMBING DRAWINGS FOR DETAILS.
- MOP SINK w/ HOT/COLD WATER & DRAIN. REFER TO PLUMBING DRAWINGS FOR DETAILS.
- EYE WASH STATION. REFER TO PLUMBING DRAWINGS & SPECS FOR DETAILS.
- WATER FOUNTAIN & BOTTLE FILLING STATION. REFER TO PLUMBING DRAWINGS & SPECS FOR DETAILS.
- 1200 x 4000 ARCHITECTURAL FOOT GRILLE CLEANING SYSTEM CONNECTED TO DRAIN. REFER SPECS FOR DETAILS.
- FLUSH MOUNT FIRE LOCK BOX TO BE PROVIDED BY FIRE DEPARTMENT.
- CONNECTION ANGLE AND WATERPROOF SURFACE AROUND THE DOOR PER DOME SUPPLIER SPECS.
- METAL COLUMN. FINISH TO MATCH GLAZING MULLIONS. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- FOB READER WITH LOCKING/UNLOCKING DOOR MECHANISM.
- HVAC UNIT TO BE MOUNTED ON THE WALL USING STEEL FRAME AT 3200 HIGH ABOVE GRADE.
- HOSE BIB IN VANDAL PROOF LOCKABLE BOX. REFER TO PLUMBING DRAWINGS FOR DETAILS.
- STEEL POST FIXED TO A STEEL PLATE ON A CONCRETE BASE. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.



KEY MAP  
N.T.S

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ONTARIO ASSOCIATION  
OF  
ARCHITECTS  
Rafik Nassif  
RAFIK NASSIF  
LICENCE  
3788

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reviewed by	drawn by
RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**CONSTRUCTION PLAN**

drawing number  
**A2.00**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**

landscape planning  
LANDSCAPE ARCHITECTS  
Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.6838, www.landscapeplan.ca



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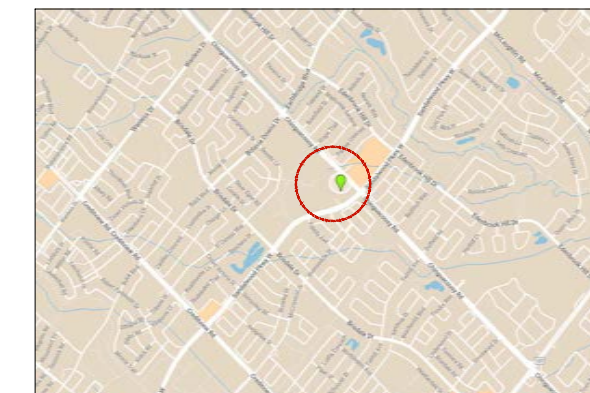
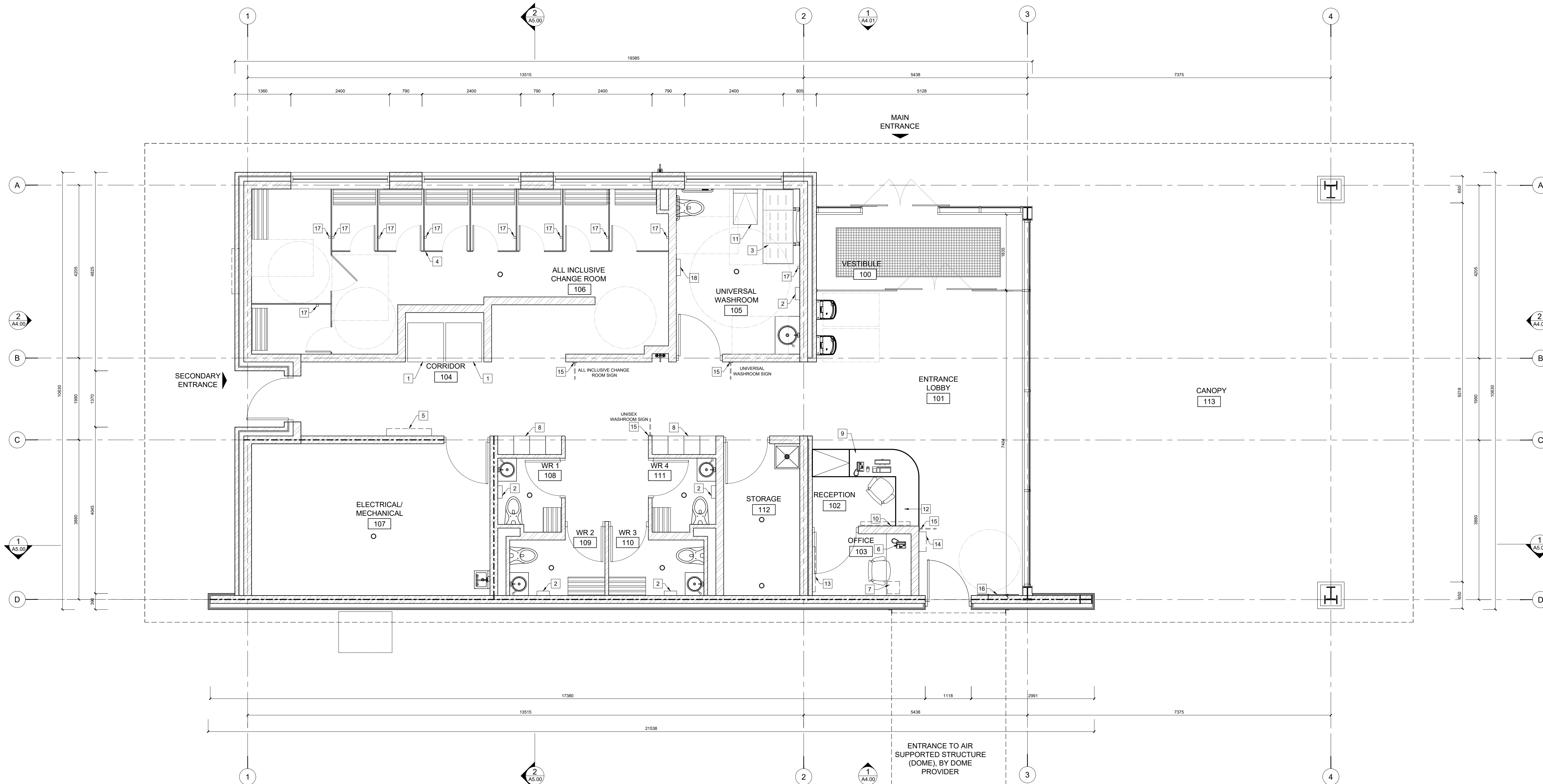
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1	CODED NOTE
---	1 HOUR FIRE RESISTANCE RATING
F	FOB READER

**FURNITURE PLAN NOTES**

- VENDING MACHINE TO BE PROVIDED BY THE CITY (N.I.C). ENSURE POWER IS PROVIDED.
- ELECTRICAL HAND DRYER. REFER TO SPECS FOR DETAILS.
- ADULT CHANGE TABLE. REFER TO SPECS FOR DETAILS.
- 2337 (92") HIGH PARTITIONS MOUNTED AT 100 (4") A.F.F. REFER TO SPECS FOR DETAILS.
- FIRE HOSE CABINET TO BE PROVIDED BY FIRE DEPARTMENT.
- CONNECTION FOR PHONE/ DATA. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
- LOCKABLE SAFE. REFER TO SPECS FOR DETAILS.
- 450 x 410 (18" x 16") LOCKERS. REFER TO SPECS FOR DETAILS.
- CONNECTION FOR COMPUTER, DATA, PRINTER, PHONE AND DIRECT PHONE TO BSC RECEPTION & EMERGENCY LINE.
- WALL MOUNTED TV MONITOR TO BE PROVIDED BY THE CITY (N.I.C).
- BABY CHANGE TABLE.REFER TO SPECS FOR DETAILS.
- DURESS BUTTON AT RECEPTION DESK, UNDER DESK TOP. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
- CONTROL PANEL FOR THE DOME. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
- DEFIBRILLATOR, TO BE PROVIDED BY CITY.
- WALL MOUNTED BLADE SIGNAGE FOR UNIVERSAL WASHROOM, WASHROOMS, CHANGE ROOM AND DEFIBRILLATOR.
- 1016 x 3600 PLEXIGLASS SPORT EVENTS ARTWORK, MOUNTED AT 1500 AND 900 A.F.F WITH THE CEILING ROOF SLOPE.
- STAINLESS STEEL BREAK AWAY COAT HOOK. SEE SPECS FOR DETAILS.
- STAINLESS STEEL SHELF. REFER TO SPECS FOR DETAILS.



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scale	AS SHOWN
drawing title	

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drawing number  
**A2.01**  
client  
**CITY OF BRAMPTON**

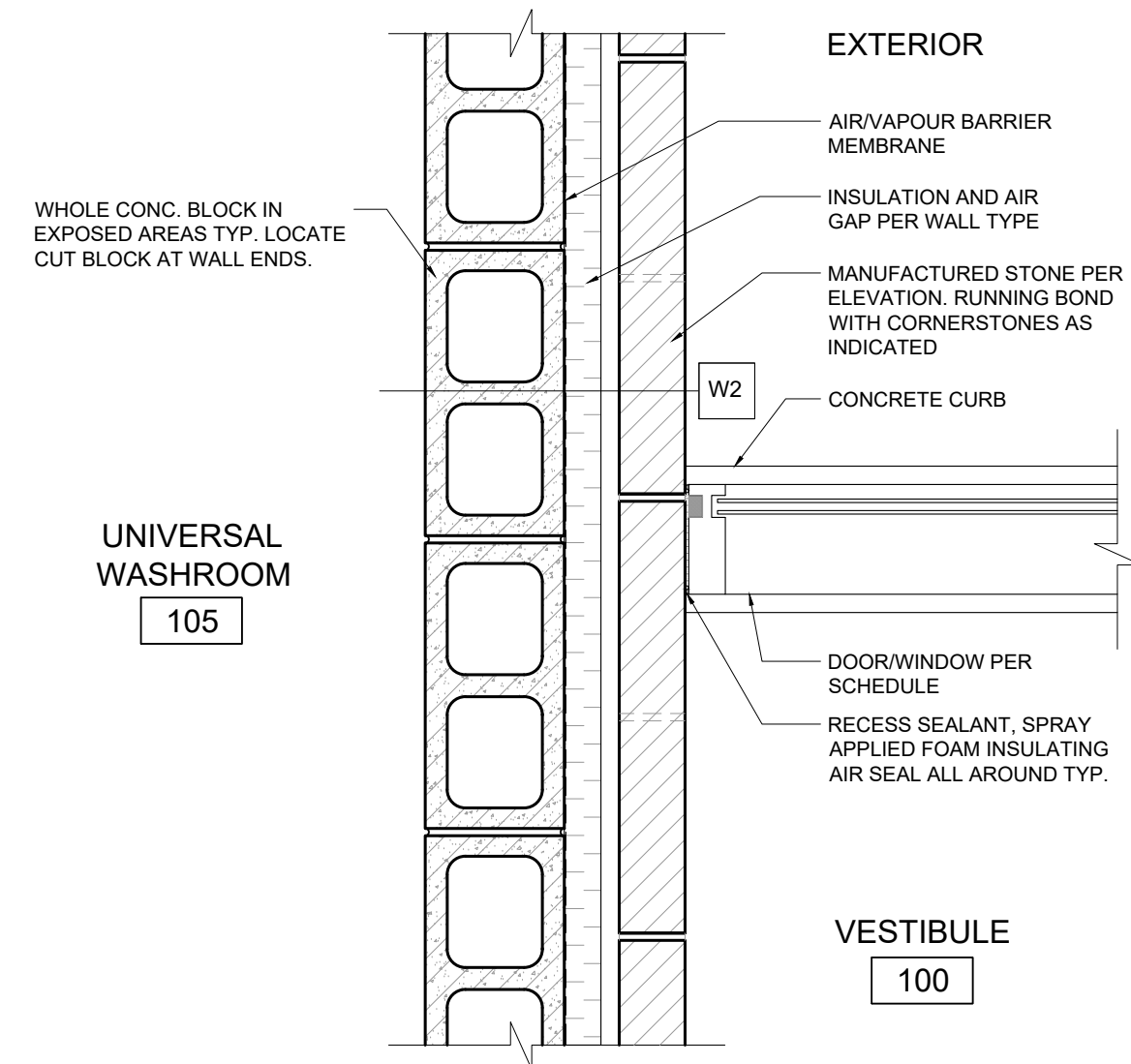
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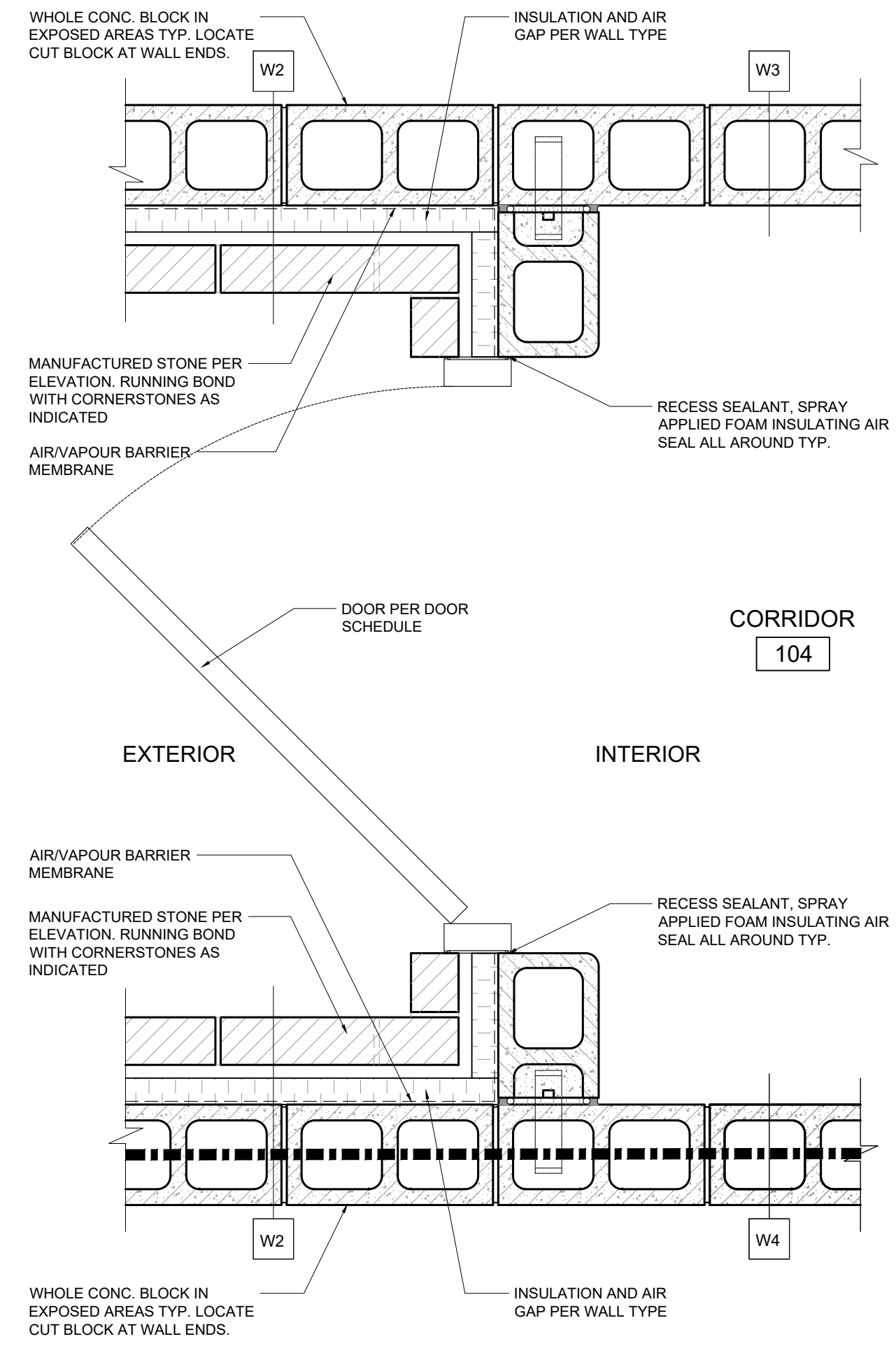
# 01 curtain wall connection detail

SCALE | 1:10



# 02 secondary entrance detail

SCALE | 1:10

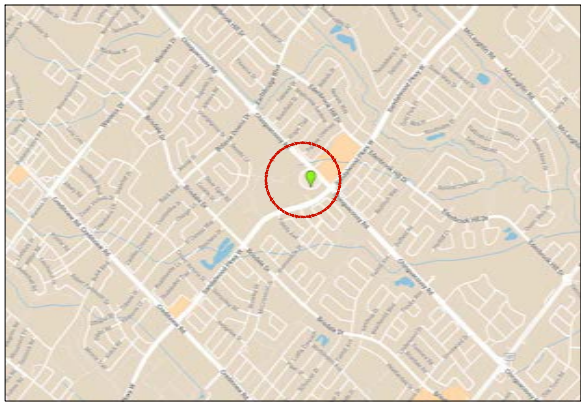


# 03 wall/partition types

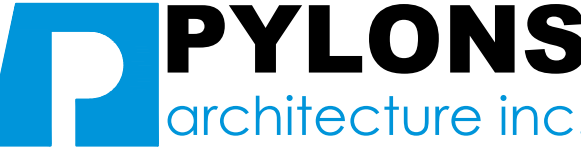
SCALE | NTS

WALL / PARTITION TYPES					
TAG	FIRE RATING	SOUND RATING	MIN. R-VALUE	CONSTRUCTION PLAN/SECTION	DISCUPTION
W1	1 HOUR CBC SB-3 B1c	N/A	R-20 MIN		EXTERIOR WALL - CORRUGATED METAL WALL CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W1A	1 HOUR CBC SB-3 B1c	N/A	R-20 MIN		EXTERIOR WALL - CORRUGATED METAL WALL CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS - METAL CHANNEL/ CLIP AS REQUIRED - CORRUGATED METAL WALL CLADDING - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W2	N/A	N/A	R-20 MIN		EXTERIOR WALL - 90 [3 1/2"] MANUFACTURED STONE CLADDING - 25 [1"] AIR GAP - 100 [4"] RIGID INSULATION/AIR BARRIER - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS
W2A	N/A	N/A	R-20 MIN		EXTERIOR WALL - 90 [3 1/2"] MANUFACTURED STONE CLADDING - 190 [8"] CONCRETE MASONRY UNIT WALL w/ GROUT & STEEL REINFORCEMENT PER STRUCTURAL DRAWINGS
W3	N/A	N/A	N/A		CONCRETE BLOCK PARTITION - 190 [8"] CONCRETE BLOCK - FILL FIRST ROW OF BLOCK SOLID - BULLNOSE CORNERS
W4	1 HOUR CBC SB-3 B1c	N/A	N/A		1H FRR CONCRETE BLOCK PARTITION - 190 [8"] CONCRETE BLOCK - FILL FIRST ROW OF BLOCK SOLID - ASSEMBLY TO EXTEND FROM TOP OF CONCRETE SLAB TO UNDERSIDE OF ROOF DECK - PROVIDE FIRE STOPPING AT ALL PENETRATIONS AND AROUND STRUCTURAL MEMBERS
W5	N/A	N/A	N/A		WASHROOM PARTITION - 90 [3 1/2"] CONCRETE BLOCK - FILL FIRST & TOP ROWS OF BLOCK SOLID - BULLNOSE CORNERS

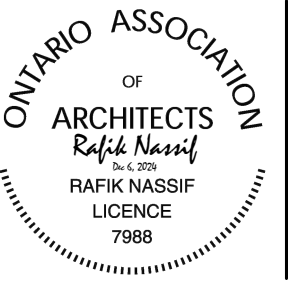
**GENERAL NOTES**  
1. EXTEND WALL AND PARTITIONS TO UIS METAL DECK UNLESS OTHERWISE NOTED. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.



KEY MAP  
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NO.	description	date	revision
R7	Re-issued for Tender	Dec 05/24	RN
R6	Re-issued for SFA	Nov 05/24	RN
R5	Rev. 01 for SFA	Sep 25/24	RN
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R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN
NO.	revision	date	BY

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reviewed by	drawn by
RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

## PLAN DETAILS

drawing number  
**A2.02**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8**

project number  
**PRE-2023-0128**



Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.6838, www.landscapeplan.ca



**REFLECTED CEILING PLAN NOTES**

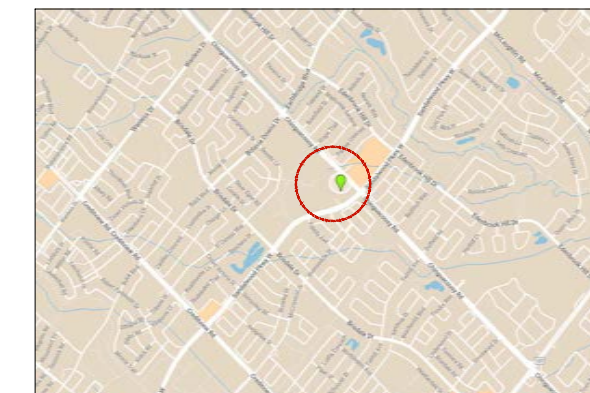
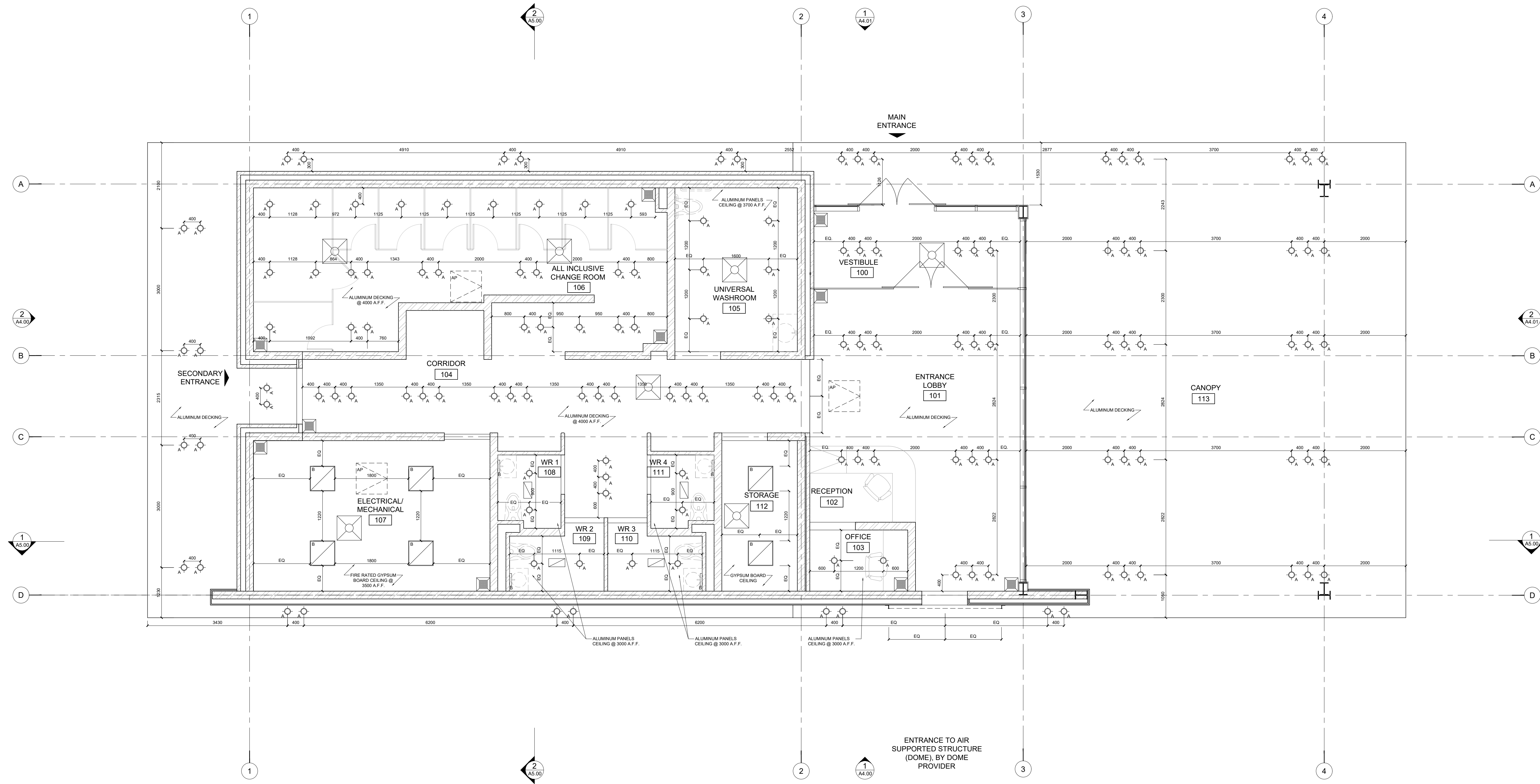
1. DIMENSIONS ARE FROM FINISH FACE OF WALLS. REFER TO FOUNDATION PLAN FOR FACE OF CONCRETE DIMENSIONS.
2. REFER TO STRUCTURAL DRAWINGS FOR ALL STRUCTURAL COMPONENTS.
3. REFER TO ELECTRICAL/MECHANICAL DRAWINGS FOR ALL ELECTRICAL/MECHANICAL COMPONENTS.
4. STRUCTURAL, MECHANICAL AND ELECTRICAL ENGINEERS' DRAWINGS TO SUPERCEDE STRUCTURAL, MECHANICAL AND ELECTRICAL INFORMATION SHOWN IN THIS DRAWING. CONTRACTOR TO REPORT ANY CONFLICTED INFORMATION TO ARCHITECT AS SOON AS POSSIBLE.

**REFLECTED CEILING PLAN LEGEND**

SYM	DISCRIPTION
ROOM 101	ROOM NAME ROOM NUMBER
1 A1.00	BUILDING SECTION NUMBER SHEET NUMBER
1 A1.00	ELEVATION NUMBER SHEET NUMBER

**FIXTURE SCHEDULE**

SYMBOL	DESCRIPTION	QTY.	REMARKS
⊙	150 (6") DIA COMMERCIAL RECESSED LED DOWNLIGHT	145	LITHONIA LIGHTING LDN6, 1000 LUMENS, 3500K, DOWNLIGHT, WHITE MATTE DIFFUSE TRIM, WHITE PAINTED FLANGE. OCCUPANCY SENSOR FOR ALL WASHROOM
▭	610 [24"] x 610 [24"] FLAT LED PANEL	6	LITHONIA LIGHTING: CPANL, SWITCHABLE LUMEN LED FLAT PANEL, 610 [24"] x 610 [24"], 24/33/44LM, 3500 K CCT, 24LM
▭	610 x 610 [24"] x 24" LOCKABLE CEILING ACCESS PANEL, ADJUST BETWEEN ROOF STRUCTURAL MEMBERS	3	
⊞	CEILING GRILLE. REFER TO MECHANICAL DRAWINGS FOR DETAILS.		
⊞	CEILING SQUARE DIFFUSER. REFER TO MECHANICAL DRAWINGS FOR DETAILS.		



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OF  
ARCHITECTS  
Rafik Nassif  
RAFIK NASSIF  
LICENCE  
3988

no.	revision	date	by
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reviewed by	drawn by
RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**REFLECTED CEILING PLAN**

drawing number  
**A3.00**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**

landscape planning  
LANDSCAPE ARCHITECTS  
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**ROOF PLAN GENERAL NOTES**

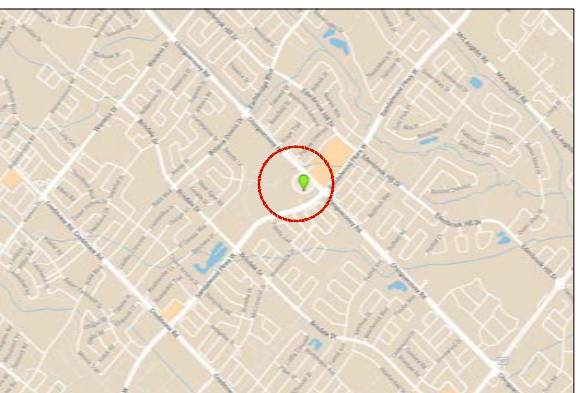
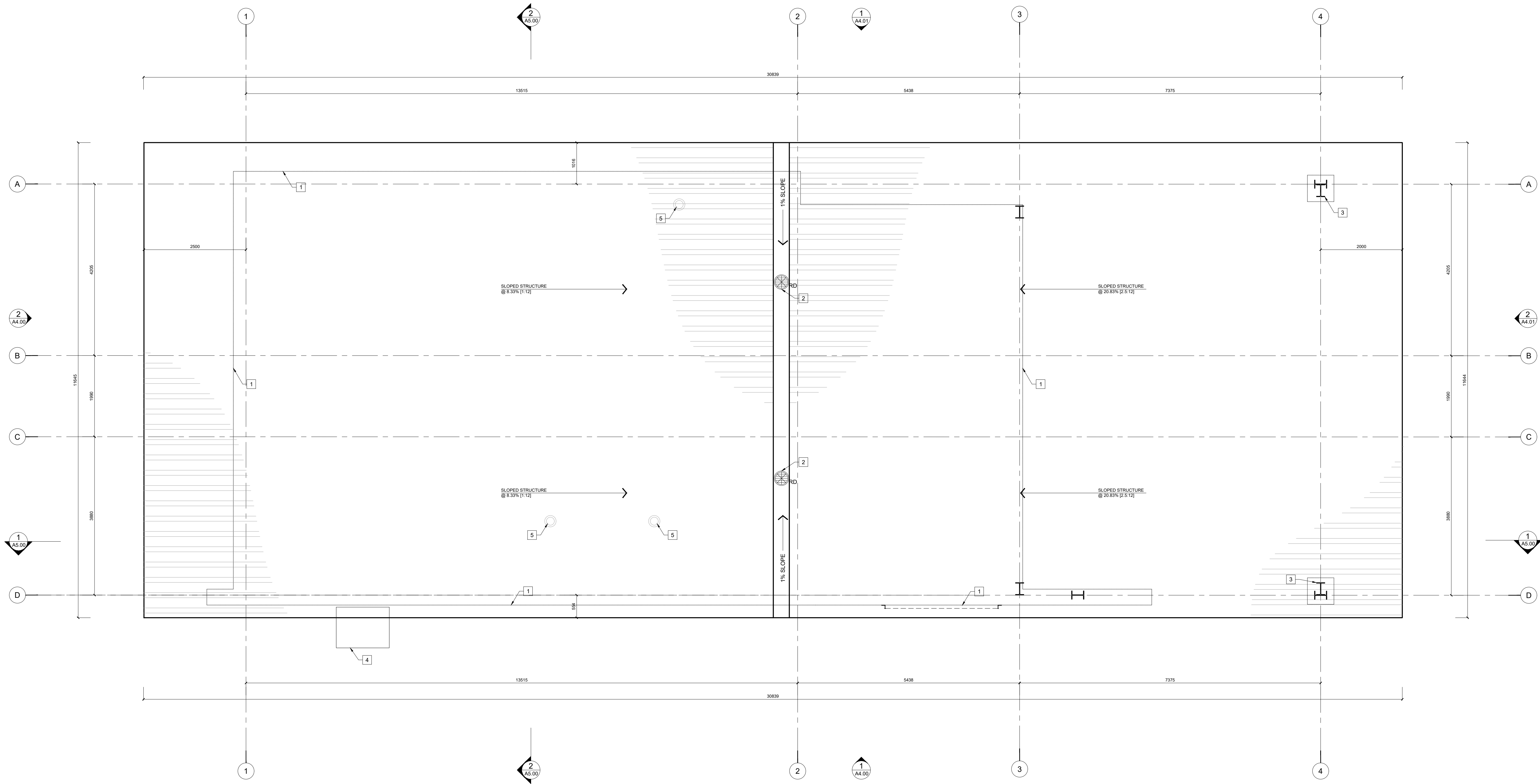
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**ROOF PLAN LEGEND**

SYM	DISCRPTION
	SECTION NUMBER SHEET NUMBER
	ELEVATION NUMBER SHEET NUMBER
	ROOF SLOPE
	CODED NOTE
	ROOF DRAIN C/W DEPRESSED INSULATION

**ROOF PLAN NOTES**

1. DOTTED LINES REPRESENT THE WALL EXTENT BELOW.
2. ROOF DRAIN SYSTEM WITH FLAT ROOF VALLEY SLOPPED TOWARDS DRAIN. REFER TO PLUMBING DRAWINGS FOR DETAILS.
3. DOTTED LINE REPRESENTS POST LOCATION BELOW.
4. WALL MOUNTED HVAC UNIT. REFER TO MECHANICAL DRAWINGS FOR DETAILS.
5. ROOF VENT/ EXHAUST. REFER TO MECHANICAL DRAWINGS FOR DETAILS.



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**ROOF PLAN**

drawing number  
**A3.01**

client  
**CITY OF BRAMPTON**

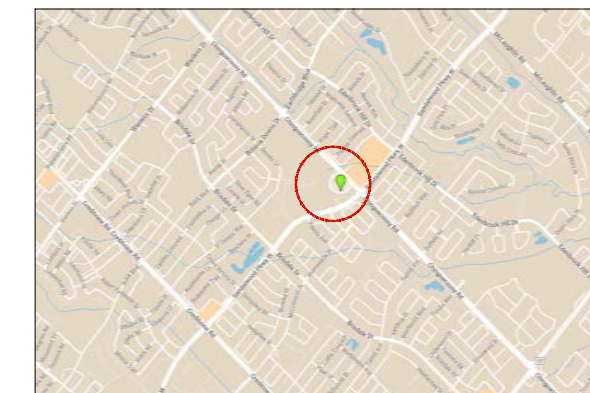
project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**

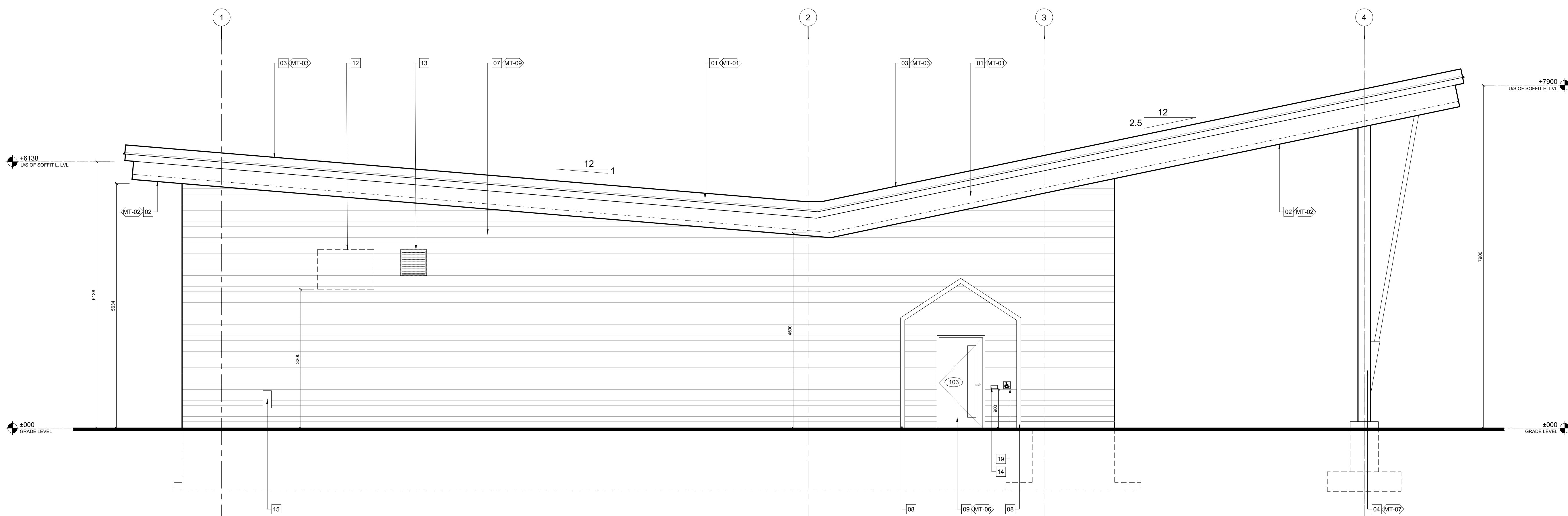
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file | C:\Users\racno\OneDrive - Pylons Architecture Inc\Projects\23-PA25 - Cassie Campbell CS3\3 Cons DWG\23-PA25 Cons DWG.dwg, plotted | 12/15/2024 5:36 PM

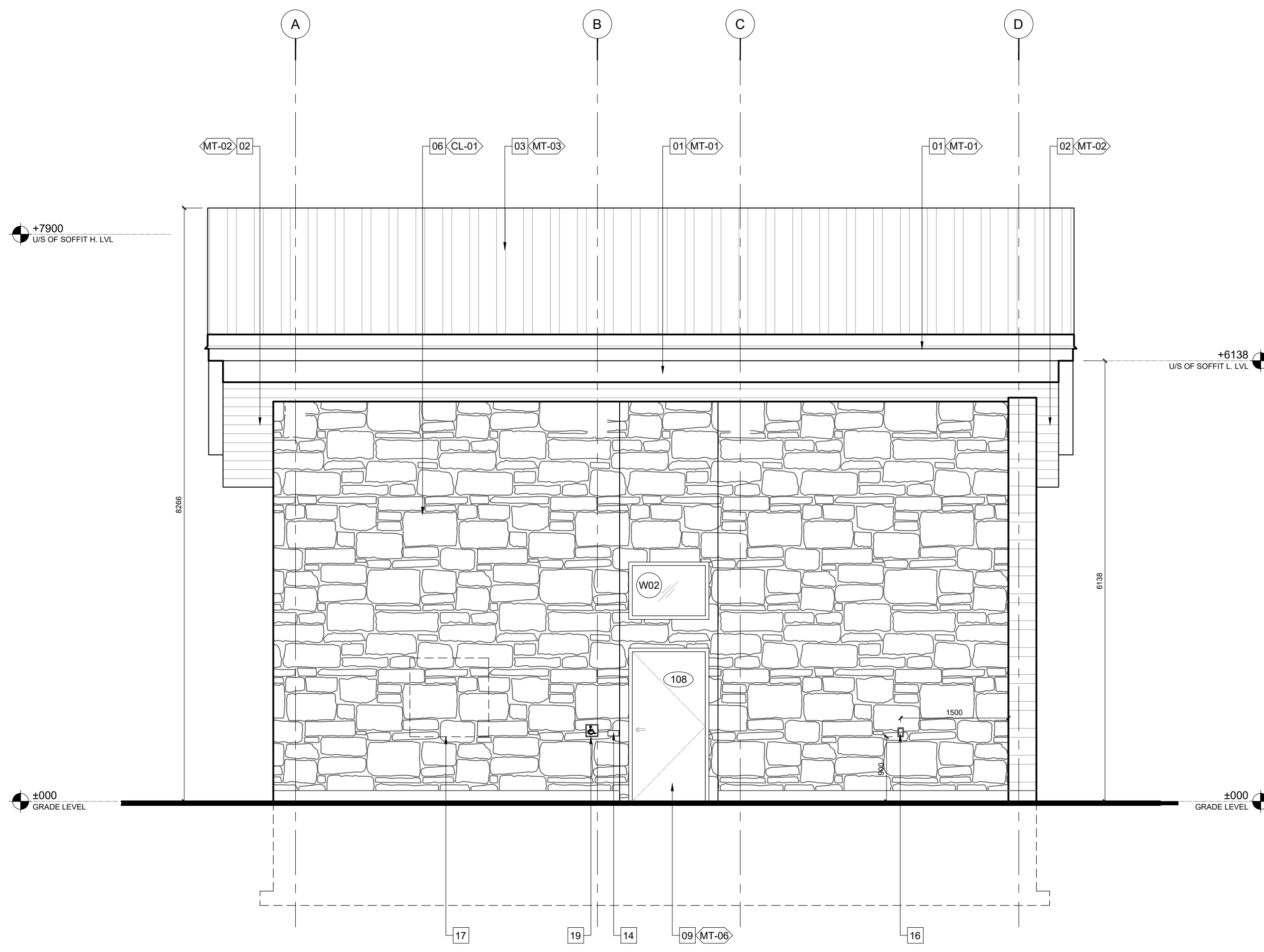




KEY MAP  
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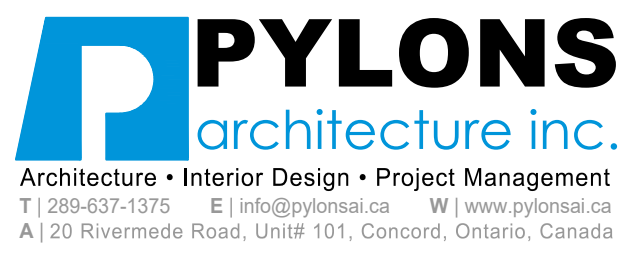
**01 north elevation**  
SCALE | 1:50



**02 east elevation**  
SCALE | 1:50

**EXTERIOR ELEVATIONS/ BUILDING SECTIONS NOTES**

- 1 METAL CLADDING FOR FASCIA AND BEAMS. REFER TO FINISHING SCHEDULE & SPECS FOR DETAILS.
- 2 METAL CLADDING FOR CEILING AND CANOPY. REFER TO FINISHING SCHEDULE & SPECS FOR DETAILS.
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RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**EXTERIOR ELEVATIONS 1**

drawing number  
**A4.00**

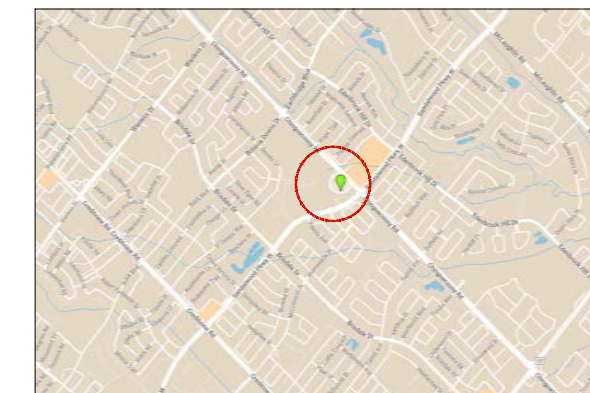
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

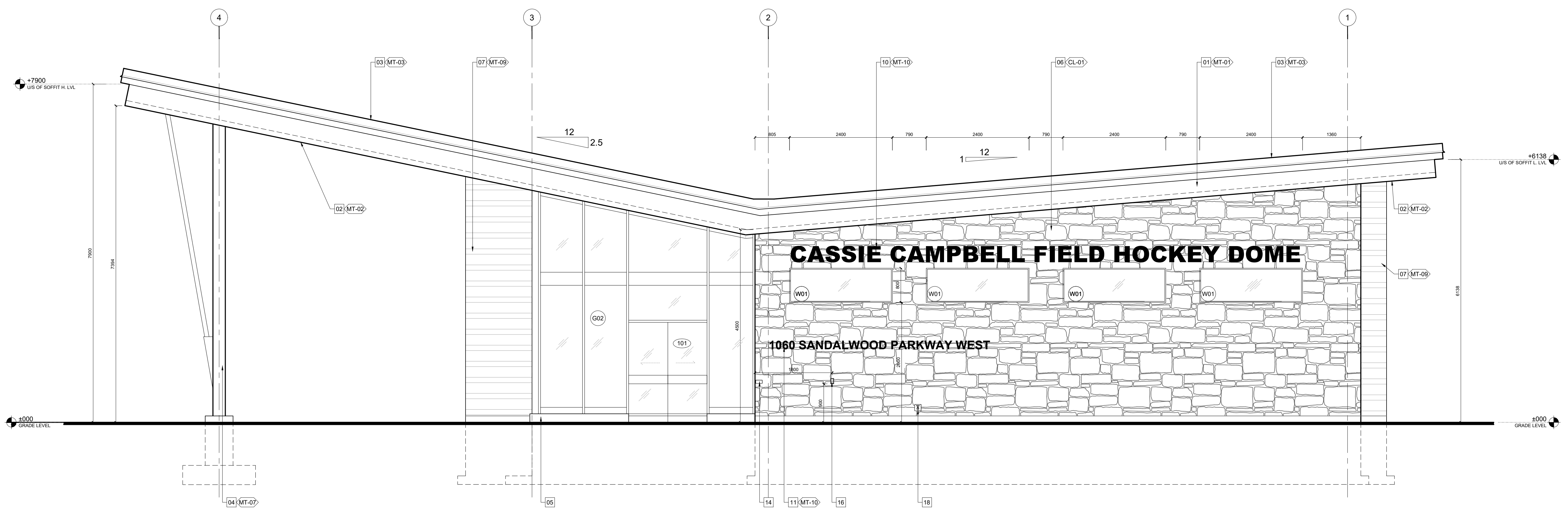
project number  
**PRE-2023-0128**



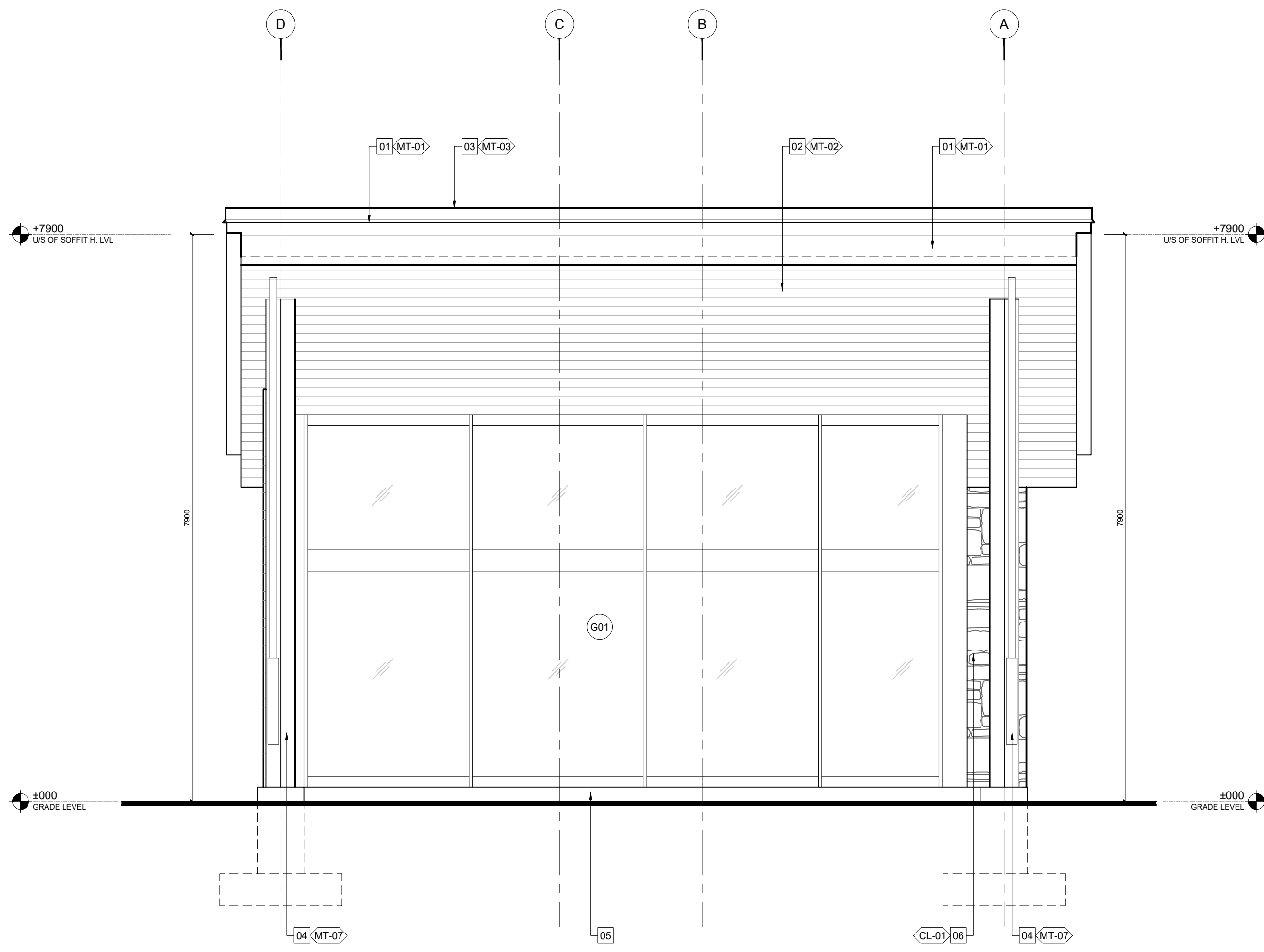




KEY MAP  
N.T.S.



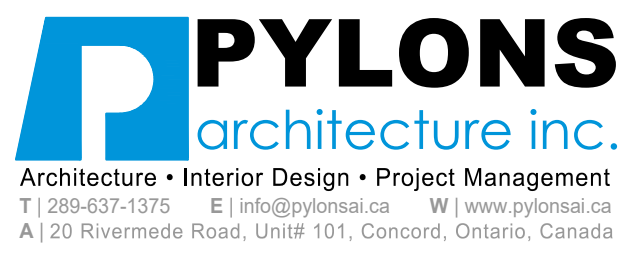
**01 south elevation**  
SCALE | 1:50



**02 west elevation**  
SCALE | 1:50

**EXTERIOR ELEVATIONS/ BUILDING SECTIONS NOTES**

- 1 METAL CLADDING FOR FASCIA AND BEAMS. REFER TO FINISHING SCHEDULE & SPECS FOR DETAILS.
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date	JUN 2023
scale	AS SHOWN
drawing title	

**EXTERIOR ELEVATIONS 2**

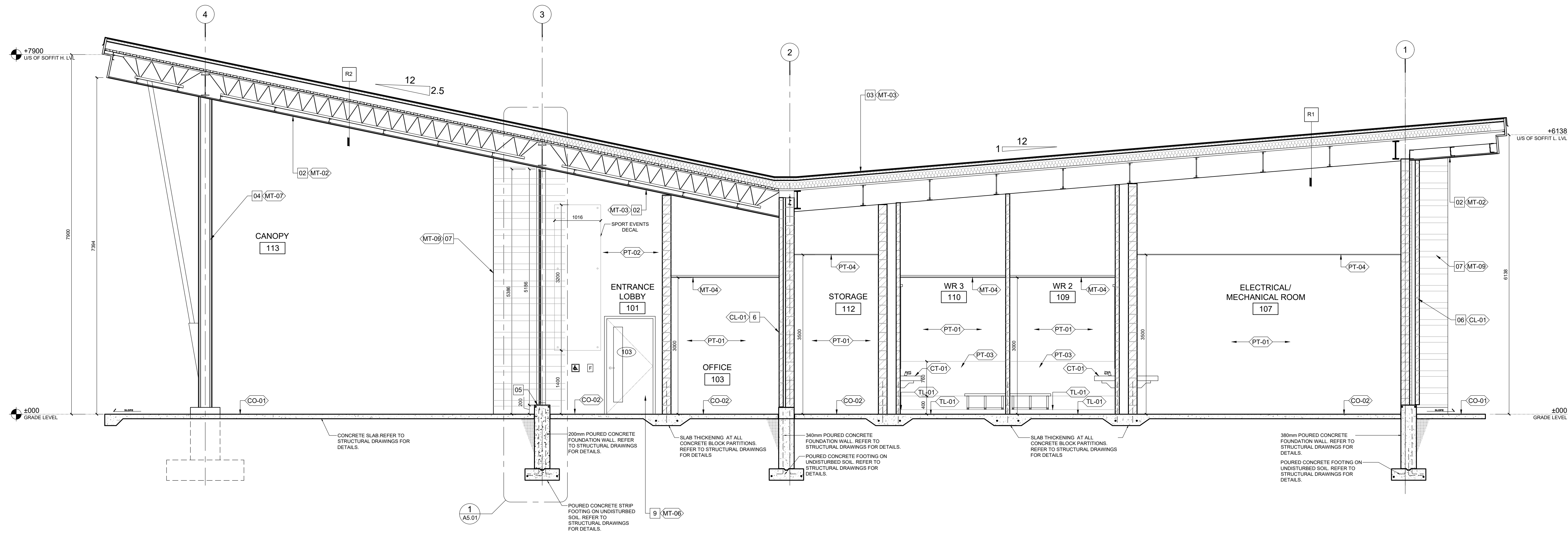
drawing number  
**A4.01**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

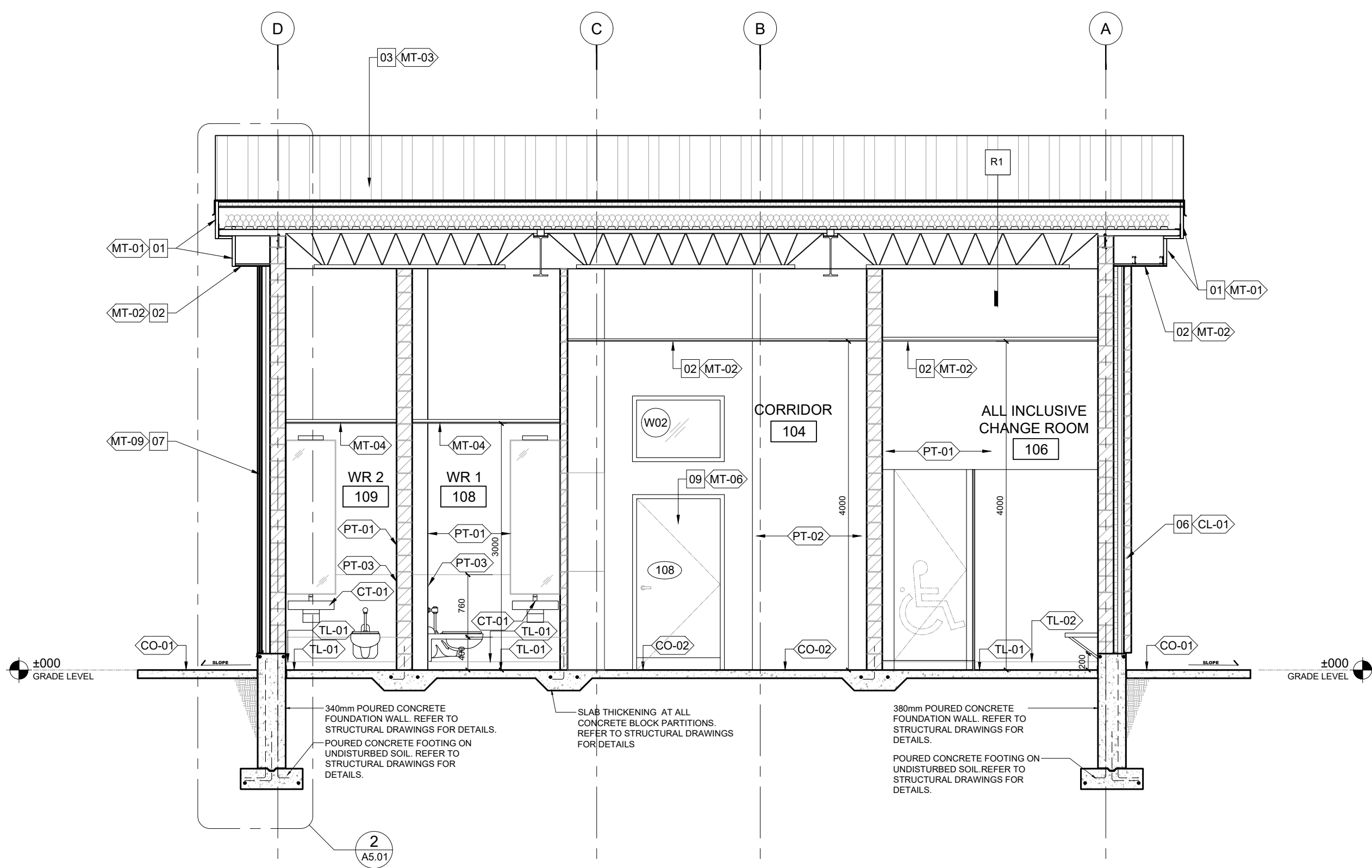
project number  
**PRE-2023-0128**







**01 building section 1**  
SCALE | 1:50



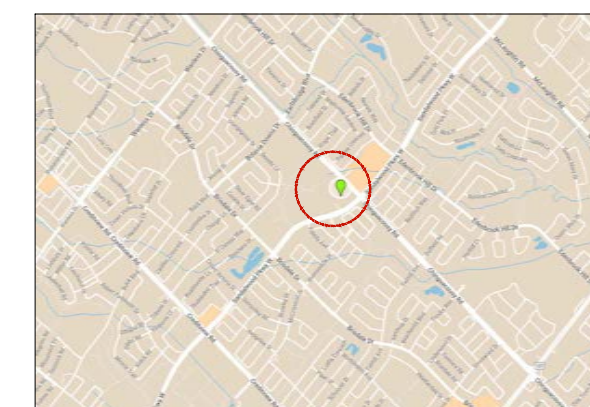
**02 building section 2**  
SCALE | 1:50

**EXTERIOR ELEVATIONS/ BUILDING SECTIONS NOTES**

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**ROOF TYPES**

TAG	FIRE RATING	SOUND RATING	MIN. R-VALUE	CONSTRUCTION PLAN/SECTION	DISCRIPTION
R1	N/A	N/A	R-40 MIN		PITCHED ROOF (INSIDE THE BUILDING) - STANDING SEAM METAL ROOF PANELS ON ROOF UNDERLAYMENT - FELT OR HOUSE WRAP - 12.7 [1/2"] FIBERBOARD - 51 [2"] RIGID INSULATION, R-10 VALUE - 12.7 [1/2"] PLYWOOD SHEATHING - ROOF FRAMING PER STRUCTURAL DRAWINGS. - 152 [6"] BAT INSULATION BETWEEN JOISTS, R-30 VALUE - 10 MIL POLY VAPOUR BARRIER - SUB-FRAMING AS REQUIRED - PRE-FINISHED ALUMINUM PANELS
R2	N/A	N/A	N/A		PITCHED ROOF (CANOPY) - STANDING SEAM METAL ROOF PANELS ON ROOF UNDERLAYMENT - FELT OR HOUSE WRAP - 12.7 [1/2"] FIBERBOARD - 51 [2"] RIGID INSULATION, R-10 VALUE - 12.7 [1/2"] PLYWOOD SHEATHING - ROOF FRAMING PER STRUCTURAL DRAWINGS. - SUB-FRAMING AS REQUIRED - PRE-FINISHED ALUMINUM PANELS



KEY MAP  
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scale AS SHOWN  
drawing title

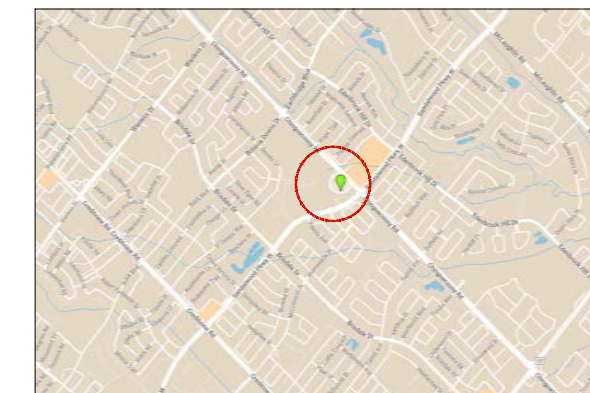
**BUILDING SECTIONS**

drawing number  
**A5.00**  
client  
**CITY OF BRAMPTON**

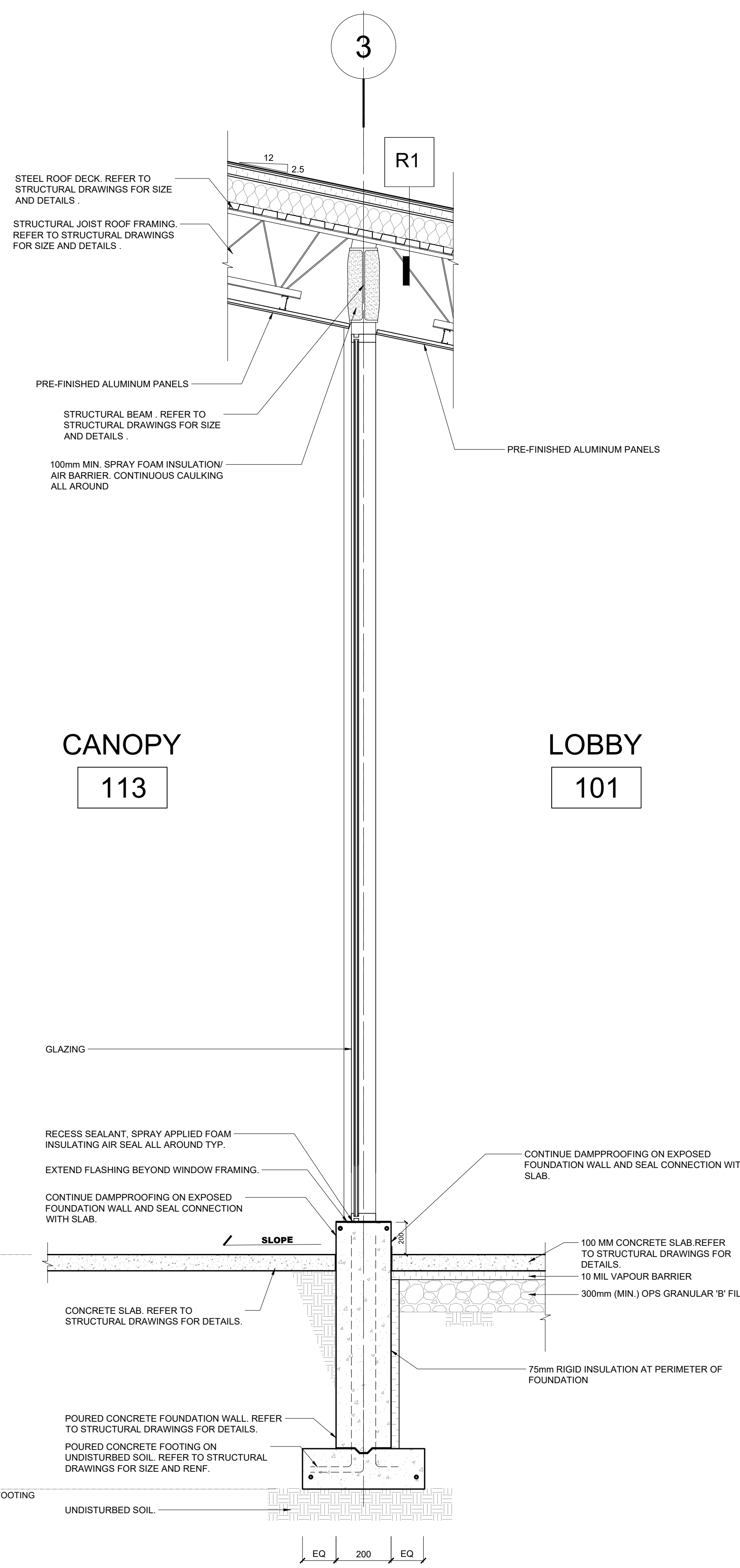
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**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**

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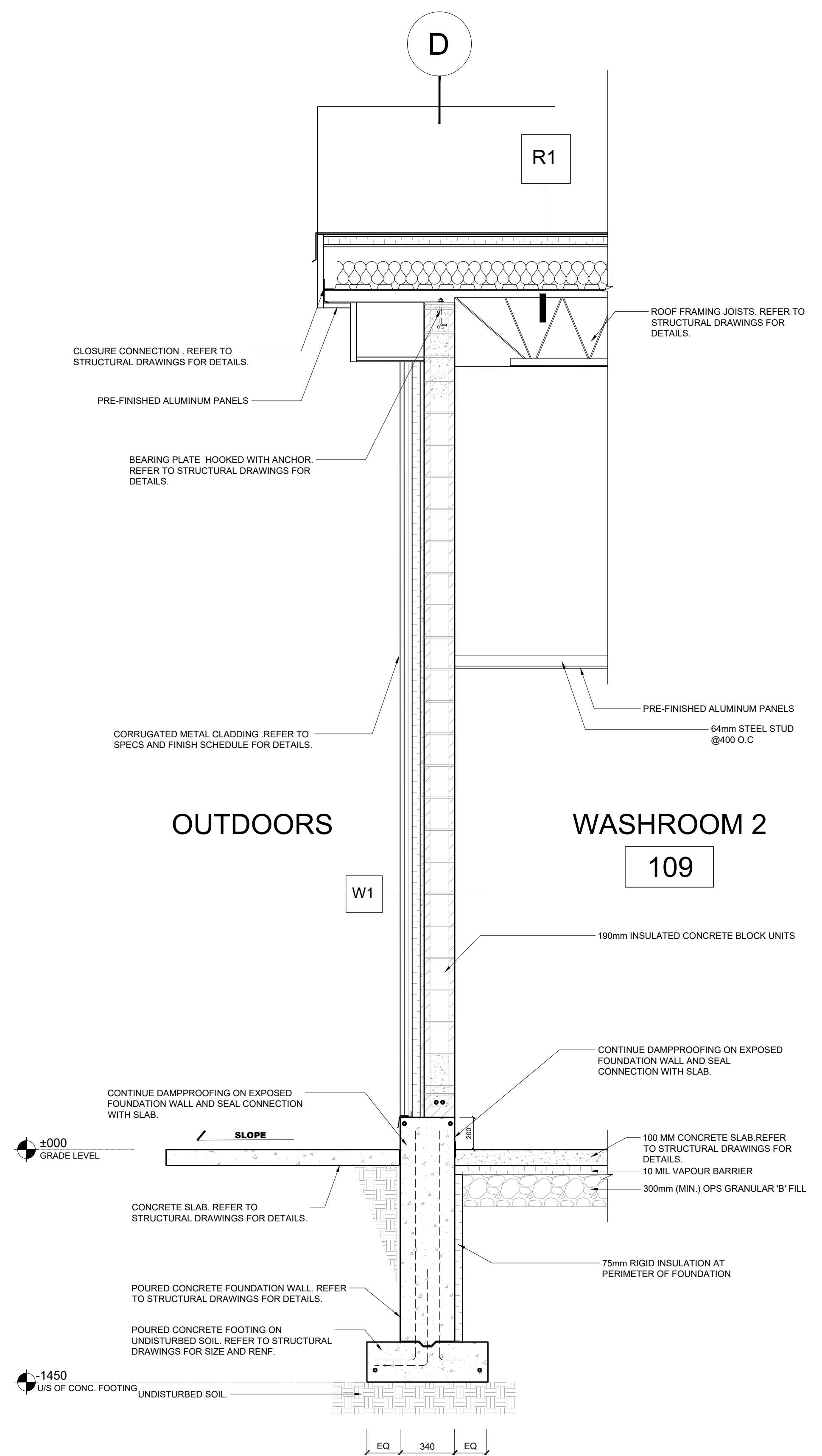




KEY MAP  
N.T.S



**01 wall section 1**  
SCALE | 1:20



**02 wall section 2**  
SCALE | 1:20

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LICENCE  
7388

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R7	Re-issued for Tender	Dec. 06/24	RN
R6	Re-issued for SFA	Nov. 08/24	RN
R5	Rev. 01 for SFA	Sep. 25/24	RN
R4	Issued for SFA	Jun. 24/24	RN
R3	Issued for 90% Progress	May. 10/24	RN
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R1	Prelim Design Rev. 01	Jul. 28/23	RN
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RN	RN
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drawing title	

**WALL SECTIONS**

drawing number  
**A5.01**

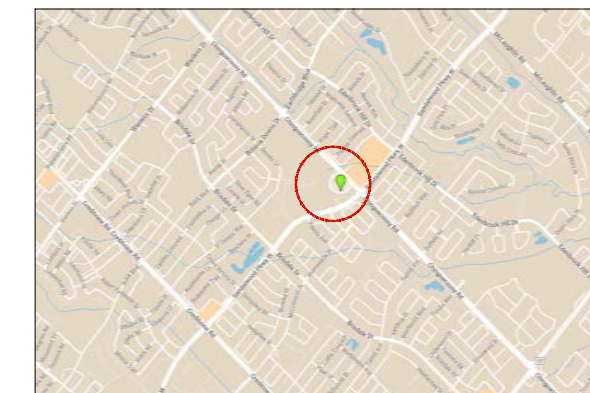
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**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

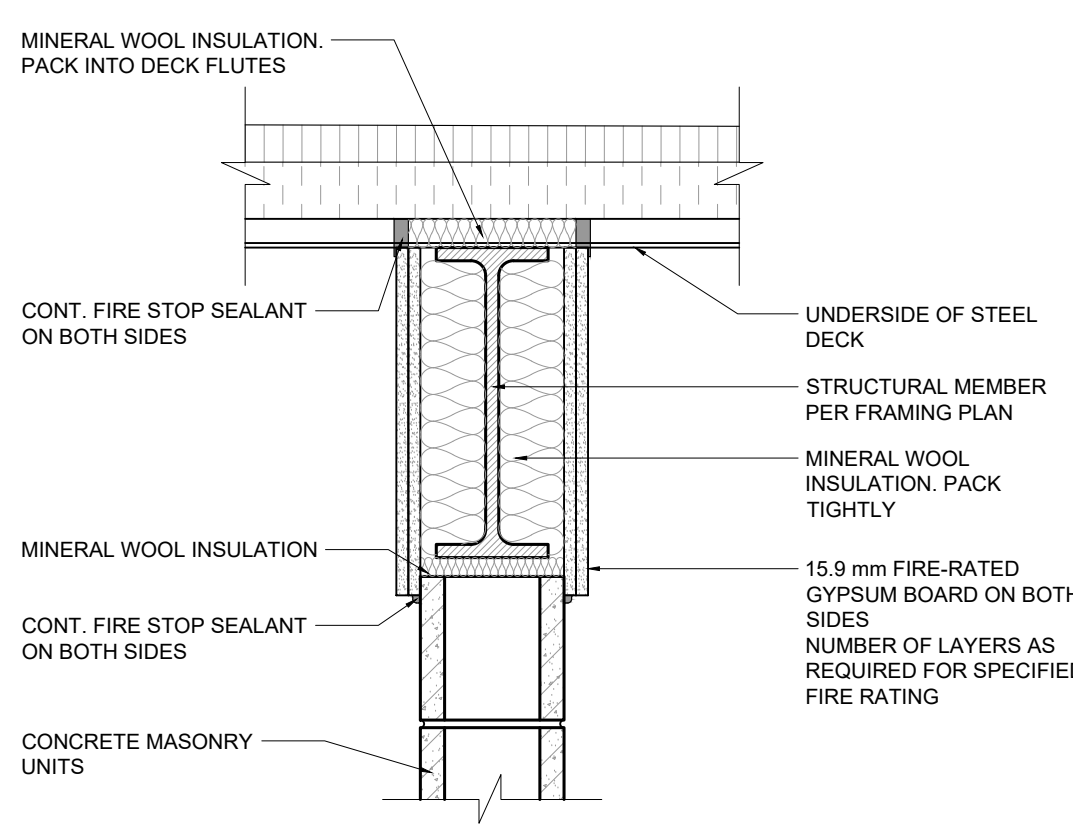
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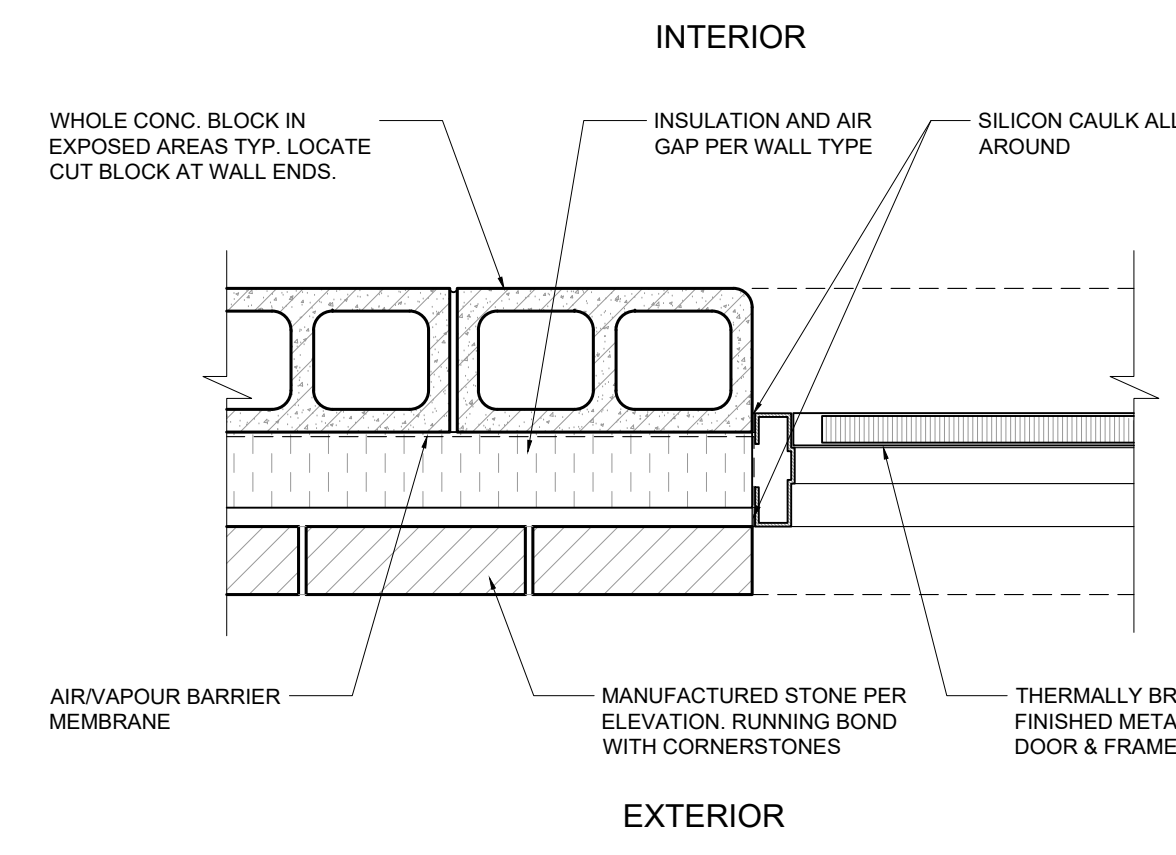
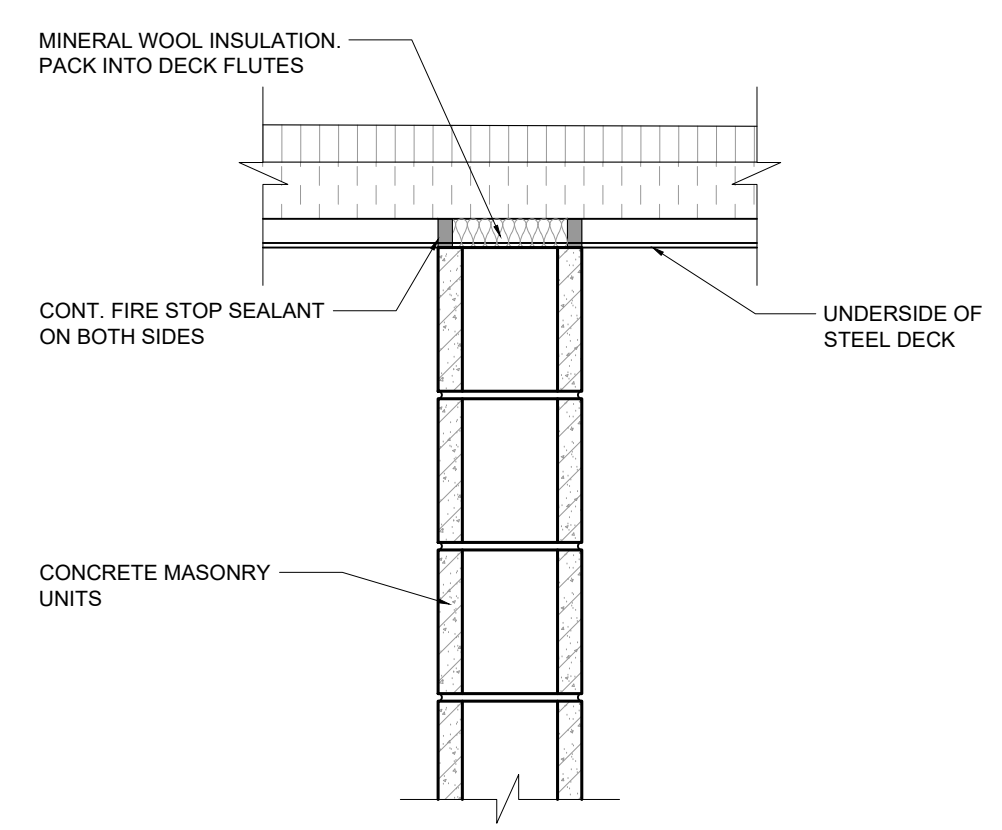




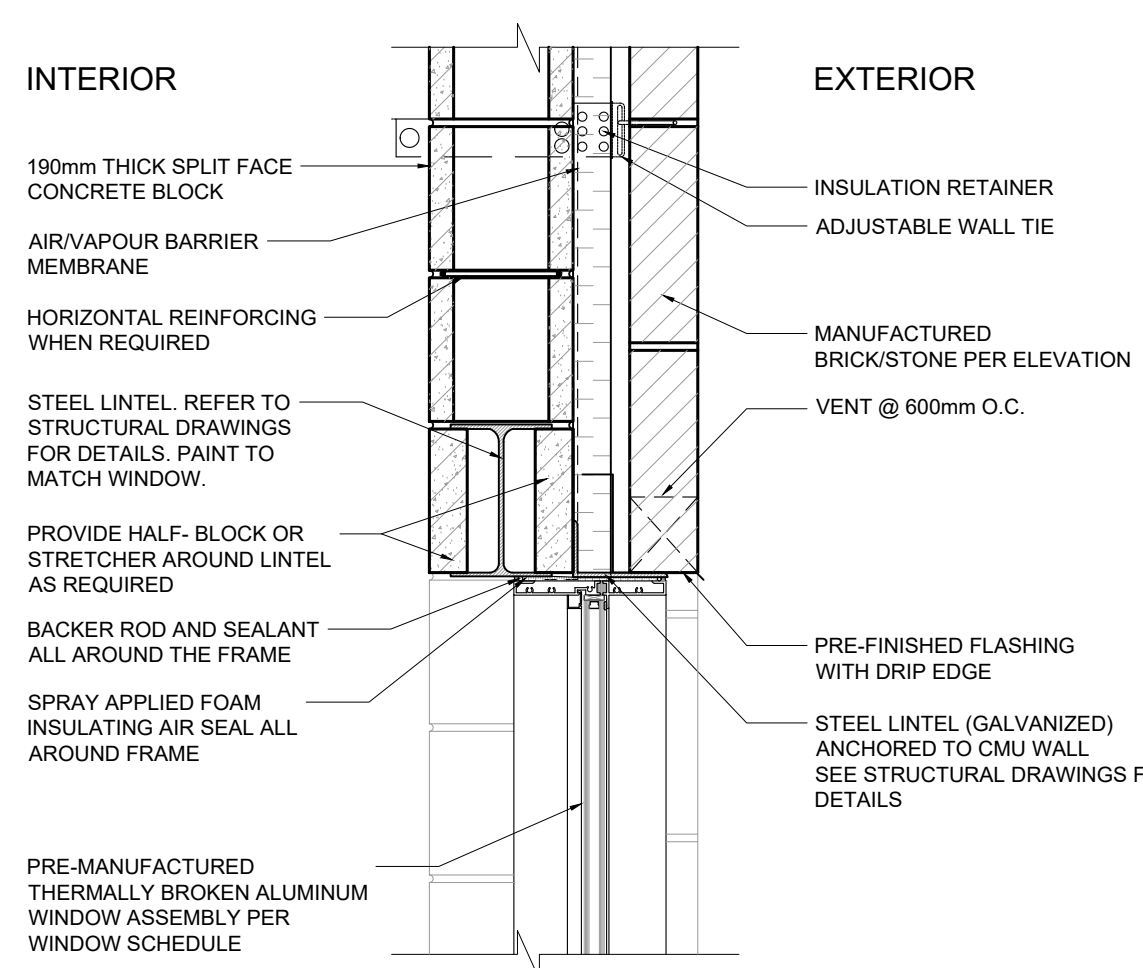
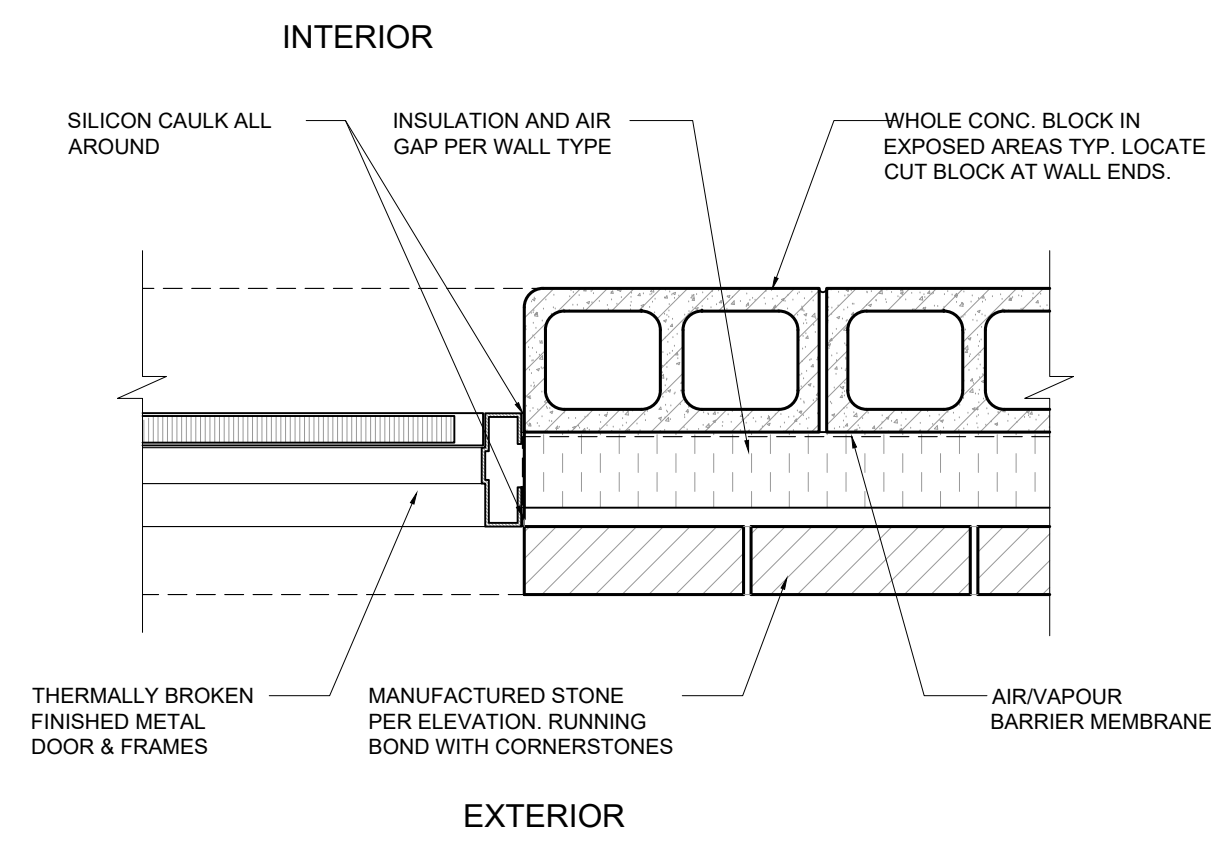
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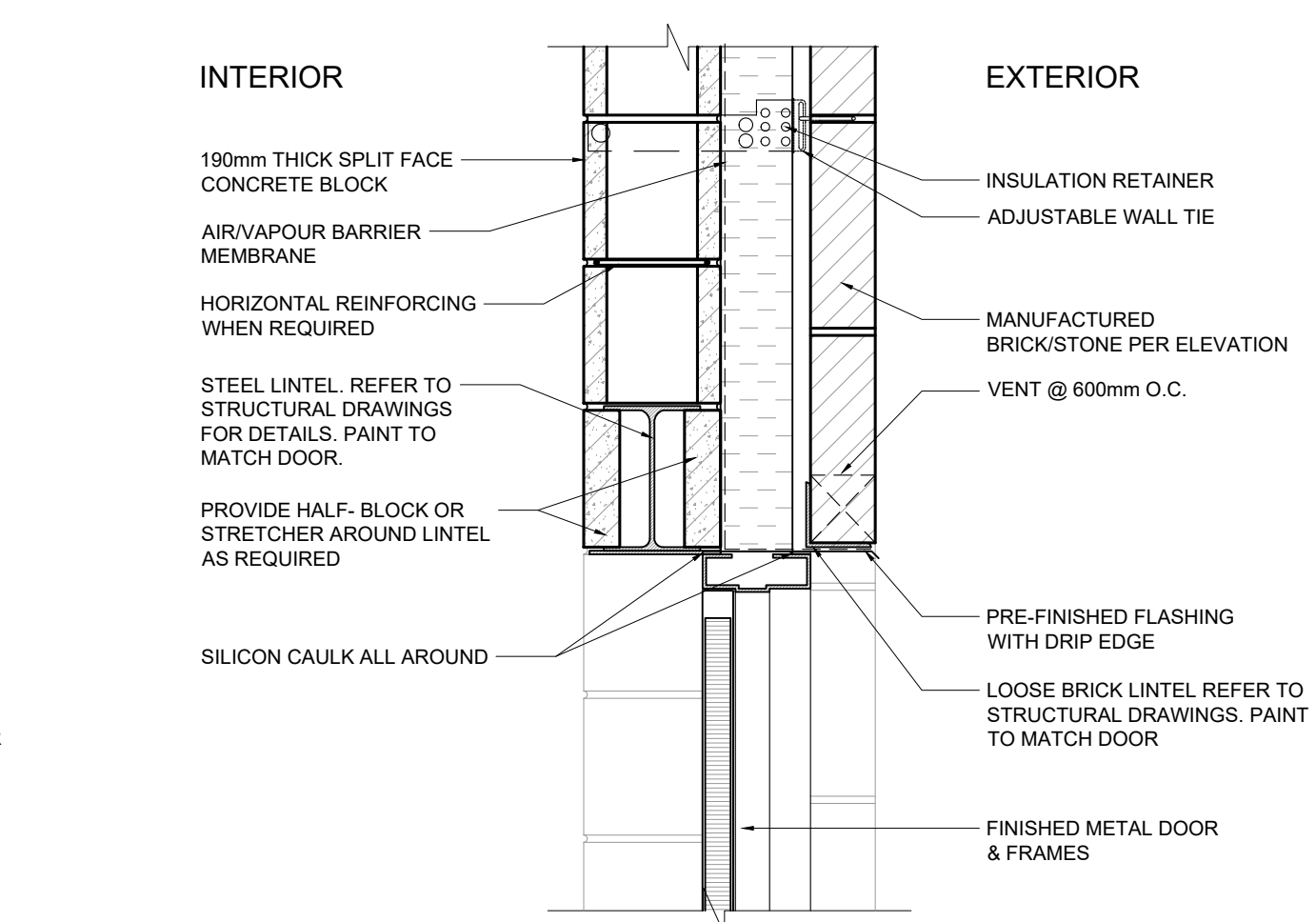
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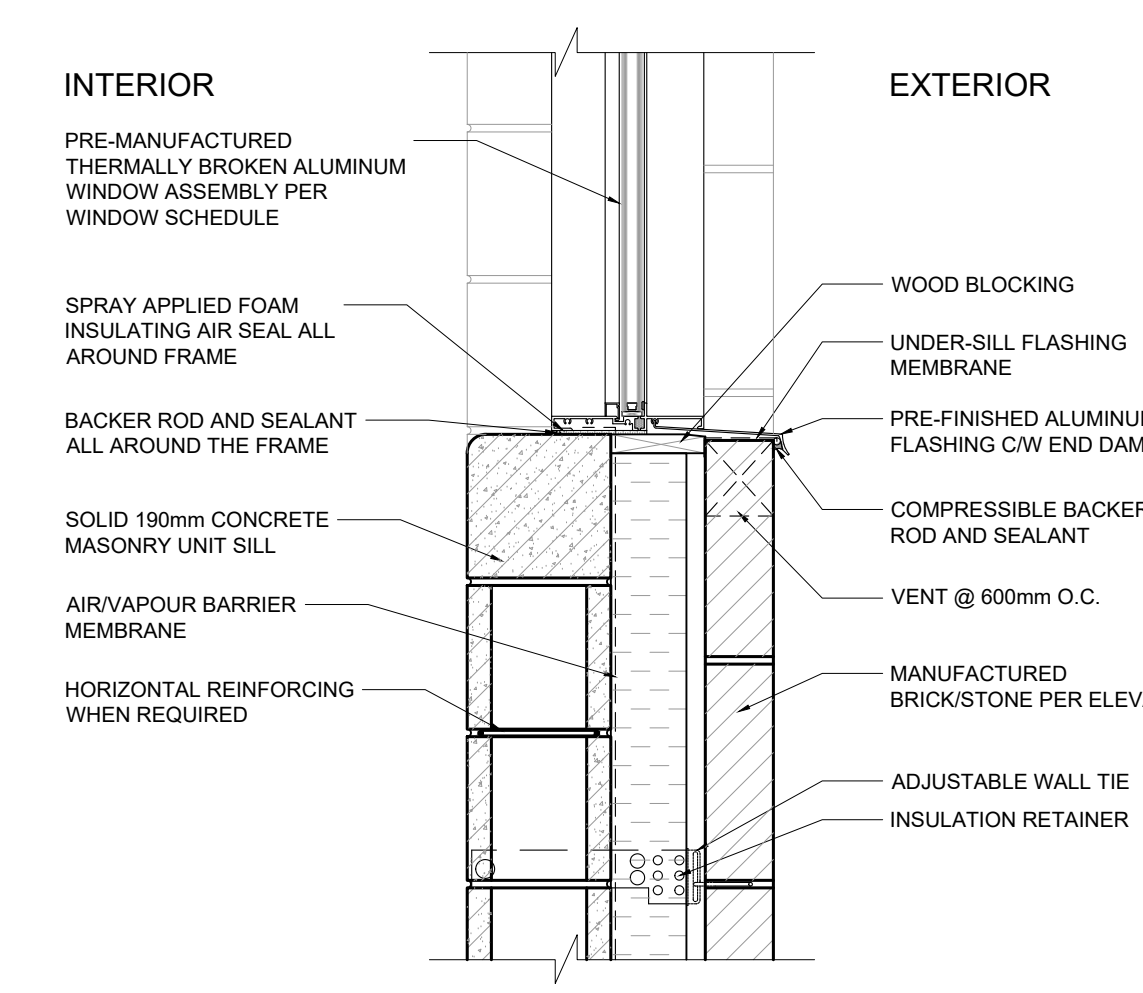
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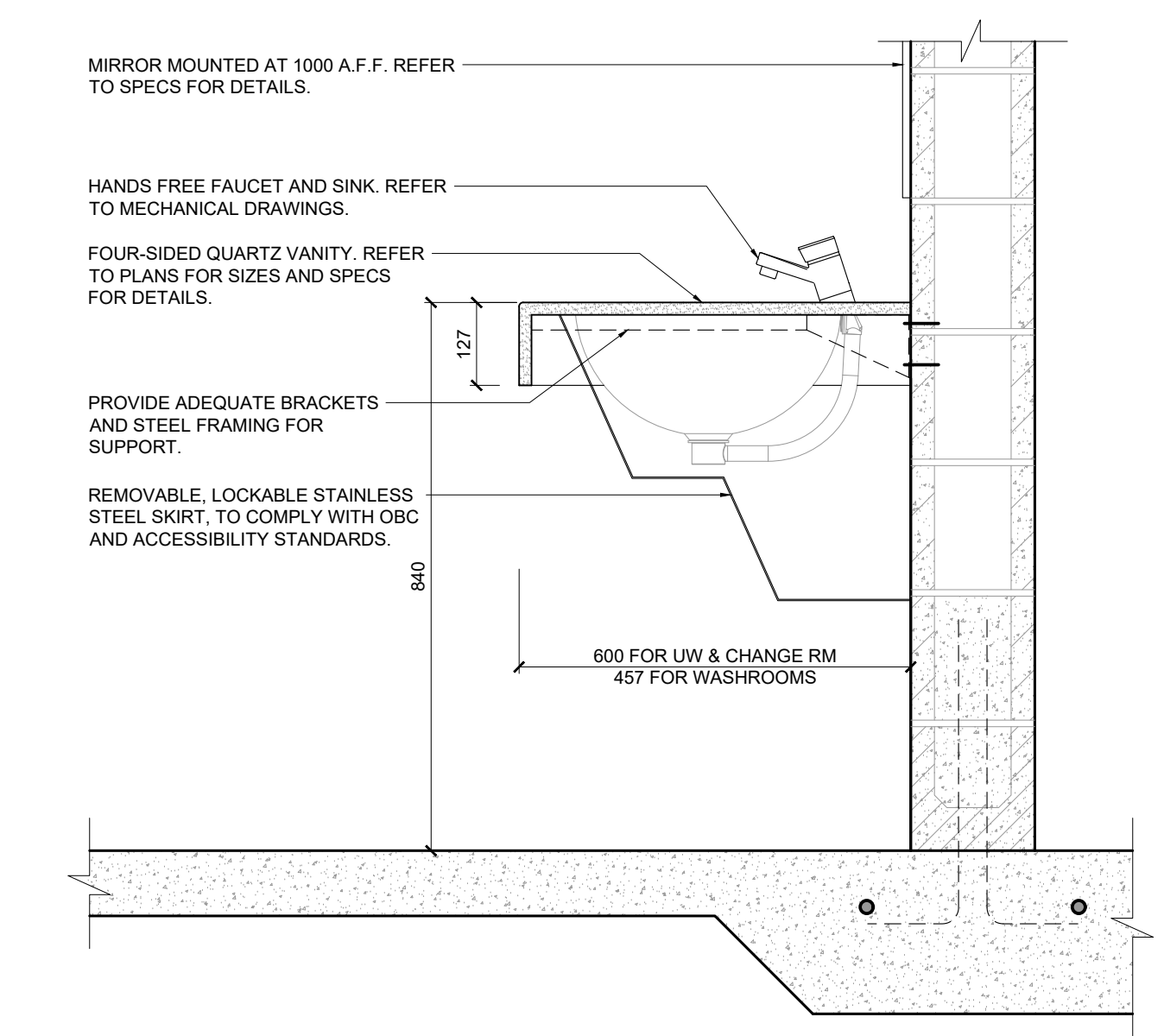
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SCALE | 1:10



**04 typical door header detail**  
SCALE | 1:10



**05 typical window sill detail**  
SCALE | 1:10



**06 vanity detail**  
SCALE | 1:10



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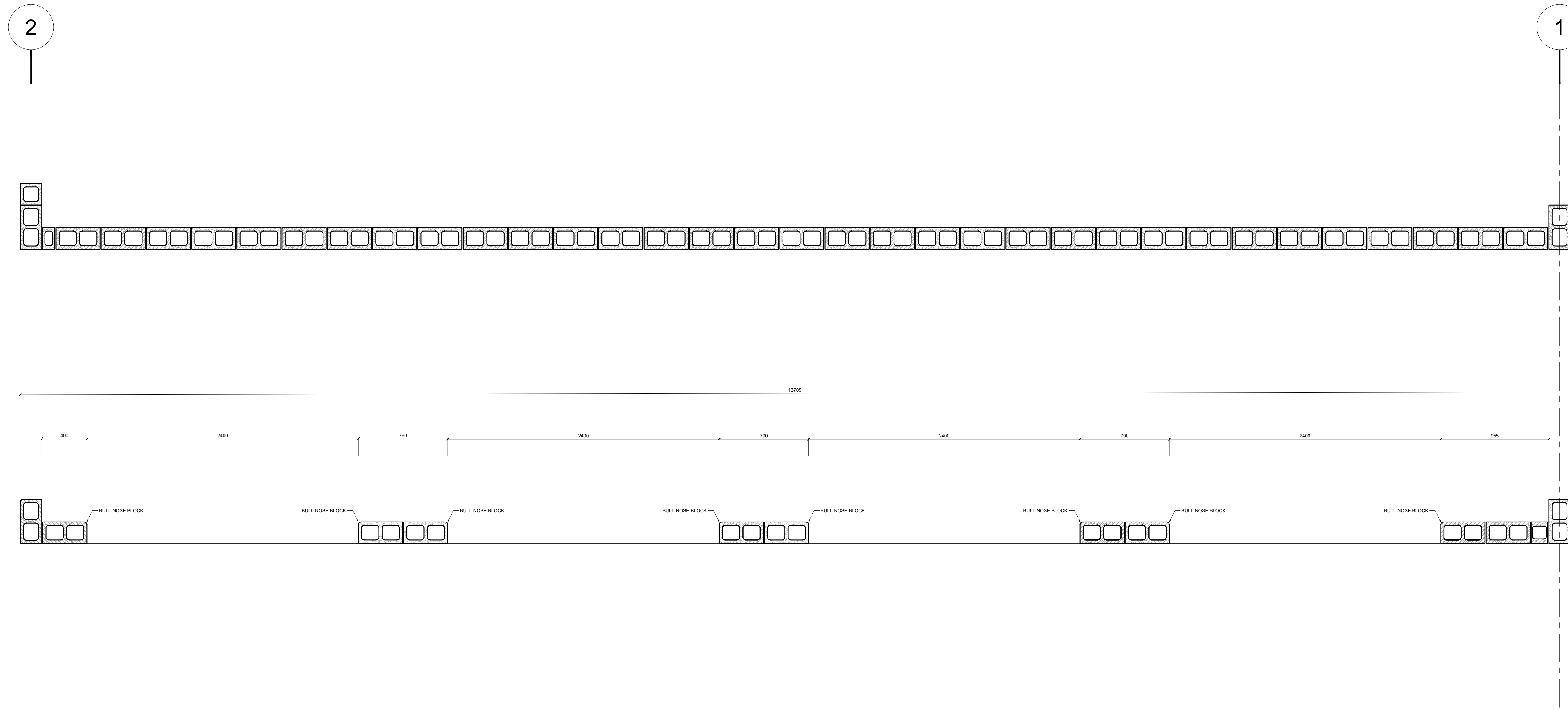
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drawing number	A5.02
client	CITY OF BRAMPTON
project title	CASSIE CAMPBELL CC PAVILION BUILDING 1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8
project number	PRE-2023-0128

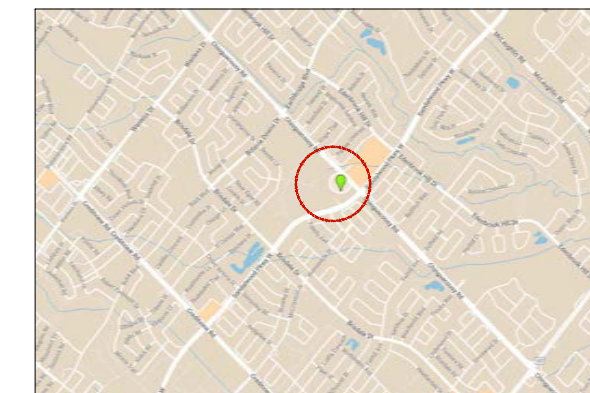


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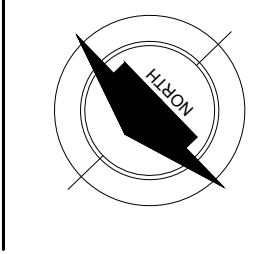




**01 modular alignment (typ)**  
SCALE | 1:20



KEY MAP  
N.T.S



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drawing title

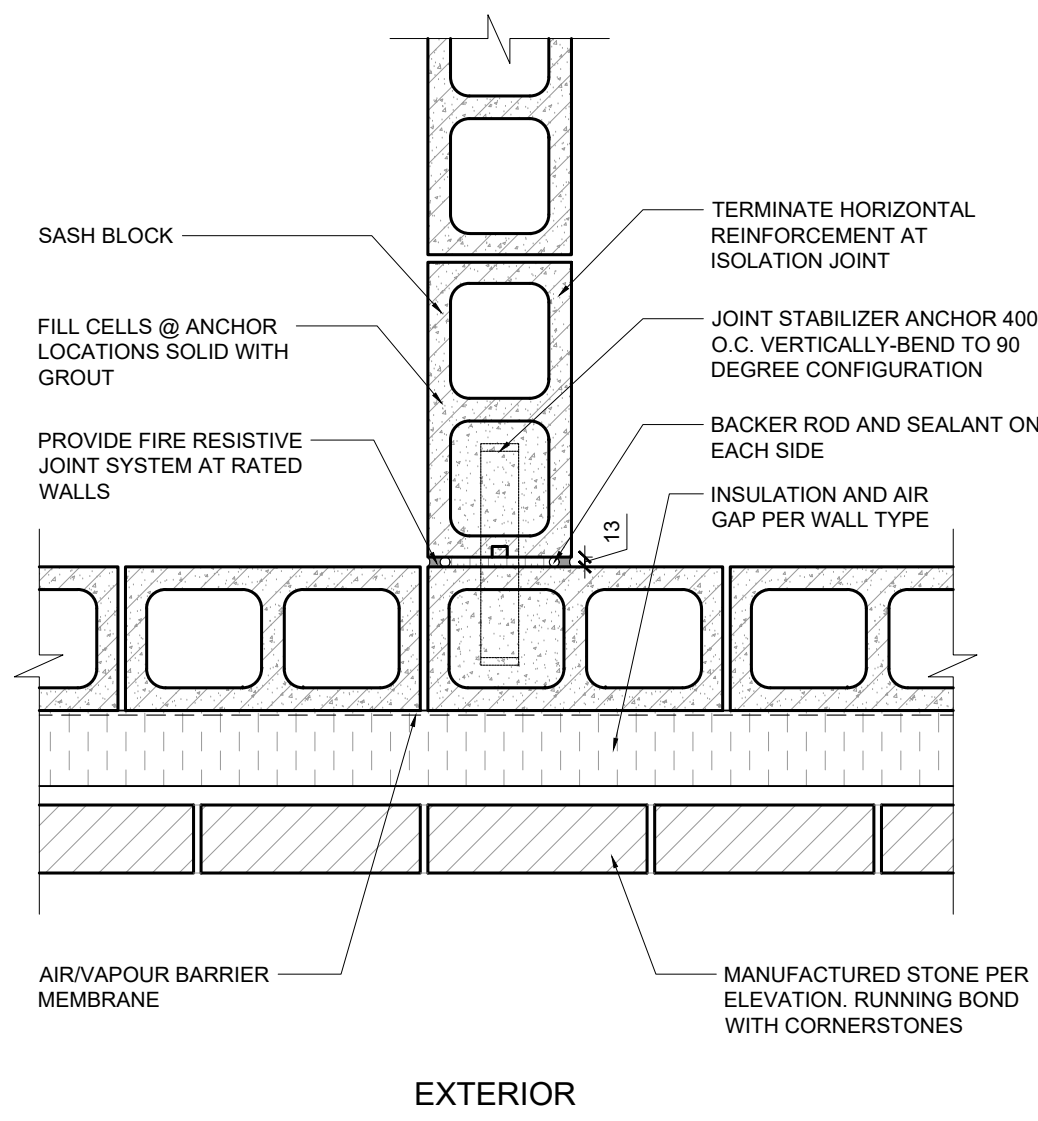
**CONSTRUCTION DETAILS**

drawing number  
**A5.03**  
client  
**CITY OF BRAMPTON**  
project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8**  
project number  
**PRE-2023-0128**

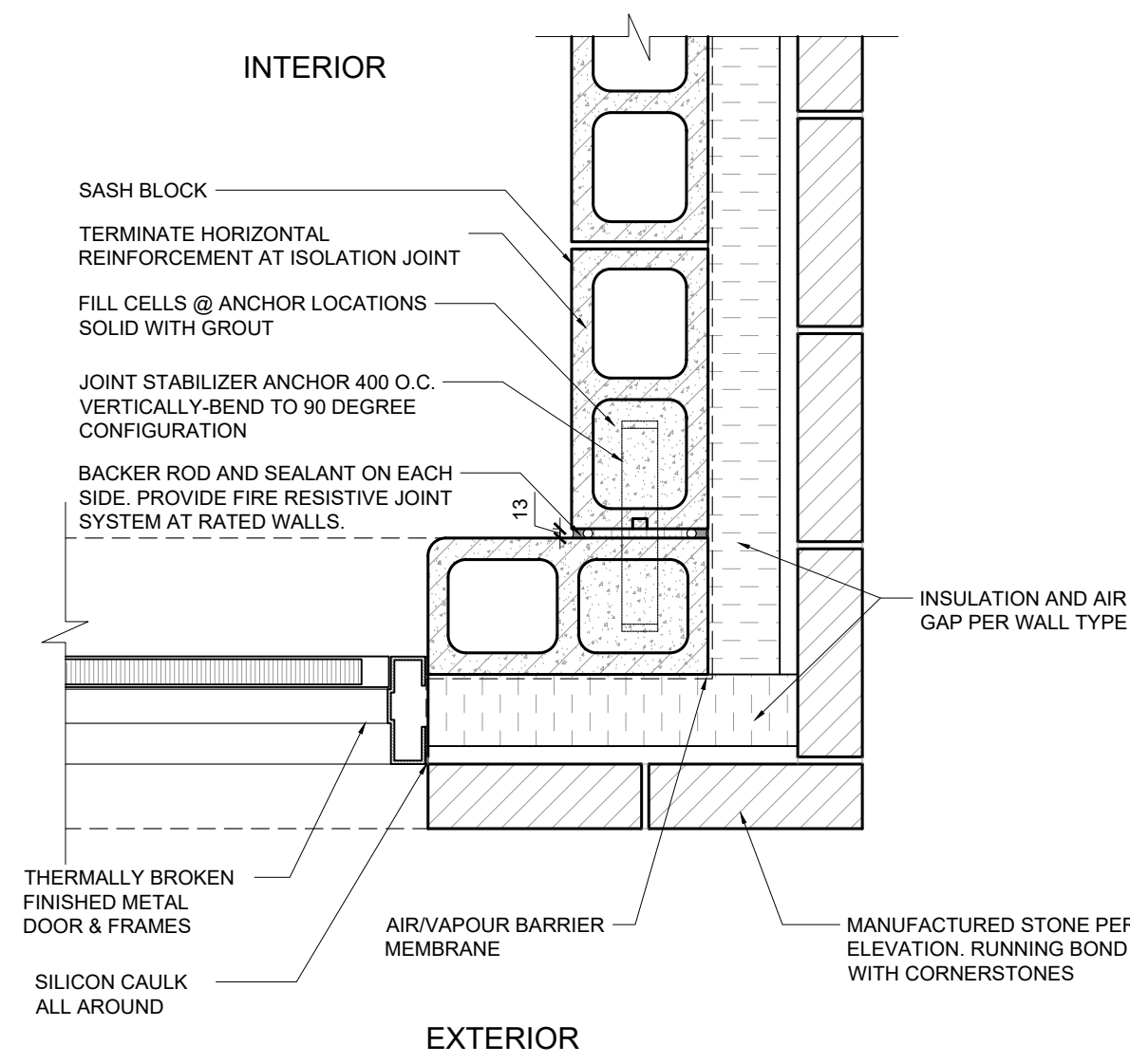


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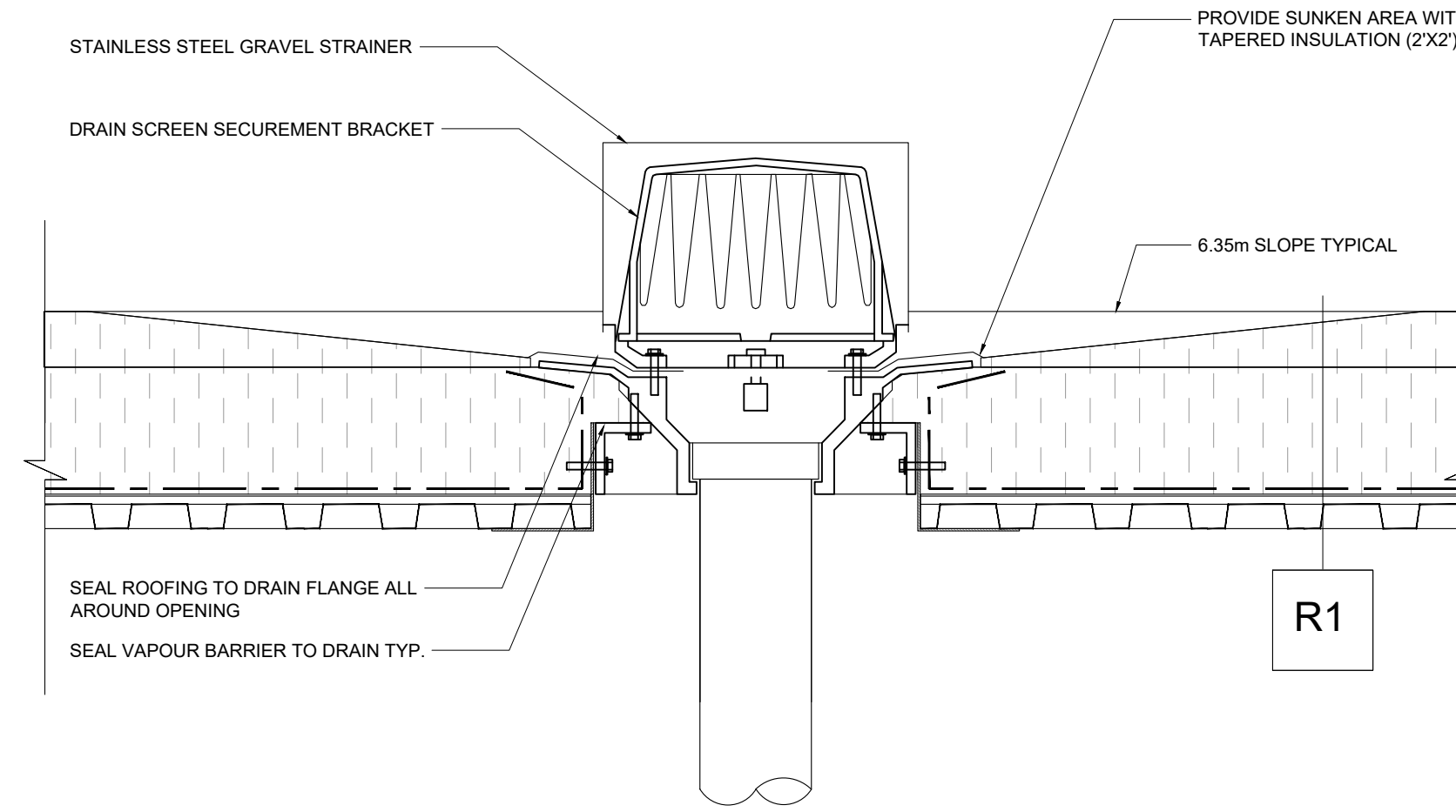




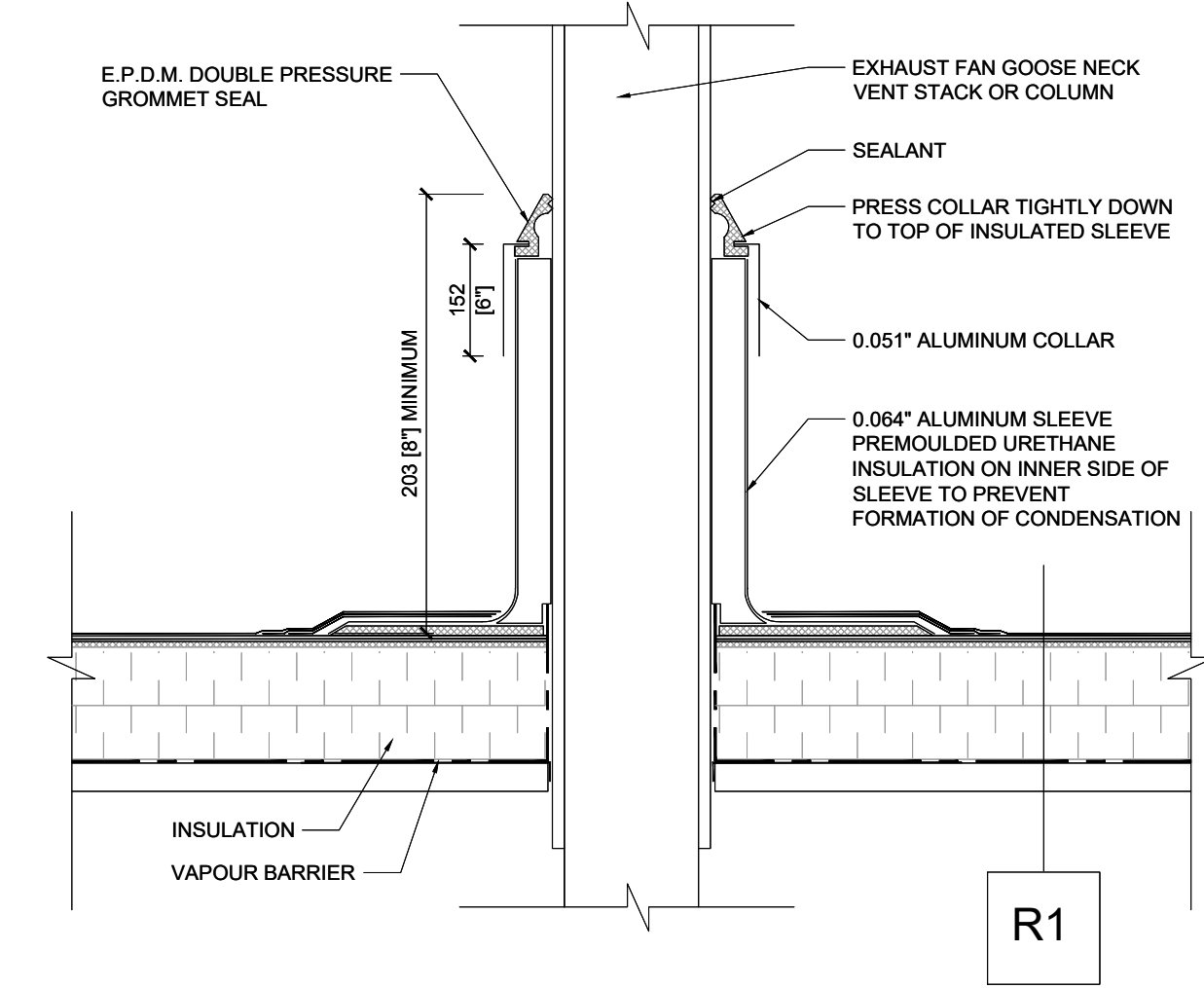
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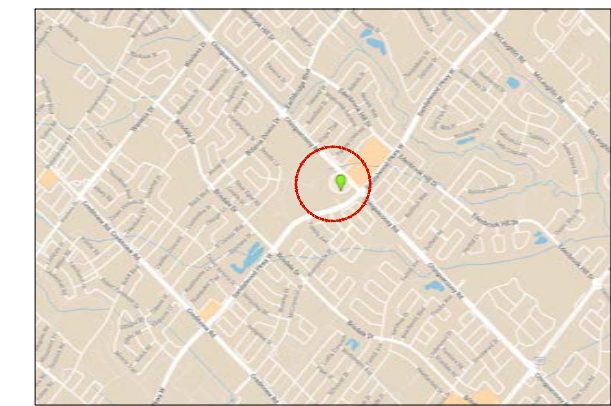
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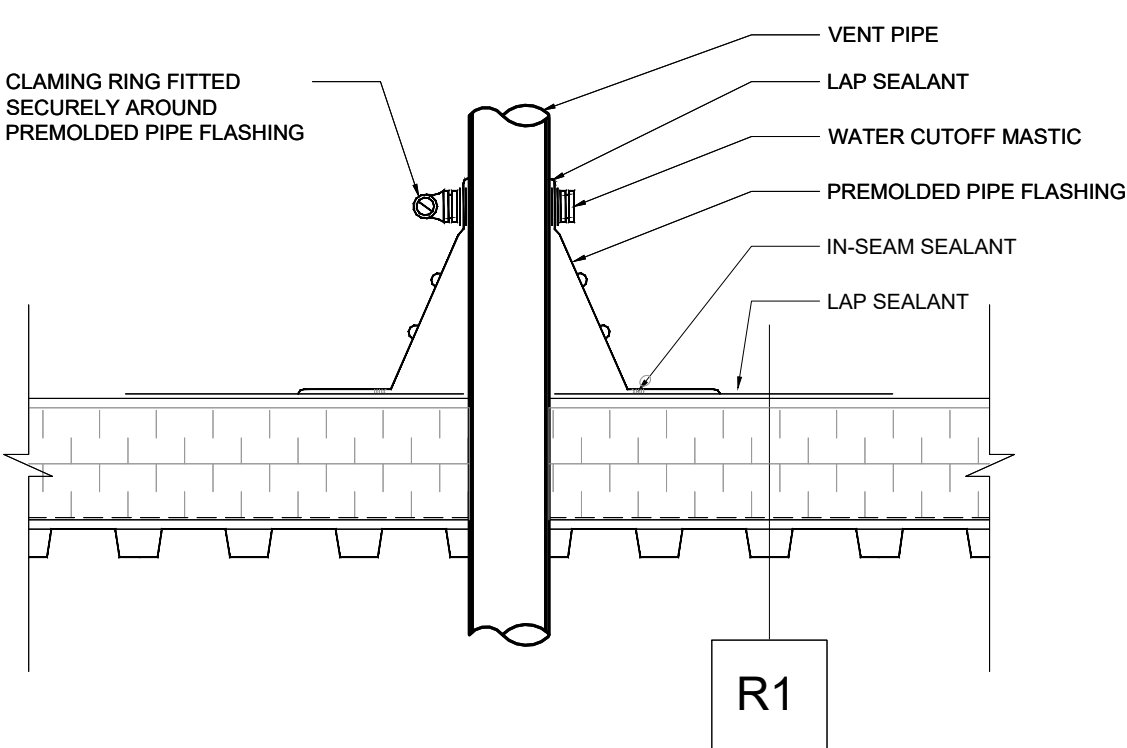
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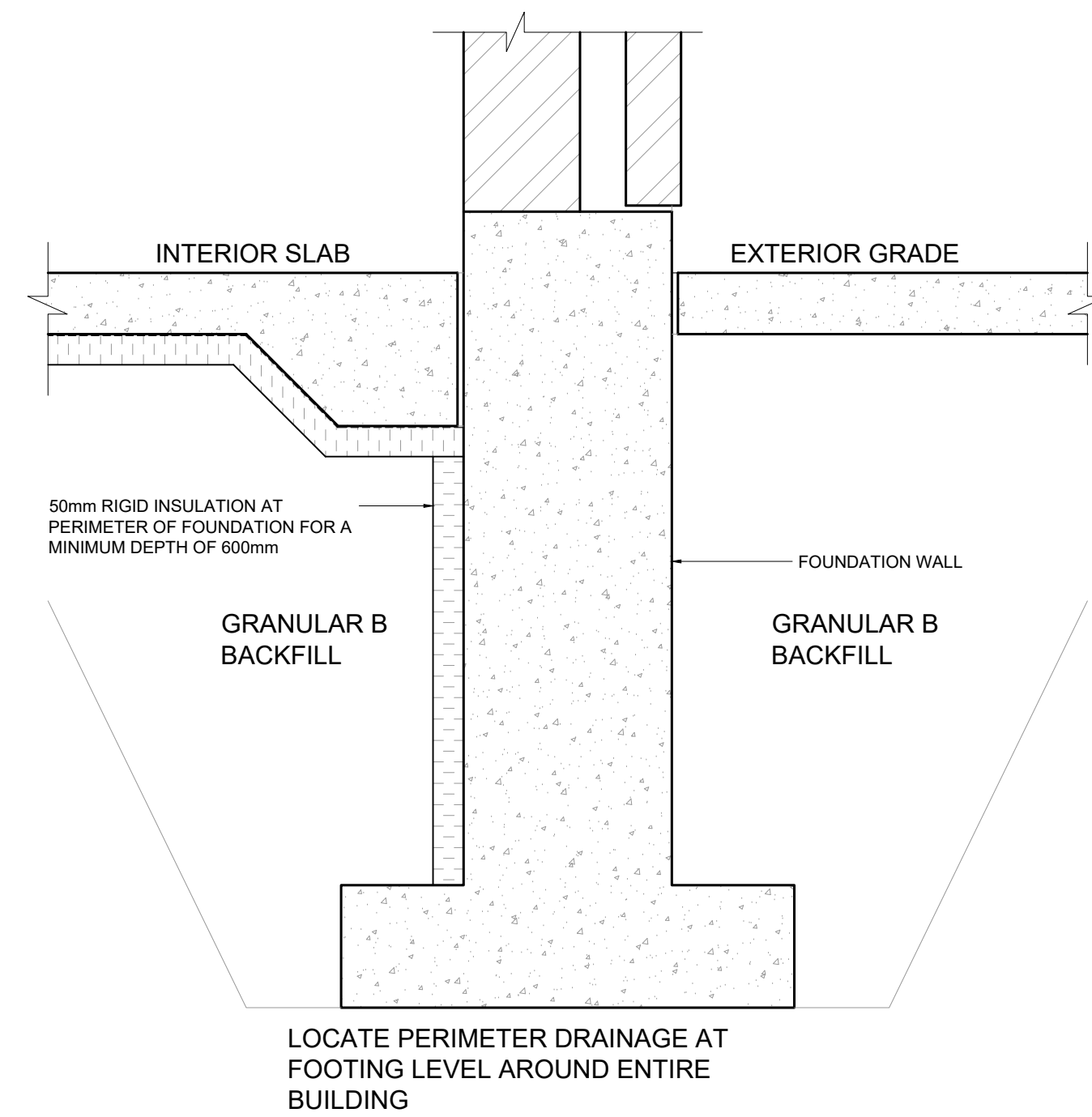
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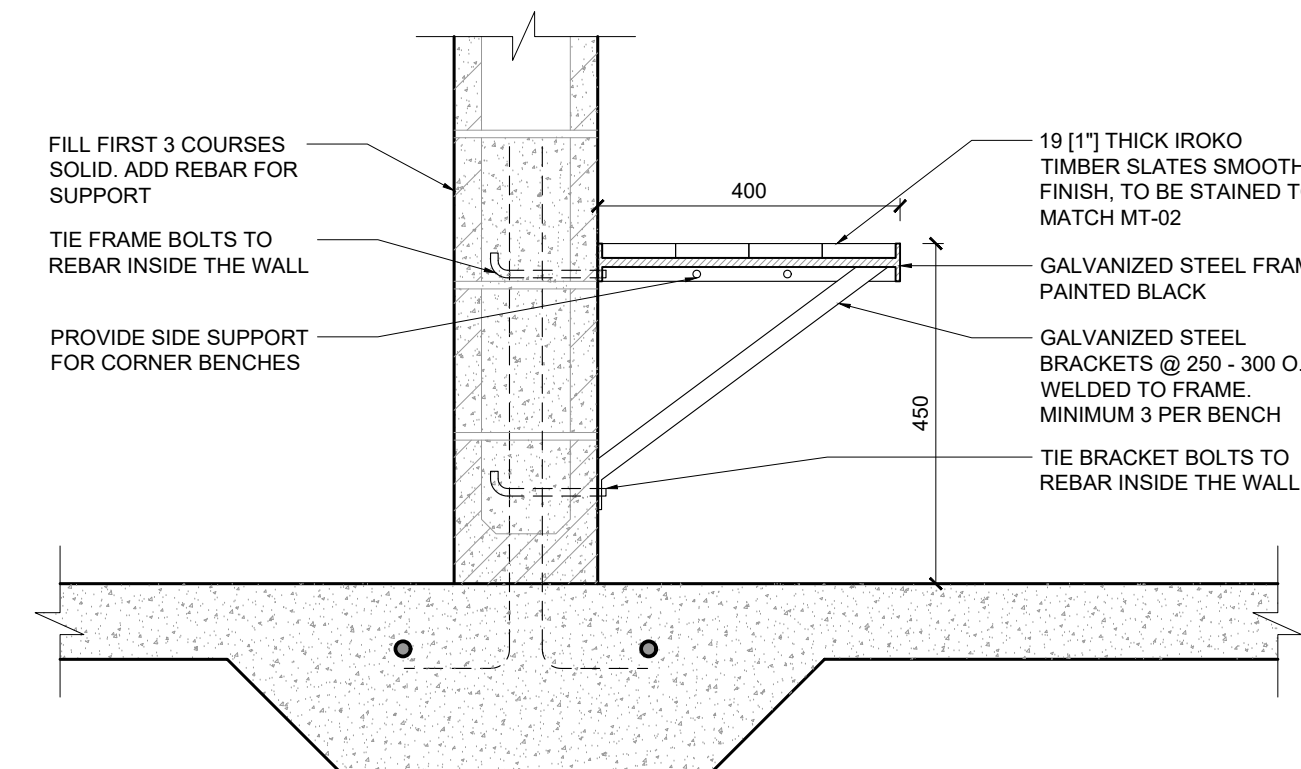
KEY MAP  
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**05 vent flasing detail**  
SCALE | 1:10



**06 perimeter detail**  
SCALE | 1:10



**07 typical bench detail**  
SCALE | 1:10



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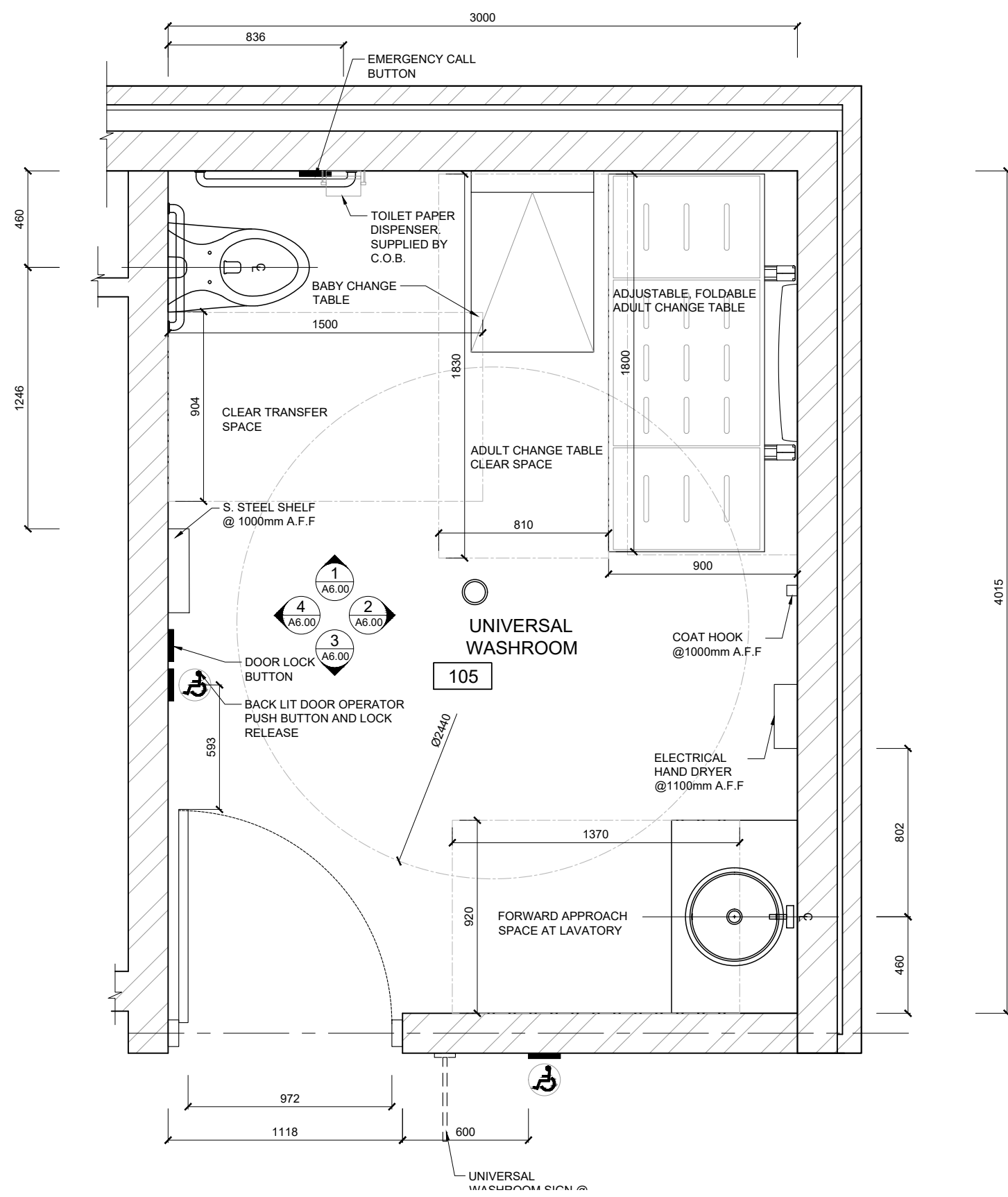
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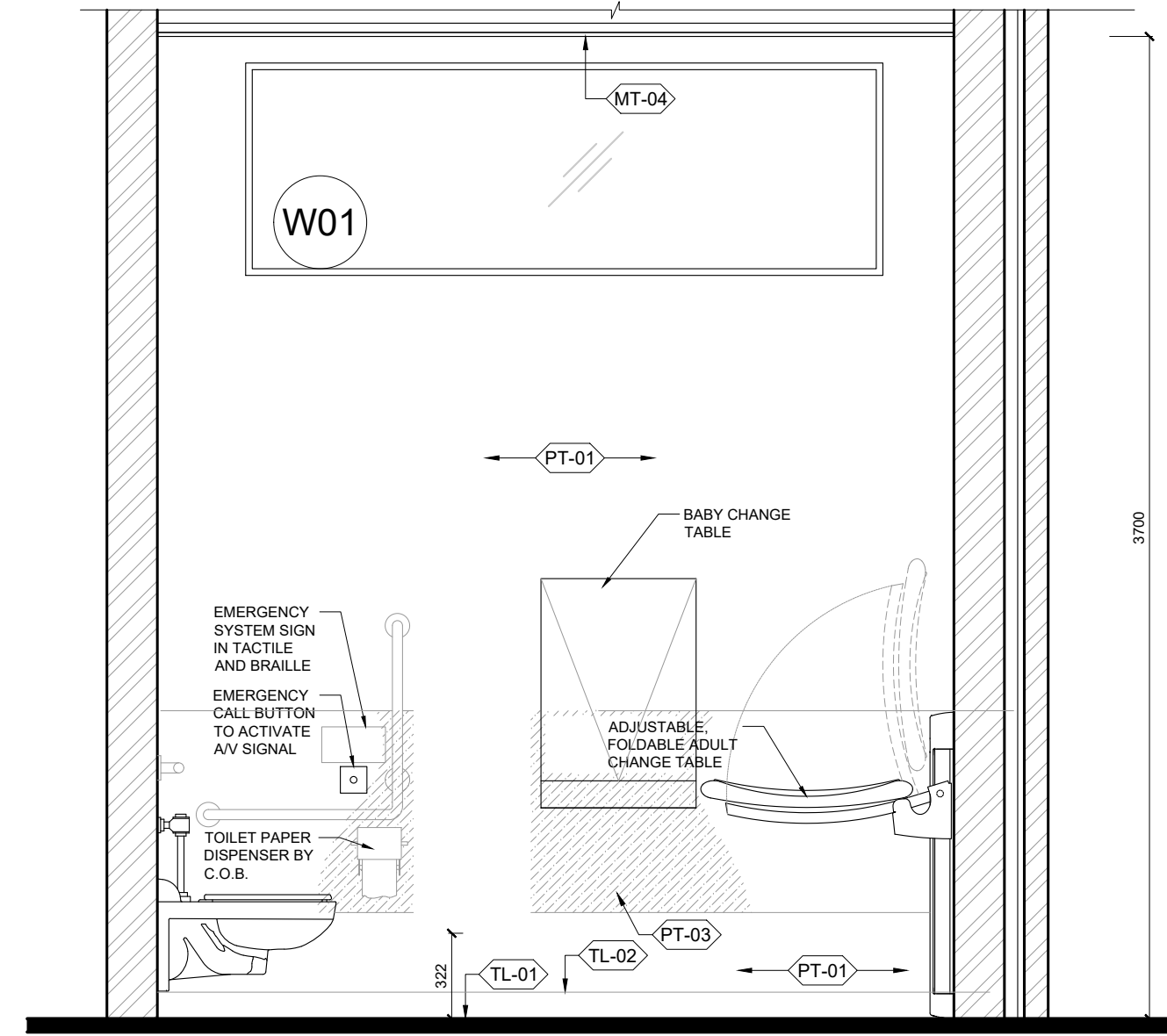
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client	CITY OF BRAMPTON
project title	CASSIE CAMPBELL CC PAVILION BUILDING 1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8
project number	PRE-2023-0128



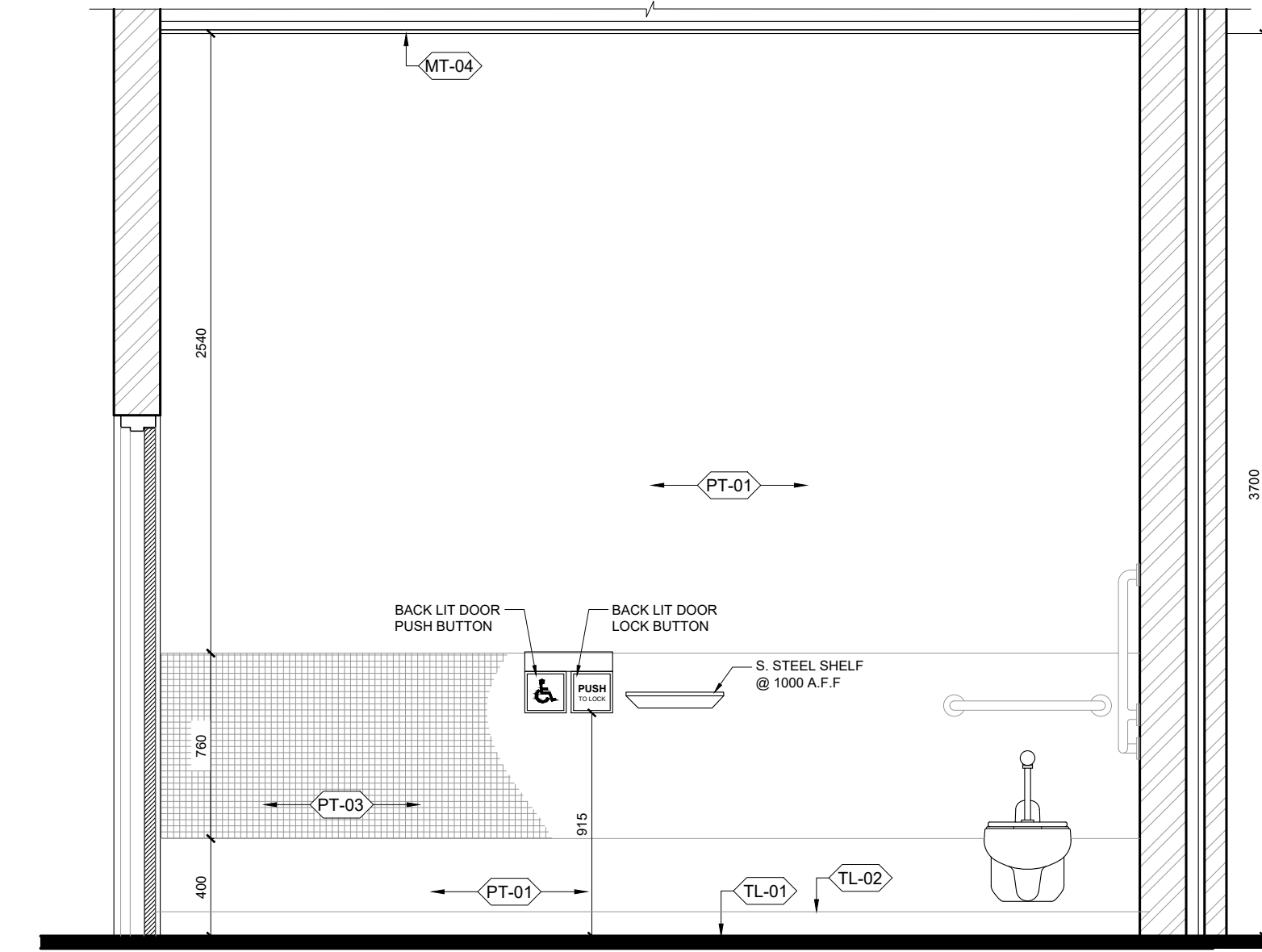




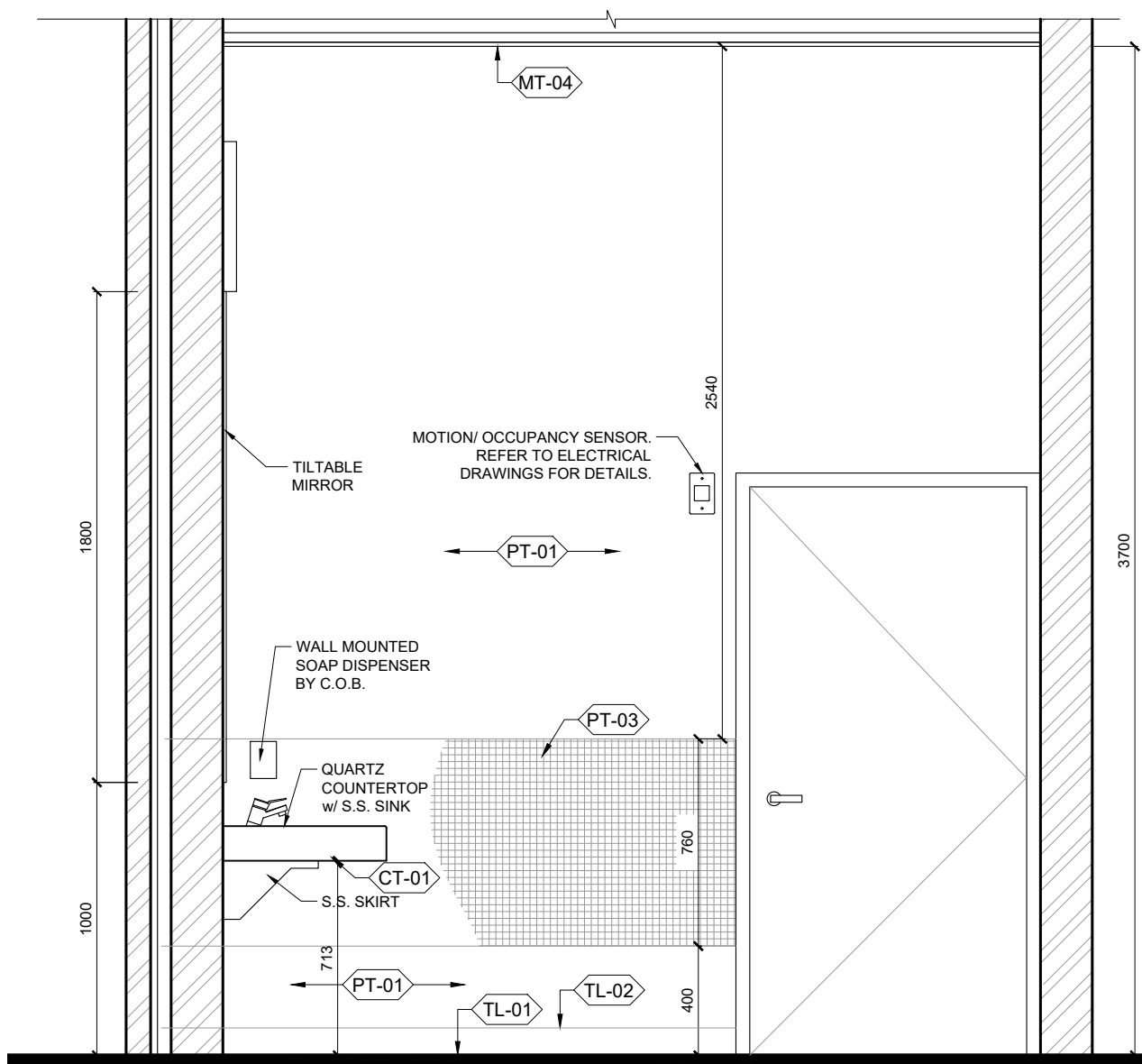
**01 universal washroom detailed plan**  
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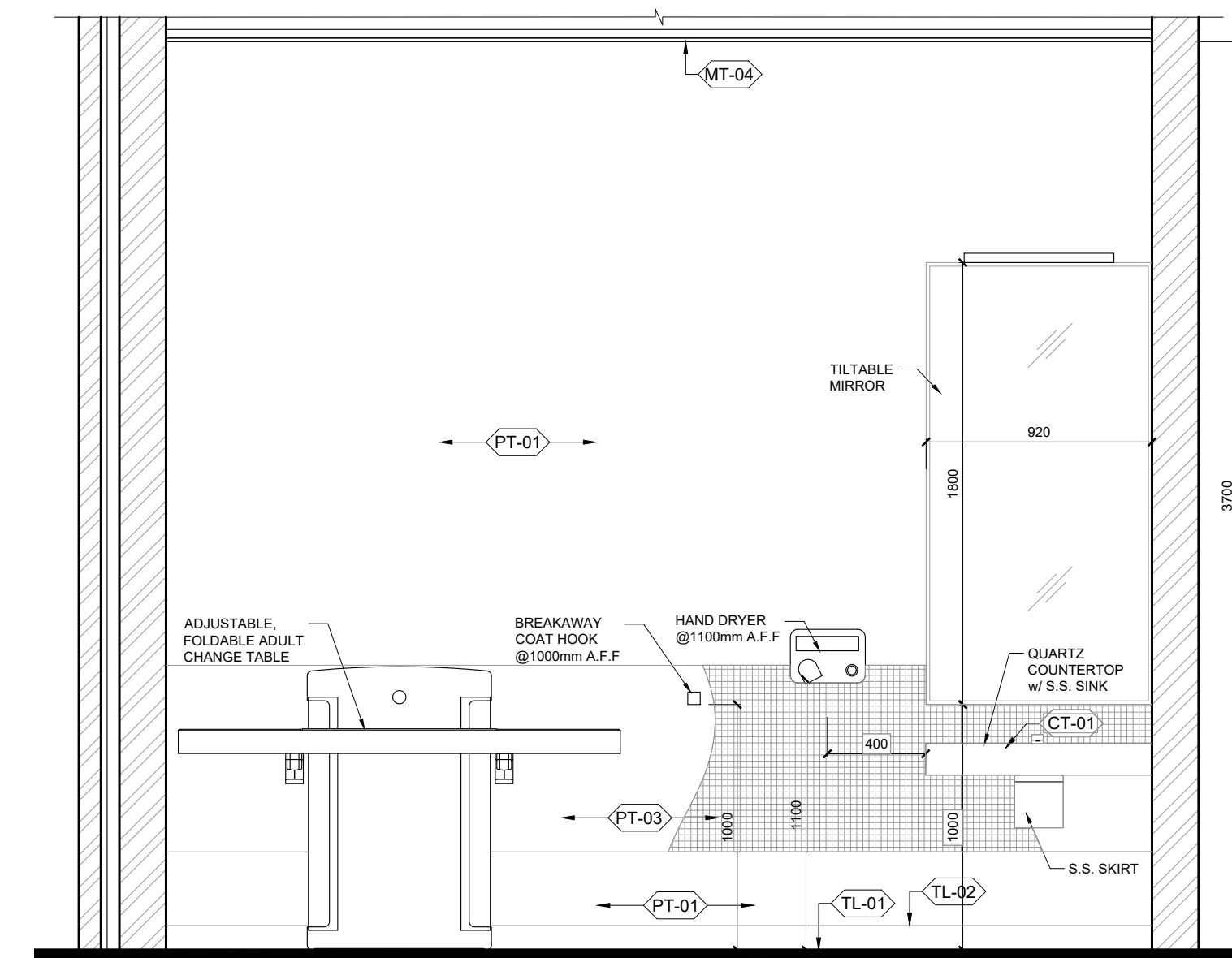
**ELEVATION 1**



**ELEVATION 4**

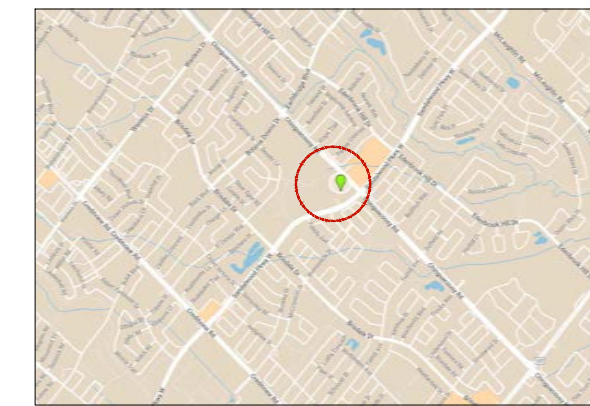


**ELEVATION 3**



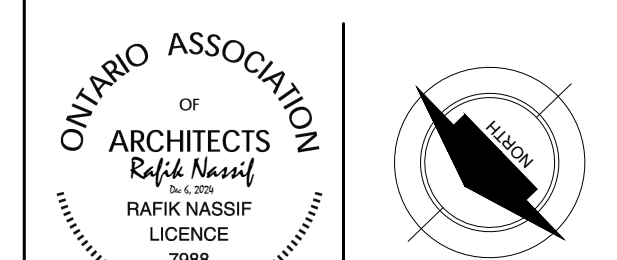
**ELEVATION 2**

**02 universal washroom interior elevations**  
SCALE | 1:25



**KEY MAP**  
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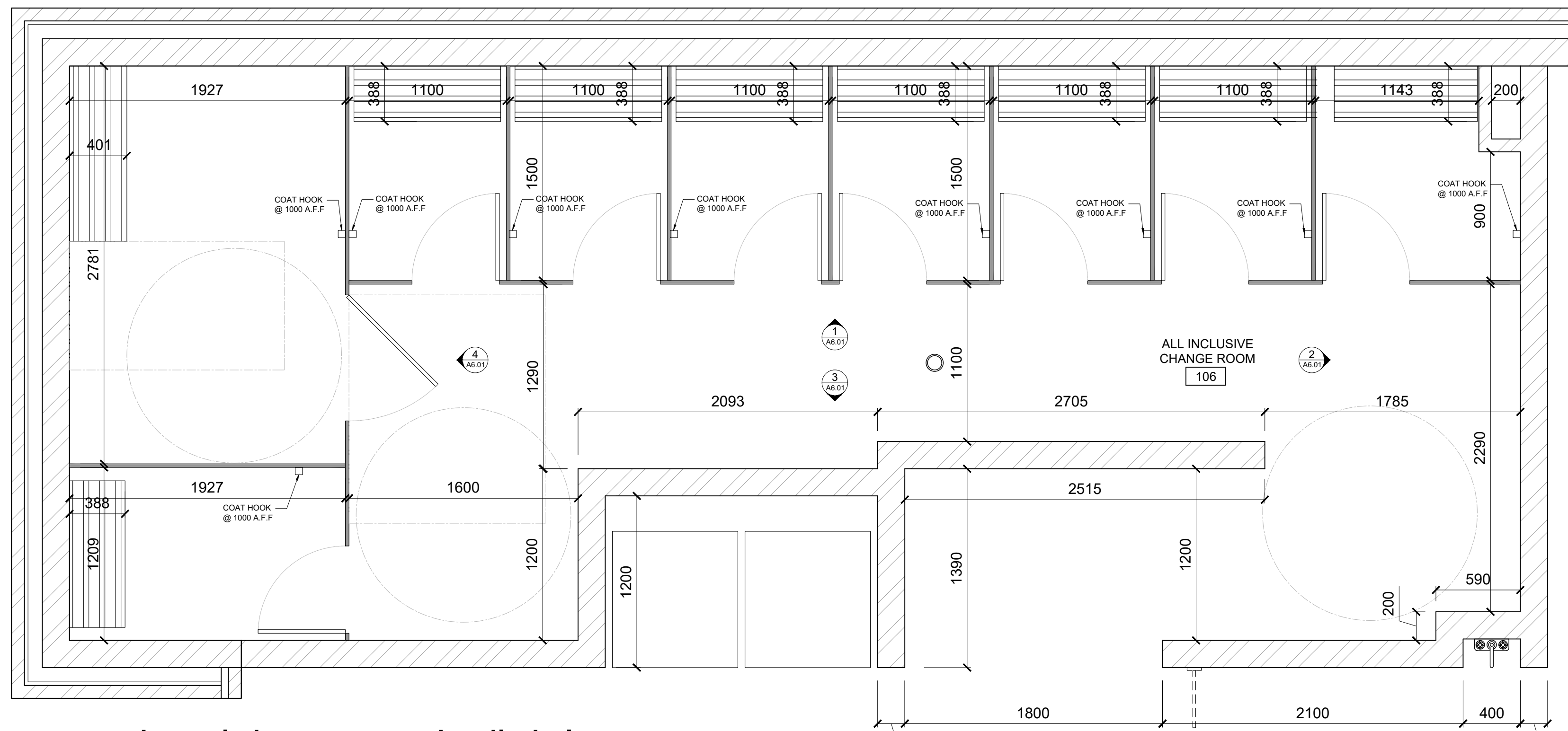
**UNIVERSAL WASHROOM DETAILS**

drawing number  
**A6.00**  
client  
**CITY OF BRAMPTON**

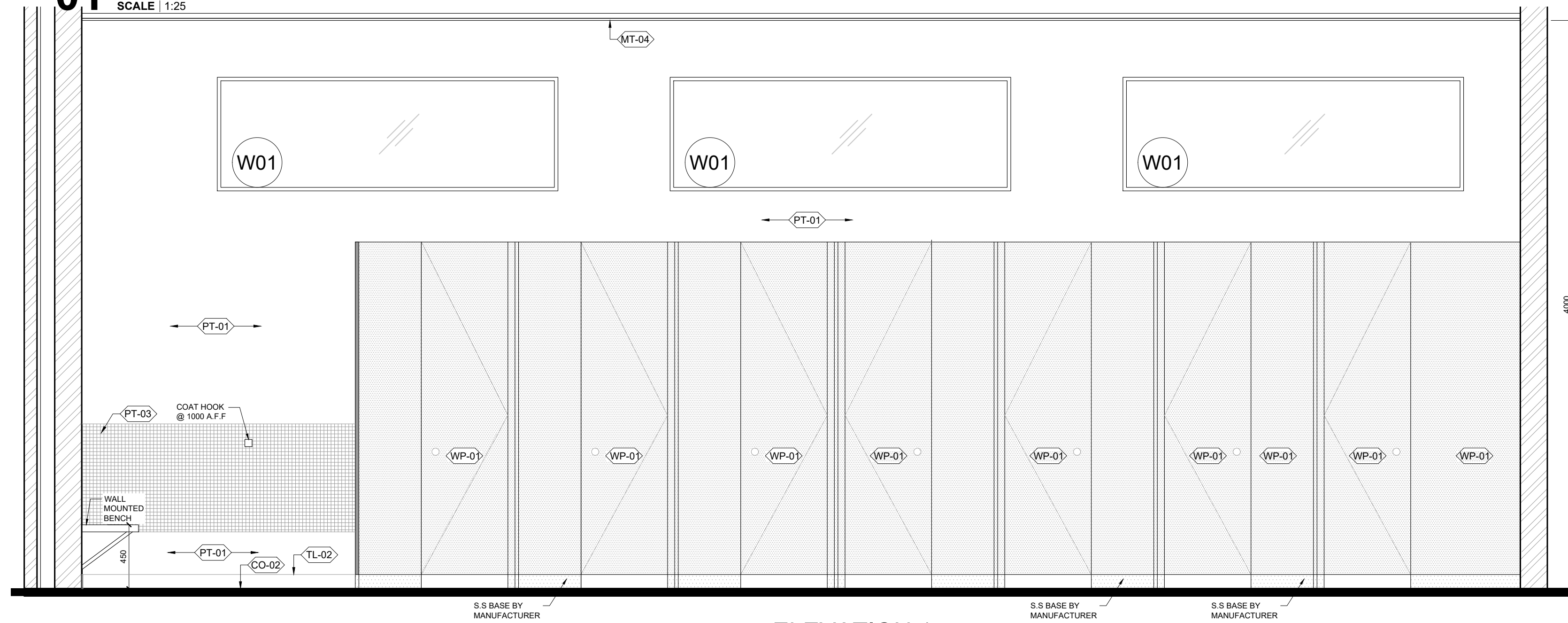
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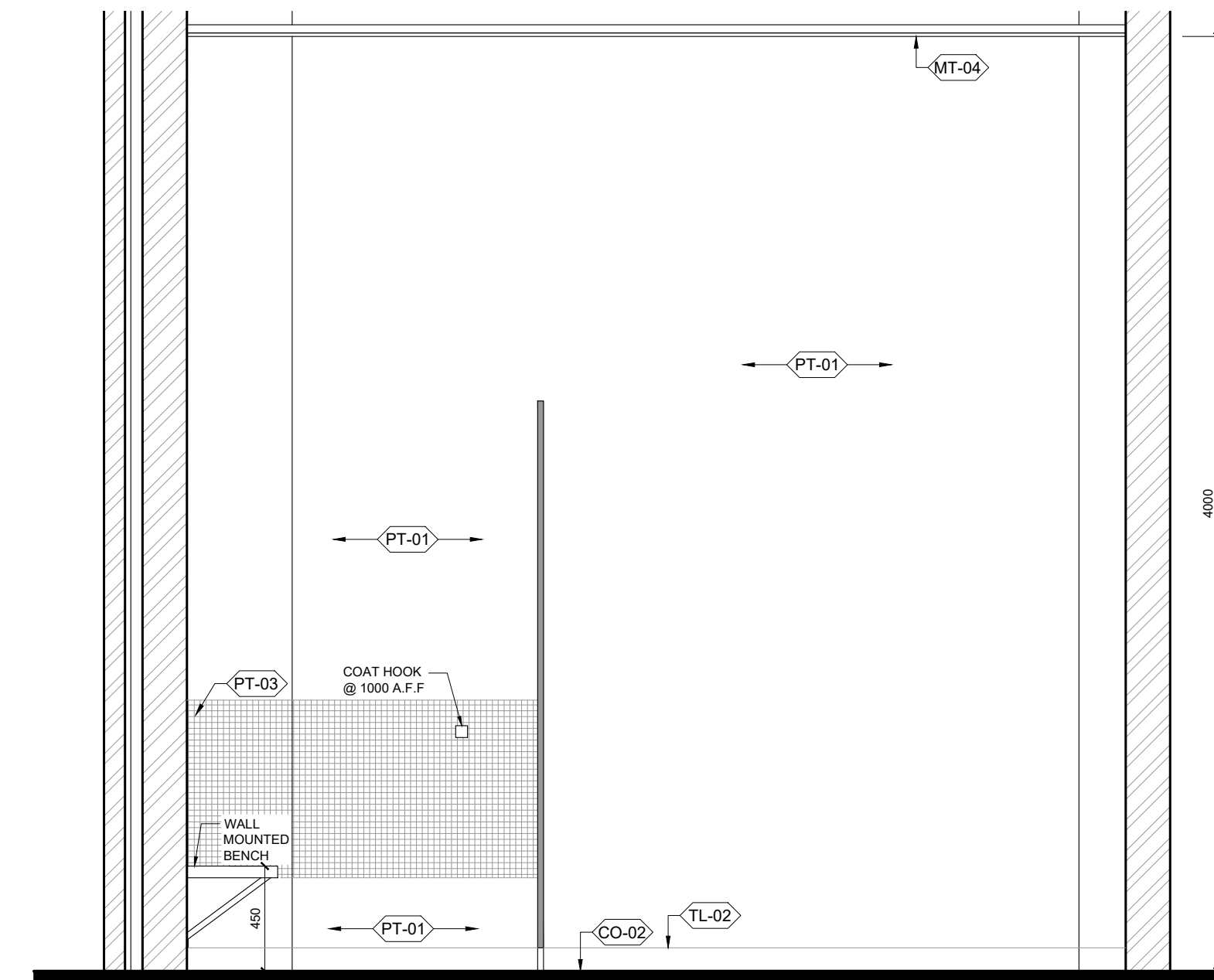




