TACBOC STANDARD DETAILS

THESE DRAWINGS ILLUSTRATE SOME OF THE MINIMUM ONTARIO BUILDING CODE REQUIREMENTS WHICH APPLY TO TYPICAL RESIDENTIAL CONSTRUCTION IN THE GREATER TORONTO AREA, AND ARE PROVIDED FOR INFORMATION PURPOSES ONLY. THEY DO NOT NECESSARILY REPRESENT EVERY DETAIL OF BUILDING CONSTRUCTION, OR ALL MINIMUM STANDARDS WHICH APPLY. FOR MORE DETAILED INFORMATION ABOUT CONSTRUCTION REGULATIONS REFER TO THE ONTARIO BUILDING CODE, YOUR MUNICIPAL BUILDING DEPARTMENT, OR A QUALIFIED DESIGNER.

CLIMATIC DESIGN REQUIREMENTS

THESE DETAILS APPLY TO ZONE 1 NON-ELECTRIC SPACE HEATING ONLY. AREAS OUTSIDE GREATER TORONTO MAY BE SUBJECT TO DIFFERENT CLIMATIC CONDITIONS WHICH MAY SIGNIFICANTLY AFFECT CONSTRUCTION REQUIREMENTS. THE CLIMATIC DESIGN DATA WHICH APPLIES TO THE SPECIFIC BUILDING LOCATION SHOULD BE CONFIRMED BEFORE ADOPTING ANY OF THE DETAILS IN A PROPOSED DESIGN. CLIMATIC DESIGN INFORMATION MAY BE FOUND IN THE SUPPLEMENTARY STANDARD SB-1 OF THE 2006 ONTARIO BUILDING CODE.

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LMCBO STANDARD DETAILS

TITLE
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DWG. NO.
T01a

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND IT'S REGULATIONS. IT IS THE RESPONSIBILITY OF THE OWNER/DESIGNER TO ENSURE THAT ALL DESIGNS SUBMITTED FOR A PERMIT ARE IN ACCORDANCE WITH THE BUILDING CODE ACT, BUILDING CODE AND ANY OTHER APPLICABLE LAW.

2012

BUILDING PERMITS MUST BE OBTAINED BEFORE YOU START WORK ON A NEW HOUSE, AN ADDITION, OR ANY ALTERATIONS TO AN EXISTING HOUSE WHICH ARE SIGNIFICANT IN NATURE. PERMITS ARE GEARED TO THOSE PROJECTS WHERE HEALTH & SAFETY MATTERS ARE INVOLVED, AND EXIST TO PROTECT YOU, OTHER HOMEOWNERS, BUILDING OCCUPANTS, FUTURE OWNERS AND THE COMMUNITY.

WHEN DO I NEED A PERMIT ?

CONTACT YOUR LOCAL MUNICIPAL OFFICE FOR SPECIFIC PERMIT REQUIREMENTS FOR ANY PARTICULAR PROJECT.

PERMITS ARE NORMALLY REQUIRED FOR:

Building any detached structure larger than $10m^2$
Building any addition to your home
Raised porches or decks
Carports or garages
Structural alterations
Moving or lifting your house
Installing a wood stove or fireplace
Partitioning a basement or adding a basement entrance
Creating an apartment in your house
Altering or adding any plumbing
Demolishing a house

PERMITS ARE NOT NORMALLY REQUIRED FOR:

Detached structures $10m^2$ or less in area
Decks which are 600mm or less from grade
Replacement of windows, doors, roofing or siding
New interior wall, floor or ceiling finishes
Repairs to chimneys, porches, decks or roofs
Waterproofing repairs to a basement
Replacement of plumbing fixtures
Replacement of a furnace

HOW DO I GET A PERMIT?

1. Prepare drawings which accurately and to scale describe the construction you propose. Standard technical details are available at your local municipal office to assist in the preparation of your plans. The attached sample plans are an example of the scope of drawings usually required for an addition to a house. THESE DRAWINGS ARE NOT INTENDED FOR USE IN YOUR PERMIT APPLICATION. If you have someone else prepare your plans, ensure the designer has the appropriate qualifications required in the building code. It is usually advisable to verify with your local municipal office that your proposed site plan will meet local zoning standards before you prepare the complete construction plans.
2. Visit your local municipal office, and complete a building permit application.
3. Provide the required number of copies (usually 2 or 3) of the construction drawings, including a site plan.
4. Pay the permit fee.
5. If the approval of other agencies such as the Conservation Authority applies to your application, contact the agency and apply for approval. Your local municipality can advise you if any outside agency approvals apply to your application.

WHEN WILL I GET THE PERMIT?

Your permit will usually be issued within 10 to 15 business days if your drawings are complete and the proposed construction meets local zoning standards and the Ontario Building Code. If the approval of other agencies is required due to the location of your construction, such as the Conservation Authority, the permit may be delayed.

WHAT DO I HAVE TO DO AFTER I GET THE PERMIT?

Review your approved permit drawings before you start work, and keep them on the project site at all times. Make working copies if necessary. The permit must be posted in a conspicuous place on your property prior to starting work. You can commence construction any time after obtaining the permit and your permit will remain valid for a minimum of six months. Local utilities such as hydro, gas and telephone operate independently from your municipality and should be contacted regarding their specific approval and inspection requirements. All utilities must be contacted prior to commencing any excavation to determine the location of any nearby underground services.

Inspection requirements are normally noted on your permit drawings or the permit itself and must be arranged by contacting the municipal building inspection office prior to covering the work. For a house addition, an inspection is usually required for footings & foundations, structural framing, plumbing, heating, insulation and vapour barriers and final inspections before using the new space. Smaller projects such as decks, garages and minor alterations will usually involve fewer inspections.

If changes to the approved work are anticipated, speak with the inspector to determine if a revision to your permit is required. PLEASE REMEMBER TO WORK SAFELY!

LMCBO STANDARD DETAILS

TITLE BUILDING PERMIT Q & A

DWG. NO. A01

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A small housing addition will usually require the submission of the following drawings. All drawings must be accurately drawn to scale, in ink. If the drawings are prepared by someone other than the owner, the designer must have the qualifications specified in the building code.

SITE PLAN

A SITE PLAN is a drawing showing the complete property and identifying all structures in relation to the property boundaries. A property survey is commonly used as a template for developing the site plan. The site plan should include:

- Scale
- North arrow
- Street location & name
- Lot lines & dimensions to all buildings
- Existing & proposed buildings
- Proposed changes to existing grade

FLOOR PLANS

A FLOOR PLAN is a drawing of the structure as seen as if it is cut horizontally a few feet above the floor line. One floor plan is required for every floor of the house which is affected by the new construction. Each plan shows the interior layout of the level in question as well as providing the structural framing information for the floor or roof above. Floor plans should include:

- Scale
- Use of rooms & spaces (label)
- Dimensions
- Extent of new construction including new work within existing building
- Size, type and location of exterior and interior walls and partitions
- Widths, locations and lintel sizes of all openings
- Location, dimensions and direction of stairs
- References to detailed drawings
- Material specifications or notes
- Heating and ventilation details
- Location of smoke alarms and carbon monoxide detectors

ELEVATIONS

ELEVATIONS show the exterior view of each side of the house. Each elevation is identified by the direction it is facing, and should include:

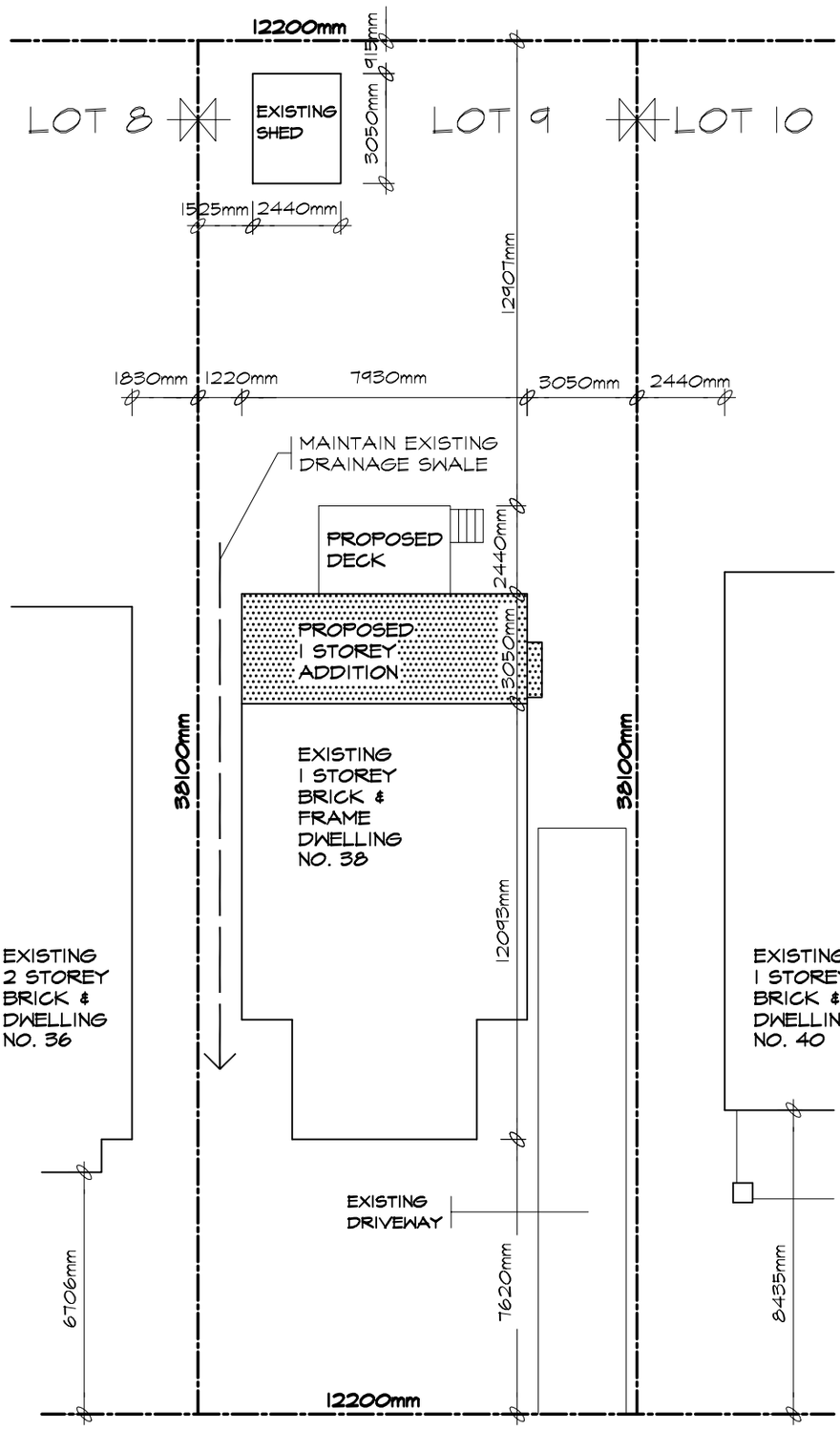
- Scale
- Extent of new & existing construction
- Dimensions of walls, windows & doors
- Grade level
- Exterior wall cladding, finishes & flashing
- Overhang dimensions
- Roof shape, slope & finish
- Rain water leader & eavestrough

SECTIONS and DETAILS

A SECTION represents a view of the house along an imaginary line at a particular location, & illustrates construction details. The extent of the section should correspond with the sectional arrow shown on the plans. Sections should indicate the following:

- Scale
- Details of footings, foundations, walls, floors & the roof
- Distance from grade to floor & underside of footing
- Attic & crawl space ventilation

Some aspects of the project may require some specific details, such as engineered roof truss drawings. An inventory of standard construction details is available from your local municipal office, which can be used to augment your plans.



SITE PLAN

SCALE 1:200

SKETCH OF SURVEY OF
LOT 9
REG.'D PLAN 4220
CITY OF TORONTO
B.C. TRANSIT. O.L.S.
DECEMBER 31ST, 1999

KHALMUR CRESCENT

ZONING	LOT NO:	PLAN NO:	LOT AREA	LOT FRONTAGE	LOT DEPTH
R2 Z0.6	LOT 9	4220	580.64m2	12200mm	38110mm

DESCRIPTION	EXISTING	ADDITION	TOTAL	%	ALLOWED	%
LOT COVERAGE	86.52m2	24.15m2	110.65m2	19.0	---------	
GROSS FLOOR AREA	86.52m2	24.15m2	110.65m2	19.0	348.39m2	60.0
LANDSCAPED AREA	----------	----------	----------		---------	
NO. OF STORIES HEIGHT	1 STOREY 4550mm	1 STOREY 4550mm	1 STOREY 4550mm		10000mm	
WIDTH	7930mm	7930mm	7930mm		----------	
DEPTH	12093mm	3050mm	15143mm		17000mm	
PARKING	----------	----------	----------		----------	

SETBACKS	EXISTING	PROPOSED
FRONT YARD	7620mm	7620mm
REAR YARD	18390mm	12907mm
INTERIOR SIDE (east)	3050mm	3050mm
INTERIOR SIDE (west)	1220mm	1220mm
EXTERIOR	----------	----------

NOTE: ZONING RESTRICTIONS VARY IN EVERY MUNICIPALITY. CONTACT YOUR LOCAL MUNICIPAL OFFICE FOR SPECIFIC SETBACKS AND OTHER LIMITATIONS IN YOUR AREA.

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING SITE PLAN

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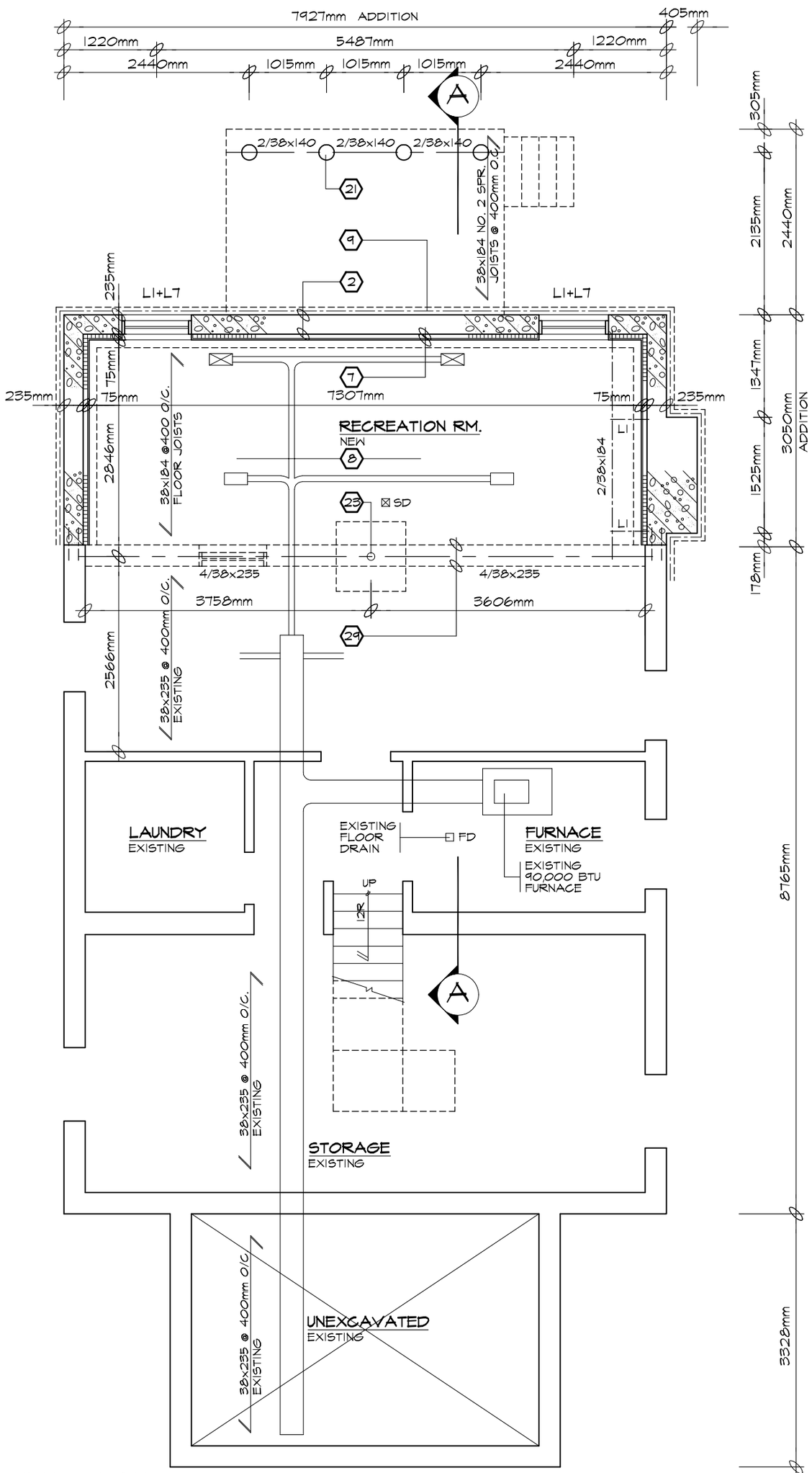
DWG. NO.

A03a

2012



BASEMENT PLAN

SCALE 1:50

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING BASEMENT PLAN

DWG. NO.

A03b

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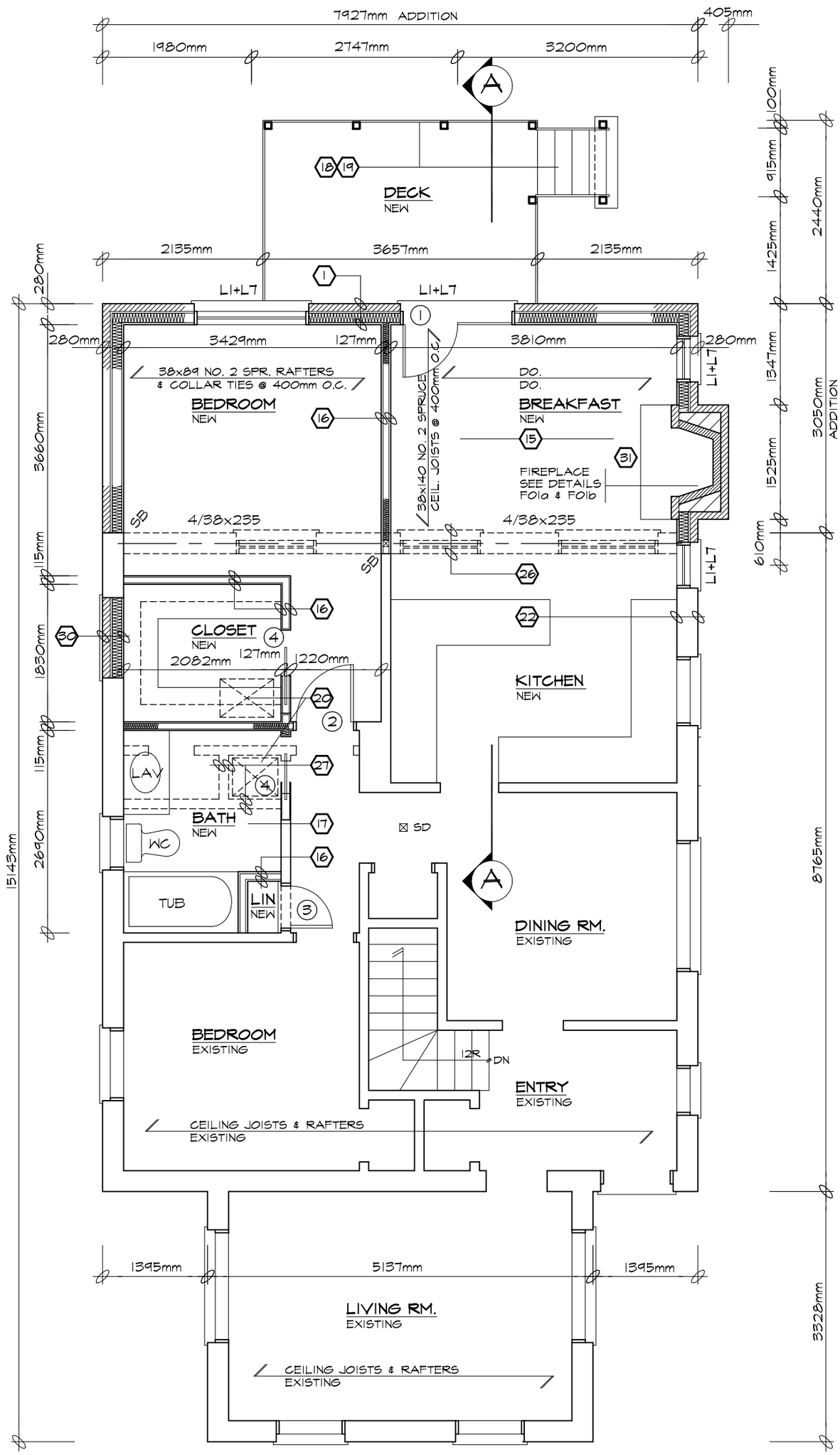
2012



GROUND FLOOR PLAN

SCALE 1:50

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING GROUND FLOOR PLAN

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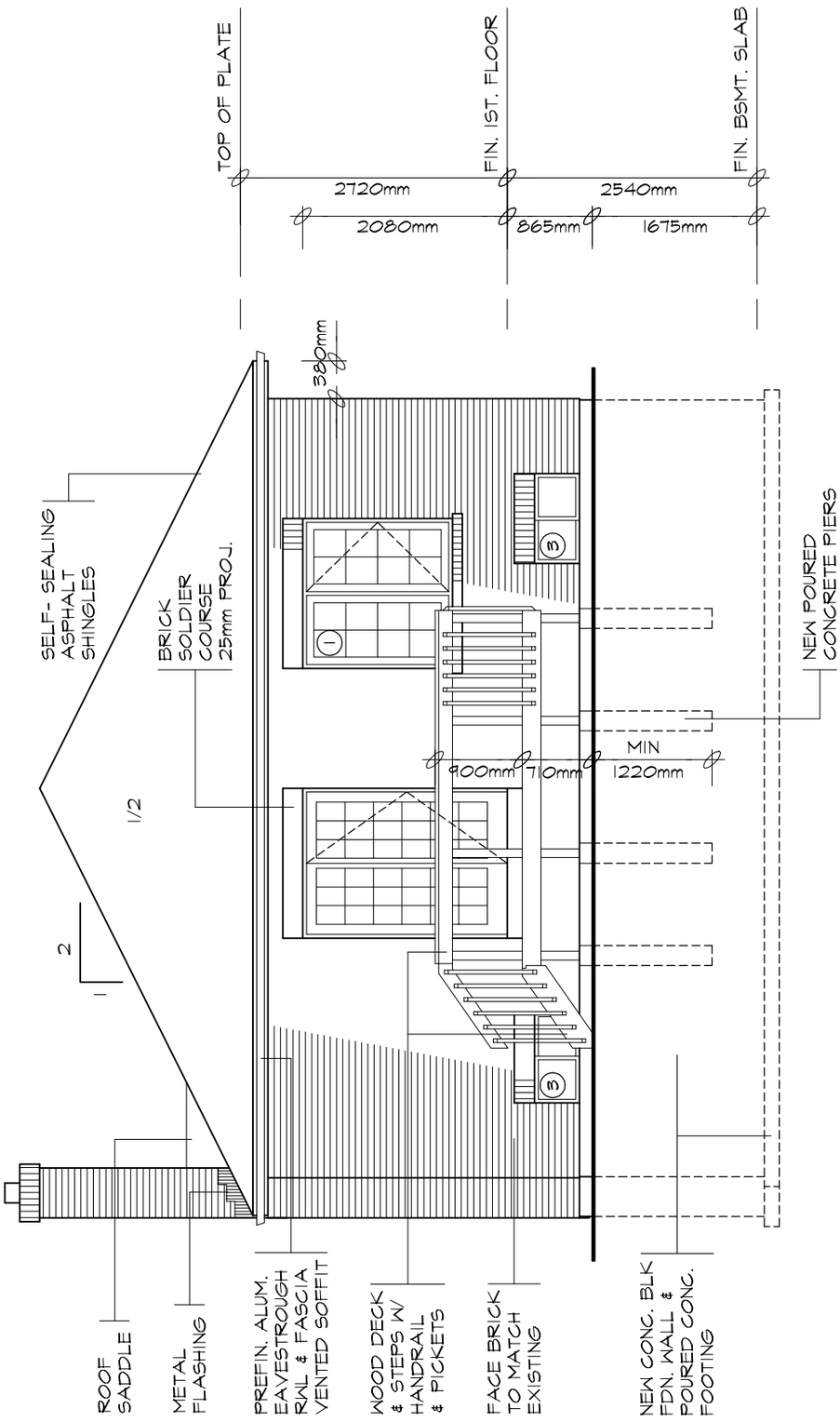
DWG. NO.

