

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.

TABLE OF CONTENTS

SECTION A: APPLICATION GUIDE

A01	BUILDING PERMIT Q & A
A02	DRAWING REQUIREMENTS FOR A RESIDENTIAL ADDITION
A03a	SAMPLE DRAWING Site Plan
A03b	SAMPLE DRAWING Basement Plan
A03c	SAMPLE DRAWING Ground Floor Plan
A03d	SAMPLE DRAWING Elevation
A03e	SAMPLE DRAWING Elevation
A03f	SAMPLE DRAWING Elevation
A03g	SAMPLE DRAWING Cross Section
A03h	SAMPLE DRAWING Construction Specifications
A03i	SAMPLE DRAWING Schedules

SECTION B: BASEMENT ALTERATIONS

B01a	BASEMENT WALKOUT Plan & Sections
B01b	UNDERPINNING Sections
B01c	BENCH-TYPE UNDERPINNING Section & Notes
B01d	UNDERPINNING Plan, Elevation & Notes
B02a	BASEMENT ACCESSORY APARTMENT Building Code Requirements - Existing
B02b	BASEMENT ACCESSORY APARTMENT Sample Plans and Specifications

SECTION C: CARPORTS

C01a	ATTACHED CARPORT Sloping & Flat Roof Plan & Section
C01b	ATTACHED CARPORT Sloping & Flat Roof Tables & Notes
C01c	ATTACHED CARPORT Sloping Roof, Details
C01d	ATTACHED CARPORT Flat Roof, Details
C01e	ATTACHED CARPORT Gable Roof Plans & Section
C01f	ATTACHED CARPORT Gable Roof, Details

SECTION D: DECKS

D01a	WOOD DECK Fixed to Solid Masonry Foundation Wall Plan & Section
D01b	WOOD DECK Fixed to Brick Veneer & Wood Frame Plan & Section
D01c	WOOD DECK Stair Section Lateral Support for Free Standing Decks
D01d	WOOD DECK Tables & Notes
D02	CONCRETE PORCH & COLD CELLAR Plans, Sections & Notes

SECTION F: FIREPLACES

F01a	MASONRY FIREPLACE Plan & Section
F01b	MASONRY FIREPLACE Details

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 10m²
- 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 10m² 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!

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:

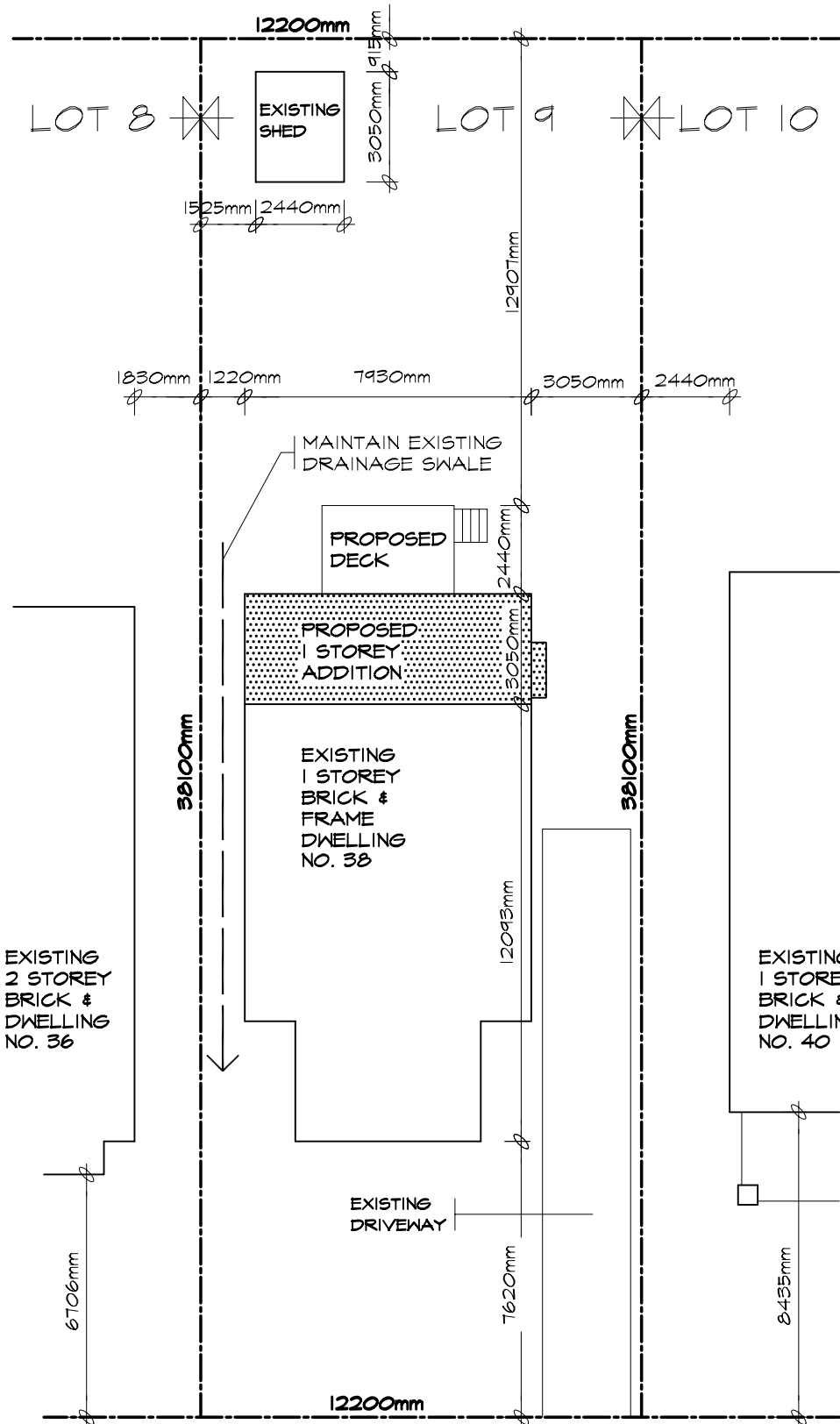
- Scale
- Extent of new & existing construction
- Dimensions of walls, windows & doors
- Grade level
- Exterior wall cladding, finishes & flashing
- Overhang dimensions
- Roof shape, slope & finish
- Rain water leader & eavestrough

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

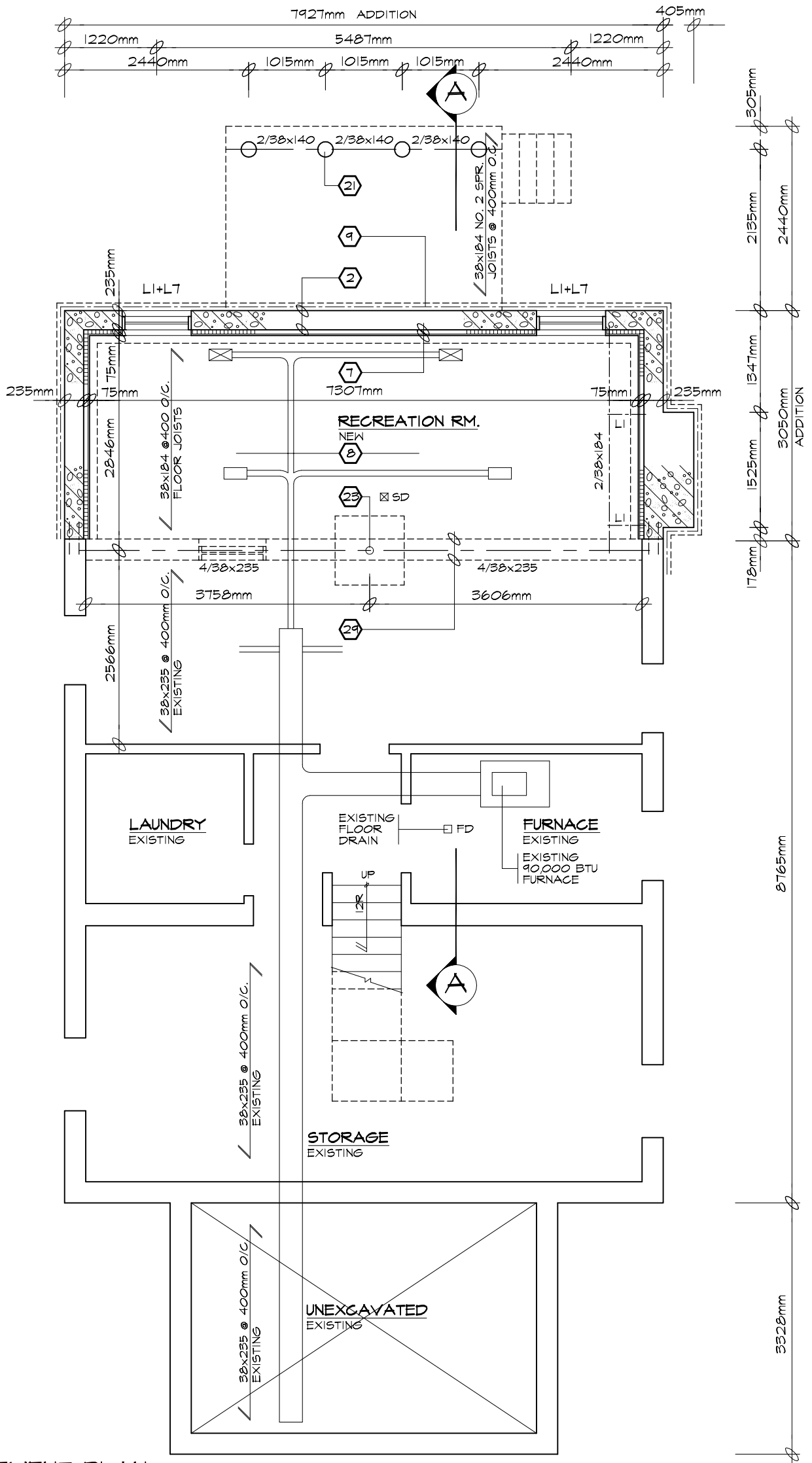
SCALE 1:200

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	%	SETBACKS	EXISTING	PROPOSED		
LOT COVERAGE	86.52m2	24.15m2	110.65m2	19.0	-----		FRONT YARD	7620mm	7620mm		
GROSS FLOOR AREA	86.52m2	24.15m2	110.65m2	19.0	348.39m2	60.0	REAR YARD	18390mm	12907mm		
LANDSCAPED AREA	-----	-----	-----		-----		INTERIOR SIDE (east)	3050mm	3050mm		
NO. OF STORES HEIGHT	1 STOREY 4550mm	1 STOREY 4550mm	1 STOREY 4550mm		10000mm		INTERIOR SIDE (west)	1220mm	1220mm		
WIDTH	7930mm	7930mm	7930mm		-----		EXTERIOR	-----	-----		
DEPTH	12093mm	3050mm	15143mm		17000mm						
PARKING	-----	-----	-----		-----						

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



BASEMENT PLAN
SCALE 1:50

**LMCBO
STANDARD
DETAILS**

TITLE
SAMPLE DRAWING BASEMENT PLAN

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

A03b

2012



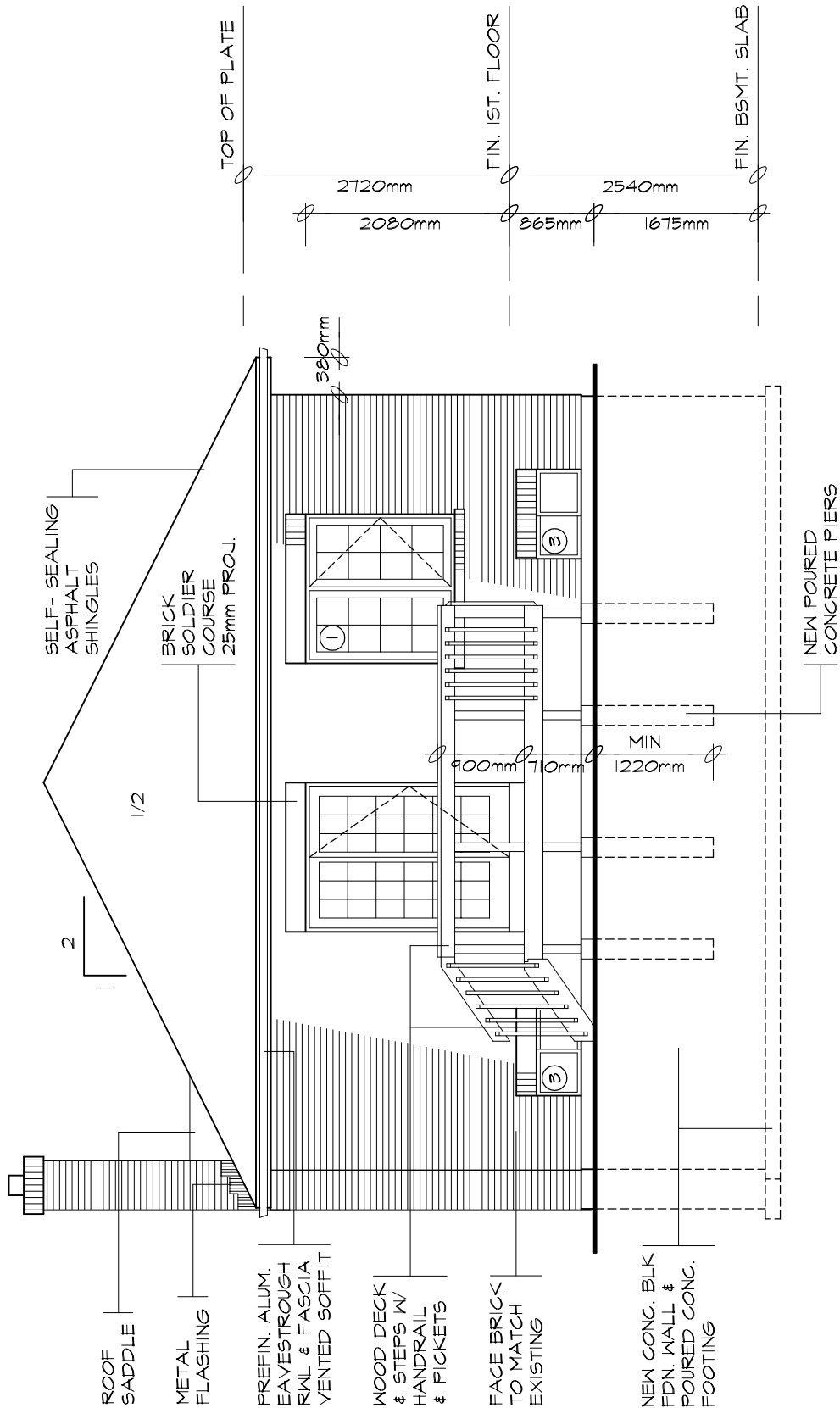
LMCBO STANDARD DETAILS

SAMPLE DRAWING GROUND FLOOR PLAN

DWG. NO.

A03c

2012



NORTH ELEVATION

SCALE 1:50

LMCBO
STANDARD
DETAILS

TITLE

SAMPLE DRAWING

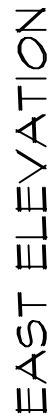
ELEVATION

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DWG. NO.

A03d

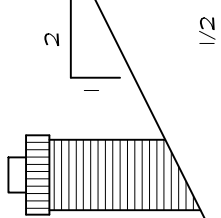
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UNPROTECTED OPENINGS

WALL AREA	42.36m ²
LIMITING DISTANCE	3050mm @ 18.00%
MAX. ALLOWABLE OPENINGS	7.62m ²
TOTAL OPENINGS PROVIDED	7.50m ²

3050mm
ADDITION

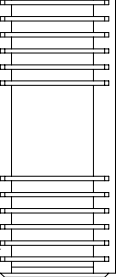


SELF-SEALING
ASPHALT
SHINGLES

PREFIN. ALUM.
EAVESTROUGH
RAL & FASCIA
VENTED SOFFIT

WOOD DECK
& STEPS W/
HANDRAIL
& PICKETS

FACE BRICK
TO MATCH
EXISTING



POURED
CONCRETE
PIERS TYP.

EXISTING
ROOF TO
REMAIN

EXISTING
FACE
BRICK

EXISTING
WINDOWS
TO REMAIN

EXISTING
FDN. WALL
& FOOTING

REMOVE EXISTING
WINDOW & FRAME
BRICK UP OPENING
MAKE GOOD FINISH

NEW CONG. BLK
FDN. WALL &
POURED CONG.
FOOTING

TOP OF PLATE

FIN. 1ST. FLOOR

FIN. BSMT. SLAB

2080mm

2720mm

900mm

710mm

MIN.

1220mm

865mm

1675mm

2540mm

WEST ELEVATION

SCALE 1:50

UNPROTECTED OPENINGS

NO NEW OPENINGS
EXISTING TO REMAIN

LMCBO
STANDARD
DETAILS

TITLE

SAMPLE DRAWING ELEVATION

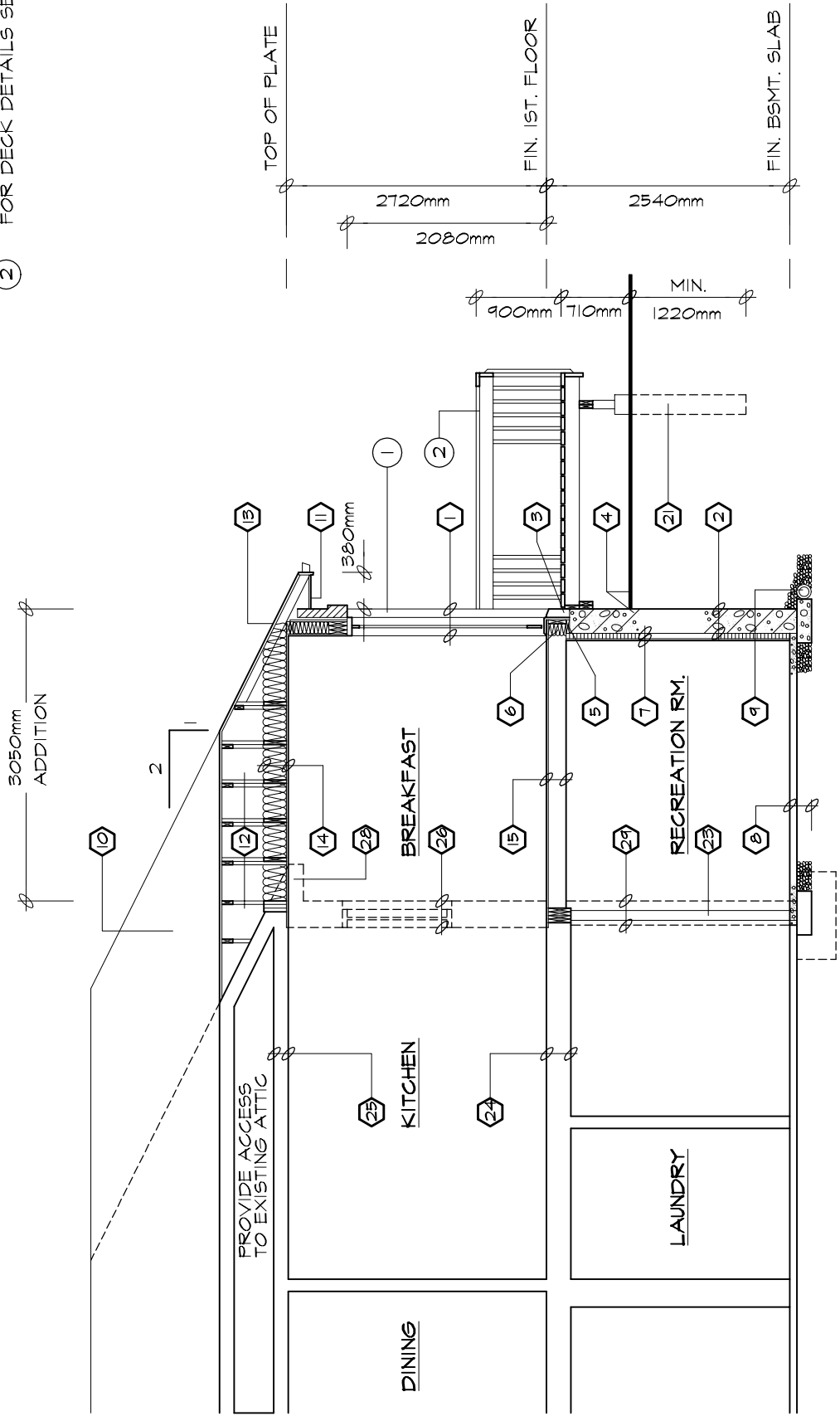
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DWG. NO.

A03f

2012

- ① FOR WALL SECTION SEE W02
- ② FOR DECK DETAILS SEE D01a - D01d



SECTION A-A
SCALE 1:50

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 COVERED 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
KEEP 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

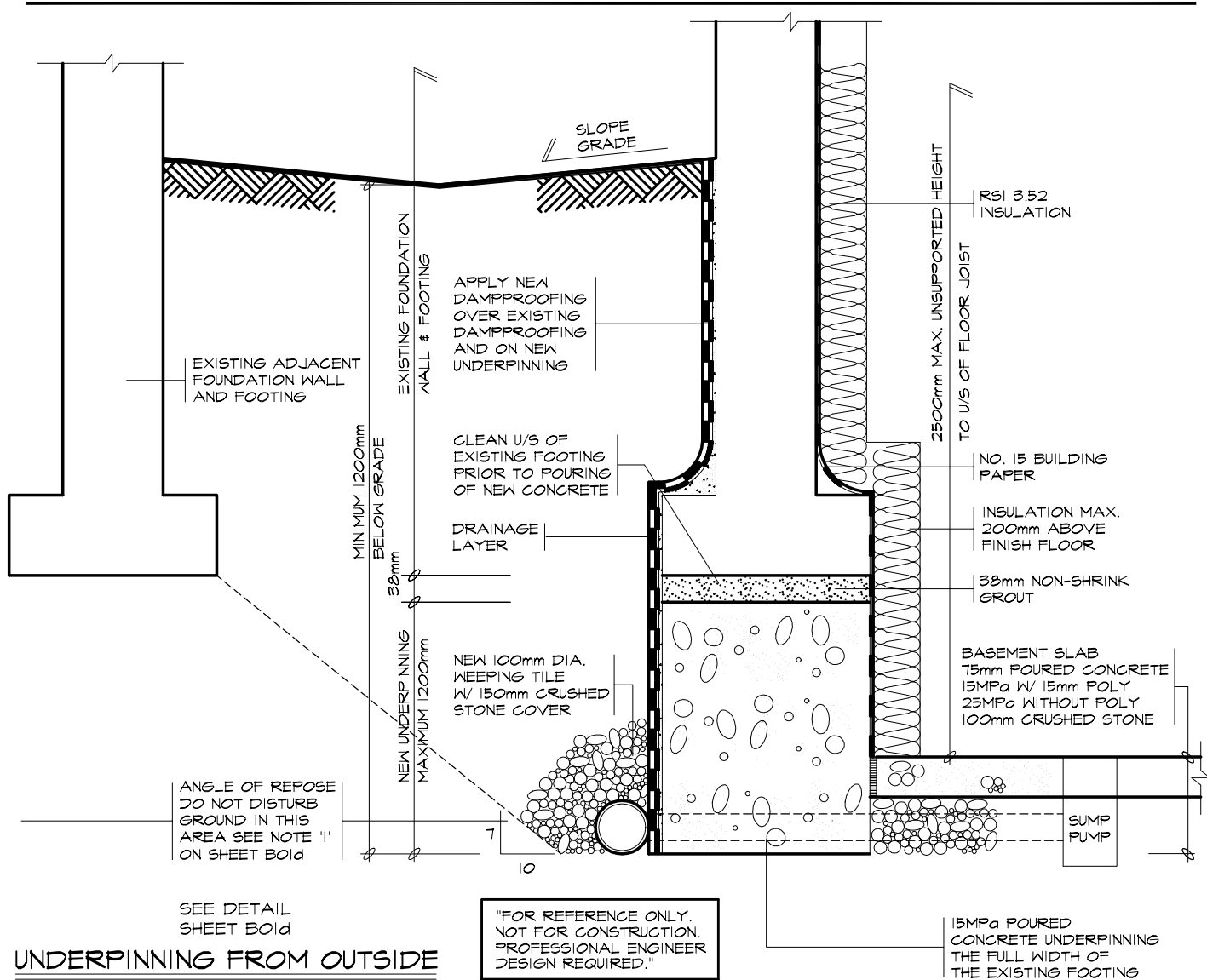
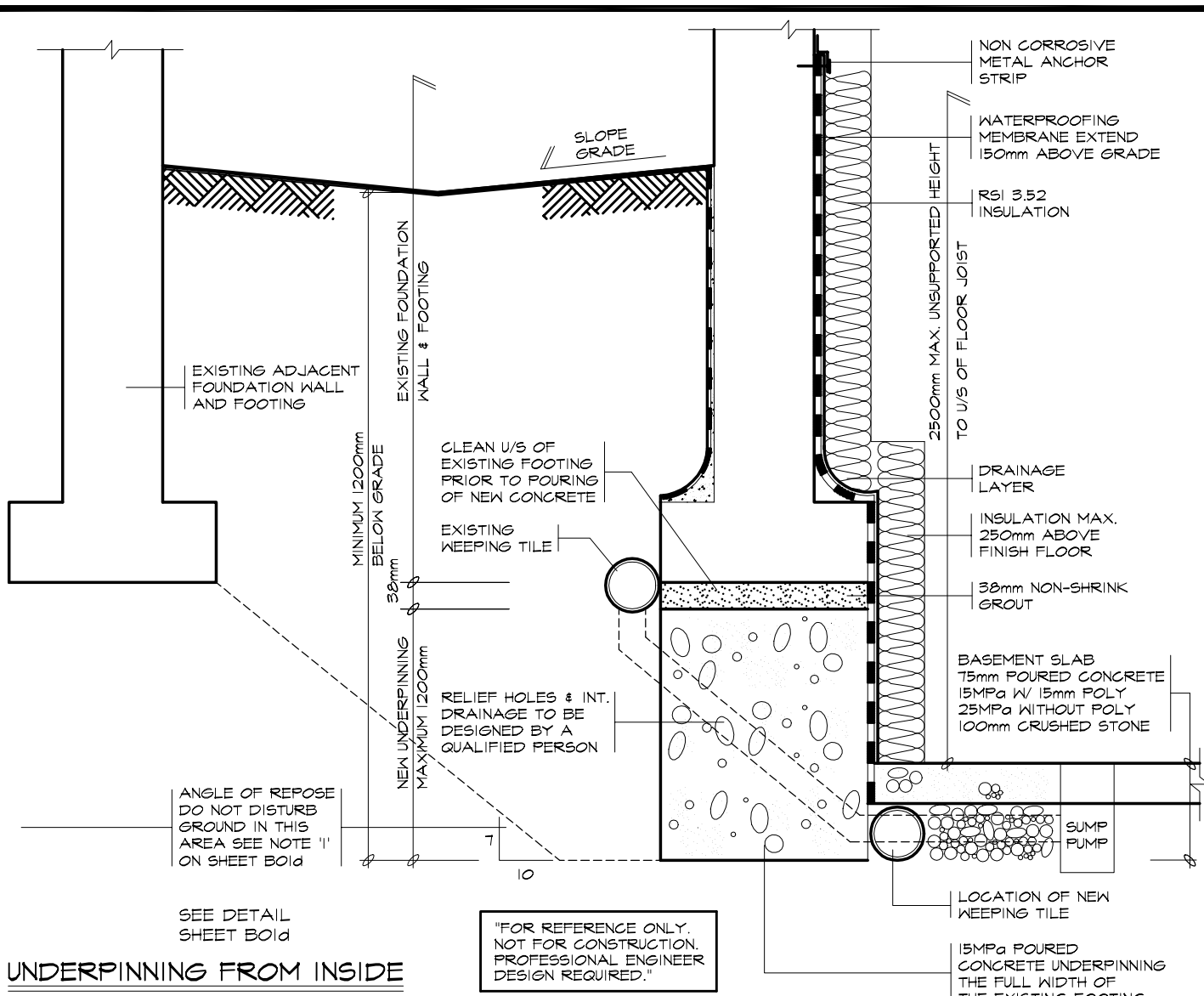
ROOM FINISH SCHEDULE											
RM. NO.	ROOM NAME	FLOOR		BASE		WALLS		CEILING			REMARKS
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
	FIRST FLOOR										
①	KITCHEN	CERAMIC TILE	-----	WOOD	PAINT	DRYWALL	PAINT	DRYWALL	PAINT	2720mm	
②	BREAKFAST	WOOD	STAIN	WOOD	PAINT	DRYWALL	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
①	2-38x184 SPRUCE
②	3-38x184 SPRUCE
③	2-38x235 SPRUCE
④	3-38x235 SPRUCE
⑤	2-38x286 SPRUCE
⑥	3-38x286 SPRUCE
⑦	90mmx 90mmx 6mm L
⑧	90mmx 90mmx 8mm L
⑨	100mmx 90mmx 6mm L