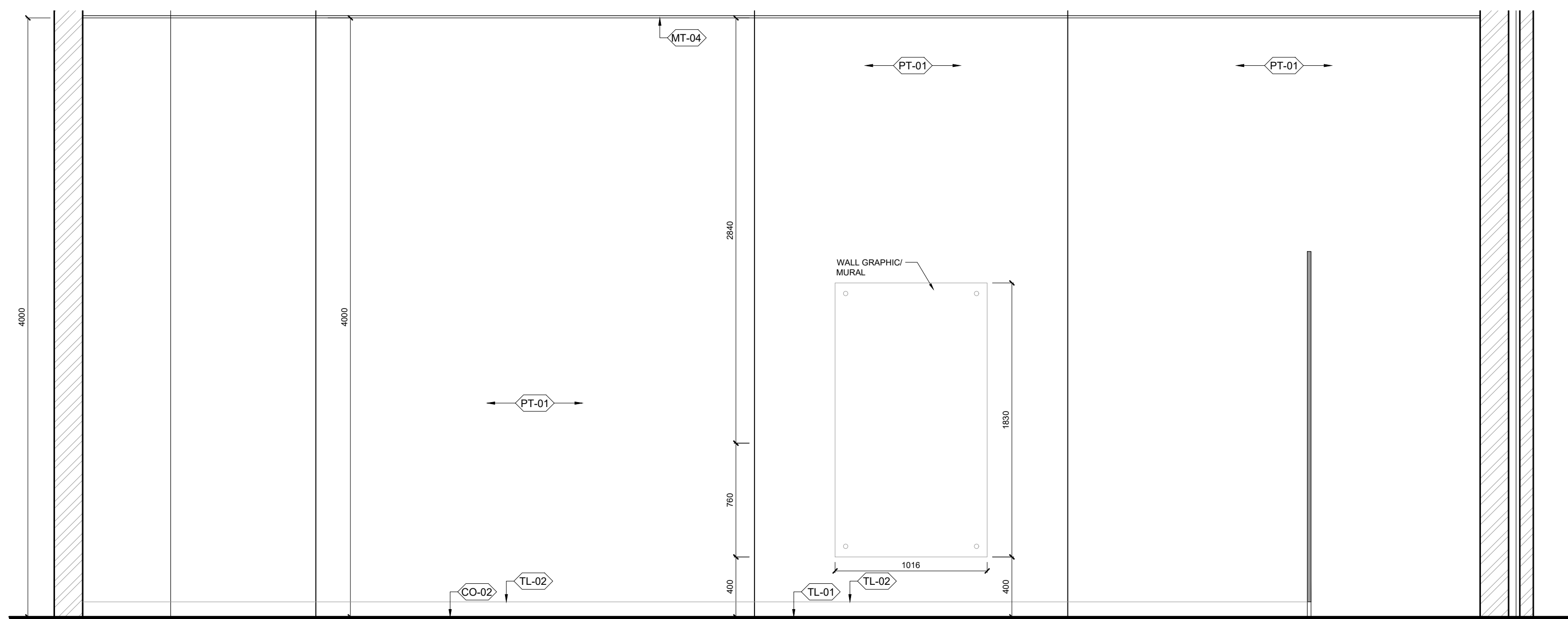
**01 universal change room detailed plan**  
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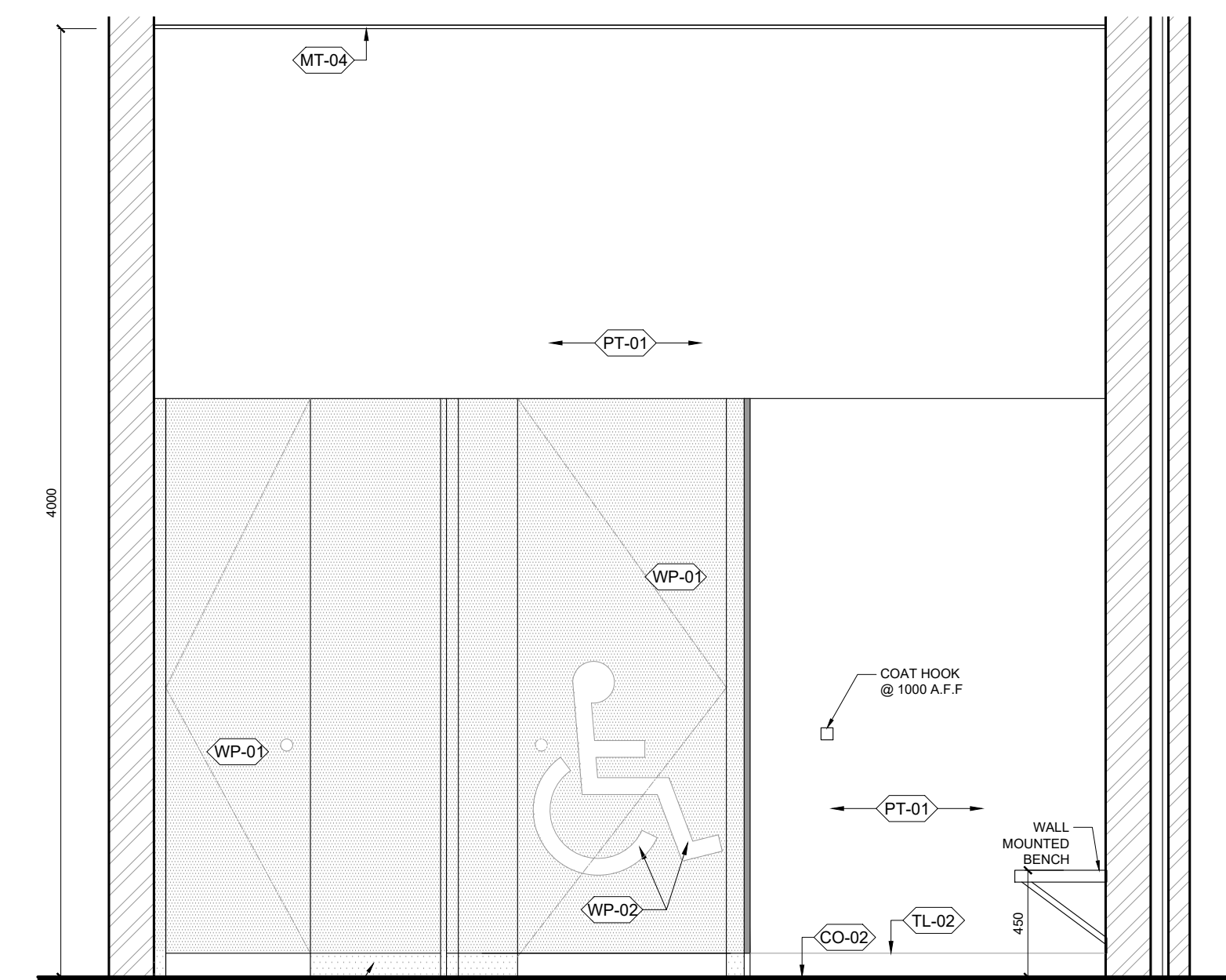
ELEVATION 1



ELEVATION 2

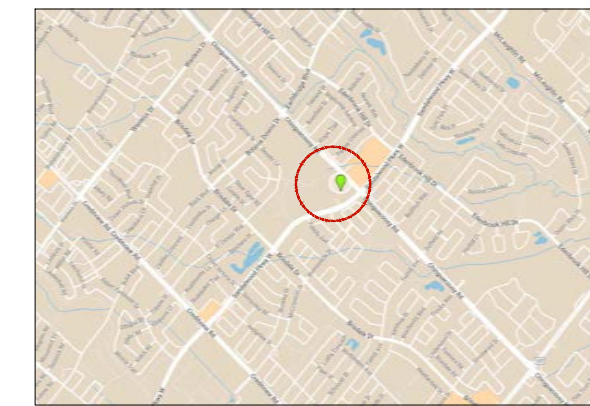


ELEVATION 3



ELEVATION 4

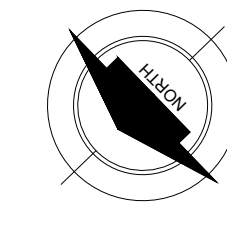
**02 universal change room interior elevations**  
SCALE | 1:25



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RAFIK NASSIF  
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UNIVERSAL CHANGE ROOM DETAILS

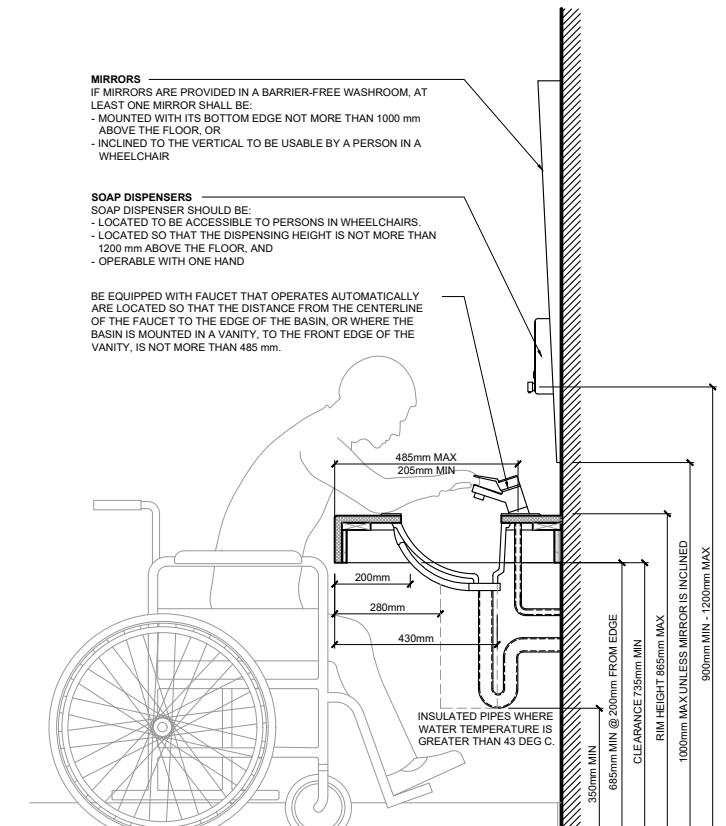
drawing number A6.01  
client CITY OF BRAMPTON

project title  
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1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

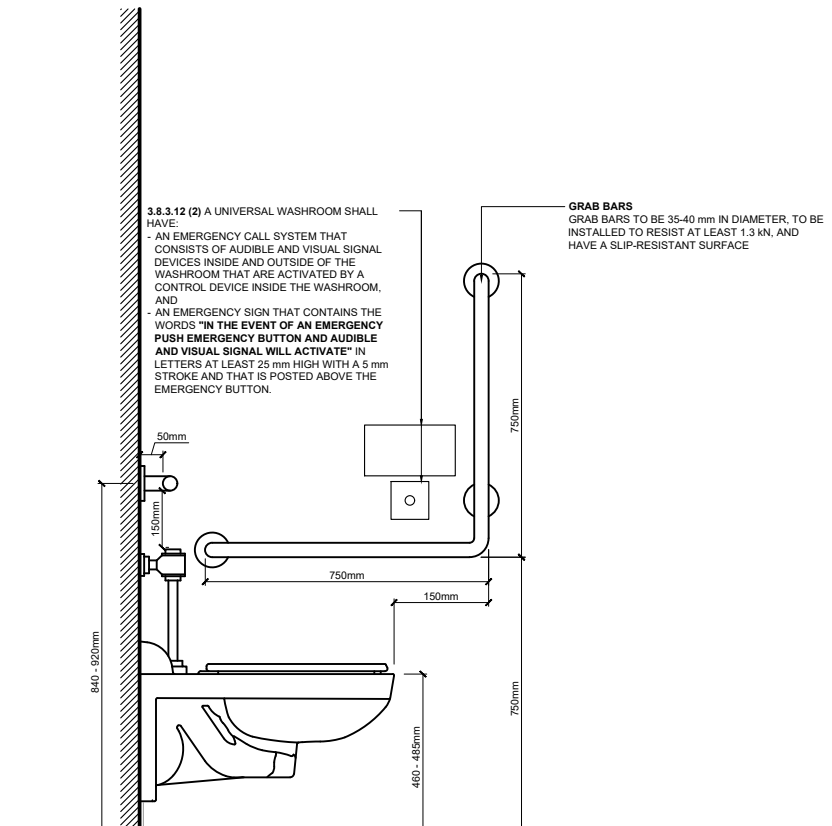
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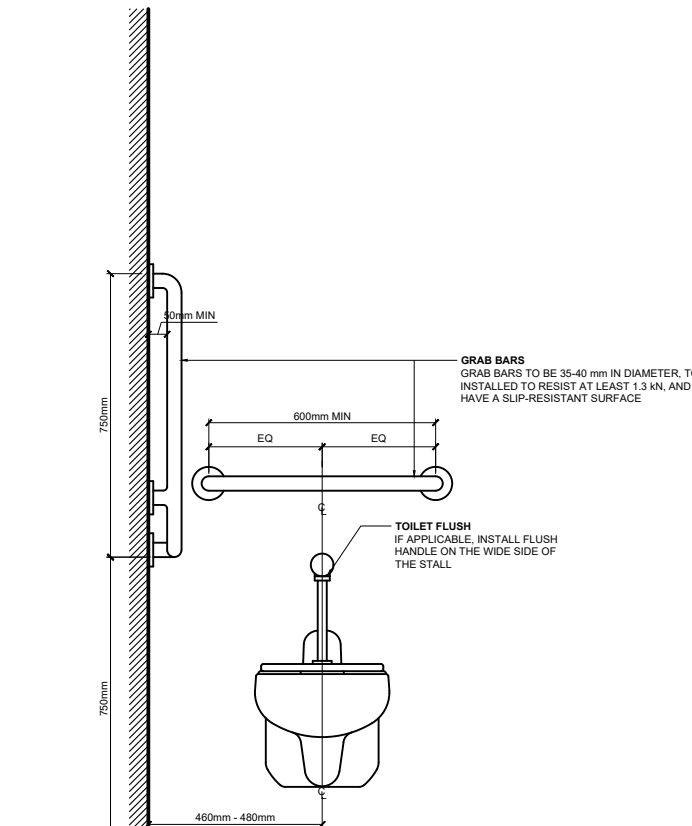




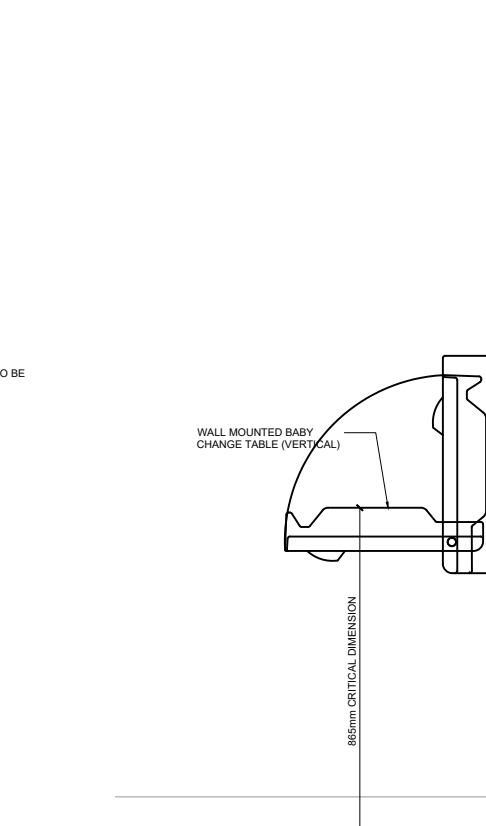
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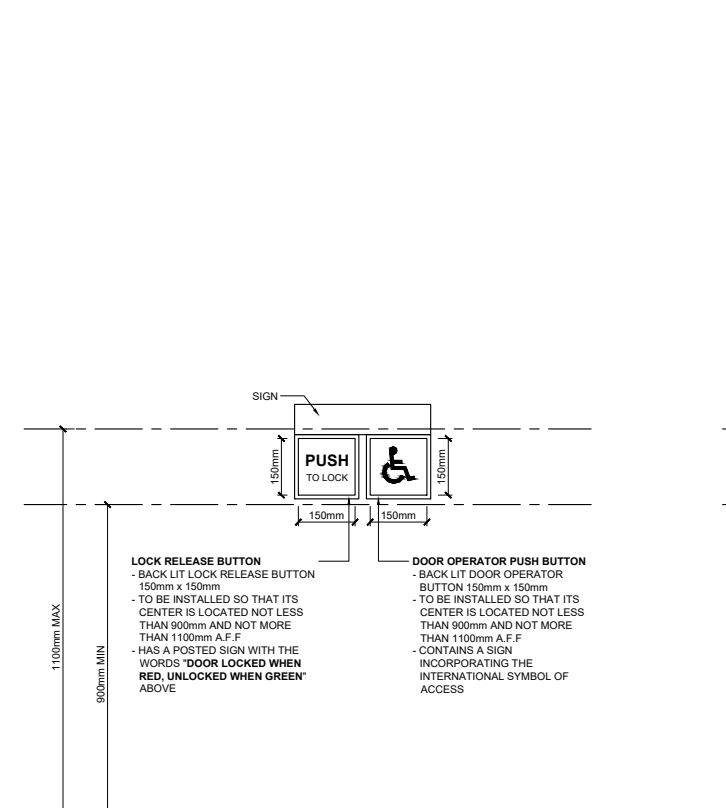
3.8.3.13 WATER CLOSETS CITY OF BRAMPTON ACCESSIBILITY TECHNICAL STANDARDS SECTION IV.2.3.3



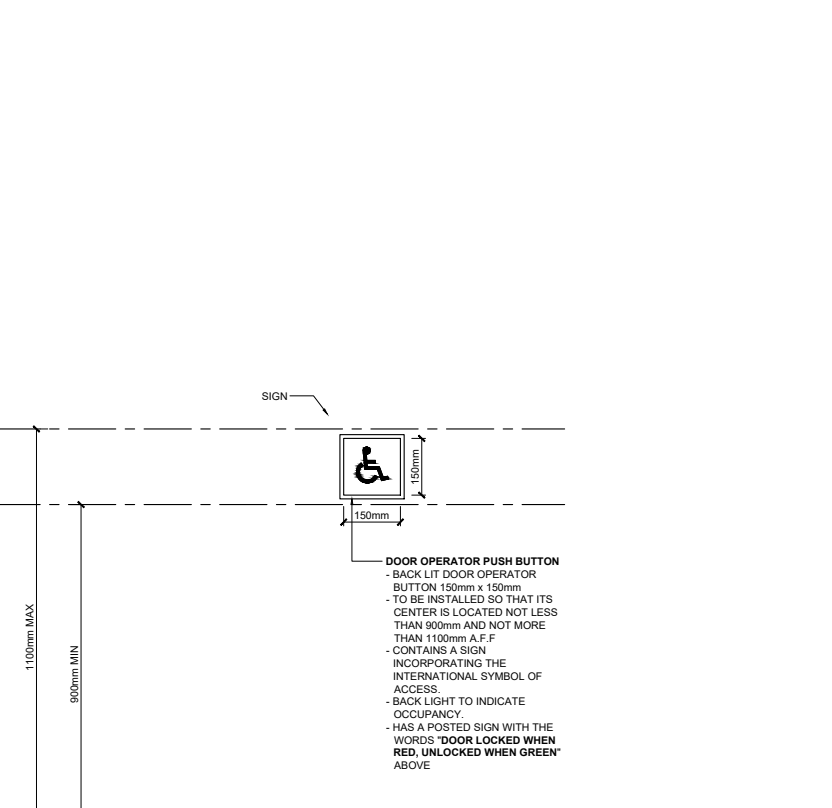
3.8.3.12 BABY CHANGE TABLE CITY OF BRAMPTON ACCESSIBILITY TECHNICAL STANDARDS SECTION IV.2.7



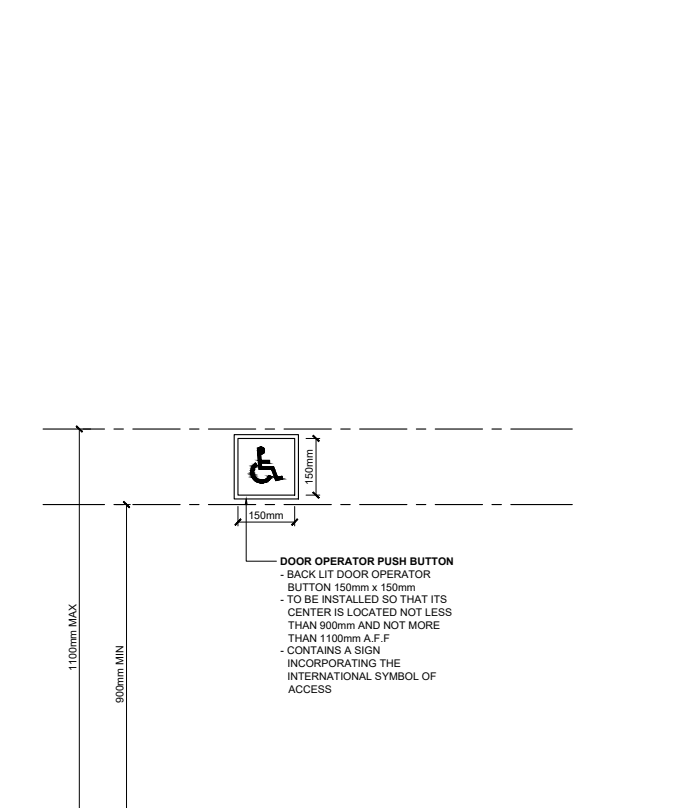
3.8.3.13 TYPICAL DOOR OPERATOR OBC 3.8.3.3.(17)



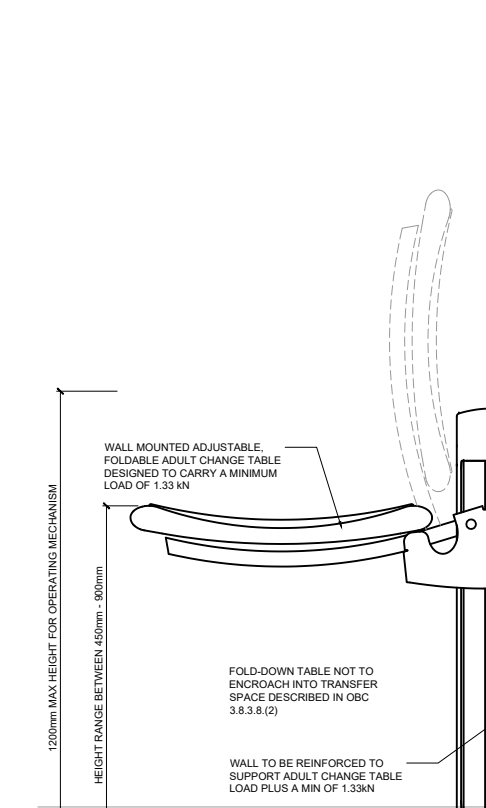
3.8.3.11 UNIVERSAL WASHROOM INSIDE DOOR OPERATORS



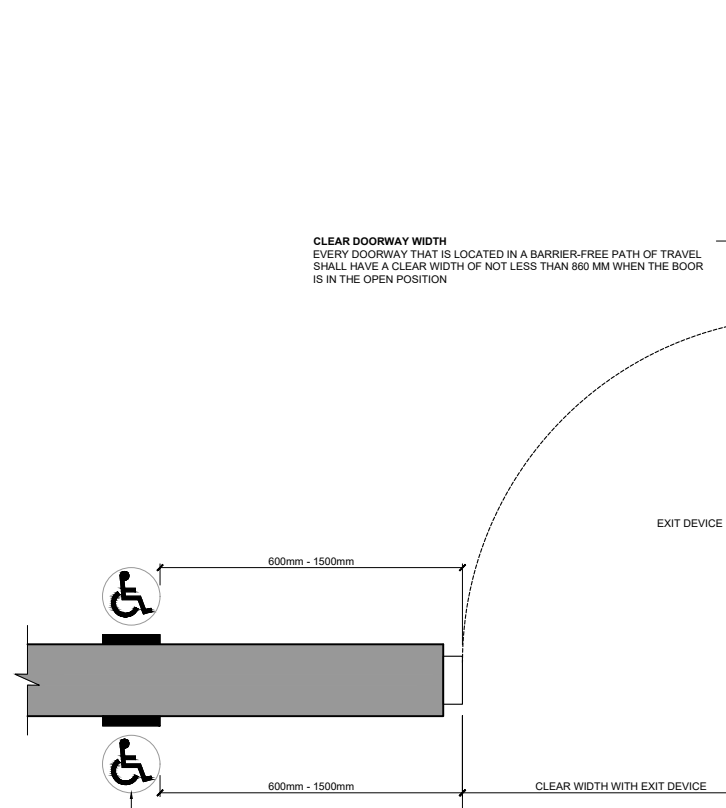
3.8.3.11 UNIVERSAL WASHROOM OUTSIDE DOOR OPERATORS



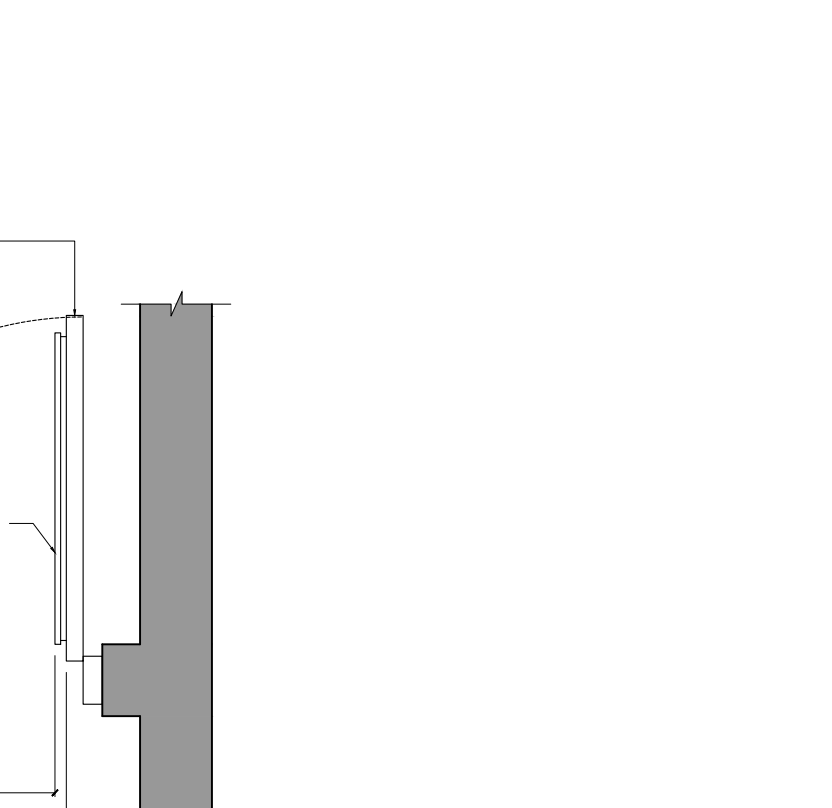
3.8.3.13 TYPICAL DOOR OPERATOR OBC 3.8.3.3.(17)



3.8.3.12 ADULT CHANGE TABLE OBC 3.8.3.12.(9)



3.8.3.3(1) CLEAR DOORWAY WIDTH DOOR OPERATOR LOCATION OBC 3.8.3.3.(17)



3.8.3.3(1) TYPICAL DOOR OPERATOR OBC 3.8.3.3.(17)



3.8.3.3(1) TYPICAL DOOR OPERATOR OBC 3.8.3.3.(17)



3.8.3.3(1) TYPICAL DOOR OPERATOR OBC 3.8.3.3.(17)

3.8.1.2 Entrances

(1) Except as provided in Sentence 3.13.8.1(2), the number of barrier-free entrances into a building shall conform to Table 3.8.1.2.

Table 3.8.1.2 Minimum Number of Pedestrian Entrances Required to be Barrier-Free

Table with 3 columns: Item, Number of Pedestrian Entrances into Building, Min. Number of Pedestrian Entrances Req. to be Barrier-free. Items 1-3 show increasing requirements based on building size.

- (2) One of the barrier-free entrances required by Sentence (1) shall be the principal entrance to the building. (3) In addition to the barrier-free entrances required by Sentence (1), a suite of assembly occupancy, business and mercantile occupancy...

3.8.1.3 Barrier-Free Path of Travel

(1) Except as required in Sentence (4) and except as permitted in Subsection 3.8.3., every barrier-free path of travel shall provide an unobstructed width of at least 1000 mm for the passage of wheelchairs.

- (2) Interior and exterior walking surfaces that are within a barrier-free path of travel shall... (a) have no opening that will permit the passage of a sphere more than 13 mm in diam. (b) have any elongated openings oriented approximately perpendicular to the direction of travel.

3.8.1.5 Controls

(1) Except as required by Sentences 3.5.2.2(1) and 3.8.3.5(1) for elevators and Sentence 3.8.3.3(17) for power door operator controls...

- (a) be accessible to a person in a wheelchair using a side approach, (b) be operable using a closed fist and with a force of not more than 22.2 N, and (c) be mounted.

3.8.3.2 Exterior Walks

(1) Except as provided in Sentence (2), exterior walks that form part of a barrier-free path of travel shall...

- (a) be provided by means of a continuous plane not interrupted by steps or abrupt changes in level, (b) have a permanent, firm and slip-resistant surface, (c) except as required in Sentence 3.8.1.3(4), have an uninterrupted width of not less than 1100 mm and a gradient not exceeding 1 in 20.

Table 3.8.3.2 Ramp Rise and Slope

Table with 2 columns: Vertical Rise Between Surfaces, mm, Slope. Items 1-2 show requirements for ramps.

(3) Curb ramps described in Sentence (3) do not require handrails or guards.

3.8.3.3 Doorways and Doors

(1) Every doorway that is located in a barrier-free path of travel shall have a clear width of not less than 800 mm when the door is in the open position.

- (2) Except where no bathroom within the suite is at the level of the suite entrance door to which a barrier-free path of travel is provided in accordance with Sentence 3.8.2.1(1), the doorway to at least 1 bathroom and to each bedroom at the same level as such bathroom within a suite of residential occupancy shall have, when the door is in the open position, a clear width of not less than... (a) 780 mm where the door is served by a corridor or space not less than 1060 mm wide, and (b) 910 mm where the door is served by a corridor or space less than 1060 mm wide.

designed to permit doors to open when a force of not more than 38 N is applied to the handles, push plates or latch-releasing devices in the case of exterior doors and 22 N in the case of interior doors.

- (8) Sentence (7) does not apply to doors at the entrances to dwelling units, or where greater forces are required in order to close and latch the doors against prevailing differences in air pressures on opposite sides of the doors. (9) Except for doors at the entrances to dwelling units, closers for interior doors in a barrier-free path of travel shall have a closing period of not less than 3 seconds measured from when the door is in an open position of 70° to the doorway...

3.8.3.4 Ramps

(1) Ramps located in a barrier-free path of travel shall...

- (a) have a minimum width of 900 mm between handrails, (b) have a maximum gradient of 1 in 12, (c) have a level area of at least 1.670 m by 1.670 m at the top and bottom of a ramp and where a door is located in a ramp...

3.8.3.9 Water Closets

(1) A water closet described in Clause 3.8.3.8.(1)(c) or (10)(c) or 3.8.3.12(1)(i) shall...

- (a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor, (b) be equipped with hand-operated flushing controls that are easily accessible to a wheelchair user or be automatically operable, (c) be equipped with a back support where there is no seat lid or tank, and (d) not have a spring-activated seat.

3.8.3.10 Urinals

(1) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3(3) or (4), at least one urinal shall be...

- (a) wall mounted, with the rim level not more than 430 mm above the finished floor, or (b) floor mounted, with the rim level with the finished floor. (2) A urinal described in Sentence (1) shall have... (a) no step in front, (b) a vertically mounted grab bar installed on each side of the urinal tank.

3.8.3.11 Lavatories

(1) A washroom described in Sentence 3.8.2.3(2), (3) or (4) shall be provided with a lavatory that shall...

- (a) be located so that the distance between the centre line of the lavatory and the side wall is not less than 460 mm, (b) be mounted so that the top of the lavatory is not more than 840 mm above the finished floor, (c) have a clearance beneath the lavatory not less than... (i) 920 mm wide, (ii) 735 mm high at the front edge, (iii) 685 mm high at a point 205 mm back from the front edge, and (iv) 350 mm high at a point 300 mm back from the front edge to the wall.

3.8.3.8 Water Closet Stalls

(1) Every barrier-free water closet stall in a washroom described in Sentence 3.8.2.3(3) or (4) shall...

- (a) have a clear turning space at least 1500 mm in diameter, (b) be equipped with a door that shall... (i) be capable of being latched from the inside with a mechanism that is operable using a closed fist, and (ii) when the door is in an open position, have a clear opening of at least 860 mm, (iii) swing outward, unless 820 mm by 1440 mm clear floor area is provided within the stall to permit the door to be closed without interfering with the wheelchair.

interfering with the wheelchair. (iv) be provided with spring-type or gravity hinges so that the door closes automatically.

- (2)(a)(i) or Clause (2)(b), and (vi) be capable of having the latch required by Subclause (i) released from the outside in the case of an emergency. (2) (a) be equipped with a water closet conforming to Article 3.8.3.9, that is located in accordance with Clause (2)(a) or (b), (e) Reserved, (f) be equipped with a coat hook mounted not more than 1200 mm above the finished floor on a side wall and projecting not more than 50 mm from the wall.

3.8.3.12 Universal Washrooms

(1) A universal washroom shall...

- (b) have a door that is capable of being locked from the inside and released from the outside in case of emergency and that has a graspable latch-operating mechanism located not less than 900 mm and not more than 1000 mm above the finished floor, (c) be continuous L-shaped with 760 mm long horizontal and vertical components, and (d) be wall mounted with the horizontal component 750 mm above the finished floor and the vertical component 150 mm in front of the water closet.

3.8.3.13 Water Closets

(1) A water closet described in Clause 3.8.3.8.(1)(c) or (10)(c) or 3.8.3.12(1)(i) shall...

- (a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor, (b) be equipped with hand-operated flushing controls that are easily accessible to a wheelchair user or be automatically operable, (c) be equipped with a back support where there is no seat lid or tank, and (d) not have a spring-activated seat.

3.8.3.10 Urinals

(1) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3(3) or (4), at least one urinal shall be...

- (a) wall mounted, with the rim level not more than 430 mm above the finished floor, or (b) floor mounted, with the rim level with the finished floor. (2) A urinal described in Sentence (1) shall have... (a) no step in front, (b) a vertically mounted grab bar installed on each side of the urinal tank.

3.8.3.11 Lavatories

(1) A washroom described in Sentence 3.8.2.3(2), (3) or (4) shall be provided with a lavatory that shall...

- (a) be located so that the distance between the centre line of the lavatory and the side wall is not less than 460 mm, (b) be mounted so that the top of the lavatory is not more than 840 mm above the finished floor, (c) have a clearance beneath the lavatory not less than... (i) 920 mm wide, (ii) 735 mm high at the front edge, (iii) 685 mm high at a point 205 mm back from the front edge, and (iv) 350 mm high at a point 300 mm back from the front edge to the wall.

basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm.

- (f) have a minimum 1370 mm deep floor space to allow for a forward approach, of which a maximum of 500 mm can be located under the lavatory, (g) have a soap dispenser that is... (i) located to be accessible to persons in wheelchairs, (ii) located so that the dispensing height is not more than 1 200 mm above the finished floor, (iii) located not more than 610 mm, measured horizontally, from the edge of the lavatory, and (iv) operable with one hand, and (h) have a towel dispenser or other hand drying equipment that is... (i) located to be accessible to persons in wheelchairs, (ii) located so that the dispensing height is not more than 1200 mm above the finished floor, (iii) operable with one hand, and (iv) located not more than 610 mm, measured horizontally, from the edge of the lavatory.

3.8.3.12 Universal Washrooms

(1) A universal washroom shall...

- (b) have a door that is capable of being locked from the inside and released from the outside in case of emergency and that has a graspable latch-operating mechanism located not less than 900 mm and not more than 1000 mm above the finished floor, (c) be continuous L-shaped with 760 mm long horizontal and vertical components, and (d) be wall mounted with the horizontal component 750 mm above the finished floor and the vertical component 150 mm in front of the water closet.

3.8.3.13 Water Closets

(1) A water closet described in Clause 3.8.3.8.(1)(c) or (10)(c) or 3.8.3.12(1)(i) shall...

- (a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor, (b) be equipped with hand-operated flushing controls that are easily accessible to a wheelchair user or be automatically operable, (c) be equipped with a back support where there is no seat lid or tank, and (d) not have a spring-activated seat.

3.8.3.10 Urinals

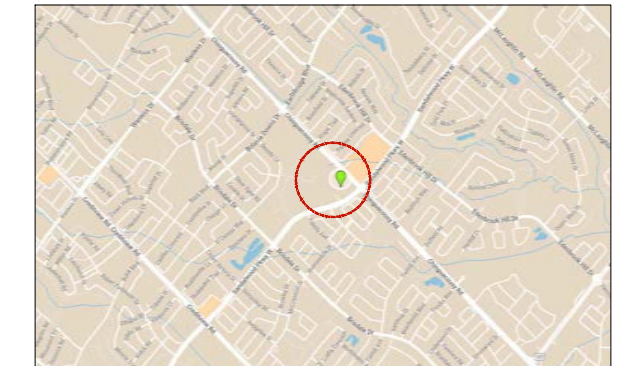
(1) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3(3) or (4), at least one urinal shall be...

- (a) wall mounted, with the rim level not more than 430 mm above the finished floor, or (b) floor mounted, with the rim level with the finished floor. (2) A urinal described in Sentence (1) shall have... (a) no step in front, (b) a vertically mounted grab bar installed on each side of the urinal tank.

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(1) A washroom described in Sentence 3.8.2.3(2), (3) or (4) shall be provided with a lavatory that shall...

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KEY MAP N.T.S

PYLONS architecture inc. Architecture • Interior Design • Project Management. Contact information and website URL.

ONTARIO ASSOCIATION OF ARCHITECTS Rafiq Nassif LICENCE. Logo and professional details.

Revision table with columns: No., Description, Revision, Date, and initials. Lists various project updates.

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Table with 2 columns: reviewed by / drawn by, date, scale, drawing title. Shows project management details.

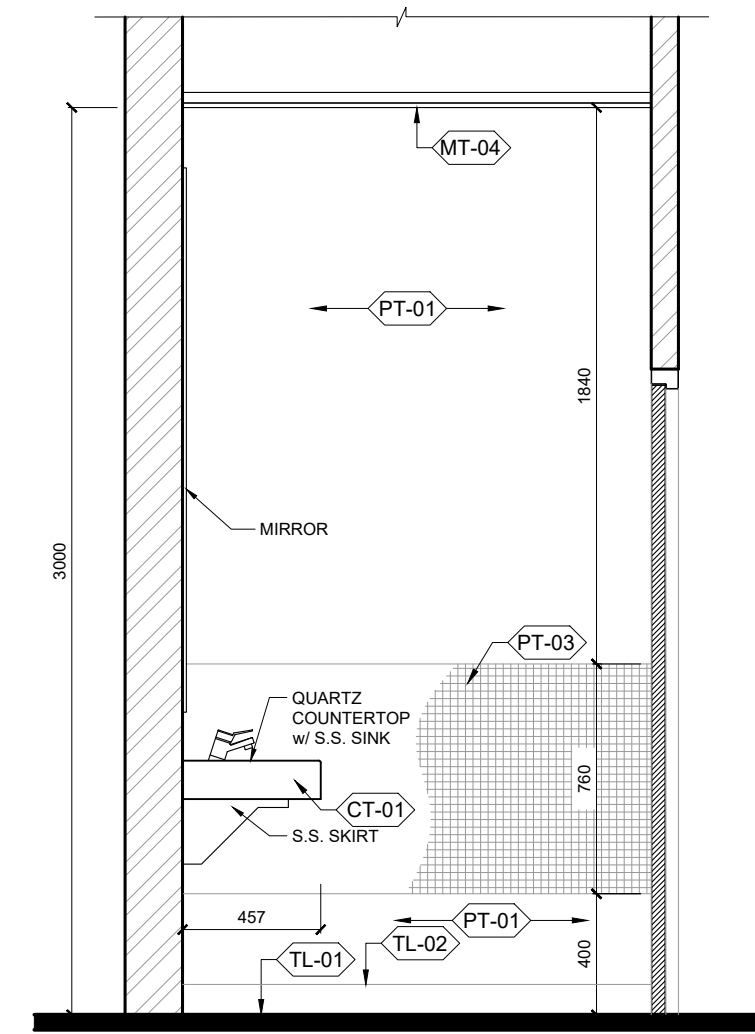
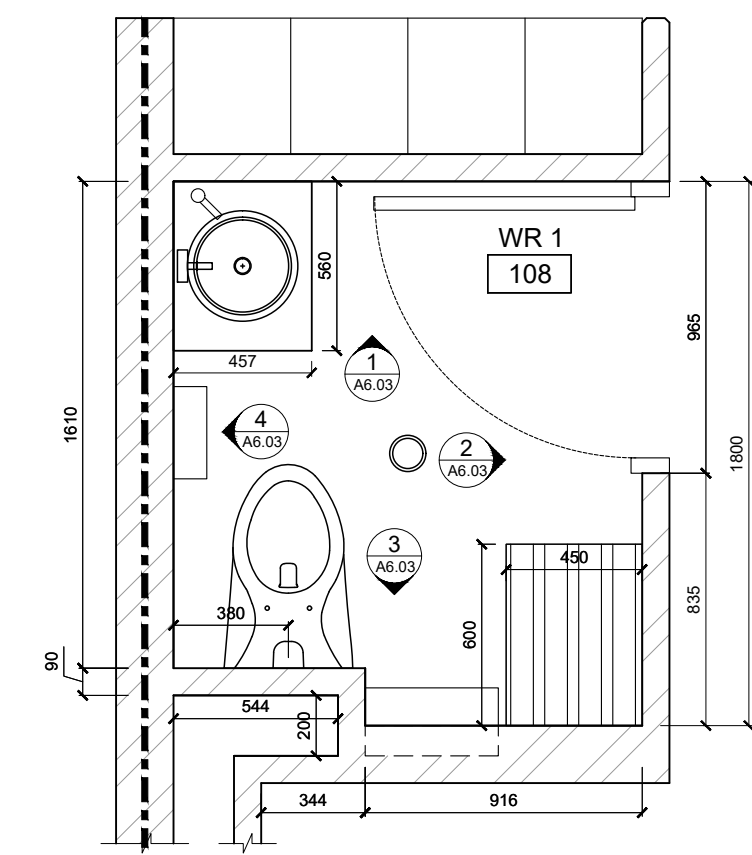
BARRIER FREE STANDARD DETAILS

drawing number A6.02 client CITY OF BRAMPTON

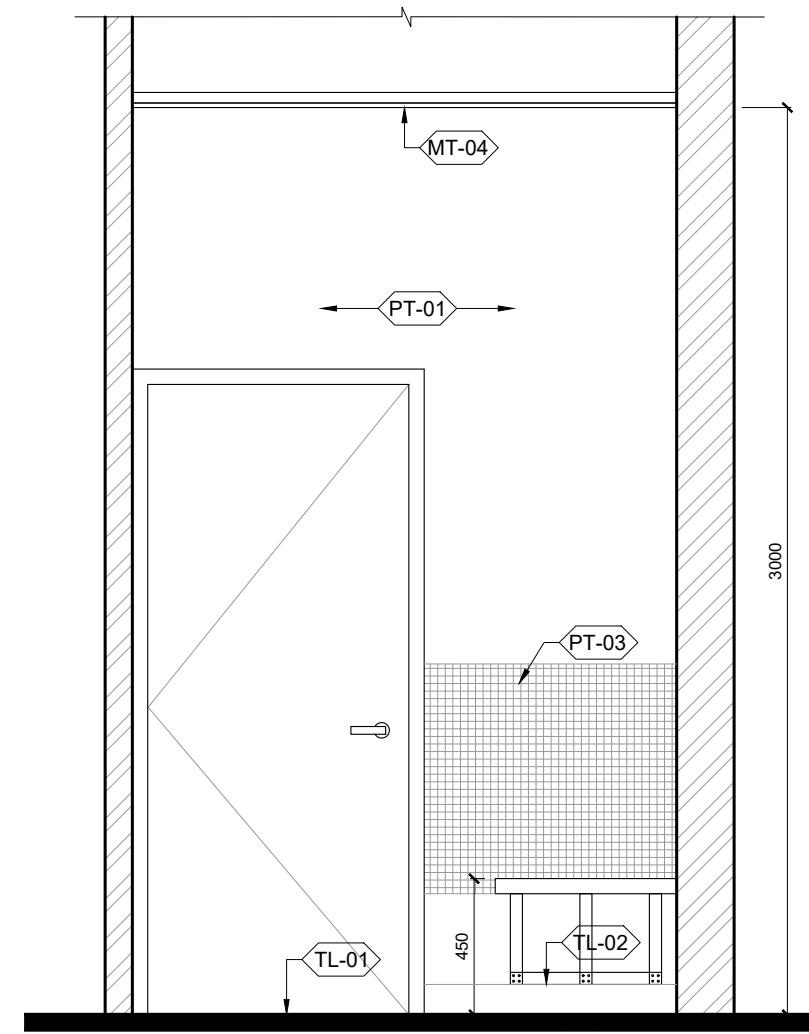
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landscape planning LANDSCAPE ARCHITECTS. Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2. Tel. 905.669.6838, www.landscapeplan.ca

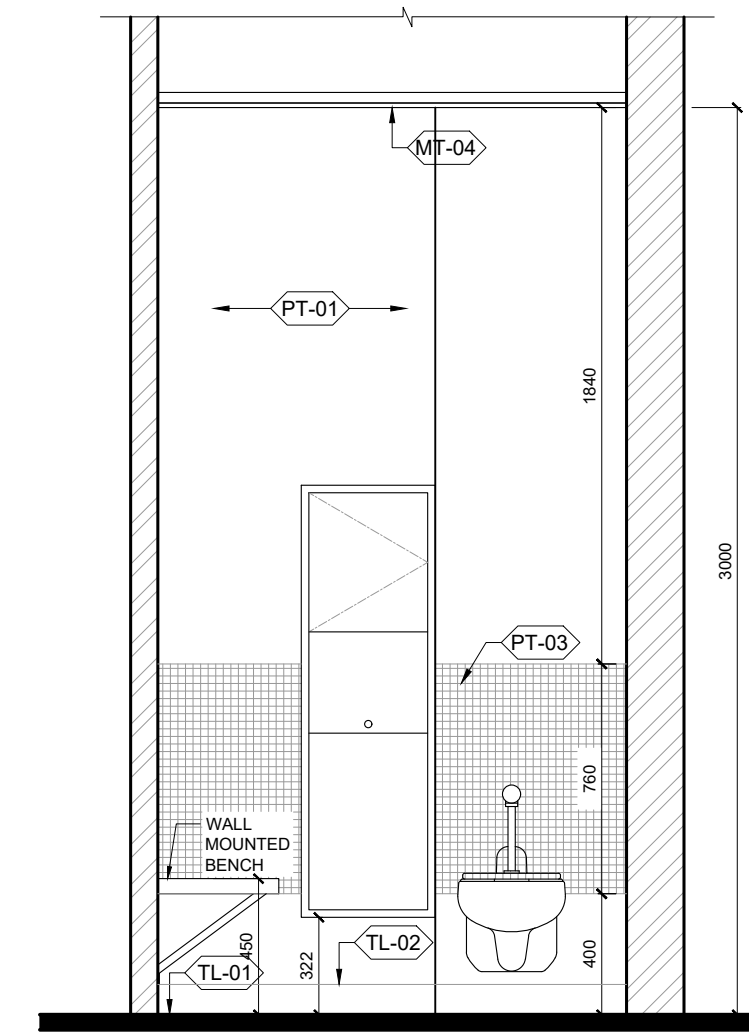




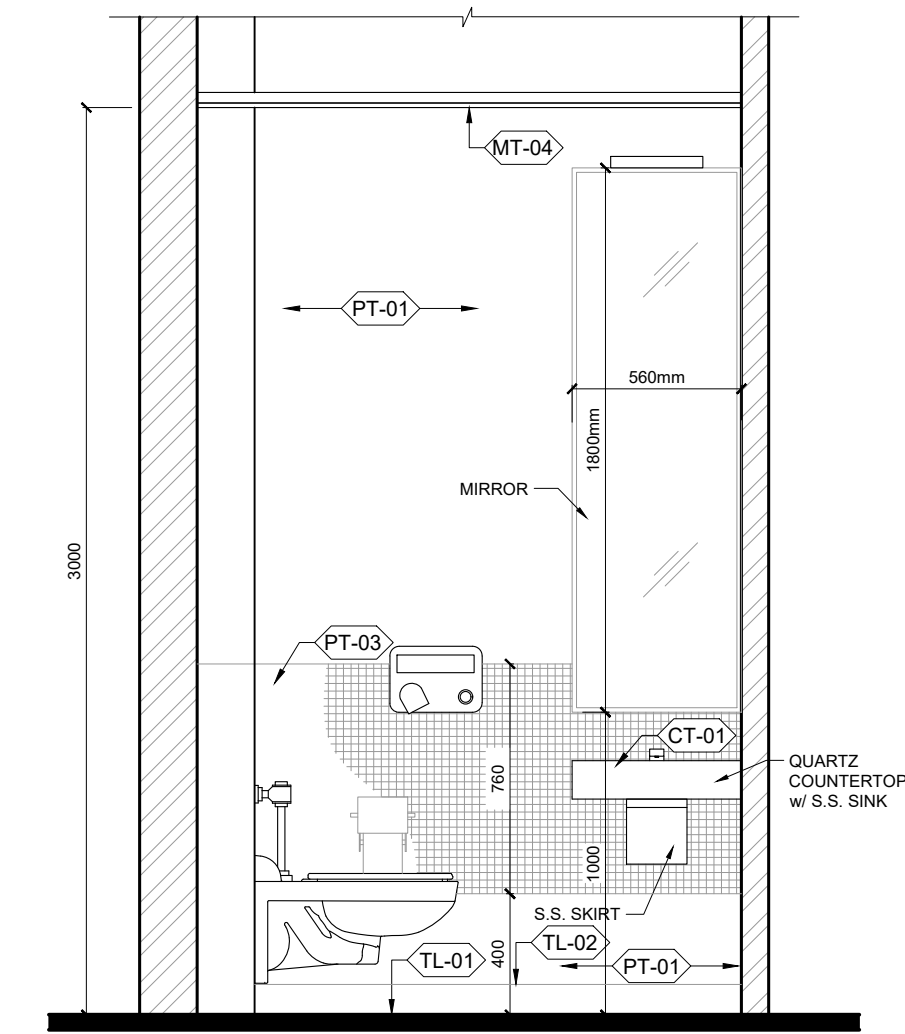
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ELEVATION 2

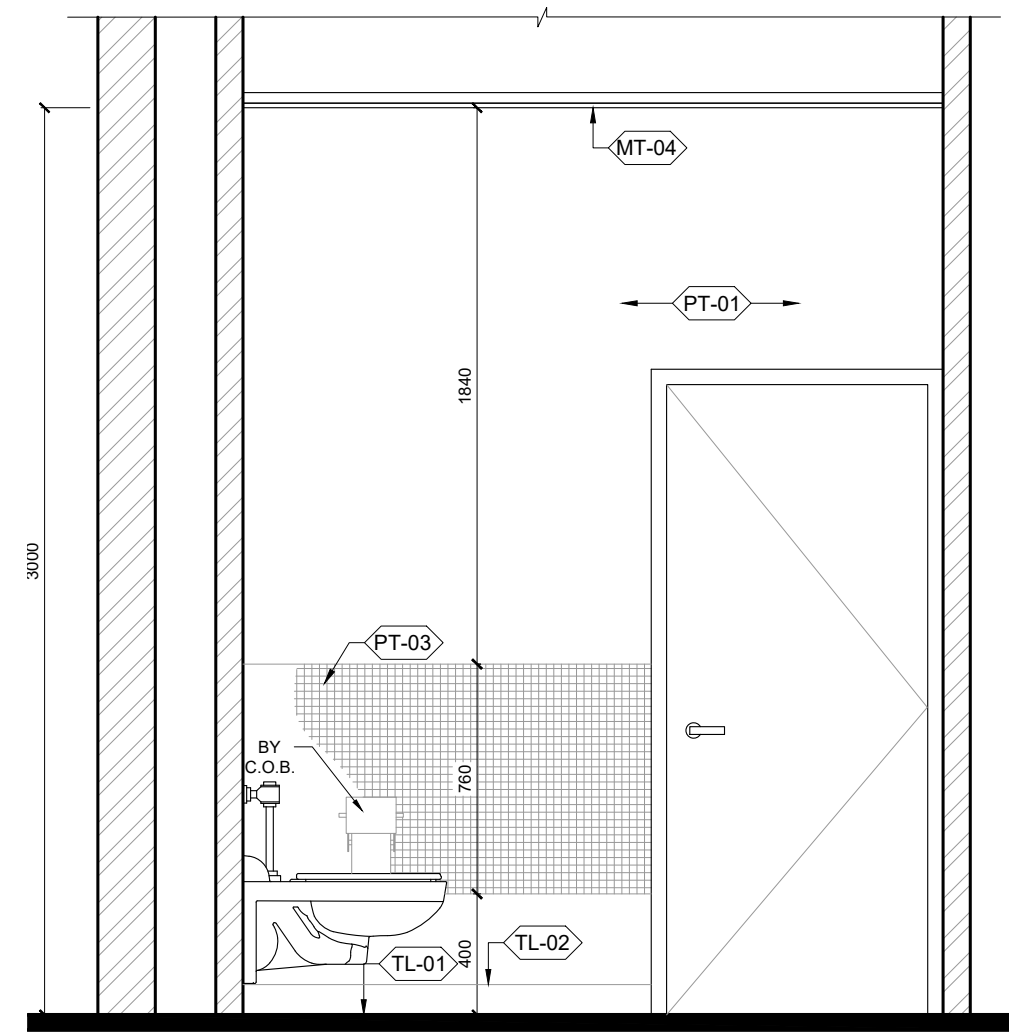
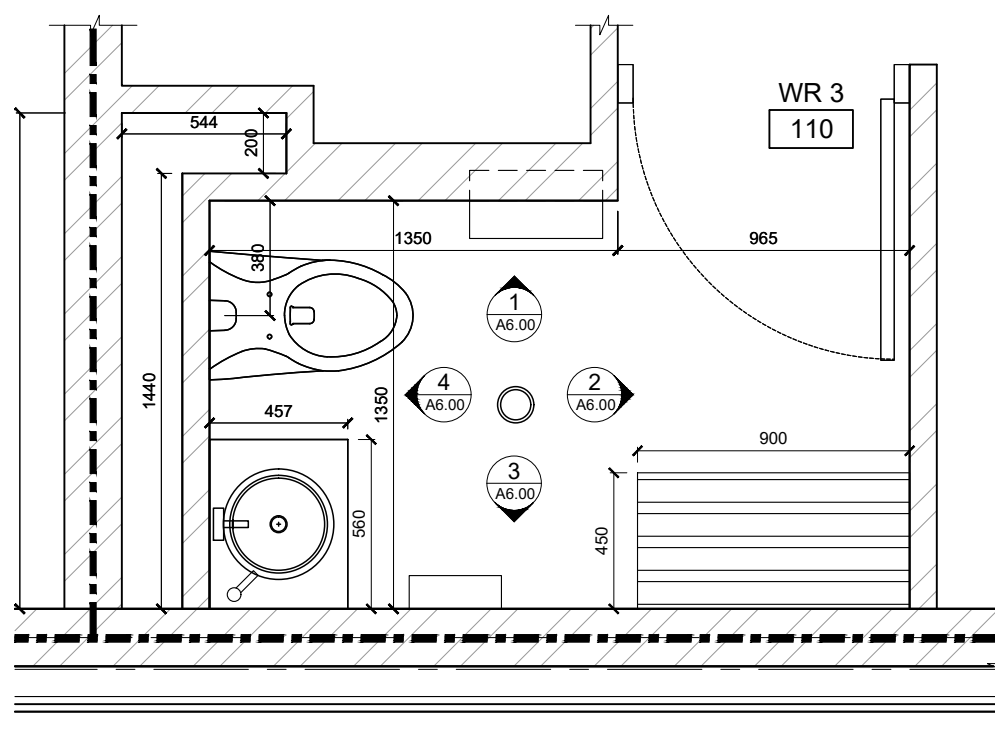


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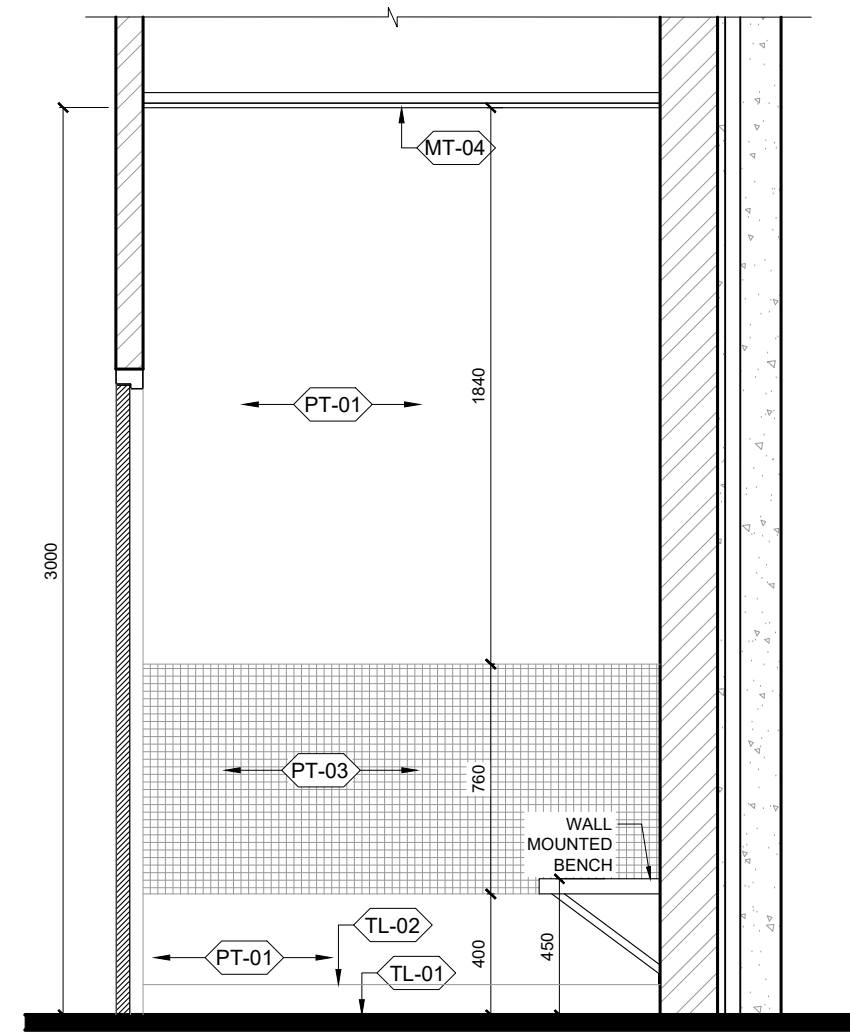


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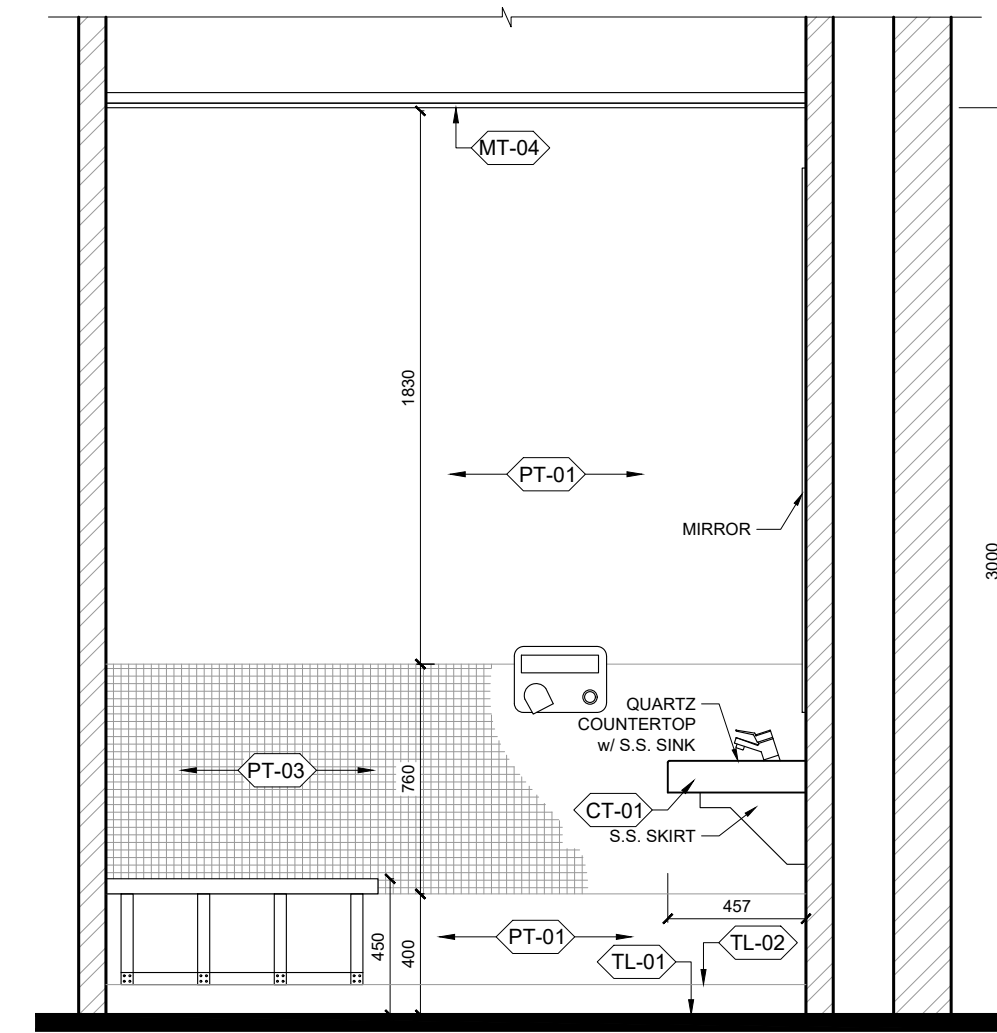
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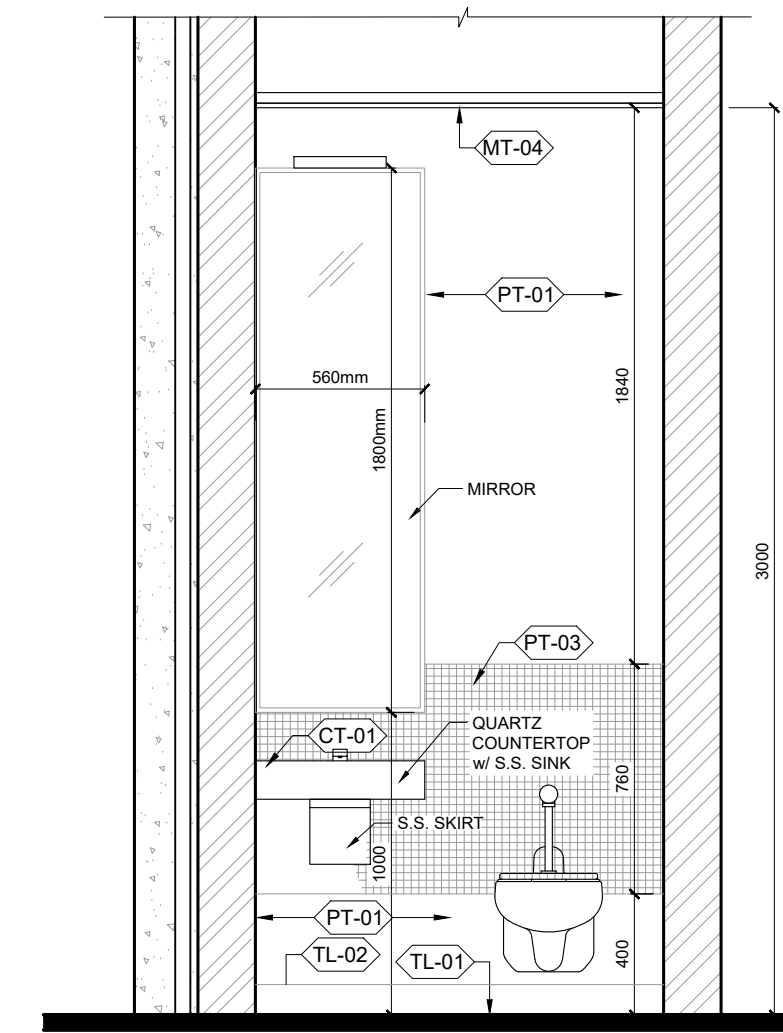
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ELEVATION 2

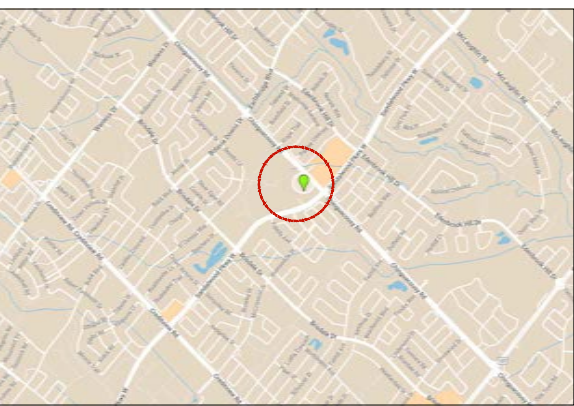


ELEVATION 3



ELEVATION 4

**02 washroom 2 and 3 typical details**  
SCALE | 1:25



KEY MAP  
N.T.S.



R7	Re-issued for Tender	Dec 06/24	RN
R6	Re-issued for SPA	Nov 08/24	RN
R5	Rev. 01 for SPA	Sep 25/24	RN
R4	Issued for SPA	Jun 24/24	RN
R3	Issued for 90% Progress	May 10/24	RN
R2	Issued for Completeness Review	Apr 03/24	RN
R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN
No.	revision	date	by

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reviewed by	drawn by
RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**TYPICAL WASHROOM DETAILS**

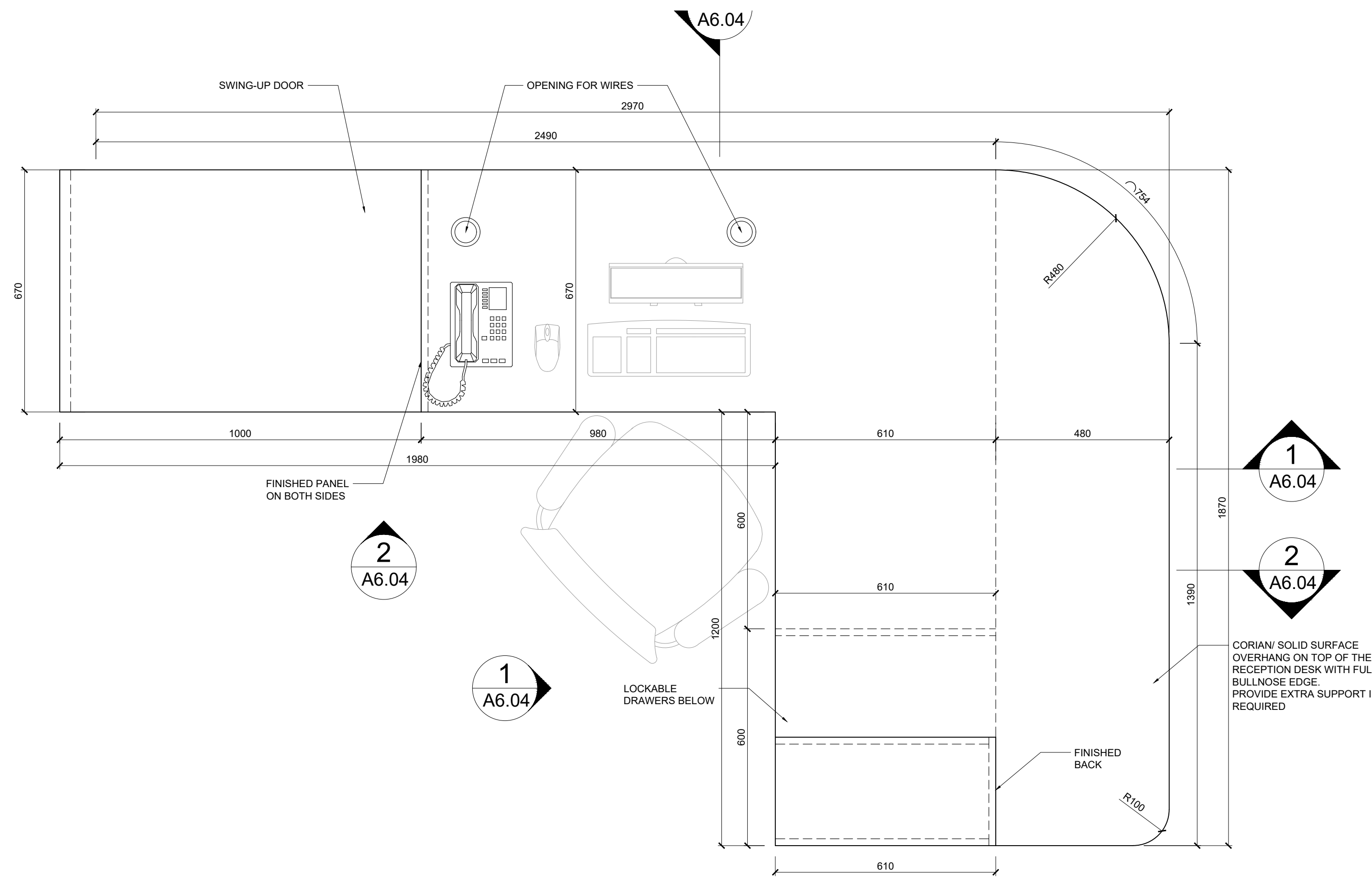
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**A6.03**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8**  
project number  
**PRE-2023-0128**

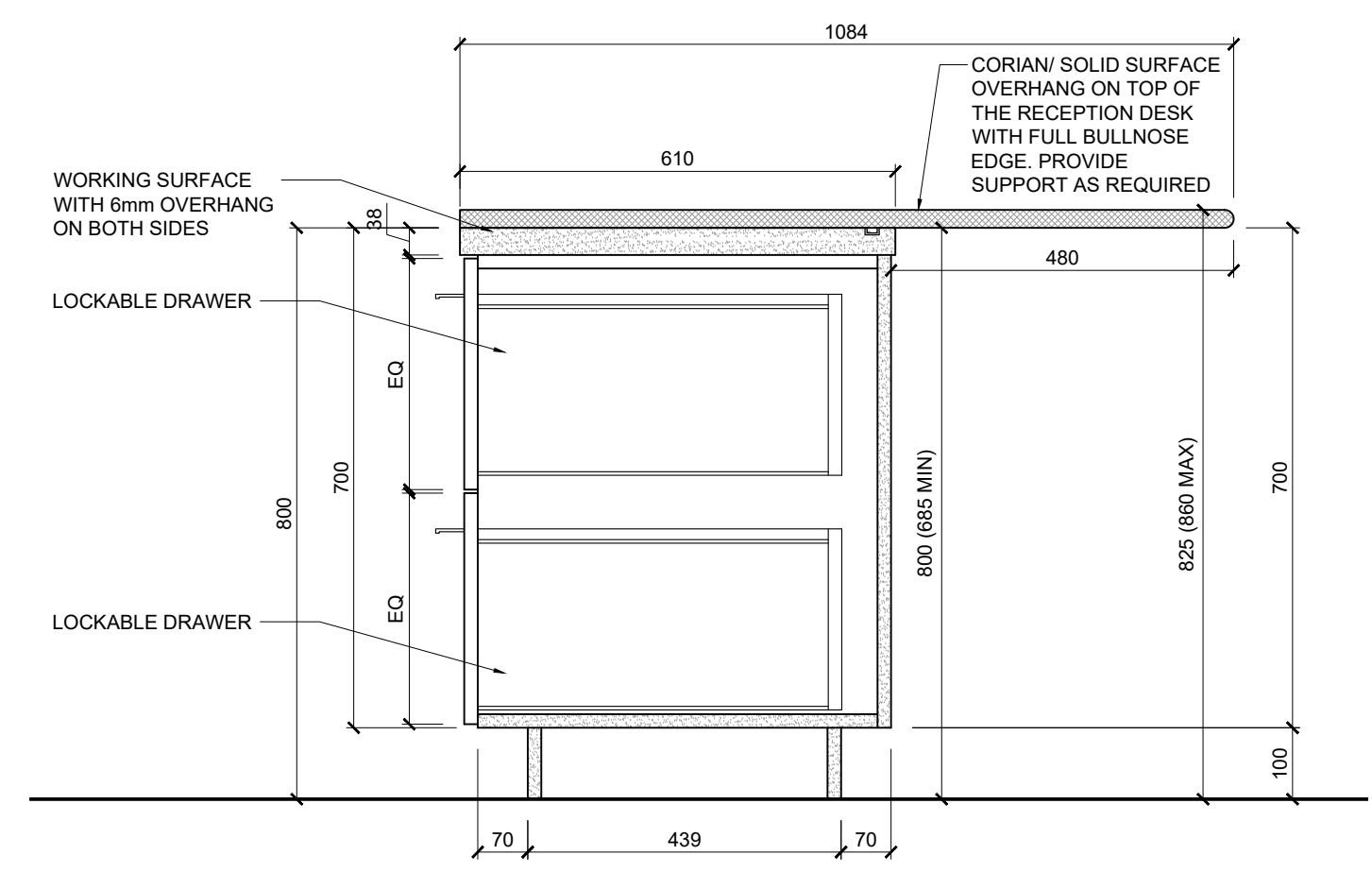


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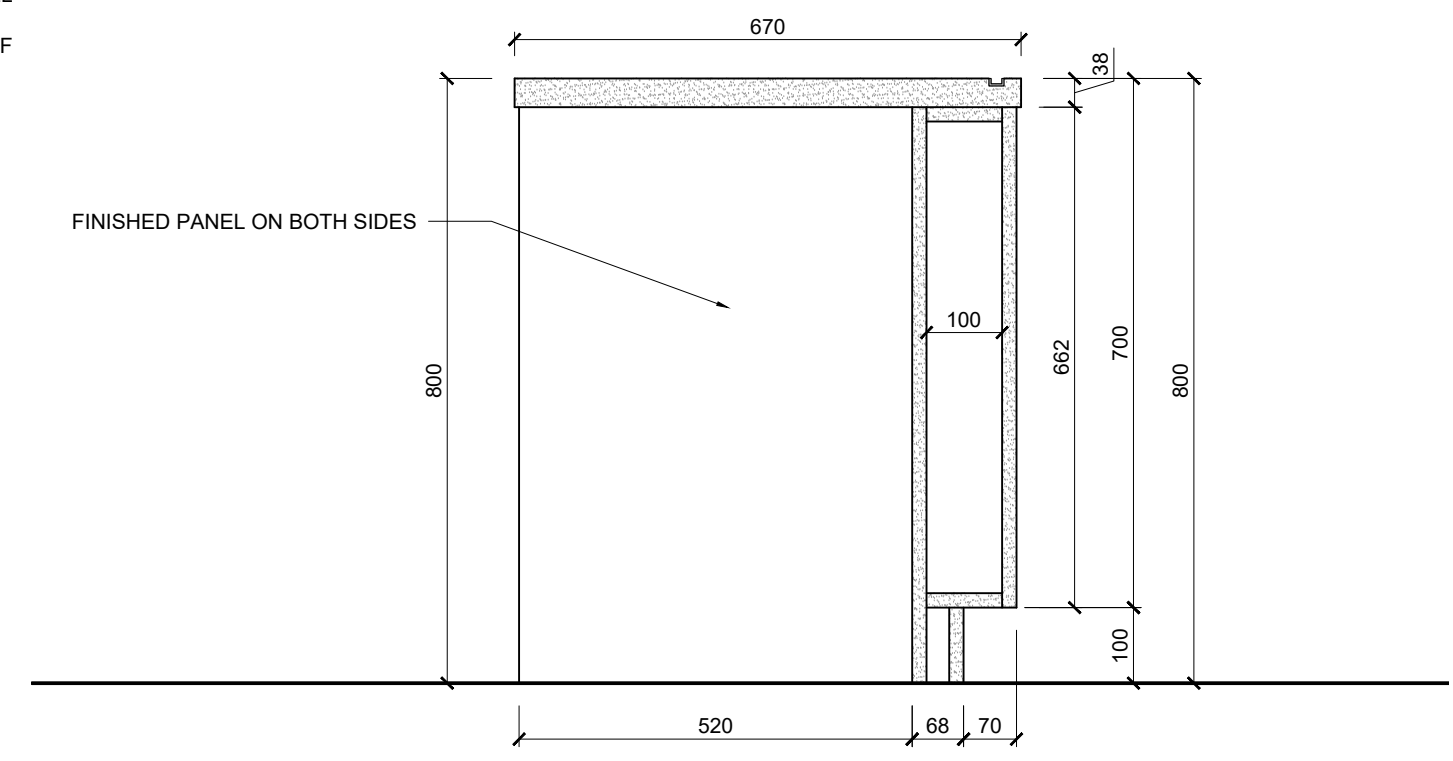




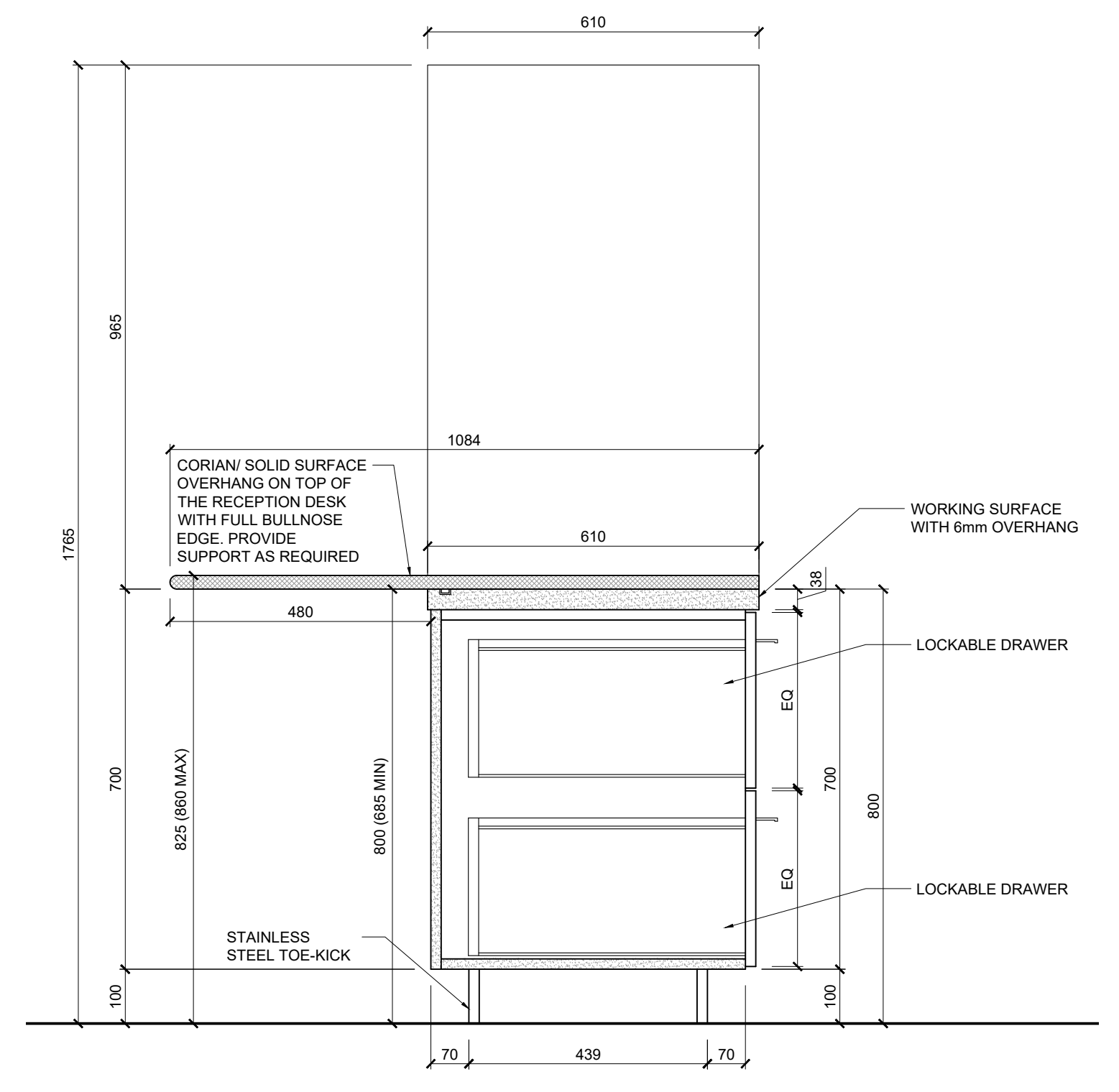
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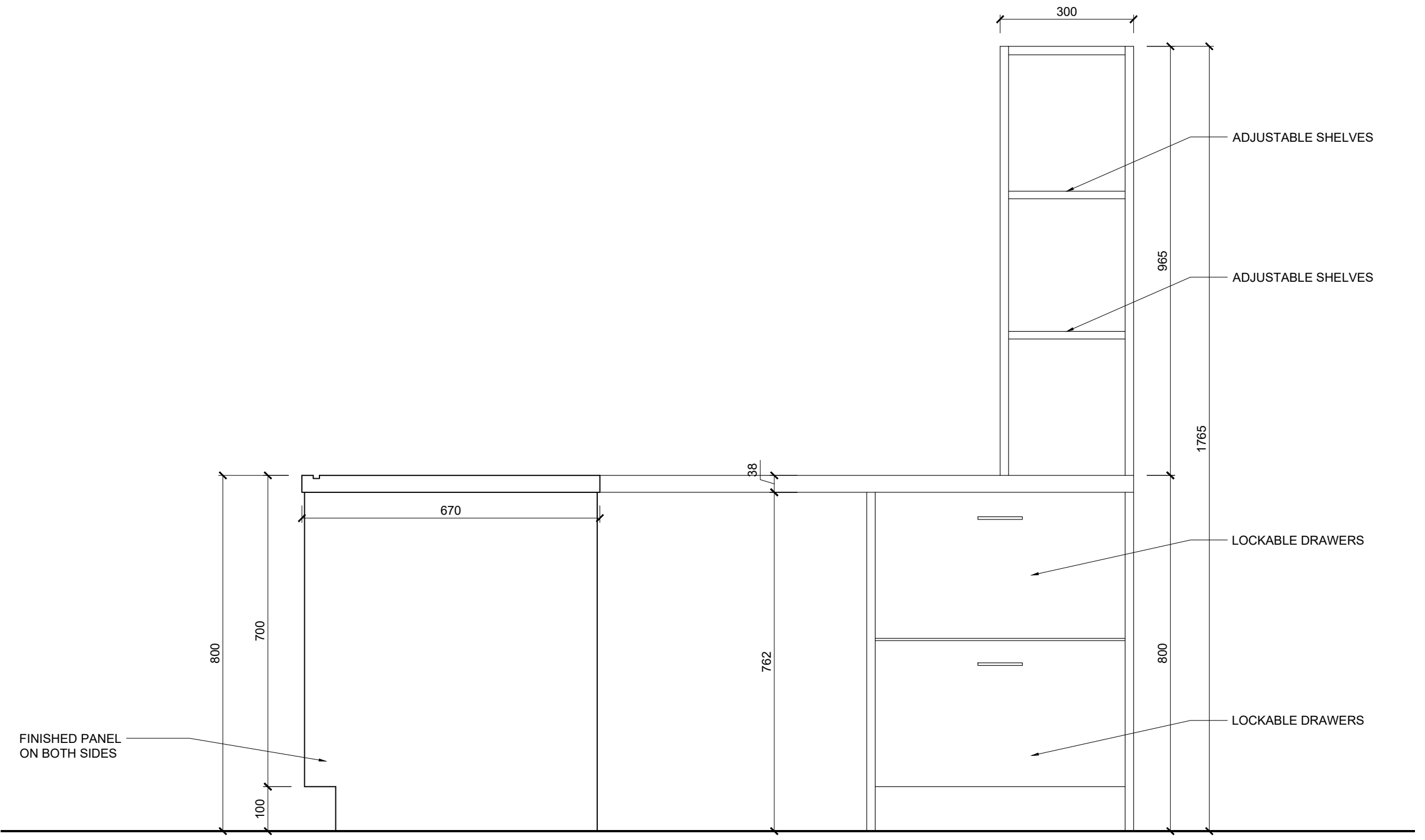


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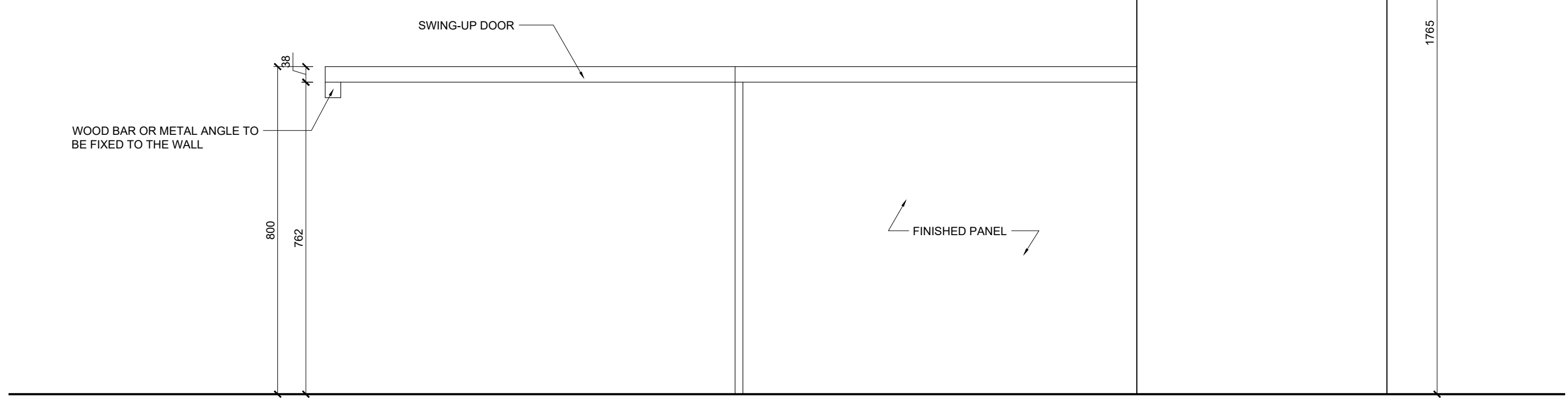


**SECTION 2**

**03 reception desk sections**  
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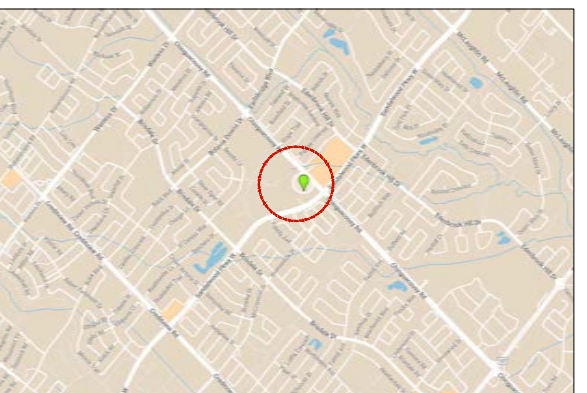


**ELEVATION 1**

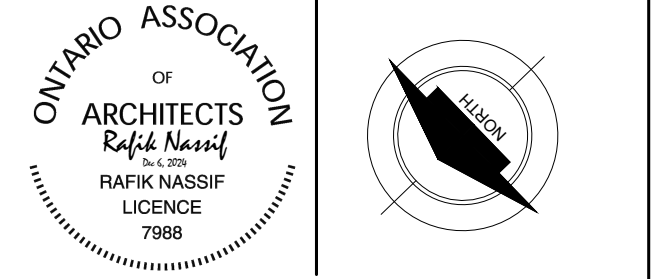


**ELEVATION 2**

**02 reception desk elevations**  
SCALE | 1:10



**KEY MAP**  
N.T.S.



no.	revision	date	revision
R7	Re-issued for Tender	Dec 06/24	RN
R6	Re-issued for SFA	Nov 08/24	RN
R5	Rev. 01 for SFA	Sep 25/24	RN
R4	Issued for SFA	Jun 24/24	RN
R3	Issued for 90% Progress	May 10/24	RN
R2	Issued for Completeness Review	Apr 03/24	RN
R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN
no.	revision	date	revision

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RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**MILLWORK DETAILS**

drawing number  
**A6.04**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8**  
project number  
**PRE-2023-0128**







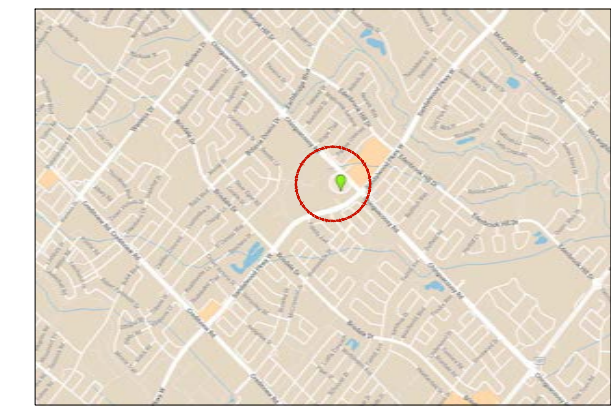


**WINDOW TYPE SCHEDULE**

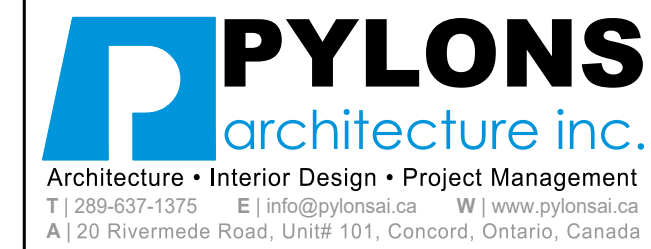
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MAX U-VALUE = U-0.34 MAX SHGC = 0.45 MIN VT/SHGC = 1.10	MAX U-VALUE = U-0.34 MAX SHGC = 0.45 MIN VT/SHGC = 1.10
- ALUMINUM DOUBLE GLAZED FIXED WINDOW (OR APPROVED EQUAL) - COLOR: BLACK - CLASS I, 0.004 ANODIZING - ALL INSERTS TO BE 25mm DOUBLE PANEL ARGON GAS FILLED LOW-E WITH 6mm THICK FROSTED TEMPERED GLASS (FTG) - ALL CAULKING TO MATCH FRAMES	

**GLAZING TYPE SCHEDULE**

TYPE (G01)	TYPE (G02)
QTY: 1	QTY: 2
GLAZING GLASS AND FRAME COLOURS TO MATCH SIMILAR COLOURS AT THE MAIN COMMUNITY CENTRE BUILDING COL 1: OPAQUE/ FROSTED COL 2: SEMI-TRANSPARENT/ REFLECTIVE MAX U-VALUE = U-0.69 MAX SHGC = 0.45 MIN VT/SHGC = 1.10	GLAZING GLASS AND FRAME COLOURS TO MATCH SIMILAR COLOURS AT THE MAIN COMMUNITY CENTRE BUILDING COL 1: OPAQUE/ FROSTED COL 2: SEMI-TRANSPARENT/ REFLECTIVE MAX U-VALUE = U-0.34 MAX SHGC = 0.45 MIN VT/SHGC = 1.10



KEY MAP  
N.T.S



no.	revision	date	by
R7	Re-issued for Tender	Dec 06/24	RN
R6	Re-issued for SFA	Nov 08/24	RN
R5	Rev. 01 for SFA	Sep 25/24	RN
R4	Issued for SFA	Jun 24/24	RN
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R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN

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RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

**WINDOW AND GLAZING SCHEDULES**

drawing number  
**A7.01**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**



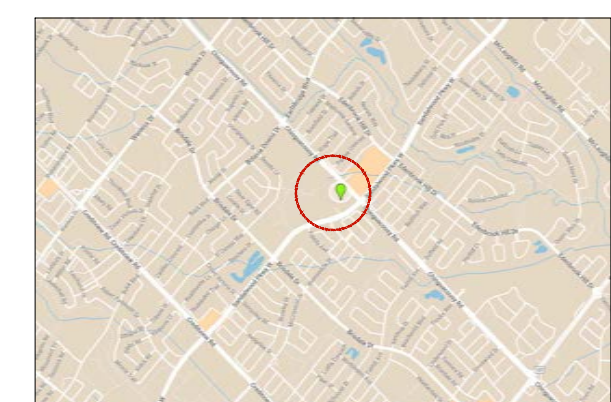
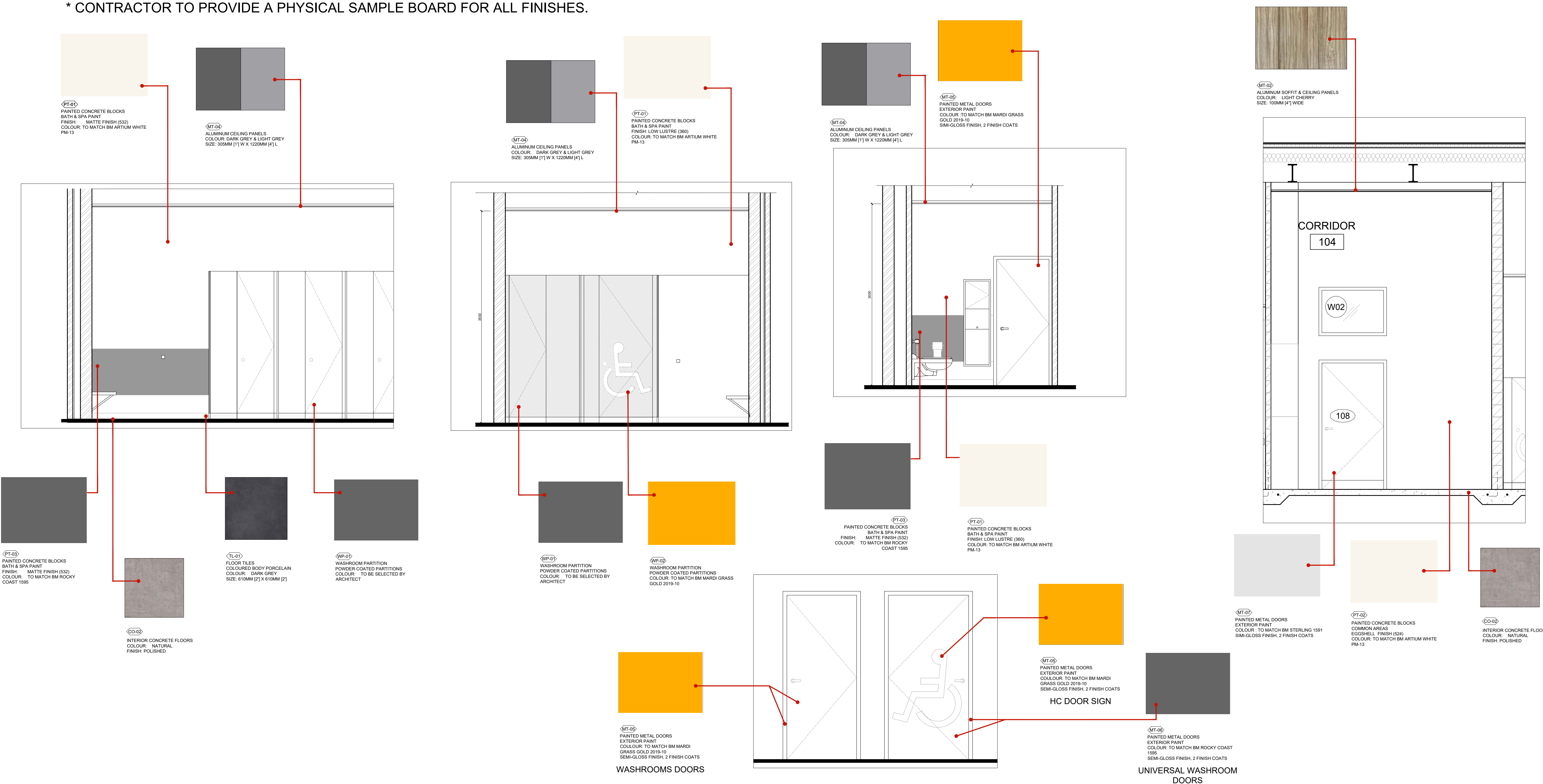
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# FINISHING IMAGE BOARD

CEILING	INTERIOR WALLS	METAL DOORS	FLOORS	TOILET PART.	EXTERIOR WALLS	ROOF
 <p><b>(MT-02)</b> ALUMINUM PANELS COLOUR: LIGHT PINE WOODGRAIN SIZE: 143mm (5'-5 1/8") x 2438mm (8'1")</p>	 <p><b>(PT-01)</b> PAINTED CONCRETE BLOCKS BATH &amp; SPA PAINT FINISH: LOW LUSTRE (360) COLOUR: TO MATCH BM ARTIUM WHITE PM-13</p>  <p><b>(PT-02)</b> PAINTED CONCRETE BLOCKS COMMON AREAS EGGSHELL FINISH (524) COLOUR: TO MATCH BM ARTIUM WHITE PM-13</p>	 <p><b>(MT-05)</b> PAINTED METAL DOORS EXTERIOR PAINT COLOUR: TO MATCH BM MARDI GRASS GOLD 2019-10 SEMI-GLOSS FINISH, 2 FINISH COATS</p>  <p><b>(MT-06)</b> PAINTED METAL DOORS EXTERIOR PAINT COLOUR: TO MATCH BM ROCKY COAST 1595 SEMI-GLOSS FINISH, 2 FINISH COATS</p>	 <p><b>(CO-01)</b> EXTERIOR CONCRETE FLOOR COLOUR: NATURAL FINISH: UN-POLISHED</p>  <p><b>(CO-02)</b> INTERIOR CONCRETE FLOORS COLOUR: NATURAL FINISH: POLISHED</p>	 <p><b>(WP-01)</b> WASHROOM PARTITION POWDER COATED PARTITIONS COLOUR: TO MATCH BM ROCKY COAST 1595</p>	 <p><b>(CL-01)</b> MANUFACTURED STONE COLOUR: PIACASSO MORTAR COLOUR: LIGHT GREY</p>	 <p><b>(MT-03)</b> ALUMINUM FASCIA PANELS PRE-FINISHED ALUMINUM COLOUR: BLACK</p>
 <p><b>(MT-04)</b> ALUMINUM CEILING PANELS COLOUR: DARK GREY &amp; LIGHT GREY SIZE: 305MM (11") W X 1220MM (41") L</p>  <p><b>(PT-04)</b> CEILING PAINT WATERBORNE CEILING PAINT FINISH: ULTRA FLAT (598) COLOUR: WHITE</p>	 <p><b>(PT-03)</b> PAINTED CONCRETE BLOCKS BATH &amp; SPA PAINT FINISH: MATTE FINISH (532) COLOUR: TO MATCH BM ROCKY COAST 1595</p>	 <p><b>(MT-07)</b> PAINTED METAL DOORS EXTERIOR PAINT COLOUR: TO MATCH BM STERLING 1591 SEMI-GLOSS FINISH, 2 FINISH COATS</p>  <p><b>(MT-08)</b> ALUMINUM DOORS AND FRAMES BRUSHED STAINLESS STEEL FINISH</p>	 <p><b>(TL-01)</b> FLOOR TILES COLOURED BODY PORCELAIN COLOUR: DARK GREY SIZE: 610MM (24") X 610MM (24")</p>	 <p><b>(WP-02)</b> WASHROOM PARTITION POWDER COATED PARTITIONS COLOUR: TO MATCH BM MARDI GRASS GOLD 2019-10</p>	 <p><b>(MT-09)</b> STEEL SIDING FINISH COLOUR: 9821 GRAPHITE</p> <p><small>OPTIONAL: 9811 STEEL SIDING FINISH COLOUR: 9811 GRAPHITE</small></p>	<p><b>COLUMN</b></p>  <p><b>(PT-05)</b> WATERPROOF COLUMN PAINT COLOUR: SILVER</p>

\* CONTRACTOR TO PROVIDE A PHYSICAL SAMPLE BOARD FOR ALL FINISHES.



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R7	Re-issued for Tender	Dec 06/24	RN
R6	Re-issued for SPA	Nov 08/24	RN
R5	Rev. 01 for SPA	Sep 25/24	RN
R4	Issued for SPA	Jun 24/24	RN
R3	Issued for 90% Progress	May 10/24	RN
R2	Issued for Completeness Review	Apr 03/24	RN
R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN
No.	revision	date	by

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RN	RN
date	JUN 2023
scale	AS SHOWN
drawing title	

## FINISHING IMAGE BOARD

drawing number  
**A8.00**  
client  
**CITY OF BRAMPTON**

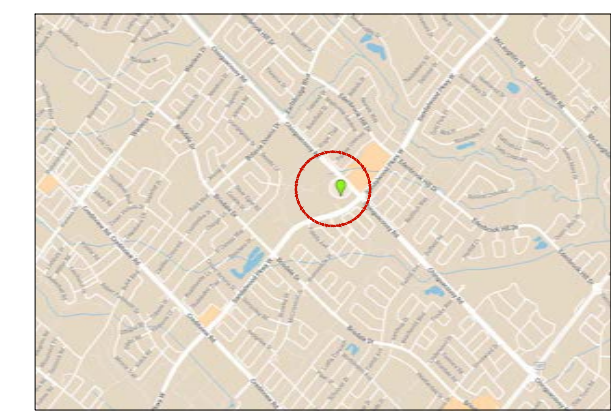
project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**

**landscape planning**  
LANDSCAPE ARCHITECTS  
Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.6838, www.landscapeplan.ca

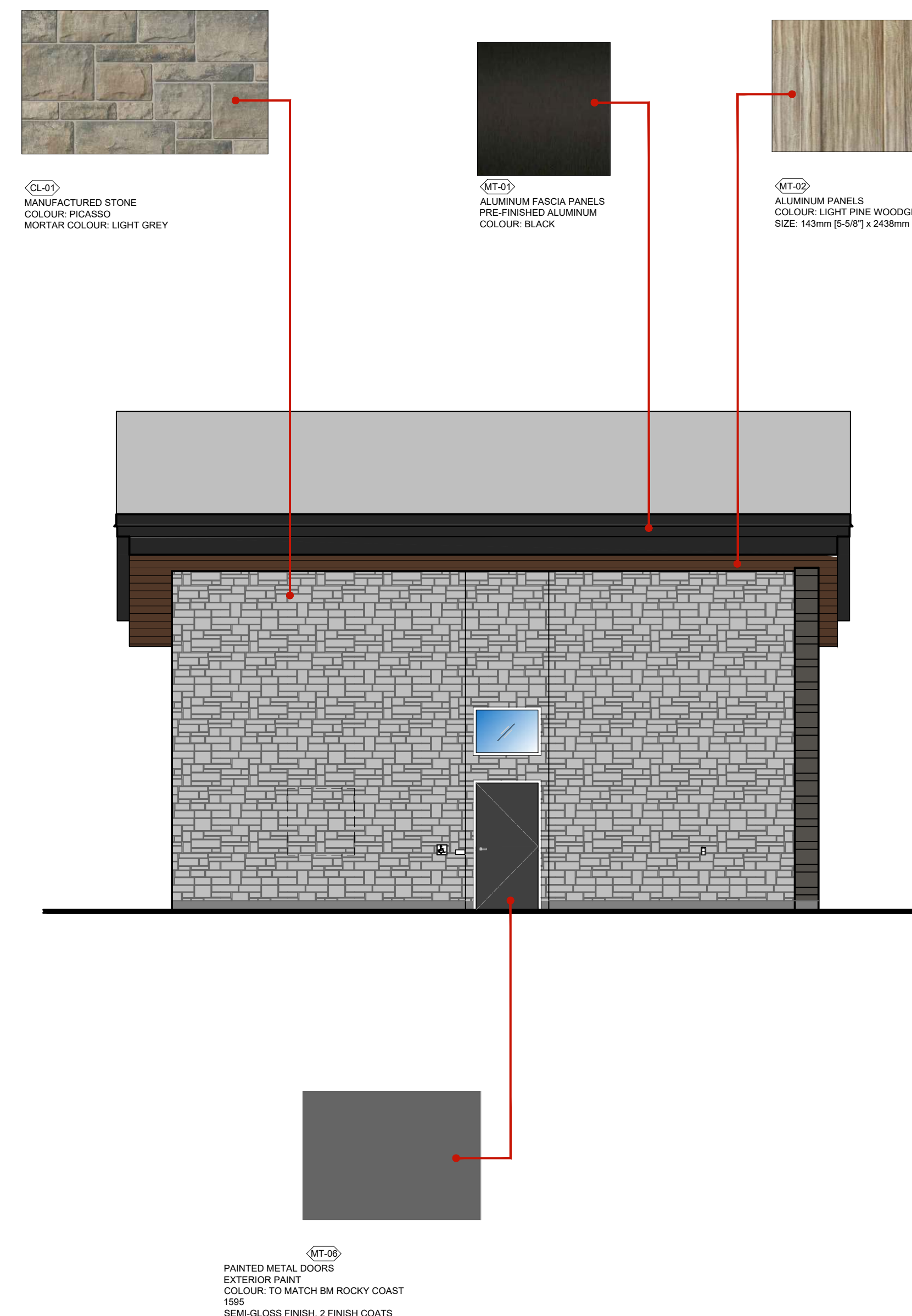
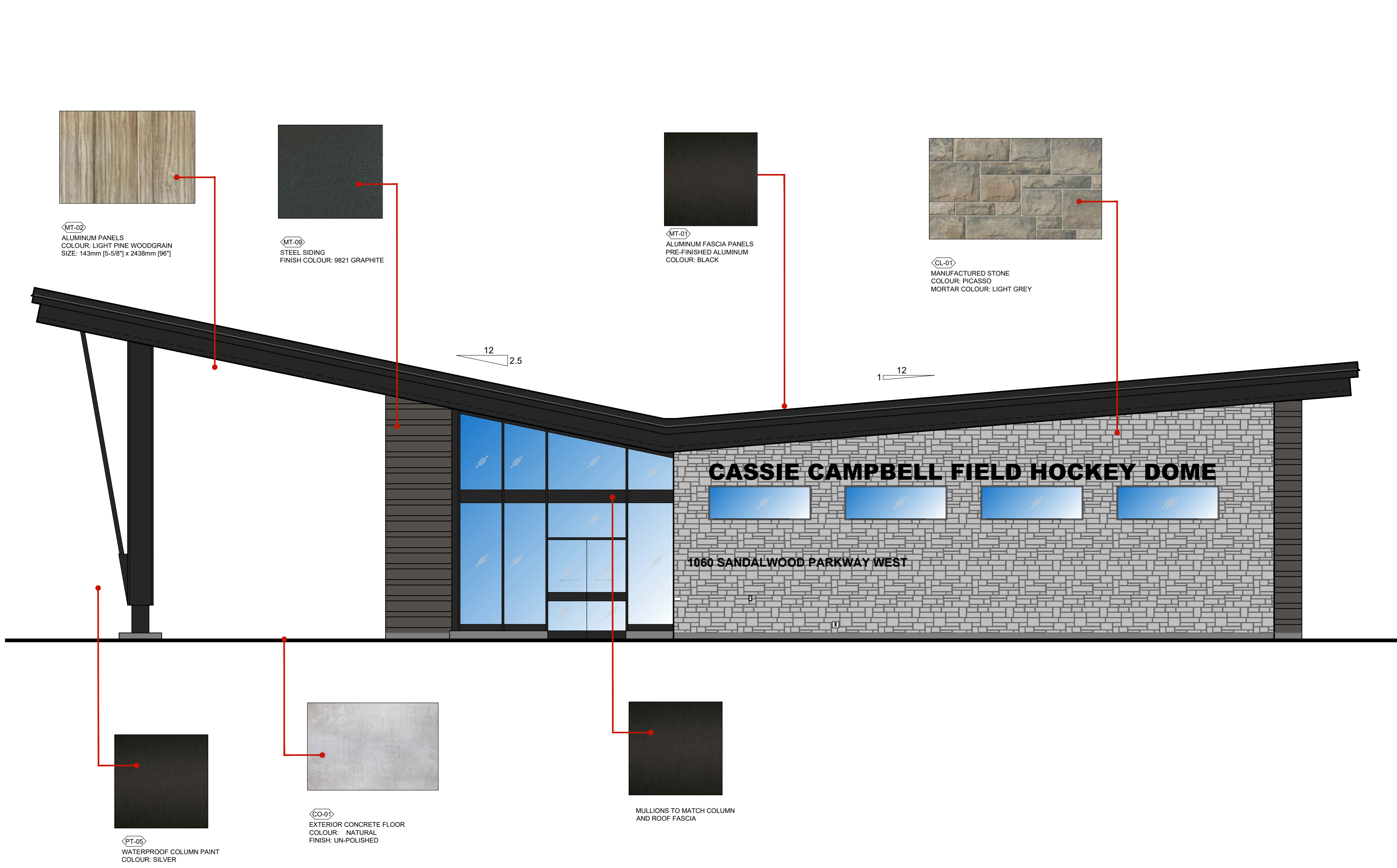


# FINISHING IMAGE BOARD

CEILING	INTERIOR WALLS	METAL DOORS	FLOORS	TOILET PART.	EXTERIOR WALLS	ROOF
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NO.	DESCRIPTION	DATE	BY
R7	Re-issued for Tender	Dec 06/24	RN
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reviewed by RN drawn by RN  
date JUN 2023  
scale AS SHOWN  
drawing title

## FINISHING IMAGE BOARD

drawing number  
**A8.01**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**



## GENERAL NOTES

- 1.0 GENERAL
- 1.1 DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE REFER ALSO TO TYPICAL DETAILS, NOTES UNDER PLANS & SCHEDULES ON THE STRUCTURAL DRAWINGS, AND TO THE SPECIFICATION, ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE LATEST EDITIONS INCLUDING ALL REVISIONS AND ADDENDA. ALL DIMENSIONS, OTHER THAN PURELY STRUCTURAL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST THE ARCHITECTURAL DRAWINGS AND ANY INCONSISTENCIES REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. STRUCTURAL DRAWINGS MUST NOT BE SCALED.
- 1.2 REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, SLEEVES, PENETRATIONS, PITS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION.
- 1.3 UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS TO SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK.
- 1.4 READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.
- 1.5 CHECK ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, LANDSCAPE AND/OR OTHER RELATED DRAWINGS AND REPORT ANY INCONSISTENCIES TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 1.6 CLARIFY WITH THE ENGINEER ANY QUERIES REGARDING INTERPRETATION OF THE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
- 1.7 SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND LANDSCAPE DRAWINGS FOR LOCATIONS OF OPENINGS, PITS, BASES, SUMPS, TRENCHES, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS.
- 1.8 ARCHITECTURAL, MECHANICAL AND LANDSCAPE INFORMATION ON OTHER CONSULTANTS' DRAWINGS SHALL BE DEEMED TO BE PART OF THESE DRAWINGS AND ITEMS SHOWN ON ANY DRAWING SHALL BE ASSUMED TO BE REQUIRED ON ALL DRAWINGS COMPLETE WITH NECESSARY SUPPORTS, ATTACHMENTS, POWER, DRAINAGE, ETC.
- 1.9 THE CONTRACTOR IS ASSURING THE AFORESAIDED COORDINATION
- 1.9.1 IT IS THE RESPONSIBILITY OF THE OWNER TO COMPLY WITH ALL RELEVANT MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS RELATING TO THE CONSTRUCTION OF THE BUILDING, INCLUDING BUT NOT LIMITED TO THE FOUNDATIONS, THE LOCATION ON THE SITE AND THE ACQUISITION OF ALL PERMITS, LICENSES, LETTER OF ASSURANCE, W.C.B. COVERAGE AND OTHER INSURANCE THAT MAY BE REQUIRED.
- 2.0 SHOP DRAWINGS, PLACING DRAWINGS & BAR LISTS
- 2.1 FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED, FOR REVIEW BY THE STRUCTURAL CONSULTANT. SHOP DRAWINGS TO SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS
- 2.2 REVIEW OF SHOP DRAWINGS BY THE CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN.
- 2.3 REVIEW BY THE STRUCTURAL CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- 3.0 EXAMINATION OF SITE AND DRAWINGS:
- 3.1 STUDY SOIL REPORT, BORE LOGS, WATER CONDITIONS, ETC.
- 3.2 COMPARE SITE ELEVATIONS WITH THOSE SHOWN ON THE DRAWINGS
- 3.3 CHECK ALL DIMENSIONS, LEVELS AND DETAILS AGAINST ARCHITECTURAL DRAWINGS AND OTHER CONSULTANTS' DRAWINGS.
- 3.4 REPORT DISCREPANCIES TO THE ARCHITECT AND THE ENGINEER BEFORE COMMENCEMENT OF WORK.
- 4.0 PLANNING OF CONSTRUCTION:
- 4.1 ALL REQUIREMENTS FOR MECHANICAL EQUIPMENT, ELEVATORS AND ANY OTHER TRADES OR SERVICES AFFECTING THE STRUCTURE, SHALL BE ESTABLISHED IN CONJUNCTION WITH THE CORRESPONDING MANUFACTURERS OR SUPPLIERS AND THE ARCHITECT (ENGINEER).
- 4.2 FOR LOCATION OF OPENINGS IN ROOF, WALLS AND FLOORS AS WELL AS PITS, TRENCHES AND DEPRESSIONS, ETC., NOT SHOWN IN THE STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL DRAWINGS, COORDINATE OPENING REQUIREMENTS WITH STRUCTURAL ENGINEER SHOWN ON OTHER DRAWINGS.
- 4.3 REPORT ANY DEVELOPING PROBLEMS TO THE ARCHITECT/ENGINEER AND OBTAIN THE NECESSARY INSTRUCTIONS BEFORE PROCEEDING WITH CONSTRUCTION.
- 4.4 LOCATION OF CONSTRUCTION JOINTS SHALL BE PLANNED IN ADVANCE AND IN CONSULTATION WITH THE ENGINEER.
- 4.5 IT IS THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AS WELL AS TO ERECT, MAINTAIN AND EVENTUALLY DISMANTLE ALL THE TEMPORARY WORKS NECESSARY FOR THE EXECUTION OF THE CONTRACT.
- 5.0 CONSTRUCTION PROCEDURES AND SAFETY:
- 5.1 THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION STRESSES AND FOR SUFFICIENT TEMPORARY BRACING TO KEEP THE STRUCTURE SAFE, PLUMB AND IN TRUE ALIGNMENT AT ALL PHASES OF THE WORK, UNTIL COMPLETION INCLUDING MASONRY WALLS, FLOOR AND ROOF DECKS, ETC.). ANY BRACING MEMBERS SHOWN ON THE PLANS ARE THOSE REQUIRED FOR THE FINISHED STRUCTURE AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES.

## SHOP DRAWINGS:

- 1.0 SHOP DRAWINGS:
- 1.1 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE SUBMISSION OF THE REQUIRED 'SHOP' DRAWINGS FOR THIS PROJECT.
- 1.2 THE GENERAL CONTRACTOR SHALL SUBMIT A SHOP DRAWINGS SCHEDULE TO ALLOW FOR TIMELY REVIEW OF ALL SHOP DRAWINGS BY THE ARCHITECT AND ENGINEER.
- 1.3 ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER FOR REVIEW, MUST FIRST BE REVIEWED BY THE GENERAL CONTRACTOR. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE ENGINEER IF THEY ARE NOT CHECKED AND APPROVED BY THE GENERAL CONTRACTOR.
- 1.4 THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW:

SHOP DRAWING	P.ENG SEAL/SIGNATURE
REINFORCING STEEL	NO
CONCRETE MIX DESIGN	YES
CONC. FORMWORK & SHORING	YES
EXCAVATION SHORING	YES
STRUCTURAL STEEL	YES
OPEN WEB STEEL JOISTS	YES
METAL ROOF DECK	YES
COMPOSITE METAL FLOOR DECK	YES
LIGHT/HEAVY GAUGE METAL STUD FRAMING	YES
PRECAST CONC. FLOOR PANELS	YES
PRECAST CONC. WALL PANELS	N/A
GLAZED SKYLIGHT ASSEMBLIES	YES
- 1.5 WHERE NOTED IN THE ABOVE TABLE, SHOP DRAWINGS SUBMITTED SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ONTARIO.
- 1.6 ALL SHOP DRAWINGS SUBMISSIONS SHALL BE REVIEWED BY THE ENGINEER, SOLELY FOR THEIR CONFORMANCE WITH THE DESIGN INTENT AND THE CONSTRUCTION DOCUMENTS.
- 1.7 THE ENGINEER IS NOT RESPONSIBLE FOR ANY ASPECTS OF A SHOP DRAWING SUBMISSION THAT AFFECT OR ARE AFFECTED BY THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
- 1.8 ALL SHOP DRAWING SUBMITTALS SHALL INCLUDE AT LEAST ONE SEPIA PLUS TWO PRINTS (ONE FOR ARCH. AND ENG.) FOR REVIEW BY THE ARCHITECT AND ENGINEER. ONLY THESE REQUESTED DRAWINGS WILL BE REVIEWED, FOR ENVIRONMENTAL REASONS.
- 1.9 REPRODUCTIONS OF THE CONTRACT DOCUMENTS, IN WHOLE OR IN PART, FOR THE PURPOSE OF PREPARATION OF SHOP DRAWINGS IS NOT ACCEPTABLE.
- 1.10 DO NOT SUBMIT SHOP DRAWINGS AND/OR COVERING TRANSMITTALS MARKED "FOR APPROVAL". SHOP DRAWINGS AND/OR COVERING TRANSMITTALS SO MARKED WILL NOT BE REVIEWED.

## INSPECTION AND TESTING:

- 1.0 INSPECTION AND TESTING:
- 1.1 A SOLE CONSULTANT AND A THIRD PARTY INDEPENDENT INSPECTION AND TESTING COMPANY ARE TO BE ENGAGED TO CARRY OUT THE FOLLOWING REVIEW SERVICES:
  1. BEARING SOIL - CONFIRM THAT ALL LOAD BEARING SOILS AND FOUNDING ELEVATIONS COMPLY WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT AND DESIGN CRITERIA INDICATED ON THE STRUCTURAL DRAWINGS.
  2. FILL UNDER SLABS-ON-GRADE - CONFIRM THAT FILL MATERIAL USED COMPLIES WITH GEOTECHNICAL REPORT REQUIREMENTS AND THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ATTAINED.
  3. BACKFILL TO ALL FOUNDATION CONSTRUCTION INCLUDING RETAINING WALLS, PITS AND GENERAL EXCAVATIONS. CONFIRM THAT FILL MATERIAL AND INSTALLATION COMPLIES WITH GEOTECHNICAL REPORT REQUIREMENTS.
  4. REVIEW OF ALL FORMWORK SHORING, UNDERPINNING, BENCHING, ETC. CONFIRM THAT INSTALLATIONS COMPLY WITH RESPECTIVE DESIGN CRITERIA AND GEOTECHNICAL REPORT REQUIREMENTS.
  5. REVIEW OF ALL DEEP FOUNDATION INSTALLATIONS SUCH AS AUGURED FOOTINGS, CONCRETE CAISONS, DRIVEN PILES, ETC. CONFIRM THAT FILL, FOUNDATION INSTALLATION COMPLIES WITH GEOTECHNICAL REPORT REQUIREMENTS AND DEEP FOUNDATION DESIGN CRITERIA.
  6. CAST-IN-PLACE & PRECAST CONCRETE - ROUTINE INSPECTION OF MATERIALS, INCLUDING SLUMP, CYLINDER AND AIR ENTRAINMENT TESTS & REINFORCING ROD TESTS WHEN REQUIRED OR DIRECTED IN ACCORDANCE WITH CSA STANDARD A23.1.
  7. CONCRETE REINFORCING STEEL INSTALLATION AND PLACEMENT PRIOR TO CASTING CONCRETE. CONFIRM INSTALLATION OF REINFORCING STEEL COMPLIES WITH RELATIVE DESIGN DRAWINGS AND CRITERIA. THE PROJECT SUPERINTENDENT IS TO ADVISE THE STRUCTURAL CONSULTANT A MINIMUM OF 24 HOURS IN ADVANCE OF A CONCRETE POUR FOR A REVIEW OF PREPARATIONS.
  8. REVIEW OF ALL FORMWORK CONSTRUCTION AND TEMPORARY SHORING INSTALLATIONS. CONFIRM INSTALLATIONS COMPLY WITH DESIGN SHOP DRAWINGS AND REQUIRED SUPPORT CRITERIA.
  9. STRUCTURAL STEEL AND WELDS - ROUTINE SHOP AND FIELD INSPECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA S16.1. AN INDEPENDENT TESTING COMPANY IS TO BE ENGAGED BY THE GENERAL CONTRACTOR AND/OR OWNER TO ENSURE THAT THE FIELD WELDING, CONNECTIONS, BOLTS AND FASTENERS, PLUMB, ETC. IS IN GENERAL CONFORMANCE WITH STRUCTURAL DRAWINGS AND SPECIFICATIONS.
  10. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED BY THE STEEL SUPPLIER/FABRICATOR TO ENSURE THAT THE SHOP AND FIELD WORK IS IN ACCORDANCE WITH THE DRAWINGS AND THESE SPECIFICATIONS FOR STRUCTURAL STEEL AND WELDS.
  9. METAL FLOOR AND ROOF DECK - CONFIRM ALL MATERIAL SPECIFICATIONS, MATERIAL CONDITION, CONNECTIONS (WELDING, CRIMPING, FASTENING, ETC.) AND BEARING OF METAL DECK COMPLIES WITH THE PROJECT SPECIFICATIONS AND METAL DECK DESIGN DRAWINGS.
  11. ALL INSPECTION AND TESTING SERVICES ARE TO BE PERFORMED BY COMPANIES CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION AND FOR WELDING, INSPECTORS ARE TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU.
  12. MASONRY - WHEN REQUIRED OR DIRECTED, CONCRETE BLOCKS SHALL BE TESTED IN ACCORDANCE WITH CAN/CSA-A369-1M BRICKS IN ACCORDANCE WITH CAN/CSA A82.2M, AND MORTAR AND/OR GROUT IN ACCORDANCE WITH CSA A179.3.2.
  13. LIGHT GAUGE STEEL FRAMING - AN INDEPENDENT INSPECTION AND TESTING COMPANY AND/OR THE LIGHT GAUGE STEEL FRAMING DESIGN ENGINEER IS TO BE ENGAGED FOR REVIEW AND REPORT ON THE MATERIALS, FIELD/SHOP FABRICATION, FIELD INSTALLATION AND CONNECTIONS. CONFIRM INSTALLATIONS COMPLY WITH DESIGN SHOP DRAWINGS AND REQUIRED SUPPORT CRITERIA.
  12. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED BY THE STEEL SUPPLIER/FABRICATOR TO ENSURE THAT THE SHOP AND FIELD WORK IS IN ACCORDANCE WITH THE DRAWINGS AND THESE SPECIFICATIONS FOR STRUCTURAL STEEL AND WELDS.
  - 1.3 COPIES OF ALL INSPECTION REPORTS, INCLUDING THOSE OF OTHER MATERIALS, SOIL AND MILL TESTS, ARE TO BE SENT TO THE CLIENT, THE ENGINEER AND THE MUNICIPALITY.
  14. LIGHT GAUGE STEEL FRAMING FIELD REVIEW: A SCHEDULED FIELD REVIEW OF CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL PROVIDE NOTIFICATION TO THE ENGINEER PRIOR TO COMMENCING ANY SIGNIFICANT SEGMENT OF THE WORK.
  - 1.5 IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND/OR OWNER TO REQUEST FIELD REVIEWS OF CONSTRUCTION, GIVING THE ENGINEER 24 HOURS NOTICE. FINAL ENGINEERING FIELD CONSTRUCTION REPORT WILL BE ISSUED BY THE ENGINEER ONLY IF FIELD REVIEW OF CONSTRUCTION IS PERFORMED BY THE DESIGN ENGINEER AS SCHEDULED.
  16. CONSTRUCTION REVIEWS BY THE PROJECT ENGINEER SHALL BE PERFORMED TO EVALUATE GENERAL CONFORMITY WITH STRUCTURAL DESIGN DOCUMENTS PREPARED BY REDL, THAT FORMED THE BASIS FOR THE ISSUANCE OF THE BUILDING PERMIT AND ANY CHANGES THERETO AUTHORIZED BY THE CHIEF OFFICER OF ELECTRICAL AND TESTING SERVICES SHALL BE CORRECTED BEFORE FINAL COMPLETION.
  - 1.7 ALL REVIEW REPORTS BY THE PROJECT ENGINEER SHALL APPLY ONLY TO THOSE PORTIONS OF THE BUILDING DESIGNED BY REDL AND DOES NOT APPLY TO THE DESIGNS PREPARED BY OTHER CONSULTANTS AND/OR OTHER DESIGNERS.

## CONVENTIONAL FOUNDATIONS:

- 1.0 CONVENTIONAL FOUNDATIONS
- 1.1 REFER TO NOTES UNDER FOUNDATION PLANS. ALL EXTERIOR FOOTINGS OR OTHER FOOTINGS EXPOSED TO FREEZING IN THE FINISHED BUILDING SHALL BE FOUNDED AT A MINIMUM OF 1200mm (4'-0") BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED. FOOTINGS EXPOSED TO FROST ACTION DURING CONSTRUCTION SHALL BE PROTECTED BY A MINIMUM OF 1200mm (4'-0") OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING.
- 1.2 THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS FOR FOOTINGS OR ALONG STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 7 IN A RUN OF 10, MAXIMUM STEP APPROX. 600mm (2'-0").
- 1.3 CAP DEPTHS AND FOOTING ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE STRUCTURAL DRAWINGS.
- 1.4 IF ACTUAL JOB SITE OR SOIL CONDITIONS VARY FROM THOSE ASSUMED, THEN WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- 1.5 KEEP EXCAVATIONS CONTIGUOUS TO DRY BEFORE CONCRETE IS PLACED. IF THE SOIL IS SOFTENED BY WATER, THE EXCAVATION SHALL BE EXTENDED BELOW THE SOFTENED MATERIAL AND THE BOTTOM OF THE FOOTINGS LOWERED TO SUIT.
- 1.6 FOUND ALL FOOTINGS ON NATURALLY CONSOLIDATED UNDISTURBED SOIL CAPABLE OF SUSTAINING THE RECOMMENDED BEARING CAPACITY AS INDICATED IN THE SOIL REPORT BY THE GEOTECHNICAL CONSULTANT.
- 1.7 MINIMUM CONCRETE STRENGTH OF CAST IN PLACE FOOTINGS SHALL BE 20 MPa UNLESS NOTED OTHERWISE ON DRAWINGS.
- 1.8 FOUND ALL FOOTINGS WHICH WILL BE EXPOSED TO FROST ACTION IN THE COMPLETED BUILDING A MINIMUM OF 1,200mm (4'-0") BELOW FINISHED GRADE. DUE TO PRESENCE OF FILL, SOME FOUNDATIONS MAY REQUIRE TO BE FOUNDED AT DEEPER ELEVATIONS BELOW GRADE (REFER TO SOIL REPORT). THE MINIMUM DEPTH OF INTERIOR FOOTINGS SHALL NOT BE LESS THAN 300mm (30") BELOW GRADE.
- 1.9 ALL FOOTINGS ARE TO BE PLACED ON NATURALLY CONSOLIDATED UNDISTURBED SOIL, FREE OF ORGANIC MATTER AND AT LEAST 450mm (18") BELOW ORIGINAL GRADE.
- 1.10 DO NOT EXCEED A RISE OF 7 IN A RUN OF 10 IN THE LINE OF SLOPE BETWEEN ADJACENT FOOTINGS. USE STEPS NOT EXCEEDING 600mm (24") IN HEIGHT.
- 1.11 EXCAVATIONS FOR FOOTINGS SHALL BE INSPECTED BY A PROFESSIONAL GEOTECHNICAL ENGINEER TO VERIFY THE BEARING CAPACITY USED FOR THE DESIGN.
- 1.12 MAINTAIN UNSUPPORTED SIDES OF EXCAVATION ONLY IF SAFE INCLINATION OF SIDES OF THE EXCAVATION ARE PROVIDED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- 1.13 ERECT, MAINTAIN AND IF REQUIRED, REMOVE ALL SUPPORTING SHORING SYSTEMS ALONG SIDES OF THE EXCAVATION. DESIGN SUCH A SYSTEM IN ACCORDANCE WITH THE SOIL REPORT RECOMMENDATIONS.
- 1.14 PROTECT SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOOTINGS.
- 1.15 DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH UNTIL LATERAL SUPPORTING FLOORS ARE CONSTRUCTED AT THE TOP AND BOTTOM OF WALLS AND HAVE ATTAINED SPECIFIED DESIGN STRENGTH.
- 1.16 BACKFILL AGAINST FOUNDATION WALLS IN SUCH A MANNER THAT THE LEVEL OF BACKFILL ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500mm (20") DIFFERENCE FROM THE LEVEL ON THE OTHER SIDE OF THE WALL EXCEPT WHERE ADEQUATE TEMPORARY SUPPORT FOR THE WALL IS PROVIDED.
- 1.17 FOR PERMANENT DRAINS, DAMP PROOFING, ETC., SEE SOIL REPORT, ARCHITECTURAL AND MECHANICAL DRAWINGS.
- 1.18 WHERE DRAINAGE PIPE AND/OR SEWER INVERT ELEVATIONS, SUCH FOOTINGS MUST BE LOWERED SO THAT IN NO CASE PIPES PASS UNDER FOUNDATIONS.
- 1.19 ALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
- 1.20 PLACE SLAB-ON-GRADE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT RECOMMENDATIONS.
- 1.21 SOFT AREAS UNCOVERED DURING EXCAVATION SHALL BE DUG OUT TO SOUND MATERIAL AND REPLACED WITH CLEAN FILL COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- 1.22 ALL BACKFILL UNDER ANY PORTION OF THE BUILDING SHALL BE COMPACTED IN MINIMUM 300mm (12") LIFTS.
- 1.23 THE CONTRACTOR SHALL ENSURE THAT REINFORCING STEEL IS ADEQUATELY BRACED AGAINST MOVEMENT DURING CONCRETE PLACING.
- 1.24 REINFORCEMENT SHALL BE CONTINUOUS, THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- 1.25 MAXIMUM CONCRETE SLUMP SHALL BE 75mm (3") IN GENERAL, UNLESS NOTED OTHERWISE.
- 1.26 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ANCHOR BOLTS ARE IN PLACE BEFORE CONCRETE IS POURED.
- 1.27 ALL ANCHOR BOLTS AND ANCHORAGE SHALL CONFORM TO CSA G40 21M-300W SPEC OR APPROVED EQUAL.
- 1.28 CONTRACTOR SHALL INSURE CORRECT PLACEMENT, PROJECTION AND ALIGNMENT OF ANCHOR BOLTS. ANCHORAGE ASSEMBLIES TO BE SECURED TO REINFORCING STEEL.
- 1.29 AFTER ALIGNMENT OF ANCHOR BOLTS.

## BACKFILLING AND COMPACTION:

- 2.0 BACKFILLING AND COMPACTION:
1. IT SHALL BE THE FORMING CONTRACTOR'S RESPONSIBILITY TO DESIGN AS WELL AS ERECT, MAINTAIN AND REMOVE ALL TEMPORARY FORMWORK NECESSARY FOR THE CARRYING OUT OF THIS CONTRACT.
- 1.2 A COMPETENT PROFESSIONAL ENGINEER, OTHER THAN THE DESIGN ENGINEER FOR THE PERMANENT STRUCTURE TO BE BUILT, SHALL BE HIRED BY THE CONTRACTOR TO CARRY OUT THE NECESSARY DESIGN, DRAWINGS AND FIELD SUPERVISION OF CONSTRUCTION OF THE FORMWORK, INCLUDING STRIPPING AND RE-SHORING PROCEDURES AND MAINTENANCE OF FORMS, SHORES AND RE-SHORES IN PLACE.
- 1.3 THE FORMWORK SHALL BE CONSTRUCTED, MAINTAINED AND REMOVED IN CONFORMITY TO THESE DRAWINGS AS REVIEWED, STAMPED, SIGNED AND DATED BY THE PROFESSIONAL ENGINEER WHO DESIGNED THE STRUCTURE TO BE BUILT.
- 1.4 THE CONTRACTOR'S ENGINEER SHALL:
  - A. DESIGN THE FORMWORK.
  - B. PRODUCE THE FORMWORK DRAWINGS.
  - C. WORK OUT THE PROCEDURES AND TIMING FOR THE REMOVAL OF THE FORMS.
  - D. SET THE PROCEDURE FOR CONTROLLING THE STRUCTURE OF CONCRETE IN THE STRUCTURE FOR THE PURPOSE OF FORMS AND RE-SHORES REMOVAL.
  - E. CARRY OUT THE FIELD SUPERVISION OF CONSTRUCTION, MAINTENANCE, REMOVAL OF FORMS, SHORES AND RE-SHORES, INCLUDING THE SUPERVISION OF THE PROCEDURES FOR CONTROLLING THE STRENGTH OF THE CONCRETE. ADEQUATE NUMBER OF INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR'S ENGINEER TO ENABLE HIM TO CERTIFY THAT ALL REQUIREMENTS SET BY HIS DRAWINGS AND INSTRUCTIONS HAVE BEEN FOLLOWED BY THE CONSTRUCTION CREW.
  - F. ISSUE INSPECTION REPORTS TO REDL, CONSTRUCTION SERVICES INC. AT LEAST TWICE MONTHLY.

## FORMWORK FOR PLAIN AND REINF. CONCRETE:

- 1.0 TEMPORARY FORMWORK FOR PLAIN AND REINFORCED CONCRETE:
- 1.1 IT SHALL BE THE FORMING CONTRACTOR'S RESPONSIBILITY TO DESIGN AS WELL AS ERECT, MAINTAIN AND REMOVE ALL TEMPORARY FORMWORK NECESSARY FOR THE CARRYING OUT OF THIS CONTRACT.
- 1.2 A COMPETENT PROFESSIONAL ENGINEER, OTHER THAN THE DESIGN ENGINEER FOR THE PERMANENT STRUCTURE TO BE BUILT, SHALL BE HIRED BY THE CONTRACTOR TO CARRY OUT THE NECESSARY DESIGN, DRAWINGS AND FIELD SUPERVISION OF CONSTRUCTION OF THE FORMWORK, INCLUDING STRIPPING AND RE-SHORING PROCEDURES AND MAINTENANCE OF FORMS, SHORES AND RE-SHORES IN PLACE.
- 1.3 THE FORMWORK SHALL BE CONSTRUCTED, MAINTAINED AND REMOVED IN CONFORMITY TO THESE DRAWINGS AS REVIEWED, STAMPED, SIGNED AND DATED BY THE PROFESSIONAL ENGINEER WHO DESIGNED THE STRUCTURE TO BE BUILT.
- 1.4 THE CONTRACTOR'S ENGINEER SHALL:
  - A. DESIGN THE FORMWORK.
  - B. PRODUCE THE FORMWORK DRAWINGS.
  - C. WORK OUT THE PROCEDURES AND TIMING FOR THE REMOVAL OF THE FORMS.
  - D. SET THE PROCEDURE FOR CONTROLLING THE STRUCTURE OF CONCRETE IN THE STRUCTURE FOR THE PURPOSE OF FORMS AND RE-SHORES REMOVAL.
  - E. CARRY OUT THE FIELD SUPERVISION OF CONSTRUCTION, MAINTENANCE, REMOVAL OF FORMS, SHORES AND RE-SHORES, INCLUDING THE SUPERVISION OF THE PROCEDURES FOR CONTROLLING THE STRENGTH OF THE CONCRETE. ADEQUATE NUMBER OF INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR'S ENGINEER TO ENABLE HIM TO CERTIFY THAT ALL REQUIREMENTS SET BY HIS DRAWINGS AND INSTRUCTIONS HAVE BEEN FOLLOWED BY THE CONSTRUCTION CREW.
  - F. ISSUE INSPECTION REPORTS TO REDL, CONSTRUCTION SERVICES INC. AT LEAST TWICE MONTHLY.

## REINFORCING STEEL:

- 1.0 REINFORCING STEEL:
- 1.1 ALL BARS SHALL BE DEFORMED EXCEPT FOR WELDED WIRE FABRIC WHICH MAY BE OF PLAIN MATERIAL.
- 1.2 ALL CONCRETE REINFORCEMENT SHALL CONFORM TO C.S.A. SPECIFICATIONS AS FOLLOWS:

LOCATION	SPECIFICATION	GRADE OF STEEL
ALL BEAMS STIRRUPS & COLUMN TIES	C.S.A. G30.12	GRADE 250
REMAINER	C.S.A. G30.12	GRADE 400
WELDED WIRE FABRIC	C.S.A. G30.3 & G30.5	COLD DRAWN WIRE
- 1.3 CHECK ALL STRUCTURAL DRAWINGS FOR NOTES REGARDING DIFFERENT STRENGTH OF REINFORCEMENT.
- 1.4 PROVIDED DOWELS FROM ALL FOOTINGS TO REINFORCED CONCRETE WALLS, PIERS AND COLUMNS. COLUMN DOWELS SHALL BE SECURED IN POSITION BEFORE CONCRETE IS PLACED.
- 1.5 DETAIL, FABRICATE AND PLACE ALL REINFORCEMENT IN CONFORMITY TO CURRENT MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES A.C.I. 315.
- 1.6 REINFORCING STEEL SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.
- 1.7 MAINTAIN THE FOLLOWING MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT:

CONCRETE SURFACES PLACED AGAINST EARTH:	75mm	75mm
FORMED CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:		
FOR 10M AND 15M BARS	38mm	1.5"
FOR BARS LARGER THAN 15M	50mm	2"
SLABS AND WALLS	19mm	7/8"
BEAMS AND GIRDERS:	38mm	1.5"
COLUMN SPIRALS AND TIES:	38mm	1.5"

- 1.8 LAPS: TENSION LAPS TO BE 36 x DIA., MESH LAP 150mm (6"), ALL OTHER LAPS AND EMBEDMENT OF DOWELS 24 x DIA. OR 1'-6" MIN., UNLESS NOTED OTHERWISE.
- 1.9 DENOTATION OF DIRECTION OF BARS IN A STRIP: FIRST FIGURE REPRESENTS THE NUMBER OF BARS IN THE STRIP, NEXT FIGURE REPRESENTS THE BAR SIZE (OMITTED WHEN 10M BARS ARE TO BE USED).
- 1.10 SPACING OF BARS TO BE APPROXIMATELY UNIFORM WITH CORRESPONDING STRIPS.
- 1.11 FOR BAR PLACING ORDER - REFER TO PLAN.
- 1.12 REINFORCING AROUND OPENINGS TO BE PROVIDED IN ACCORDANCE WITH TYPICAL DETAILS.
- 1.13 NO CONCRETE SHALL BE PLACED UNLESS ALL REINFORCING STEEL HAS BEEN INSPECTED AND APPROVED BY THE ENGINEER.
- 1.14 TOP BARS FOR GARAGE FLOORS INCLUDING SUPPORTING CHAIRS SHALL BE COATED WITH EPOXY.
- 1.15 REINFORCING BARS IN FOOTINGS, SLABS ON EARTH, AND CONCRETE MEMBERS EXPOSED ARCHITECTURALLY OR TO WEATHER SHALL BE SUPPORTED IN THE DESIGNATED POSITION BY PRE-CAST CONCRETE SUPPORTS OR EQUIVALENT.

## FIELD REVIEW BY THE PROJECT ENGINEER

1. ROBERT E DALE LIMITED PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE STRUCTURAL DRAWINGS. THIS REVIEW IS NOT A "FULL TIME" REVIEW BUT IS A PERIODIC REVIEW AT THE SOLE DISCRETION OF REDL'S ENGINEERS IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY REDL. FIELD REVIEW BY REDL IS NOT CARRIED OUT FOR THE CONTRACTOR'S BENEFIT, NOR DOES IT MAKE REDL GUARANTORS OF THE CONTRACTOR'S WORK. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. REDL SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. REDL WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON REDL'S DRAWINGS. THE EXTENT OF THIS REVIEW IS AT THE SOLE DISCRETION OF REDL'S ENGINEER AND IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE STRUCTURAL DESIGN CONCEPT ON BEHALF OF THE OWNER. THE REVIEW IS NOT AN APPROVAL OF THE DESIGN, DETAILS, AND DIMENSIONS INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM, AND THEIR APPOINTED DESIGN ENGINEER. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS OR HER SOLE RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. PROVIDE 48 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH REDL.
3. THE WORK TO BE REVIEWED SHALL BE GENERALLY COMPLETE.

## DIVIDING WALLS AND PARTITIONS:

- 1.0 ALL NON-LOAD BEARING DIVIDING WALLS MUST BE LATERALLY SUPPORTED HORIZONTALLY OR VERTICALLY. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR GENERAL CONTRACTOR TO PROVIDE PROPER LATERAL SUPPORT FOR ALL WALLS WHETHER OR NOT SHOWN ON THE DRAWINGS. DIVIDING WALLS ARE NOT PART OF THE STRUCTURAL DESIGN.

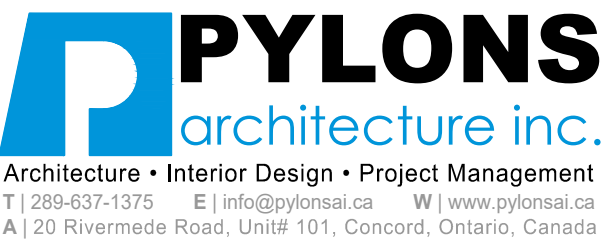
## CAST IN PLACE CONCRETE:

- 1.0 GENERAL
- 1.1 PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO CARRY OUT THE WORK.
- 1.2 REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND SCHEDULES, TYPICAL DETAILS AND SPECIFICATION.
- 2.0 PRODUCTS
- 2.1 PORTLAND CEMENT, WATER AND AGGREGATES SHALL CONFORM TO CSA STANDARD A23.1.
- 2.2 PROVIDE AN APPROVED WATER REDUCING ADDITIVE IN ALL CONCRETE. PROVIDE AN APPROVED AIR ENTRAINING ADDITIVE IN ALL CONCRETE WHICH WILL BE EXPOSED TO A FREEZE/THAW CYCLE AND/OR THE ACTION OF DE-ICING SALT. ADMIXTURES SHALL CONFORM TO CSA STANDARD A23.5.
- 2.3 FORMWORK SHALL CONFORM TO CSA STANDARD A23.1, CSA STANDARD 2869.3 AND FALSEWORK SHALL CONFORM TO CSA 2899.
- 2.4 IF SO INSTRUCTED, THE DESIGNS FOR THE FORMWORK SHALL BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION. FORMWORK DRAWINGS AND DESIGN SHALL BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER.
- 2.5 UNLESS OTHERWISE NOTED PROVIDE SLAB & BEAM FORMS WITH AN UPWARD CAMBER OF 2 mm/1000 mm (1/4" PER 10'-0") OF SPAN, AND UPLIFT ENDS OF CANTILEVERED SLAB & BEAM FORMS 3 mm/1000 mm (5/16" PER 8'-0") OF CANTILEVER LENGTH.
- 2.6 PROTECT ALL VERTICAL AND ADJUSTABLE MASONRY ANCHOR SLOTS FOR ALL MASONRY FACING OR ABUTTING CONCRETE FACES.
- 2.7 PROVIDE AND/OR INSTALL STANDARD ADJUSTABLE INSERTS & ALL OTHER CAST-IN INSERTS AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL & ELECTRICAL DRAWINGS & SPECIFICATION.
- 2.8 REINFORCING STEEL UNLESS SPECIFICALLY NOTED, SHALL BE DEFORMED BARS CONFORMING TO CAN/CSA-G30.18-M GRADE 400 (58000 PSI).
- 2.9 WELDED WIRE FABRIC TO CONFORM TO CSA G30.5-M.
- 2.10 REINFORCING SHALL BE DETAILED, BENT, PLACED AND SUPPORTED TO CONFORM TO A.C.I. STANDARD 315 AND THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.
- 2.11 DRY-PACK GROUT TO BE 1 PART PORTLAND CEMENT TO 3 PARTS SAND TO 2 PARTS OF 8 mm PEA GRAVEL WITH ONLY SUFFICIENT WATER TO DAMPEN MIXTURE. COMPRESSIVE STRENGTH 50MPa AT 28 DAYS.
- 2.12 NON-SHRINK GROUT SHALL BE AN APPROVED PREMIXED PROPRIETARY PRODUCT WITH MINIMUM 35 MPa COMPRESSIVE STRENGTH.
- 2.13 PROVIDE APPROVED EXTRUDED PVC WATERSTOPPS OF SIZE & STYLES INDICATED, WITH PRE-WELDED CORNERS & INTERSECTIONS. SEE ALSO TYPICAL DETAILS.
- 2.14 CURING AND SEALING COMPOUNDS WHERE APPROVED FOR USE TO CONFORM TO AST STANDARD C309. GENERALLY, ALL CONCRETE SURFACES ARE TO BE SEALED UNLESS NOTED OTHERWISE. COMPOUNDS ARE TO BE COMPATIBLE WITH APPLIED FINISHES.
- 3.0 EXECUTION
- 3.1 UNLESS SPECIFICALLY NOTED OTHERWISE, CONCRETE STRENGTH SHALL IN NO CASE BE LESS THAN 20 MPa @ 28 DAYS, AND CONCRETE SHALL CONFORM TO THE CSA SPECIFICATIONS CAN/A23.3 (LATEST EDITION).
- 3.2 SLUMP AT THE POINT OF DISCHARGE SHALL BE CONSISTENT AT 80 mm ±30mm (75mm ±1") UNLESS NOTED OTHERWISE. GREATER SLUMPS ARE NOT ACCEPTABLE. 3.3 CONCRETE MIXING, TRANSPORTATION, HANDLING AND PLACING SHALL CONFORM TO CSA STANDARD A23.1.
- 3.4 CONSTRUCTION JOINTS FOR WALLS SHALL BE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 10000 mm (30'-0"), UNLESS CONTROL JOINTS LOCATIONS ARE PROVIDED BY SPECIFIC DETAIL, TOTAL LENGTH OF POUR SHALL BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING.
- 3.5 CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS. AT MID-SPAN IF POSSIBLE AND BE CLEAR OF SUPPORTS AND POINT LOADS.
- 3.6 INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM. BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.
- 3.7 ELECTRICAL CONDUIT SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM IN WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS TO WALLS UNLESS OTHERWISE NOTED. A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.
- 3.8 OPENINGS AND DRIVEN FASTENERS REQUIRED IN THE CONCRETE AFTER THE CONCRETE IS PLACED SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE PROCEEDING.
- 3.9 FINISHING, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FINISH TO EXPOSED CONCRETE. ALL HONEYCOMBS SHALL BE CUT OUT AND FILLED. FLOOR FINISHES SHALL BE AS DESCRIBED BY THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND SHALL CONFORM TO CSA STANDARD A23.1 (CLASS A CONVENTIONAL SMOOTH CLASSIFICATION).
- 3.10 TOLERANCES FOR PLACING STRUCTURAL CONCRETE, REINFORCING STEEL, CAST-IN HARDWARE AND FOR FLOOR & ROOF FINISHES SHALL BE AS SPECIFIED IN CSA STANDARD A23.1.
- 3.11 MINIMUM REINFORCING FOR ANY CONCRETE WALL TO BE AS SHOWN ON TYPICAL DETAIL FOR CONCRETE WALLS.
- 3.12 MINIMUM REINFORCING FOR ANY SUSPENDED SLAB SHALL BE TEMPERATURE BARS BOTTOM EACH WAY PLUS 10M @ 400 (16") DOWELS 500x600(2'-0"x2'-0") TOP AROUND PERIMETER. REFER TO TYPICAL DETAIL OF ONE WAY SLABS.
- 3.13 CHASES ARE TO BE LEFT IN THE RESPECTIVE WALL PORTIONS FOR SLABS AND BEAMS. THE MINIMUM BEARING FOR CONCRETE OR STEEL BEAM SHALL BE 200mm (8") AN FOR SLABS 100mm (4") UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- 3.14 OPENINGS OTHER THAN THOSE INDICATED ON PLAN OR SECTION SHALL NOT BE INSTALLED IN FLOOR SLABS OR IN WALLS UNLESS APPROVAL IN WRITING IS OBTAINED FROM THE ENGINEER.
- 3.15 CUT OUTS AND SLEEVES FOR PIPING AND DUCTWORK SHALL NOT BE INSTALLED WITHOUT WRITTEN APPROVAL BY THE ENGINEER. CUT OUTS AND SLEEVES SHALL NOT BE OF GREATER SIZES THAN REQUIRED FOR THE INSTALLATION OF MECHANICAL ITEMS.
- 3.16 CONTROL JOINT (SAW CUTS) ON SLAB ON GRADE SHALL BE SPACED NOT MORE THAN 4,500mm (15'-0") IN EACH DIRECTION.
- 3.17 SLAB ON GRADE IS NOT PART OF STRUCTURAL DESIGN UNLESS IT IS SPECIFICALLY DESIGNATED AS A STRUCTURAL SLAB REINFORCED WITH DEFORMED BARS.
- 3.18 MAXIMUM LENGTH BETWEEN CONSTRUCTION JOINTS IN WALLS, RETAINING WALLS AND SLABS SHALL NOT EXCEED 10,000mm (30'-0") FOR INTERIOR WALLS AND 6,152mm (20'-0") FOR EXTERIOR WALLS EXPOSED TO WEATHER. MAXIMUM LENGTH BETWEEN EXPANSION JOINTS IN RETAINING WALLS SHALL NOT EXCEED 18,300mm (60'-0") AND CONTROL JOINTS SHALL BE SPACED NO MORE THAN 6,152mm (20'-0") APART. IN ANY CASE, ENGINEER'S WRITTEN APPROVAL SHALL BE OBTAINED FOR LOCATIONS AND DETAILS OF CONSTRUCTION AND QUANTITY OF JOINTS REQUIRED IF NOT SHOWN ON DRAWINGS.
- 3.19 CONCRETE SLABS SHALL HAVE A MAXIMUM BEARING OF 100mm (4") ON MASONRY WALLS.
- 3.20 CONCRETE BEAMS BEARING ON MASONRY SHALL HAVE A MINIMUM BEARING OF 200mm (8") UNLESS OTHERWISE NOTED ON PLANS.
- 3.21 ALL CONCRETE, WHEN BEING PLACED, SHALL BE COMPACTED THOROUGHLY AND UNIFORMLY BY MEANS OF VIBRATORS OR OTHER ACCEPTABLE METHODS IN ACCORDANCE WITH CSA A23.1 (LATEST ADDITION) TO ENSURE FULL CONSOLIDATION OF CONCRETE FREE OF COLD JOINTS, VOIDS AND HONEYCOMBING.
- 4.0 SLOT-HOLES AND DOVETAIL ANCHORS:
- 4.1 ALL STRUCTURAL MEMBERS (STEEL AND CONCRETE) IN CONJUNCTION WITH MASONRY SHALL HAVE ANCHOR SLOTS FOR STEEL STRAP TIES 40mm (1-1/2") WIDE AND 6mm (1/4") THICK, SPACED NOT GREATER THAN 400mm (16") VERTICAL FOR STEEL COLUMNS, 800mm (32") FOR STEEL BEAMS AND CONTINUOUS DOVE TAILS FOR CONCRETE BEAM OR COLUMN FACING MASONRY.
- 5.0 QUALITY CONTROL
- 5.1 FOR INSPECTION AND TESTING, SEE GENERAL NOTES.
- 5.2 NOT LESS THAN ONE STRENGTH TEST SHALL BE MADE FOR EACH 100 m<sup>3</sup> PLACED AND IN NO CASE SHALL THERE BE LESS THAN ONE TEST FOR EACH CLASS OF CONCRETE OR EACH SEPARATE TYPE OF STRUCTURAL COMPONENT PLACED ON ANY ONE DAY.



ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE USED OR REPRODUCED WITHOUT THE ENGINEER'S APPROVAL.  
THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



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no.	revision	date	by
4	ISSUED FOR TENDER	12/06/2024	
3	AS PER CITY REVIEW	11/29/2024	
2	ISSUED FOR TENDER	11/13/2024	
1	RE-ISSUED FOR SPAK	11/06/2024	

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reviewed by **RGD** drawn by **UC**

date **APRIL 2024**

scale **AS SHOWN**

## STRUCTURAL SPECIFICATIONS

drawing number **S1.00**

client **THE CITY OF BRAMPTON**

project title **CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8

project number **PRE-2023-0128**



COLD WEATHER REQUIREMENTS:

- 1.0 COLD WEATHER REQUIREMENTS:
1.1 GENERALLY CONFORM TO COLD WEATHER REQUIREMENTS AS SET IN:
- THE NATIONAL BUILDING CODE OF CANADA...
- CANADIAN STANDARDS ASSOCIATION SPECIFICATIONS A23.1...
1.2 WHEN THE AIR TEMPERATURE IS AT OR BELOW 5°C OR WHEN THERE IS A PROBABILITY OF ITS FALLING TO THAT LIMIT DURING THE PLACING PERIOD...
1.3 WHEN THE AIR TEMPERATURE IS AT OR BELOW 5°C OR WHEN THERE IS A PROBABILITY OF ITS FALLING TO THAT LIMIT DURING THE PLACING PERIOD...
1.4 WHEN THE EXPOSURE IS SEVERE DUE TO LOW AIR TEMPERATURE...
1.5 ADDITION OF CALCIUM CHLORIDE WILL BE PERMITTED AT THE ENGINEER'S DISCRETION ONLY IF IT IS PERMITTED AT THE SUPPLIER'S PLANT UNDER STRICTLY CONTROLLED CONDITIONS...
1.6 BEFORE DEPOSITING CONCRETE ON ANY SURFACE...
1.7 CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE THAT IS AT A TEMPERATURE LESS THAN 5°C...
1.8 DEPENDING ON THE TEMPERATURE OF THE SURROUNDING AIR...
1.9 ENCLOSED AND HEATED AREA BELOW THE FLOOR SLAB...
1.10 SHORES SUPPORTING THE FORMWORK FOR CONCRETE SHALL NOT BE FOUND ON FROZEN GROUND...
1.11 THE CONCRETE SHALL BE KEPT AT A MINIMUM TEMPERATURE FOR A PERIOD OF SEVEN DAYS...
1.12 THE CONCRETE SHALL BE KEPT AT A MINIMUM TEMPERATURE FOR A PERIOD OF SEVEN DAYS...
1.13 WHEN HIGH EARLY STRENGTH CONCRETE IS USED OR WHEN AN ADDITIONAL 20 TIMES STATED PREVIOUSLY...
1.14 NO SALT OR OTHER CHEMICALS SHALL BE USED TO LOWER THE SETTING TIME OF THE CONCRETE...
1.15 USE OF CALCIUM CHLORIDE ON THE JOB SITE SHALL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES...
1.16 AT THE END OF THE SPECIFIED TIME PERIOD THE CONCRETE MUST BE REDUCED GRADUALLY AT A RATE NOT EXCEEDING 7°C PER DAY UNTIL THE OUTSIDE TEMPERATURE HAS BEEN REACHED...
1.17 THE PROTECTION REQUIREMENTS PREVIOUSLY MENTIONED MAY BE MAINTAINED BY USE OF ADEQUATE SUPPLEMENTARY INSULATION...
1.18 PROPER PROTECTION WILL DEPEND UPON THE OUTSIDE TEMPERATURE...
1.19 WHEN OUTSIDE TEMPERATURE DURING PLACING OR DURING THE PROTECTION PERIOD MAY FALL BELOW -12°C...
1.20 WHEN THE OUTSIDE TEMPERATURE DURING PLACING OR DURING THE PROTECTION PERIOD MAY FALL BELOW -4°C BUT NOT BELOW -12°C THEN ADEQUATE ENCLOSURE OF ALL CONCRETE SURFACES WITH TARPULLINS OR INSULATION...
1.21 WHEN THE OUTSIDE TEMPERATURE DURING PLACING OR DURING THE PROTECTION PERIOD MAY FALL TO BELOW -4°C THEN ADEQUATE ENCLOSURE OF ALL CONCRETE SURFACES WITH TARPULLINS OR INSULATION...
1.22 BEAM CONNECTIONS TO BE LOCATED AT THE END OF THE BEAM...
1.23 COMBUSTION TYPE HEATERS MAY BE USED BUT SHALL BE SO CONSTRUCTED AND SO PLACED THAT THEIR COMBUSTION GASES WILL NOT COME INTO CONTACT WITH SURFACES OF THE CONCRETE...
1.24 ADEQUATE FIRE FIGHTING EQUIPMENT SHALL BE AVAILABLE ON SITE AT AN EASILY ACCESSIBLE LOCATION...
1.25 WINTER CONSTRUCTION USUALLY CALLS FOR THE FORMWORK TO REMAIN IN PLACE FOR LONGER PERIODS OF TIME THAN ONE WOULD EXPECT IN SUMMER WORK.

STRUCTURAL STEEL:

- 1.0 GENERAL
1.1 STRUCTURAL STEEL AND JOIST DESIGN DETAILS & CONNECTIONS SHALL CONFORM TO CAN/CSA-S16.1
1.2 SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK
1.3 REFER TO JOIST GENERAL NOTES AND CONNECTIONS TO GENERAL NOTES AND CONNECTIONS
1.4 WELDING SHALL CONFORM TO CSA STANDARD W59 OR W59-M AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA W47.1
1.5 BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 50% OF THE BEAM SHEAR CAPACITY UNLESS OTHERWISE NOTED, & IN NO CASE BE LESS THAN THE LOADS SHOWN ON OR IMPLIED BY THE DRAWINGS.
2.0 PRODUCTS
2.1 STRUCTURAL STEEL SECTIONS SHALL CONFORM TO:
1. WW SHAPES, S SHAPES, CHANNELS, ANGLES, PLATES & RODS: CSA-G40.21 GRADE 300W
2. HSS SECTIONS: CSA-G40.20 GRADE 300W (CLASS C UN)
3. W SHAPES: CSA-G40.21 GRADE 300W
4. COLD FORMED STRUCTURAL MEMBERS: CSA-S136 M04
2.2 JOIST CHORDS & WEBS SHALL CONFORM TO CAN/CSA-S16.1
2.3 BOLTS, NUTS & WASHERS FOR CONNECTIONS TO CONFORM TO ASTM A325 UNLESS NOTED.
2.4 ANCHOR BOLTS, NUTS & WASHERS FOR BASE PLATES, BEARING PLATES & WELD PLATES TO CONFORM TO ASTM A307 UNLESS NOTED.
2.5 SHEAR STUDS WHERE REQUIRED TO CONFORM TO ASTM A108, WELDING TO CONFORM TO CSA W59 OR W59-M.
2.6 WELDING MATERIALS TO CONFORM TO CSA W48.1 (E108).
2.7 PRIMER PAINT TO CONFORM TO CAN/CSG-14 OR CSC/CP-14 OR CSC/CP-24.
2.8 HOT DIP GALVANIZING TO CONFORM TO CAN/CSA-G16 WITH A MINIMUM ZINC COATING OF 800g/m² UNLESS OTHERWISE SPECIFIED.
2.9 FORMS FOR CONCRETE SLAB OVER JOISTS (SEE NOTES UNDER PLANS & TYPICAL DETAILS)
2.10 BRIDGING AND BRACING FOR JOISTS: (SEE DRAWINGS & TYPICAL DETAILS)
3.0 EXECUTION
3.1 FABRICATION, HANDLING & ERECTION TO CONFORM TO CAN/CSA-S16.1
3.2 PROVIDE A MINIMUM OF 2-12 mm (1/2") DIAMETER BRACING BY 250 (10") LONG WALL ANCHORS FOR ALL BEAM & JOIST WALL PLATES ON MASONRY OR APPROVED EQUAL UNLESS OTHERWISE NOTED. BEAMS & JOIST SHEETS TO BE WELDED TO BEARING PLATES.
3.3 PROVIDE ADJUSTABLE ANCHORS TO ALL STEEL TO BE BUILT INTO, ABUTTED BY, OR FACED WITH MASONRY (REFER ALSO TO DETAILS IF SHOWN). SPACING OF ANCHORS TO BE:
1) FOR VERTICAL SPACING = 800 (24") MAX. CENTRES
2) FOR HORIZONTAL SPACING = 10 TIMES WALL THICKNESS (MAX. 2000 (6'-8") CENTRES) (\* USE BACK-UP WYTHE THICKENING ONLY FOR CAVITY WALLS.)
3) WHERE STEEL PROVIDES LATERAL BRACING ONLY TO MASONRY (I.E. DOES NOT SUPPORT MASONRY) AND SUCH BRACING SHALL PERMIT DIFFERENTIAL VERTICAL MOVEMENT BETWEEN STRUCTURAL MEMBER & MASONRY.
3.4 CLEAN, PREPARE SURFACES AND SHOP PRIME STRUCTURAL STEEL & JOISTS WITH ONE COAT OF SPECIFIED PRIMER PAINT IN ACCORDANCE WITH CAN/CSA-S16.1, EXCEPT WHERE MEMBERS ARE TO BE ENCASED IN CONCRETE. FIELD TOUCH-UP BOLTS, WELDS, BURNED OR SCRAPED SURFACES AFTER ERECTION.
3.5 WHEREVER ITEMS ARE TO BE HUNG FROM JOISTS, SECUREMENT SHALL BE FROM THE TOP CHORDS AT PANEL POINTS UNLESS OTHERWISE PERMITTED.
3.6 PROVIDE ALL NECESSARY TEMPORARY BRACING TO KEEP STRUCTURE SAFE AND PLUMB. BRACING SHOWN ON STRUCTURAL DRAWINGS IS PERMANENT BRACING UNLESS OTHERWISE NOTED.
3.7 COORDINATE WITH MECHANICAL & ELECTRICAL CONSULTANTS & SUB-TRADES WHOSE WORK MAY AFFECT DETAILING, FABRICATION & ERECTION OF THE STEEL STRUCTURE.
3.8 TOLERANCES:
VARIATION FROM PLUMB & LEVEL. EXTERIOR COLUMNS, COLUMNS AT ELEVATOR SHAFTS, & SPANDREL BEAMS INCLUDING ANGLES = 1:1000 (MAX. 23mm (9/16") IN 10'-0" MAX. 1")
OTHER PIECES = 1:500 (1/4" IN 10'-0")
3.9 NO HOLES OTHER THAN THOSE SHOWN ON REVISION #30 DRAWINGS SHALL BE MADE IN ANY STEEL MEMBER WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL CONSULTANT.
4.0 CONNECTIONS:
4.1 CONNECTIONS OF BEAMS TO COLUMNS OR TO GIRDERS, UNLESS NOTED OTHERWISE ON PLAN OR IN DETAIL, SHALL BE FRAMED CONNECTIONS.
4.2 SEATED BEAM CONNECTIONS INDICATED ON THE DRAWINGS, BUT NOT SHOWN SPECIFICALLY IN DETAIL, SHALL BE CONSTRUCTED AS FOLLOWS:
- THE SEATED BEAM CONNECTION SHALL BE POSITIONED FOR THE BEAM REACTION AND SHALL BE SUPPLEMENTED BY AN ADDITIONAL WEB CONNECTION, THE BOTTOM FLANGE OF THE BEAM SHALL BE DRIVEN TO THE SEAT WITH 2-20mm (3/4") DIA. BOLTS, SLOTTED HOLES OF SIZE 25mm x 30mm (1 1/2" x 1 1/4") SHALL BE PROVIDED IN THE BEARING PLATE OF THE SEAT TO PERMIT FREE MOVEMENT OF THE FASTENERS IN THE DIRECTION PARALLEL TO THE AXIS OF THE BEAM.
4.4 THE WEB CONNECTION SHALL CONSIST OF ONE CLIP ANGLE AND TWO BOLTS AND SHALL, WHERE PRACTICABLE, BE LOCATED AT THE END OF THE BEAM.
4.5 ALL CONNECTING SURFACES SHALL RECEIVE ONE PRIMER COAT.
4.6 TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL CONNECTION HAS BEEN FULLY TIGHTENED. FIELD CONNECTIONS OF COLUMNS TO BE PERMITTED UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS.
4.8 NO SPLICES IN BEAMS AND COLUMNS SHALL BE ALLOWED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
4.9 BUTT WELDS IN SPLICES AND MOMENT CONNECTIONS TO BE ULTRASONICALLY TESTED OR X-RAYED, AND PASSED BY AN INDEPENDENT TESTING COMPANY.
5.0 SHOP CONNECTIONS:
5.1 HIGH STRENGTH BOLTS, RIVETS OR WELDS MAY BE USED FOR ALL SHOP CONNECTIONS WHERE THE TYPE OF THE CONNECTION HAS NOT BEEN SPECIFIED ON THE DRAWINGS.
5.2 CONTACT SURFACES OF CONNECTIONS INDICATED ON THE DRAWINGS, BUT NOT SHOWN SPECIFICALLY NOTED ON DETAILS, HIGH STRENGTH BOLTED CONNECTIONS SHALL BE FRICTION TYPE CONNECTIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5.3 WELDED CONNECTIONS SHALL BE USED ONLY BY FABRICATORS WITH QUALIFICATIONS OUTLINED IN W59-M1989, CLAUSE 6.
5.4 ADDITIONAL MASONRY ANCHORS SHALL BE PROVIDED FOR ROOF STRUCTURES ONLY.
5.5 THE FABRICATOR SHALL PROVIDE MASONRY WALL ANCHORS TO THE BEAMS AND COLUMNS WHERE REQUIRED.
5.6 ANCHORS SHALL NOT BE REQUIRED WHERE A POURED REINFORCED CONCRETE DECK PROVIDES ADEQUATE LATERAL TIE BETWEEN TWO CONSECUTIVE JOIST SPANS ACROSS INTERIOR WALLS.
5.7 BRIDGING SHALL CONFORM TO CAN/CSA S16.1-M4 AND SHALL, UNLESS NOTED ON THE DRAWINGS, BE PROPORTIONED TO SATISFY THE MINIMUM REQUIREMENTS SPECIFIED IN CLAUSE 16.7 OF THE SPECIFICATION.
6.0 FIELD WORK:
6.1 FIELD MODIFICATIONS SHALL CONFORM TO CLAUSE 4.2.2 OF CSA STANDARD CAN/CSA S16.1-M4.
6.2 WELDED CONNECTIONS, UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS, SHALL NOT BE PERMITTED.
6.3 WELDED CONNECTIONS SHALL BE USED ONLY BY ERectors CERTIFIED BY THE CANADIAN WELDING BUREAU. THE REQUIREMENTS OF CSA STANDARD W47.1:1992.
7.0 WELDING:
7.1 ARC WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W59-M1989 AND CAN/CSA S16.1-M4.
7.2 THE FABRICATOR OR CONTRACTOR UNDERTAKING WELDING WORK SHALL BE CERTIFIED BY THE CANADIAN WELDING BUREAU AS BEING QUALIFIED UNDER THE REQUIREMENTS OF CSA STANDARD W47.1-M1992, CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES, DIVISION 2.1.
8.0 SHOP PAINTING, CLEANING AND SURFACE PREPARATION:
8.1 UNLESS NOTED OTHERWISE, SHOP PAINTING AND SURFACE PREPARATION FOR PAINTING SHALL CONFORM TO CAN CGSB SPECIFICATION 1-GP-40 M89 BY THE CANADIAN GENERAL STANDARD BOARD.
8.2 STEEL SURFACES IN CONTACT WITH CONNECTIONS DESIGNATED AS FRICTION TYPE, CONCRETE OR TOP SURFACES OF BEAMS CARRYING MASONRY, SHALL NOT BE PAINTED.
9.0 PLUMB & LEVEL:
9.1 EXTERIOR COLUMNS, SPANDREL AND ANGLES ..... IN 3,000mm (10'-0") 43mm (1/8") OTHER PIECES ..... IN 3,000mm (10'-0") 43mm (1/8")
9.2 PROVIDE AND REMOVE AFTERWARDS TEMPORARY BRACING NECESSARY TO KEEP THE STRUCTURE TRUE AND PLUMB DURING CONSTRUCTION.
9.3 COORDINATE WITH ALL SUBTRADES WHOSE WORK EFFECTS DETAILING, FABRICATION AND ERECTION OF THE STRUCTURAL STEEL.
10.0 METAL CONNECTORS
10.1 BACK-UP WITH 6 COARSE OF BRICK OR 2 COARSE OF BLOCK TO THE STEEL MEMBERS TO BE INSTALLED WITH METAL TIES IN ACCORDANCE WITH CAN3-A370-M94, CONNECTORS FOR MASONRY.
11.0 SHOP DRAWINGS:
11.1 ALL STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE FABRICATION OF STRUCTURAL STEEL.
11.2 ALL CONNECTIONS AND WELDING TO BE DESIGNED BY A PROFESSIONAL ENGINEER, SHOP DRAWINGS BEARING THE STAMP AND SIGNATURE OF THE PROFESSIONAL ENGINEER, REGISTERED IN THE PROVINCE OF ONTARIO, RESPONSIBLE FOR THE DESIGN, SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.
12.0 BEARING AND ANCHORAGE:
12.1 PROVIDE WALL ANCHORS FOR ENDS OF ALL BEAMS BEARING ON MASONRY.
12.2 STEEL BEAMS BEARING ON MASONRY WALLS SHALL HAVE A MINIMUM BEARING OF 200mm (8") UNLESS NOTED OTHERWISE ON DRAWINGS.
12.3 PROVIDE 38mm x 6mm x 200mm (1-1/2"x1/4"x8") STRAP ANCHORS @ 460mm (18") @c MAX. FOR ALL BEAMS AND COLUMNS IN CONTACT AND ADJACENT WITH MASONRY.
12.4 DO NOT PUT HOLES IN TOP FLANGES OF BEAMS WHERE THEY CANTLEVER OVER COLUMNS NOR IN BOTTOM FLANGE NEAR MIDSPAN.
13.0 LINTELS:
13.1 UNLESS SHOWN OTHERWISE ON THE DRAWINGS, THE FABRICATOR SHALL SUPPLY THE FOLLOWING LINTELS FOR OPENINGS IN MASONRY WALLS.
13.2 COMPONENTS OF LINTELS MUST AT LEAST BE TIED IN PARTS TO PROVIDE LATERAL STABILITY.
13.3 EXPOSED FACES OF LINTEL SHALL RECEIVE ONE PRIMER COAT. THE FABRICATOR SHALL FURNISH DRAWINGS INDICATING CLEARLY THE LOCATION OF LINTELS TO BE INSTALLED BY OTHER TRADES.
14.0 HORIZONTAL MEMBERS:
14.1 ALL INTERMEDIATE GIRTS, MEMBERS AT WINDOW HEADS, ETC. SHALL BE SUPPORTED BY 12mm (1/2") DIA. SAG RODS @ 1800mm (6'-0") MAX. @c UNLESS NOTED OTHERWISE ON PLAN OR OTHER SECTIONS.
15.0 QUALITY CONTROL
15.1 SEE GENERAL NOTES, NOTES UNDER PLANS, & OR SPECIFICATION FOR INSPECTION & TESTING REQUIREMENTS.
16.0 SLOT-HOLES AND DOVETAIL ANCHORS:
16.1 ALL STRUCTURAL MEMBERS (STEEL AND CONCRETE) IN CONJUNCTION WITH MASONRY SHALL HAVE ANCHOR SLOTS FOR STEEL STRAP TIES 40mm (1-1/2") WIDE AND 6mm (1/4") THICK, SPACED NOT GREATER THAN 400mm (16") VERTICALLY FOR STEEL COLUMNS, 800mm (32") FOR STEEL BEAMS AND CONTINUOUS DOVE TAILS FOR CONCRETE BEAM OR COLUMN FACING MASONRY.

MASONRY:

- 1.0 MASONRY:
1.1 IT IS THE OWNER'S AND/OR CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE TEMPORARY LATERAL SUPPORT TO MASONRY WALLS DURING THE CONSTRUCTION PHASE.
2.0 DESIGN:
2.1 MASONRY WALLS SHALL BE DESIGNED IN ACCORDANCE WITH NBC 2010 - SUBSECTION 4.3.2. MASONRY DESIGN & CONSTRUCTION SHALL COMPLY WITH CAN/CSA S16.1 MASONRY CONSTRUCTION FOR BUILDINGS CAN S4371 AND CONCEPTS FOR MASONRY CAN S4370.
2.2 MATERIALS:
3.1 MASONRY UNITS AND MORTAR SPECIFIED ON DRAWINGS SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE OF ONTARIO.
3.2 ALL CONCRETE BLOCK UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 15.0 MPa BASED ON NET AREA. BRICK UNITS SHALL BE 30 MPa OR BETTER.
3.3 MORTAR FOR UNIT MASONRY SHALL BE TYPE N OR BETTER. MASONRY BELOW GRADE SHALL BE LAID WITH TYPE S MORTAR OR BETTER.
3.4 ADJUSTABLE METAL TIES, WHEN USED, SHALL BE CAPABLE OF DEVELOPING COMPRESSIVE AND TENSILE RESTRAINT BETWEEN UNITS IN EITHER DIRECTION.
3.5 UNLESS NOTED OTHERWISE, A SINGLE WYTHE OF CONCRETE BLOCK WALLS SHALL BE PROVIDED WITH REINFORCING. REINFORCEMENT SHALL BE INSTALLED TYPICALLY IN EVERY SECOND HORIZONTAL MORTAR JOINT. AT FIRST HORIZONTAL JOINT BELOW THE TOP OF THE WALL AND BELOW EACH FLOOR LEVEL. REINFORCEMENT SHALL ALSO BE INSTALLED IN THE FIRST TWO HORIZONTAL JOINTS IMMEDIATELY ABOVE AND BELOW ALL WALL OPENINGS, AND TO EXTEND A MINIMUM OF 800mm BEYOND ALL SUCH OPENINGS. JOINT REINFORCING SHALL BE BLOCK-LOC TYPE BL 91, OR EQUIVALENT, CONFORMING TO ASTM A652 AND CSA G30.3 GALVANIZING SHALL CONFORM TO ASTM A116 CLASS 3 - 244 mg/m² (0.8 oz/sq ft). REINFORCING SHALL BE CONTINUOUS IN ALL JOINTS, AS DEFINED ABOVE, AND SHALL OVERLAP 132mm MINIMUM AT ALL SPLICES. SPLICES SHALL NOT BE MADE AT CORNERS. CORNERS SHALL BE REINFORCED WITH CONTINUOUS PREFABRICATED, WELDED, CORNER ELEMENTS. ALL WIRES SHALL BE INSTALLED WITH A MINIMUM OF 16mm OF MORTAR COVER.
WIRE SIZES OF JOINT REINFORCING, PRIOR TO COATING, SHALL CONFORM TO THE FOLLOWING:
WALL THICKNESS SIDE ROD DIAMETER CROSS ROD DIAMETER
90mm (4 in) AND 140mm (6 in) 3.66 mm (9 ga) 3.66 mm (9 ga)
190mm (8 in) AND 240mm (10 in) 4.76 mm (3/16 in) 4.76 mm (3/16 in)
290 mm (12 in) 4.76 mm (3/16 in) 4.76 mm (3/16 in)
COMPOSITION OF MORTARS IN PARTS BY VOLUME:
MORTAR TYPE PROPORTIONS INGREDIENT
TYPE M 1 PART 1 PART PORTLAND CEMENT MASONRY CEMENT
TYPE S 4-1/2 TO 6 PARTS 12 PARTS PORTLAND CEMENT MASONRY CEMENT
TYPE N 3-1/2 TO 4 PARTS AGGREGATE
SIMPLE SPAN MEMBERS OF FLOORS AND ROOFS SUPPORTING CONSTRUCTION AND FINISHES NOT SUBJECT TO CRACKING LIVE LOAD L/300
SIMPLE SPAN MEMBERS OF FLOORS AND ROOFS SUPPORTING CONSTRUCTION AND FINISHES SUBJECT TO CRACKING LIVE LOAD L/360
PERIMETER OR SPANDREL ELEMENTS (SUPPORTING CLADDING, PRECAST, MASONRY WALLS AND THE LIKE) HAVE BEEN DESIGNED FOR AN ALLOWABLE INCREMENTAL LONG TERM DEFLECTION OF L/360.
5. THE STRUCTURE HAS BEEN DESIGNED ASSUMING THAT THE INSTALLATION OF NONSTRUCTURAL ELEMENTS WILL BE COMPLETED AND ELECTRICAL SERVICES AND THE LIKE WILL NOT COMMENCE UNTIL AT LEAST ONE MONTH AFTER THE REINFORCED CONCRETE SLAB SUPPORTING THE NONSTRUCTURAL ELEMENTS HAS BEEN POURED AND THE RESHORING REMOVED.
6. THE STRUCTURE HAS BEEN DESIGNED TO LIMIT THE MAXIMUM INTERSTOREY DRIFT UNDER SERVICEABILITY LIMIT STATE (SLS) AVERAGE HOURLY WIND PRESSURE TO H/500 WHERE H IS THE FLOOR TO FLOOR HEIGHT BETWEEN TO ADJACENT FLOORS, UNDER SERVICEABILITY LIMIT STATE. THE INTERSTOREY DRIFT HAS BEEN LIMITED TO 0.3%.
7. DIFFERENTIAL DEFLECTIONS OF EDGE BEAMS AND EDGES OF SLABS ARE APPROXIMATELY:
TYPICAL FLOOR: 20mm
- 2ND FLOOR (FLOOR ABOVE RIGID FLOOR): 20mm.
8. NONSTRUCTURAL ELEMENTS SUCH AS CLADDING, MECHANICAL AND ELECTRICAL SERVICES AND SUPPORTS AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED ABOVE.
9. MOVEMENT AT EXPANSION JOINTS - SEE DETAIL AND PLANS
10. HORIZONTAL SHRINKAGE MOVEMENTS OF POST-TENSIONED SLABS = APPROXIMATELY 10 mm PER 30000 mm OF LENGTH.
11. ALL STRUCTURES ARE ALSO SUBJECT TO CONSTRUCTION TOLERANCES. THIS SHOULD BE ALLOWED FOR IN DETAILING NON-STRUCTURAL COMPONENTS IN ADDITION TO THE ABOVE MOVEMENTS.
NON-STRUCTURAL ELEMENTS
1. NON-STRUCTURAL OR SECONDARY STRUCTURAL ELEMENTS ARE NOT PART OF THE STRUCTURAL DESIGN SHOWN ON THESE DRAWINGS. SUCH ELEMENTS ARE DESIGNED, DETAILED AND REVIEWED IN THE FIELD BY OTHERS AND THEY APPEAR ON DRAWINGS OTHER THAN THESE DRAWINGS. WHERE STRUCTURAL ENGINEERING RESPONSIBILITY IS REQUIRED FOR THESE ELEMENTS, THIS SHALL BE PROVIDED BY SPECIALTY STRUCTURAL ENGINEERS, WHO SHALL ALSO PROVIDE ANY LETTERS REQUIRED BY BUILDING PERMIT AUTHORITIES.
2. EXAMPLES OF NON-STRUCTURAL ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
A. ARCHITECTURAL COMPONENTS SUCH AS GUARDRAILS, HANDRAILS, FLAG POSTS, CANOPIES, CEILING, MILLWORK, ETC.
B. LANDSCAPE ELEMENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC.
C. CLADDING, GLAZING, WINDOW MULLIONS, INTERIOR STUD WALLS AND EXTERIOR STUD WALLS.
D. ARCHITECTURAL PRECAST, PRECAST CLADDING.
E. ESCALATORS, ELEVATORS, AND CONVEYING SYSTEMS.
F. MECHANICAL AND ELECTRICAL EQUIPMENT, COMPONENTS, AND THEIR ATTACHMENT DETAILS.
G. WINDOW WASHING EQUIPMENT AND ITS ATTACHMENTS.
H. STAIRS, ELEVATOR AND CONVEYING SYSTEMS.
I. GLASS BLOCK AND ITS ATTACHMENTS.
J. GRASS BLOCK VENEER AND THEIR ATTACHMENTS.
K. NONLOAD BEARING MASONRY.
L. NON-STRUCTURAL CONCRETE TOPPING.
3. SHOP DRAWINGS FOR NON-STRUCTURAL ELEMENTS WHICH MAY AFFECT THE PRIMARY STRUCTURAL SYSTEM SHALL BE SUBMITTED TO REDL. THESE DRAWINGS WILL BE REVIEWED ONLY FOR THE EFFECT OF THE ELEMENT ON THE PRIMARY STRUCTURAL SYSTEM.
DRAWINGS
1. THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED 'ISSUED FOR CONSTRUCTION' IN THE REVISIONS COLUMN BY REDL. THE DRAWINGS SHALL NOT BE USED FOR PRICING, COSTING, OR TENDER UNLESS SO INDICATED IN THE REVISION COLUMN. PRICING OR COSTING DRAWINGS ARE NOT COMPLETE AND ANY PRICES BASED ON PRICING OR COSTING DRAWINGS MUST INCLUDE ALLOWANCES FOR THIS.
2. THE INFORMATION ON THESE DRAWINGS SHALL NOT BE USED FOR ANY OTHER PROJECT OR WORKS. THE INFORMATION ON THESE DRAWINGS APPLIES SOLELY TO THIS PROJECT.
3. THE DRAWINGS DO NOT SHOW MODIFICATIONS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSE WORK, SHORING, ETC. REQUIRED TO COMPLETE THE WORK.

LOADING SUMMARY

DESIGN STANDARDS

ONTARIO BUILDING CODE, 2012, PART 4: STRUCTURAL DESIGN
CAN/CSA-A23.3-19 DESIGN OF CONCRETE STRUCTURES
CAN/CSA-A23.4-16 DESIGN OF PRECAST CONCRETE STRUCTURES
CAN/CSA-S304-14(R2019) MASONRY DESIGN FOR BUILDINGS
CAN/CSA-S16.1-19 LIMIT STATES DESIGN OF STEEL STRUCTURES
CAN/CSA-S136-16 DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS
CAN/CSA-086-19, ENGINEERING DESIGN IN WOOD

SNOW, ICE AND RAIN LOADS

APPLIED PER OBC, PART 4, SECTION 4.1.8
Specified Snow Load [S\_s] = I\_s[S(CCoWCSaCs)]/S\_fj
Values:
Location: Brampton, Ontario
S\_s = 1.3 kPa
S\_r = 0.4 kPa
Importance Factors:
U.L.S. I\_s = 1.0; S.L.S. I\_s = 0.9
Cb = 0.8 (based on input Cb)
Roof slope = 0 degrees
Slope Factor:
For non-sloping roof:
Slope <= 30 degrees: Cs = 1 (Table A-4.1.6.9)
Snow on Gable Roofs:
Load Case 1
Same load on both upwind and downwind sides.
U.L.S.:
Cs = 1
S = 1.44 kPa (30.1 psf)
-DRIFT LOADS PER CLAUSE 4.1.6.2 & 8
Slope of 1:3
S = 0.33 kPa (7.0 psf)
U.L.S. (S) = 0.26 kPa (5.7 psf)
S.L.S. (S) = 0.26 kPa (5.7 psf)
U.L.S. (S) = 0.26 kPa (5.7 psf)
S.L.S. (S) = 0.26 kPa (5.7 psf)

WIND LOADS

APPLIED PER OBC, PART 4, SECTION 4.1.7
-IMPORTANCE FACTOR, I\_w: 1.0 (SLS) 1.0 (ULS)
-REFERENCE VELOCITY PRESSURE FOR STRUCTURAL MEMBERS:
0.42 kPa / 50 YEAR PROBABILITY
-REFERENCE VELOCITY PRESSURE FOR CLADDING & NON-STRUCTURAL MEMBERS:
FOR SMALL ELEMENTS INCLUDING CLADDING:
0.20 FOR WHOLE & MAIN STRUCTURAL MEMBERS
0.15 FOR SMALL ELEMENTS INCLUDING CLADDING
FOR INTERNAL PRESSURES:
2.0 FOR INTERNAL PRESSURE CATEGORY 2 PER NBC 2010 STRUCTURAL COMMENTARY (PART B), COMMENTARY B.3.
SUBSTITUTION TO CLADDING:
2.0 FOR WHOLE & MAIN STRUCTURAL MEMBERS
0.15 FOR SMALL ELEMENTS INCLUDING CLADDING
FOR INTERNAL PRESSURES:
2.0 FOR INTERNAL PRESSURE CATEGORY 2 PER NBC 2010 STRUCTURAL COMMENTARY (PART B), COMMENTARY B.3.

SEISMIC LOADS

Location: Brampton, Ontario
Snow on Gable Roofs:
Load Case 1
Same load on both upwind and downwind sides.
U.L.S.:
Cs = 1
S = 1.44 kPa (30.1 psf)
-DRIFT LOADS PER CLAUSE 4.1.6.2 & 8
Slope of 1:3
S = 0.33 kPa (7.0 psf)
U.L.S. (S) = 0.26 kPa (5.7 psf)
S.L.S. (S) = 0.26 kPa (5.7 psf)
U.L.S. (S) = 0.26 kPa (5.7 psf)
S.L.S. (S) = 0.26 kPa (5.7 psf)
Material = steel
System = moment
SFRS = Moderately ductile moment-resisting frames
Weight = 16N
N = 3
Ta = Computed for given height & system.
Computed Values:
FGA(2) = 0.128
FGA(2) = 0.124
FGA(5) = 1.47
FGA(10) = 1.55
FGA(20) = 1.57
FGA(50) = 1.58
FGA(100) = 1.49
N = 3
Ro = 1.5
S(0.2) = 0.19
S(0.5) = 0.13
S(1.0) = 0.08
S(2.0) = 0.04
S(4.0) = 0.02
S(5.0) = 0.01
S(10.0) = 0
S(20.0) = 0.33
N = 3
Ie/FaSa(0.2) = 0.21
S(Ta) = S(0.33) + 0.166
N = 3
S(Ta) = S(0.33) + 0.166
Vmin = S(2.0) \* Ie \* W / (Rd \* Ro) = 0.01 kN
Vmax = MAX (0.25) \* S(2.0) \* Ie \* W / (Rd \* Ro), S(0.5) \* Ie \* W / (Rd \* Ro) = 0.02 kN

Table with 4 columns: Issue No., Issue Description, Issue Date, Issue By. Includes entries for 'ISSUED FOR TENDER' and 'RE-ISSUED FOR SPA'.

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reviewed by: RGd
drawn by: UC
date: APRIL 2024
scale: AS SHOWN

SEISMIC SWAY BRACING

ARTICLE 4.1.8.1(2) OF THE ONTARIO BUILDING CODE NOTES THAT IF THE PRODUCT OF IE \* Fa \* S(0.2) IS LESS THAN 0.26, THE REQUIREMENTS NOTED ABOVE NEED NOT APPLY. THESE VALUES ARE EXPLORED BELOW. THIS EXEMPTION IS NOT APPLICABLE TO POST-DISASTER BUILDINGS.
BASED ON THE ABOVE NOTED VALUES, THE PRODUCT OF IE \* Fa \* S(0.2) = 1.0 \* 1.0 \* 0.26 = 0.26. GIVEN THIS IS LESS THAN THE THRESHOLD OF 0.35, THE APPLICATION OF THE LATERAL FORCE (V) TO ALL ELEMENTS AND COMPONENTS AND SWAY BRACING IS NOT REQUIRED.

DESIGN LOADING

Table with 2 columns: Location and Load. Includes entries for 'DEAD ROOFING = 0.30 kPa', 'INSULATION = 0.20 kPa', 'STRUCTURE = 0.15 kPa', 'SPRINKLER = 0.15 kPa', 'CEILING = 0.15 kPa', 'MECH & ELEC = 0.20 kPa', 'TOTAL = 1.15 kPa'.

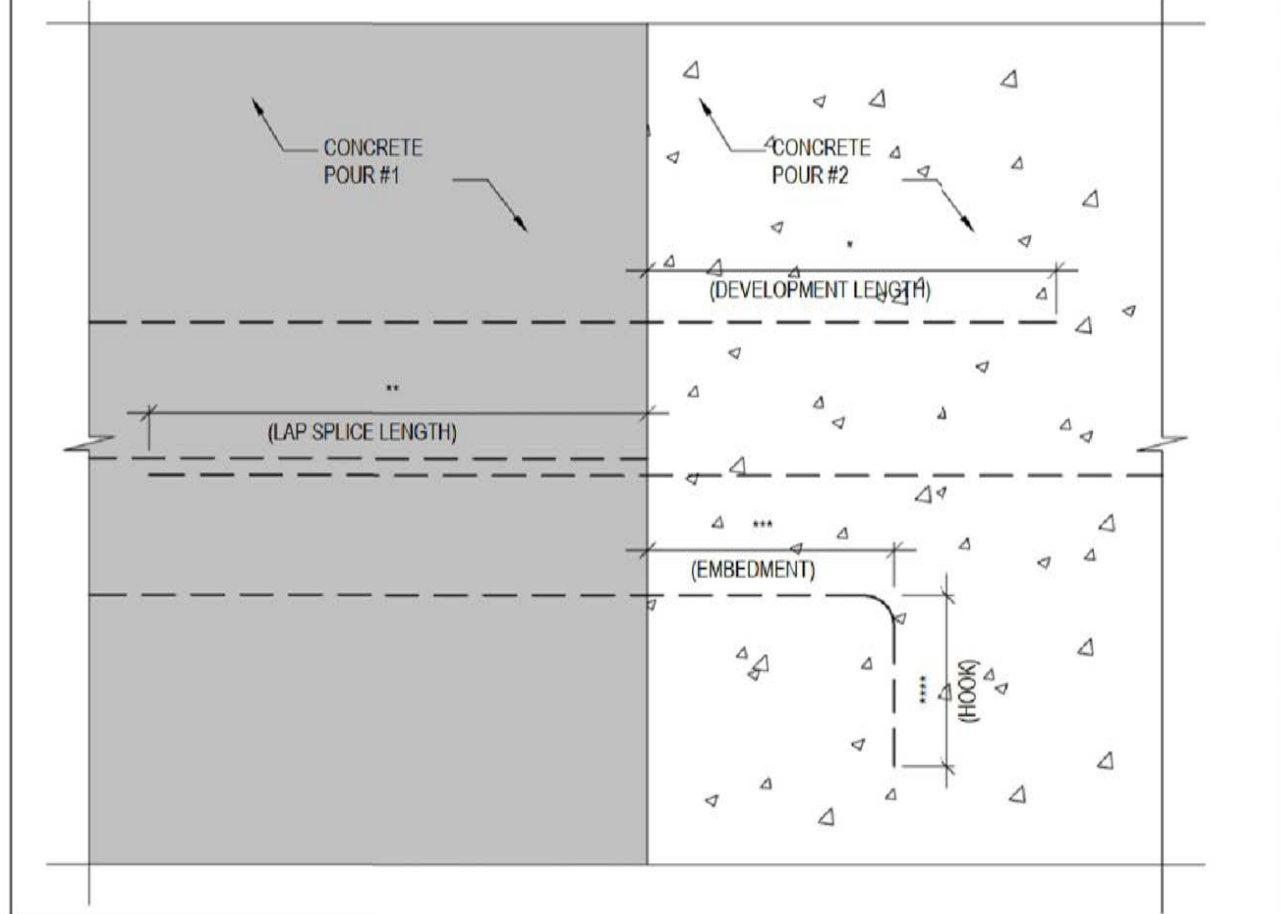
ROBERT E. DALE LIMITED CONSULTING ENGINEERS
ENGINEERING DONE UPRIGHT.
429 EXMOUTH STREET SUITE 208, SARNIA, ONTARIO

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DRAWINGS MUST NOT BE SCALED.
Professional Engineer Seal for Robert E. Dale, No. 12240, Province of Ontario.

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A: 120 Rivermead Road, Unit 101, Concord, Ontario, Canada

REBAR DEVELOPMENT SCHEDULE

Table with 4 columns: Size, Development Length (Ld), Lap Splice Length (Ls), Embedment (de). Rows for 10M, 15M, 20M, 25M, 30M, 35M.



- NOTES:
1. INCREASE ABOVE BY 1.5 TIMES FOR ALL EPOXY COATED REBARS.
2. THESE NUMBERS ARE ONLY FOR NORMAL WEIGHT CONCRETE.
3. CONCRETE COVER MUST BE EQUAL OR MORE THAN 1.5 REBAR DIAMETER.
4. CLEAR SPACING NOT LESS THAN 2 REBAR DIAMETERS.
5. YIELD STRESS FOR REBARS (fy) = 400 MPa.

STRUCTURAL SPECIFICATIONS

drawing title
drawing number: S2.00
client: THE CITY OF BRAMPTON

project title: CASSIE CAMPBELL CC PAVILION BUILDING
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8
project number: PRE-2023-0128

landscape planning LANDSCAPE ARCHITECTS
Suite 207, 95 Main Street, Richmond Hill, Ontario L4B 3G2.
Tel: 905.669.6838, www.landscapeplan.ca



## OPEN WEB STEEL JOISTS:

- 1.0 OPEN WEB STEEL JOISTS:
  - 1.1 O.W.S.J. SHALL MEAN A STEEL TRUSS AS DEFINED IN CLAUSE 16 OF CSA STANDARD CANCSA-516.1.
- 2.0 DESIGN REQUIREMENTS:
  - 2.1 OWSJ SHALL BE DESIGNED AS FOLLOWS:
    - FOR STANDARD OWSJ LOADING SHALL BE IN ACCORDANCE WITH CLAUSE 16.6.1.
    - FOR SPECIAL OWSJ LOADING SHALL BE IN ACCORDANCE WITH CLAUSE 16.6.2.
  - 2.2 OWSJ SHALL HAVE THE FOLLOWING CHARACTERISTICS:
    - THE HEIGHT OF THE SHOULDER SHALL BE 63mm (2-1/2").
    - THE EFFECTIVE LENGTH OF BEARING SHALL BE 100mm (4").
    - THE WIDTH OF BEARING SHALL NOT BE SMALLER THAN 100mm (4").
    - D.L. - THE TOTAL UNIFORMLY DISTRIBUTED SPECIFIED DEAD LOAD OF THE FLOOR OR ROOF STRUCTURE IN kN/m<sup>2</sup> (P.S.F.).
    - LL - THE TOTAL UNIFORMLY DISTRIBUTED SPECIFIED LIVE LOAD OF THE FLOOR OR ROOF STRUCTURE IN kN/m<sup>2</sup> (P.S.F.).
    - W - THE TOTAL UNIFORMLY DISTRIBUTED DEAD AND LIVE LOAD OF THE FLOOR OR ROOF STRUCTURE IN kN/m<sup>2</sup> (P.S.F.).
    - P - ADDITIONAL CONCENTRATED POINT LOADS IN kN (KIPS).
  - 2.3 MAXIMUM JOIST DEFLECTION DUE TO LIVE LOAD SHALL BE EQUAL TO L/360 OF SPAN UNLESS NOTED OTHERWISE.
  - 2.4 JOISTS SHALL HAVE HOT ROLLED CHORDS OR COLD ROLLED CHORD MATERIAL, MEETING THE REQUIREMENTS OF CSA STANDARDS CANCSA-516.1. WHEN COLD FORMED MEMBERS ARE USED IN JOISTS, NO MATERIALS LESS THAN 5mm (3/16") THICK WILL BE ALLOWED.
  - 2.5 NO ATTACHMENTS FOR MECHANICAL, ELECTRICAL OR OTHER SERVICES SHALL BE MADE WITHOUT USING APPROVED CLAMPING DEVICES OR L-BOLT TYPE CONNECTIONS AND THAT NO DRILLING, WELDING OR CUTTING SHALL BE DONE UNLESS APPROVED BY THE ENGINEER.
  - 2.6 ONLY CONTRACTORS CERTIFIED BY THE CANADIAN WELDING BUREAU AS BEING QUALIFIED AND HAVING OBTAINED THE APPROVAL OF THE MUNICIPALITY HAVING JURISDICTION SHALL UNDERTAKE THE DESIGN, FABRICATION AND ERECTION OF OWSJ. JOIST SHALL BE DESIGNED IN ACCORDANCE WITH CSA STANDARD CANCSA-516.1 AND IN COMPLIANCE WITH REGULATIONS AND PROVISIONS OF THE MUNICIPALITY HAVING JURISDICTION AND SHALL BE PROPORTIONED FOR THE DESIGN LOADS INDICATED ON THE STRUCTURAL DRAWINGS.
  - 2.7 FABRICATOR DRAWINGS MUST INDICATE THE ASSUMED DESIGN LOADS AND THE TYPE OR TYPES OF STRUCTURAL STEEL SPECIFIED FOR THE VARIOUS MEMBERS.
  - 2.8 JOIST LOADS GIVEN ON THE DRAWINGS DO NOT INCLUDE JOIST SELF-WEIGHT.
  - 2.9 JOIST SUPPLIER MUST OBTAIN INFORMATION FROM CONTRACTOR AND/OR MECHANICAL CONSULTANT AND SHOULD ALLOW FOR POINT LOADS DUE TO MECHANICAL EQUIPMENT (WHETHER OR NOT INDICATED ON THE STRUCTURAL DRAWINGS).
  - 2.10 THE STRUCTURAL STEEL CONTRACTOR MUST SUBMIT ERECTION DRAWINGS TO THE MECHANICAL ENGINEER AND/OR CONTRACTOR FOR APPROVAL OF SIZE AND LOCATION OF OPENINGS FOR MECHANICAL UNITS.
  - 2.11 ALL OWSJ SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER. SHOP DRAWINGS BEARING THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER, REGISTERED IN THE PROVINCE OF ONTARIO RESPONSIBLE FOR THE DESIGN, SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THE OPEN WEB STEEL JOISTS.
  - 2.12 JOISTS TO BE DESIGNED TO RESIST UPLIFT FORCES OR PARTIAL LIVE LOADS AS REQUIRED BY O.B.C. AND NATIONAL BUILDING CODE.
  - 2.13 PROVIDE CAMBER FOR OWSJ = DEFLECTION OF D.L. + 1/2 L.L. (D.L. INCLUDING MECHANICAL UNITS)
  - 2.14 MINIMUM BEARING FOR JOIST SHOES SHALL BE 65mm (2-1/2") ON STEEL SUPPORTS AND 100mm (4") ON MASONRY OR CONCRETE WALLS.
  - 2.15 OWSJ DESIGNER SHALL ALLOW FOR ANY POSSIBLE SNOW DRIFT CONDITIONS (WHETHER INDICATED OR NOT BY SNOW ACCUMULATION DIAGRAMS ON THE STRUCTURAL DRAWINGS)
  - 2.16 SPACING OF OWSJ SUPPORTING A POURED CONCRETE DECK SHALL NOT EXCEED 600mm (2'-0") IN FLOOR STRUCTURES AND 150mm (2'-6") IN ROOF STRUCTURES UNLESS NOTED OTHERWISE ON DRAWINGS.
  - 2.17 PROVIDE CEILING EXTENSIONS FOR JOISTS WHERE REQUIRED BY ARCHITECT.
  - 2.18 DO NOT CONNECT ANY MEMBERS TO CHORDS OF JOISTS BETWEEN PANEL POINTS UNLESS CHORDS HAVE BEEN DESIGNED FOR EXTRA STRESS OR AN ADDITIONAL DIAGONAL HAS BEEN INSERTED AT THE POINT OF CONNECTION.
  - 2.19 THE FABRICATOR SHALL PROVIDE DOUBLE JOISTS UNDER ALL MASONRY PARTITIONS PARALLEL TO THE SPAN OF THE JOIST UNLESS OTHERWISE NOTED ON THE DRAWINGS. JOISTS SHALL BE PROPORTIONED FOR THE NOMINAL DESIGN LOAD AND THE ADDITIONAL PARTITION LOAD.
  - 2.20 THE MINIMUM WIDTH FOR TOP CHORDS OR JOISTS SUPPORTING PRECAST DECK SHALL BE 100mm (4").
  - 2.21 THE WIDTH OF TOP CHORD OF A JOIST SUPPORTING A STRUCTURAL STEEL DECK SHALL CONFORM TO THE SPECIFICATION OF THE STEEL DECK SUPPLIER.
  - 2.22 THE HEIGHT OF CANTILEVERED TOP CHORD EXTENSIONS MEASURED AT THE BEARING OF THE JOIST SHALL BE 115mm (4-1/2") UNLESS NOTED OTHERWISE ON DRAWINGS.
  - 2.23 CANTILEVERED EXTENSIONS SHALL BE DESIGNED TO SUSTAIN SAFELY ALL SUPERIMPOSED LOADS INCLUSIVE OF THAT OF THE CONCRETE.
  - 2.24 BAR-TIES SHALL BE INSTALLED BETWEEN JOISTS FORMING CONSECUTIVE SIMPLE SPANS AND HAVING A COMMON BEARING ON AN INTERIOR MASONRY OR CONCRETE WALL. THE BAR-TIES PROVIDING A TENSION LINK BETWEEN THE CONSECUTIVE SPANS OF THE FLOOR STRUCTURE OR THE ROOF STRUCTURE SHALL BE INSTALLED REGARDLESS OF THE TYPE OF DECK SUPPORTED BY THE JOISTS.
  - 2.25 TIES, UNLESS NOTED OTHERWISE, SHALL CONSIST OF 12mm (1/2") DIA. BARS OF A LENGTH EQUAL TO THE WALL THICKNESS. BAR-TIES SHALL BE WELDED TO THE TOP CHORDS OF THE JOISTS AND SHALL WHERE PRACTICABLE BE POSITIONED HORIZONTALLY AND PARALLEL TO THE VERTICAL PLATE OF THE JOIST.
  - 2.26 WHERE JOISTS IN CONSECUTIVE SPANS ARE OFF-SET TO OBTAIN BEARING, BAR-TIES SHALL BE INCLINED TO THE VERTICAL PLATE OF THE JOIST WITH A SLOPE OF NOT GREATER THAN 1 IN 2.
  - 2.27 THE JOISTS SHALL BE PROPORTIONED FOR THE GREATER EFFECT ARISING FROM EITHER ONE OF THE FOLLOWING LOAD CONDITIONS:
    - NOMINAL UNIFORMLY DISTRIBUTED DESIGN LOAD (DEAD AND LIVE LOAD), SPECIFIED AND ANY ADDITIONAL CONCENTRATED LOADS, WHERE SHOWN IN PLAN OR IN DETAILS, ASSUMING SIMPLE CONSTRUCTION.
    - THE ALGEBRAIC SUM OF THE EFFECTS OF:
      - a) NOMINAL UNIFORMLY DISTRIBUTED DEAD LOAD, ASSUMING SIMPLE CONSTRUCTION;
      - b) AN ADDITIONAL REVERSIBLE END-MOMENT DESIGNED FOR 1% OF THE COLUMN AXIAL LOAD AT COLUMN ENDS IN ADDITION TO GRAVITY LOADS - OR WHERE NOTED (M = IN-M) ON THE DRAWINGS.
  - 2.28 STRUCTURAL STEEL AND OWSJ FABRICATOR MUST PROVIDE ANGLES AND/OR BENT PLATES WHEREVER REQUIRED TO SUPPORT STEEL DECK OR OTHER STRUCTURAL MEMBERS (BEAMS, OWSJ, ETC.) WHERE STEEL DECK CHANGES DIRECTION OR OWSJ IS UNDER THE ANGLE TO THE SUPPORT WHETHER OR NOT IT IS SHOWN ON THE STRUCTURAL DRAWINGS.

## MISC. METAL AND STAIR FABRICATION:

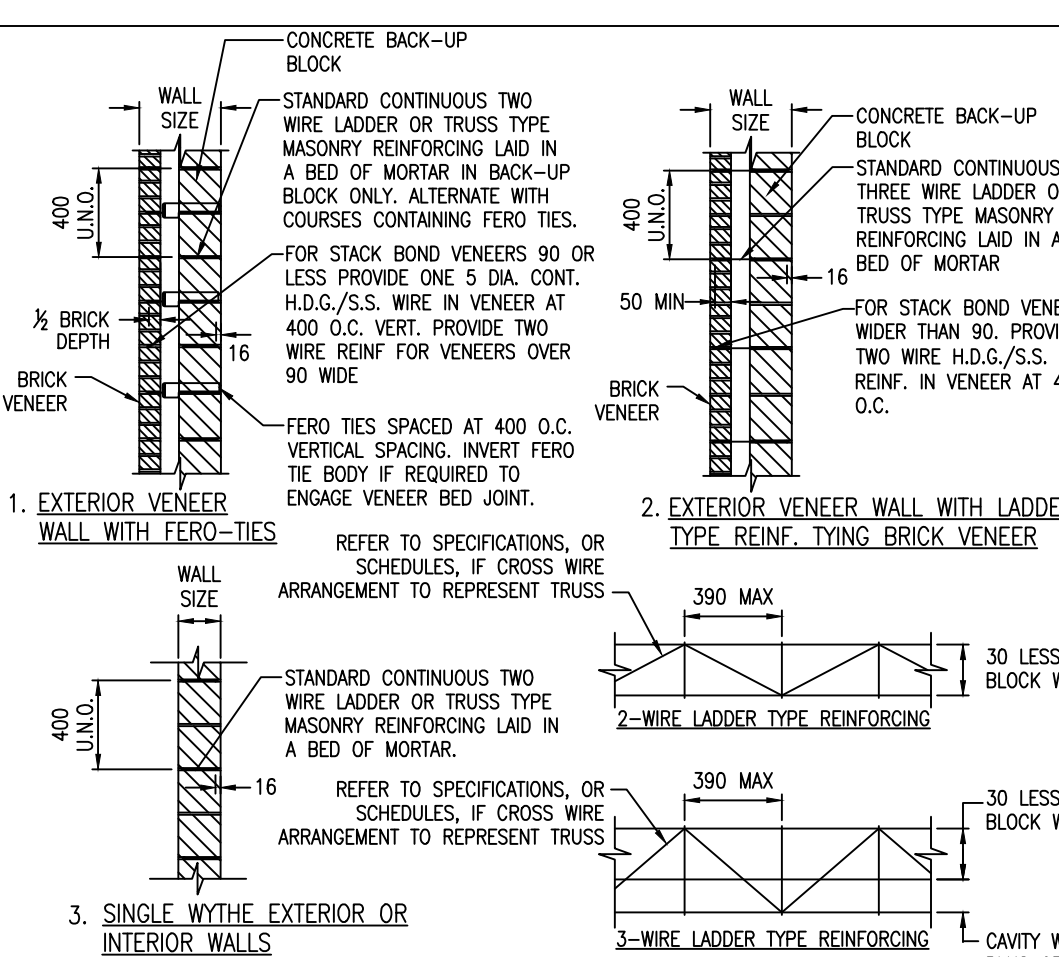
- 1.0 GENERAL:
  - 1.1 DESIGN, FABRICATION, HANDLING & ERECTION SHALL CONFORM TO THE FOLLOWING STANDARDS:
    - 1.1.1 CSA-S136.
    - 1.1.2 CSSBI 10M.....STANDARD FOR STEEL ROOF DECK.
    - 1.1.3 CSSBI 12M.....STANDARD FOR COMPOSITE STEEL DECK.
    - 1.1.4 ASTM A563.....GENERAL REQUIREMENTS FOR STEEL SHEET, ZINC COATED.
    - 1.1.5 WELDING SHALL CONFORM TO CSA STANDARD W59 OR W59-M AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA STANDARD W47.1.
    - 1.1.6 STRUCTURAL ELEMENTS DESIGN DETAILS & CONNECTIONS SHALL CONFORM TO CANCSA-516.1.
  - 1.2 PROVIDE SHOP DRAWINGS TO THE ENGINEER/ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER RESPONSIBLE FOR DESIGN AND FABRICATION.
  - 1.3 DESIGN ALL GUARDS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.15.
  - 1.4 DESIGN ALL HANDRAILS TO MEET LOADS DESCRIBED IN OBC 3.4.6.4 + OBC 4.1.5.15.
  - 1.5 DESIGN ALL STAIRS TO SUPPORT A MINIMUM LIVE LOAD OF 4.8 KPA.
  - 1.6 DESIGN, FABRICATION AND INSTALLATION OF ROOF ACCESS LADDERS SHALL CONFORM TO REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, MMAH SUPPLEMENTARY STANDARD SB-8 AND ALL OTHER AUTHORITIES HAVING JURISDICTION.

## METAL DECK:

- 1.0 GENERAL:
  - 1.1 DESIGN, FABRICATION, HANDLING & ERECTION SHALL CONFORM TO THE FOLLOWING STANDARDS:
    - 1.1.1 CSA-S136.
    - 1.1.2 CSSBI 10M.....STANDARD FOR STEEL ROOF DECK.
    - 1.1.3 CSSBI 12M.....STANDARD FOR COMPOSITE STEEL DECK.
    - 1.1.4 ASTM A563.....GENERAL REQUIREMENTS FOR STEEL SHEET, ZINC COATED.
    - 1.1.5 WELDING SHALL CONFORM TO CSA STANDARD W59 OR W59-M AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA STANDARD W47.1.
    - 1.1.6 STRUCTURAL ELEMENTS DESIGN DETAILS & CONNECTIONS SHALL CONFORM TO CANCSA-516.1.
  - 1.2 WHEREVER STRUCTURAL PERMITS, STEEL DECK SHALL BE DESIGNED & FABRICATED TO SPAN CONTINUOUSLY OVER AT LEAST 4 SUPPORTS (3 SPANS). PROVIDE AN ADEQUATE INCREASE IN THICKNESS OF METAL TO COMPENSATE FOR CONTINUITY WHERE FEWER SUPPORTS MAY OCCUR. END LAPS TO BE A MIN. OF 50 mm (2") AND BE LOCATED OVER SUPPORTS.
  - 1.3 (1) ROOF DECK SHALL BE FORMED WITH INTEGRAL RIBS IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. DECK THICKNESS GIVEN ON STRUCTURAL DRAWINGS INDICATES MINIMUM ALLOWED.
    - (2) DEFLECTION OF ROOF DECK UNDER LIVE LOAD ONLY SHALL NOT EXCEED 1/240TH OF SPAN.
  - 1.4 (1) FLOOR DECK SHALL BE FORMED WITH INTEGRAL RIBS AND EMBOSSEMENTS FOR COMPOSITE ACTION WITH CONCRETE SLAB IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. IN ADDITION, THE DECK SHALL SAFELY SUPPORT ALL CONSTRUCTION LOADS UNTIL CONCRETE IS SET. DECK THICKNESS GIVEN ON DRAWINGS IS MINIMUM ALLOWED.
    - (2) DEFLECTION OF COMPOSITE FLOOR UNDER LIVE LOAD ONLY SHALL NOT EXCEED 1/360TH OF SPAN.
  - 1.5 DESIGN & DETAIL ON SHOP DRAWINGS CONNECTIONS TO SUPPORTING MEMBERS SO THAT DIAPHRAGM FORCES ARE PROPERLY TRANSMITTED.
  - 1.6 CLEARLY SHOW ON SHOP DRAWINGS POSITION OF TEMPORARY SHORING FOR FLOOR DECK IF REQUIRED.
  - 1.7 PREPARE AND SUBMIT METAL DECK SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER. ALL SHOP DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF THE METAL DECK DESIGNING ENGINEER.
  - 1.8 CLEARLY SHOW ON SHOP DRAWINGS POSITION OF TEMPORARY SHORING FOR FLOOR DECK IF REQUIRED.

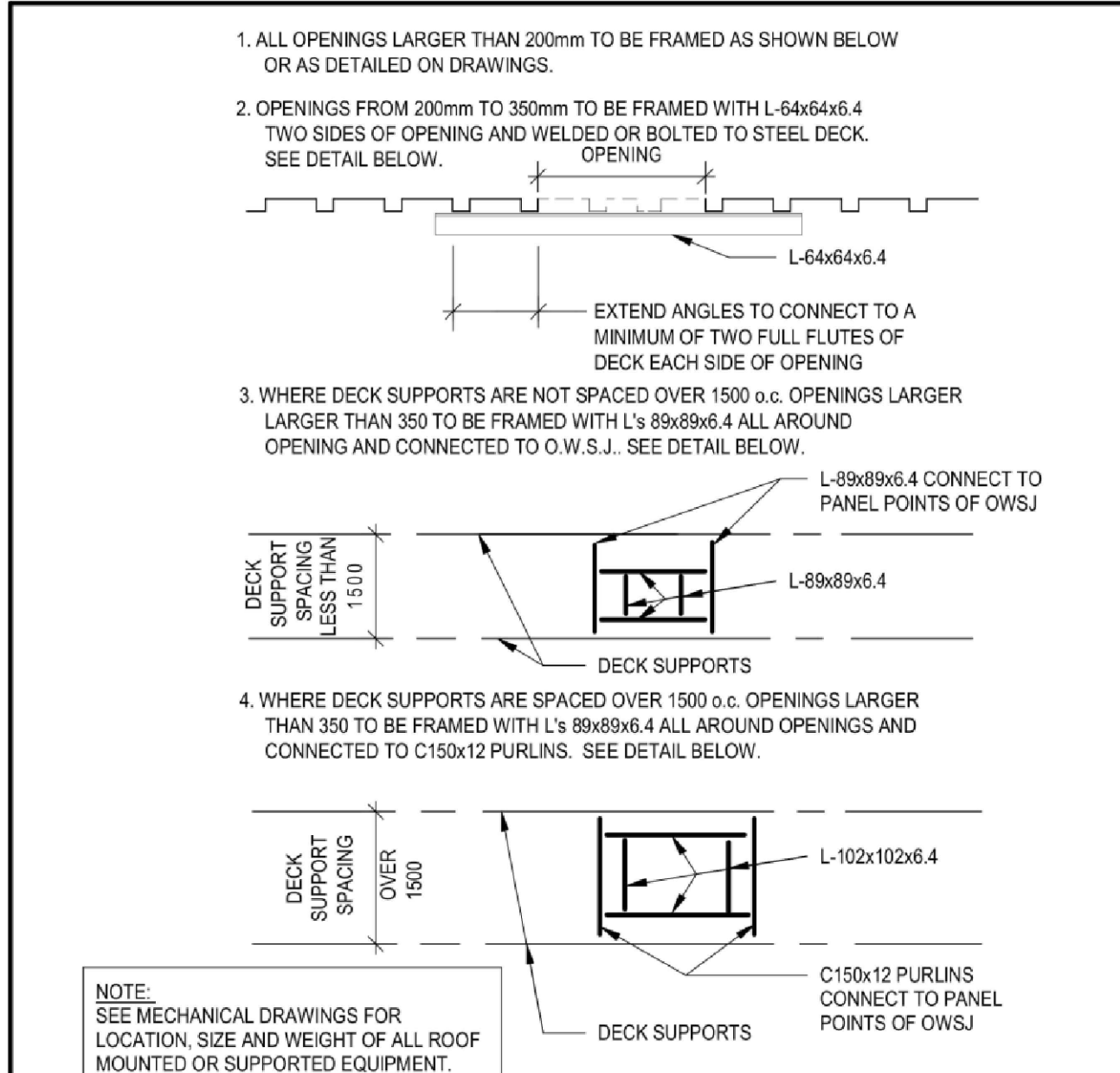
- 2.0 PRODUCTS:
  - 2.1 UNLESS OTHERWISE NOTED ROOF DECK & OR COMPOSITE DECK SHALL BE FORMED OF METALLIC COATED SHEET STEEL CONFORMING TO CSSBI 101 M & ASTM A494M. STRUCTURAL QUALITY GRADE 'A' WITH A Z775 ZINC COATING, AS DESIGNATED BY ASTM A653M.
  - 2.2 UNLESS OTHERWISE NOTED DECK SHALL BE SINGLE FLUTED ELEMENT WITH INTEGRAL RIBS OF DEPTH & MIN. BASE NOMINAL THICKNESS (BENT) AS NOTED ON THE DRAWINGS. DECK SHALL HAVE INTERLOCKING SIDE JOINTS BETWEEN PANELS. [MIN. BENT 0.78 mm (0.30")]
  - 2.3 COVER PLATES, CELL CLOSURES, FLASHINGS & REINFORCING STIFFENERS FOR UNSUPPORTED EDGES TO BE SUPPLIED OF SIMILAR MATERIAL & ZINC COATING TO THAT FOR DECK, UNLESS NOTED.
  - 2.4 PRIMER PAINT TO BE ZINC RICH, READY MIX TO CANCSB-1.181 FOR FIELD "TOUCH-UP" OF WELD BURNS AFTER DECK IS INSTALLED.
  - 2.5 UNLESS OTHERWISE SHOWN THROUGH ROOF DECK FROM 150 mm TO 450 mm (6" TO 18") ACROSS THE FLUTES PROVIDE NOT LESS THAN A 50X50X6 ANGLE (2"x2"x1/4"). REINFORCEMENT TO FRAME ACROSS EACH SIDE OF THE OPENING PERPENDICULAR TO THE FLUTES, WELDED TO AT LEAST TWO FLUTES EACH SIDE OF THE OPENING.
  - 2.6 FOR ROOF OPENINGS OVER 450 mm (18") ACROSS THE FLUTES AND FOR AREAS OF CONCENTRATED LOAD, REINFORCE IN ACCORDANCE WITH STRUCTURAL FRAMING DETAILS SHOWN ON PLANS OR TYPICAL DETAILS.
- 3.0 EXECUTION:
  - 3.1 SUPPLY AND PLACE STEEL PACKING AS REQUIRED TO PRODUCE AN EVEN BEARING PRESSURE AT SUPPORTS.
  - 3.2 UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATION, PERMANENTLY ATTACH THE STEEL DECK TO BEARING SURFACES AS FOLLOWS:
    - (1) SECTION PROFILE, GAUGE & STEEL GRADE.
    - (2) 300mm (12") MAX. CENTRES, & EACH SIDE OF EACH SHEET, ARC SPOT WELD WITH 20 mm (3/4") NOMINAL TOP DIAMETER.
    - (3) SIDE LAPS OF ADJACENT UNITS SHALL BE MECHANICALLY FASTENED @ 600 mm (24") ON CENTRE MAX., OR WELDED USING 25 mm (1") WELDS AT 600 mm (24") MAX. SPACING.
    - (4) SIDE CONDITIONS SHALL BE WELDED WITH 20 mm (3/4") WELDS AT 900 mm (36") MAX. SPACING.
  - 3.3 WELD STUD SHEAR CONNECTORS THROUGH DECK WHERE REQUIRED BY DRAWINGS.
  - 3.4 TOUCH-UP GALVANIZED SURFACE WITH SPECIFIED PRIMER AT WELDS AND SCRAPES, ETC., BOTH UPPER AND LOWER SURFACES.
  - 3.5 PROVIDE CONTINUOUS SUPPORT FOR METAL DECK AROUND ALL COLUMNS.

- 4.0 QUALITY CONTROL:
  - 4.1 AN INDEPENDENT INSPECTION & TESTING COMPANY IS TO BE ENGAGED TO CARRY OUT AND REPORT ON THE FOLLOWING INSPECTION SERVICES:
    - (1) SECTION PROFILE, GAUGE & STEEL GRADE.
    - (2) ZINC COATING.
    - (3) WELDED JOINTS.
    - (4) BEARINGS.
    - (5) SIDE LAP CONNECTIONS.
    - (6) TOUCH-UP PRIMER.
    - (7) FIELD CUTTING AND/OR ALTERATIONS.
  - 4.2 REFER ALSO TO GENERAL NOTES AND SPECIFICATION.



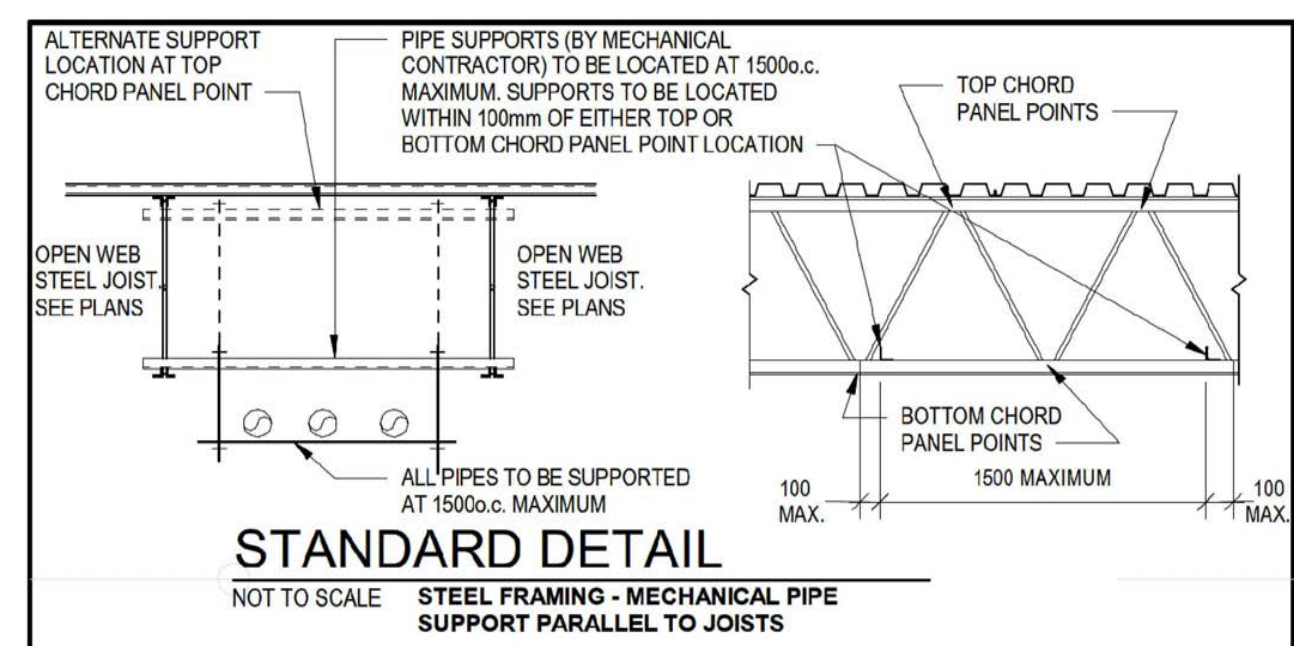
1. AT MULTI WYTHE WALLS WITH MASONRY VENEER USE DETAIL 1 ABOVE UNLESS SPECIFICALLY NOTED OTHERWISE.
2. DETAIL #2 TO BE USED ONLY IF VENEER WYTHE COURSES WITH BACK-UP BLOCK. SUBMIT DETAILED BRICK/BLOCK COURSING SHOP DRAWINGS FOR REVIEW BEFORE STARTING BLOCK WALL CONSTRUCTION.
3. ALL HORIZONTAL REINFORCING TO HAVE MINIMUM CORROSION PROTECTION CONSISTING OF HOT DIPPED GALVANIZING AFTER FABRICATION TO A.S.T.M. A-153-82 STANDARD. REFER TO SPECIFICATIONS IF STAINLESS STEEL REQUIRED.
4. UNLESS NOTED OTHERWISE, MASONRY REINFORCING SHALL BE 9 GAUGE 2-WIRE CONTINUOUS LADDER TYPE (REFER TO LOAD BRG WALL SCHEDULE AND TYPICAL DETAILS FOR MINIMUM WIRE SIZES AND IF TRUSS TYPE WIRE REINFORCING IS REQUIRED IN SEISMIC ZONES).
5. THE OVERALL WIDTH OF THE MASONRY REINFORCING SHALL BE APPROX. 65 LESS THAN THE THICKNESS OF THE WALL. THE CROSS WIRES SHOULD NOT HAVE A DIP.
6. LAP THE REINFORCING 200 AT SPLICES (300 FOR PLAN WIRE).
7. USE PREFABRICATED CORNERS AND TEES IN ALL MASONRY WALL CORNERS AND INTERSECTIONS.
8. PROVIDE EXTRA LAYERS OF MASONRY REINF. IN FIRST COURSE ABOVE AND BELOW ALL BLOCK OPENINGS.

## Masonry Wall Horiz. Reinforcing



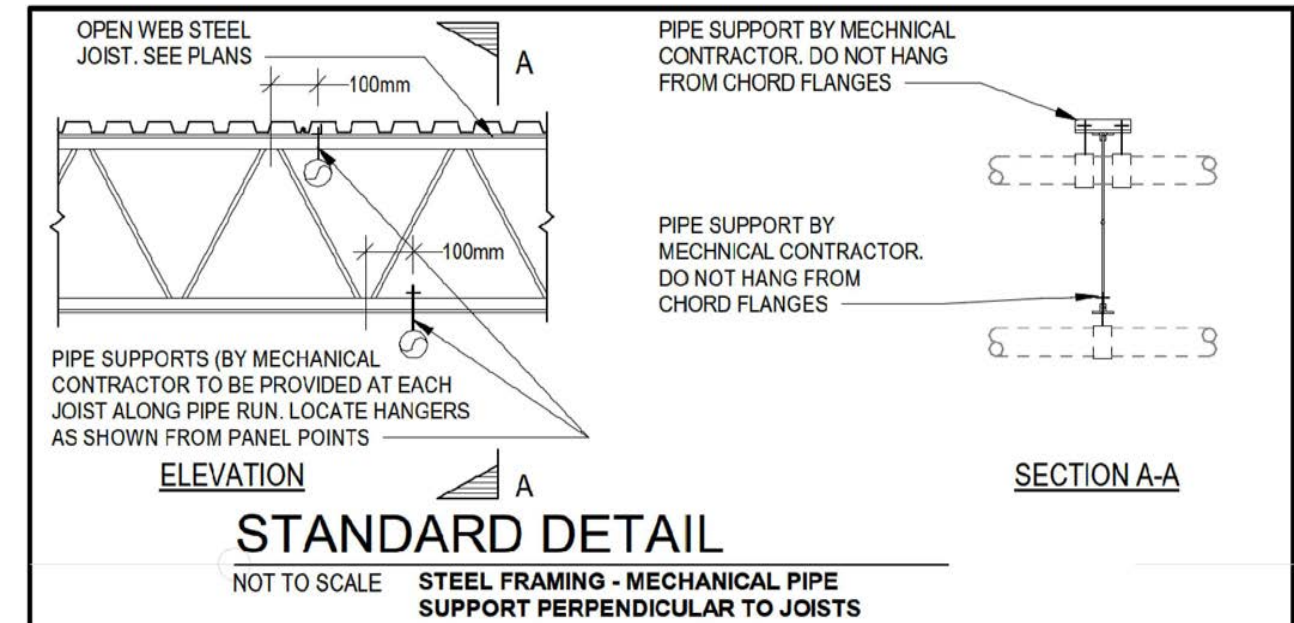
## STANDARD DETAIL

NOT TO SCALE STEEL DECK - OPENINGS THROUGH ROOF DECK



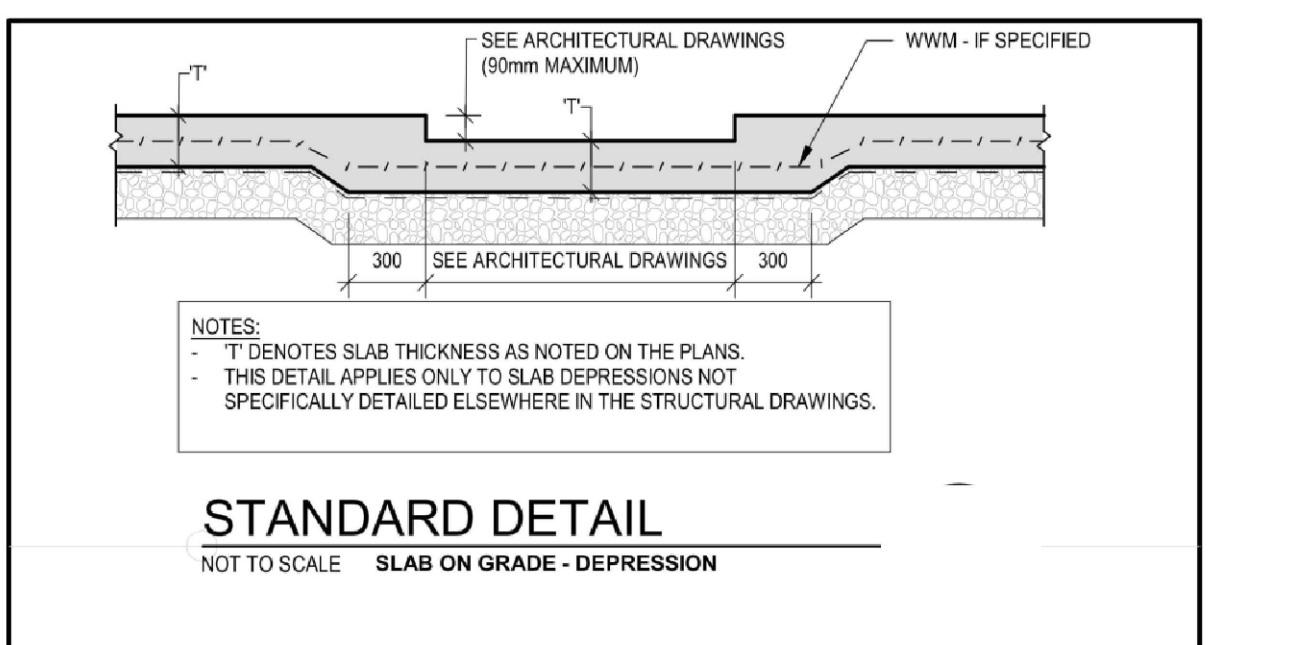
## STANDARD DETAIL

NOT TO SCALE STEEL FRAMING - MECHANICAL PIPE SUPPORT PARALLEL TO JOISTS



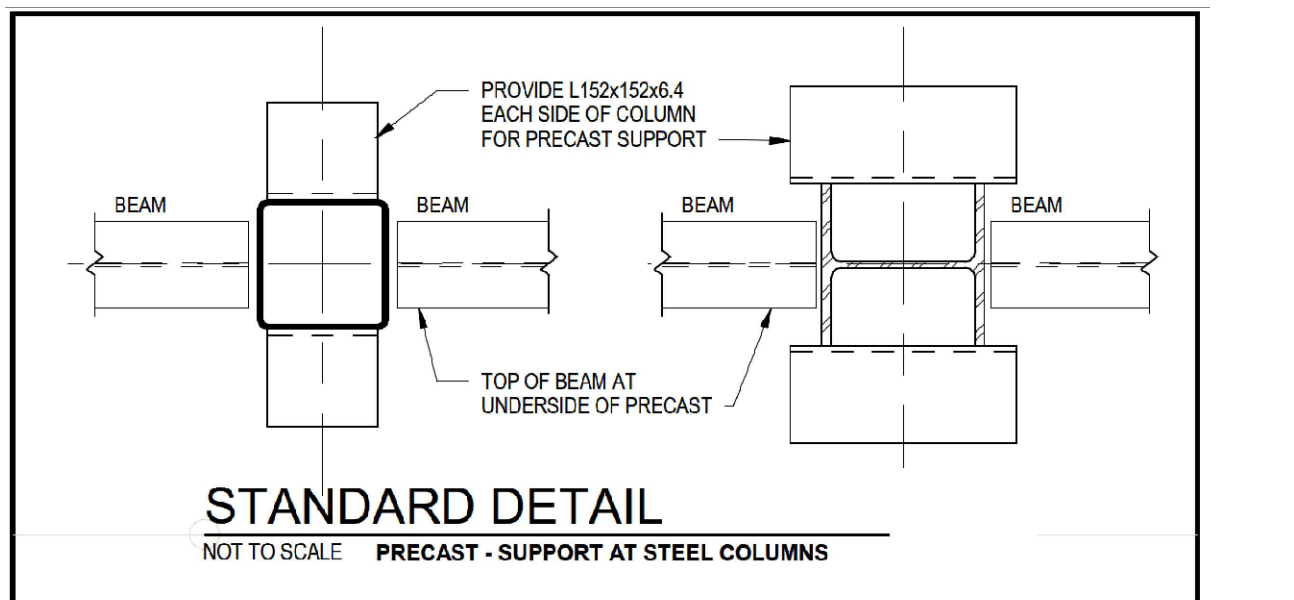
## STANDARD DETAIL

NOT TO SCALE STEEL FRAMING - MECHANICAL PIPE SUPPORT PERPENDICULAR TO JOISTS



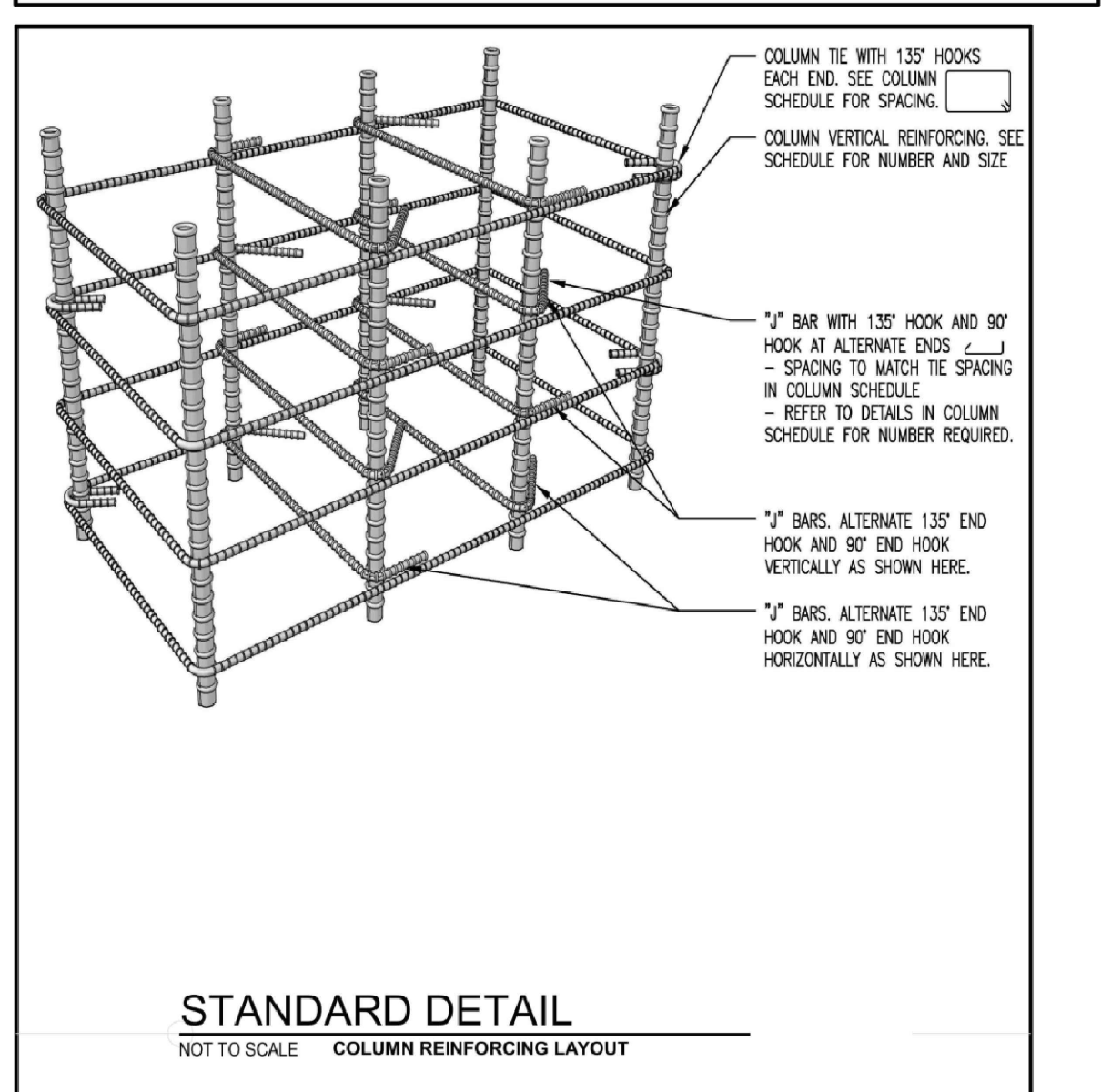
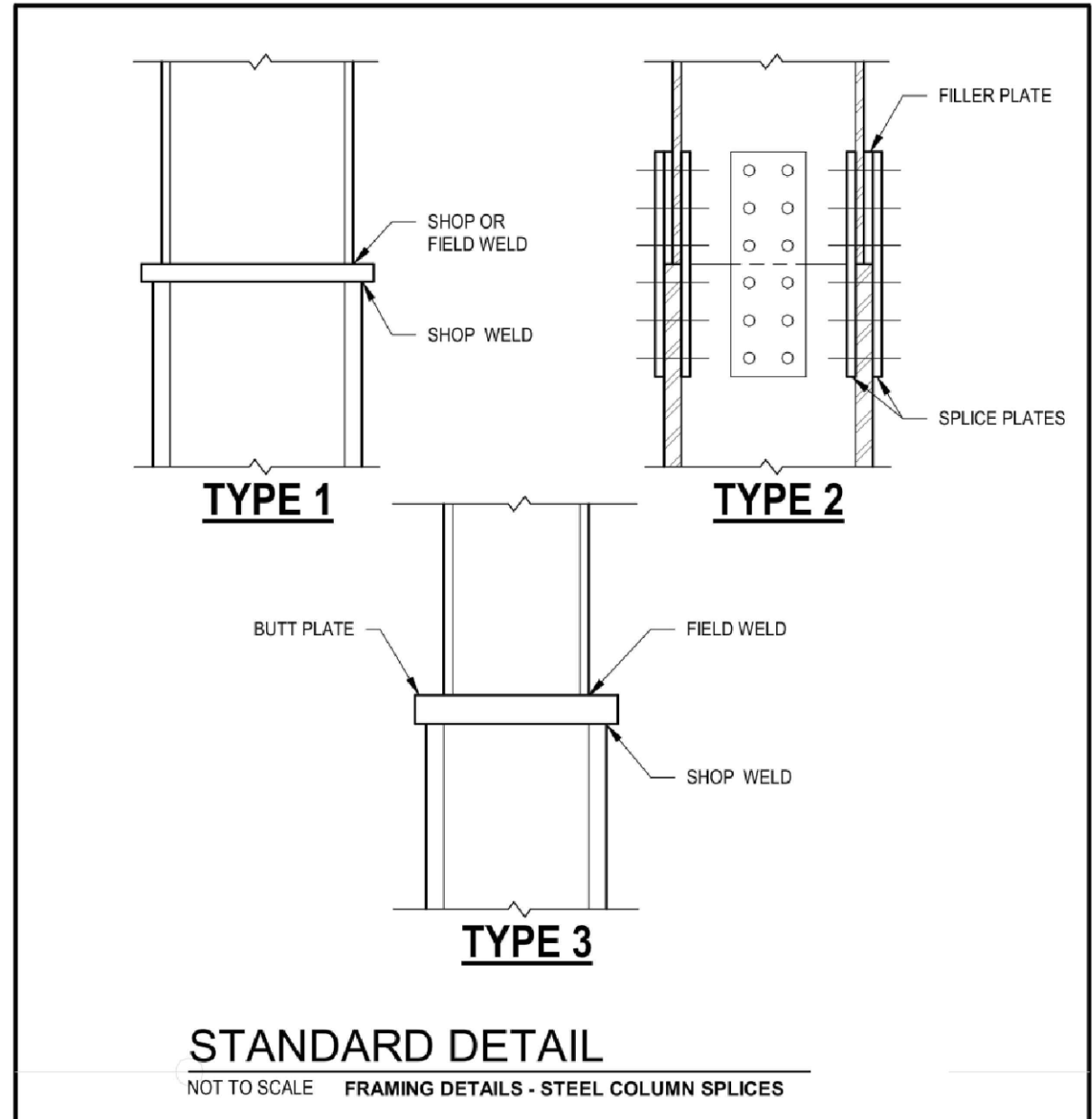
## STANDARD DETAIL

NOT TO SCALE SLAB ON GRADE - DEPRESSION



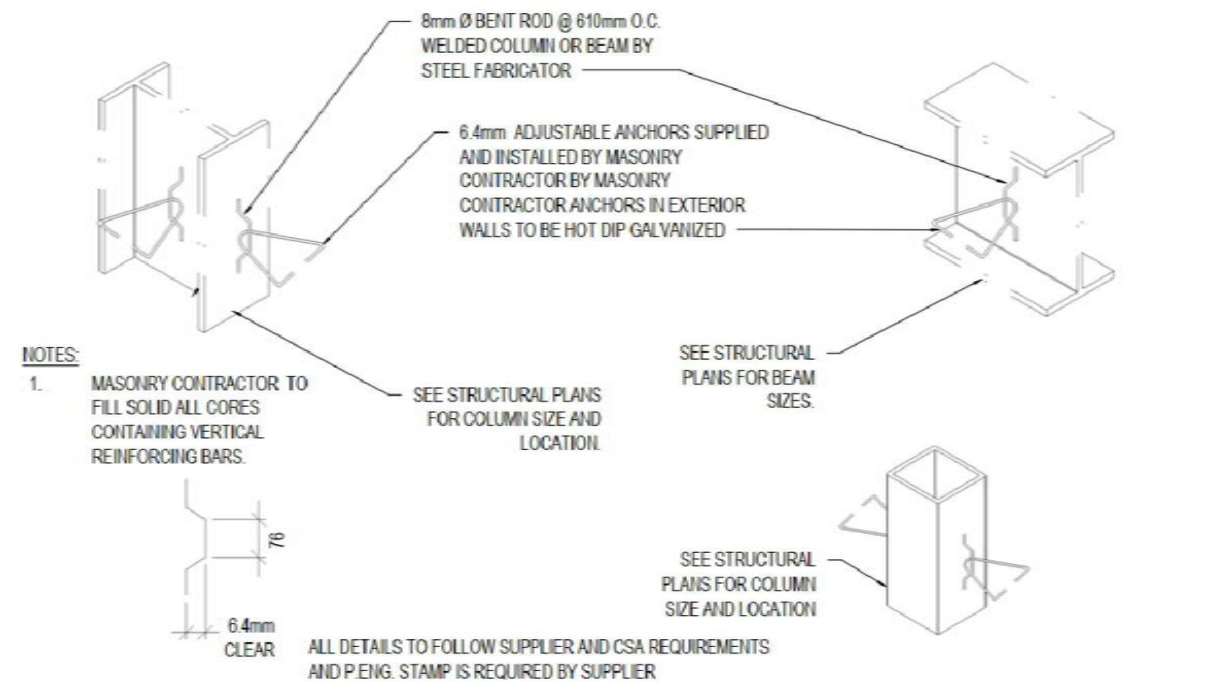
## STANDARD DETAIL

NOT TO SCALE PRECAST - SUPPORT AT STEEL COLUMNS

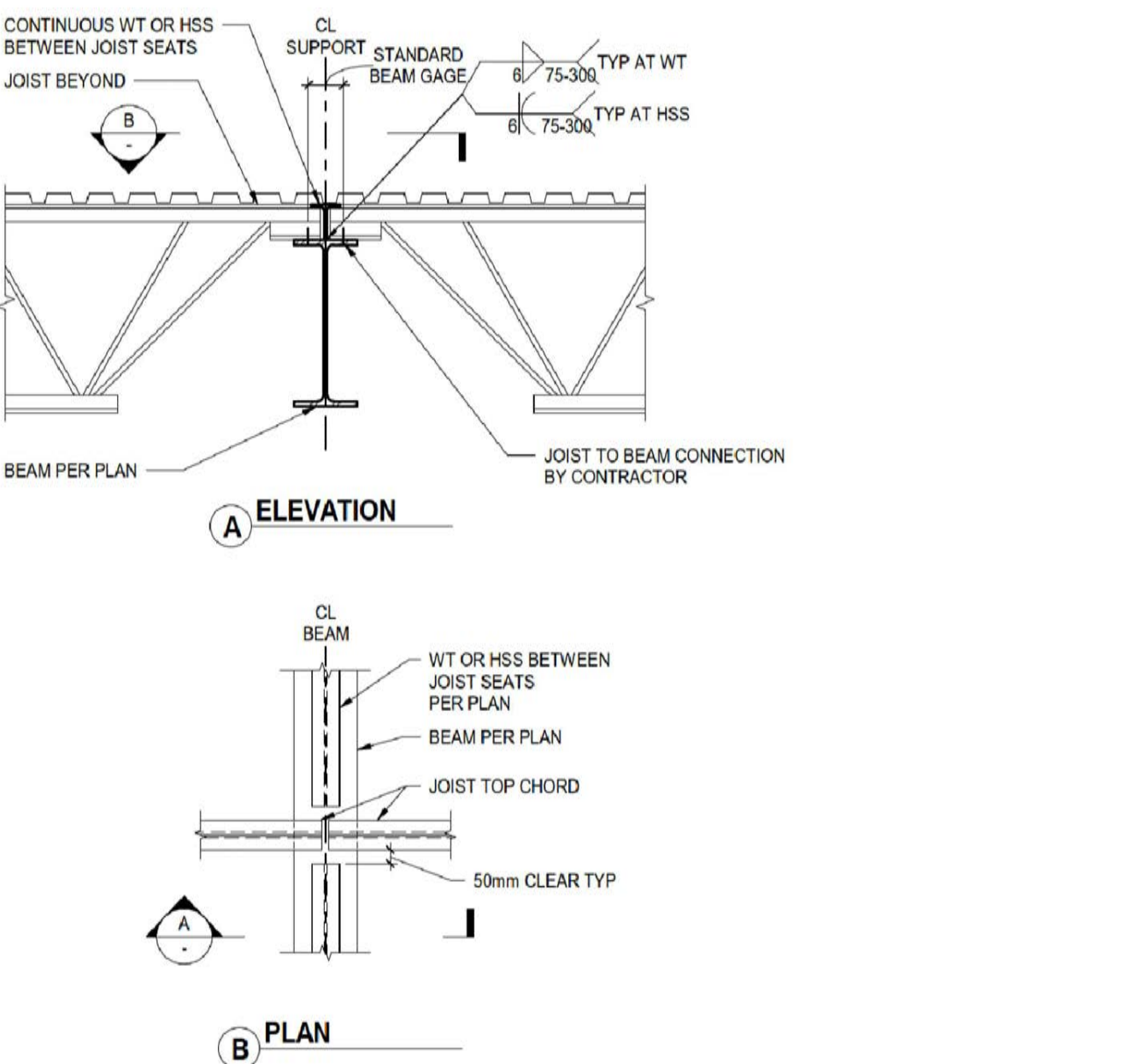


## STANDARD DETAIL

NOT TO SCALE COLUMN REINFORCING LAYOUT



## STANDARD DETAIL - MASONRY TO STEEL ANCHORS



## TYPICAL DECK SUPPORT BETWEEN JOISTS

SCALE: NOT TO SCALE

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ONTARIO

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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



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no.	revision	date	by
4	ISSUED FOR TENDER	12/06/2024	
3	AS PER CITY REVIEW	11/09/2024	
2	ISSUED FOR TENDER	11/13/2024	
1	RE-ISSUED FOR SPA	11/06/2024	

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reviewed by RGD drawn by UC

date APRIL 2024

scale AS SHOWN

## STRUCTURAL SPECIFICATIONS

drawing number S3.00

client THE CITY OF BRAMPTON

project title CASSIE CAMPBELL CC PAVILION BUILDING

1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8

project number PRE-2023-0128

landscape planning  
LANDSCAPE ARCHITECTS

Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2.  
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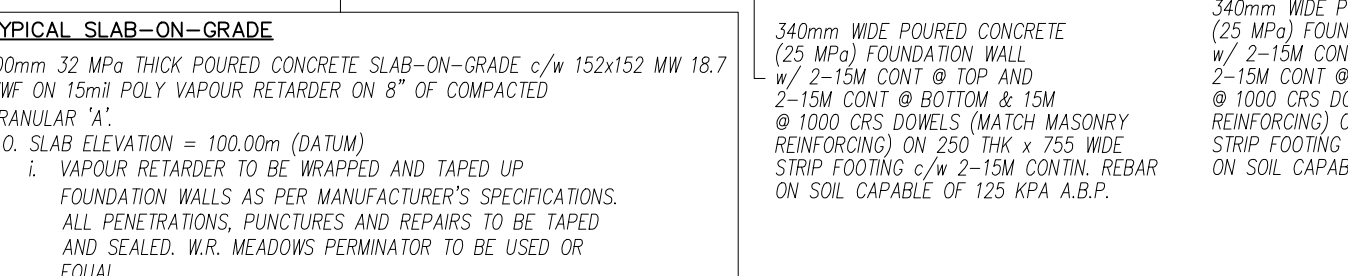
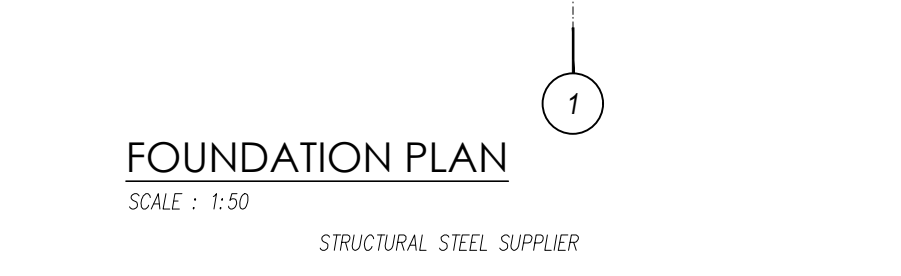
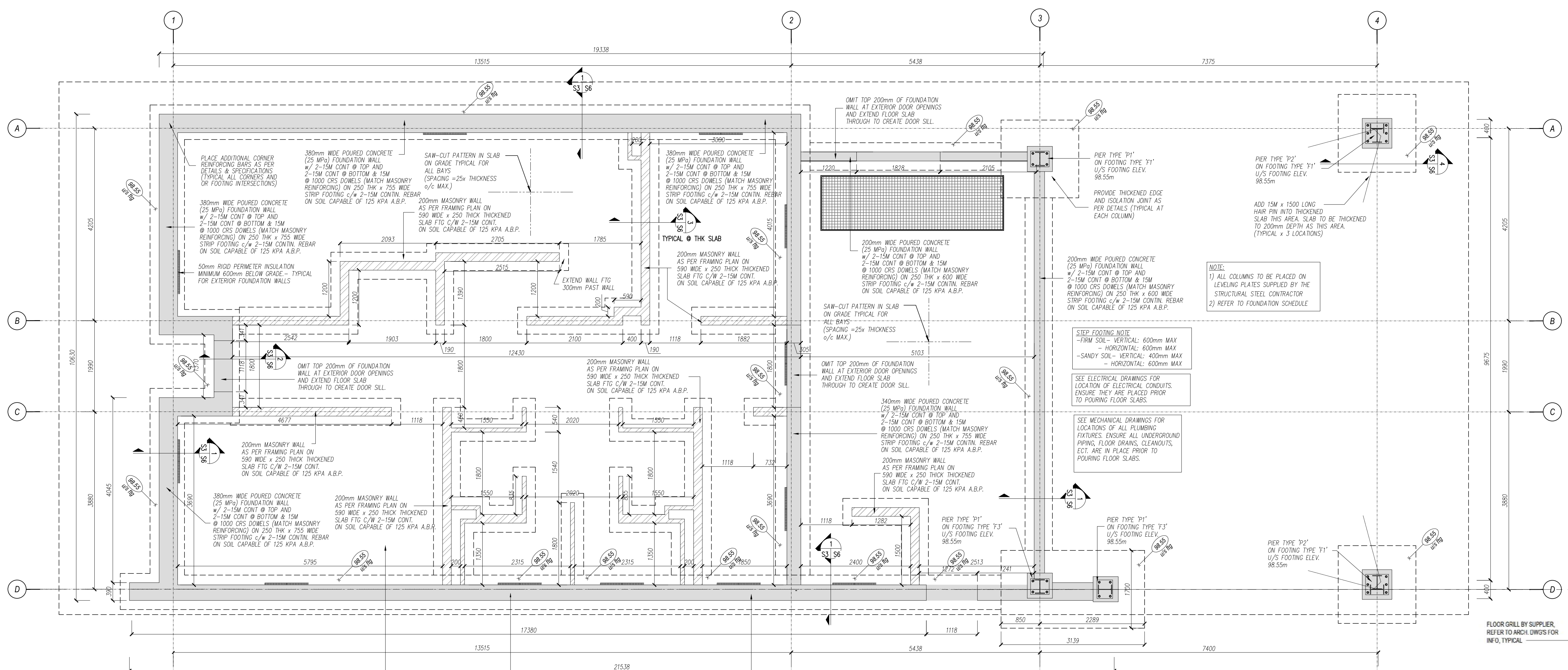


FIG. TYPE	FOOTING SIZE	REINFORCING	REMARKS
F-1/F-2	1700x1700x450	6 - 20M B.U.L./6 - 20M B.L.L. 6 - 20M T.U.L./6 - 20M T.L.L.	F <sub>c</sub> = 25 MPa @ 28 DAYS HOOK ALL REBAR ENDS FOR STANDARD TENSION EMBEDMENT. REFER TO SECTIONS
F-2	1700x3139x450	6 - 20M B.U.L./11 - 20M B.L.L. 6 - 20M T.U.L./11 - 20M T.L.L.	F <sub>c</sub> = 25 MPa @ 28 DAYS HOOK ALL REBAR ENDS FOR STANDARD TENSION EMBEDMENT. REFER TO SECTIONS

REINFORCING	DESCRIPTION
B	BOTTOM
T	TOP
E & C	SEE BENDING DIAGRAM
M	MID-DEPTH
C	CENTRELINE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
E.F.	EACH FACE
O.L.	OUTSIDE LAYER
I.L.	INSIDE LAYER
H	HORIZONTAL
V	VERTICAL
E.W.	EACH WAY
TEMP.	TEMPERATURE
	(PLACED TRANSVERSE TO MAJOR REINF.)

**CONCRETE SLAB ON GRADE NOTES:**

- SLAB ON GRADE CONCRETE SHALL BE 25.0 MPa @ 28 DAYS (M-63), REINFORCED AS NOTED ON PLAN.
- SLAB ON GRADE FLOOR FINISH SHALL CONFORM TO CSA A231-09 TABLE 22 FINISH CLASSIFICATION OF "CLASS B" WITH A SURFACE FINISH TOLERANCE USING MAXIMUM STRAIGHT EDGE METHOD VALUE OF 16.0mm.
- MANUFACTURER SPECIFICATION SHALL ENSURE THAT FIBER REINFORCING MATERIAL IS SUITABLE FOR USE IN CONCRETE SLAB ON GRADE CONSTRUCTION WHICH IS TO RECEIVE SURFACE FLOOR FINISHING AND SHALL NOT INTERFERE ON ADHESION OF THE FLOOR FINISH TO THE SLAB SURFACE. ENSURE ALL MEASURES ARE TAKEN TO PROVIDE SUFFICIENT COMPACTION TO BURY ALL SURFACE FIBERS.
- ALL CONCRETE, WHEN BEING PLACED SHALL BE COMPACTED THOROUGHLY AND UNIFORMLY BY MEANS OF VIBRATORS OR OTHER ACCEPTABLE METHODS IN ACCORDANCE WITH CSA A231-09 TO ENSURE FULL CONSOLIDATION OF CONCRETE FREE OF COLD JOINTS, VOIDS AND HONEYCOMBING.
- SLAB ON GRADE CONCRETE SHALL BE POURED WITHIN 2 HOURS OF LEAVING PLANT.
- NO ADDITION OF WATER ON SITE SHALL BE PERMITTED.
- SLAB REINFORCING METAL FIBER REINFORCING - 25 kg/m<sup>3</sup> MIN; MINIMUM ASPECT RATIO = 48; MINIMUM RESIDUAL STRENGTH R<sub>e(0.3)</sub> = 58 CONFORM TO CSA A231 AND ASTM A820.
- FIBERS ARE TO BE ADDED DURING THE MAIN MIXING PROCESS OR BY A SECOND MIXING OPERATION IN THE TRUCK. WHEN FIBERS ARE MIXED IN THE TRUCK MIXER, THE CONCRETE SHALL BE RE-MIXED UNTIL THE FIBERS HAVE BEEN COMPLETELY DISPERSED THROUGHOUT THE BATCH. TOLERANCE OF THE REQUIRED QUANTITY SHALL NOT EXCEED ±3%. PROVIDE ENGINEERED CALCULATIONS OF STEEL FIBER MIX DESIGN FOR REVIEW.
- SUPER-PLASTICIZER ADDITIVES MAY BE USED FOR ASSISTANCE IN FINISHING IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. SUBMIT MIX DESIGNS PREPARED BY PROFESSIONAL ENGINEER FOR REVIEW.
- WHEELED TRAFFIC SHALL NOT BE ALLOWED ON THE SLAB FOR A MINIMUM OF SEVEN (7) DAYS AFTER CASTING.
- PROVIDE UNIFORM PROTECT TO ALL FLOOR DRAINS AND CATCH BASINS AS REQUIRED.
- THE MAXIMUM SIZE OF ANY INDIVIDUAL SLAB POUR SHALL NOT EXCEED 1,800 sq.m (20,000 sq.ft.).
- THE CONCRETE FLOOR SLAB SHALL BE MOST CURED AND KEPT CONTINUOUSLY WET THROUGHOUT FOR A MINIMUM PERIOD OF SEVEN (7) DAYS. REFER TO PROJECT SPECIFICATIONS FOR SEALER AND HARDENER REQUIREMENTS.
- CONCRETE SLAB ON GRADE SHALL BE SAW CUT WITH 2" DEEP SAWCUTS AS INDICATED ON FOUNDATION PLAN (MAX. SPACING = 25 x SLAB THICKNESS).
- SLABS SHALL BE SAW CUT AS SOON AS THE SURFACE IS FIRM ENOUGH NOT TO BE DAMAGED BY CUTTING BLADE. (USUALLY WITHIN 12 TO 24 HOURS AFTER THE CONCRETE HARDENS).
- ALTERNATE FIBER REINFORCING WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL.
- REFER ALSO TO GENERAL NOTES AND PROJECT SPECIFICATIONS.

**SLAB ON GRADE NOTE:**

ALTERNATE FIBER REINFORCING SHALL ONLY BE CONSIDERED IF CONCRETE SLAB SURFACE WILL NOT REQUIRE ADDITIONAL TREATMENTS TO FACILITATE FLOOR FINISH APPLICATIONS DUE TO FIBER PROTRUDING FINISHED SURFACE OF CONCRETE.

**NOTE:**

COLUMNS AND BASE PLATES SHOWN ON FOUNDATION PLAN PRESENTED FOR ILLUSTRATION ONLY. REFER TO COLUMN SCHEDULE, SECTIONS AND DETAILS FOR TRUE CONFIGURATION AND ELEVATION OF COLUMN BASE PLATES. (TYPICAL)

**NOTE:**

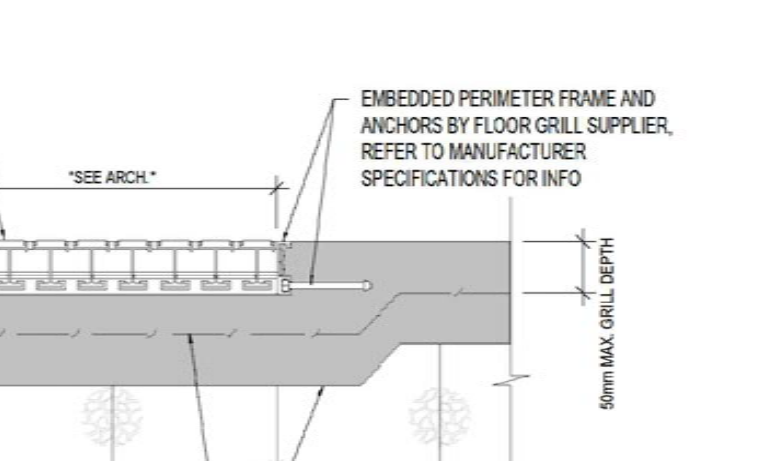
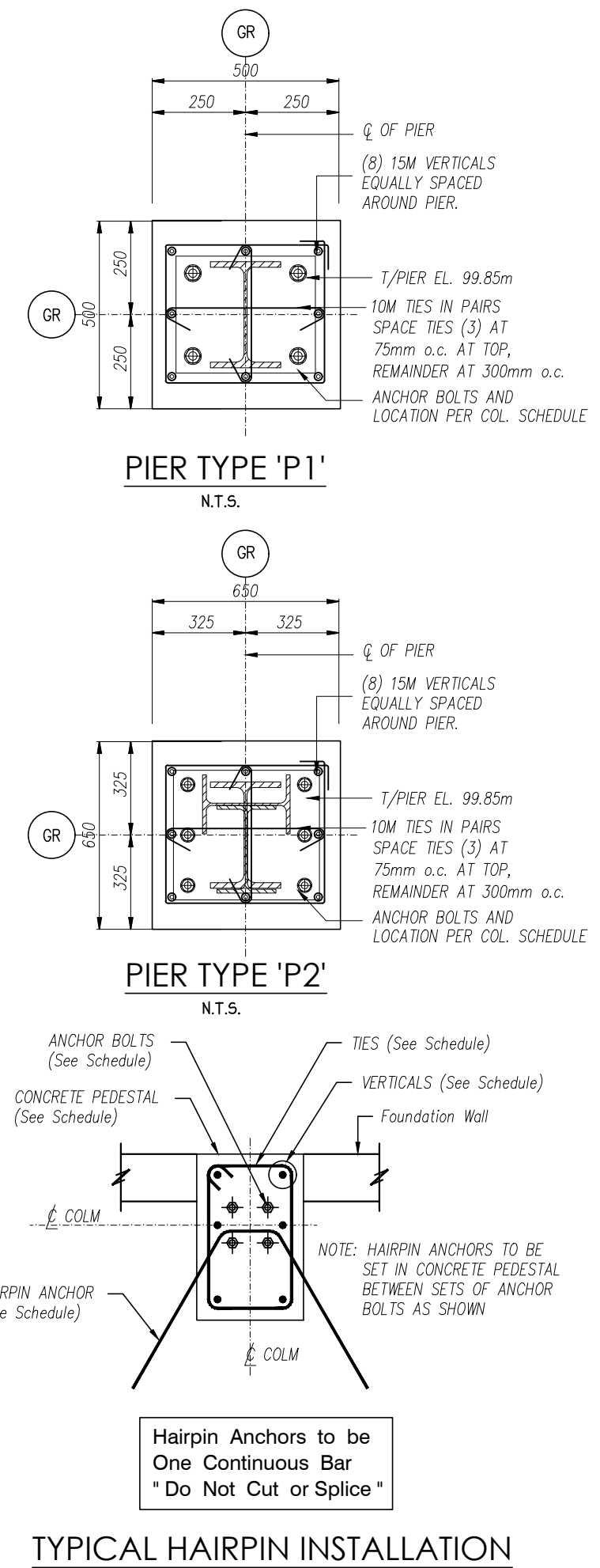
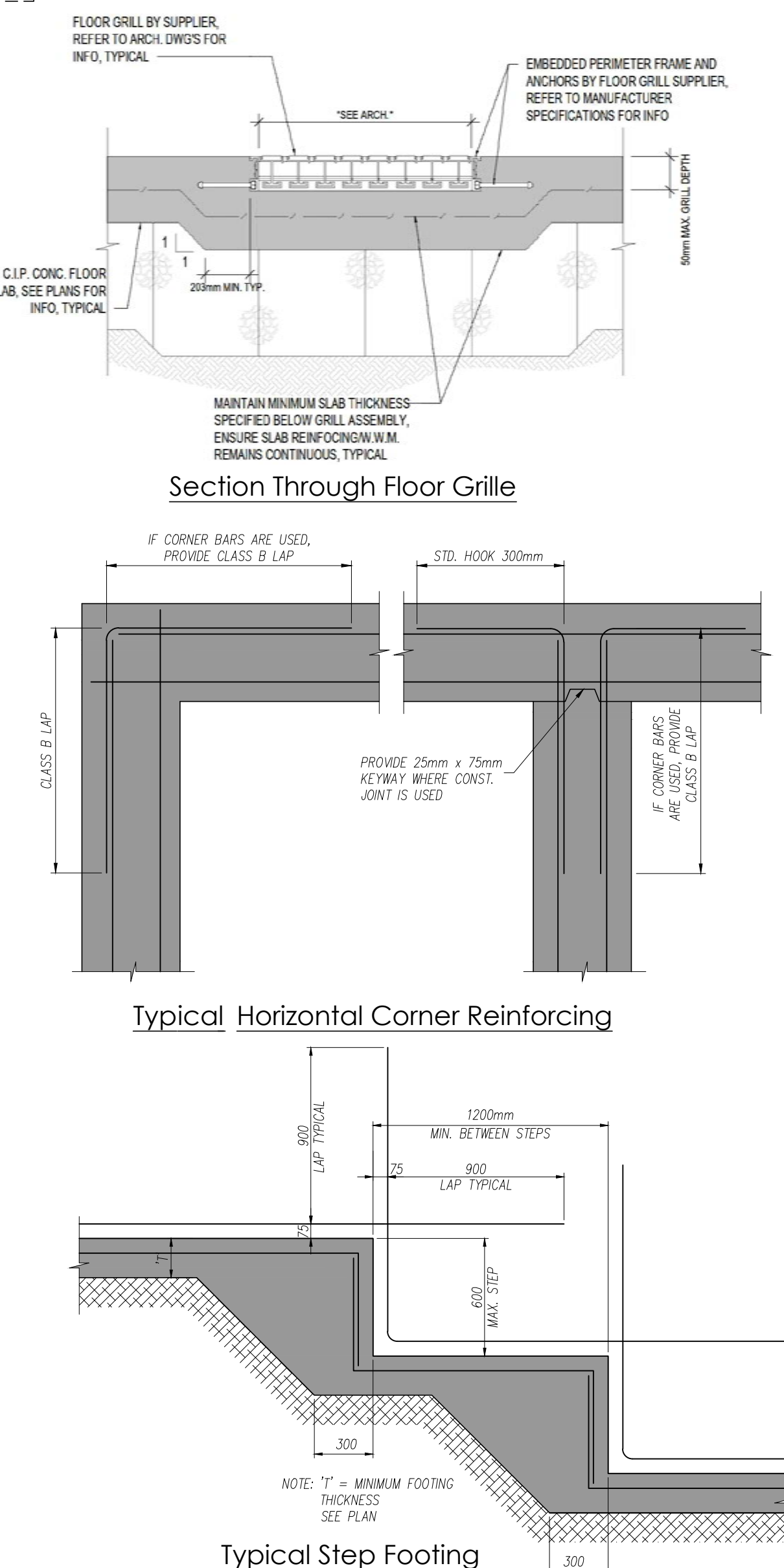
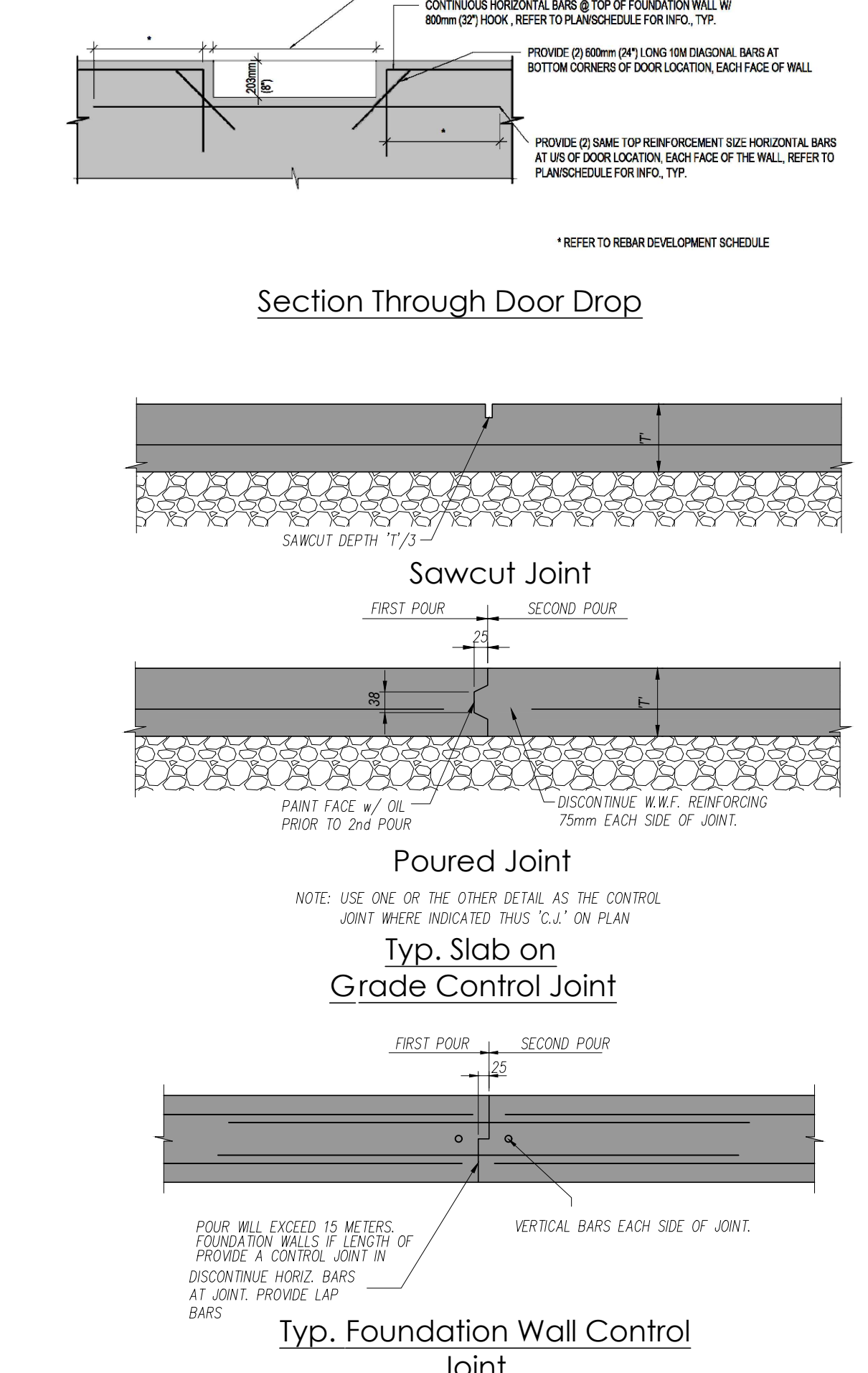
LOAD BEARING WALL FOUNDATIONS AND FOOTINGS SHALL BE INSTALLED ON NATURALLY CONSOLIDATED UNDISTURBED SOIL OR ENGINEERED FILL HAVING A MINIMUM SOIL BEARING CAPACITY OF 150 KPa (MIN). THE BEARING CAPACITY SHALL BE CONFIRMED ON SITE PRIOR TO INSTALLATION OF FOUNDATIONS. ALL ENGINEERED FILL SUPPORTING FOUNDATIONS SHALL BE INSTALLED UNDER STRICT SUPERVISION OF THE GEOTECHNICAL ENGINEER. (TYPICAL)

**NOTE:**

DESIGN OF NON-STRUCTURAL ELEMENTS (SUCH AS STAIRS, RAILINGS, NON-LOAD BEARING WALLS, VENEERS, CURTAIN WALLS, ETC.) ARE NOT INCLUDED IN THE SCOPE OF THESE PROJECT DRAWINGS AND MUST BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED.

**FOUNDATION PLAN NOTES:**

- ALL FOUNDATION DESIGNS SHOWN ARE BASED ON GEOTECHNICAL DESIGN CRITERIA CONTAINED IN SOILS REPORT PREPARED BY XXXXX.
- ALL CONVENTIONAL SPREAD FOOTINGS SHALL BE INSTALLED TO NATURALLY CONSOLIDATED SOIL OR ENGINEERED FILL CAPABLE OF SUSTAINING AN MAXIMUM ALLOWABLE GEOTECHNICAL RESISTANCE (SLS) OF 125 kPa; AND A FACTORED ULTIMATE GEOTECHNICAL RESISTANCE (ULS) OF 200 kPa; REFER TO SOIL REPORT FOR RECOMMENDED FOUNDING ELEVATIONS.
- UNDERSTANDING OF FOOTINGS TO BE AT ELEVATIONS IN ACCORDANCE WITH SOIL REPORT RECOMMENDATIONS AND/OR AS NOTED ON PLAN.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL CONSULTANT PRIOR TO PLACING CONCRETE.
- PROTECT FOUNDATION SOILS AND FOOTINGS AGAINST FREEZING DURING CONSTRUCTION AND THEREAFTER, WITH A MINIMUM OF 120mm (4"-0") OF BARTH COVER OR ITS EQUIVALENT IN INSULATION MATERIAL.
- ALL EXTERIOR FOOTINGS AND FOOTINGS IN UNHEATED AREAS MUST BE PROVIDED WITH 1,400mm (4'-7") OF EARTH COVER FOR FROST PROTECTION PURPOSES. (REFER TO GEOTECHNICAL REPORT).
- CONCRETE STRENGTH FOR ALL FOOTINGS, AND FOUNDATION WALLS UNLESS OTHERWISE NOTED, SHALL BE A MINIMUM OF 25 MPa @ 28 DAYS.
- ALL CONCRETE WALLS POURED MONOLITHICALLY WITH COLUMNS AND/OR SHEAR WALLS SHALL HAVE THE SAME CONCRETE STRENGTH AS INDICATED FOR THE COLUMNS AND/OR SHEAR WALLS.
- UNLESS OTHERWISE NOTED, ALL WALL FOOTINGS TO BE 300mm DEEP WITH 150mm PROJECTION EACH SIDE.
- PROVIDE CONTINUOUS SHEAR KEY 38mmx38mm (1-1/4"x1-1/4") IN FOUNDATION WALLS BETWEEN STAGES OF CONCRETE CASTING.
- CENTER LINES OF COLUMNS, AND FOOTINGS ARE CONCURRENT UNLESS OTHERWISE SHOWN. SEE ARCHITECTURAL DRAWINGS.
- U/S OF STEEL COLUMN BASE PLATES SHALL BE 250mm (10") BELOW FINISHED FLOOR SLAB TYPICALLY UNLESS NOTED OTHERWISE.
- TOP OF SLAB-ON-GRADE IS TO BE 0.00m BELOW SLAB DATUM ELEVATION 100.00m TYPICAL EXCEPT AS INDICATED ON PLANS AND DETAILS.
- THE SLAB-ON-GRADE ELEVATION MAY VARY AND SHALL BE SLOPED TO SUIT DRAINAGE AND RAMPING WHERE REQUIREMENTS SHOWN ON THE ARCHITECTURAL DWGS.
- SLAB-ON-GRADE TO BE 4" (100mm) THICK REINFORCED WITH STEEL FIBER REINFORCING (REQUIRES APPROVAL), REFER TO SPECIFICATIONS.
- PROVIDE SLAB DEPRESSIONS, OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS, AS REQUIRED BY ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
- SLAB-ON-GRADE TO BE PLACED ON A 300mm MINIMUM LAYER OF COMPACTED 20mm CRUSHER-RUN LIMESTONE, AS RECOMMENDED BY THE PROJECT GEOTECHNICAL CONSULTANT.
- DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH UNTIL FLOOR AT TOP AND SLAB-ON-GRADE AT BOTTOM OF WALLS ARE PLACED AND HAVE ATTAINED SPECIFIED DESIGN STRENGTH.
- FILL REQUIRED ON BOTH SIDES OF FOUNDATION WALLS SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON BOTH SIDES TO EQUALIZE SOIL PRESSURE.
- Pipe penetrations thru foundation walls shall have 50mm (2") low density foam all around (REFER TO TYPICAL DETAILS).
- THE CONCRETE FINISHING CONTRACTOR IS TO SUBMIT FOR REVIEW PROPOSED SLAB-ON-GRADE SAWCUT LAYOUT SEE SLAB ON GRADE TYPICAL DETAILS.
- FOR DIMENSIONS, ELEVATIONS AND LEVELS REFER TO ARCHITECTURAL DRAWINGS. DIMENSIONS MARKED ON THE STRUCTURAL DRAWINGS ARE FOR DESIGN REFERENCE ONLY. CONTRACTOR IS REQUIRED TO FOLLOW ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND ELEVATIONS. COORDINATE ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK.
- REFER TO COLUMN AND WALL SCHEDULES.
- REFER TO GENERAL NOTES AND TYPICAL DETAILS.
- REFER TO TYPICAL CONCRETE MIXES CHART THIS DRAWING.



ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE USED OR REPRODUCED WITHOUT THE ENGINEER'S APPROVAL.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.

no.	revision	date	by
4	ISSUED FOR TENDER	12/06/2024	
3	AS PER CITY REVIEW	11/29/2024	
2	ISSUED FOR TENDER	11/13/2024	
1	RE-DESIGNED MANUFACTURER	11/06/2024	

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reviewed by **RGD** drawn by **UC**  
date **APRIL 2024**  
scale **AS SHOWN**

drawing title  
**FOUNDATION PLAN AND DETAILS**  
drawing number **S4.00**  
client  
**THE CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**





no.	revision	date	by
1	ISSUED FOR TENDER	12/06/2024	
2	AS PER CITY REVIEW	11/20/2024	
3	ISSUED FOR TENDER	11/13/2024	
4	RE-DESIGNED PER APPROVAL	11/06/2024	

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reviewed by **RGD** drawn by **UC**

date **APRIL 2024**

scale **AS SHOWN**

drawing title  
**ROOF FRAMING PLAN AND DETAILS**

drawing number **S5.00**

client  
**THE CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC  
PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**

**MASONRY WALL SCHEDULE**

Number	Description	Vertical Reinforcing
M90-0	140 BLOCK	UNROUTED
M140-0	140 BLOCK	UNROUTED
M140-1	140 BLOCK	10M AT 1200
M140-3	140 BLOCK	10M AT 800
M190-0	190 BLOCK	UNROUTED
M190-1	190 BLOCK	15M AT 1200
M190-2	190 BLOCK	15M AT 1000
M190-3	190 BLOCK	15M AT 800
M190-4	190 BLOCK	15M AT 600
M190-5	190 BLOCK	15M AT 400
M190-6	190 BLOCK	15M AT 200

MT - MASONRY TO SEE TYPICAL CONNECTION OF NEW MASONRY TO EXISTING MASONRY WALL DETAIL

ALL WALLS TO HAVE 2 WIRE MASONRY REINFORCING AT ALTERNATE COURSES. VERT. REINFORCING AT GROUDED CORES. PROVIDE ADDITIONAL BARS AT END OF WALL AND EACH SIDE OF AN OPENING.

ALL REINFORCED MASONRY WALLS TO HAVE BOND BEAM NEAR TOP OF WALL 1/4" W/ 2-15M CONT. DO NOT CUT BOND BEAM WITHOUT PERMISSION FROM ENGINEER.

TYP. CAVITY WALL CONSTRUCTION - BLOCK AS PER SCHEDULE ABOVE. ADJUSTABLE BLOCK TIES 600 o.c. V. x 800 o.c. H. AIR SPACE, INSULATION, MASONRY VENEER (SEE SECTION FOR BOND BEAM LOCATIONS).

PROVIDE DOWELS FROM FOUNDATION WALLS TO BLOCK WALLS TO SUIT BLOCK WALL REINFORCING SIZE AND SPACING.

TIE INTERSECTING NEW WALLS TOGETHER W/ 2 WIRE LADDER STYLE REINFORCING @ ALT. COURSES. THE INTERSECTING NEW WALLS TO EXISTING OR INFILL WALLS SCREEN W/ MASONRY TIES AT ALT. COURSES.

OPENING FOR MECH. OPENINGS IN MASONRY WALLS FOR VENEER > 200mm AND BLOCK WALLS > 400mm REQUIRE LEVELS. SEE ADDITIONAL OPENINGS ON MECH. DRAWINGS NOT SHOWN ON STRUCTURAL DRAWINGS.

DO NOT CUT OPENINGS DIRECTLY BELOW JOISTS OR BEAMS UNLESS NOTED ON STRUCTURAL DRAWINGS.

**REINFORCED MASONRY NOTES:**

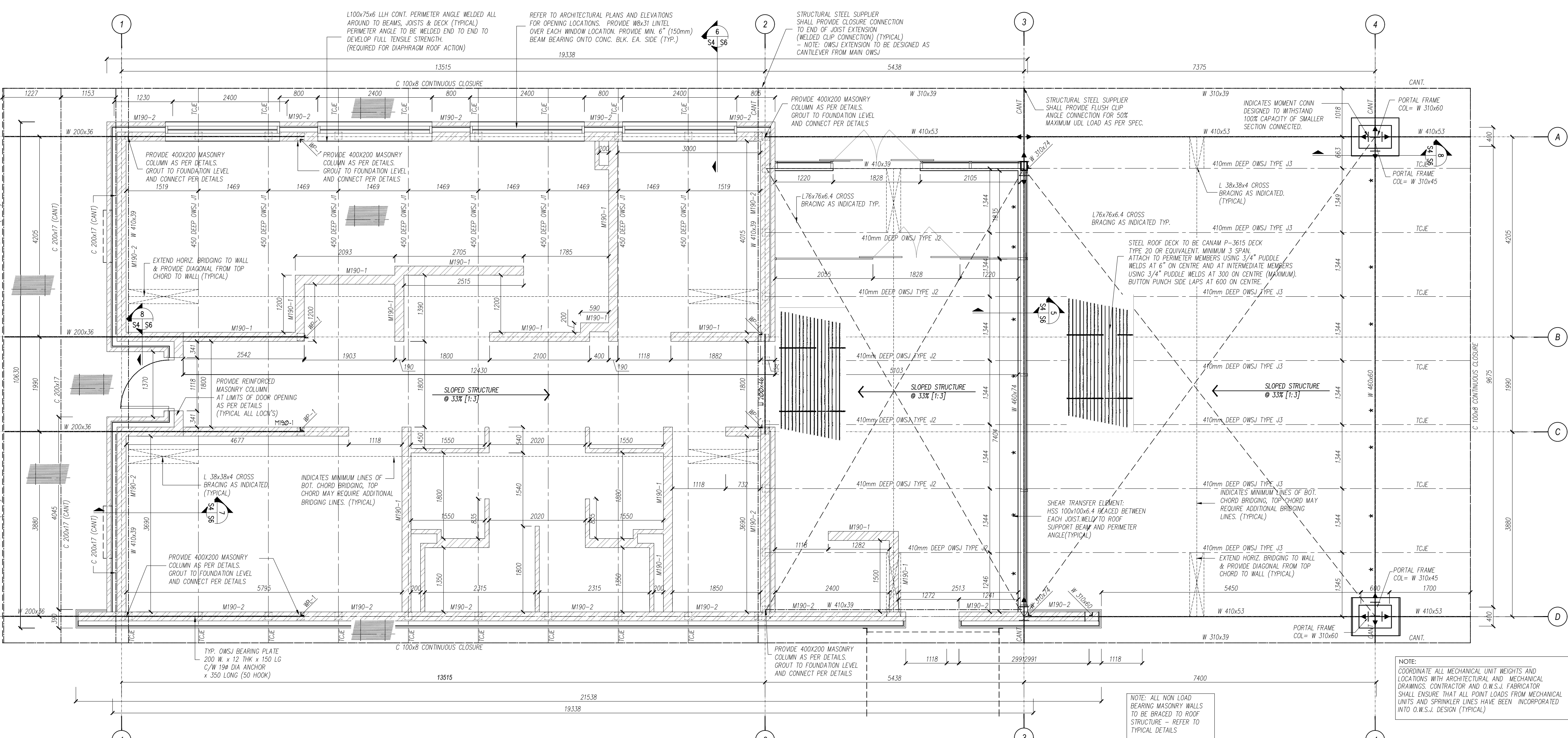
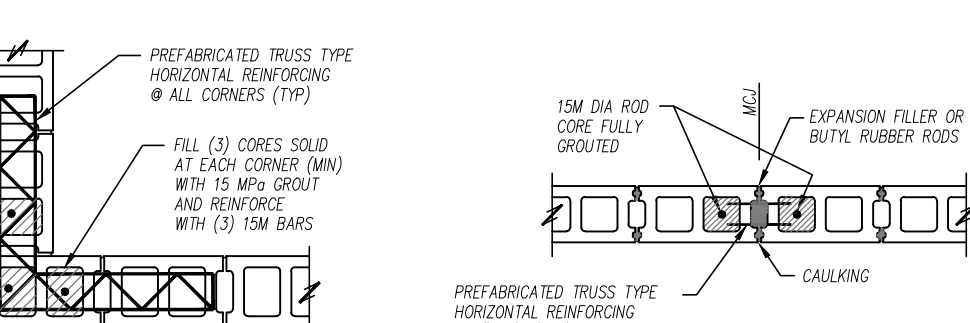
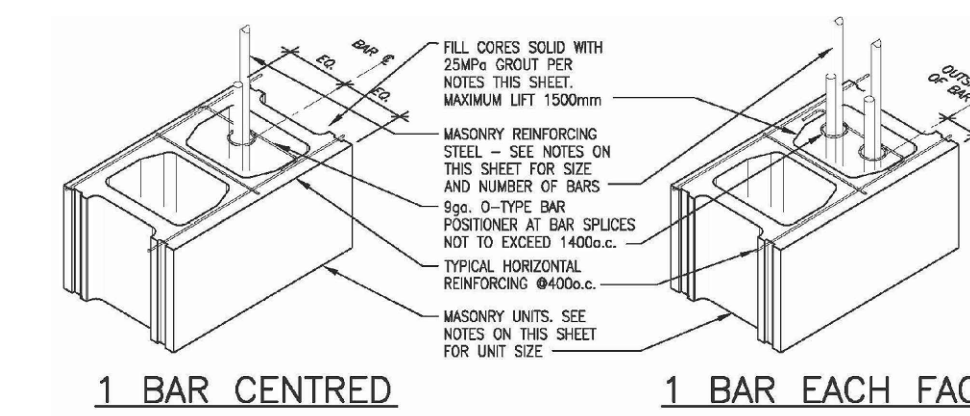
- VERTICAL MASONRY REINFORCING STEEL TO BE FY = 400 MPa.
- LAP ALL VERTICAL 15M REINFORCING 600mm UNLESS NOTED OTHERWISE. LAP ALL 20M REINFORCING 800mm UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE ALL WALL SCHEDULE OR ELSEWHERE IN THE STRUCTURAL DRAWINGS MASONRY TIES TO BE 15M.
- FOR LOAD BEARING WALLS & MASONRY SHEAR WALL MORTAR TYPE "S". GROUT TO BE 25MPa WITH 10mm MAX AGGREGATE SIZE AND 150mm x 15mm SLAB CURING JOINTS TO CONFORM TO REQUIREMENTS OF CSA STANDARD CAN-4371-94 ALL "LOW-LIFT" MAXIMUM LIFT 1000mm.
- UNLESS SPECIFICALLY DETAIL OTHERWISE ON THE STRUCTURAL DRAWINGS REINFORCING TO BE LOCATED IN CENTRE OF BLOCK.
- MASONRY WALLS NOT LISTED HERE, REFER TO ARCHITECTURAL DRAWINGS.
- IN ADDITION TO THE VERTICAL REINFORCING SPECIFIED IN THE MASONRY WALL SCHEDULE PROVIDE A MINIMUM OF 2-15M EACH SIDE OF:
  - ALL BLOCK JOINTS
  - ALL WINDOW OPENINGS
  - AT ENDS OF ALL WALLS
  - EACH SIDE OF EVERY MASONRY WALL CONTROL JOINT
- PROVIDE DOWELS FROM FOUNDATION WALLS TO REINFORCED MASONRY WALL AND PERS PROVIDED SPECIFIED EITHER IN THE WALL SCHEDULE, EITHER AS ABOVE OR ELSEWHERE IN THE STRUCTURAL DRAWINGS. MINIMUM BAR LENGTHS AND LAPS WITH VERTICAL MASONRY REINFORCING TO BE:
  - 15M x 1500 LONG, 600 LAP
  - 20M x 800 LONG, 800 LAP
- ALL MASONRY WALLS SHOWN IN THE MASONRY WALL SCHEDULE ARE TO HAVE LADDER TIE CONTINUOUS HORIZONTAL WALL REINFORCING AT 200 ON CENTRE. PROVIDE CONTINUOUS HORIZONTAL WALL REINFORCING AT 200 ON CENTRE. PROVIDE BLOCK WALL MINIMUM LAP TO BE 400mm. MINIMUM WIRE DIAMETER TO BE 4.75mm. PROVIDE PRECAST CORNER AND TIE HORIZONTAL REINFORCING ALL CORNERS.
- PROVIDE STANDARD 90 DEGREE HOOK AT THE TOP OF ALL HOLD DOWN BARS AS SPECIFIED CUT WEB OF CONCRETE BLOCK FOR INSTALLATION OF REINFORCING.
- MASONRY TO BE CONSTRUCTED IN FULL RUNNING BOND. 100TH CONSTRUCTION JOINTS WILL NOT BE ACCEPTED.
- ALL MASONRY WALLS TO BE BUILT TO UNDERSIDE OF THE DECK ABOVE WALLS TO BE BUILT TIGHT TO UNDERSIDE OF BEAMS AND GROUDED SOLID. ALL MASONRY WALLS TO BE BUILT TIGHT TO COUSERS AND ALL JOINTS AND CAVITIES GROUDED SOLID SEE DETAIL "A" ON S-3.
- THE TOPS OF ALL MASONRY WALLS ARE TO HAVE LATERAL SUPPORT. SEE DETAILS ON S-3.

**WALL SCHEDULE NOTES:**

- HORIZONTAL REINFORCING TO BE STANDARD LADDER TYPE. SEE REINFORCED MASONRY NOTES ON DRAWING S4.02.
- WHERE "TEAM" IS SHOWN IN SCHEDULE PROVIDE DOWELS AS SHOWN IN SECTIONS.
- ALL MASONRY LATERAL SUPPORT DETAILS ARE REQUIRED IN ADDITION TO DETAILS SPECIFIED IN WALL SCHEDULE. SEE TYPICAL DETAILS ON DRAWING S3 FOR MASONRY LATERAL SUPPORT.
- SEE MASONRY NOTES ON DRAWING S5 FOR ADDITIONAL NOTES. REINFORCING AND DOWELS SPECIFIED IN NOTES #8 AND #9 IN DRAWING S5 ARE IN ADDITION TO REINFORCING SPECIFIED IN THE WALL SCHEDULE.
- WHERE DOWELS TO SLAB & TO SLAB ON GRADE IS SHOWN IN SCHEDULE PROVIDE DOWELS AS SHOWN IN DETAILS ON DRAWING S5.

**MINIMUM TESTING REQUIREMENTS FOR MASONRY:**

- MASONRY UNITS, MORTAR AND GROUT SHALL BE TESTED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND REQUIREMENTS OF CSA S304.1-04, BUT NOT LESS THAN THE FOLLOWING:
- ONE SET OF THE MASONRY UNITS DELIVERED TO SITE FOR EACH 250m<sup>3</sup> OF WALL OF EACH TYPE OF MASONRY UNIT. IN ACCORDANCE WITH CSA S304, TESTED AND REPORTED PROOF TEST UNITS BEING USED ON THE PROVIDED CURRENT DATA IS AVAILABLE FROM THE MANUFACTURE. TESTING OF 15 UNITS IS REQUIRED. CORRECT IN THIS CASE, DATA: MEANS COMPRESSIVE STRENGTH TESTS FOR UNITS IN ACCORDANCE WITH THE REQUIREMENTS OF CSA S304.1-04, PREPARED WITHIN THE THREE MONTHS PRECEDING THE START OF MASONRY FOR THIS PROJECT. NOTE:
    - ONE SET OF MORTAR CUBES PER 500 SQUARE METERS OF CONSTRUCTION OR PART THERE OF IN ACCORDANCE WITH THE TEST PROCEDURES AS PUT FORTH IN THE APPROPRIATE CSA STANDARDS.
    - ONE SET OF CUBES AND ONE SLUMP TEST TAKEN AT THE SAME TIME AND FREQUENCY AS MORTAR TESTS DESCRIBED ABOVE.



**ROOF FRAMING PLAN**

- SCALE: 1:50  
NOTES:  
1. TOP OF NEW STEEL ELEVATION = 1/5 OF NEW ROOF DECK ELEV. = VARIES (SEE PLAN)  
2. FOR GENERAL NOTES REFER TO SHEET S-1/5-2  
3. ALL W/ SHAPE, STEEL BEAMS AND BEAM UNITS CARRYING MASONRY BLOCK SHALL HAVE 1" x ROSS x 12" (C. WELDED TO TOP OF BEAM @ 16" O/C)  
4. EXACT LOCATION, SIZE AND HEIGHT OF MECHANICAL UNITS AND OPENINGS SHALL BE VERIFIED W/ MECH. CONTRACTOR.

**ROOF FRAMING PLAN NOTES**

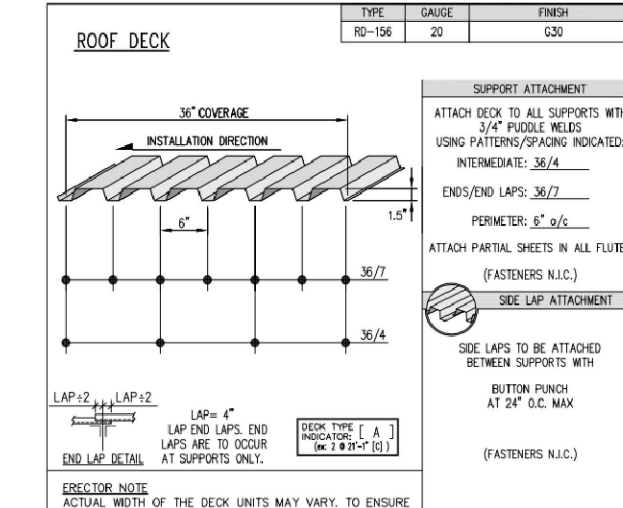
- 1/3 OF STEEL ROOF DECK TO BE 0.0m ABOVE ROOF DATUM ELEVATION, OR AS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
- ROOF DECK TO BE PLACED FLAT. SLOPE TO DRAINS TO BE ACHIEVED BY ROOFING SYSTEM, AS SHOWN ON ARCHITECTURAL DRAWINGS.
- TOP OF STEEL BEAMS TO BE 0.0m BELOW ROOF DATUM ELEVATION, EXCEPT AS SHOWN THIS (X) ON PLAN.
- TOTAL DEAD LOAD AS FOLLOWS: TYPICAL ROOF =  $\frac{1}{2}$  kPa  
UNLESS NOTED OTHERWISE.  
TOTAL SUPERIMPOSED DEAD LOAD IS AS FOLLOWS:  
DEAD LOAD OF TWO PLY MODIFIED ROOFING SYSTEM IS ASSUMED TO BE  $\frac{1}{2}$  kPa  
UNLESS NOTED OTHERWISE.  
LINE LOAD IS A UNIFORM LOAD OF  $\frac{1}{2}$  kPa PLUS ACCUMULATED SNOW LOAD (AS) IN ACCORDANCE WITH THE ONTARIO BUILDING CODE REQUIREMENTS AND IN NO CASE LESS THAN AS NOTED ON PLAN.
- STEEL ROOF DECK SHALL BE DESIGNED TO SUPPORT SPECIFIED TOTAL DEAD AND LIVE LOADS. MINIMUM BASE NOMINAL THICKNESS (BNT) OF STEEL DECK SHALL BE 0.76mm.
- STEEL ROOF DECK SHALL BE INSTALLED FOR DIAPHRAGM ACTION IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CANADIAN STEEL STEEL BUILDING INSTITUTE AND SPECIFICATIONS. STEEL DECK TO BE FASTENED AT ALL SUPPORTS W/ MIN. 20mm PUDDLE WELDS (36/7 SUPPORT PATTERN) AND 150mm O/C AT PERIMETER. ALL SIDE LAPS TO BE BUTTED PUNCHED @ 300mm O/C U.N.O.
- STEEL ROOF DECK SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.
- LOCATION OF MECHANICAL EQUIPMENT AND MECHANICAL EQUIPMENT LOADS ARE TO BE CONFIRMED BY MECHANICAL CONTRACTOR BEFORE STRUCTURAL STEEL IS FABRICATED. REFER TO MECHANICAL DRAWINGS, MECHANICAL EQUIPMENT AND PIPING MUST BE HUNG FROM THE BEAM FLANGE AND HANGER SPACING SHALL NOT EXCEED 3.0m.
- FRAME ALL ROOF OPENINGS AS NOTED IN SPECIFICATIONS AND ON TYPICAL DETAIL. SUBMIT DETAILS FOR ALL OPENINGS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS TO STRUCTURAL CONSULTANT FOR REVIEW.
- AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL AND STEEL DECK IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES, AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

- NOTES:  
1) J denotes JOIST LOCATIONS  
2) THE ELEVATIONS OF THE BEAMS WERE DETERMINED CONSIDERING THE DEPTH OF THE OWSJ EQUAL TO 4".  
3) BEAMS HANDED UP/W/ WARE TO BE PROVIDED WITH H&S 4" x 4" x 4830 STEEL TUBES WELDED TO THE TOP FLANGE IN BETWEEN THE SHOES OF THE OWSJ. SEE SECTIONS FOR DETAILS.  
4) ALL COLLARS ARE TO BE PLACED ON LEVELING PLATES SUPPLIED BY THE STRUCTURAL STEEL CONTRACTOR.  
5) JOIST DESIGNER TO PROVIDE BRIDGING LOCATIONS.

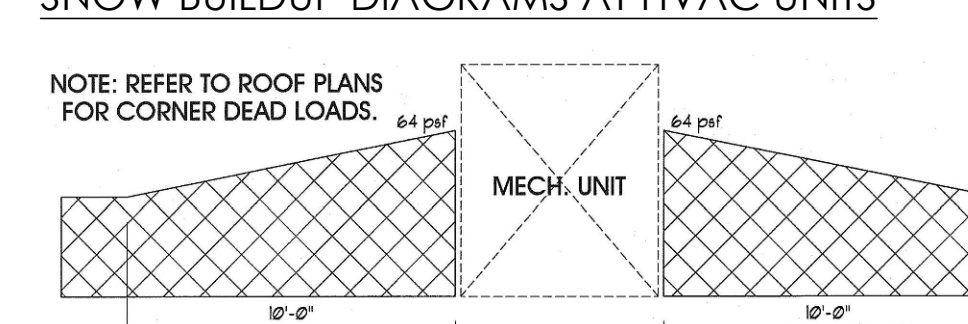
- SEE ARCH' FOR U/S DECK ELEVATIONS AND ROOF SLOPES TO DRAIN  
CONFIRM MECHANICAL UNIT LOCATIONS, WEIGHTS AND OPENINGS WITH MECH. SHOP DRAWINGS

Note: Architect's Floor Plan to layout door and window openings.  
Note to Contractor: It is the Contractor's responsibility to contact the Structural Engineer to perform site visits or general review of construction prior to enclosing structural elements.

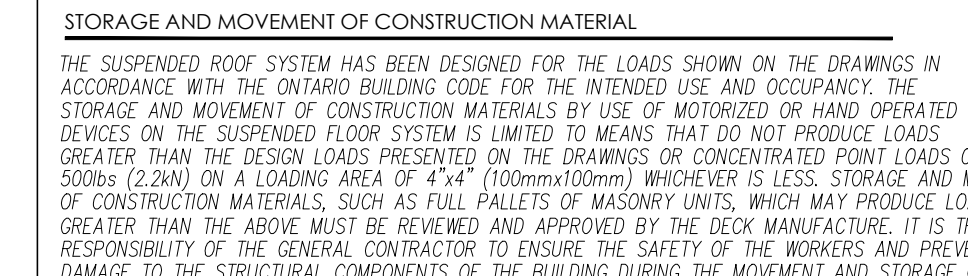
Note: Architect's drawings for all Architectural components.



**SNOW BUILDUP DIAGRAMS AT HVAC UNITS**



**NOTE: REFER TO ROOF PLANS FOR CORNER DEAD LOADS.**

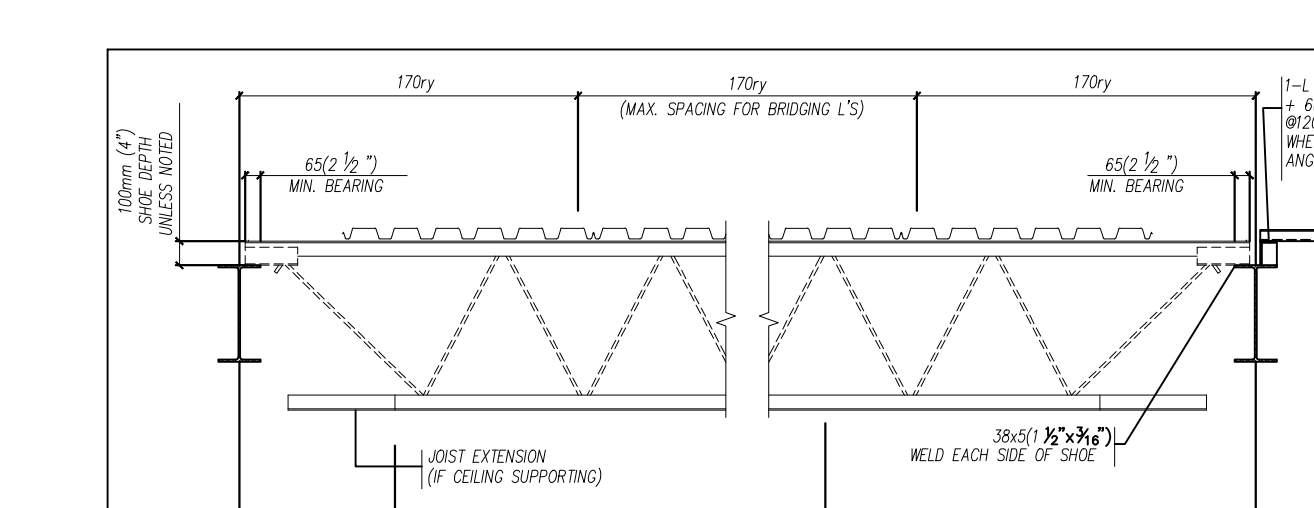


**LOOSE BRICK LINTEL SCHEDULE**

MARK	SIZE	MAXIMUM OPENING
BL1	L 90 x 90 x 8 (UP TO 1500 mm)	
	L 100 x 90 x 8 (LLV) (UP TO 2100 mm)	
	L 125 x 90 x 8 (LLV) (UP TO 2400 mm)	

- NOTES:  
1. PROVIDE MIN. 150 BEARING AT EACH END FOR ALL LINTELS, U.N.O.  
2. GROUT ALL CONCRETE BLOCK CORERS SOLID WHERE SUPPORTING LINTELS.