A03c

2012



NORTH ELEVATION

SCALE 1:50

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING ELEVATION

DWG. NO.

A03d

2012

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LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING ELEVATION

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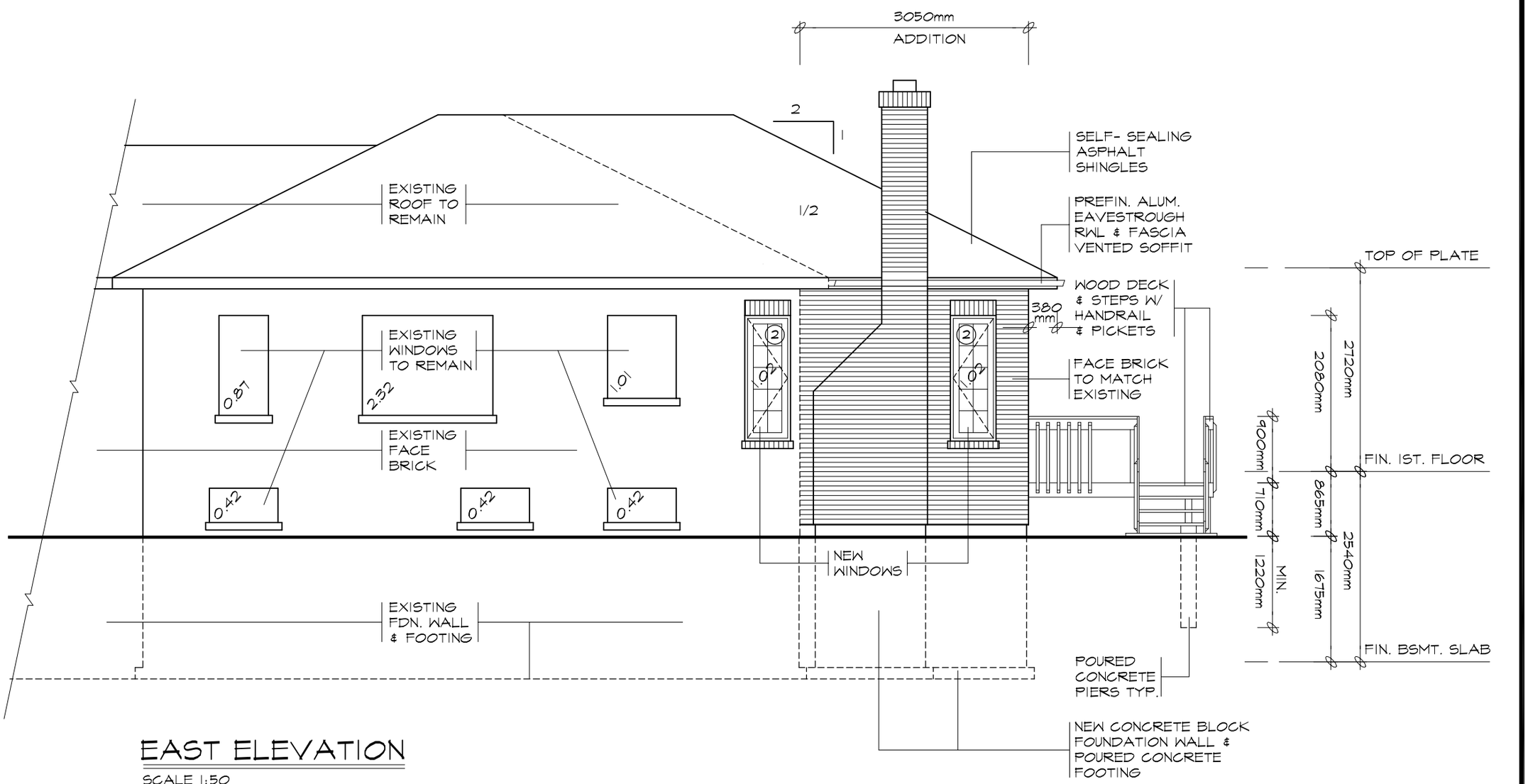
2012

DWG. NO.

A03e

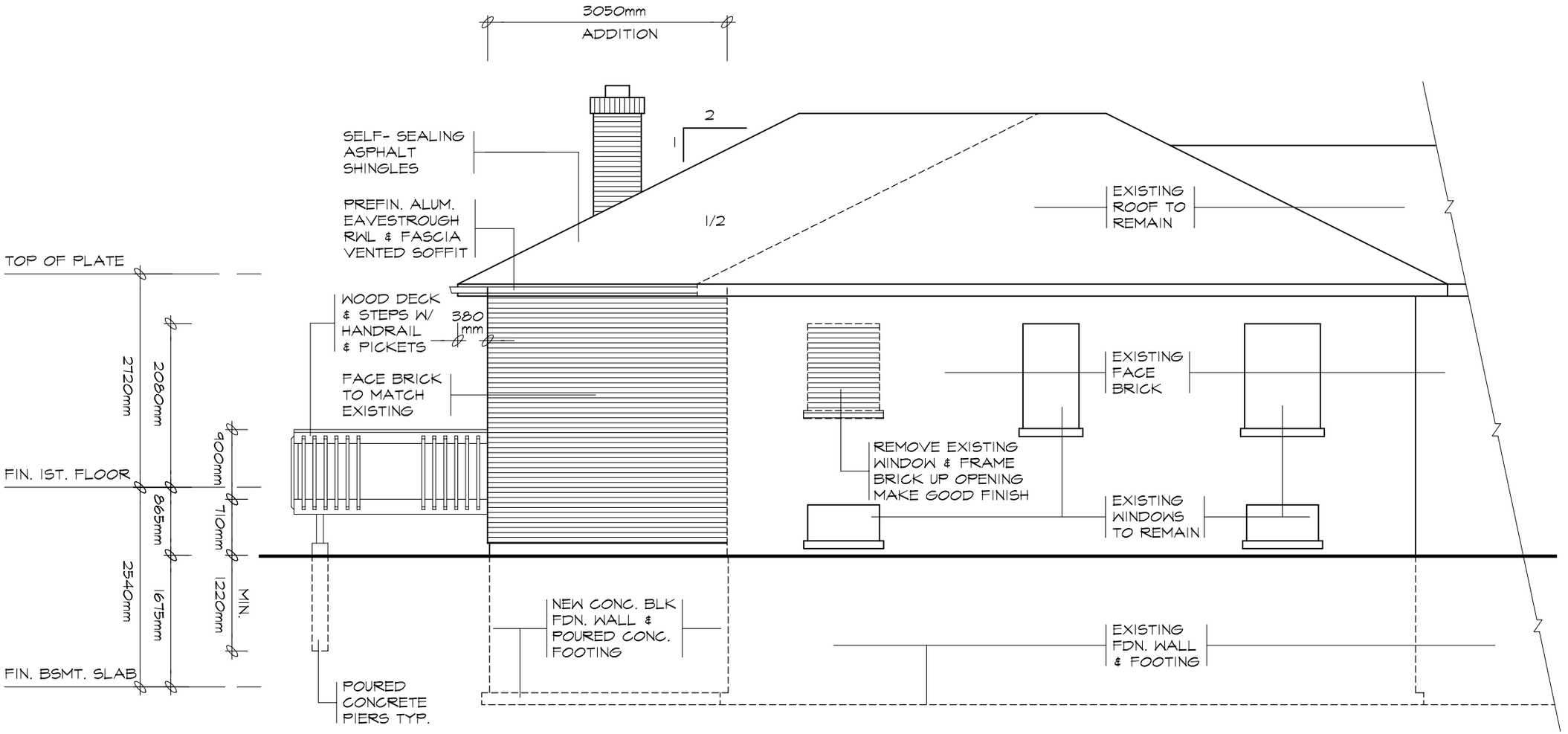


EAST ELEVATION

SCALE 1:50

UNPROTECTED OPENINGS

WALL AREA	42.36m2
LIMITING DISTANCE	3050mm @ 18.00%
MAX. ALLOWABLE OPENINGS	7.62m2
TOTAL OPENINGS PROVIDED	7.50m2



WEST ELEVATION

SCALE 1:50

UNPROTECTED OPENINGS

NO NEW OPENINGS
EXISTING TO REMAIN

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING ELEVATION

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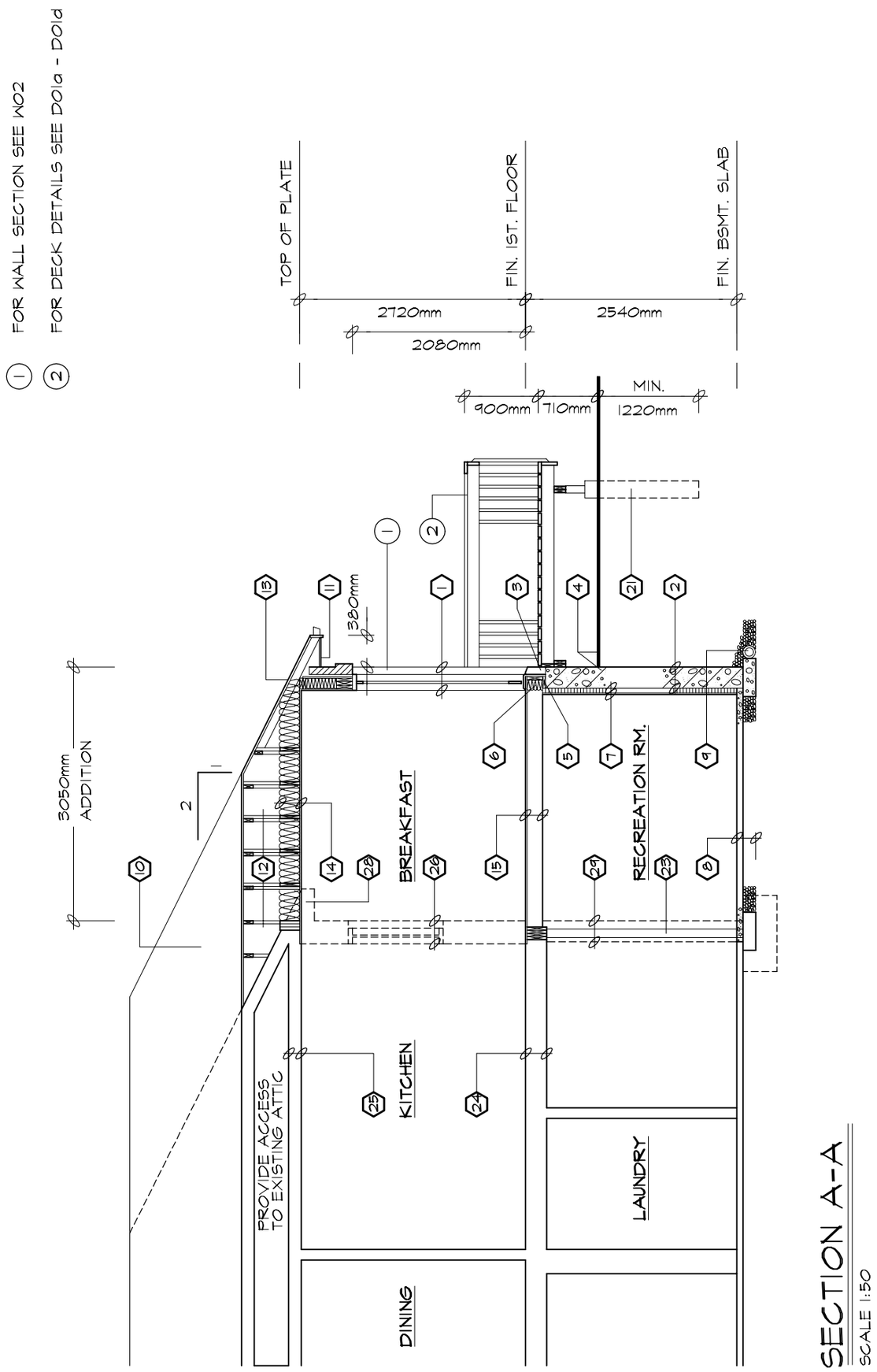
2012

DWG. NO.

A03



SECTION A-A

SCALE 1:50

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING CROSS SECTION

DWG. NO.

A03g

2012

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CONSTRUCTION SPECIFICATIONS

1 BRICK VENEER WALL

90mm FACE BRICK, 25mm AIR SPACE
0.76mm THICK x 22mm WIDE
GALVANIZED METAL TIES
INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZ., 600mm O.C. VERT.
AIR BARRIER, LAYERS
TO OVERLAP EACH OTHER
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 400mm O.C.
RSI 4.23 BATT INSUL. IN CONTINUOUS
CONTACT W/ EXTERIOR SHEATHING
CONTINUOUS AIR / VAPOUR BARRIER
12.7mm INTERIOR DRYWALL FINISH
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM

2 FOUNDATION WALL

BITUMINOUS DAMPPROOFING ON
MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL
TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE
PROVIDE PARGING COVED OVER
450mmx150mm POURED CONC. FOOTING
TO BEAR ON UNDISTURBED SOIL
PROVIDE DRAINAGE LAYER
- MIN. 19mm MINERAL FIBRE
  INSULATION W/ A DENSITY OF
  NOT LESS THAN 57kg/m3. OR
- MIN. 100mm OF FREE DRAINING
  GRANULAR MATERIAL OR
- A B.M.E.C. APPROVED
  DRAINAGE LAYER MATERIAL

3 BRICK VENEER @ FDN. WALL

0.5mm POLY FLASHING MINIMUM
150mm UP BEHIND SHEATHING PAPER
WEEP HOLES @ MIN. 800mm APART

4 GRADE

SLOPE GRADE AWAY FROM
BUILDING FACE & PROVIDE
SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

5 SILL PLATE

38x140 SILL PLATE FASTENED
TO FOUNDATION WALL WITH
MIN. 12.7mm DIA. ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O/C. MAX. & PROVIDE A
CONTINUOUS AIR BARRIER BETWEEN
THE FOUNDATION WALL & WOOD
FRAME CONSTRUCTION

6 FLOOR INSULATION

CONTINUOUS HEADER JOIST WITH
RSI 5.46 BATT INSULATION, EXTEND
VAPOUR / AIR BARRIER & SEAL
TO JOIST AND SUBFLOOR

7 FOUNDATION INSULATION

12.7mm INTERIOR DRYWALL FINISH
38x89 WOOD STRAPPING @ 400mm O/C.
MIN. RSI 3.52 INSULATION W/ 0.15mm POLY
VAPOUR BARRIER FULL HEIGHT.
MOISTURE BARRIER TO HEIGHT OF
EXTERIOR GRADE BETWEEN
FOUNDATION WALL & WOOD FRAMING

8 BASEMENT SLAB

75mm POURED CONCRETE SLAB
(25 MPa CONC. STRENGTH)
100mm CRUSHED STONE BELOW

9 DRAINAGE

100mm DIA. WEEPING TILE W/
150mm CRUSHED STONE COVER

10 ROOF CONSTRUCTION

20 YEAR ASPHALT SHINGLES W/
EAVES PROTECTION ON MIN. 9.5mm
EXTERIOR PLYWOOD SHEATHING
ON APPROVED ROOF TRUSSES OR
CONVENTIONAL FRAMING (SEE PLANS)
USE 'H' CLIPS IF 600mm O.C. SPACING

11 OVERHANG CONSTRUCTION

PREFINISHED ALUMINUM FASCIA,
EAVESTROUGH & RAIN WATER LEADERS
TO MATCH EXISTING FINISHES. PROVIDE
DRIP EDGE AT FASCIA & VENTED SOFFIT
EXTEND DOWNSPOUTS TO GRADE LEVEL

12 ROOF VENTILATION

1:300 OF THE INSULATED CEILING
AREA UNIFORMLY DISTRIBUTED.

13 EAVES PROTECTION

EAVES PROTECTION MEMBRANE TO
EXTEND FROM THE EDGE OF THE
ROOF, 900mm UP THE SLOPE BUT NOT
LESS THAN 300mm BEYOND THE
INTERIOR FACE OF THE EXTERIOR WALL

14 CEILING CONSTRUCTION

15.9mm INTERIOR DRYWALL FINISH
CONTINUOUS AIR / VAPOUR BARRIER
W/ MINIMUM RSI 8.81 BATT INSULATION

15 FLOOR CONSTRUCTION

15.5mm T&G PLYWOOD SUBFLOOR
38x184 FLOOR JOISTS @ 400mm O/C.
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19mmx64mm STRAPPING
OR 2 ROWS OF 38mmx38mm CROSS
BRIDGING OR SOLID BLOCKING

16 INTERIOR STUD PARTITION

12.7mm DRYWALL FINISH BOTH SIDES OF
38x89 WOOD STUDS @ 400mm O/C
2 TOP PLATES & 1 BOTTOM PLATE
PROVIDE REINFORCEMENT FOR FUTURE
GRAB BAR INSTALLATION IN BATHROOM

17 MECHANICAL VENTILATION

PROVIDE MIN. 5.0 L/S IN KITCHENS
AND BATHROOMS, 37.5 L/S FOR
PRINCIPAL EXHAUST FAN

18 STAIRS INTERIOR/EXTERIOR

MAXIMUM RISE	=	200mm
MINIMUM RISE	=	125mm
MINIMUM RUN	=	210mm
MAXIMUM RUN	=	355mm
MINIMUM TREAD	=	235mm
MAXIMUM TREAD	=	355mm
MAXIMUM NOSING	=	25mm
MINIMUM WIDTH	=	860mm
MINIMUM HEADROOM	=	1950mm

19 GUARDS

INTERIOR LANDINGS	=	900mm
EXTERIOR BALCONY	=	1070mm
INTERIOR STAIRS	=	900mm
EXTERIOR STAIRS	=	900mm
MAX. BETWEEN PICKETS	=	<100mm

GUARD HEIGHT IF
DECK TO GRADE IS:

GREATER THAN 1800mm	=	1070mm
1800mm OR LESS	=	900mm

NO MEMBER OR ATTACHMENT
BETWEEN 140mm & 900mm HIGH
SHALL FACILITATE CLIMBING

20 ATTIC ACCESS

PROVIDE ATTIC ACCESS
MIN. 545mmx588mm W/ INSULATION
& WEATHER STRIPPING

21 PIERS

PROVIDE 200mm DIA. SONO TUBE
FOR POURED CONCRETE PIERS
MINIMUM 1200mm BELOW GRADE

22 EXISTING SOLID MASONRY
EXTERIOR WALL TO REMAIN.

23 73mm DIA. PIPE COLUMN W/
100mmx100mmx6.35mm
TOP & BOTTOM PLATE
1mx1mx450mm CONCRETE FOOTING

24 EXISTING FLOOR STRUCTURE
TO REMAIN.

25 EXISTING CEILING STRUCTURE
TO REMAIN.

26 REMOVE EXISTING EXTERIOR WALL
AS SHOWN DOTTED

27 REMOVE EXISTING INTERIOR STUD
PARTITIONS AS SHOWN DOTTED

28 REMOVE EXISTING ROOF OVERHANG
AS SHOWN DOTTED

29 REMOVE EXISTING FOUNDATION WALL
AS SHOWN DOTTED

30 REMOVE EXISTING WINDOW & FRAME
MAKE GOOD OPENING W/ BRICK TO
MATCH EXISTING ON THE EXTERIOR

31 INSTALL A CARBON MONOXIDE
DETECTOR CONFORMING TO
CAN/CGA-6.19 OR UL 2034

LMCBO STANDARD DETAILS

TITLE
SAMPLE DRAWING CONSTRUCTION SPECIFICATIONS

DWG. NO.
A03h

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ROOM FINISH SCHEDULE

RM. NO.	ROOM NAME	FLOOR		BASE		WALLS		CEILING			REMARKS
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
	FIRST FLOOR										
1.	KITCHEN	CERAMIC TILE	----------	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	
2.	BREAKFAST	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
3.	BEDROOM	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
4.	CLOSET	WOOD	STAIN	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	MAPLE TO MATCH EXISTING
5.	BATH	CERAMIC TILE	----------	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	
	BASEMENT										
6.	REC. ROOM	CONC.	CERAMIC TILE	WOOD	PAINT	DRYWALL	PAINT			2340mm	

DOOR SCHEDULE

NO.	TYPE	SIZE	QTY.	REMARKS
1.	EXTERIOR	1525mmx 2030mm	1.	FRENCH DOOR
2.	SLAB	760mmx 2030mm	1.	800 SERIES
3.	SLAB	610mmx 2030mm	1.	800 SERIES
4.	POCKET DOOR	610mmx 2030mm	2.	