LEGEND	
	DUPLEX OUTLET (WEATHERPROOF)
	DUPLEX OUTLET (HGT. ABOVE FLR.)
	DUPLEX OUTLET (300mm ABOVE FLR.)
	EXHAUST FAN
	SWITCH
	HOSE BIB
	SMOKE DETECTOR
	HEAVY DUTY OUTLET
	LIGHT FIXTURE (WALL MOUNTED)
	LIGHT FIXTURE (CEILING MOUNTED)
	POT LIGHT FIXTURE
	LIGHT FIXTURE (WATER RESISTANT)
	LIGHT FIXTURE (CAPPED)
	FLUORESCENT LIGHT FIXTURE
	SOLID WOOD BEARING
	FLOOR DRAIN
	TV CABLE OUTLET
	TELEPHONE OUTLET
	COMPUTER OUTLET
	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
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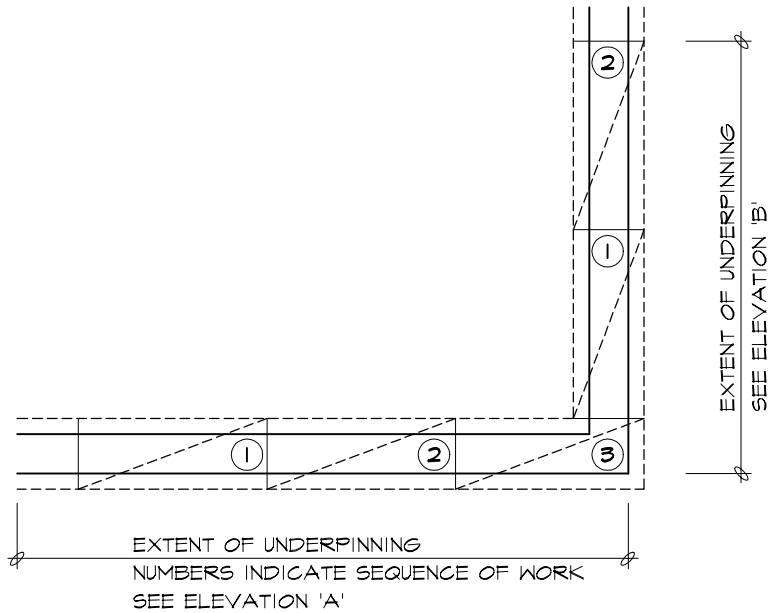
TITLE
UNDERPINNING SECTIONS

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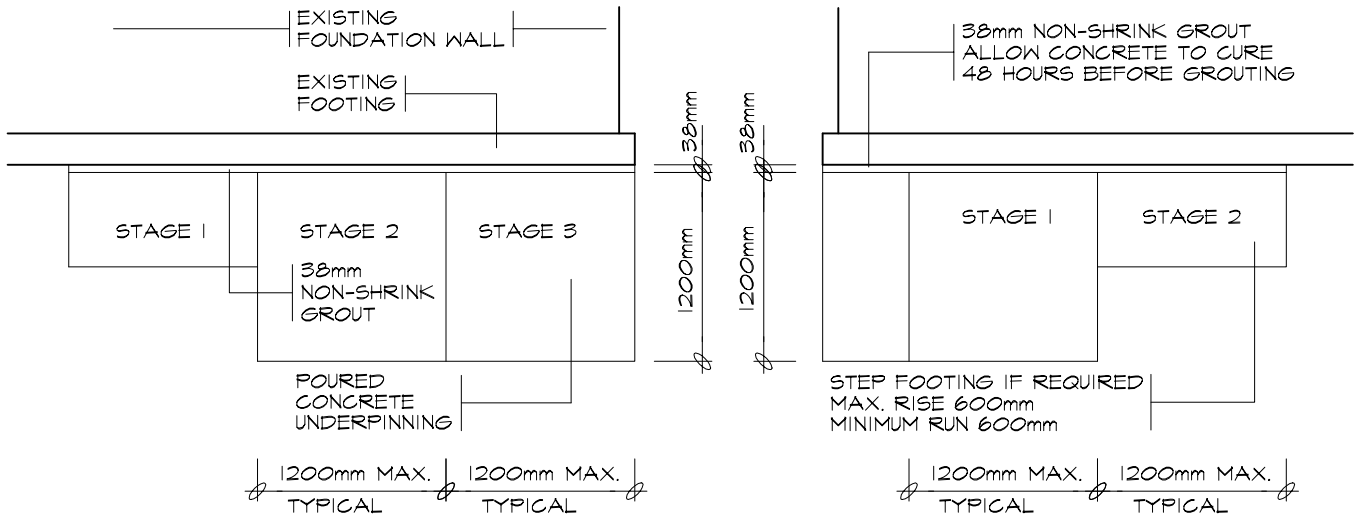
DWG. NO.

Bolb

2012



PLAN



ELEVATION 'A'

ELEVATION 'B'

GENERAL NOTES

- 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.
- 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.
- MINIMUM CONCRETE STRENGTH FOR UNDERPINNING SHALL BE 15MPa AT 28 DAYS. ALL EXTERIOR CONCRETE SHALL BE 32MPa W/ 5%-8% AIR ENTRAINMENT.
- CONCRETE SHALL BE CURED MINIMUM 48 HOURS BEFORE GROUTING AND PROCEEDING TO THE NEXT STAGE.
- SHORE & BRACE WHERE NECESSARY TO ENSURE THE SAFETY & STABILITY OF THE EXISTING STRUCTURE DURING UNDERPINNING.
- KEEPING TILE IS TO DRAIN TO THE STORM SEWER, DITCH, DRYWELL OR INSTALL COVERED SUMP PIT WITH AN AUTOMATIC PUMP.
- 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)

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

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

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

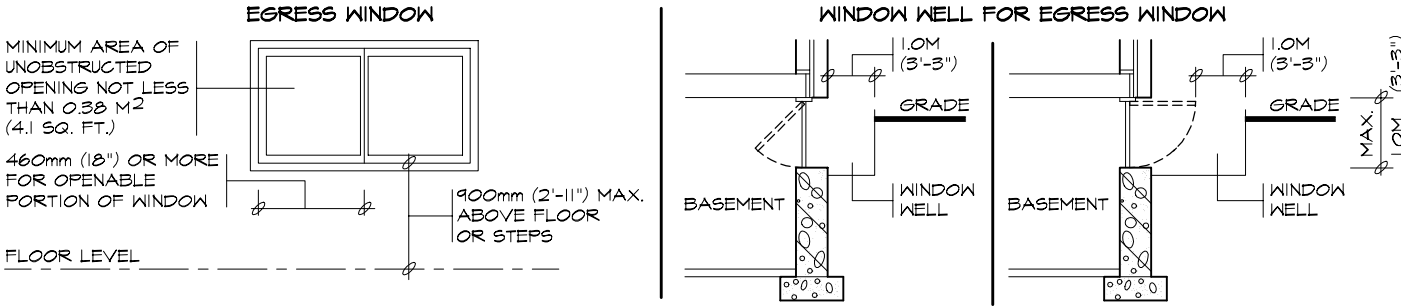
MINIMUM WINDOW AREAS FOR LIGHT

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 0.35M² 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.



SEPARATION BETWEEN UNITS

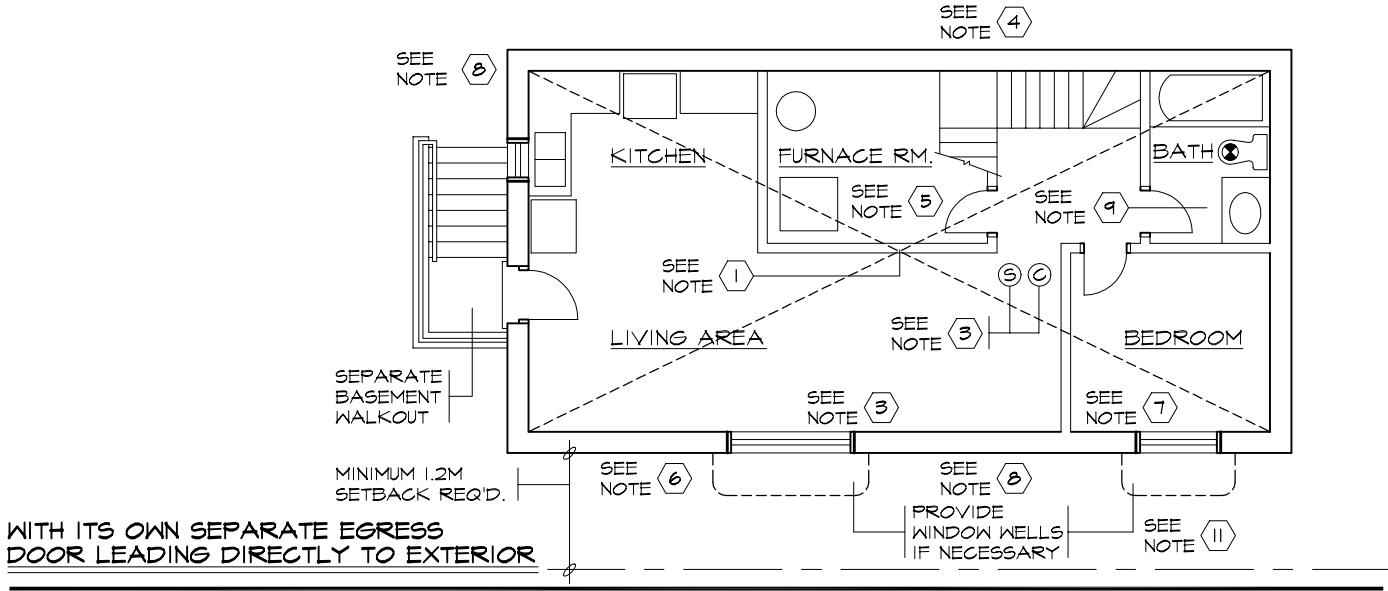
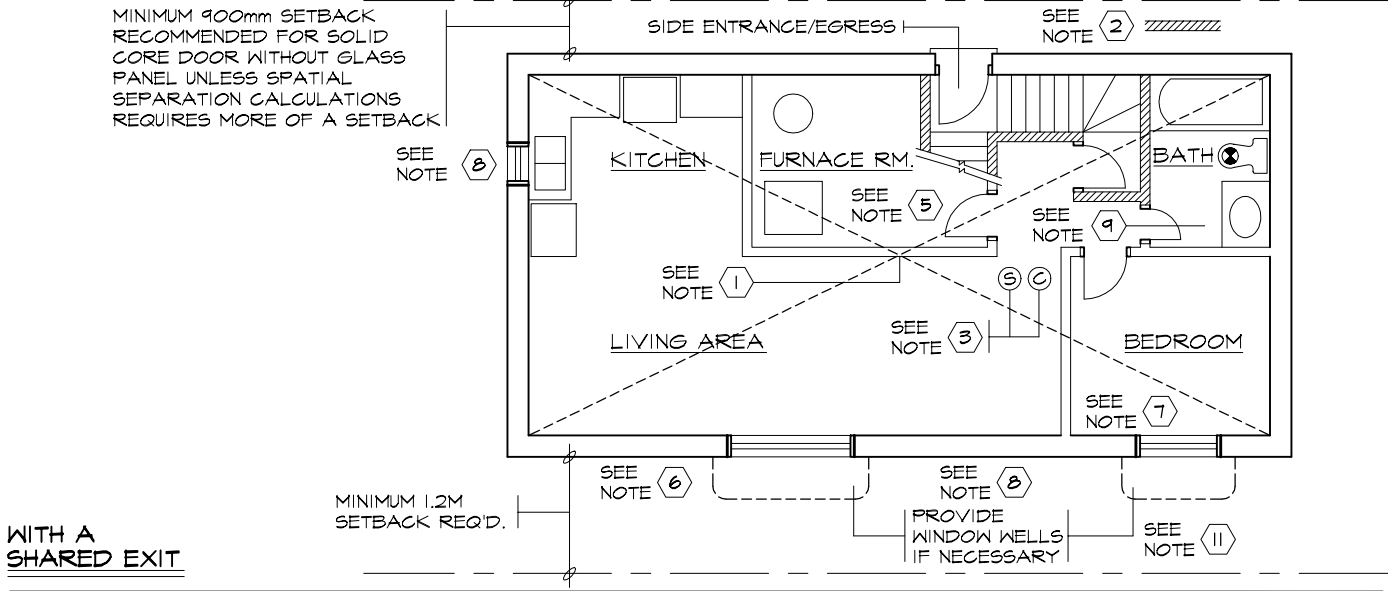
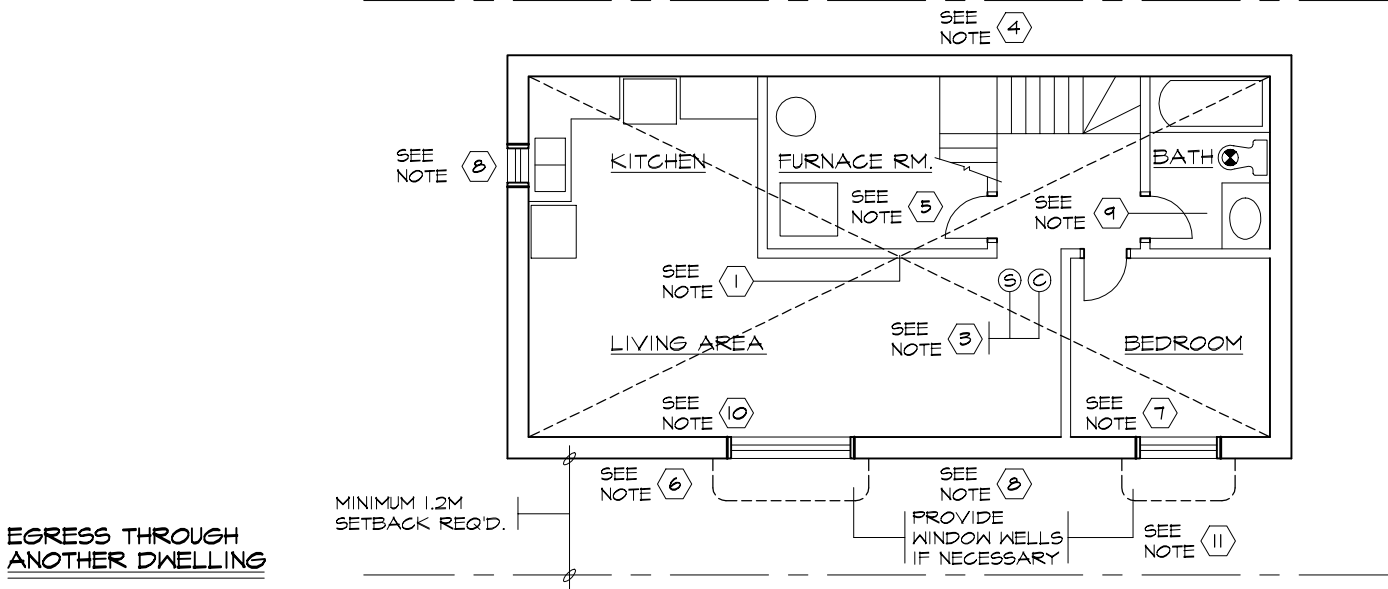
REQUIRED FIRE SEPARATIONS/CLOSURES	CONDITIONS
30 MINUTE FIRE SEPARATION (12.7mm TYPE 'X' GYPSUM BD. CEILING)	SMOKE ALARM IN BOTH UNITS
15 MINUTE HORIZONTAL FIRE SEPARATION	INTERCONNECTED SMOKE ALARMS IN BOTH UNITS AND IN ALL COMMON AREAS
NO FIRE SEPARATIONS	THE ENTIRE BUILDING MUST BE SPRINKLERED
20 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

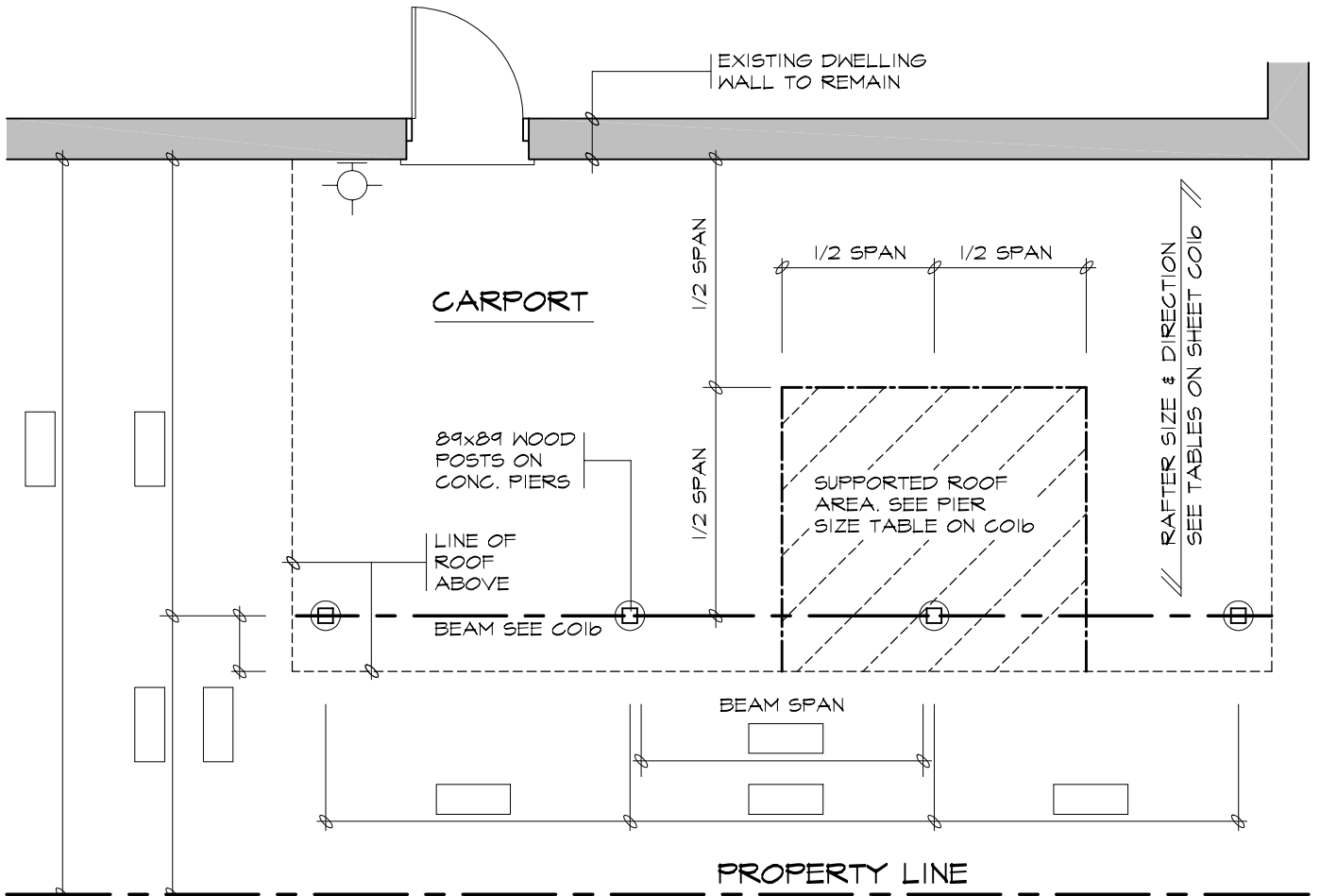
PLUMBING, HEATING AND VENTILATION

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	

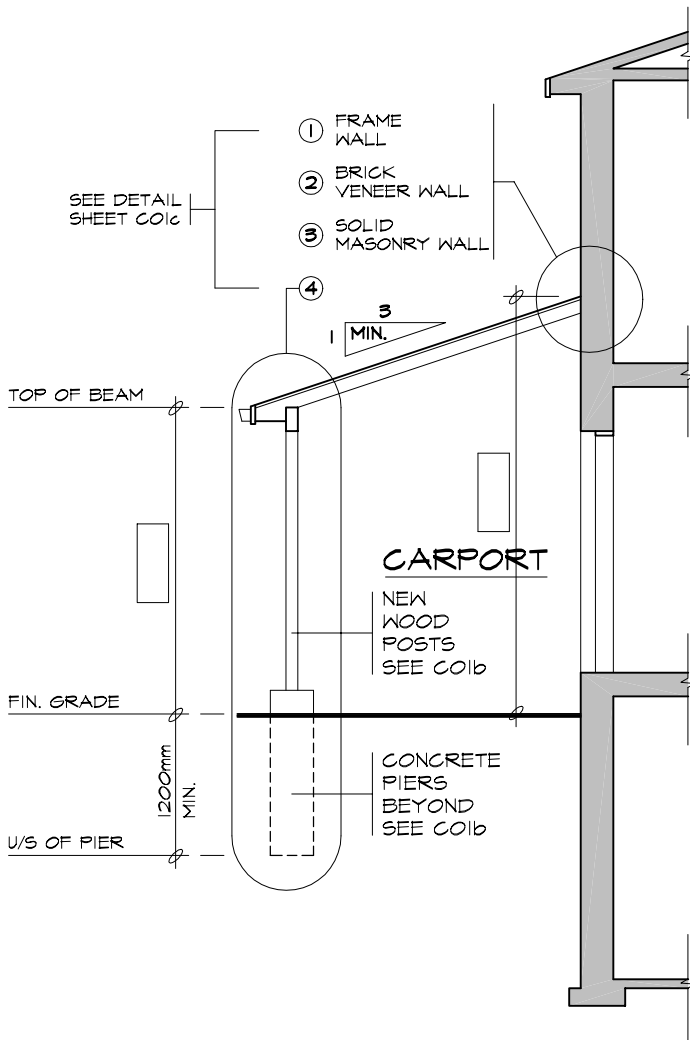


NOTES RELATING TO PLANS ABOVE ①

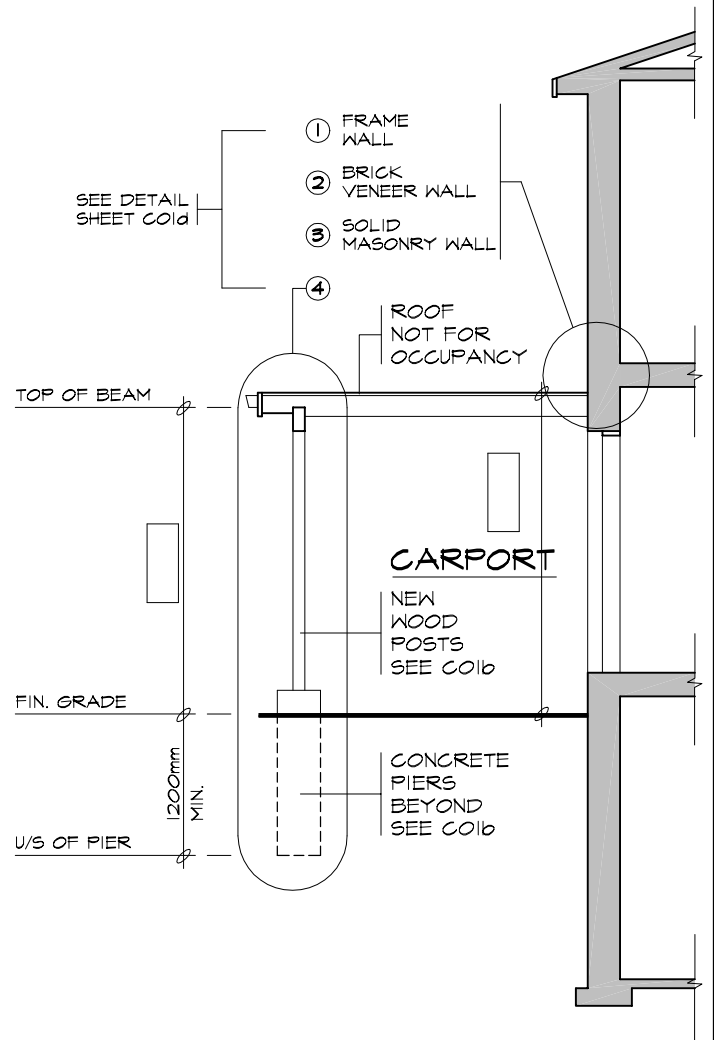
1. MINIMUM 30 MINUTE FIRE SEPARATION UNLESS INTERCONNECTED SMOKE ALARMS ARE PROVIDED IN BOTH UNITS AND ALL COMMON AREAS, IN WHICH CASE, A 15 MINUTE FIRE SEPARATION WOULD ONLY BE REQUIRED. INSTALLING SPRINKLERS THROUGHOUT THE BUILDING WOULD WAIVE ALL FIRE SEPARATION REQUIREMENTS.
2. MIN. 30 MINUTE FIRE 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 ACCESSIBLE TO OCCUPANTS OF EACH DWELLING UNIT.



CARPORT PLAN (PROVIDE DIMENSIONS IN BOXES)
SEE CO1b FOR STRUCTURAL SIZES



SLOPING ROOF



FLAT ROOF

CARPORT SECTIONS

**LMCBO
STANDARD
DETAILS**

TITLE

ATTACHED CARPORT SLOPING OR FLAT ROOF PLAN & SECTIONS

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

CO1a

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

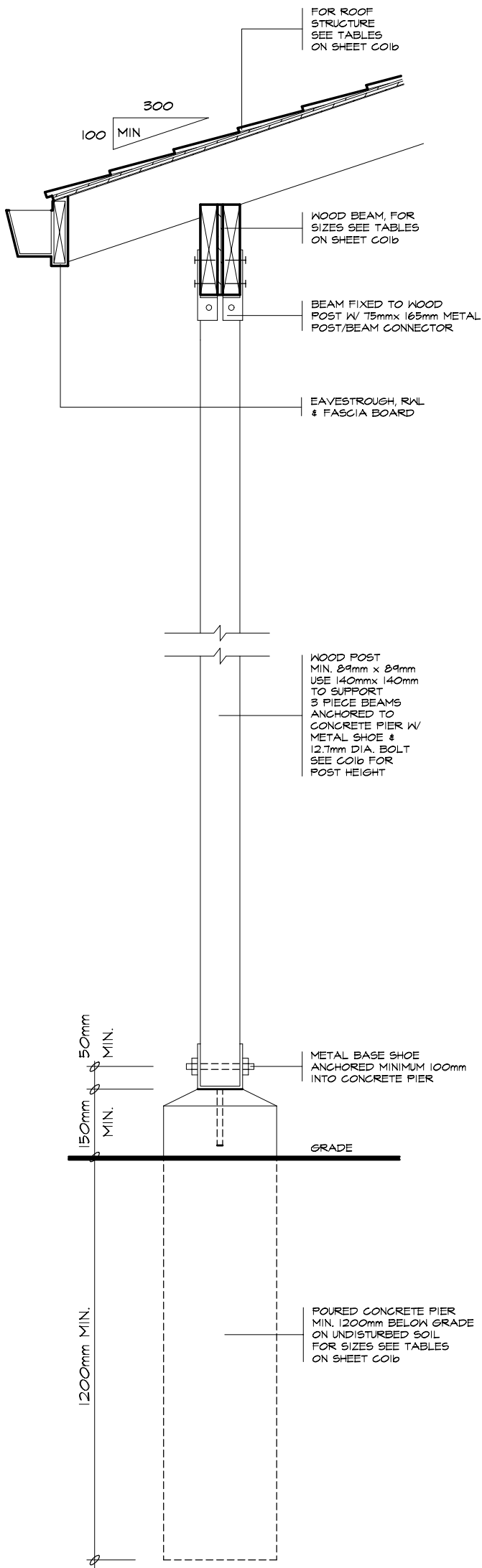
GENERAL NOTES

1. ALL LUMBER TO BE NO. 1&2 SPF OR BETTER

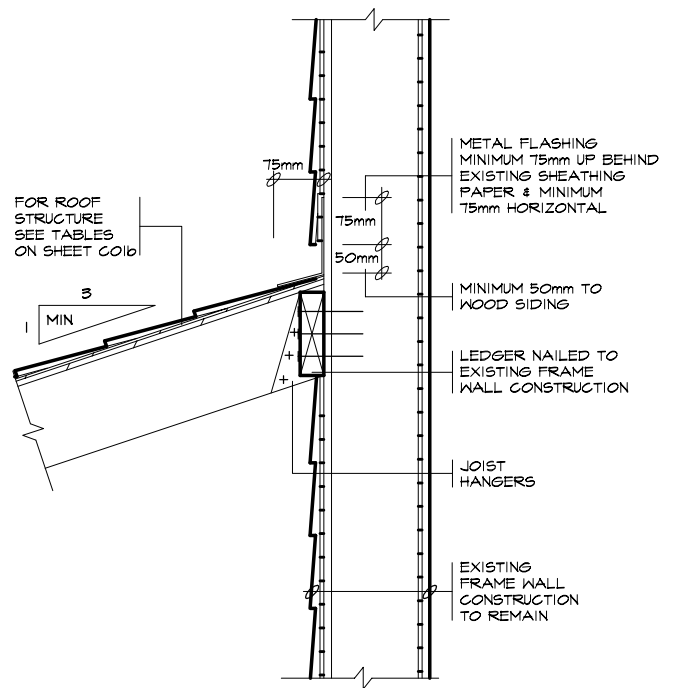
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE

3. WHERE SUPPORTED ROOF AREAS EXCEED THOSE LISTED IN THIS TABLE, THE POSTS SHALL BE BRACED AS SHOWN IN DOIC.
4. WOOD POSTS TO BE MINIMUM 89mmx89mm

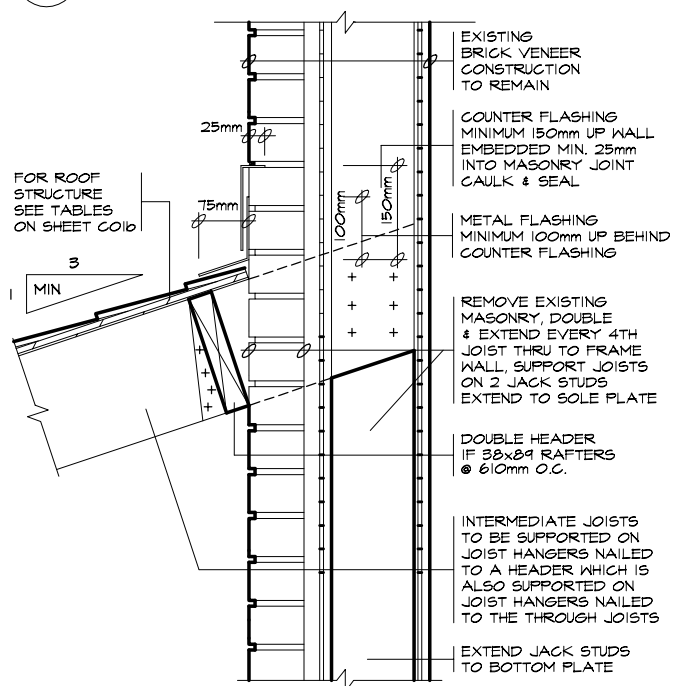
5. BEARING CAPACITY OF SOIL SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.