CAUTION  
THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY ERECTION BRACING TO HOLD THE STRUCTURE STEEL IN POSITION DURING CONSTRUCTION. THIS BRACING MUST BE ADEQUATE TO TAKE CARE OF ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING WIND AS WELL EQUIPMENT AND PREPARATION OF SAME. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY.



**NOTE:**

1. JOIST TO BE DESIGNED FOR LOADS NOTED ON DRAWINGS. (INCL. POINT LOADS AND SNOW ACCUMULATION)  
2. BRIDGING SHALL CONFORM TO C.S.A. SPECIFICATION S16.1 (LATEST EDITION).  
3. DESIGN JOISTS FOR A NET UPLIFT OF 0.5 kN/m<sup>2</sup> (10 P.S.F.) UNLESS NOTED OTHERWISE.  
4. FOR SPANDED BEAMS THE CENTRE OF BEARING SHAPE SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE BEAM FLANGE.

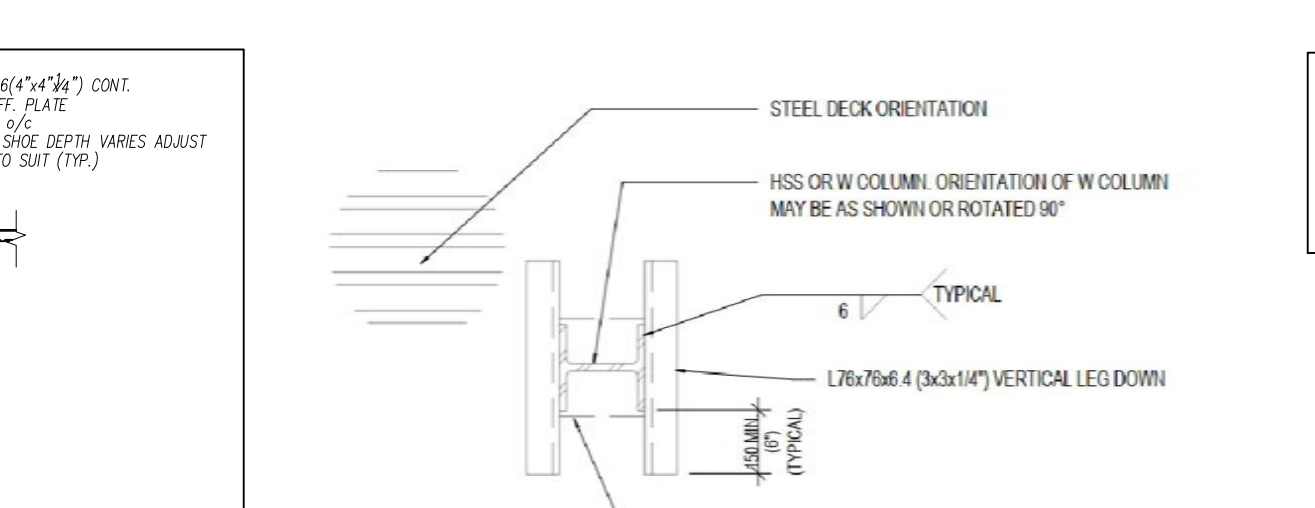
**OWSJ SCHEDULE**

MARK	DEPTH (mm)	MAX. SPACING	SHOE (mm)	SPECIFIED DEAD LOAD	SPECIFIED LIVE LOAD	SPECIFIED WIND LOAD
J1	450	SEE PLAN	100mm	1.15 kPa	1.44 kPa	EXTERIOR OF BLOC: 1.29 kPa (1600) 1.2 kPa (1600)
J2	410	SEE PLAN	100mm	1.15 kPa	1.44 kPa	EXTERIOR OF BLOC: 1.29 kPa (1600) 1.2 kPa (1600)
J3	410	SEE PLAN	100mm	1.15 kPa	1.44 kPa	EXTERIOR OF BLOC: 1.29 kPa (1600) 1.2 kPa (1600)

\* REFER TO ROOF PLAN FOR THE LOCATION OF MECH. WEIGHTS PLUS SNOW BUILD-UP (ALL AROUND THE MECH. UNIT). IN ADDITION THE MOST MANUFACTURER SHALL VERIFY THE LOADING CASES STIPULATED IN CLAUSE 16.6.1 + 16.6.2 OF CSA STANDARD S16.1 - 94 REGARDING UNBALANCED LOADING AND MINIMUM CONCENTRATED LOADS ARE MET.

- STEEL FABRICATOR NOTE:  
1. ALL STEEL SHALL MEET CSA SPECS FOR G40.21-350W  
2. ALL STEEL SHALL BE PRIMED WITH ONE COAT OF GREY OXIDE PAINT.  
3. SUPPLY 5 x 38 ADJ. F.B. MASONRY ANCHORS AT 600 O/C. IN THE WEBS OF ALL BEAMS ABUTTING MASONRY.  
4. SUPPLY 5 x 38 ADJ. F.B. MASONRY ANCHORS AT 600 O/C. IN THE WEBS OF ALL BEAMS ABUTTING MASONRY.  
5. ALL ANCHOR BOLTS TO BE A.S.T.M. F1554 GRADE 36 (Fu = 400 MPa) MIN.  
6. ALL H.S.S. MEMBERS TO BE 350W - CLASS C  
7. ELECTRONIC REPRODUCTIONS OF THIS FRAMING PLAN ARE UNACCEPTABLE FOR SUBMISSION AS SHOP DWGS.

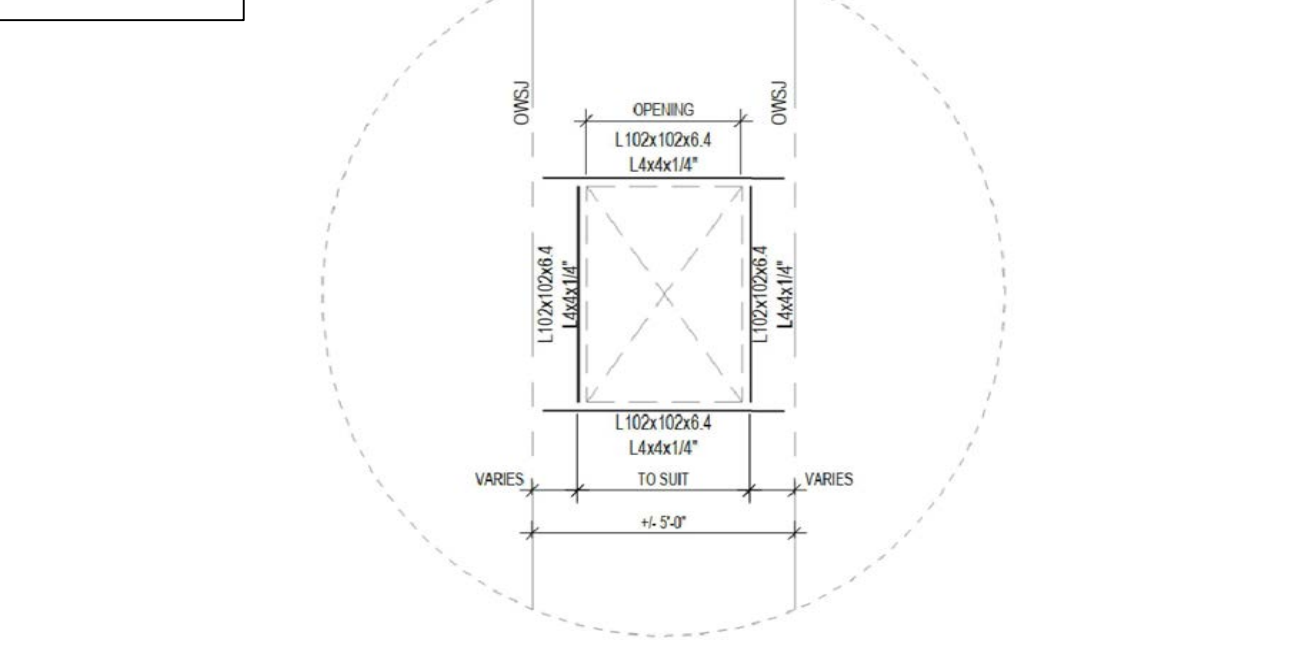
- NOTE:  
ROOF SLOPE DETAILS SHALL ENSURE BUILDING IS IN COMPLIANCE WITH O.B.C. 4.16.4 (AND RELATED O.B.C. OPINIONS) OR OTHER APPROPRIATE LOCAL CODES AS REQUIRED. ROOF STEEL HAS NOT BEEN DESIGNED FOR RAIN WATER RETENTION & ROOF SNOW SIMULTANEOUSLY.  
ROOF DRAINAGE PARAMETERS FOR ZERO WATER RETENTION:  
a) MAX. DRAIN DOWN TIME < 24 Hrs  
b) PERIMETER SCUPPERS INSTALLED SUCH THAT THE MAXIMUM DEPTH OF WATER ON ROOF IS 4" - SEE ALSO ARCHITECTURAL DWGS.  
c) ROOF DRAINS ARE LOCATED MAX. 50'-0" FROM THE EDGE OF ROOF AND MAX. 100'-0" FROM ADJACENT DRAINS IF ANY.  
d) THERE IS AT LEAST ONE ROOF DRAIN FOR EACH 9600 SQ. FEET OF ROOF AREA.



**NOTE:**

- COORDINATE ALL ROOF SLOPES FOR AREA DRAINS WITH MECHANICAL CONSULTANT DESIGN DRAWINGS. ROOF SHALL BE DESIGNED FOR NORMAL ROOF DRAINAGE (24 HR. DRAIN DOWN MAX.) AND NO RAIN WATER STORAGE SHALL BE PERMITTED. MAX. SLOPE NOT TO EXCEED 4" DEPTH AT ANY POINT. (TYPICAL)

**Typical Exhaust Opening Framing**



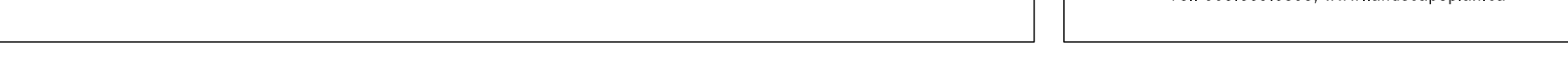
**Typical Block Wall Reinforcing @ Mandoor**



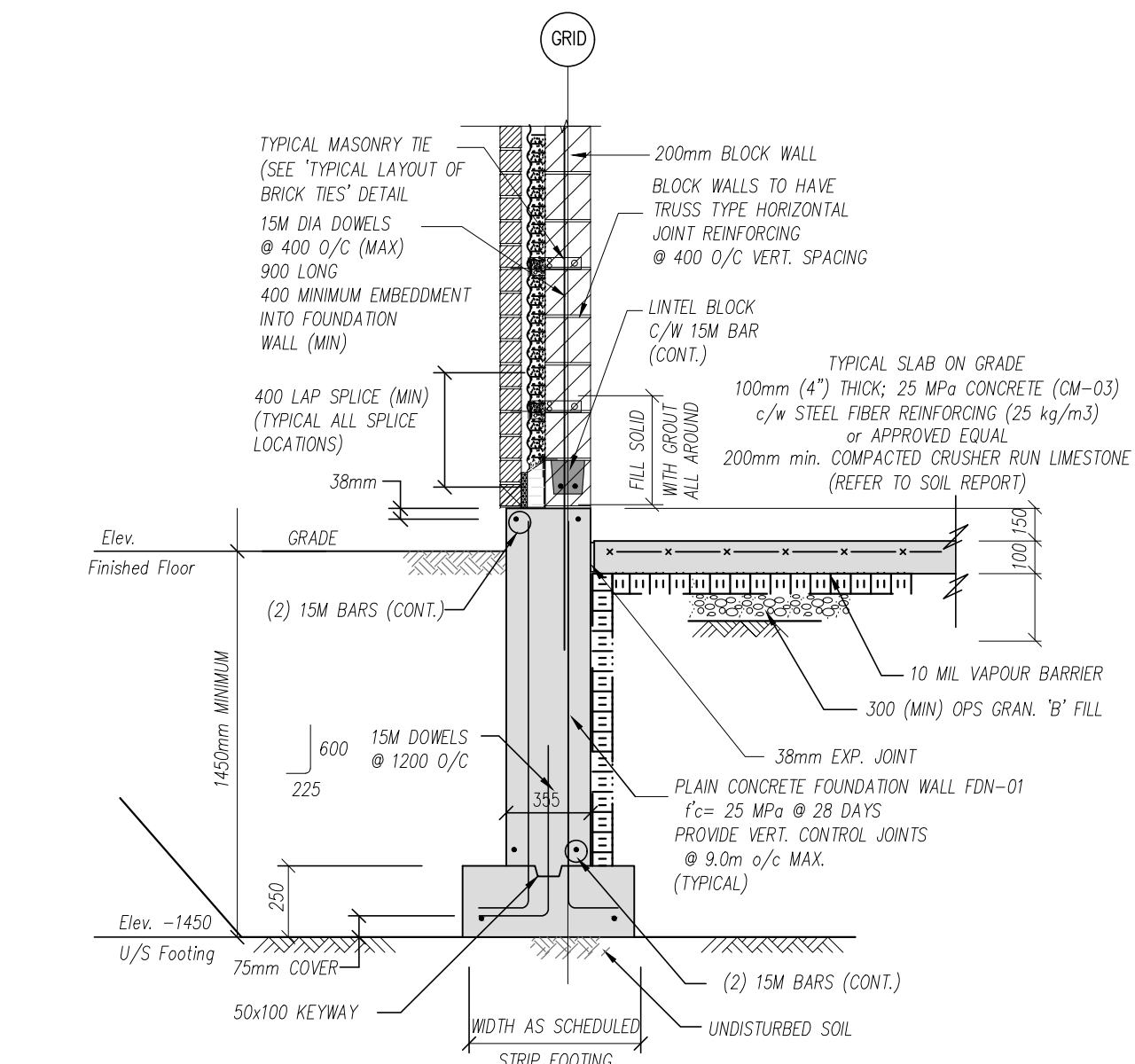
**Typical Masonry Corner Reinforcing Detail**



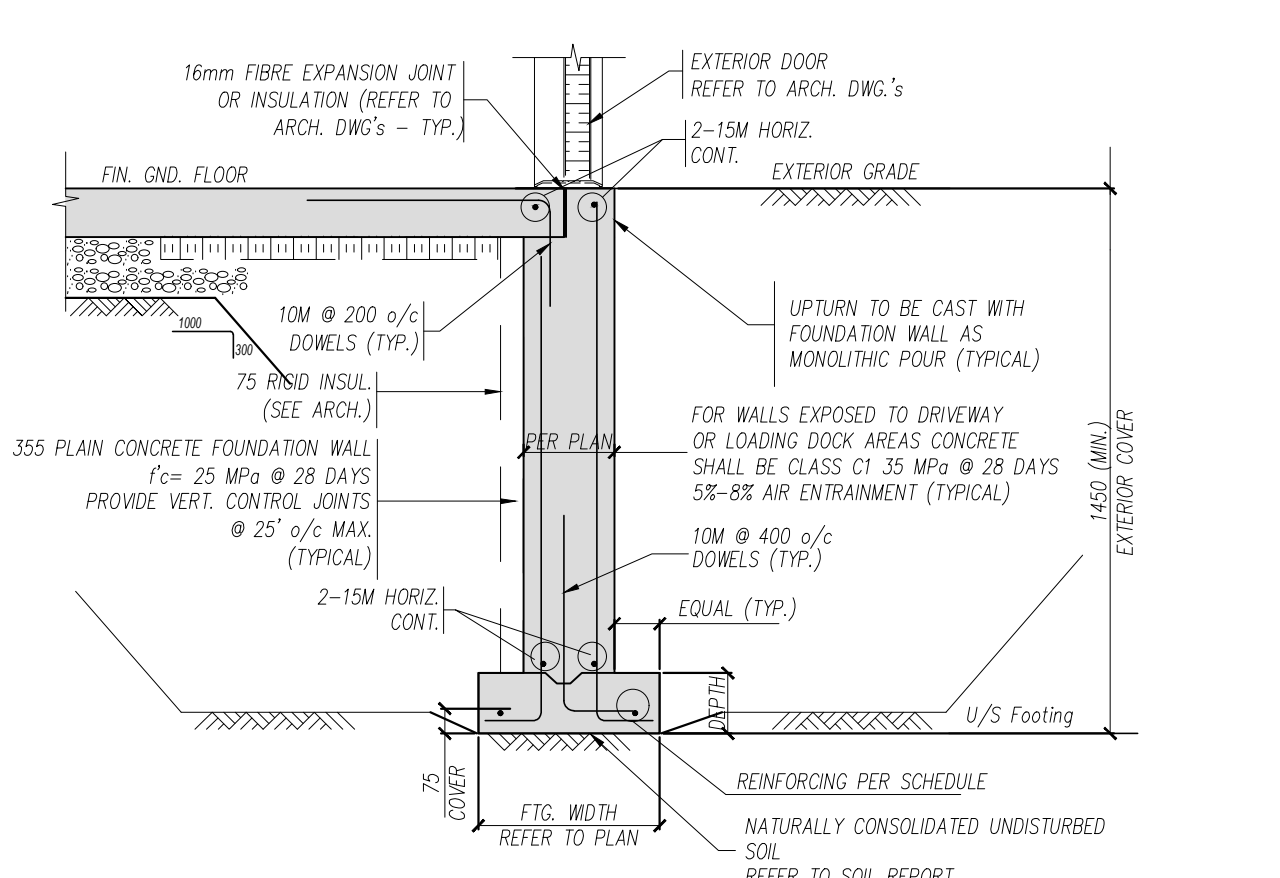
**Masonry Control Joint (MCJ) Detail @ Block Wall**



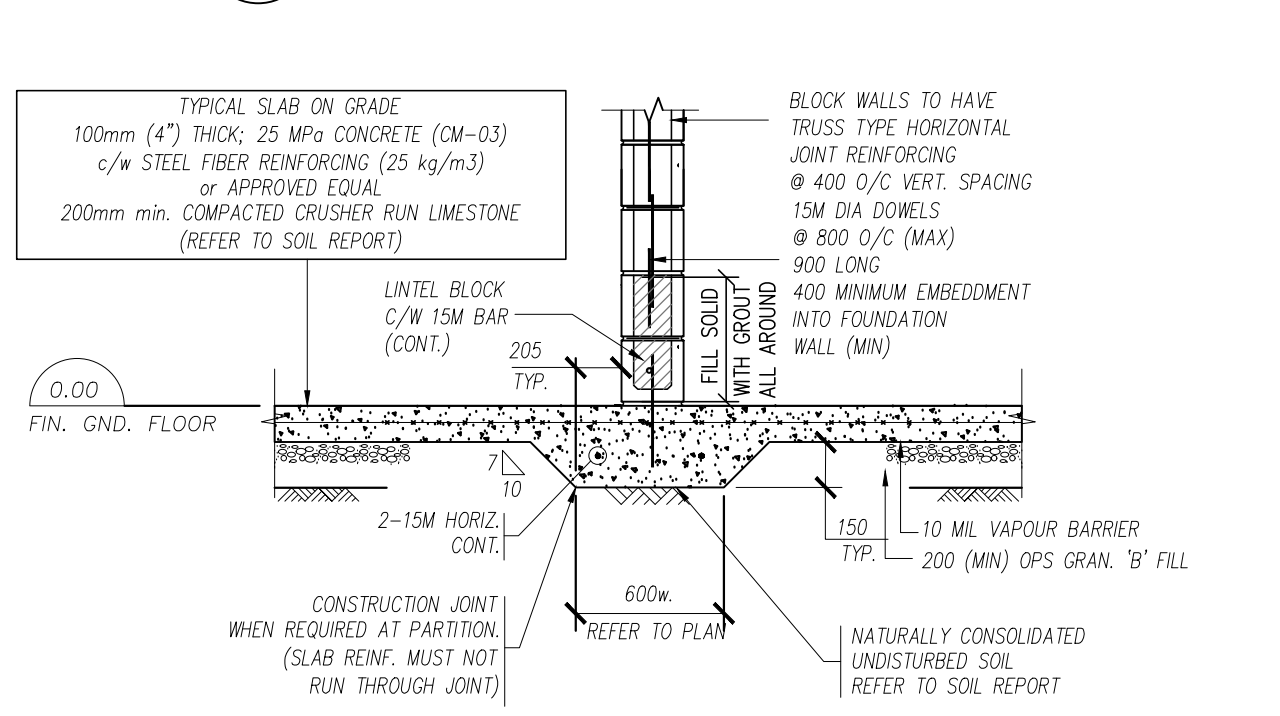




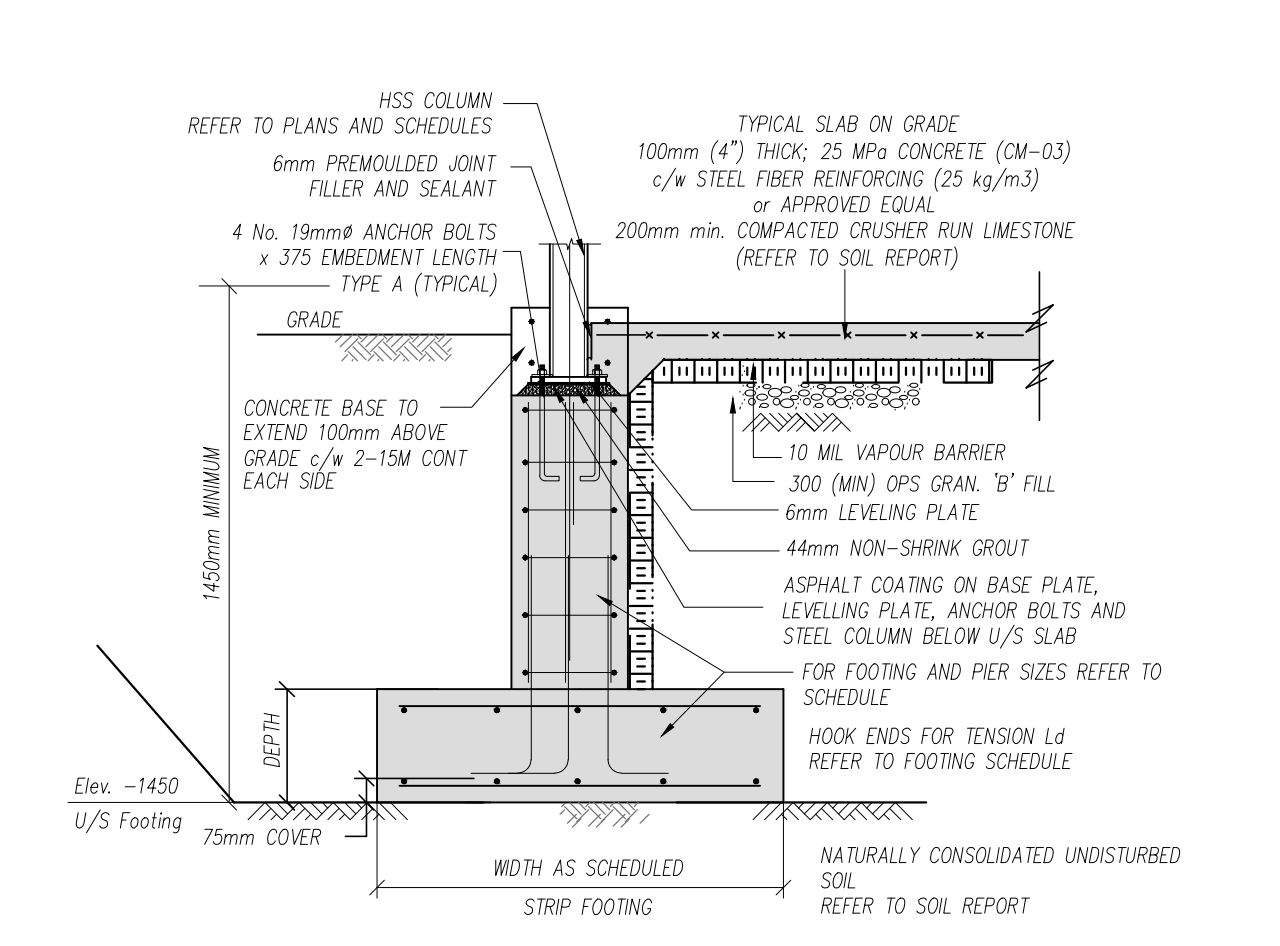
**1 WALL FTG DETAIL**  
S6 Scale: Not to Scale



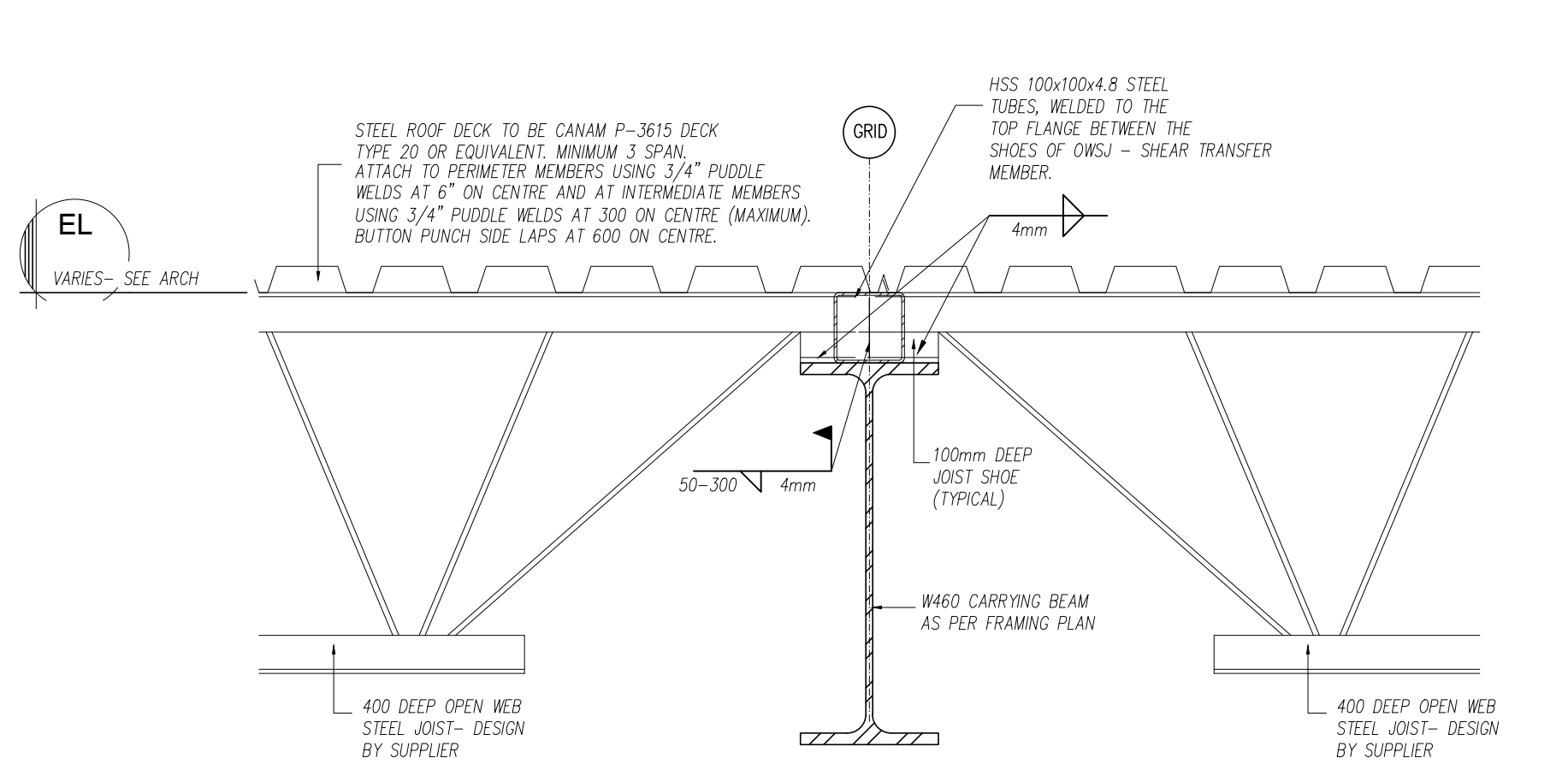
**2 WALL FTG DETAIL @ DOOR**  
S6 Scale: Not to Scale



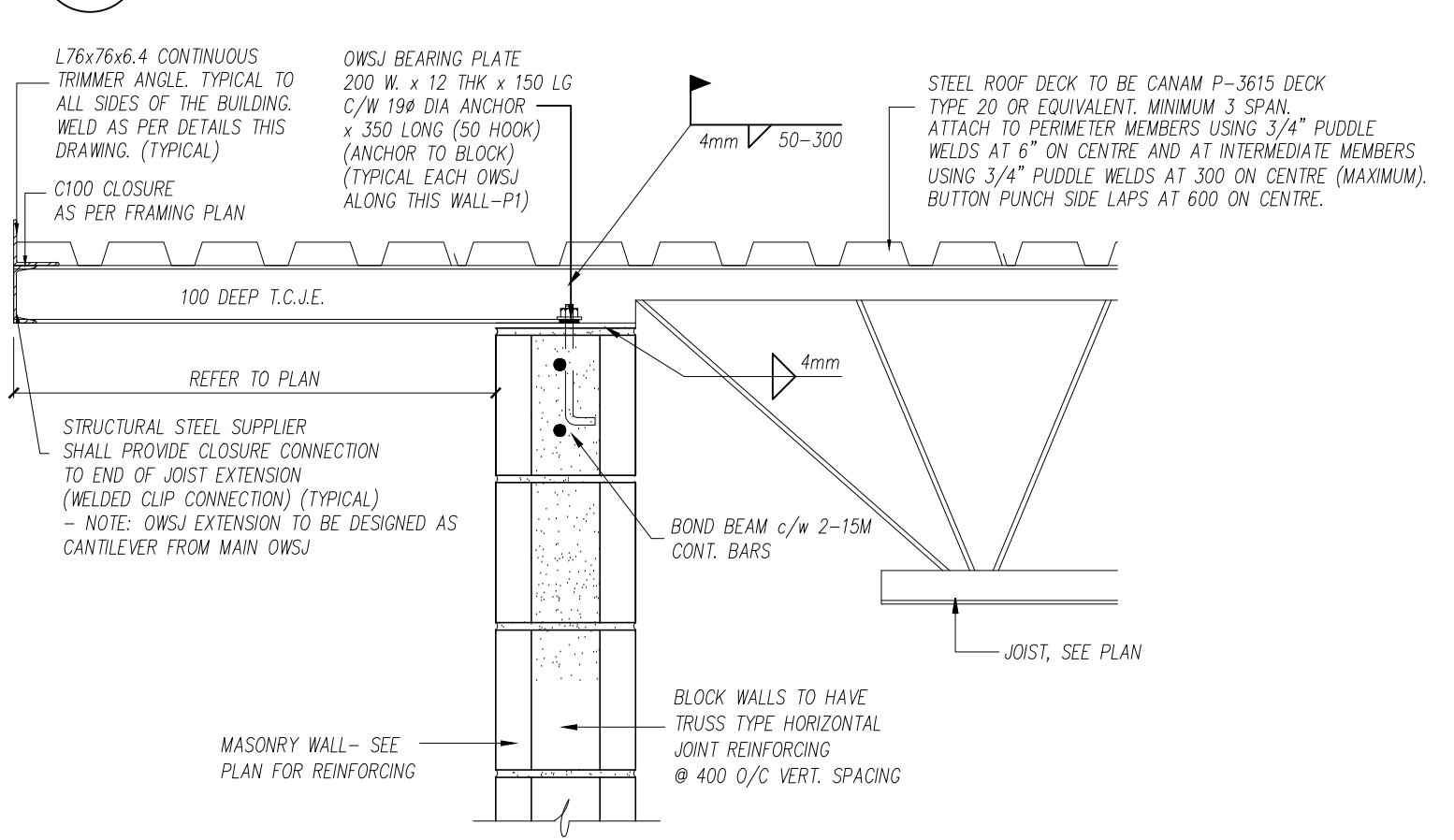
**3 TYP. THICKENED SLAB**  
S6 Scale: Not to Scale



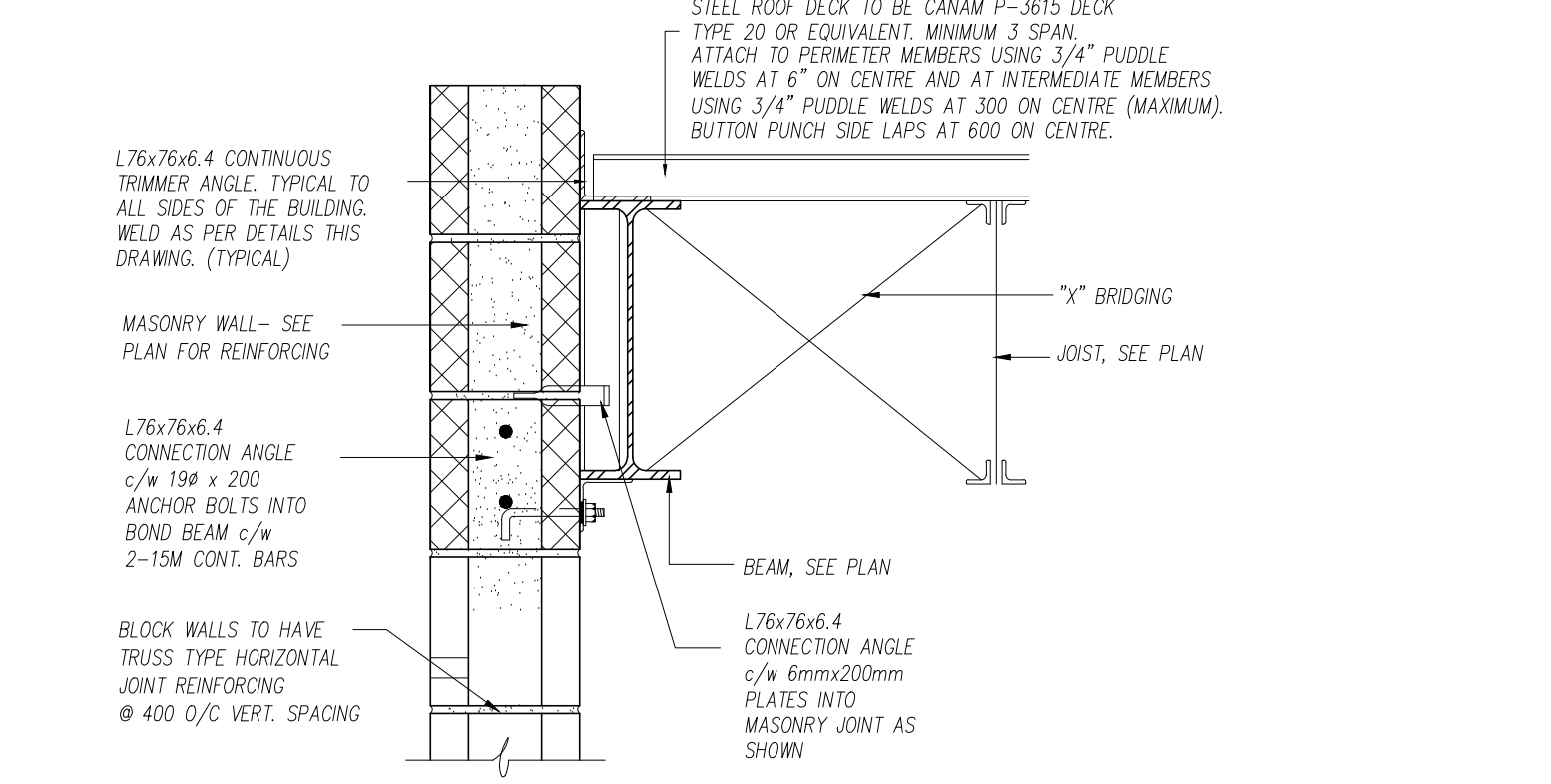
**4 TYP. PAD FOOTING DETAIL**  
S6 Scale: Not to Scale



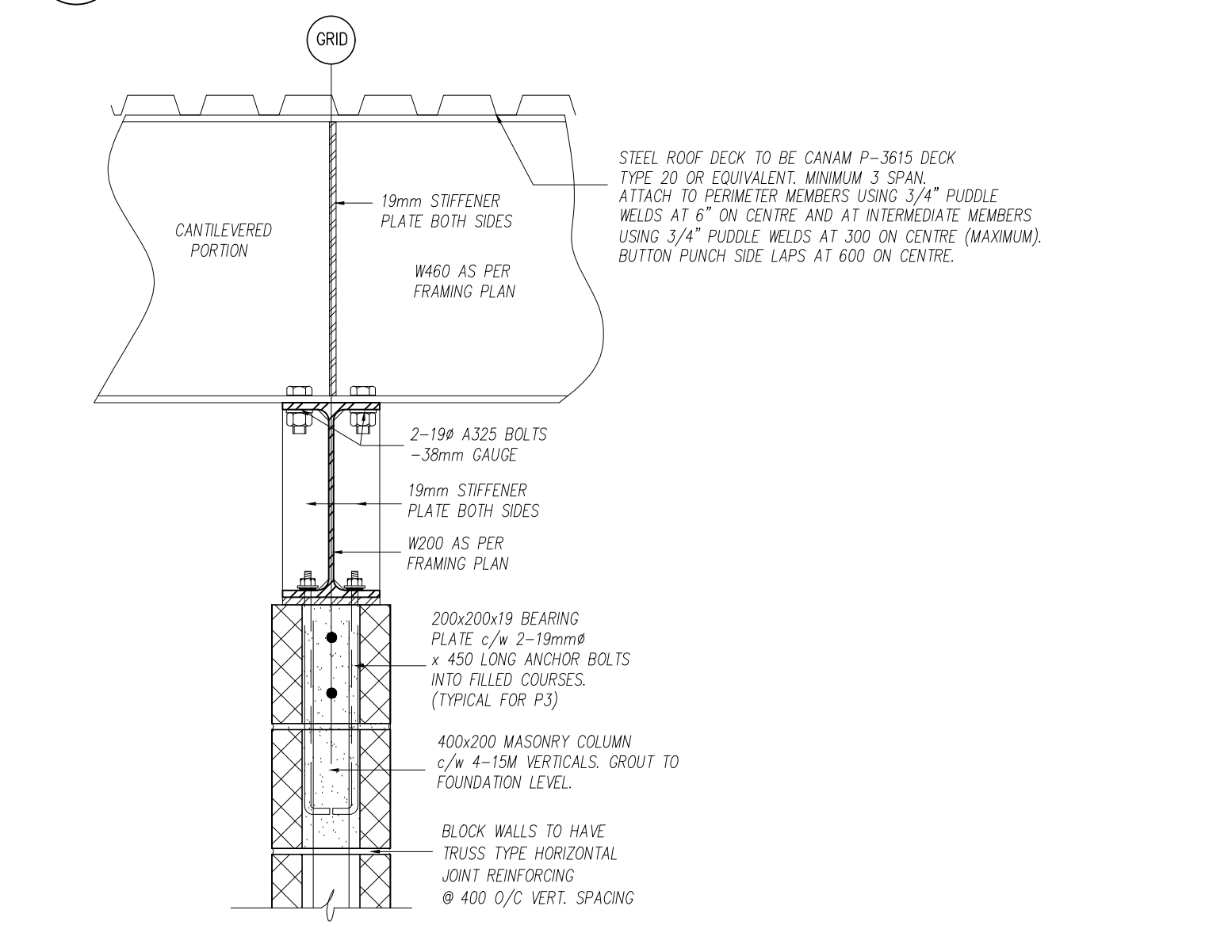
**5 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale



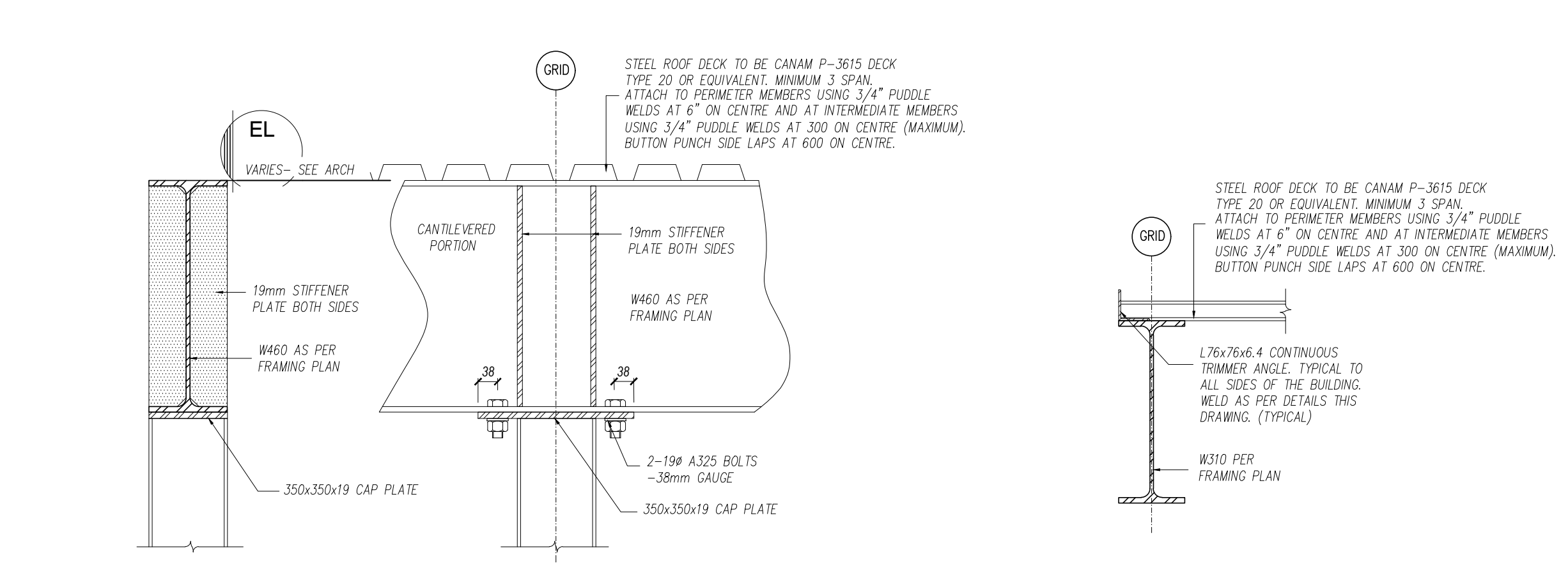
**6 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale



**7 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale

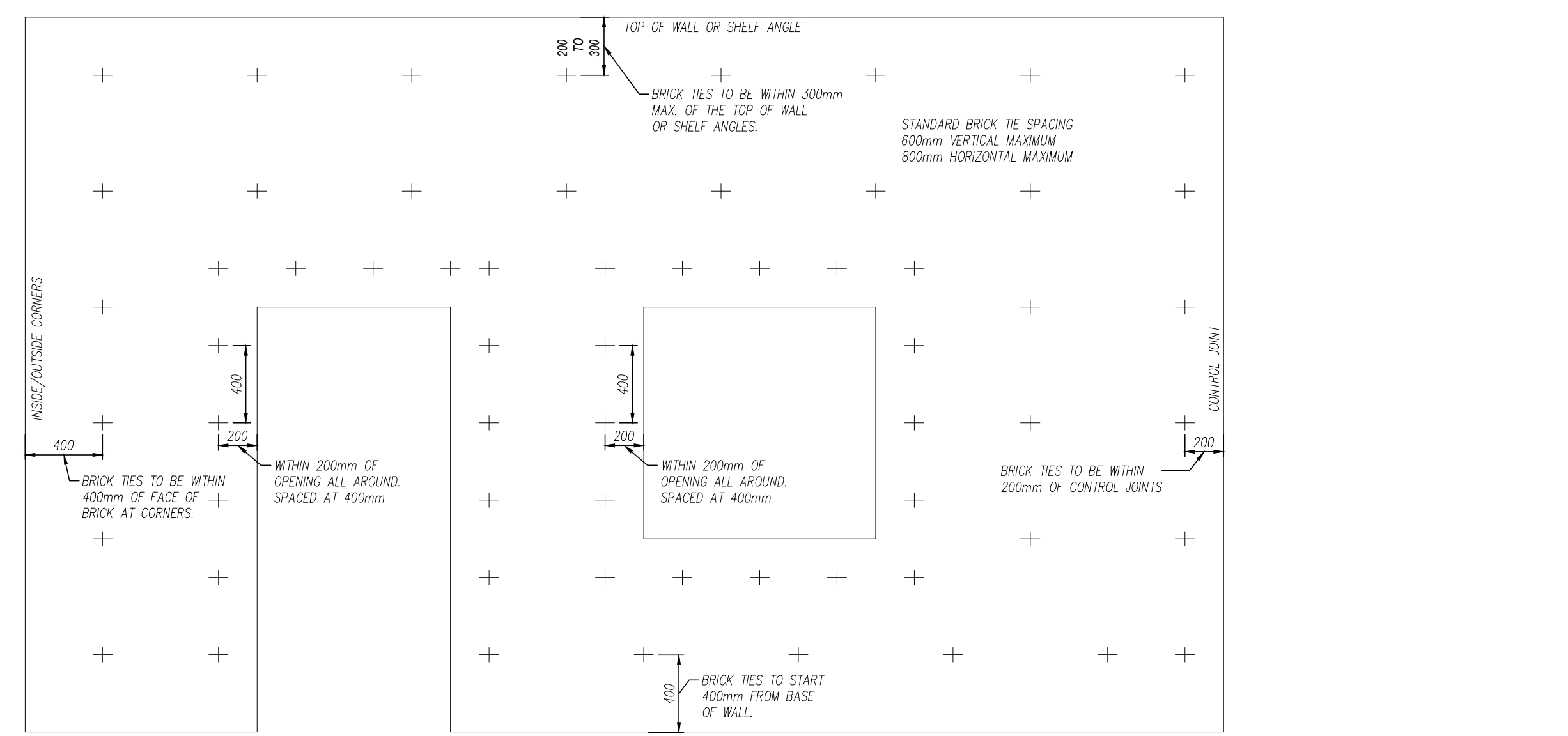


**8 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale



**9 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale

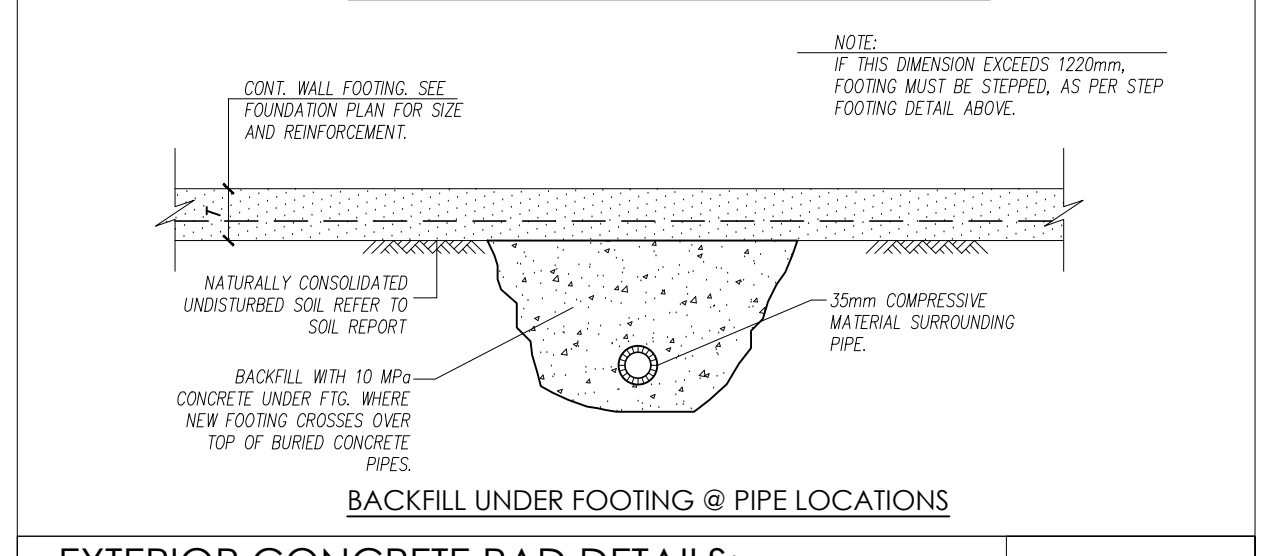
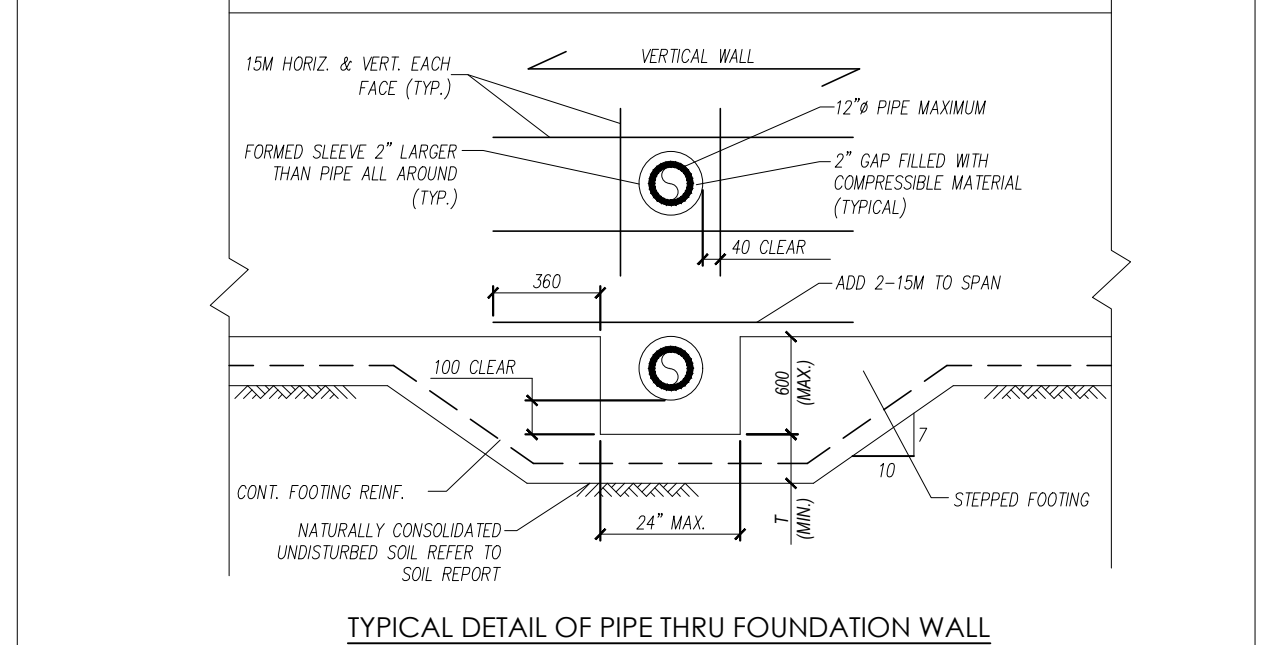
**10 TYPICAL CONNECTION DETAIL**  
S6 Scale: Not to Scale



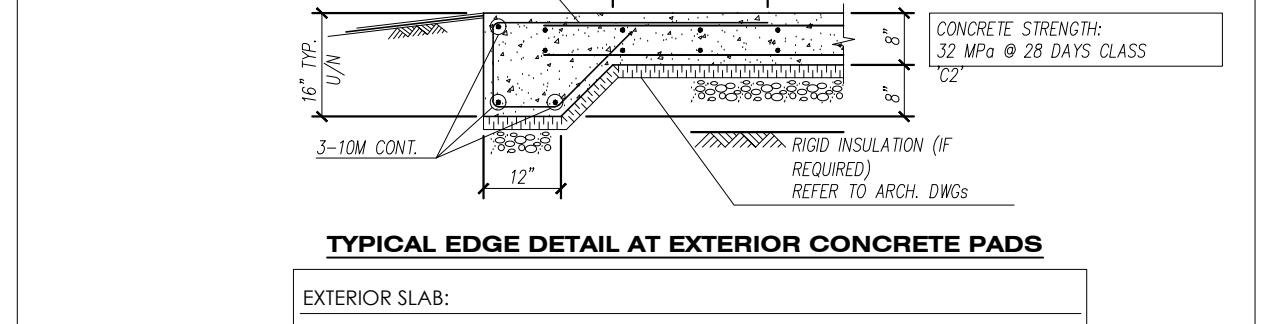
**Typical Layout of Brick Ties**

- NOTES:  
 1. BRICK TIE LAYOUT TO BE COORDINATED WITH MASONS (DIV.04) FOR LOCATION OF BRICK AND STONE VENEER. REFERENCE ARCHITECTURAL EXTERIOR ELEVATION DRAWINGS.  
 2. ALL DIMENSIONS SHOWN ARE MAXIMUMS FOR DISTANCES BETWEEN BRICK TIES AND ARE TO BE LOCATED TO SUIT BRICK COURSEWORK WITHOUT EXCEEDING MAXIMUM SPACING.  
 3. SPECIAL ATTENTION AT STONE TO BRICK TRANSITION LOCATIONS TO ENSURE TIES CHANGE TO BRICK TIE SPACING.  
 4. SPACING TO CONFORM TO REQUIREMENTS OF CSA STANDARDS.

**FOUNDATION TYPICAL DETAILS:**

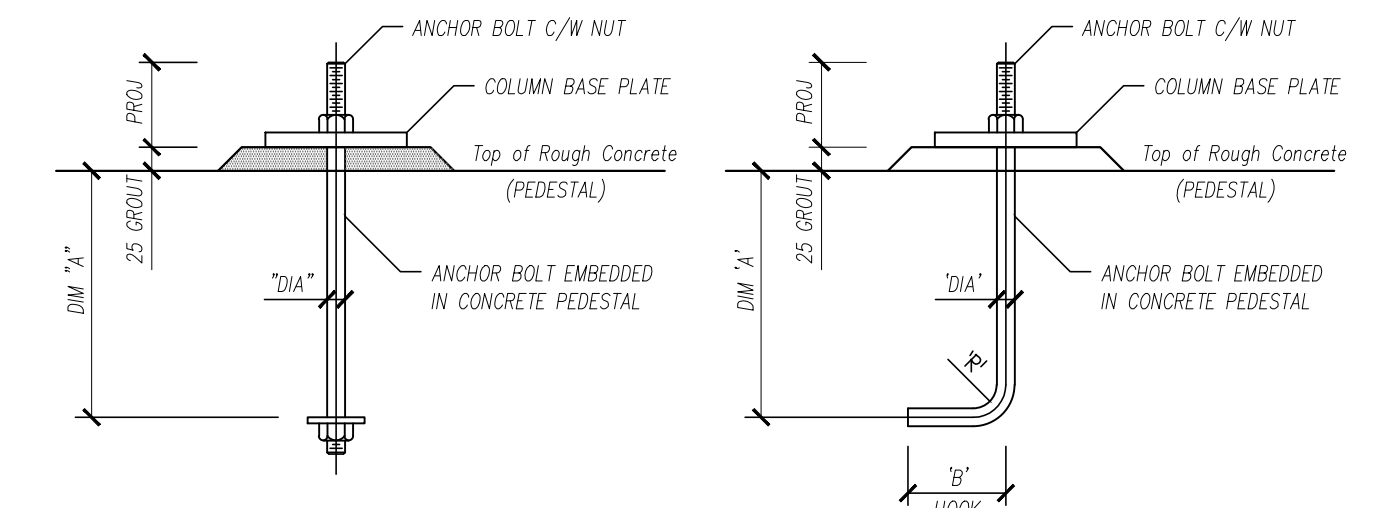


**EXTERIOR CONCRETE PAD DETAILS:**



- EXTERIOR SLAB:**  
 1. 8" (200mm) REINFORCED CONCRETE SLAB ON GRADE REINFORCED WITH:  
 15M @ 12" O/C EACH WAY, PLACED TOP AND BOTTOM  
 PROVIDE REINFORCED EDGE DETAIL AT EXPOSED ENDS. REFER TO TYPICAL DETAILS.  
 2. BEAR SLAB ON 12" (300mm) LAYER OF GRANULAR 'A' BASE COMPACTED TO 98% PROCTOR DENSITY.  
 3. SUBGRADE TO BE NATURALLY CONSOLIDATED UNDISTURBED SOIL OR COMPACTED FILL.  
 4. CONCRETE SHALL BE 15MPa @ 28 DAYS MINIMUM + 5% AIR ENTRAINMENT, CLASS 'C2'.  
 5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF EXTERIOR SLABS (TYPICAL).

Anchor Diameter	Dimension 1"	Dimension 2"	Projection	Dimension 3"
19	600	N/A	75	N/A
22	600	N/A	75	N/A
25	600	N/A	75	N/A
30	600	N/A	75	N/A



**Typical Anchor Bolt Detail**

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THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.



no.	revision	date	by
4	ISSUED FOR TENDER	12/06/2024	
3	AS PER CITY REVIEW	11/20/2024	
2	ISSUED FOR TENDER	11/13/2024	
1	RE-ISSUED FOR SPAK	11/06/2024	

THESE DRAWINGS ARE THE PROPERTY OF LANDSCAPE PLANNING LIMITED AND SHALL NOT BE ALTERED, MODIFIED, REPRODUCED OR CHANGED WITHOUT THE WRITTEN CONSENT OF LANDSCAPE PLANNING LIMITED. SEAL IS NOT VALID WITHOUT SIGNATURE OF THE LANDSCAPE ARCHITECT. DRAWINGS CANNOT BE USED FOR TENDER/CONSTRUCTION UNLESS SIGNED BY LANDSCAPE ARCHITECT.

reviewed by **RGD** drawn by **UC**

date **APRIL 2024**

scale **AS SHOWN**

drawing title **STRUCTURAL DETAILS**

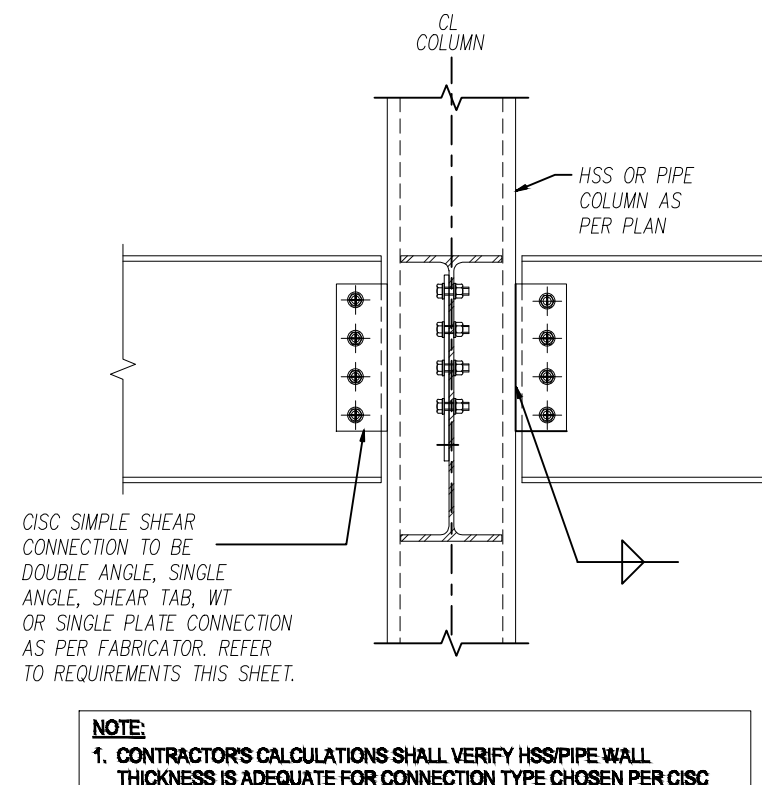
drawing number **S6.00**

client **THE CITY OF BRAMPTON**

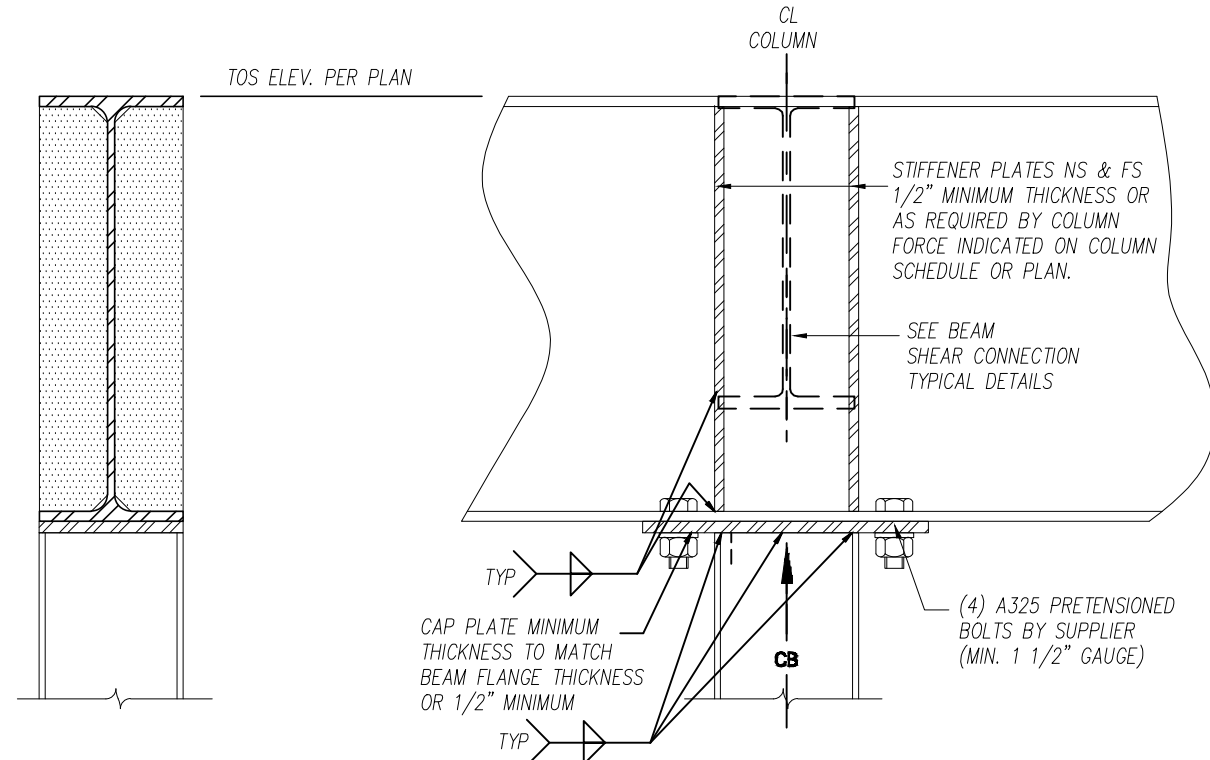
project title **CASSIE CAMPBELL CC PAVILION BUILDING**  
 1060 SANDALWOOD PKWY W,  
 BRAMPTON, ONTARIO L7A 2Z8

project number **PRE-2023-0128**

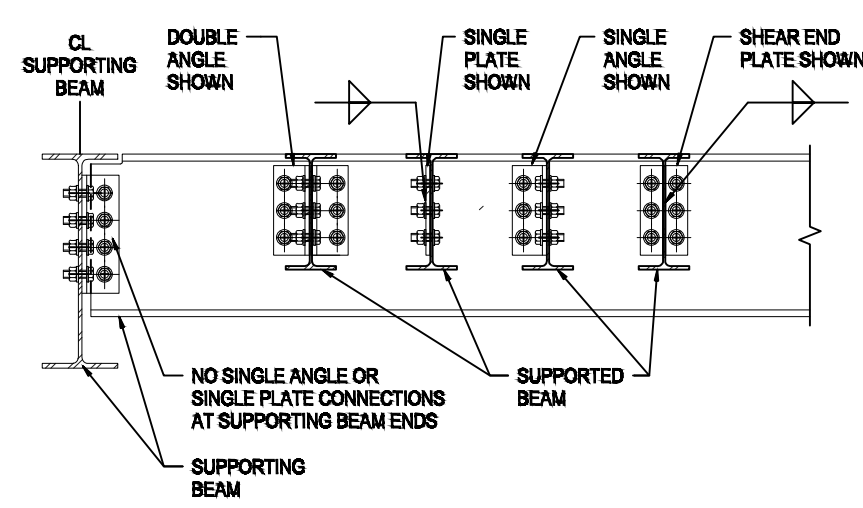




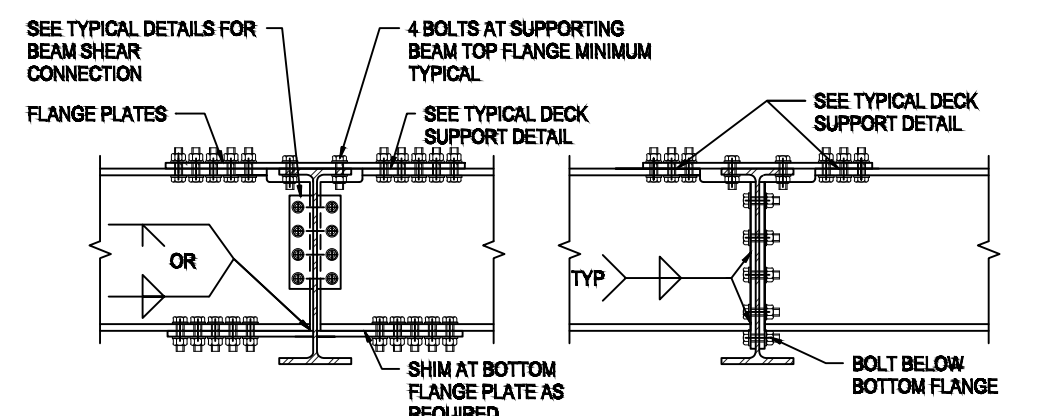
Standard Detail



Standard Detail

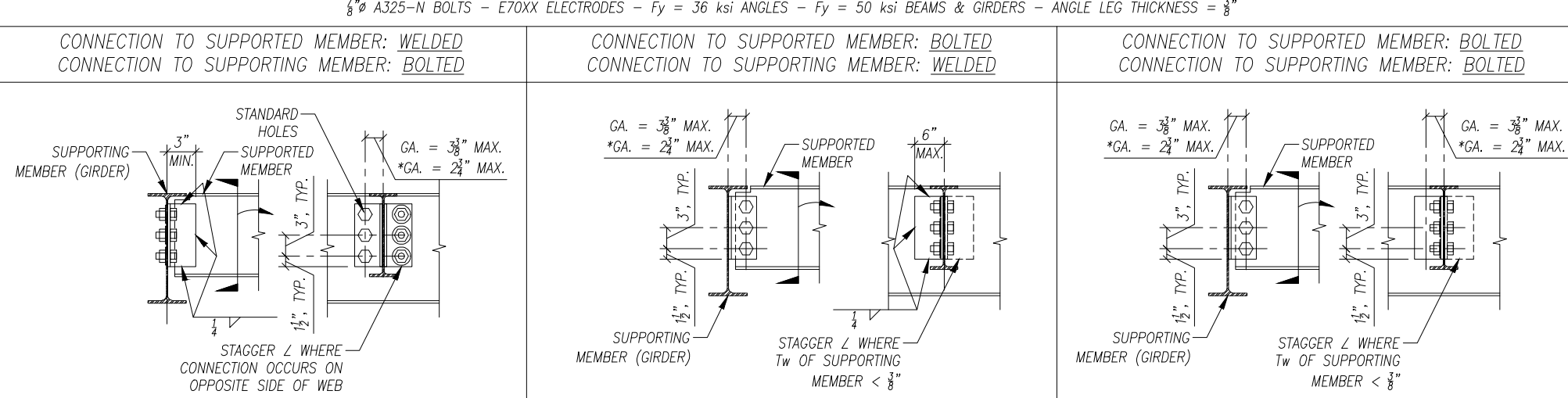


Standard Detail



Standard Detail

TYPICAL SINGLE ANGLE SHEAR TAB CONNECTIONS



MEMBER DEPTH	ROWS OF BOLTS	CAPACITY (k) (GA = 3/8" MAX)	CAPACITY (k) (GA = 1/2" MAX)	MEMBER DEPTH	ROWS OF BOLTS	CAPACITY (k) (GA = 3/8" MAX)	CAPACITY (k) (GA = 1/2" MAX)	MEMBER DEPTH	ROWS OF BOLTS	CAPACITY (k) (GA = 3/8" MAX)	CAPACITY (k) (GA = 1/2" MAX)
W8	2	10 (10)	8 (8)	W8	2	10 (10)	8 (8)	W8	2	10 (10)	8 (8)
W10	2	10 (10)	8 (8)	W10	2	10 (10)	8 (8)	W10	2	10 (10)	8 (8)
W12	3	23 (23)	19 (19)	W12	3	23 (23)	19 (19)	W12	3	24 (24)	19 (19)
W14	3	23 (23)	19 (19)	W14	3	23 (23)	19 (19)	W14	3	24 (24)	19 (19)
W16	4	37 (37)	33 (33)	W16	4	30 (30)	27 (27)	W16	4	30 (30)	27 (27)
W18	5	51 (51)	47 (47)	W18	5	49 (49)	45 (45)	W18	5	49 (49)	45 (45)
W21	6	64 (64)	60 (60)	W21	6	62 (62)	60 (60)	W21	6	64 (64)	60 (60)
W24	7	77 (77)	74 (74)	W24	7	71 (71)	71 (71)	W24	7	78 (78)	74 (74)
W27	8	86 (86)	86 (86)	W27	8	80 (80)	80 (80)	W27	8	91 (91)	88 (88)
W30	9	95 (95)	95 (95)	W30	9	89 (89)	89 (89)	W30	9	104 (104)	101 (101)
W33	10	103 (103)	103 (103)	W33	10	98 (98)	98 (98)	W33	10	117 (117)	114 (114)
W36	11	112 (112)	112 (112)	W36	11	107 (107)	107 (107)	W36	11	130 (130)	127 (127)

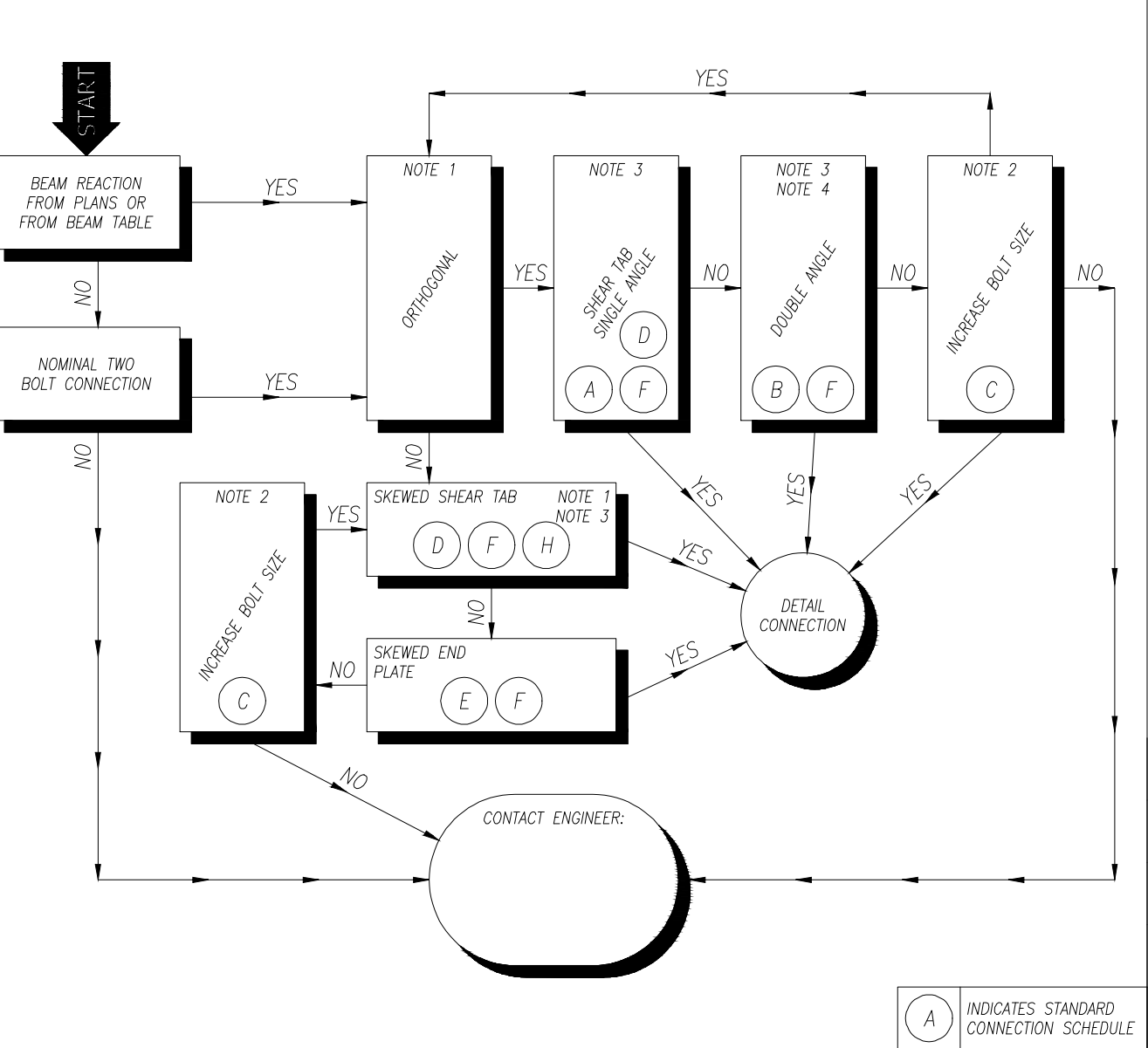
NOTES:  
 1. CONNECTION CAPACITY MUST MEET OR EXCEED DEMAND SHOWN ON PLAN. OTHERWISE USE ALTERNATE CONNECTION.  
 2. PROVIDE FULL DEPTH ANGLES AT ALL CONNECTIONS UNLESS NOTED OTHERWISE.  
 3. THE NUMBER OF BOLTS IS THE MAXIMUM NUMBER THAT CAN BE PUT WITHIN THE DEPTH OF THE BEAM BASED ON TYPICAL BOLT SPACING, COPE, AND EDGE DISTANCES.  
 4. ALL BEAMS ASSUMED TO HAVE A SINGLE COPE. TABULATED VALUES BASED ON ORDER THAT IS LIGHTEST SECTION ONE SIZE LARGER IN DEPTH.  
 5. TABULATED VALUES ARE FOR MEMBERS COPE TOP ONLY. FOR MEMBERS COPE TOP AND BOTTOM, SPECIAL DESIGN IS REQUIRED, SEE TABLE 7". MAXIMUM COPE DEPTH = 2" EXCEPT MAXIMUM COPE DEPTH = 1".  
 6. TABULATED VALUES DO NOT APPLY TO UPTURNED BEAMS. FOR UPTURNED BEAMS SPECIAL DESIGN IS REQUIRED.  
 7. NUMBERS IN ( ) ARE FOR BEAM SIZES EQUAL TO OR GREATER THAN W8x15, W10x17 OR W12x19.  
 8. CAPACITIES ARE UNFACTORED.  
 9. USE CONNECTION CAPACITY OF THIS TABULATION FOR SHEAR PLATES AT WIDE FLANGE COLUMNS.

BEAM COPE SCHEDULE

BEAM SIZE	COPE AT TOP FLANGE ONLY							COPE AT TOP AND BOTTOM FLANGE						
	NUMBER OF ROWS OF BOLTS, n							NUMBER OF ROWS OF BOLTS, n						
W8	2	3	4	5	6	7	8	2	3	4	5	6	7	8
W10	27.6						14.2							
W12	29	41.4					25	25						
W14	47.7						41.6							
W16	51.8	67.3					51.8	63.7						
W18	62.2	80.8	99.5				62.2	80.8	99.5					
W21		94.3	116	138			94.3	116	138					
W24		106	131	155	180		106	131	155	180				
W27			152	181	210	238		152	181	210	238			

NOTES:  
 1. THE DESIGN HAS BEEN CALCULATED FOR THE LIGHTEST BEAM IN A GROUP, AND IT IS CONSERVATIVE FOR HEAVIER BEAMS IN THE SAME GROUP.  
 2. THESE TABLES ARE CONSERVATIVE FOR SMALLER COPE.  
 3. 1/2" - VERTICAL DIMENSIONS & 3/4" & 1/2" - HORIZONTAL DIMENSIONS.  
 4. ALL VALUES SHOWN ARE IN KIPS.  
 5. USE SMALLEST CAPACITY FROM CHARTS.  
 6. SEE G/51.50 FOR OTHER CONNECTION LIMIT

CONN.DESIGN FLOWCHART

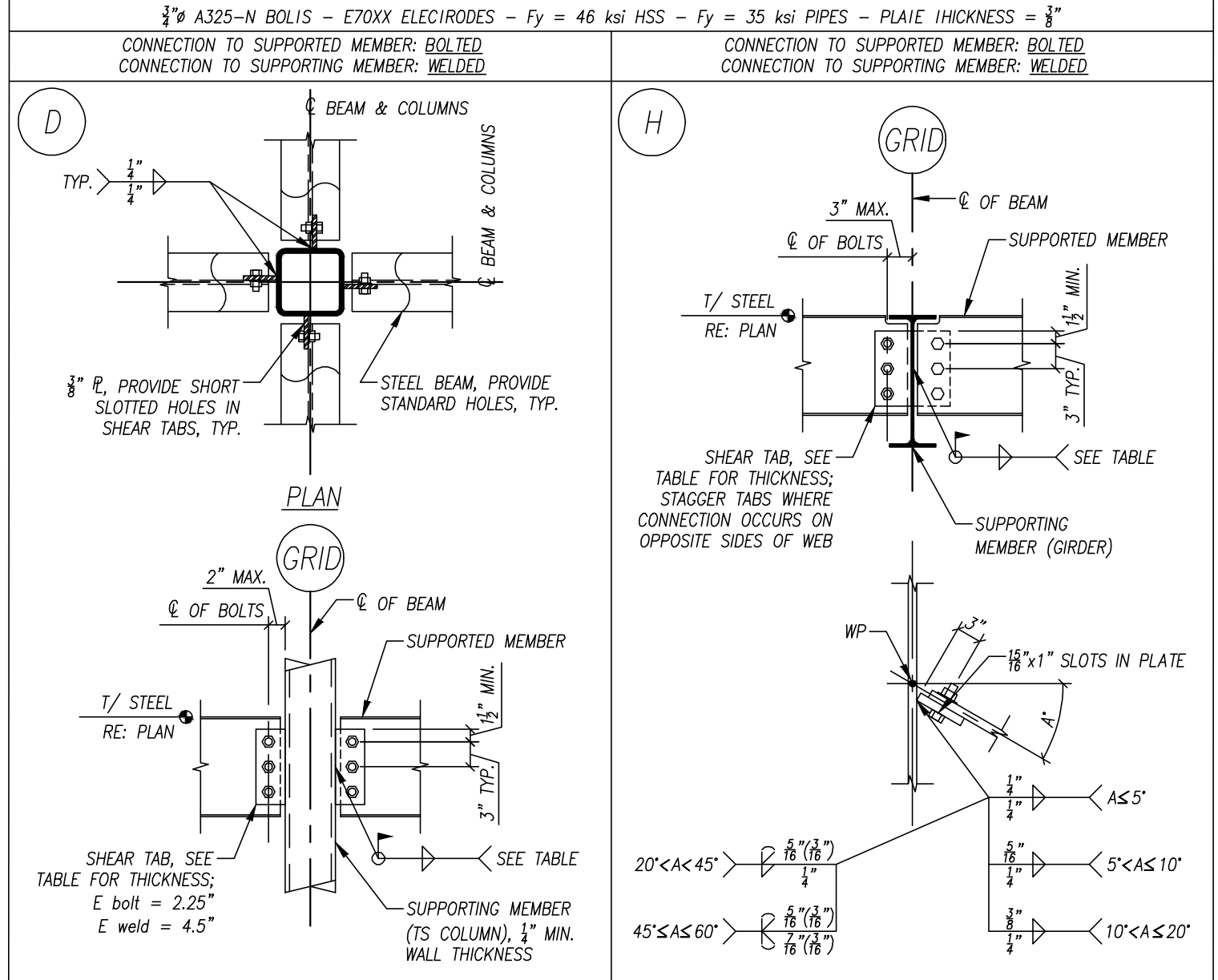


NOTES:  
 1. USE 3/8" FULL DEPTH CONNECTIONS UNLESS ALTERNATE IS APPROVED BY ENGINEER.  
 2. USE 1/2" FULL DEPTH CONNECTIONS IF CAPACITY IS EXCEEDED AFTER SCHEDULE "B" OR DOUBLE ANGLE CONNECTION.  
 3. CHECK PER TABLE "F" BLOCK SHEAR FOR CAPACITY REDUCTIONS.  
 4. USE DETAIL "G" FOR SHEAR SPLICES.  
 5. FLOW CHART IS INTENDED TO MINIMIZE LARGER AND MIXED BOLT SIZES TO GREATEST EXTENT PRACTICAL.  
 6. COST FOR UNDEFINED CONNECTIONS SHALL BE INCLUDED IN BID.

MARK	SCHEDULE	CONNECTION TYPE
(A)		SINGLE ANGLE
(B)		DOUBLE ANGLE
(C)	CONTACT ENGINEER	1/2" BOLT TABLE
(D)		SHEAR TAB
(E)	CONTACT ENGINEER	SKEWED END PLATE DETAIL
(F)		BLOCK SHEAR COPE TABLE
(G)		IN LINE SHEAR SPLICE
(H)	CONTACT ENGINEER	SKEWED SHEAR TAB

SHEET NOTES  
 1. Typical details shown on this sheet generally are NOT referenced from any other drawings on the project. It is the general contractor's responsibility to understand and apply typical details where and as applicable on the project as needed.  
 2. Standard details shown on this sheet may be referenced on plans to clarify a particular condition.  
 3. Detail designations (i.e. S/SKX) shown are for convenience in communication between the contractor and engineer.  
 4. See Structural Notes & General Notes, Sheet 31.0 for additional information.

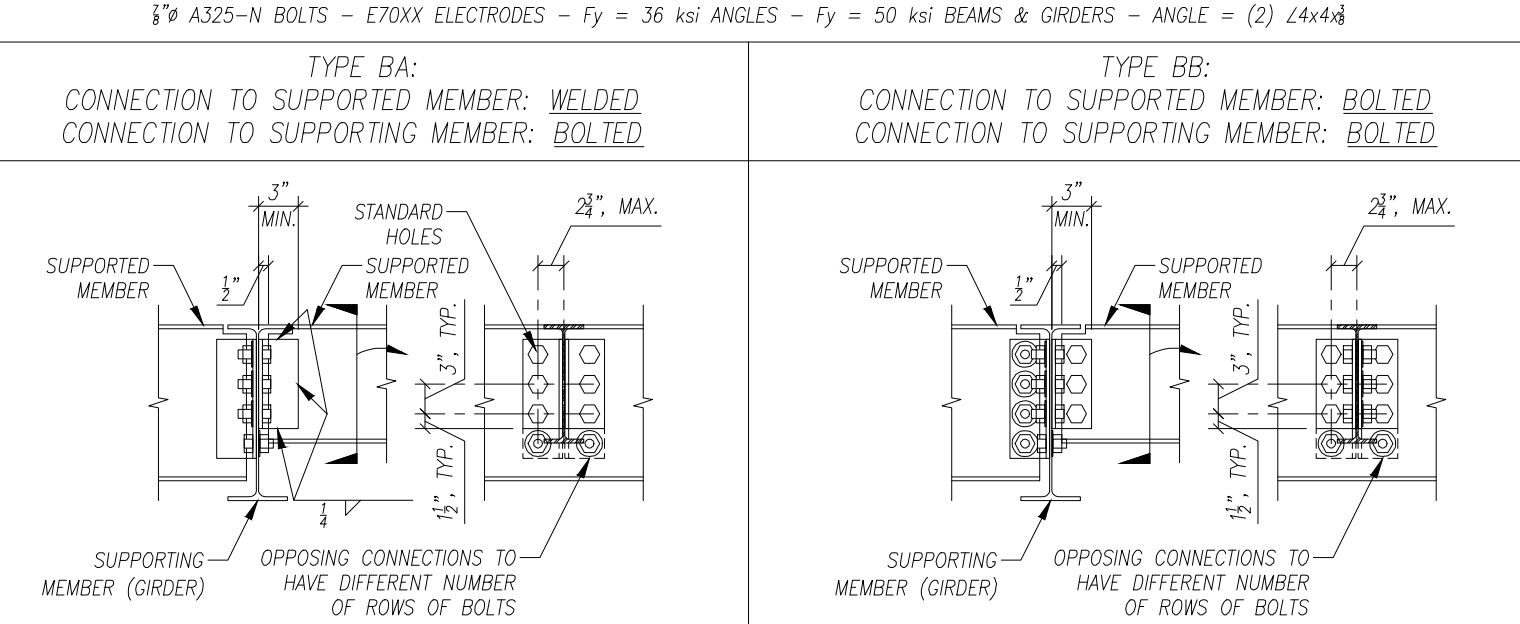
TYPICAL SHEAR TABS



MEMBER DEPTH	ROWS OF BOLTS	t THICKNESS	WELD	MIN. HSS WALL THICKNESS	CAPACITY (KIPS)	
					1/2" BOLTS	3/8" BOLTS
W8, W10	2	1/2"	1/2"	1/2"	8.2	8.2
W12, W14	3	1/2"	1/2"	1/2"	16.3	18.2
W16	4	1/2"	1/2"	1/2"	26.1	32.4
W18	5	1/2"	1/2"	1/2"	36.3	49.3
W21	6	1/2"	1/2"	1/2"	46.3	62.9
W24	7	1/2"	1/2"	1/2"	56.4	76.5
W27	8	1/2"	1/2"	1/2"	61.8	83.9
W30, W33, W36	9	1/2"	1/2"	1/2"	67.2	91.1

NOTES:  
 ASSUMPTIONS: (DERIVED FROM HSS CONNECTIONS MANUAL, 1997, TABLES 4-8, 4-9, AND 9TH EDITION ASD CONNECTIONS MANUAL, VOL. II, TABLE C-1)  
 1. FLEXIBLE SUPPORT USING A325-N BOLTS IN SHORT SLOTTED HOLES.  
 2. b/t < 37.3 FOR 46ksi TUBE STEEL (i.e. 1" TYPICAL, 3/8" TSB AND LARGER)  
 3. E70XX WELD ELECTRODES.  
 4. Fy = 36ksi FOR SHEAR TABS.  
 5. BLOCK SHEAR AND BENDING CAPACITY OF COPE MEMBERS MAY GOVERN CAPACITY AND SHOULD BE CHECKED SEPARATELY, SEE F/51.50.  
 6. MINIMUM WEB THICKNESS, tw FOR WIDE FLANGE BEAMS IS 1/4".  
 7. PROVIDE FULL DEPTH SHEAR TABS FOR ALL CONNECTIONS UNLESS NOTED OTHERWISE.  
 8. WHERE COPED ROOF BEAMS OCCUR, USE 1 LESS BOLT THAN # OF BOLTS REQUIRED.  
 9. CONNECTION CAPACITY MUST MEET OR EXCEED REACTION SHOWN ON PLAN OTHERWISE CONTACT STRUCTURAL ENGINEER FOR ALTERNATE CONNECTION.  
 10. SEE TABLE A/51.50 FOR WIDE FLANGE COLUMN CONNECTION CAPACITIES.

DOUBLE ANGLE SHEAR TABS



MEMBER DEPTH	ROWS OF BOLTS	CAPACITY (k)	MEMBER DEPTH	ROWS OF BOLTS	CAPACITY (k) (STANDARD HOLES @ BEAM)	CAPACITY (k) (SHORT SLOTTED HOLES @ BEAM)
W8	2	17 (21)	W8	2	11 (15)	17 (21)
W10	2	19 (21)	W10	2	12 (15)	21 (21)
W12	3	30 (36)	W12	3	25 (30)	28 (34)
W14	3	35	W14	3	29	35
W16	4	50	W16	4	46	48
W18	5	73	W18	5	64	64
W21	6	100	W21	6	89	89
W24	7	129	W24	7	116	116
W27	8	168	W27	8	154	154
W30	9	189	W30	9	175	175
W33	10	220	W33	10	230	230
W36	11	238	W36	11	261	272

NOTES:  
 1. CONNECTION CAPACITY MUST MEET OR EXCEED DEMAND SHOWN ON PLAN. OTHERWISE CONTACT STRUCTURAL ENGINEER FOR ALTERNATE CONNECTION.  
 2. PROVIDE FULL DEPTH ANGLES AT ALL CONNECTIONS UNLESS NOTED OTHERWISE.  
 3. THE NUMBER OF BOLTS IS THE MAXIMUM NUMBER THAT CAN BE PUT WITHIN THE DEPTH OF THE BEAM BASED ON TYPICAL BOLT SPACING, COPE, AND EDGE DISTANCES.  
 4. ALL BEAMS ASSUMED TO HAVE A SINGLE COPE. TABULATED VALUES BASED ON ORDER THAT IS LIGHTEST SECTION ONE SIZE LARGER IN DEPTH.  
 5. TABULATED VALUES ARE FOR MEMBERS COPE AT TOP FLANGE ONLY. FOR MEMBERS COPE TOP AND BOTTOM, SPECIAL DESIGN IS REQUIRED; SEE TABLE F. MAX. COPE DEPTH = 2" EXCEPT W8 MAX. COPE DEPTH = 1". MAX. COPE LENGTH = 7". FOR LARGER COPE SPECIAL DESIGN IS REQUIRED.  
 6. TABULATED VALUES DO NOT APPLY TO UPTURNED BEAMS. FOR UPTURNED BEAMS SPECIAL DESIGN IS REQUIRED.  
 7. NUMBERS IN ( ) ARE FOR BEAM SIZES EQUAL TO OR GREATER THAN W8x15, W10x17 OR W12x19.  
 8. CAPACITIES ARE UNFACTORED.  
 9. AT DRAG CONNECTIONS, USE (2) 1/4" x 4" WELDED TO BEAM WEBS, TYPICAL NOTE (D) ON PLANS.

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 ENGINEERING DONE UPRIGHT.  
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 ONTARIO

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 THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.  
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no.	revision	date	by
4	ISSUED FOR TENDER	12/06/2024	
3	AS PER CITY REVIEW	11/29/2024	
2	ISSUED FOR TENDER	11/13/2024	
1	RE-ISSUED FOR SPAK	11/06/2024	

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reviewed by **RGD** drawn by **UC**  
 date **APRIL 2024**  
 scale **AS SHOWN**

drawing title  
**STRUCTURAL DETAILS**

drawing number **S7.00**

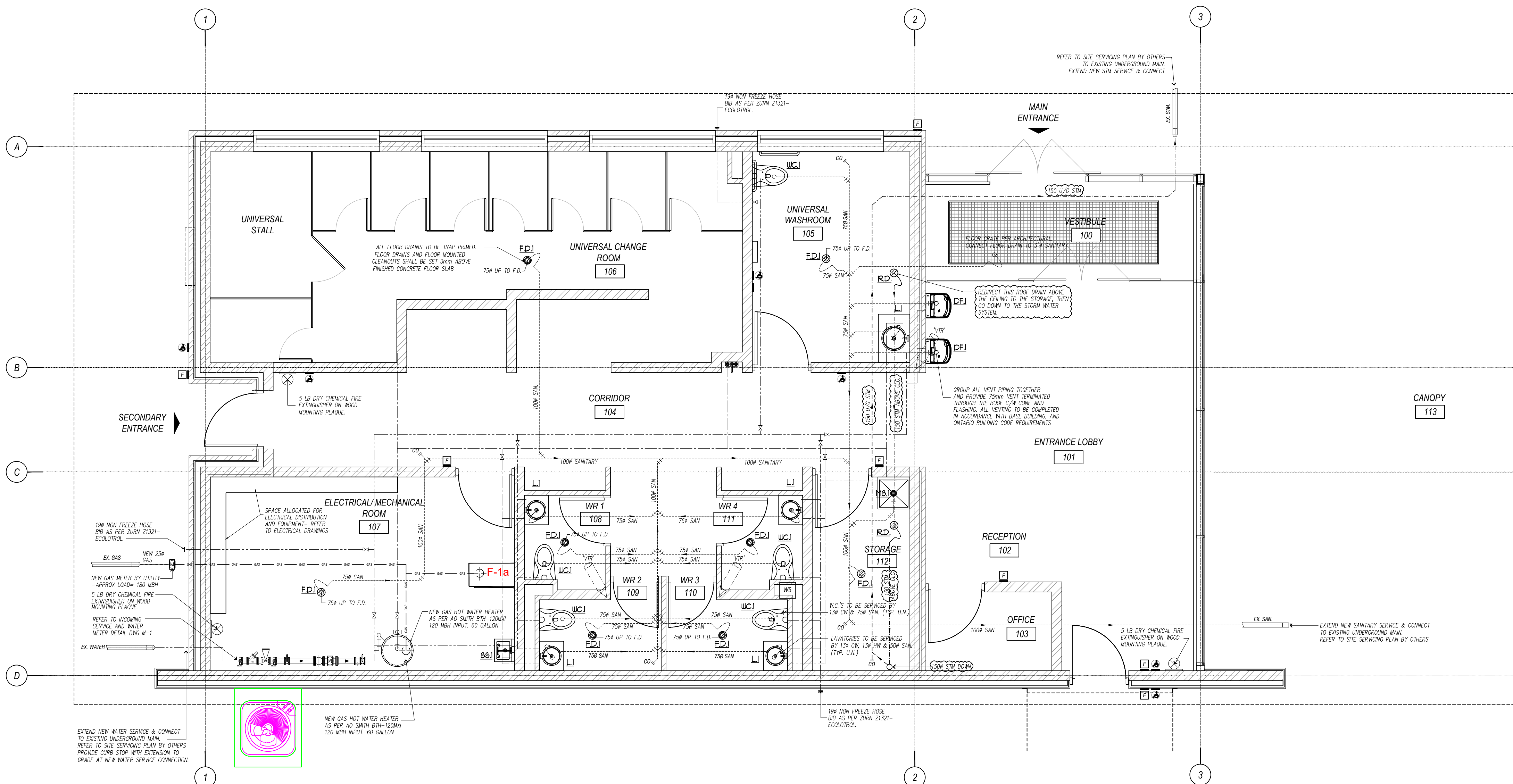
client  
**THE CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
 1060 SANDALWOOD PKWY W,  
 BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**

**landscape planning**  
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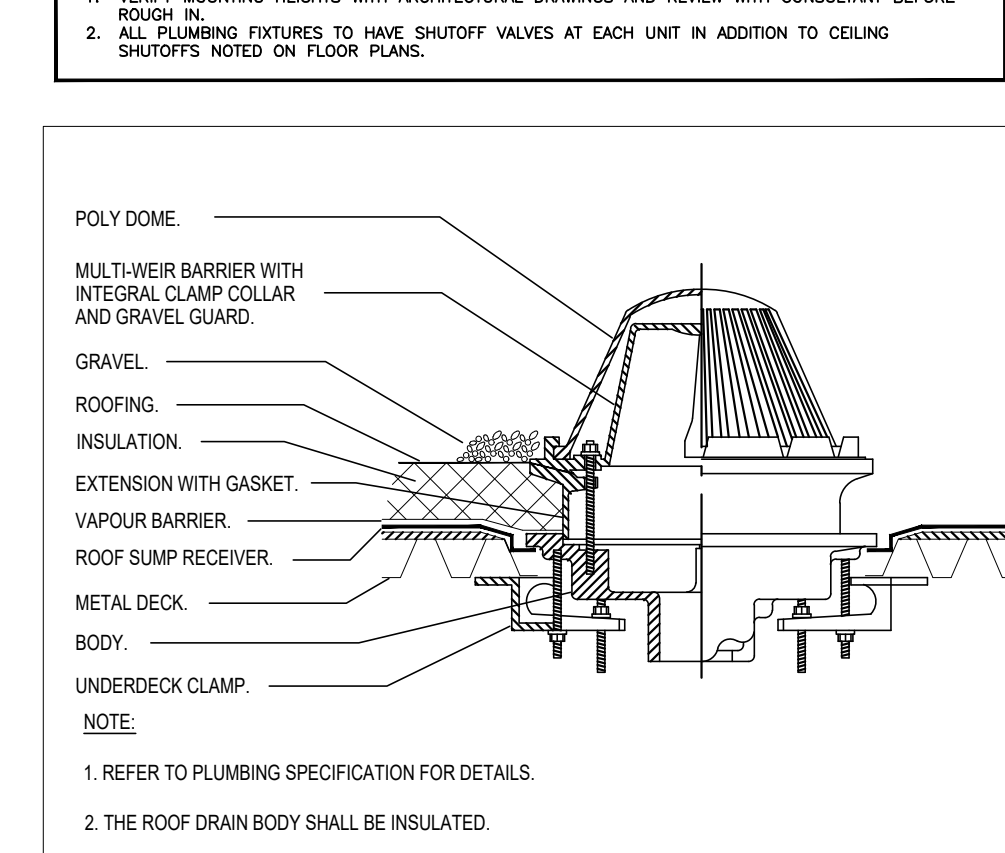


**PLUMBING PLAN**  
SCALE: 1:50

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—	COLD WATER LINE	⊘	ISOLATION VALVE
—	HOT WATER LINE	⊘	NON-FREEZE WALL HYDRANT
—	VENT	—	CLEANOUT (FLOOR)
—	SANITARY (ABOVE GRADE)	—	FLOOR DRAIN
—	SANITARY (BELOW GRADE)	—	VENT THRU ROOF
—	GAS	—	FIRE EXTINGUISHER (M-10BC WITH SURFACE WALL BRACKET)

TAG	DESCRIPTION	SAN	VENT	HOT	COLD
WC	LAVATORY - WALL MOUNTED, H/C	1/2"	1/2"	1/2"	1/2"
WC	WATER CLOSET - NEW, FLOOR MOUNTED, TANK TYPE, H/C	3"	1 1/2"	1/2"	1/2"
WC	KITCHEN SINK - 1 COMP STAINLESS STEEL, COUNTERTOP	1 1/2"	1 1/2"	1/2"	1/2"
WC	KITCHEN SINK - 2 COMP STAINLESS STEEL, COUNTERTOP	1 1/2"	1 1/2"	1/2"	1/2"
WC	JANITOR'S MOP SINK - FLOOR MTD, WALL FAUCET W/ VB	3"	1 1/2"	1/2"	1/2"

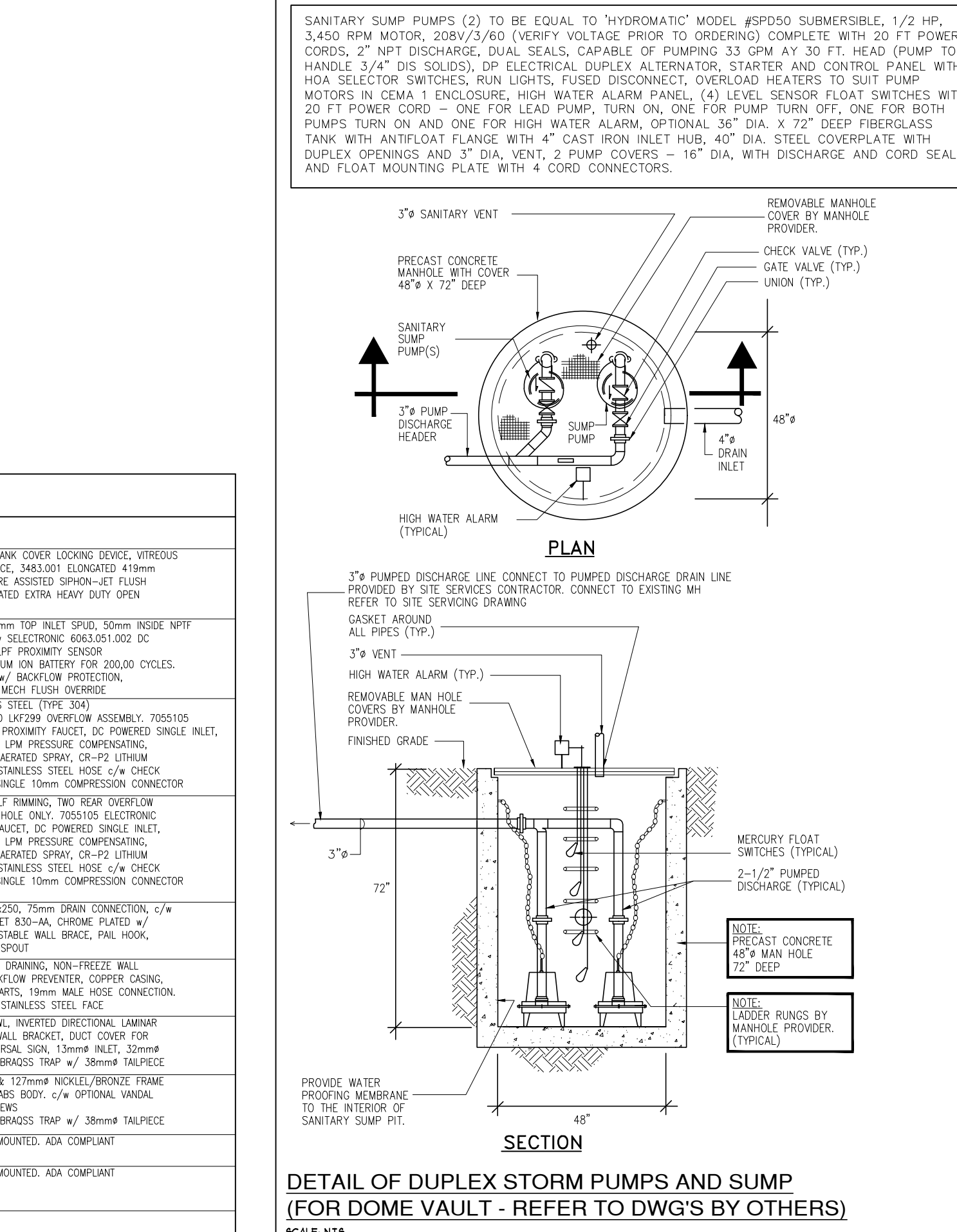


**ROOF DRAIN DETAIL**  
M-1 N.T.S.

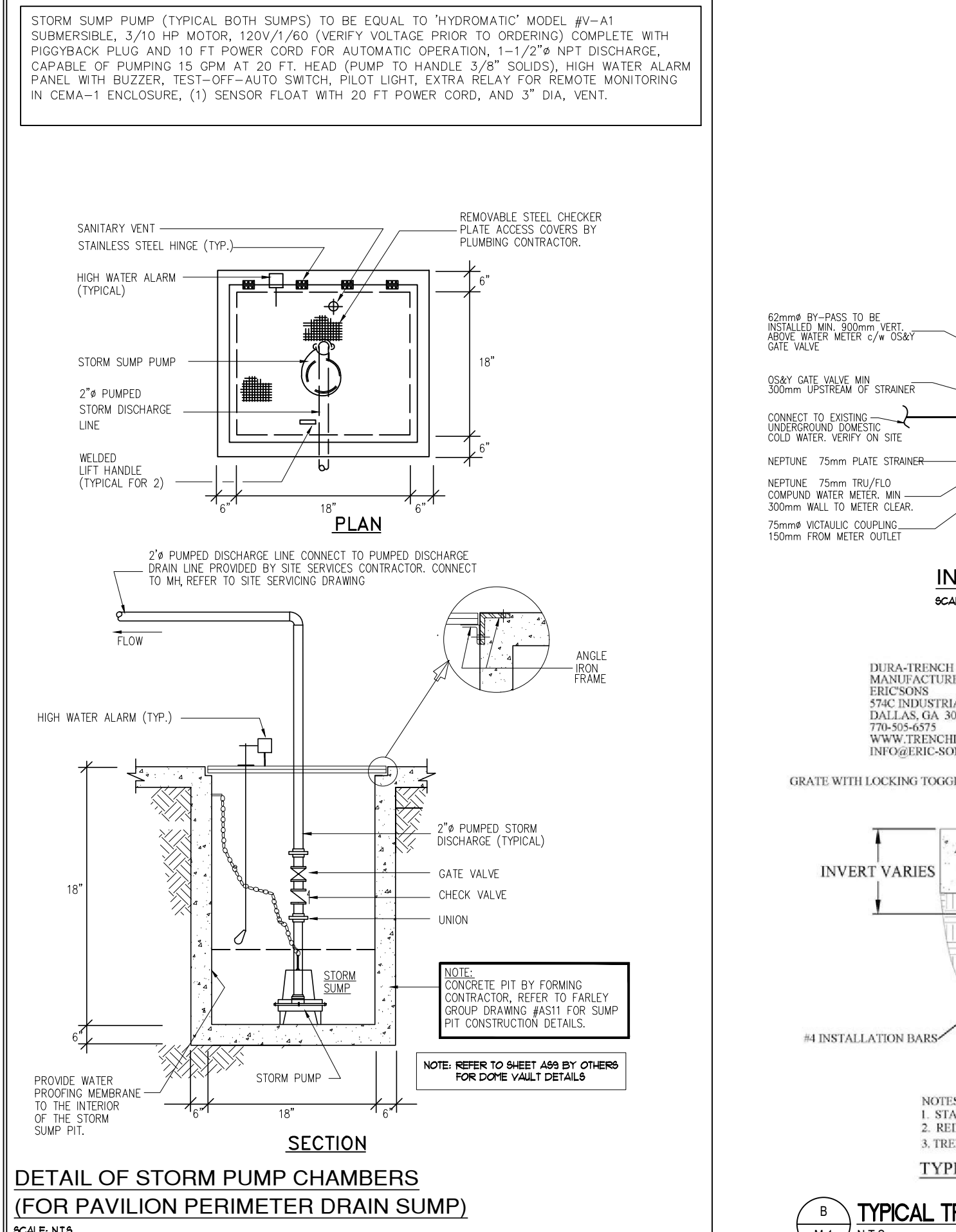
SYMBOLS	ABBREVIATIONS
—	AWK - AIR/WATER KNOCKOUT
—	AFK - ABOVE FINISHED FLOOR
—	BFK - BELOW FINISHED FLOOR
—	FD - FLOOR DRAIN
—	FLR - FLOOR FINISH FLOOR
—	VTR - VENT THROUGH ROOF
—	EA - EXHAUST AIR
—	VCA - VOLUME CONTROL DAMPER
—	C.O. - CLEANOUT
—	R.W.C. - RAIN WATER CONDUCTOR

**GENERAL NOTES:**  
DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS ON SITE AND FROM MANUFACTURERS REVISED SHOP DRAWINGS. COORDINATE THE WORK OF ALL TRADES SO AS TO AVOID ANY INTERFERENCES BETWEEN NEW AND EXISTING PIPING, DUCTWORK, ELECTRICAL CONDUIT, LIGHTING FIXTURES AND EQUIPMENT AND WITH THE FREE USE OF THE BUILDING SPACE. DISMANTLED EQUIPMENT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL NOT BE REMOVED FROM THE SITE WITHOUT THE OWNER'S PERMISSION. EXISTING MATERIALS AND EQUIPMENT DESIGNATED TO BE DISMANTLED AND NOT REQUIRED BY THE OWNER SHALL BE DEMOLISHED AND SHALL BE REMOVED FROM THE SITE. PROVIDE ANY ADDITIONAL EXCAVATION REQUIRED TO ACCOMMODATE INSTALLATION OF NEW PIPING MAINS AND BRANCHES. BACKFILL WILL BE BY OTHERS.

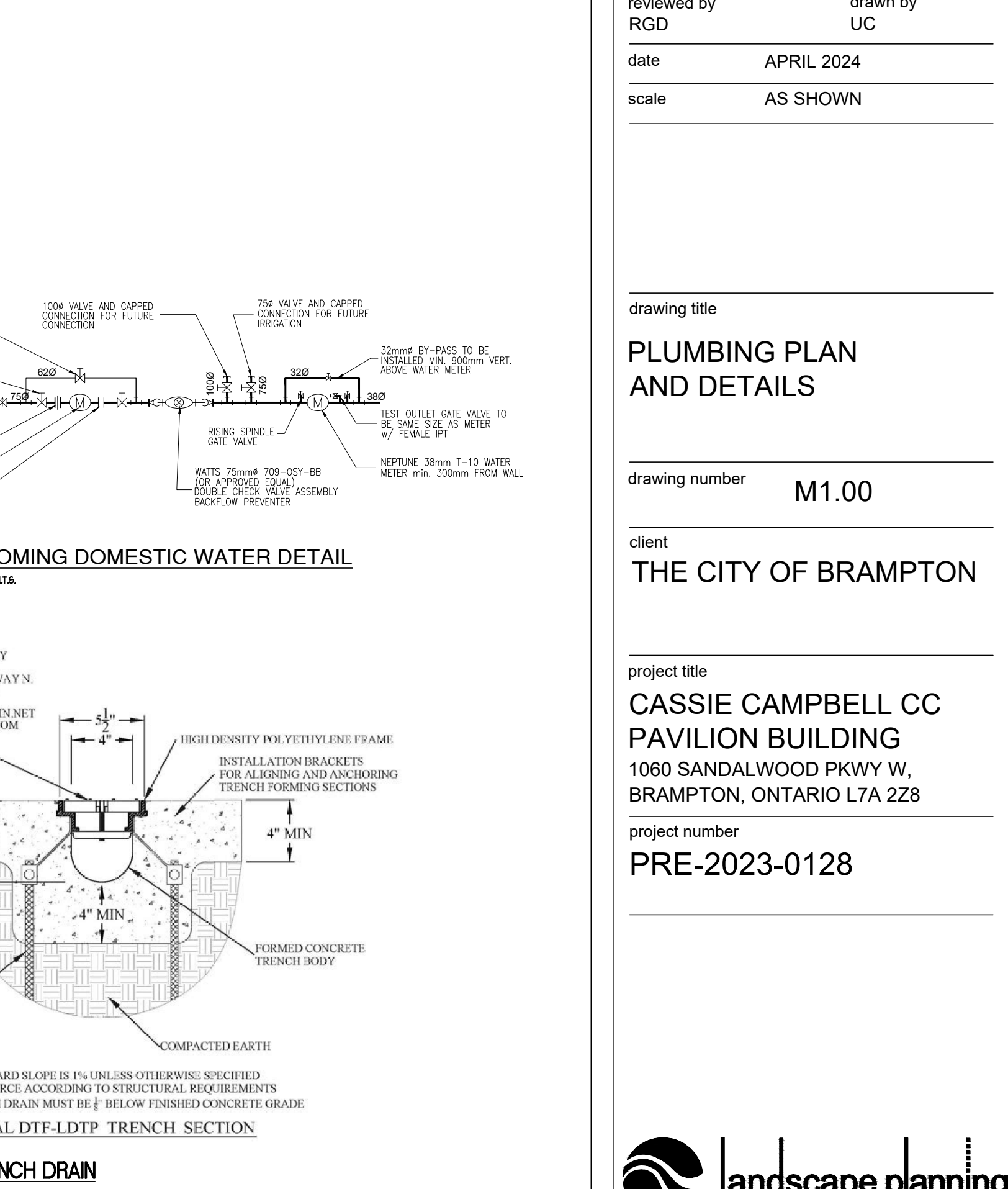
MARK	DESCRIPTION	QTY	HL	DATE	VENT	REMARKS
WC	WATER CLOSET KOHLER KINGSTON ULTRA FLUSHOMETER BOWL K-8435	25	-	75	38	1/4" 4142600 TANK W/ TANK COVER LOCKING DEVICE, WIRELESS CHINA, EVERGLAN SURFACE, 3483.001 ELONGATED 419mm HIGH BOWL, 100% PRESSURE ASSISTED SPRAY-LET FLUSH ACTION, 5903.110 ELONGATED EXTRA HEAVY DUTY OUPLET, 1/2" VITREOUS CHINA, 75mm TOP INLET SPUD, 50mm INSIDE NPT OUTLET CONNECTION, 1/4" SELECTRONIC 4883551.002 DC BATTERY FORWARDED, 1.9 LPM PRESSURE COMPENSATING FLUSHOMETER, 6V LITHIUM ION BATTERY FOR 200.00 CYCLES, 75mm P2 INLET TOP W/ BACKFLOW PROTECTION
WC	URINAL AMERICAN STANDARD WASHBOOK FLOUSE UNIVERSAL, 1.9 LFP	13	-	50	38	1/4" VITREOUS CHINA, 75mm TOP INLET SPUD, 50mm INSIDE NPT OUTLET CONNECTION, 1/4" SELECTRONIC 4883551.002 DC BATTERY FORWARDED, 1.9 LPM PRESSURE COMPENSATING FLUSHOMETER, 6V LITHIUM ION BATTERY FOR 200.00 CYCLES, 75mm P2 INLET TOP W/ BACKFLOW PROTECTION
L1	COUNTERTOP LAVATORY ELKAY ASANA STAINLESS STEEL 18 3/8" x 18 3/8" x 14" SINGLE BOWL, DROP IN BATHROOM SINK (STAINLESS STEEL)	13	13	50	32	1/4" VITREOUS CHINA, SELF RIMMING, TWO REAR OVERFLOW HOLES, FAUCET COUPLER HOLE ONLY, 705.015 ELECTRONIC INTEGRATED PROMITY FAUCET, DC POWERED SINGLE INLET, CAST BRASS, 1.9 LPM PRESSURE COMPENSATING, VANDAL RESISTANT NON AERATED SPRAY, CR-P2 LITHIUM ION BATTERY, FLEXIBLE STAINLESS STEEL HOSE, 1/4" CHECK & FILTER SCREEN, 1/4" SINGLE 10mm COMPRESSION CONNECTOR
L2	WALL-MOUNTED LAVATORY 14 3/8" x 14 3/8" x 6"	13	13	50	32	1/4" VITREOUS CHINA, SELF RIMMING, TWO REAR OVERFLOW HOLES, FAUCET COUPLER HOLE ONLY, 705.015 ELECTRONIC INTEGRATED PROMITY FAUCET, DC POWERED SINGLE INLET, CAST BRASS, 1.9 LPM PRESSURE COMPENSATING, VANDAL RESISTANT NON AERATED SPRAY, CR-P2 LITHIUM ION BATTERY, FLEXIBLE STAINLESS STEEL HOSE, 1/4" CHECK & FILTER SCREEN, 1/4" SINGLE 10mm COMPRESSION CONNECTOR
WC	MOP SINK FMI M382424 MOLDED-STONE	13	13	75	32	DIMENSIONS - 610x410x250, 10mm DRAIN CONNECTION, 1/4" FAT SERVICE SINK FAUCET 830-AA, CHROME PLATED W/ NICKEL BARRIER, ADJUSTABLE 830-AA, CHROME PLATED W/ NICKEL BARRIER, ADJUSTABLE 830-AA, CHROME PLATED, 3/4" HOSE THREAD ON SPOUT
WC	WALL HYDRANT ZURN 2131-C ECOLOGROL	13	-	-	-	ANTI-SIPHON, AUTOMATIC DRAINING, NON-FREEZE WALL MOUNTED, INTERNAL BACKFLOW PREVENTER, COPPER COATING, ALL BRASS INTERIOR PARTS, 18mm MALE HOSE CONNECTION, VENT OPENING, 79x122 STAINLESS STEEL FACE
WC	WALL MOUNTED EYE WASH STATION HANS 1260-12700 MGR	13	-	-	-	270mm DEEP, 180mm HIGH, INVERTED DIRECTIONAL LAMINAR FLOW CONTROL WALL BRACKET, DUCT COVER FOR 120 BOWL HEAD, UNIVERSAL SINK, 15mm INLET, 20mm WASTE CHROME PLATED BRASS TRAP W/ 38mm TAILPIECE
WC	AREA FLOOR DRAIN ZURN FD-229-213-VP ADJUSTABLE FINISH	-	-	75	-	ADJUSTABLE PVC HEAD & 127mm NICKEL/BRONZE FRAME & GRISE, 10mm PVC/ABS BODY, 1/4" OPTIONAL VANDAL PROOF 55 SECURING SPRINGS, MOIST CHROME PLATED BRASS TRAP W/ 38mm TAILPIECE
WC	DRINKING FOUNTAIN ELKAY 516M6E SOFT SEED FOUNTAIN, E23PW1314C	13	-	-	-	STAINLESS STEEL WALL MOUNTED, ADA COMPLIANT
WC	BOTTLE FILLING STATION ELKAY E23D0 VANDAL RESISTANT FILLING STATION AND SINGLE COOLER VCR38X	13	-	-	-	STAINLESS STEEL WALL MOUNTED, ADA COMPLIANT
WC	EXPANSION TANK AMROL EX-15	13	-	-	-	-



**DETAIL OF DUPLEX STORM PUMPS AND SUMP (FOR DOME VAULT - REFER TO DWG'S BY OTHERS)**  
SCALE: N.T.S.



**DETAIL OF STORM PUMP CHAMBERS (FOR PAVILION PERIMETER DRAIN SUMP)**  
SCALE: N.T.S.



**TYPICAL TRENCH DRAIN**  
M-1 N.T.S.

APPLICATION	PIPE SIZE	PIPE MATERIAL			
		COPPER	PEX	HDPE/ COPPER/CI	PLASTIC
HEATING SYSTEM, DOMESTIC HOT WATER SYSTEM & RECIRC. WATER	40.5°C TO 60°C (105°F TO 140°F)	LESS THAN 40 MM (1 1/2")	25 MM (1")	25 MM (1")	N/A
	60.5°C TO 93.3°C (141°F TO 200°F)	40MM (1 1/2") AND GREATER	40 MM (1 1/2")	40 MM (1 1/2")	N/A
DOMESTIC COLD WATER, CONDENSATE DRAINS	ALL SIZES	50 MM (2")	50 MM (2")	N/A	N/A
HOBBS & VERT. STORM AND SANITARY	ALL SIZES	N/A	N/A	25 MM (1")	100RE
PIPING ELECTRICALLY TRACED	ALL SIZES	50 MM (2")	50 MM (2")	50 MM (2")	50 MM (2")

**CRITICAL STAGE INSPECTIONS**

THE FOLLOWING IS A LIST OF 'CRITICAL INSPECTIONS' THAT SHALL BE PERFORMED BY THIS CONSULTANT. THE GENERAL CONTRACTOR SHOULD NOTIFY THIS CONSULTANT A MINIMUM OF 2 WORKING DAYS (4 WORKING DAYS FOR PROJECTS OUTSIDE OF LOWER MAINLAND) IN ADVANCE OF DATE OF REQUIRED INSPECTION.

FAILURE TO COMPLY WITH THE FOLLOWING INSPECTION REQUIREMENTS MAY RESULT IN THIS CONTRACTOR HAVING TO EXPOSE ANY INACCESSIBLE MECHANICAL SYSTEMS AT THE DISCRETION OF THIS CONSULTANT AND AT THE CONTRACTOR'S COST AND FOR ANY COSTS WHICH MAY BE INCURRED TO RETEST SYSTEMS NOT WITNESSED BY THIS CONSULTANT.

- BELOW GRADE PIPING SYSTEMS (INSIDE BUILDING)
  - WHEN PIPING SYSTEMS ARE COMPLETELY INSTALLED AND TESTED BUT BEFORE BACKFILLING HAS BEEN STARTED.
- ABOVE SLAB PLUMBING & HVAC ROUGH-IN
  - WHEN ALL PLUMBING SYSTEMS HAVE BEEN ROUGHED IN AND PRESSURE TESTED BUT BEFORE ANY DRYWALL OR PIPE INSULATION HAS BEEN STARTED. ANY HVAC THAT WILL BE HIDDEN AT TIME OF SUBSTANTIAL COMPLETION SHOULD BE COMPLETED FOR REVIEW AT THIS TIME.
- SUBSTANTIAL COMPLETION
  - WHEN ALL PLUMBING & HVAC SYSTEMS ARE SUBSTANTIALLY COMPLETE AND OPERATIONAL.

**REMEMBER:**  
BEFORE YOU CALL THE CITY FOR AN INSPECTION CONTACT THIS OFFICE FOR AN INSPECTION.

DESIGNATION	ZURN	SMITH	WATTS	REMARKS
F.F.D. (FUNNEL FLOOR DRAIN)	ZN211-BF-P	205A-3591-P050	FD-200 EG-1-7	CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
F.D. (FLOOR DRAIN) WITH SEDIMENT BUCKET IN KITCHEN ONLY	ZN211-B-P	205A-P050	FD-200 A-1-7	CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
F.S. (FLOOR SINK)	FD-2375-18-3-H			CONNECTION TO TRAP SEAL PRIMER SYSTEM REQUIRED.
R.D. (ROOF DRAIN)	Z-121-C-R	1019RCA	RD-100 RD	
TD-1	2282-HDF-HDFEFC			
C.O. (CLEAN OUT)	ZN14602	4020	CO-200 R-1	
WH (WALL HYDRANT OUTDOOR)	Z13300L			
WH (WALL HYDRANT INDOOR)	Z1341XL-C12			
R.H. (ROOF HYDRANT)	Z-1388	5907		
C.V. (CHECK VALVE)	APOLLO 4A-110, WATTS 007, OR ZURN 404L2 SERIES			
D.U.C. (DUAL CHECK VALVE)	APOLLO 4A-300, WATTS 7, OR ZURN 700XL SERIES			
D.U.C.V. (DUAL CHECK VALVE W/ INTERMEDIATE VENT)	WATTS 18, OR ZURN 735 SERIES			
D.U.C.A. (DUAL CHECK VALVE ASSEMBLY)	APOLLO 4A-100, WATTS 007, OR ZURN 3500L SERIES			
D.U.C.A. (DUAL CHECK VALVE ASSEMBLY) WITH Y-STRAINER	APOLLO 4A-110, WATTS 007.6, OR ZURN 3500L SERIES			
R.P. (REDUCED PRESSURE BACKFLOW PREVENTER)	APOLLO 4A-200, WATTS 009, OR ZURN 3500L SERIES			

**NOTES & REMARKS:**  
- PLUMBING FITTINGS SHALL BE WATTS, SMITH, ZURN OR APOLLO  
- ALL FLOOR DRAINS, FUNNEL FLOOR DRAINS AND HUB DRAINS TO BE TRAP SEALED & PRIMED.

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no.	revision	date	by
5	ISSUED FOR TENDER	12/09/2024	
4	UPDATED	11/29/2024	
3	ISSUED FOR TENDER	11/13/2024	
2	RE-ISSUED FOR SPA	11/08/2024	
1	UPDATED	09/25/2024	

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reviewed by: RGD  
drawn by: UC  
date: APRIL 2024  
scale: AS SHOWN

drawing title: **PLUMBING PLAN AND DETAILS**

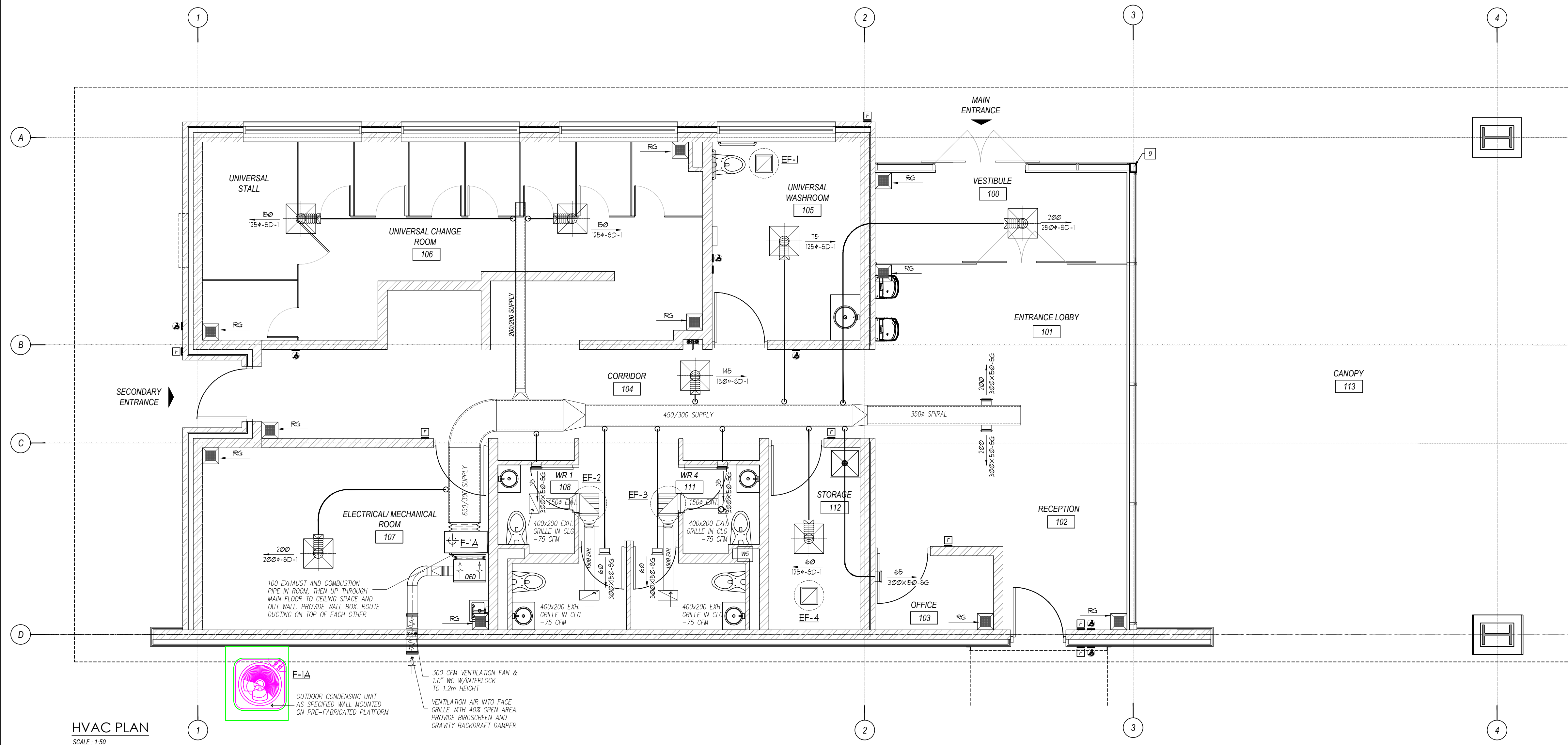
drawing number: **M1.00**

client: **THE CITY OF BRAMPTON**

project title: **CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8  
project number: **PRE-2023-0128**

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**NEW FURNACE UNITS**  
**FURNACE #1A**  
 YORK #TG9S120D2OMP11A + #YCUF048 S41S1  
 + #HE50960A20S COIL OR EQUAL BY CARRIER, TRANE  
 HIGH EFFICIENCY (CONDENSING) UPFLOW GAS FURNACE  
 HEATING: 120,000 BTUH INPUT 114,000 BTUH INPUT (95.5% AFUE)  
 COOLING: 60,000 BTUH 5 TON 14.5 SEER R410A REFRIGERANT  
 BLOWER: 1,600 CFM PROVIDE BOTTOM AND SIDE RETURN  
 ELECTRIC: 14.6 MCA 20 MOP 120 VOLT 1 PHASE FURNACE  
 34.2 MCA 50 MOP 208 VOLT 1 PHASE A/C CONDENSOR  
 DIMENSIONS: 24.5" W x 28.5" D x 40" H FURNACE + TOP COIL + SIDE FILTER + FRONT HUMIDIFIER  
 35" W x 35" D x 46" H (340LBS) A/C UNIT

**ACCESSORIES:**  
 CONCENTRIC VENT AND COMBUSTION AIR UP THRU PITCHED ROOF  
 ELECTRONIC AIR FILTER (ELECTRO AIR #54S-18)  
 HUMIDIFIER MOUNTED ON SUPPLY PLENUM WITH DUCT MOUNTED HUMIDISTAT (GENERAL AIR #104Z)  
 HONEYWELL TB8220 SERIES WITH LIMITED ACCESS COVER FOR EASY PROGRAMMING.  
 7-DAY PROGRAMMING-TWO OCCUPIED/UNOCCUPIED PERIODS PER DAY, AUTOMATIC  
 HEAT/COOL CHANGEOVER, BATTERY BACKUP TO SAVE PROGRAM AND MAINTAINS  
 CLOCK TIME DURING POWER FAILURE, THERMOSTAT COVER SHALL INCLUDE SET  
 HEAT, SET COOL, WARMER, COOLER AND OCCUPIED/UNOCCUPIED KEYS - CONTROL  
 WIRING SHALL INCLUDE OCC/UNOCC CONTROL OF INTAKE AIR DAMPER (DAMPER  
 SHALL BE CLOSED DURING UNOCCUPIED PROGRAM PERIODS AND OPEN ONLY  
 DURING OCCUPIED PERIODS)

**GENERAL NOTES**

- DO NOT SCALE DRAWINGS. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, SITE INSPECTIONS, AND MANUFACTURER'S SHOP DRAWINGS.
- PRIOR TO INSTALLATION OF DEVICES WITHIN WALLS, VERIFY THAT NO INTERFERENCES EXIST. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS.
- MECHANICAL AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID CONFLICTS BETWEEN SERVICES.
- MAKE GOOD ALL BUILDING COMPONENTS DAMAGED BY WORK OF THIS TRADE.
- ALL MATERIALS AND WORKMANSHIP SHALL BE NEW, FREE OF DEFECTS, AND COMPLY WITH ALL APPLICABLE STANDARDS.
- CONTRACTORS SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF THE WORK BEFORE SUBMITTING PRICING. MAKE ALL ALLOWANCES FOR SITE CONDITIONS.

**CEILING SPACE PLENUM**

THE HVAC SYSTEMS UTILIZE THE CEILING SPACE PLENUM AS A RETURN AIR SPACE. ALL MATERIALS (INCLUDING PIPING AND INSULATION) TO HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. ALL EXPOSED WIRING AND CABLES SHALL BE TRIP RATED. ALL WORK IN ACCORDANCE WITH CBC 3.6.4.3. SUBMIT MANUFACTURER'S DOCUMENTATION TO CONSULTANT BEFORE STARTING ANY WORK.

**FIRE STOPPING**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIRE STOPPING FOR ALL PENETRATIONS CREATED BY THE INSTALLATION OF ANY NEW SYSTEMS.
- CONCRETE IS LISTED, INTUMESCENT MATERIAL, SYNTHETIC GASTIGHTERS, CAPABLE OF EXPANDING UP TO 8 TIMES WHEN EXPOSED TO TEMPERATURES OF 250 °F OR HIGHER.
- ACCEPTABLE PRODUCTS: HLT FS-ONE, 3M #CP-25 CALK or #303 PUTTY, DOW CORNING FIRE STOP FOAM #FTV, TAB BURNDY
- APPLICATIONS:  
 4.1. COIL SYSTEM #PS731 - METAL PIPING OR CONDUIT THRU GYPSUM WALL ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)  
 4.2. COIL SYSTEM #PS717 - METAL PIPING OR CONDUIT THRU WOOD FLOOR ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)  
 4.3. COIL SYSTEM #WLS029 - INSULATED METAL PIPING THROUGH GYPSUM WALL ASSEMBLY (F RATING UP TO 1 HR OR 2 HR)
- CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH DETAILED MATERIAL INFORMATION INDICATING ULC OR CUL RATINGS AS WELL AS APPLICATION INSTRUCTIONS.

**INSTALLATION**

- ALL WORKS TO BE COORDINATED WITH OTHER TRADES AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR REVIEW OF POTENTIAL INTERFERENCES OF OTHER SERVICES.
- REFLECTED CEILING PLAN MAY VARY PER ARCHITECTURAL PLANS. EXACT LOCATION OF THE HAND UNITS MAY VARY SLIGHTLY BASED UPON SITE CONDITIONS.
- OUTDOOR GRILLE/DOOR STYLE AND COVER TO BE COORDINATED BETWEEN THE CONTRACTOR AND OWNER.
- A ROOM THERMOSTAT SHALL BE INSTALLED 1.6m AFF. IN THE LOCATIONS SHOWN. MODEL OF THERMOSTAT TO BE DETERMINED BY BASE-BUILDING CONSTRUCTION. 7 DAY PROGRAMMABLE AND 5/2 DAY PROGRAMMABLE. SEE PLAN.
- ROD DUCTING SHALL BE INSTALLED TO THE DIFFUSERS.
- MANUAL DAMPERS SHALL BE INSTALLED ON ALL BRANCH DUCTS AND DIFFUSERS, FOR SYSTEM BALANCING.
- ALL EXHAUST DUCTS SHALL HAVE THE SET CLOSEST TO THE EXIT POINT FROM THE BUILDING INSULATED. PROVIDE 2" FIBERGLASS INSULATION OUTSIDE OF DUCT.

SYMBOL	AIR FLOW RANGE (CFM)	BOX SIZE (SIZE)	MODEL NO.
[S-1]	40 - 110	5 9/16" x 12" x 12"	E.H. PRK SPD PLAUKE STYLE DIFFUSER
[S-2]	50 - 200	6 9/16" x 24" x 24"	E.H. PRK SPD PLAUKE STYLE DIFFUSER
[S-3]	150 - 310	8 9/16" x 24" x 24"	E.H. PRK SPD PLAUKE STYLE DIFFUSER
[S-4]	40 - 500	24" x 6"	E.H. PRK 90 SERIES ROUND RETURN GRILLE

ALL BRANCH DUCTWORK SERVING DIFFUSERS TO BE THE SAME SIZE AS DIFFUSER NECK UNLESS SPECIFIED OTHERWISE.

**GRILLE/ DIFFUSER SCHEDULE**

**HVAC GENERAL NOTES**

- THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE OTHER PLANS, AS WELL AS THE MFG SPECIFICATIONS FOR THE SPECIFIED EQUIPMENT.
- BALANCING**  
 A COPY OF THE MANUFACTURER'S INSTRUCTIONS SHALL BE PROVIDED TO THE OWNER FOLLOWING INSTALLATION.  
 BALANCING SHALL BE CONDUCTED FOR COMMERCIAL OCCUPANCY TO ENSURE MINIMUM/FINAL AIR FLOWS AT EACH EXHAUST, SUPPLY AIR TRAVELER, BALANCING SHALL BE PER ASHRAE 62.1. PROVIDE A EXHAUSTS AND SUPPLY AIR (ESP. TSP, MOTOR CURRENT). BALANCING SHALL BE COMPLETED BY A QUALIFIED CONTRACTOR TO THE STANDARDS OF ASHRAE 111-2008 OR SMACNA STANDARDS. WITH A COPY OF THE REPORT BEING FORWARDED TO THE ENGINEER FOR REVIEW.  
 BALANCING IS OPTIONAL FOR RESIDENTIAL OCCUPANCY. IF BALANCING IS DESIRED, IT SHALL BE CONDUCTED TO ENSURE MINIMUM/FINAL AIR FLOWS AT EACH DIFFUSER, EXHAUST, SUPPLY AIR TRAVELER, BALANCING SHALL BE PER ASHRAE 62.1. BALANCING SHALL BE COMPLETED BY A QUALIFIED CONTRACTOR TO THE STANDARDS OF ASHRAE 111-2008 OR SMACNA STANDARDS.
- MATERIALS / EQUIPMENT**  
 4.1 ALL NEW DUCTS, ASSOCIATED FITTINGS, CONNECTORS AND PLENUMS SHALL BE OF GALVANIZED STEEL.  
 4.2 DUCT SEALING SHALL HAVE JOINTS THAT ARE SEALED WITH SEALANT COMPOUND, TO SMACNA CLASS 'B' AT MINIMUM (CONDUIT/DUCT & TRAVELER JOINTS).  
 4.3 DUCTS UP TO 300MM LARGEST DIMENSION SHALL HAVE A WALL THICKNESS OF 0.33mm MINIMUM.  
 4.4 DUCTS SHALL BE SECURELY SUPPORTED BY METAL HANGERS, STRAPS, LUGS, OR BRACKETS.  
 4.5 ALL ROUND DUCTS SHALL BE TIGHTLY FITTED AND APPLIED NOT LESS THAN 25mm MINIMUM.  
 4.6 RECTANGULAR DUCT CONNECTIONS SHALL BE MADE WITH S OR DRIVE CLEATS OR EQUIVALENT.  
 4.7 DUCT SEAMTS SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT CLASSIFICATION OF NOT MORE THAN 50.  
 4.8 ALL MATERIALS AND WORKMANSHIP SHALL BE NEW, FREE OF DEFECTS, AND COMPLY WITH ALL APPLICABLE STANDARDS.  
 4.9 CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF THE WORK BEFORE SUBMITTING PRICING. MAKE ALL ALLOWANCES FOR SITE CONDITIONS.

**MECHANICAL SPECIFICATIONS**

- GENERAL**  
 1.1 PROVIDE ALL ITEMS, MATERIALS, EQUIPMENT, LABOUR, AND INCIDENTALS NECESSARY TO COMPLETELY SUPPLY, INSTALL, TEST, AND PUT INTO OPERATION ALL WORK INDICATED, USE ONLY NEW MATERIALS AND EQUIPMENT.  
 1.2 ALL WORK SHALL BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND LOCAL STANDARDS OF THE AUTHORITY HAVING JURISDICTION.  
 1.3 OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES AS REQUIRED FOR WORK BY THIS DIVISION.  
 1.4 VISIT AND INSPECT THE EXISTING BUILDING AND SYSTEMS. MAKE ALL ALLOWANCES FOR EXISTING SITE CONDITIONS BEFORE SUBMITTING PRICING (FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF HIS FAILURE AND RESPONSIBILITY IN THIS REGARD). NOTIFY CONSULTANT/OWNER OF ANY DISCREPANCIES BEFORE SUBMITTING PRICING.  
 1.5 THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR. MAKE GOOD ALL DEFECTS AT NO COST TO THE OWNER.
- SUBMITTALS**  
 2.1 SUBMIT CERTIFICATES AS EVIDENCE THAT WORK INSTALLED COMPLIES WITH REGULATIONS AND LOCAL REQUIREMENTS.  
 2.2 AT COMPLETION OF PROJECT, SUBMIT:  
 2.2.1 OPERATION AND MAINTENANCE MANUALS IN HARD COVER BINDERS (3 COPIES) THAT CONTAIN:  
 2.2.1.1 COPIES OF ALL EQUIPMENT SHOP DRAWINGS  
 2.2.1.2 MAINTENANCE AND REPLACEMENT ITEMS  
 2.2.1.3 LIST OF NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF EQUIPMENT SUPPLIERS  
 2.2.1.4 TESTING AND VERIFICATION REPORTS AND CERTIFICATES INCLUDING AIR BALANCING REPORT, AND BACKFLOW PREVENTOR TEST REPORT  
 2.2.2 AS-BUILT DRAWINGS
- DEFINITIONS**  
 3.1 "CONCEALED" - HIDDEN FROM NORMAL SITE IN FURRED SPACES, SHAFTS, CEILING SPACES WALLS, AND PARTITIONS.  
 3.2 "EXPOSED" - ALL WORK VISIBLE TO BUILDING OCCUPANTS  
 3.3 "PROVIDE" - SUPPLY, INSTALL, AND CONNECT COMPLETE  
 3.4 "INSTALL" - INSTALL AND CONNECT ONLY  
 3.5 "SUPPLY" - SUPPLY ONLY  
 3.6 "REMOVE" - REMOVE AND DISPOSE OF EQUIPMENT FROM SITE INCLUDING PROPER DISPOSAL
- PLUMBING**  
 4.1 PIPING  
 4.1.1 ALL MATERIALS, PIPING AND COMPONENTS SHALL COMPLY WITH OBC PART 7.  
 4.1.2 DOMESTIC SUPPLY (COW & DWH) - TYPE 'L' COPPER. PROVIDE CHROME PLATED PIPING AT ALL EXPOSED FIXTURE LOCATIONS.  
 4.1.3 SANITARY AND VENT PIPING UNDERGROUND - PVC DWV FOR UNDERGROUND.  
 4.1.4 SANITARY AND VENT PIPING ABOVE GRADE - IPEX XFR (NONCOMBUSTIBLE AND SUITABLE FOR PLENUM SPACES). PROVIDE CHROME PLATED PIPING AT ALL EXPOSED FIXTURE LOCATIONS.  
 4.2 SPECIALTIES  
 4.2.1 CLEANOUTS - LAQUERED OR EPOXY COATED CAST IRON OR ALUMINIUM BODY, NEOPRENE SEALING 'O' RING, ADJUSTABLE EPOXY COATED NICKEL BRONZE FRAME. CONFIRM FLOOR TYPES WITH ARCHITECTURAL PLANS. STACK CLEANOUTS TO HAVE STAINLESS STEEL WALL ACCESS COVER.  
 4.2.2 FLOOR DRAINS - 3" DIA. LAQUERED OR EPOXY COATED CAST IRON BODY WITH WEEP HOLES AND NICKEL BRONZE STRAINER. PROVIDE TRAP SEAL PRIMERS (AUTOMATIC STYLE).  
 4.2.3 WATER HAMMER ARRESTORS - HARD DRAWN COPPER CONSTRUCTION WITH PRECHARGED AIR CHAMBER. LOCATE TO PREVENT WATER NOISE.  
 4.2.4 SHUTOFFS - PROVIDE MAIN SHUTOFF VALVES AS DETAILED (BATHROOM GROUPS, STAFF ROOM, JANITOR, ETC) AND AT EACH PLUMBING FIXTURE.  
 4.2.5 BACK FLOW PREVENTORS - ON WATER SUPPLY LINE AS DETAILED. PROVIDE TESTING REPORTS TO OWNER AND CONSULTANT.  
 4.2.6 EXTERIOR NON-FREEZE WALL HYDRANTS: CHROME-PLATED BRONZE BOX AND COVER FOR RECESSED INSTALLATION, SELF DRAINING, REMOVABLE OPERATING KEY, AND VACUUM BREAKER. ANCON HY-700-VB-49, ENPOCO HY-2-VB, ZURN ZN-1305-VB
- MECHANICAL**  
 5.1 DUCTWORK  
 5.1.1 CONFORM TO ASHRAE AND SMACNA STANDARDS.  
 5.1.2 DUCTWORK: CONSTRUCTED TO WITHSTAND 1/2 TIME WORKING STATIC PRESSURE AND DESIGNED FOR 2" OPERATING PRESSURE. HANGERS TO BE SAME MATERIAL AS DUCTWORK. DUCT SEAL ALL JOINTS.  
 5.1.3 FIRE DAMPERS: UL/C LISTED AND LABELLED, NFPA 90 AND CAN4-S112 OR CAN4-S104 CONFORMANCE, LOW RESISTANCE TYPE B FOR RECTANGULAR DUCTWORK OR TYPE C TO ROUND DUCTWORK, INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.  
 5.2 DUCTWORK INSULATION  
 5.2.1 ALL INSULATION SHALL BE FIBREGLASS LOW PRESSURE PIPE COVERING AND FIRE RESISTANT VAPOUR BARRIER.  
 5.2.2 INSULATE FROM EXHAUST FAN HOUSING TO VENT = MINIMUM 1" THICK INSULATION.  
 5.3 AIR BALANCING  
 5.3.1 FINAL HVAC SYSTEM BALANCING SHALL BE PERFORMED BY FIRM NORMALLY EMPLOYED IN THIS FIELD.  
 5.3.2 SUBMIT WRITTEN REPORTS INDICATING FINAL BALANCED CONDITIONS OF SYSTEMS (HVAC UNITS AND EXHAUST FANS)  
 5.3.3 CONTRACTOR TO ADJUST AND BALANCE SYSTEM TO WITHIN 5% OF DESIGNED AIR QUANTITIES. MAKE ALL MODIFICATIONS AS REQUIRED.

**HVAC FAN CONTROLS**

COORDINATE WITH ELECTRICIAN FOR EXHAUST FAN CONTROLS

**EXHAUST FANS**  
 UNIVERSAL WASHROOM EXHAUST FANS - CONTROL WITH WASHROOM LIGHTS  
 SERVICE ROOM AND JANITOR'S SINK - 0 TO 60 MINUTE TIMER BY ELECTRICIAN  
 WASHROOM EXHAUST FANS - 0 TO 60 MINUTE TIMER BY ELECTRICIAN  
**FURNACES & VALV BOXES**  
 TSTATS - ELECTRICIAN TO PROVIDE BOXES AND 3/4" C TO CEILING SPACE. HVAC CONTRACTOR TO PROVIDE PLENUM RATED CONTROL CABLES AND THERMOSTATS  
 ELECTRICIAN TO PROVIDE ISOLATION/DISCONNECT SWITCHES FOR FURNACES & UNITS  
 REFER TO FLOOR PLAN FOR VENTING REQUIREMENTS. SOFTY GRILLES (REVERSIBLE/SLATS/SLATS) TO BE PREFINISHED TO MATCH SOFFIT COLOUR. WALL GRILLES, LOUVERS AND WALL CAPS TO BE PREFINISHED TO MATCH WALL BRICK COLOUR. CONFIRM ALL COLOURS WITH GENERAL CONTRACTOR.

**ASHRAE 90.1-2010**

TABLE 6.4.3.1.1	Minimum System Leakage, L/s per m <sup>2</sup> at 250 Pa W/G		
Envelope Zone	Whichever is Greater		
Zone Type	Leakage	Penetration	Minimum
Zone 1	0.05	0.05	0.05
Zone 2	0.10	0.10	0.10
Zone 3	0.15	0.15	0.15
Zone 4	0.20	0.20	0.20
Zone 5	0.25	0.25	0.25
Zone 6	0.30	0.30	0.30
Zone 7	0.35	0.35	0.35
Zone 8	0.40	0.40	0.40
Zone 9	0.45	0.45	0.45
Zone 10	0.50	0.50	0.50
Zone 11	0.55	0.55	0.55
Zone 12	0.60	0.60	0.60
Zone 13	0.65	0.65	0.65
Zone 14	0.70	0.70	0.70
Zone 15	0.75	0.75	0.75
Zone 16	0.80	0.80	0.80
Zone 17	0.85	0.85	0.85
Zone 18	0.90	0.90	0.90
Zone 19	0.95	0.95	0.95
Zone 20	1.00	1.00	1.00
Zone 21	1.05	1.05	1.05
Zone 22	1.10	1.10	1.10
Zone 23	1.15	1.15	1.15
Zone 24	1.20	1.20	1.20
Zone 25	1.25	1.25	1.25
Zone 26	1.30	1.30	1.30
Zone 27	1.35	1.35	1.35
Zone 28	1.40	1.40	1.40
Zone 29	1.45	1.45	1.45
Zone 30	1.50	1.50	1.50
Zone 31	1.55	1.55	1.55
Zone 32	1.60	1.60	1.60
Zone 33	1.65	1.65	1.65
Zone 34	1.70	1.70	1.70
Zone 35	1.75	1.75	1.75
Zone 36	1.80	1.80	1.80
Zone 37	1.85	1.85	1.85
Zone 38	1.90	1.90	1.90
Zone 39	1.95	1.95	1.95
Zone 40	2.00	2.00	2.00
Zone 41	2.05	2.05	2.05
Zone 42	2.10	2.10	2.10
Zone 43	2.15	2.15	2.15
Zone 44	2.20	2.20	2.20
Zone 45	2.25	2.25	2.25
Zone 46	2.30	2.30	2.30
Zone 47	2.35	2.35	2.35
Zone 48	2.40	2.40	2.40
Zone 49	2.45	2.45	2.45
Zone 50	2.50	2.50	2.50
Zone 51	2.55	2.55	2.55
Zone 52	2.60	2.60	2.60
Zone 53	2.65	2.65	2.65
Zone 54	2.70	2.70	2.70
Zone 55	2.75	2.75	2.75
Zone 56	2.80	2.80	2.80
Zone 57	2.85	2.85	2.85
Zone 58	2.90	2.90	2.90
Zone 59	2.95	2.95	2.95
Zone 60	3.00	3.00	3.00

**HVAC NOTES**

- ALL 90° SUPPLY & RETURN ELBOWS SHALL HAVE SMOOTH RADIIUSES. SQUARE ELBOWS SHALL BE COMPLETE WITH TURNING VANES.
- UNLESS NOTES OTHERWISE, MEASUREMENTS ARE IN IMPERIAL UNITS, SUCH AS CUBIC FEET PER MINUTE (AIR FLOW) AND RICHES (DISTANCE).
- FOR VENTS AND DUCTWORK PASSING THROUGH FIRE RATED ASSEMBLY, DIVISION 23 SHALL PROVIDE APPROPRIATE FIRE CLOSURE(S) SUCH AS DAMPERS, CAULKING, AND FIRE DONUTS. ALL FIRE CLOSURE RATINGS SHALL MATCH THE RATING OF THE FIRE RATED ASSEMBLY THROUGH WHICH THEY ARE DESIGNED TO PASS THROUGH.
- ALL THERMOSTATS SHALL BE SITUATED AT A HEIGHT OF 1.2m (4') AFF. AT THE LOCATION SPECIFIED ON PLAN. COORDINATION BETWEEN THE PROFESSIONS IS RECOMMENDED TO AVOID ANY POSSIBLE OBSTRUCTIONS.
- REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL-RELATED INFORMATION IN REGARDS TO MECHANICAL EQUIPMENT.

**MECHANICAL SPECIFICATIONS**

- GENERAL**  
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**ROBERT E. DALE LIMITED**  
 CONSULTING ENGINEERS

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429 EXMOUTH STREET  
 SUITE 208, SARNIA,  
 ONTARIO

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no.	revision	date	by
1	ISSUED FOR TENDER	12/09/2024	
2	ISSUED FOR TENDER	11/29/2024	
3	ISSUED FOR TENDER	11/13/2024	
4	RE-ISSUED FOR SPA	11/08/2024	
5	UPDATED	09/25/2024	

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reviewed by **RGD** drawn by **UC**

date **APRIL 2024**

scale **AS SHOWN**

drawing title

**HVAC PLAN AND DETAILS**

drawing number **M2.00**

client **THE CITY OF BRAMPTON**

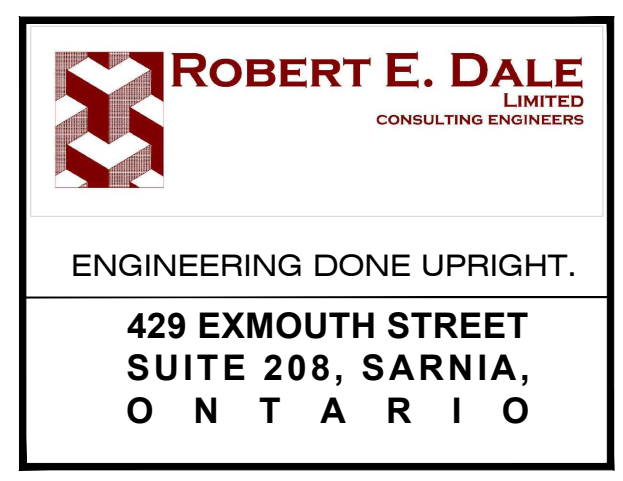
project title **CASSIE CAMPBELL CC PAVILION BUILDING**  
 1060 SANDALWOOD PKWY W,  
 BRAMPTON, ONTARIO L7A 2Z8

project number **PRE-2023-0128**

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DRAWINGS MUST NOT BE SCALED.



Table with 4 columns: No., Description, Date, By. Includes entries for ISSUED FOR TENDER, REVISED, RE-ISSUED FOR SPA, and REVISIONS.

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MECHANICAL SYSTEMS SHALL NOT BE CONSIDERED READY FOR FINAL INSPECTION UNTIL BALANCING RESULTS ARE ACCEPTABLE TO CONSULTANT.

reviewed by RGD drawn by UC

date APRIL 2024

scale AS SHOWN

drawing title

MECHANICAL SPECIFICATIONS

drawing number M3.00

client THE CITY OF BRAMPTON

project title CASSIE CAMPBELL CC PAVILION BUILDING

1060 SANDALWOOD PKWY W, BRAMPTON, ONTARIO L7A 2Z8

project number PRE-2023-0128

1. GENERAL

1.1. THE RESPONSIBILITY AND SCOPE OF EACH SUB-TRADE RESTS SOLELY WITH THE CONTRACTOR. EXTRAS WILL NOT BE CONSIDERED BASED ON THE DRAWINGS OR TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.