LINTEL SCHEDULE

NO.	DESCRIPTION
L1	2-38x184 SPRUCE
L2	3-38x184 SPRUCE
L3	2-38x235 SPRUCE
L4	3-38x235 SPRUCE
L5	2-38x286 SPRUCE
L6	3-38x286 SPRUCE
L7	90mmx 90mmx 6mm L
L8	90mmx 90mmx 8mm L
L9	100mmx 90mmx 6mm L

LEGEND

- WP — DUPLEX OUTLET (WEATHERPROOF)
- 600 — DUPLEX OUTLET (HGT. ABOVE FLR.)
- DUPLEX OUTLET (300mm ABOVE FLR.)
- EXHAUST FAN
- SWITCH
- HB — HOSE BIB
- SD — SMOKE DETECTOR
- HEAVY DUTY OUTLET
- LIGHT FIXTURE (WALL MOUNTED)
- LIGHT FIXTURE (CEILING MOUNTED)
- P — POT LIGHT FIXTURE
- R — LIGHT FIXTURE (WATER RESISTANT)
- LIGHT FIXTURE (CAPPED)
- FL — FLUORESCENT LIGHT FIXTURE
- SOLID WOOD BEARING
- FD — FLOOR DRAIN
- TV CABLE OUTLET
- TELEPHONE OUTLET
- C — COMPUTER OUTLET
- DE — DRYER EXHAUST

WINDOW SCHEDULE

ONE WINDOW PER FLOOR TO HAVE AN UNOBSTRUCTED OPEN PORTION W/ A MIN. AREA OF 0.35m2 W/ NO DIMENSION LESS THAN 380mm & MAXIMUM SILL HEIGHT OF 1M ABOVE FLOOR

NO.	TYPE	SIZE	QTY.	REMARKS
1.	CASEMENT	1525mmx 1525mm	1.	MAXIMUM U-VALUE 1.8
2.	CASEMENT	610mmx 1525mm	2.	MAXIMUM U-VALUE 1.8
3.	SLIDER	915mmx 450mm	2.	MAXIMUM U-VALUE 1.8

LMCBO STANDARD DETAILS

TITLE

SAMPLE DRAWING SCHEDULES

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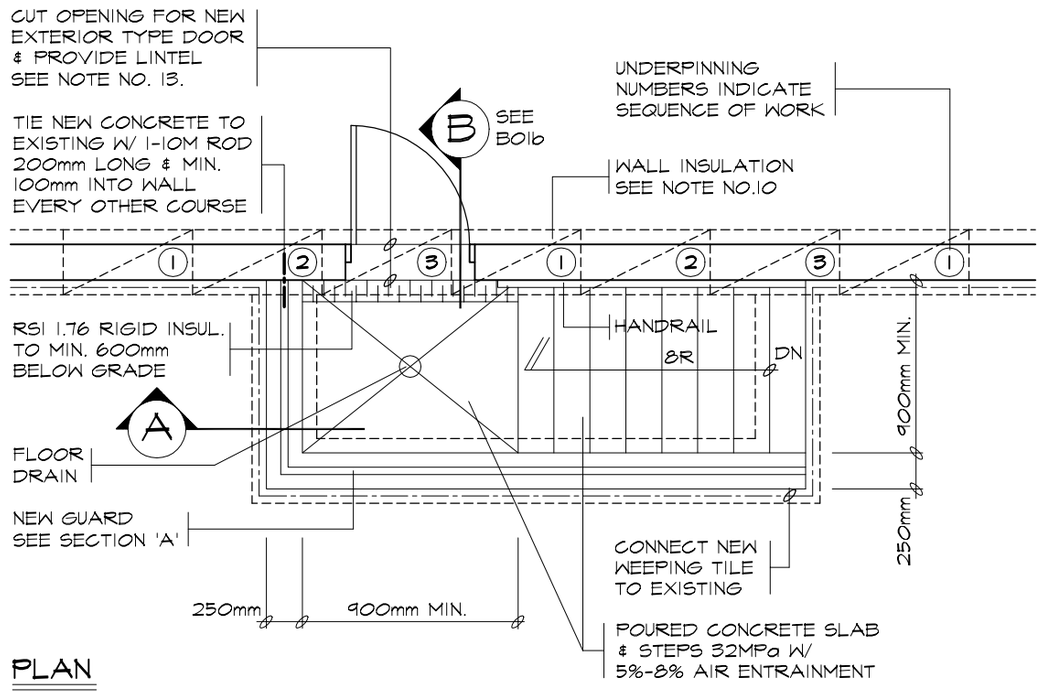
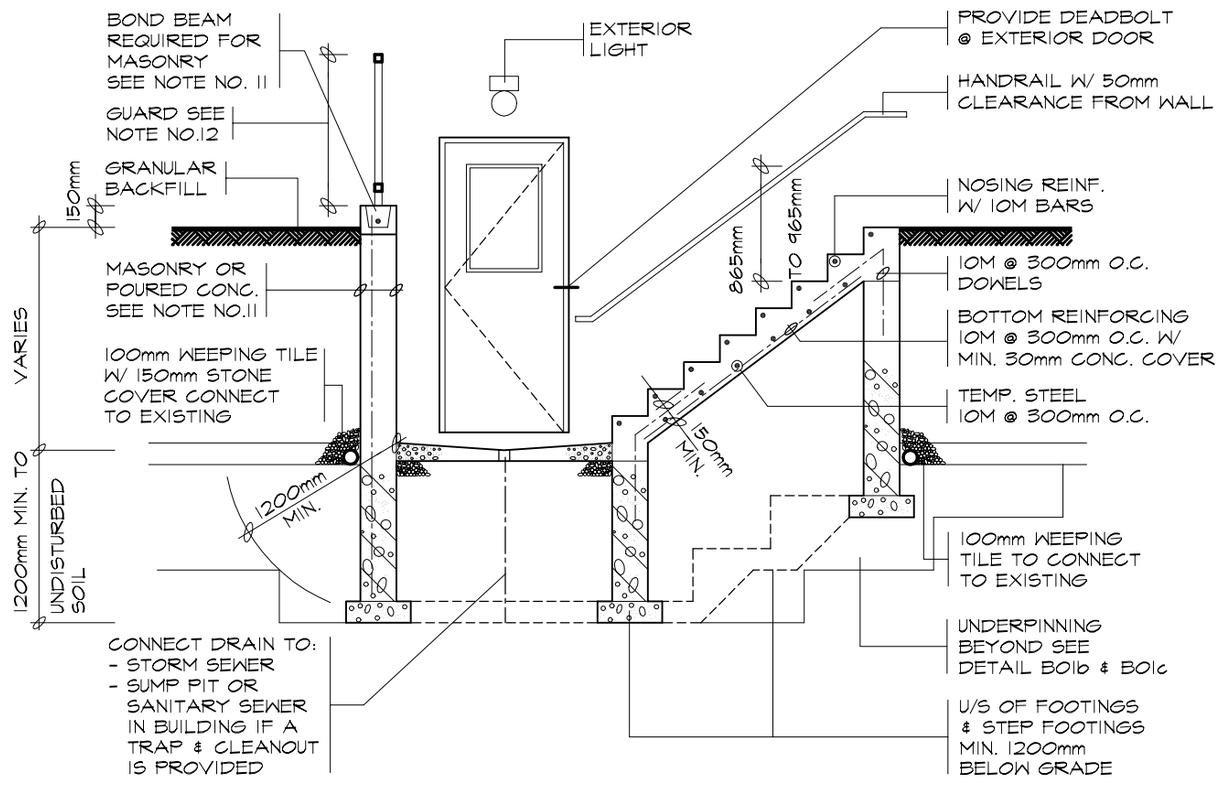
A03i

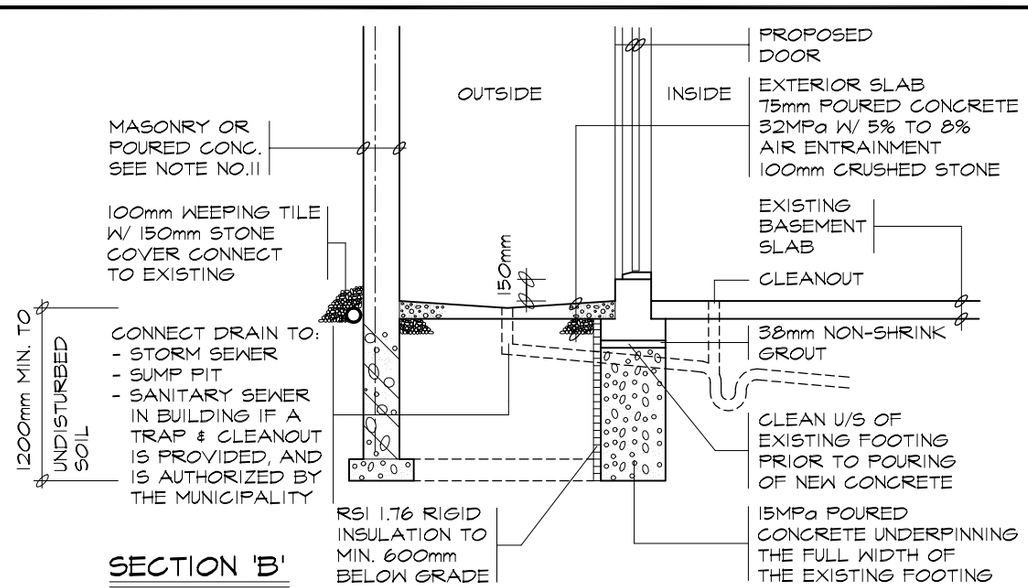
2012



PLAN



SECTION 'A'



SECTION 'B'

LMCBO STANDARD DETAILS

TITLE

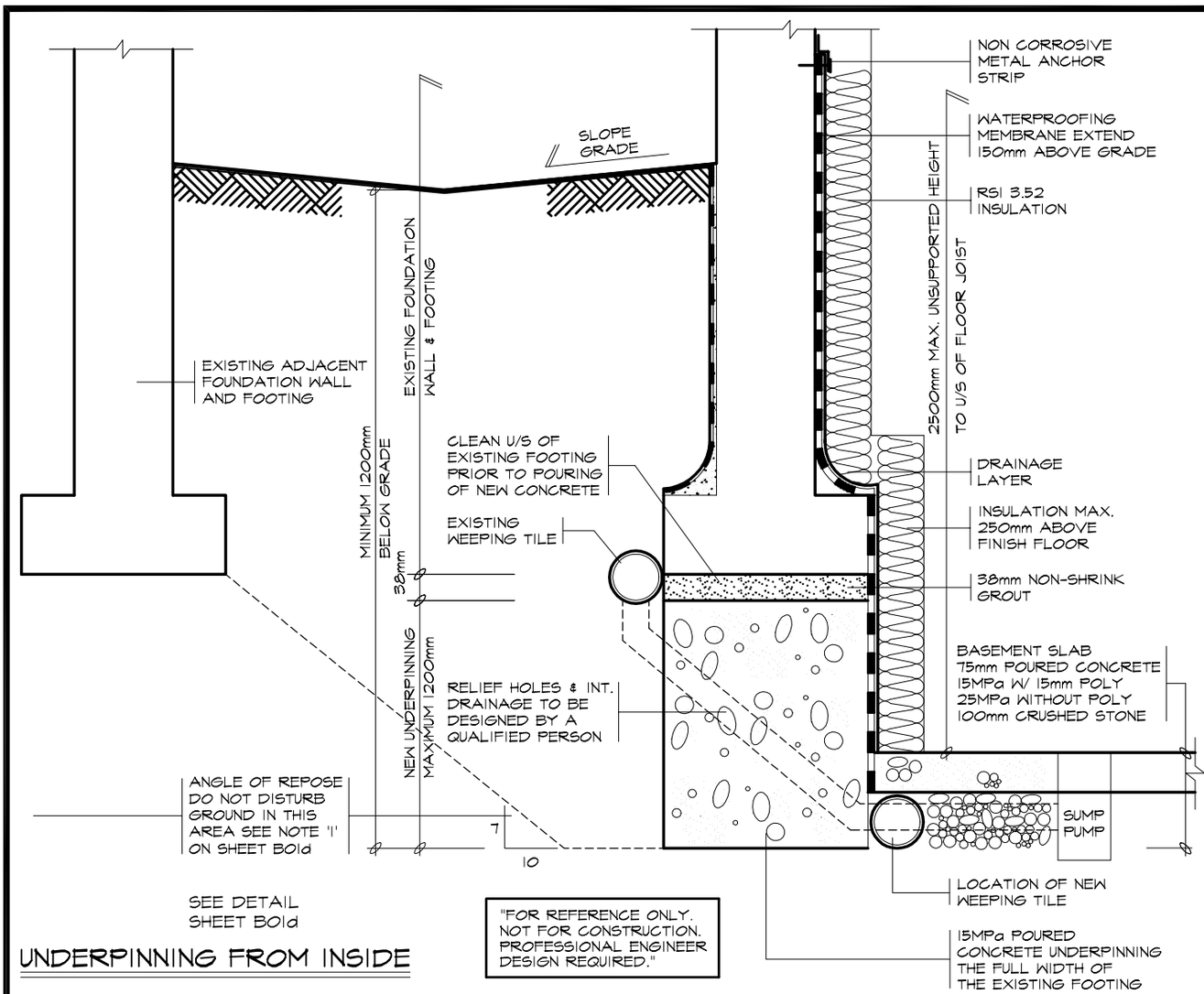
BASEMENT WALKOUT PLAN & SECTIONS

DWG. NO.

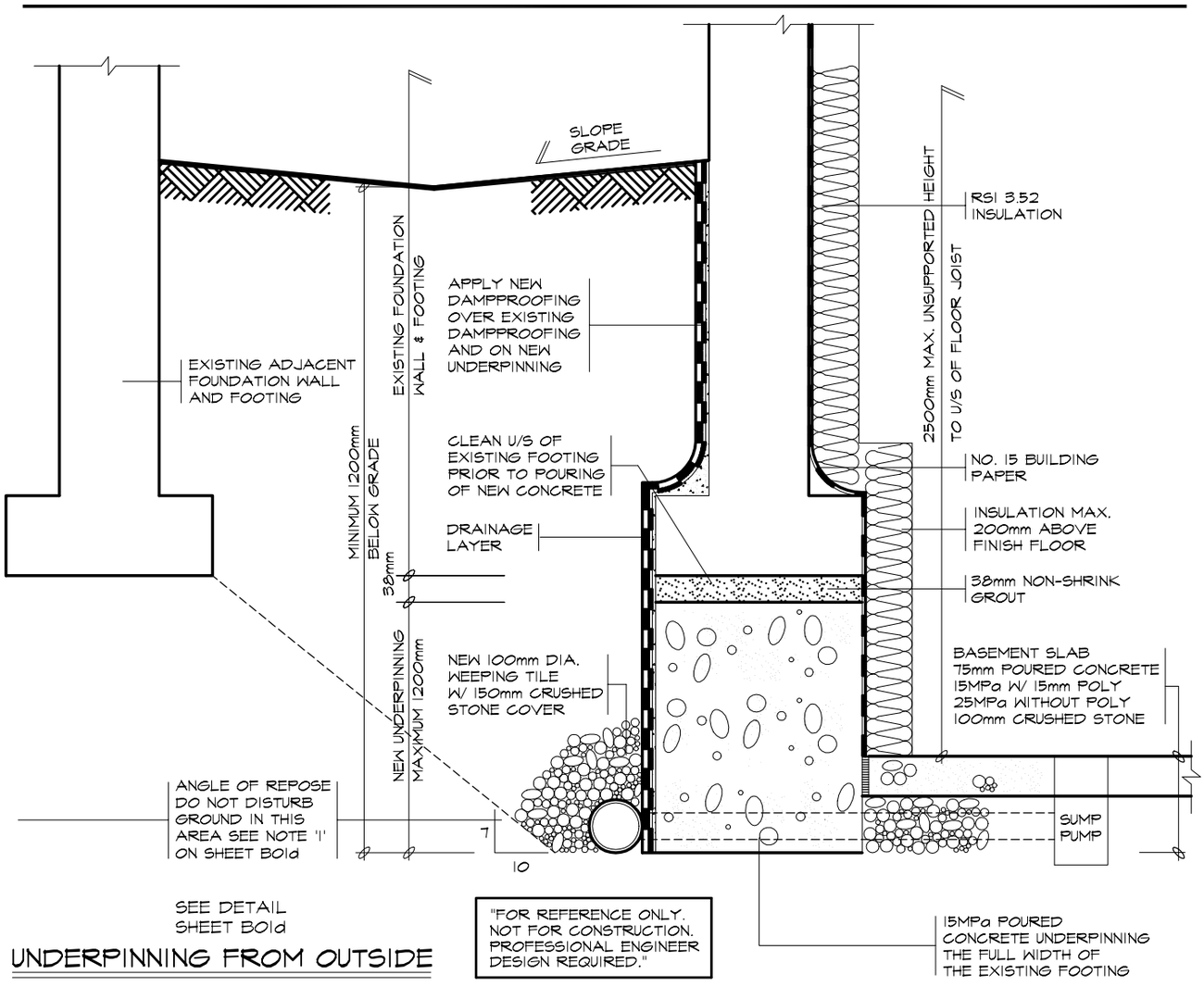
B01a

2012

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND IT'S REGULATIONS. IT IS THE RESPONSIBILITY OF THE OWNER/DESIGNER TO ENSURE THAT ALL DESIGNS SUBMITTED FOR A PERMIT ARE IN ACCORDANCE WITH THE BUILDING CODE ACT, BUILDING CODE AND ANY OTHER APPLICABLE LAW.



UNDERPINNING FROM INSIDE



UNDERPINNING FROM OUTSIDE

LMCBO STANDARD DETAILS

TITLE

UNDERPINNING SECTIONS

DWG. NO.

B01b

2012

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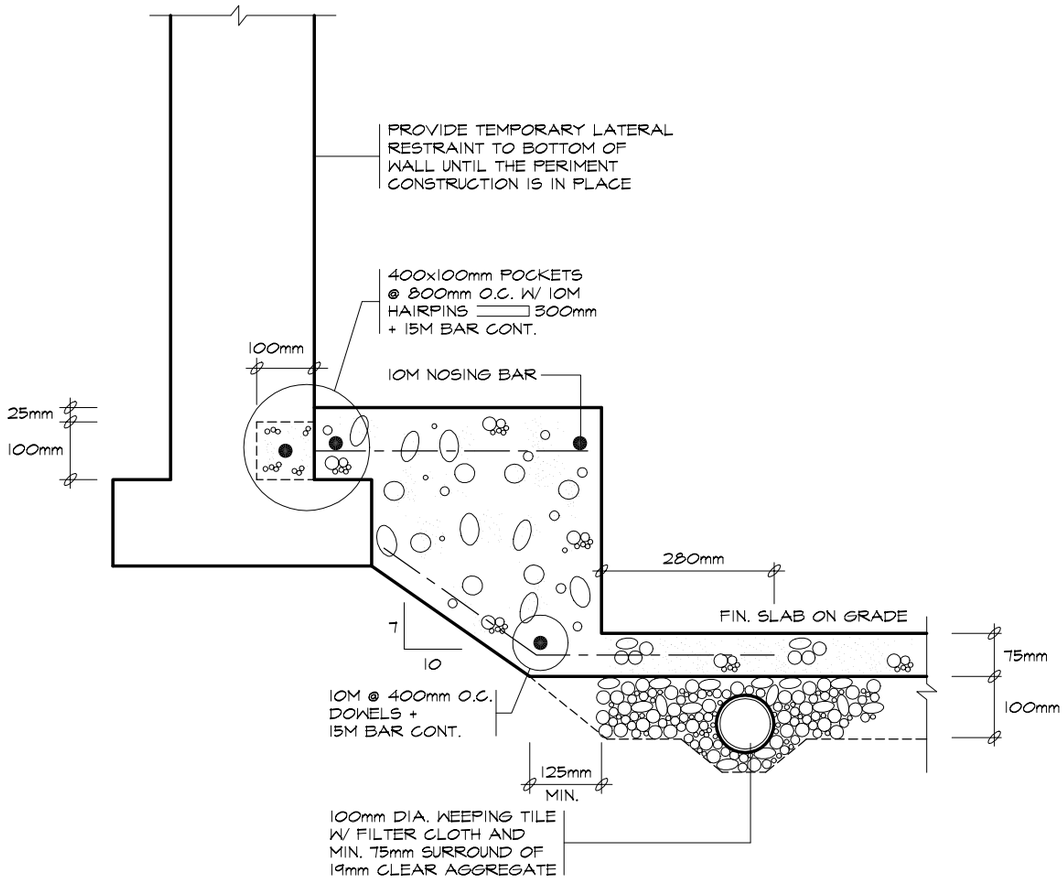


GENERAL NOTES

1. EXCAVATION FOR THE PROPOSED WORK SHOULD NOT UNDERMINE THE FOUNDATIONS OF ADJOINING BUILDINGS, OR CAUSE DAMAGE TO UTILITIES, ROADS AND SIDEWALKS. A MAXIMUM 7:10 ANGLE OF REPOSE SHALL BE MAINTAINED UNLESS OTHERWISE CERTIFIED BY A GEOTECHNICAL ENGINEER
2. PROVIDE ALL BRACING, SHORING AND NEEDLING NECESSARY FOR THE SAFE EXECUTION OF THIS WORK.
3. CONCRETE STRENGTH SHALL BE A MINIMUM 15MPa AT 28 DAYS

LOWERING OF BASEMENT FLOOR SLAB FROM INSIDE

"FOR REFERENCE ONLY. NOT FOR CONSTRUCTION. PROFESSIONAL ENGINEER DESIGN REQUIRED."

LMCBO STANDARD DETAILS

TITLE

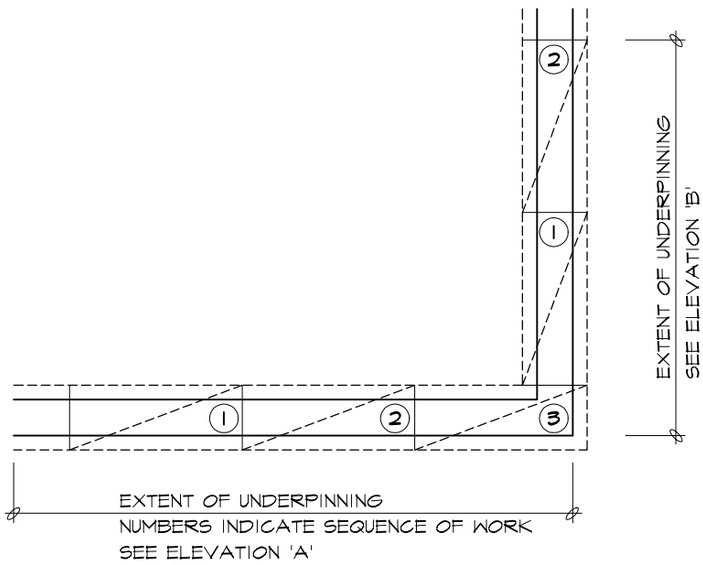
BENCH-TYPE UNDERPINNING SECTIONS, NOTES

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND IT'S REGULATIONS. IT IS THE RESPONSIBILITY OF THE OWNER/DESIGNER TO ENSURE THAT ALL DESIGNS SUBMITTED FOR A PERMIT ARE IN ACCORDANCE WITH THE BUILDING CODE ACT, BUILDING CODE AND ANY OTHER APPLICABLE LAW.