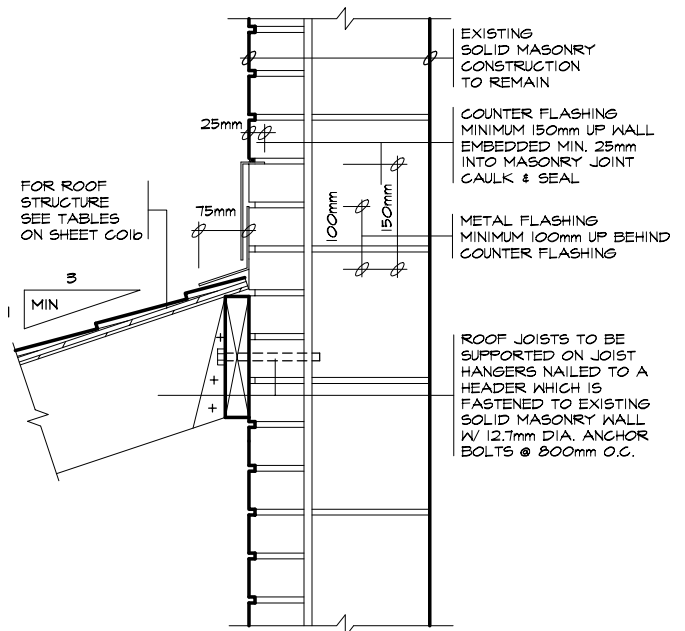
4 SUPPORT DETAIL



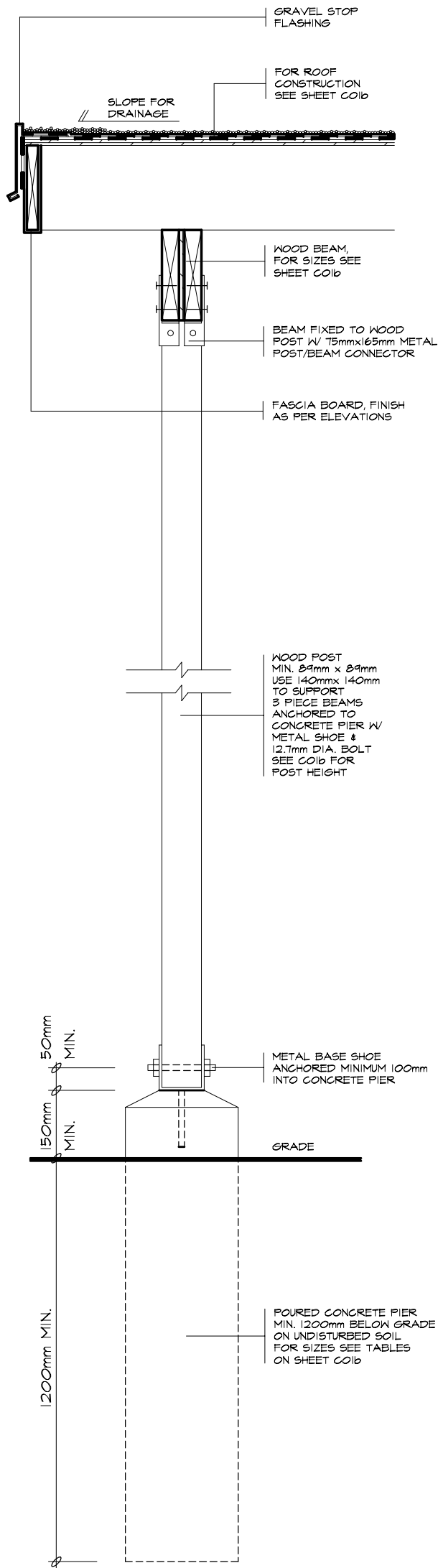
1 FRAME WALL



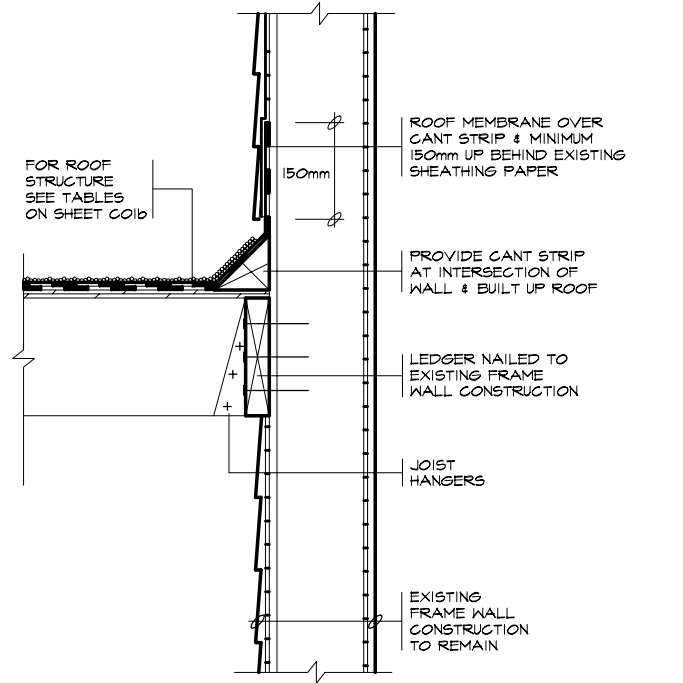
2 BRICK VENEER WALL



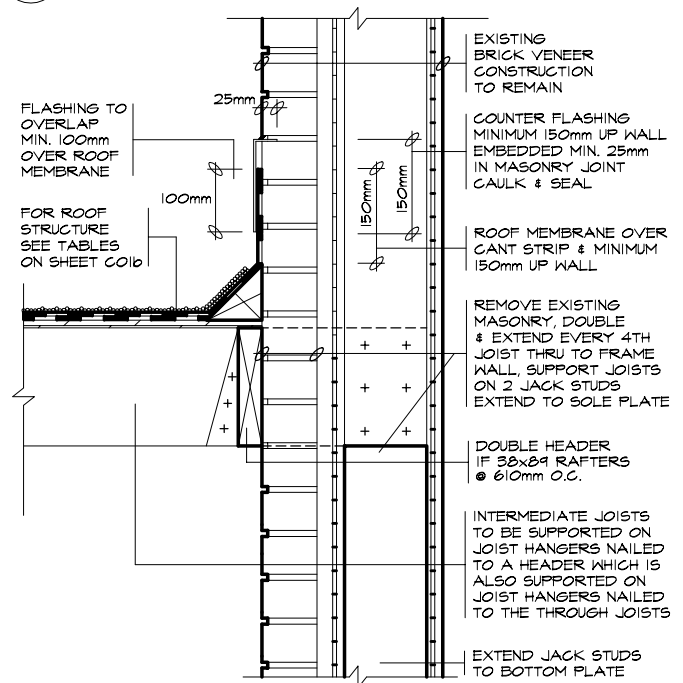
3 SOLID MASONRY WALL



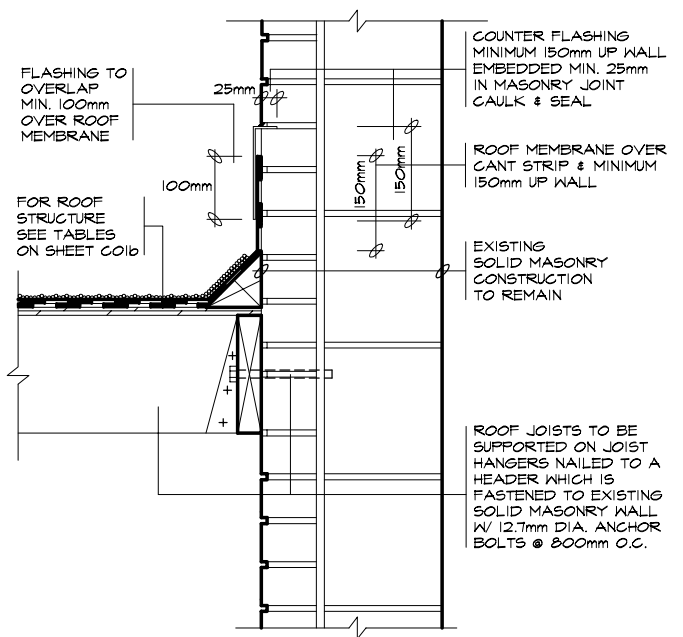
4 SUPPORT DETAIL



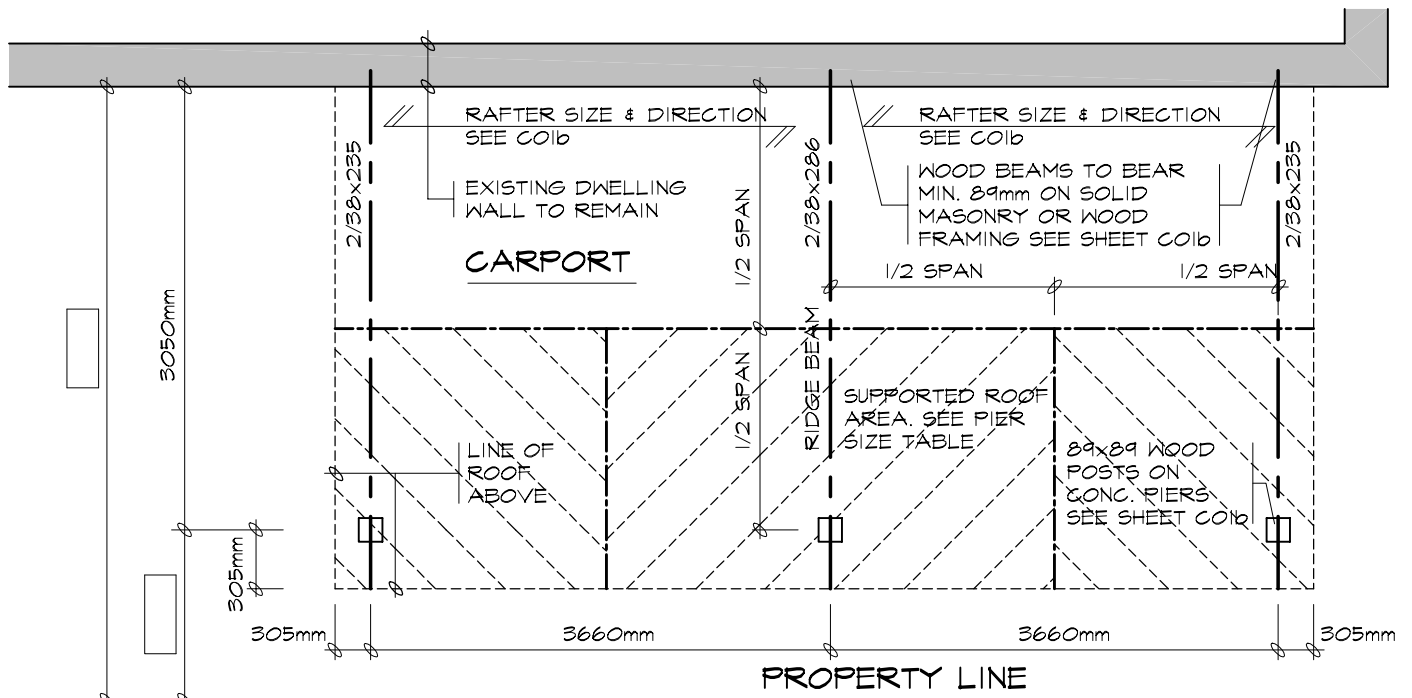
1 FRAME WALL



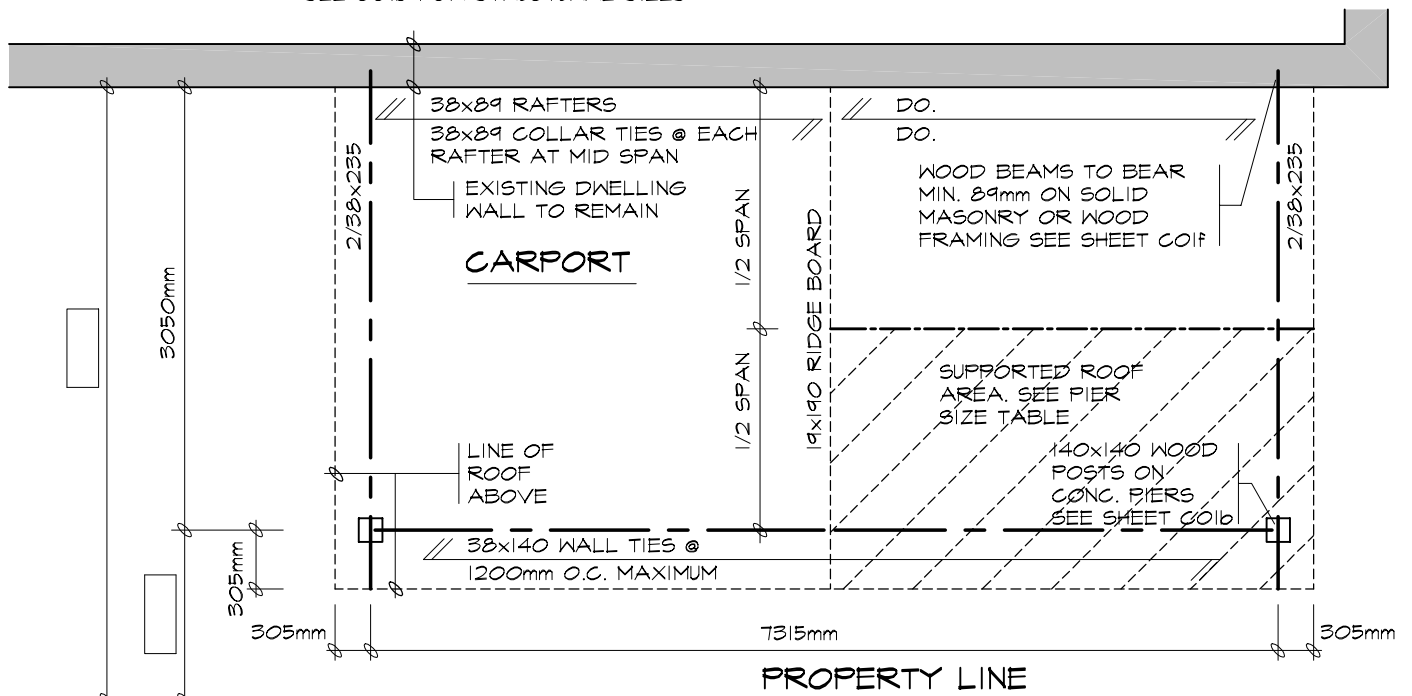
2 BRICK VENEER WALL



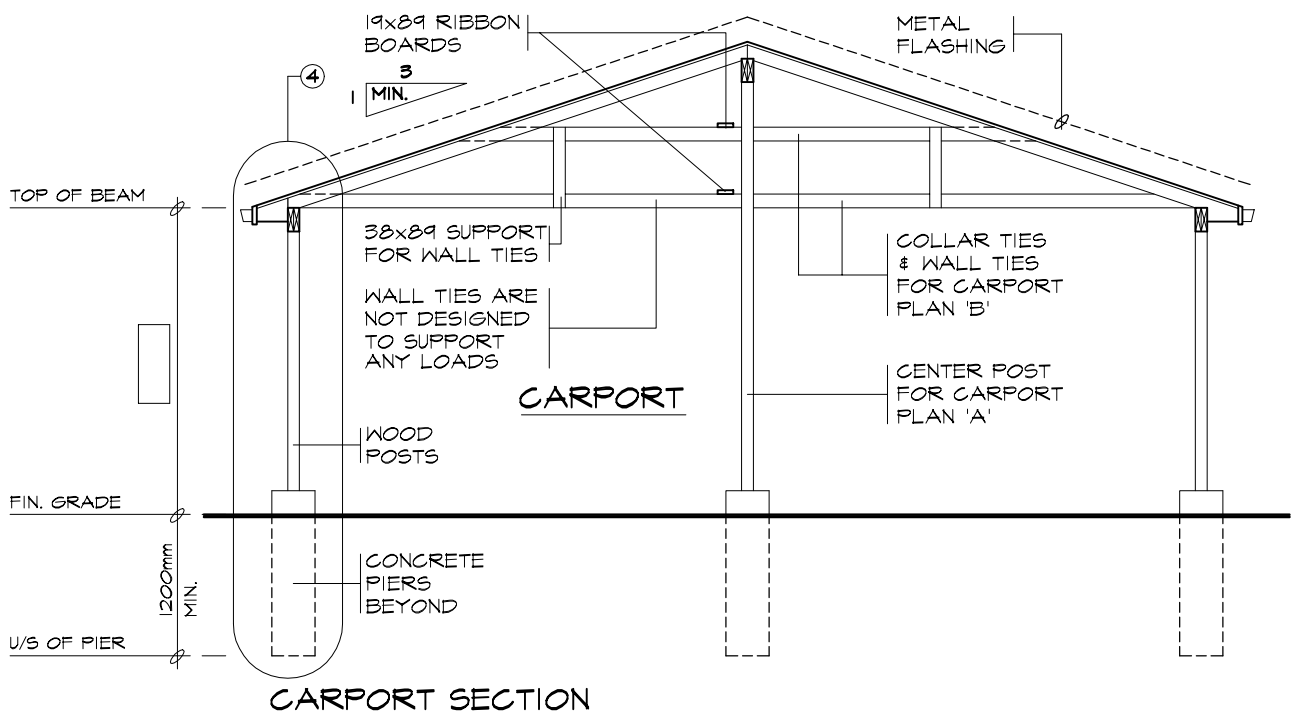
3 SOLID MASONRY WALL



CARPORT PLAN 'A' POST & BEAM (PROVIDE DIMENSIONS)
SEE CO1b FOR STRUCTURAL SIZES



CARPORT PLAN 'B' CONVENTIONAL FRAMING (PROVIDE DIMENSIONS)
SEE CO1b FOR STRUCTURAL SIZES



CARPORT SECTION

**LMCBO
STANDARD
DETAILS**

TITLE

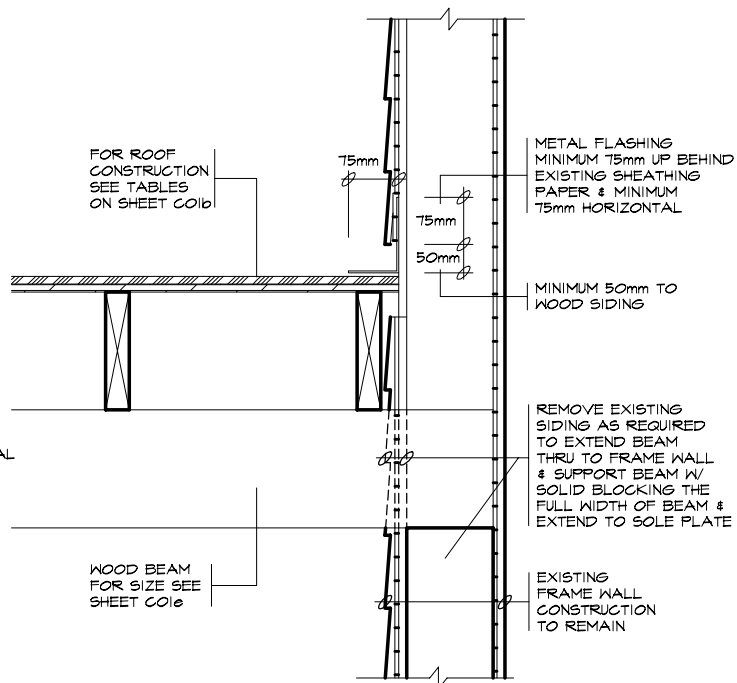
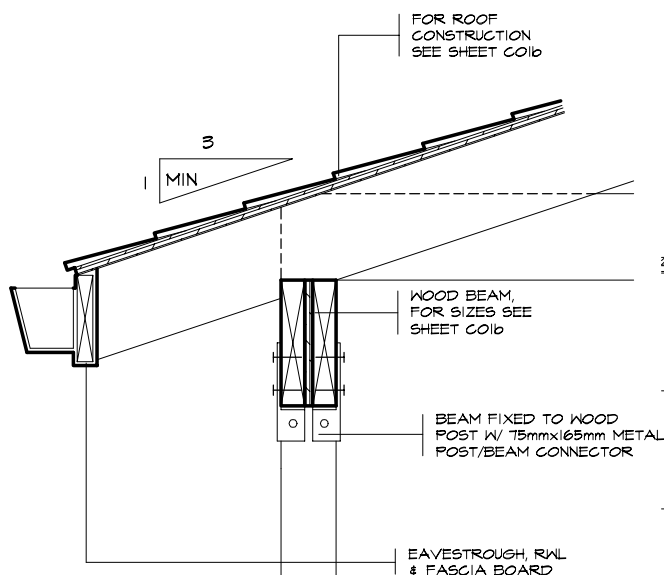
ATTACHED CARPORT GABLE ROOF, PLAN & SECTION

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

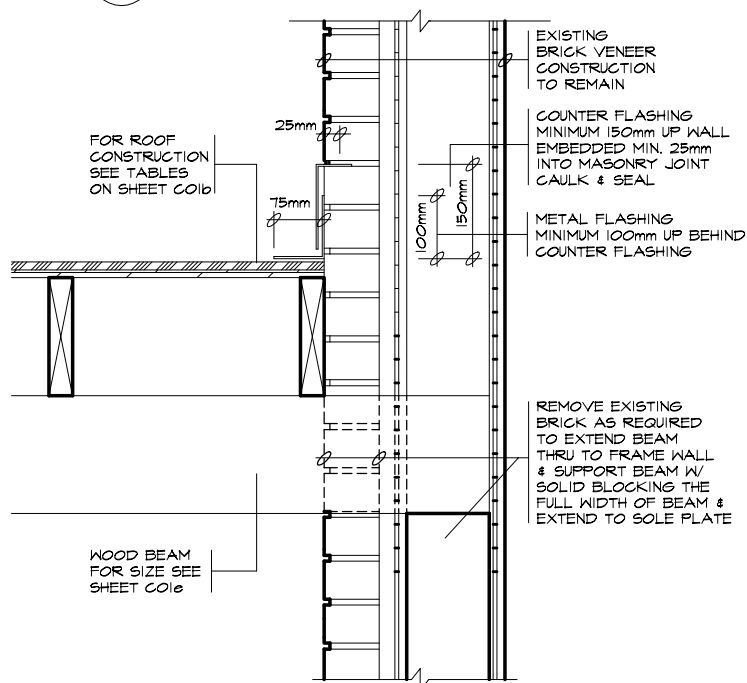
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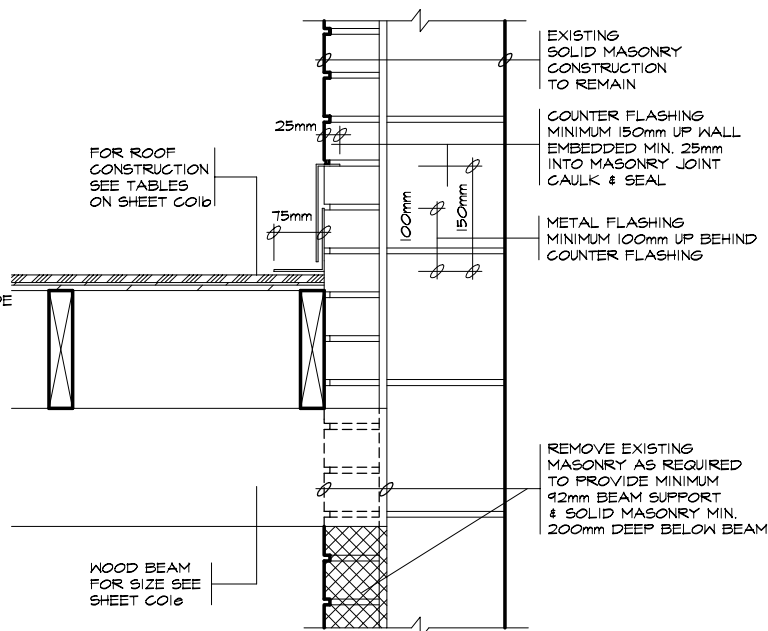
2012



1 FRAME WALL



2 BRICK VENEER WALL



4 SUPPORT DETAIL

3 SOLID MASONRY WALL

LMCBO
STANDARD
DETAILS

TITLE

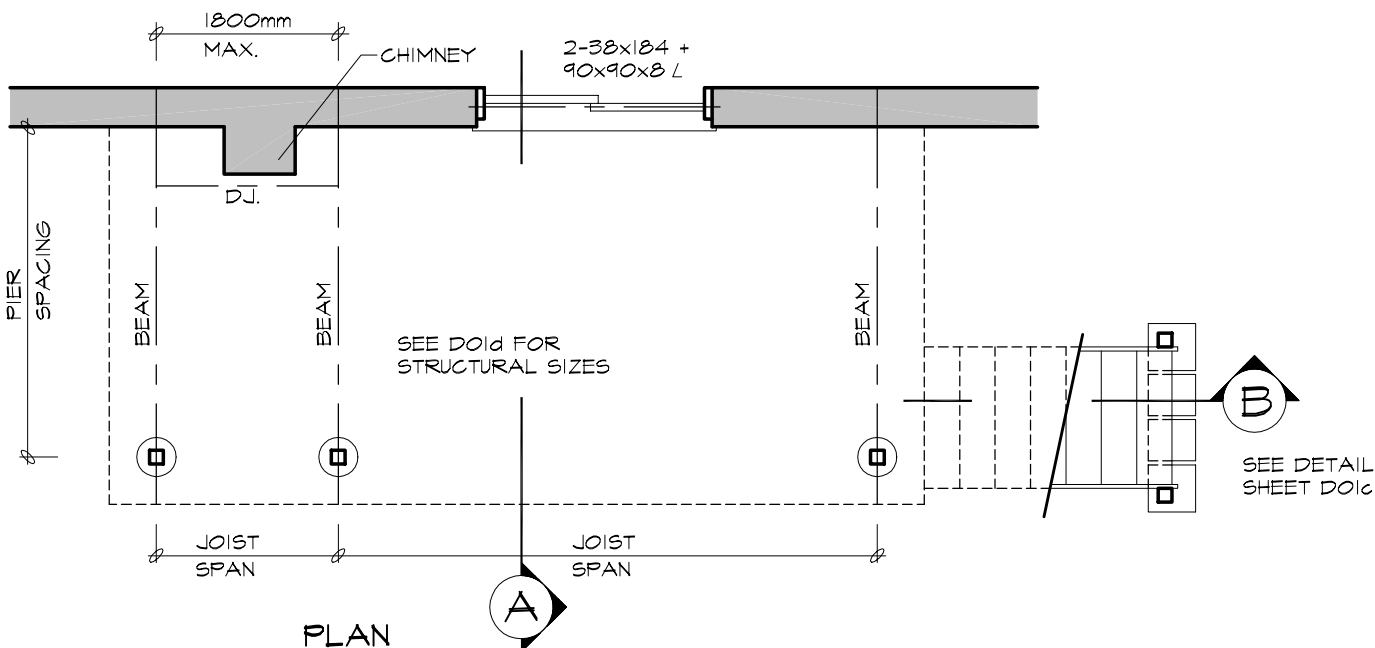
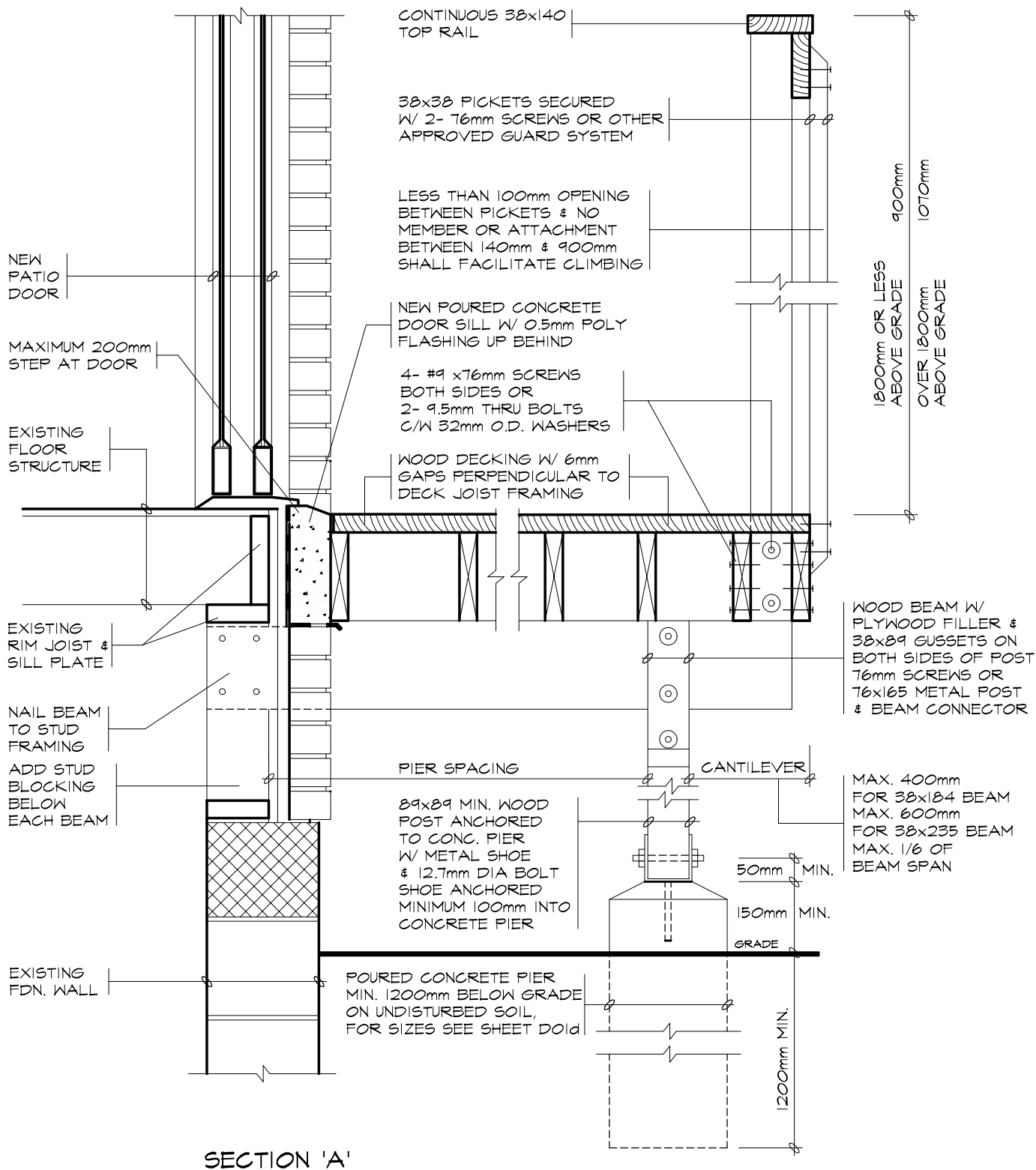
ATTACHED CARPORT GABLE ROOF, DETAILS

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DWG. NO.