1.2. CONTRACTOR TO MAKE CERTAIN THAT ALL ADDENDA TO THE SPECIFICATIONS AND ALL REVISIONS TO THE DRAWINGS ARE INCLUDED IN THEIR QUOTATION.

1.3. CONTRACTOR TO ENSURE THAT DELIVERY TIME OF ALL MECHANICAL EQUIPMENTS WILL NOT CAUSE DELAY IN THE SCHEDULING OF THIS PROJECT.

1.4. ALL WORK AND MATERIALS SHALL COMPLY WITH THE CURRENT EDITION OF THE ONTARIO BUILDING CODE, LOCAL BUILDING REGULATIONS, AND ALL CODES AND AUTHORITIES HAVING JURISDICTION.

1.5. PRIOR TO SUBMITTING A TENDER, THE CONTRACTOR SHALL NOTE ANY ADDENDA BEING BRING THEM TO THE ATTENTION OF THE ENGINEER. FURTHER, THE CONTRACTOR IS TO EXAMINE THE SITE, CONDITIONS AND ALL ASSOCIATED SCOPES OF WORK THAT FALL UNDER THE CONTRACT AND DETERMINE THAT ALL COSTS FOR THE WORK ARE FULLY COVERED IN HIS TENDER SUBMISSION.

1.6. DURING CONSTRUCTION THE CONTRACTOR SHALL ENSURE THAT ALL MATERIAL AND EQUIPMENT IS NEW AND MEETS OR EXCEEDS THE QUALITY AS SET OUT IN THE SPECIFIED EQUIPMENT AND APPLICABLE CODES. THE INSTALLATION OF ALL EQUIPMENT AND MATERIALS SHALL BE OF THE HIGHEST WORKMANSHIP AND QUALITY. ATTENTION TO QUALITY, SAFETY, HEALTH, ACCESS FOR MAINTENANCE, DURABILITY, ETC. IS EXPECTED AND REQUIRED.

1.7. IF THE OWNER OR THEIR REPRESENTATIVE PRE-PURCHASES OR SUPPLIES EQUIPMENT OR MATERIALS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF THEM AS PER MANUFACTURERS RECOMMENDATIONS. OWNER FURNISHED ITEMS MUST MEET THE COMPLIANCE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

1.8. ALL EQUIPMENT IS TO BE SET STRAIGHT AND SQUARE WITH THE STRUCTURE. PIPING AND DUCTWORK IS TO BE INSTALLED PARALLEL OR AT RIGHT ANGLES TO ALL WALLS AND STRUCTURAL MEMBERS, HANGER RODS, EQUIPMENT BASES, SUPPORTS AND ISOLATORS. ALL SETTING AND ALIGNMENT TO BE DONE IN VERTICAL ALIGNMENT WHERE APPLICABLE. ALL WORK IS TO BE NEAT AND CLEAN UPON COMPLETION.

1.9. THE CONTRACTOR SHALL MAKE NECESSARY REVISION, ALTERATIONS, CHANGES AND ADDITIONS TO ANY AND ALL WORK AS REQUIRED TO ACCOMMODATE OTHER TRADES SCOPE OF WORKS INCLUDING ARCHITECTURAL, STRUCTURAL AND ELECTRICAL WITHOUT COST TO THE OWNER.

1.10. THE TERM "SUPPLY," PROVIDE," INSTALL," SHALL MEAN TO SUPPLY AND INSTALL ALL NECESSARY LABOUR, MATERIALS, TOOLS AND EQUIPMENT AS MAY BE NECESSARY TO INSTALL SAME FOR THE COMPLETE AND FUNCTIONAL OPERATION OF THE MECHANICAL SYSTEMS FOR THIS PROJECT.

1.11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRANSPORTATION AND PROTECTION OF ALL EQUIPMENT PROVIDED FOR THIS PROJECT UNTIL THE OWNER HAS ACCEPTED THE BUILDING. THIS SHALL INCLUDE STORAGE OF SAME ON SITE AND REMOVAL OF ALL MATERIALS AND REFUSE AS A RESULT.

1.12. PROVIDE ALL NECESSARY SCAFFOLDING, LADDERS, HOISTS, RIGGING, ETC. AS REQUIRED FOR THE INSTALLATION OF THE WORK WITHIN THIS SCOPE. ALL HOISTING, SUPPORTS, DELIVERIES, ETC. OF EQUIPMENT AND MATERIAL FOR THIS PROJECT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.

1.13. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF THE BUILDING, WORK OF OTHERS, ETC. DURING THE COURSE OF CARRYING OUT THE WORK AS INVOLVED IN THIS CONTRACT. THE CONTRACTOR SHALL MAKE GOOD AND/OR PAY FOR ANY DAMAGES SUSTAINED. THE OWNER RESERVES THE RIGHT TO BACKCHARGE THE CONTRACTOR FOR THE REPAIR AND/OR REPLACEMENT OF ANY DAMAGES.

1.14. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND PAY FOR ALL NECESSARY FEES OR OTHER COSTS ASSOCIATED WITH APPROVING OUT THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL CERTIFICATES AS REQUIRED TO ENSURE THAT THE INSTALLATION IS IN CONFORMANCE WITH, AND HAS BEEN APPROVED BY ALL AUTHORITIES HAVING JURISDICTION, ANY REVISIONS AND/OR CHANGES APPROVED BY THE AUTHORITY. INSPECTION SHALL BE DONE WITHOUT CHARGE TO THE OWNER AND SHALL BE DONE SO AS NOT TO AFFECT SCHEDULE OR THE WORK OF OTHERS. ALL PERMITS SHALL BE POSTED IN A CONSPICUOUS PLACE ON SITE UPON COMPLETION OF THE WORK. THE CONTRACTOR IS TO PROVIDE THE OWNER WITH CERTIFICATE OF FINAL APPROVAL FROM ALL AUTHORITIES INVOLVED IN THE SCOPE OF THIS WORK.

1.15. IN CARRYING OUT THE WORK THE CONTRACTOR SHALL USE ONLY FULLY QUALIFIED TRADESPEOPLE RECOGNIZED UNDER MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS AND LICENSING.

1.16. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY INFORMATION ON REQUIRED OPENINGS, SLEEVES AND CHANGES AS MAY BE REQUIRED TO ALL OTHER TRADES INVOLVED SO THAT THE WORK MAY BE DONE IN A TIMELY AND COST EFFECTIVE MANNER. FAILURE TO DO SO WILL RESULT IN ANY COSTS BEING CHARGED BACK TO THE CONTRACTOR, ALL DRILLING FOR HANGER RODS, BRACKETS, SUPPORTS, SLEEVES, ETC. SHALL BE BY THIS CONTRACTOR.

1.17. INSTALL ALL PIPING, DUCTWORK, EQUIPMENT, ETC. GENERALLY IN THE ROUTES AND LOCATIONS AS SHOWN ON THE DRAWINGS. INSTALL ALL MATERIAL AND EQUIPMENT CLOSE TO STRUCTURE TO MINIMIZE, SHAFTS, FURTINGS, ETC. PIPING AND DUCTWORK THAT IS NOT INSTALLED PROPERLY SHALL BE REMOVED AND RE-INSTALLED AT NO EXTRA COST.

1.18. THIS CONTRACTOR IS TO CO-ORDINATE THE DETAILED INSTALLATION OF THE DUCTWORK, PIPING AND EQUIPMENT WITH ALL CONDUIT, CABLE TRAYS, STRUCTURAL ELEMENTS, AND OTHER WORK OF THE OTHER TRADES. NO ADDITIONAL COSTS WILL BE CONSIDERED FOR CHANGES AS THE RESULT OF INTERFERENCE WITH THE WORK OF OTHERS. THIS INCLUDES ANY ADDITIONAL MATERIAL REQUIRED TO CORRECT MINOR JOB CONFLICTS FOR NORMALLY ACCEPTED PROCEDURES OF ANY AND ALL TRADES.

1.19. THIS CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL NECESSARY ISOLATION VALVES, SPRING ISOLATORS, SHUT-OFFS, UNIONS, COUPLINGS, ETC. AS MAY BE REQUIRED FOR THE SAFE OPERATION AND CONTINUED MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. THIS SHALL INCLUDE ALL NECESSARY COMPONENTS AS MAY BE REQUIRED BY THE MANUFACTURER AS NOTED IN THEIR RESPECTIVE LITERATURE AND INSTALLATION DETAILS.

1.20. THE CONTRACTOR MAY USE EQUIVALENT EQUIPMENT AND MATERIALS FROM AN APPROVED MANUFACTURER OTHER THAN THAT SPECIFICALLY SPECIFIED. THE USE OF SAME DOES NOT RELIEVE THE CONTRACTOR FROM CONFIRMING TO OTHER TRADES ALL AFFECTED RELEVANT INFORMATION SUCH AS DIMENSIONS, ELECTRICAL WEIGHT, ETC. ANY SUCH REVISIONS AS A RESULT SHALL BE PAID FOR BY THIS CONTRACTOR. IF THE PROPOSED EQUIPMENT OR NECESSARY MODIFICATIONS ARE NOT TO THE SATISFACTION OF THE ENGINEER THAT THE END RESULT WILL BE THE SAME THE CONTRACTOR SHALL PROVIDE THE SPECIFIED EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.

1.21. ALL EQUIPMENT AND MATERIAL SPECIFIED AND NOTED ON THE DRAWINGS IS SET AS A MINIMUM STANDARD FOR THE CONTRACTOR TO WORK TO. ALL SUBMITTED TENDERS SHALL BE BASED ON MATERIAL AND EQUIPMENT AS SPECIFIED. EQUIPMENT AND MATERIAL SUPPLIERS OTHER THAN THOSE SPECIFIED SHALL BE ACCOMPANIED WITH WRITTEN SUBMISSION FOR CONSIDERATION AS AN EQUIVALENT OR ALTERNATE ALONG WITH ANY COST SAVINGS THAT MAY BE REALIZED AS A RESULT OF USING THIS EQUIPMENT. SUBMISSION FOR CONSIDERATION AS AN EQUIVALENT SHALL BE MADE, ALONG WITH TECHNICAL INFORMATION, A MINIMUM OF 2 DAYS BEFORE CLOSE OF TENDER.

1.22. THE CONTRACTOR SHALL NOT USE THE PERMANENT HEATING SYSTEM FOR TEMPORARY HEATING WITHOUT WRITTEN PERMISSION FROM THE OWNER/ENGINEER. ANY EQUIPMENT THAT IS USED SHALL BE CLEANED, LUBRICATED AND NEW FILTERS INSTALLED PRIOR TO TURNING OVER TO OWNER FOR COMPLETION.

1.23. BEFORE FABRICATION AND INSTALLATION OF DUCTWORK AND PIPING, MAKE CERTAIN THAT ALL ITEMS CAN BE INSTALLED AS SHOWN ON THE DRAWINGS WITHOUT INTERFERENCE WITH THE STRUCTURE OR THE WORK OF OTHER TRADES. IF ANY MATERIALS ARE FABRICATED OR INSTALLED PRIOR TO THE INVESTIGATION AND REACHING OF A SOLUTION TO POSSIBLE INTERFERENCE PROBLEMS, NECESSARY CHANGES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.

2. EXAMINATION OF WORK

2.1. DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATELY TO SCALE. THE CONTRACTOR DOCUMENTS ESTABLISH SCOPE, MATERIAL AND QUALITY AND ARE NOT DETAILED INSTALLATION INSTRUCTIONS.

2.2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE BUILDING, STRUCTURE AND THE WORKS OF THE OTHER TRADES INVOLVED. THIS CONTRACTOR SHALL WORK AND CO-OPERATE WITH THE OTHER TRADES TO ENSURE A QUALITY INSTALLATION, AND MINIMIZE CONFLICTS.

3. INTENT

3.1. IT IS THE INTENT OF THIS SPECIFICATION AND DRAWINGS TO PROVIDE FOR A COMPLETE AND FULLY OPERATING SYSTEM IN COMPLETE ACCORD WITH ALL APPLICABLE CODES. THESE SPECIFICATIONS MAY NOT COVER EACH AND EVERY

ENGINEER, INSULATION ASSEMBLIES SHALL COMPLY WITH CURRENT EDITION OF ONTARIO BUILDING REGULATIONS WITH FLAME SPREAD AND SMOKE DEVELOPED RATINGS NOT EXCEEDING 25 AND 50 RESPECTIVELY.

3.2.2. APPLY 25mm (1") THICK INTERNAL ACOUSTIC INSULATION ON SUPPLY, RETURN, AND EXHAUST AIR DUCTWORK WHERE SHOWN BY CROSS HATCHING OF DUCTWORK ON THE DRAWING.

3.2.3. APPLY 25mm (1") THICK FLEXIBLE FIBROUS GLASS INSULATION WITH FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOUR BARRIER ON SUPPLY AIR DUCTWORK EXCEPT WHERE INTERNAL ACOUSTIC INSULATION IS PROVIDED.

3.2.4. APPLY 50mm (2") THICK FLEXIBLE FIBROUS GLASS INSULATION WITH FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOUR BARRIER ON COMBUSTION AND OUTSIDE AIR INTAKE DUCTWORK.

3.2.5. INSULATE VENTILATION EQUIPMENT AND CABINET EXHAUST FAN CASINGS WITH 25mm (1") THICK RIGID FIBERGLASS INTERNAL DUCT INSULATION. INSULATION TO BE FACTORY INSTALLED.

3.2.6. INSULATION TO BE 25mm (1") THICK MINERAL FIBRE WITH VAPOUR BARRIER. INSULATE ALL SUPPLY AIR DUCTWORK EXCEPT WHERE ACOUSTICALLY LINED. INSULATE EXHAUST DUCTWORK FOR A DISTANCE OF 1.5m (5'-0") UPSTREAM OF FAN.

3.2.7. ALL ADHESIVES, MASTICS, SEALANTS AND COATINGS USED INSIDE THE BUILDING WITH THE INSULATION SHALL BE FIRE RETARDING AND MEET ULC AND ABC STANDARDS WITH A FLAME SPREAD RATING OF NOT OVER 25 AND SMOKE DEVELOPED CLASSIFICATION NOT OVER 50.

3.3. VOLUME DAMPERS

3.3.1. INSTALL WHERE SHOWN OR REQUIRED FOR BALANCING.

3.3.2. RECTANGULAR DUCTS SHALL HAVE OPPOSED BLADE VOLUME DAMPERS.

3.3.3. ROUND DUCTS SHALL HAVE SLITTER DAMPERS OR BUTTERFLY DAMPERS.

3.3.4. HAND BALANCING DAMPERS SHALL BE FABRICATED OF GALVANIZED IRON, TWO GAUGES HEAVIER THAN THAT OF THE DUCT IN WHICH THE DAMPER IS TO BE INSTALLED.

3.4. ACCESS

3.4.1. ACCESS SHALL BE PROVIDED TO ALL MECHANICAL EQUIPMENT, BALANCING DAMPERS, VALVES AND ALL OTHER ITEMS REQUIRING SERVING ACCESS. ACCESS PANELS SHALL BE FIRE-RATED AS REQUIRED, TO MEET CEILING, WALL AND FLOOR RATINGS.

3.5. AIR OUTLETS

3.5.1. PROVIDE ALL AIR OUTLETS COMPLETE WITH ACCESSORIES AS SPECIFIED WHERE ANY INDICATED ON THE DRAWINGS. LOCATIONS OF ALL AIR OUTLETS WITH LIGHTING, THE POSITIONS INDICATED ARE APPROXIMATE ONLY. THIS CONTRACTOR SHALL CHECK THE LOCATION OF ALL OUTLETS AND SHALL MAKE SUCH ADJUSTMENTS IN POSITIONS AS NECESSARY TO CONFORM WITH ARCHITECTURAL FEATURES AT NO EXTRA COST TO OWNER.

3.6. VIBRATION ISOLATION REQUIREMENTS

3.6.1. MOUNT MECHANICAL EQUIPMENT ON VIBRATION ISOLATORS TO MINIMIZE THE TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.

3.6.2. PROVIDE FLEXIBLE PIPE SECTIONS IN PIPING TO PREVENT THE TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE.

3.6.3. INSTALL FLEXIBLE DUCT CONNECTIONS AT AIR HANDLING UNITS, FAN COIL UNITS, SUPPLY AND EXHAUST FANS TO PREVENT VIBRATION TRANSMISSION TO DUCTWORK.

3.7. AIR SYSTEM TESTING, BALANCING AND COMMISSIONING

3.7.1. BALANCE SYSTEM FOR RATED AIR FLOW, AIR TEMPERATURE CONTROL AND CURRENT DRAW AFTER INSTALLATION IS COMPLETE AND IN FULL WORKING ORDER. ADJUST CONTROL FOR CONTINUOUS AIR CIRCULATION AND MINIMUM ENERGY CONSUMPTION. ADJUST FAN SPEED AS REQUIRED TO OBTAIN SPECIFIC PERFORMANCE. BALANCE SYSTEM FOR OUTSIDE AIR AS GIVEN IN UNIT PERFORMANCE. FAN SPEEDS SHALL BE ADJUSTED OR REPLACED AS REQUIRED, TO ACHIEVE DESIGN AIR FLOW.

3.7.2. ALL LOW VELOCITY DUCT SYSTEMS, INCLUDING SUPPLY, RETURN AND EXHAUST SHALL BE CHECKED FOR TIGHTNESS. ALL LEAKS SHALL BE REPAIRED BEFORE DUCTS ARE FURRED IN TO ENSURE TOTAL OUTLET CAPACITY IS WITHIN 5% OF THE QUANTITY BEING SUPPLIED BY THE AIR SYSTEMS.

3.7.3. AIR BALANCING SHALL BE CARRIED OUT BY AN INDEPENDENT AGENCY SPECIALIZING IN THIS WORK AND IN ACCORDANCE WITH GUIDELINES ESTABLISHED BY THE ASSOCIATED AIR BALANCE COUNCIL.

3.7.4. TESTING OF LOW VELOCITY DUCTWORK SHALL COMPRISE REPAIRING AND/OR REPLACING ANY AND ALL AUDIBLE LEAKS OR THOSE THAT ARE NOTICEABLE BY FEEL.

3.7.5. MECHANICAL SYSTEMS SHALL NOT BE CONSIDERED READY FOR FINAL INSPECTION UNTIL BALANCING RESULTS ARE ACCEPTABLE TO CONSULTANT.

4. EQUIPMENT

4.1. GENERAL

4.1.1. PROVIDE UNITS FROM MANUFACTURERS REGULARLY ENGAGED IN PRODUCTION OF SUCH UNITS AND WHO ISSUE CATALOGUE DATA ON SUCH PRODUCTS.

4.1.2. ANY EQUIPMENT THAT THE MECHANICAL CONTRACTOR WISHES TO INSTALL AS AN ALTERNATE MUST BE SUBMITTED FOR APPROVAL BY ENGINEER BEFORE ORDERING AND INSTALLATION. IF NOT APPROVED BEFORE INSTALLATION THE ENGINEER MAY DEEM IT NECESSARY TO REPLACE THE INSTALLED EQUIPMENT WITH THAT WHICH WAS SPECIFIED AT THE COST OF THE CONTRACTOR.

4.1.3. THE EQUIPMENT SPECIFIED IS TO BE MINIMUM STANDARD AND QUALITY REQUIRED. ANY ALTERNATE EQUIPMENT MUST MEET OR EXCEED THE STANDARD AND QUALITY OF THAT WHICH WAS SPECIFIED.

4.1.4. ALL ALTERNATES MUST BE SUBMITTED A MINIMUM OF SEVEN (7) DAYS PRIOR TO TENDER CLOSE.

5. CONTROLS

5.1. GENERAL

5.1.1. ALL CONTROLS FOR MECHANICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. COORDINATE INSTALLATION WITH G.C. AND ELECTRICAL CONTRACTOR WHERE REQUIRED. CARRY COST TO ADD FAN/COIL UNIT CONTROLS ON EXISTING GAS SYSTEM, INCLUDING FLTER STATUS, HEATING AND COOLING VALVE STATUS, FAN STATUS, SUPPLY AIR TEMPERATURE SETPOINT, SUPPLY AIR TEMPERATURE, AND FANCOIL SCHEDULE.

5.1.2. UNLESS OTHERWISE CALLED FOR, WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE PROVISION OF THERMOSTATS, CONTROLLERS, OPERATORS, SENSORS, TRANSFORMERS, INTERFACE EQUIPMENT, CONTROL RELAYS, AND ALL OTHER NECESSARY AUXILIARY DEVICES REQUIRED.

5.1.3. THE ELECTRICAL TRADE SHALL SUPPLY AND INSTALL ALL ELECTRICAL LINE VOLTAGE WIRING AND CONDUIT REQUIRED BY THE MECHANICAL TRADE. MECHANICAL CONTRACTOR IS TO COVER THIS SERVICE IN THEIR FEES.

5.1.4. INSTALLATION OF CONTROL WORK BY THE ELECTRICAL TRADE SHALL BE DONE UNDER THE SUPERVISION OF THE MECHANICAL TRADE.

5.1.5. CONTROL WIRING, CONDUIT AND ELECTRICAL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF ELECTRICAL DIVISION.

5.1.6. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ALL CONTROL DEVICES SERVING MECHANICAL EQUIPMENT ARE INSTALLED CORRECTLY AND FUNCTION PROPERLY, AND THAT ALL MECHANICAL EQUIPMENT OPERATES AS DESIGNED AND SPECIFIED, IN CONJUNCTION WITH THE CONTROLS.

5.1.7. UTILIZE BASE BUILDING CONTROLS CONTRACTOR FOR ALL NEW WORK.

2.4.3. FINISH INSULATION NEATLY AT HANGERS, SUPPORTS AND OTHER PROTRUSIONS. INSULATE FITTINGS AND VALVES.

2.4.4. PROVIDE INSULATION AND COVERS IN ACCORDANCE WITH AUTHORITIES SERVING COMBUSTION AND FIRE PROOFING MATERIALS, AS PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

2.4.5. PROVIDE NON COMBUSTIBLE INSULATION, JACKETS AND FINISHES HAVING A FLAME SPREAD SMOKE DEVELOPED RATING OF 25/50 OR LESS, MEETING CANULC S-102 REQUIREMENTS.

2.4.6. INSULATE FITTINGS WITH FABRICATED MITERED OR PREFORMED SECTIONS OF SPECIFIED INSULATION.

2.4.7. INSULATE ALL HORIZONTAL VENT PIPING LOCATED IN CEILING SPACES BELOW ROOF DECK WITH 25mm (1") THICK FIBERGLASS HEAVY DENSITY INSULATION WITH ALL SERVICE JACKET.

2.4.8. ALL DOMESTIC WATER (DCW, DHW) PIPING IS TO BE INSULATED THE FULL LENGTH.

2.4.9. WHERE FIBERGLASS PIPE INSULATION IS USED, INSULATE ALL PIPE FITTINGS, ELBOWS, ETC. WITH PROTECTED FIBROUS GLASS INSULATION FITTINGS OR INSULATING CEMENT, TO THE SAME THICKNESS AS ADJACENT INSULATION. PIPE ELBOWS AND PIPE FITTINGS ON ALL EXPOSED INSULATION SHALL BE COVERED WITH PVC FITTING COVERS, OR APPROVED EQUAL.

2.4.10. WHERE PIPING IS SUPPORTED AT EXTERIOR SURFACE OF INSULATION PROVIDE 300mm (12") LONG, SUPPORT SHELDS WITH HIGH DENSITY INSULATION UNDER SHELDS, AT EACH HANGER LOCATION.

2.5. CLEANOUTS

2.5.1. PROVIDE AND SET CLEANOUTS AT ALL POINTS REQUIRED BY CODES AND WHERE INDICATED ON THE DRAWINGS. ALL CLEANOUTS SHALL BE MADE ACCESSIBLE BY EXTENDING BRANCH CONNECTIONS TO FINISHED SURFACE AND FITTING THEM WITH A SUITABLE ACCESS COVER TO ACCEPT FLOOR FINISH.

2.5.2. CLEANOUTS IN CONCRETE SHALL BE ADJUSTABLE TYPE FOR LEVEL INSTALLATION.

2.5.3. CLEANOUTS IN UNFINISHED AREAS SHALL BE WATTS CO-200-R OR EQUAL.

2.5.4. CLEANOUTS IN FINISHED AREAS SHALL BE WATTS CO-1200-R OR EQUAL.

2.6. VALVES

2.6.1. VALVES SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED TO ISOLATE ALL FIXTURES, EQUIPMENT, ETC.

2.6.2. PROVIDE ALL VALVES AS SHOWN ON THE DRAWINGS OR REQUIRED BY LOCAL BUILDING CODES AND AUTHORITIES HAVING JURISDICTION.

2.6.3. USE BALL VALVES ON ALL DOMESTIC WATER PIPING, 50mm (2") OR LESS IN DIAMETER.

2.6.4. PROVIDE BRONZE TYPE BALL VALVES ON MAIN AND BRANCH LINES AND ISOLATION VALVES FOR EACH PLUMBING FIXTURE SERVED.

2.6.5. ALL ISOLATION VALVES INSTALLED FOR SHUT-OFF PURPOSES TO BE RED AND WHITE #8044A BALL VALVES, UNLESS OTHERWISE SPECIFIED.

2.6.6. PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO ALL PLUMBING FIXTURES WITH STOPS, REDUCERS, AND ESCUTCHEONS SECURELY ATTACHED TO WALL AND/OR FLOOR SURFACE.

2.7. PLUMBING FIXTURES

2.7.1. ALL FIXTURES SHALL BE FREE FROM FLAWS OR BLEMISHES AND SUBJECT TO APPROVAL. ALL FINISHES SHALL BE CLEAR, SMOOTH AND BRIGHT AND GUARANTEED NOT TO CRAZE, COLOR OR SCALE.

2.7.2. FIXTURE SUPPORT MUST BE SUCH THAT THEY WILL NOT COME LOOSE WITH CURRENT USAGE AND THAT ANCHORING WILL BE RIGID. REINFORCE WALL BEHIND FIXTURES IF REQUIRED FOR PROPER SUPPORT.

2.7.3. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.

2.8. PIPING SYSTEMS CLEANING AND CHEMICAL TREATMENT

2.8.1. PROVIDE FOR FLUSHING AND CLEANING OF HYDROVIC PIPEWORK. USE ALKALINE TYPE CLEANER CONSISTING OF A CONCENTRATED BLEND OF HIGHLY ACTIVE PENETRATING AGENTS, DISPERSANTS AND DETERGENTS AND SPECIFICALLY FORMULATED TO REMOVE OIL, MILL SCALE AND OXIDES FROM PIPING AND EQUIPMENT.

2.8.2. PROVIDE FOR FLUSHING AND DISINFECTION OF DOMESTIC WATER SYSTEMS.

2.8.3. ALL DOMESTIC HOT, COLD WATER SYSTEMS WILL BE REQUIRED TO BE FLUSHED AND DISINFECTED, ADD CHLORINE TO WATER IN SYSTEM TO 50 PPM AND LET STAND FOR 24 HOURS. CHECK CHLORINE CONTENT AFTER 24 HOURS AND INSURE THE CONTENT IS NOT LESS THAN 20 PPM. IF LESS THAN 20 PPM REPEAT PROCESS. FLUSH SYSTEM UNTIL THE CHLORINE CONTENT OF WATER BEING DRAINED IS EQUAL TO THE CHLORINE CONTENT OF THE MAKE-UP WATER. UTILIZE PLUMBING FIXTURES (I.E. LAV, SINKS, FLUSHMETERS, ETC.) FOR DRAINAGE.

3. HVAC

3.1. DUCTWORK

3.1.1. DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE LOCK FORMING QUALITY. ALL DUCTWORK SHALL BE CONSTRUCTED, BRACED, CONNECTED AND JOINED PER THE CANADIAN COPPER AND BRASS DEVELOPMENT ASSOCIATION RECOMMENDATIONS. INSTALL AS PER THE FOLLOWING PROCEDURES:

2.2.5.a. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.

2.2.5.b. REMOVE SCALE, SLAG, DIRT AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE FITTINGS BEFORE ASSEMBLY.

2.2.5.c. SOLDER JOINTS: APPLY ASTM B813 WATER-FUSIBLE FLUX UNLESS OTHERWISE INDICATED. TO TUBE END, CONDUCT JOINTS ACCORDING TO ASTM B813 OR COAS "COPPER TUBE HANDBOOK", USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B32.

2.2.5.d. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK", "PIPE AND TUBE" CHAPTER, USING SIL-FOS 15 BRAZING FILLER METAL COMPLYING WITH AWS A8.

2.2.6. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1 20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:

2.2.6.a. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.

2.2.6.b. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.

3.1.2. ROUND DUCTWORK SHALL BE SUPPORTED BY BAND IRON HANGERS.

3.1.3. RECTANGULAR DUCTWORK SHALL BE SUPPORTED AT MAXIMUM 2.4m (7'-10") SPACING.

3.1.4. FLEXIBLE DUCTWORK SHALL BE FLEXMASTER MODEL F4BM OR THERMAFLEX TYPE 4-ME.

3.1.5. FLEXIBLE DUCTWORK ALUMINUM HELICALLY WOUND, INSULATED AND ULC LISTED, MAXIMUM LENGTH IS TO BE 1m (3'-0").

3.1.6. ALL EXPOSED DUCTWORK IS TO BE INTERNALLY SEALED AT DUCT CONNECTIONS TO PROVIDE A CLEAN FINISH. ALL JOINTS ARE TO BE CLEANED PRIOR TO JOB COMPLETION.

3.1.7. DUCTS TO BE GALVANIZED STEEL LOCK FORMING QUALITY, HAVING GALVANIZED COATING TO ASTM A525 C90 DESIGNATION FOR BOTH SIDES.

3.1.8. FASTENERS TO BE SHEET METAL SCREWS ON LOW PRESSURE DUCTS.

3.1.9. SEALANT: WATER RESISTANT, FIRE RESISTIVE, COMPATIBLE WITH ADJACENT MATERIALS. ALL DUCT JOINTS ARE TO BE SEALED WITH SEALANT.

3.1.10. LAP METAL DUCTS IN DIRECTION OF AIR FLOW: HAMMER DOWN EDGES AND SLIP TO LEAVE SMOOTH SURFACE.

3.1.11. RIGIDLY CONSTRUCT METAL DUCTS WITH JOINTS MECHANICALLY TIGHT, SUBSTANTIALLY AIR TIGHT, BRACED AND STIFFED SO AS NOT TO BREATHE, RATTLE, VIBRATE OR SAG. CAULK DUCT JOINTS AND CONNECTIONS WITH SEALANT AS DUCTS ARE BEING ASSEMBLED.

3.1.12. ALL HANGERS SHALL BE 6mm (1/4") RODS AND 25mm x 25mm x 6mm (1" x 1" x 1/4") ANGLES.

3.1.13. DUCT CONNECTIONS AT AHU'S, EXHAUST FANS, SUPPLY FANS, FAN COIL UNITS, ETC. SHALL BE MADE WITH 150mm (6") LONG FLEXIBLE NEOPRENE, TO PREVENT TRANSMISSION OF VIBRATION. THE CONTRACTOR SHALL ENSURE THAT ALL CONNECTIONS ARE LEAKPROOF.

3.1.14. ALL DUCTS ASSOCIATED WITH FANS AND OTHER MACHINERY SHALL BE FITTED WITH CANVAS FLEXIBLE CONNECTIONS AT INLET AND OUTLET.

3.1.15. ACOUSTIC INSULATION TO BE 25mm (1") THICK RIGID DUCT LINER.

3.2. DUCT INSULATION

3.2.1. ALL COVERINGS SHALL BE APPLIED IN A WORKMANLIKE MANNER BY A RED SEAL JOURNEYMAN INSULATION MECHANIC TO PRESENT A NEAT AND CLEAN APPEARANCE AT COMPLETION OF THE WORK TO THE SATISFACTION OF THE ENGINEER. INSULATION ASSEMBLIES SHALL COMPLY WITH CURRENT EDITION OF ONTARIO BUILDING REGULATIONS WITH FLAME SPREAD AND SMOKE DEVELOPED RATINGS NOT EXCEEDING 25 AND 50 RESPECTIVELY.

3.2.2. PROVIDE INSULATION CM VAPOUR BARRIER AND ALL SERVICE JACKET FOR ALL ROOF DRAINS, RAINWATER LEADERS, DOMESTIC HOT AND COLD WATER LINES, CHILLED WATER AND HYDRONIC HEATING LINES. PIPE INSULATION SHALL BE MIN. 25mm (1") THICK EXCEPT FOR PIPE SIZES 20mm (3/4") OR SMALLER USE 15mm (1/2") THICK INSULATION.

1.2.1.7. FOR PENETRATIONS THROUGH A FIRE WALL OR HORIZONTAL FIRE SEPARATION PROVIDE A FIRESTOP SYSTEM WITH "F" RATING AS DETERMINED BY ULC OR CUL WHICH IS EQUAL TO THE FIRE RESISTANCE RATING OF THE CONSTRUCTION BEING PENETRATED. USE A LABEL TO IDENTIFY THE RATING OF THE PARTITION AND THE LISTED SYSTEM SELECTED.

1.2.1.8. SUBJECT TO COMPLIANCE WITH THROUGH PENETRATION FIRESTOP SYSTEMS LISTED IN THE U.L.C FIRE RESISTANCE DIRECTORY B VOLUME III OR ULC PRODUCTS CERTIFIED FOR CANADA (CUL) DIRECTORY, PROVIDE PRODUCTS OF THE FOLLOWING MANUFACTURERS AS IDENTIFIED BELOW: HLI CANADA

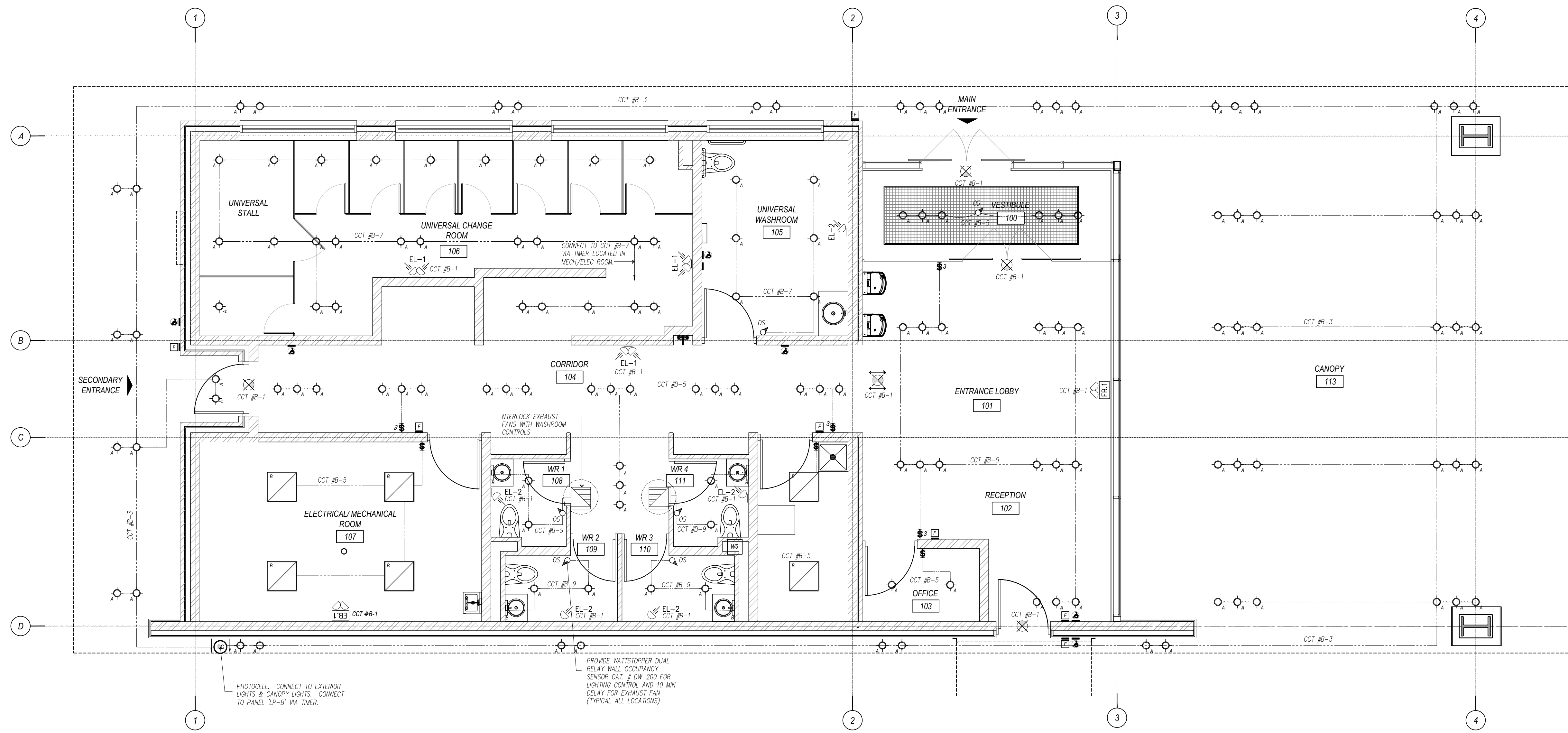
1.2.1.9. MANUFACTURERS FIRE PROTECTION SPECIALIST TO WORK WITH CONSULTANT TO DETERMINE FREQUENCY OF SITE WALK THROUGHS TO BE SUBMITTED TO CONSTRUCTION MANAGER AND CONSULTANT.

1.22. PIPE HANGARS, SUPPORTS AND SLEEVES

1.22.1. ALL HANGERS AND HANGER RODS SHALL BE SUPPLIED AND INSTALLED BY THIS CONTRACTOR FOR THE INSTALLATION OF HIS WORK IN THIS DIVISION.

1.22.2. HANGERS AND SUPPORTS SHALL SECURE PIPES IN PLACE, PREVENT VIBRATION, MAINTAIN GRADE AND PROVIDE FOR EXPANSION AND CONTRACTION. ALL SUPPORTS SHALL BE DIRECTLY FROM THE STRUCTURE, AND NOT FROM OTHER EQUIPMENTS, PIPING OR DUCTWORK.





**GENERAL CONDITIONS:**

THE CANADIAN STANDARD FORM OF CONSTRUCTION CONTRACT AND GENERAL CONDITIONS GOVERNING THE SAME, OCCC ARTICLES 1 TO 45 INCLUSIVE, ARE HEREBY MADE A PART OF THIS SPECIFICATION.

ALL WORK SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO ELECTRICAL CODE, LOCAL POWER COMMISSION AND THE LOCAL INSPECTION DEPARTMENT REQUIREMENTS.

THIS CONTRACTOR SHALL MAINTAIN ADEQUATE LIABILITY INSURANCE.

ALL WORKMANSHIP SHALL BE EXECUTED TO A STANDARD DETERMINED BY GOOD PRACTICE. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE THE INSTALLATION FOR ONE YEAR.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT SIX (6) SETS OF SHOP DRAWINGS TO THE ENGINEER. MATERIALS SHALL NOT BE ORDERED UNTIL REVIEW HAS BEEN COMPLETED. APPROVAL IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY.

THE OWNERS RESERVE THE RIGHT TO ALTER THE LOCATION OF ANY ITEM UP TO TEN (10) FEET (3M) WITHOUT INCURRING AN EXTRA COST, PROVIDED HE DOES SO BEFORE THE ITEM IS INSTALLED.

ALL MATERIAL AND EQUIPMENT USED ON THIS PROJECT SHALL BE C.S.A. APPROVED.

THE CUTTING AND PATCHING FOR ELECTRICAL WORK SHALL BE DONE BY THE GENERAL CONTRACTOR AT THE ELECTRICAL CONTRACTOR'S EXPENSE.

THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING HIS TENDER PRICE.

ALL DIMENSIONS SHALL BE TAKEN FROM THE ARCHITECTURAL DRAWINGS.

THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL LABOUR AND MATERIALS TO PROVIDE ELECTRIC SERVICE COMPLETE WITH ALL BRANCH CIRCUITS AND FINAL CONNECTIONS TO ALL ELECTRICAL EQUIPMENT AS SHOWN ON PLANS.

MOUNTING HEIGHTS  
SEE DESIGNER DRAWINGS FOR MOUNTING HEIGHTS

INCLUDE PROVISION OF FIVE (5) ADDITIONAL RECEPTACLES AND FIVE (5) ADDITIONAL TELEPHONE/DATA OUTLETS INCLUDE FOR ONE 15A, 1P BREAKER, CONDUIT AND CIRCUITING TO SUIT RECEPTACLES.

PROVIDE LABELLING OF ALL ELECTRICAL DEVICES AND EQUIPMENT.

ALL COMMUNICATION CABLE AND CONTROL WIRING SHALL BE FT-6 (CMP) RATED RUNNING THROUGH RETURN AIR PLenum. COMMUNICATION CABLE AND CONTROL WIRING SHALL BE FT-4 (CMP) RATED RUNNING THROUGH CEILING SPACE NOT BEING USED AS A RETURN PLENUM OR COMPLETELY IN CONDUIT FROM END TO END.

ELECTRICAL CONTRACTOR SHALL COORDINATE AND FACILITATE ALL POWER AND COMMUNICATION SERVICES TO BUILDING. COORDINATE WITH LOCAL PUC AND COMMUNICATION VENDORS AS REQUIRED. ALL COORDINATION SHALL BE COMPLETED PRIOR TO INSTALLATION OF CONDUITS/EQUIPMENT. NOTIFY CONSULTANT OF ANY DISCREPANCIES.

**GENERAL LIFE SAFETY:**

ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUITS FOR ALL NEW EMERGENCY/EXIT LIGHTING WHERE SHOWN. CIRCUIT SHALL BE FED FROM HOUSE PANEL (SEE PANEL DIRECTORIES). PROVIDE BREAKER LOCK AND PAINTED YELLOW BREAKER. IDENTIFY CIRCUIT ON PANEL DIRECTORY.

ELECTRICAL CONTRACTOR SHALL PROVIDE TWO (2) 12VDC CIRCUITS FROM EACH BATTERY UNIT. EQUALLY DISTRIBUTE REMOTE HEADS ON EACH CIRCUIT AND PROVIDE CORRECT CONDUCTOR SIZE BASED ON MANUFACTURER TECHNICAL DATA.

ALL EXIT LIGHTING SHALL BE FED FROM CIRCUIT AS INDICATED.

EMERGENCY LIGHTING POWER SHALL BE FED FROM CIRCUIT AS INDICATED AND FROM BATTERY UNITS AS INDICATED.

ELECTRICAL CONTRACTOR TO PROVIDE 1 HOUR TEST OF NEW EXIT SIGNS AND EMERGENCY LIGHTING. ONCE TESTED, PROVIDE A LETTER TO ROMBALD INC. STATING A SUCCESSFUL 1 HOUR TEST WAS COMPLETED.

ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE STOPPING TO ALL WALLS AFFECTED BY ELECTRICAL EQUIPMENT PENETRATING SUCH WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED WALLS.

EXIT AND EMERGENCY LIGHTING ARE TO BE PROVIDED WITHIN THE UNIT/BUILDING IN ACCORDANCE WITH SUBSECTIONS 3.4.5 AND 3.2.7 OF THE ONTARIO BUILDING CODE.

ELECTRICAL CONTRACTOR SHALL PERFORM A 1 HOUR EMERGENCY LIGHTING TEST FOR ALL EXISTING EXIT/EMERGENCY LIGHTING. ONCE TESTED, PROVIDE A LETTER TO ROMBALD INC. STATING A SUCCESSFUL 1 HOUR TEST WAS COMPLETED. ELECTRICAL CONTRACTOR SHALL REPAIR/REPLACE ALL DEFECTIVE ELECTRICAL EQUIPMENT. CONTRACTOR SHALL REPLACE ALL DEFECTIVE LAMPS AND BATTERIES AS REQUIRED.

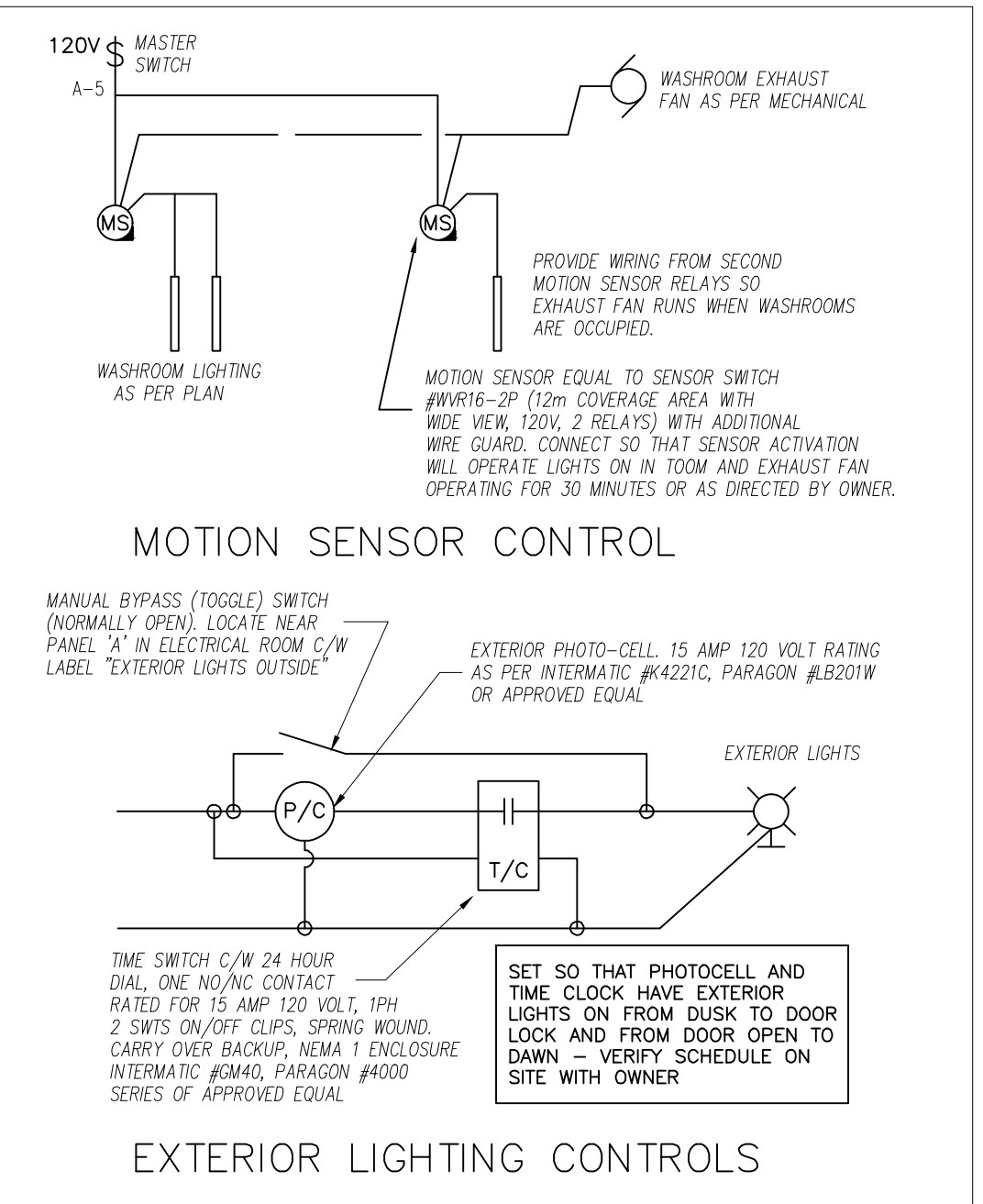
**GENERAL LIGHTING NOTES:**

COVER PLATES FOR COMMERCIAL & COMMON AREA LIGHT SWITCHES REQUIRING COVER PLATES AND OTHER LIGHTING DEVICES SHALL BE STAINLESS STEEL TYPE USING LEVITON STYLE-LINE DECORATOR SERIES. USE CATALOGUE # 5026 (SINGLE GANG) AND 50262 (DOUBLE GANG).

SINGLE POLE SWITCHES FOR COMMERCIAL & COMMON AREA SHALL BE OF WHITE SPECIFICATION GRADE AND RATED FOR 120V USING LEVITON MANUFACTURER. USE CATALOGUE #9621-2W.

ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, POWER PAKS AND HARDWARE FOR A COMPLETE LIGHTING CONTROL SYSTEM.

BRANCH CIRCUIT WIRING SCHEDULE						
TO BE USED FOR BRANCH CIRCUIT WIRING UNLESS NOTED OTHERWISE						
OC RATING	POLES	CONDUCTOR AND CONDUIT SIZE				CONDUIT
		HOT NO.	AWG	NEUTRAL NO.	AWG	
15A	1	1	12	1	12	3/4"
	2	2	12	-	-	3/4"
	3	3	12	-	-	3/4"
20A	1	1	12	1	12	3/4"
	2	2	12	-	-	3/4"
	3	3	12	-	-	3/4"
25A	1	1	12	1	12	3/4"
	2	2	12	-	-	3/4"
	3	3	12	-	-	3/4"
30A	1	1	10	1	10	3/4"
	2	2	10	-	-	3/4"
	3	3	10	-	-	3/4"
35A	1	1	10	1	10	3/4"
	2	2	10	-	-	3/4"
	3	3	10	-	-	3/4"
40A	1	1	8	1	8	1"
	2	2	8	-	-	1"
	3	3	8	-	-	1"
45A	1	1	8	1	8	1"
	2	2	8	-	-	1"
	3	3	8	-	-	1"
50A	1	1	8	1	8	1"
	2	2	8	-	-	1"
	3	3	8	-	-	1"
60A	1	1	6	1	6	1"
	2	2	6	-	-	1"
	3	3	6	-	-	1"



**SUPPLEMENTAL NOTES & SPECIFICATIONS**

THE TENDER PACKAGE MAY INCLUDE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK FOR THIS PROJECT. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK IS TO BE READ IN CONJUNCTION WITH AND FORM A PART OF THE DRAWINGS AND SPECIFICATIONS AND TENDER DOCUMENTS AND THE WHOLE SHALL CONSTITUTE PART OF THE CONTRACT DOCUMENTS. THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK TAKES PRECEDENCE OVER THE DRAWINGS.

THE BIDDER IS TO DISTRIBUTE THE DRAWINGS AND SPECIFICATIONS, THE SUPPLEMENTAL SPECIFICATIONS AND SCOPE OF WORK, AND ALL OTHER PERTINENT DOCUMENTATION AND INFORMATION TO ALL VENDORS AND SUBCONTRACTORS, AND ENSURE THAT ALL OF THE REQUIREMENTS ARE INCLUDED IN THE TENDER PRICE. THE BIDDER IS TO REPORT ALL DISCREPANCIES TO THE OWNER PRIOR TO SUBMITTING THE BID.

**FIELD VERIFY ALL CONDITIONS**

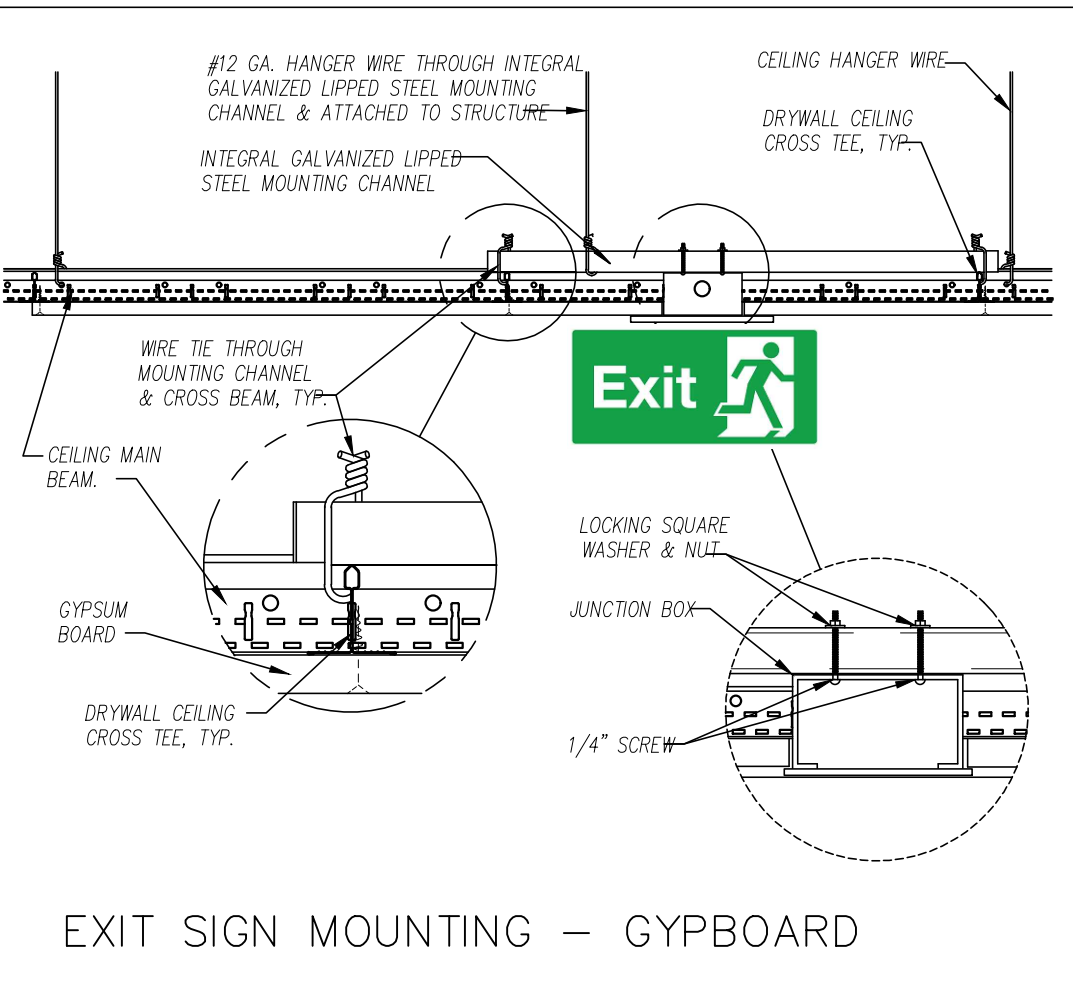
THIS ELECTRICAL CONTRACTOR MUST REVIEW ALL CURRENT SITE CONDITIONS WITH RESPECT TO NEW DESIGN DRAWINGS AND SPECIFICATIONS, UNLESS OTHERWISE INDICATED BY THE OWNER, ARCHITECT OR DRAWINGS. ALL ELECTRICAL, TELEPHONE, DATA, ETC. SYSTEMS NO LONGER REQUIRED SHALL BE DISCONNECTED FROM THEIR POWER SUPPLY AND REMOVED. (I.E. ALL BRANCH WIRING MUST BE PULLED FROM CONDUIT, WALLS OR CEILING SPACE AND MADE SAFE). ANY DISCREPANCIES FOR REMOVAL OR RE-USE OF ANY EXISTING EQUIPMENT MUST BE DISCUSSED WITH THE OWNER OR ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. (A SITE VISIT IS RECOMMENDED PRIOR TO TENDER).

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS, DRAWINGS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

FIXTURE SCHEDULE			
SYMBOL	DESCRIPTION	QTY.	REMARKS
⊙	150 [6"] DIA COMMERCIAL RECESSED LED DOWNLIGHT	145	LITHONIA LIGHTING LONG, 1000 LUMENS, 3500K DOWNLIGHT, WHITE MATTE DIFFUSE TRIM, WHITE PAINTED FLANGE. OCCUPANCY SENSOR FOR ALL WASHROOM
□	610 [24"] x 610 [24"] FLAT LED PANEL	06	LITHONIA LIGHTING CPAN, SWITCHABLE LUMEN LED FLAT PANEL, 610 [24"] x 610 [24"] 24/33/44LM, 3500 K CCT, 24LM
⊙	OCCUPANCY SENSOR		
⊗	BEGHELLI EXT SIGNAGE - CAT. # SL-NM-8-36-L-1-L-W-23R-AT-LED LAMP COLOUR - 4000K 120V MOUNTING HEIGHT - 2300 A.F.F.		LED 4000 K
⊕	BATTERY UNIT BU-1 FOR REMOTES: EQUAL TO LUMACELL MODEL R025-144-2-0302W-A1 MOUNTING HEIGHT - 2300 A.F.F.		LED 4000 K
⊕	DUAL HEAD REMOTE: EQUAL TO LUMACELL MODEL DR1130WH-MR16L010		(02) MR 16 LED LAMP 12V - 6W
⊕	SINGLE HEAD REMOTE: EQUAL TO LUMACELL MODEL DR1130WH-MR16L010		MR 16 LED LAMP 12V - 6W

R= RECESSED S= SURFACE W/B= WALL BRACKET SUS= SUSPENDED P= POLE  
GENERAL LIGHTING FIXTURE SCHEDULE NOTES:

- WHEN ORDERING LUMINAIRE SELECTIONS, CO-ORDINATE WITH OWNER, ARCHITECT, INTERIOR DESIGN DRAWINGS AND SUPPLIER.
- ALL OF THE ABOVE LIGHTING FIXTURES TO HAVE SHOP DRAWINGS SUBMITTED FOR APPROVALS PRIOR TO FABRICATION.
- LED FIXTURES/LAMPS MUST HAVE A YEAR WARRANTY MINIMUM 100,000 HOURS OR GREATER.
- FIXTURE TYPES IN CONTACT WITH INSULATION SHALL BE UIC APPROVED FOR THERMAL BARRIER.
- ALL LUMINAIRES MUST BE SUSPENDED INDEPENDENTLY OF CEILING SYSTEM BY MEANS OF CHAINS FROM BUILDING STRUCTURE TO SUIT INSPECTION AUTHORITY.
- ALL SUSPENDED LIGHT FIXTURES MOUNTING HEIGHTS TO BE CONFIRMED WITH ENGINEER/ARCHITECT AND INTERIOR DESIGN.
- REFER TO ARCHITECT, INTERIOR DESIGN ELEVATION AND DRAWINGS FOR EXACT LOCATIONS AND MOUNTING ELEVATIONS OF ALL FIXTURES.
- "CONTRACTOR SUPPLIER LUMINAIRES" - CONTRACTOR IS TO PROVIDE FIXTURE CUT FOR CLIENT APPROVALS AND CONSULTANT REVIEW. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN BID PRICE ALL COSTS RELATED TO ASSEMBLY OF LUMINAIRES, DELIVERY, HANDLING, INSTALLATION, OVERHEAD AND PROFIT AND ALL APPLICABLE TAXES.
- "CASH ALLOWANCES" - IN ALLOWANCES, WHERE SHOWN, ARE CANADIAN DOLLARS AND COVER THE COST OF THE LIGHTING LUMINAIRES AND LAMP. ALLOWANCES DO NOT INCLUDE APPLICABLE TAXES, DELIVERY TO SITE, HANDLING, INSTALLATION, OVERHEAD AND PROFIT. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID PRICE ALL COSTS RELATED TO ASSEMBLY OF THE LUMINAIRES, DELIVERY, HANDLING, INSTALLATION, OVERHEAD AND PROFIT AND ALL APPLICABLE TAXES.
- IT IS THE RESPONSIBILITY OF THIS ELECTRICAL CONTRACTOR TO CO-ORDINATE ALL LAMP TYPES FOR ALL LIGHT FIXTURES AND ITS DIMMER SWITCH TYPE AND SIZE TO SUIT LOAD WITH THE INTERIOR DESIGN AND MANUFACTURER'S PRIOR TO ROUGH IN. SUBMIT SHOP DRAWINGS FOR APPROVALS. ADVISE CONSULTANTS OF ANY DISCREPANCIES.



VOLTAGE DROP FOR BRANCH CIRCUITS	
BRANCH CIRCUIT WIRE SIZING CHART TO BE UTILIZED AS A GUIDELINE FOR VOLTAGE DROP COMPENSATION. INCREASE EQUIPT GROUND AND CONDUIT SIZE PER CANADIAN ELECTRIC CODE.	
20A - 120V CIRCUITS:	20A - 277V CIRCUITS:
#12 WIRE - 45' LENGTH MAX.	#12 WIRE - 120' LENGTH MAX.
#10 WIRE - 70' LENGTH MAX.	#10 WIRE - 190' LENGTH MAX.
#8 WIRE - 110' LENGTH MAX.	#8 WIRE - 295' LENGTH MAX.

NOTES:

- INFORMATION ABOVE DESIGNED TO PREVENT A VOLTAGE DROP EXCEEDING 3% FOR BRANCH CIRCUIT CONDUCTORS PER CEC REQUIREMENTS.
- BRANCH CIRCUIT WIRE SIZING CHART TO BE UTILIZED AS A GUIDELINE FOR VOLTAGE DROP COMPENSATION. INCREASE EQUIPMENT GROUND AND CONDUIT SIZE PER CEC AS NECESSARY.
- INFORMATION BASED ON 50% DIVERSITY AND 75°C TERMINATIONS.

**ROBERT E. DALE LIMITED**  
CONSULTING ENGINEERS

ENGINEERING DONE UPRIGHT.

429 EXMOUTH STREET  
SUITE 208, SARNIA,  
ONTARIO

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE USED OR REPRODUCED WITHOUT THE ENGINEER'S APPROVAL.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED.

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S.Y. KHAN  
113-27-6590

no.	revision	date	by
5	ISSUED FOR TENDER	12/09/2024	
4	UPDATED	11/29/2024	
3	ISSUED FOR TENDER	11/19/2024	
2	RE-ISSUED FOR SPA	11/08/2024	
1	UPDATED	09/26/2024	

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reviewed by RGD drawn by UC

date APRIL 2024

scale AS SHOWN

drawing title  
**LIGHTING PLAN AND DETAILS**

drawing number **E1.00**

client  
**THE CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8

project number  
**PRE-2023-0128**

**landscape planning**  
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Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2.  
Tel. 905.669.6838. www.landscapeplan.ca



**FIXTURE SCHEDULE**

SYMBOL	DESCRIPTION	MOUNTED
	MULTI SENSOR CAMERA	CEILING MOUNTED
	FIXED CAMERA	WALL CEILING MOUNTED
	360° CAMERA	CEILING MOUNTED
	INTRUSION KEYPAD, READER	WALL MOUNTED
	INTRUSION DOOR CONTACT	DOOR FRAME MOUNTED
	INTRUSION MOTION	CEILING MOUNTED
	FOB READER/ CARD READER	WALL MOUNTED
	ACCESS REMOTE DOOR RELEASE	SURFACE MOUNTED
	PANIC ALARM	SURFACE MOUNTED
	ACCESS OVERRIDE BUTTON	SURFACE MOUNTED
	SECURITY ACCESS CONTROL ENCLOSURES	WALL MOUNTED
	SECURITY 16U RACK	WALL MOUNTED

PANEL	L.P.-B	PROJECT	BSC - Pavilion
LNE VOLTAGE	208	LOCATION	Mech/Elec Room
NEUTRAL VOLTAGE	120	MOUNTING	Surface
MAINS AMPERES	225		
MAN BREAKER			

EQUIPMENT	WIRE LOAD	BRK	CCT	CC	BRK	LOAD	WIRE	EQUIPMENT	
	SIZE	KW	SIZE	SIZE	KW	SIZE	SIZE		
Emergency Lighting & Exit Signs	12	0.20	15	12	15	0.70	12	Door Operators	
Exterior Lighting	12	0.84	15	34	15	0.45	34	Door Operators	
General Lighting - Interior	12	0.60	15	5	20	0.63	12	Hand Dyer - W/R	
Univ. W/R & Change Rm Light/Fan	12	0.82	20	7	20	0.60	12	Office Receptacles	
W/R Lights & Fans	12	0.68	20	9	10	0.60	12	Reception Receptacles	
Vending Machine Receptacle	12	0.80	20	11	12	0.60	12	Storage Rm Receptacles	
Vending Machine Receptacle	12	0.80	20	13	20	0.63	12	W/R Receptacles	
Hand Dyer - Change Rm	10	1.50	20	15	16	0.40	12	Univ. W/R & Change Rm Rec.	
Hand Dyer - Univ. W/R	10	1.50	20	17	18	1.50	10	Hand Dyer - W/R	
Hand Dyer - W/R	10	1.50	20	19	20	1.50	10	Hand Dyer - W/R	
Success Alarm Control Panel	12	1.00	15	12	15	1.50	10	Hand Dyer - W/R	
Hot Water Tank	10	1.50	20	23	24	1.50	10	Hand Dyer - Change Room	
Furnace	10	1.40	20	25	26	1.50	10	Hand Dyer - Change Room	
A/C Condenser	8	5.87	50	27	28	1.50	10	Hand Dyer - Change Room	
A/C Condenser	8	5.87	50	29	30	1.50	10	Sensors - Water Closets	
Audio visual dedicated				20	32			Spare	
Receptacle				15	33			Spare	
				35	36	20	0.60	12	EXTERIOR RECEPTACLE
				37	38				
				39	40				
				41	42				
				43	44				
				45	46				
				47	48				

PHASE A LOADING	KW	9	PHASE AMPS	75
PHASE B LOADING	KW	14	PHASE AMPS	113
PHASE C LOADING	KW	15	PHASE AMPS	127
TOTAL	KW	38	PANEL AMPS	106

**NOTES ON ELECTRICAL AND COMMUNICATION**

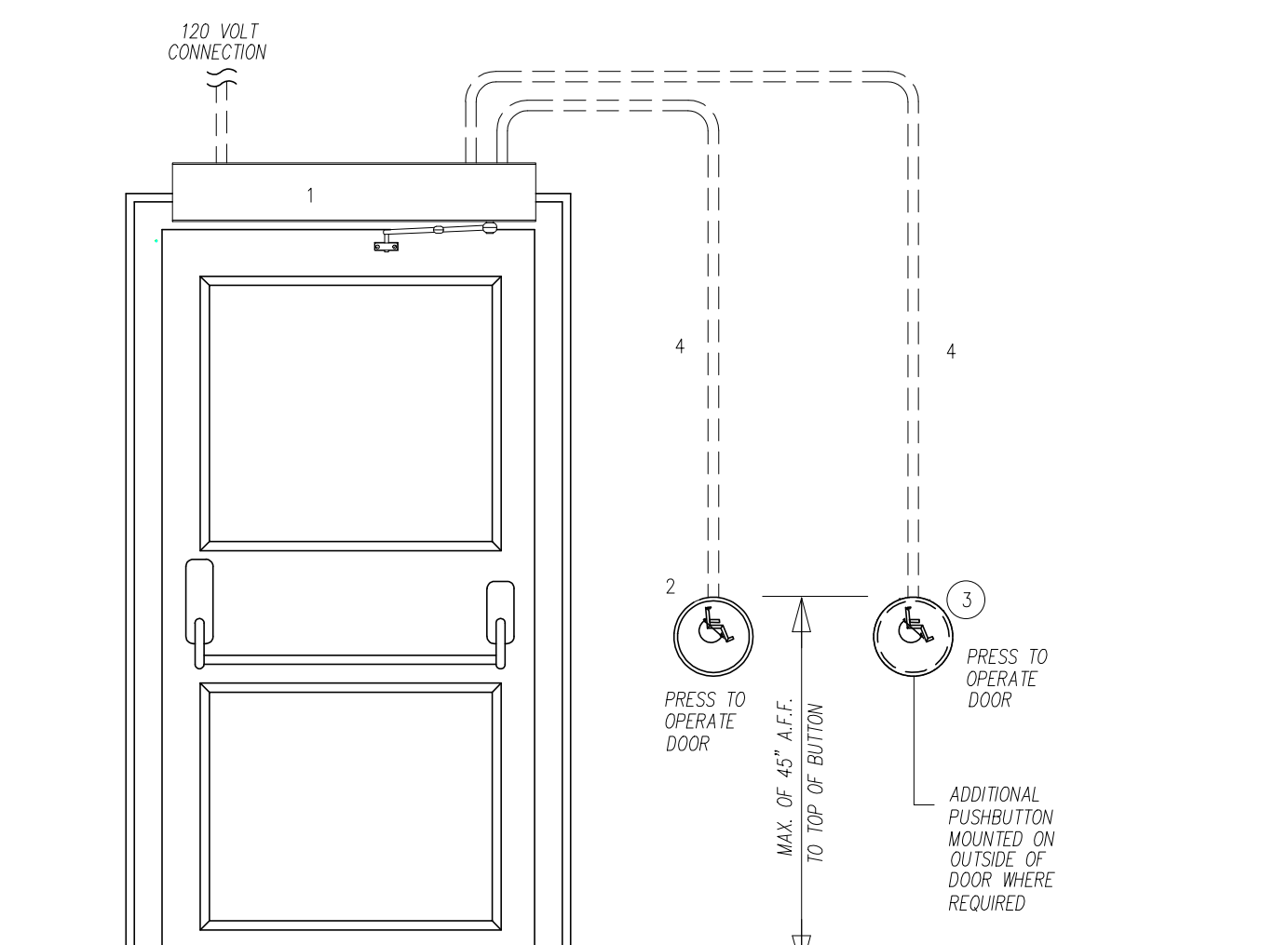
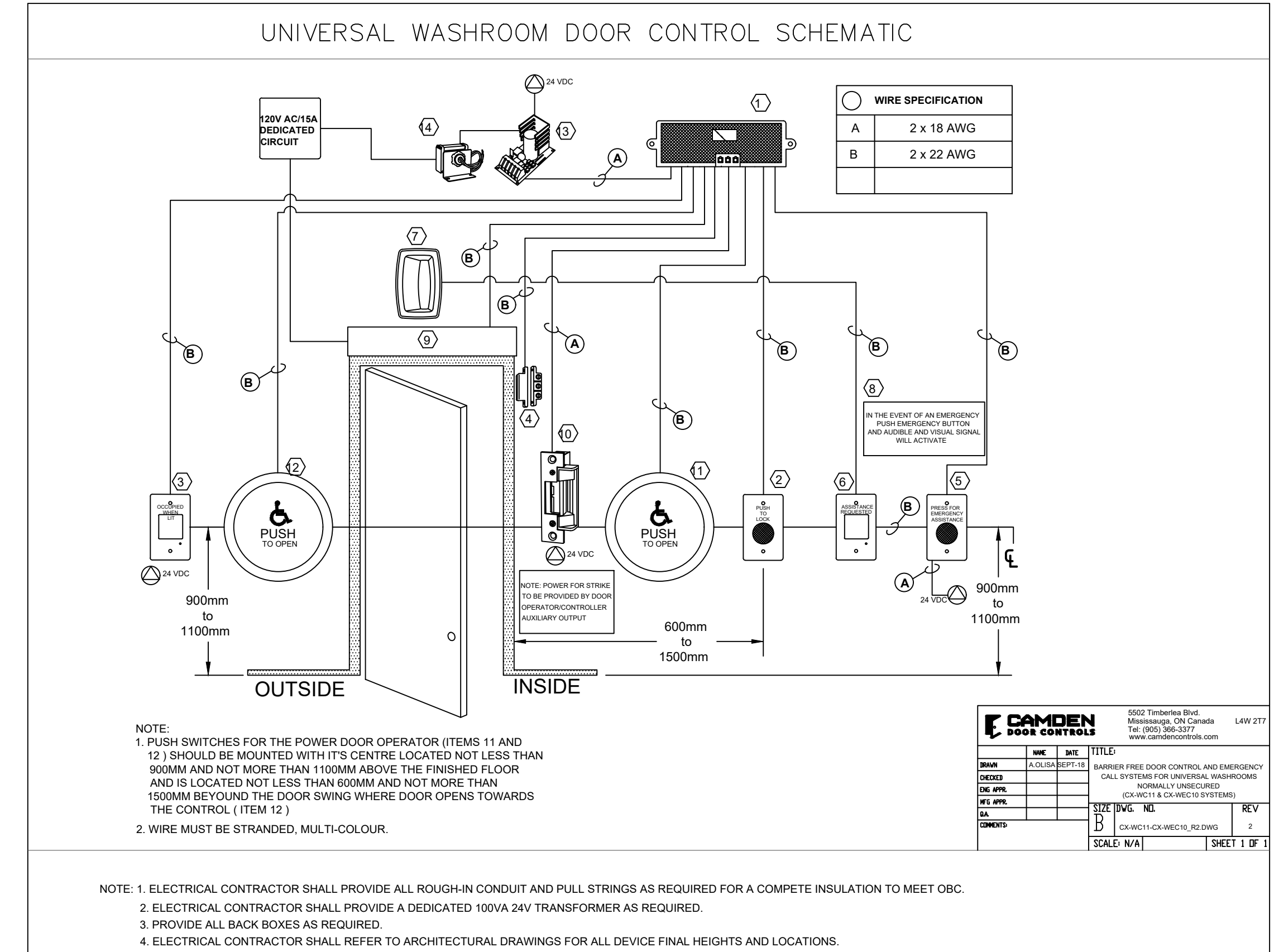
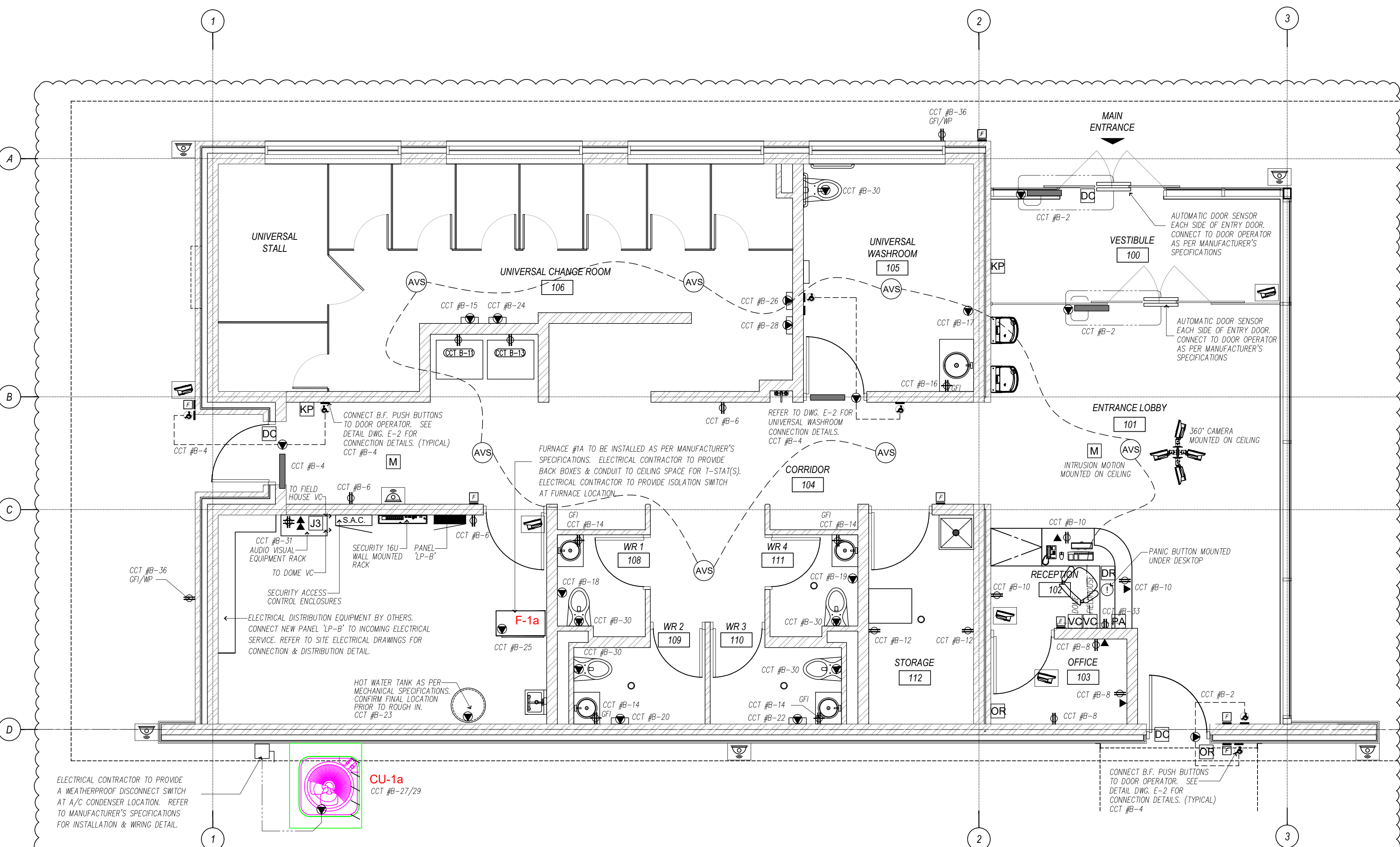
- ALL SWITCHES, DIMMERS, ETC. TO BE MOUNTED VERTICALLY WITH MINIMUM DIMENSION BETWEEN UNLESS OTHERWISE SPECIFIED. MOUNTING HEIGHT TO BE 4'2" UNLESS OTHERWISE SPECIFIED. SWITCHES OR RECEPTACLES GROUP AT SAME LOCATION, GANG THEM TOGETHER WITH SINGLE FACE PLATE.
- ALL ELECTRICAL AND TELEPHONE RECEPTACLES TO BE MOUNTED VERTICALLY WITH MINIMUM DIMENSION BETWEEN UNLESS OTHERWISE SPECIFIED. MOUNTING HEIGHT TO BE 4'2" UNLESS OTHERWISE SPECIFIED.
- REFER TO POWER AND COMMUNICATION PLAN AND REFLECTED CEILING PLAN FOR PLATE SPECIFICATION AND FINISHES.
- DIMENSIONS ARE TO CENTRE OF FIXTURE, CENTRE OF OUTLET OR CENTRE OF GROUP OF OUTLETS AS APPLICABLE.
- DESIGNER MUST APPROVE CHALKED OUTLINE OF LIGHTING FIXTURES WITHIN DRINKY WALL CEILING PRIOR TO CUTTING CEILING FOR INSTALLATION.
- MAINTAIN CO-ORDINATION BETWEEN TRADES FOR INSTALLATION OF RECESSED FACILITIES WITH MILLWORK AND/OR CEILING DETAILS.
- DESIGN DRAWINGS MUST BE READ IN CONJUNCTION WITH ENGINEERING DRAWINGS. DISCREPANCIES TO BE REPORTED TO THE DESIGNER PRIOR TO PROCEEDING WITH ANY WORK. DRAWINGS INDICATED DIMENSIONS AND LOCATIONS.
- LIST OF ELECTRICAL DEFECTS OR DEFICIENCIES IN THE WORK OF THE BASE BUILDING CONTRACTOR PRIOR TO COMMENCING WORK IN THE PREMISES. PRESENT A COPY OF THESE ITEMS TO THE INTERIOR DESIGNER AND BUILDING OWNER.
- ANY MATERIAL NOT SPECIFIED IN THESE SPECIFICATIONS SHALL BE THE SAME AS THAT OF THE EXISTING BUILDING.
- SHOULD THE ELECTRICAL DRAWINGS NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS, AND ANY INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING NAME, WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF CONDUIT, WIRWAYS, ETC. TO ACCOMMODATE THE CONDITIONS, THE BASE BUILDING DRAWINGS, STRUCTURAL, MECHANICAL AND INTERIOR DESIGNERS DRAWINGS SHOW MANY DETAILS RELEVANT TO THE ELECTRICAL SYSTEMS AND SHOULD BE REFERRED TO EQUALLY WITH THE ELECTRICAL DRAWINGS.
- PROVIDE A MINIMUM OF 96 HOURS NOTICE PRIOR TO ANY NECESSARY SHUTDOWN OF BUILDING SERVICES. ARRANGE AND CO-ORDINATE WITH BUILDING OWNER.
- ADHERE TO THE RULES AND REGULATIONS OF THE BASE BUILDING.
- RELOCATE TO AND CO-ORDINATE ALL WORK WITH BASE BUILDING PERSONNEL AND CONTRACTOR AS NECESSARY TO PERFORM WORK IN AS EXPEDITIOUS A MANNER AS POSSIBLE.
- ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE AND THE LOCAL AUTHORITIES HAVING JURISDICTION.
- IT IS HEREBY AGREED THAT ALL REQUIREMENTS HAVE BEEN EXAMINED AND CHECKED WITH THE ELECTRICAL INSPECTION DEPARTMENT AND C.S.A. AND A COMPLETE INSTALLATION IN ACCORDANCE WITH THESE REQUIREMENTS WILL BE PROVIDED AT THE TENDER PRICE.
- KEEP A PERMANENT RECORD OF EACH INSPECTION MADE BY THE INSPECTING AUTHORITY SHOWING THE DATE, INSPECTOR'S NAME, SCOPE OF THE INSPECTION AND STATEMENTS OF SPECIAL DEFICIENCIES OR PERMISSIONS GRANTED. THESE RECORDS SHALL BE AVAILABLE TO THE ENGINEER AT ALL TIMES, AND TURNED OVER TO HIM AFTER COMPLETION OF THE WORK.
- SUBMIT TO THE ENGINEER DETAILED DIMENSION SHOP DRAWINGS AND INSTALLATION WIRING DIAGRAM FOR ALL ELECTRICAL EQUIPMENT, SHOP DRAWINGS OF ALL SPECIAL LIGHTING FIXTURES AND BROCHURES OF CATALOGUE LIGHTING FIXTURES. FURTHER DETAILS AND SPECIAL REQUIREMENTS CALLED FOR IN THESE SPECIFICATIONS/OR ENGINEER'S DRAWINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.
- CONTRACTOR TO PROVIDE ZONE CONDUIT IN THE CEILING AND WALLS FOR POWER AND COMMUNICATION CABLES IN ACCORDANCE WITH THE LOCAL BUILDING CODE REQUIREMENTS. ALL CONDUITS, WIRWAYS, ETC. SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACE WHICH THEY PASS. CONDUITS, WIRWAYS, ETC. PARTICULARLY THOSE WHICH MAY INTERFERE WITH THE INSIDE TREATMENT OF THE BUILDING OR CONFLICT WITH OTHER TRADES, SHALL BE INSTALLED ONLY AFTER THE LOCATIONS HAVE BEEN FULLY CO-ORDINATED WITH OTHER TRADES. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF CONDUITS, WIRWAYS, ETC. WHICH ARE TO BE CONCEALED TO SEE THAT THEY COME WITHIN THE FINISHED LINES OF FLOORS, WALLS AND CEILINGS. WHERE SUCH CONDUITS, WIRWAYS, ETC. HAVE BEEN INSTALLED IN SUCH A MANNER AS TO CAUSE INTERFERENCE, THEY SHALL BE REMOVED AND REINSTALLED IN SUITABLE LOCATIONS WITHOUT EXTRA COST. IN NO PLACE SHALL STRUCTURAL FIREPROOFING BE REMOVED OR DAMAGED. SPACE SHALL BE LEFT TO PERMIT FIREPROOFING TO BE INSPECTED AND/OR REPAIRED.
- WHERE CONDUIT AND EQUIPMENT IS LOCATED ON WALLS OR SLABS WHICH WILL NOT PERMIT THE SUPPORT OF EQUIPMENT, PROVIDE SUITABLE SUPPORTS TO THE BUILDING STRUCTURE. SUPPORTS SHALL BE CONSTRUCTED OF STEEL MEMBERS OR OF STEEL PIPE AND FITTINGS DESIGNED TO SAFELY SUPPORT THE EQUIPMENT. ALL SUPPORTS SHALL BE APPROVED PRIOR TO INSTALLATION.
- ALL CUTS SHALL BE CLEAN, TRUE WITH SMOOTH EDGES. WORK WITHIN TOLERANCES ESTABLISHED BY EXISTING WORK AND IN CONFORMANCE WITH THE BEST STANDARD PRACTICE FOR THE APPLICABLE CLASS OF WORK. MAKE ALL PATCHES IN FINISHED WORK UNDETECTABLE.
- ALL FIXTURES SHALL BE INSTALLED ACCURATELY IN LINE AND LEVEL. CO-ORDINATE THIS WORK WITH OTHER TRADES TO ENSURE THAT THEIR WORK IS NOT HELD UP AND THAT THE FIXTURES ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FIXTURE STUDS OR OTHER EQUALLY SECURE METHODS OF ATTACHMENT SHALL BE USED THROUGHOUT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE CEILING FINISHES IN ALL AREAS WHERE RECESSED FIXTURES ARE BEING INSTALLED TO ENSURE THAT THE FIXTURES WHICH ARE ORDERED FOR THESE AREAS ARE PURCHASED WITH SUITABLE CEILING TRIM FOR THE PARTICULAR CEILING FINISH. FIXTURES WHICH ARE SENT TO THE SITE WITH WRONG CEILING TRIM OR FLANGES SHALL BE REPLACED WITH FIXTURES HAVING THE CORRECT TRIMS WITHOUT ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL NOTIFY THE INTERIOR DESIGNER OF THE CEILING AREAS IMPROPERLY INSTALLED AND SHALL BE QUOTED BY HIS DECISION BEFORE PROCEEDING WITH THE FIXTURE INSTALLATION.
- IF LIGHTING FIXTURES PENETRATE A FIRE-RATED CEILING, THEY SHALL BE ENCLOSED WITH SUITABLE FIRE-RATED ENCLOSURE ABOVE THE CEILING HAVE THE SAME FIRE-RATING AS THE CEILING. THE CONTRACTOR SHALL CAREFULLY CHECK THE ARCHITECTURAL DRAWINGS FOR CEILING DETAILS AND SHALL ENSURE FIRE-RATED ENCLOSURES ARE EQUAL TO THE CEILING FIRE-RATING.
- FIXTURES SHALL BE PROPERLY CLEANED AT THE TIME OF INSTALLATION. ANY FIXTURE SHOWING MARKS OR SCRATCHES DUE TO HANDLING OR TOOL MARKS SHALL BE REPLACED AT DESIGNER'S DISCRETION.
- ALL EQUIPMENT SHALL BE THROUGHOUT VACUUMED OUT AT THE TIME OF FINAL ACCEPTANCE OF THE WORK. PLASTICS OF LIGHTING FIXTURES SHALL BE CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- CONTRACTOR TO CO-ORDINATE TELEPHONE AND COMPUTER TERMINAL ELECTRICAL/CABLE REQUIREMENTS WITH CLIENT/OWNER AND BELL CANADA.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CUTTING OF CEILING TILE IN PREPARATION FOR ANY ITEM BEING CONNECTED TO THE ELECTRICAL SYSTEM.
- CONTRACTOR IS TO INSTALL ALL CEILING TILE AS REQUIRED UPON COMPLETION OF WORK IN CEILING SPACE.
- CONTRACTOR TO INCLUDE FOR ALL CUTTING AND PATCHING REQUIRED FOR PROPOSED MECHANICAL AND ELECTRICAL CONTRACTOR TO STAGGER INSTALLATION OF WALL OUTLETS WITHIN SAME PARTITION TO PREVENT SOUND TRANSFER.
- THE CONSULTING ENGINEER AND CONTRACTOR SHALL INCLUDE ITEMS OR FIXTURES AS CALLED FOR BY NAME AND MANUFACTURER ON THE DRAWINGS. APPROVAL IS REQUIRED BY THE DESIGNER BEFORE PROCEEDING WITH A CHANGE IN MATERIAL.
- ELECTRICAL AND MECHANICAL CONSULTANTS' PLANS SHALL GOVERN EXCEPT FOR LOCATION OF FIXTURES SUCH AS LIGHTING, SWITCHES AND POWER AND COMMUNICATIONS OUTLETS, ETC.
- ALL LOCATIONS OF DIFFUSERS, RETURN AIR GRILLES, ACCESS PANELS TO BE REVIEWED AND APPROVED BY THE DESIGNER BEFORE INSTALLATION.
- GENERAL CONTRACTOR SHALL CO-ORDINATE WITH M & E SUB-TRADES FOR THE MINIMUM QUANTITY AND SIZE OF ALL ACCESS PANELS.

**GENERAL POWER NOTES:**

- COVER PLATES FOR COMMERCIAL & COMMON AREA RECEPTACLES REQUIRING COVER PLATES SHALL BE STAINLESS STEEL TYPE USING LEVITON STYLE-LINE OPERATOR SERIES, USE CATALOGUE # 5264-W.
- RECEPTACLE OUTLETS FOR COMMERCIAL & COMMON AREA SHALL BE OF WHITE SPECIFICATION GRADE AND RATED FOR 120V USING LEVITON MANUFACTURER:
- 15A, 1P - CATALOGUE # 16262-W
  - 20A, 1P T-SLOT - CATALOGUE # 16342-W
  - 15A, 1P GFCI - CATALOGUE # 7899-W
  - 20A, 1P GFCI - CATALOGUE # 7899-W
  - 20A, 1P FINDER - CATALOGUE # 5362-S-BU
  - 15A, 1P GFCI RECEPTACLE - CATALOGUE # M1626-IC
  - 15A, 1P EMERGENCY RECEPTACLE - CATALOGUE # M1626-OR
- WEATHERPROOF COVER PLATES SHALL BE DIE CAST CORROSION RESISTANT ALUMINIUM TYPE WITH TWO SEPARATE LIDS FOR DUPLEX RECEPTACLES SUITABLE FOR MOUNTING ON V.S. TYPE BOXES. ALL WEATHERPROOF COVER PLATES SHALL HAVE RUBBER OR NEOPRENE GASKETS. PLATES FOR SURFACE MOUNTED CAST BOXES SHALL BE GALVANIZED FORMED STEEL TYPE. COVER PLATES FOR FLUSH MOUNTED EQUIPMENT SHALL BE SUPPLIED OF QUALITY AND PERFORMANCE SPECIFIED BY THE MANUFACTURER OF THE EQUIPMENT. COVER PLATES SHALL NOT CARRY MANUFACTURER'S NAME.

**ELECTRICAL LEGEND**

SYMBOL	DESCRIPTION
	WIRED MIC AND AUDIO 1-GANG J-BOX
	DOMED 1-GANG J-BOX
	FIELDHOUSE 1-GANG J-BOX
	AUDIO/MIC INPUT 1-GANG J-BOX
	AV IN/OUTPUT AT RACK 3-GANG J-BOX
	CEILING MOUNTED LOUSPEAKERS
	ONE OR MORE DATA DROP
	QUAD 120V 15A POWER SUPPLY ON DEDICATED 20A CIRCUIT
	DUPLEX 120V 15A POWER SUPPLY



- NOTES:**
- DOOR OPERATOR SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE AND TERMINATE 120V CONNECTION TO DOOR OPERATOR.
  - HANDICAP OPERATOR BUTTON SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE SUITABLE BACKBOX FOR BUTTON COMPLETELY RECESSED INTO WALL IN LOCATIONS WHERE SURFACE MOUNTING IS REQUIRED. ELECTRICAL CONTRACTOR SHALL PROVIDE A SURFACE MOUNT BACKBOX COORDINATE BACKBOX INSTALLATIONS WITH HARDWARE SUPPLIER. REFER TO DRAWINGS PLANS FOR LOCATION OF BUTTONS.
  - OUTSIDE HANDICAP OPERATOR BUTTON SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE SUITABLE BACKBOX FOR BUTTON COMPLETELY RECESSED INTO WALL. IN LOCATIONS WHERE SURFACE MOUNTING IS REQUIRED ELECTRICAL CONTRACTOR SHALL PROVIDE A SURFACE MOUNT BACKBOX. COORDINATE BACKBOX INSTALLATIONS WITH HARDWARE SUPPLIER. REFER TO DRAWINGS PLANS FOR LOCATION OF BUTTONS.
  - ELECTRICAL CONTRACTOR SHALL PROVIDE A 19mm EMT CONDUIT OR FLEXIBLE METAL CONDUIT, RECESSED IN WALL FROM BUTTON LOCATION TO DOOR OPERATOR. PROVIDE 4 x #18 FT-4 CABLE (EQUAL TO PROVO CABLE # 9184) BETWEEN BUTTON AND OPERATOR. IN FINISHED LOCATIONS WHERE RECESSED CONDUITS ARE NOT POSSIBLE ELECTRICAL CONTRACTOR SHALL PROVIDE SURFACE RACEWAY EQUAL TO WIREMOLD 1700 SERIES.
  - ELECTRICAL CONTRACTOR SHALL PROVIDE A 120 VOLT CONNECTION FOR DOOR OPERATOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL FINAL TERMINATIONS.

**DOOR CONTROL DETAIL**

**FIELD REVIEW SIGN-OFF DOCUMENT CHECKLIST**

- DOCUMENTS REQUIRED FOR SIGN-OFF:
  - CERTIFICATE OF FINAL INSPECTION FROM THE LOCAL HYDRO INSPECTION AUTHORITY (BY DIVISION 26)
  - LETTER OF COMPLIANCE FOR SEISMIC RESTRAINT (BY DIVISION 26). ONLY REQUIRED IF ARCHITECT OR STRUCTURAL ENGINEER NOTES SEISMIC APPLIES.
  - FIRE ALARM SYSTEM VERIFICATION REPORT AND CERTIFICATE (BY GENERAL CONTRACTOR). ONLY REQUIRED IF ARCHITECT NOTES FIRE ALARM SYSTEM IS REQUIRED OR IF THERE IS AN EXISTING FIRE ALARM SYSTEM AND IT WAS MODIFIED OR ALTERED.
- DOCUMENTS REQUIRED FOR ENGINEERS REVIEW & RECORD:
  - ELECTRICAL LOAD BALANCE REPORT (BY DIVISION 26)
  - AS-BUILT DRAWINGS (BY DIVISION 26)

**BARRIER FREE DOOR OPERATOR DETAIL**





ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE USED OR REPRODUCED WITHOUT THE ENGINEER'S APPROVAL.

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING.

DRAWINGS MUST NOT BE SCALED

### ELECTRICAL SPECIFICATIONS

#### PART 1 - GENERAL

- 1. THE GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS AS SET FORTH IN THE GENERAL CONTRACT SPECIFICATIONS AND ALL ADDENDA THERETO SHALL APPLY TO, AND GOVERN ALL PORTIONS OF THE ELECTRICAL WORK.
- 2. POINTS NOT SPECIFICALLY MENTIONED SHALL BE IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE CANADIAN ELECTRICAL CODE AND REGULATIONS OF THE ELECTRICAL INSPECTION DEPARTMENT FROM WHICH THE PERMIT WAS OBTAINED.
- 3. WHERE THE TERMS "FURNISH", "PROVIDE" OR "INSTALL" APPEAR IN THIS DIVISION, OR A MANUFACTURER IS INDICATED WITH ITEM OR PRODUCT CATALOG NUMBER LISTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH AND INSTALL THE ITEM COMPLETELY AND OPERATING FOR THE PURPOSE OR FUNCTION INTENDED, UNLESS OTHERWISE NOTED.
- 4. WHERE THE TERM "WORK" APPEARS IN THIS DIVISION, IT INCLUDES ALL LABOUR, MATERIALS AND SERVICES REQUIRED AS DESCRIBED IN THE CONTRACT DOCUMENT.
- 5. IN CASES OF CONFLICT(S) WITH THE DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.
- 6. PRIOR TO PROCEEDING WITH THE WORK, THE CONTRACTOR SHALL THOROUGHLY EXAMINE AND VERIFY DRAWINGS, SPECIFICATIONS AND AMENDMENTS FOR ANY ERRORS, INCONSISTENCIES AND DEVIATIONS WHICH MAY BE DISCLOSED BY SUCH EXAMINATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK WHILE UNCERTAIN IN ANY INTERPRETATION ON THE DRAWINGS OR THE SPECIFICATIONS.

#### PART 2 - CODES, PERMITS AND INSPECTIONS

- 2.1 THE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE AS AMENDED BY THE AUTHORITY HAVING JURISDICTION, LOCAL BUILDING CODE AND THE REGULATIONS OF THE ELECTRICAL INSPECTION DEPARTMENT HAVING JURISDICTION.
- 2.2 THE ELECTRICAL TRADE SHALL OBTAIN ALL ELECTRICAL PERMITS REQUIRED AND AFTER COMPLETION SHALL FURNISH TO THE ENGINEER A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION DEPARTMENT.
- 2.3 FEES FOR ALL PERMITS AND LICENSES REQUIRED FOR THE WORK SHALL BE INCLUDED BY THE ELECTRICAL CONTRACTOR.

#### PART 3 - STANDARD OF ACCEPTANCE

- 3.1 ALL MATERIALS SHALL BE NEW AND OF THE QUALITY SPECIFIED UNLESS SPECIFICALLY SHOWN AS EXISTING TO BE RE-USED IN THE CONTRACT DOCUMENTS. NEW MATERIALS SHALL CONFORM TO THE STANDARDS OF THE CSA AND THE UL/C AND APPROVED BY THESE AGENCIES, WHERE APPLICABLE. FOR ANY MATERIAL NOT CSA APPROVED, THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE LOCAL INSPECTION AUTHORITY AND SHALL BEAR ALL INSPECTION CHARGES LEVIED AND ANY MODIFICATION COSTS REQUIRED.
- 3.2 ALL PHASES OF THE ELECTRICAL INSTALLATION SHALL BE EXECUTED IN A SATISFACTORY, WORKMANLIKE MANNER AND SHALL PRESENT A NEAT APPEARANCE WHEN COMPLETED. WORK NOT COMPLETED SATISFACED TO THE ENGINEER SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

#### PART 4 - SETTING OUT THE WORK

- 4.1 ELECTRICAL WORK IS TO BE CARRIED OUT BY QUALIFIED, LICENSED ELECTRICIANS WHO HOLD A VALID PROVINCIAL LICENSE IN ACCORDANCE WITH THE ELECTRICAL SAFETY ACT (ESA).
- 4.2 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE STANDARDS OF THE CSA AND THE UL/C AND APPROVED BY THESE AGENCIES, WHERE APPLICABLE. WHERE THE INTENT OF THE DRAWINGS AND SPECIFICATIONS ARE NOT CLEAR, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- 4.3 WHERE ANY EQUIPMENT SUPPLIED BY THE ELECTRICAL TRADE MUST BE BUILT-IN WITH WORK OF OTHER CONTRACTORS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLYING OF THE EQUIPMENT TO BE BUILT-IN OR MEASUREMENTS TO ALLOW NECESSARY OPENINGS TO BE LEFT SO AS NOT TO HOLD UP THE WORK.
- 4.4 THE ELECTRICAL TRADE, IN SETTING OUT OF HIS WORK, SHALL MAKE REFERENCE TO ALL OTHER DISCIPLINES AND SPECIFICATIONS. THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE RESPECTIVE TRADES IN SETTING OUT LOCATIONS FOR ALL EQUIPMENT AND WIRING SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL SPACING IS MAINTAINED.
- 4.5 BEFORE SUBMITTING TENDER, CAREFULLY EXAMINE THE SITE OF THE PROPOSED WORK SO AS TO ASCERTAIN ALL EXISTING CONDITIONS AFFECTING THE WORK. NO EXTRAS WILL BE ALLOWED FOR WORK NECESSITATED BY CONDITIONS ORDINARILY EVIDENT ON THE SITE OR WHICH UNDER ANY CONDITIONS THAT MAY AFFECT THE PROPER COMPLETION OF THIS WORK.
- 4.6 WHERE LIGHTING FIXTURES, SPEAKERS, ETC. OCCUR IN ACOUSTIC TILE TYPE CEILING, THE FIXTURE OR SPEAKER LOCATION SHALL BE COORDINATED WITH THE TILE PATTERN AND SHALL BE ADJUSTED, IF REQUIRED TO SUIT THE TILE PATTERN.
- 4.7 WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, BENCHES, BACKSPLASHES, ETC., LOCATION AND MOUNTING HEIGHTS SHALL BE COORDINATED WITH THE BUILT-IN WORK OF OTHER CONTRACTORS.
- 4.8 MOUNTING HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL DETAILS AND SHALL BE ADJUSTED, IF REQUIRED, TO SUIT PANELING, DADOS, MASONRY COURSE LINES, ETC.

#### PART 5 - TESTING

- 5.1 PERFORM MEGGER TESTS ON ALL FEEDERS TO ENSURE THAT THE C.E.C. REQUIREMENTS ARE MET. TAKE CURRENT READINGS ON ALL FEEDERS AND IF LOAD UNBALANCE EXCEEDS 15%, RECONNECT LOADS TO BRING WITHIN BALANCE.

#### PART 6 - CO-ORDINATION AND CO-OPERATION

- 6.1 COORDINATE WORK WITH ALL TRADES TO ENSURE A PROPER AND COMPLETE INSTALLATION. NOTIFY ALL TRADES FOR REQUIREMENTS FOR OPENINGS, SLEEVES, PENETRS AND OTHER HARDWARE NECESSARY IN THEIR WORK FOR INSTALLATION OF YOUR WORK, AND, WHERE YOUR WORK TO BE INTEGRATED WITH WORK OF TRADES, CAREFULLY COORDINATE ALL WORK PRIOR TO AND DURING INSTALLATION.
- 6.2 COORDINATE AND PLAN THE LOCATION AND ROUTING OF SERVICES WITH ALL TRADES AFFECTED PRIOR TO INSTALLATION. GENERALLY, PIPING REQUIREMENT UNIFORM PITCH SHALL BE GIVEN RIGHT OF WAY, WITH OTHER SERVICES LOCATED AND ARRANGED TO SUIT.

#### PART 7 - GUARANTEE/WARRANTY

- 7.1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE FOR THE FOLLOWING:
  1. ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
  2. CONTRACTOR AGREES THAT IT WILL, AT ITS OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK AND OTHER WORK DAMAGED THEREBY WHICH FAILS OR BECOMES DEFECTIVE DURING THE TERM OF THE WARRANTY PERIOD PROVIDED SUCH FAILURE IS NOT A RESULT OF IMPROPER USAGE.
  3. THE PERIOD OF THE GUARANTEE SPECIFIED SHALL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD, BUT SHALL BE BINDING ON WORK NOT OTHERWISE COVERED.

#### PART 8 - INTERRUPTIONS TO AND SHUT DOWNS OF EXISTING SERVICES AND SYSTEM

- 8.1 DO NOT SHUT DOWN OR DISCONNECT ANY EXISTING SERVICE OR SYSTEM WITHOUT THE OWNER'S APPROVAL. CONTRACTOR TO PREPARE WORK FOR REQUIRED SHUT-DOWN, UNLESS OTHERWISE NOTED. SERVICES TO BE DISCONNECTED OR THE PERFORMANCE OF THE EXISTING SERVICE OR SYSTEM SHUT DOWN SHALL BE PERFORMED BY THE OWNER'S OWN AUTHORIZED PERSONNEL. ALL SHUT DOWNS SHALL BE COORDINATED WITH THE CONSULTANT ENGINEER AND THE OWNER'S REPRESENTATIVE.
- 8.2 CONTRACTOR TO OBTAIN WRITTEN APPROVAL A MINIMUM OF FIVE (5) DAYS IN ADVANCE OF SHUT DOWNS AND INTERRUPTIONS. INCLUDE FOR ASSOCIATED COSTS OF WORK PERFORMED DURING NIGHTS, WEEKENDS OR TIMES OUTSIDE OF NORMAL WORKING HOURS, AS NECESSARY TO MAINTAIN SERVICES IN OPERATION OR WITH MINIMUM INTERRUPTIONS COMPLYING WITH THE OWNER'S REQUIREMENTS. TO AFTER HOURS FOR NIGHTS.

#### PART 9 - RECORD DRAWINGS (AS-BUILTS)

- 9. WHEN WORK BEGINS AT SITE ON A DAILY BASIS, CONTRACTOR TO CLEARLY AND ACCURATELY MARK ON A BOUND SET OF WHITE PRINTS OF CONTRACT DRAWINGS ALL CHANGES AND/OR DEVIATIONS INCLUDING THOSE MADE BY ADDENDAS, CHANGE ORDERS, AND SITE INSTRUCTIONS.

- 9.2 MAINTAIN A COPY OF THE AS-BUILT WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY THE CONSULTANT ENGINEER THROUGHOUT THE DURATION OF WORK.
- 9.3 AS-BUILT DRAWINGS ARE TO INCLUDE ROUTING OF ALL FEEDERS, EXCEPT FOR BRANCH CIRCUITS. LOCATION OF ALL JUNCTION BOXES ARE TO BE SHOWN, QUANTITY OF WIRES IN EACH CONDUIT, AND CIRCUIT NUMBERS OF WIRES IN EACH CONDUIT.
- 9.4 PRIOR TO APPLYING FOR A CERTIFICATE OF SUBSTANTIAL PERFORMANCE OF WORK, CONTRACTOR TO SUBMIT THE FINAL "AS-BUILT" SITE DRAWING WHITE PRINTS FOR REVIEW BY THE ENGINEER. CONTRACTOR TO MAKE REVISIONS IF REQUESTED BY THE CONSULTANT ENGINEER.
- 9.5 FINAL AS-BUILT PRINTS/NOTES SHALL NOT CONTAIN MARKINGS OR CORRECTIONS BY HAND (i.e. PEN, PENCIL, MARKERS, AND ETC.), REFERENCES TO THE ARCHITECT/INTERIOR DESIGNER AND ENGINEER SHALL BE DELETED FROM THE DRAWINGS/PLANS. FINAL AS-BUILT DRAWINGS SHALL BE IN CAD FORMAT.

#### PART 10 - IDENTIFICATION

- 10.1 LABEL ALL PANELS, STARTERS, TERMINALS, LIGHTING CONTROLS, TRANSFORMERS WITH 13MM LAMICOID PLATES, PERMANENTLY ATTACHED TO THE EQUIPMENT.
- 10.2 PROVIDE ADHESIVE LABELS FOR RECEPTACLE CIRCUIT NUMBERS AND VOICEDATA JACK IDENTIFICATION.

#### PART 11 - HAZARDOUS MATERIAL

- 11.1 IF AT ANY TIME DURING THE COURSE OF WORK ASBESTOS MATERIALS ARE ENCOUNTERED OR SUSPECTED, CONTRACTOR TO CEASE WORK IN AREAS IN QUESTION AND IMMEDIATELY REPORT IN ACCORDANCE WITH ONTARIO REGULATION 644/88 (SECTION 83) TO THE CONSULTANT. DO NOT RESUME WORK IN AFFECTED AREA WITH APPROVAL FROM THE CONSULTANT.
- 11.2 MATERIALS CONTAINING MERCURY SHALL BE PROPERLY DISPOSED FROM SITE IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS.
- 11.3 CONTRACTOR TO RETAIN THE SERVICES OF SPECIALTY FIRMS LICENSED BY THE LOCAL AUTHORITIES TO HANDLE SUCH HAZARDOUS MATERIALS AND TO ENSURE PROPER DISPOSAL TO A MINISTRY APPROVED SITE. CONTAIN AND SUBMIT COPIES OF PERMITS AND/OR APPROVALS.

#### PART 12 - CLEANUP

- 12.1 DURING THE COURSE OF THE CONSTRUCTION, CONTRACTOR SHALL KEEP THE SITE REASONABLY CLEAN OF RUBBISH AND WASTE MATERIALS. ON DAILY BASIS UPON COMPLETION OF WORK, REMOVE RUBBISH AND DEBRIS. ARRANGE AND PAY FOR REPAIR OF DAMAGES CAUSED AND LEAVE PREMISES AND WORK IN GOOD ORDER.

#### PART 13 - INSPECTION OF WORK

- 13.1 CONSULTANTS SHALL HAVE ACCESS TO WORK SITE AT ALL TIMES, AND SHALL BE NOTIFIED AR AGREED UPON TIMES OF STAGES OF WORK.
- 13.2 WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH THE PERFORMANCE SPECIFIED OR IMPLIED, SUCH DEFICIENCIES SHALL BE CORRECTED AS DIRECTED BY THE CONSULTANT. ANY CHARGES FOR CORRECTING SUCH DEFICIENCIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. RETESTING SHALL ALSO BE AT THE EXPENSE OF THE CONTRACTOR.

#### PART 14 - NOISE CONTROL

- 14.1 WORK WHICH MAY CAUSE NOISE DISTURBANCES MUST BE SCHEDULED AT TIMES APPROVED BY THE CONSULTANT. COORDINATE WORK WITH TRADES TO MINIMIZE NOISE DISTURBANCES.

#### PART 15 - CUTTING, PATCHING AND CORE DRILLING

- 15.1 CUT, PATCH AND CORE DRILL OF EXISTING BUILDING REQUIRED FOR INSTALLATION, CUT ALL OPENINGS NO LARGER THAN IS REQUIRED FOR THE SERVICE. CORE DRILL FOR INDIVIDUAL SERVICES.
- 15.2 PERFORM CUTTING IN NEAT FASHION WITH PROPER TOOLS AND EQUIPMENT TO MINIMIZE DAMAGE TO EXISTING BUILDING.
- 15.3 OBTAIN APPROVAL FROM THE STRUCTURAL CONSULTANT PRIOR TO CUTTING OR CORE DRILLING OF ANY OPENINGS OR HOLES.
- 15.4 IN FIRE RATED CONSTRUCTION, PATCH AND SEAL VOIDS BETWEEN OPENINGS AND CONDUITS FOR LENGTH OF OPENING WITH ASBESTOS FREE ELASTOMERIC AND INTUMESCENT UL LISTED MATERIALS.
- 15.5 INSTANT FIRESTOP AND SMOKE SEAL MATERIALS IN ACCORDANCE WITH UL/C AND THE LOCAL BUILDING CODE REQUIREMENTS.
- 15.6 DO NOT CUT OR DRILL EXISTING WORK WITHOUT OWNER'S APPROVAL. IN EXISTING AREAS ALL CUTTING, AND CORE DRILLING FOR INDIVIDUAL SERVICES IS PART OF THIS DIVISION WORK.
- 15.7 ANY DAMAGES CAUSED TO THE EXISTING BUILDING AND SERVICES BY CUTTING AND CORE DRILLING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 15.8 ALL ASSOCIATED COST OF CUTTING AND PATCHING IS INCLUDED IN THIS DIVISION.

#### PART 16 - WIRING METHODS

- 16.1 ALL WIRING TO BE COPPER, UNLESS OTHERWISE NOTED.
- 16.2 ALL CABLING SHALL BE FT4 RATED EXCEPT IN PLENUM SPACES WHICH SHALL BE FT4 RATED. NOTE THAT THE 7-BAR CEILING SPACES FOR THIS PROJECT ARE PLENUM SPACES SO ALL WIRING WITHIN THAT SPACE SHALL BE FT4.
- 16.3 FEEDERS SHALL BE SIZED WITH A MAXIMUM OF 2% VOLTAGE DROP.
- 16.4 BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG SOC RATED IN EMT OR AC-90 MAY BE USED, WHERE PERMITTED. THE CONDUIT SHALL BE SIZED AND NOT SHOWN, THE AMPACITY MUST MATCH OR EXCEED THAT OF THE PROTECTIVE DEVICE.
- 16.5 WIRING SHALL BE INSTALLED CONTINUOUSLY WITHIN RACEWAYS. SPLICING SHALL ONLY BE PERMITTED AT OUTLETS AND JUNCTION BOXES.
- 16.6 PROVIDE A BONDING WIRE IN ALL RACEWAYS.
- 16.7 ALL WIRING TO BE CONCEALED IN WALLS, CEILINGS OR FLOORS, WHERE POSSIBLE. EXPOSED CONDUIT OR WIRING SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO THE BUILDING LINES.
- 16.8 PULL BOXES SHALL BE INSTALLED TO BE AS HIDDEN AS POSSIBLE WITHOUT IMPEDING ACCESS.

#### PART 17 - WIRING DEVICES

- 17.1 LIGHT SWITCHES SHALL BE COMMERCIAL GRADE, DECORA STYLE, 15A OR 20A AS REQUIRED, WHITE FINISH, UNLESS OTHERWISE NOTED.
- 17.2 RECEPTACLES SHALL BE COMMERCIAL GRADE, DECORA STYLE, 15A OR 20A AS REQUIRED, WHITE FINISH, UNLESS OTHERWISE NOTED.
- 17.3 COVER PLATES SHALL BE THERMOPLASTIC IN FINISHED AREAS WITH COLOUR TO MATCH DEVICES. PROVIDE STAMPED METAL COVER PLATES IN UNFINISHED AREAS AND WEATHERPROOF IN-USE COVERS FOR EXTERIOR RECEPTACLES.

#### PART 18 - MOUNTING HEIGHTS

- 18.1 MOUNTING HEIGHTS SHALL BE FROM THE FINISHED FLOOR TO THE CENTRE OF EQUIPMENT, UNLESS OTHERWISE NOTED. MOUNTING HEIGHT IS NOT SPECIFIED, VERIFY WITH ENGINEER PRIOR TO INSTALLATION.
  - 1 SWITCHES: 1200MM (48 IN.)
  - 2 RECEPTACLES: 305MM (12 IN.)
  - 3 TELEPHONE/ DATA/ TELEVISION OUTLETS: 450MM (18 IN.)
  - 4 COUNTER-TOP OUTLETS: 1120MM (44 IN.)

#### PART 19 - GENERAL CONDUIT AND CONDUCTOR INSTALLATION REQUIREMENTS

- 19.1 INSTALL CONDUIT AND CONDUCTORS CONCEALED TO DEGREE MADE POSSIBLE BY FINISHES AND PROVIDE INSTALLATIONS IN ACCORDANCE WITH THE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC) AND THE LOCAL GOVERNING STANDARDS.
- 19.2 COORDINATE LOCATIONS AND ROUTING OF SERVICES WITH TRADES PRIOR TO INSTALLATION.
- 19.3 WHERE CONDUITS AND/OR CONDUCTORS ARE EXPOSED, CONTRACTOR TO PREPARE DETAIL DRAWINGS AND SUBMIT TO CONSULTANT/ENGINEER FOR REVIEW PRIOR TO START OF WORK IN THE AFFECTED AREA.
- 19.4 WHERE HORIZONTAL CONDUITS AND/OR CONDUCTORS ARE EXPOSED, INSTALL AS HIGH AS POSSIBLE. DO NOT INSTALL CONDUITS AND/OR CONDUCTORS WITHIN 6" (150mm) OF HOT PIPES OR EQUIPMENT, UNLESS THEY ARE ASSOCIATED WITH THE EQUIPMENT.
- 19.5 CONDUITS AND/OR CONDUCTORS SHALL BE SUPPORT FROM THE CEILING/WALL STRUCTURE. DO NOT SUPPORT FROM CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, AND ETC.

- 19.6 AT NO EXTRA COST, ALLOW FOR FINAL RELOCATIONS OF DEVICES UP TO 10' (3M) TO SUIT FINAL LOCATIONS PRIOR TO INSTALLATION OF WALL COVERINGS.
- 19.7 GENERALLY, CONDUITS AND/OR CONDUCTORS ARE SIZED IN ELECTRICAL DRAWINGS. IN CASE OF THE TYPE AND SIZING BEING ABSENT IN DRAWINGS, SIZE CONDUITS AND/OR CONDUCTORS TO BE REQUIRED FOR THE INTENDED APPLICATION IN ACCORDANCE WITH THE APPLICABLE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC) OR THE LOCAL GOVERNING AUTHORITY REQUIREMENTS.
- 19.8 BONDING JOINTS IN PLENUM SPACES AND/OR IN RAISED FLOOR AREAS SHALL COMPLY WITH THE LOCAL BUILDING CODE (I.E. OEC) AND THE LOCAL ELECTRICAL SAFETY CODE (I.E. OESC).
- 19.9 BIDENTITY CONDUIT RUNS (I.E. TAG BOTH ENDS OF CONDUIT RUNS).
- 19.10 IMBUSH MAY BE USED IN CEILING SPACE FROM CEILING DISTRIBUTION BOX DOWN TO RECEPTACLES/DIRECT CONNECTION) IN PARTITIONS, BX RUNS IN CEILING NOT TO EXCEED 6096MM(20'-0") IN LENGTH. DO NOT RUN BX CABLES INTO PANELBOARDS.

#### PART 20 - CONDUITS

- 20.1 INTERIOR CONDUITS SHALL BE GALVANIZED, ELECTRICAL METALLIC TUBING (EMT) IN ACCORDANCE WITH CSA C22.2 NO. 83, COMPLETE WITH FACTORY MADE BENDS FOR CASES WHERE SITE BENDING IS NOT POSSIBLE, JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS.
- 20.2 FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND/OR TRANSFORMERS (MINIMUM LENGTH OF 18" (450mm), MAXIMUM LENGTH OF 24" (600mm) WITH 180 DEGREE LOOP WHERE POSSIBLE) PROVIDE GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT IN ACCORDANCE WITH CSA C22.2 NO. 56, COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AND TERMINATIONS.
- 20.3 FOR EXPOSED EXTERIOR CONDUITS, AND FOR INTERIOR CONDUITS GREATER THAN 2" (50mm) IN DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 4" (100mm) TO THE CONSULTANT. DO NOT USE GALVANIZED STEEL IN ACCORDANCE WITH CSA C22.2 NO. 45, COMPLETE WITH FITTINGS, CONNECTORS AND RIGID COUPLINGS.
- 20.4 FOR UNDERGROUND APPLICATIONS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH ELBOWS, COUPLINGS, AND EXPANSION JOINTS AND ETC. AS REQUIRED.
- 20.5 SUPPORT AND SECURE CONDUITS AS SPACING IN COMPLIANCE WITH THE LOCAL STANDARDS BY MEANS OF GALVANIZED PIPE STRAPS, RING BOLT TYPE HANGERS, CONDUIT CLIPS OR BY OTHER CSA APPROVED MANUFACTURED DEVICES.
- 20.6 CONDUIT FITTINGS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE CONDUIT AND BE SUITABLE FOR THE APPLICATION.
- 20.7 BEND CONDUITS AT FULL CONDUIT DIAMETER, FREE OF KINKING, FLAKING, OR CRACKING OF FINISHES.
- 20.8 CONDUITS SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID WITH THEIR OWN SUPPORT SYSTEM.
- 20.9 USE FLEXIBLE METAL CONDUITS FOR CONNECTING MOTORS, VIBRATING EQUIPMENT IN DRY AREAS, AND/OR FOR MOVABLE METAL PARTITIONS.
- 20.10 USE RIGID LIGHT FLIGHT METAL CONDUITS FOR CONNECTING MOTORS AND/OR VIBRATING EQUIPMENT IN DAMP, WET, OR CORROSIVE AREAS. USE ONLY LIQUID TIGHT FITTINGS FOR SUCH APPLICATIONS. FOR LIQUID TIGHT FLEXIBLE METAL CONDUITS, PROVIDE A JACKET WITH A FT4 RATING IN PLENUM SPACES, OTHERWISE PROVIDE A FT4 RATED JACKET.
- 20.11 PROVIDE EMT CONDUITS FROM A RAISED FLOOR BRANCH CIRCUIT PANEL TO JUNCTION BOXES IN THE SUB-FLOOR, AND FROM JUNCTION BOXES TO OUTLET BOXES FOR EQUIPMENT CONNECTIONS IN SUB-FLOORS.
- 20.12 PROVIDE SLEEVES FOR ALL NEW CONDUITS PASSING THROUGH FLOORS, ROOF SLABS, CONCRETE WALLS, BEAMS, AND SLAB TO SLAB PARTITIONS.
- 20.13 PROVIDE FLEXIBLE STEEL AROUND CABLES AND CONDUITS PASSING THROUGH NON-FIRE RATED PARTITIONS AND/OR FLOORS.
- 20.14 FOR CABLES AND CONDUITS PASSING THROUGH FIRE RATED WALLS AND/OR FLOORS, SEAL THE SPACE BETWEEN CONDUIT/CABLE AND SLEEVES WITH AN APPROVED FIRE STOP MATERIAL.
- 20.15 INSTALL SURFACE MOUNTED CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES.
- 20.16 WHEREVER POSSIBLE, GROUP CONDUITS ON SUSPENDED OR SURFACE MOUNTED CHANNELS. CONDUITS SHALL NOT BE USED TO SUPPORT OTHER CONDUITS.
- 20.17 PROVIDE FISH CORD IN EMPTY CONDUITS, MADE OF POLYPROPYLENE.

#### PART 21 - CONDUCTORS

- 21.1 INTERIOR CONDUITS SHALL BE GALVANIZED, ELECTRICAL METALLIC TUBING (EMT) IN ACCORDANCE WITH CSA C22.2 NO. 83, COMPLETE WITH FACTORY MADE BENDS FOR CASES WHERE SITE BENDING IS NOT POSSIBLE, JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS.
- 21.2 FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND/OR TRANSFORMERS (MINIMUM LENGTH OF 18" (450mm), MAXIMUM LENGTH OF 24" (600mm) WITH 180 DEGREE LOOP WHERE POSSIBLE) PROVIDE GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT IN ACCORDANCE WITH CSA C22.2 NO. 56, COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AND TERMINATIONS.
- 21.3 FOR EXPOSED EXTERIOR CONDUITS, AND FOR INTERIOR CONDUITS GREATER THAN 2" (50mm) IN DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 4" (100mm), PROVIDE RIGID GALVANIZED STEEL IN ACCORDANCE WITH CSA C22.2 NO. 45, COMPLETE WITH FITTINGS, CONNECTORS AND RIGID COUPLINGS.
- 21.4 FOR UNDERGROUND APPLICATIONS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH ELBOWS, COUPLINGS, AND EXPANSION JOINTS AND ETC. AS REQUIRED.
- 21.5 SUPPORT AND SECURE CONDUITS AS SPACING IN COMPLIANCE WITH THE LOCAL STANDARDS BY MEANS OF GALVANIZED PIPE STRAPS, RING BOLT TYPE HANGERS, CONDUIT CLIPS OR BY OTHER CSA APPROVED MANUFACTURED DEVICES.
- 21.6 CONDUIT FITTINGS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE CONDUIT AND SUITABLE FOR THE APPLICATION.
- 21.7 BEND CONDUITS AT FULL CONDUIT DIAMETER, FREE OF KINKING, FLAKING, OR CRACKING OF FINISHES.

#### PART 22 - LIGHTING

- 22.1 THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL LUMINAIRES NOTED ON THE DRAWINGS, COMPLETE WITH LAMPS, HANGERS, ACCESSORIES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
- 22.2 LUMINAIRES SHALL BE LEFT CLEAN AT COMPLETION OF THE PROJECT WITH ALL LAMP'S OPERATIONAL.
- 22.3 CLEAN AND RELAMP RELOCATED LUMINAIRES. REPLACE DAMAGED AND/OR BROKEN LENSES AND FAULTY BALLASTS. FOR RELOCATED LUMINAIRES, CONFIRM LUMINAIRES ARE FULLY OPERATIONAL.
- 22.4 REFER TO THE LUMINAIRE SCHEDULE FOR EACH TYPE REQUIRED TO MEET THE NEEDS OF THE PROJECT. ALTERNATES MAY BE CONSIDERED DURING THE TENDER PERIOD.

#### PART 23 - PANELBOARDS

- 23.1 PROVIDE EATON CUTLER-HAMMER TYPE "POW'R LINE 1" FACTORY ASSEMBLED DEAD FRONT PANELBOARDS, 120/208V, 3PHASE, 4 WIRE, MANUFACTURED TO CSA STANDARD C22.2 NO. 29 AND OESC, AND DESIGNED FOR AN INTERRUPTING CAPACITY OF 10kA SYMMETRICAL AT 208V, UNLESS OTHERWISE NOTED.
- 23.2 INSTALL PANELBOARDS WHERE REQUIRED, COMPLETE WITH:
  1. EMBLEM 2 SPRINKLER PROOF ENCLOSURE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH REMOVABLE BOX ENDS, WIRING GUTTER SPACE ON SIDES, AND WHERE SURFACE MOUNTED, SURFACE MOUNTED TUBS SHALL BE FACTORY FINISHED WITH GREY BAKED ACRYLIC ENAMEL TRIM FOR PROTECTIVE COVERINGS.
  2. TRIM FOR RECEPTACLE, SWITCH AND TELEVISION OUTLETS SHALL BE CONSTRUCTED OF CODE GAUGE STEEL. DOORS COMPLETE WITH CONCEALED FASTENERS, CONCEALED HINGE, CHROME PLATED DOOR LATCH AND KEYED ALIKE LOCK WITH KEY, STEEL FRAME HOLDER AND CIRCUIT DIRECTORY BACK OF DOOR, AND MYLAR CIRCUIT BREAKER IDENTIFICATION STRIPS, FACTORY FINISHED WITH GREY BAKED ACRYLIC ENAMEL FINISH.
  3. FACTORY PAINTED DRIP SHIELD FOR SURFACE MOUNTED PANELBOARDS.
  4. HARD DRAWN ELECTRICAL GRADE COPPER BUS AND GROUND BUS, HIGH STRENGTH SET SCREW TYPE MOUNTING AND WIRE CONNECTORS.
  6. BOLT ON FULL HEIGHT MODULE CASE CIRCUIT BREAKERS.
  7. 200% CAPACITY NEUTRALS FOR PANELBOARDS AS SCHEDULED.
  8. MAIN BREAKER AND GREEN POWER "ON" INDICATOR LIGHT, WHERE SCHEDULED.
  9. INSTALL CIRCUIT BREAKERS IN PANELBOARDS PRIOR TO SHIPMENT.
  10. PROTECT BUS UNLESS OTHERWISE NOTED.
  11. TVSS CIRCUITS AS REQUIRED.

#### 23. PROVIDE DOUBLE LUGGING TO EXISTING PANELBOARDS AS SHOWN AND AS REQUIRED.

- 23.1 SUPSPORT CABINET INDEPENDENT OF CONNECTING CONDUITS. TURN OVER TO CONSULTANT ENGINEER PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE OR WORK. QUANTITY OF TWO (2) PANELBOARD CABINET KEYS PER PANELBOARD, IDENTIFY PANELBOARD BREAKERS IN PERMANENT MANNER, AND COMPLETE TYPED CIRCUIT DIRECTORY TO OWNER'S APPROVAL.
- 23.2 PANELBOARDS WHICH THE MANUFACTURER HAS OBTAINING INTERRUPTING CAPACITY (KA) OR AS INDICATED ON DRAWINGS OR PANEL SCHEDULES:
  - 1. 120/208V PANELBOARDS = 10KA
  - 2. 347/600V PANELBOARDS = 25KA
- 23.3 INSTALL SURFACE MOUNTED PANELBOARDS ON FIRE RATED PLYWOOD BACKBOARDS OR ON GALVANIZED UNISTRUT STAND-OFFS.
- 23.4 ACCEPTABLE MANUFACTURERS INCLUDE: SIEMENS ELECTRIC, EATON CUTLER-HAMMER AND SQUIRE.
- 23.5 PANEL BUSSING AND ALL ASSOCIATED CONDUCTORS SHALL BE COPPER.

#### PART 24 - DEVICES FOR EXISTING PANELBOARDS

- 24.1 PROVIDE BREAKERS, SWITCH & FUSE ASSEMBLY IN EXISTING PANELBOARDS OF TYPE TO MATCH EXISTING DEVICES. QUALITY AND STANDARD OF DEVICES SHALL MATCH EXISTING. CONFORM TO REQUIREMENTS ON SITE PRIOR TO ORDERING.
- 24.2 BREAKERS SHALL BE OF FULL HEIGHT MODULES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 24.3 PROVIDE FOR ALL MODIFICATIONS TO PANELBOARDS FOR DEVICES AND FEEDER INSTALLATIONS.
- 24.4 REVISE PANEL BOARD DIRECTORY TO REFLECT ADDITIONAL LOADS.

#### PART 25 - DRY TYPE TRANSFORMERS

- 25.1 PROVIDE CSA APPROVED STAMPED GALVANIZED STEEL OUTLET BOXES IN ACCORDANCE WITH CSA C22.1. PROVIDE SQUARE OR LARGE OUTLET BOXES AS REQUIRED FOR SPECIAL DEVICES. REFER TO ELECTRICAL DRAWINGS.
- 25.2 PROVIDE BOXES FOR GROUND WIRING DEVICES.
- 25.3 PROVIDE BLANK COVER PLATE OUTLET BOXES WITHOUT WIRING DEVICES.
- 25.4 PROVIDE 347V RATED BOXES FOR 347 SWITCHING DEVICES.
- 25.5 PROVIDE PULL BOXES AND JUNCTION BOXES WHERE NECESSARY TO FACILITATE THE CONDUIT/CONDUIT INSTALLATIONS. GENERALLY, PROVIDE CONDUIT EXCEEDING 100' (30M) IN LENGTH, OR WITH MORE THAN TWO (2) 90-DEGREE BEND WITH PULLBOX INSTALLED AT CONVENIENT AND ACCESSIBLE LOCATIONS.
- 25.6 PROVIDE ELECTRO-GALVANIZED STEEL SINGLE AND MULTI-GANG FLUSH DEVICE BOXES FOR FLUSH INSTALLATION, MINIMUM SIZE OF 75mm x 50mm x 38mm (3"x2"x1-1/2") OR AS INDICATED. PROVIDE 100mm (4") SQUARE OUTLET BOXES WITH MORE THAN ONE CONDUIT ENTERS ONE SIDE WITH EXTENSION AND PLASTER GUNNINGS AS REQUIRED.
- 25.7 PROVIDE ELECTRO-GALVANIZED STEEL UTILITY BOXES FOR SURFACE WIRING. MINIMUM SIZE OF 100mm X 48mm (4"x2-1/8"x1-7/8").
- 25.8 PROVIDE SQUARE OR OCTAGONAL OUTLET BOXES FOR LIGHTING FIXTURE OUTLETS.
- 25.9 PROVIDE CONCRETE TIGHT ELECTRO-GALVANIZED SHEET STEEL FLOOR BOX WITH ADJUSTABLE FINISHING RISERS WITH BRUSHED ALUMINUM FACELAYER TO SUIT THE FLOOR FINISH. FOR RECEPTACLES MINIMUM DEPTH OF 28mm (1-1/8"), AND FOR COMMUNICATION EQUIPMENT A MINIMUM DEPTH OF 75mm (2-7/8").
- 25.10 FOR NON-METALLIC SHEATHED CABLES, PROVIDE ELECTRO-GALVANIZED, SECTIONAL SCREW GANGING STEEL BOXES OF MINIMUM SIZE 75mm x 50mm x 63.5mm (3"x2"x2-1/4").
- 25.11 BOXES MUST BE ACCESSIBLE AFTER WORK IS COMPLETED, WHERE REQUIRED. SUPPLY ACCESS DOORS OF MINIMUM NO. 12 GAUGE PRIME COATED STEEL WITH HINGES AND FRAME TO PROVIDE ACCESS TO BOXES AND CONDUCTOR JOINTS AND OTHER SMALL ELECTRICAL WORK WHICH MAY NEED MAINTENANCE OR REPAIR. CONFIRM FINISHING WITH THE OWNER.
- 25.12 PROVIDE FITTINGS WITH BUSHINGS AND NYLON INSULATED THROUGH CONNECTIONS TO EXISTING ELECTRICAL SYSTEMS. PROVIDE PROTECTION OF DEBRIS, AND WITH DOUBLE LOCKNUTS AND INSULATED BUSHINGS ON SHEET METAL BOXES.
- 25.13 TRANSFORMER WINDINGS AND ALL ASSOCIATED CONDUCTORS SHALL BE COPPER.

#### PART 26 - FASTENING AND SECURING HARDWARE

- 26.1 PROVIDE PROPER FASTENERS AND SIMILAR HARDWARE REQUIRED FOR CONDUITS, CONDUCTORS, AND FOR EQUIPMENT HANGER AND/OR SUPPORT MATERIALS. UNLESS OTHERWISE NOTED, EXPLOSIVE POWDER ACTUATED FASTENERS WILL NOT BE PERMITTED UNLESS SPECIFIC WRITTEN APPROVAL FOR THEIR USE AND TYPE HAS BEEN OBTAINED FROM THE CONSULTANT, UNDER NO CIRCUMSTANCES USE CEILING SUSPENSION HANGERS OR GRIDS FOR SUSPENSION OF CONDUITS AND/OR CONDUITS AND/OR CONDUCTORS.

#### PART 27 - GROUNDING AND BONDING

- 27.1 SUPPLY AND INSTALL COMPLETE GROUNDING AND BONDING SYSTEM AS INDICATED AND AS REQUIRED BY THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE AND ELECTRICAL INSPECTION DEPARTMENT. ALL COMPONENTS SHALL BE SECURELY AND ADEQUATELY GROUNDING AND WHERE REQUIRED TO ACCOMPLISH THIS, GROUNDING JUMPFERS, GROUNDING STUDS AND BUSHINGS SHALL BE USED TO ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC. FOR TELEPHONE, LOW VOLTAGE, FIRE ALARM, SOUND, ETC. ARE SECURELY AND ADEQUATELY GROUNDED AND PROVIDE GROUNDING CONDUCTOR TO WATER MAIN WHERE CALLED FOR OR WHERE REQUIRED.

#### PART 28 - ELECTRICAL CONNECTIONS FOR MECHANICAL OWNERS, ETC. EQUIPMENT

- 28.1 PROVIDE REQUIRED ELECTRICAL CONNECTIONS TO EQUIPMENT SUPPLIED BY THE MECHANICAL DIVISION, OWNER AND AS PART OF OTHER DIVISIONS. MECHANICAL CONTRACTOR SHALL SUPPLY STARTERS FOR MOTORIZED EQUIPMENT.

#### 28. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR:

- 1. COMPLETE INSTALLATION AND CONNECTION OF STARTERS AND NOTED ON THE DRAWINGS, COMPLETE WITH LAMPS, HANGERS, ACCESSORIES, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
- 2. PROVIDE MOTOR STARTER PANEL CONISTG OF NO. 14 GAUGE STEEL, BOLTED PANELS SIZED TO ACCOMMODATE STARTERS AND SUITABLE SPLITTER.
- 3. UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS, MOUNT 1 PHASE STARTERS ADJACENT TO EQUIPMENT THEY SERVE AND CONNECT COMPLETE.
- 4. COORDINATE FEEDER ENTRIES TO STARTERS AND STARTER ASSEMBLIES WITH MECHANICAL DIVISION.
- 5. PROVIDE ADDITIONAL DISCONNECT SWITCHES (COMPLETE WITH IDENTIFICATION) DETAILED ON DRAWINGS, REQUIRED BY CODE, OR FOR EQUIPMENT WHICH CANNOT BE SEEN FROM ITS STARTER OR IS IN ACCESS OF 30' (9M) FROM THE STARTER.

#### PART 29 - DISCONNECT SWITCHES

- 29.1 PROVIDE EATON CUTLER-HAMMER, FUSIBLE (COMPLETE WITH FUSE CLIPS) OR NON-FUSIBLE, HEAVY DUTY, CSA APPROVED, FRONT OPERATED TYPE DISCONNECT SWITCHES, UNLESS OTHERWISE NOTED ON DRAWINGS.
- 29.2 ENCLOSURE TO BE TYPE NEMA 3R SPRINKLER PROOF, AMP RATING, NUMBER OF POLES AND FUSE REQUIREMENTS AS INDICATED ON DRAWINGS.
- 29.3 SINGLE PROVISION FOR PADLOCKING IN ON-OFF SWITCH POSITION BY THREE LOCKS.
- 29.4 MECHANICALLY INTERLOCKED DOOR TO PREVENT OPENING OF DOOR WHEN HANDLE IS IN POSITION.
- 29.5 FUSE TYPE TO BE CLASS J, CURRENT LIMITING, SIZE AS INDICATED ON DRAWINGS.
- 29.6 FUSE HOLDER TO BE WITHOUT ADAPTORS.
- 29.7 ALL DISCONNECT SWITCHES TO BE OF QUICK-MAKE AND QUICK-BREAK TYPE.
- 29.8 PROVIDE ON-OFF SWITCH POSITION ON SWITCH ENCLOSURE.
- 29.9 PROVIDE EQUIPMENT IDENTIFICATION AND LOAD CONTROLLED NAMEPLATE.
- 29.10 ACCEPTABLE MANUFACTURERS INCLUDE: SIEMENS ELECTRIC AND SQUIRE D.

#### PART 30 - FUSES

- 30.1 PROVIDE EATON CUTLER



**AIR SUPPORTED STRUCTURE**  
AT CASSIE CAMPBELL COMMUNITY CENTRE

Item	Ontario's 2012 Building Code Data Matrix Part 3 or 9				BC Reference					
	References are to Division B unless noted (A) for Division 4 or (C) for Division C.				Part 3	Part 9				
1	Project Description:	<input checked="" type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Alteration	Part 11 11.1 to 11.4	<input checked="" type="checkbox"/> Part 3 1.1.2. [A]	<input type="checkbox"/> Part 9 1.1.2. [A] & 9.10.1.3.					
2	Major Occupancy(s)	Group A3: Arena - Air-Supported Structure		3.1.2.1.(1)	9.10.2.					
3	Building Area (m <sup>2</sup> )	Existing 0.00 New 11956 Total 11956		1.4.1. 2. [A]	1.4.1.2. [A]					
4	Gross Area	Existing 0.00 New 11956 Total 11956		1.4.1.2. [A]	1.4.1.2. [A]					
5	Number of Storeys	Above grade 1 Below grade 0		1.4.1.2.[A] & 3.2.1.1.	1.4.1.2 [A] & 9.10.4					
6	Number of Streets/Fire Fighter Access	1		3.2.2.10. & 3.2.5.	9.10.20.					
7	Building Classification	Exempt from Complying as per OBC 3.14.2.2.(3)		3.2.2.20.-83	9.10.2.					
8	Sprinkler System Proposed	<input type="checkbox"/> Entire Building <input type="checkbox"/> Selected Compartments <input type="checkbox"/> Selected Floor Areas <input type="checkbox"/> Basement <input type="checkbox"/> In Lieu of Roof Rating <input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Existing		3.2.2.20.-83 3.2.1.5. 3.2.2.17. INDEX	9.10.8.2. INDEX					
9	Standpipe required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		3.2.9.	N/A					
10	Fire Alarm required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		3.2.4.	9.10.18.					
11	Water Service/Supply is Adequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.2.5.7.	N/A					
12	High Building	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.2.6.	N/A					
13	Construction Restrictions	<input type="checkbox"/> Combustible permitted <input type="checkbox"/> Non-combustible required <input type="checkbox"/> Both <input type="checkbox"/> Non-combustible permitted <input type="checkbox"/> Non-combustible <input type="checkbox"/> Both	Exempt from Complying as per OBC 3.14.2.2.(3)	3.2.2.20.-83	9.10.6.					
14	Mezzanine(s) Area m <sup>2</sup>	N/A		3.2.1.1.(3)-(8)	9.10.4.1.					
15	Occupant load based on	m <sup>2</sup> /person design of building 180		3.1.17.	9.9.1.3.					
16	Barrier-free Design	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain)		3.8.	9.5.2.					
17	Hazardous Substances	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.3.1.2. & 3.3.1.19.	9.10.1.3.(4)					
18	Required Fire Resistance Rating (FRR)	Horizontal Assemblies FRR (Hours) Floors N/A Hours Roof N/A Hours Mezzanine N/A Hours FRR of Supporting Members	Listed Design No. or Description (SG-2)	3.2.2.20.-83 & 3.2.1.4.	9.10.8. 9.10.9.					
	Attached to a Pavilion building of an area of not more than 200m <sup>2</sup> , separated by a 1h F.R.R. wall as per OBC 3.14.2.3.(4).									
19	Spatial Separation - Construction of Exterior Walls									
	Wall	Area of EBF (m <sup>2</sup> )	L.D. (m)	L/H or H/L	Permitted Max. % of Openings	Proposed % of Openings	FRR (Hours)	Listed Design or Description	Comb. Const. Nonc. Cladding	Comb. Const. Non-comb. Const.
	North	2067	27.5	3/1	37%	0%	N/A		Materials conforming to 3.14.2.5	
	South	2067	69	3/1	100%	0%	N/A		Materials conforming to 3.14.2.5	
	East	3690	4	6/1	8%	0%	N/A		Materials conforming to 3.14.2.5	
	West	3690	24	6/1	27%	0%	N/A		Materials conforming to 3.14.2.5	
20	Plumbing Fixture Requirements									
	BC Reference									
	<input checked="" type="checkbox"/> Part 3 <input type="checkbox"/> Part 9									
	Male/Female Count @ 50% / 50%, except as noted otherwise	Occupant Load	BC Table Number	Fixtures Required	Fixtures Provided					
	Occupancy A3	180	3.7.4.3.C	3	5 (Unisex)	3.7.4.3.(3)				Washrooms are located in the attached building
	(Adjust as Required for Additional Floors or Occupancies)									
21	Other (describe)									

**REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:**

- 1- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.
- 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL
- 3- OCCUPANT LOAD BASED ON NUMBER OF EXISTS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

**AIR-SUPPORTED STRUCTURE, GENERAL NOTES:**

- 1- AIR-SUPPORTED STRUCTURE SHALL BE CONSTRUCTED OF MATERIALS CONFORMING TO CAN/ULC-S109, "FLAME TESTS OF FLAME-RESISTANT FABRICS AND FILMS", OR NFPA 701, "FIRE TESTS FOR FLAME PROPAGATION OF TEXTILES AND FILMS" IN COMPLIANCE WITH OBC 3.14.2.5.(1). SUPPLIER TO PROVIDE TEST REPORTS AND SPECIFICATIONS.
- 2- ALL CONSTRUCTION CONTAINED WITHIN THE AIR-SUPPORTED STRUCTURE SHALL BE OF NON-COMBUSTIBLE CONSTRUCTION IN COMPLIANCE WITH OBC 3.14.2.2.(5) AND 3.2.2.29.
- 3- THE GROUND ENCLOSED BY THE AIR-SUPPORTED STRUCTURE AND FOR NOT LESS THAN 3.0m (10 FT) OUTSIDE THE STRUCTURE SHALL BE CLEAR OF ALL FLAMMABLE OF COMBUSTIBLE MATERIAL OR VEGETATION IN COMPLIANCE WITH OBC 3.14.2.4. SUPPLIER TO PROVIDE TEST REPORTS AND SPECIFICATIONS.
- 4- THE AIR-SUPPORTED STRUCTURE SHALL BE NO CLOSER THAN 3.0m (10 FT) TO ANY PROPERTY LINE OR OTHER STRUCTURES ON THE SAME PROPERTY AS REQUIRED BY OBC 3.14.2.3.(1).
- 5- BUILDING ATTACHED TO THE AIR-SUPPORTED STRUCTURE SHALL BE IN COMPLIANCE WITH OBC 3.14.2.3.(4).

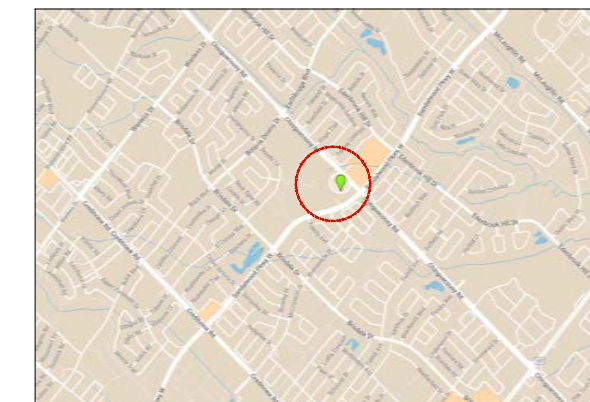
**DESIGN REQUIREMENTS FOR THE ADJACENT WASHROOM BUILDING:**

- 1- THE WASHROOM BUILDING SHALL PROVIDE THE REQUIRED WASHROOM FACILITIES (PLUMBING FIXTURES) FOR THE AIR-SUPPORTED STRUCTURE BASED ON THE OCCUPANT LOAD AND IN ACCORDANCE WITH OBC 3.7.4.
- 2- BARRIER FREE WASHROOMS SHALL BE DESIGNED IN ACCORDANCE WITH OBC 3.8.3.8 TO OBC 3.8.3.12.

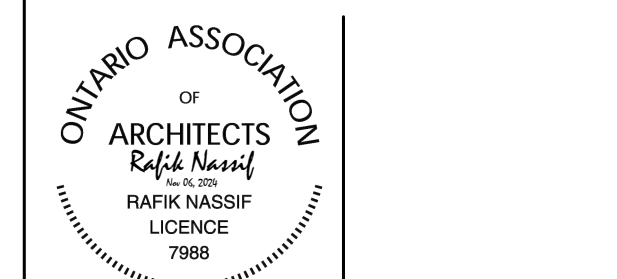
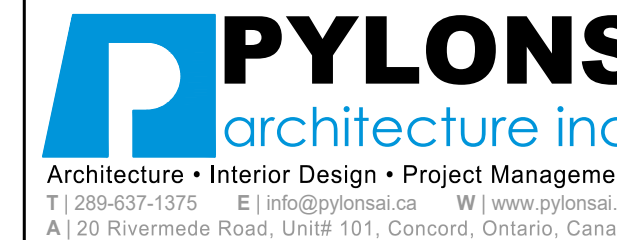
**DESIGN REQUIREMENTS FOR AIR-SUPPORTED STRUCTURE:**

- 1- OCCUPANT LOAD SHALL BE POSTED IN COMPLIANCE WITH OBC 3.1.17.1.(2).
- 2- ALL EXIT DOORS SHALL BE EQUIPPED WITH DOOR RELEASE HARDWARE AS PER OBC 3.4.6.16.(2)(a) AND SHALL SWING IN THE DIRECTION OF EXIT TRAVEL AS PER OBC 3.4.6.12.(3)(a).
- 3- THE MINIMUM REQUIRED AGGREGATE WIDTH PROVIDED BY THE 10 DESIGNATED EXITS IS IN COMPLIANCE WITH OBC 3.4.3.2.(1)(a) FOR THE OCCUPANT LOAD PROPOSED.

**FOR MORE DETAILS ON MAJOR OCCUPANCY, BUILDING CLASSIFICATION AND OCCUPANT LOAD CALCULATIONS, PLEASE REFER TO AIR-SUPPORTED STRUCTURE OBC MATRIX**



KEY MAP  
N.T.S



Rev.	description	date	by
R6	Re-issued for SPA	Nov 08/24	RN
R5	Rev. 01 for SPA	Sep 25/24	RN
R4	Issued for SPA	Jun 24/24	RN
R3	Issued for 90% Progress	May 10/24	RN
R2	Issued for Completeness Review	Apr 03/24	RN
R1	Prelim Design Rev. 01	Jul 28/23	RN
R0	Prelim Design	Jul 07/23	RN
NO.	revision	date	by

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reviewed by RN drawn by RN  
date JUN 2023  
scale AS SHOWN

drawing title  
**AIR SUPPORTED STRUCTURE COVER SHEET**  
drawing number  
**D0.00**  
client  
**CITY OF BRAMPTON**

project title  
**CASSIE CAMPBELL CC PAVILION BUILDING**  
1060 SANDALWOOD PKWY W,  
BRAMPTON, ONTARIO L7A 2Z8  
project number  
**PRE-2023-0128**







**REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:**

- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.
- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL.
- OCCUPANT LOAD BASED ON NUMBER OF EXITS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

NO.	DATE: (DD/MM/YY)	REVISION:
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
ISSUED FOR COMPLETENESS REVIEW		

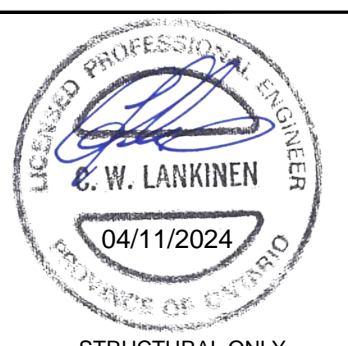
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A CLIENT ACCEPTANCE SIGNATURE ON THE FIRST PAGE OF A BOUND SET OF DRAWINGS ACKNOWLEDGES THE ACCEPTANCE OF ALL PAGES CONTAINED IN THE BOUND SET OF DRAWING DETAILS.

A	A --- DETAIL NUMBER
B	B --- SHEET WHERE DETAILED

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CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106**

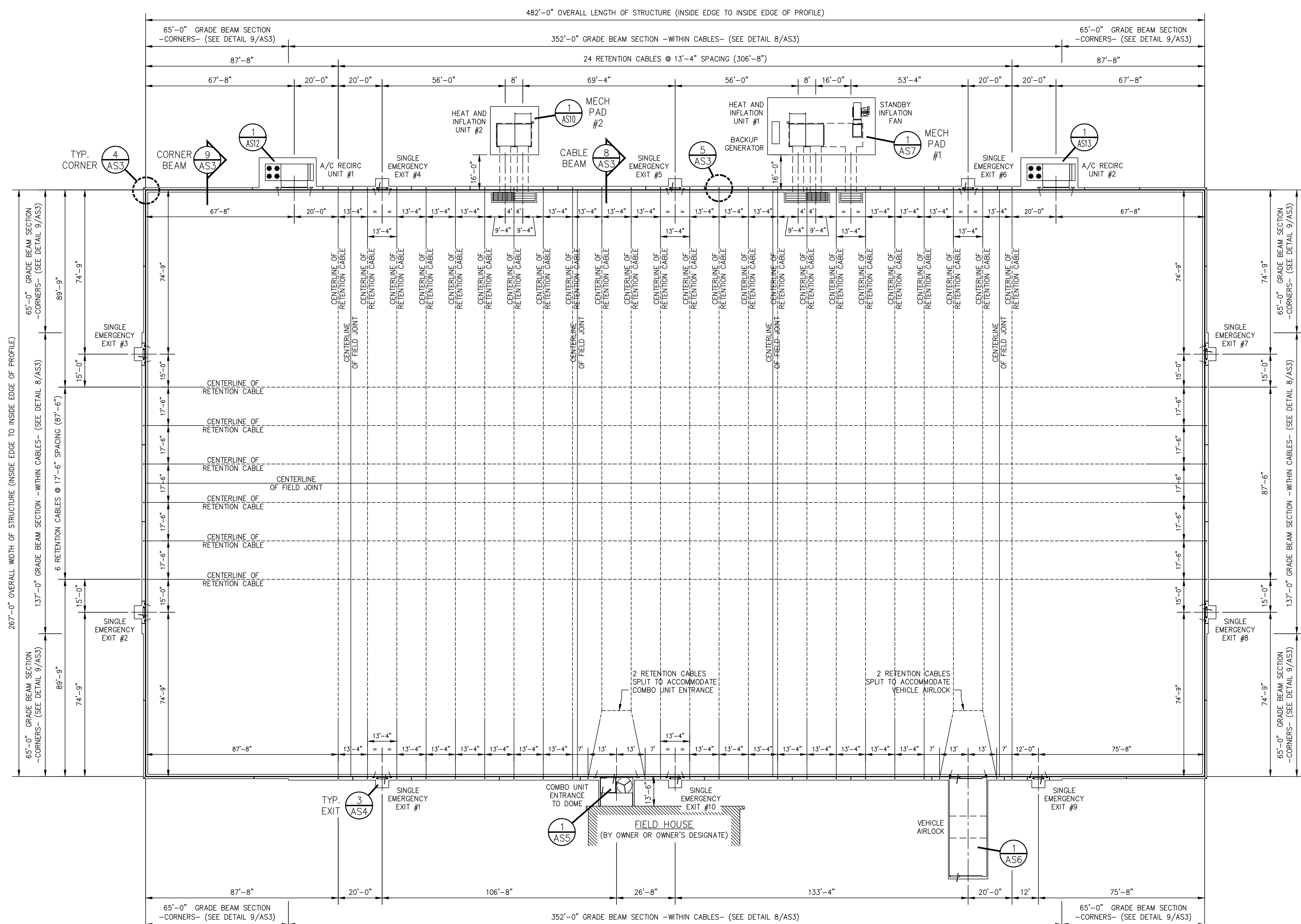
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**FLOOR PLAN LAYOUT  
 AND GENERAL NOTES**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
SCALE:	AS SHOWN	
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS1
	REV. 03	



**1 AS1 FLOOR PLAN LAYOUT OF STRUCTURE (EXTERIOR VIEW)  
 SCALE 1/24"=1'-0"**

**GENERAL NOTES:**

**1. DESIGN LOADS:**  
 THE BUILDING TYPE SHOWN ON THE DRAWINGS IS AN AIR SUPPORTED STRUCTURE IN WHICH THE FABRIC ENVELOPE IS SUPPORTED BY INTERNAL AIR PRESSURE. THE INTERNAL PRESSURE IS MONITORED DAILY BY THE OWNER AND IS INCREASED PRIOR TO INCLEMENT WEATHER CONDITIONS (I.E. HIGH WINDS OR SNOWFALLS) AS DIRECTED IN THE OWNER'S MANUAL, IN ORDER TO PROVIDE MORE RESISTANCE TO ANY LOADING DUE TO WEATHER.