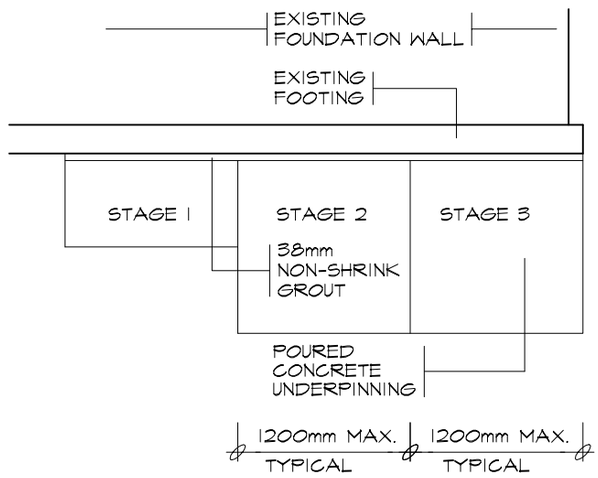
DWG. NO.

B01c

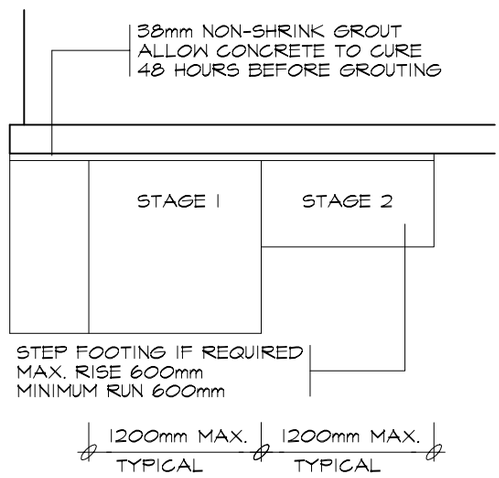
2012



PLAN



ELEVATION 'A'



ELEVATION 'B'

GENERAL NOTES

1. WHERE THE FOUNDATIONS OF A BUILDING ARE TO BE CONSTRUCTED BELOW THE LEVEL OF THE FOOTINGS OF AN ADJACENT BUILDING AND WITHIN THE ANGLE OF REPOSE OF THE SOIL, OR THE UNDERPINNING EXCEEDS 1200mm OF LATERALLY UNSUPPORTED HEIGHT OR THE SOIL IS CLAY OR SILT, THE UNDERPINNING & RELATED CONSTRUCTION SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

2. EXCAVATION SHALL BE UNDERTAKEN IN A MANNER SO AS TO PREVENT MOVEMENT WHICH WOULD CAUSE DAMAGE TO ADJACENT PROPERTY, STRUCTURES, UTILITIES, ROADS & SIDEWALKS. CONTACT YOUR LOCAL UTILITIES PRIOR TO COMMENCING EXCAVATION.

3. MINIMUM CONCRETE STRENGTH FOR UNDERPINNING SHALL BE 15MPa AT 28 DAYS. ALL EXTERIOR CONCRETE SHALL BE 32MPa W/ 5%-8% AIR ENTRAINMENT.

4. CONCRETE SHALL BE CURED MINIMUM 48 HOURS BEFORE GROUTING AND PROCEEDING TO THE NEXT STAGE.

5. SHORE & BRACE WHERE NECESSARY TO ENSURE THE SAFETY & STABILITY OF THE EXISTING STRUCTURE DURING UNDERPINNING.

6. WEEPING TILE IS TO DRAIN TO THE STORM SEWER, DITCH, DRYWELL OR INSTALL COVERED SUMP PIT WITH AN AUTOMATIC PUMP.

7. FOOTINGS

   450mmx100mm POURED CONC. FOOTING
   ALL FOOTINGS SHALL REST ON
   NATURAL UNDISTURBED SOIL OR
   COMPACTED GRANULAR FILL

8. CONCRETE

   MINIMUM COMPRESSIVE STRENGTH
   OF 32MPa @ 28 DAYS W/
   5% TO 8% AIR ENTRAINMENT

9. EXTERIOR STAIRS

   200mm RISE MAXIMUM 125mm MINIMUM
   210mm RUN MINIMUM 355mm MAXIMUM
   235mm TREAD MINIMUM 355mm MAXIMUM

10. INSULATION

   - MIN. RSI 4.23 (R24) INSULATION & VAPOUR BARRIER ON THE INSIDE FACE OF THE EXPOSED FOUNDATION WALL
   - MIN. RSI 1.76 (R10) INSULATION FOR 600mm BELOW GRADE AT WALKOUT LANDING

11. RETAINING WALL

   250mm MASONRY OR POURED CONCRETE
   W/ NO REINFORCING REQUIRED FOR
   WALL HEIGHTS TO A MAX. OF 1200mm
   PROVIDE 25M VERTICAL REINFORCEMENT
   @ 600mm O.C. AND A BOND BEAM
   CONTAINING AT LEAST ONE 15M REINFORCEMENT
   FOR BACKFILL HEIGHTS TO A MAX. OF 2400mm

12. PRE-ENGINEERED GUARDS

   1070mm HIGH WHERE DISTANCE FROM GRADE
   TO BOTTOM OF WALKOUT EXCEEDS 1800mm;
   900mm FOR LESSER HEIGHTS. MAXIMUM 100mm
   BETWEEN VERTICAL PICKETS

13. LINTELS (FOR MAX. 1200mm OPENINGS)

   1. SOLID MASONRY: 2- 90mmx90mmx6mm ANGLES
   2. BRICK VENEER: 1- 90mmx90mmx6mm L + 2-38x184
   3. WOOD FRAME/SIDING: 2-38x184

"FOR REFERENCE ONLY.
NOT FOR CONSTRUCTION.
PROFESSIONAL ENGINEER
DESIGN REQUIRED."

LMCBO STANDARD DETAILS

TITLE

UNDERPINNING PLAN, ELEVATIONS & NOTES

DWG. NO.

B01d

2012

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MINIMUM ROOM AREAS

APARTMENTS FOR ONE OR TWO PERSONS WHERE SPACE IS NOT PARTITIONED	
REQUIRED SPACE	**MINIMUM AREA**
LIVING, DINING, KITCHEN & SLEEPING SPACE	13.5M^2 IN TOTAL
OTHER PARTITIONED APARTMENTS	
LIVING AREA	13.5M^2
	11.0M^2 IF LIVING AREA IS COMBINED W/ DINING & KITCHEN SPACE
DINING AREA	7.0M^2
	3.25M^2 IF DINING AREA IS COMBINED W/ ANOTHER SPACE
KITCHEN	3.7M^2
AT LEAST ONE BEDROOM	9.8M^2
	8.8M^2 IF A BUILT IN CLOSET IS PROVIDED
	4.2M^2 IF THE BEDROOM AREA IS COMBINED W/ ANOTHER SPACE
OTHER BEDROOMS	7.0M^2
	6.0M^2 IF A BUILT IN CLOSET IS PROVIDED
	4.2M^2 IF THE BEDROOM AREA IS COMBINED W/ ANOTHER SPACE

- MINIMUM CEILING HEIGHT SHALL BE NOT LESS THAN 1950mm

MINIMUM WINDOW AREAS FOR LIGHT

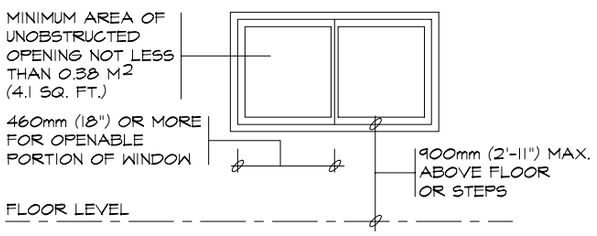
LOCATION	MINIMUM UNOBSTRUCTED GLASS AREA
LAUNDRY ROOM, KITCHEN, WATER CLOSET ROOM	WINDOWS NOT REQUIRED
LIVING/DINING ROOMS	5% OF FLOOR AREA
BEDROOMS AND OTHER FINISHED ROOMS	2 1/2% OF FLOOR AREA

- WHERE A DOOR ON THE SAME LEVEL AS A BEDROOM IS NOT PROVIDED, A WINDOW THAT IS ABLE TO BE OPENED FROM THE INSIDE WITHOUT THE USE OF TOOLS PROVIDING AN INDIVIDUAL UNOBSTRUCTED OPEN PORTION HAVING A MINIMUM AREA OF 0.35M^2 WITH NO DIMENSION LESS THAN 380mm SHALL BE PROVIDED. IF THIS WINDOW OPENS INTO A WINDOW WELL, A CLEARANCE OF NOT LESS THAN 550mm SHALL BE PROVIDED IN FRONT OF THE OPERATING SASH.
- NEW OPENINGS IN EXTERIOR WALLS ARE NOT PERMITTED IF THE DISTANCE FROM THE WALL TO AN ADJACENT LOT LINE IS LESS THAN 1200mm

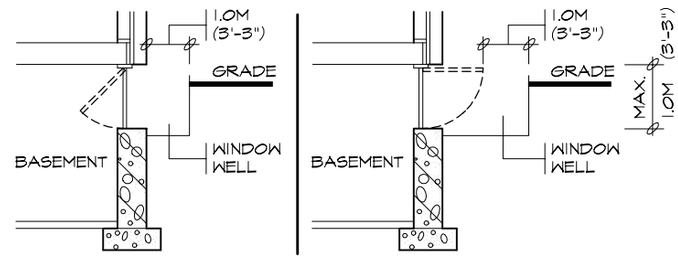
EGRESS REQUIREMENTS

EGRESS PROVIDED FROM APARTMENT	CONDITIONS
A SEPARATE DOOR LEADING DIRECTLY TO THE EXTERIOR FROM THE ACCESSORY APARTMENT	SMOKE ALARMS IN EACH DWELLING
A 'SHARED EXIT', SUCH AS A STAIRWAY USED BY BOTH UNITS	1/2 HOUR FIRE SEPARATION AROUND EXIT, AND INTERCONNECTED SMOKE ALARMS IN BOTH UNITS AND ALL COMMON AREAS.
EGRESS AVAILABLE ONLY THROUGH ANOTHER DWELLING	AN EGRESS WINDOW MUST BE PROVIDED. INTERCONNECTED SMOKE ALARMS MUST BE INSTALLED IN BOTH UNITS, AND ALL COMMON AREAS, OR THE ENTIRE BUILDING MUST BE SPRINKLERED, AND SMOKE ALARMS INSTALLED IN BOTH UNITS.

EGRESS WINDOW



WINDOW WELL FOR EGRESS WINDOW



SEPARATION BETWEEN UNITS

REQUIRED FIRE SEPARATIONS/CLOSURES	CONDITIONS
30 MINUTE FIRE SEPARATION (12.7mm TYPE 'X' GYPSUM BD. CEILING)	SMOKE ALARM IN BOTH UNITS
15 MINUTE HORIZONTAL FIRE SEPARATION	INTERCONNECTED SMOKE ALARMS IN BOTH UNITS AND IN ALL COMMON AREAS
NO FIRE SEPARATIONS	THE ENTIRE BUILDING MUST BE SPRINKLERED
20 MINUTE LABELED DOORS, UNLABELED MINIMUM 45mm THICK SOLID CORE WOOD DOOR OR METAL CLAD	EQUIPPED WITH SELF CLOSERS
UNRATED CLOSURES	THE APARTMENT FLOOR AREA MUST BE SPRINKLERED

SMOKE ALARMS AND CARBON MONOXIDE DETECTORS

REQUIRED SMOKE ALARMS WITHIN EACH DWELLING UNIT BETWEEN THE BED RM. AND REMAINDER OF SUITE AND IN EACH BED RM.	MAY BE BATTERY OPERATED EXCEPT WHERE SMOKE ALARMS ARE REQUIRED TO BE INTERCONNECTED DUE TO **SEPARATION BETWEEN UNITS** AND **EGRESS REQUIREMENTS.** ALARMS MUST BE LOCATED ON OR NEAR THE CEILING WITHIN 5M OF BEDROOM DOORS.
REQUIRED CARBON MONOXIDE DETECTORS WITHIN EACH DWELLING UNIT ADJACENT TO EACH SLEEPING AREA	MUST CONFORM TO CAN/CSA-6.19 OR UL 2034. CO DETECTORS MAY BE BATTERY OPERATED OR PLUGGED INTO AN ELECTRICAL OUTLET.
REQUIRED VISUAL DEVICE BY EACH SMOKE ALARM	MUST CONFORM TO 18.5.3 OF NFPA 72 & INTERCONNECTED TO SMOKE ALARMS

PLUMBING, HEATING AND VENTILATION

CENTRAL HEATING SYSTEM	EXISTING SYSTEM MAY SERVE BOTH UNITS PROVIDED i) BOTH UNITS ARE EQUIPPED WITH SMOKE ALARMS, AND ii) A SMOKE DETECTOR IS INSTALLED IN THE SUPPLY OR RETURN AIR DUCT SYSTEM WHICH WOULD TURN OFF THE FUEL SUPPLY AND ELECTRICAL POWER TO THE HEATING SYSTEM UPON ACTIVATION.
NATURAL VENTILATION (OPENABLE WINDOWS/DOORS) FOR LIVING/DINING ROOMS, BEDROOMS, KITCHEN	MINIMUM 0.28M^2 (3SQ. FT.) PER ROOM OR COMBINATION OF ROOMS
NATURAL VENTILATION (OPENABLE WINDOW) FOR BATHROOMS OR WATER CLOSET ROOMS	MINIMUM 0.09M^2 (0.97SQ. FT.)
MECHANICAL VENTILATION, IF NATURAL VENTILATION IS NOT PROVIDED	ONE-HALF AIR CHANGE PER HOUR IF THE ROOM IS MECHANICALLY COOLED IN SUMMER, AND ONE AIR CHANGE PER HOUR IF IT IS NOT.
REQUIRED PLUMBING FACILITIES	
• KITCHEN SINK • LAUNDRY FACILITIES	• BATHROOM WITH LAVATORY, TOILET AND BATHTUB OR SHOWER STALL

LMCBO STANDARD DETAILS

TITLE: # BASEMENT ACCESSORY APARTMENT

BUILDING CODE REQUIREMENTS - EXISTING BUILDING

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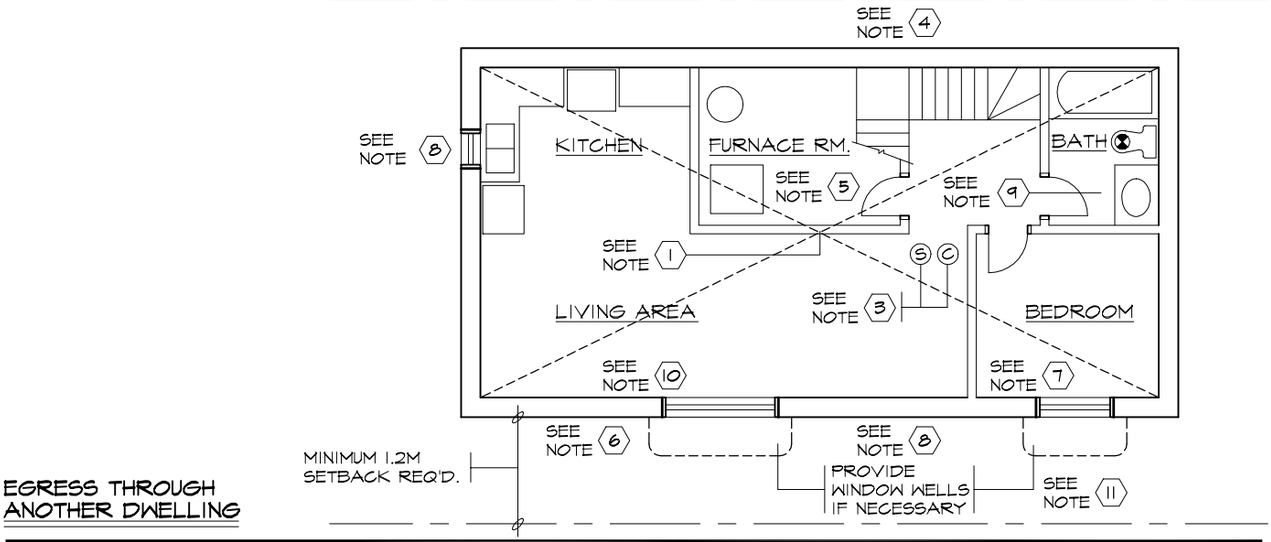
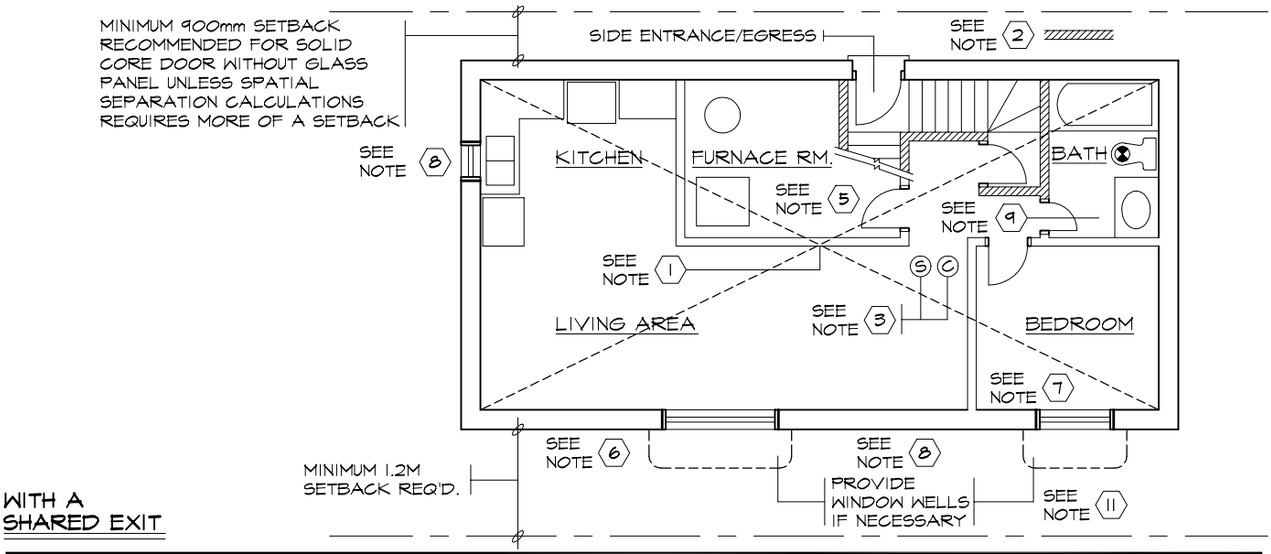
DWG. NO. B02a

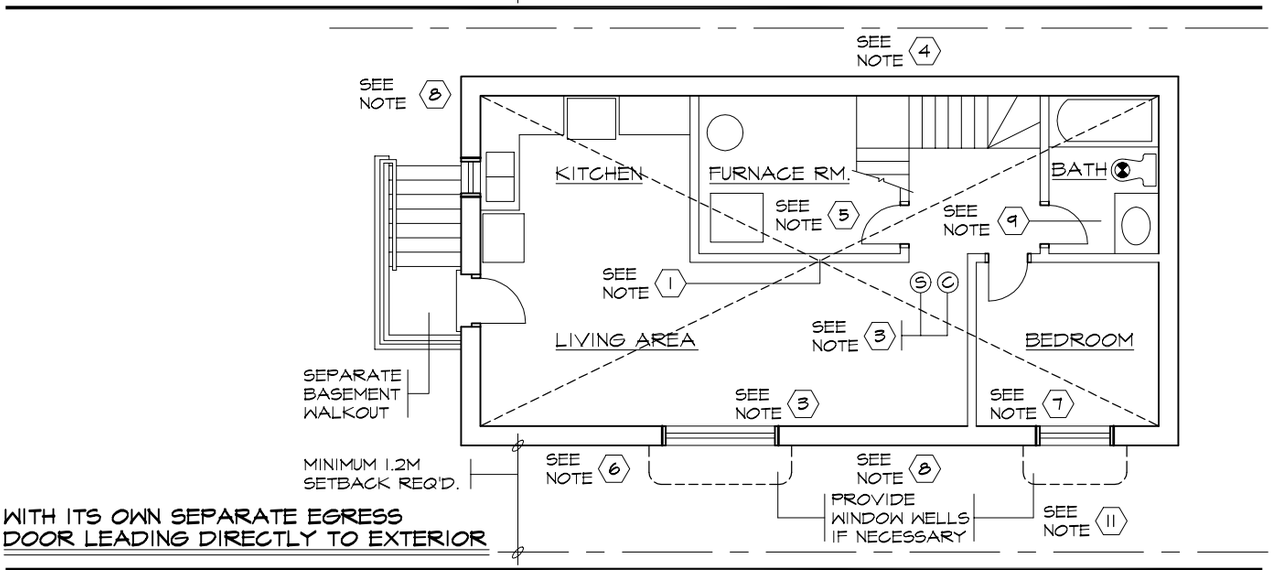
2012



EGRESS THROUGH ANOTHER DWELLING



WITH A SHARED EXIT



WITH ITS OWN SEPARATE EGRESS DOOR LEADING DIRECTLY TO EXTERIOR

NOTES RELATING TO PLANS ABOVE (1)

1. MINIMUM 30 MINUTE FIRE SEPARATION UNLESS INTERCONNECTED SMOKE ALARMS ARE PROVIDED IN BOTH UNITS AND ALL COMMON AREAS, IN WHICH CASE, A 15 MINUTE FIRE SEPARATION WOULD ONLY BE REQUIRED. INSTALLING SPRINKLERS THROUGHT THE BUILDING WOULD WAIVE ALL FIRE SEPARATION REQUIREMENTS.
2. MIN. 30 MINUTE FIRE SEPARATION AROUND SHARED EXIT.
3. SEE REQUIRED INSTALLATION INFORMATION FOR SMOKE ALARMS & CARBON MONOXIDE DETECTORS ON ATTACHED SHEET B02a.
4. STAIRWELL TO BE ENCLOSED AT TOP MOST, OR AT BOTTOM MOST LEVELS.
5. EXISTING FURNACE MAY SERVE BOTH UNITS PROVIDED A SMOKE DETECTOR IS INSTALLED IN THE SUPPLY OR RETURN AIR DUCT SYSTEM WHICH WOULD TURN OFF THE FUEL SUPPLY AND ELECTRICAL POWER TO THE HEATING SYSTEM UPON ACTIVATION OF SUCH DETECTOR.
6. MINIMUM 5% OF LIVING/DINING FLOOR AREA OF NATURAL LIGHT (GLASS AREA) TO BE PROVIDED.
7. MINIMUM 2 1/2% OF BEDROOM AND OTHER FINISHED ROOMS FLOOR AREAS OF NATURAL LIGHT (GLASS AREA) TO BE PROVIDED.
8. 3 SQ. FT. CLEAR OPENING OF NATURAL VENTILATION REQUIRED FOR LIVING/DINING, BEDROOMS & KITCHEN
9. 1 SQ. FT. CLEAR OPENING OF NATURAL VENTILATION REQUIRED FOR BATHROOMS. MECHANICAL VENT PROVIDING 1 AIR CHANGE PER HOUR IS ACCEPTABLE.
10. AN EGRESS WINDOW OR CASEMENT WINDOW, AS DESCRIBED ON ATTACHED SHEET, MUST BE PROVIDED IN THE ACCESSORY APARTMENT. OR, THE ENTIRE BUILDING IS TO BE SPRINKLERED AND SMOKE ALARMS INSTALLED IN BOTH UNITS.
11. FOR WINDOWS USED AS MEANS OF ESCAPE, WITHIN WINDOW WELLS, SEE ATTACHED SHEET FOR CLEARANCES.
12. LAUNDRY FACILITIES SHALL BE PROVIDED IN EACH DWELLING UNIT OR GROUPED IN A LOCATION IN THE BUILDING ACCESSABLE TO OCCUPANTS OF EACH DWELLING UNIT.