CO1f

2012



**LMCBO
STANDARD
DETAILS**

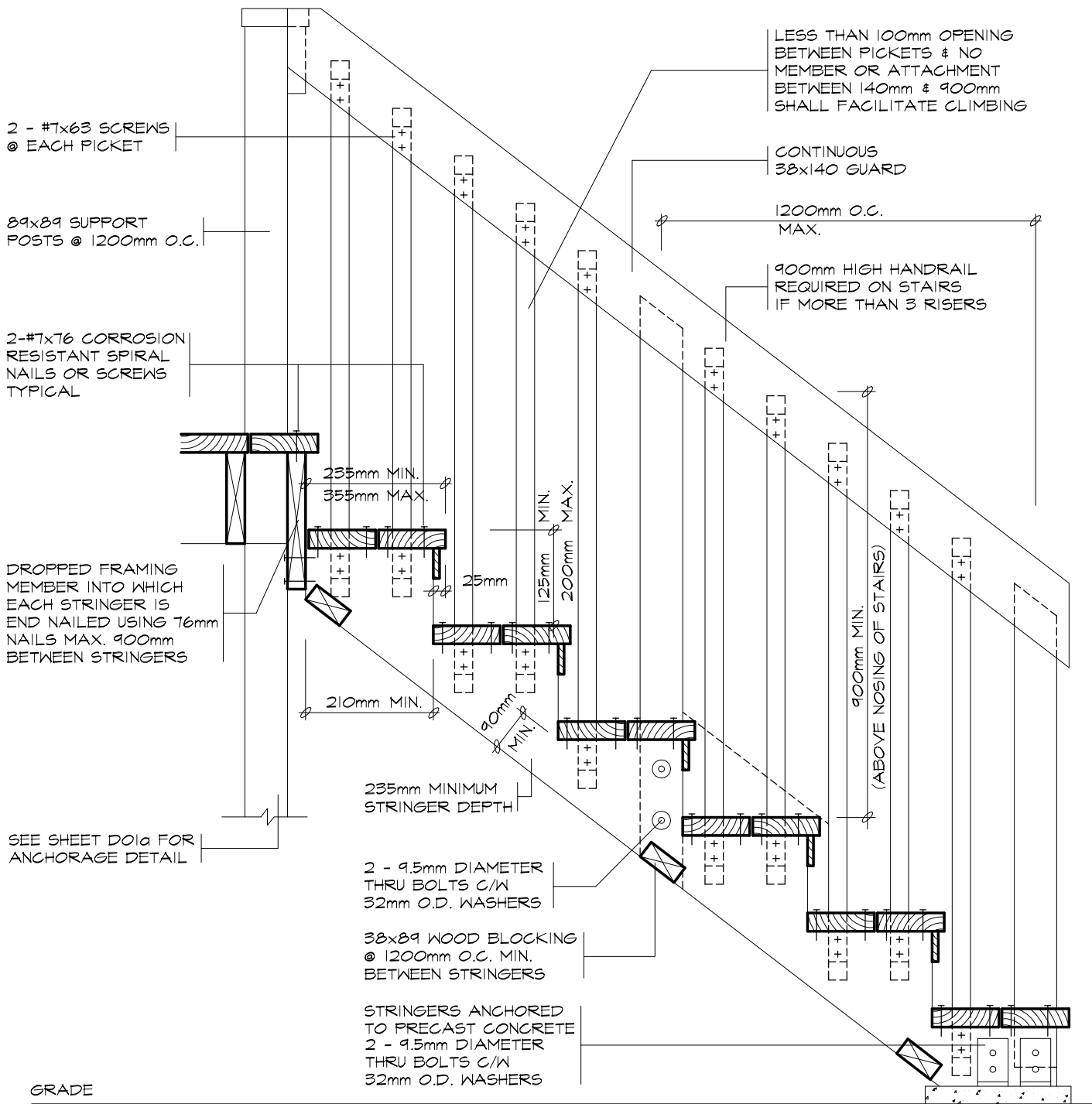
TITLE **WOOD DECK FIXED TO BRICK VENEER & WOOD FRAMING
PLAN & SECTION**

DWG. NO.

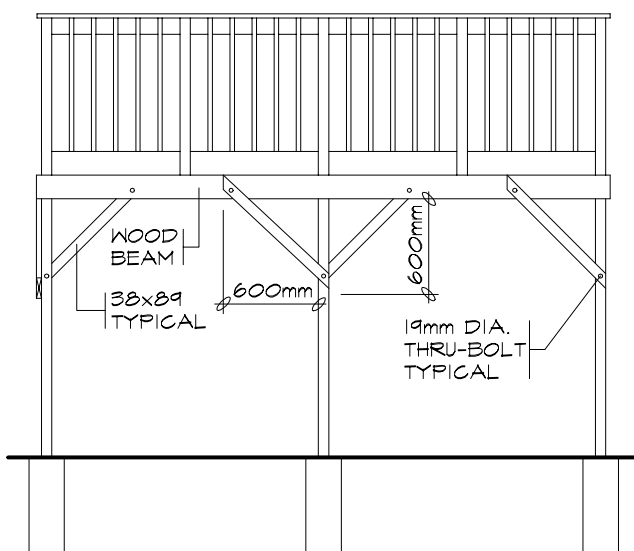
D01b

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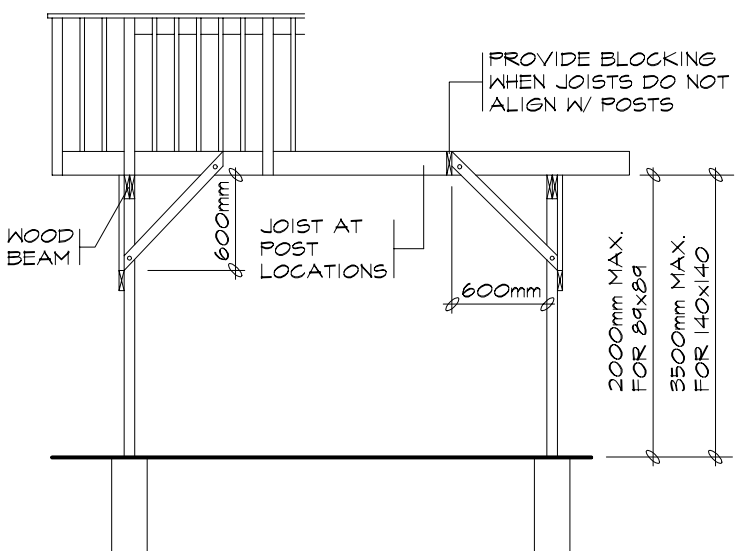
2012



SECTION 'B'



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.

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

D01c

2012

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

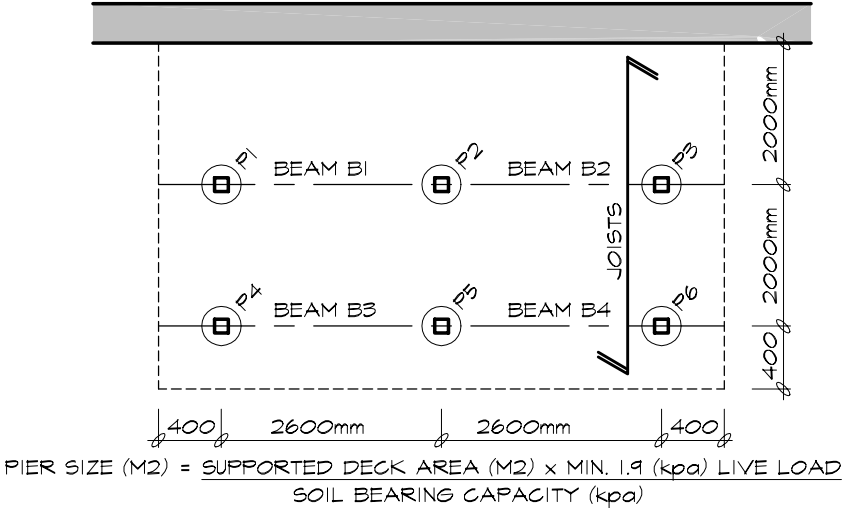
JOIST SIZING TABLE									
JOIST SPAN (mm)	LIVE LOAD 1.9 kPa			LIVE LOAD 2.5 kPa			LIVE LOAD 3.0 kPa		
	JOIST SPACING (mm)			JOIST SPACING (mm)			JOIST SPACING (mm)		
	305	406	610	305	406	610	305	406	610
2000	38x140	38x140	38x140	38x140	38x140	38x140	38x140	38x140	38x140
2500	38x140	38x140	38x184	38x140	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	



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 I2 OF TABLE I.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.

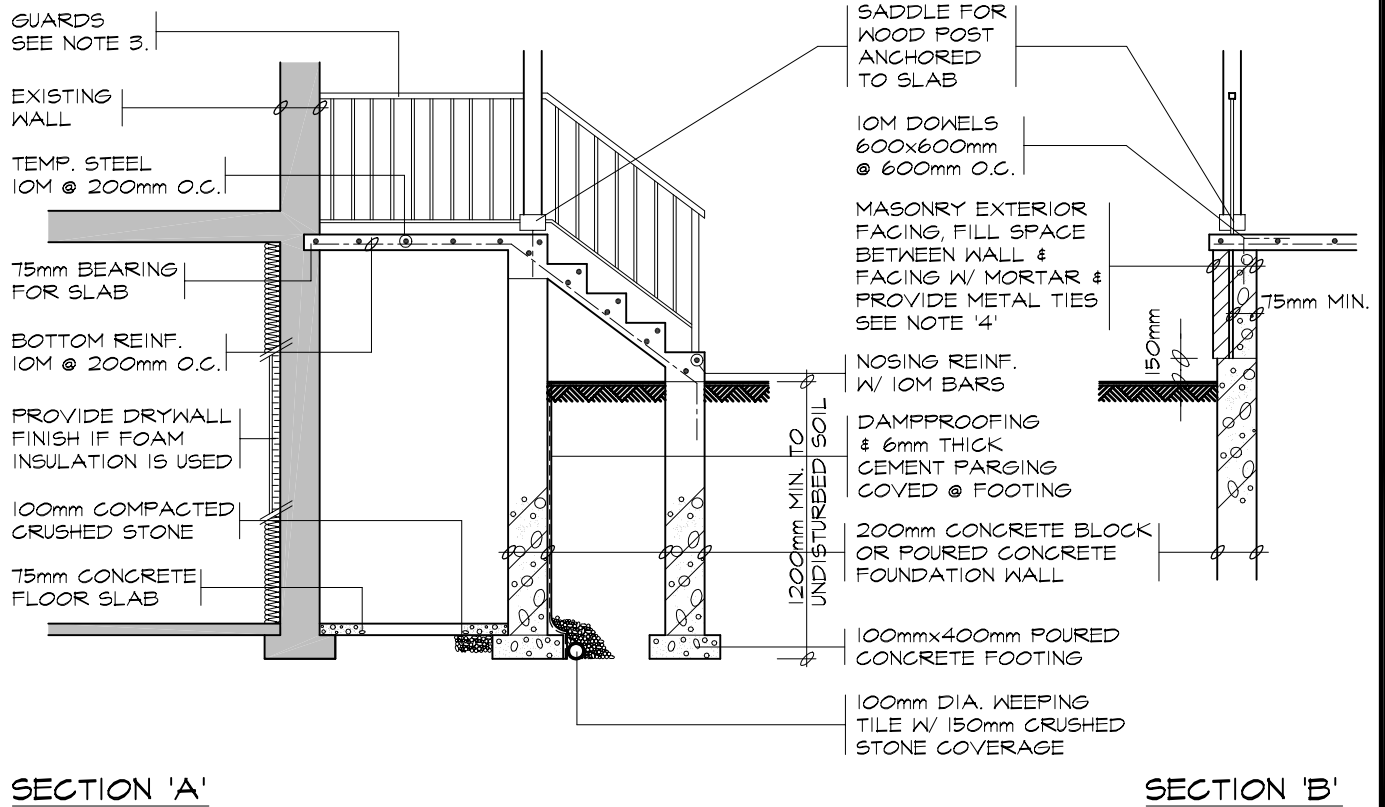
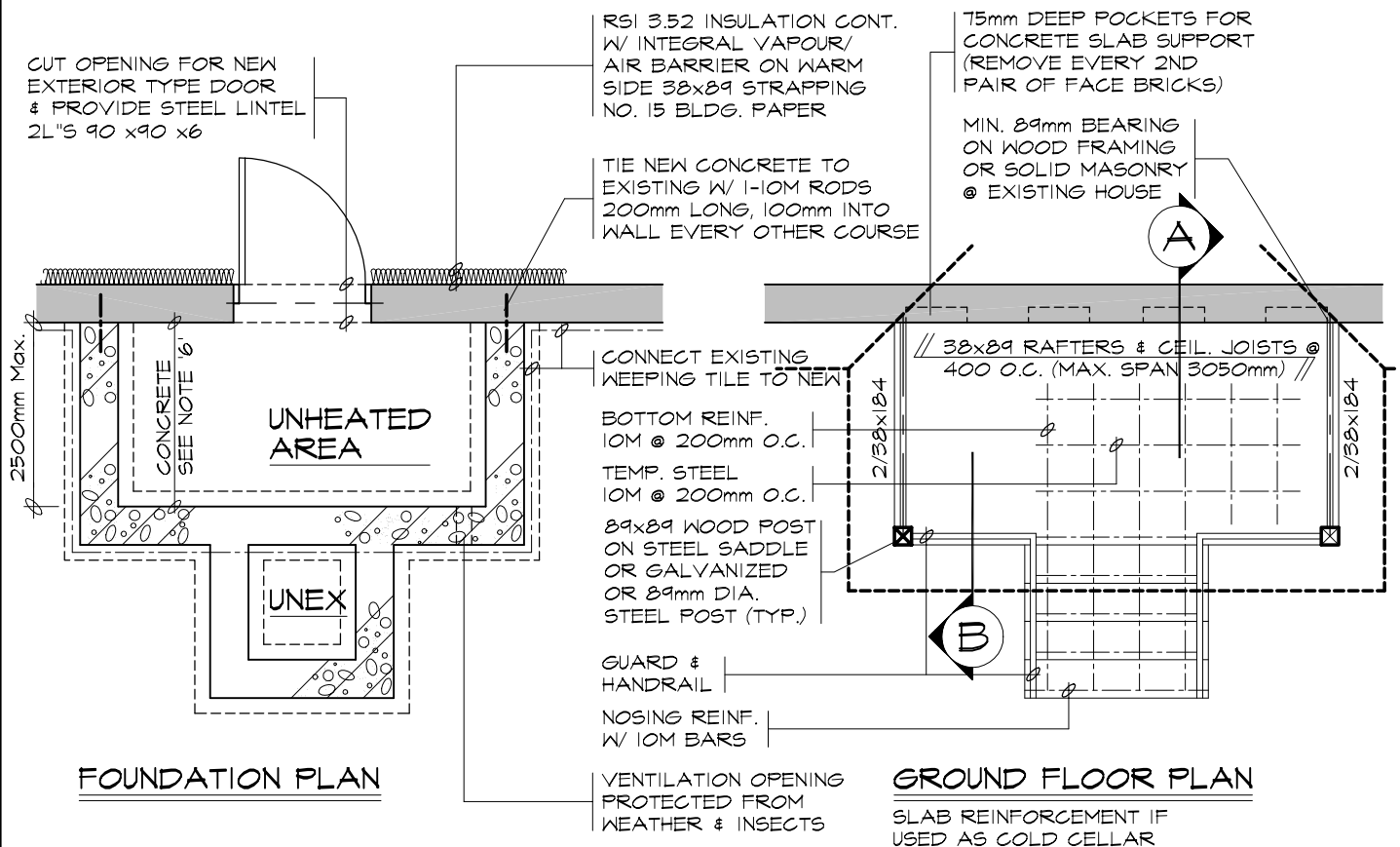
8. MAXIMUM HEIGHT REFERS TO THE HEIGHT OF THE POST FROM THE TOP OF THE PIER TO THE DECK SURFACE.

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..



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**

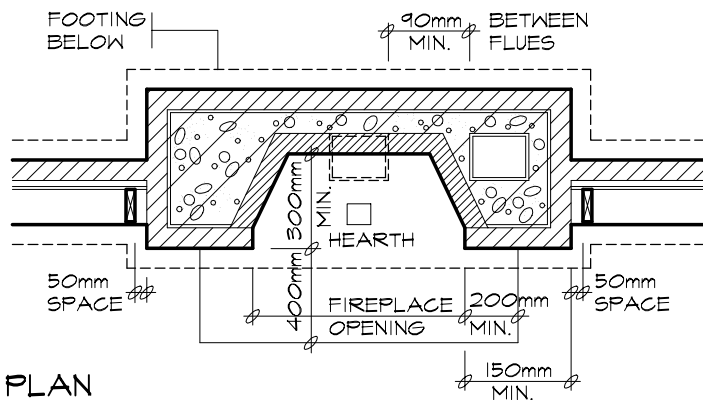
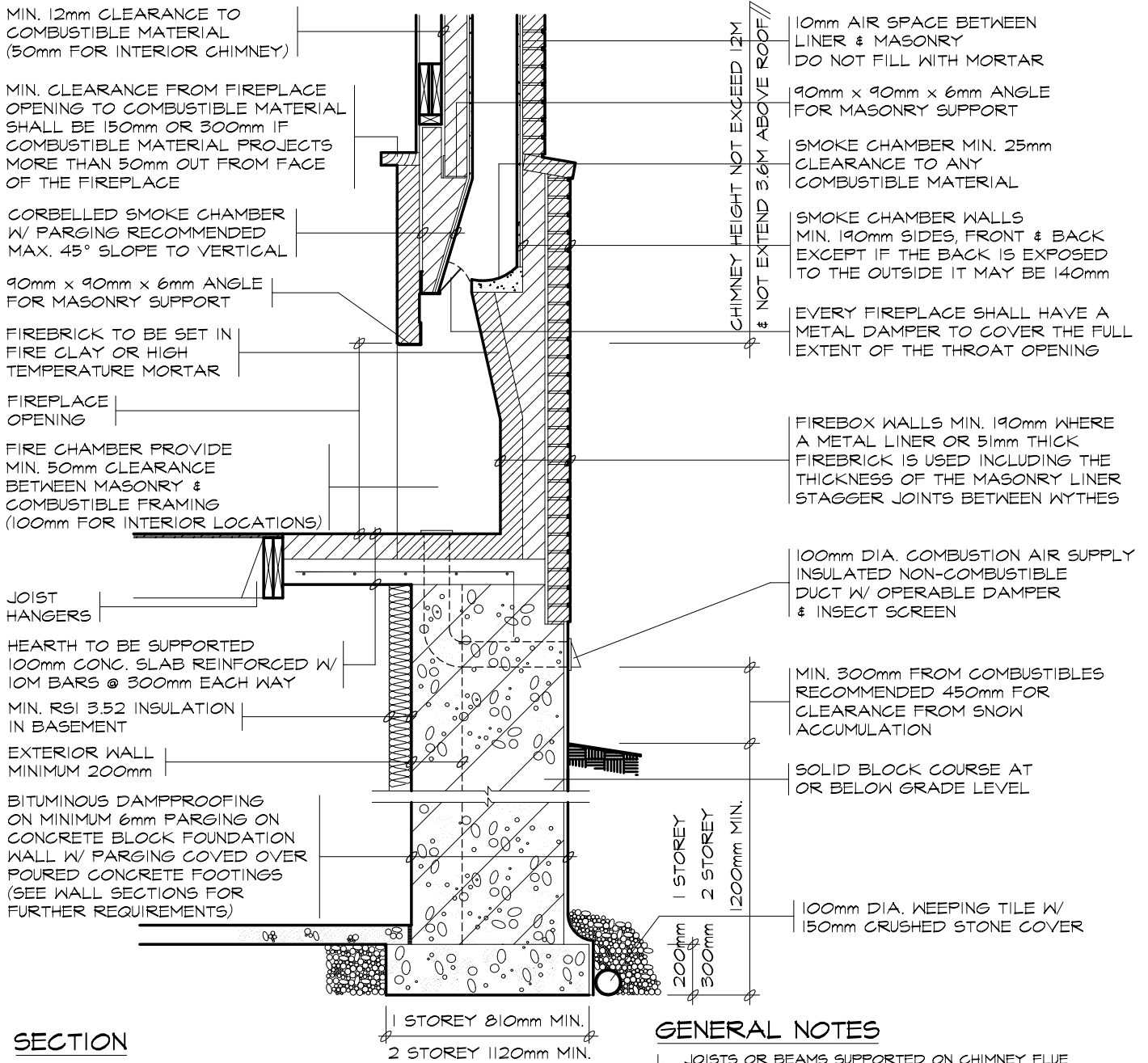
TITLE CONCRETE PORCH & COLD CELLAR PLANS, SECTIONS & NOTES

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DWG. NO.

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2012



GENERAL NOTES

- JOISTS OR BEAMS SUPPORTED ON CHIMNEY FLUE SHALL BE SEPARATED BY 290mm OF SOLID MASONRY
- MAXIMUM ANGLE OF SLOPE FOR SMOKE CHAMBER IS 45° FROM VERTICAL
- COMBUSTIBLE FLOORING, SUB FLOORING & CEILING FINISHES SHALL HAVE A MINIMUM 12mm CLEARANCE TO MASONRY CHIMNEY.
- 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.
- 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
- INSTALL A CARBON MONOXIDE DETECTOR CONFORMING TO CAN/CGA-6.19 OR UL 2034 ADJACENT TO EACH SLEEPING AREA
- PROVIDE FIRESTOPPING BETWEEN FLOOR, CEILING LEVELS AND CHIMNEY

FIREPLACE OPENING (M ²)	CHIMNEY HEIGHT (M)							
	3.0 - 4.5		>4.5 - 5.9		>5.9 - 8.9		>8.9 - 12.0	
	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.

FLUE EXTENSION
50mm MIN. & 100mm MAX.

BRICK CAP W/ FLASHING OR
METAL OR CONC. CHIMNEY
CAP W/ WASH & DRIP

SOLID BRICK CHIMNEY MIN. 70mm
THICK. NO MORTAR BETWEEN
LINER & SURROUNDING MASONRY
WHEN THE CHIMNEY WALLS ARE
LESS THAN 190mm THICK

15.9mm THICK CLAY CHIMNEY LINING
MORTAR BUTT ENDS OF LINERS

MINIMUM 0.33mm GALVANIZED
METAL FLASHING EMBEDDED
MIN. 25mm INTO THE MASONRY,
150mm DOWN THE MASONRY & LAP
THE LOWER FLASHING MIN. 100mm
ALONG THE ROOF

SADDLE LOCATION
SEE NOTE NO.8

CARBON
MONOXIDE
DETECTOR

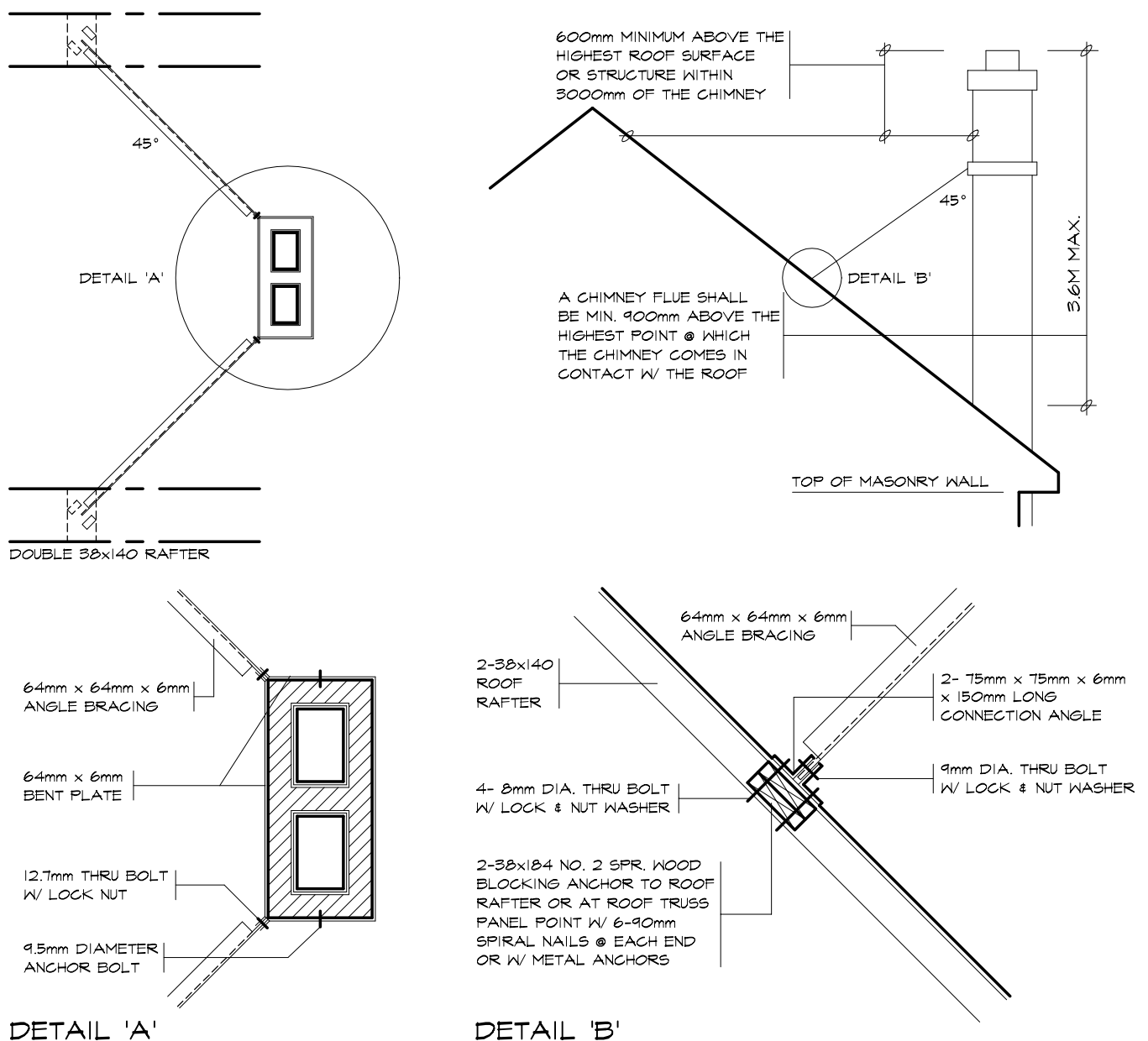
PROVIDE DOUBLE RAFTER
IF OPENING IS MORE THAN
2 RAFTER SPACES

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 $q = 0.52$ 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.