DESIGN WIND LOADS:  $q = 1/50 = 0.44 \text{ kPa}$  (8.19 PSF), PRESSURE DISTRIBUTION AS PER S367-12

INTERNAL DESIGN AIR PRESSURES:  
 - MINIMUM: 0.249 kPa (5.200 PSF, 1.00" w.c.) (NORMAL OPERATION CONDITIONS)  
 - MAXIMUM: 0.50 kPa (10.44 PSF, 2.01" w.c.) (DURING INCLEMENT WEATHER)  
 - EMERGENCY STANDBY SYSTEM: 0.373 kPa (7.800 PSF, 1.50" w.c.) (IN THE EVENT OF POWER FAILURE)

DESIGN SNOW LOADS: DESIGNED TO "MANUAL METHOD OF SNOW REMOVAL" AS PER S367-12, ANNEX B  
 - DOME DESIGNED TO SUPPORT A MAXIMUM SNOWFALL OF 0.40m (16") OF FRESH SNOW AT MAXIMUM DESIGN PRESSURE  
 - SNOW TO BE MANUALLY REMOVED BY OWNER IF:  
 1) SNOW REMAINS ON THE DOME FOR MORE THAN 3 DAYS & IS MORE THAN 0.15m (6") DEEP  
 2) SNOW EXCEEDS 0.30m (12") IN DEPTH  
 - SNOW TO BE REMOVED FROM AROUND THE ENTIRE BASELINE PERIMETER OF DOME BY OWNER AFTER EVERY SNOWFALL

EARTHQUAKE LOADING: WIND LOAD GOVERNS  
 DEAD LOAD: SELF WEIGHT OF DOME

**2. STRUCTURAL:**  
 ALL WORK SHALL CONFORM TO THE APPLICABLE CODES, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.

THE CONSULTANT SHALL BE GIVEN 48 HOURS NOTICE BY THE CONTRACTOR FOR ANY REQUIRED INSPECTION OF FOUNDATION (GRADE BEAM), REINFORCING STEEL, AND FRAMING.

THIS SET OF DRAWINGS SUPERSEDES AND REPLACES ALL PREVIOUS DRAWINGS.

ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. NO CHANGES SHALL BE MADE WITHOUT WRITTEN APPROVAL BY THE ENGINEER.

ALL SURFACES OF EXTERIOR STRUCTURES DIRECTLY EXPOSED TO THE INTERIOR OF THE AIR STRUCTURE (I.E. BUILDING CONNECTIONS) SHALL BE DESIGNED TO WITHSTAND A MINIMUM OF 0.958 kPa [20 PSF] OF AIR PRESSURE.

THIS AIR SUPPORTED STRUCTURE HAS BEEN DESIGNED USING CSA DOCUMENT "S367-12 AIR-SUPPORTED STRUCTURES", ASI DOCUMENT "ASI-77 AIR STRUCTURE DESIGN AND STANDARDS MANUAL", ONTARIO BUILDING CODE & NATIONAL BUILDING CODE OF CANADA AS GUIDES AND ASSUMES A DESIGN WIND PRESSURE OF 0.44 kPa (1/50, BASED ON DATA FOR BRAMPTON, ON) AS STATED IN THE ONTARIO BUILDING CODE.

**3. EXCAVATION AND BACKFILL:**  
 SOIL CONDITIONS SHALL BE REPORTED TO THE ENGINEER AT THE TIME OF EXCAVATION AND HIS/HER DISCRETION THE ENGINEER MAY REQUEST FURTHER SOILS INVESTIGATION.

REMOVE ALL TOP SOIL AND DELETERIOUS MATERIAL FROM BENEATH ALL STRUCTURAL COMPONENTS.

USE ONLY ENGINEER APPROVED COMPACTED FILL TO RAISE GRADES WHERE REQUIRED BENEATH STRUCTURES.

COMPACT ALL GRANULAR FILL 98% SPDD. COMPACTION TESTING SHALL BE CARRIED OUT BY A QUALIFIED GEOTECHNICAL CONSULTANT PRIOR TO INSTALLATION OF ANY STRUCTURES SUPPORTED ON FILL.

SLOPE ALL GRADES AWAY FROM THE AIR STRUCTURE AND ITS COMPONENTS.

PROTECT EXCAVATION AND GRADE BELOW SLABS FROM FROST PENETRATION BY PROPER USE OF STRAW, THERMAL BLANKETS AND/OR TARP.

APPROVAL TO POUR CONCRETE DOES NOT IMPLY ASSURANCE OF ASSUMED SUBGRADE CONDITIONS USED IN THE STRUCTURAL DESIGN OF THE FOUNDATIONS (GRADE BEAMS) OF THIS PROJECT.

**4. CONCRETE:**  
 ALL CONCRETE WORK SHALL COMPLY WITH CSA-A23.1, CAN3-A23.2 AND CAN3-A23.3.

THE ULTIMATE 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE NOT LESS THAN 25 MPa (3500 psi), 5% - 8% AIR ENTRAINMENT IN ALL CASES, UNLESS OTHERWISE SPECIFIED.

REINFORCING STEEL TO BE DEFORMED BAR WITH MINIMUM YIELD STRENGTH OF 400 MPa (60,000 psi).

APPROPRIATE MEASURES SHALL BE TAKEN TO PROTECT CONCRETE FROM EXCESSIVE EVAPORATIVE WATER LOSS AND ENSURE PROPER CURING.

CONCRETE TESTING SHALL BE PERFORMED BY A CSA APPROVED TESTING LABORATORY.

USE HIGH FREQUENCY VIBRATION TO PLACE ALL CONCRETE. IT IS VERY IMPORTANT TO ENSURE THAT ALL VOIDS ARE FILLED AND PROPER BOND IS ACHIEVED BETWEEN THE CONCRETE AND EXTRUDED PROFILE (IF PROFILE IS USED).

APPROPRIATE MEASURES SHALL BE TAKEN TO PROTECT CONCRETE FROM EXPOSURE TO FREEZING TEMPERATURES FOR AT LEAST SEVEN (7) DAYS FOLLOWING CONCRETE PLACEMENT.

UNLESS OTHERWISE SPECIFIED, SEE ARCH. DRAWINGS FOR ALL CONCRETE SURFACE FINISHES.

**5. DIMENSIONING:**  
 ALL GRADE BEAM DIMENSIONS ARE TO BE REFERENCED FROM THE INSIDE EDGE OF PROFILE TO ENSURE PROPER FIT OF AIR STRUCTURE MEMBRANE.

SPLICE LAP LENGTHS AND BEND RADII SHALL NOT BE LESS THAN:  
 - 16 INCH LAP & 1 1/2" BEND RADIUS FOR 10M (#4),  
 - 24 INCH LAP & 2" BEND RADIUS FOR 15M (#5),  
 - 30 INCH LAP & 2 1/2" BEND RADIUS FOR 20M (#6),  
 - 38 INCH LAP & 3" BEND RADIUS FOR 25M (#7),  
 - 46 INCH LAP & 5 1/2" BEND RADIUS FOR 30M (#8).

ENSURE MINIMUM COVER FOR ALL REBAR, AS NOTED IN BEAM DETAILS.

MAXIMUM DESIGN LOADS FOR UPLIFT ON THE AIR STRUCTURE REQUIRE THAT FULL CONCRETE STRENGTH BE ACHIEVED BEFORE EXTRUDED PROFILE OR OTHER ATTACHMENT SYSTEM IS SUBJECTED TO LOADING.

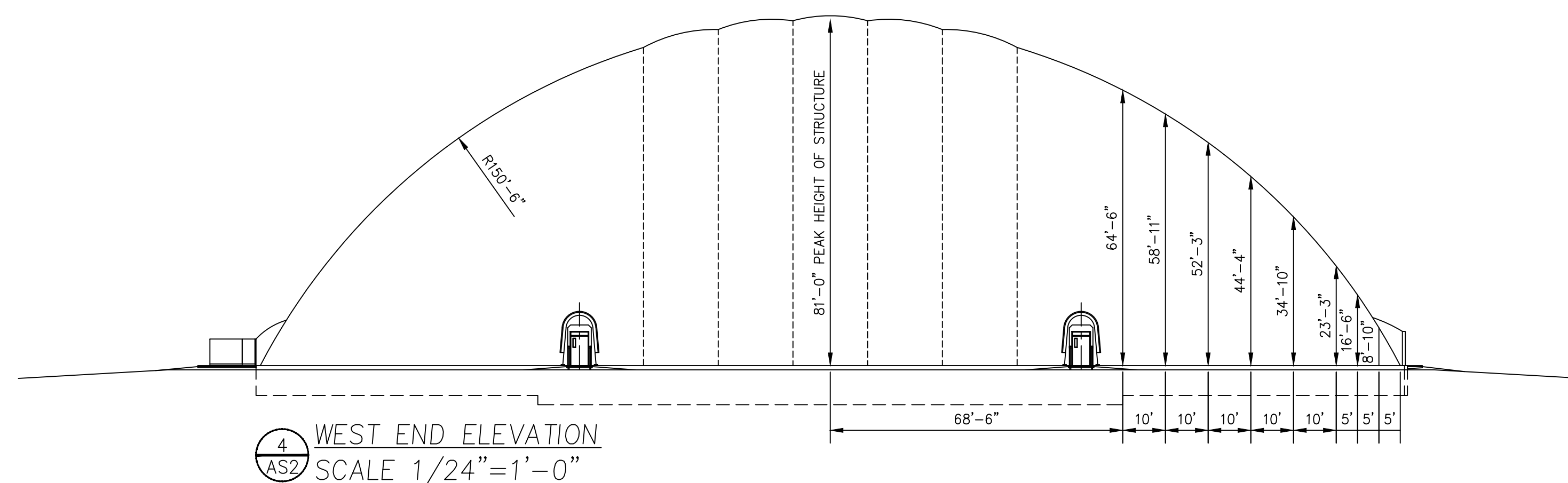
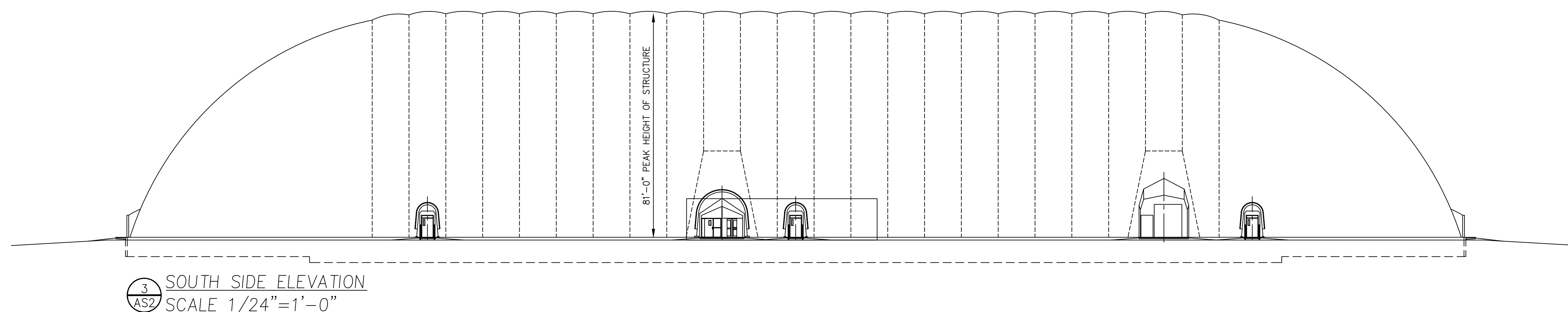
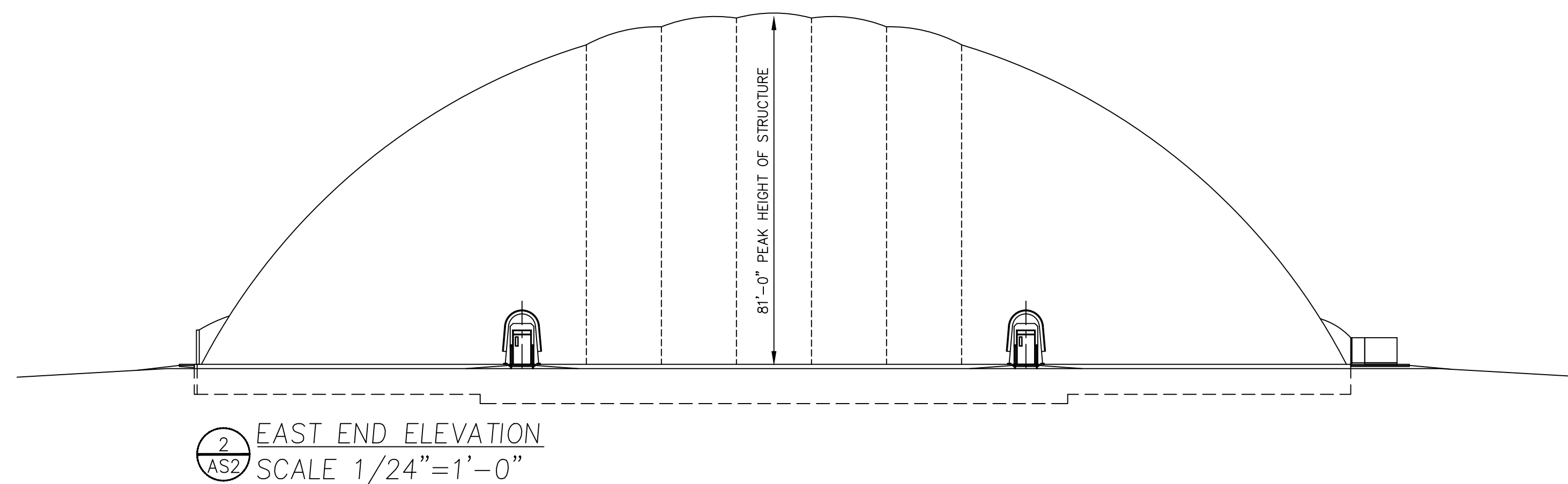
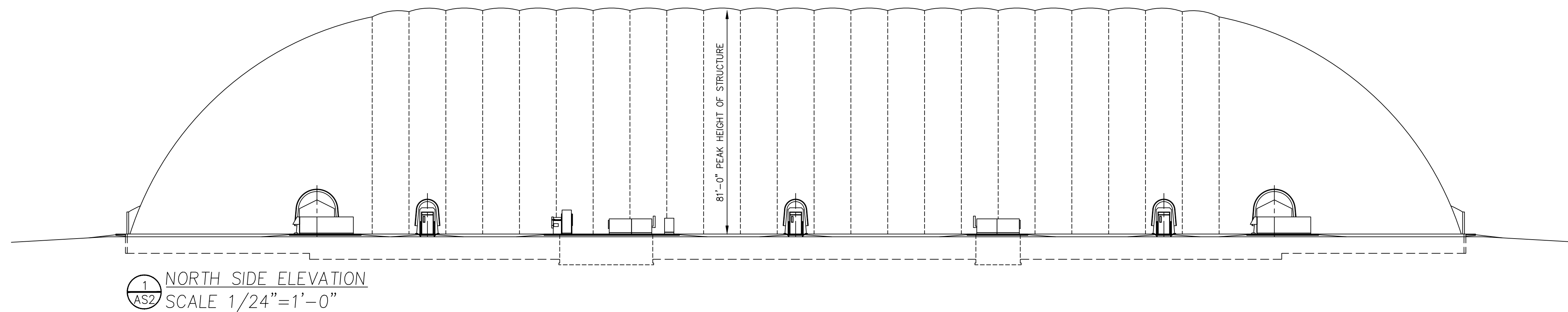
TYPICAL GRADE BEAM IS TRENCHED (NOT FORMED) AND MONOLITHIC. CAST AS A SINGLE POUR TO THE TOP SURFACE, WHERE THIS IS NOT POSSIBLE, THE CERTIFYING ENGINEER SHALL BE NOTIFIED IN ADVANCE TO PROVIDE DETAILING OF A SUITABLE ALTERNATIVE.





REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:

- 1- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES
- 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL
- 3- OCCUPANT LOAD BASED ON NUMBER OF EXISTS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

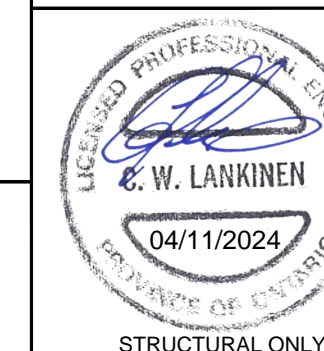


3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
ISSUED FOR COMPLETENESS REVIEW		
NO:	DATE: (DD/MM/YY)	REVISION:

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**BURNSIDE**  
 R. J. Burnside & Associates Limited  
 292 Speedvale Avenue West, Unit 20, Guelph, Ontario  
 telephone (519) 823-4995 fax (519) 836-5477  
 web www.rjburnside.com



**THE FARLEY GROUP**  
 Farley Manufacturing Inc.  
 A division of The Farley Group  
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 Phone: 1-888-445-3223  
 Fax: 1-888-445-3043  
 Email: man@thefarleygroup.com  
 Creative Space Solutions

CLIENT:  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE  
 SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
 ELEVATIONS

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS2
	REV.	03



REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:

- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.
- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL.
- OCCUPANT LOAD BASED ON NUMBER OF EXITS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

NO.	DATE: (DD/MM/YY)	REVISION:
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REGISTERED PROFESSIONAL ENGINEER  
 W. LANKINEN  
 04/11/2024  
 STRUCTURAL ONLY

**THE FARLEY GROUP**  
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 Creative Space Solutions

CLIENT:  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:  
 PROJECT:

AIR SUPPORTED STRUCTURE FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

GRADE BEAM DETAILS  
 (TYP. CAST USING FORMWORK)

PROJECT NORTH: DRN BY: C.J.S.  
 REVIEWED BY: A.R.R.  
 DATE: APRIL 3, 2024  
 SCALE: AS SHOWN  
 PLAN NORTH: PROJ. #: 23-08D  
 DRAWING #:

AS3  
 REV. 03

**GRADE BEAM INSTALLATION:**

NOTE: THIS GUIDE IS PREPARED TO ASSIST THOSE WITH LEGITIMATE CONSTRUCTION EXPERIENCE. IT IS NOT A TOTALLY COMPREHENSIVE INSTRUCTION MANUAL FOR THOSE UNFAMILIAR WITH STANDARD CONSTRUCTION INDUSTRY PRACTICES.

**PART 1. BEAM CAST USING FORMWORK:**

IN LOOSE OR UNSTABLE SOILS A TRENCH WILL HAVE TO BE EXCAVATED WITH 45° SIDE SLOPES. THE BEAM CAN THEN BE FORMED AND POURED. AFTER A MINIMUM OF 24 HOURS THE FORMWORK CAN BE REMOVED AND BACKFILL INSTALLED. NOTE THAT WHEN BACKFILLING, PLACE EXCAVATED MATERIAL EQUALLY ON BOTH SIDES OF THE BEAM. BACKFILL IN 8" (200mm) LIFTS (LAYERS) AND COMPACT THOROUGHLY BEFORE INSTALLING SECOND LIFT.

WHERE POSSIBLE, FORMWORK SHOULD BE INSTALLED IN SUCH A MANNER TO ALLOW SOME CONCRETE TO FLOW UNDERNEATH FORM BOARDS DURING THE POURING PROCESS TO INCREASE SOIL RESISTANCE.

NOTE: ANY GRADE BEAM INSTALLATION SHOULD BE UNDERTAKEN ONLY BY EXPERIENCED CONTRACTORS. THE FARLEY GROUP WILL NOT BE HELD RESPONSIBLE FOR ERRORS MADE BY INDIVIDUALS, OR GROUPS UNFAMILIAR WITH STANDARD CONSTRUCTION MATERIALS OR METHODS.

**PART 2. REINFORCING STEEL:**

THE GRADE BEAM IS USED AS BALLAST TO PREVENT UPLIFT OF YOUR AIR STRUCTURE. THE REINFORCING STEEL REQUIREMENTS ARE MINIMUM BUT REQUIRE ACCURATE INSTALLATION NONE THE LESS.

THE USUAL SIZE OF HORIZONTAL REBAR IS 15M (#5). VERTICAL REBAR IS TYPICALLY 10M (#4). PLACING TYPICALLY WILL BE AS SHOWN ON DRAWINGS. STIRRUPS SHOULD BE BENT AS SHOWN WITH THE INSIDE HOOK (I.E. INTERIOR OF STRUCTURE) BEING WITHIN 1" (25mm) OF THE RETENTION PROFILE AND 2" (50mm) FROM TOP OF CONCRETE. WITH ONE HORIZONTAL BAR RUNNING THROUGH THIS HOOK, THE RETENTION CAPACITY OF THE PROFILE IS IMPROVED.

NOTE: KEEP REINFORCING STEEL 2" (50mm) AWAY FROM OUTSIDE OF CONCRETE.

**PART 3. RETENTION PROFILE:**

THERE ARE TWO METHODS FOR INSTALLING THE RETENTION PROFILE. THE METHOD TO BE USED FOR THIS PROJECT IS SHOWN IN DETAIL 1/AS3.

METHOD 'A' IS A FLUSH PROFILE (NOT SHOWN) GIVING ONLY 2" (50mm) OF TOP EXPOSED WHEN THE STRUCTURE IS DOWN. THIS METHOD IS SUITABLE FOR SMALLER STRUCTURES UP TO 118' (36m) WIDE AND HARD SURFACE COURTS.

METHOD 'B' IS A RECESSED PROFILE (DETAIL 1/AS3). ADVANTAGES OF THE RECESSED PROFILE INCLUDE INCREASED RETENTION FOR LARGER STRUCTURES AND CONDENSATION DRAINAGE CHANNEL ESPECIALLY GOOD IN CLAY COURT TENNIS STRUCTURES.

BOTH INSTALLATION METHOD PROCEDURES ARE BASICALLY THE SAME.

NOTE: MAKE SURE THE ROPE EDGE POCKET ON THE SIDE OF THE PROFILE FACES INTO THE STRUCTURE (DETAIL 1/AS3).

AS THE PROFILE IS MANUFACTURED IN 10' (3m) LENGTHS, 10' (3m) PIECES OF PRESSURE TREATED 2 X 4 STAGGERED ON PROFILE SECTIONS WORKS WELL FOR INSTALLATION.

SECTIONS OF PROFILE PACKED WITH PRESSURE TREATED 2 X 4 AND 1/8" (3mm) MASONITE PACKING ARE WIRED UP TO SPREADERS AT 4' (1220mm) o/c. THE SPREADERS SPAN THE GAP AND HOLD THE TOP EDGE FORMS THE CORRECT DISTANCE APART (DETAIL 2/AS3).

ON METHOD 'A' PROFILE INSTALLATIONS, A STRIP OF DUCT TAPE ALONG THE TOP WILL KEEP CONCRETE OUT AND EASE REMOVAL OF 2 X 4 LATER (NOT SHOWN).

USING FLEXIBLE TIE-WIRE, CLOSE THE PROFILE TIGHTLY AGAINST THE PACKING AND HANG FROM THE SPREADERS. 1/2" (40mm) PACKING BETWEEN SPREADERS AND SIDE FORMS WILL EASE FINISHING OR, ALTERNATIVELY, SPREADERS CAN BE REMOVED WHEN CONCRETE HAS REACHED INITIAL SET TO SPEED FINISHING.

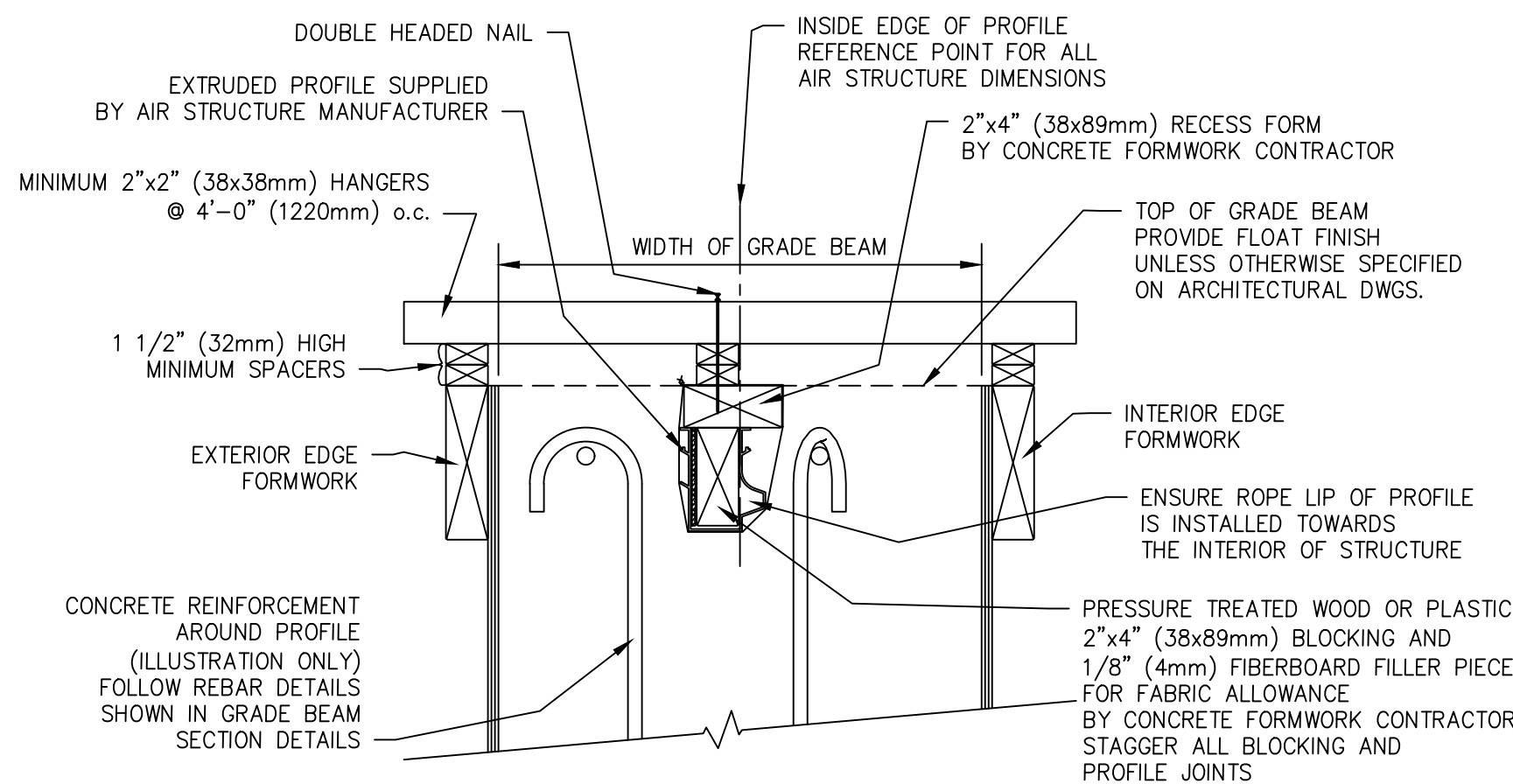
N.B.: REMOVE PACKING THE DAY AFTER POUR AS MOISTURE WILL SWELL LUMBER, MAKING REMOVAL DIFFICULT.

WITH THE 'B' METHOD, TWO PRESSURE TREATED 2 X 4'S WILL BE REQUIRED IN ADDITION TO THE 1/8" X 3/4" (3mm X 89mm) FIBREBOARD (MASONITE) PACKING. ALL OTHER INSTRUCTIONS ARE SIMILAR.

GENERAL DETAIL -- ON EACH CORNER OF THE STRUCTURE WILL BE A 45° ANGLE WHICH EASES INSTALLATION AND RELIEVES FABRIC STRESS (DETAIL 4/AS3). LAY A SHORT PIECE OF PROFILE ACROSS THE CORNER AS SHOWN AND CUT THROUGH INTERSECTIONS WITH A HAND SAW TO HAVE PERFECTLY MATCHING JOINTS.

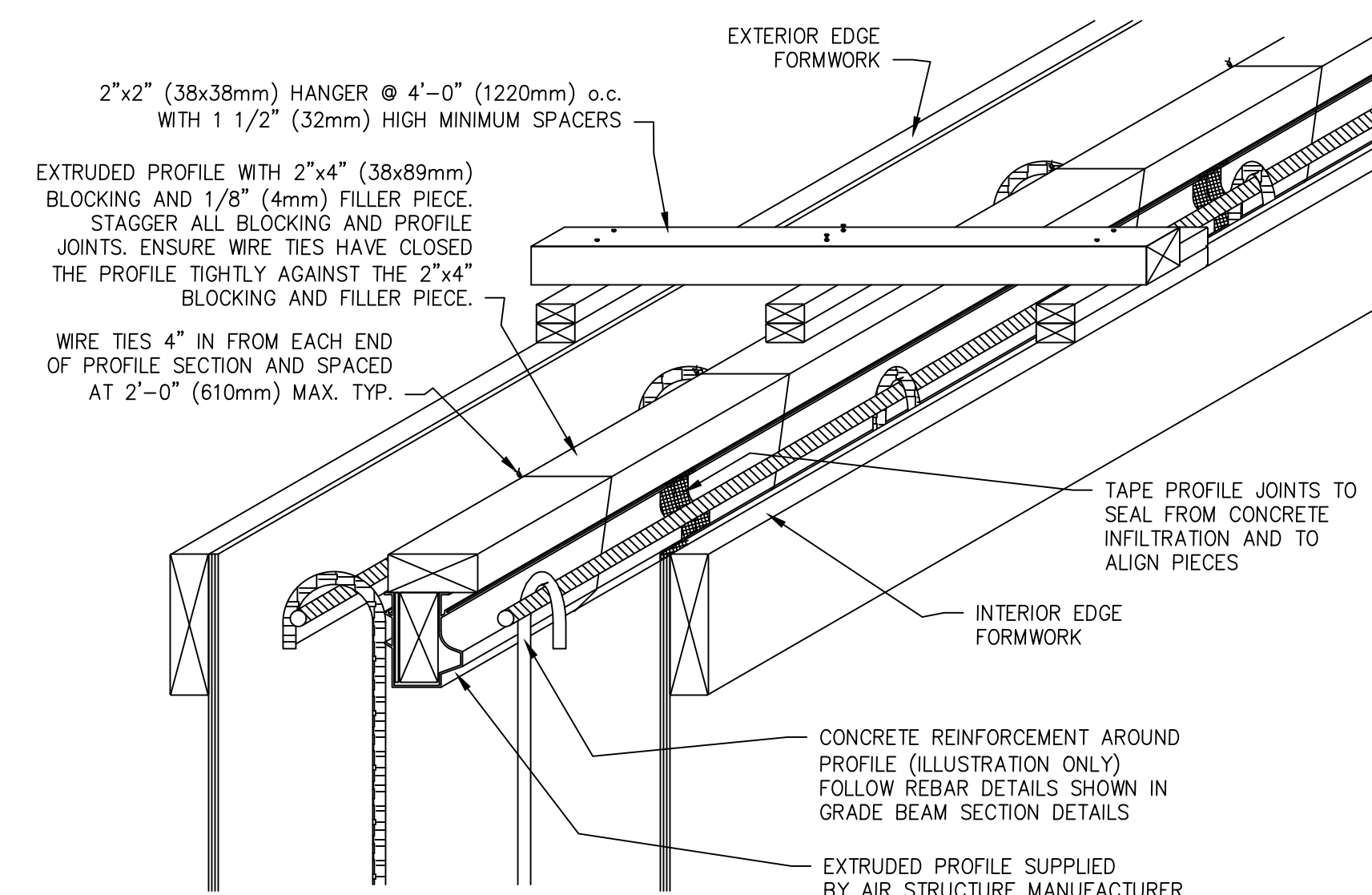
**PART 4. AIR STRUCTURE DRAINAGE:**

DRAINAGE (WHERE APPLICABLE) -- TO FACILITATE DRAINAGE FROM YOUR PROFILE, ESPECIALLY IN SITUATIONS WHERE TOP OF BEAM IS ABOVE EXTERIOR GRADE, WE RECOMMEND INSTALLING MIN. 1 1/2" WIDE DRAIN CHANNELS AT EVERY CORNER AND SIMILAR DRAIN CHANNELS SHOULD BE INSTALLED AROUND THE ENTIRE PERIMETER OF THE BEAM AT A SPACING OF 50'-0" MAXIMUM AND EACH SIDE OF DOOR AND MECHANICAL CONCRETE PADS. ENSURE THAT THE PLACEMENT OF PERIMETER DRAINS DOES NOT INTERFERE WITH PADS OR OTHER ELEMENTS SUCH AS CAST-IN CABLE ANCHORS. PROVIDE A MINIMUM DISTANCE OF 3'-0" FROM ANY INTERFERING ELEMENTS.

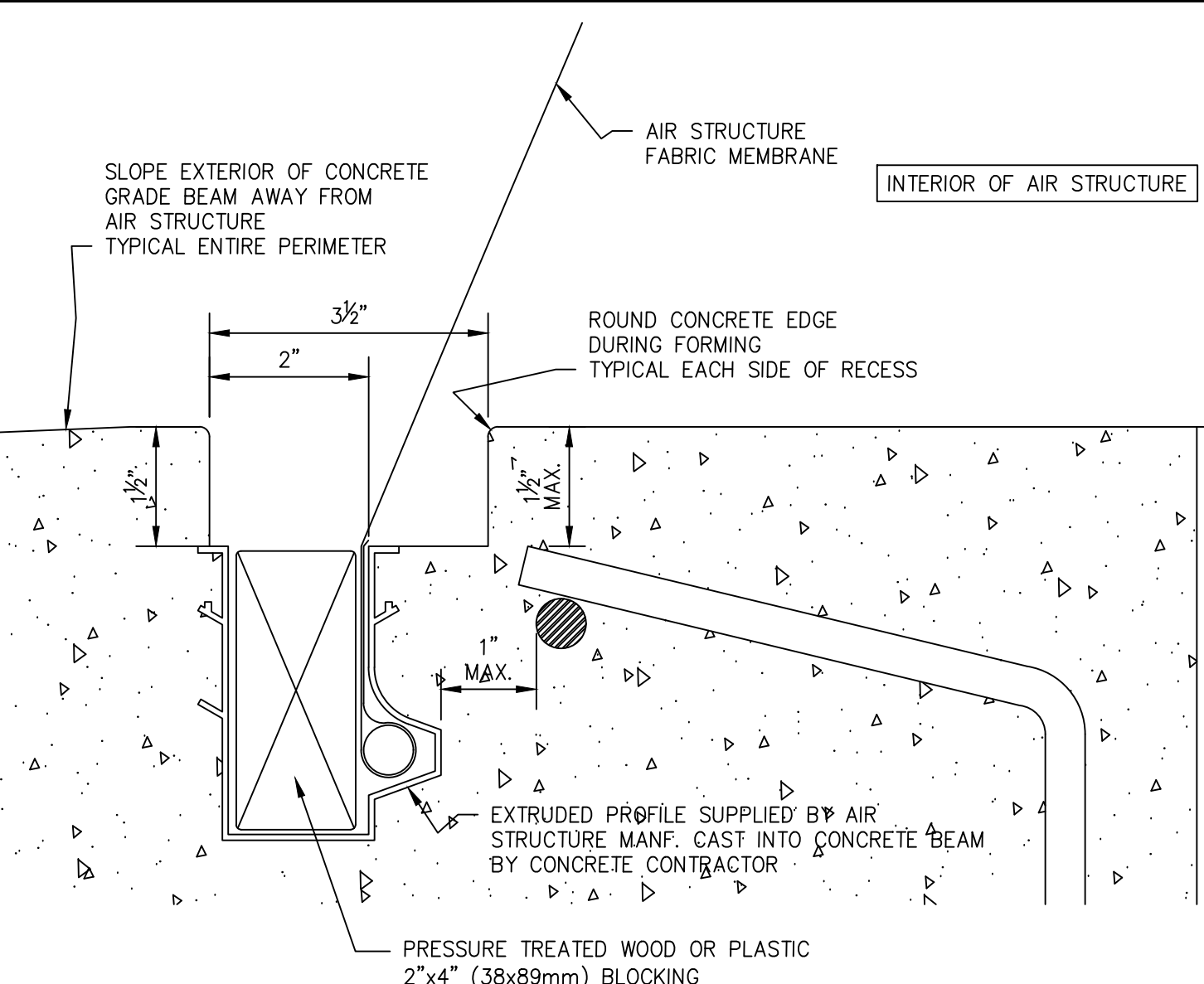


PRESSURE TREATED WOOD OR PLASTIC 2"x4" (38x89mm) BLOCKING USED FOR PROFILE INSTALLATION TO REMAIN FOR AIR STRUCTURE RETENTION BY CONCRETE FORMWORK CONTRACTOR

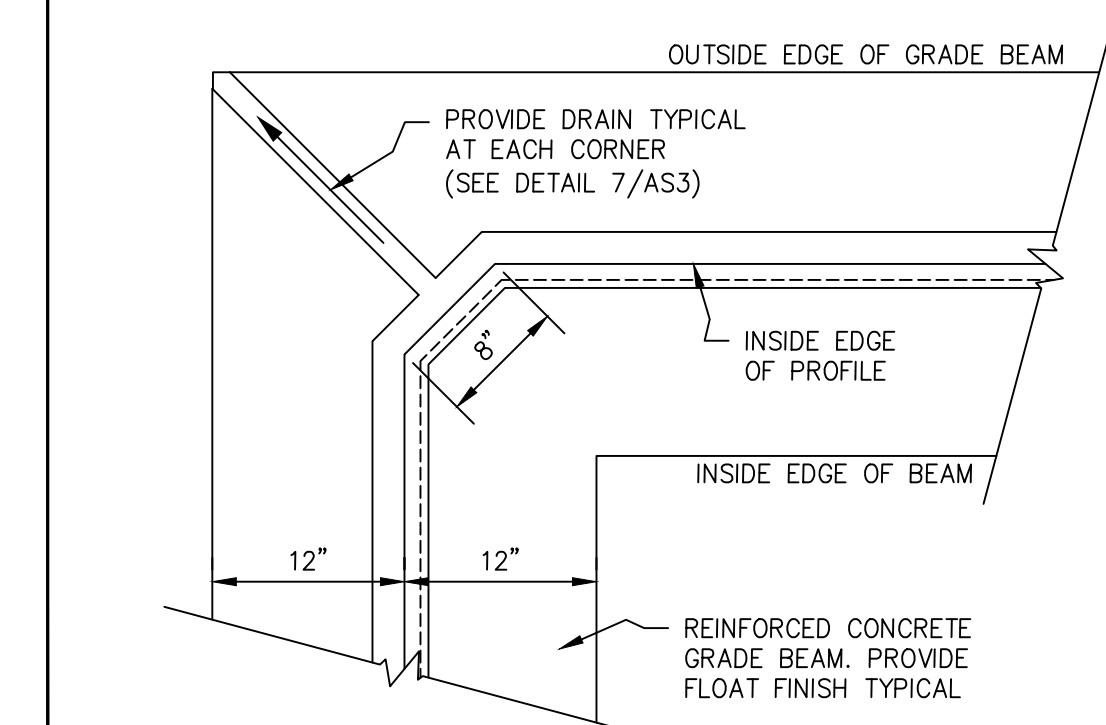
1 PROFILE INSTALLATION DETAIL (TYPE 'B') NOT TO SCALE



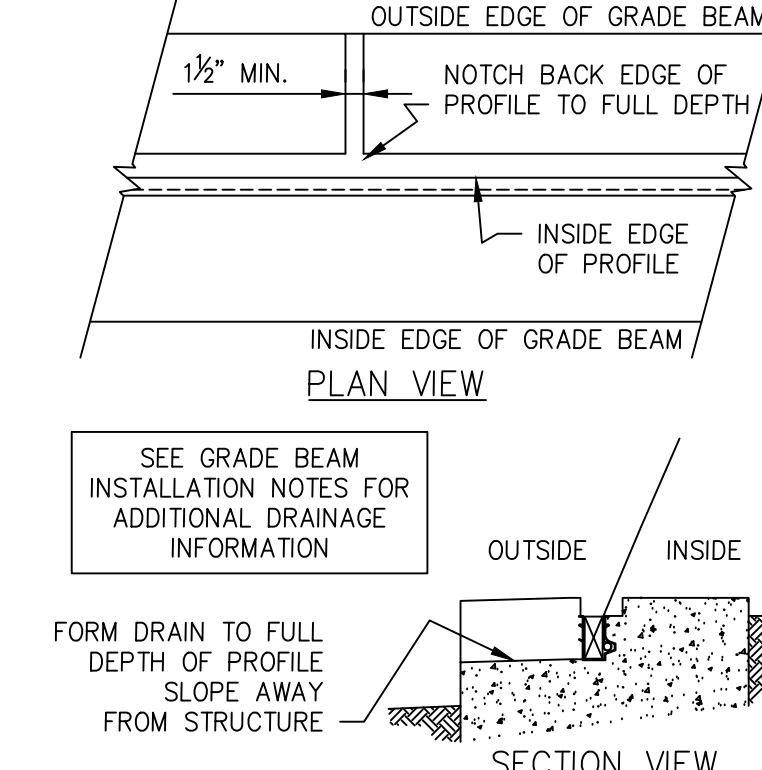
2 TYPICAL FORMING DETAIL FOR GRADE BEAM NOT TO SCALE



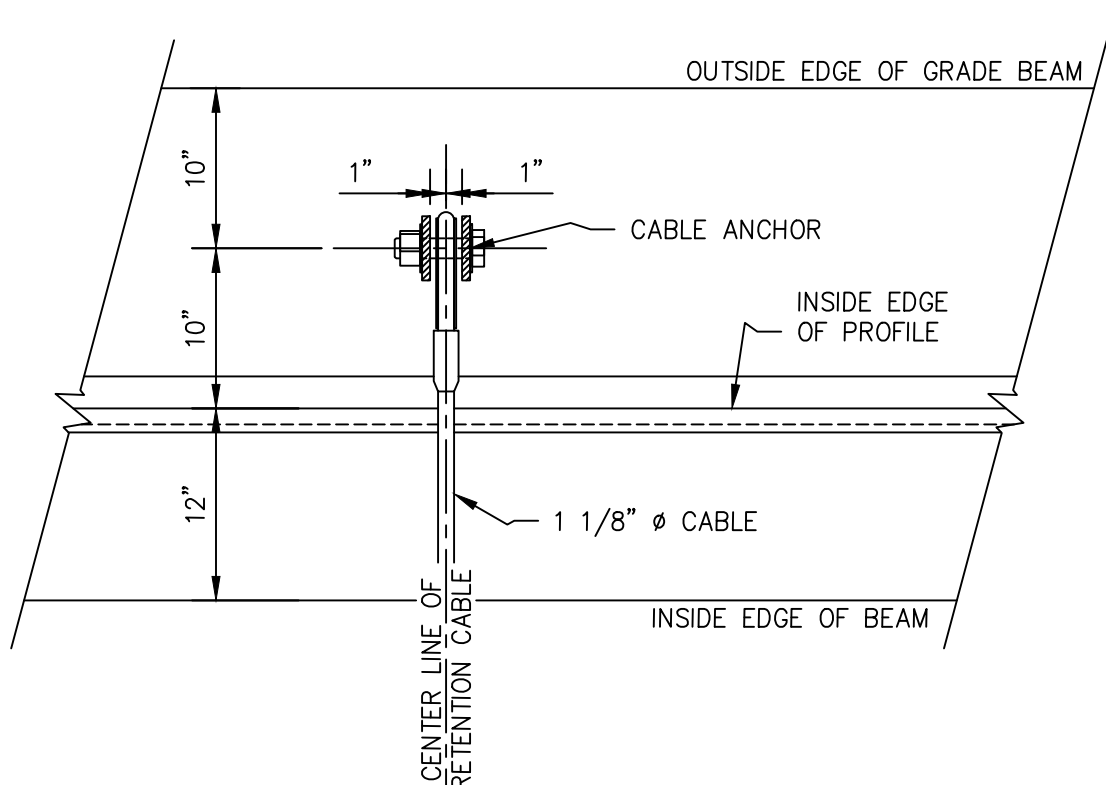
3 DETAIL OF REINFORCEMENT PLACEMENT AT PROFILE NOT TO SCALE



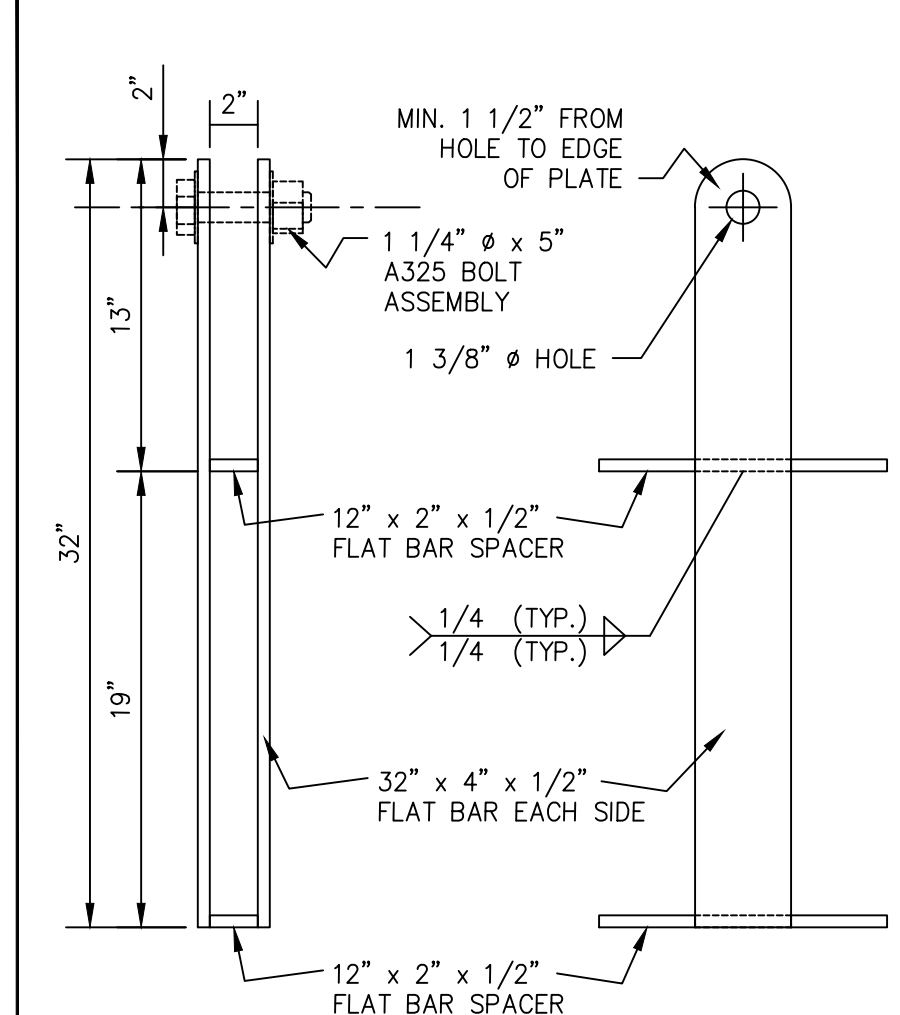
4 TYPICAL BEAM CORNER DETAIL SCALE 1" = 1'-0"



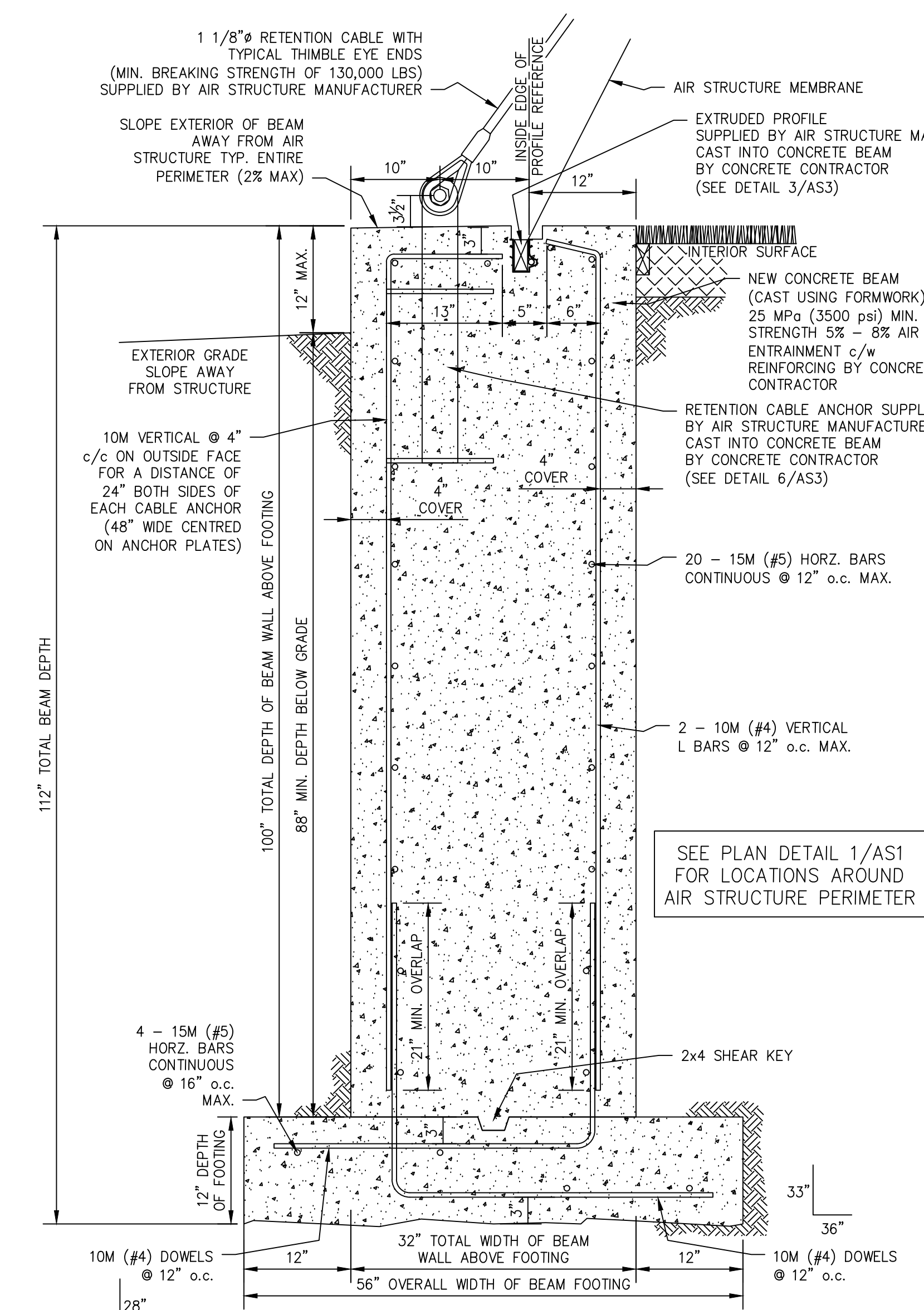
7 TYP. BEAM DRAIN DETAIL SCALE 3/4" = 1'-0"



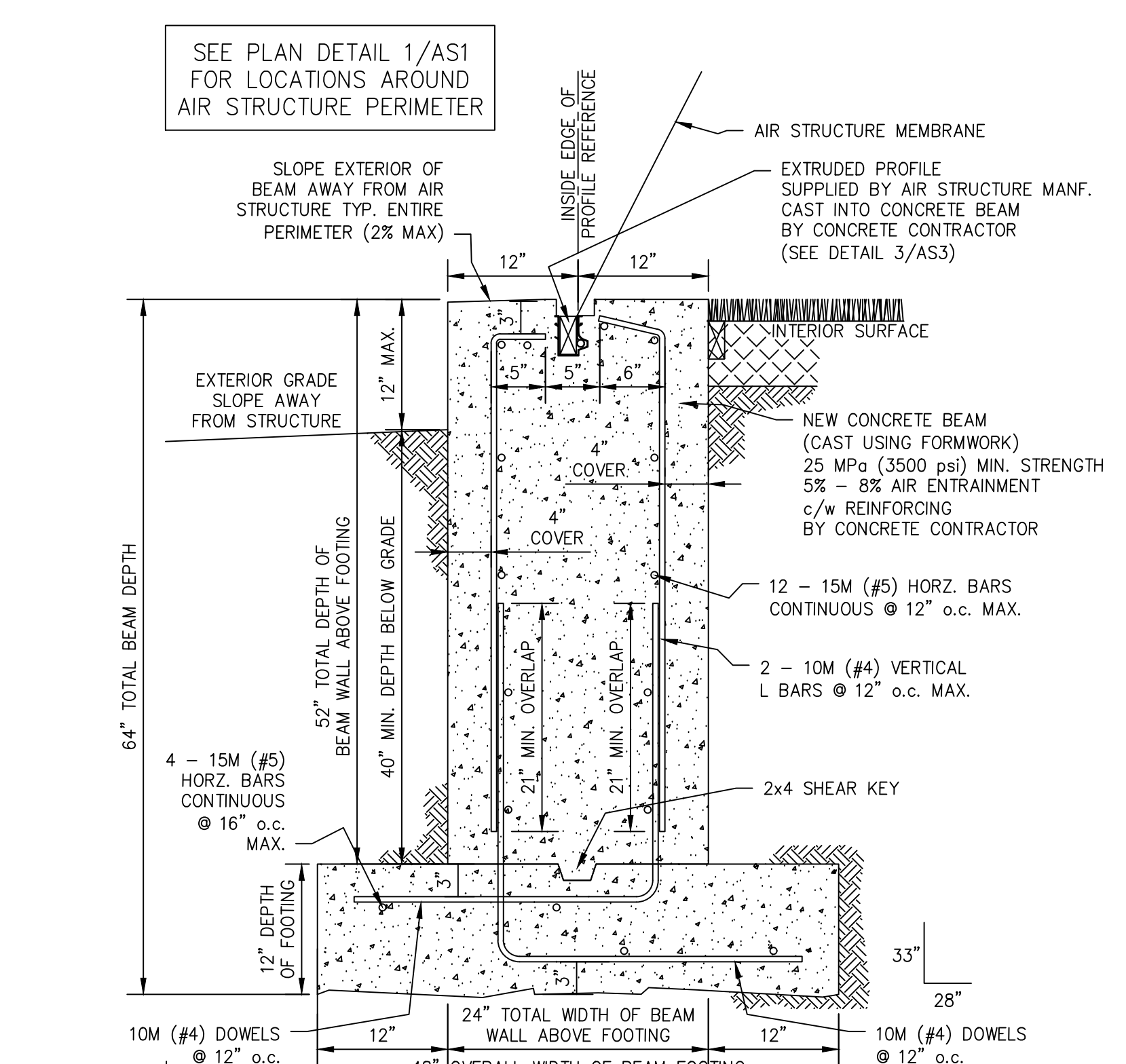
5 TYP. CABLE ANCHOR PLAN DETAIL SCALE 1" = 1'-0"



6 CABLE ANCHOR DETAIL SCALE 1 1/2" = 1'-0"



8 GRADE BEAM SECTION - WITHIN CABLES - SCALE 1" = 1'-0"



9 GRADE BEAM SECTION - CORNERS - SCALE 1" = 1'-0"



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 Creative Space Solutions

CLIENT:  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")

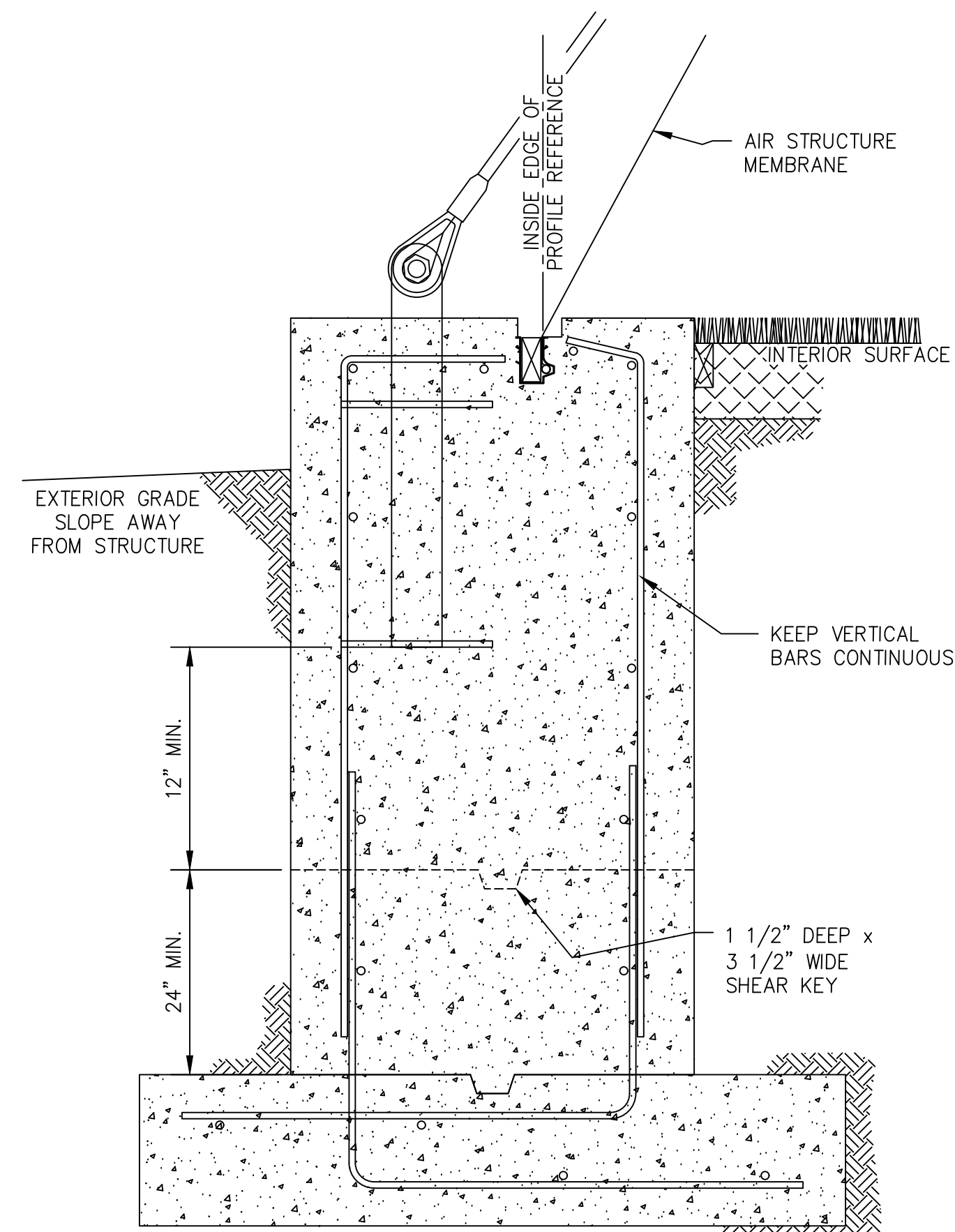
LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
 CONSTRUCTION JOINT AND EXIT DOOR DETAILS

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN

PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS4

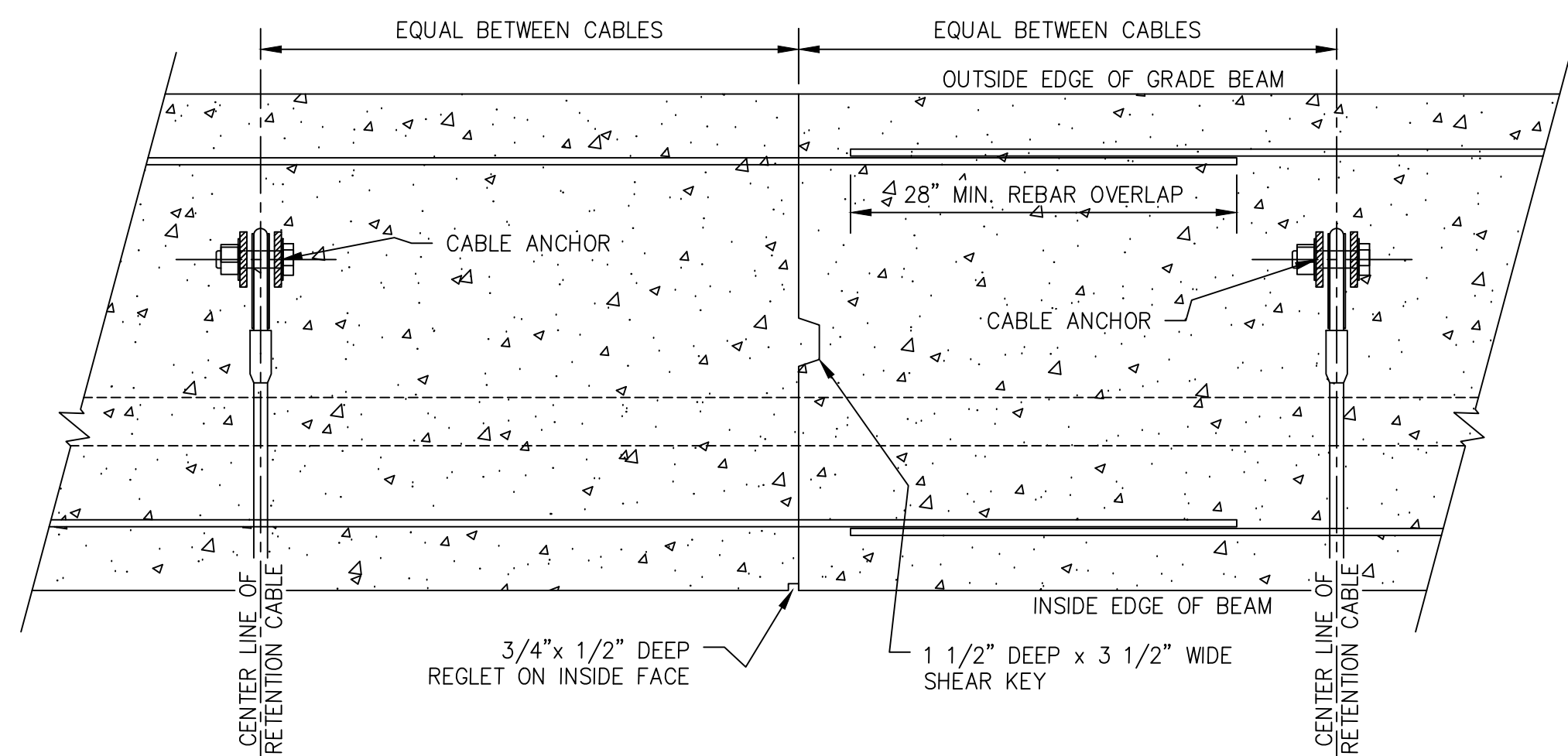
REV. 03



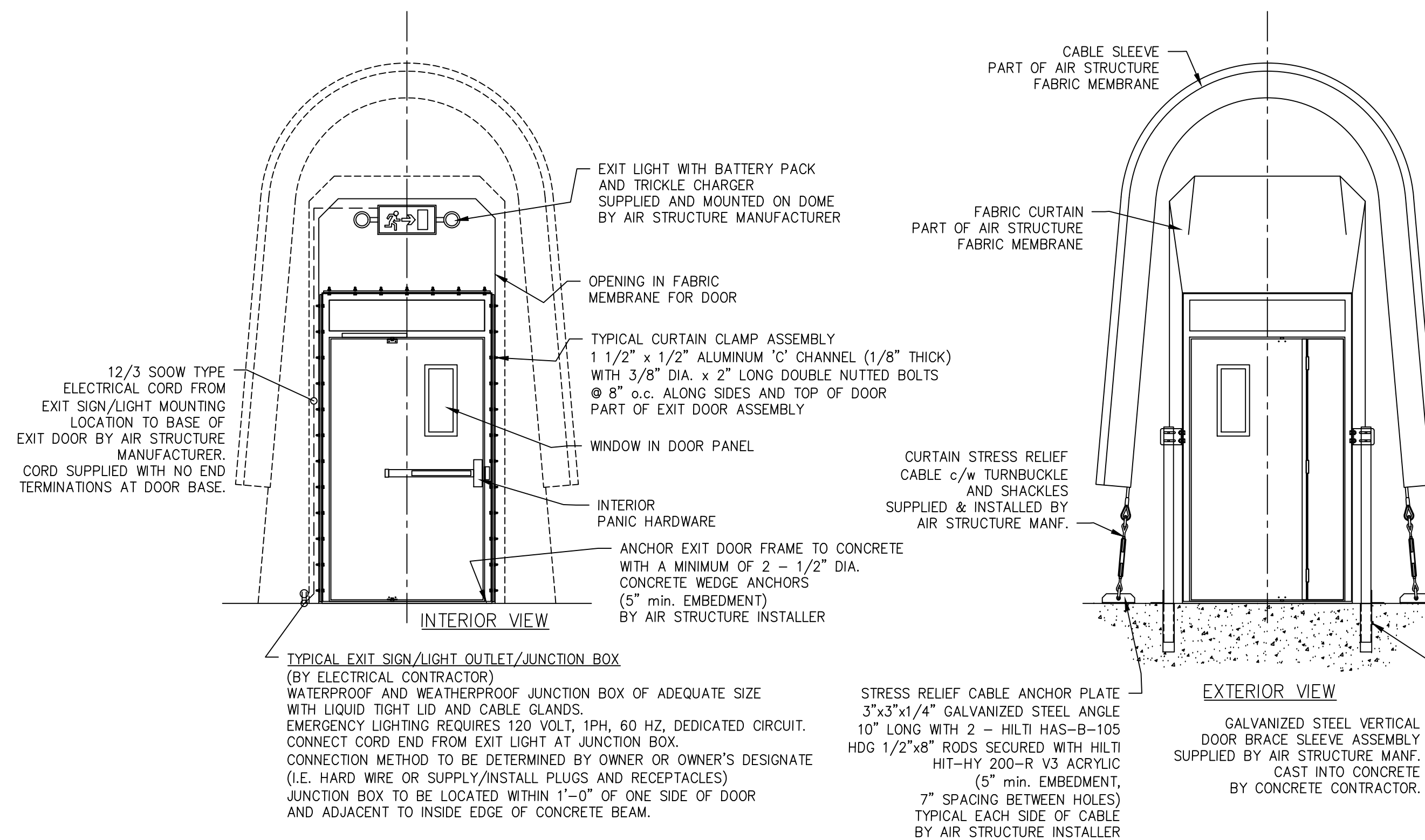
TYPICAL CAST USING FORMWORK BEAM

1 TYP. GRADE BEAM HORIZONTAL CONSTRUCTION JOINT NOT TO SCALE

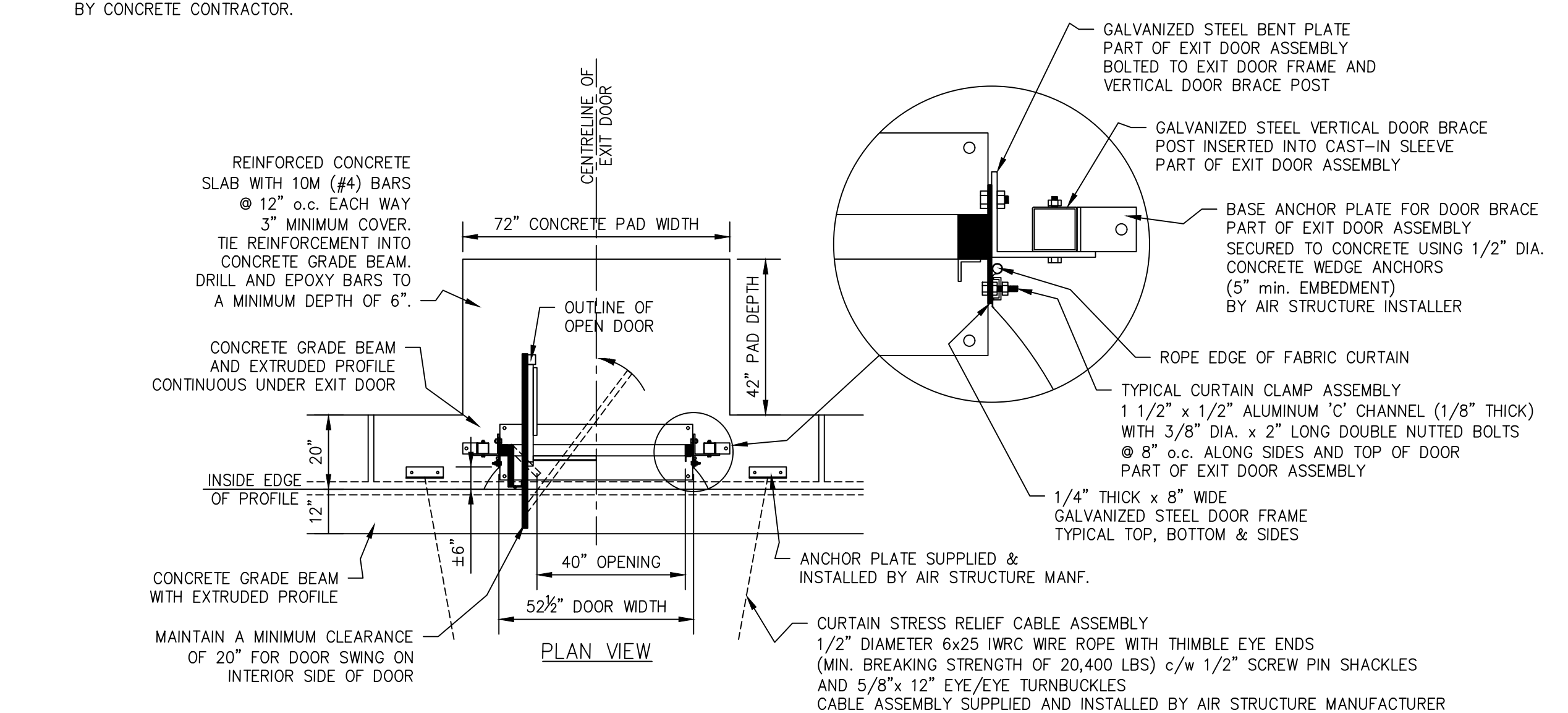
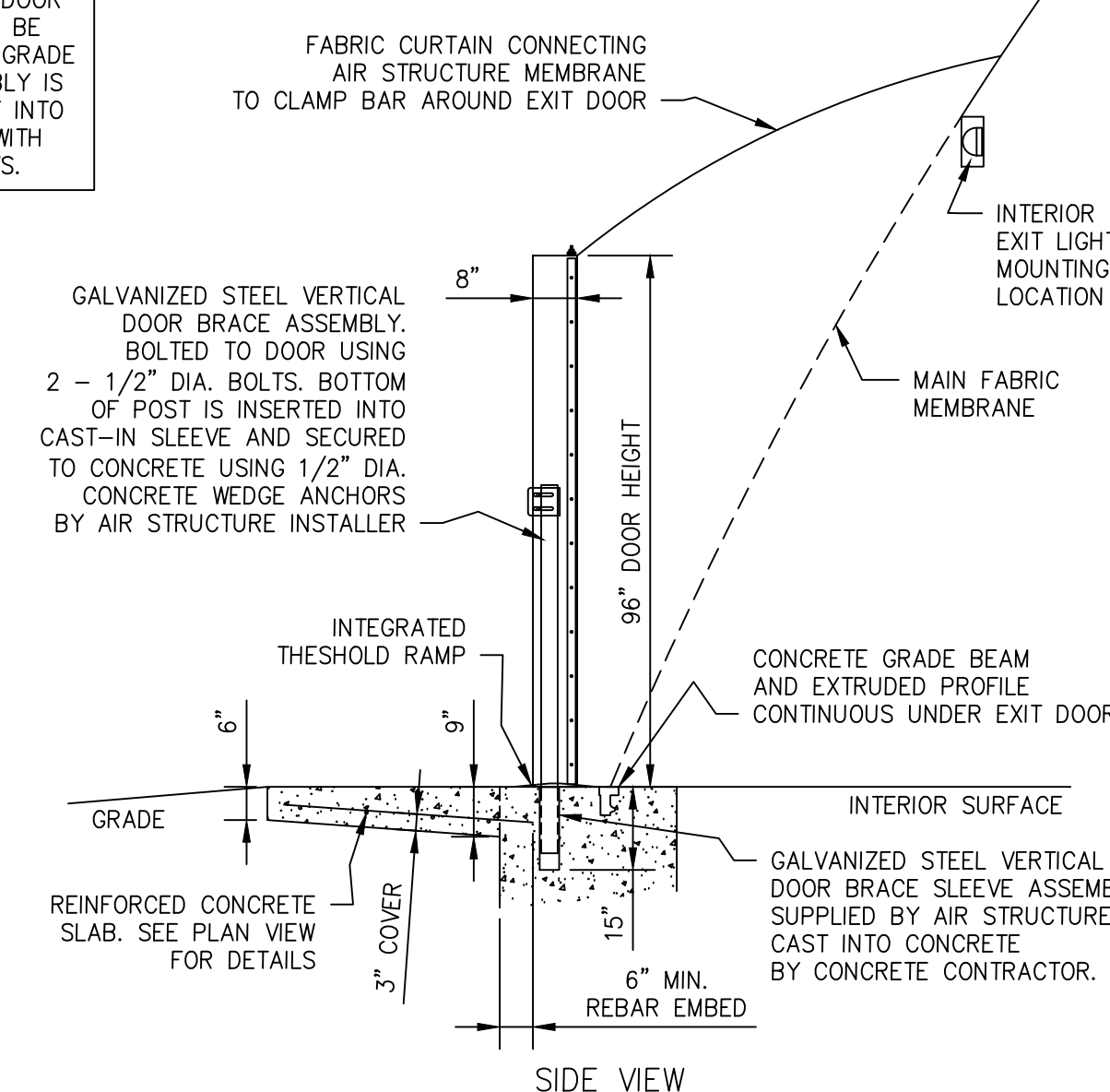
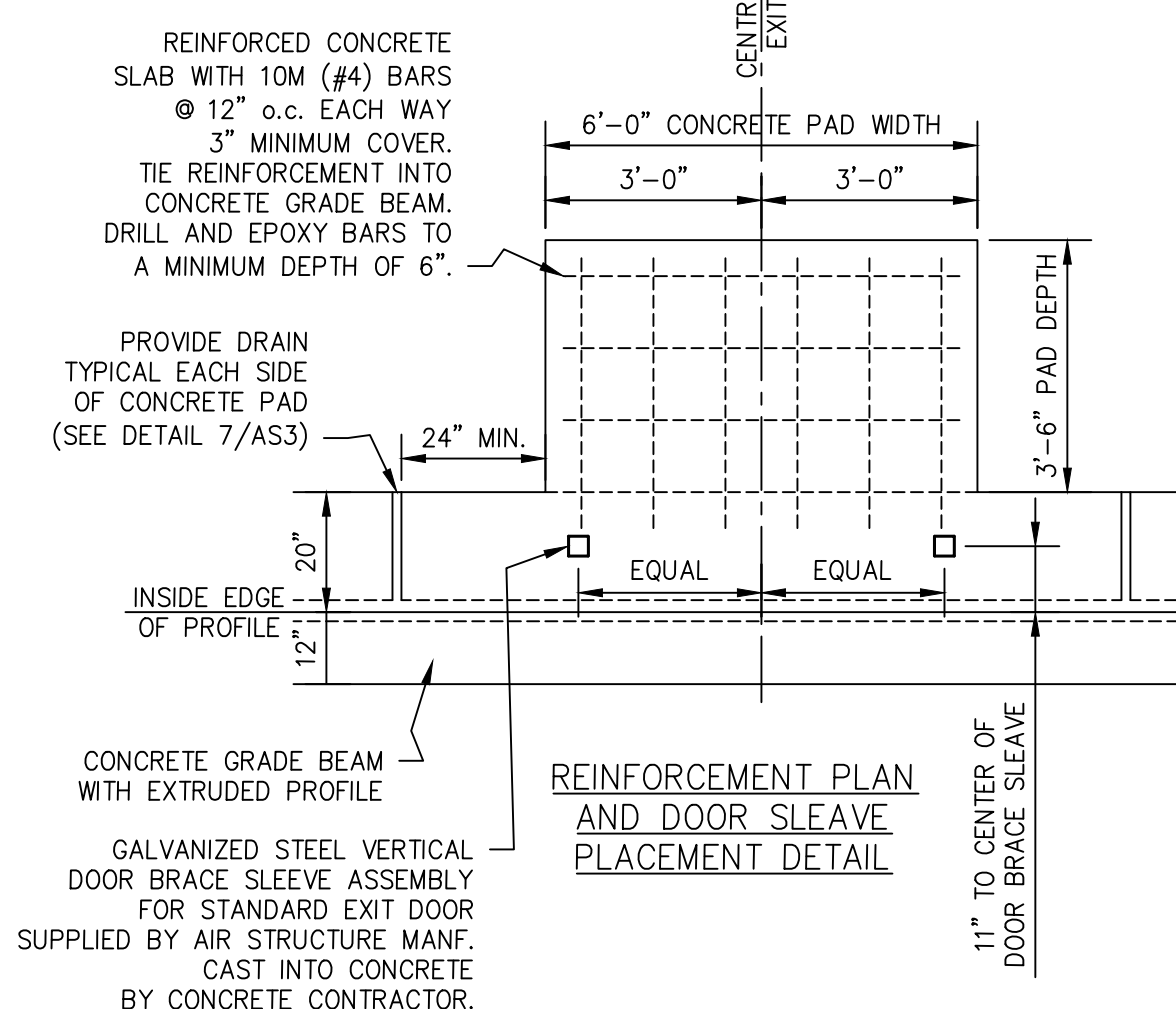
VERTICAL CONSTRUCTION JOINTS NOT TO OCCUR WITHIN:  
 - 3'-0" MIN. OF A PERIMETER CONCRETE PAD EDGE  
 - 8'-0" MIN. FROM A BEAM CORNER  
 - 8'-0" MIN. FROM AN UNDERGROUND VAULT  
 - 5'-0" MIN. FROM A CAST-IN CABLE ANCHOR



2 TYP. GRADE BEAM VERTICAL CONSTRUCTION JOINT NOT TO SCALE



INSTALLATION NOTES: TOP OF DOOR BRACE SLEEVE ASSEMBLY TO BE FLUSH WITH TOP OF CONCRETE GRADE BEAM. ENSURE SLEEVE ASSEMBLY IS VERTICALLY PLUMB WHEN CAST INTO CONCRETE TO AVOID ISSUES WITH ANGLED DOOR BRACE POSTS.



3 TYPICAL SINGLE EMERGENCY EXIT DOOR SCALE 3/8"=1'-0"



REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:  
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 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL.  
 3- OCCUPANT LOAD BASED ON NUMBER OF EXITS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

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1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
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 292 Speedvale Avenue West, Unit 20, Guelph, Ontario  
 telephone: (519) 823-4995 fax: (519) 836-5477  
 web: www.rjburnside.com

PROFESSIONAL ENGINEER  
 W. LANKINEN  
 04/11/2024  
 STRUCTURAL ONLY

**THE FARLEY GROUP**  
 Parley Manufacturing Inc.  
 A division of The Farley Group  
 6 Kerr Crescent  
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 Creative Space Solutions

CLIENT:  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

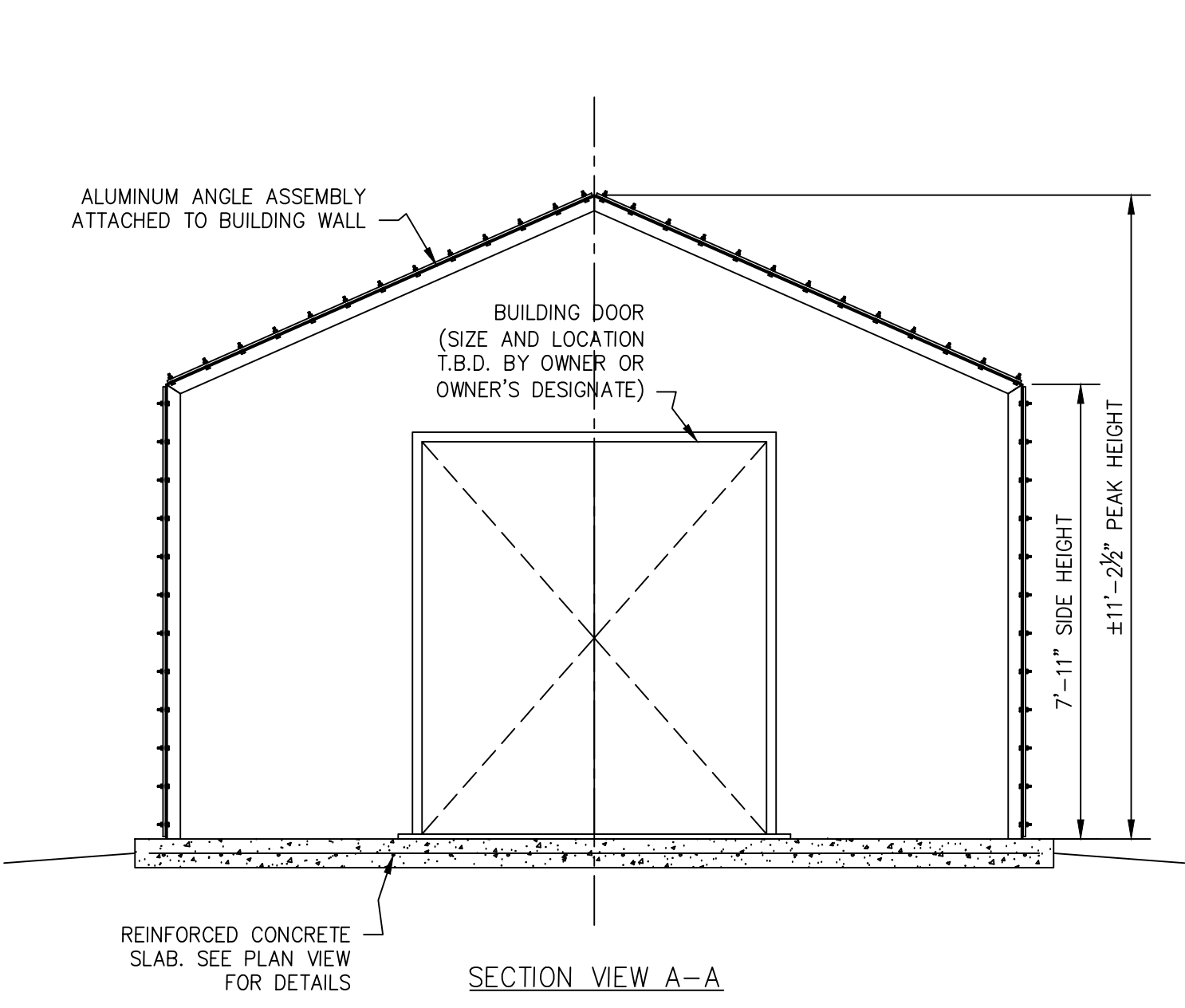
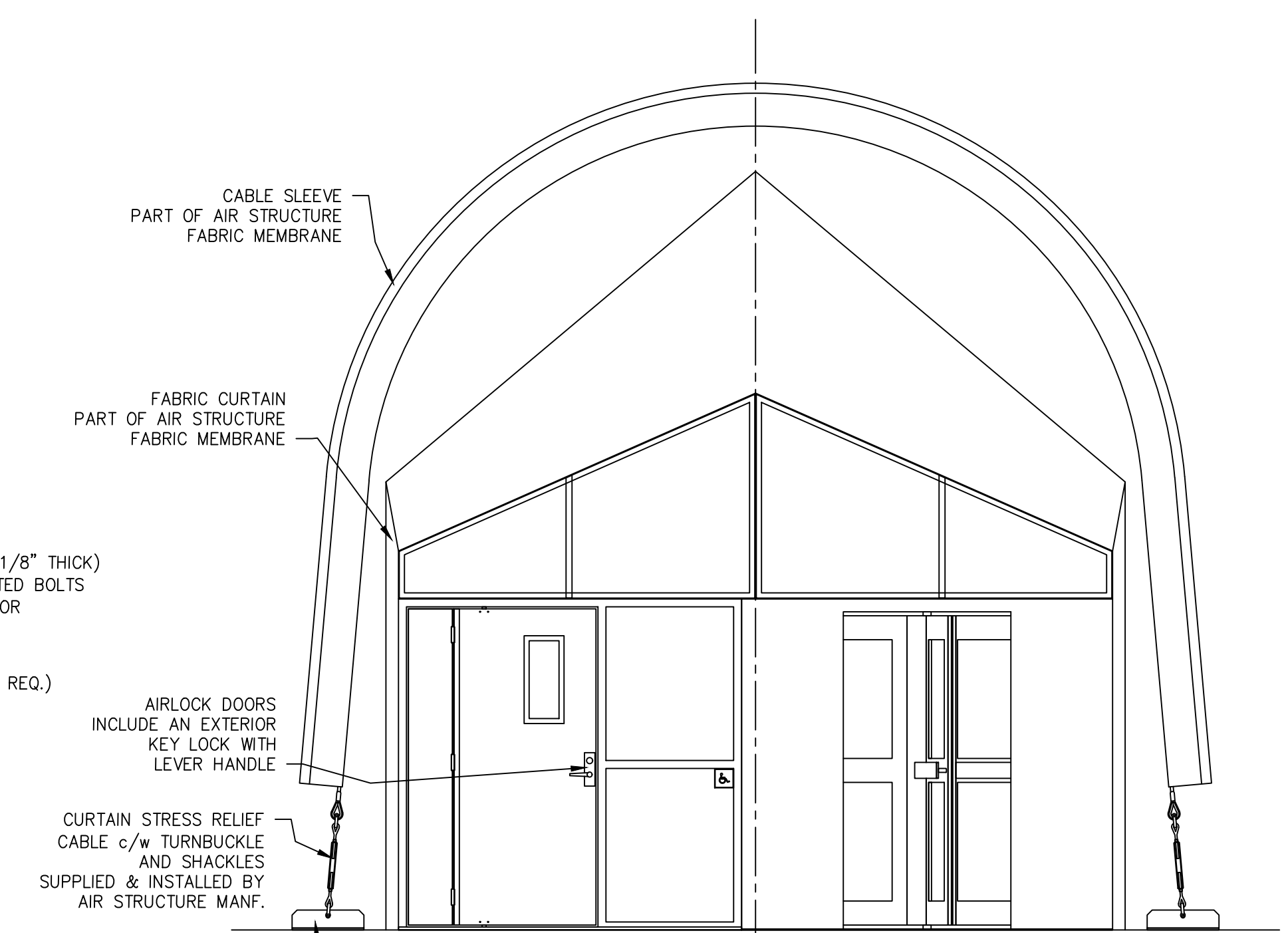
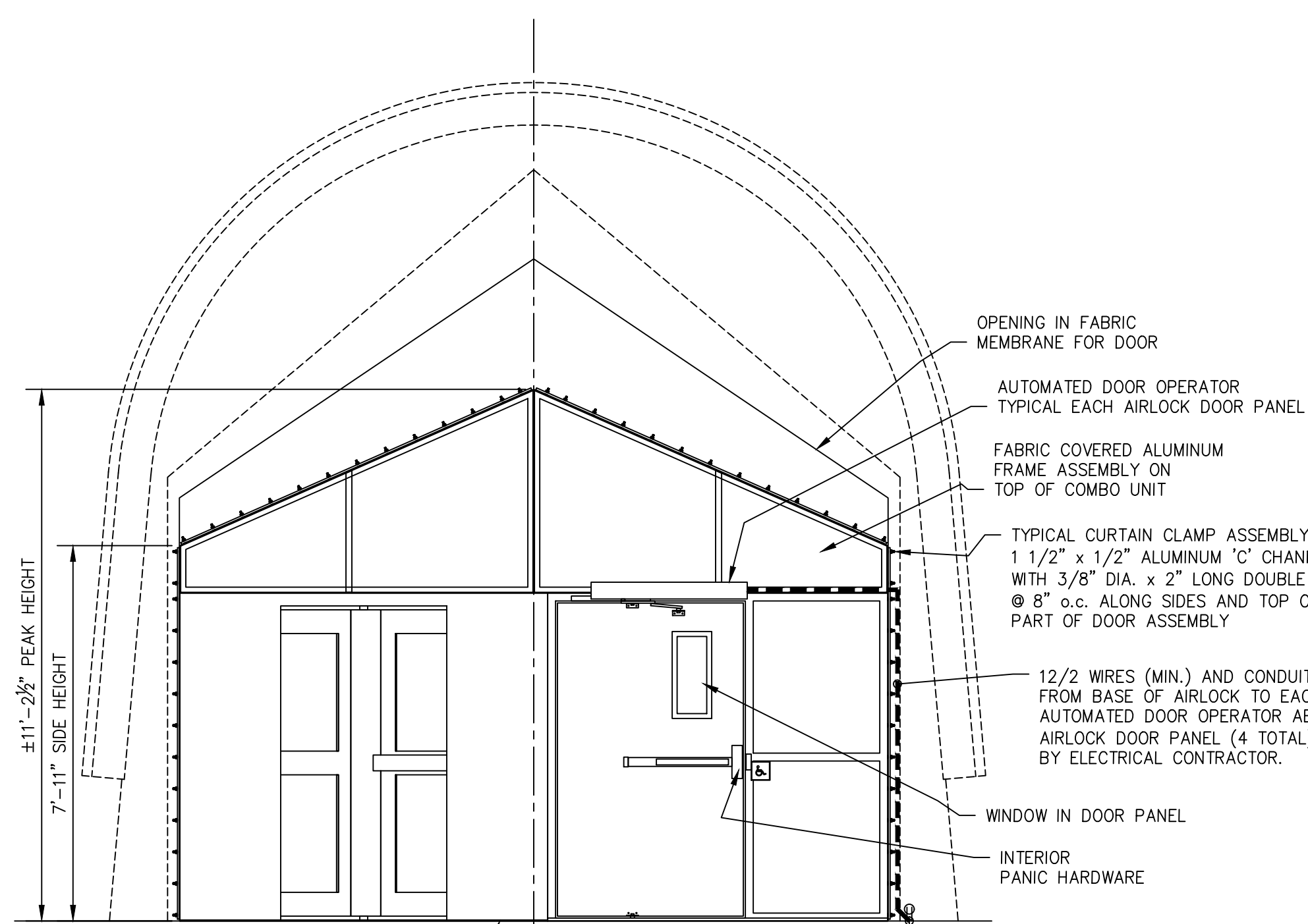
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W. BRAMPTON, ON L7A 2Z8

DRAWING:  
 COMBO UNIT DETAILS

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS5
	REV.	03



ANCHOR DOOR FRAME TO CONCRETE WITH A MINIMUM OF 8 - 1/2" DIA. CONCRETE WEDGE ANCHORS (5" min. EMBEDMENT) BY AIR STRUCTURE INSTALLER (4 FOR REV. DOOR AND 4 FOR AIRLOCK)

AUTOMATED DOOR OPERATOR OUTLET/JUNCTION BOX (BY ELECTRICAL CONTRACTOR) WATERPROOF AND WEATHERPROOF JUNCTION BOX OF ADEQUATE SIZE WITH LIQUID TIGHT LID AND CABLE GLANDS. AUTOMATED DOOR OPERATORS REQUIRES 120 VOLT, 1PH, 60 HZ, DEDICATED CIRCUIT. PROVIDE AND CONNECT 12/2 WIRES (MIN.) AND CONDUIT (AS REQUIRED) TO EACH AUTOMATED DOOR OPERATOR (4 OPERATORS TOTAL). CONNECTION METHOD TO BE DETERMINED BY OWNER OR OWNER'S DESIGNATE (HARD WIRE OR SUPPLY/INSTALL PLUGS AND RECEPTACLES) JUNCTION BOX TO BE LOCATED WITHIN 1'-0" FROM SIDE OF AIRLOCK AND ADJACENT TO INSIDE EDGE OF CONCRETE BEAM.

STRESS RELIEF CABLE ANCHOR PLATE 5"x5"x3/8" GALVANIZED STEEL ANGLE 18" LONG WITH 4 - HILTI HAS-B-105 HDG 1/2"x8" RODS SECURED WITH HILTI HIT-HY 200-R V3 ACRYLIC (5" min. EMBEDMENT, 5" SPACING BETWEEN HOLES) TYPICAL EACH SIDE OF CABLE BY AIR STRUCTURE INSTALLER

WALL OF BUILDING MAY REQUIRE ADDITIONAL REINFORCEMENT FOR ANGLE ANCHORAGE TYPICAL ALONG SIDE ANGLES AND ALONG SLOPING ROOF ANGLE DETERMINATION AND DESIGN OF BUILDING REINFORCEMENT BY BUILDING SUPPLIER/DESIGNER

ROPE EDGE OF FABRIC CURTAIN

TYPICAL FABRIC COVER CLAMP ASSEMBLY 1 1/2" x 1/2" ALUMINUM 'C' CHANNEL (1/8" THICK) WITH 3/8" DIA. x 2" LONG DOUBLE NUTTED BOLTS @ 8" o.c. ALONG SIDES AND TOP OF BUILDING ANGLE

3" x 3" x 1/4" ALUMINUM ANGLE ANCHORED TO BUILDING WALL USING 1/2" DIA. ANCHORS/BOLTS OR OTHER APPROPRIATE METHOD TO SUIT WALL CONSTRUCTION (TO BE CONFIRMED BY BUILDING SUPPLIER) @ 24" o.c. MAX. FOR AIR STRUCTURE CURTAIN ATTACHMENT TYPICAL ALONG SIDES AND TOP OF BUILDING CONNECTION

FINAL CONNECTION DETAIL FOR BUILDING LINK TO BE CONFIRMED BY BUILDING DESIGNER TO AIR STRUCTURE SUPPLIER TO ENSURE PROPER FIT OF FABRIC COVER

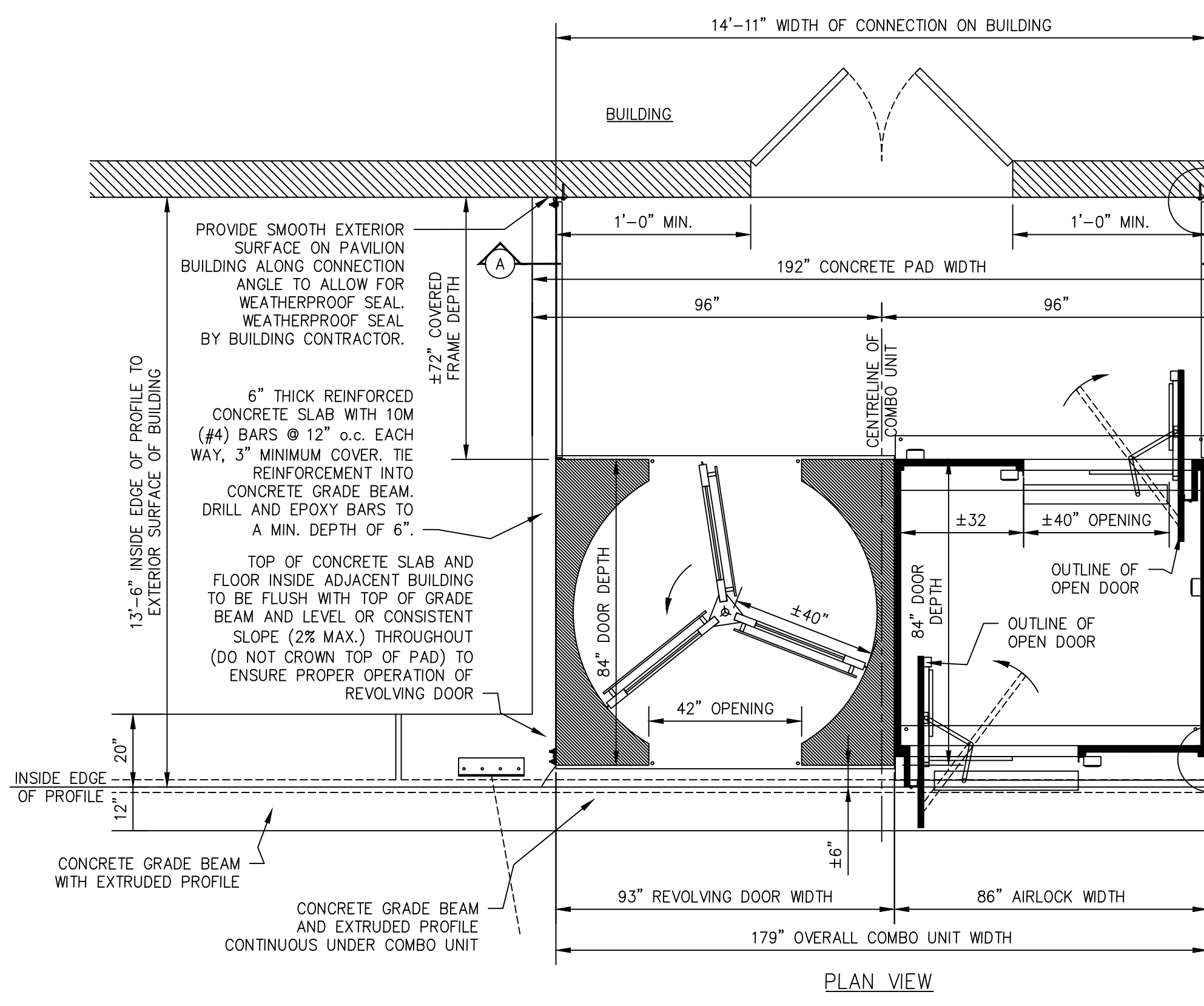
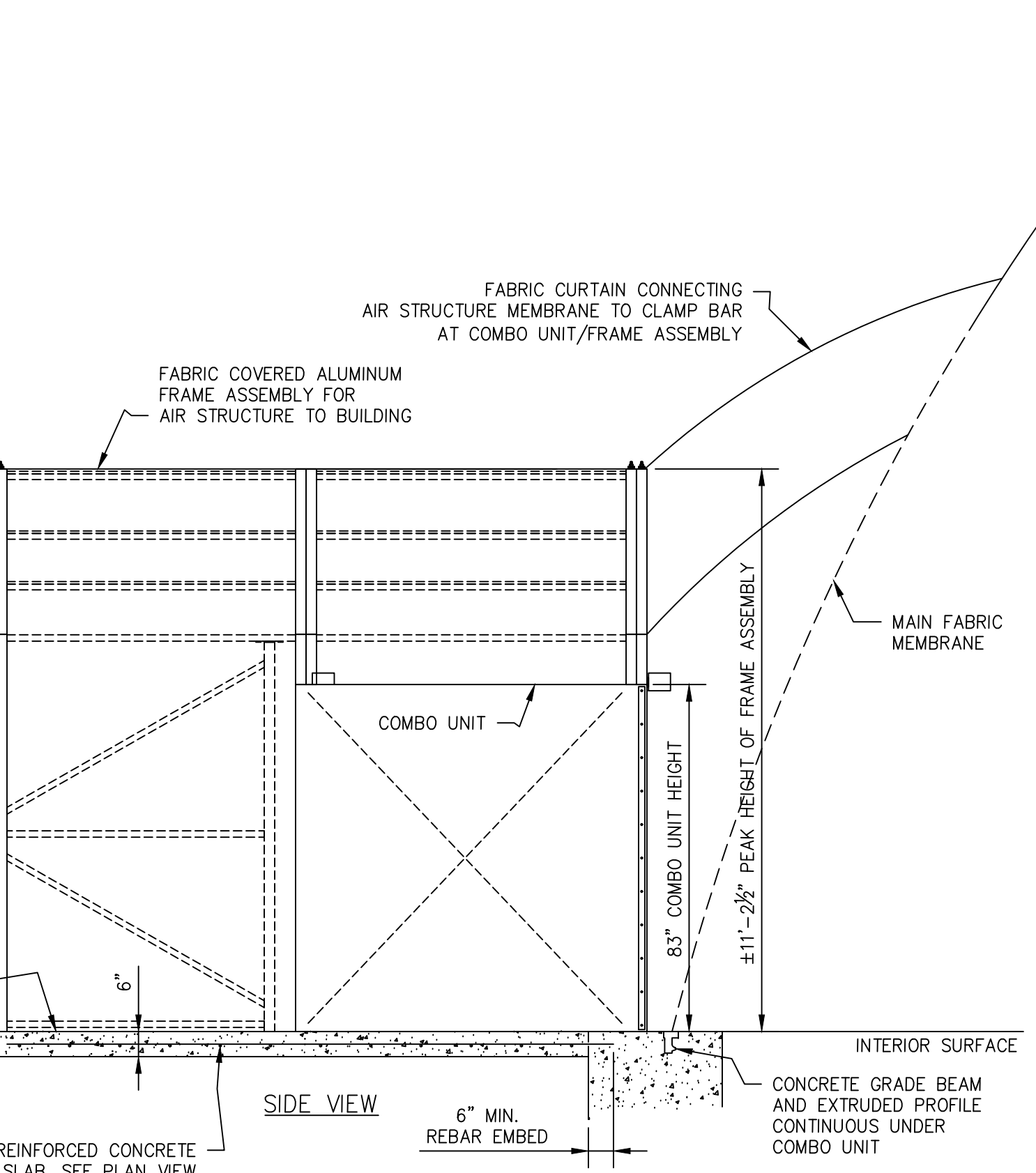
COMBO UNIT

ROPE EDGE OF FABRIC CURTAIN

TYPICAL CURTAIN CLAMP ASSEMBLY 1 1/2" x 1/2" ALUMINUM 'C' CHANNEL (1/8" THICK) WITH 3/8" DIA. x 2" LONG DOUBLE NUTTED BOLTS @ 8" o.c. ALONG SIDES AND TOP OF DOOR PART OF DOOR ASSEMBLY

ANCHOR PLATE SUPPLIED & INSTALLED BY AIR STRUCTURE MANF.

CURTAIN STRESS RELIEF CABLE ASSEMBLY 5/8" DIAMETER 6x25 IWRC WIRE ROPE WITH THIMBLE EYE ENDS (MIN. BREAKING STRENGTH OF 39,000 LBS) c/w 5/8" SCREW PIN SHACKLES AND 3/4" x 12" EYE TURNBUCKLES CABLE ASSEMBLY SUPPLIED AND INSTALLED BY AIR STRUCTURE MANUFACTURER.



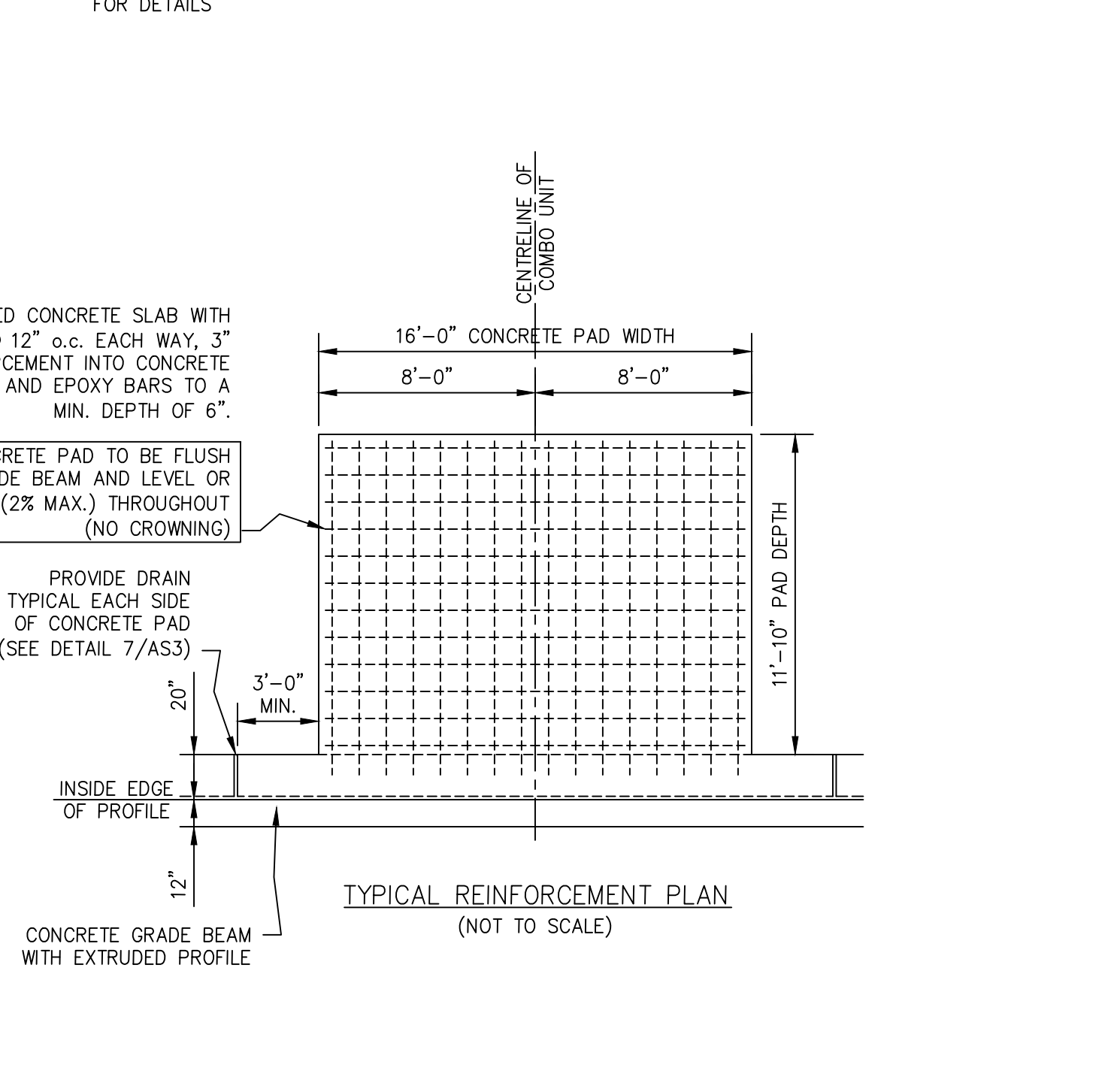
HEIGHT OF BUILDING AT FRAME ASSEMBLY TO BE MINIMUM OF 11'-3" FOR ANCHORING ANGLE

TOP OF CONCRETE SLAB AND FLOOR INSIDE ADJACENT BUILDING TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT (DO NOT CROWN TOP OF PAD) TO ENSURE PROPER OPERATION OF REVOLVING DOOR

6" THICK REINFORCED CONCRETE SLAB WITH 10M (#4) BARS @ 12" o.c. EACH WAY, 3" MINIMUM REINFORCEMENT INTO CONCRETE GRADE BEAM. DRILL AND EPOXY BARS TO A MIN. DEPTH OF 6".

NOTE: TOP OF CONCRETE PAD TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT (NO CROWNING)

PROVIDE DRAIN TYPICAL EACH SIDE OF CONCRETE PAD (SEE DETAIL 7/AS3)



1 AS5 TYPICAL 3-LEAF REVOLVING DOOR AND AUTOMATED PEDESTRIAN AIRLOCK UNIT (COMBO UNIT) AND BUILDING LINK SCALE 3/8"=1'-0"





**REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:**

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 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL**  
**COMMUNITY CENTRE DOME**  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:  
 PROJECT:

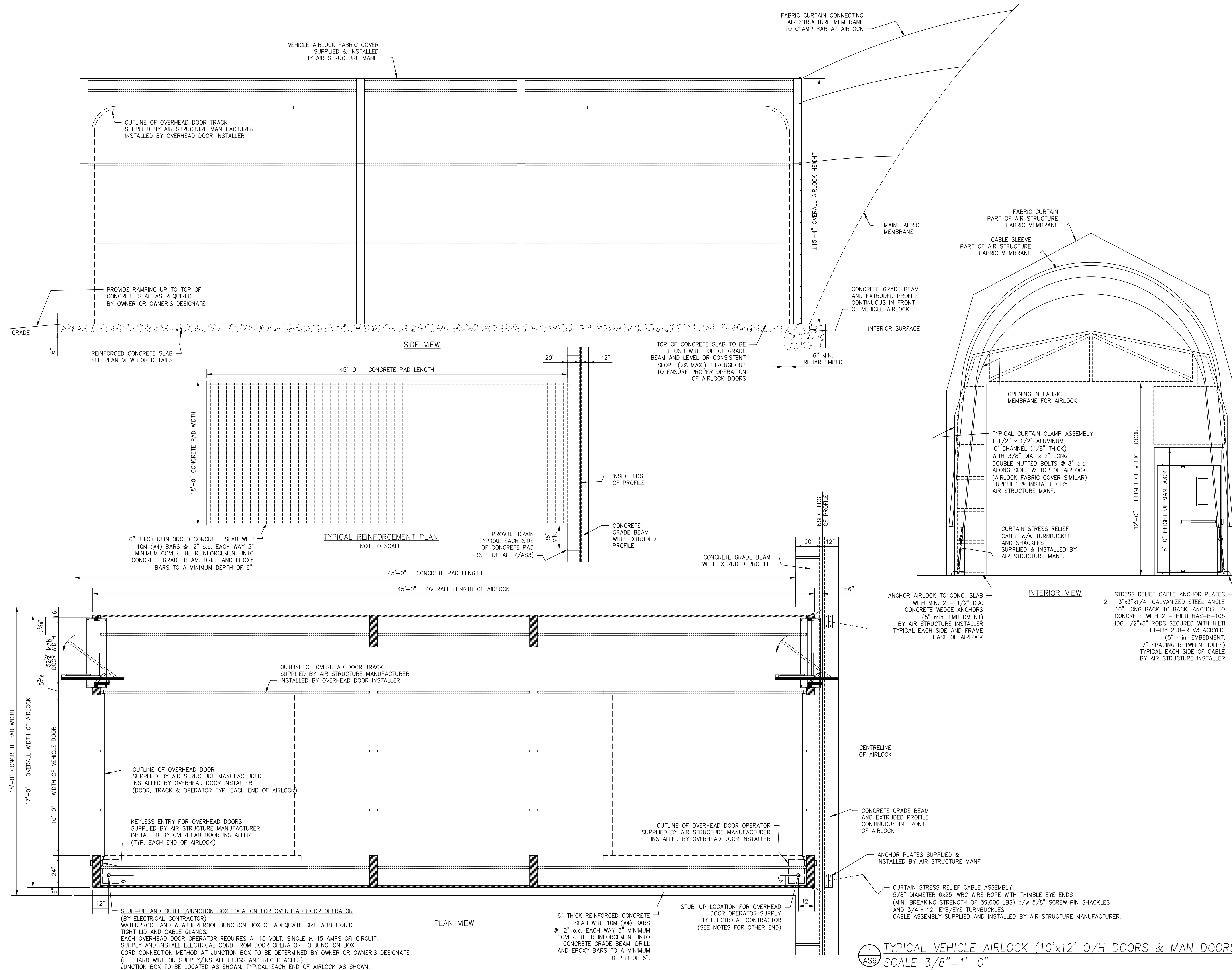
**AIR SUPPORTED STRUCTURE FOR MULTI-USE**  
 (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**VEHICLE AIRLOCK DETAILS**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN

PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS6</b>
	REV.	03



Title Block - Construction Drawings and Cutting Patterns: F-3-03 - Rev. 1 - April 02

**1**  
 AS6  
**TYPICAL VEHICLE AIRLOCK (10'x12' O/H DOORS & MAN DOORS)**  
 SCALE 3/8"=1'-0"





**REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:**

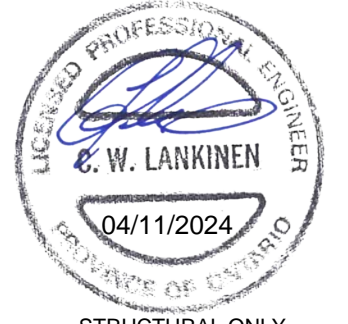
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 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106**

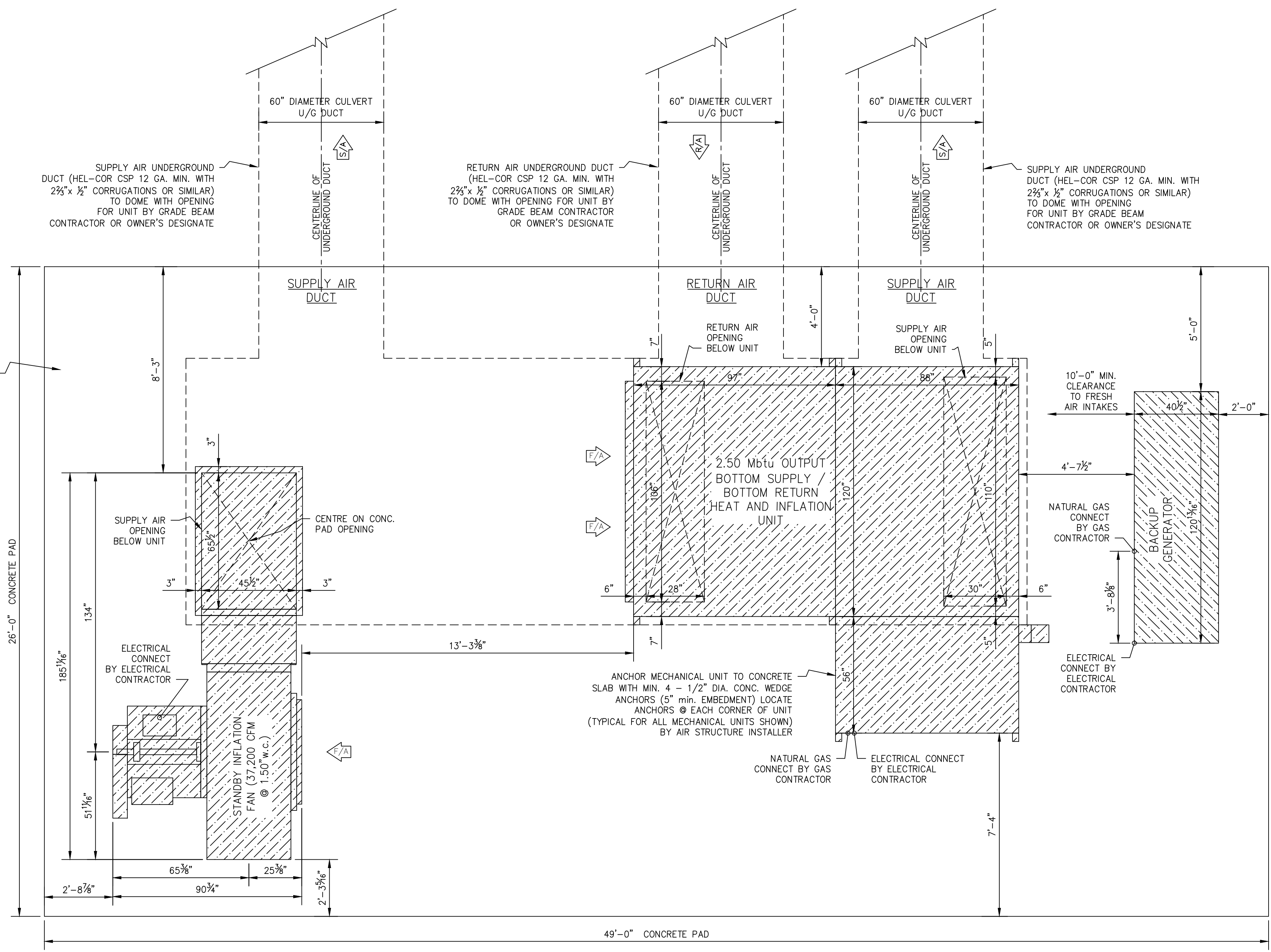
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 SIGNATURE:  
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PROJECT:  
**AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

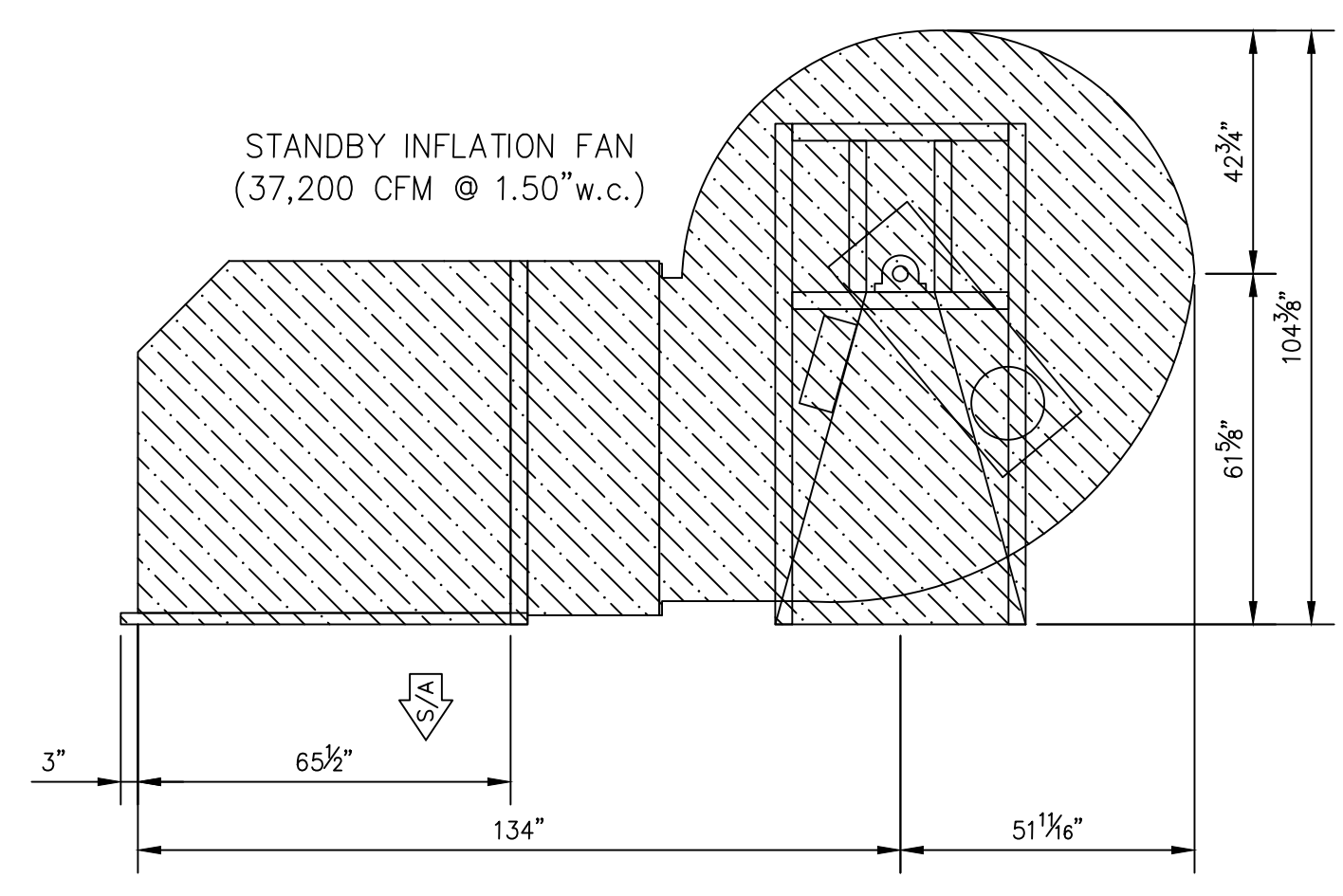
LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**MECHANICAL PAD #1  
 DETAILS**

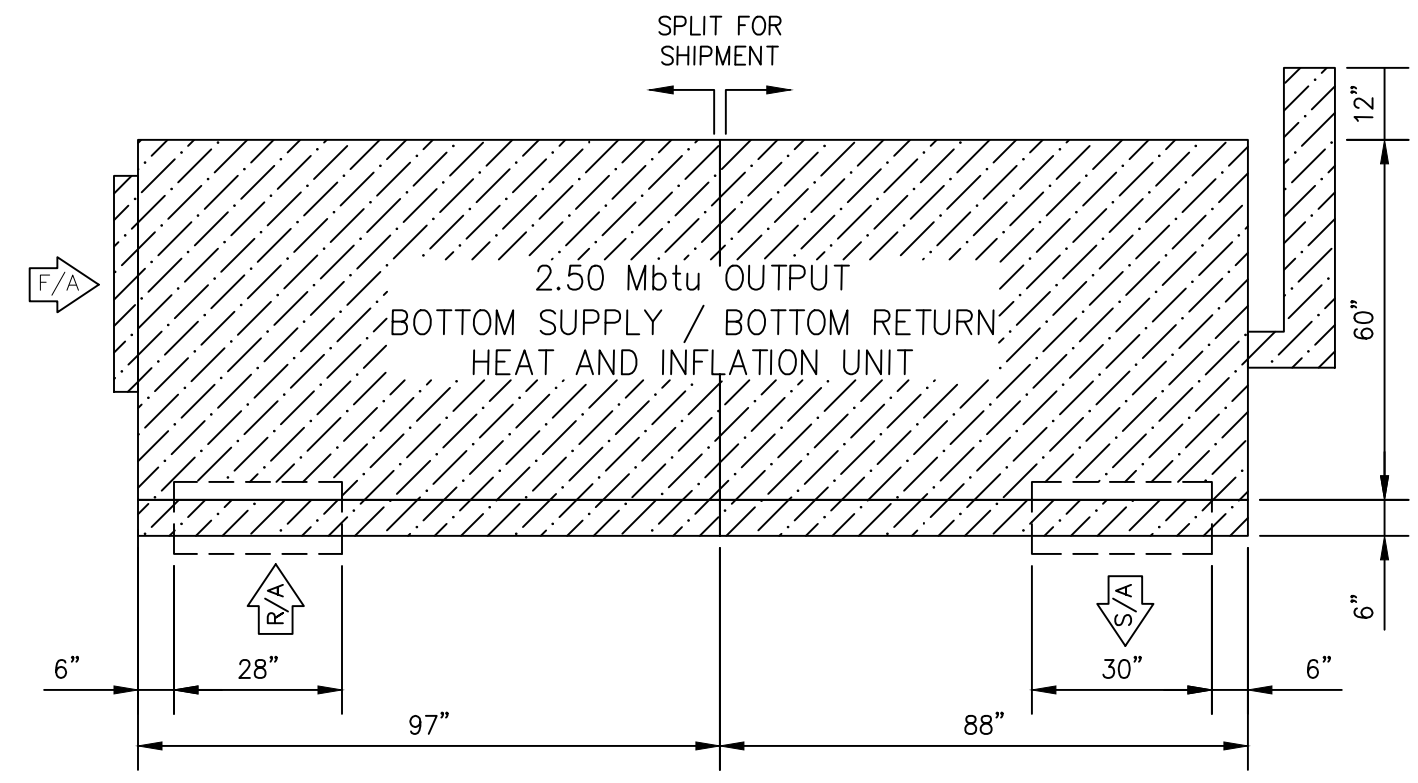
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	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS7</b>
		REV. 03



**1 PLAN DETAIL OF MECHANICAL UNITS ON CONCRETE PAD #1**  
 SCALE 3/8"=1'-0" SEE DETAILS SHEET AS8 & AS9 FOR ADDITIONAL PAD #1 DETAILS OF UNDERGROUND VAULT



**2 SIDE VIEW OF STANDBY INFLATION UNIT**  
 SCALE 3/8"=1'-0"



**3 SIDE VIEW OF HEAT AND INFLATION UNIT**  
 SCALE 3/8"=1'-0"





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LICENCED PROFESSIONAL ENGINEER  
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CLIENT:  
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 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

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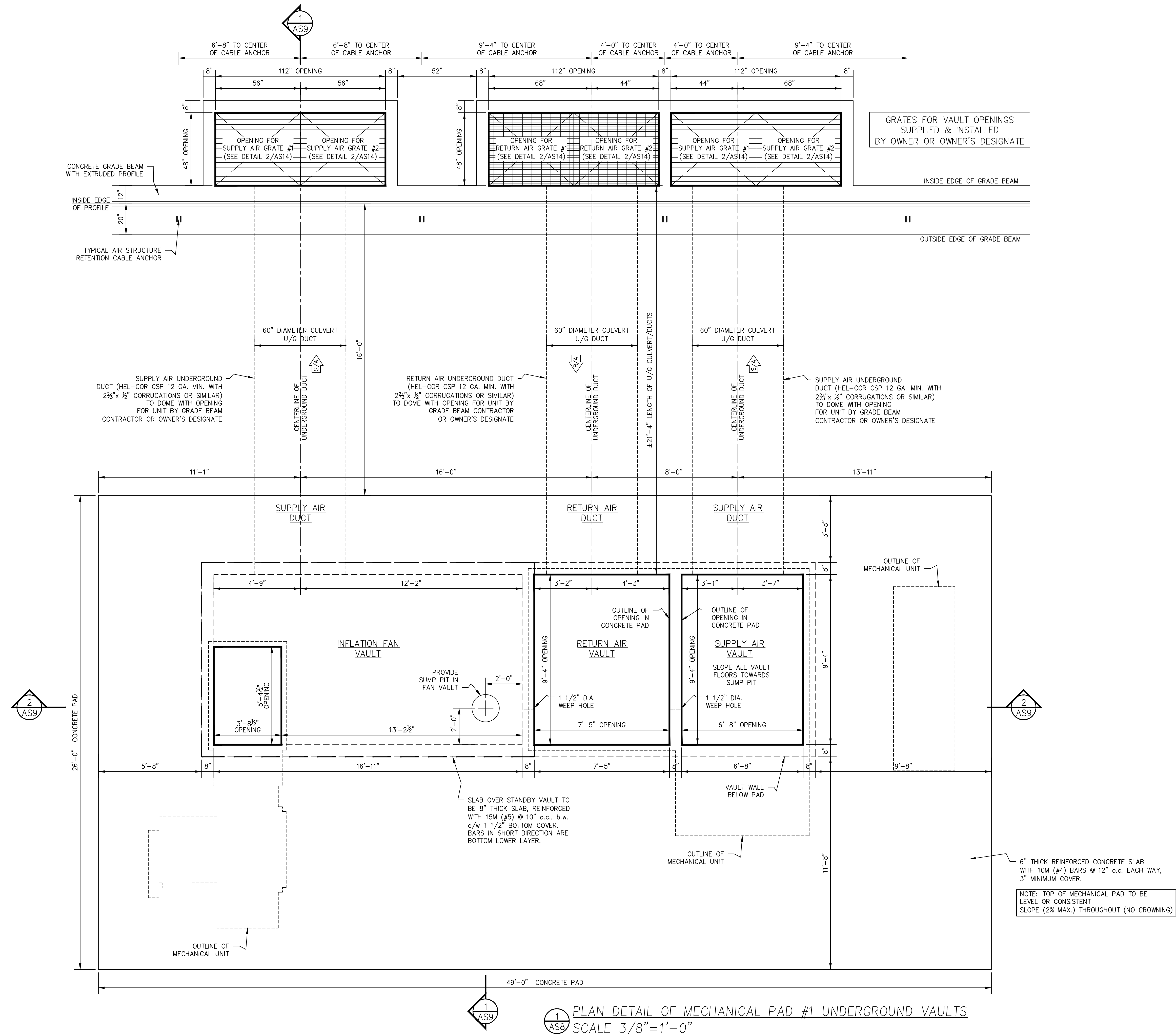
PROJECT:  
 AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
 MECHANICAL PAD #1  
 VAULT DETAILS (1)

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN

PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS8
	REV. 03	







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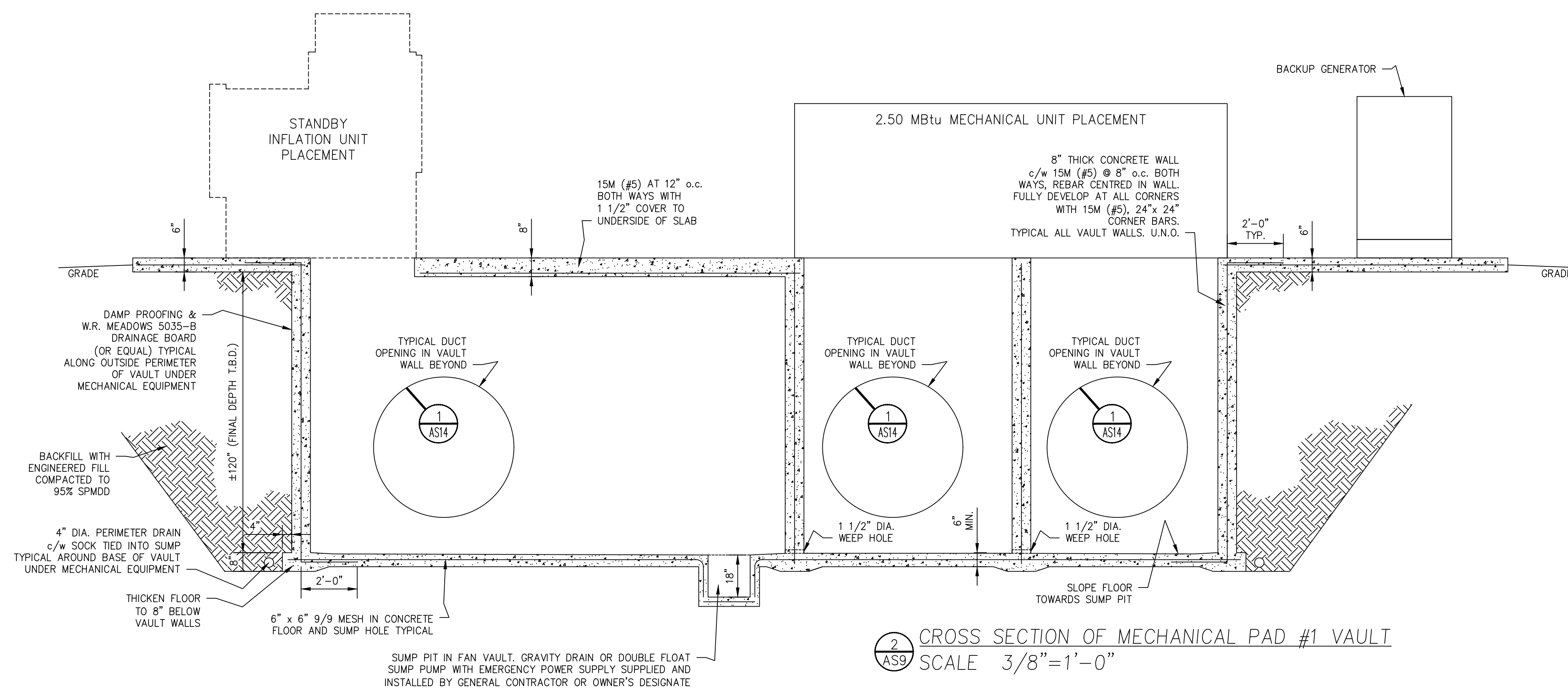
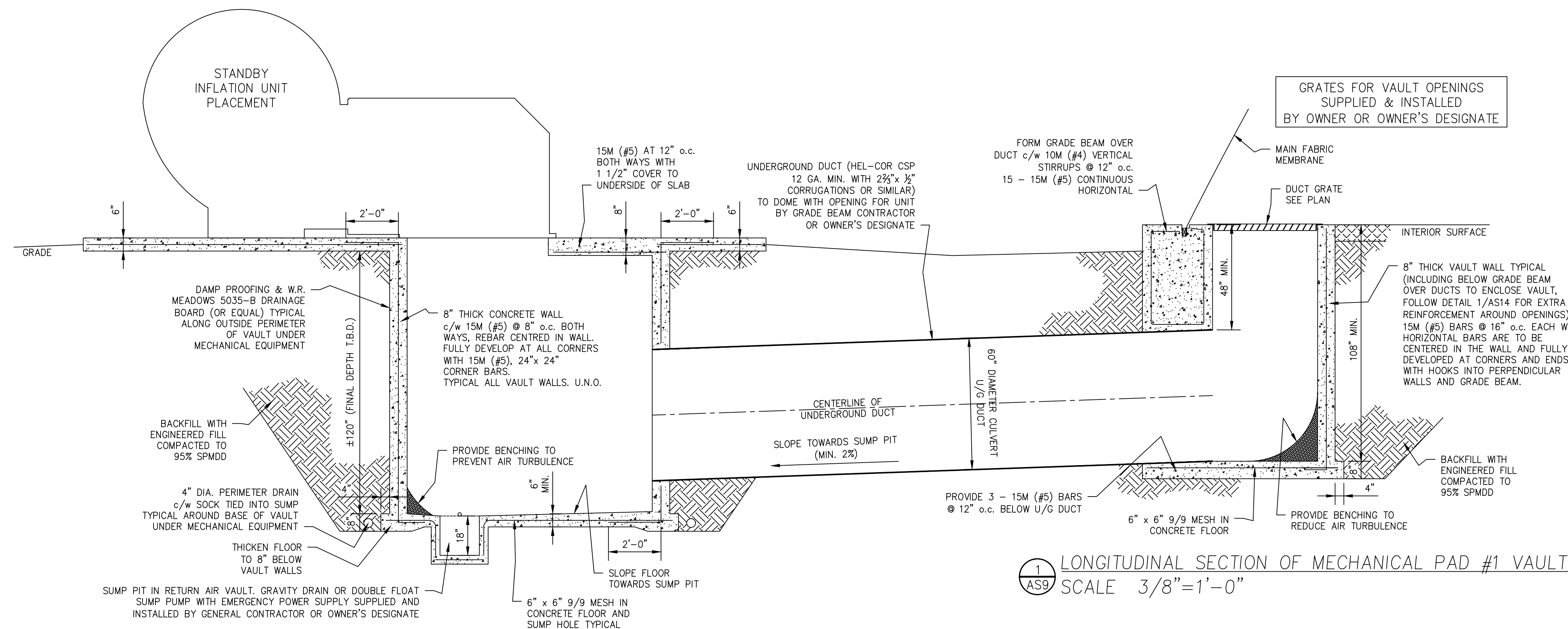
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**AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE**  
 (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**MECHANICAL PAD #1  
 VAULT DETAILS (2)**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS9</b>
		REV. 03







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 292 Speedvale Avenue West, Unit 20, Guelph, Ontario  
 telephone (519) 823-4995 fax (519) 836-5477  
 web www.rjburnside.com



**THE FARLEY GROUP**  
 Farley Manufacturing Inc.  
 A division of The Farley Group  
 6 Kerr Crescent  
 Puslinch, ON, Canada N0B 2J0  
 Phone: 1-888-445-3223  
 Fax: 1-888-445-3043  
 Email: man@thefarleygroup.com  
 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106**

CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:  
 PROJECT:

**AIR SUPPORTED STRUCTURE FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

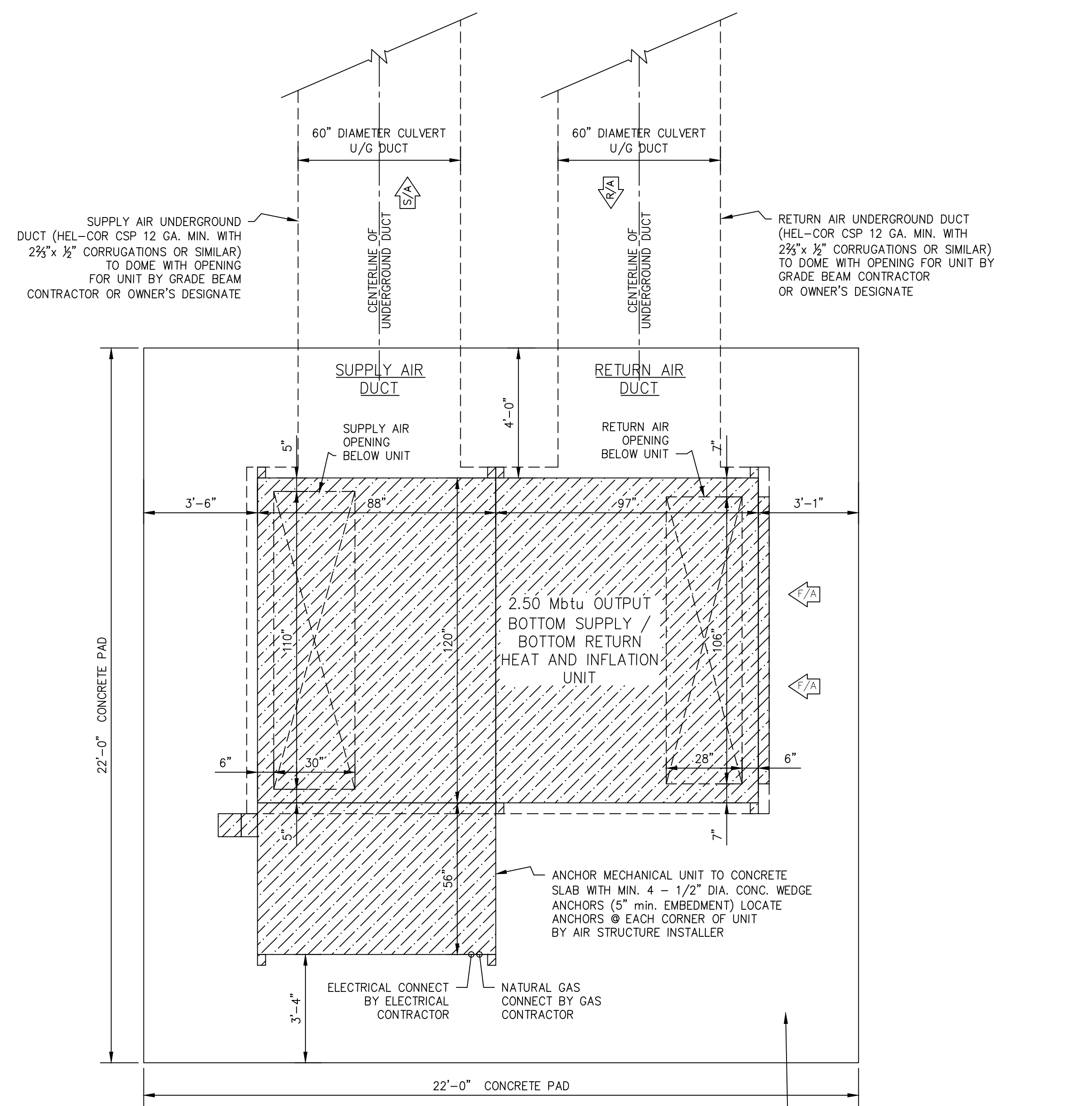
LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**MECHANICAL PAD #2  
 AND MECHANICA VAULT  
 DETAILS (1)**

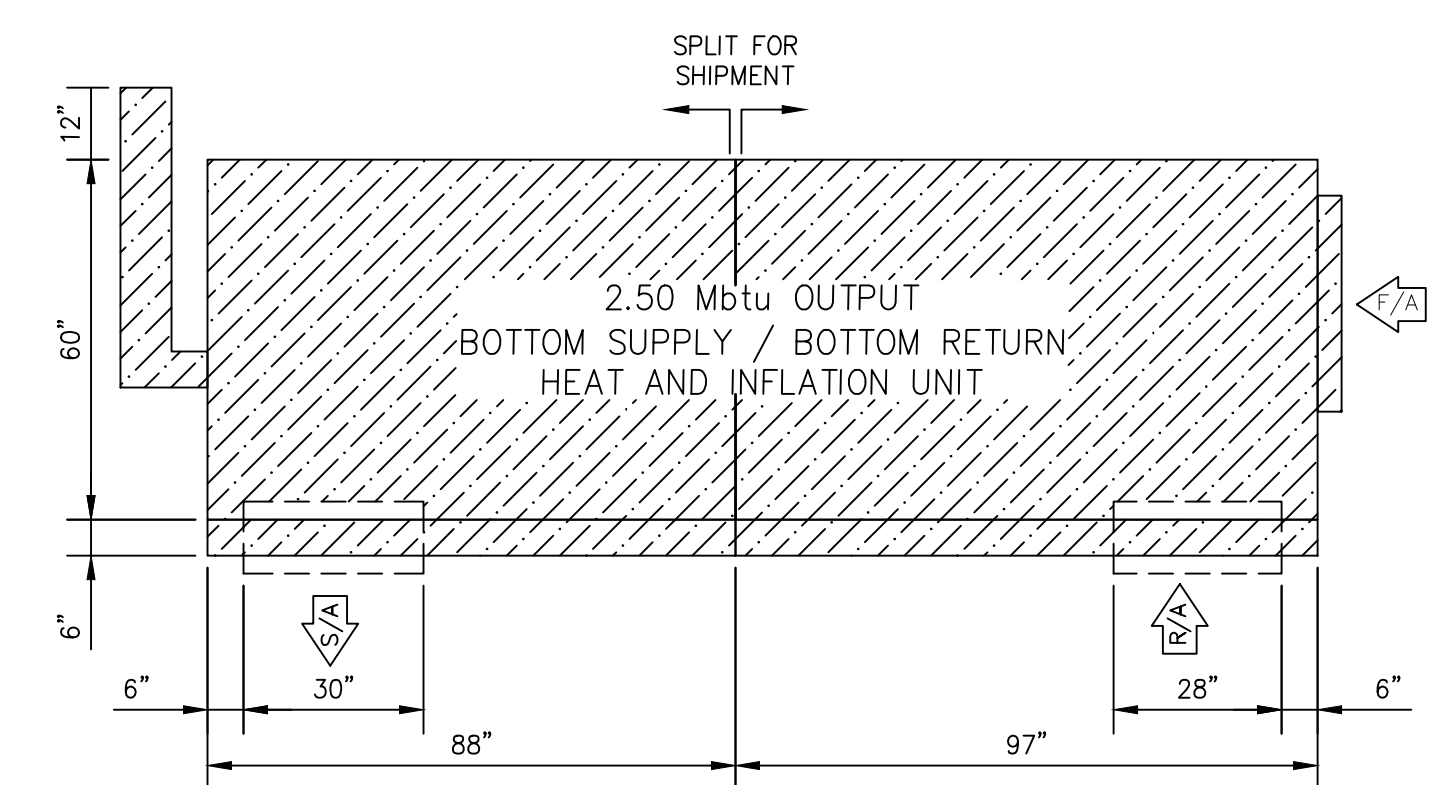
PROJECT NORTH: DRN BY: C.J.S.  
 REVIEWED BY: A.R.R.  
 DATE: APRIL 3, 2024  
 SCALE: AS SHOWN

PLAN NORTH: PROJ. #: 23-08D  
 DRAWING #:

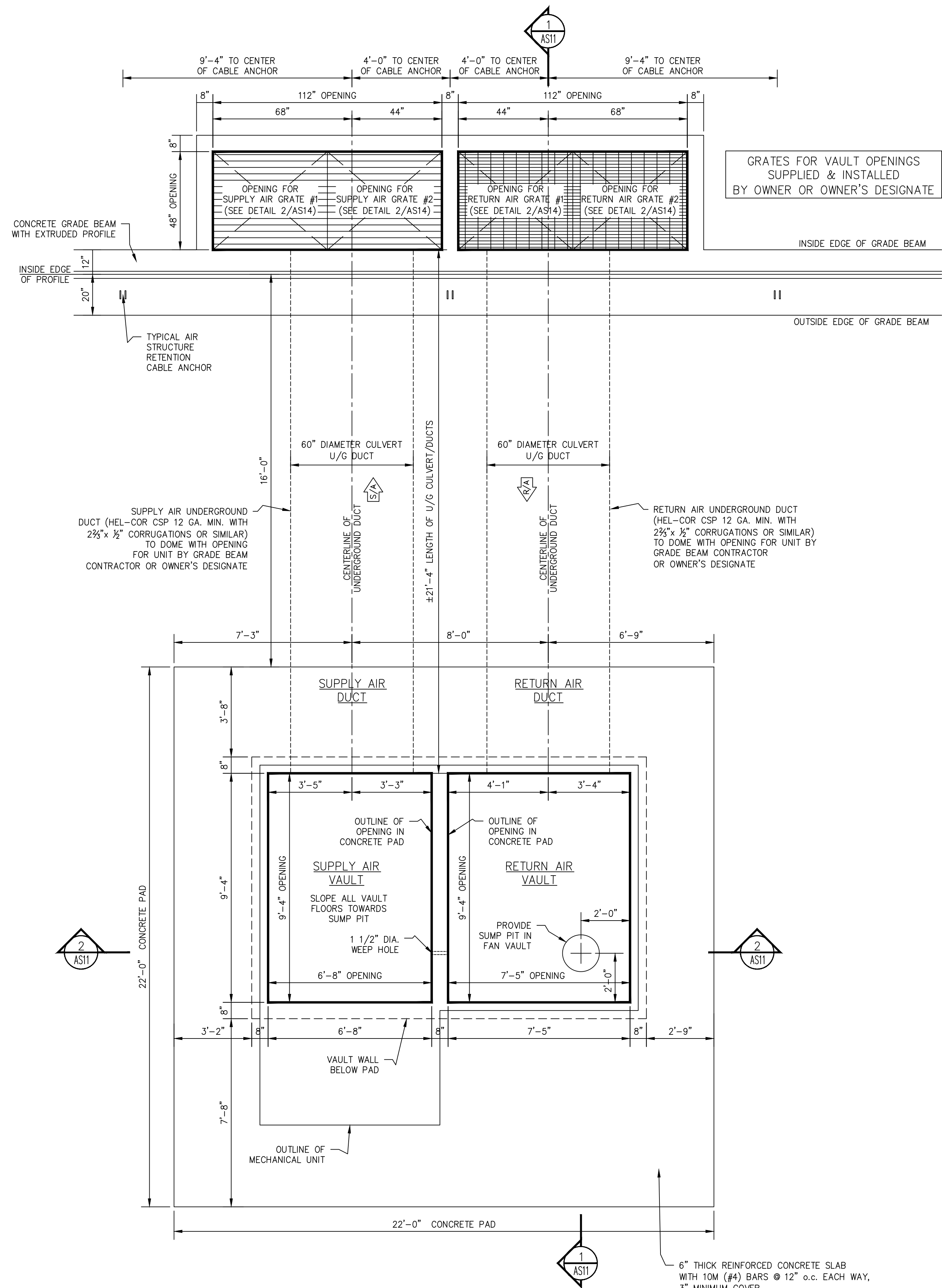
**AS10**  
 REV. 03



**1 AS10** PLAN DETAIL OF MECHANICAL UNITS ON CONCRETE PAD #2  
 SCALE 3/8"=1'-0"  
 SEE DETAILS SHEET AS11 FOR ADDITIONAL PAD #2 DETAILS OF UNDERGROUND VAULT  
 6" THICK REINFORCED CONCRETE SLAB WITH 10M (#4) BARS @ 12" o.c. EACH WAY, 3" MINIMUM COVER.  
 NOTE: TOP OF MECHANICAL PAD TO BE LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT (NO CROWNING)



**2 AS10** SIDE VIEW OF HEAT AND INFLATION UNIT  
 SCALE 3/8"=1'-0"



**3 AS10** PLAN DETAIL OF MECHANICAL PAD #2 UNDERGROUND VAULTS  
 SCALE 3/8"=1'-0"





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- 1- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES
- 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL
- 3- OCCUPANT LOAD BASED ON NUMBER OF EXISTS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

NO.	DATE: (DD/MM/YY)	REVISION:
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
ISSUED FOR COMPLETENESS REVIEW		

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**W. LANKINEN**  
 LICENSED PROFESSIONAL ENGINEER  
 04/11/2024  
 PROVINCE OF ONTARIO  
 STRUCTURAL ONLY

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CLIENT:  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

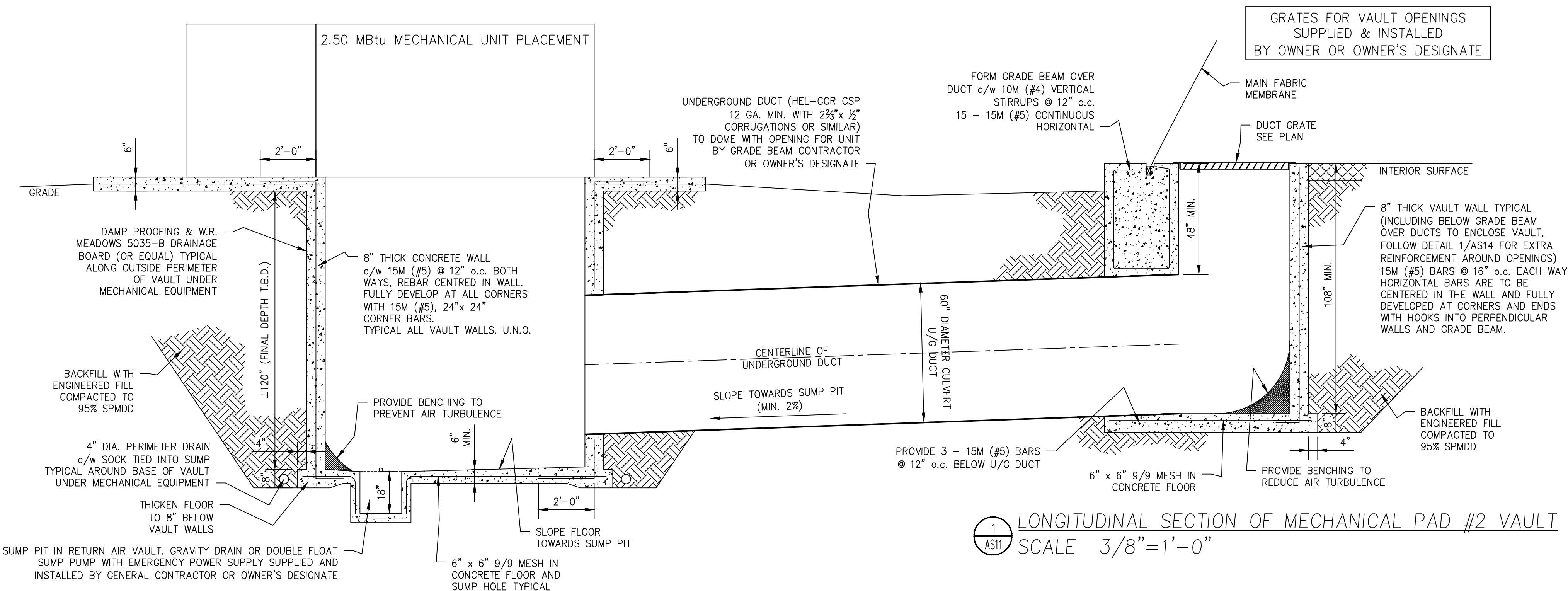
CLIENT ACCEPTANCE  
 SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")

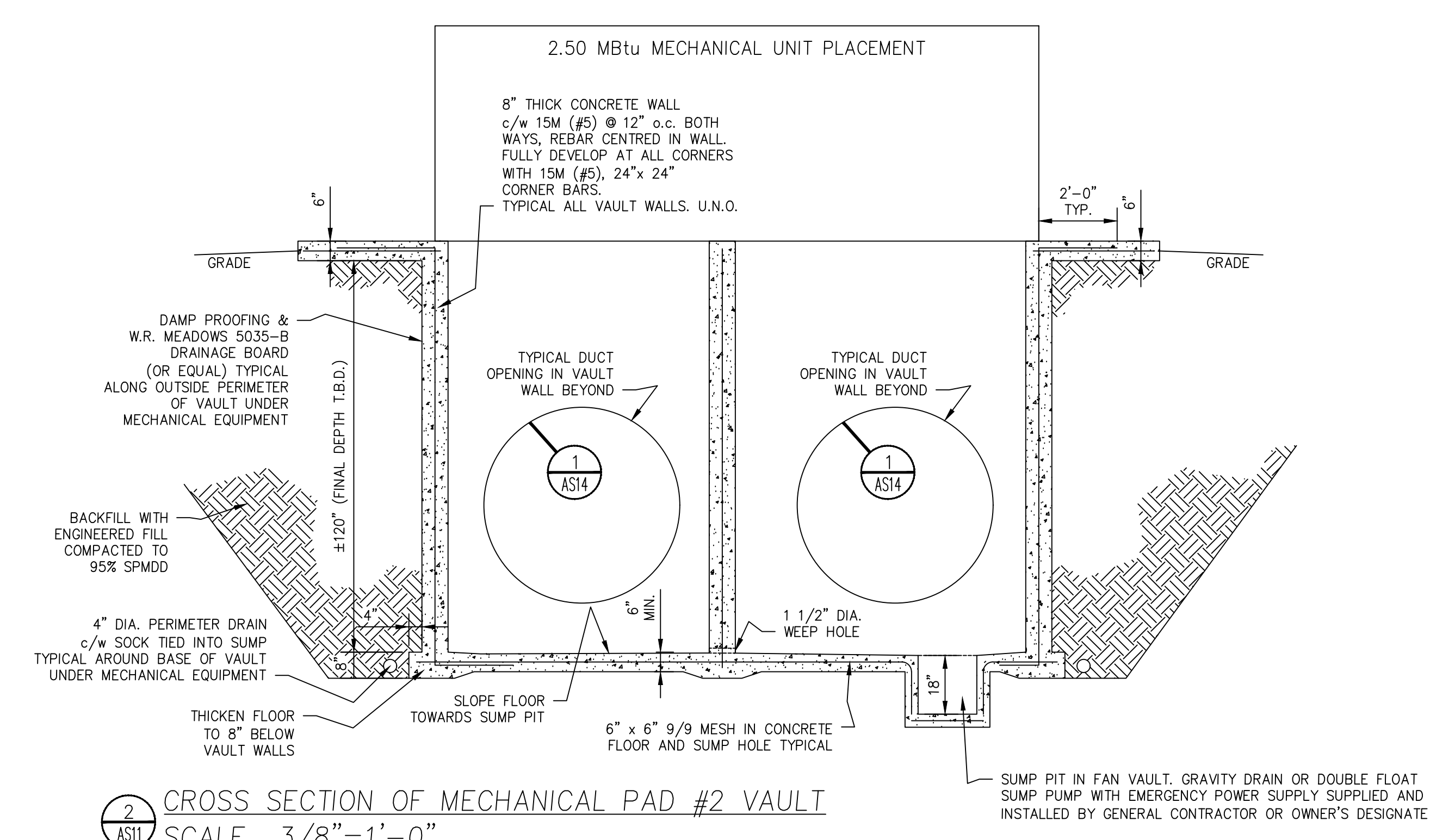
LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
 MECHANICAL PAD #2  
 VAULT DETAILS (2)

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS11</b>
		REV. 03



1 LONGITUDINAL SECTION OF MECHANICAL PAD #2 VAULT  
 SCALE 3/8"=1'-0"



2 CROSS SECTION OF MECHANICAL PAD #2 VAULT  
 SCALE 3/8"=1'-0"





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CLIENT:  
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 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106

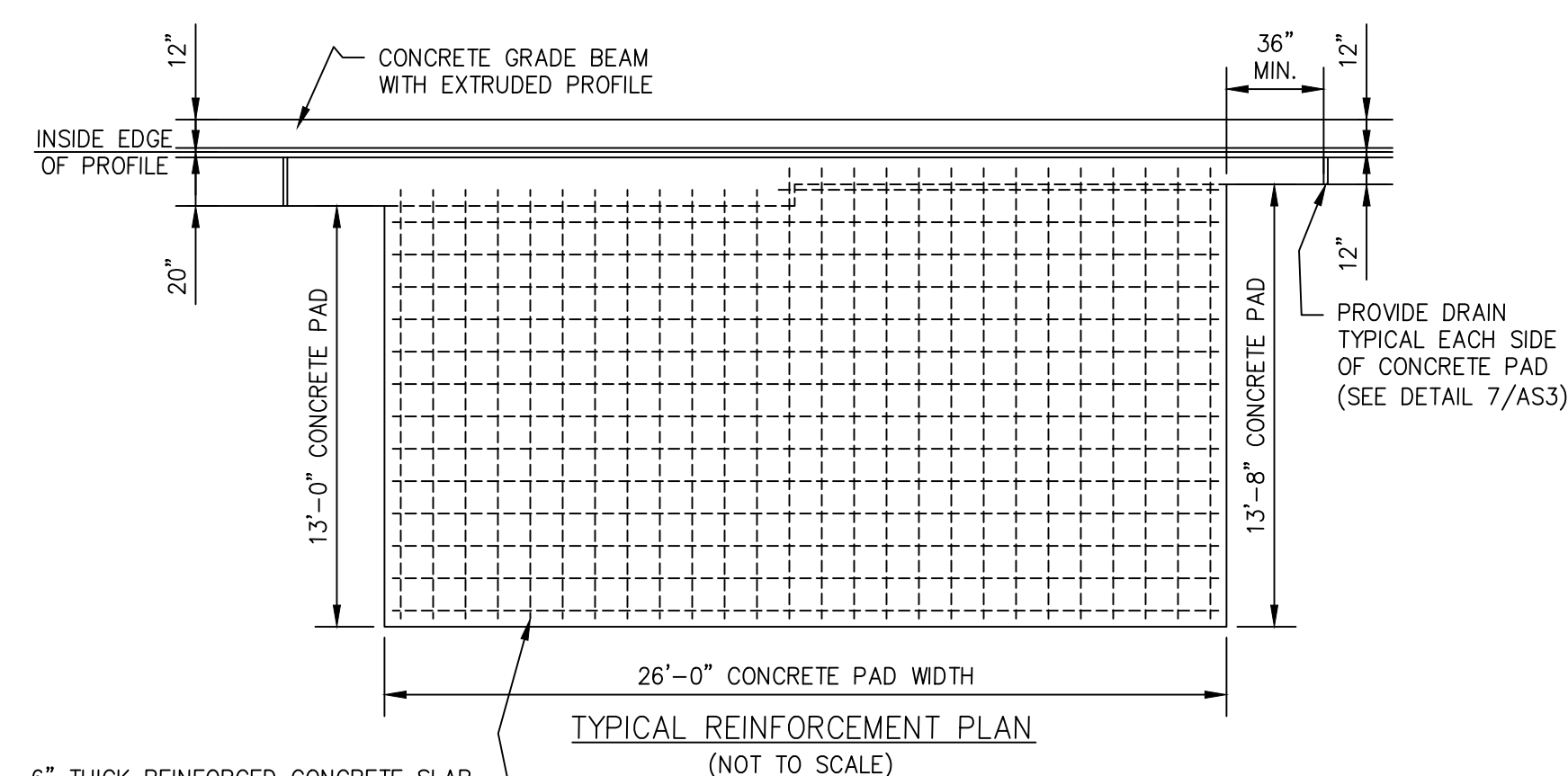
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 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

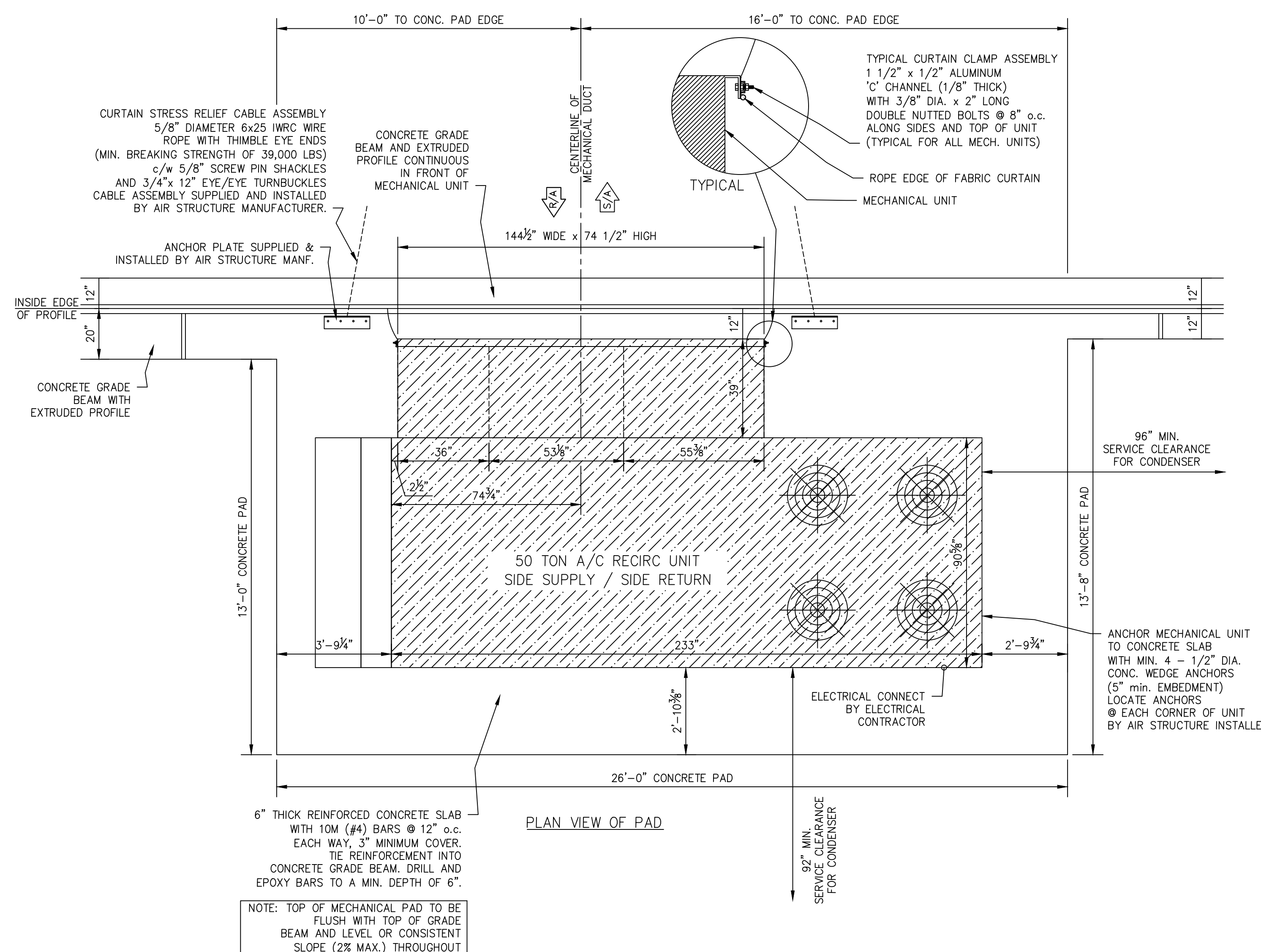
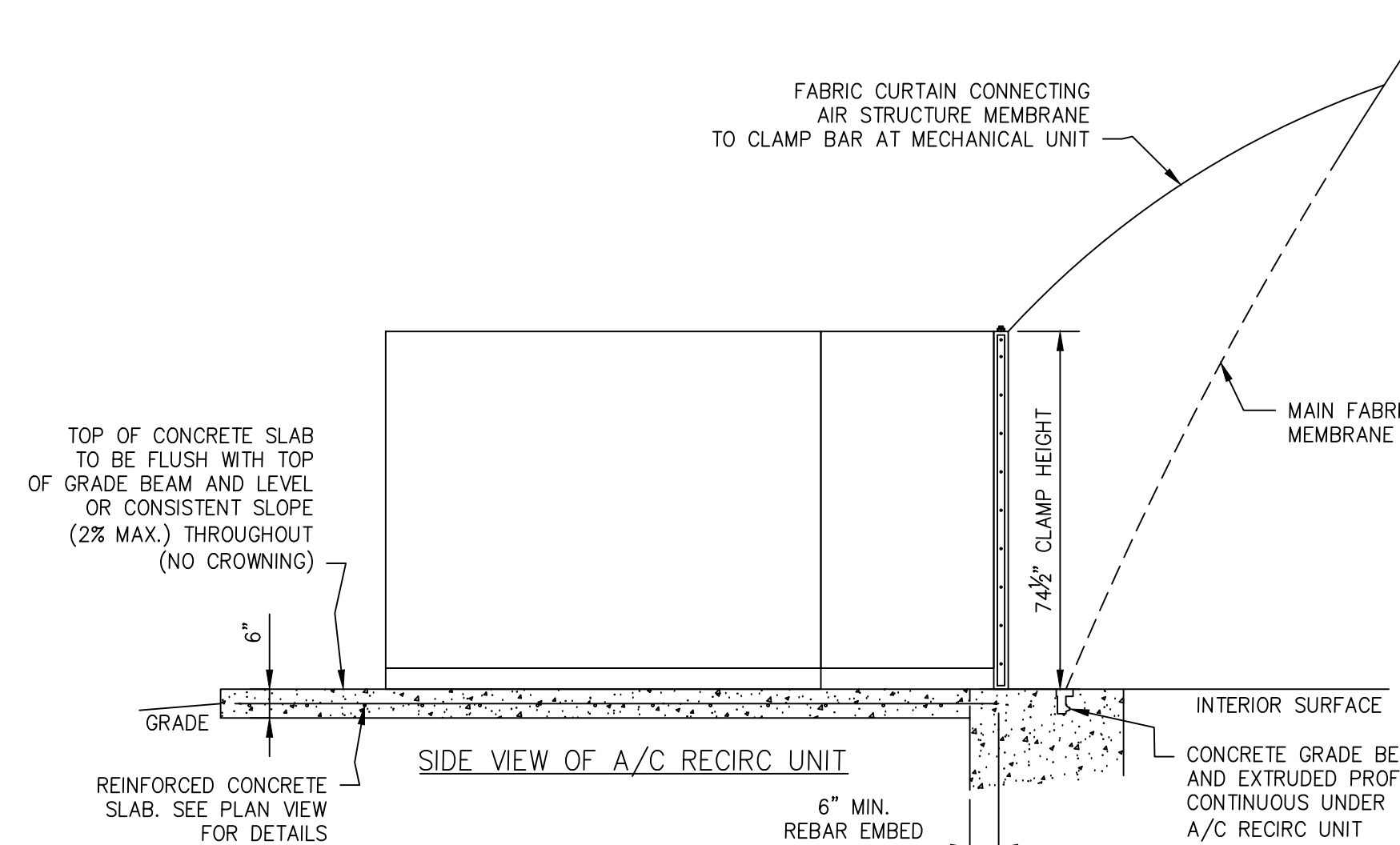
DRAWING:  
 TYPICAL A/C RECIRC UNIT PAD #1 DETAILS

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS12
	REV. 03	



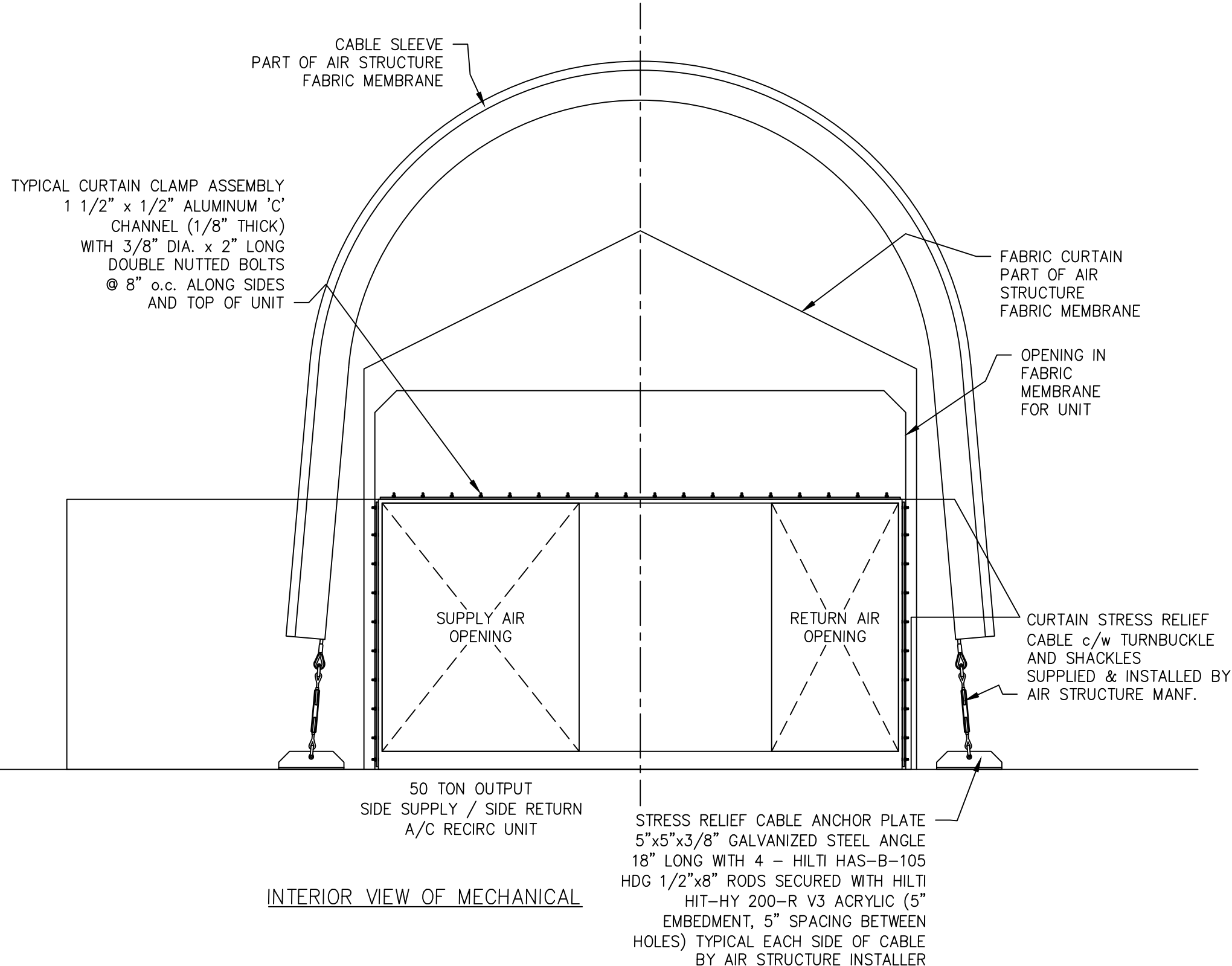
6" THICK REINFORCED CONCRETE SLAB WITH 10M (#4) BARS @ 12" o.c. EACH WAY, 3" MINIMUM COVER. THE REINFORCEMENT INTO CONCRETE GRADE BEAM, DRILL AND EPOXY BARS TO A MIN. DEPTH OF 6".