LMCBO STANDARD DETAILS

TITLE: BASEMENT ACCESSORY APARTMENT

SAMPLE PLANS AND SPECIFICATIONS

DWG. NO. B02b

2012

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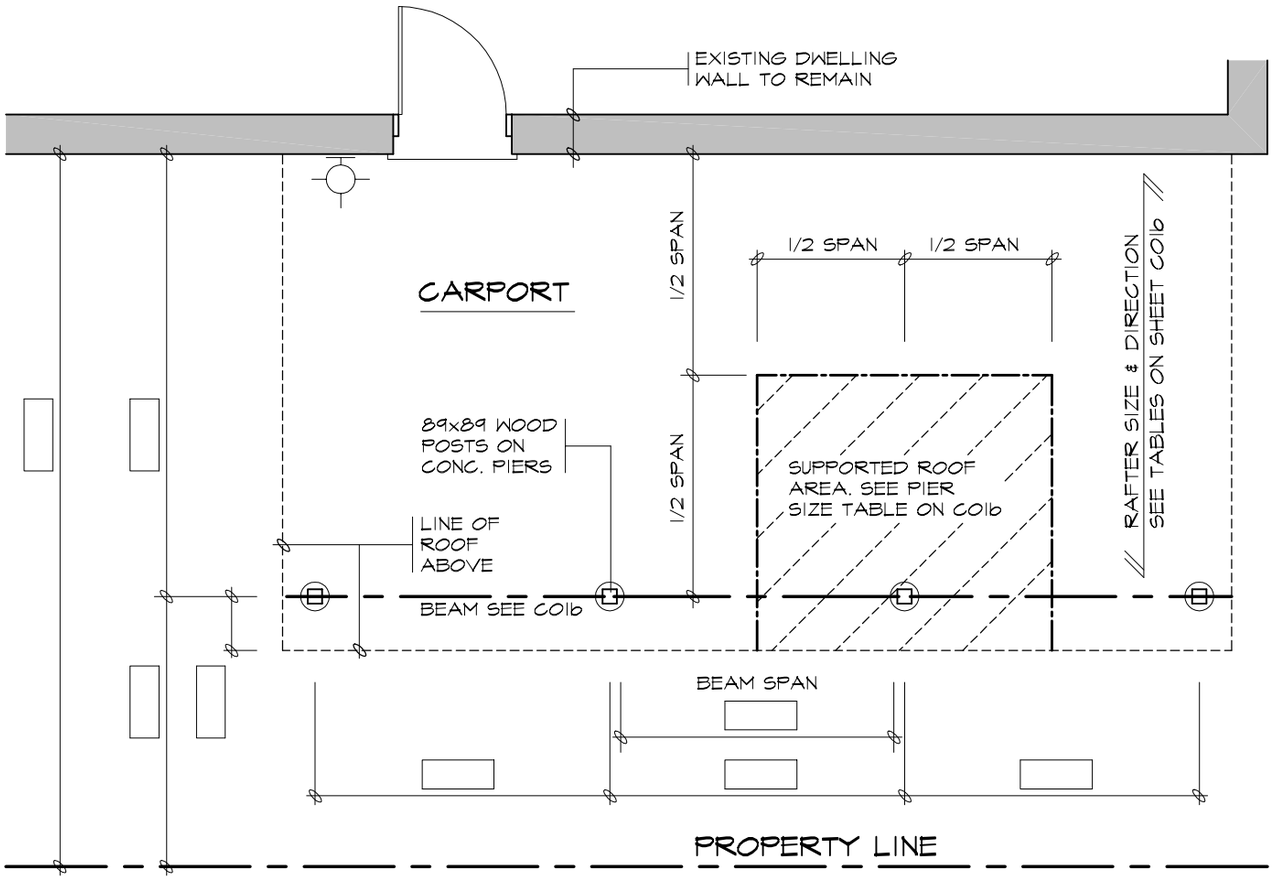
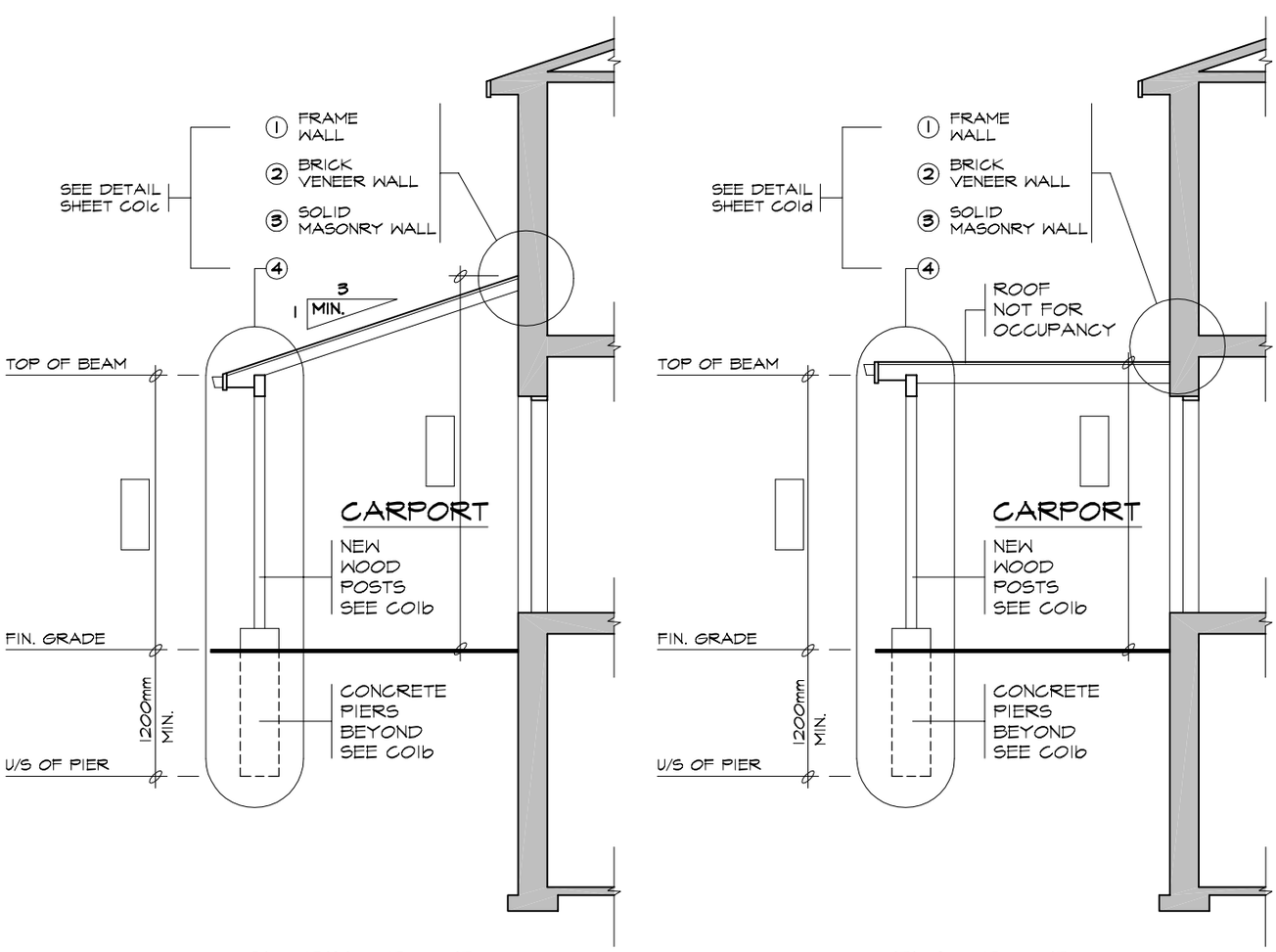


CARPORT PLAN (PROVIDE DIMENSIONS IN BOXES)

SEE C01b FOR STRUCTURAL SIZES



SLOPING ROOF

FLAT ROOF

CARPORT SECTIONS

LMCBO STANDARD DETAILS

TITLE

ATTACHED CARPORT SLOPING OR FLAT ROOF PLAN & SECTIONS

DWG. NO. C01a

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2012

ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (M)						
RAFTER SIZE	ROOF SNOW LOAD 1.0kPa			ROOF SNOW LOAD 1.5kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	305	406	610	305	406	610
38x89	3.11	2.83	2.47	2.72	2.47	2.16
38x140	4.90	4.45	3.89	4.28	3.89	3.40
38x184	6.44	5.85	5.11	5.62	5.11	4.41
38x235	8.22	7.47	6.38	7.18	6.52	5.39

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (M)						
JOIST SIZE	ROOF SNOW LOAD 1.0kPa			ROOF SNOW LOAD 1.5kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	305	406	610	305	406	610
38x89	2.47	2.24	1.96	2.16	1.96	1.71
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52

ROOFING

ROOF FRAMING (mm) O.C.	ROOF SHEATHING
RAFTERS @ 305	7.5mm PLYWOOD W/ H-CLIPS OR 17mm LUMBER
RAFTERS @ 406	
RAFTERS @ 610	9.5mm PLYWOOD W/ 'H'-CLIPS OR 19mm LUMBER

BEAMS

MAXIMUM CLEAR SPAN (M)		MINIMUM BEAM SIZE
ROOF SNOW LOAD		
1.0kPa	1.5kPa	
2.35	2.02	2 - 38x184
2.88	2.47	2 - 38x235
3.34	2.87	2 - 38x286

PIERS

PIER SIZE (mm)	SUPPORTED ROOF AREA (M2)					
	ROOF SNOW LOAD 1.0kPa			ROOF SNOW LOAD 1.5kPa		
	ALLOWABLE BEARING CAPACITY OF SOIL			ALLOWABLE BEARING CAPACITY OF SOIL		
	75kPa	120kPa	190kPa	75kPa	120kPa	190kPa
200 DIA.	1.95	3.25	5.48	1.39	2.32	3.62
250 DIA.	3.07	5.11	8.08	2.14	3.62	5.76
300 DIA.	4.37	7.34	11.71	3.16	5.20	8.36
350 DIA.	5.95	9.94	15.87	4.27	7.06	11.33
400 DIA.	7.62	13.01	20.72	5.48	9.29	14.77

POSTS

POST SIZE (mm) (SEE NOTE 5)	MAX. HEIGHT (M)	SUPPORTED ROOF AREA (M2) ROOF SNOW LOAD (kPa)				
		1.0	1.5	2.0	2.5	3.0
89x89	1.0	17.19	12.98	10.43	8.71	7.48
	1.5	9.39	7.09	5.69	4.76	4.09
	2.0	4.98	3.76	3.02	2.53	2.17
140x140	2.0	21.65	16.35	13.13	10.98	9.43
	2.5	14.77	11.15	8.96	7.48	6.43
	3.0	10.06	7.60	6.10	5.10	4.38
	3.5	6.98	5.27	4.23	3.54	3.04

GENERAL NOTES

1. ALL LUMBER TO BE NO. 1&2 SPF OR BETTER
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE
3. WHERE SUPPORTED ROOF AREAS EXCEED THOSE LISTED IN THIS TABLE, THE POSTS SHALL BE BRACED AS SHOWN IN D01c.
4. WOOD POSTS TO BE MINIMUM 89mmx89mm
5. BEARING CAPACITY OF SOIL SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.

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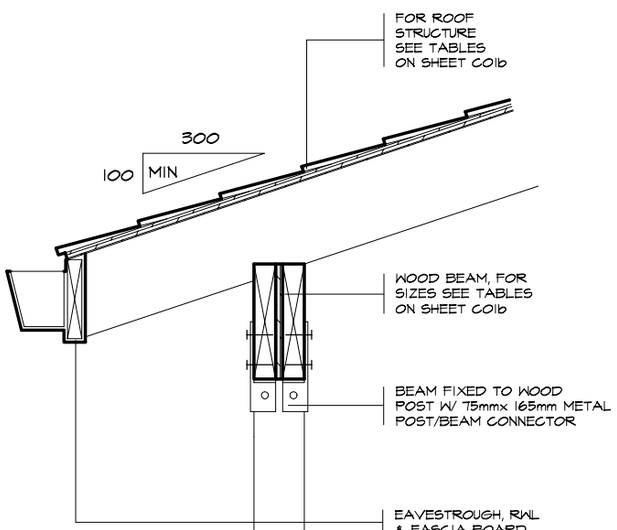

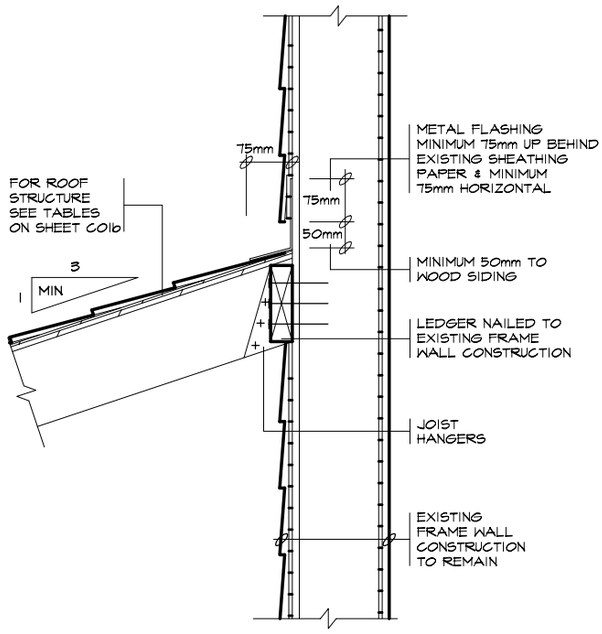

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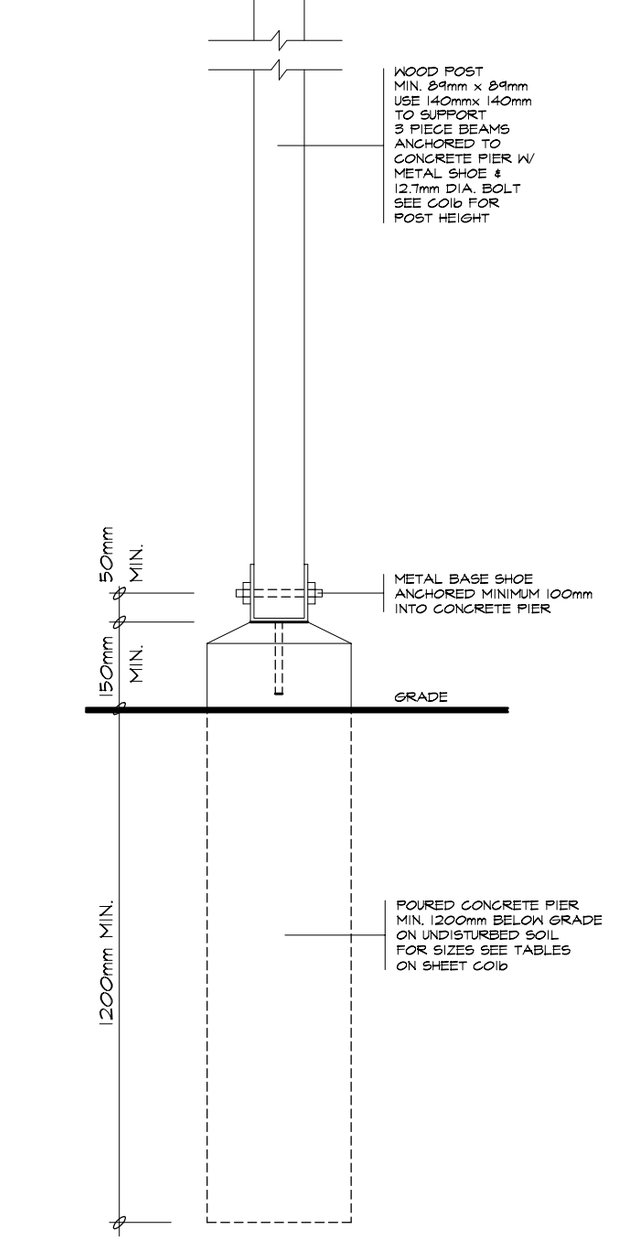
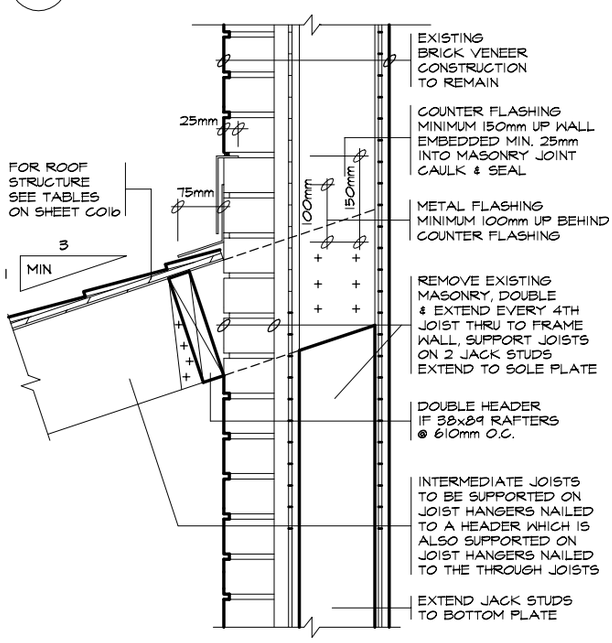
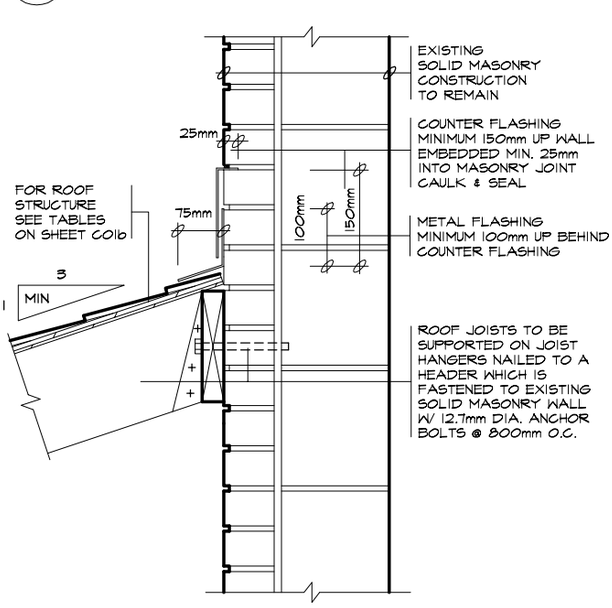


4 SUPPORT DETAIL



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

LMCBO STANDARD DETAILS

TITLE

ATTACHED CARPORT SLOPING ROOF DETAILS

DWG. NO. C01c

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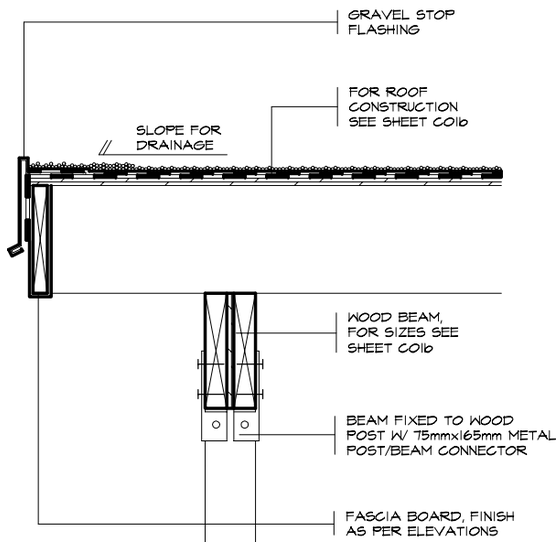
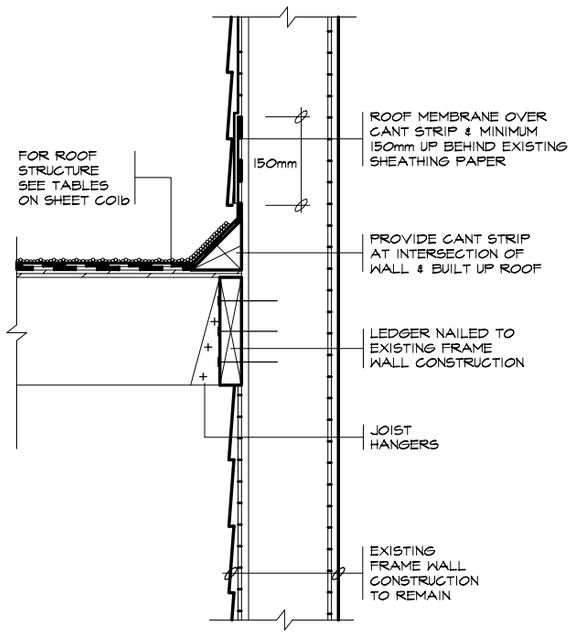
2012





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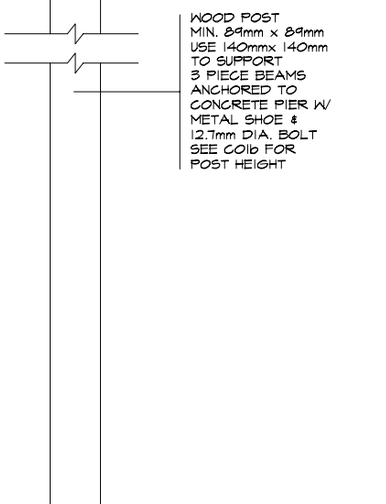