SECTION

LATERAL BRACING FOR CHIMNEYS EXTENDING MORE THAN 3.6M ABOVE ROOF



DETAIL 'A'

DETAIL 'B'

**LMCBO
STANDARD
DETAILS**

TITLE

MASONRY FIREPLACE DETAILS

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DWG. NO.

F01b

2012

TABLE OF CONTENTS

SECTION G: GARAGES

G01a	ATTACHED GARAGE Plan & Sections
G01b	ATTACHED GARAGE Tables & Notes
G01c	ATTACHED GARAGE Sloping Roof W/ Frame Wall Details
G01d	ATTACHED GARAGE Sloping Roof & Brick Veneer Details
G01e	ATTACHED GARAGE Sloping Roof & Solid Masonry Details
G01f	ATTACHED GARAGE Flat Roof & Frame Wall Details
G01g	ATTACHED GARAGE Flat Roof & Brick Veneer Details
G01h	ATTACHED GARAGE Flat Roof & Solid Masonry Details
G01i	ATTACHED GARAGE Gasproofing & Insulation Details
G02a	DETACHED GARAGE Sloping or Flat Roof Plan & Sections
G02b	DETACHED GARAGE Tables & Notes
G02c	DETACHED GARAGE Frame Details
G02d	DETACHED GARAGE Brick Veneer Details
G02e	DETACHED GARAGE Solid Masonry Details

SECTION H: BARRIER FREE

H01	BARRIER FREE WASHROOM Grab Bar Wall Reinforcing
H02	UNIVERSAL BARRIER FREE TOILET ROOM Tables & Notes
H03a	BARRIER FREE RAMP Requirements & Construction
H03b	BARRIER FREE RAMP Construction Details

SECTION P: PLUMBING SYSTEMS

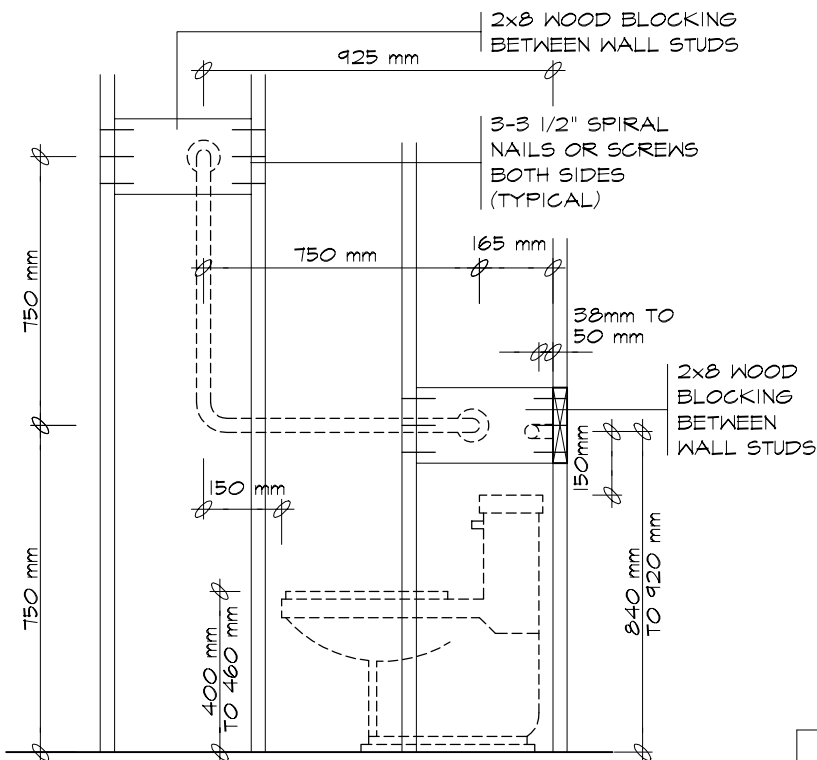
P01	RESIDENTIAL PLUMBING Schematic Plan
P02	STORM AND SANITARY PUMPS Schematic Plans
P03	GREYWATER RECYCLING Schematic Plan & Notes
P04	SPECIFICATIONS-PLUMBING Notes

SECTION S: SPECIFICATIONS

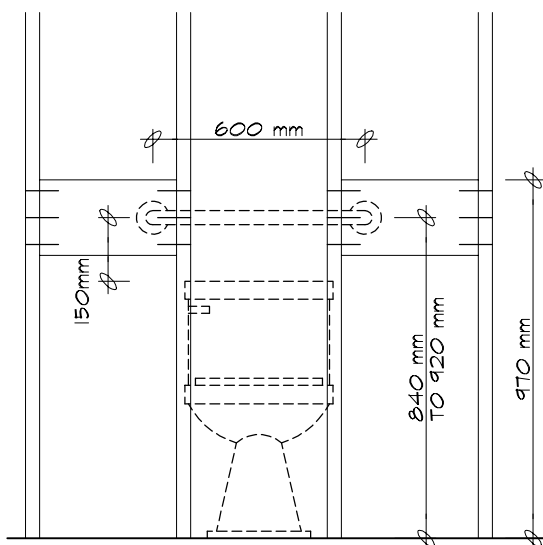
S01a	SPECIFICATION BUILDING CODE STANDARDS Excavation, Concrete & Masonry
S01b	SPECIFICATION BUILDING CODE STANDARDS Wood Frame Construction & Insulation
S01c	SPECIFICATION BUILDING CODE STANDARDS General Information Electrical, Mechanical
S01d	SPECIFICATION BUILDING CODE STANDARDS Structural Span Tables & Notes

SECTION W: WALL SECTIONS & DETAILS

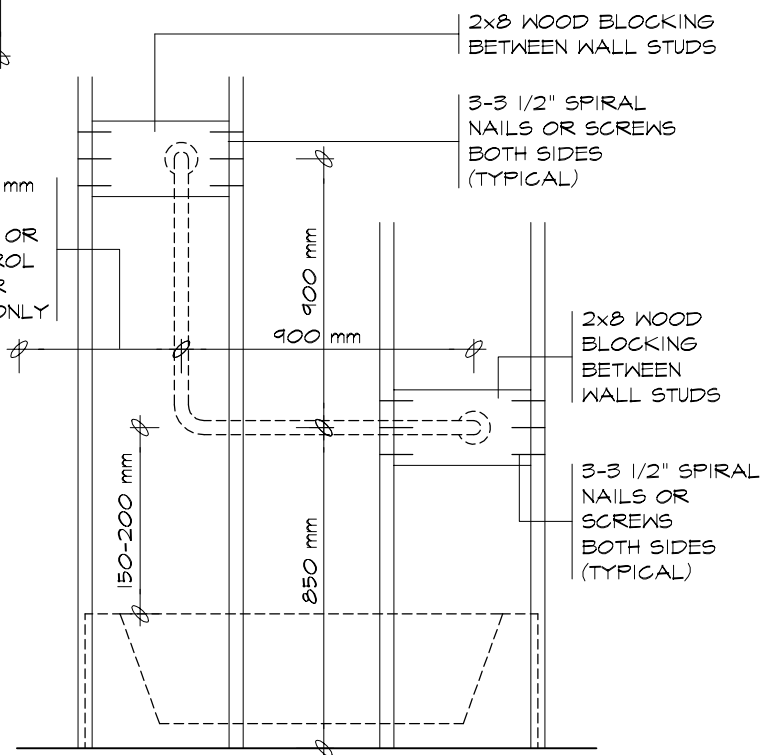
W01	FRAME WALL SECTION Full Basement
W02	BRICK VENEER WALL SECTION Full Basement
W03	DELETED
W04	CRAWL SPACE Heated & Unheated
W05	SLAB ON GRADE Frame & Brick Veneer Walls
W06a	SLOPING ROOF DETAIL Insulation & Ventilation W/ Alternative
W06b	FLAT ROOF DETAIL Insulation & Ventilation W/ Alternative
W07a	NEW ROOF ATTACHED TO EXISTING FRAME WALL Sloping Roof
W07b	NEW ROOF ATTACHED TO EXISTING BRICK VENEER WALL Sloping Roof
W07c	NEW ROOF ATTACHED TO EXISTING SOLID MASONRY WALL Sloping Roof
W08a	NEW ROOF ATTACHED TO EXISTING FRAME WALL Flat Roof
W08b	NEW ROOF ATTACHED TO EXISTING BRICK VENEER WALL Flat Roof
W08c	NEW ROOF ATTACHED TO EXISTING SOLID MASONRY WALL Flat Roof
W09a	SECOND STOREY ADDITION Ceiling Replacement
W09b	SECOND STOREY ADDITION Maintain Existing Ceiling
W10a	FRAME PARTY WALL Vertical Section
W10b	FRAME PARTY WALL Details
W10c	FRAME PARTY WALL Service Details
W10d	FRAME PARTY WALL Elevation & Plan Details



W.C. SIDE ELEVATION



W.C. FRONT ELEVATION



SHOWER/TUB WALL SIDE ELEVATION

GRAB BAR REINFORCEMENT

REINFORCEMENT SHALL BE INSTALLED TO PERMIT THE FUTURE INSTALLATION OF A GRAB BAR IN THE MAIN BATHROOM OF A DWELLING UNIT. IF GRAB BAR IS NOT INSTALLED AT TIME OF CONSTRUCTION, BLOCKING FOR BOTH CONFIGURATIONS AT SIDE OF WATER CLOSET IS REQUIRED.

GRAB BAR INSTALLATION SPECIFICATION

1. BESIDE WATER CLOSET

OPTION 1
L-SHAPED GRAB BAR WITH 760mm LONG HORIZ. AND VERT. COMPONENTS MOUNTED W/ HORIZ. COMPONENT 750mm TO 900mm A.F.F. AND THE VERTICAL COMPONENT 150mm IN FRONT OF TOILET BOWL.

OPTION 2
MIN. 760mm LONG GRAB BAR MOUNTED AT A 30° TO 50° ANGLE SLOPING UPWARDS AWAY FROM WATER CLOSET W/ LOWER END OF BAR MOUNTED 750mm TO 900mm A.F.F. AND 50mm IN FRONT OF TOILET BOWL.

2. BEHIND WATER CLOSET

MIN. 600mm LONG GRAB BAR MOUNTED HORIZONTALLY ON WALL 840mm TO 920mm ABOVE THE FLOOR AND 150mm ABOVE THE WATER TANK IF APPLICABLE.

3. BEHIND BATHTUB OR SHOWER

L-SHAPED GRAB BAR MIN. 900mm LONG VERTICAL & HORIZONTALLY. HORIZONTAL COMPONENT WITHIN 100mm FROM EDGE OF SHOWER SEAT. HORIZONTAL COMPONENT 850mm ABOVE FINISH FLOOR & 150-200mm ABOVE TUB RIM

4. GRAB BAR ATTACHMENT

GRAB BAR MUST BE ATTACHED WITH SCREWS WHICH PENETRATE AT LEAST 32mm INTO THE SOLID BLOCKING.

**LMCBO
STANDARD
DETAILS**

TITLE

BARRIER FREE WASHROOM

GRAB BAR WALL REINFORCING

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RESERVED

LMCBO
STANDARD
DETAILS

TITLE

UNIVERSAL BARRIER FREE TOILET ROOM

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DWG. NO.

H02

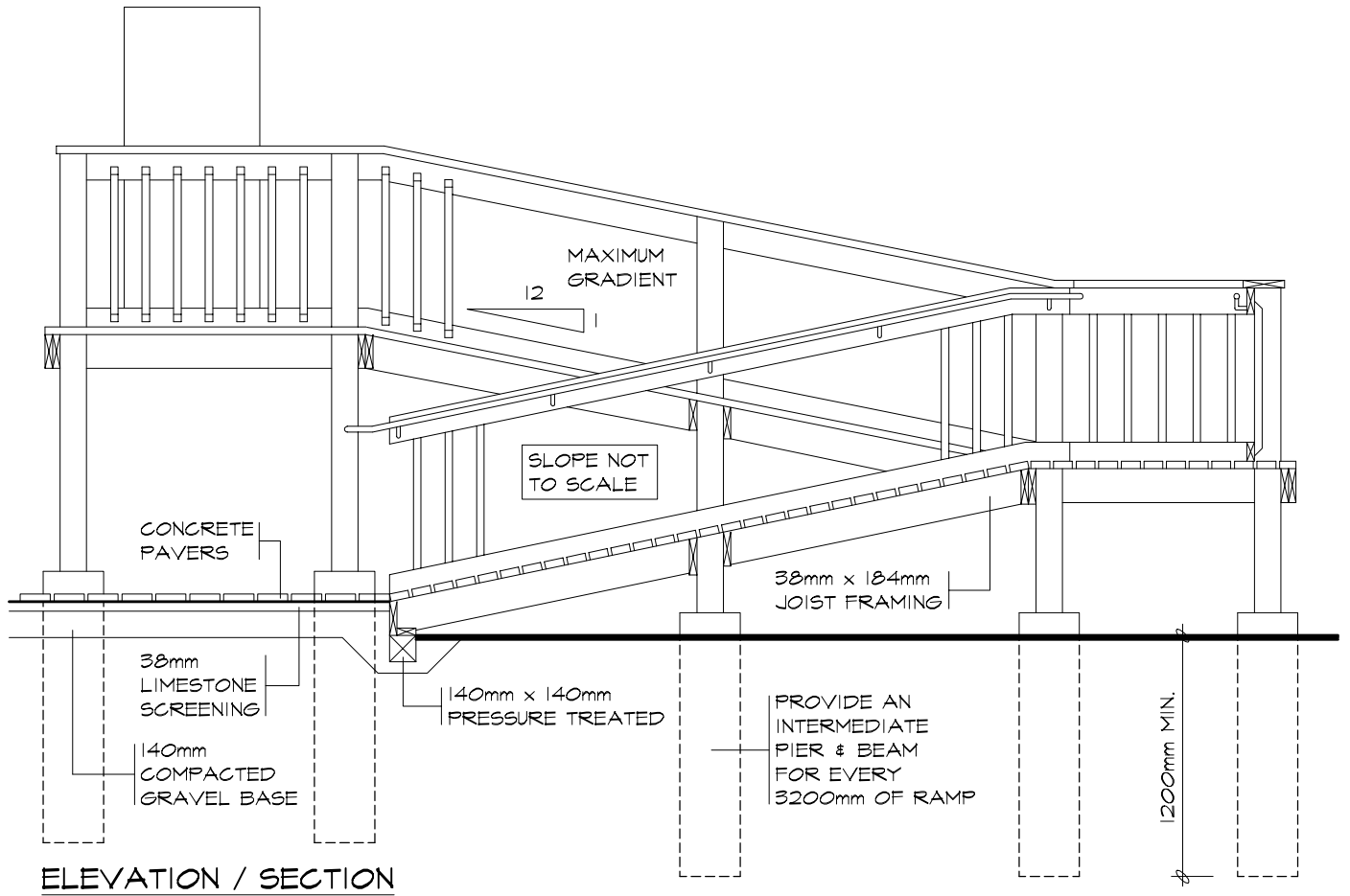
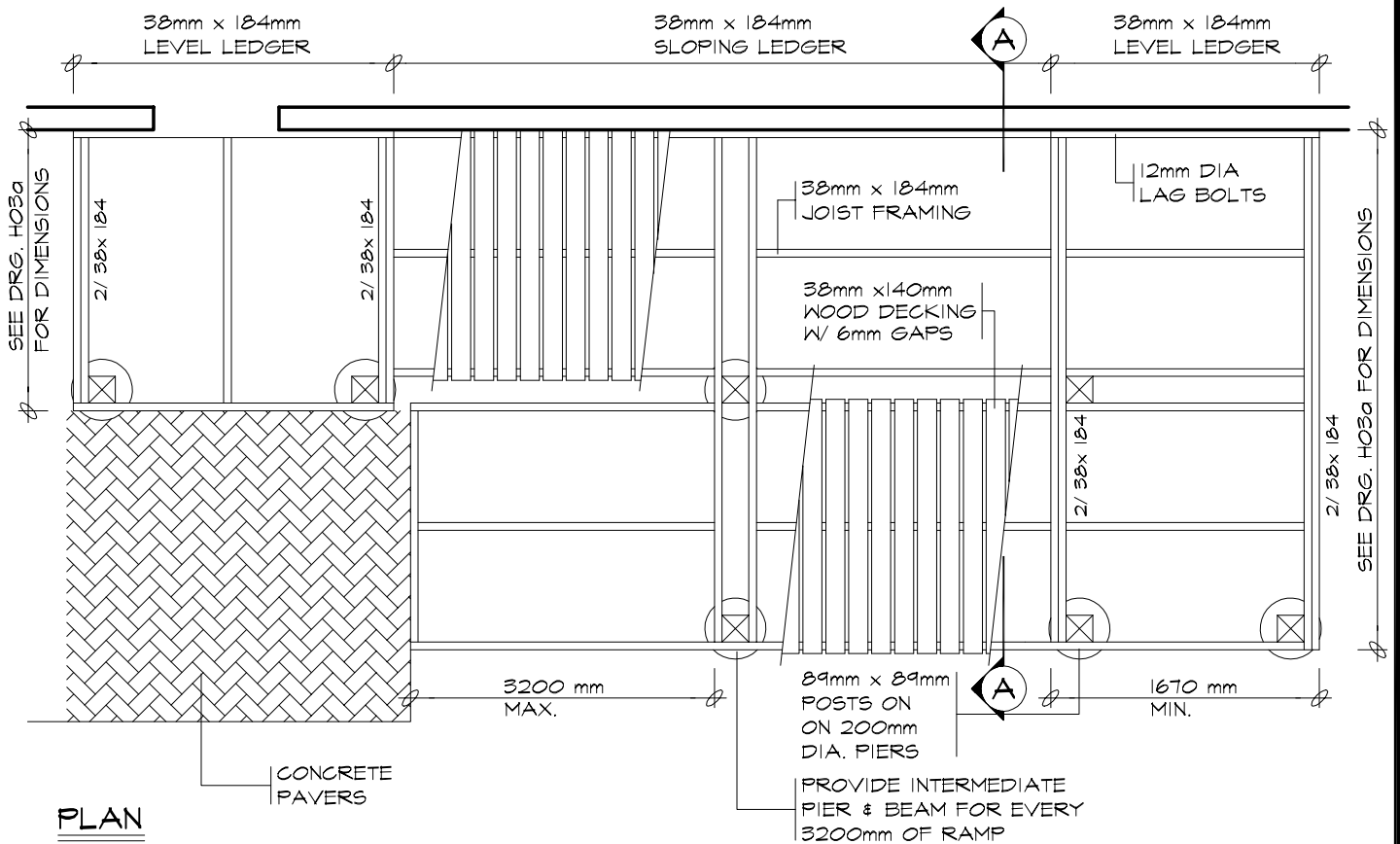
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TITLE

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GENERAL NOTES

1. A SITE PLAN OR SURVEY IS REQUIRED SHOWING ALL LOT LINES & DIMENSIONS, SIZE & LOCATION OF ALL BUILDINGS, LOCATION & SIZE OF RAMP & LANDING.
2. LUMBER NO. 2 SPF OR BETTER, WOOD POSTS MIN. 89x89 (SOLID). USE CORROSION RESISTANT SPIRAL NAILS OR SCREWS.
3. CONCRETE PIERS SHALL BEAR ON UNDISTURBED SOIL. THE BEARING CAPACITY OF THE SOIL SHALL BE A MINIMUM 75kPa.
4. HANDRAILS, ON BOTH SIDES, W/ 30-40mm CIRCULAR CROSS SECTION OR 100-155mm NON-CIRCULAR PERIMETER W/ MAX. 57mm CROSS SECTIONAL DIMENSION.
5. HANDRAILS MUST BE TERMINATED IN A MANNER THAT WILL NOT OBSTRUCT PEDESTRIAN TRAVEL OR CREATE A HAZARD.
6. PROVIDE A MIN. 40mm CLEARANCE BETWEEN THE HANDRAIL AND THE MOUNTING SURFACE.
7. HANDRAILS/GUARDS SHALL BE DESIGNED AND CONSTRUCTED SUCH THAT THEY WILL WITHSTAND 0.9kN POINT LOADS AND 0.7kN/m UNIFORM LOADS FROM ANY DIRECTION.

**LMCBO
STANDARD
DETAILS**

TITLE

BARRIER FREE RAMP

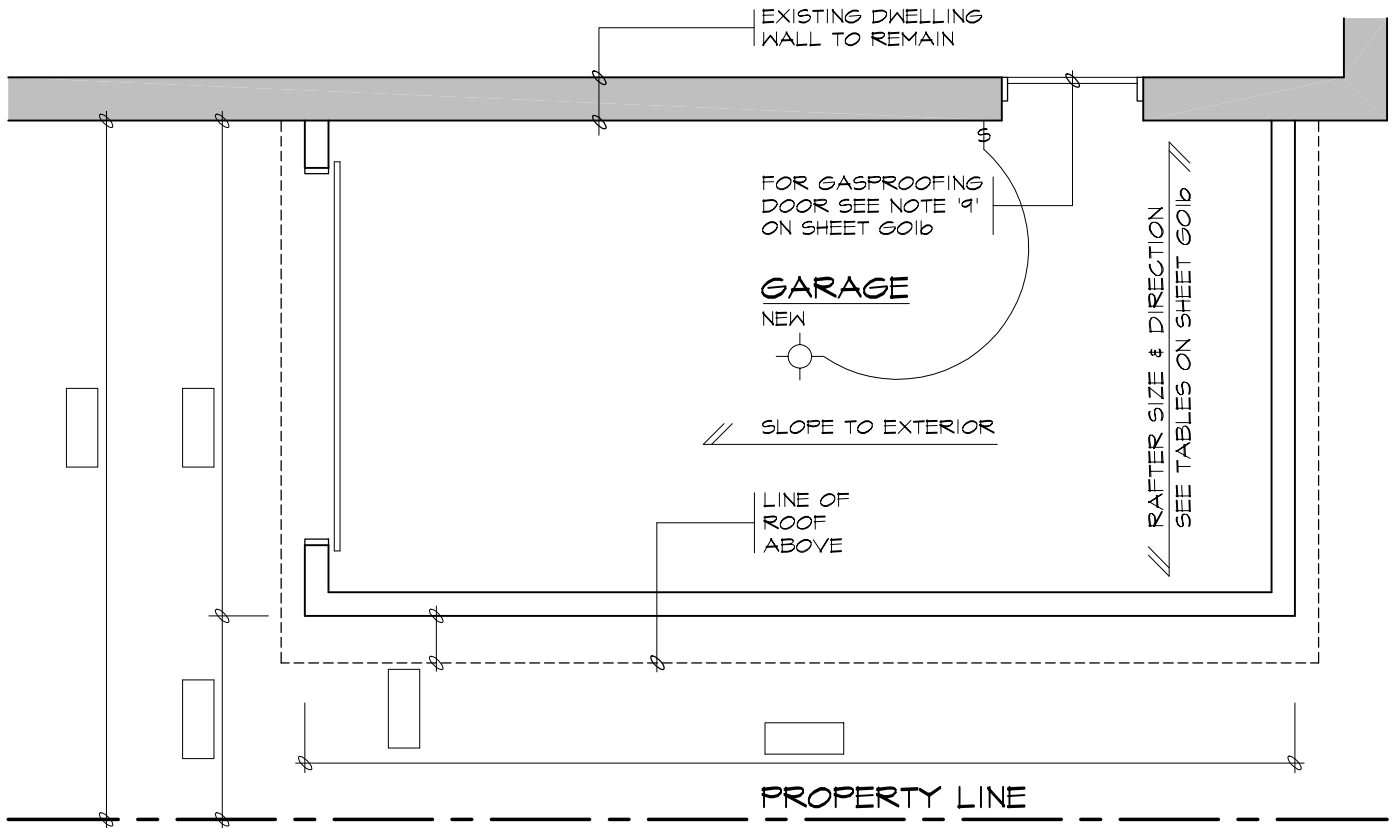
CONSTRUCTION DETAILS.

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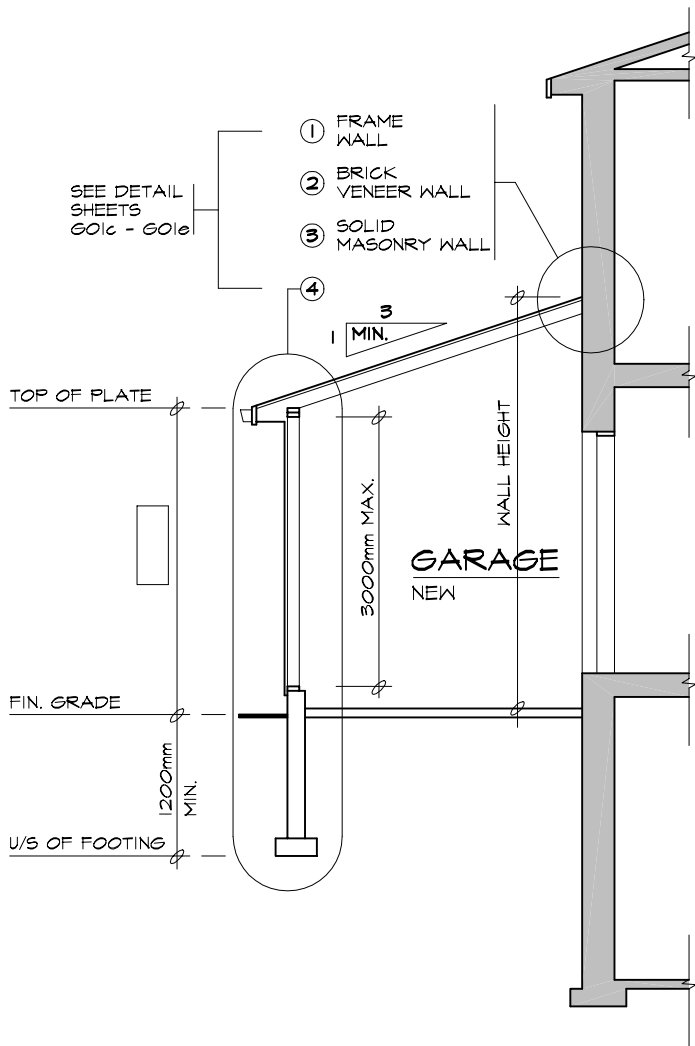
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H03b

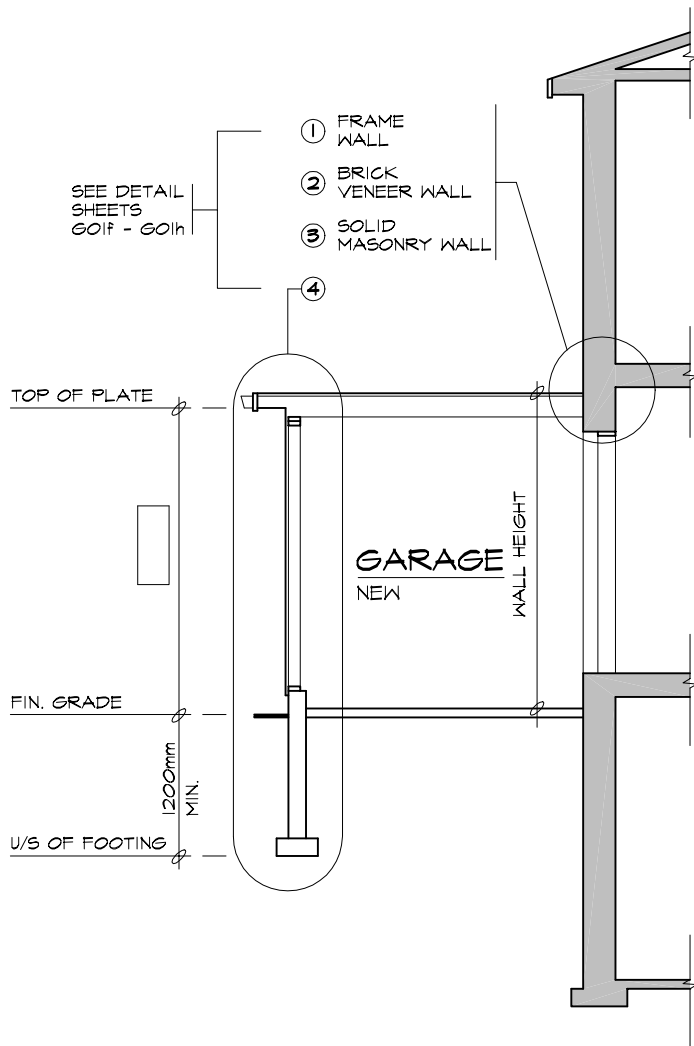
2012



GARAGE PLAN (PROVIDE DIMENSIONS IN BOXES)



SLOPING ROOF



FLAT ROOF

GARAGE SECTIONS

**LMCBO
STANDARD
DETAILS**

TITLE
ATTACHED GARAGE PLAN & SECTIONS

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DWG. NO.