NOTE: TOP OF MECHANICAL PAD TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT



NOTE: TOP OF MECHANICAL PAD TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT

1 AS12 DETAILS OF TYPICAL A/C RECIRC UNIT PAD #1  
 SCALE 3/8"=1'-0"







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CLIENT:  
**CASSIE CAMPBELL**  
**COMMUNITY CENTRE DOME**  
 CITY FILE #: SPA-2024-0106

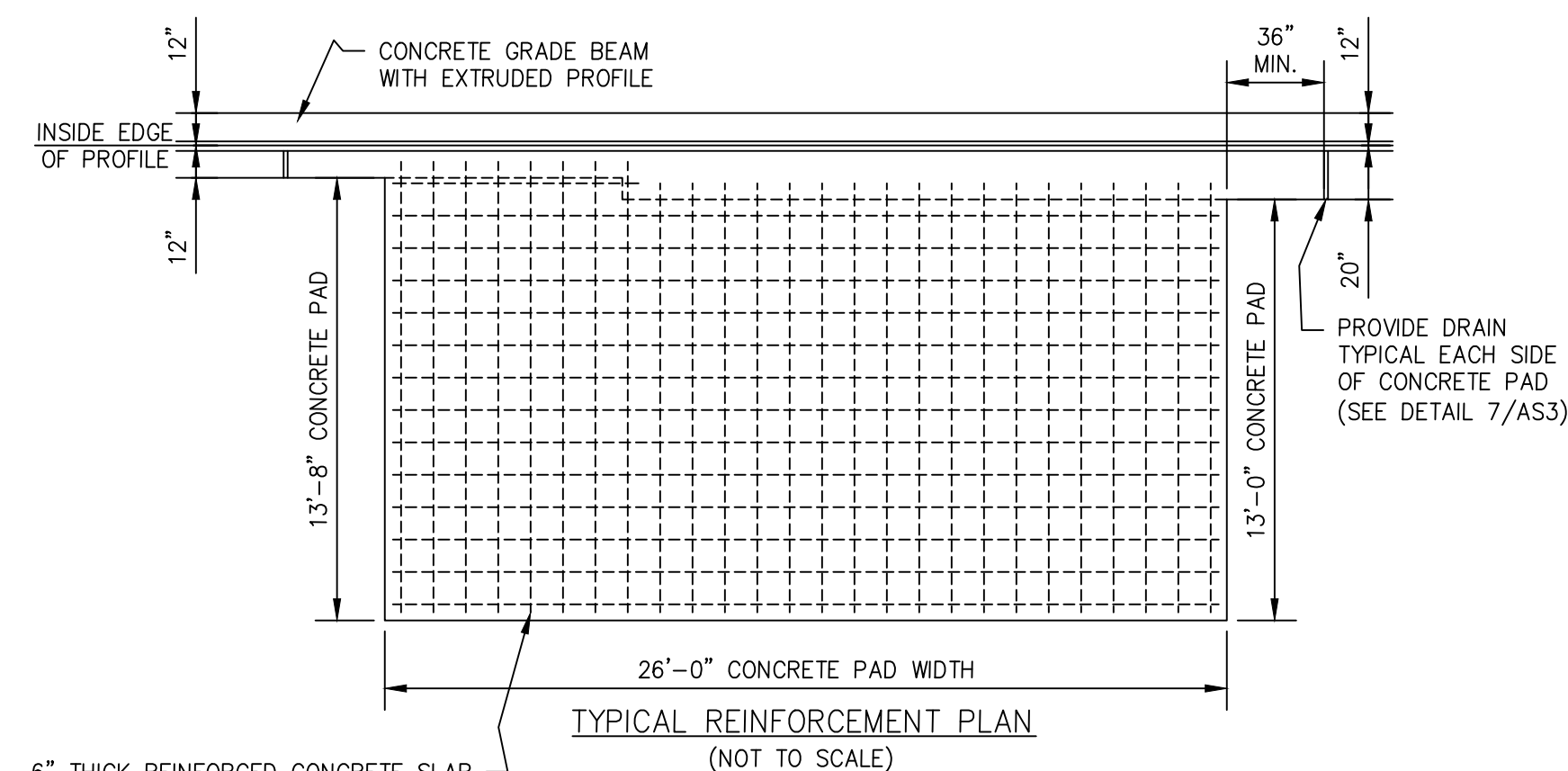
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

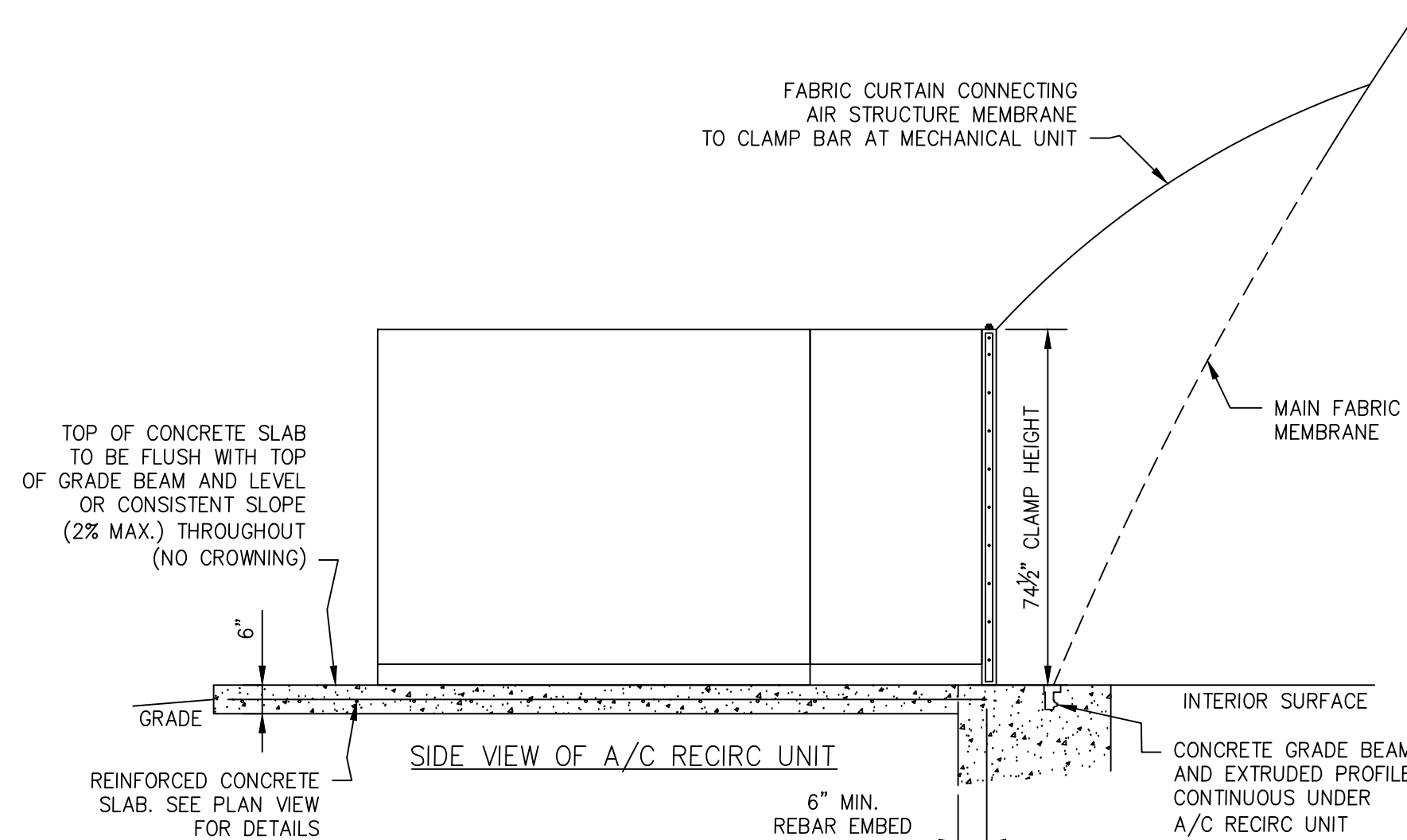
DRAWING:  
**TYPICAL A/C RECIRC UNIT PAD #2 DETAILS**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS13</b>
	REV.	03

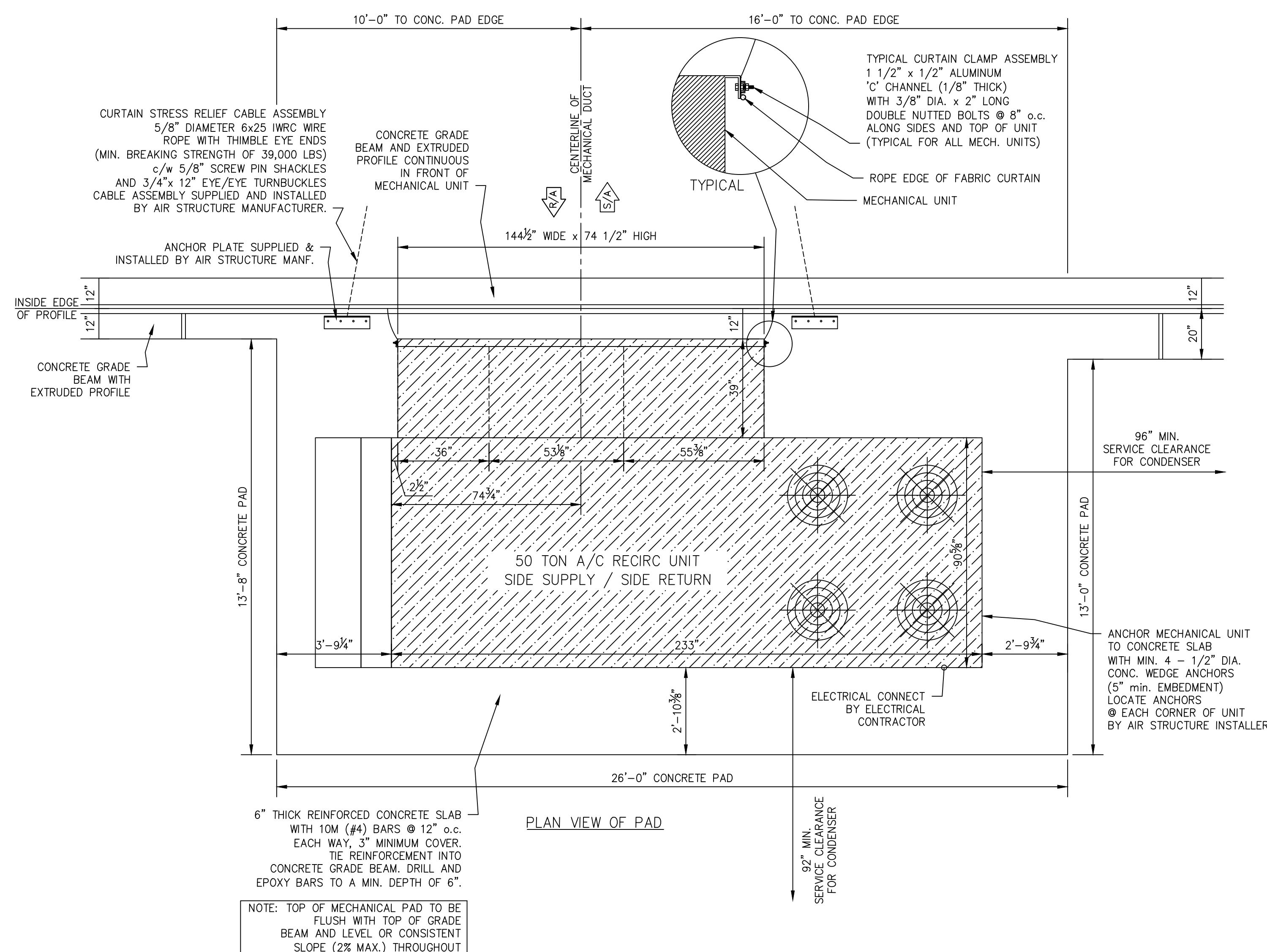


6" THICK REINFORCED CONCRETE SLAB WITH 10M (#4) BARS @ 12" o.c. EACH WAY, 3" MINIMUM COVER. TIE REINFORCEMENT INTO CONCRETE GRADE BEAM. DRILL AND EPOXY BARS TO A MIN. DEPTH OF 6".

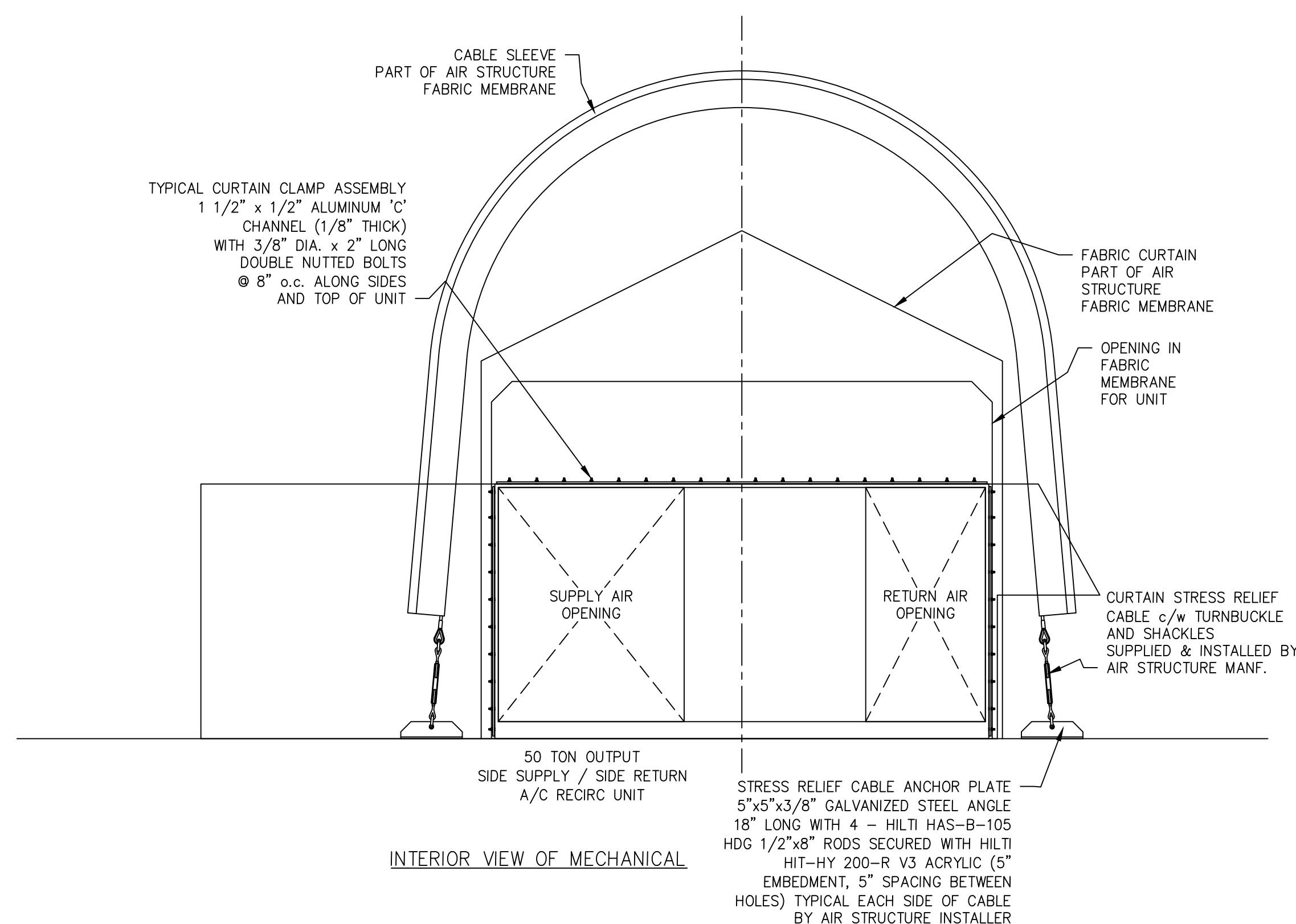
NOTE: TOP OF MECHANICAL PAD TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT



TOP OF CONCRETE SLAB TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT (NO CROWNING)



NOTE: TOP OF MECHANICAL PAD TO BE FLUSH WITH TOP OF GRADE BEAM AND LEVEL OR CONSISTENT SLOPE (2% MAX.) THROUGHOUT



STRESS RELIEF CABLE ANCHOR PLATE 5"x5"x3/8" GALVANIZED STEEL ANGLE 18" LONG WITH 4 - HILTI HAS-B-105 HDG 1/2"x8" RODS SECURED WITH HILTI HIT-HY 200-R V3 ACRYLIC (5" EMBEDMENT, 5" SPACING BETWEEN HOLES) TYPICAL EACH SIDE OF CABLE BY AIR STRUCTURE INSTALLER

**1** DETAILS OF TYPICAL A/C RECIRC UNIT PAD #2  
 SCALE 3/8"=1'-0"





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 CITY FILE #: SPA-2024-0106**

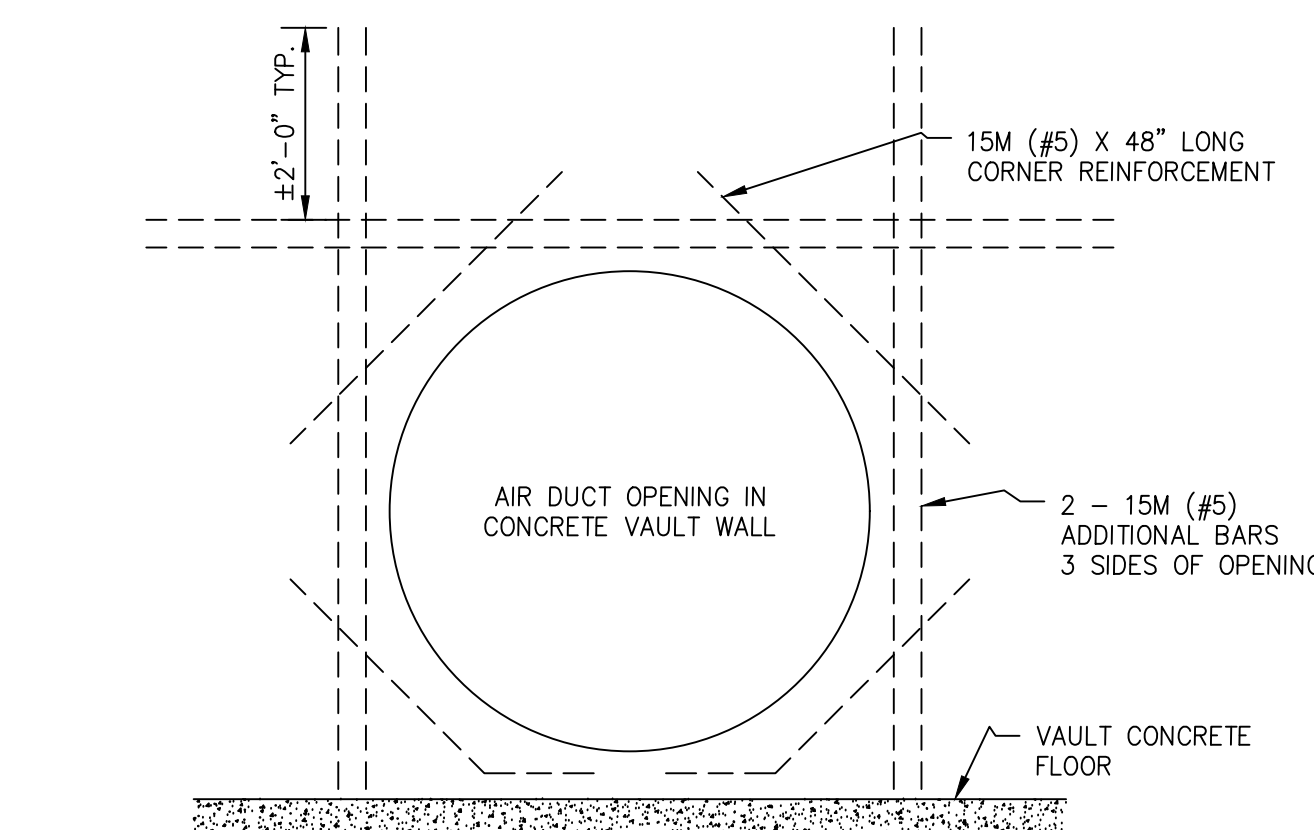
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

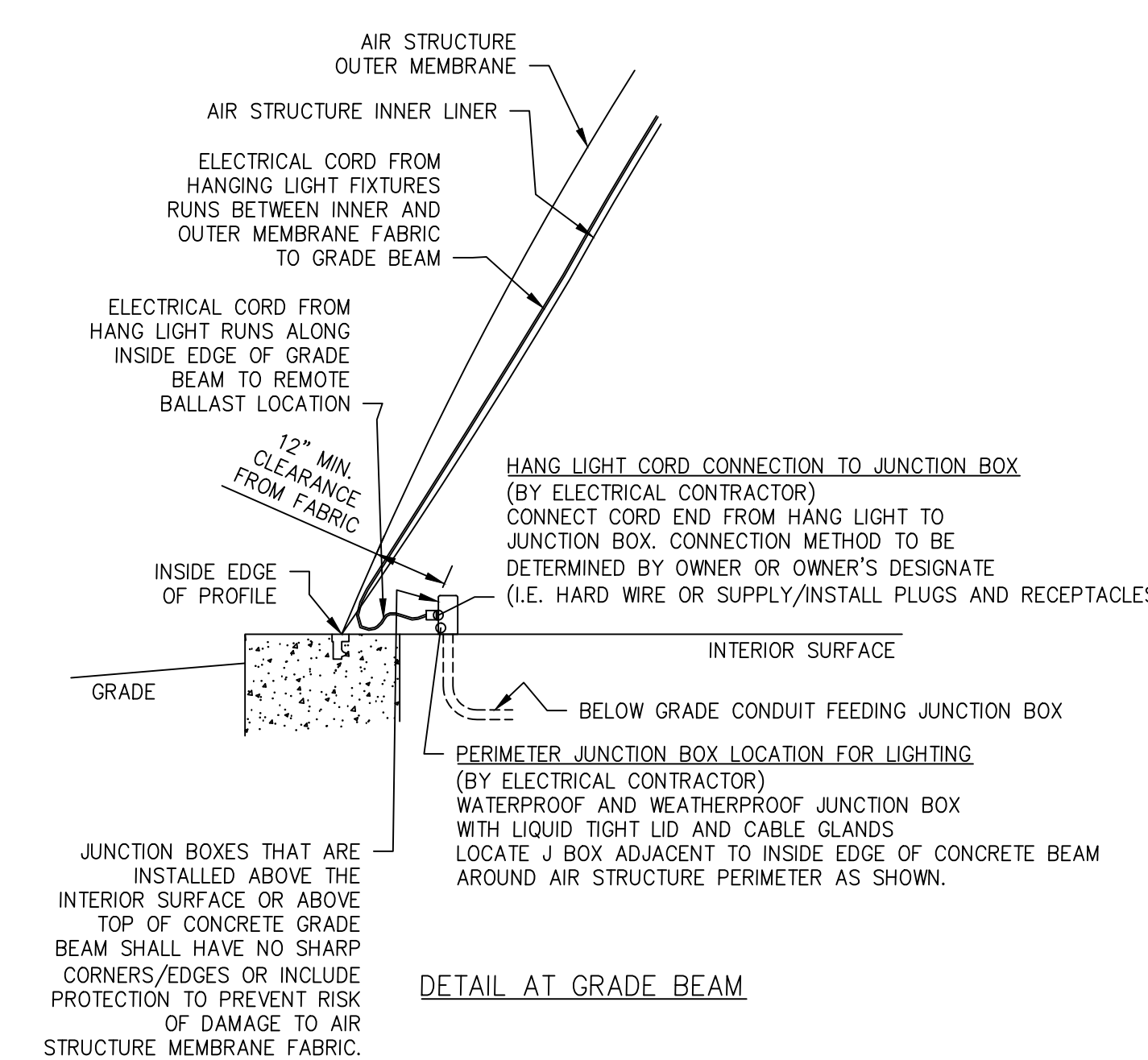
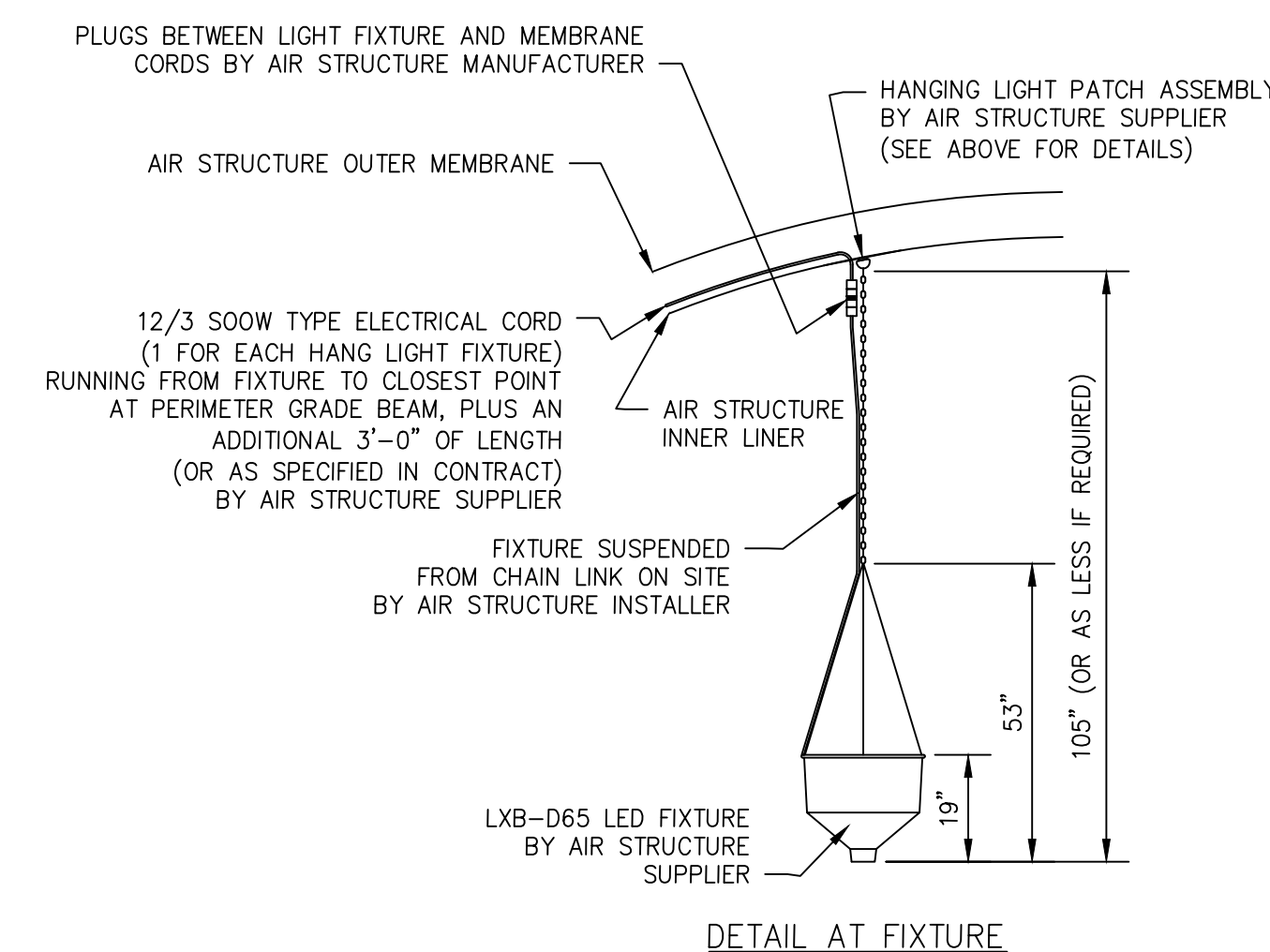
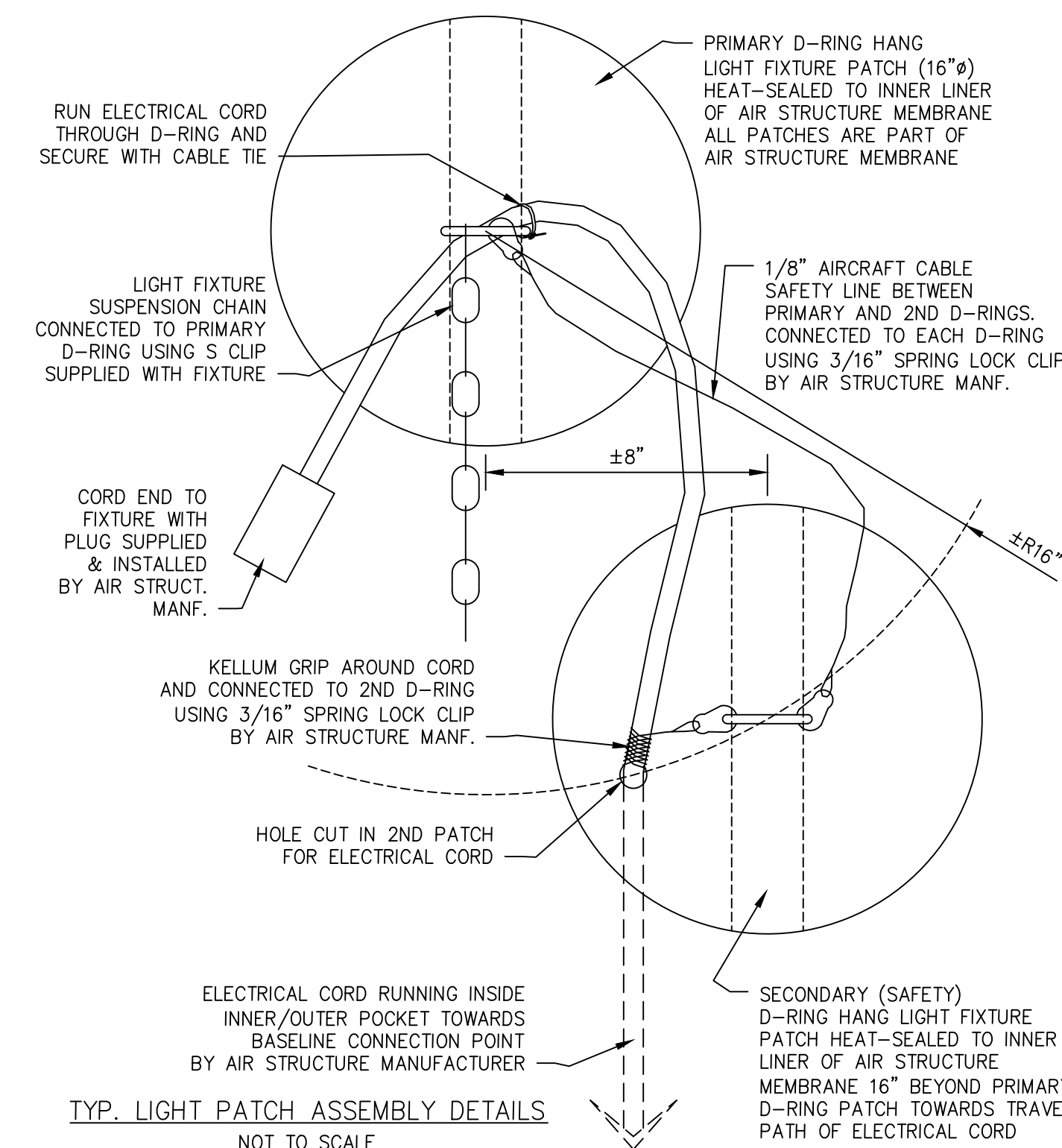
LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**AIR DUCT, UNDERGROUND VAULT GRATE AND HANG LIGHT DETAILS**

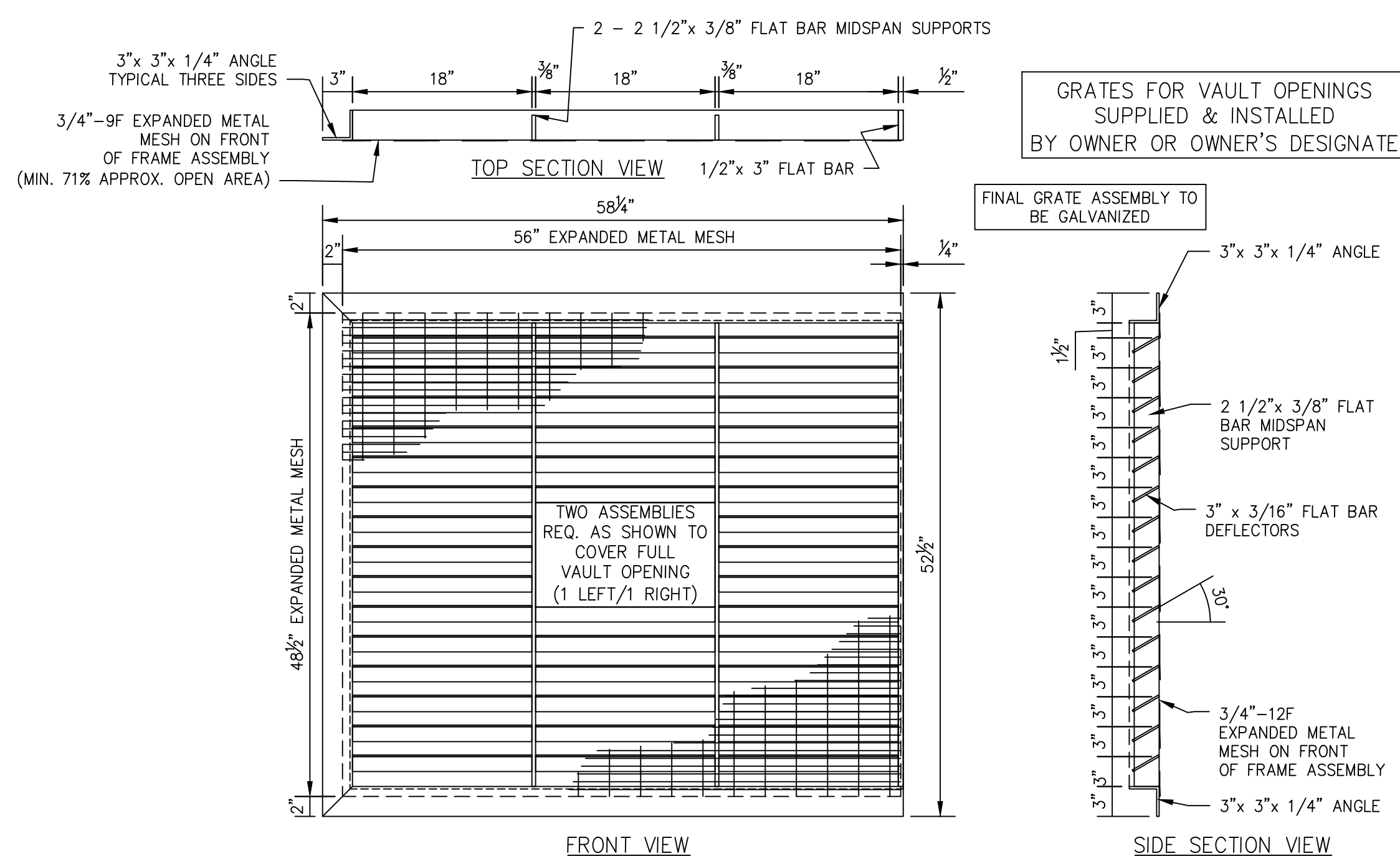
PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	AS SHOWN
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS14</b>
		REV. 03



**1**  
 AS14 **REINFORCEMENT DETAILS FOR AIR DUCT OPENINGS**  
 SCALE 1/2" = 1'-0"



**3**  
 AS14 **TYPICAL HANGING LIGHT FIXTURE**  
 SCALE 3/8" = 1'-0"



**2**  
 AS14 **DETAIL OF STANDBY VAULT GRATE**  
 SCALE 1" = 1'-0"

GRATE DESIGNED TO FIT AN OPENING OF 112" WIDE X 48" DEEP



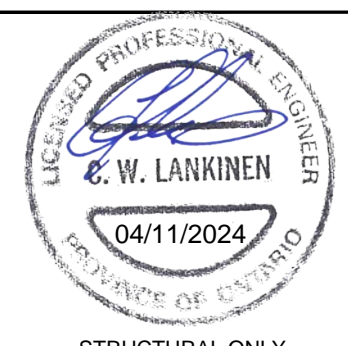


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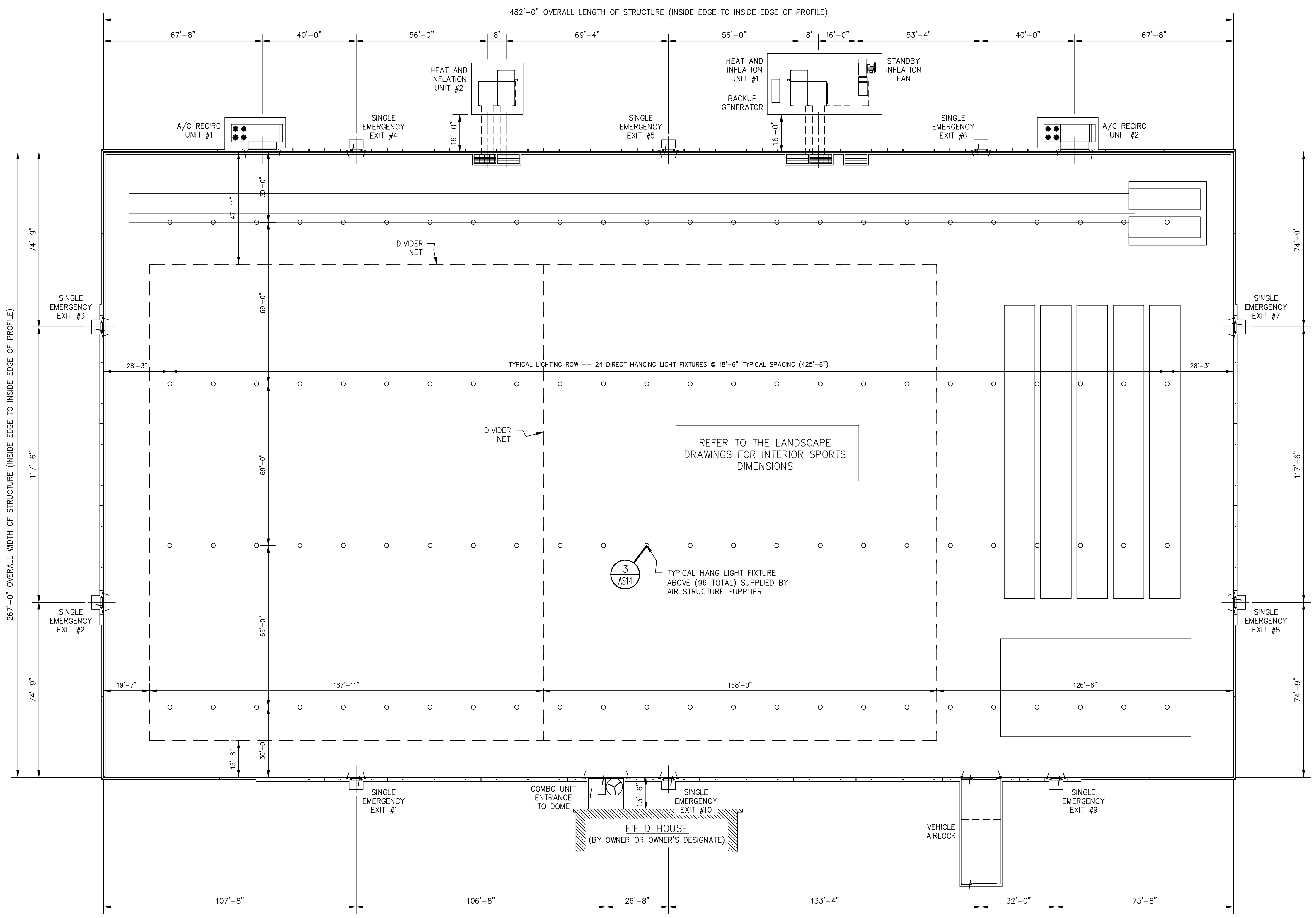
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
 AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
 INTERIOR PLAN LAYOUT

PROJECT NORTH:	DRN BY: C.J.S.
	REVIEWED BY: A.R.R.
	DATE: APRIL 3, 2024
	SCALE: AS SHOWN
PLAN NORTH:	PROJ. #: 23-08D
	DRAWING #:
	<b>AS15</b> REV. 03



1 AS15 FLOOR PLAN LAYOUT OF STRUCTURE (INTERIOR VIEW)  
 SCALE 1/24"=1'-0"





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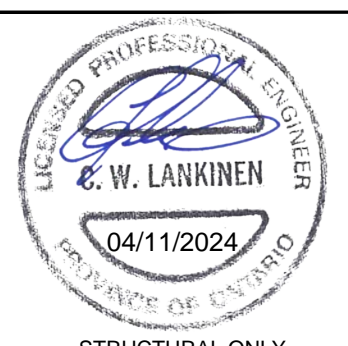
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A	A -- DETAIL NUMBER
B	B -- SHEET WHERE DETAILED



**THE FARLEY GROUP**  
 Parley Manufacturing Inc.  
 A division of The Farley Group  
 6 Kerr Crescent  
 Puslinch, ON, Canada N0B 2J0  
 Phone: 1-888-445-3223  
 Fax: 1-888-445-3043  
 Email: mon@thefarleygroup.com  
 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME**  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE SIGNATURE:

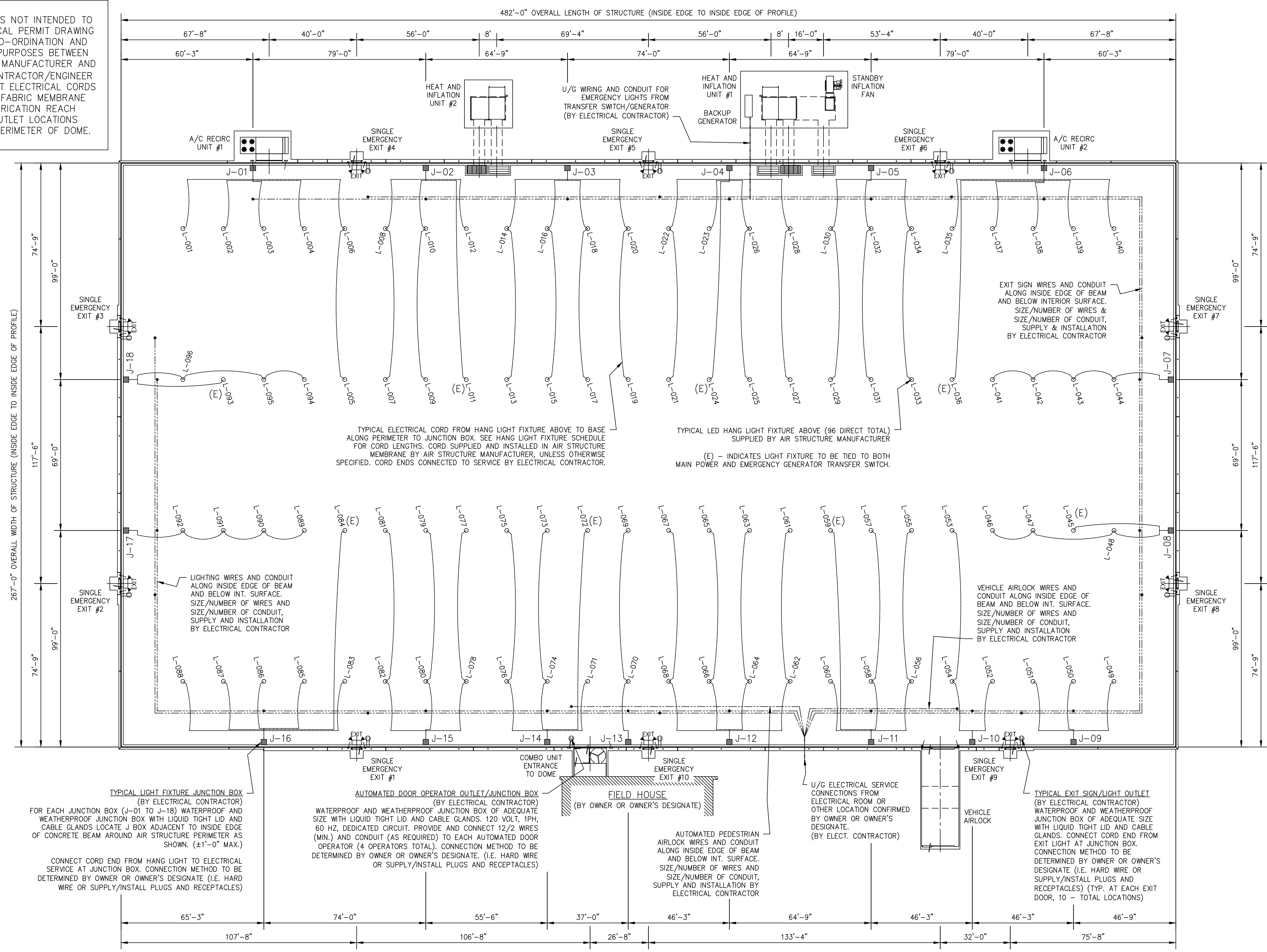
DATE ACCEPTED:  
 PROJECT:  
**AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**OUTLET LOCATION PLAN**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
PLAN NORTH:	SCALE:	AS SHOWN
	PROJ. #:	23-08D
	DRAWING #:	<b>AS16</b>
		REV. 03

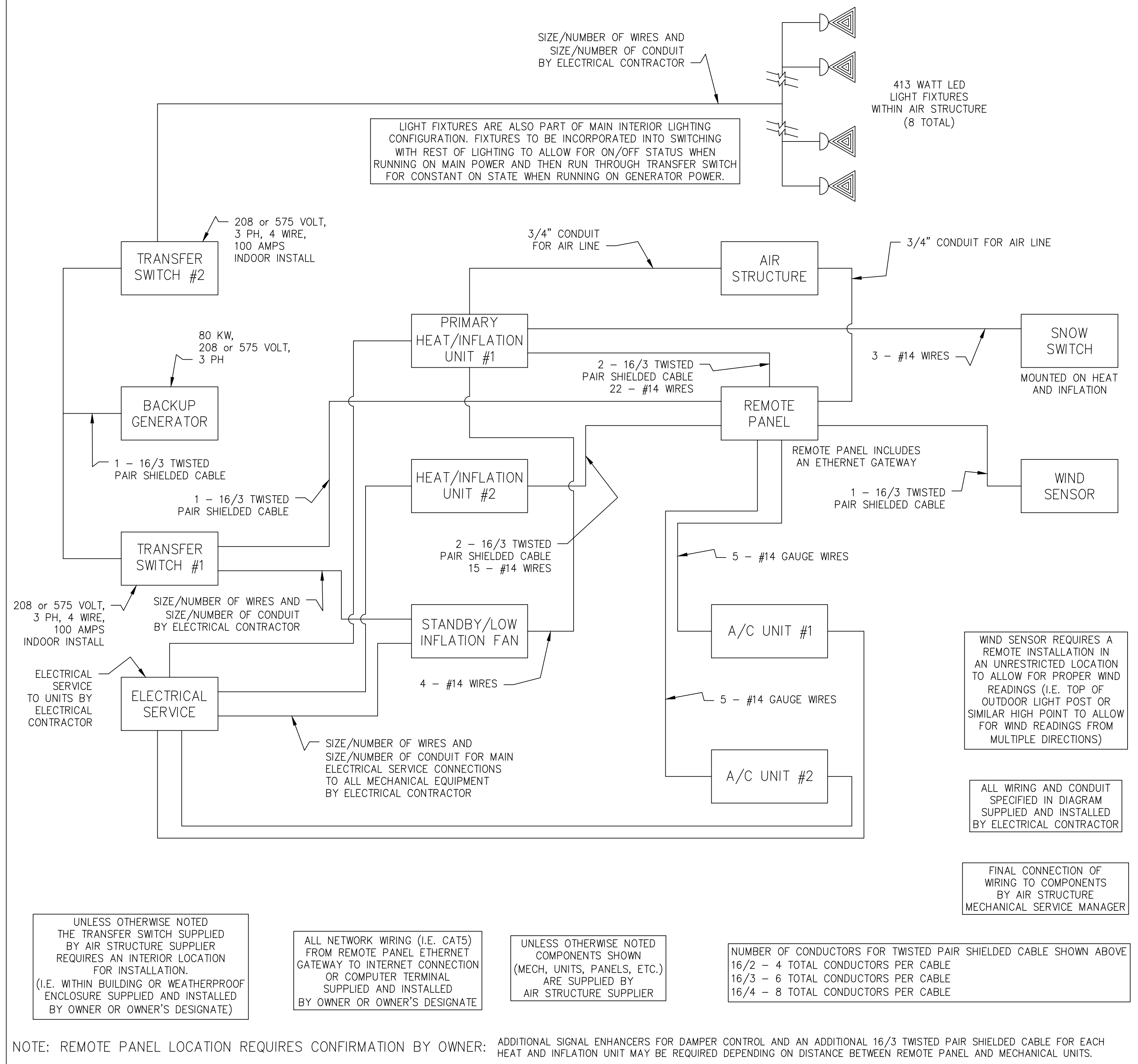
THIS DRAWING IS NOT INTENDED TO BE AN ELECTRICAL PERMIT DRAWING BUT IS FOR CO-ORDINATION AND INFORMATION PURPOSES BETWEEN AIR STRUCTURE MANUFACTURER AND ELECTRICAL CONTRACTOR/ENGINEER TO ENSURE THAT ELECTRICAL CORDS INSTALLED IN FABRIC MEMBRANE DURING FABRICATION REACH INTENDED OUTLET LOCATIONS AROUND THE PERIMETER OF DOME.



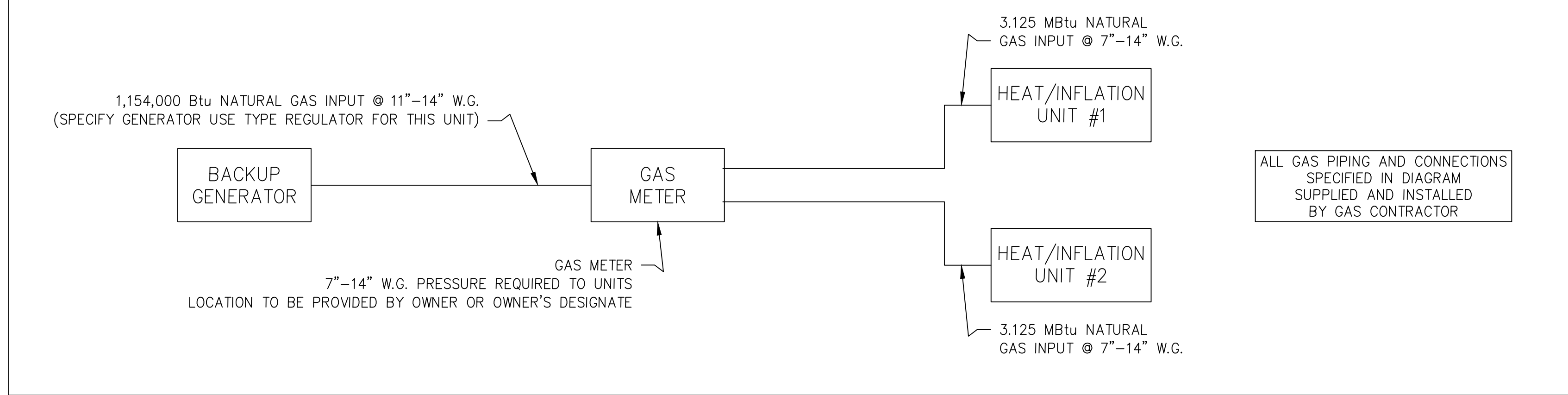
**AIR STRUCTURE LIGHTING PLAN LAYOUT (OUTLET LOCATIONS)**  
 SCALE 1/24" = 1'-0"



MECHANICAL CONTROL WIRING AND CONDUIT DIAGRAM



MECHANICAL NATURAL GAS CONNECTION DIAGRAM



REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:

- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.
- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL
- OCCUPANT LOAD BASED ON NUMBER OF EXITS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

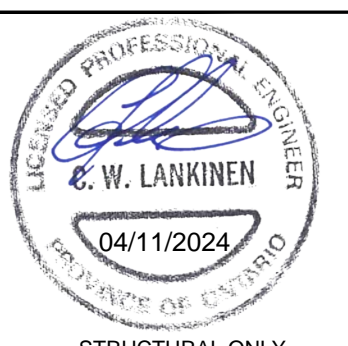
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
ISSUED FOR COMPLETENESS REVIEW		
NO:	DATE: (DD/MM/YY)	REVISION:

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Email: man@thefarleygroup.com  
Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
COMMUNITY CENTRE DOME  
CITY FILE #: SPA-2024-0106**

CLIENT ACCEPTANCE SIGNATURE:  
DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE FOR MULTI-USE (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
1060 SANDALWOOD PKWY W.  
BRAMPTON, ON L7A 2Z8

DRAWING:  
**MECHANICAL AND ELECTRICAL DIAGRAMS**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS17</b>
	REV.	03

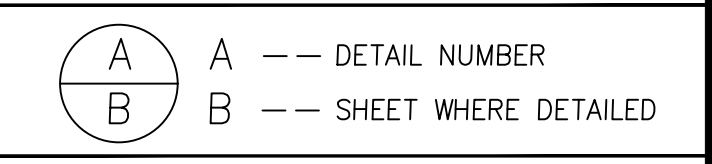




**REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:**  
 1- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.  
 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL.  
 3- OCCUPANT LOAD BASED ON NUMBER OF EXISTING AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

NO.	DATE: (DD/MM/YY)	REVISION:
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
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CLIENT:  
**CASSIE CAMPBELL**  
**COMMUNITY CENTRE DOME**  
 CITY FILE #: SPA-2024-0106

CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:  
 PROJECT:

**AIR SUPPORTED STRUCTURE FOR MULTI-USE**  
 (267'-0" x 482'-0" x 81'-0")

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**MECHANICAL AND ELECTRICAL NOTES**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
	SCALE:	
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	<b>AS18</b>
	REV.	03

**ELECTRICAL NOTES:**

- PLEASE REFER TO AIR STRUCTURE DETAILS DRAWINGS ('AS#' SERIES) FOR ADDITIONAL ELECTRICAL REQUIREMENTS FOR LIGHT FIXTURES, EXIT DOORS, VEHICLE AIRLOCKS, AND MECHANICAL.
- ELECTRICAL CORD FROM LIGHT FIXTURES IS 12/3 SOOW TYPE AND SUPPLIED BY AIR STRUCTURE MANUFACTURER WITH NO END TERMINATIONS AT JUNCTION BOX LOCATIONS SHOWN ON PLAN. CORD LENGTHS PROVIDED ARE SHOWN ON LIGHT FIXTURE SCHEDULE AND ASSUME JUNCTION BOXES/BALLASTS ARE LOCATED WITHIN ±12" OF JUNCTION BOX LOCATION ALONG THE PERIMETER AS SHOWN ON THE ELECTRICAL PLAN.
  - ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL JUNCTION BOXES WITH LIQUID TIGHT LID AND CABLE GLANDS ADJACENT TO THE INSIDE EDGE OF GRADE BEAM AT LOCATIONS SHOWN ON AIR STRUCTURE DETAILS AND CONNECT ELECTRICAL CORD ENDS AS OUTLINED IN DETAILS. JUNCTION BOXES THAT ARE INSTALLED ABOVE THE INTERIOR SURFACE OR ABOVE TOP OF CONCRETE SHALL HAVE NO SHARP CORNERS/EDGES OR INCLUDE PROTECTION TO PREVENT RISK OF DAMAGE TO AIR STRUCTURE MEMBRANE FABRIC.
  - ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL PUGS, RECEPTACLES AND ELECTRICAL CORDS, AS INDICATED IN THE AIR STRUCTURE DETAILS OR DIRECTLY CONNECT CORDS (HARD-WIRE) AS DETERMINED BY OWNER OR OWNER'S DESIGNATE. THIS INCLUDES ALL CORD CONNECTIONS AT REMOTE BALLASTS AND FROM BALLASTS TO JUNCTION BOXES. CORD ENDS FROM REMOTE BALLASTS ARE FED THROUGH LIQUID TIGHT LID WITH CABLE GLANDS INTO JUNCTION BOX.
  - ALL WORK TO BE IN ACCORDANCE WITH SITE SERVICE VOLTAGE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
  - WHERE WIRING IS RUN IN CONDUIT CAST INTO THE PERIMETER CONCRETE GRADE BEAM OR RUNNING THROUGH BEAM AT A PERPENDICULAR ANGLE, A MINIMUM 24 INCH CLEARANCE MUST BE PROVIDED BELOW FINISHED CONCRETE SURFACE TO AVOID CONTACT WITH ANCHOR BOLTS AND ALUMINUM PROFILE.

**LIGHT FIXTURE SCHEDULE** (UNLESS INDICATED, HANG LIGHT FIXTURE PATCH & ELECTRICAL CORD ARE INSTALLED DURING MEMBRANE FABRICATION AT THE FACTORY)

LIGHT FIXTURE	OUTLET LOCATION	LIGHT TYPE	ARC LENGTH TO GROUND	LENGTH ALONG BEAM	TOTAL CORD LENGTH	LIGHT FIXTURE	OUTLET LOCATION	LIGHT TYPE	ARC LENGTH TO GROUND	LENGTH ALONG BEAM	TOTAL CORD LENGTH
L-001	J-01	Hanging, DIRECT	53 ft - 0 in	35 ft - 0 in	88 ft - 0 in	L-049	J-09	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-002	J-01	Hanging, DIRECT	53 ft - 0 in	17 ft - 0 in	70 ft - 0 in	L-050	J-09	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
L-003	J-01	Hanging, DIRECT	53 ft - 0 in	8 ft - 0 in	61 ft - 0 in	L-051	J-09	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-004	J-01	Hanging, DIRECT	53 ft - 0 in	27 ft - 0 in	80 ft - 0 in	L-052	J-10	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in
L-005	J-01	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-053	J-10	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-006	J-01	Hanging, DIRECT	53 ft - 0 in	45 ft - 0 in	98 ft - 0 in	L-054	J-10	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in
L-007	J-02	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-055	J-11	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-008	J-02	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in	L-056	J-11	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-009	J-02	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-057	J-11	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-010	J-02	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in	L-058	J-11	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
(E) L-011	J-02	Hanging, DIRECT	133 ft - 0 in	22 ft - 0 in	155 ft - 0 in	(E) L-059	J-11	Hanging, DIRECT	133 ft - 0 in	22 ft - 0 in	155 ft - 0 in
L-012	J-02	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in	L-060	J-11	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-013	J-03	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-061	J-12	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-014	J-03	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in	L-062	J-12	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in
L-015	J-03	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-063	J-12	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-016	J-03	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in	L-064	J-12	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in
L-017	J-03	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-065	J-12	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-018	J-03	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in	L-066	J-12	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in
L-019	J-03	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-067	J-12	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-020	J-03	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in	L-068	J-12	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in
L-021	J-04	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-069	J-13	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-022	J-04	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in	L-070	J-13	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
L-023	J-04	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in	L-071	J-14	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
(E) L-024	J-04	Hanging, DIRECT	133 ft - 0 in	13 ft - 0 in	146 ft - 0 in	(E) L-072	J-14	Hanging, DIRECT	133 ft - 0 in	22 ft - 0 in	155 ft - 0 in
L-025	J-04	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-073	J-14	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-026	J-04	Hanging, DIRECT	53 ft - 0 in	13 ft - 0 in	66 ft - 0 in	L-074	J-14	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
L-027	J-04	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-075	J-14	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-028	J-04	Hanging, DIRECT	53 ft - 0 in	31 ft - 0 in	84 ft - 0 in	L-076	J-14	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-029	J-05	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-077	J-15	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-030	J-05	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in	L-078	J-15	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-031	J-05	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-079	J-15	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-032	J-05	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in	L-080	J-15	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
L-033	J-05	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in	L-081	J-15	Hanging, DIRECT	83 ft - 0 in	3 ft - 0 in	86 ft - 0 in
L-034	J-06	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in	L-082	J-15	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-035	J-06	Hanging, DIRECT	53 ft - 0 in	45 ft - 0 in	98 ft - 0 in	L-083	J-16	Hanging, DIRECT	53 ft - 0 in	40 ft - 0 in	93 ft - 0 in
(E) L-036	J-06	Hanging, DIRECT	133 ft - 0 in	45 ft - 0 in	178 ft - 0 in	(E) L-084	J-16	Hanging, DIRECT	133 ft - 0 in	40 ft - 0 in	173 ft - 0 in
L-037	J-06	Hanging, DIRECT	53 ft - 0 in	27 ft - 0 in	80 ft - 0 in	L-085	J-16	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-038	J-06	Hanging, DIRECT	53 ft - 0 in	8 ft - 0 in	61 ft - 0 in	L-086	J-16	Hanging, DIRECT	53 ft - 0 in	3 ft - 0 in	56 ft - 0 in
L-039	J-06	Hanging, DIRECT	53 ft - 0 in	17 ft - 0 in	70 ft - 0 in	L-087	J-16	Hanging, DIRECT	53 ft - 0 in	22 ft - 0 in	75 ft - 0 in
L-040	J-06	Hanging, DIRECT	53 ft - 0 in	35 ft - 0 in	88 ft - 0 in	L-088	J-16	Hanging, DIRECT	53 ft - 0 in	40 ft - 0 in	93 ft - 0 in
L-041	J-07	Hanging, DIRECT	23 ft - 0 in	3 ft - 0 in	26 ft - 0 in	L-089	J-17	Hanging, DIRECT	23 ft - 0 in	3 ft - 0 in	26 ft - 0 in
L-042	J-07	Hanging, DIRECT	24 ft - 0 in	3 ft - 0 in	27 ft - 0 in	L-090	J-17	Hanging, DIRECT	24 ft - 0 in	3 ft - 0 in	27 ft - 0 in
L-043	J-07	Hanging, DIRECT	27 ft - 0 in	3 ft - 0 in	30 ft - 0 in	L-091	J-17	Hanging, DIRECT	27 ft - 0 in	3 ft - 0 in	30 ft - 0 in
L-044	J-07	Hanging, DIRECT	58 ft - 0 in	3 ft - 0 in	61 ft - 0 in	L-092	J-17	Hanging, DIRECT	58 ft - 0 in	3 ft - 0 in	61 ft - 0 in
(E) L-045	J-08	Hanging, DIRECT	82 ft - 0 in	3 ft - 0 in	85 ft - 0 in	(E) L-093	J-18	Hanging, DIRECT	82 ft - 0 in	3 ft - 0 in	85 ft - 0 in
L-046	J-08	Hanging, DIRECT	23 ft - 0 in	3 ft - 0 in	26 ft - 0 in	L-094	J-18	Hanging, DIRECT	23 ft - 0 in	3 ft - 0 in	26 ft - 0 in
L-047	J-08	Hanging, DIRECT	48 ft - 0 in	3 ft - 0 in	51 ft - 0 in	L-095	J-18	Hanging, DIRECT	48 ft - 0 in	3 ft - 0 in	51 ft - 0 in
L-048	J-08	Hanging, DIRECT	58 ft - 0 in	3 ft - 0 in	61 ft - 0 in	L-096	J-18	Hanging, DIRECT	58 ft - 0 in	3 ft - 0 in	61 ft - 0 in

TOTAL LENGTH OF CORDS = 7442 ft - 0 in

- \* - INDICATES FIELD INSTALLED PATCH FOR LIGHT FIXTURE
- NOTE - UNLESS OTHERWISE INDICATED, LIGHT FIXTURES LISTED ARE LUXOR LXB-D65 LED LIGHT FIXTURE ASSEMBLIES
- (E) INDICATES LIGHT FIXTURE TO BE TIED TO BOTH MAIN POWER AND EMERGENCY GENERATOR TRANSFER SWITCH.
- UNLESS INDICATED, HANG LIGHT FIXTURE PATCH & ELECTRICAL CORD ARE INSTALLED DURING MEMBRANE FABRICATION AT THE FACTORY

**AIR STRUCTURE COMPONENT DATA (TYP.)**

COMPONENTS SUPPLIED BY AIR STRUCTURE SUPPLIER, UNLESS OTHERWISE SPECIFIED

PRIMARY HEAT AND INFLATION UNIT (DATA SHOWN IS FOR EACH UNIT)		
NATURAL GAS DATA	INPUT	3.125 MBtu
	OUTPUT	2.500 MBtu
	PRESSURE	7"-14" W.G.
ELECTRICAL DATA	MAIN SUPPLY	208 VOLTS, 3PH, 60HZ - FLA = 82, MCA = 90 or 575 VOLTS, 3PH, 60HZ - FLA = 30, MCA = 33
	OTHER	1 - 120 VOLT, SINGLE Ø, 15 AMPS GFI RECEPTACLE FOR SERVICE OUTLET AND UNIT LIGHTING

**STANDBY AND LOW PRESSURE INFLATION UNIT** BI-542 c/w 30 HP

ELECTRICAL DATA	MAIN SUPPLY	208 VOLTS, 3PH, 60HZ - FLA = 94, MCA = 104 or 575 VOLTS, 3PH, 60HZ - FLA = 34, MCA = 38
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**BACKUP GENERATOR WITH 2 TRANSFER SWITCHES** (LIFE SAFETY FOR STANDBY FAN & LIGHTS)

TYPE		
	SIZE	80 KW, 208 or 575 VOLTS, 3PH, 60HZ
NATURAL GAS DATA	INPUT	1154 CUBIC FEET/HOUR
	PRESSURE	11"-14" W.G. (SPECIFY GENERATOR USE TYPE REGULATOR)
ELECTRICAL DATA	OTHER	1 - 208 VOLT, SINGLE Ø CIRCUIT, 60 AMPS FOR BLOCK HEATER, BATTERY CHARGER AND LIFE SAFETY COMPONENTS

**50 TON AIR CONDITIONING RECIRCULATION UNIT** (DATA SHOWN IS FOR EACH UNIT)

ELECTRICAL DATA	CAPACITY	50 TONNES
	MAIN SUPPLY	208 VOLTS, 3PH, 60HZ - MCA = 240, MOP = 250 or 575 VOLTS, 3PH, 60HZ - MCA = 102, MOP = 110

**HANG LIGHT FIXTURES** (DATA SHOWN IS FOR EACH FIXTURE/BALLAST)

ELECTRICAL DATA	FIXTURE TYPE	LUXOR LXB-D65 413W LED HANGING FIXTURE
	MAIN SUPPLY	120 VOLTS, 1PH, 60 HZ - FLA = 3.44 or 208 VOLTS, 1PH, 60 HZ - FLA = 1.98 or 347 VOLTS, 1PH, 60 HZ - FLA = 1.14

**EMERGENCY EXIT SIGN LIGHTING** (DATA SHOWN IS FOR EACH UNIT)

ELECTRICAL DATA	FIXTURE TYPE	32 WATT COMBINATION EMERGENCY LIGHT/SIGN WITH BATTERY
	MAIN SUPPLY	120 VOLT, SINGLE Ø, 15 AMP, DEDICATED CIRCUIT

**PED. AIRLOCK AUTOMATED DOOR OPERATORS** (DATA SHOWN IS FOR EACH UNIT)

ELECTRICAL DATA	FIXTURE TYPE	BESAM TYPE SW200i AUTOMATED DOOR OPERATOR
	MAIN SUPPLY	120 VOLT, 1PH, 60 HZ, 20 AMP DEDICATED CIRCUIT FOR EACH OPERATOR

**VEHICLE AIRLOCK**

ELECTRICAL DATA	OVERHEAD DOOR OPERATORS	2 - 120 VOLT, SINGLE Ø GFI CIRCUIT, 15 AMPS ELECTRIC DOOR OPENERS (1 EACH END OF AIRLOCK)
	OTHER	AIRLOCK INTERIOR LIGHTING BY OWNER OR OWNER'S DESIGNATE (IF REQUIRED)

**MISCELLANEOUS**

OTHER	THERE SHOULD BE CONSIDERATION TAKEN FOR ANY ADDITIONAL POWER REQUIREMENTS FOR THE DOME IE; SCORE BOARDS, ELECTRICAL OUTLETS, SLUMP PUMPS, ETC. PLEASE NOTE THAT IF NATURAL GAS OR PROPANE ARE NOT AVAILABLE THE PROPOSED LOW INFLATION STANDBY UNITS WILL HAVE TO BE MODIFIED AND OIL FIRED GENERATORS WILL BE REQUIRED TO PROVIDE EMERGENCY POWER.
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**ELECTRICAL LEGEND**

	FLUORESCENT LIGHT FIXTURE TYPE AS INDICATED (N/L DENOTES NIGHT LIGHT)		EMERGENCY EXIT SIGN. "EXIT" DENOTES FACE, ARROWS DENOTE DIRECTION
	CEILING OR WALL MOUNTED LIGHT FIXTURE TYPE AS INDICATED		SURFACE MOUNTED SINGLE AND TWIN EMERGENCY LIGHTING FIXTURE
	COMBINATION EMERGENCY LIGHT, EXIT SIGN & BATTERY UNIT. ARROWS DENOTE DIRECTION		SINGLE POLE SWITCH (3-3 WAY, 4-4 WAY, P-PILOT LIGHT, K-KEYED, M-MOTOR RATED)
	COMBINATION EMERGENCY LIGHTING AND BATTERY UNIT		DENOTES PANEL 'A', CIRCUIT No.1 SWITCH No.2
	15A-120 VOLT DUPLEX WALL RECEPTACLE (20A-DENOTES 20A "T" TYPE RECEPTACLE)		15A-120 VOLT DUPLEX WALL RECEPTACLE MOUNTED ABOVE COUNTER (S-SPLIT)





REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:  
 1- FIRE EXITS, FIRE ACCESS ROUTES AND SEPARATION OF AIR SUPPORTED STRUCTURE FROM ADJACENT STRUCTURES.  
 2- BARRIER FREE DESIGN REQUIREMENTS FOR ENTRANCES, EXITS AND PATH OF TRAVEL  
 3- OCCUPANT LOAD BASED ON NUMBER OF EXITS AND NUMBER OF PLUMBING FIXTURES (WASHROOMS) AVAILABLE IN THE ADJACENT WASHROOM BUILDING.

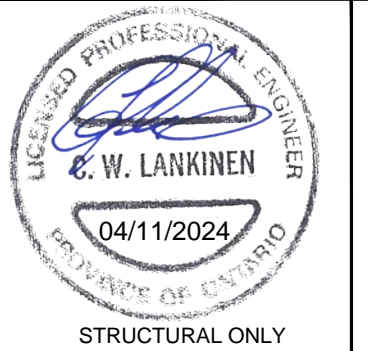
LIGHTING LEVEL LAYOUT PARAMETERS  
 DOME SIZE 267'-0" x 482'-0" x 81'-0"  
 LIGHT FIXTURE MOUNTING HEIGHT VARIABLE ±6'-0" FROM LINER  
 CEILING REFLECTANCE = 0.7  
 WALL REFLECTANCE = 0.7  
 FLOOR REFLECTANCE = 0.0  
 LIGHT LEVELS SHOWN IN FOOTCANDLES  
 LAYOUT SHOWN IS MAINTAINED  
 HORIZONTAL LIGHT LEVELS 3'-0" ABOVE FLOOR

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NO.	DATE: (DD/MM/YY)	REVISION:
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES

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A	A -- DETAIL NUMBER
B	B -- SHEET WHERE DETAILED



**THE FARLEY GROUP**  
 Farley Manufacturing Inc.  
 A division of The Farley Group  
 6 Kerr Crescent  
 Puslinch, ON, Canada N0B 2J0  
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 Email: mon@thefarleygroup.com  
 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME  
 CITY FILE #: SPA-2024-0106**

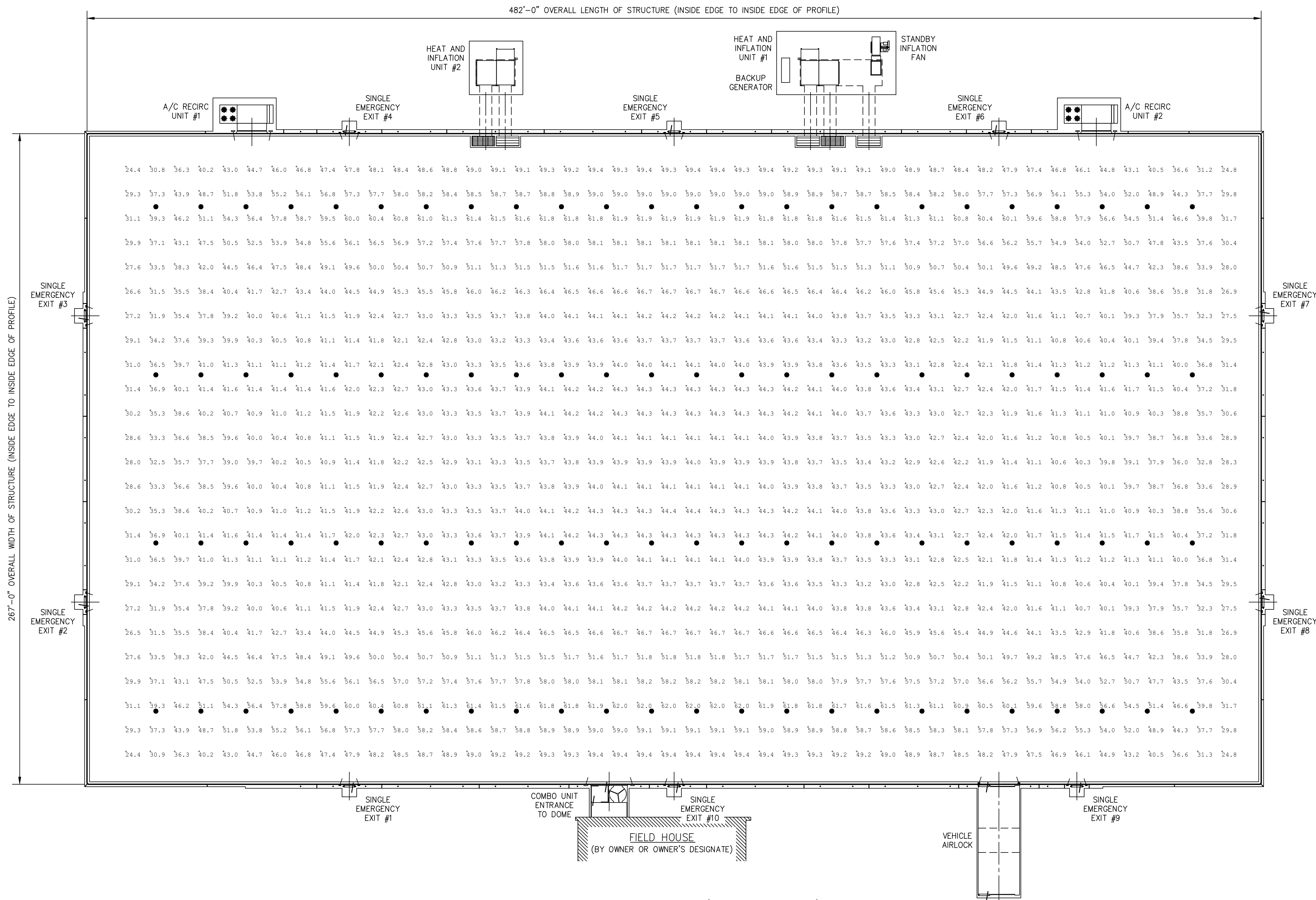
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**ESTIMATED LIGHT LEVELS  
 FOR INTERIOR LIGHTING  
 (LED FIXTURES)**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
PLAN NORTH:	SCALE:	AS SHOWN
	PROJ. #:	23-08D
	DRAWING #:	<b>AS19</b>
		REV. 03



1 AS19 ESTIMATED LIGHT LEVELS FOR PRIMARY INTERIOR LIGHTING OF STRUCTURE (LED FIXTURES)  
 SCALE 1/24" = 1'-0"

Qty	Label	Description	Lum. Lumens	LLF
96	N184C, LXB-D65	LXB-D65-5000K-UNV-S-PC-XXX	61436	0.950

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Fc	45.65	62.0	24.4	1.87	2.54





REVIEWED AND STAMPED BY ARCHITECT FOR THE FOLLOWING LIFE SAFETY FEATURES:  
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 DOME SIZE 267'-0" x 482'-0" x 81'-0"  
 LIGHT FIXTURE MOUNTING HEIGHT VARIABLE ±6'-0" FROM LINER  
 CEILING REFLECTANCE = 0.7  
 WALL REFLECTANCE = 0.7  
 FLOOR REFLECTANCE = 0.0  
 LIGHT LEVELS SHOWN IN FOOTCANDLES

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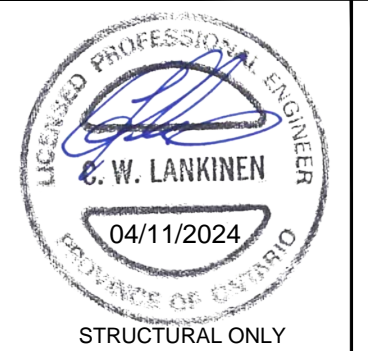
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NO.	DATE: (DD/MM/YY)	REVISION:
3	29/10/2024	REMOVED INTERIOR SPORTS LAYOUT DIMENSIONS
2	16/10/2024	UPDATED CITY FILE # & INTERIOR LAYOUT
1	25/04/2024	UPDATED REBAR AND ANCHOR NOTES
ISSUED FOR COMPLETENESS REVIEW		

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A	A -- DETAIL NUMBER
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 Puslinch, ON, Canada N0B 2J0  
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 Fax: 1-888-445-3043  
 Email: mon@thefarleygroup.com  
 Creative Space Solutions

CLIENT:  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE DOME**  
 CITY FILE #: SPA-2024-0106

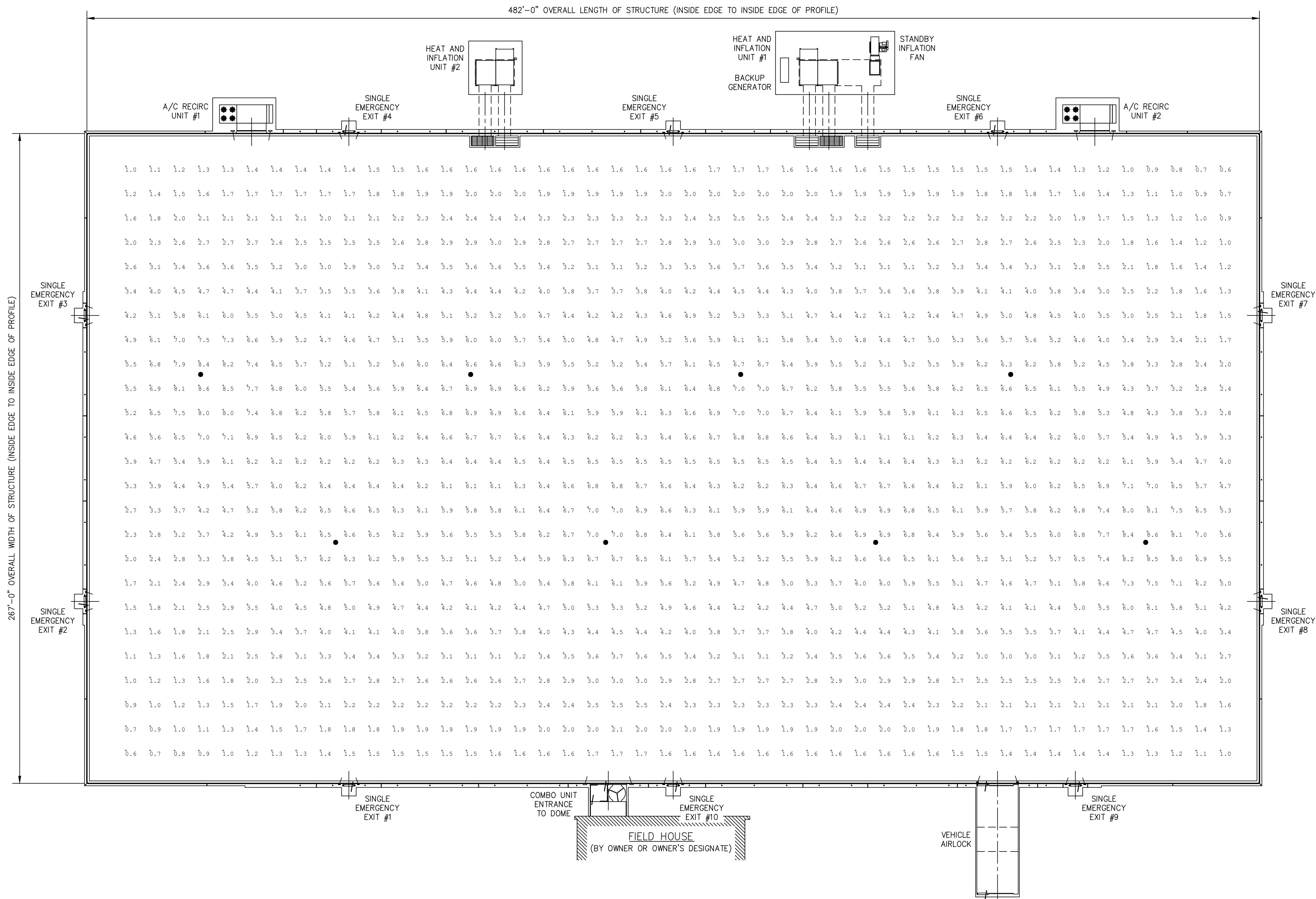
CLIENT ACCEPTANCE SIGNATURE:  
 DATE ACCEPTED:

PROJECT:  
**AIR SUPPORTED STRUCTURE  
 FOR MULTI-USE  
 (267'-0" x 482'-0" x 81'-0")**

LOCATION:  
 1060 SANDALWOOD PKWY W.  
 BRAMPTON, ON L7A 2Z8

DRAWING:  
**ESTIMATED LIGHT LEVELS  
 FOR EMERGENCY AREA  
 LIGHTING (LED FIXTURES)**

PROJECT NORTH:	DRN BY:	C.J.S.
	REVIEWED BY:	A.R.R.
	DATE:	APRIL 3, 2024
SCALE:	AS SHOWN	
PLAN NORTH:	PROJ. #:	23-08D
	DRAWING #:	AS20
	REV. 03	

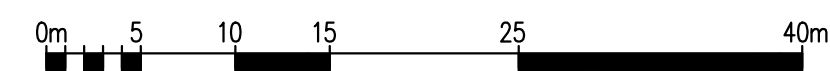
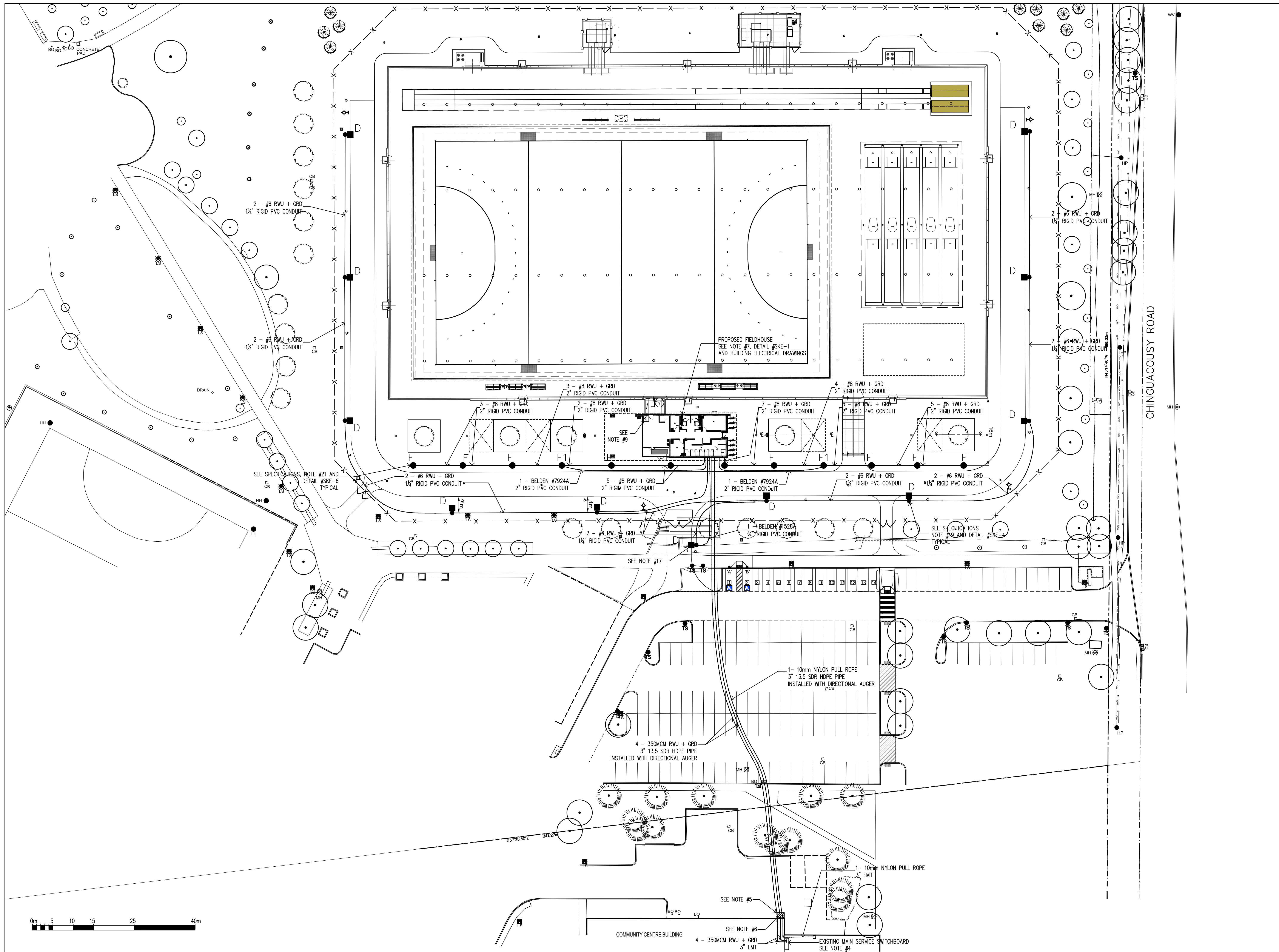



1 AS20 ESTIMATED LIGHT LEVELS FOR EMERGENCY INTERIOR AREA LIGHTING  
 SCALE 1/24" = 1'-0"

Luminaire Schedule				
Qty	Label	Description	Lum. Lumens	LLF
8	N184C, LXB-D65	LXB-D65-5000K-UNV-S-PC-XXX	61436	0.950

Numeric Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Fc	4.09	8.6	0.6	6.82	14.33





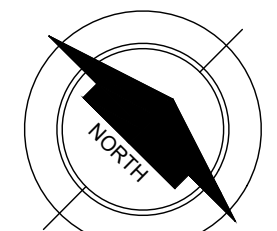


**Electrical Consultant**

MJS CONSULTANTS INC.  
420 Main Street East, Suite 473  
Milton, Ontario  
L9T 5G3  
TEL: 416-402-1525  
mjscons@total.net

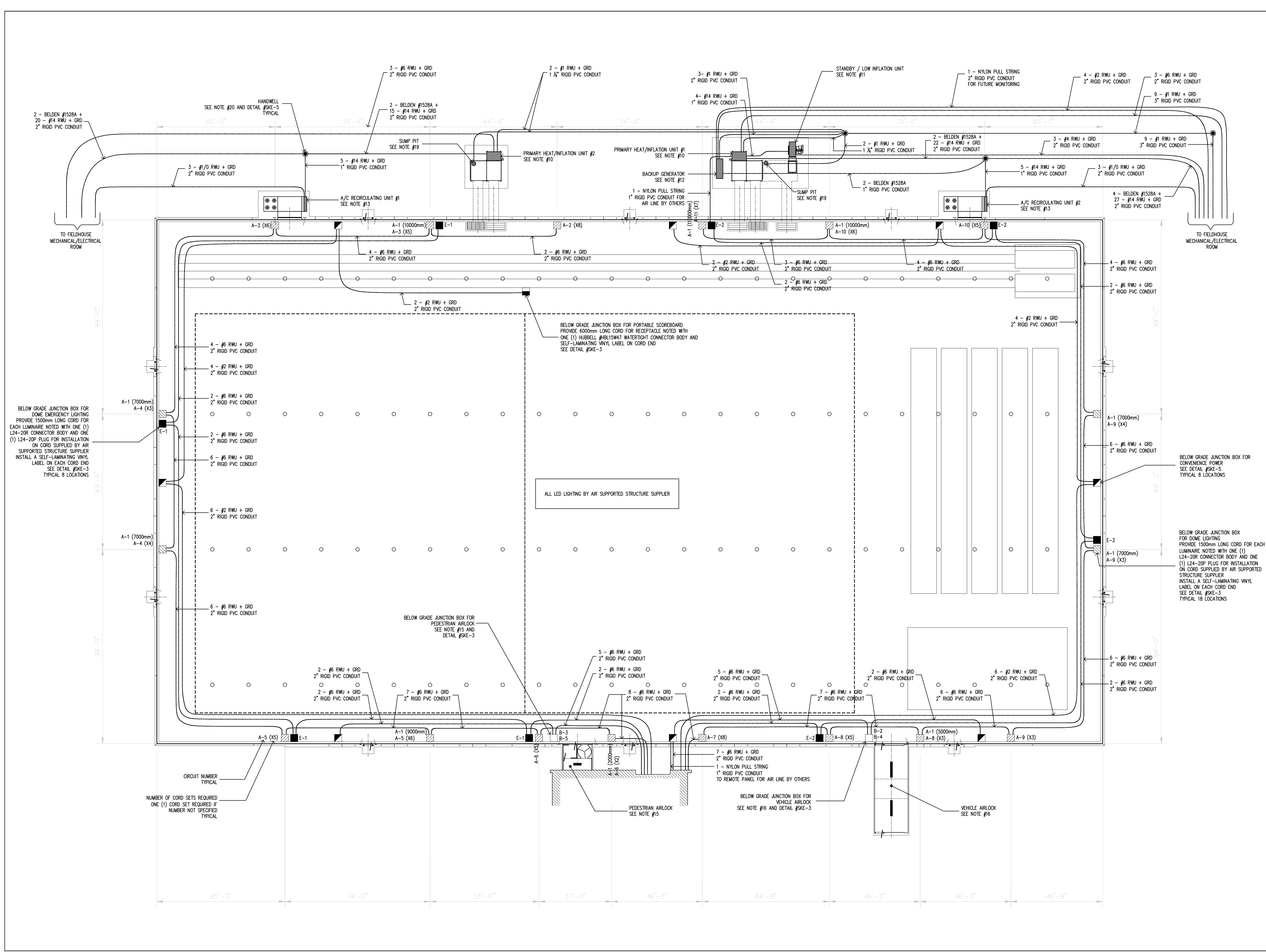
Issued for Tender	12/6/2024	MJS
Issued for Review	7/22/2024	MJS
RT Issued for Completeness Review	4/23/2024	MJS
no. revision	date	by

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project number	2023-093				
project title	CASSIE CAMPBELL COMMUNITY CENTRE, FIELD HOCKEY DOME				
client	CITY OF BRAMPTON				
City File Number	PRE-2023-0128				
drawing title	<b>ELECTRICAL SITE PLAN</b>				
drawn by	MJS	reviewed by	MJS	drawing number:	<b>E-1</b>
date	NOV. 10, 2024	scale	1: 400		

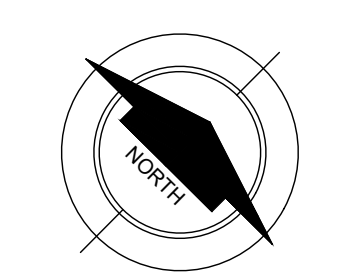




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no.	revision	date	by
1	Issued for Tender	12/6/2024	MJS
2	Issued for Review	7/22/2024	MJS
RT	Issued for Completeness Review	4/9/2024	MJS

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project number  
**2023-093**



project title  
**CASSIE CAMPBELL  
 COMMUNITY CENTRE,  
 FIELD HOCKEY DOME**

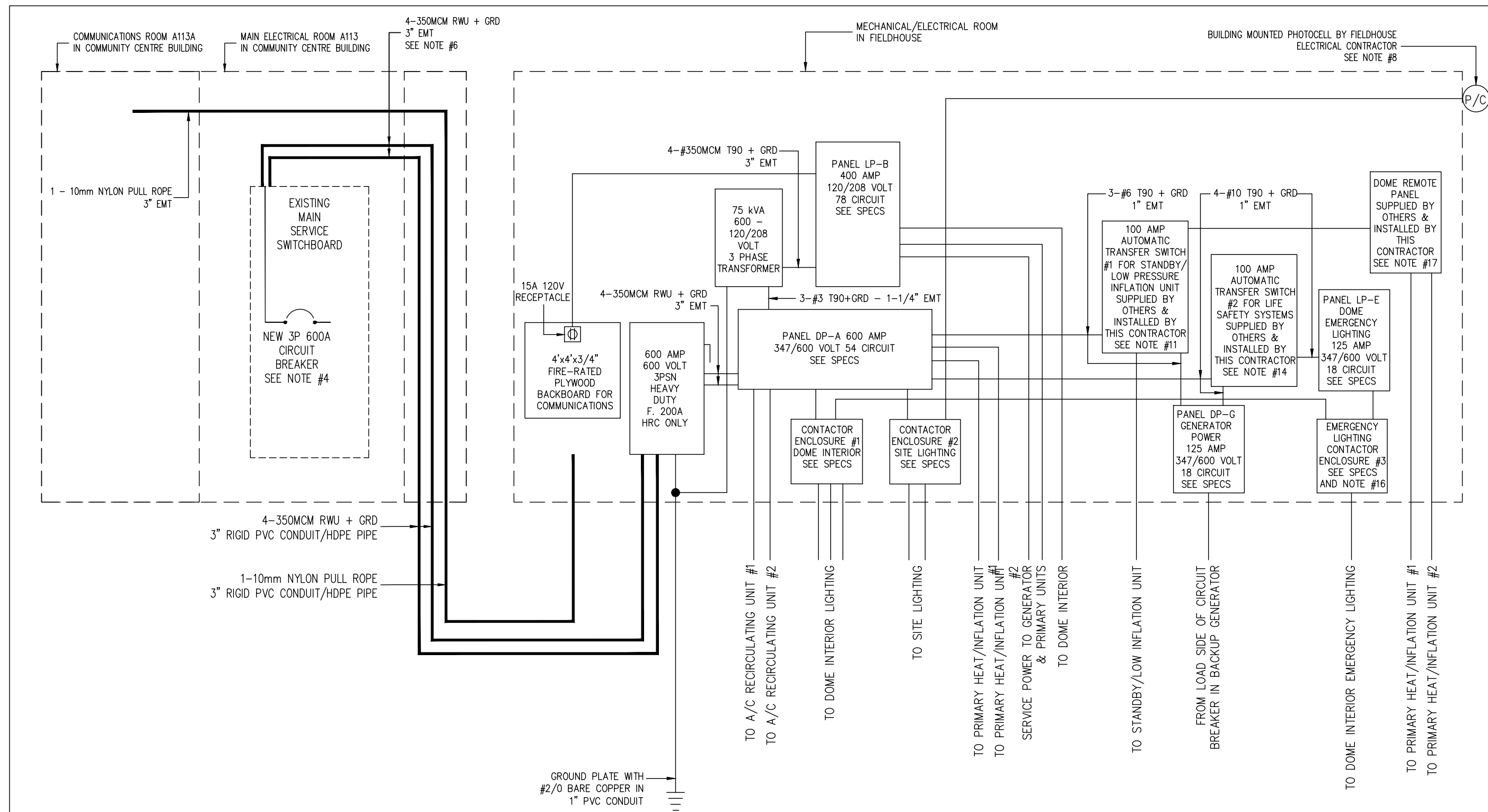
client  
**CITY OF BRAMPTON**

City File Number  
**PRE-2023-0128**

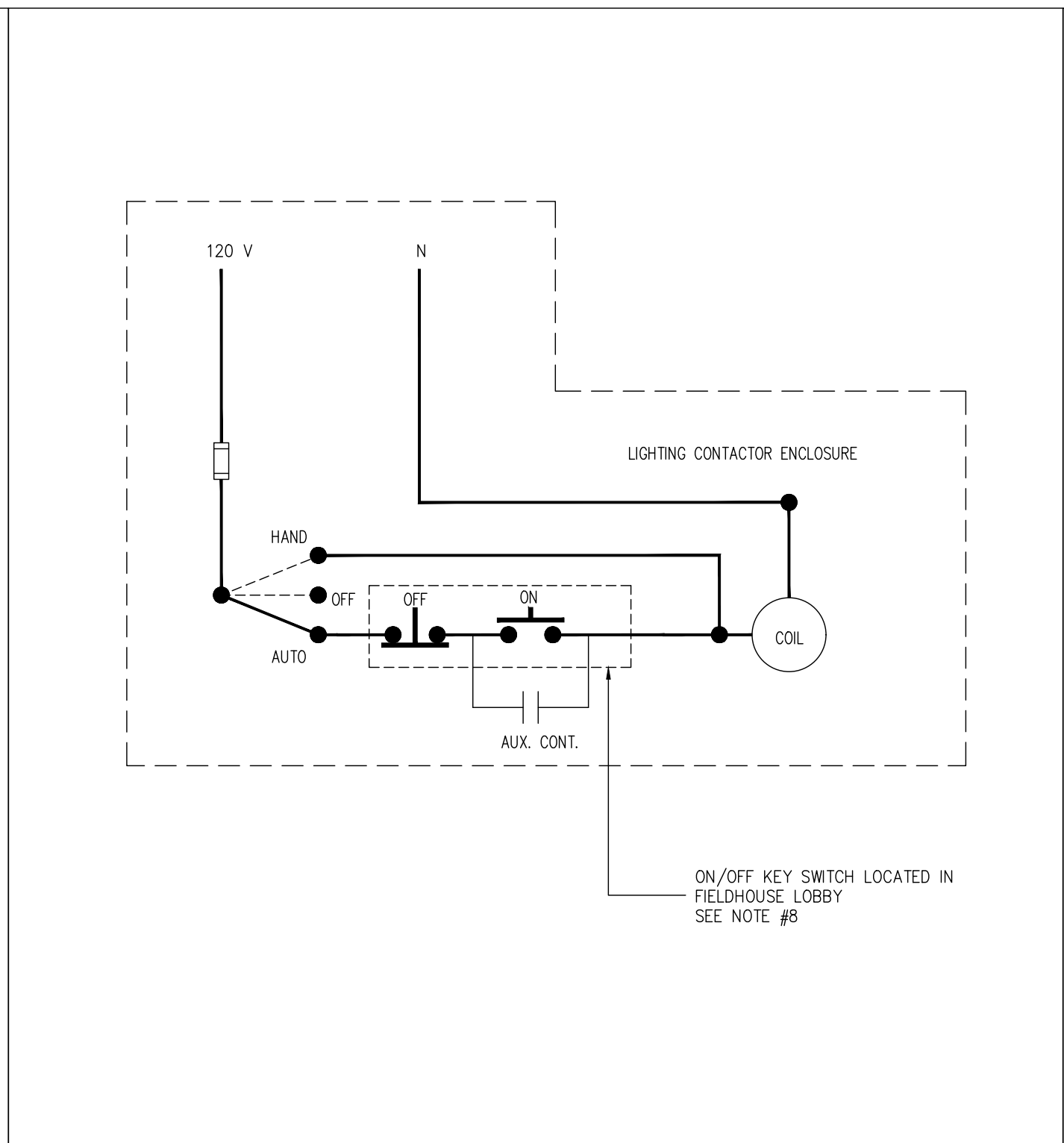
drawing title  
**AIR SUPPORTED  
 STRUCTURE  
 ELECTRICAL PLAN**

drawn by MJS	reviewed by MJS	drawing number: <b>E-2</b>
date NOV. 10, 2024	scale 1: 250	

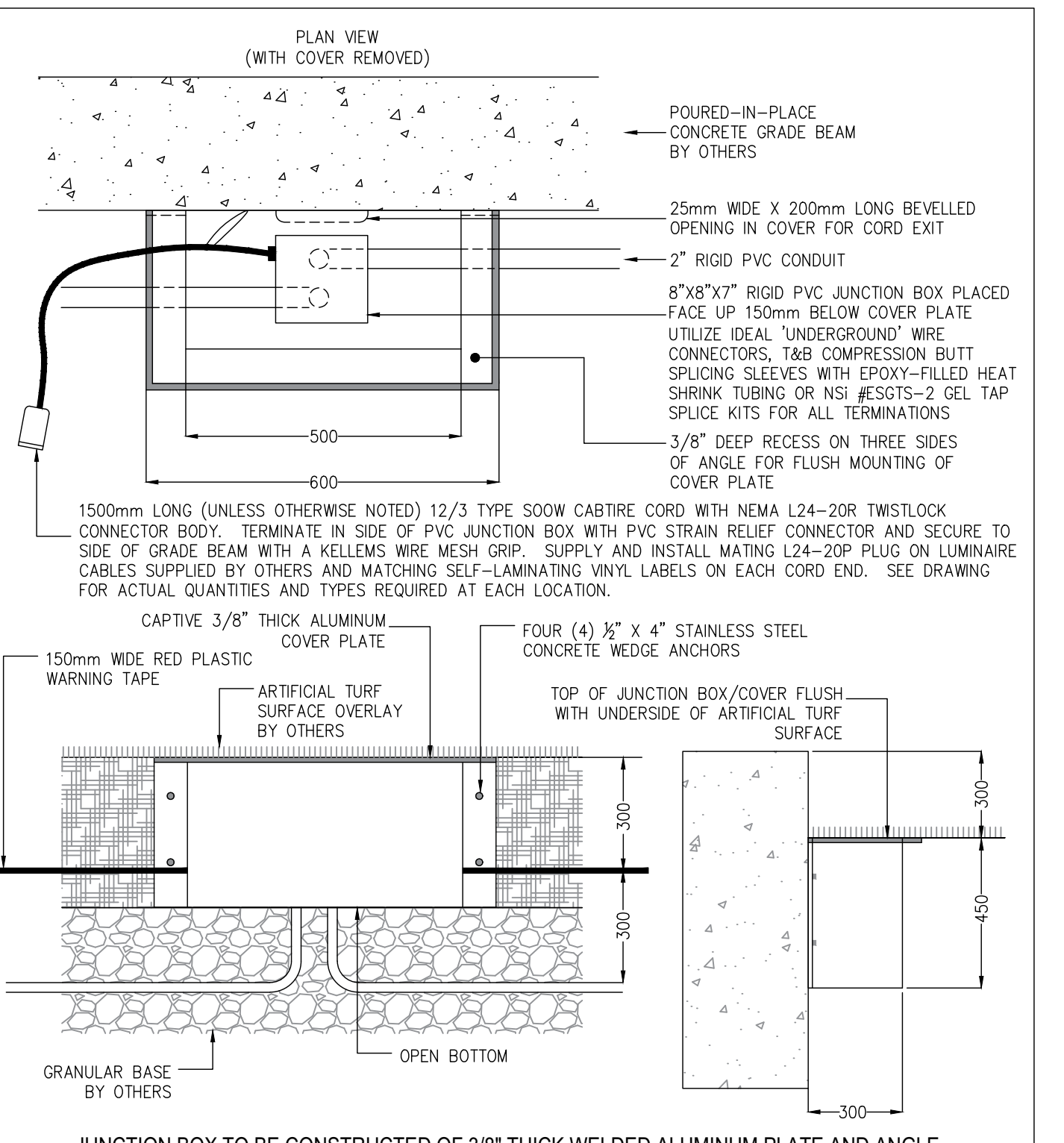




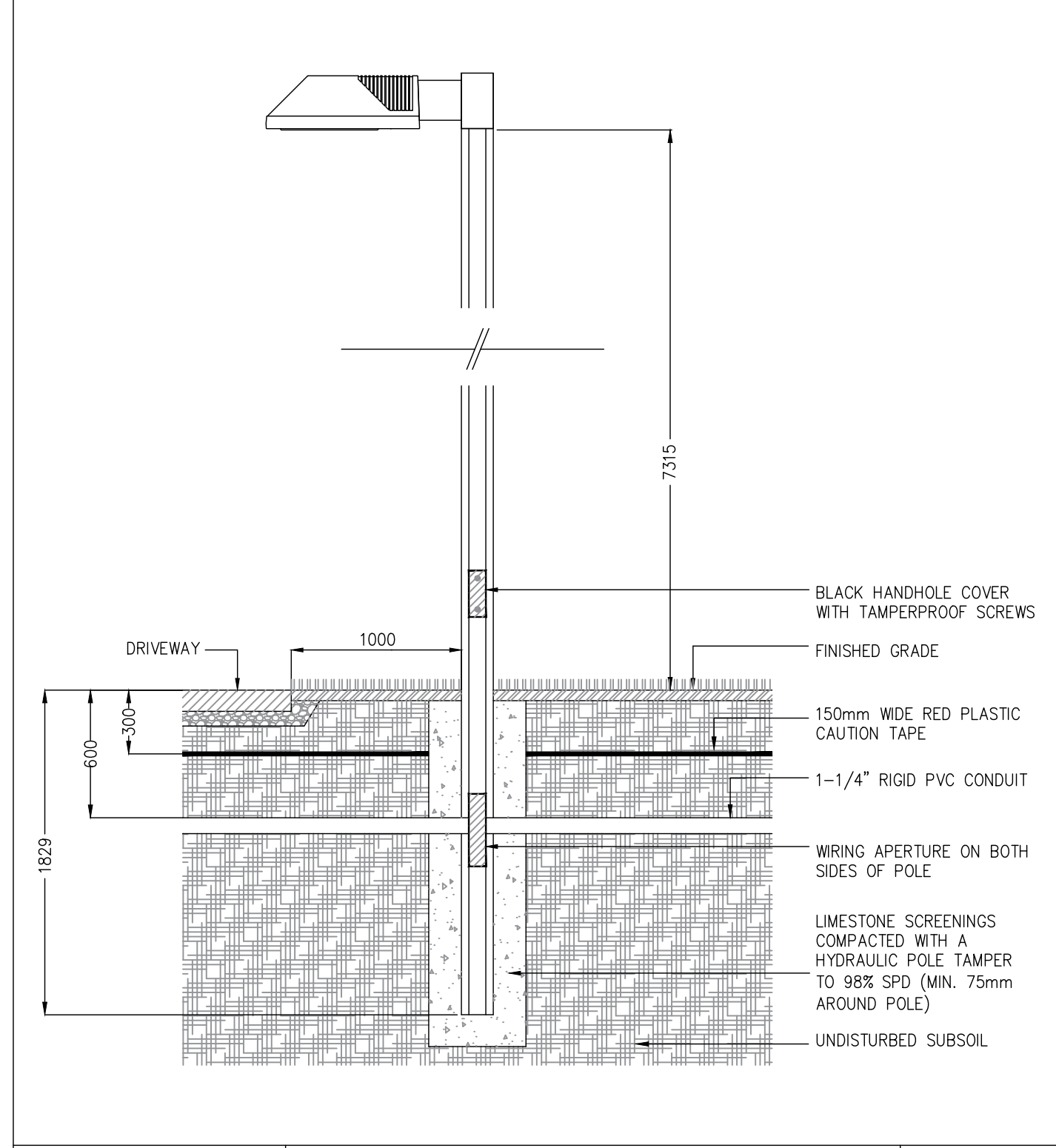
MJS CONSULTANTS INC. 420 MAIN STREET EAST, SUITE 473 MILTON, ONTARIO L9T 5G3  
 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 SINGLE LINE DISTRIBUTION  
 SKE-1



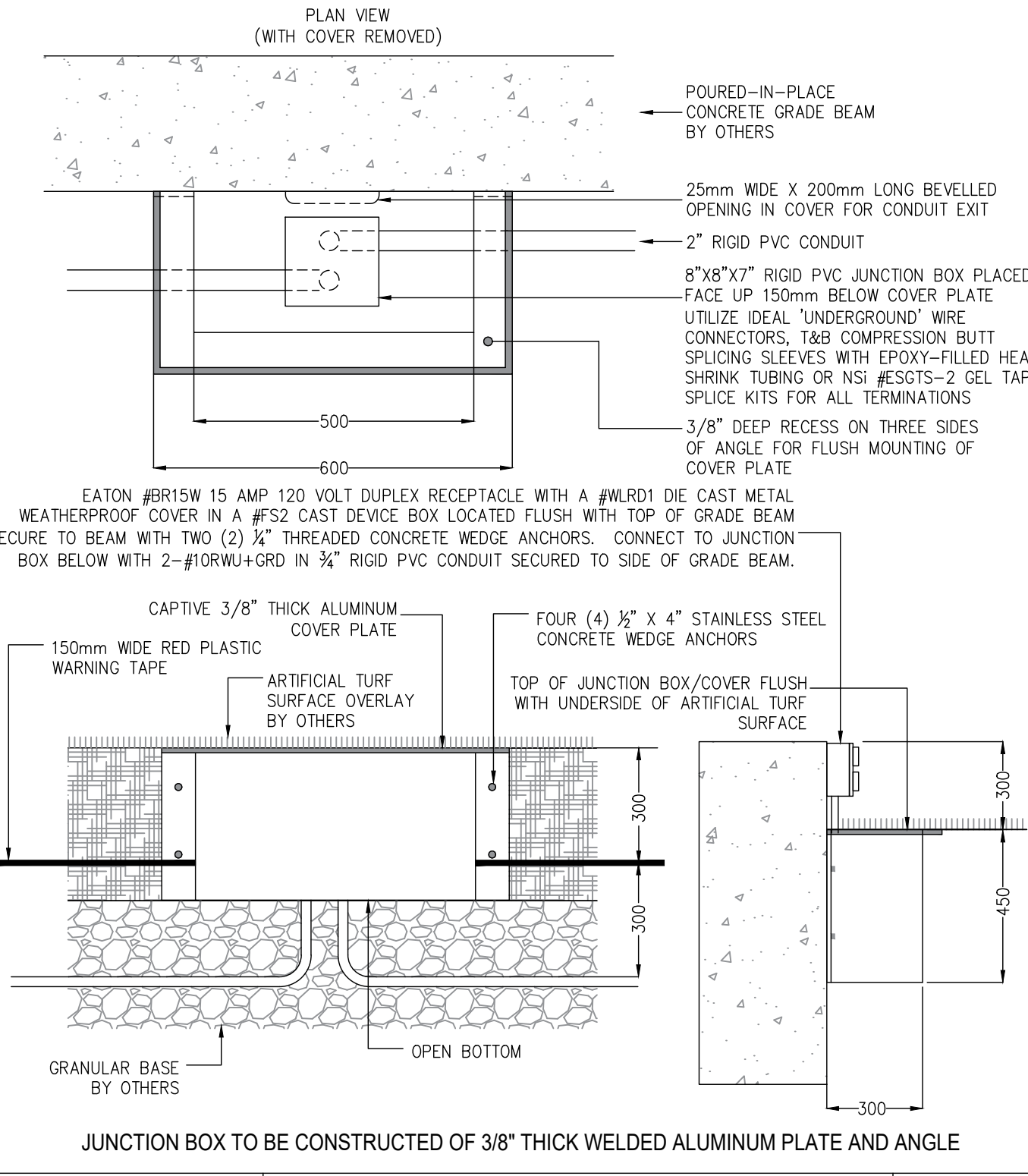
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 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 INTERIOR LIGHTING CONTROL SCHEMATIC  
 SKE-2



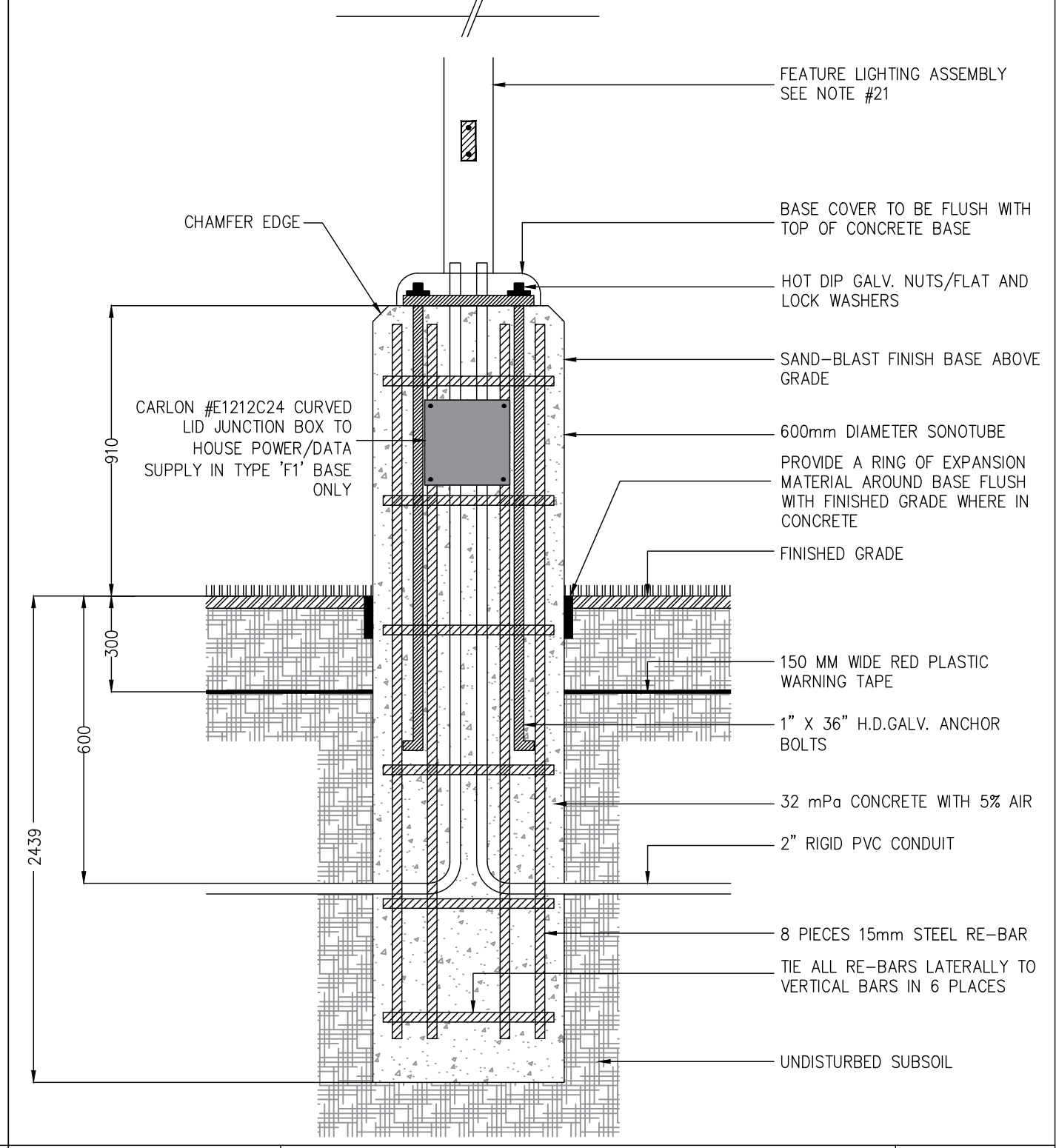
MJS CONSULTANTS INC. 420 MAIN STREET EAST, SUITE 473 MILTON, ONTARIO L9T 5G3  
 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 BELOW GRADE JUNCTION BOX  
 SKE-3



MJS CONSULTANTS INC. 420 MAIN STREET EAST, SUITE 473 MILTON, ONTARIO L9T 5G3  
 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 TYPE 'D' & 'D1' LIGHTING ASSEMBLY  
 SKE-4



MJS CONSULTANTS INC. 420 MAIN STREET EAST, SUITE 473 MILTON, ONTARIO L9T 5G3  
 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 BELOW GRADE JUNCTION BOX FOR CONVENIENCE POWER  
 SKE-5



MJS CONSULTANTS INC. 420 MAIN STREET EAST, SUITE 473 MILTON, ONTARIO L9T 5G3  
 CASSIE CAMPBELL FIELD HOCKEY DOME  
 DATE: JANUARY, 2024  
 SCALE: NOT TO SCALE  
 TYPE 'F' & 'F1' POLE BASE DETAIL  
 SKE-6



Electrical Consultant  
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Issued for Tender	12/6/2024	MJS
Issued for Review	7/22/2024	MJS
RT Issued for Completeness Review	4/3/2024	MJS
no. revision	date	by

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City File Number  
 PRE-2023-0128



project title  
 CASSIE CAMPBELL  
 COMMUNITY CENTRE,  
 FIELD HOCKEY DOME

client  
 CITY OF BRAMPTON

City File Number  
 PRE-2023-0128

drawing title  
 ELECTRICAL DETAILS

drawn by MJS	reviewed by MJS	drawing number: E-3
date NOV. 10, 2024	scale AS SHOWN	



## ELECTRICAL NOTES

1. Electrical contractors quoting on this project must visit the Cassie Campbell Community Centre site located at 1050 Sandalwood Parkway West prior to the close of tenders, to familiarize themselves with the existing conditions. No allowance will be made later for any expense incurred through failure to make this examination.

2. Arrange and pay for locates for all buried services before starting any work in accordance with TSSA requirements. Hand dig within two meters of all services and daylight with a hydro-vac excavator all those being crossed with the directional auger. Do not leave open excavations unattended. Any damaged services, real property, trees or other plant materials will be replaced or repaired to the satisfaction of the contract inspector. All costs for this work will be the responsibility of the electrical contractor.

3. The conduit routing indicated on the drawing is to be considered schematic only. Do not route any conduits under the bases of any structures, under bleacher footings or proposed fence posts. Generally, where possible route all conduits 2000mm offset of all existing or proposed services and all play areas. Keep all of the trenches as far away as possible from the drip lines of all existing trees to avoid damaging their root systems. All costs for this work will be the responsibility of the electrical contractor.

4. The 600 amp 600 volt 3-phase 4-wire power supply for the proposed Field Hockey Dome is to come from the existing 2000 amp 347/600 volt Main Service Switchboard located in ground floor Main Electrical Room A113 of the Community Centre building where indicated on the drawings. The electrical contractor will co-ordinate with Community Centre management staff to arrange for access to the Main Electrical Room to isolate the distribution section of the switchboard for the work required to add the new moulded case circuit breaker. No trades' people are to enter the building without first reporting to the front desk on the ground floor. Supply and install one (1) new Eaton Cutler-Hammer #LDC3600F 600 amp 3-pole 600 volt molded case circuit breaker frame with a #LT3600T 600 amp 3-pole 600 volt thermal magnetic trip unit, a #KPRL4LD connector kit and three (3) #T1A602LD load terminals. The electrical contractor will shift two (2) existing 3-pole M-frame circuit breakers along with their mounting hardware, dead-front covers and load side wiring in order to create the required space in the switchboard. Connect the new branch circuit wiring to the load side lugs of the circuit breaker and label with an engraved lamicoid plate to read 'FIELD HOCKEY DOME'. Provide the required #P4NX25 filler plate when all of the modifications are complete. This work is to be performed during off-hours and is to be scheduled with Community Centre management staff. This work is NOT to be performed with the load side of the main breaker in the Main Service Switchboard energized. See detail #SKE-1.

5. Saw cut with straight lines, remove and dispose of offsite an approximately 1200mm x 1200mm square section of asphalt located immediately adjacent to the north exterior wall of Refrigeration Room A112 to allow for the installation of the new Fieldhouse power supply & communications conduits and the completion of the directional bores. Supply, install and maintain pedestrian barricades while the excavation is underway. Once the conduits have been installed, backfill the excavation with granular 'A' material and compact in 150mm lifts to 98 per cent SPD. The electrical contractor will include all costs for reinstating the asphalt surface level to the surrounding grade with HL-3 hot-mix asphalt, to a 100mm minimum compressed depth.

6. The surface mounted conduits will enter the building approximately 450mm above finished grade with rigid PVC LB fittings located next to each other. Supply and install a custom made 3/8" thick galvanized steel guard approximately 600mm high with a closed top and secured to the masonry wall with four (4) 1/2" stainless steel masonry anchors. A single guard, sealed on all sides with welded edges and mounting tabs, is to cover both conduits, extending up from finished grade and installed vertically & parallel to the building lines. Use threaded adapters, 1000mm from the building foundation wall to transition from HDPE pipe to rigid PVC conduit. Core drill the masonry wall and seal around the conduits from both sides of the wall with expandable grout and clear silicone sealant. Transition to EMT inside the building and route the conduits along the walls and ceilings of the Refrigeration Room and the Main Electrical Room, square with the building lines and secured with 2-hole straps at 1500mm intervals. Extend the two (2) power conduits into the top of Main Service Switchboard section #3. Terminate the communications conduit inside Communications Room A113A onto the closest existing cable tray with a bushed connector.

7. Include all costs to coordinate with the building general contractor to install the required sleeves for all underground conduits entering or exiting the Fieldhouse through their poured concrete foundation walls and floor slabs. Backfill and compact all excavations below the concrete floor slabs with granular 'A' material to 98% SPD. All branch circuit wiring within the building will be in EMT (minimum 3/4") installed concealed in the walls and ceilings of the public access room areas. Conduit may be surface mounted in the Mechanical/Electrical Room. All conduits are to be installed square to the lines of the building. All EMT will utilize steel set-screw fittings and include a green bonding wire (sized in accordance with Table 16 of the OESC) within the conduit. All wire and cable installed within the building will be 190 copper with a minimum conductor size of #12 AWG. No conduits are to be installed on the exterior walls of the building.

8. The Type 'D' and 'D1' lighting assemblies will be controlled from circuit DPA-37 located in the Mechanical/Electrical Room. Supply and install the 30 amp 3-pole lighting contactor lighting contactor enclosure #2 as detailed on the lighting contactor schedule in the specifications with a photocell to operate the lighting. Circuit DPA-35 will be controlled with the photo cell 'ON' and 'OFF' with the selector switch in the automatic position. Use a common control circuit and connect to the photocell used to control the building mounted exterior luminaires.

9. Provide an Allen-Bradley #800T-J631A 3-position, keyed, 30mm selector switch with a recessed device box, a stainless steel cover plate and an 'ON-OFF' legend plate installed at 1100mm AFF and recessed on the inside wall of the Fieldhouse where shown on the drawing to control the Field Hockey Dome lighting. Confirm the final location with the Owner. Supply and install 3-#12T90+GRD control wiring in 3/4" EMT back to Lighting Contactor Enclosure #1 located in the Fieldhouse Mechanical/Electrical Room. Provide an engraved lamicoid plate to read 'DOME LIGHTING'. See detail #SKE-1.

10. Supply and install the 40 amp 600 volt 3-wire electrical supply connections from Panel 'DP-A' and connect to the line side terminals of each of the disconnect switches on Primary Heat/Inflation Units #1 and #2. Provide two (2) 15 amp 120 volt circuits from Panel 'LP-B' and connect one (1) to the lighting/GFI receptacle service outlet supply terminals located within each unit. From Primary Heat/Inflation Unit #1 provide 4-#14 RWU+GRD in 1" rigid PVC conduit for the interconnection control wiring to the Standby/Low Inflation Unit as well as two (2) Belden #1528A control cables with 22-#14RWU+GRD in 2" rigid PVC conduit as detailed on the drawing to a Remote Panel located in the Mechanical/Electrical Room of the Fieldhouse. From Primary Heat/Inflation Unit #2 provide two (2) Belden #1528A control cables with 15-#14RWU+GRD in 2" rigid PVC conduit as detailed on the drawing to the Remote Panel. Leave all control wiring for termination by the Mechanical Service Manager. Utilize liquid-tight flexible metal conduit and fittings for all final connections to the mechanical equipment supplied and installed by others. Coordinate with the air supported structure installer to determine the exact rough-in locations for all conduits protruding through the poured-in-place concrete slab.

11. Supply and install the 50 amp 600 volt 3-wire electrical supply connection from Panel 'DP-A' to the utility side terminals of transfer switch #1 located in the Fieldhouse Mechanical/Electrical Room, from Panel 'DP-G' to the emergency side terminals of the switch and from the load side terminals of the switch to the line side terminals of the Standby/Low Inflation Unit disconnect switch. From transfer switch #1 provide a Belden #1528A control cable in 1" EMT for the interconnection control wiring to the Remote Panel. Leave all control wiring for termination by the Mechanical Service Manager. Utilize liquid-tight flexible metal conduit and fittings for all final connections to the mechanical equipment supplied and installed by others. Coordinate with the air supported structure installer to determine the exact rough-in locations for all conduits protruding through the poured-in-place concrete slab.

12. Supply and install the 100 amp 347/600 volt 4-wire electrical supply connection from the line side terminals of Panel 'DP-G' to the load side terminals of the main circuit breaker in the Backup Generator. Provide two (2) Belden #1528A control cables in a 1" rigid PVC conduit for the interconnection control wiring between the Backup Generator and transfer switches #1 and #2 located in the Fieldhouse Mechanical/Electrical Room. Supply and install a 60 amp 120/208 volt 3-wire electrical supply connection from Panel 'LP-B' to the panelboard located within the Backup Generator enclosure which supplies the battery charger, block heater and related loads. Utilize liquid-tight flexible metal conduit and fittings for all final connections to the mechanical equipment supplied and installed by others. Coordinate with the air supported structure installer to determine the exact rough-in locations for all conduits protruding through the poured-in-place concrete slab.

13. Supply and install the 150 amp 600 volt 3-wire electrical supply connections from Panel 'DP-A' to the line side terminals of each of the disconnect switches on A/C Recirculating Units #1 and #2. From each A/C Recirculating Unit, provide 5-#14RWU+GRD in 1" and 2" rigid PVC conduit as detailed on the drawing back to the Remote Panel. Leave all control wiring for termination by the Mechanical Service Manager. Utilize liquid-tight flexible metal conduit and fittings for all final connections to the mechanical equipment supplied and installed by others. Coordinate with the air supported structure installer to determine the exact rough-in locations for all conduits protruding through the poured-in-place concrete slab.

14. Supply and install the 30 amp 347/600 volt 4-wire electrical supply connection from Panel 'DP-A' to the utility side terminals of transfer switch #2 located in the Electrical Room, from Panel 'DP-G' to the emergency side terminals of the switch and from the load side terminals of the switch to Panel 'LP-E'. Leave all control wiring for termination by the Mechanical Service Manager.

15. The electrical contractor will provide a separate 14/3 Type SOOW cabtire cable from two (2) motorized door operators and one (1) ceiling mounted luminaire located within the Pedestrian Airlock to the below grade junction box located at the southwest corner of the enclosure. Terminate each cable at the junction box with a NEMA L5-15P plug and a 1500mm long cord with an L5-15R connector body and self-laminating vinyl labels. Refer to detail #SKE-3. Secure all cabtire cables at 600mm intervals to the tubular steel structure with 50LB clear nylon cable ties. The ceiling mounted luminaire is to be supplied and installed by the electrical contractor and will be Cooper Lighting #HVSL4-4-LD4-1-STD-40-UNV-0-EDC1-OS1-WL, suspended from the structure with #10 zinc-plated jack chain.

16. The electrical contractor will provide a separate 14/3 Type SOOW cabtire cable from each of two (2) overhead door operators and two (2) ceiling mounted luminaires located within the Vehicle Airlock to the below turf junction box located at the southwest corner of the enclosure. Terminate each cable at the junction box with a NEMA L5-15P plug and a 1500mm long cord with an L5-15R connector body and self-laminating vinyl labels. Refer to detail #SKE-3. Secure all cabtire cables at 600mm intervals to the tubular steel structure with 50LB clear nylon cable ties. The ceiling mounted luminaires are to be supplied and installed by the electrical contractor and will be Cooper Lighting #HVSL4-8-LD4-1-STD-40-UNV-0-EDC1-OS1-WL, suspended from the structure with #10 zinc-plated jack chain. Supply and install an 18/5 LVT cable between the overhead door operators and from each overhead door operator to a control station provided by others and located adjacent to each overhead door. Terminate the control wiring at both ends in accordance with the manufacturer's detailed instruction manual and leave for set-up and testing by the overhead door installer. The doors are to be interlocked so that only one can be open at any time.

17. The electrical contractor will install a Remote Panel provided by the air supported structure supplier within the Fieldhouse Mechanical/Electrical Room where detailed on the drawings. The electrical contractor will also provide the conduit and cabling for a wind sensor to be supplied and installed on the top of the Type 'D1' pole where shown by others. At the base of the pole, transition from rigid PVC conduit to 3/4" ENT (Corline) PVC conduit through the below grade aperture hole to the junction box cast into the top of the pole. The electrical contractor will provide a Kellum cable grip at the top of the pole to support the ENT at the junction box. Leave 2000mm of excess cable coiled at the junction box and terminate the other end of the conduit in the Remote Panel.

18. Supply and install the 30 amp 3-pole normally-open and normally-closed lighting contactors (lighting contactor enclosure #3) as detailed on the lighting contactor schedule in the specifications to control the dome interior emergency lighting. The 120 volt control circuit for the normally-closed contactor is to be connected directly to the airlock lighting circuit LPB-5 so that it is constantly energized during normal operation. The 120 volt control circuit for the normally-open contactor is to be connected to the control circuit for lighting contactor enclosure #1 so that it is energized when the dome interior lighting is operational. The 347 volt emergency lighting circuits are to be connected in parallel through both contactors so that they operate with both the dome interior lighting circuits during normal operation and when the Backup Generator is operational during a power failure.

19. Core drill through the side of the poured-in-place concrete walls of the mechanical vaults directly above the two (2) sump locations and terminate the supply conduits into the back of a 6"x6"x4" rigid PVC junction box secured to each side wall with self-drill masonry anchors. Seal around the conduits from both sides of the wall with expandable grout prior to the installation of the exterior wall damp proofing by the prime contractor. Terminate the sump pump power cord into the bottom of the rigid PVC junction box with a Kellums mesh connector and make all connections with NSI #ESGTS-2/0 gel tap splice kits.

20. Supply and install pre-cast concrete handwells where located on the drawing. The pre-cast concrete handwells will be Brooklin Concrete Products #BCP-2112.02 or equal with an 18" diameter cast iron cover (Refer to #SKE-5 for the handwell installation details). Cable splicing within the pre-cast concrete handwells will be with T&B compression butt splicing sleeves insulated with T&B epoxy-filled heat shrink tubing. For splices of more than two conductors, utilize NSI #ESGTS-2 or #ESGTS-2/0 gel tap splice kits. No other methods of cable splicing will be acceptable.

21. The Type 'F' and 'F1' dynamic colour-changing LED feature lighting assemblies are to be controlled by five (5) power/data supplies (see specifications) located in the Fieldhouse Mechanical/Electrical Room and the base of each Type 'F1' lighting assembly and supplied from four (4) 2-pole 15 amp circuit breakers in Panel 'LP-B'. Each luminaire is to be positioned on the pole top level and squarely at 90 degrees to the lines of the air supported structure. Refer to the specifications and provide all required control components as well as the factory certified commissioning and programming of the feature lighting system upon project completion. Supply and install the iPlayer 4 controller and program the Light System Composer light show authoring software to the parameters provided by the City of Brampton representative. Provide the specified on-site training for this new software along with the required Scene Management software subscription to allow the Owner to remotely monitor and manage the commissioned floodlighting system. The Owner will provide the necessary Ethernet connection to the new controller to be mounted next to the power/data supply. Provide a 15 amp 120 volt duplex receptacle next to the controller supplied from a dedicated 1-pole 15 amp circuit breaker in Panel 'LP-B'. The electrical contractor will include all costs for labour and equipment (lift or bucket truck) for the after dark aiming adjustment of the Type 'F' and 'F1' floodlights to achieve optimal illumination of the air supported structure exterior. This night work will be coordinated with and in the presence of the floodlight manufacturer and the electrical consultant. The contractor must verify the operation of all luminaires prior to scheduling this night time work.

22. After all of the service locates have been completed, stake out the proposed lighting pole locations to confirm that there are no conflicts with existing or proposed services and plant materials. If conflicts occur, notify the consultant prior to excavating for the pole base holes or the underground conduit installation.

23. All sub-grade conduits will be rigid, heavywall, PVC with solvent weld fittings buried with a minimum cover of 600mm or 13.5 SDR HDPE pipe installed with the use of a directional auger with a minimum cover depth of 1000mm, all sized as indicated on the drawings. All conduits will have a 17W stranded green bonding wire (sized in accordance with Table 16 of the OESC) installed with the conductors. All conduits will have a 150mm wide red plastic "Caution" tape buried 300 mm above the conduit, for the full length of the conduit. ENT and Type II PVC duct will not be acceptable. All wire will be RWU stranded copper, 1000 volt, 90 degree C rated and sized as indicated on the drawings. Use red, black, blue and white insulated wire to properly identify the phases and the neutral. The use of phasing tape will not be acceptable.

24. The electrical contractor will complete a night time verification of the site lighting systems to confirm their correct operation and the operation of their control sequences, prior to the request for final site verification by the consultant.

25. All work will be in accordance with the Ontario Electrical Safety Code, 28TH Edition (2021). The electrical contractor will be required to submit a copy of the Electrical Safety Authority Certificate of Acceptance, issued in the name of the ECRA licensed electrical contractor, at the completion of the project. Final acceptance and certification of this project by the electrical consultant will not be provided prior to the receipt of the ESA Certificate of Acceptance. Provide the "As-built" drawings, warranty letter and all other required final documentation upon the completion of this project.