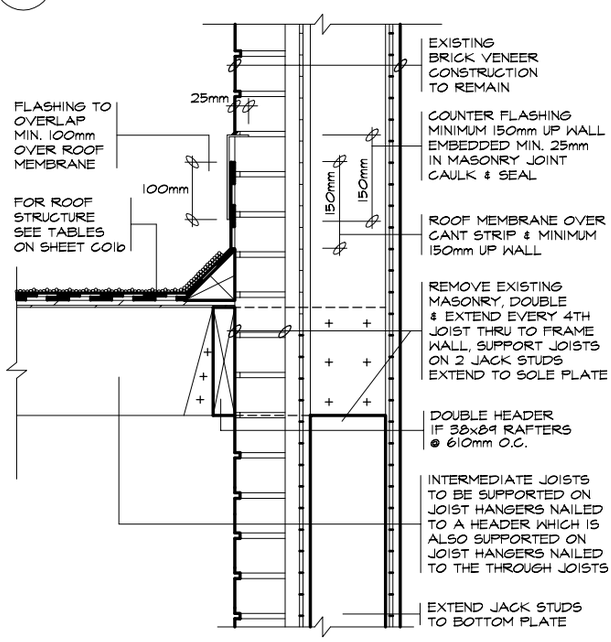

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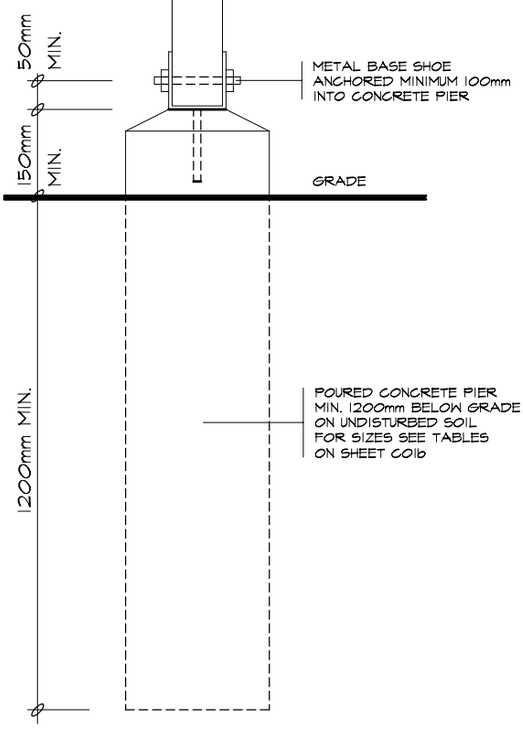
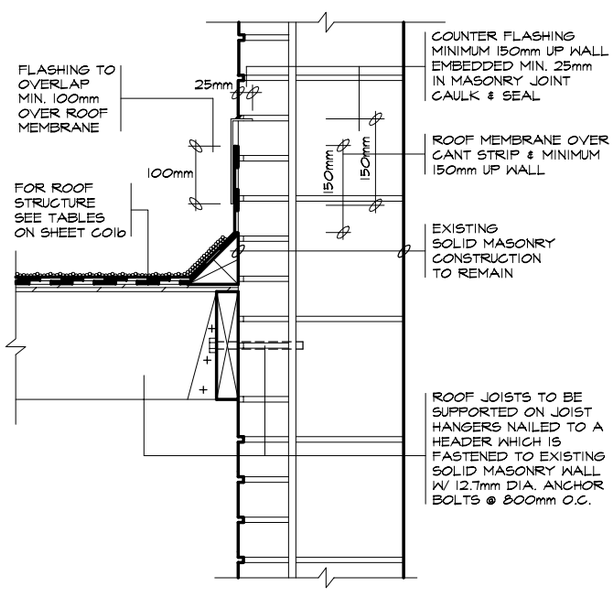


4 SUPPORT DETAIL



3 SOLID MASONRY WALL

LMCBO STANDARD DETAILS

TITLE

ATTACHED CARPORT — FLAT ROOF DETAILS

DWG. NO. C01d

2012

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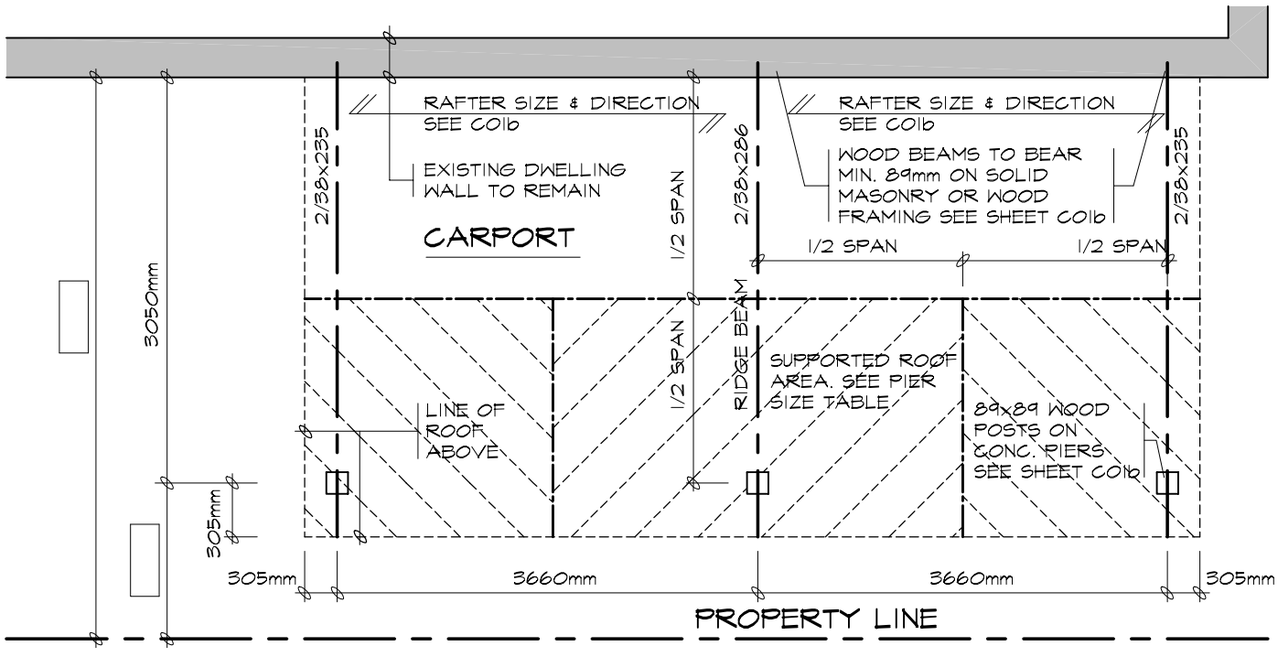
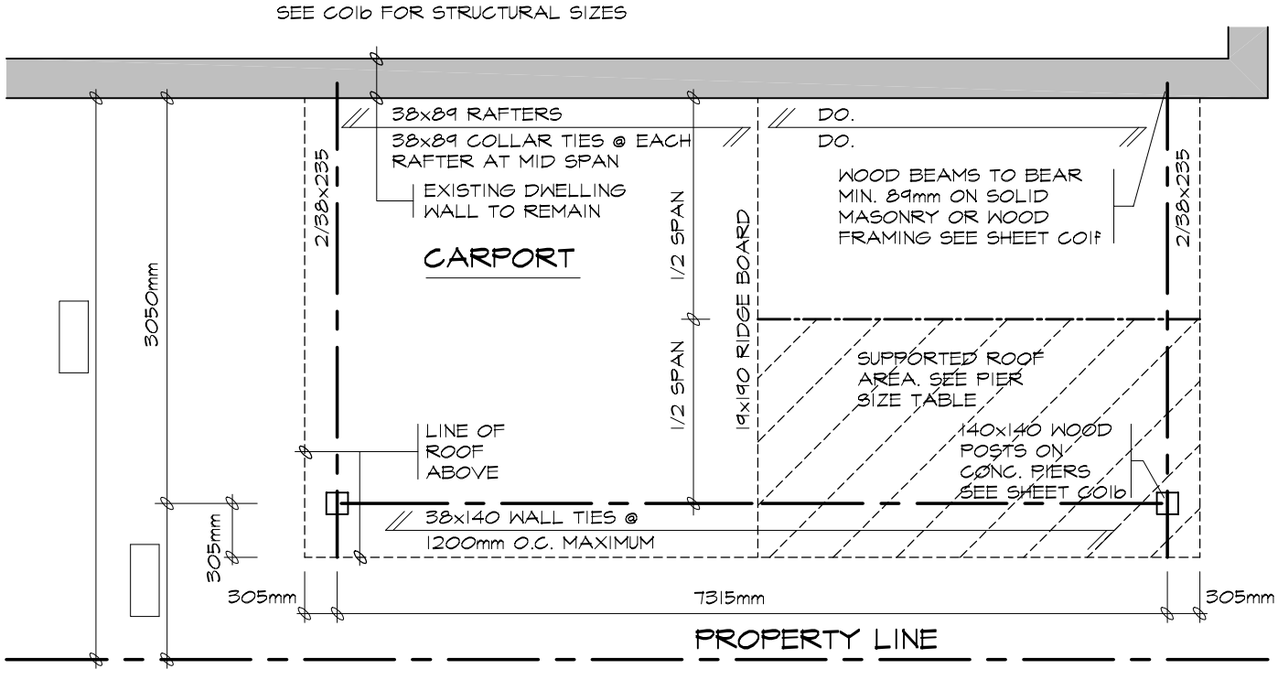


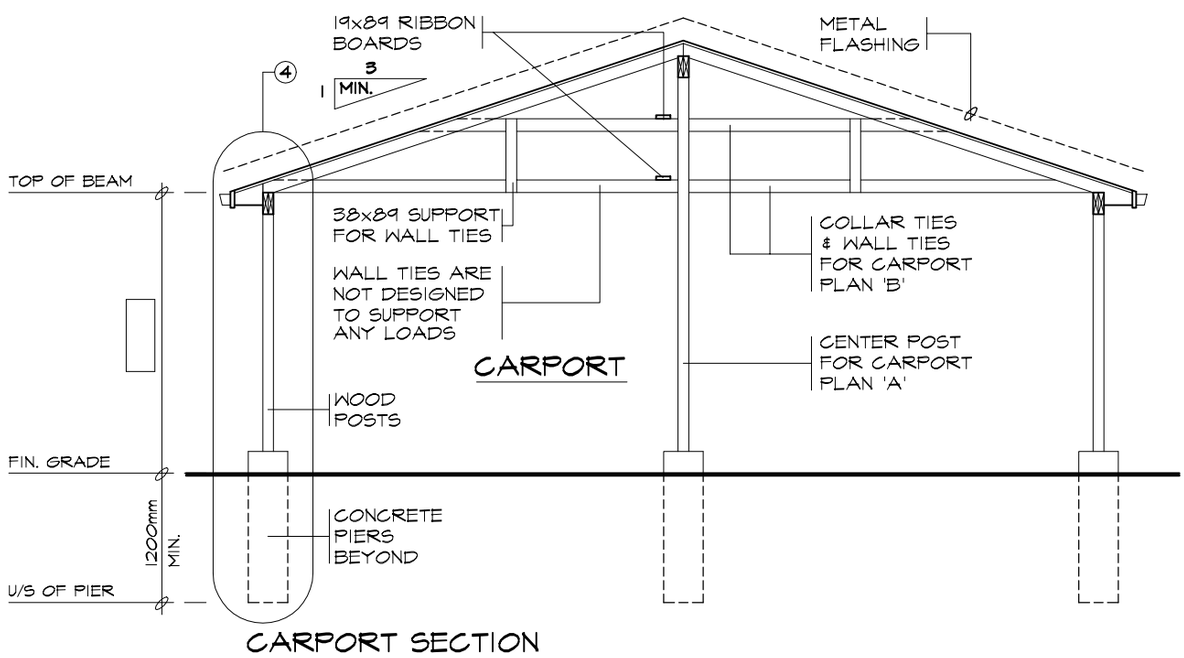
CARPORT PLAN 'A' POST & BEAM (PROVIDE DIMENSIONS)

SEE C01b FOR STRUCTURAL SIZES



CARPORT PLAN 'B' CONVENTIONAL FRAMING (PROVIDE DIMENSIONS)

SEE C01b FOR STRUCTURAL SIZES



CARPORT SECTION

LMCBO STANDARD DETAILS

TITLE

ATTACHED CARPORT GABLE ROOF, PLAN & SECTION

DWG. NO.

C01e

2012

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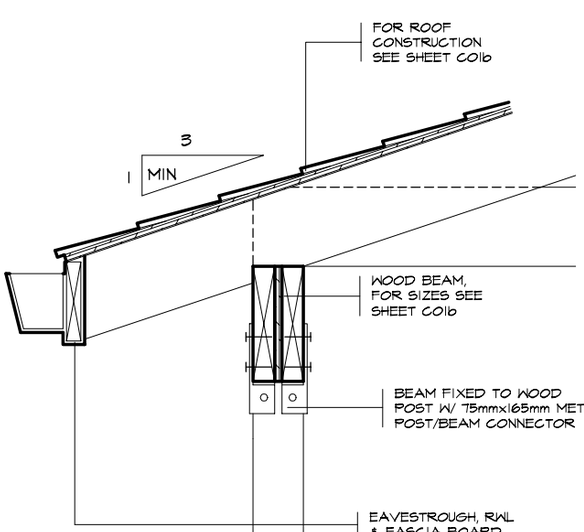
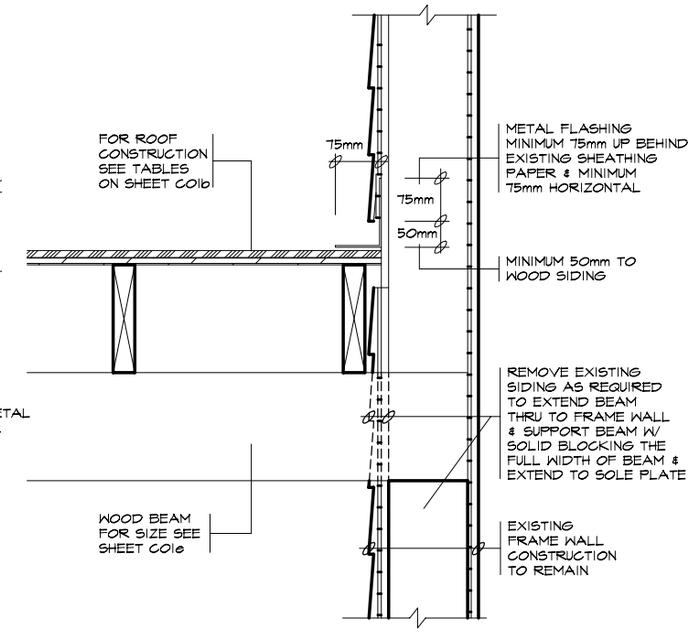
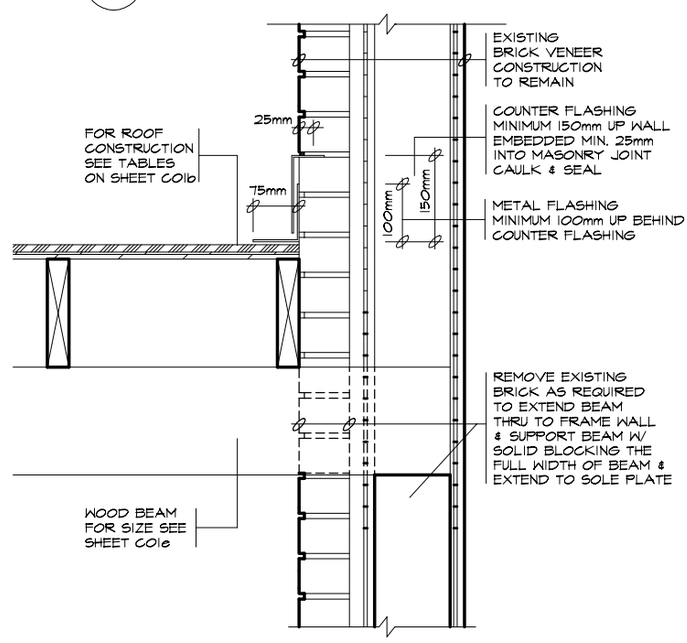
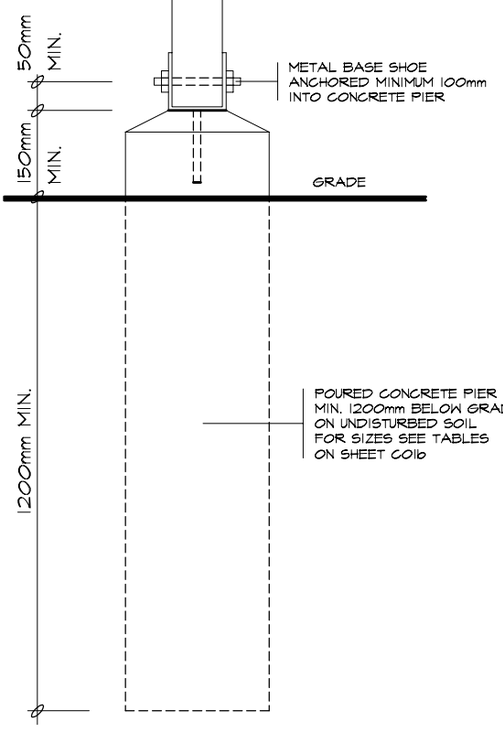




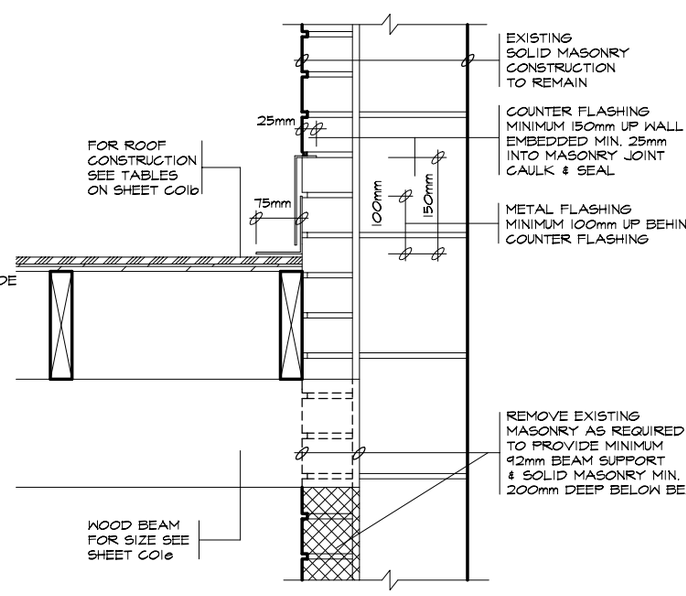
1 FRAME WALL



2 BRICK VENEER WALL



4 SUPPORT DETAIL



3 SOLID MASONRY WALL

LMCBO STANDARD DETAILS

TITLE

ATTACHED CARPORT GABLE ROOF, DETAILS

DWG. NO. C01f

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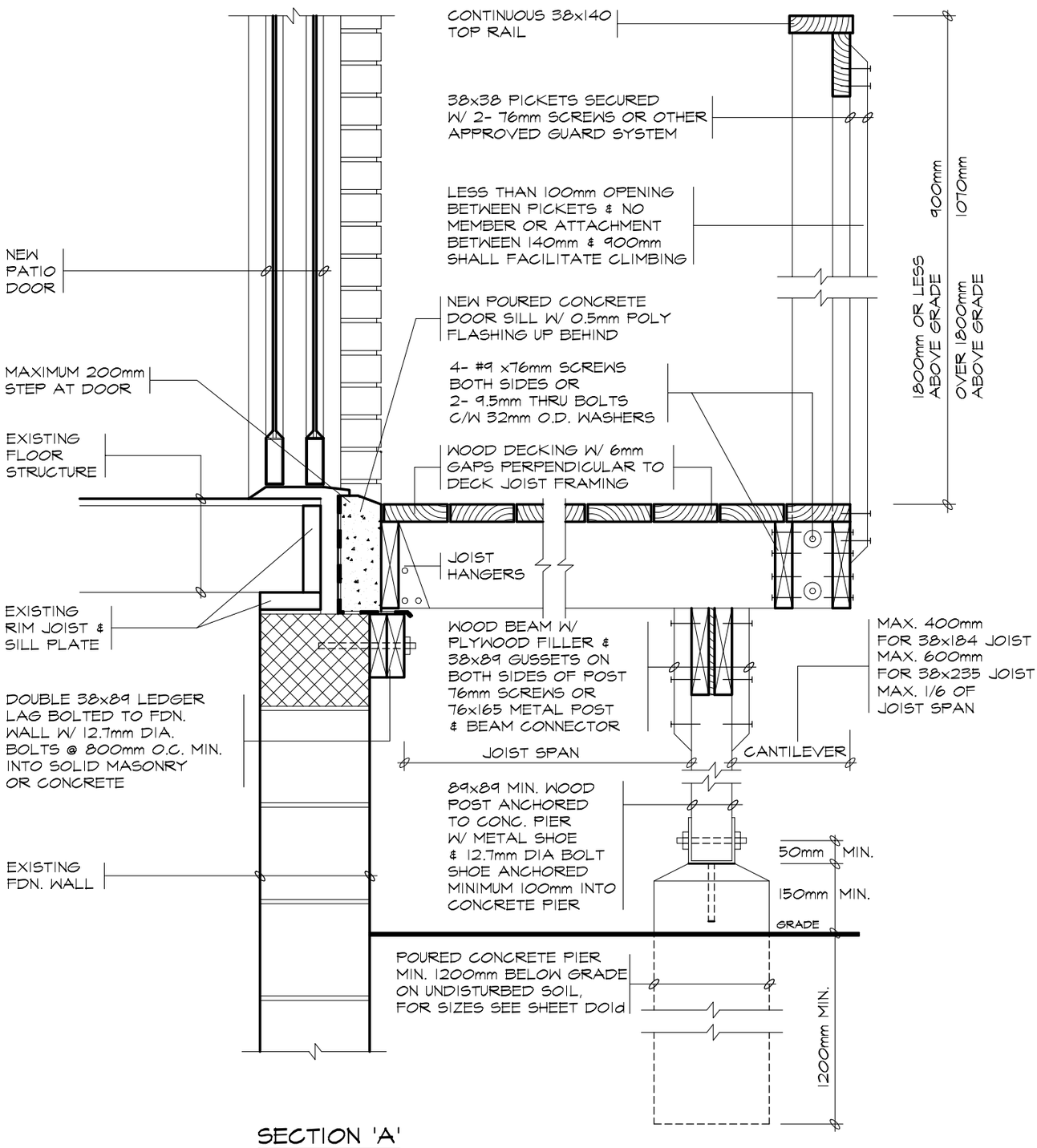
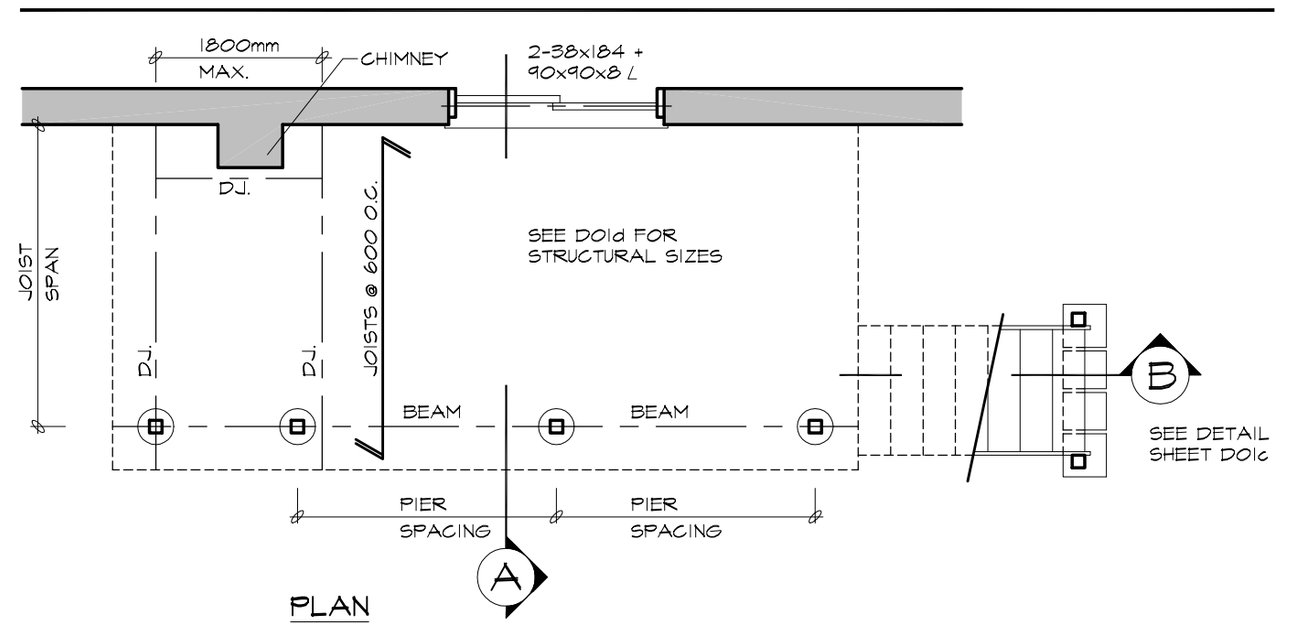
2012