G01a

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
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

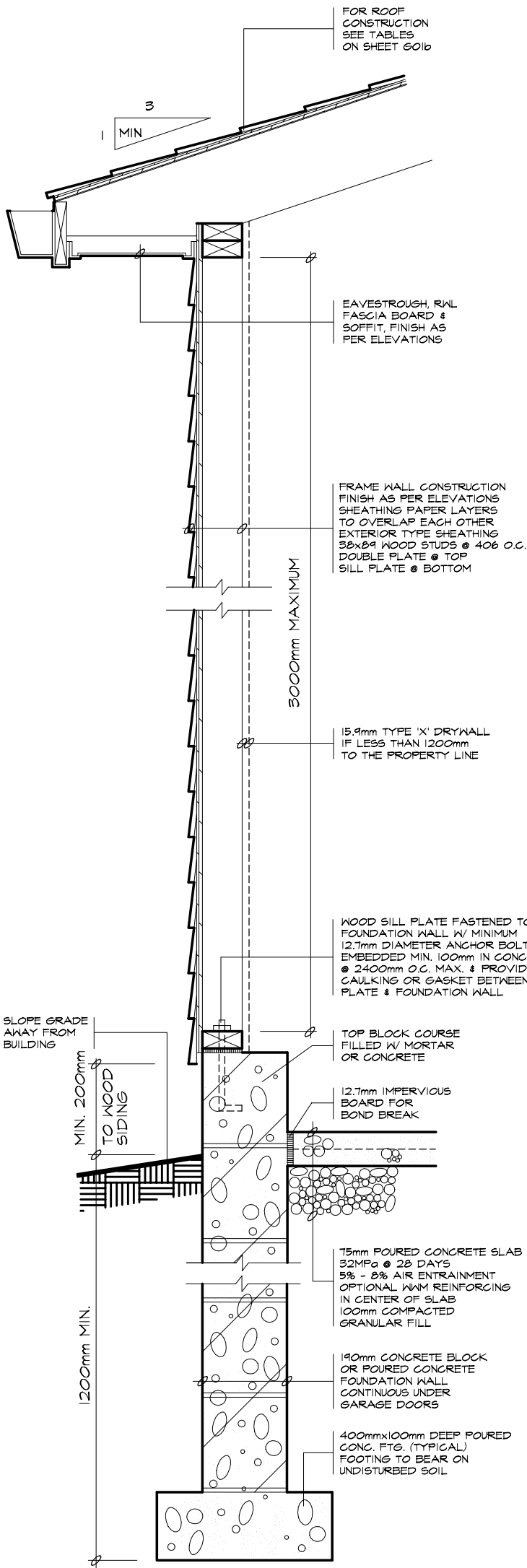
LINTELS

(MAXIMUM 1.5 kPa ROOF SNOW LOAD)

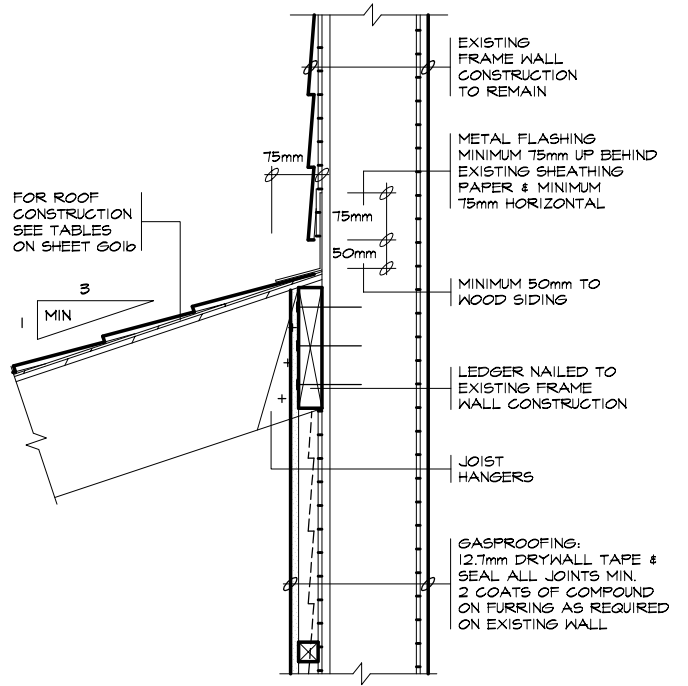
DOOR WIDTH	LINTELS FOR WOOD FRAMING		LINTELS FOR BRICK VENEER 90mm		LINTELS FOR SOLID MASONRY 200mm	
	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF
UP TO 3000mm	2/38x184	2/38x286	2/38x184 + ANGLE 125x90x8	2/38x286 + ANGLE 125x90x8	2 ANGLES 150x100x10	W150x22 + PLATE 200x10
UP TO 4900mm	2/38x286	4/38x286 OR 2-45x300 1.9E LVL	W200x27 + PLATE 200x10	W200x27 + PLATE 200x10	MUST BE DESIGNED	MUST BE DESIGNED

GENERAL NOTES

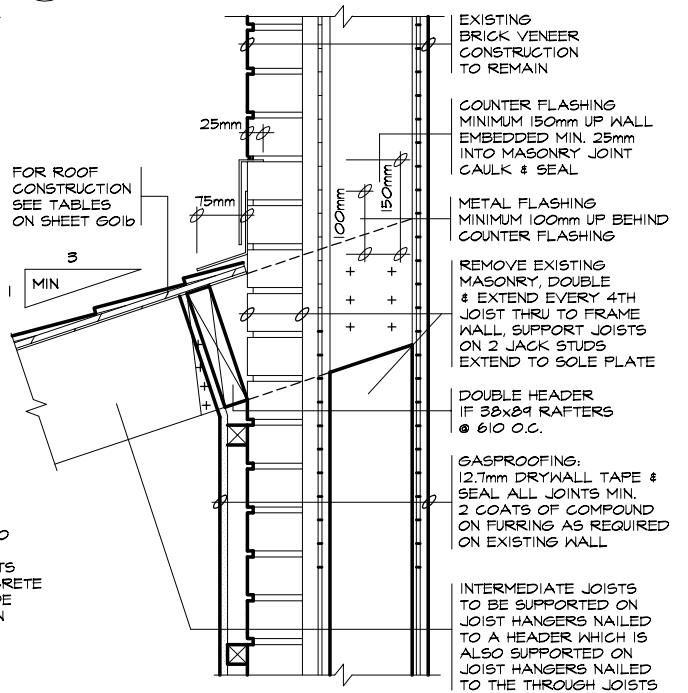
1.
- ALL LUMBER TO BE NO. 1&2 SPRUCE OR BETTER
2.
- ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE
3.
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL
4.
- IF GARAGE WALL IS LESS THAN 1200mm TO THE PROPERTY LINE PROVIDE 15.9mm TYPE 'X' DRYWALL INTERIOR SHEATHING. NO WINDOWS ARE PERMITTED.
5.
- IF GARAGE WALL IS LESS THAN 600mm TO THE PROPERTY LINE NON-COMBUSTIBLE CLADDING OR VINYL SIDING W/ GYPSUM SHEATHING IS REQUIRED.
6.
- GARAGE WALLS ADJOINING DWELLING MUST BE COMPLETELY SEALED TO PREVENT ANY INFILTRATION OF GASES INTO THE DWELLING.
7.
- CAULK ALL PENETRATIONS SUCH AS HOSE BIB & JOINTS BETWEEN GYPSUM BD. & OTHER SURFACES W/ ACOUSTICAL SEALANT.
8.
- WHERE ATTACHED GARAGE IS ADJACENT TO AN ATTIC SPACE, CARRY GYPSUM BOARD UP TO ROOF SHEATHING & SEAL W/ FLEXIBLE CAULKING.
9.
- DOORS BETWEEN THE GARAGE & DWELLING MUST BE EXTERIOR TYPE, TIGHT FITTING, WEATHERSTRIPPED & PROVIDED W/ A SELF CLOSING DEVICE & A DEADBOLT LOCK. DOOR MUST NOT OPEN DIRECTLY INTO A BEDROOM.
10.
- GARAGE SLAB SHALL BE SLOPED TO DRAIN TO THE OUTSIDE. CONCRETE SHALL BE MIN. 32MPa W/ 5%-8% AIR ENTRAINMENT.
11.
- ALL ROOF SHEATHING TO BE 9.5mm PLYWOOD OR 11mm OSB, FOR ROOF RAFTERS @ 300mm OR 400mm O.C. USE "H" CLIPS FOR ROOF RAFTERS @ 600mmO.C..
12.
- STEPPED FOOTINGS, IF REQUIRED, SHALL HAVE A MAXIMUM RISE OF 600mm & A MINIMUM RUN OF 600mm.
13.
- PROVIDE A LIGHT FIXTURE IN THE GARAGE.
14.
- STEEL BEAMS TO BE SUPPORTED BY SOLID MASONRY (190mm BEARING ON MASONRY OR 73mm DIA. STEEL COLUMN).
15.
- LINTELS AND BEAMS TO BE DESIGNED BY A QUALIFIED PERSON FOR SPANS GREATER THAN 4900mm



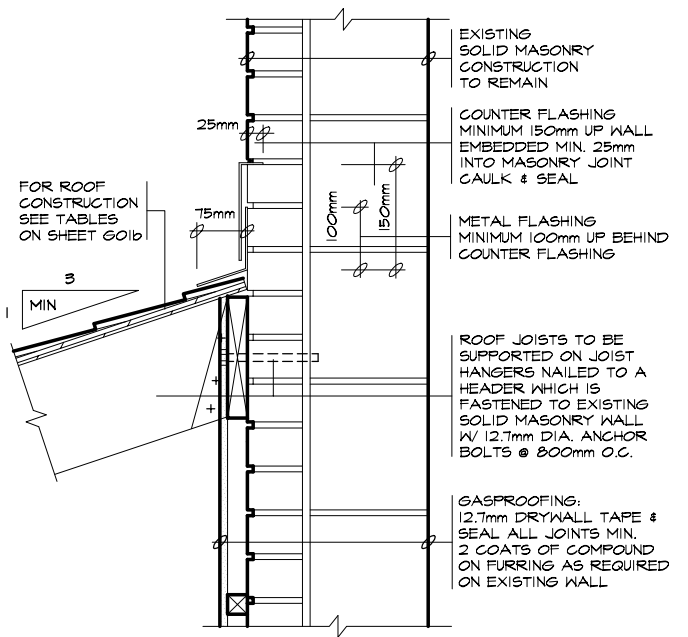
4 FRAME WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

LMCBO
STANDARD
DETAILS

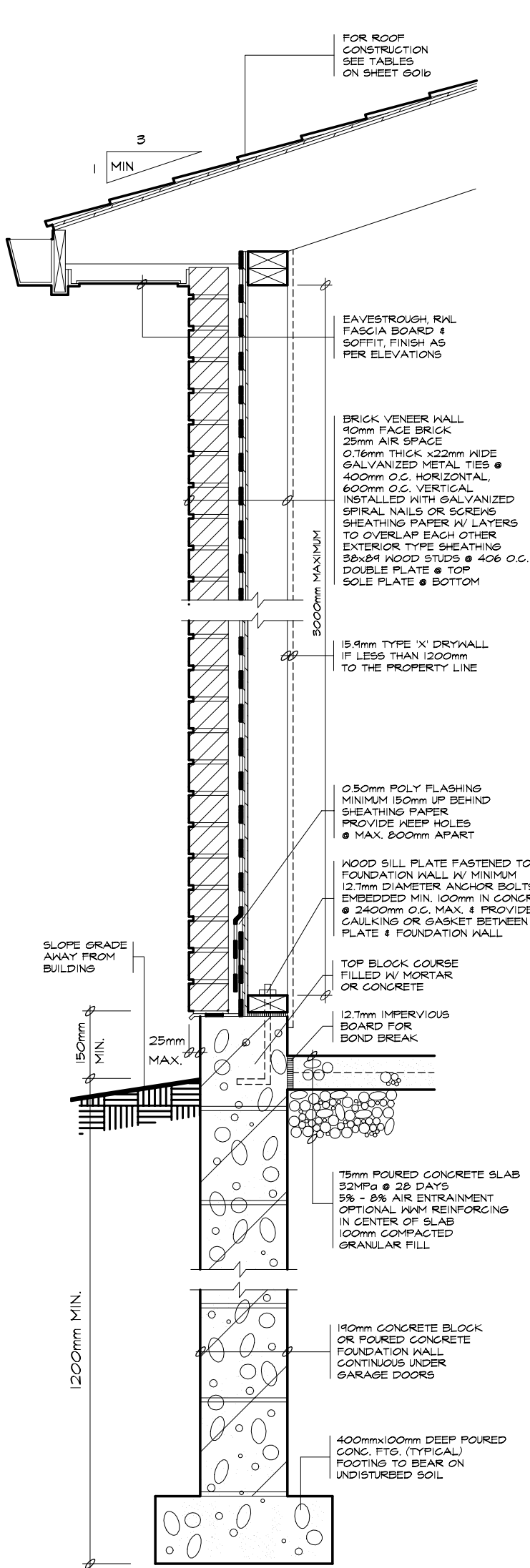
TITLE
ATTACHED GARAGE SLOPING ROOF W/ FRAME WALL DETAILS

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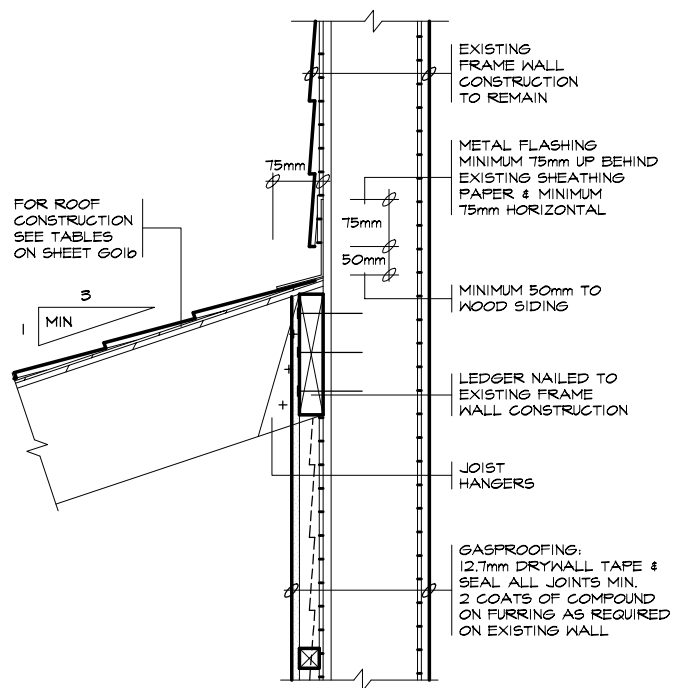
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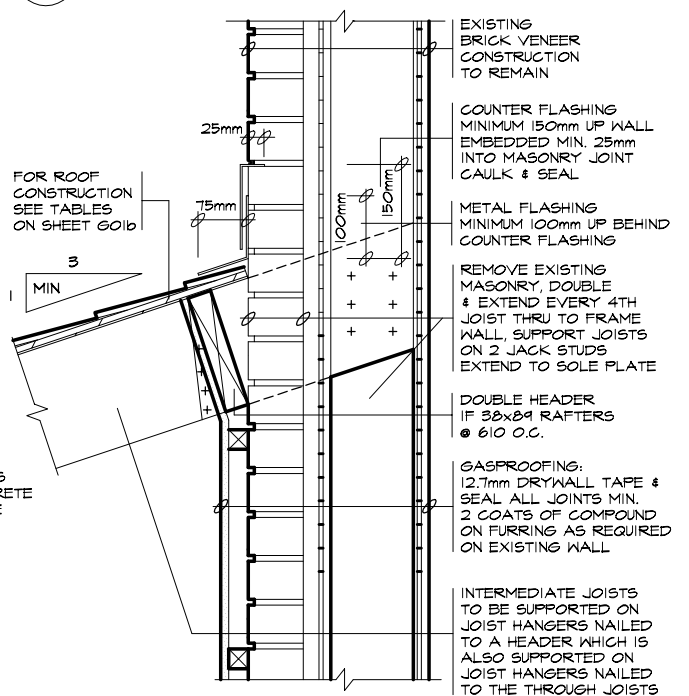
2012



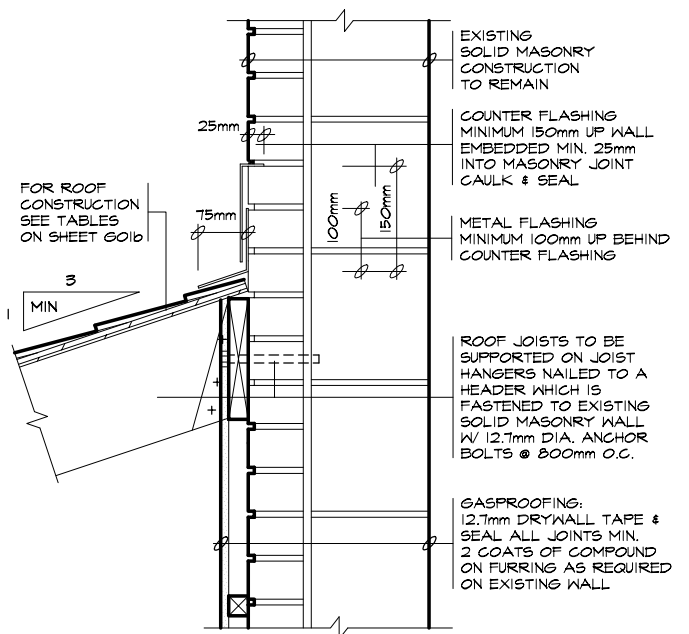
4 BRICK VENEER SECTION



1 FRAME WALL



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

LMCBO
STANDARD
DETAILS

TITLE

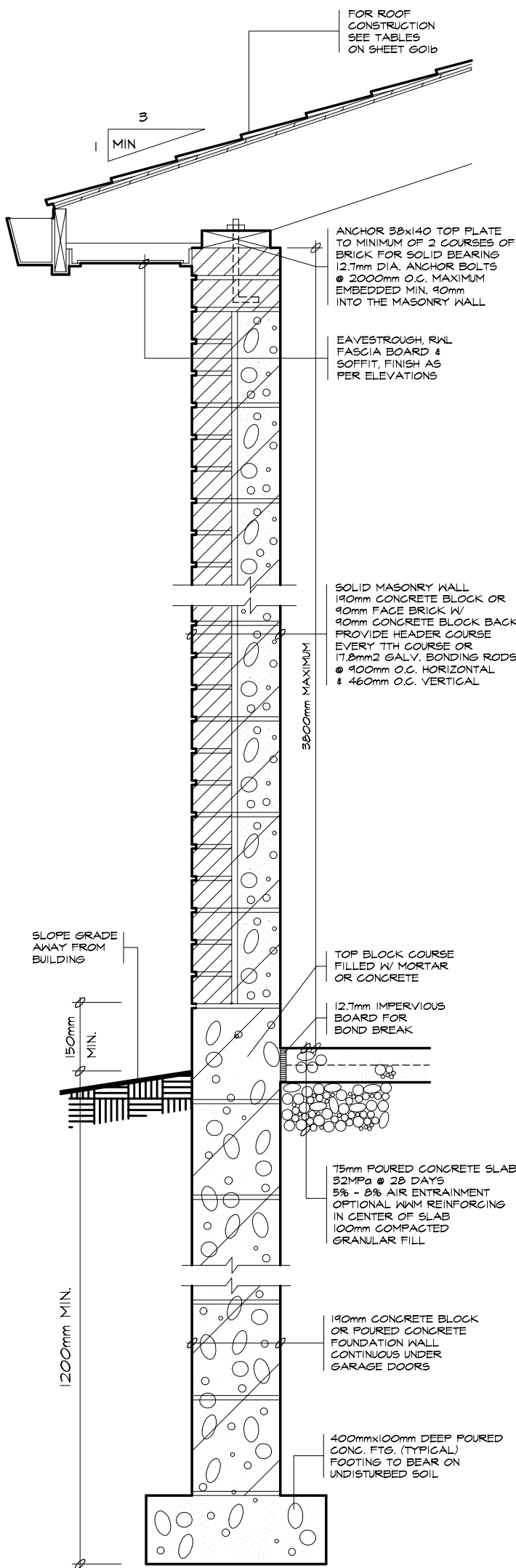
ATTACHED GARAGE SLOPING ROOF & BRICK VENEER DETAILS

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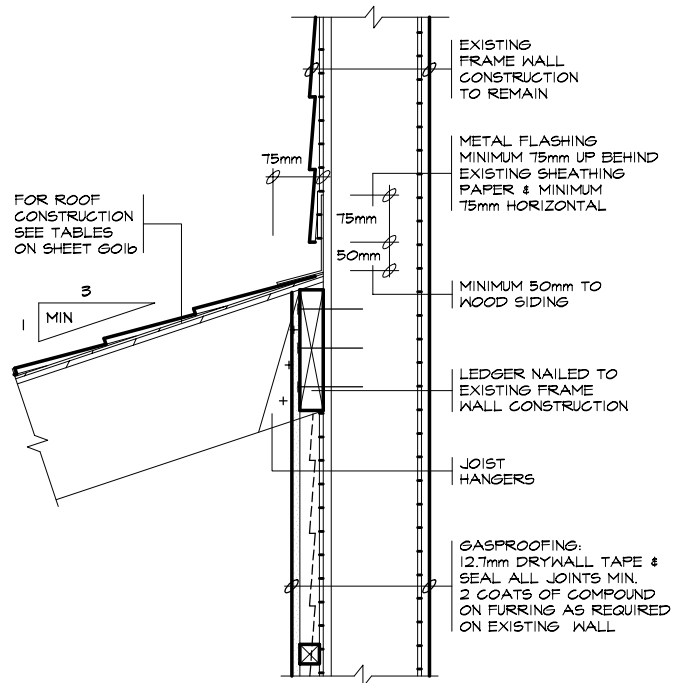
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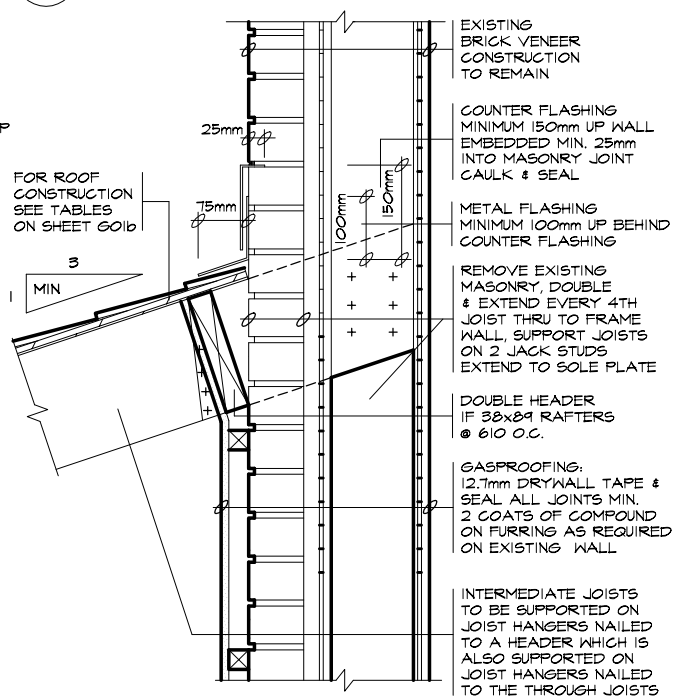
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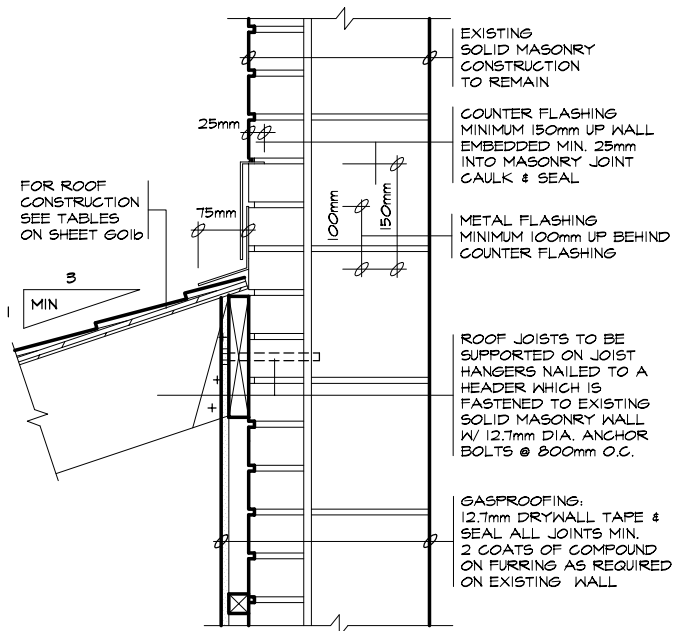
4 SOLID MASONRY SECTION



1 FRAME WALL



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

LMCBO
STANDARD
DETAILS

TITLE

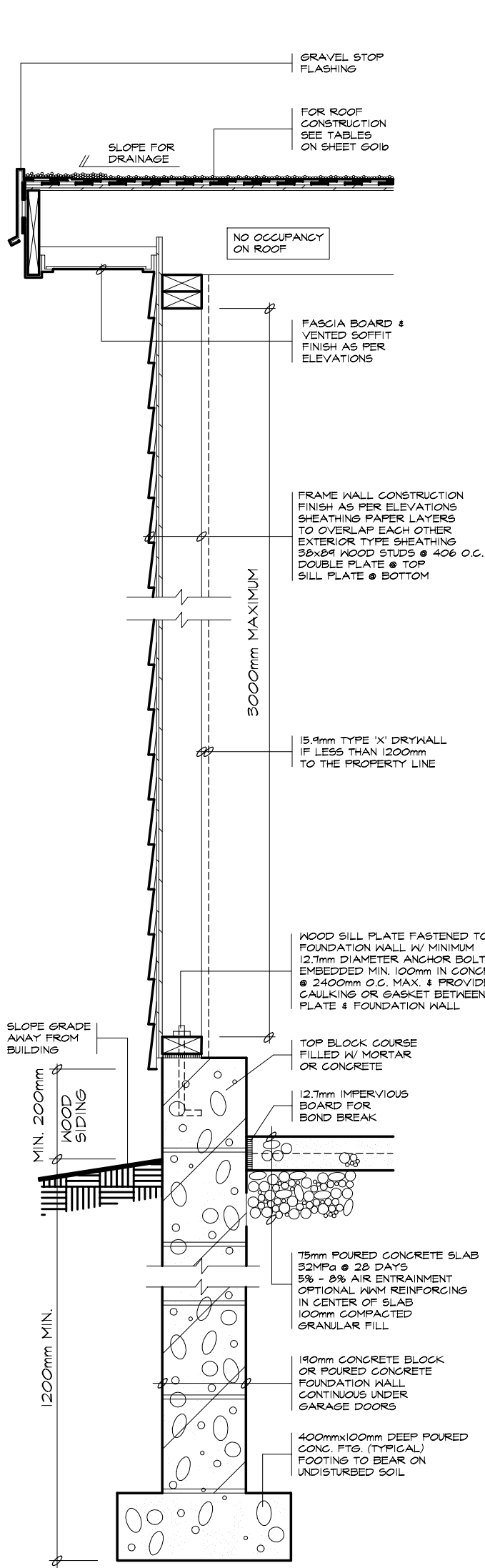
ATTACHED GARAGE SLOPING ROOF & SOLID MASONRY DETAILS