Electrical Consultant

MJS CONSULTANTS INC.  
420 Main Street East, Suite 473  
Milton, Ontario  
L9T 5G3  
TEL: 416-402-1525  
mjscons@total.net

Issued for	date	by
Issued for Tender	12/8/2024	MJS
Issued for Review	7/22/2024	MJS
RT Issued for Completeness Review	4/9/2024	MJS
no. revision	date	by

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City File Number

PRE-2023-0128



Suite 207, 95 Mural Street, Richmond Hill, Ontario L4B 3G2,  
Tel. 905.669.6838, www.landscapeplan.ca

project title

CASSIE CAMPBELL  
COMMUNITY CENTRE,  
FIELD HOCKEY DOME

client

CITY OF BRAMPTON

City File Number

PRE-2023-0128

drawing title

## ELECTRICAL NOTES

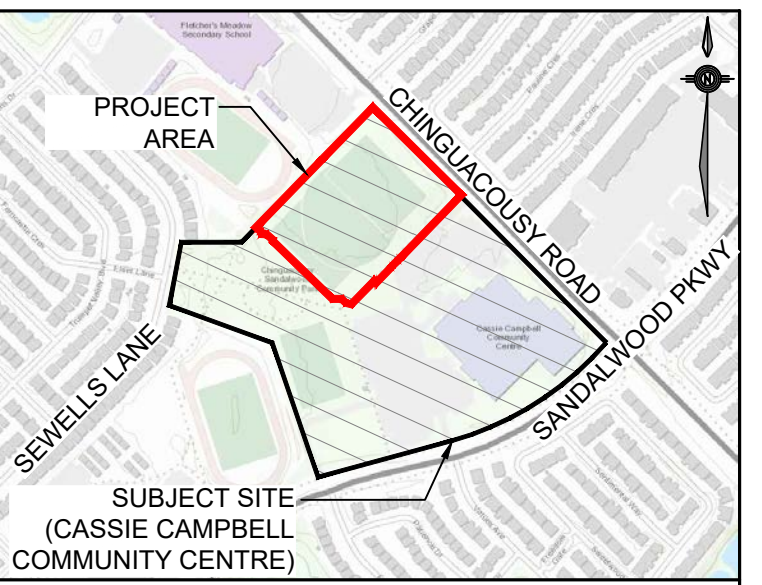
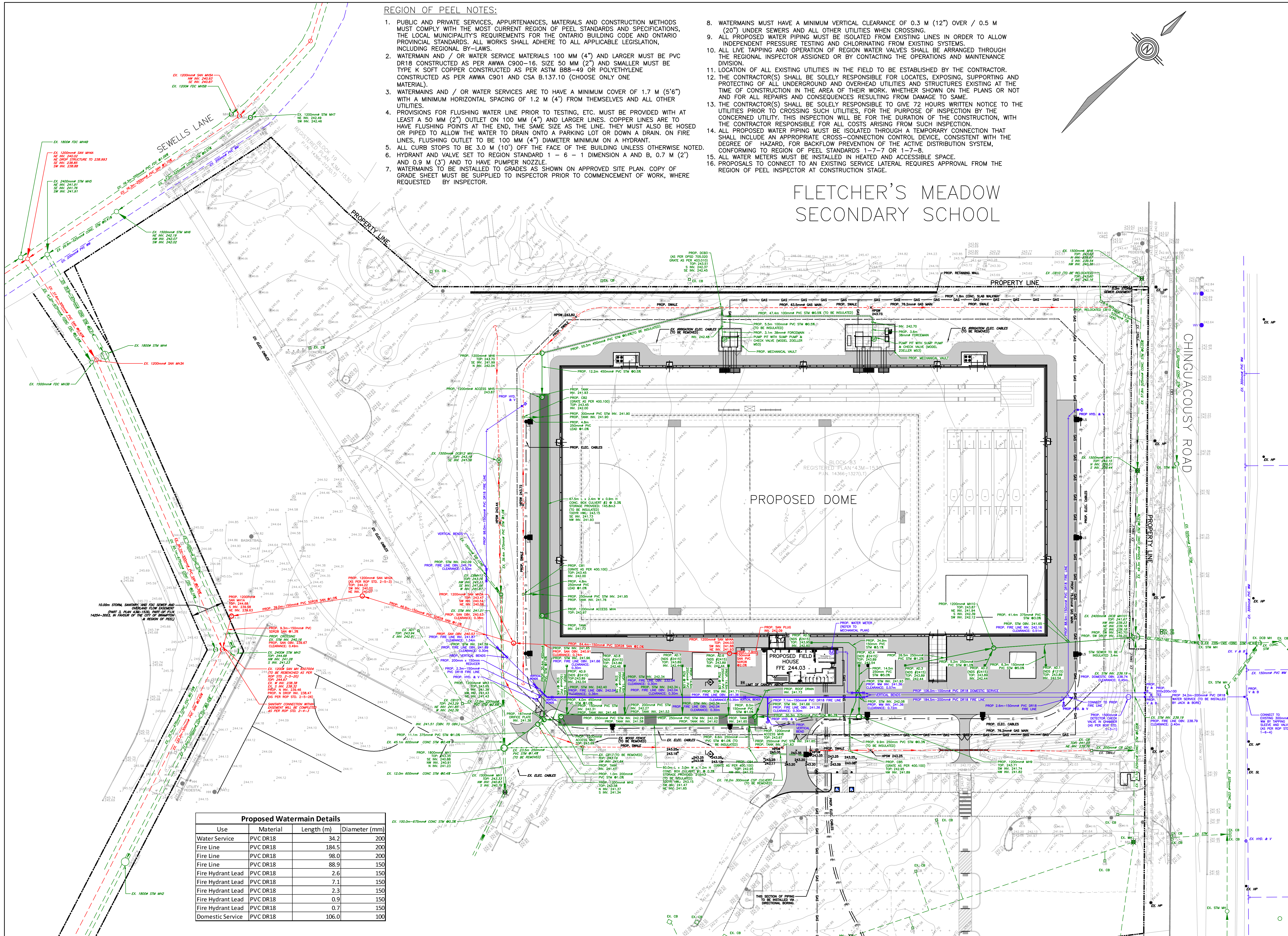
drawn by	reviewed by	drawing number:
MJS	MJS	E-4
date	scale	
NOV. 10, 2024	-	



**REGION OF PEEL NOTES:**

- PUBLIC AND PRIVATE SERVICES, APPURTENANCES, MATERIALS AND CONSTRUCTION METHODS MUST COMPLY WITH THE MOST CURRENT REGION OF PEEL STANDARDS AND SPECIFICATIONS, THE LOCAL MUNICIPALITY'S REQUIREMENTS FOR THE ONTARIO BUILDING CODE AND ONTARIO PROVINCIAL STANDARDS. ALL WORKS SHALL ADHERE TO ALL APPLICABLE LEGISLATION, INCLUDING REGIONAL BY-LAWS.
- WATERMAIN AND / OR WATER SERVICE MATERIALS 100 MM (4") AND LARGER MUST BE PVC DR18 CONSTRUCTED AS PER AWWA C900-16. SIZE 50 MM (2") AND SMALLER MUST BE TYPE K SOFT COPPER CONSTRUCTED AS PER ASTM B88-49 OR POLYETHYLENE CONSTRUCTED AS PER AWWA C901 AND CSA B.137.10 (CHOOSE ONLY ONE MATERIAL).
- WATERMAINS AND / OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 1.7 M (5'6") WITH A MINIMUM HORIZONTAL SPACING OF 1.2 M (4') FROM THEMSELVES AND ALL OTHER UTILITIES.
- PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED WITH AT LEAST A 50 MM (2") OUTLET ON 100 MM (4") AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100 MM (4") DIAMETER MINIMUM ON A HYDRANT.
- ALL CURB STOPS TO BE 3.0 M (10') OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
- HYDRANT AND VALVE SET TO REGION STANDARD 1 - 6 - 1 DIMENSION A AND B, 0.7 M (2') AND 0.9 M (3') AND TO HAVE PUMPER NOZZLE.
- WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED SITE PLAN. COPY OF GRADE SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK, WHERE REQUESTED BY INSPECTOR.
- WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.3 M (12") OVER / 0.5 M (20") UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
- ALL PROPOSED WATER PIPING MUST BE ISOLATED FROM EXISTING LINES IN ORDER TO ALLOW INDEPENDENT PRESSURE TESTING AND CHLORINATING FROM EXISTING SYSTEMS.
- ALL LIVE TAPPING AND OPERATION WATER VALVES SHALL BE ARRANGED THROUGH THE REGIONAL INSPECTOR ASSIGNED OR BY CONTACTING THE OPERATIONS AND MAINTENANCE DIVISION.
- LOCATION OF ALL EXISTING UTILITIES IN THE FIELD TO BE ESTABLISHED BY THE CONTRACTOR.
- THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATES, EXPOSING, SUPPORTING AND PROTECTING OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF THEIR WORK, WHETHER SHOWN ON THE PLANS OR NOT AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
- THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO THE UTILITIES PRIOR TO CROSSING SUCH UTILITIES, FOR THE PURPOSE OF INSPECTION BY THE CONCERNED UTILITY. THIS INSPECTION WILL BE FOR THE DURATION OF THE CONSTRUCTION, WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTION.
- ALL PROPOSED WATER PIPING MUST BE ISOLATED THROUGH A TEMPORARY CONNECTION THAT SHALL INCLUDE AN APPROPRIATE CROSS-CONNECTION CONTROL DEVICE, CONSISTENT WITH THE DEGREE OF HAZARD, FOR BACKFLOW PREVENTION OF THE ACTIVE DISTRIBUTION SYSTEM, CONFORMING TO REGION OF PEEL STANDARDS 1-7-7 OR 1-7-8.
- ALL WATER METERS MUST BE INSTALLED IN HEATED AND ACCESSIBLE SPACE.
- PROPOSALS TO CONNECT TO AN EXISTING SERVICE LATERAL REQUIRES APPROVAL FROM THE REGION OF PEEL INSPECTOR AT CONSTRUCTION STAGE.

**FLETCHER'S MEADOW SECONDARY SCHOOL**



**KEY PLAN**  
N.T.S.

**LEGEND:**

- PROPERTY LINE
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- ⊕ VALVE AND BOX
- ⊙ HYDRANT
- ▲ EXTERIOR DOOR LOCATION
- ▭ PROPOSED AREA DRAIN
- ⊙ WATER METER
- ⊕ BACKFLOW PREVENTER
- ⊙ SUMP PUMP
- GAS EXISTING GAS MAIN
- EXISTING BELL
- E HYDRO CABLE
- SWALE
- ▭ PROPOSED RETAINING WALL
- ⊙ LS LIGHT STANDARD

**CONVERSION NOTE:**  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**BEARING NOTE:**  
BEARINGS SHOWN HEREON ARE GRID AND ARE DERIVED FROM ORP A AND ORP B. THE COORDINATES SHOWN HEREON ARE DERIVED FROM THE UNIVERSAL TRAVERSE MERCATOR SYSTEM (UTM PROJECTION) ZONE 17, NAD83 (CSRS: 1997.0).

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999695.

BEARINGS ON (P3,P4) HAVE BEEN ROTATED 0'30"00" COUNTER CLOCKWISE FOR COMPARISONS.  
BEARINGS ON (P2) HAVE BEEN ROTATED 0'30"20" COUNTER CLOCKWISE FOR COMPARISONS

**ELEVATION NOTE:**  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO LARGE CONCRETE CULVERT BENCHMARK No. 00B1968B134 KNOWN AS 134-68 HAVING AN ELEVATION OF 209.90 METERS. (VERTICAL DATUM: CGVD-1928:1978).

NO.	DATE	REVISIONS	BY
7.	DEC.06/24	ISSUED FOR TENDER	D.G.
6.	NOV.26/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
4.	NOV.08/24	AS PER CITY COMMENTS	D.G.
3.	SEP.27/24	RE-ISSUED FOR SPA	D.G.
2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.

**Proposed Watermain Details**

Use	Material	Length (m)	Diameter (mm)
Water Service	PVC DR18	34.2	200
Fire Line	PVC DR18	184.5	200
Fire Line	PVC DR18	98.0	200
Fire Line	PVC DR18	88.9	150
Fire Hydrant Lead	PVC DR18	2.6	150
Fire Hydrant Lead	PVC DR18	7.1	150
Fire Hydrant Lead	PVC DR18	2.3	150
Fire Hydrant Lead	PVC DR18	0.9	150
Fire Hydrant Lead	PVC DR18	0.7	150
Domestic Service	PVC DR18	106.0	100

**PROFESSIONAL ENGINEER**  
D. A. GUOZOV  
DEC. 06/24  
PROVINCE OF ONTARIO

**VALDOR ENGINEERING INC.**  
Consulting Engineers - Project Managers  
571 CHISLEA ROAD, UNIT 4, 2ND FLOOR, WOODBINE, ONTARIO, L4B 3G2  
TEL: (905) 476-0004 FAX: (905) 476-0009  
E-MAIL: info@valdor-engineering.com  
WWW: www.valdor-engineering.com

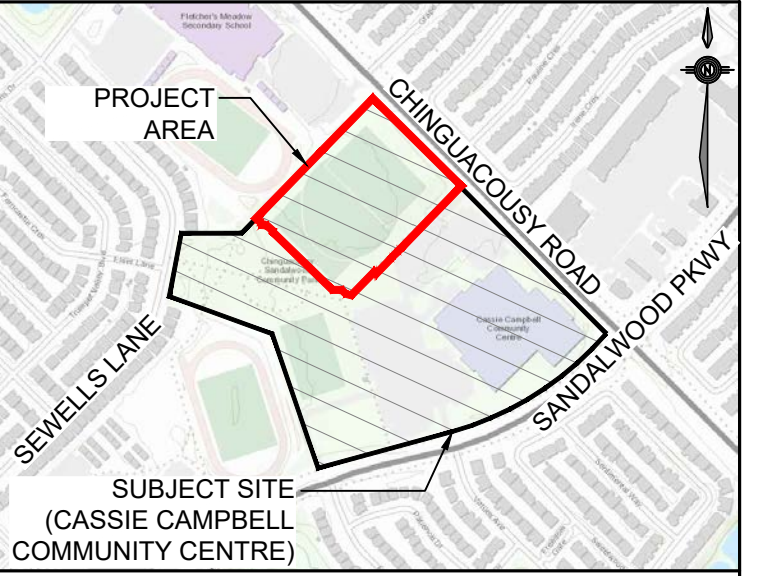
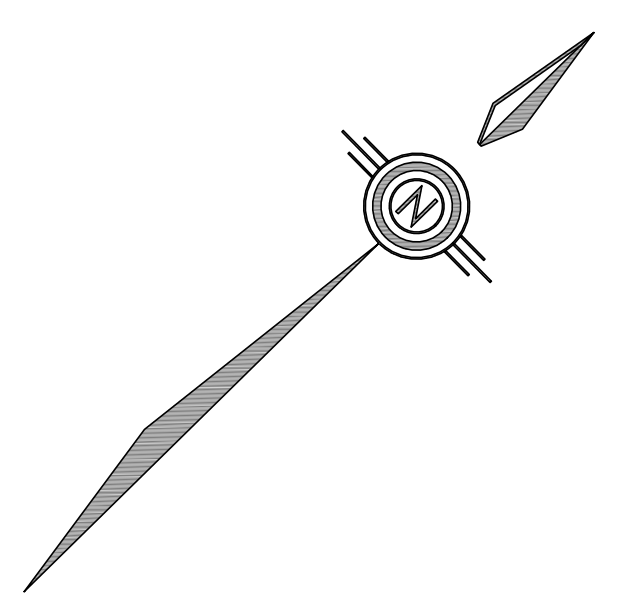
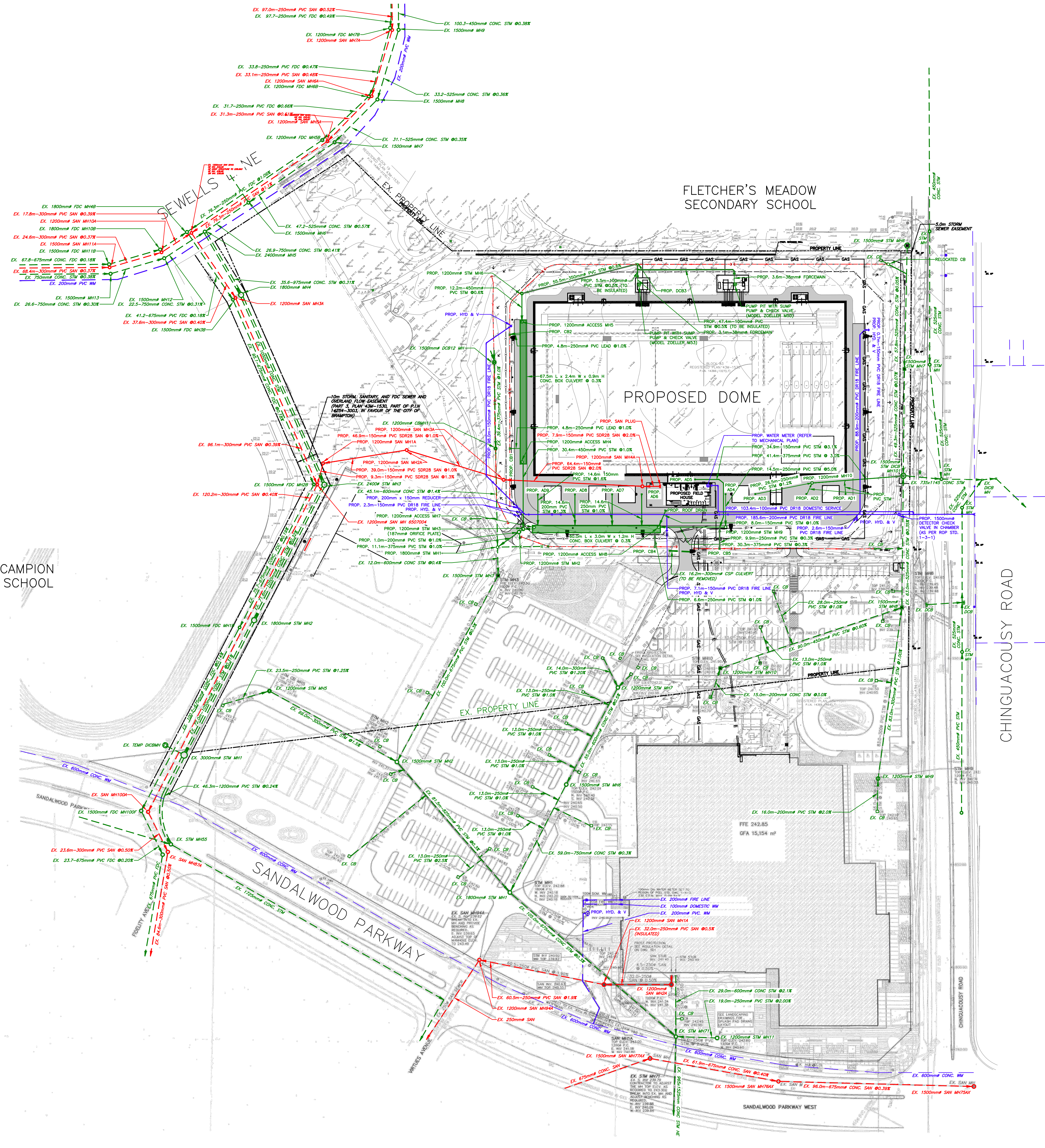
**PROPOSED FIELD HOCKEY DOME**  
1060 SANDALWOOD PKWY W.  
BRAMPTON  
CITY FILE No.: SPA-2024-0106  
REGION FILE No.: C603843

**SITE SERVICING PLAN**

SCALE	DATE OF DWG.	PROJECT NO.
1:500	APR, 03, 2024	23126
DRAWN BY	DRAWING NO.	
T.S.	SS-1	
CHKD BY		
D.G.		



ST. EDMUND CAMPION  
SECONDARY SCHOOL



**KEY PLAN**  
N.T.S.

**LEGEND:**

- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- ⊙ VALVE AND BOX
- ⊕ HYDRANT
- ▲ EXTERIOR DOOR LOCATION
- ▾ PROPOSED AREA DRAIN
- Ⓜ WATER METER
- Ⓟ BACKFLOW PREVENTER
- GAS EXISTING GAS MAIN
- B EXISTING BELL
- E HYDRO CABLE
- SWALE
- ▨ PROPOSED RETAINING WALL
- LS LIGHT STANDARD

**CONVERSION NOTE:**  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**BEARING NOTE:**  
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BEARINGS ON (P3,P4) HAVE BEEN ROTATED 0°30'00" COUNTER CLOCKWISE FOR COMPARISONS.

BEARINGS ON (P2) HAVE BEEN ROTATED 0°30'20" COUNTER CLOCKWISE FOR COMPARISONS

**ELEVATION NOTE:**  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO LARGE CONCRETE CULVERT BENCHMARK No. 00819688134 KNOWN AS 134-68 HAVING AN ELEVATION OF 209.90 METERS. (VERTICAL DATUM: CGVD-1928:1978).

NO.	DATE	REVISIONS	BY
7.	DEC.06/24	ISSUED FOR TENDER	D.G.
6.	NOV.26/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
4.	NOV.08/24	AS PER CITY COMMENTS	D.G.
3.	SEP.27/24	RE-ISSUED FOR SPA	D.G.
2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.



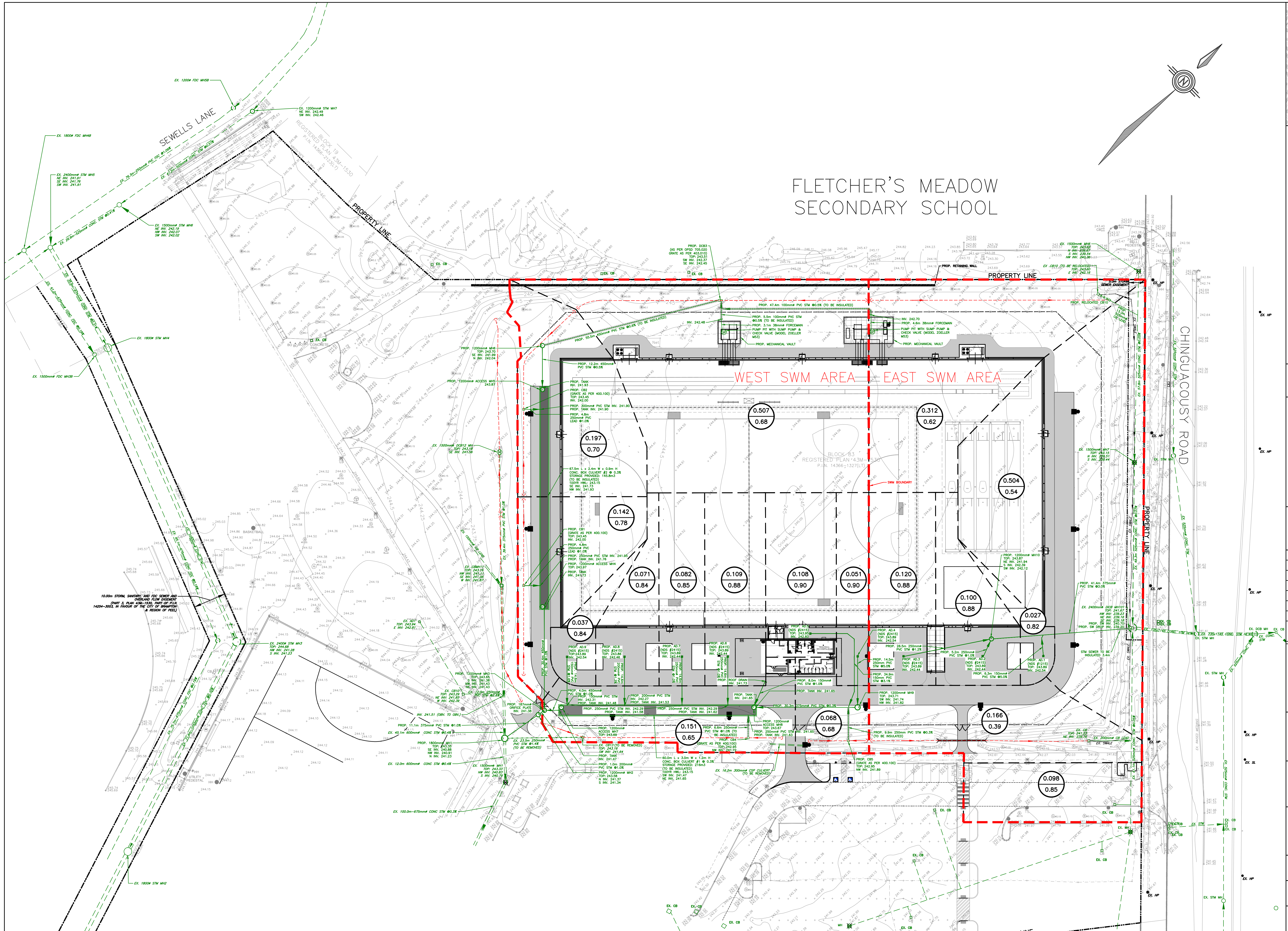
**VALDOR ENGINEERING INC.**  
Consulting Engineers - Project Managers  
571 CHISLER ROAD, UNIT 4, 2ND FLOOR, WOODBRIDGE, ONTARIO, L4L 8G2  
TEL: (905) 844-8004 FAX: (905) 844-8009  
E-MAIL: info@valdor-engineering.com www.valdor-engineering.com

**PROPOSED FIELD HOCKEY DOME**  
1060 SANDALWOOD PKWY W,  
CITY OF BRAMPTON  
CITY FILE No.: SPA-2024-0106  
REGION FILE No.: C603843

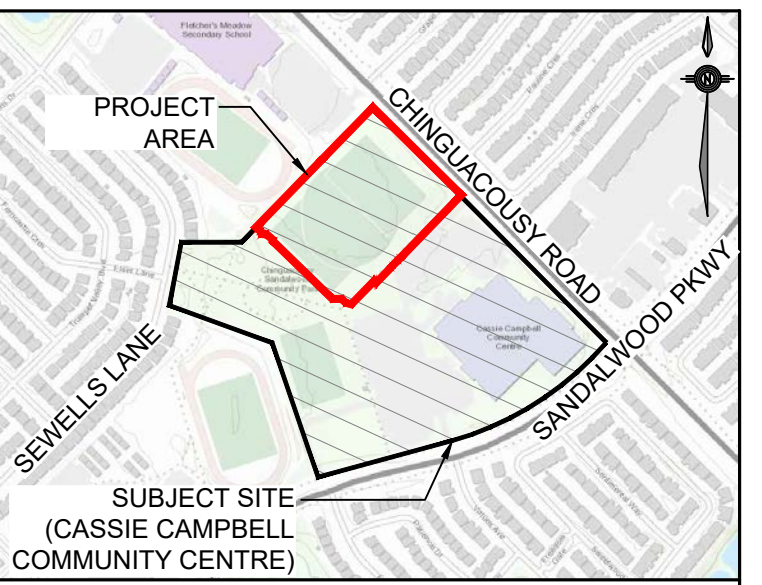
**GENERAL SERVICING PLAN**

SCALE 1:1000	DATE OF DWG. APR, 03, 2024	PROJECT NO. 23126
DRAWN BY T.S.	DRAWING NO. GSP-1	
CHKD BY D.G.		





# FLETCHER'S MEADOW SECONDARY SCHOOL



**KEY PLAN**  
N.T.S.

**LEGEND:**

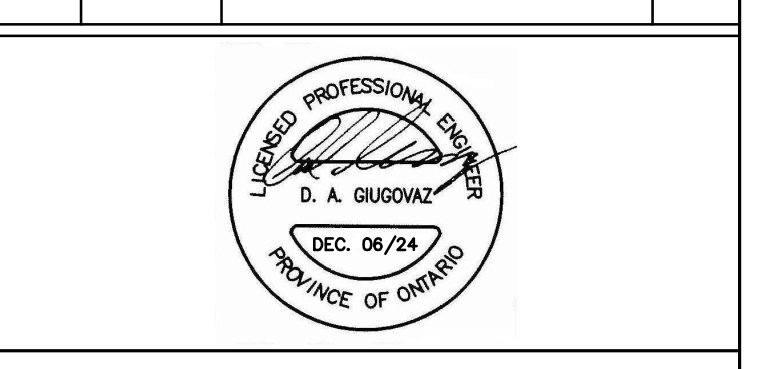
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- ⊙ VALVE AND BOX
- ⊕ HYDRANT
- ▲ EXTERIOR DOOR LOCATION
- ▴ PROPOSED AREA DRAIN
- ⊗ SUMP PUMP
- GAS — EXISTING GAS MAIN
- B — EXISTING BELL
- E — HYDRO CABLE
- H — SWALE
- ▨ PROPOSED RETAINING WALL
- LS LIGHT STANDARD
- 0.120 — DRAINAGE AREA IN HECTARES
- 0.50 — RUNOFF COEFFICIENT
- SWM BOUNDARY

**CONVERSION NOTE:**  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**BEARING NOTE:**  
BEARINGS SHOWN HERE ARE GRID AND ARE DERIVED FROM ORP A AND ORP B. THE COORDINATES THROUGH HEREON ARE DERIVED FROM THE UNIVERSAL TRAVERSE MERCATOR SYSTEM (6° UTM PROJECTION) ZONE 17, NAD83 (CSRS: 1997.0).  
DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999965.  
BEARING ON (P3,P4) HAVE BEEN ROTATED 0'30"00" COUNTER CLOCKWISE FOR COMPARISONS.  
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NO.	DATE	REVISIONS	BY
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6.	NOV.26/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
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1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.



**VALDOR ENGINEERING INC.**  
Consulting Engineers - Project Managers  
571 CHISLEA ROAD, UNIT 4, 2ND FLOOR, WOODBRIDGE, ONTARIO, L4B 3G2  
TEL: (905) 844-8004 FAX: (905) 844-8009  
E-MAIL: info@valdor-engineering.com www.valdor-engineering.com

**PROPOSED FIELD HOCKEY DOME**  
1060 SANDALWOOD PKWY W.  
CITY OF BRAMPTON  
CITY FILE No.: SPA-2024-0106  
REGION FILE No.: C603843

**STORM DRAINAGE PLAN**

SCALE	DATE OF DWG.	PROJECT NO.
1:500	APR, 03, 2024	23126
DRAWN BY	DRAWING NO.	
T.S.	STM-1	
CHKD BY		
D.G.		



**CONSTRUCTION NOTES:**

**GENERAL:**

- ALL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CURRENT MUNICIPAL, AND ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS.
- ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL OF "UNIFORM TRAFFIC CONTROL DEVICES".
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN ACT.
- THE CONTRACTOR SHALL OBTAIN ALL RELEVANT PERMITS.
- CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE MUNICIPALITY FOR WORK WITHIN PUBLIC RIGHTS-OF-WAY.
- FOR BUILDING LOCATION SITE LAYOUT AND BOUNDARY INFORMATION REFER TO ARCHITECTURAL SITE PLAN.
- EXACT LOCATION AND ELEVATION OF EXISTING SERVICES AND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY EXCAVATION. THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES IS APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S), THE ACCURACY OF THE LOCATION OF SUCH UTILITIES IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
- CONTRACTOR TO CONFIRM INVERT ELEVATION OF EXISTING SERVICES PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO ENGINEER.

**STORM SEWERS:**

- MAINTENANCE HOLES (MHs) TO BE PRECAST AS PER OPSD 701.01 AND BENCHED IN ACCORDANCE WITH CITY STANDARDS.
- STORM SEWERS UP TO AND INCLUDING 450mm DIAMETER SHALL BE ULTRA-RIB PVC (OR APPROVED EQUAL) WITH BEDDING AS PER OPSD 802.01, UNLESS OTHERWISE NOTED. CONCRETE PIPE LARGER THAN 450mm DIAMETER TO BE CLASS 100-D WITH CLASS 'B' BEDDING AS PER OPSD 802.03. ALL SEWER PIPE SHALL HAVE RUBBER GASKET JOINTS.
- SINGLE CATCHBASIN SHALL BE AS PER OPSD 705.010. CATCHBASIN LEADS TO BE 250mm DIAMETER, AT 2% UNLESS OTHERWISE NOTED.
- DOUBLE CATCHBASINS SHALL BE AS PER OPSD 705.020. LEADS TO BE 300mm DIAMETER AT 2% UNLESS OTHERWISE NOTED.

**SANITARY SEWERS:**

- ALL SANITARY SEWER BEDDING AS PER STD. 2-3-1.
- MAINLINE SANITARY SEWER PIPE SIZE SHALL BE MINIMUM 250mm IN DIAMETER INSTALLED AT THE APPROVED DESIGN GRADE. PIPE CLASS AND APPURTENANCES AS PER REGION'S SPECIFICATIONS.
- ALL SEWERS CONSTRUCTED WITH GRADES 0.5% OR LESS SHALL BE APPROVED BY THE ENGINEER AND THE AGENCY PROJECT MANAGER OR DESIGNATE AND BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILL.
- MINIMUM SANITARY SEWER PIPE SLOPE FOR LAST LEG SHALL BE 1% AND DESIRABLE SLOPE 2%.
- SANITARY SERVICE LATERALS SHALL BE MINIMUM 125mm DIAMETER.
- SANITARY SERVICE SHALL BE LOWER THAN AND TO THE RIGHT OF THE STORM SERVICE AT THE PROPERTY LINE WHEN FACING THE LOT FROM THE STREET.
- CONNECTIONS TO SEWERS SHALL BE MADE WITH MANUFACTURED TEES OR WYES WHERE APPLICABLE AND SHALL BE COLOUR CODED AS NON-WHITE, AS PER STD. DWG. 2-4-1, 2-4-2, AND 2-4-3.

**CITY OF BRAMPTON GENERAL NOTES:**

- ALL THE CONSTRUCTION WORK FOR THIS PROJECT SHALL COMPLY WITH THE STANDARD DRAWINGS AND SPECIFICATIONS OF THE CITY OF BRAMPTON AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
- ALL SURFACE DRAINAGE SHALL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT LOCATIONS TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. DRAINAGE OF ABUTTING PROPERTIES SHALL NOT BE ADVERSELY AFFECTED.
- PROPOSED ELEVATIONS ALONG SITE PROPERTY LINES MUST MATCH EXISTING ELEVATIONS.
- A SILT FENCE TO CITY STANDARD #464 MUST BE PLACED AROUND THE PERIMETER OF THE SITE.
- A UTILITY CLEARANCE RADIUS OF 1.2 METRES BETWEEN THE PROPOSED DRIVEWAY ENTRANCE CURB RETURN AND ALL ABOVE GROUND UTILITIES MUST BE MAINTAINED.
- ROAD OCCUPANCY / ACCESS PERMIT MUST BE OBTAINED 48 HOURS PRIOR TO COMMENCING ANY WORKS WITHIN THE MUNICIPAL ROAD ALLOWANCE.
- WITHIN THE CITY'S RIGHT-OF-WAY, STORM SEWERS AND STORM SEWER CONNECTIONS MUST BE CONCRETE, OR APPROVAL EQUAL, WITH TYPE "B" BEDDING THROUGHOUT. THE STRENGTH OF THE CONCRETE PIPE MUST BE AS PER CITY STANDARD 341 AND AS FOLLOWS: MINIMUM 65-D FOR REINFORCED PIPE AND MINIMUM ES FOR NON REINFORCED PIPE.
- THE MINIMUM CATCHBASIN LEAD DIAMETER ALLOWED IS 200mm. THE MINIMUM STORM SEWER DIAMETER ALLOWED FOR CONNECTIONS TO THE CITY'S STORM SEWER IS 300mm.
- STORM SEWER PIPES CONNECTING TO THE CITY'S STORM SEWER SHALL NOT BE SMALLER THAN 300MM.
- ALL CATCHBASIN MANHOLES AND MANHOLES WITH INLET CONTROL DEVICES MUST HAVE A MINIMUM 0.3 METRE SUMP AND TOP AS PER MUNICIPAL STANDARDS.
- FOUNDATION DRAINS SHALL NOT BE CONNECTED TO THE STORM SEWER ON SITES WITH STORMWATER MANAGEMENT CONTROL.
- IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEERING CONSULTING FIRM TO ENSURE THAT AN ELEVATION DETAIL OF EXISTING AERIAL PLANT IS SUBMITTED WHEN OVERHEAD CABLING IS PRESENT. CABLES SHALL NOT BE LESS THAN 4.7 METRES FROM THE HIGHEST POINT OF THE FINISHED PAVEMENT TO THE LOWEREST POINT OF THE AERIAL CABLE DIRECTLY ABOVE THE PAVEMENT AREA TO ENSURE CLEARANCES ARE MET.

**JACK AND BONE NOTES:**

CASING PIPE SHALL BE MANUFACTURED FROM STRUCTURAL GRADE STEEL CONFORMING TO CSA SPECIFICATION G-40.1 AND G-40.4 WITH ELECTRICALLY WELDED JOINTS.

WHEN INSTALLING WATERMANS WITHIN STEEL LINERS, THE FOLLOWING SHALL APPLY:

- ALL CASING SPACERS ARE TO BE MADE OF T-304 STAINLESS STEEL;
- BEARING SURFACES (RUNNERS) SHALL BE ULTRA HIGH MOLECULAR WEIGHT POLYMER OR EQUIVALENT;
- POSITIONING OF SPACERS ALONG THE WATERMAIN IS TO BE AS PER THE MANUFACTURER'S SPECIFICATIONS;
- POSITION OF PIPE WITH LINER TO BE CENTERED AND RESTRAINED, SUFFICIENT ENOUGH TO PROVIDE NO LESS THAN 19MM (¾ INCH) CLEARANCE BETWEEN THE CASING PIPE AND THE OUTSIDE DIAMETER OF THE BELL;
- THE WATERMAIN SHALL BE RESTRAINED Laterally FOR THE ENTIRE LENGTH OF THE LINER AND BEYOND WHEN STATED ON THE CONTRACT DRAWINGS;
- LINER TO BE SEALED USING WRAP AROUND RUBBER ENDS COMPLETE WITH STAINLESS STEEL (T-304) BANDING.

**NOTE**

- THE CHOSEN CONTRACTOR MUST PRESENT A MINIMUM LIABILITY INSURANCE OF \$5,000,000.00
- ALL EXISTING INFRASTRUCTURE CROSSING MUST BE DAY LIGHTED IN ADVANCE TO BE FIELD VERIFIED UNDER REGION OF PEEL INSPECTOR SUPERVISION. ANY DAY LIGHTING WILL BE DONE SUBJECT OF THE ROAD OCCUPANCY PERMIT OBTAINED FROM THE LOCAL MUNICIPALITY
- ALL CROSSINGS OF THE EXISTING INFRASTRUCTURE WILL BE DAY LIGHTED AT THE TIME OF CONSTRUCTION TO MAKE SURE THAT THE NEW SERVICE WILL CROSS SUCCESSFULLY
- ALL JOINTS WITHIN THE STEEL LINER ARE TO BE MECHANICAL THRUST RESTRAINED AS PER REGION OF PEEL STANDARD 1-5-9

**PIPE-ARCH**

Span x Rise	Steel Thickness	Dimensions				Approx. Slope	Body	
		A	B	L	H			
560 x 430	1.6	175	280	175	610	915	2,000	1Pc
680 x 500	1.6	205	405	175	815	1230	2,000	1Pc
910 x 680	2.0	255	400	175	990	1525	1,875	1Pc
1030 x 740	2.0	305	460	205	1170	1905	1,875	1Pc
1150 x 820	2.8	330	535	255	1345	2130	1,750	2Pc
1300 x 970	2.8	430	660	330	1975	2985	1,875	2Pc
1630 x 1120	2.8	455	760	330	1755	2590	1,875	2Pc
1880 x 1280	2.8/3.5	455	915	330	1955	3200	1,625	3Pc

**CIRCULAR PIPE**

Pipe Dia	Steel Thickness	Dimensions				Approx. Slope	Body	
		A	B	L	H			
300	1.6	150	150	175	535	610	2,250	1Pc
400	1.6	175	200	175	660	740	2,250	1Pc
500	1.6	225	300	175	915	1065	2,125	1Pc
600	1.6	250	330	175	1040	1220	2,125	1Pc
800	2.0	300	405	225	1295	1450	2,125	1Pc
900	2.0	350	485	255	1525	1830	2,000	1Pc
1000	2.8	405	635	300	1750	2135	2,125	2Pc
1200	2.8	455	740	330	1980	2285	2,000	2Pc
1400	2.8	455	840	330	2135	2500	2,000	2Pc
1600	2.8/3.5	455	915	330	2210	2895	1,875	3Pc
1800	2.8/3.5	455	1120	330	2210	3100	1,500	3Pc
2000	2.8/3.5	455	1220	330	2210	3350	1,375	3Pc
2200	2.8/3.5	455	1300	330	2210	3500	1,333	3Pc
2400	2.8/3.5	455	1475	330	2210	3710	1,125	3Pc

**NOTES:**  
A When a toe plate extension is specified, it shall be the same thickness and material as the end section.  
B All 3 piece bodies have 2.8mm sides and 3.5mm centre panels. Multiple panel bodies shall have lap seams that are tightly joined by galvanized rivets or bolts.  
C For CSP 1600mm and larger and for CSP 1880 x 1260mm, reinforced edges shall be supplemented with galvanized stiffener angles. Angles shall be attached by galvanized nuts and bolts.  
D All surfaces shall be galvanized.  
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2017 Rev 2

**END SECTION DETAILS CORrugATED STEEL PIPE**

OPSD 801.020

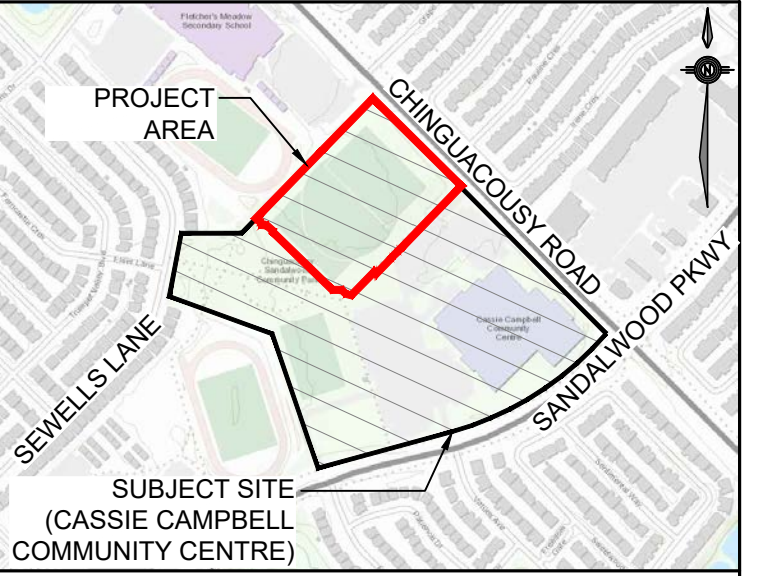
**CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, PERFORATED OPENINGS**

OPSD 400.100

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3

**CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, PERFORATED OPENINGS**

OPSD 400.100



LEGEND: N.T.S.

**HYDRANT SETTING FOR D.I. OR P.V.C. PIPE**

REV. DATE: MARCH 2018

APPROVED BY: AWLEY GROUP

STG. DWG. NUMBER: 1-6-1

SCALE: N.T.S.

Region of Peel working with you PUBLIC WORKS STANDARD DRAWING

REV. DATE: MARCH 2018

APPROVED BY: AWLEY GROUP

STG. DWG. NUMBER: 1-6-1

SCALE: N.T.S.

**PRECAST CONCRETE CATCH BASIN 600x600mm**

OPSD 705.010

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2019 Rev 4

**PRECAST CONCRETE CATCH BASIN 600x600mm**

OPSD 705.010

**PRECAST CONCRETE MAINTENANCE HOLE 1800mm DIAMETER**

OPSD 701.012

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 5

**PRECAST CONCRETE MAINTENANCE HOLE 1800mm DIAMETER**

OPSD 701.012

**PRECAST CONCRETE TWIN INLET CATCH BASIN 600 x 1450mm**

OPSD 705.020

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2019 Rev 4

**PRECAST CONCRETE TWIN INLET CATCH BASIN 600 x 1450mm**

OPSD 705.020

**GALVANIZED STEEL HONEYCOMB GRATING FOR DITCH INLETS**

OPSD 403.010

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2017 Rev 3

**GALVANIZED STEEL HONEYCOMB GRATING FOR DITCH INLETS**

OPSD 403.010

**PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER**

OPSD 701.010

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 5

**PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER**

OPSD 701.010

CONVERSION NOTE:  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING NOTE:  
BEARINGS SHOWN HEREON ARE GRID AND ARE DERIVED FROM GRP A AND ORP B. THE COORDINATES SHOWN HEREON ARE DERIVED FROM THE UNIVERSAL TRAVERSE MERCATOR SYSTEM (6° UTM PROJECTION) ZONE 17, NAD83 (CSRS: 1997.0).

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999965.

BEARING ON (P3,P4) HAVE BEEN ROTATED 0°30'00" COUNTER CLOCKWISE FOR COMPARISONS.

BEARINGS ON (P2) HAVE BEEN ROTATED 0°30'20" COUNTER CLOCKWISE FOR COMPARISONS.

ELEVATION NOTE:  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO LARGE CONCRETE CULVERT BENCHMARK No. 00819688134 KNOWN AS 134-68 HAVING AN ELEVATION OF 209.90 METERS. (VERTICAL DATUM: CGVD-1928:1978).

NO.	DATE	REVISIONS	BY
7.	DEC.06/24	ISSUED FOR TENDER	D.G.
6.	NOV.26/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
4.	NOV.08/24	AS PER CITY COMMENTS	D.G.
3.	SEP.27/24	RE-ISSUED FOR SPA	D.G.
2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.



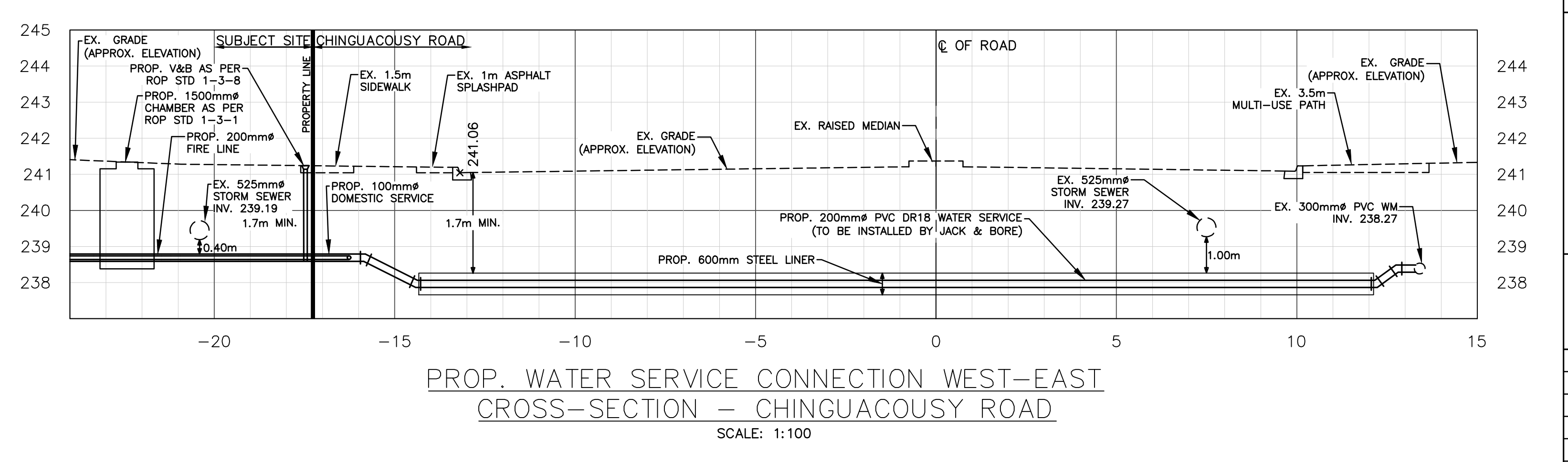
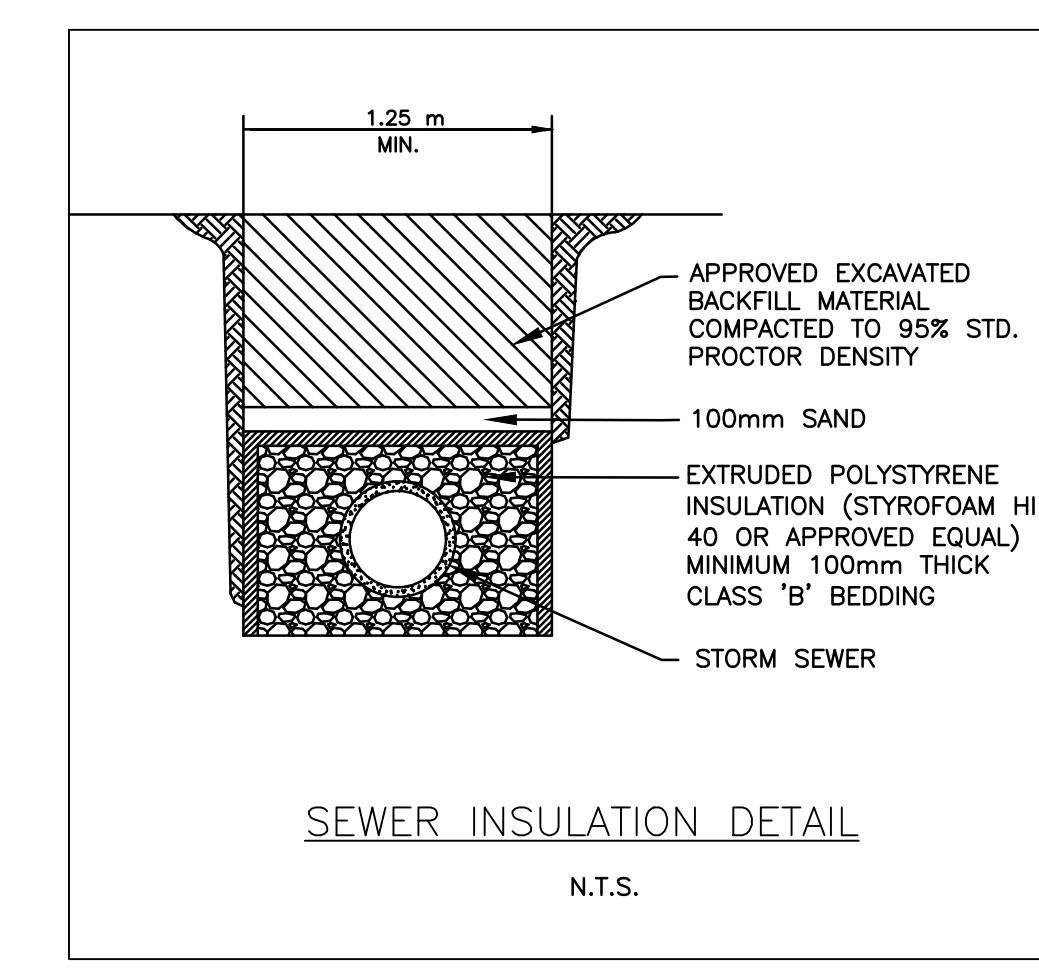
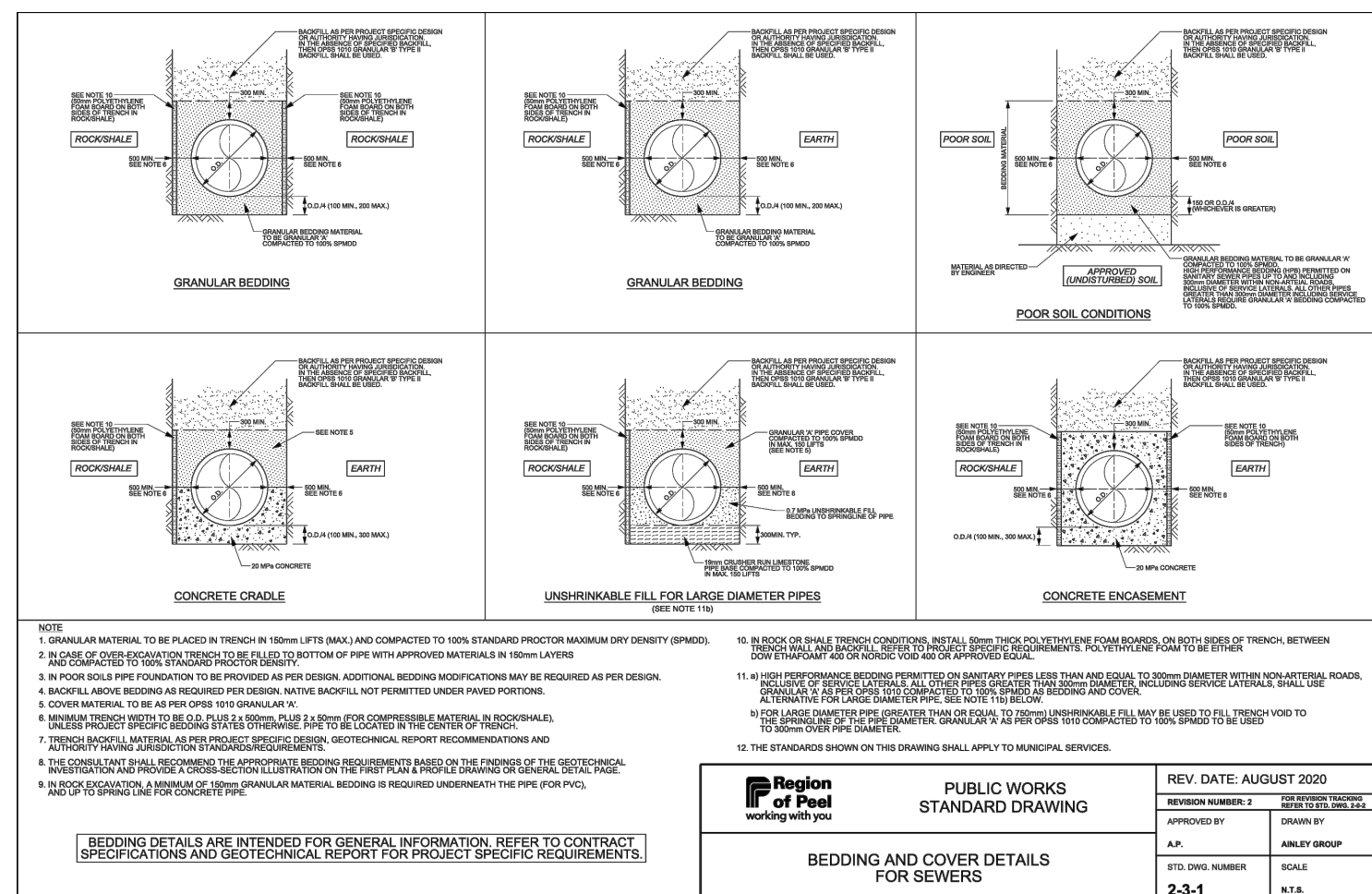
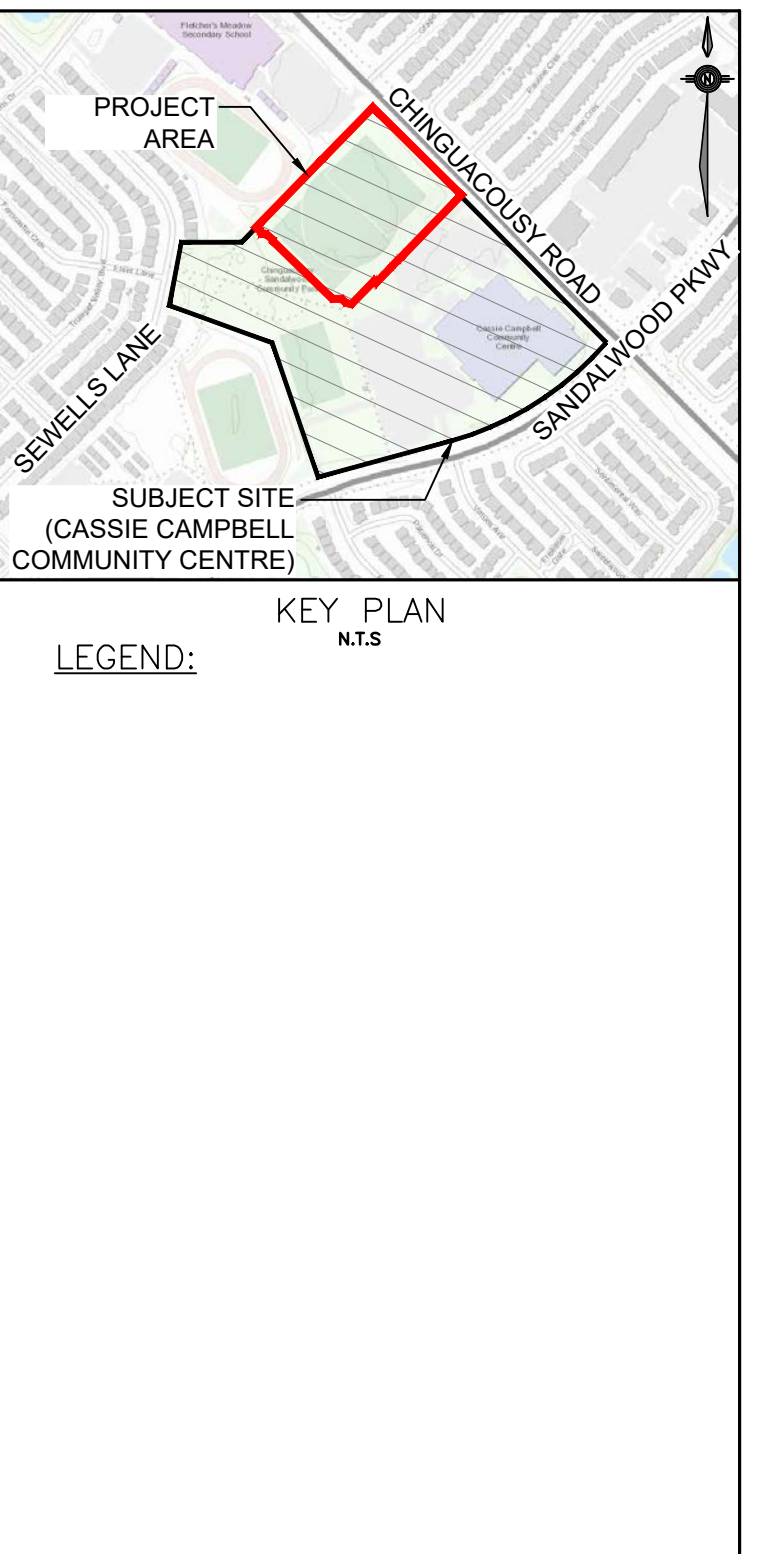
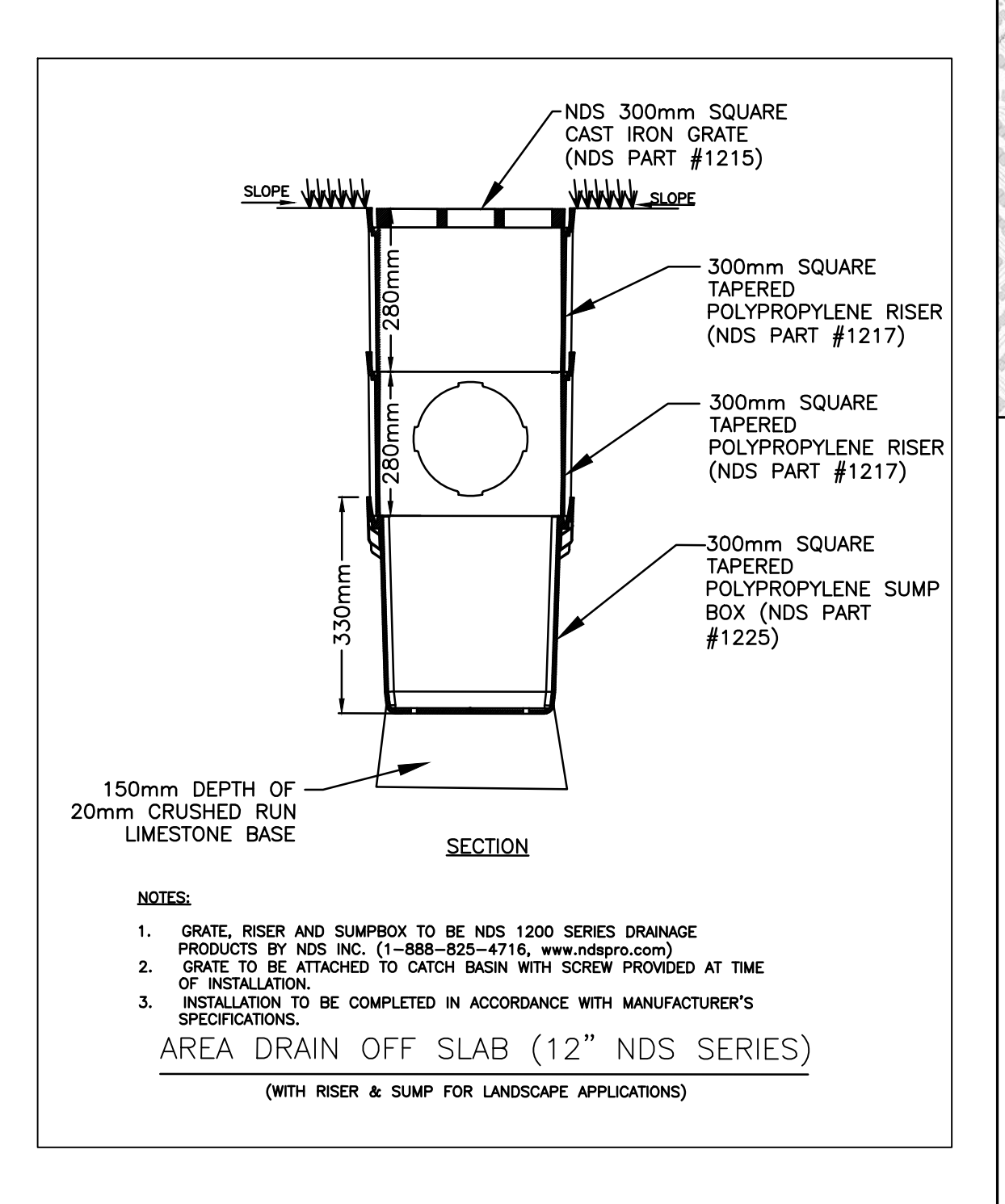
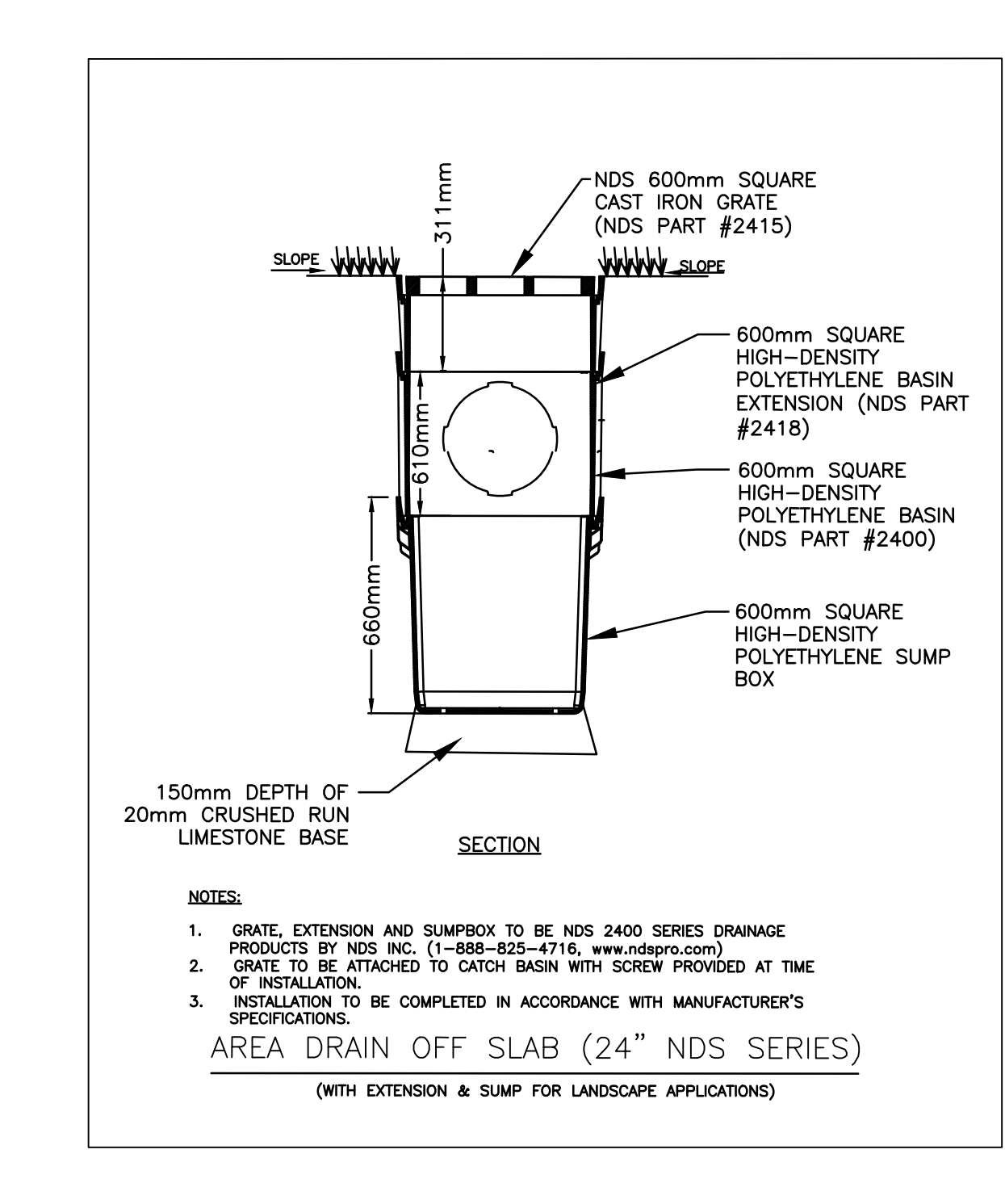
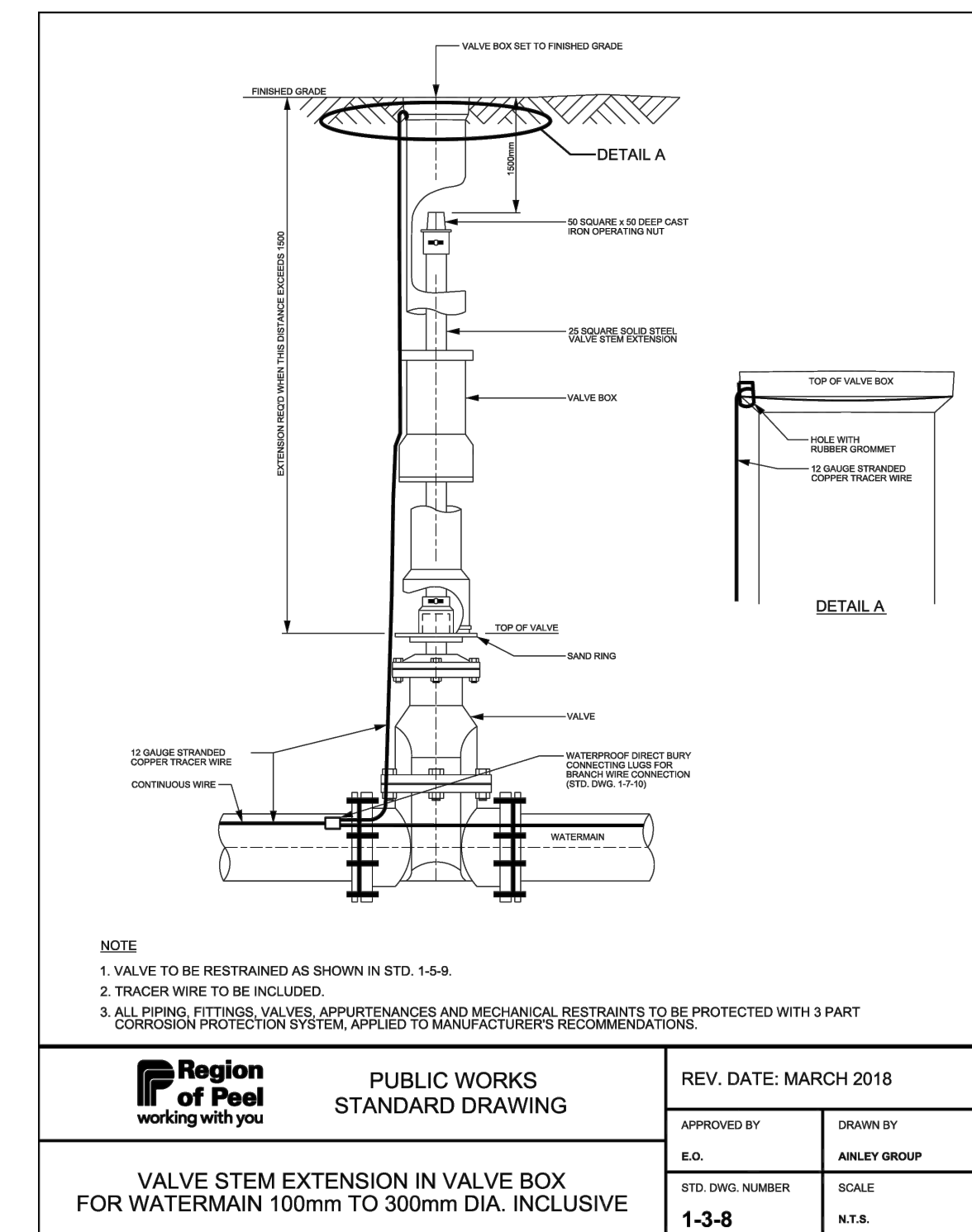
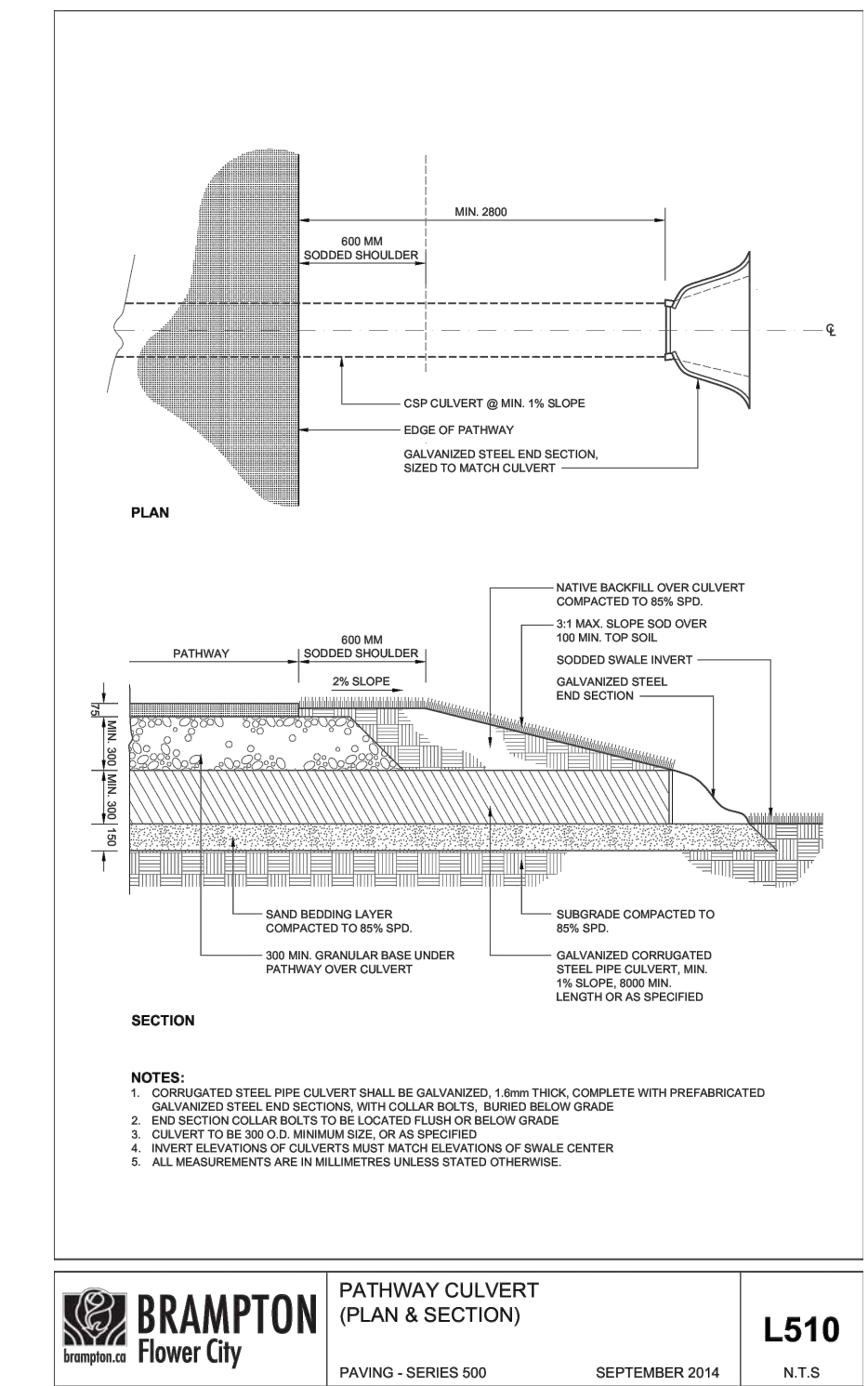
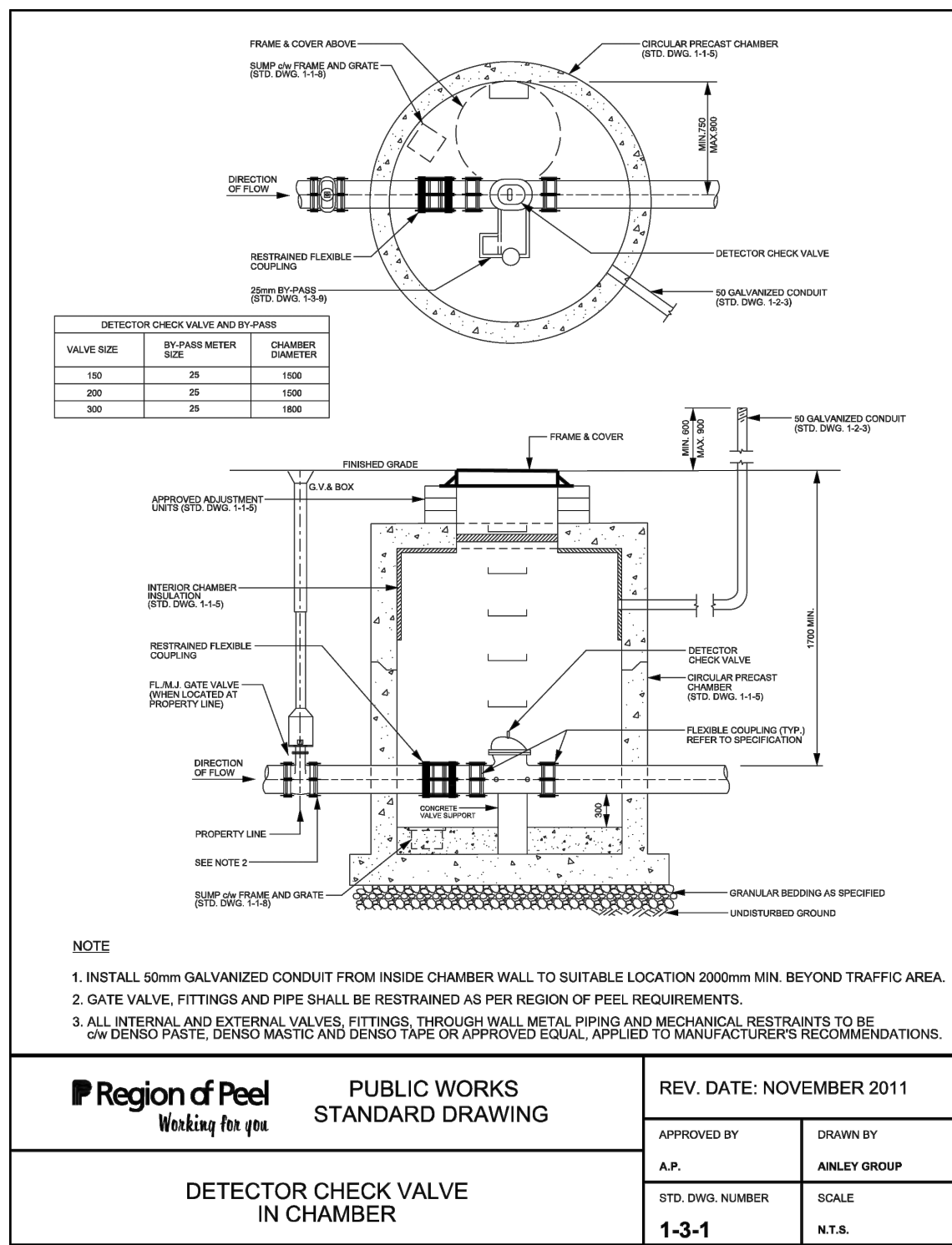
**VALDOR ENGINEERING INC.**  
Consulting Engineers - Project Managers  
271 CHERRILL ROAD, UNIT 4, 2ND FLOOR, WOODBRIIDGE, ONTARIO, L4L 9G2  
TEL: (905) 844-0004 FAX: (905) 844-0009  
E-MAIL: info@valdor-engineering.com www.valdor-engineering.com

**PROPOSED FIELD HOCKEY DOME**  
CITY OF BRAMPTON  
CITY FILE NO.: SPA-2024-0106  
REGION FILE NO.: C603843

**NOTES & DETAILS PLAN**

SCALE	DATE OF DWG.	PROJECT NO.
AS SHOWN	APR, 03, 2024	23126
DRAWN BY: T.S.	DRAWING NO.	
CHKD BY: D.G.		DET-1



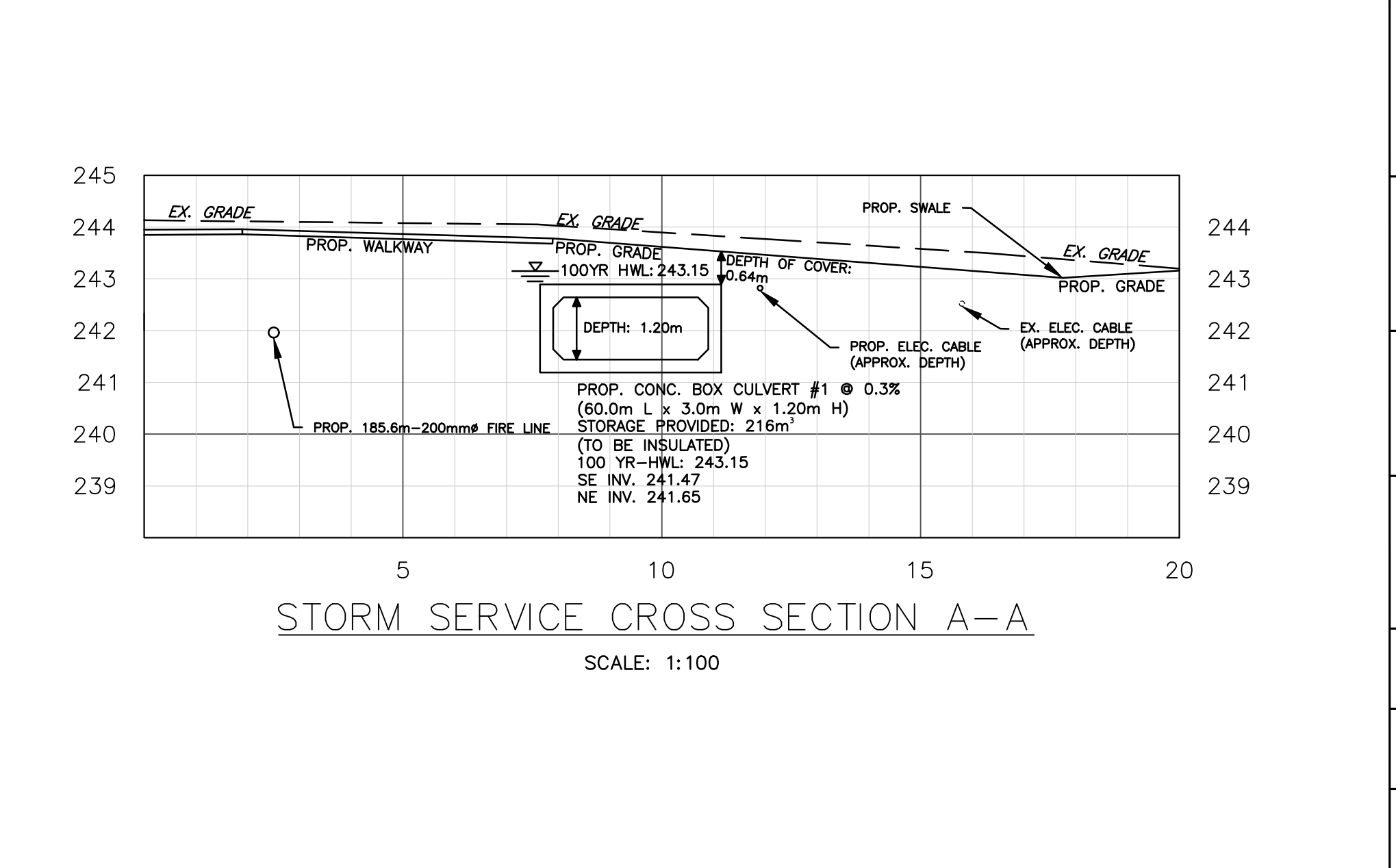
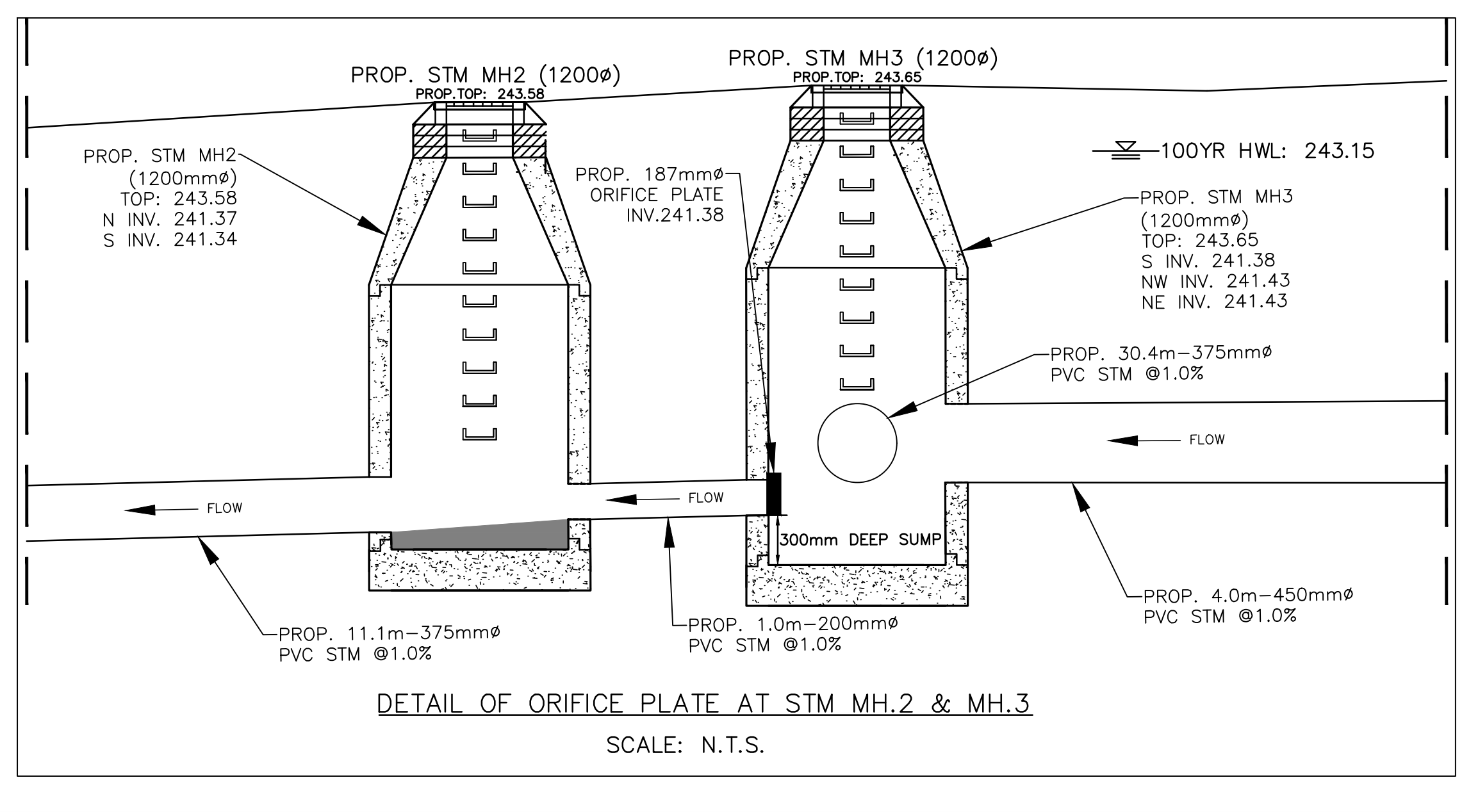
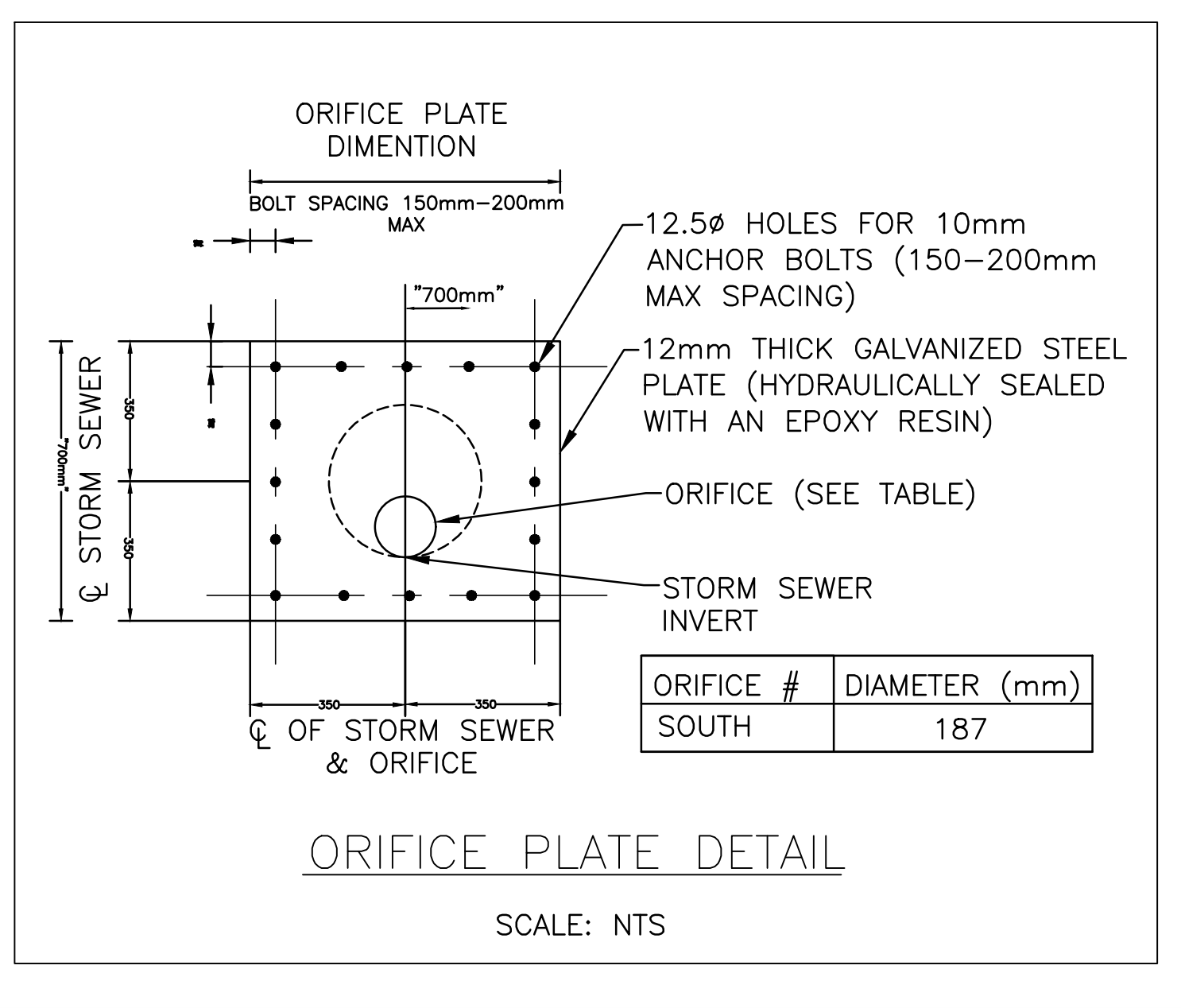


CONVERSION NOTE:  
 DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING NOTE:  
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 DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999665.  
 BEARING ON (P3,P4) HAVE BEEN ROTATED 0°30'00" COUNTER CLOCKWISE FOR COMPARISONS.  
 BEARINGS ON (P2) HAVE BEEN ROTATED 0°30'20" COUNTER CLOCKWISE FOR COMPARISONS

ELEVATION NOTE:  
 ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO LARGE CONCRETE CULVERT BENCHMARK No. 0081968134 KNOWN AS 134-68 HAVING AN ELEVATION OF 209.90 METERS. (VERTICAL DATUM: CGVD-1928:1978).

NO.	DATE	REVISIONS	BY
7.	DEC.06/24	ISSUED FOR TENDER	D.G.
6.	NOV.15/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
4.	NOV.08/24	AS PER CITY COMMENTS	D.G.
3.	SEP.27/24	RE-ISSUED FOR SPA	D.G.
2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.



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 E-MAIL: info@valdor-engineering.com www.valdor-engineering.com

PROPOSED FIELD HOCKEY DOME  
 1060 SANDALWOOD PKWY W.  
 CITY OF BRAMPTON  
 CITY FILE NO.: SPA-2024-0106  
 REGION FILE NO.: C603843

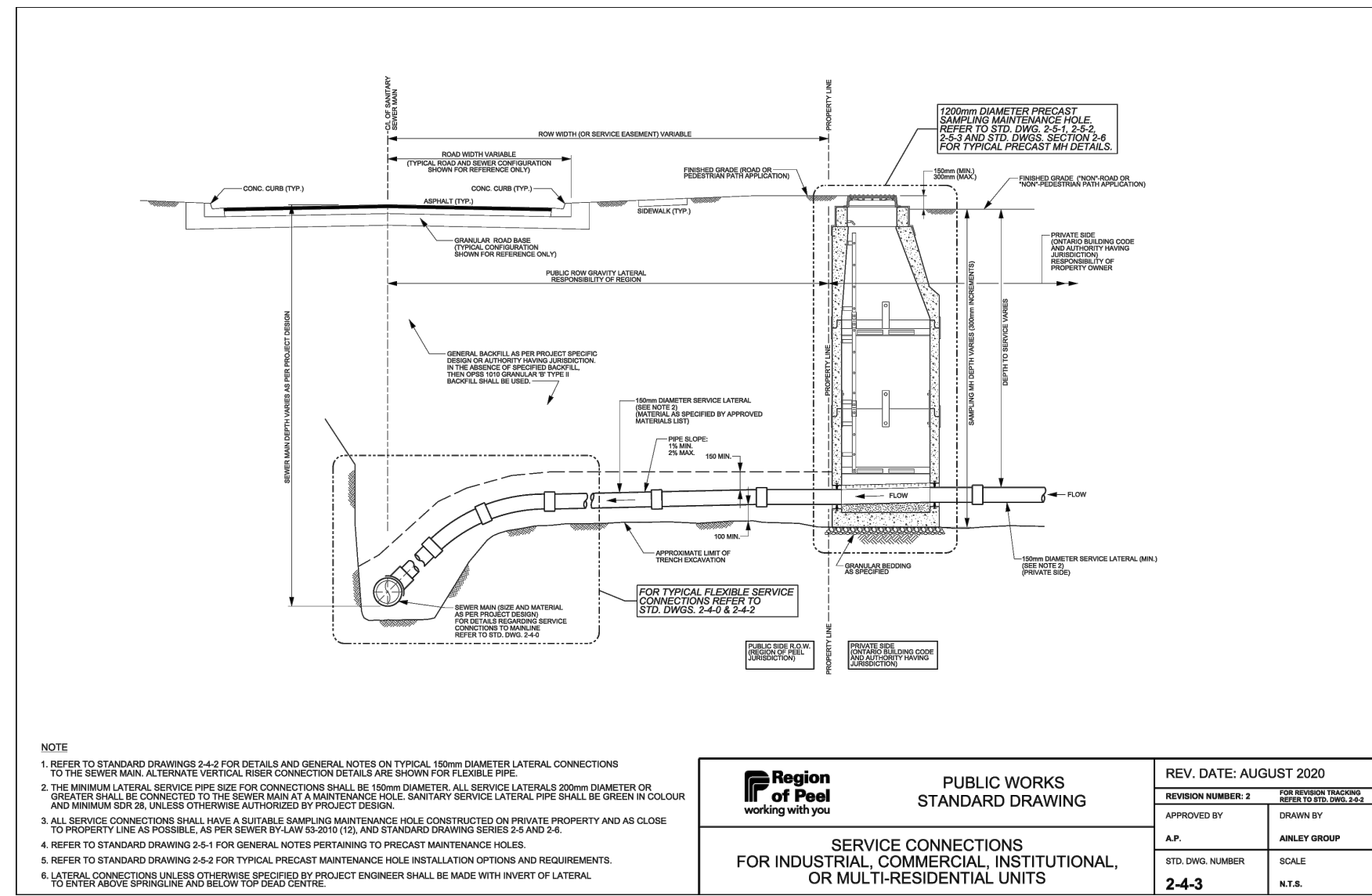
NOTES & DETAILS PLAN

SCALE	DATE OF DWG.	PROJECT NO.
AS SHOWN	APR, 03, 2024	23126

DRAWN BY	DRAWING NO.
T.S.	DET-2

CHKD BY: D.G.





**Region of Peel**  
working with you

**PUBLIC WORKS STANDARD DRAWING**

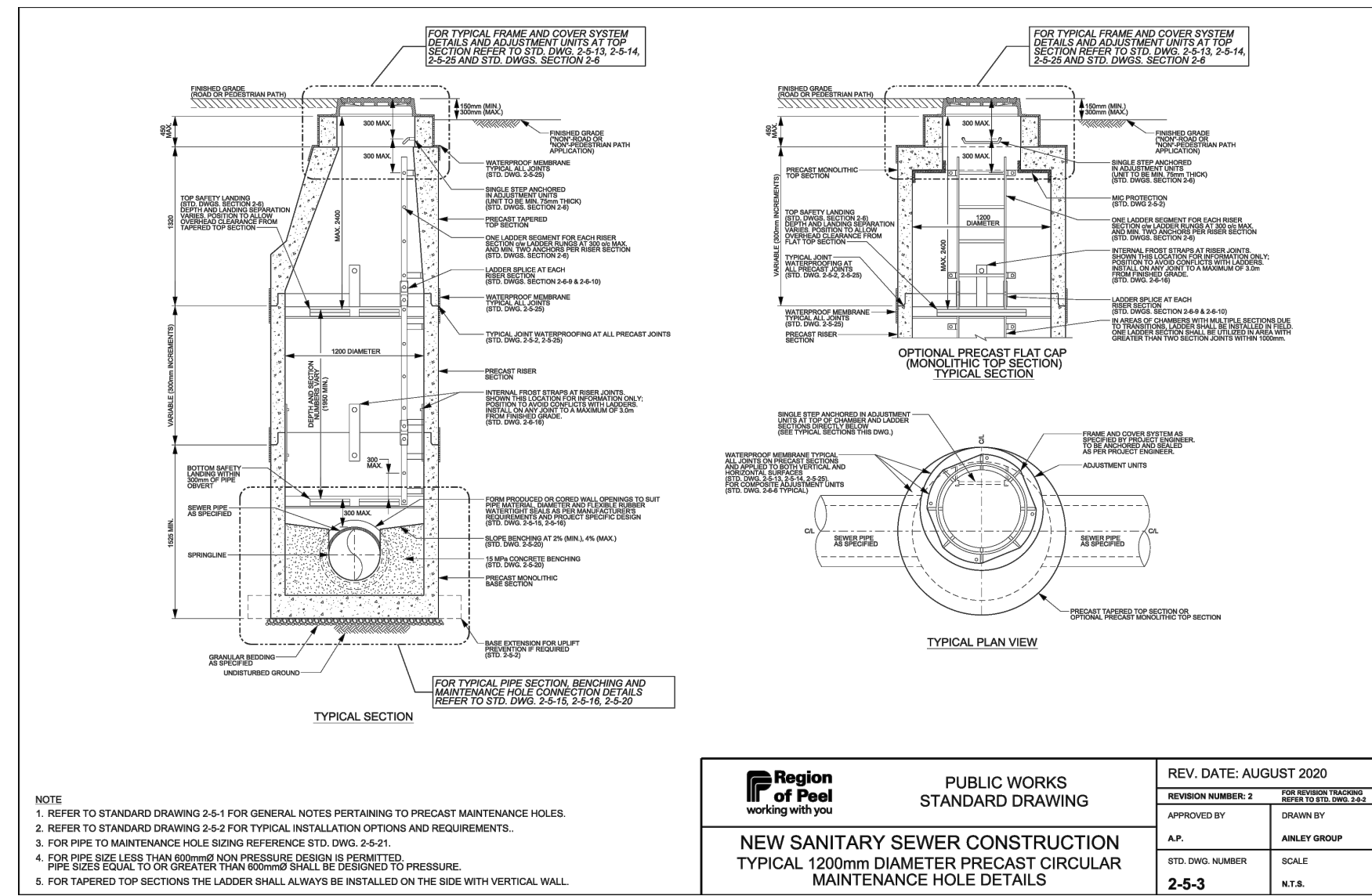
REV. DATE: AUGUST 2020

REVISION NUMBER: 1  
FOR DESIGN TYPICAL SECTION 2-4-2

APPROVED BY: [Signature]  
A.P. ANBLEY GROUP

STD. DWG. NUMBER: 2-4-3  
SCALE: N.T.S.

**SERVICE CONNECTIONS FOR INDUSTRIAL, COMMERCIAL, INSTITUTIONAL, OR MULTI-RESIDENTIAL UNITS**



**Region of Peel**  
working with you

**PUBLIC WORKS STANDARD DRAWING**

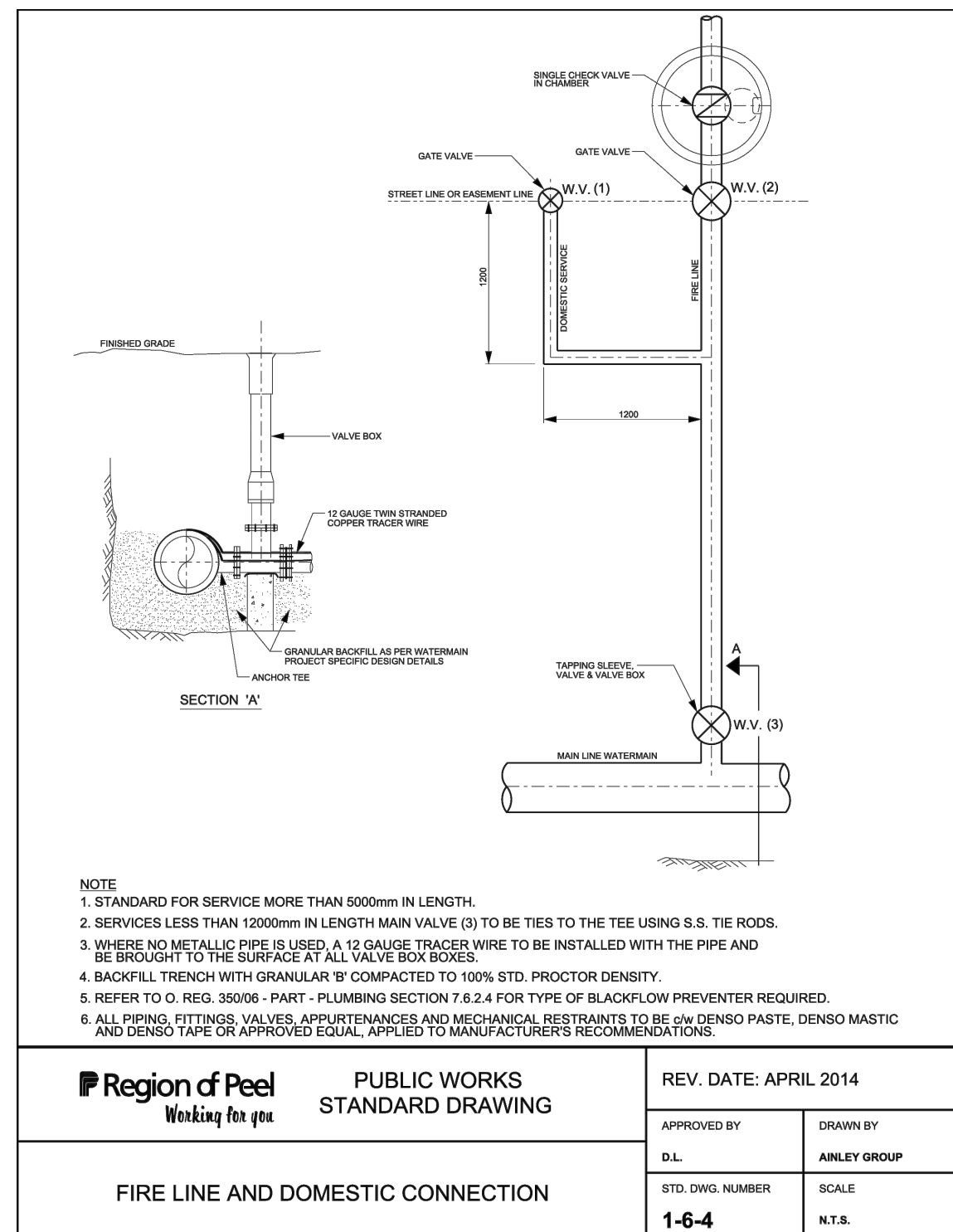
REV. DATE: AUGUST 2020

REVISION NUMBER: 1  
FOR DESIGN TYPICAL SECTION 2-5-3

APPROVED BY: [Signature]  
A.P. ANBLEY GROUP

STD. DWG. NUMBER: 2-5-3  
SCALE: N.T.S.

**NEW SANITARY SEWER CONSTRUCTION TYPICAL 1200mm DIAMETER PRECAST CIRCULAR MAINTENANCE HOLE DETAILS**



**Region of Peel**  
working with you

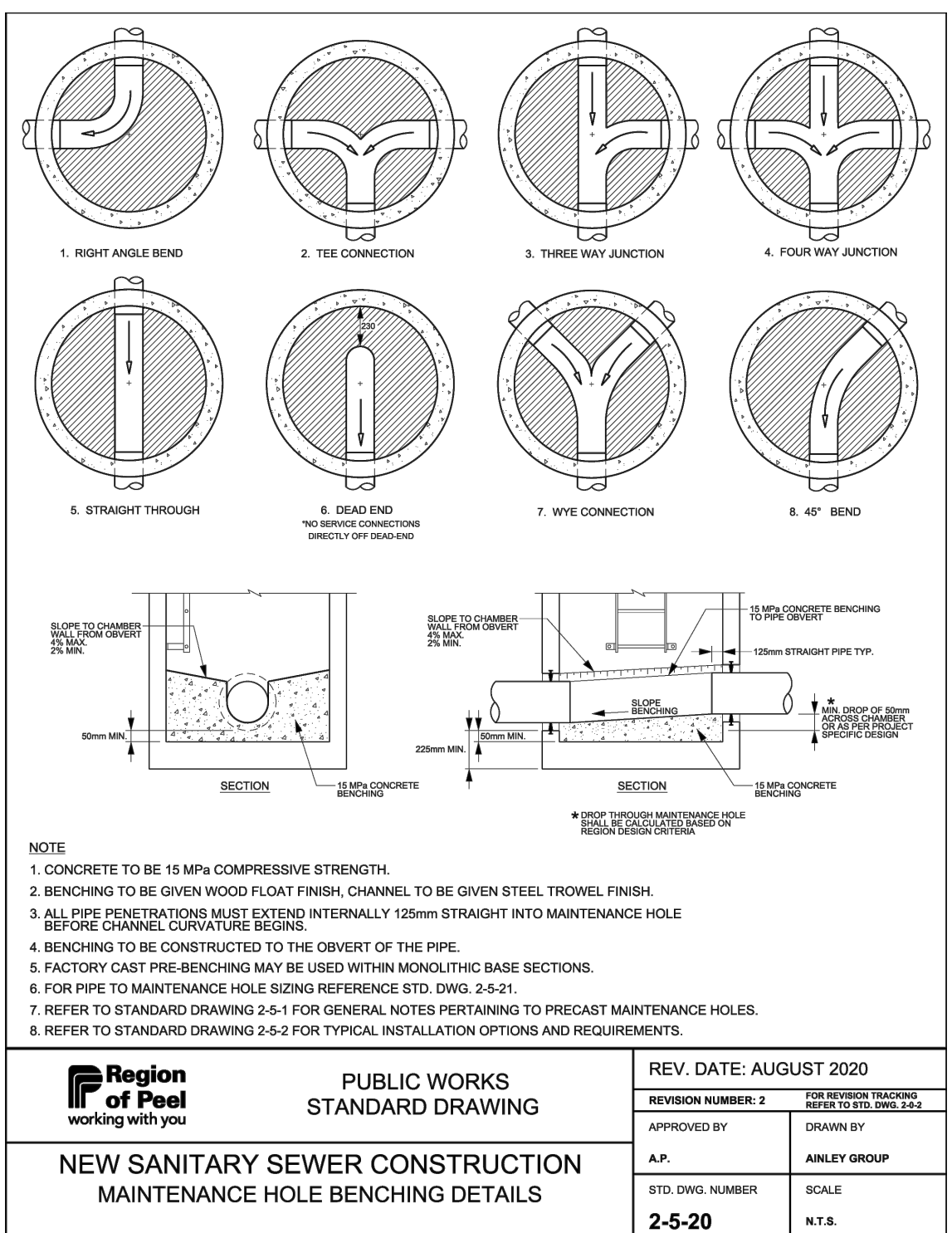
**PUBLIC WORKS STANDARD DRAWING**

REV. DATE: APRIL 2014

APPROVED BY: [Signature]  
D.L. ANBLEY GROUP

STD. DWG. NUMBER: 1-6-4  
SCALE: N.T.S.

**FIRE LINE AND DOMESTIC CONNECTION**



**Region of Peel**  
working with you

**PUBLIC WORKS STANDARD DRAWING**

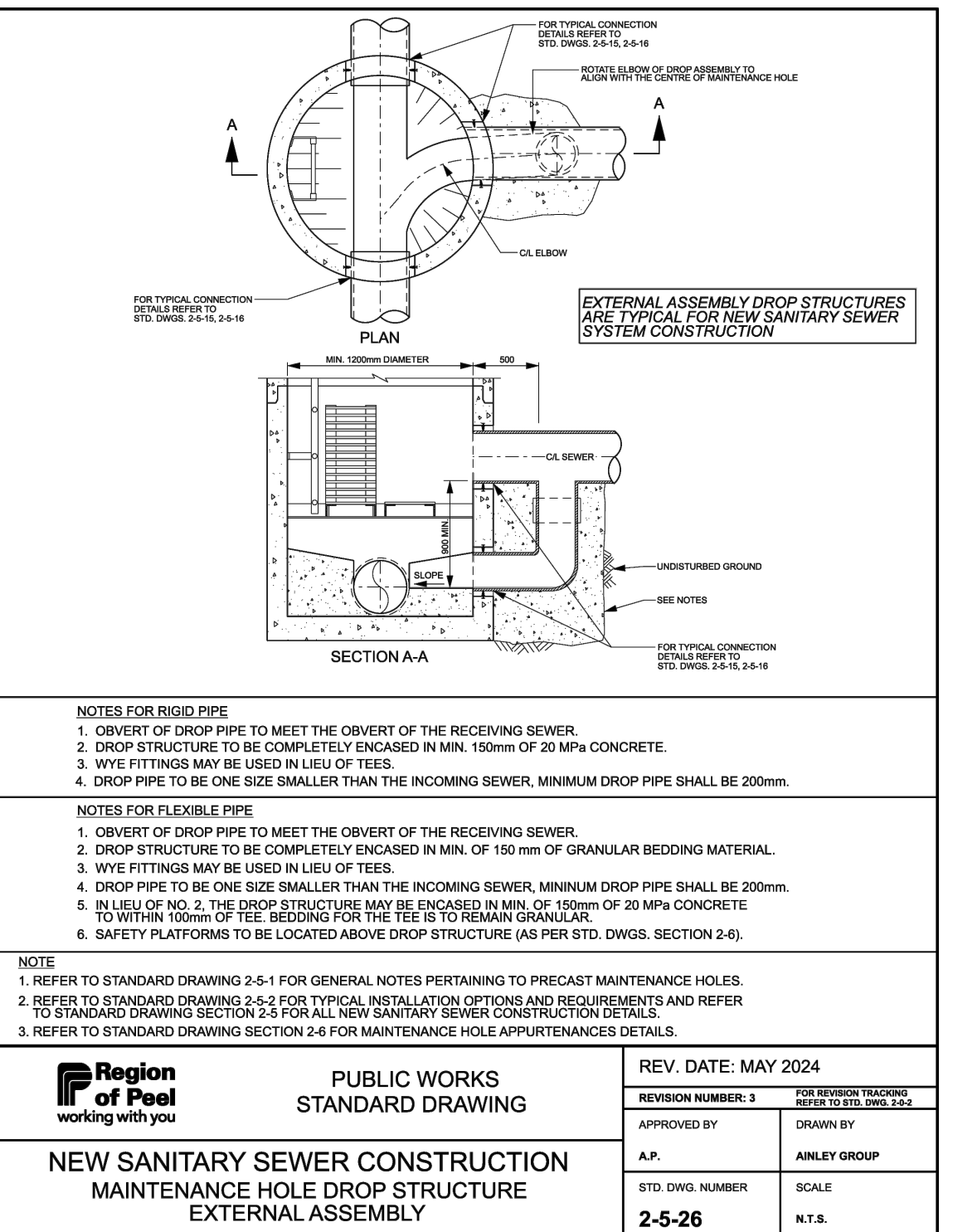
REV. DATE: AUGUST 2020

REVISION NUMBER: 2  
FOR DESIGN TYPICAL SECTION 2-5-20

APPROVED BY: [Signature]  
A.P. ANBLEY GROUP

STD. DWG. NUMBER: 2-5-20  
SCALE: N.T.S.

**NEW SANITARY SEWER CONSTRUCTION MAINTENANCE HOLE BENCHING DETAILS**



**Region of Peel**  
working with you

**PUBLIC WORKS STANDARD DRAWING**

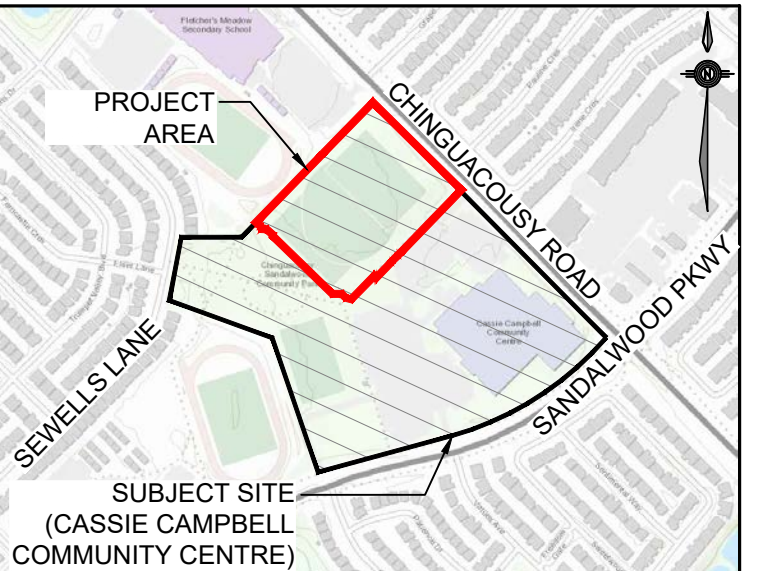
REV. DATE: MAY 2024

REVISION NUMBER: 3  
FOR DESIGN TYPICAL SECTION 2-5-26

APPROVED BY: [Signature]  
A.P. ANBLEY GROUP

STD. DWG. NUMBER: 2-5-26  
SCALE: N.T.S.

**NEW SANITARY SEWER CONSTRUCTION MAINTENANCE HOLE DROP STRUCTURE EXTERNAL ASSEMBLY**



**KEY PLAN**  
N.T.S.

**LEGEND:**

CONVERSION NOTE:  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING NOTE:  
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ELEVATION NOTE:  
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2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.

**VALDOR ENGINEERING INC.**  
Consulting Engineers - Project Managers

571 CHINGLACOST ROAD, UNIT 4, 2ND FLOOR, WOODBRIE, ONTARIO, L4L 8K2  
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DEC. 06/24  
D. A. GRUONAZ  
PROVINCE OF ONTARIO

**PROPOSED FIELD HOCKEY DOME**  
1060 SANDALWOOD PKWY W.  
CITY OF BRAMPTON  
CITY FILE No.: SPA-2024-0106  
REGION FILE No.: C603843

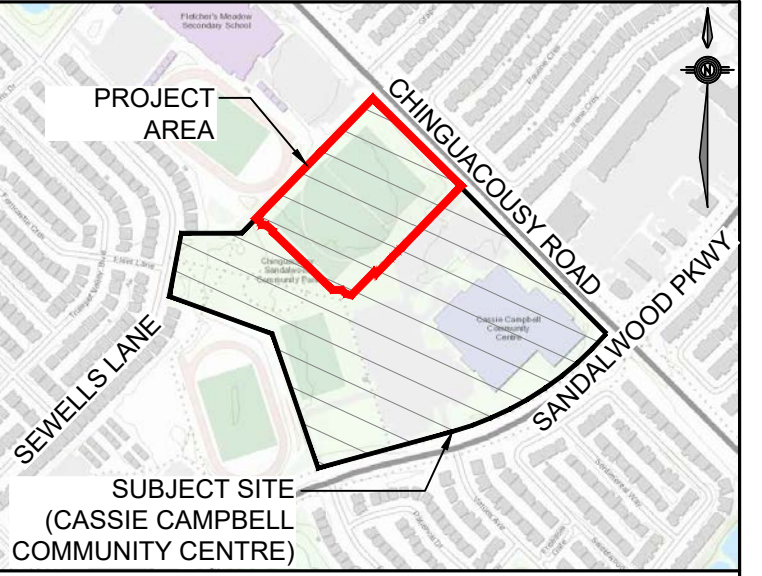
**NOTES & DETAILS PLAN**

SCALE	DATE OF DWG.	PROJECT NO.
AS SHOWN	APR, 03, 2024	23126
DRAWN BY	DRAWING NO.	
T.S.	DET-3	
CHKD BY		
D.G.		



**SEDIMENT CONTROL NOTES**

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND IN PROPER WORKING ORDER PRIOR TO CONSTRUCTION ACTIVITIES. THE EXACT LOCATION TO BE DETERMINED IN THE FIELD.
2. ALL CONSTRUCTION VEHICLES SHALL EXIT/ENTER THE SITE VIA THE TEMPORARY CONSTRUCTION ACCESS MUD MAT.
3. THE CONTRACTOR SHALL PREVENT MUD TRUCKING ONTO EXISTING RIGHTS-OF-WAY AND SHALL PROVIDE FOR CLEAN UP AT HIS OWN EXPENSE AS DIRECTED BY ENGINEER.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ROUTINELY INSPECTED INCLUDING AFTER EVERY RAINFALL, MAINTAINED IN PROPER WORKING ORDER AND CLEANED PERIODICALLY.
5. CONTRACTOR TO STABILIZE THE SITE AS SOON AS POSSIBLE BY REESTABLISHING VEGETATIVE GROUND COVER AND AVOIDING BARE SOIL AREAS. ALL AREAS (INCLUDING STOCKPILES) WHERE SITE IMPROVEMENTS ARE NOT EXPECTED TO OCCUR IMMEDIATELY SHALL BE REVEGETATED WITH 100mm OF TOPSOIL AND HYDROSEEDING.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
7. EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED, INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL GUIDELINE FOR URBAN CONSTRUCTION (DEC. 2006) AND THE INSPECTION GUIDE (2008) PREPARED BY THE GREATER GOLDEN HORSESHOE CONSERVATION AUTHORITIES.



**KEY PLAN**  
N.T.S.

**LEGEND:**

- PROPOSED SILT FENCE
- PROPOSED SEDIMENT TRAP
- ▣ AREA DRAIN
- CATCHBASIN
- MANHOLE

**CONVERSION NOTE:**  
DISTANCE SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**BEARING NOTE:**  
BEARINGS SHOWN HEREON ARE GRID AND ARE DERIVED FROM ORP A AND ORP B. THE COORDINATES SHOWN HEREON ARE DERIVED FROM THE UNIVERSAL TRAVERSE MERCATOR SYSTEM (6° UTM PROJECTION) ZONE 17, NAD83 (CSRS: 1997.0).

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999695.

BEARING ON (P3,P4) HAVE BEEN ROTATED 0°30'00" COUNTER CLOCKWISE FOR COMPARISONS.  
BEARINGS ON (P2) HAVE BEEN ROTATED 0°30'20" COUNTER CLOCKWISE FOR COMPARISONS

**ELEVATION NOTE:**  
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO LARGE CONCRETE CULVERT BENCHMARK No. 00819688134 KNOWN AS 134-68 HAVING AN ELEVATION OF 209.90 METERS. (VERTICAL DATUM: CGVD-1928:1978).

NO.	DATE	REVISIONS	BY
7.	DEC.06/24	ISSUED FOR TENDER	D.G.
6.	NOV.26/24	AS PER CITY COMMENTS	D.G.
5.	NOV.15/24	ISSUED FOR TENDER	D.G.
4.	NOV.08/24	AS PER CITY COMMENTS	D.G.
3.	SEP.27/24	RE-ISSUED FOR SPA	D.G.
2.	JUL.18/24	AS PER REGION COMMENTS	D.G.
1.	APR.03/24	ISSUED FOR COMPLETENESS REVIEW	D.G.

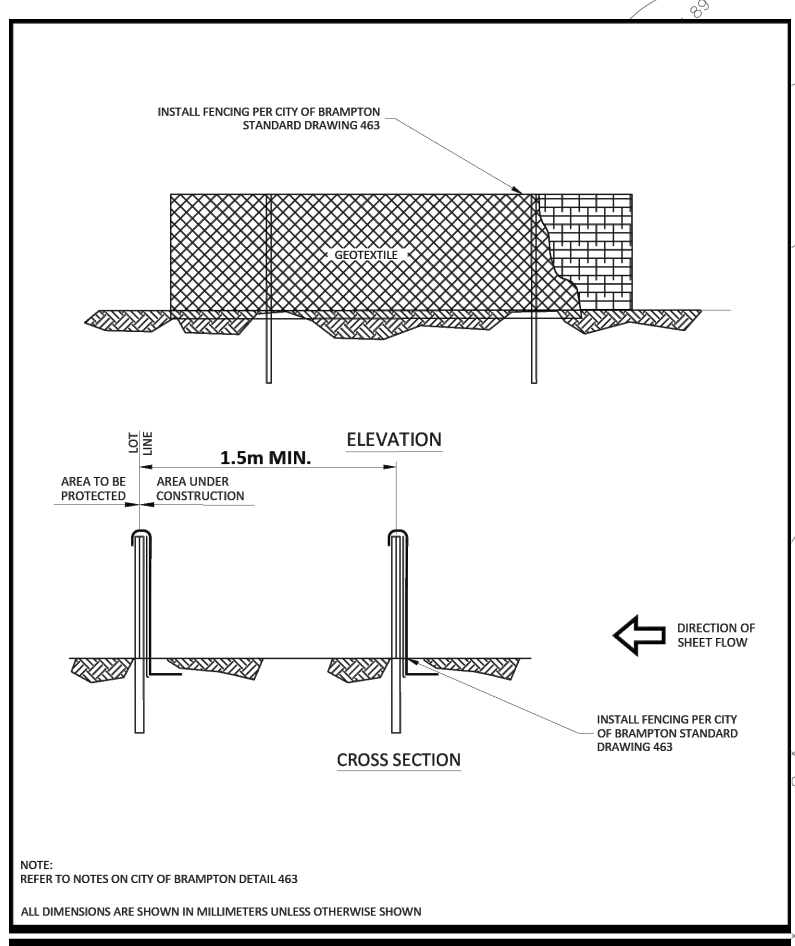
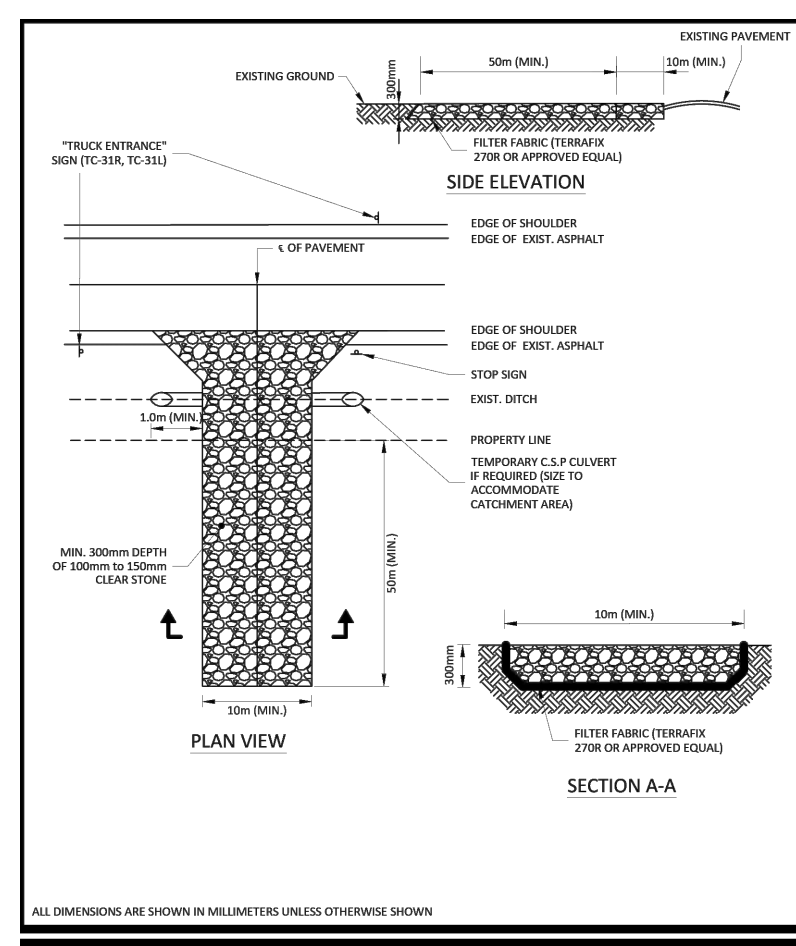


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Consulting Engineers - Project Managers  
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**PROPOSED FIELD HOCKEY DOME**  
1060 SANDALWOOD PKWY W.  
CITY OF BRAMPTON  
CITY FILE NO.: SPA-2024-0106  
REGION FILE NO.: C603843

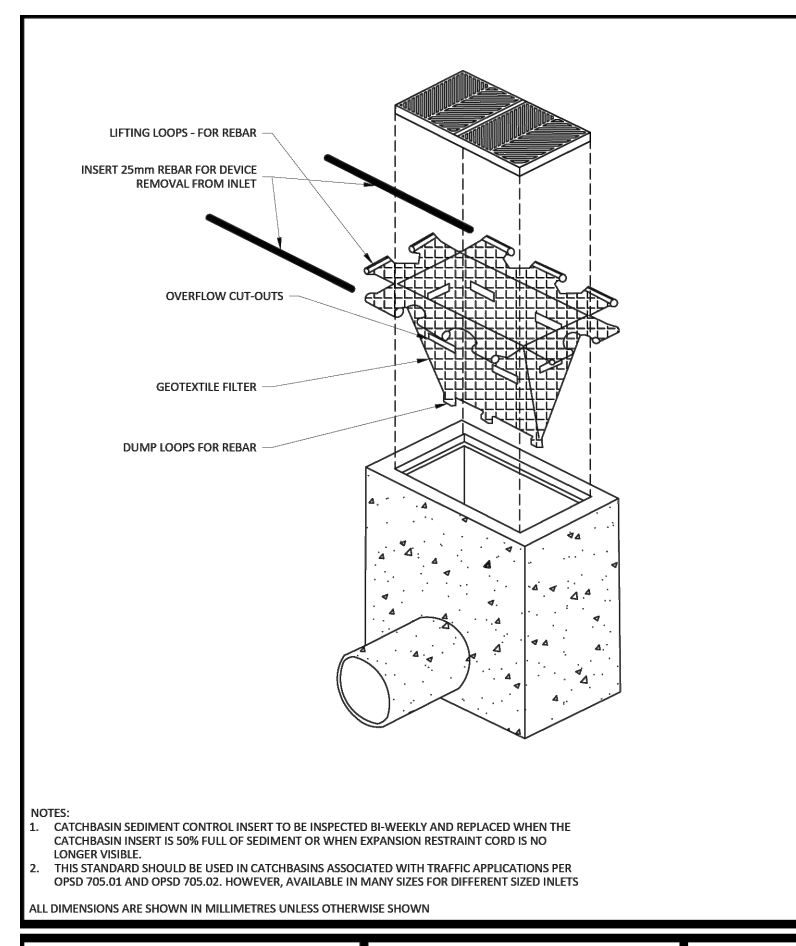
**EROSION & SEDIMENT CONTROL PLAN**

SCALE 1:400	DATE OF DWG. APR, 03, 2024	PROJECT NO. 23126
DRAWN BY T.S.	DRAWING NO. ESC-1	
CHKD BY D.G.		



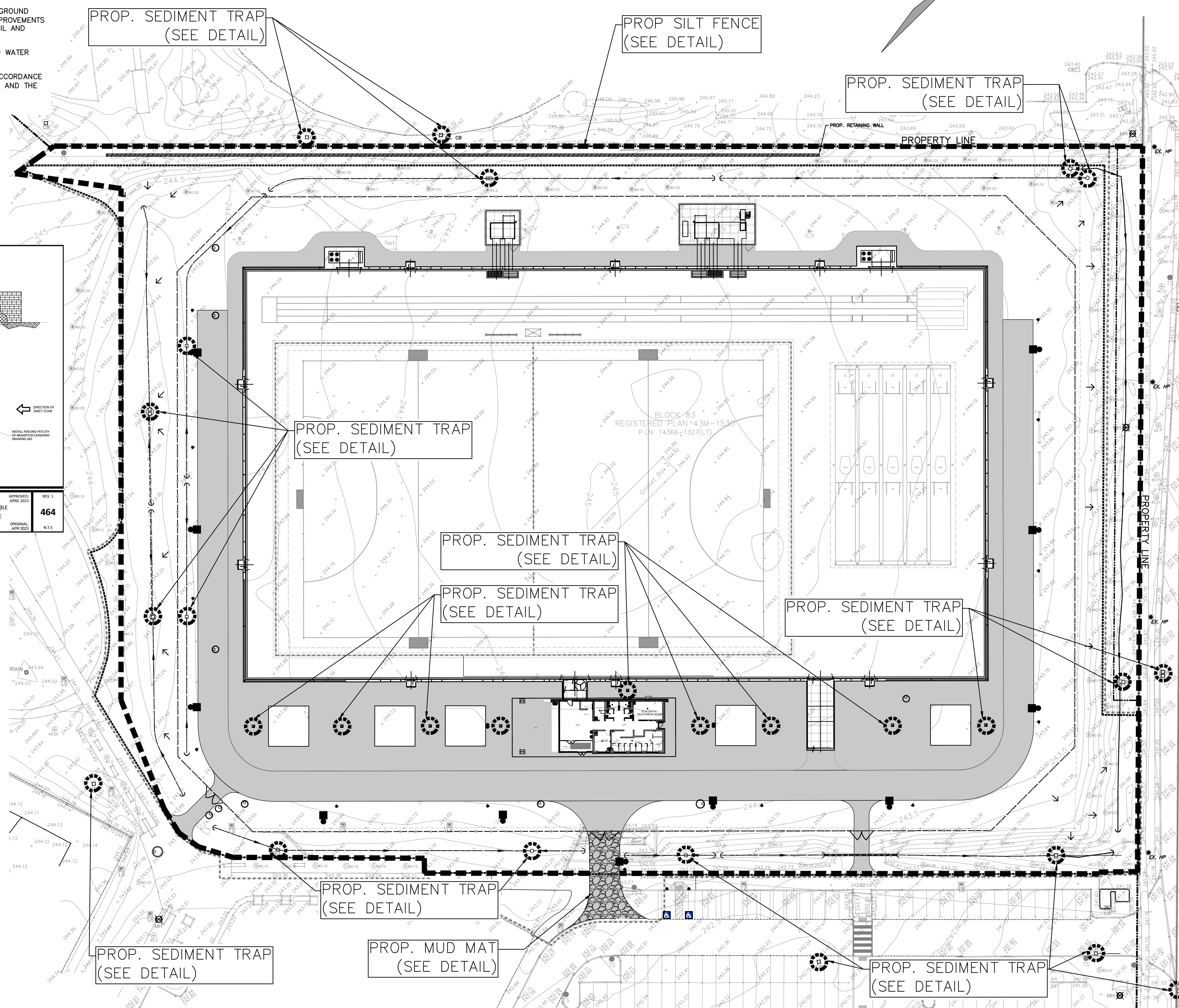
APPROVED APRIL 2023  
ORIGINAL APR 2022  
REV. 1  
**473**  
N.T.S.  
MUD MAT FOR TEMPORARY CONSTRUCTION ACCESS

APPROVED APRIL 2023  
ORIGINAL APR 2022  
REV. 1  
**464**  
N.T.S.  
TEMPORARY DOUBLE ROW SEDIMENT CONTROL FENCE



APPROVED APRIL 2023  
ORIGINAL APR 2022  
REV. 1  
**469**  
N.T.S.  
TEMPORARY CATCHBASIN SEDIMENT CONTROL INSERT

APPROVED APRIL 2023  
ORIGINAL APR 2022  
REV. 1  
**469**  
N.T.S.  
TEMPORARY CATCHBASIN SEDIMENT CONTROL INSERT





# 1060 SANDALWOOD PKWY. W – CASSIE CAMPBELL COMMUNITY CENTRE – NATURAL GAS SERVICE

## 1060 SANDALWOOD PKWY. W, BRAMPTON, ONTARIO

### SPA-2024-0106

#### MECHANICAL

GENERAL LEGEND	
SYMBOL	DESCRIPTION
	EXISTING PIPING/EQUIPMENT
	NEW PIPING/EQUIPMENT
	EXISTING PIPING/EQUIPMENT BELOW SLAB
	NEW PIPING/EQUIPMENT BELOW SLAB
(E)	DENOTES EXISTING EQUIPMENT
(N)	DENOTES NEW EQUIPMENT

DRAWING LIST	
SYMBOL	DESCRIPTION
M1	MECHANICAL DRAWING LIST, LEGENDS AND DETAIL
M2	MECHANICAL NEW WORK

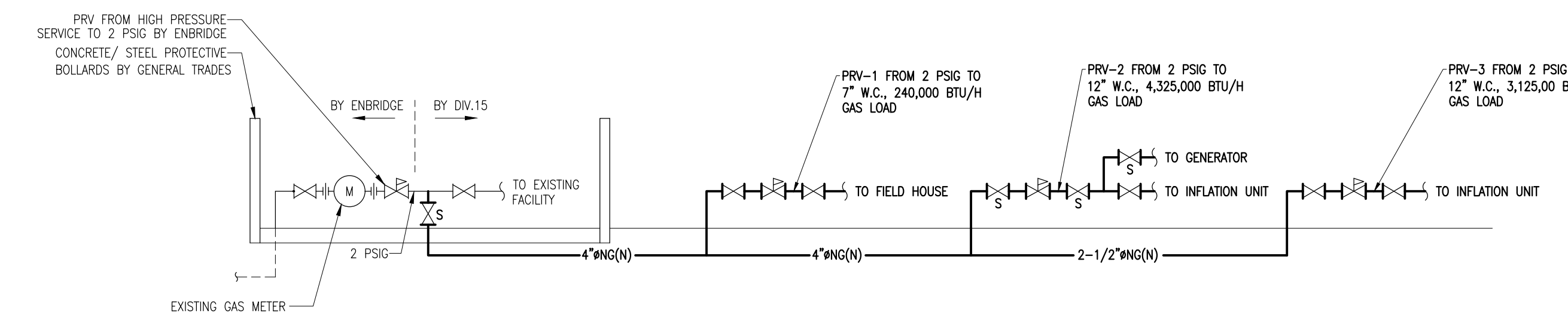
UTILITIES LEGEND	
SYMBOL	DESCRIPTION
	NATURAL GAS PIPING
	PIPING OFFSET
	PIPING DOWN
	REDUCER
	ISOLATION VALVES
	PRESSURE REDUCING VALVE (PRV)
	UNION
	GAS METER

**GENERAL NOTES:**

- ALL WORK SHOWN OR IMPLIED ON THESE DRAWINGS SHALL BE CARRIED OUT IN ACCORDANCE WITH:
  - ALL CODES AND LAWS APPLICABLE (OBC)
  - INSTRUCTIONS TO BIDDERS
  - IN ACCORDANCE WITH SMACNA—LATEST EDITION (DUCTWORK)
  - IN ACCORDANCE WITH FM & NFPA (FIRE PROTECTION)
  - IN ACCORDANCE WITH ULC STANDARDS
- PRIOR TO SUBMITTING TENDERS, EACH TRADE SHALL EXAMINE THE SITE TO DETERMINE THE CONDITIONS WHICH MAY AFFECT THE PROPOSED WORK. NO CLAIM FOR EXTRA PAYMENT WILL BE CONSIDERED BECAUSE OF FAILURE TO FULFILL THIS CONDITION. START OF WORK WILL BE DEEMED EVIDENCE OF ACCEPTANCE OF, AND SATISFACTION WITH, EXISTING CONDITIONS.
- THE DRAWINGS SHALL BE CONSIDERED TO SHOW THE GENERAL CHARACTER AND SCOPE OF THE WORK AND NOT THE EXACT DETAILS OF THE INSTALLATION. THE INSTALLATION SHALL BE COMPLETE WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIVE INSTALLATION.
- MECHANICAL CONTRACTOR IS RESPONSIBLE TO FIELD MEASURE LOCATION OF NEW OR RELOCATED EQUIPMENT TO VERIFY CLEARANCES WITH THE MANUFACTURER PRIOR TO ORDERING.
- THESE MECHANICAL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- THE WORD "PROVIDE" SHALL DENOTE "SUPPLY AND INSTALL". THE WORD "TAB" SHALL DENOTE "TESTING, ADJUSTING, AND BALANCING".
- CONTRACTOR SHALL FOLLOW THE BIDDING DOCUMENT PROJECT SCHEDULE UPON AWARD. CONTRACTOR SHALL SUBMIT WORK SCHEDULE TO PROJECT MANAGER & ENGINEER FOR APPROVAL.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES AND THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR COMMUNICATING SAFETY REQUIREMENTS TO ITS EMPLOYEES AND COMPLYING WITH OCCUPATIONAL HEALTH AND SAFETY ACT.
- CONTRACTOR TO PROVIDE, PRIOR TO COMMENCEMENT OF WORK, ONTARIO MINISTRY OF LABOUR CONTRACTOR REGISTRATION FORM AS WELL AS A CURRENT SIGNED AND DATED CORPORATE HEALTH AND SAFETY POLICY.
- CONTRACTOR TO PROVIDE FOR THE USE OF HIS WORK FORCE A FIRST AID KIT ACCEPTABLE TO WSIB AND MOL.
- PAY ALL REQUIRED FEES AND PERMITS.
- CONTRACTOR SHALL APPLY FOR AND COORDINATE ALL REQUIRED TSSA INSPECTIONS/CERTIFICATIONS. CONTRACTOR SHALL ALSO COMPLETE AND SUBMIT ALL FORMS REQUIRED BY TSSA AND PAY ALL ASSOCIATED FEES.
- WORKMANSHIP AND MATERIALS SHALL MATCH OR EXCEED THAT OF THE EXISTING AS PRESENTED BY THE PROJECT MANAGER.
- ALL WORK TO BE CONDUCTED DURING HOURS SPECIFIED BY THE PROJECT MANAGER.
- ALL CHANGES AND CONNECTIONS TO EXISTING SERVICES, REQUIRING THE SHUTDOWN OF THAT SERVICE SHALL BE DONE AT THE TIME DESIGNATED BY THE PROJECT MANAGER, UNLESS OTHERWISE STATED.
- THE CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL TO THE SATISFACTION OF THE PROJECT MANAGER. THE CLEANING OF THE AFFECTED AREA SHALL BE CONTINUOUS. PLACE DUST PROTECTION IN THE FORM OF COVER SHEETS OVER EQUIPMENT AND FURNITURE TO ENSURE NO DUST INFILTRATION.
- EQUIPMENT REQUIRING CONNECTION TO AN ELECTRICAL POWER SOURCE SHALL BE CSA OR ULC APPROVED FOR USE AT LOCATION OF INSTALLATION.
- COORDINATE MATERIAL STORAGE WITH THE SITE SUPERINTENDENT AND OTHER TRADES.
- MANUFACTURER'S INSTRUCTIONS REGARDING THE HANDLING, INSTALLATION AND TESTING OF EQUIPMENT SPECIFIED HEREIN SHALL BE CONSIDERED PART OF THIS SPECIFICATION.
- SUPPLY TOOLS, EQUIPMENT AND PERSONNEL TO DEMONSTRATE AND INSTRUCT OPERATING AND MAINTENANCE PERSONNEL IN OPERATING, CONTROLLING, ADJUSTING, TROUBLESHOOTING AND SERVICING OF ALL SYSTEMS AND EQUIPMENT DURING REGULAR WORK HOURS, PRIOR TO ACCEPTANCE.
- INSPECT ALL NEW AND/OR RELOCATED EQUIPMENT UPON DELIVERY AND/OR RELOCATION AND NOTIFY PROJECT ENGINEER OF ANY DAMAGE OR DEFICIENCIES.
- ALL EQUIPMENT, PIPING, DUCTWORK AND WIRING SHALL BE SUSPENDED FROM THE BUILDING STRUCTURE.
- PROVIDE BLACK WITH WHITE WRITING LAMACOID PLATE ON ALL NEW EQUIPMENT. LABEL UNIT AS SHOWN ON DRAWINGS. LETTERING SIZE TO BE MINIMUM 25MM HIGH. MOUNT NEAR CONTROL SECTION OF THE UNIT.
- PROVIDE CUTTING, PATCHING AND CORING OF ALL WALLS, CEILING AND OTHER SURFACES AS REQUIRED FOR MECHANICAL WORK. CHECK WITH BUILDING MANAGEMENT PRIOR TO CORE DRILLING AND CUTTING OF FLOOR SLAB REGARDING BUILDING REQUIREMENTS AND POLICIES. PRIOR TO SLAB CUTTING OR CORING, SCAN THE SLAB USING GPR TECHNOLOGY AND COORDINATE DRILLING TO MINIMIZE CUTTING OF THE REINFORCING STEEL AND CONDUIT. FIRE STOP ALL NEW FIRE RATED PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATINGS. THE CONTRACTOR IS TO INCLUDE IN TENDER PRICE ALL WORK ASSOCIATED WITH CORE DRILLING AFTER NORMAL WORKING HOURS. OBTAIN WRITTEN VERIFICATION OF LOCATIONS FROM THE STRUCTURAL ENGINEER OF RECORD PRIOR TO DRILLING. CUTTING TORCHES SHALL NOT BE USED FOR MAKING HOLES. PATCH ALL HOLES THROUGH SLAB WITH FIRE-STOP CALKING (ULC LISTED). PATCHED SURFACES ARE TO BE PRIMED FINISHED, READY FOR FINAL COVERING BY OTHERS (COORDINATE WITH ROOFING CONTRACTOR).
- PIPING LAYOUT ILLUSTRATED ON DRAWINGS INDICATES GENERAL ROUTING OF PIPE WORK AND DOES NOT SHOW ALL FITTINGS AND OFFSETS REQUIRED FOR COMPLETE INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING FITTINGS & OFFSETS REQUIRED FOR COORDINATED INSTALLATION WITH OTHER SYSTEMS (DUCTWORK, PIPING, CONDUITS, LIGHTS, ETC.).
- ALLOW FOR 1500 MM OF ADJUSTMENT FOR EXACT LOCATION OF PIPING AT NO EXTRA COST OR CREDIT.
- CONTRACTOR TO NOTIFY PROJECT MANAGER 3 DAYS BEFORE SCHEDULED SUBSTANTIAL COMPLETION TO ARRANGE INTERIM INSPECTION AND EQUIPMENT COMMISSIONING. NOTIFY PROJECT MANAGER IN WRITING OF ANY CHANGES IN SCHEDULE.
- UNLESS INDICATED OTHERWISE PROVIDE ONE (1) YEAR WARRANTY STARTING AT SUBSTANTIAL COMPLETION FOR ALL NEW SYSTEMS INCLUDING MATERIALS, EQUIPMENT & LABOUR.
- MECHANICAL CONTRACTOR SHALL ASSIST ON ALL THE INTEGRATED TESTING OF FIRE AND LIFE SAFETY SYSTEMS, AS REQUIRED BY CAN/ULC-S1001.
- SUBMITTALS:
  - SUBMIT ONE(1) COPY OF SHOP DRAWINGS AND PRODUCT DATA IN ELECTRONIC PDF FORMAT FOR ENGINEER'S REVIEW PRIOR TO PURCHASING AND ORDERING. HARD COPY SHOP DRAWINGS WILL NOT BE ACCEPTED. REVIEWED ELECTRONIC SHOP DRAWINGS WILL BE RE-DISTRIBUTED AS PER PROJECT MANAGER'S INSTRUCTIONS. SHOP DRAWINGS SHALL INCLUDE ALL SPECIFIED EQUIPMENT & SYSTEMS.
  - PROVIDE SUBMITTALS IN ACCORDANCE WITH APPLICABLE CODES REQUIRED FOR OCCUPANCY INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
    - PLUMBING & UTILITIES:
      - SEISMIC CERTIFICATION LETTER SUBMITTED.
      - GAS FITTER INSTALLATION REPORT/TAG.
    - MECHANICAL SCOPE OF WORK CONSIDERED COMPLETE WHEN THE FOLLOWING ITEMS HAVE BEEN RECEIVED AND REVIEWED BY ENGINEER:
      - ALL SHOP DRAWINGS LISTED IN THIS SPECIFICATION
      - AS-BUILT DRAWINGS SHOWING AS-BUILT CONDITIONS COMPLETE WITH RED LINED MARKUPS TO PROJECT MANAGER WITH CONTRACTOR'S SIGNATURE.
      - START-UP REPORT FROM MANUFACTURER OF EQUIPMENT.
      - THREE (3) COPIES OF OPERATIONS AND MAINTENANCE MANUALS CONTAINING ALL ITEMS PREVIOUSLY REVIEWED BY ENGINEER IN A THREE RING BINDER AND DIVICES ORGANIZING ALL SUBMISSIONS BY EACH MECHANICAL TRADE. OPERATIONS MANUAL TO ALSO INCLUDE THE FOLLOWING BUT SHALL NOT BE LIMITED TO:
        - LIST OF TRADES INVOLVED AND CONTACT INFORMATION.
        - CONTRACTOR'S LETTER OF WARRANTY.
        - ALL LETTERS REQUIRED FOR WORKPLACE CONFORMANCE.

**MECHANICAL SPECIFICATIONS:**

- SEISMIC RESTRAINT:**
  - PROVIDE COMPLETE SEISMIC RESTRAINT SYSTEM FOR ALL MECHANICAL SYSTEMS AS PER ONTARIO BUILDING CODE LATEST EDITION & NP1913.
  - SEISMIC RESTRAINT DESIGN AND SUPERVISION SHALL BE CONDUCTED AND STAMPED BY A PROFESSIONAL SEISMIC ENGINEER. SUBMIT LETTER AND CALCULATION FOR ENGINEER'S REVIEW PRIOR TO SUBSTANTIAL COMPLETION.
  - THE FINAL CERTIFICATION LETTER SHALL BE FORMATTED TO IDENTIFY THE FOLLOWING WITHIN THE BODY OF THE LETTER:
    - THE DATE OF THE FINAL INSPECTION
    - A STATEMENT THAT LISTS ALL CONTRACT DOCUMENTS WHICH WERE REVIEWED INCLUDING BUT NOT LIMITED TO THE MECHANICAL DRAWINGS, PROJECT CHANGE ORDERS, SITE INSTRUCTIONS, ETC.
    - A STATEMENT WHICH CLEARLY IDENTIFIES ANY EXCLUSIONS OF SCOPE OF SERVICE, AND
    - A STATEMENT THAT CERTIFIES THE COMPLETE MECHANICAL SEISMIC INSTALLATION MEETS THE LATEST VERSION OF OBC & APPLICABLE CODES & STANDARDS.
- NATURAL GAS PIPING:**
  - ABOVE GROUND STEEL PIPE: TO ANSI/ASME A120.1 OR ASTM A53/A53M, SCHEDULE 40, SEAMLESS AS FOLLOWS:
    - NPS 1/2" TO 2", SCHEDULED.
    - NPS 2 1/2" AND OVER, WELDED.
  - BELOW GRADE POLYETHYLENE PIPE: TO CSA B137.4 AND CSA B149.1 C/W COATED ALUMINUM AWG 14 TRACER WIRE EXTENDED ABOVE GRADE AT BEGINNING AND END. MAGNETIC TAPE IS NOT ACCEPTABLE. PROVIDE STEEL HEADERS AT BOTH ENDS, C/W MANUFACTURER'S TRANSITION COUPLING.
    - ACCEPTABLE MATERIAL: PERFORMANCE PIPE - DRISCOPLEX 6500-PE2406.
  - JOINTINGS:
    - SCREWED FITTINGS: PULVERIZED LEAD PASTE.
    - WELDED FITTINGS: TO CSA W47.1.
    - FLANGE GASKETS: TO ANSI/ASME B16.21 OR ANSI/ASME B16.20.
  - FITTINGS:
    - STEEL PIPE FITTINGS, SCREWED, FLANGED OR WELDED:
      - MALLEABLE IRON, SCREWED, BANNED, CLASS 150.
      - STEEL PIPE FLANGES AND FLANGED FITTINGS: TO ANSI/ASME B16.5.
      - STEEL BUTT-WELDING FITTINGS.
        - UNIONS: MALLEABLE IRON, BRASS TO IRON, GROUND SEAT, TO ASTM A47/A47M.
        - BOLTS AND NUTS: TO ANSI/ASME B18.2.1.
        - NIPPLES: SCHEDULE 40, TO ASTM A53/ A53M.
  - VALVES:
    - PROVINCIAL CODE APPROVED, FULL PORT BALL OR LUBRICATED PLUG TYPE.
    - SUPERVISORY SWITCH:
      - UNIVERSAL BALL VALVE SWITCH, UL AND CUL LISTED, FM APPROVED, DESIGNED TO MONITOR THE FULL OPEN POSITION ON A BALL VALVE, FOR CONNECTION TO FIRE ALARM OR ACCESS CONTROL SYSTEM BY OTHERS; ACCEPTABLE MATERIAL POTTER MODEL RBVS-T OR EQUIVALENT.
    - PRESSURE REDUCING VALVE:
      - (PRV): PROVIDE GAS SERVICE REGULATOR SELF-CONTAINED TO REDUCE PRESSURE TO DESIGN CAPACITY C/W BUILT-IN OR REMOTE RELIEF VALVE. REFER TO DRAWING SCHEDULE FOR CAPACITIES.
      - EXTEND SAFETY RELIEF VALVE TO ATMOSPHERE; TERMINATE IN SAFE LOCATION.
      - REFERENCE EQUIPMENT SCHEDULES FOR GAS FLOWS.
      - ACCEPTABLE MATERIAL: FISHER SERIES 66, SCHLUMBERGER, OR EQUAL.
    - IDENTIFICATION: TO CSA B149.1
    - INSTALLATION: TO CSA B149.1



**1**  
M1  
GAS LINE DETAIL  
NTS

DATE	REVISION	REF
2024/12/06	ISSUED FOR TENDER	6
2024/11/13	ISSUED FOR TENDER	5
2024/11/08	RE-ISSUED FOR SPA	4
2024/09/27	RE-ISSUED FOR SPA	3
2024/07/19	ISSUED FOR SPA	2
2024/04/03	ISSUED FOR COMPLETENESS REVIEW	1
2024/01/19	ISSUED FOR COORDINATION	0

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE DRAWINGS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHER FAILURE TO OBTAIN AND / OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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NE PAS MESURER LES Dessins A L'Échelle

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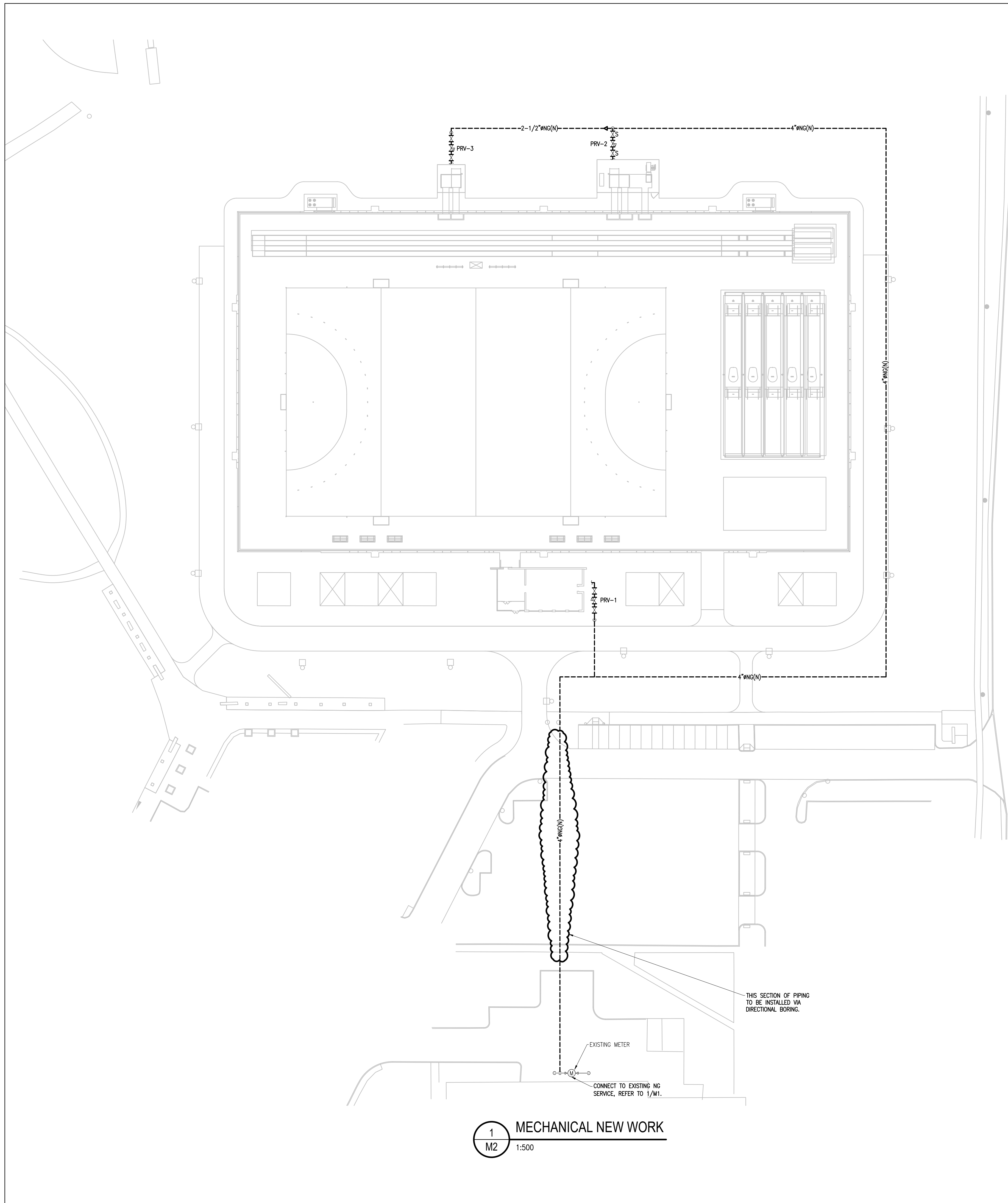
Project/north  
Nord du projet

Seal/Scieu

Project/Projet  
**1060 SANDALWOOD PKWY. W - CASSIE CAMPBELL COMMUNITY CENTRE - SPA-2024-0106**

Drawing title/Titre du dessin	
<b>MECHANICAL DRAWING LIST, LEGENDS AND DETAIL</b>	
Scale Echelle	AS NOTED 2023-719
Design by Conçu par	E. PÉRUSSE Drawing/Dessin
Drawn by Dessiné par	M. BRANDENBURG <b>M1</b>
Reviewed by Examiné par	E. PÉRUSSE of 2





**DESCRIPTION OF WORK**

- 1 PROVIDE NEW NATURAL GAS C/W PRESSURE REDUCING VALVES (PRV) AND ACCESSORIES AS NOTED. REFER TO DETAIL 1/M1. SECTION OF PIPING UNDER PARKING AREA TO BE INSTALLED VIA DIRECTIONAL BORING, TRENCHING FOR REMAINING AREAS BY GENERAL TRADES. COORDINATE EXACT LOCATIONS AND ROUTING ON SITE WITH ALL OTHER TRADES.
- 2 CONNECT TO EXISTING GAS METER AS SHOWN. COORDINATE WITH ENBRIDGE GAS FOR METER UPGRADE / REPLACEMENT (AS REQUIRED).
- 3 PROVIDE NEW SUPERVISORY SWITCHES AT EXISTING AND NEW ISOLATION VALVES AS REQUIRED. CONNECTION TO ALARM SYSTEM FOR MONITORING BY OTHERS.
- 4 PROVIDE CONNECTION TO BAS FROM NEW SUPERVISORY SWITCHES. COORDINATE GRAPHICS WITH OWNER. EXTEND CONTROL WIRING AS REQUIRED.

1 MECHANICAL NEW WORK  
M2 1:500

Client

DATE	REVISION	REF
2024/12/06	ISSUED FOR TENDER	6
2024/11/13	ISSUED FOR TENDER	5
2024/11/08	RE-ISSUED FOR SPA	4
2024/09/27	RE-ISSUED FOR SPA	3
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NE PAS MESURER LES DESSINS À L'ÉCHELLE

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Project/north  
Nord du projet

Seal/Scieu

Project/Projet  
1060 SANDALWOOD PKWY. W -  
CASSIE CAMPBELL COMMUNITY  
CENTRE - SPA-2024-0106

Drawing title/Titre du dessin  
**MECHANICAL NEW WORK**

Scale Échelle	AS NOTED	Project no./No. du projet 2023-719
Design by Conçu par	E. PÉRUSSE	Drawing/Dessin
Drawn by Dessiné par	M. BRANDENBURG	<b>M2</b>
Reviewed by Examiné par	E. PÉRUSSE	

of 2