SECTION 'A'



PLAN

LMCBO STANDARD DETAILS

TITLE **WOOD DECK** FIXED TO SOLID MASONRY FOUNDATION WALL
PLAN & SECTION

DWG. NO. D01a

2012

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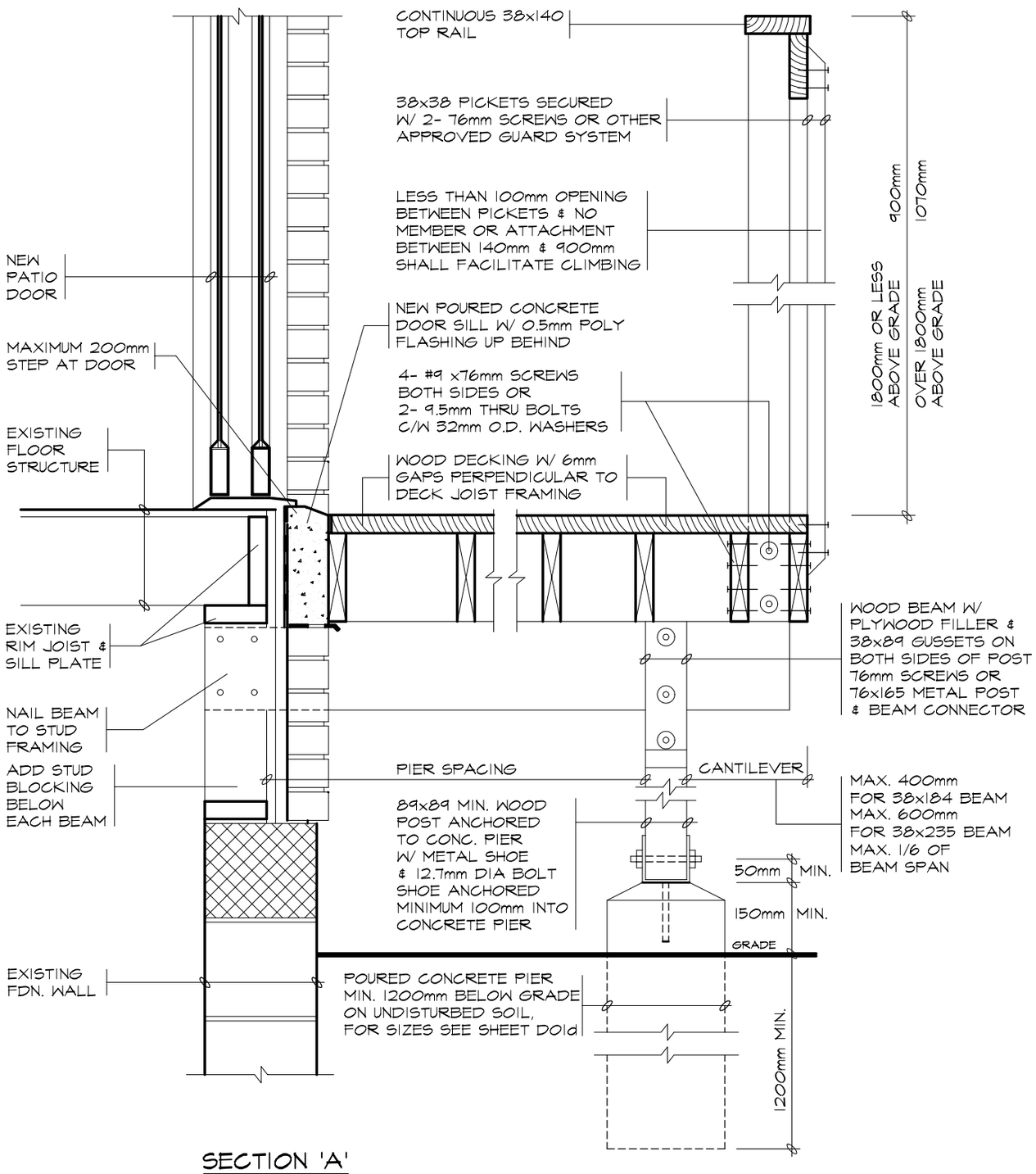

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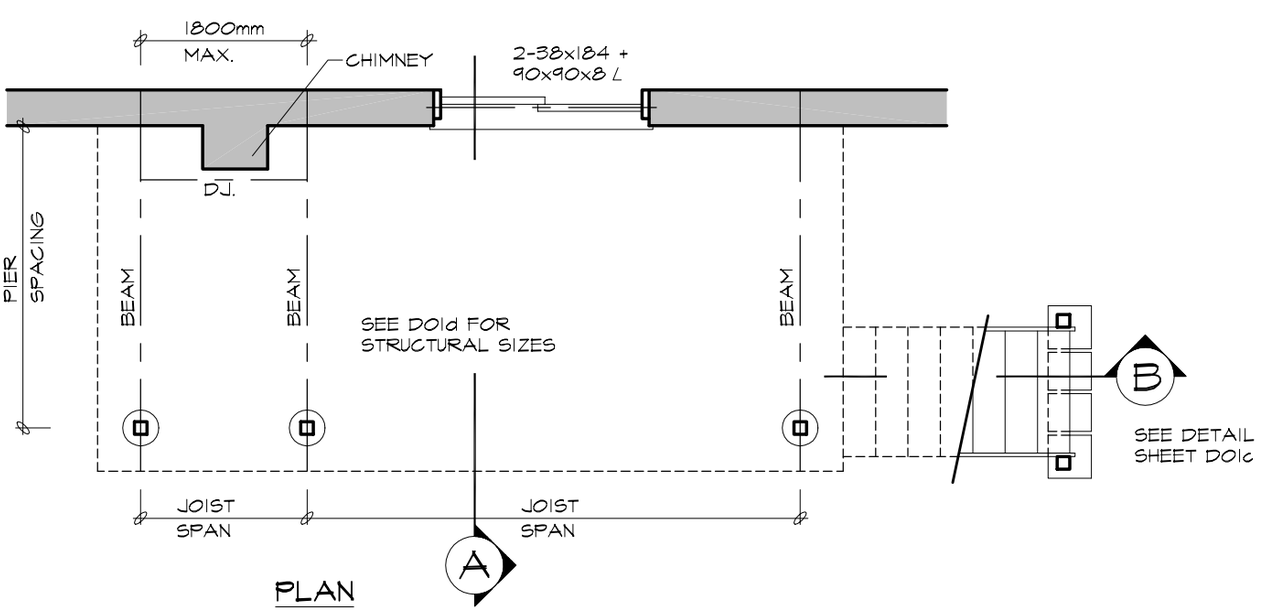

PLAN

LMCBO STANDARD DETAILS

TITLE WOOD DECK FIXED TO BRICK VENEER & WOOD FRAMING
PLAN & SECTION

DWG. NO. D01b

2012

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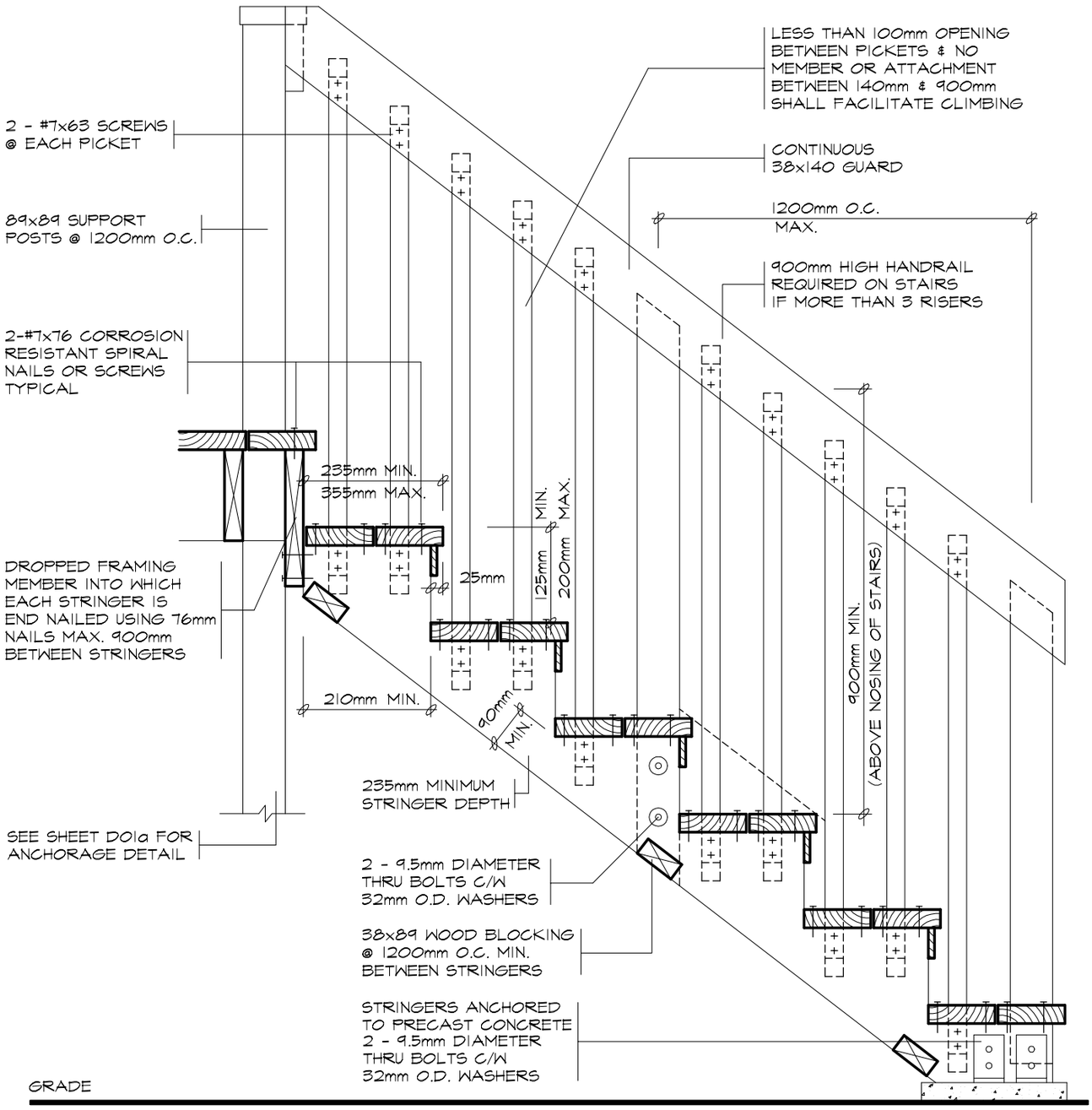

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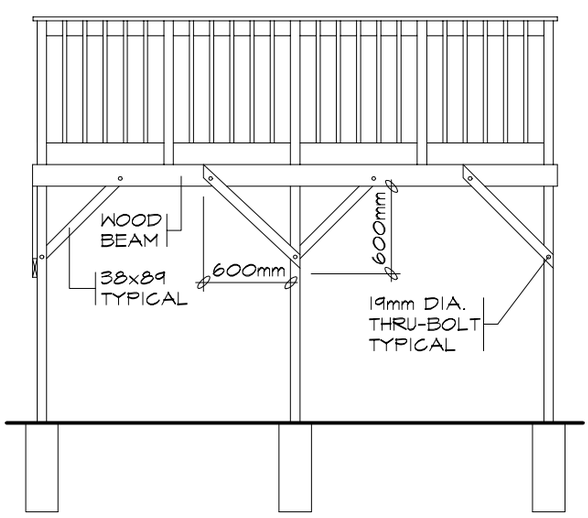
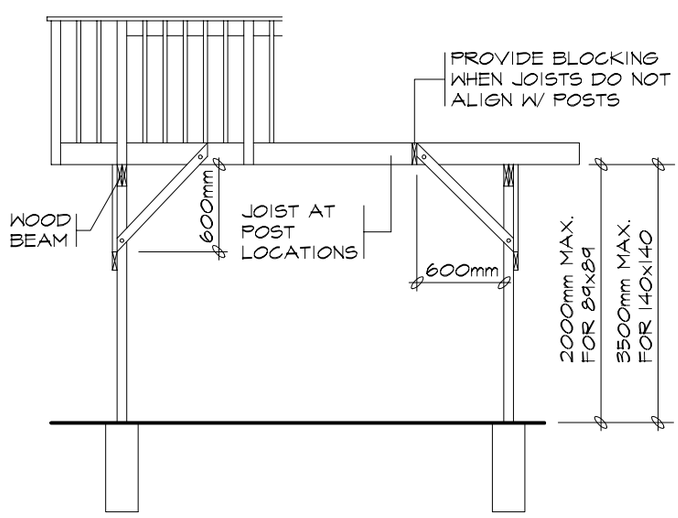


BRACING PARALLEL TO BEAM



BRACING PERPENDICULAR TO BEAM

FREE STANDING DECKS GREATER THAN 600mm ABOVE GRADE SHALL RESIST LATERAL LOADING & MOVEMENT. ALL POSTS MUST BE BRACED WHERE THE SUPPORTED AREA EXCEEDS THOSE LISTED IN THE TABLE ON D01d

LMCBO STANDARD DETAILS

TITLE WOOD DECK — STAIR SECTION
LATERAL SUPPORT FOR FREE STANDING DECKS

DWG. NO. D01c

2012

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BEAM SIZING TABLE

SUPPORTED JOIST LENGTH (mm)	LIVE LOAD 1.9 kPa			LIVE LOAD 2.5 kPa			LIVE LOAD 3.0 kPa		
	PIER SPACING (mm)			PIER SPACING (mm)			PIER SPACING (mm)		
	2000	3000	4000	2000	3000	4000	2000	3000	4000
1500	2/38x140	2/38x184	3/38x235	2/38x140	3/38x184	3/38x235	3/38x140	2/38x235	2/38x286
2000	2/38x140	3/38x184	3/38x235	2/38x184	2/38x235	3/38x286	2/38x184	2/38x235	3/38x286
2500	2/38x184	2/38x235	3/38x286	2/38x184	3/38x235	3/38x286	2/38x184	3/38x235	4/38x286
3000	2/38x184	2/38x235	3/38x286	2/38x184	3/38x235	4/38x286	2/38x184	3/38x235	4/38x286
3500	2/38x184	3/38x235	3/38x286	2/38x184	3/38x235	4/38x286	3/38x184	3/38x286	N/A
4000	2/38x184	3/38x235	4/38x286	2/38x184	3/38x286	N/A	3/38x184	3/38x286	N/A

JOIST SIZING TABLE

JOIST SPAN (mm)	LIVE LOAD 1.9 kPa			LIVE LOAD 2.5 kPa			LIVE LOAD 3.0 kPa		
	JOIST SPACING (mm)			JOIST SPACING (mm)			JOIST SPACING (mm)		
	305	406	610	305	406	610	305	406	610
2000	38x140	38x140	38x140	38x140	38x140	38x140	38x140	38x140	38x140
2500	38x140	38x140	38x184	38x140	38x140	38x184	38x140	38x184	38x184
3000	38x140	38x184	38x184	38x184	38x184	38x235	38x184	38x184	38x235
3500	38x184	38x184	38x235	38x184	38x235	38x235	38x235	38x235	38x235
4000	38x235	38x235	38x286	38x235	38x235	38x286	38x235	38x235	38x286

FOOTING SIZES

SOIL BEARING CAPACITIES (kPa)

SOIL TYPE	BEARING PRESSURE (kPa)
SOFT CLAY	40
LOOSE SAND OR GRAVEL	50
FIRM CLAY	75
DENSE OR COMPACT SILT	100
STIFF CLAY	150
DENSE COMPACT SAND OR GRAVEL	150
TILL	200
CLAY SHALE	300
SOUND ROCK	500

PIER SIZES

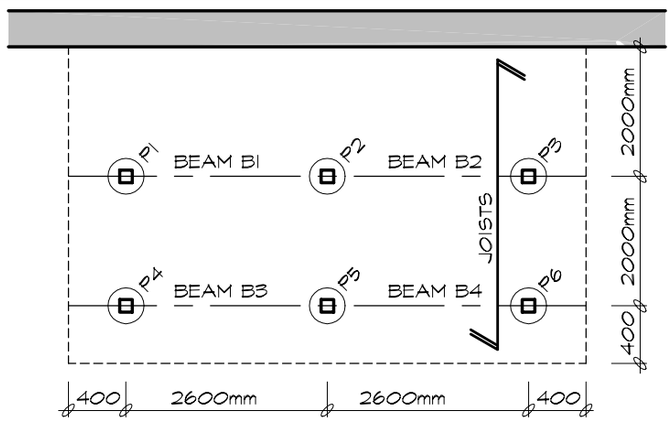
DIAMETER (mm)	M^2
200	0.03
250	0.05
300	0.08
350	0.10
400	0.13
500	0.20
600	0.30

POST SIZING TABLE

POST SIZE (mm)	MAXIMUM HEIGHT (M)	MAX. SUPPORTED DECK AREA (M2) LIVE LOAD (kPa) 1.9	2.5	3.0
89x89	1.0	10.86	8.71	7.48
	1.5	5.93	4.76	4.09
	2.0	3.15	2.53	2.17
140x140	2.0	13.67	10.98	9.43
	2.5	9.32	7.48	6.43
	3.0	6.35	5.10	4.38
	3.5	4.41	3.54	3.04

EXAMPLE PLAN

PIERS	SUPPORTED DECK AREA
P1	2 x 1.7 = 3.4m^2
P2	2 x 2.6 = 5.2m^2
P3	2 x 1.7 = 3.4m^2
P4	1.4 x 1.7 = 2.4m^2
P5	1.4 x 2.6 = 3.6m^2
P6	1.4 x 1.7 = 2.4m^2
BEAMS	**SUPPORTED JOIST LENGTH**
B1	2000mm
B2	2000mm
B3	1400mm
B4	1400mm
BEAM SPAN =	2600mm
JOIST SPAN =	2000mm



PIER SIZE (M2) = SUPPORTED DECK AREA (M2) x MIN. 1.9 (kpa) LIVE LOAD / SOIL BEARING CAPACITY (kpa)

GENERAL NOTES

1. A MINIMUM LIVE LOAD OF 1.9 (kPa) SHALL BE APPLIED IN ALL LOCATIONS.
2. THE PRESCRIBED SNOW LOAD FOR 225 SELECTED ONTARIO LOCATIONS IS INDICATED IN COLUMN 12 OF TABLE 1.2 IN SUPPLEMENTARY GUIDELINE SB-1 OF THE ONTARIO BUILDING CODE. THE SNOW LOAD SHALL BE APPLIED AS THE MINIMUM LIVE LOAD WHERE IT IS GREATER THAN 1.9 (kPa)
3. A SITE PLAN OR SURVEY IS REQUIRED SHOWING ALL LOT LINES & DIMENSIONS, SIZE & LOCATION OF ALL EXISTING BUILDINGS & DECKS.
4. LUMBER NO. 2 SPF OR BETTER WOOD POSTS MIN. 89x89 (SOLID). USE CORROSION RESISTANT SPIRAL NAILS OR SCREWS.
5. A DECK IS NOT PERMITTED TO BE SUPPORTED ON BRICK VENEER.
6. CANTILEVERED JOISTS AND BEAMS ARE LIMITED TO 1/6 THE MEMBERS LENGTH.
7. CONCRETE PIERS SHALL BEAR ON UNDISTURBED SOIL. THE BEARING CAPACITY OF THE SOIL SHALL BE DETERMINED PRIOR TO CONSTRUCTION.
8. MAXIMUM HEIGHT REFERS TO THE HEIGHT OF THE POST FROM THE TOP OF THE PIER TO THE DECK SURFACE.
9. BEAMS WITH MORE THAN 2 MEMBERS MUST BE SUPPORTED BY 140x140 POSTS.
10. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE REDUCED BY 50% WHILE THE WATER IS AT OR NEAR THE BOTTOM OF THE FOOTING EXCAVATION.
11. CONTACT YOUR LOCAL BUILDING DEPARTMENT FOR FURTHER INFORMATION ABOUT LOCAL SOIL BEARING CAPACITIES.
12. JOISTS SPANNING MORE THAN 2100mm ARE TO HAVE BRIDGING AT LEAST EVERY 2100mm O.C..