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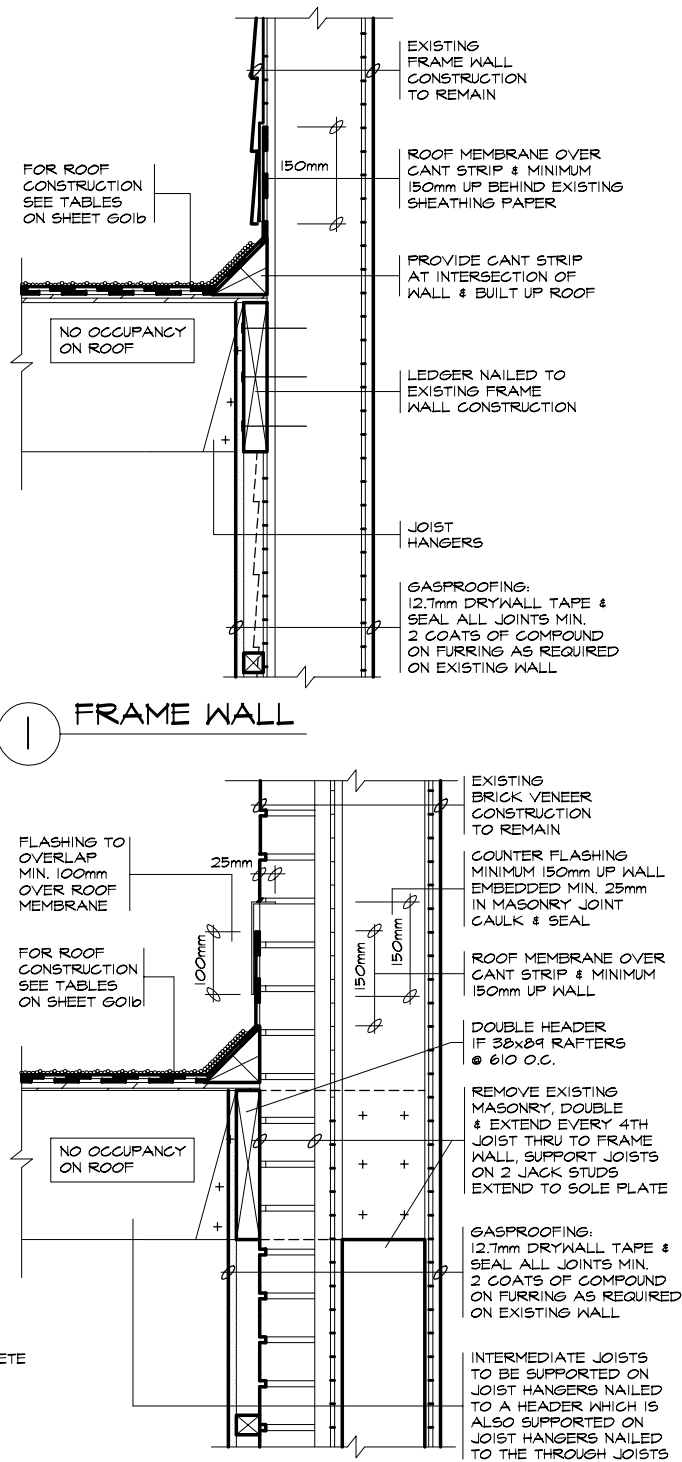
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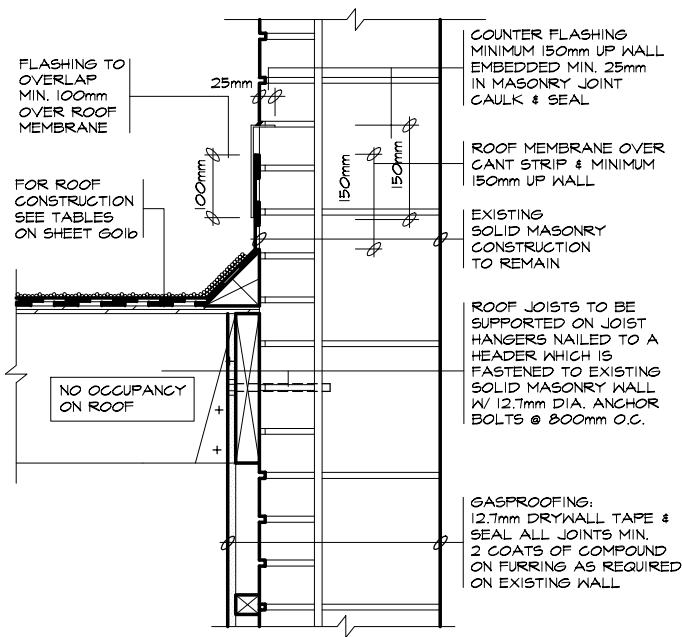
2012



4 WALL SECTION



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

LMCBO
STANDARD
DETAILS

TITLE

ATTACHED GARAGE

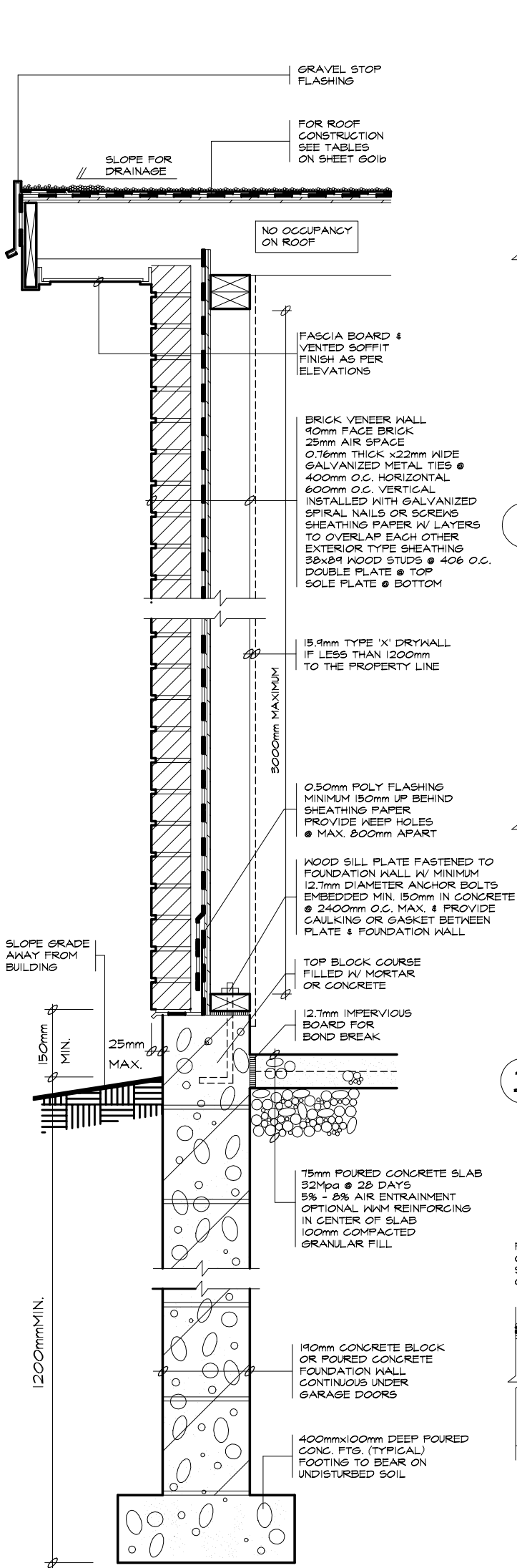
FLAT ROOF & FRAME WALL DETAILS

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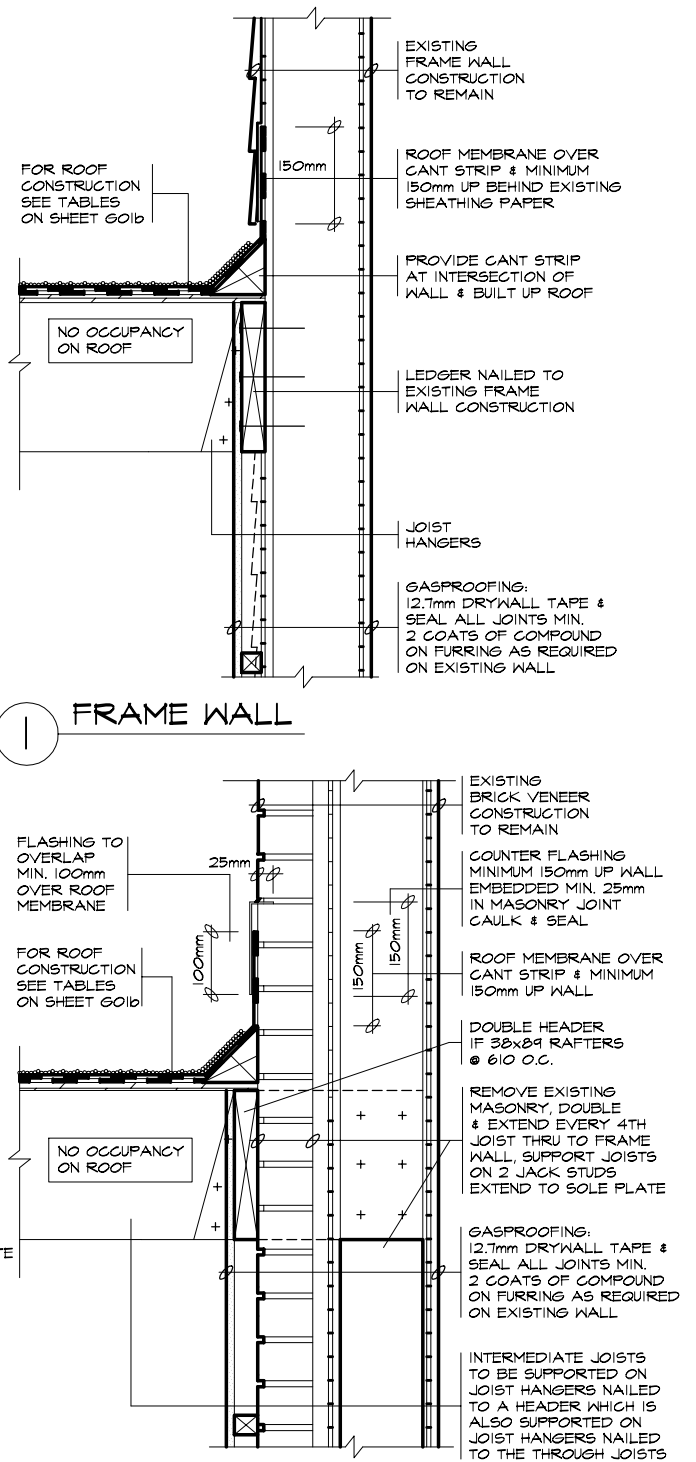
DWG. NO.

GOLF

2012

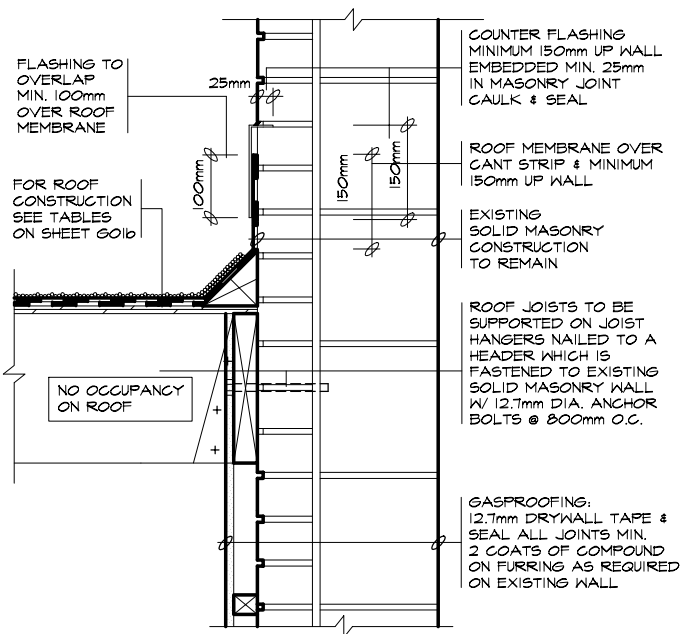


4 WALL SECTION



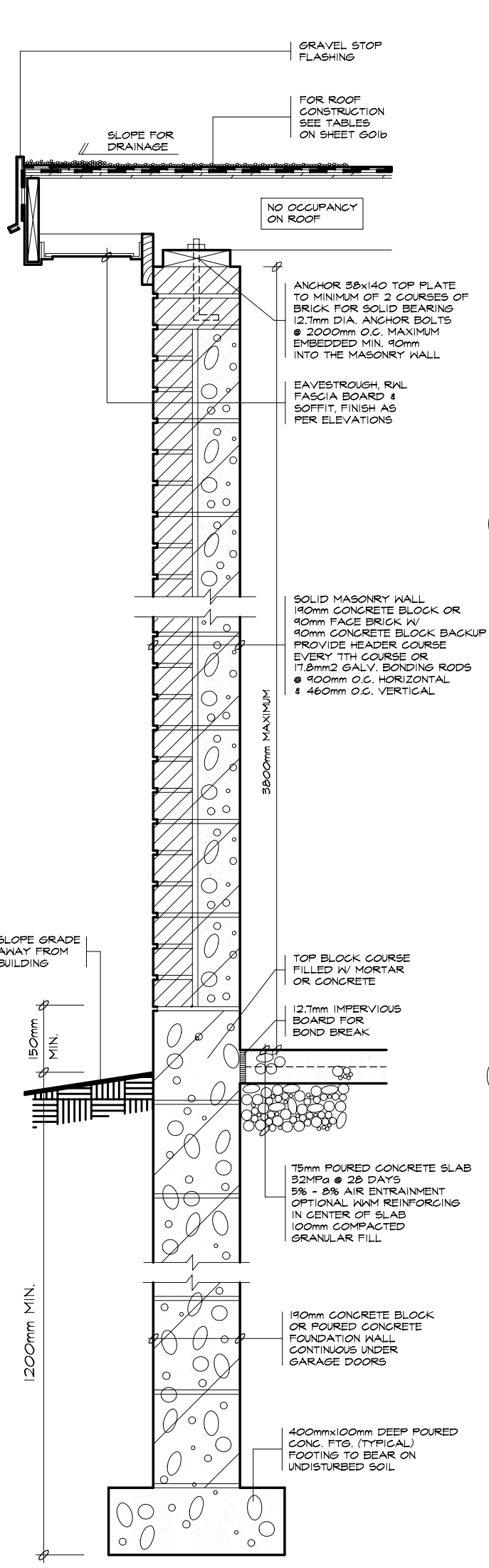
1 FRAME WALL

2 BRICK VENEER WALL

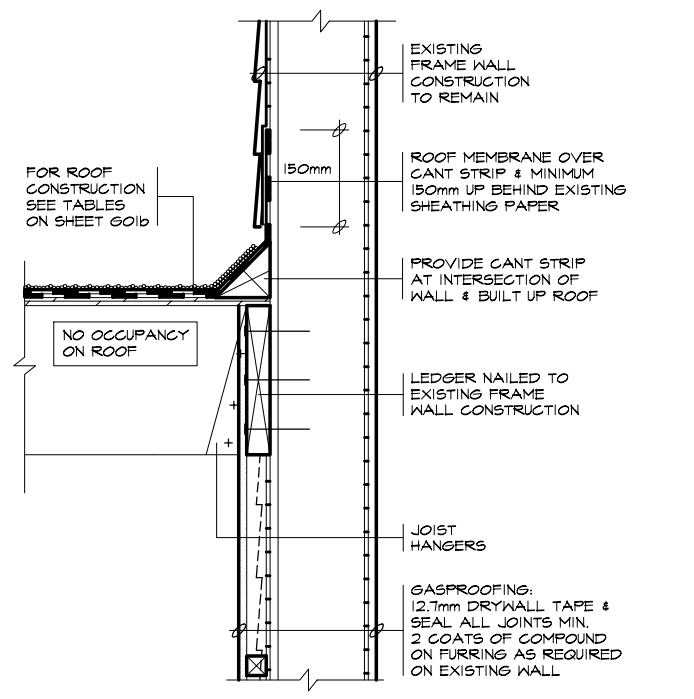


3 SOLID MASONRY WALL

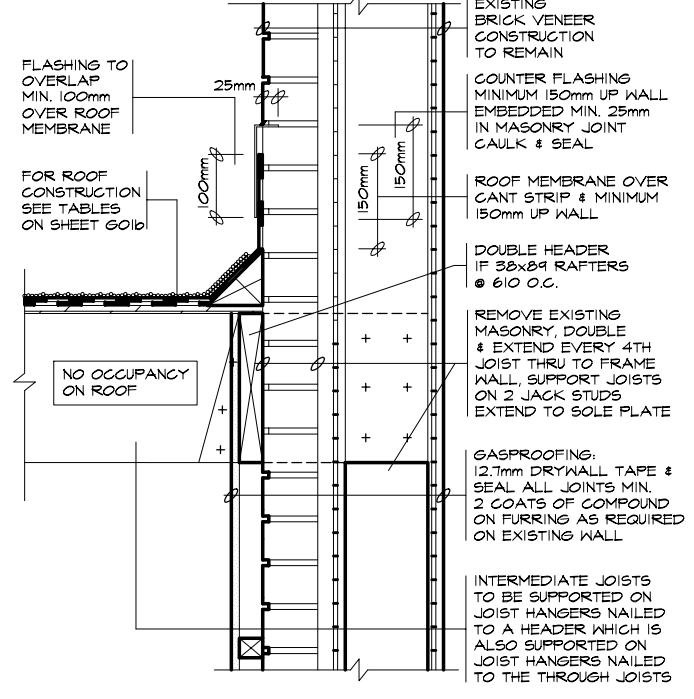
NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES



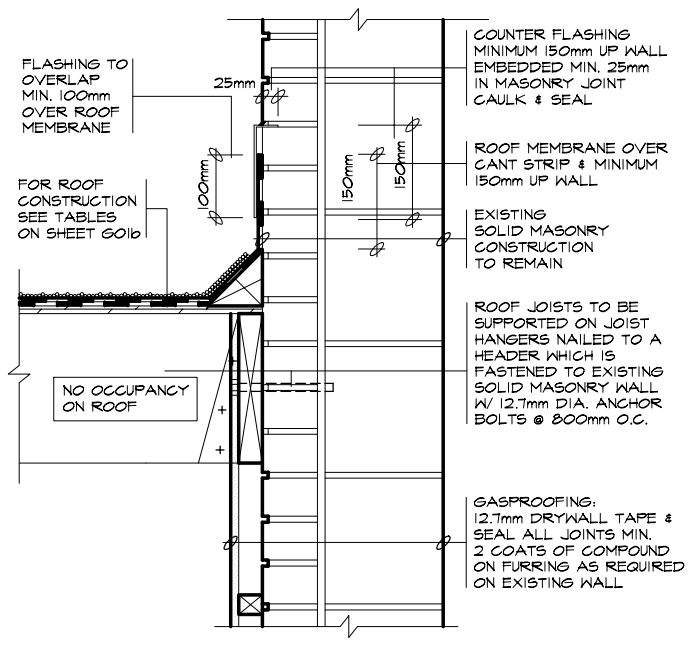
4 WALL SECTION



1 FRAME WALL



2 BRICK VENEER WALL



3 SOLID MASONRY WALL

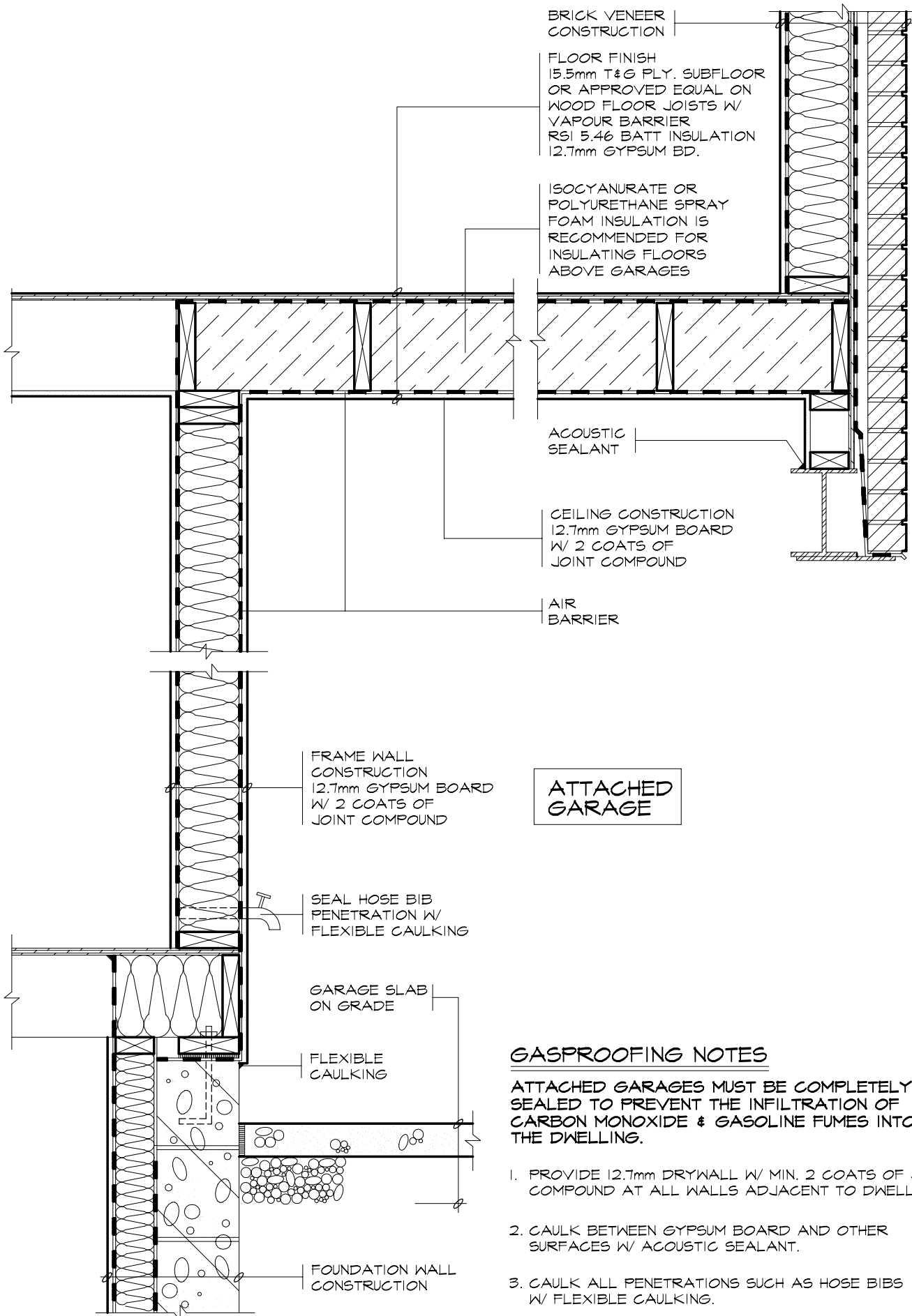
NOTE: THESE DETAILS ARE NOT TO BE USED FOR ADDITION OF LIVING SPACES

**LMCBO
STANDARD
DETAILS**

TITLE
ATTACHED GARAGE FLAT ROOF & SOLID MASONRY DETAILS

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G01h
2012



GASPROOFING NOTES

ATTACHED GARAGES MUST BE COMPLETELY SEALED TO PREVENT THE INFILTRATION OF CARBON MONOXIDE & GASOLINE FUMES INTO THE DWELLING.

1. PROVIDE 12.7mm DRYWALL W/ MIN. 2 COATS OF JOINT COMPOUND AT ALL WALLS ADJACENT TO DWELLING.
2. CAULK BETWEEN GYPSUM BOARD AND OTHER SURFACES W/ ACOUSTIC SEALANT.
3. CAULK ALL PENETRATIONS SUCH AS HOSE BIBS W/ FLEXIBLE CAULKING.
4. DOORS BETWEEN GARAGE & DWELLING SHALL BE TIGHT FITTING & WEATHERSTRIPPED & PROVIDED W/ A SELF CLOSING DEVICE. DOOR MUST NOT OPEN DIRECTLY INTO A ROOM INTENDED FOR SLEEPING.
5. GARAGE SLAB SHALL BE SLOPED TO DRAIN OUTDOORS
6. WHERE AN ATTACHED GARAGE IS ADJACENT TO AN ATTIC SPACE CARRY DRYWALL UP TO ROOF SHEATHING & CAULK W/ FLEXIBLE CAULKING.
7. UNIT MASONRY WALLS FORMING THE SEPARATION BETWEEN THE DWELLING & ATTACHED GARAGE SHALL BE PROVIDED W/ 2 COATS OF A SEALER OR COVERED W/ PLASTER OR GYPSUM BOARD ON THE GARAGE SIDE.

**LMCBO
STANDARD
DETAILS**

TITLE

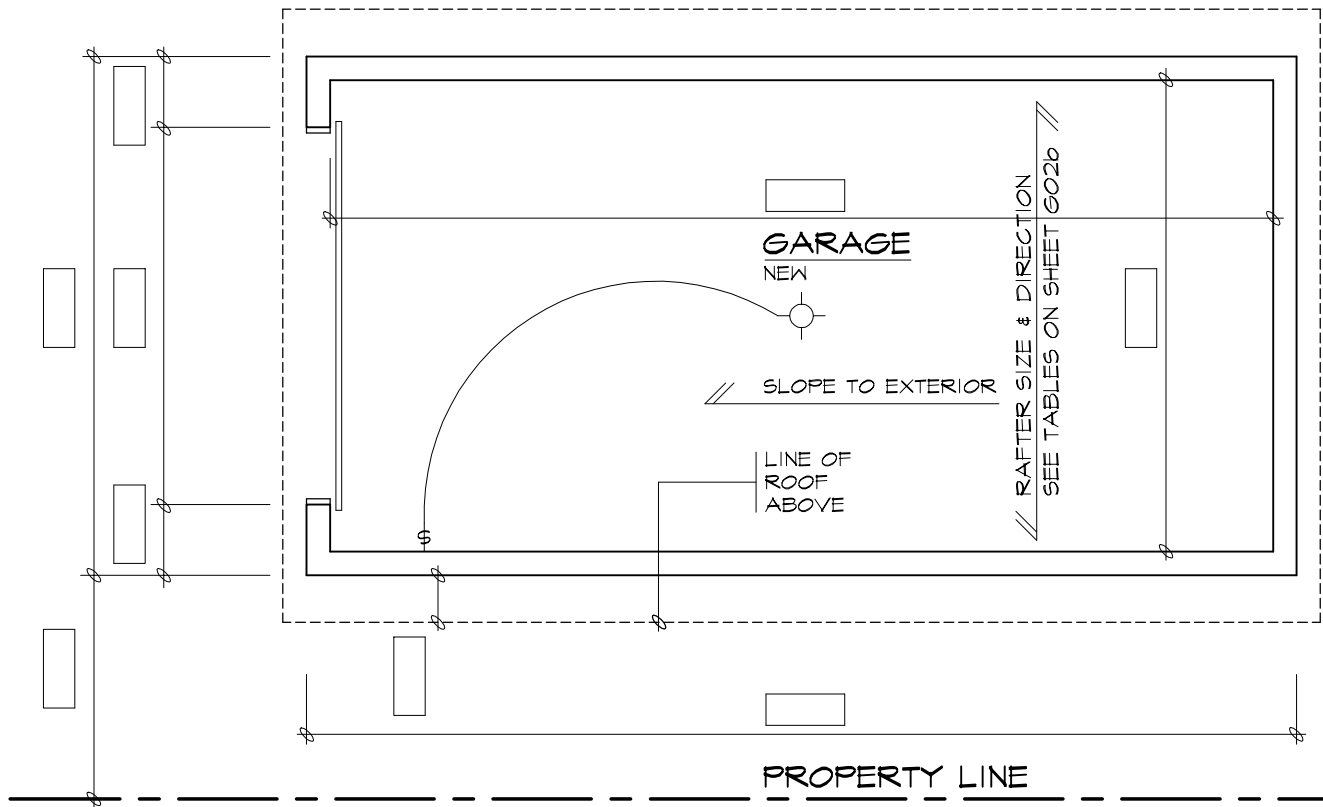
ATTACHED GARAGE GASPROOFING & INSULATION DETAILS

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.