LMCBO STANDARD DETAILS

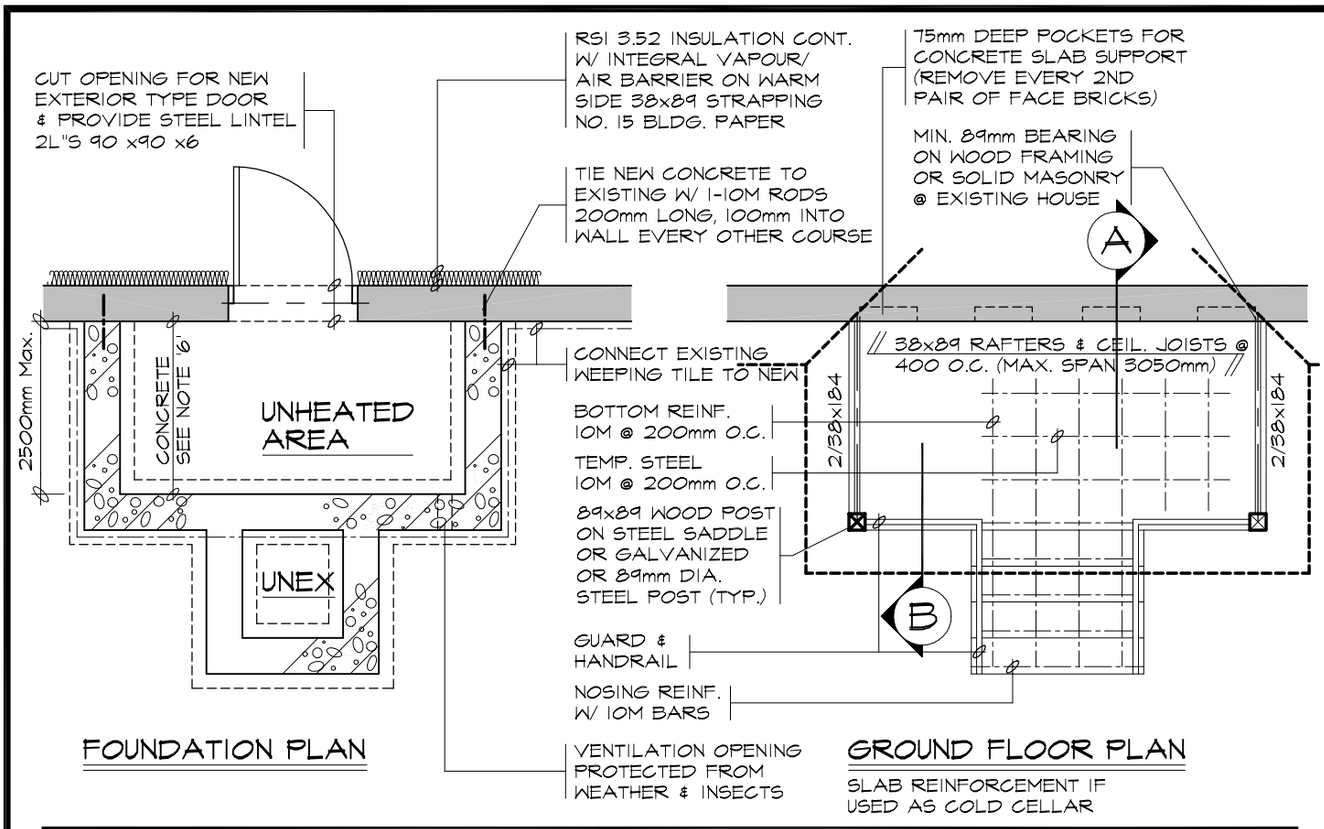
TITLE

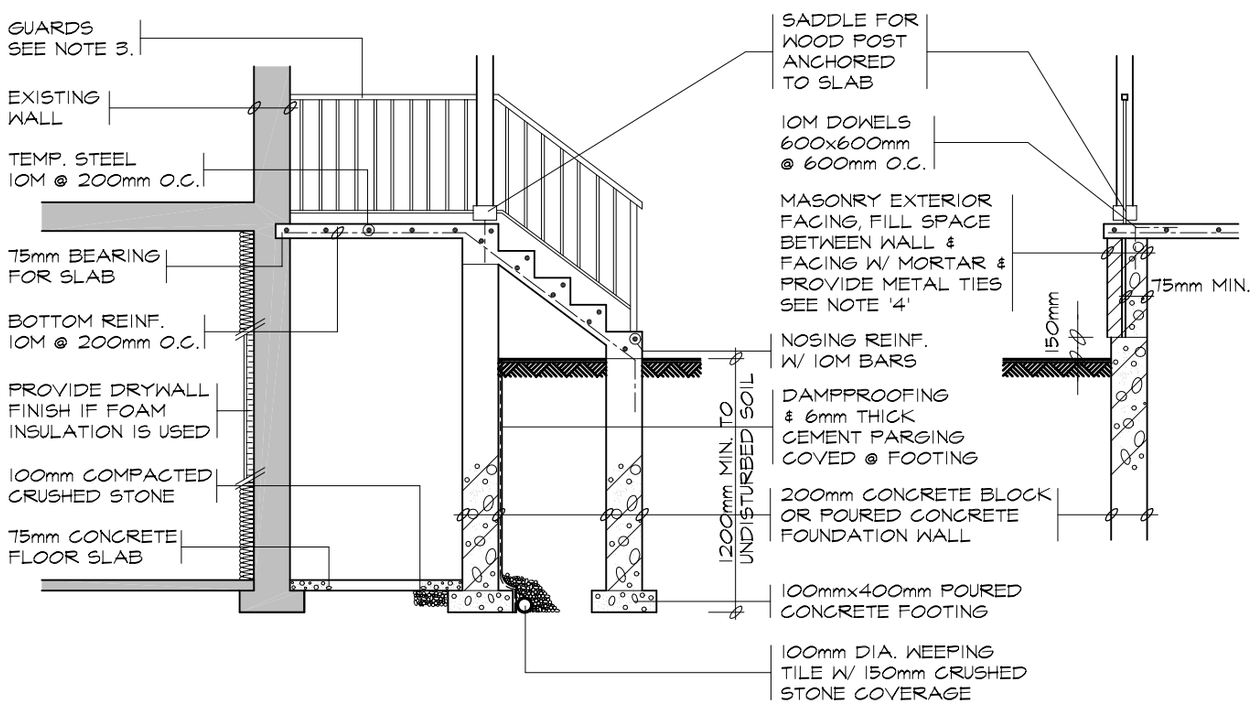
WOOD DECK STRUCTURAL SIZING TABLES

DWG. NO.

D01d

2012





GENERAL NOTES

1. EXTERIOR STAIRS

   125mm - 200mm RISE
   210mm - 355mm RUN
   235mm - 355mm TREAD
   STEPS ARE TO BE UNIFORM THROUGHOUT FLIGHT

2. HANDRAILS

   ARE REQUIRED WHERE STEPS HAVE MORE THAN 3 RISERS. HANDRAIL HEIGHT 865mm - 965mm

3. GUARDS

   ARE REQUIRED AROUND CONCRETE SLAB IF MORE THAN 600mm ABOVE GRADE & ON BOTH SIDES OF STAIRS
   MINIMUM 900mm HIGH FOR STAIRS
   MINIMUM 900mm HIGH FOR PORCHES UP TO 1800mm ABOVE GRADE.
   MINIMUM 1070mm HIGH FOR GREATER HTS.
   MAXIMUM 100mm BETWEEN PICKETS AND NO MEMBER DESIGNED TO FACILITATE CLIMBING BETWEEN 140mm & 900mm

4. MASONRY TIES

   WHEN BRICK FACING IS USED ABOVE GROUND LEVEL, PROVIDE 0.76mm THICK & 22mm WIDE CORROSION RESISTANT METAL TIES @ 600mm HORIZ. & 500mm VERTICAL

5. FOUNDATION WALLS (LESS THAN 3M IN HEIGHT)

   THICKNESS OF UNREINFORCED FOUNDATION WALLS LATERALLY SUPPORTED AT THE TOP ARE DEPENDANT UPON HEIGHT OF FINISH GRADE ABOVE BASEMENT FLOOR

   UNIT MASONRY THICKNESS 190mm - MAX. HEIGHT 1200mm
   UNIT MASONRY THICKNESS 240mm - MAX. HEIGHT 1800mm
   UNIT MASONRY THICKNESS 290mm - MAX. HEIGHT 2200mm

6. CONCRETE

   MINIMUM CONCRETE STRENGTH SHALL BE 32Mpa W/ 5%-8% AIR ENTRAINMENT
   CONCRETE SLAB THICKNESS 125mm
   PROVIDE MIN. 30mm CLEAR CONCRETE COVER TO REINFORCING BARS

LMCBO STANDARD DETAILS

TITLE CONCRETE PORCH & COLD CELLAR
PLANS, SECTIONS & NOTES

DWG. NO. D02

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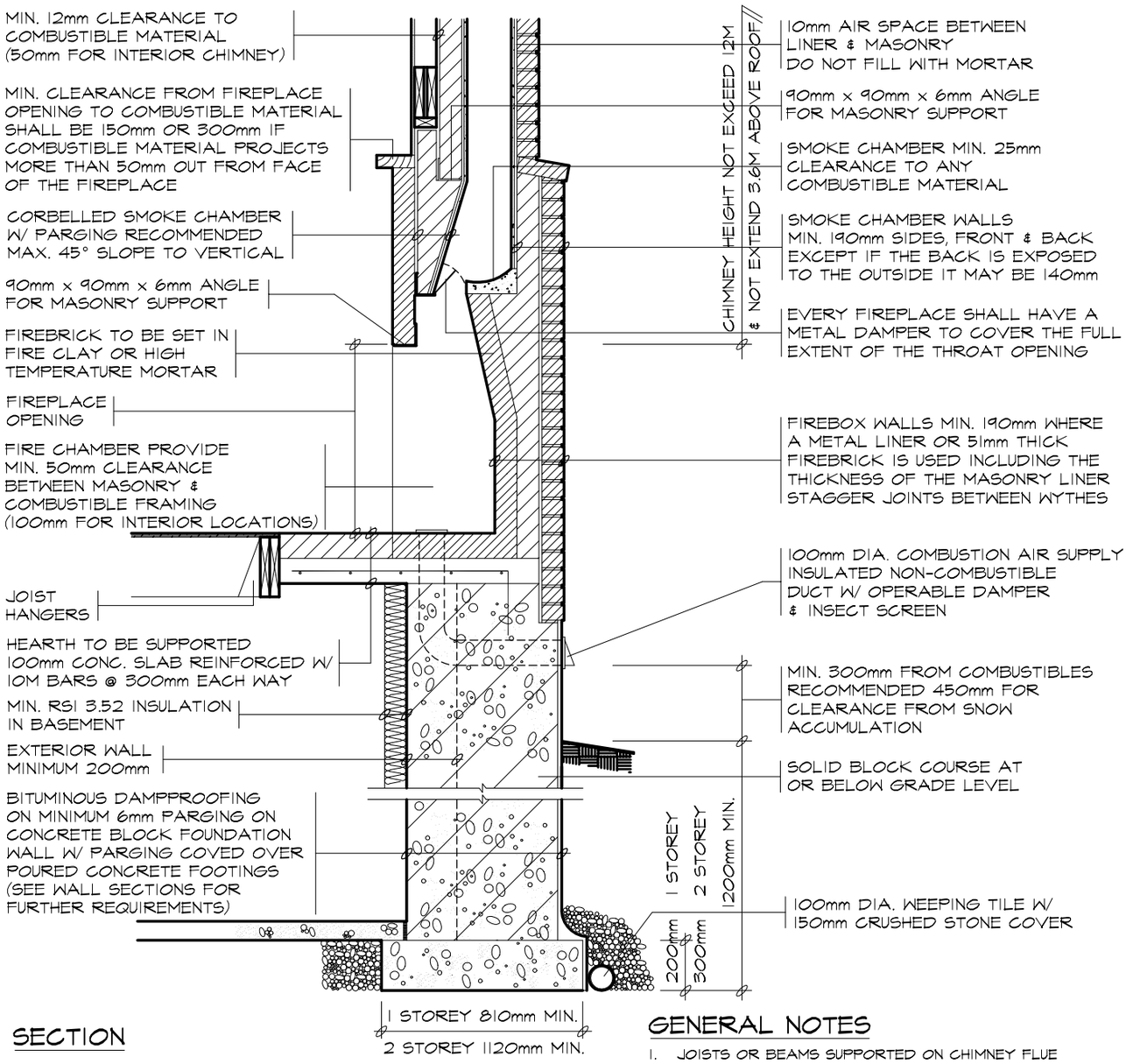
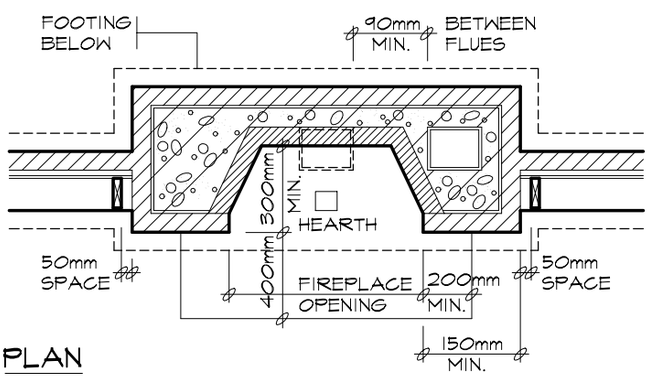
2012



SECTION



PLAN

GENERAL NOTES

1. JOISTS OR BEAMS SUPPORTED ON CHIMNEY FLUE SHALL BE SEPARATED BY 290mm OF SOLID MASONRY
2. MAXIMUM ANGLE OF SLOPE FOR SMOKE CHAMBER IS 45° FROM VERTICAL
3. COMBUSTIBLE FLOORING, SUB FLOORING & CEILING FINISHES SHALL HAVE A MINIMUM 12mm CLEARANCE TO MASONRY CHIMNEY.
5. EXCEPT AS REQUIRED IN SENTENCE (2) FIREPLACES SHALL HAVE A NONCOMBUSTIBLE HEARTH EXTENDING NOT LESS THAN 400mm IN FRONT OF THE FIREPLACE OPENING MEASURED FROM THE FACING & NOT LESS THAN 200mm BEYOND EACH SIDE OF THE FIREPLACE OPENING.
6. WHERE THE HEARTH IS ELEVATED MORE THAN 150MM ABOVE THE HEARTH EXTENSION. THE WIDTH OF THE HEARTH EXTENSION SHALL BE INCREASED BY:
   (A) 50mm FOR AN ELEVATION ABOVE 150mm & NOT MORE THAN 300mm &
   (B) AN ADDITIONAL 25mm FOR EVERY 50mm IN ELEVATION ABOVE 300mm
7. INSTALL A CARBON MONOXIDE DETECTOR CONFORMING TO CAN/CGA-6.19 OR UL 2034 ADJACENT TO EACH SLEEPING AREA
8. PROVIDE FIRESTOPPING BETWEEN FLOOR, CEILING LEVELS AND CHIMNEY

FIREPLACE OPENING (M2)	CHIMNEY HEIGHT (M)							
	3.0 - 4.5		>4.5 - 5.9		>5.9 - 8.9		>8.9 - 12.0	
	FLUE SIZES (mm)							
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
UP TO 0.15	200x200	200x200	100x200	100x200	100x200	100x200	100x200	100x200
0.151 - 0.250	200x200	200x200	200x200	200x200	200x200	200x200	200x200	200x200
0.251 - 0.350	200x300	200x300	200x200	200x300	200x200	200x200	200x200	200x200
0.351 - 0.500	300x300	300x300	200x300	200x300	200x300	200x300	200x200	200x300
0.501 - 0.650	300x300	300x400	300x300	300x300	300x300	300x300	200x300	200x300
0.651 - 0.800	300x400	300x400	300x300	300x400	300x300	300x300	300x300	300x300
0.801 - 1.00	400x400	400x400	300x400	300x400	300x400	300x400	300x300	300x300
1.01 - 1.20	400x400	400x400	400x400	400x400	300x400	300x400	300x400	300x400
1.21 - 1.40			400x400	400x400	400x400	400x400	300x400	300x400
1.41 - 1.60					400x400	400x400	400x400	400x400
1.61 - 1.80							400x400	400x400
1.81 - 2.00							400x400	400x400
COLUMN 1.	2.	3.	4.	5.	6.	7.	8.	9.

LMCBO STANDARD DETAILS

TITLE

MASONRY FIREPLACE PLAN & SECTION

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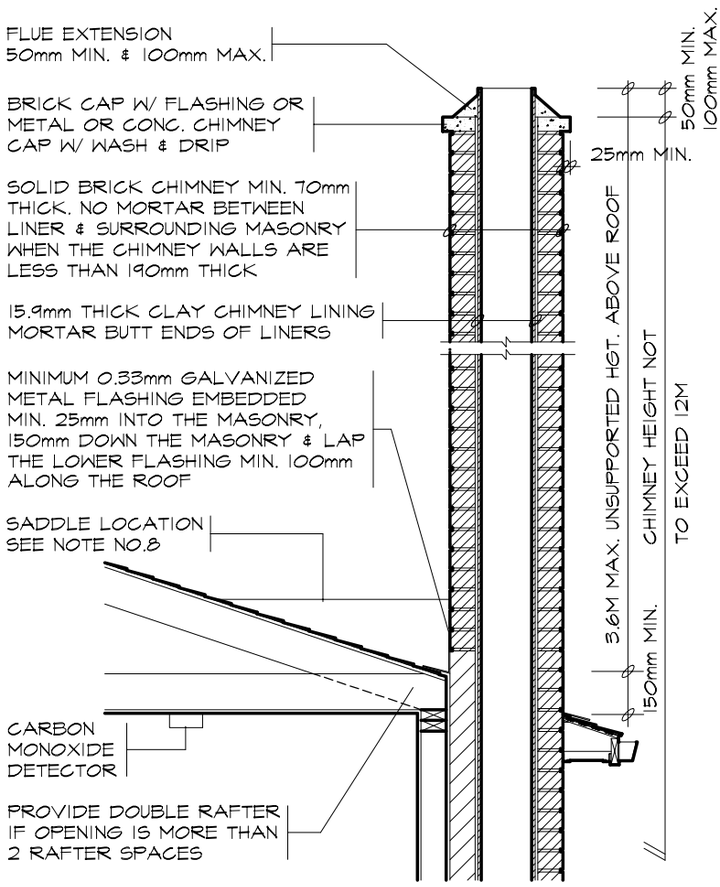
DWG. NO.

F01a

2012

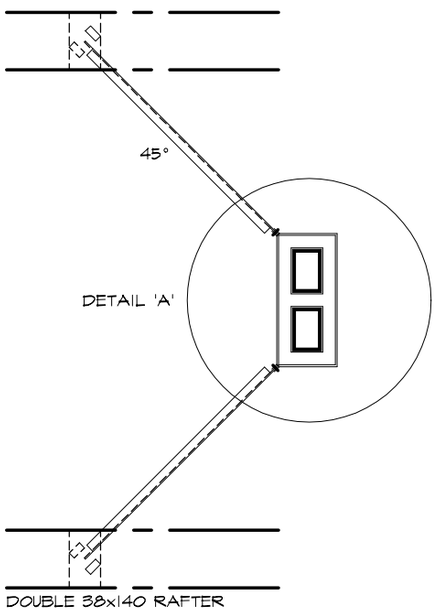


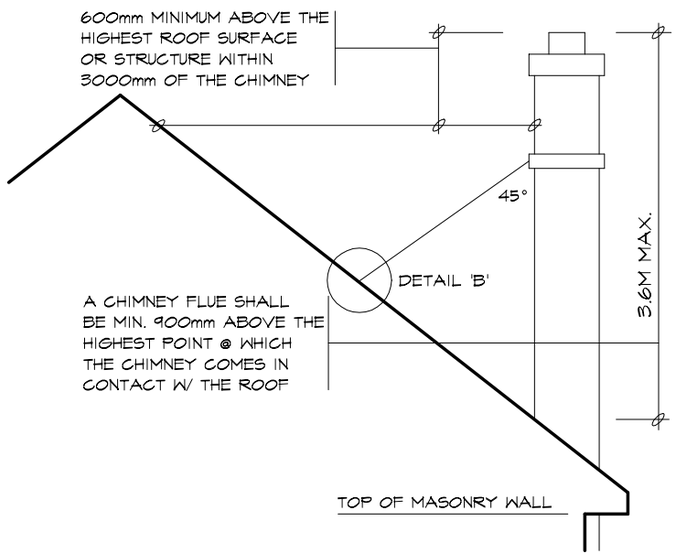
SECTION

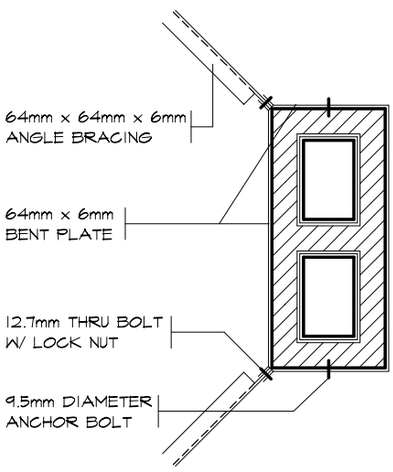
GENERAL NOTES

1. ALL STRUCTURAL STEEL SHALL BE 300W GRADE ALL BOLTS SHALL BE A-307 GRADE OR SAE STANDARD GRADE 1 W/ MINIMUM TENSILE STRENGTH OF 414 MPa. ALL EXPOSED STEEL & FASTENERS SHALL BE GALVANIZED OR PAINTED WITH 2 COATS OF ZINK-RICH PAINT.
2. ALL TIMBER SHALL BE MIN. SPRUCE NO. 2 GRADE.
3. ROOF RAFTERS TO BE 38x140 NO. 2 SPR. @ 400mm O.C. W/ A MAXIMUM SPAN OF 3900mm. FOR OTHER ROOF RAFTER CONSTRUCTION, ROOF REINFORCEMENT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
4. FOR HOUSE W/ ROOF TRUSS STRUCTURE, TRUSS DESIGN ENGINEER TO DESIGN FOR A MINIMUM ADDITIONAL UNFACTORED CHIMNEY BRACE LOAD OF 4.2KN
5. BASIC HOURLY WIND PRESSURE $q_{\frac{1}{50}}$ = 0.52 kPa. DESIGN ROOF SNOW LOAD = 1.5 kPa.
6. CHIMNEYS W/ MORE THAN DOUBLE FLUE AND/OR EXTENDED MORE THAN 4.40M ABOVE ROOF SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
7. CHIMNEY BRACES EXCEEDING 2500mm IN LENGTH SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
8. SADDLE NOT REQUIRED IF FLASHING USED THAT EXTENDS UP THE CHIMNEY TO HEIGHT EQUAL TO NOT LESS THAN 1/6 THE WIDTH OF THE CHIMNEY BUT NOT LESS THAN 150mm UP THE ROOF SLOPE TO A POINT EQUAL IN HEIGHT TO THE FLASHING ON THE CHIMNEY, BUT NOT LESS THAN 1 1/2 TIMES THE SHINGLE EXPOSURE. PROVIDE COUNTERFLASHING AT THE CHIMNEY.

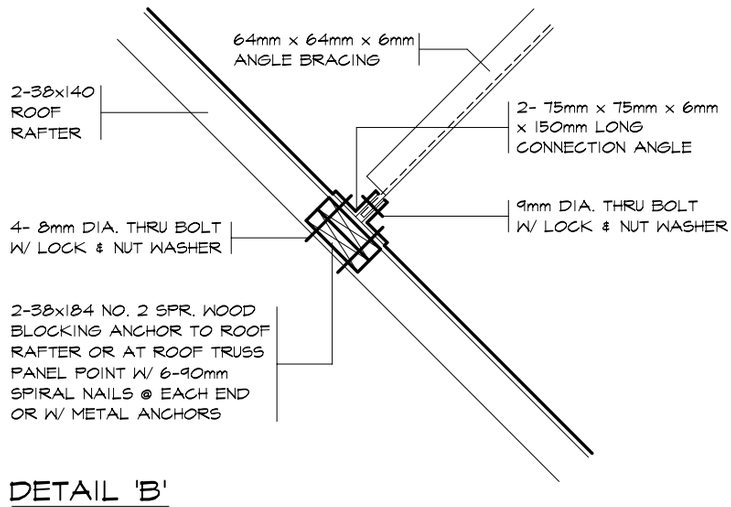
LATERAL BRACING FOR CHIMNEYS EXTENDING MORE THAN 3.6M ABOVE ROOF







DETAIL 'A'



DETAIL 'B'

LMCBO STANDARD DETAILS

TITLE

MASONRY FIREPLACE DETAILS

DWG. NO.

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