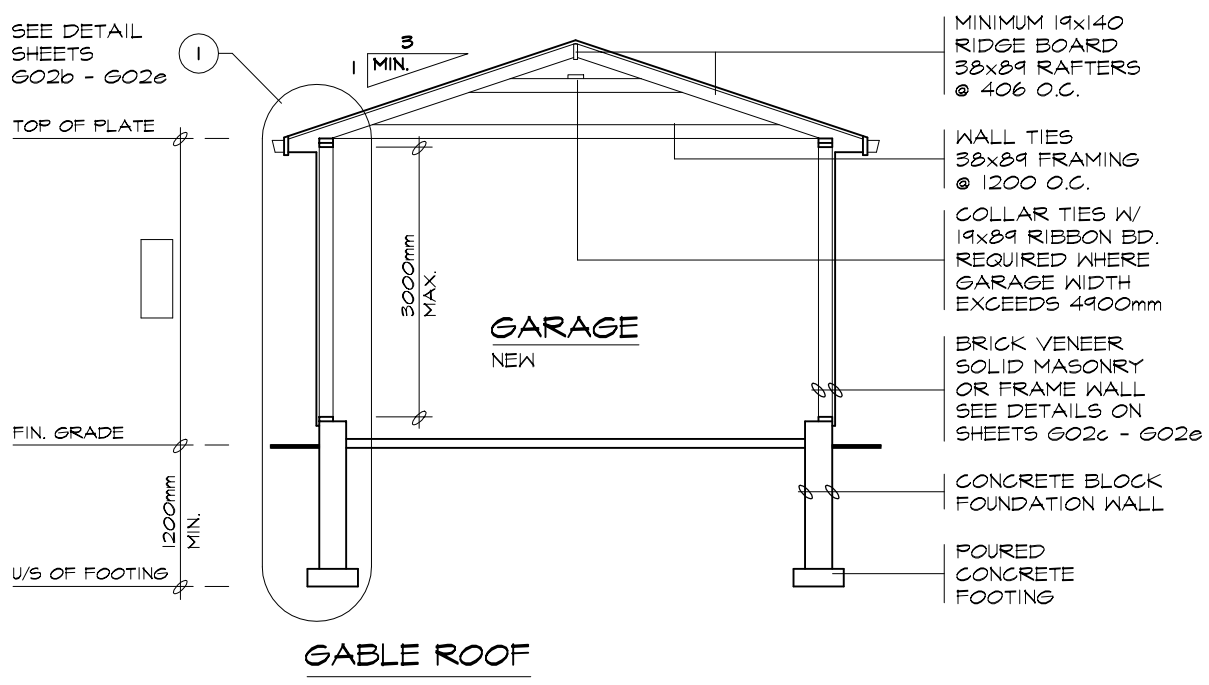
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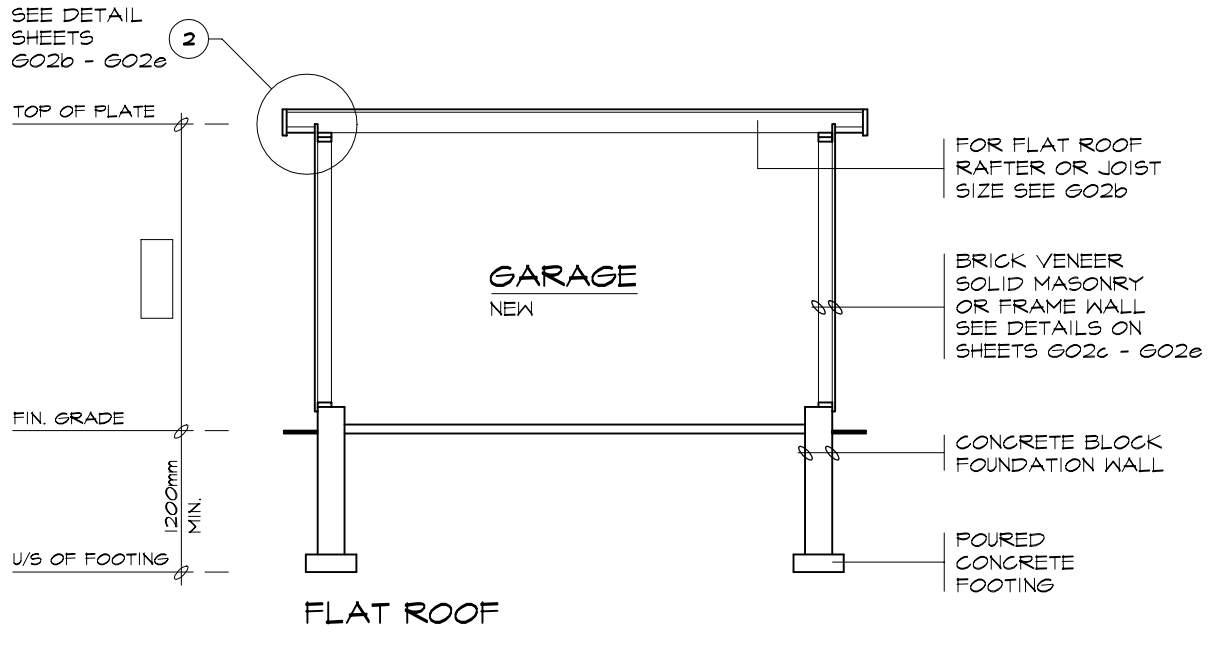
2012



GARAGE PLAN (PROVIDE DIMENSIONS IN BOXES)



GABLE ROOF



FLAT ROOF

LMCBO
STANDARD
DETAILS

TITLE
DETACHED GARAGE SLOPING OR FLAT ROOF PLAN & SECTIONS
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.
G02a
2012

ROOF RAFTERS (FLAT ROOF - 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 (FLAT ROOF - WHERE CEILING IS INSTALLED)

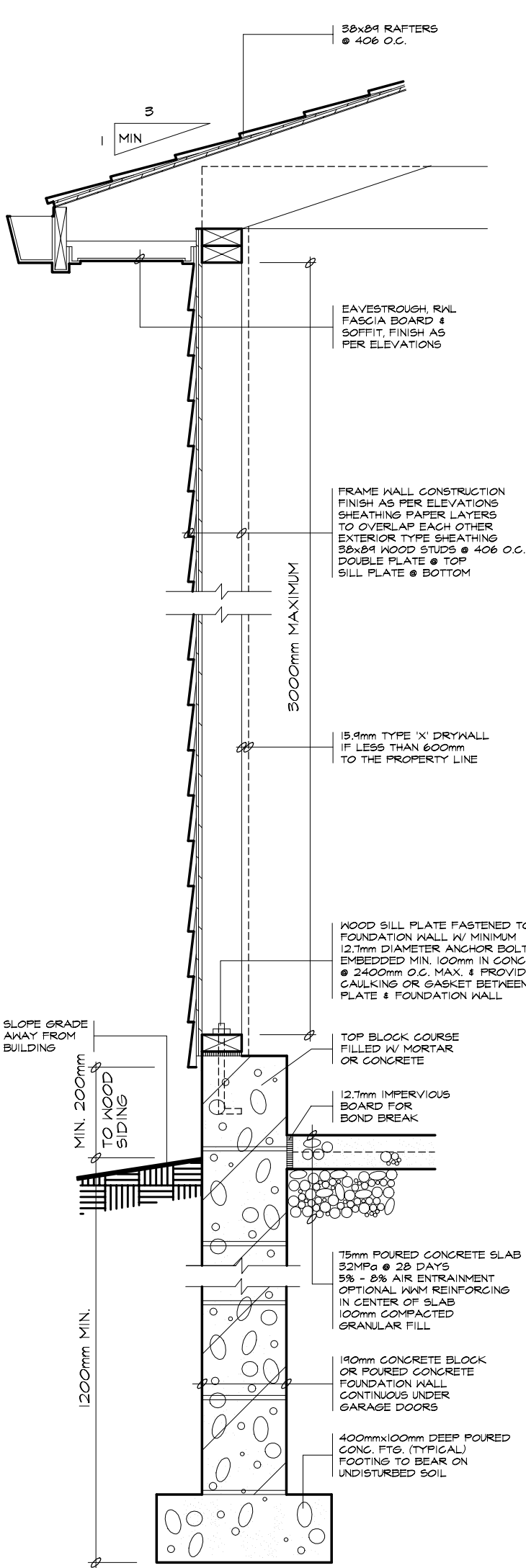
MAXIMUM CLEAR SPAN (M)						
JOIST SIZE	ROOF SNOW LOAD 1.0kPa			ROOF SNOW LOAD 1.5kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	305	406	610	305	406	610
38x140	3.89	3.53	3.08	3.40	3.08	2.69
38x184	5.11	4.64	4.05	4.46	4.05	3.54
38x235	6.52	5.93	5.18	5.70	5.18	4.52
38x286	7.94	7.21	6.30	6.94	6.30	5.50

LINTELS

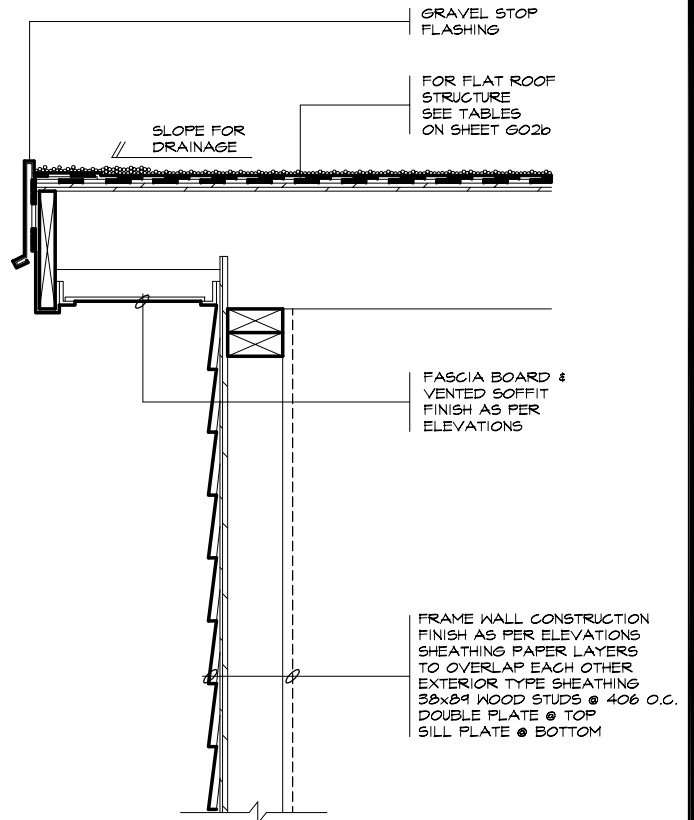
DOOR WIDTH	LINTELS FOR WOOD FRAMING		LINTELS FOR BRICK VENEER 90mm		LINTELS FOR SOLID MASONRY 200mm	
	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF	NOT SUPPORTING THE ROOF	SUPPORTING THE ROOF
UP TO 3000mm	2/38x184	2/38x286	2/38x184 + ANGLE 125x90x8	2/38x286 + ANGLE 125x90x8	2 ANGLES 150x100x10	W150x22 + PLATE 200x10
UP TO 4900mm	2/38x286	4/38x286 OR 2- 45x300 1.9E LVL	W200x27 + PLATE 200x10	W200x27 + PLATE 200x10	MUST BE DESIGNED	MUST BE DESIGNED

GENERAL NOTES

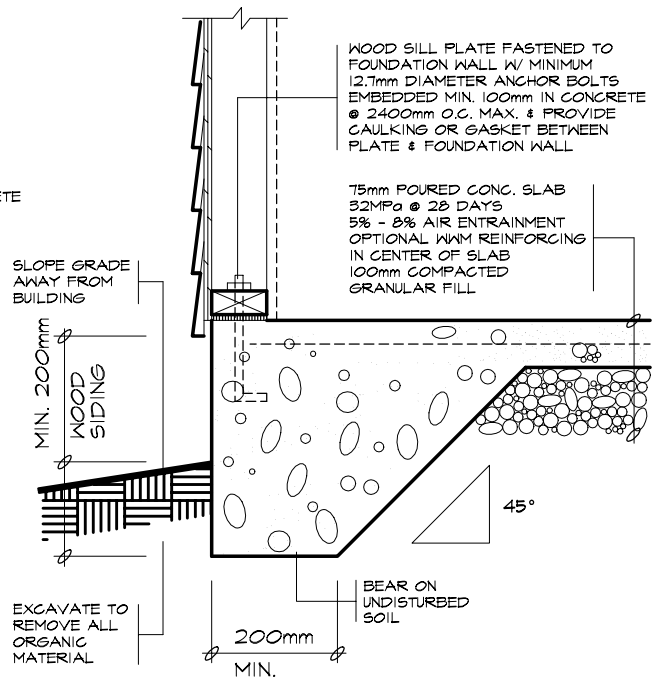
1. ALL LUMBER TO BE NO. 1&2 SPRUCE OR BETTER
2. ALL PLYWOOD SHALL BE STAMPED EXTERIOR GRADE
3. ROOF LOAD DESIGN 1.0 kPa OR 1.5 kPa
4. ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL.
5. IF GARAGE WALL IS LESS THAN 600mm TO THE PROPERTY LINE PROVIDE 15.9mm TYPE 'X' DRYWALL INTERIOR SHEATHING. NO WINDOWS ARE PERMITTED IN GARAGE WALLS LESS THAN 1200mm FROM PROPERTY LINE.
6. FOR ONE STOREY WOOD FRAME DETACHED GARAGES LESS THAN 55M2. AN ALTERNATE FOOTING MAY BE USED, SEE DETAIL SHEET G02c
7. GARAGE SLAB SHALL BE 32 Mpa CONCRETE W/ 5% - 8% AIR ENTRAINMENT SLOPED TO DRAIN TO THE OUTSIDE.
8. ROOF SHEATHING SHALL BE MIN. 9.5mm PLYWOOD PROVIDE 'H' CLIPS IF RAFTERS OR JOISTS ARE SPACED GREATER THAN 400mm O.C.
9. PROVIDE A LIGHT FIXTURE IN THE GARAGE.
10. STEEL BEAMS TO BE SUPPORTED BY SOLID MASONRY (190mm BEARING ON MASONRY OR 73mm DIA. STEEL COLUMN).
11. LINTELS AND BEAMS TO BE DESIGNED BY A QUALIFIED PERSON FOR SPANS GREATER THAN 4900mm



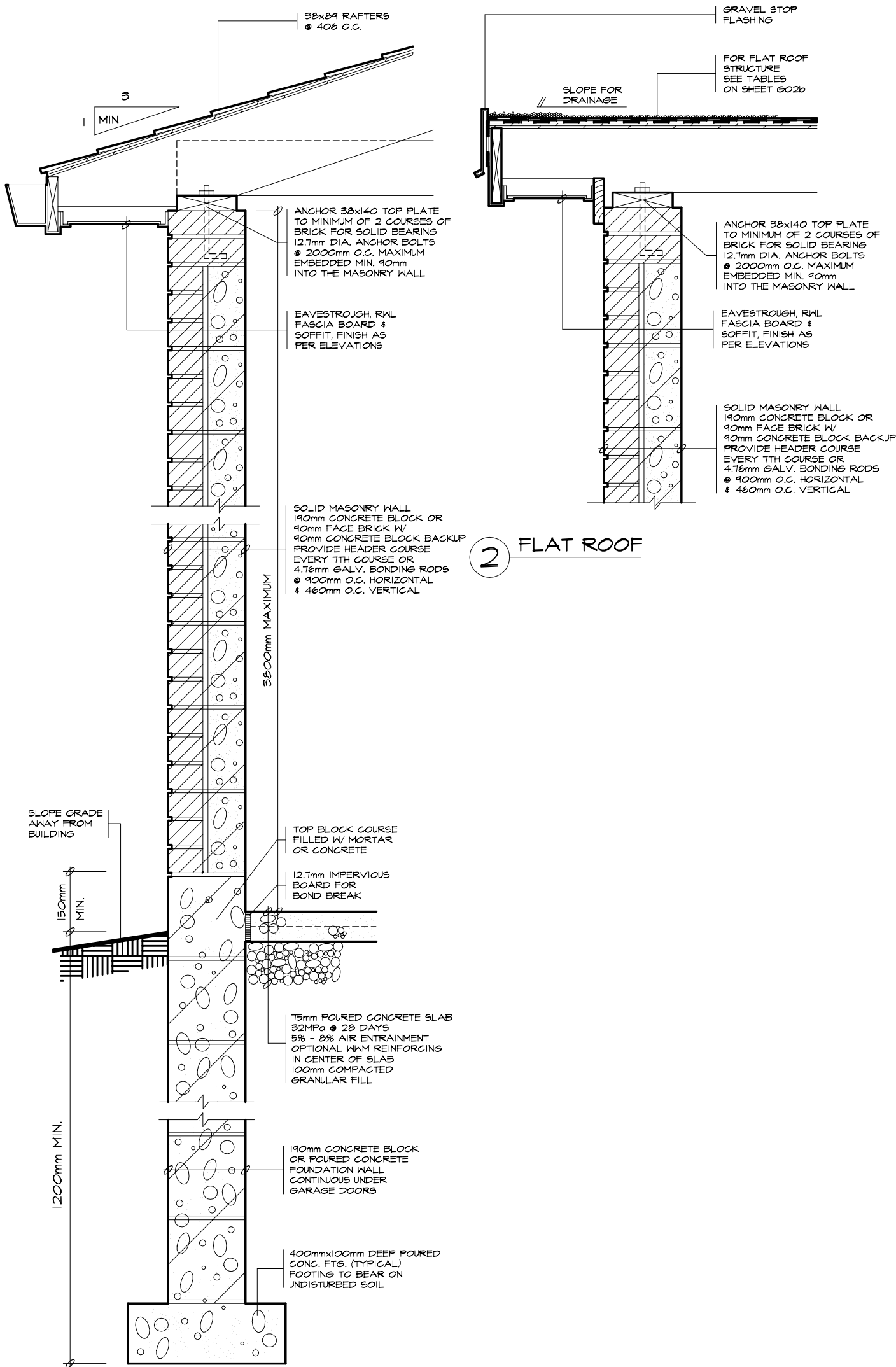
1 WALL SECTION



2 FLAT ROOF



3 ALTERNATE FOR FRAME GARAGE
MAXIMUM 55M², ONE STOREY WOOD FRAME ONLY



2 FLAT ROOF

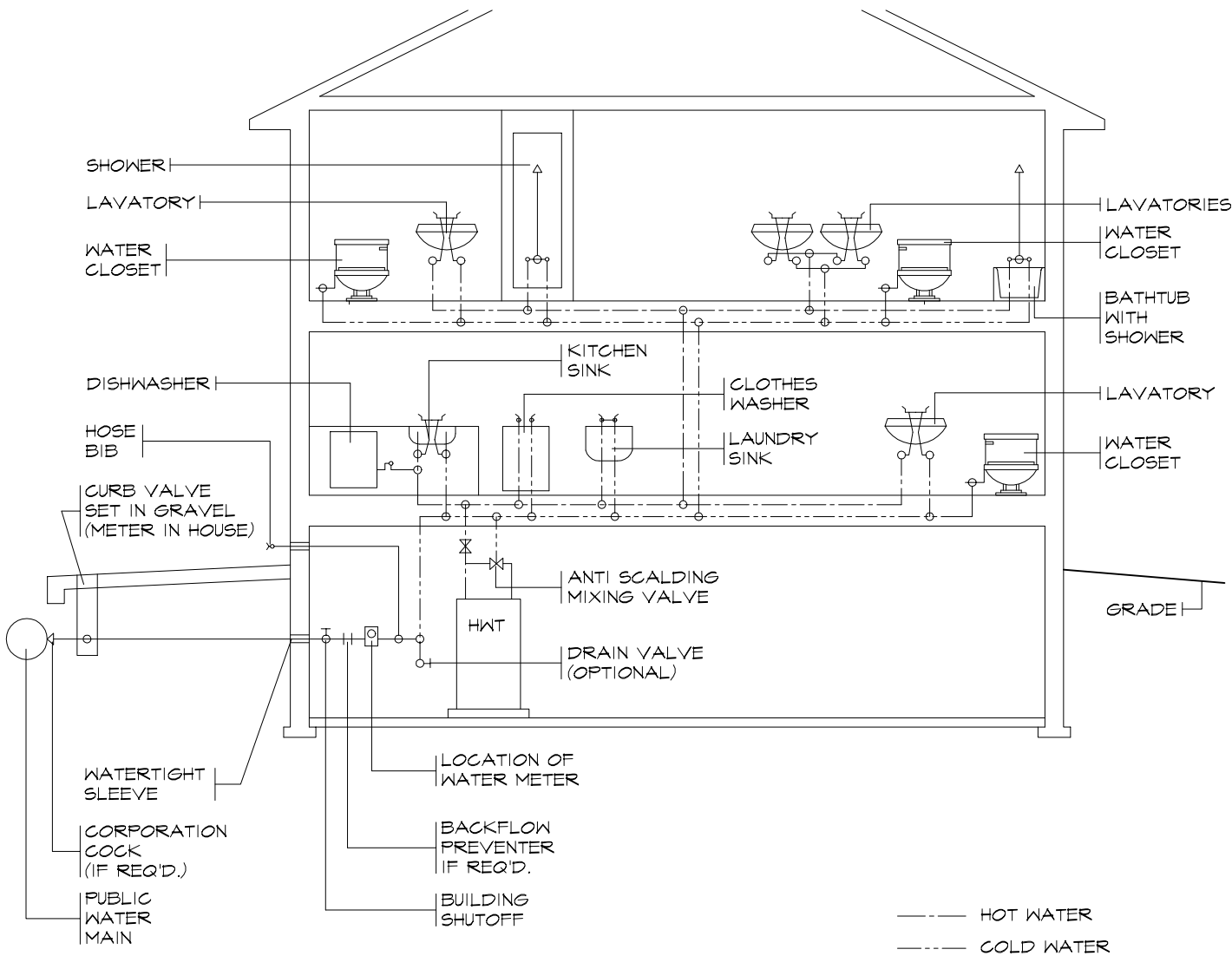
1 WALL SECTION

**LMCBO
STANDARD
DETAILS**

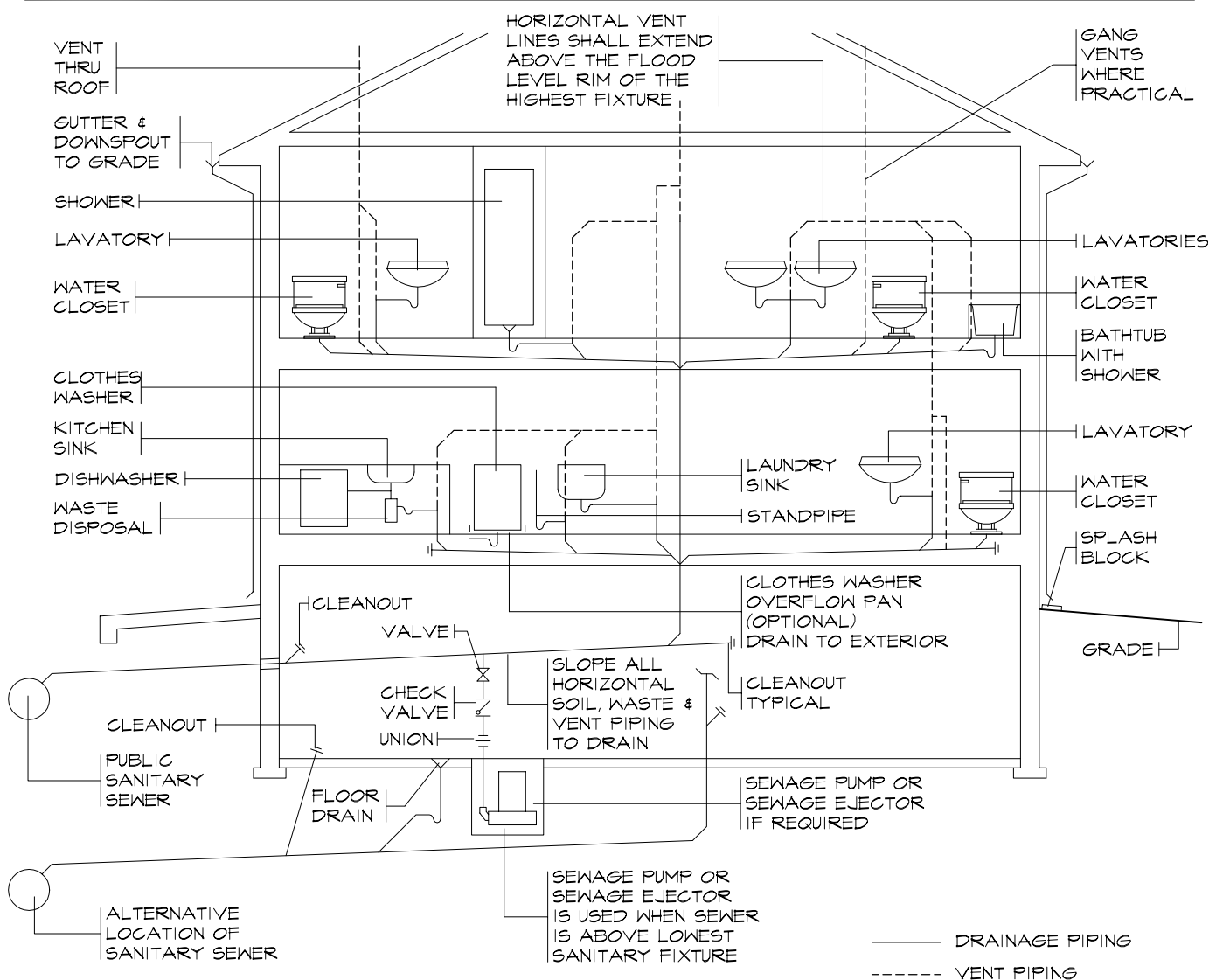
TITLE
DETACHED GARAGE SOLID MASONRY DETAILS

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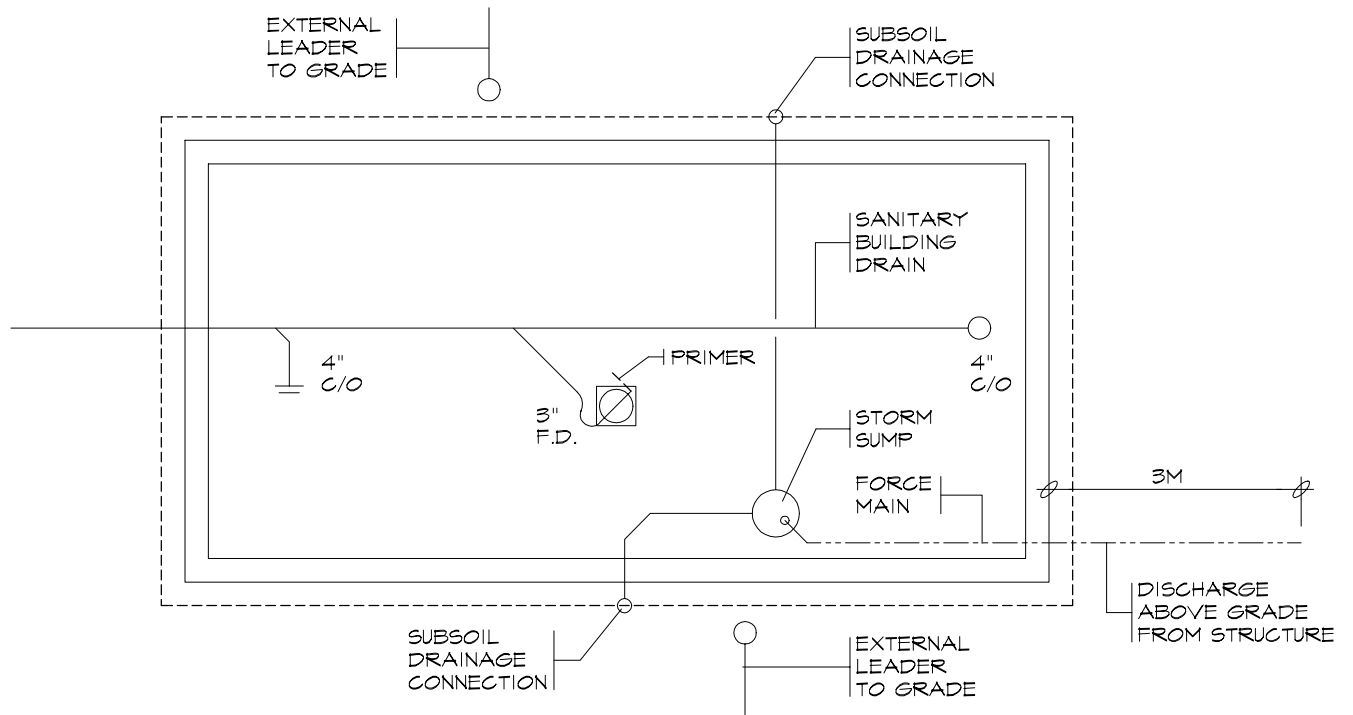
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2012



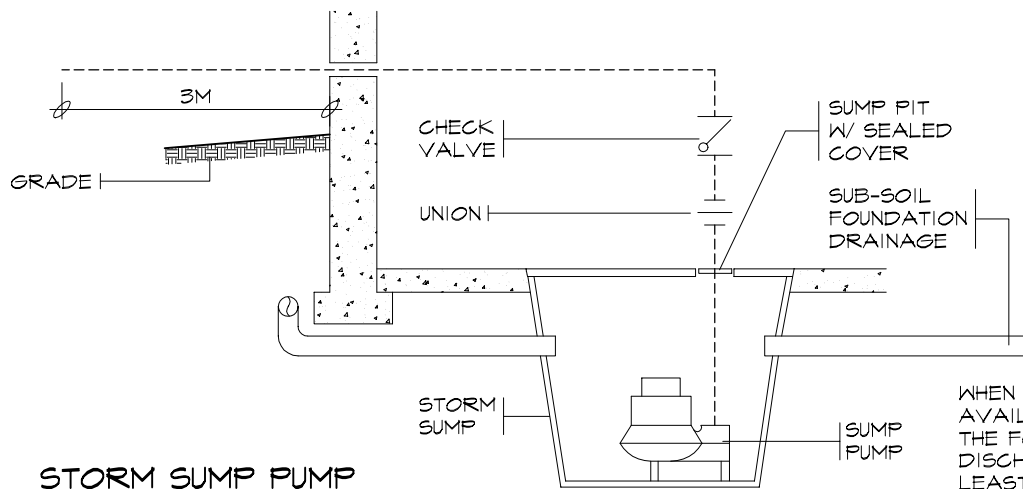
WATER SUPPLY PIPING



DRAINAGE & VENTING

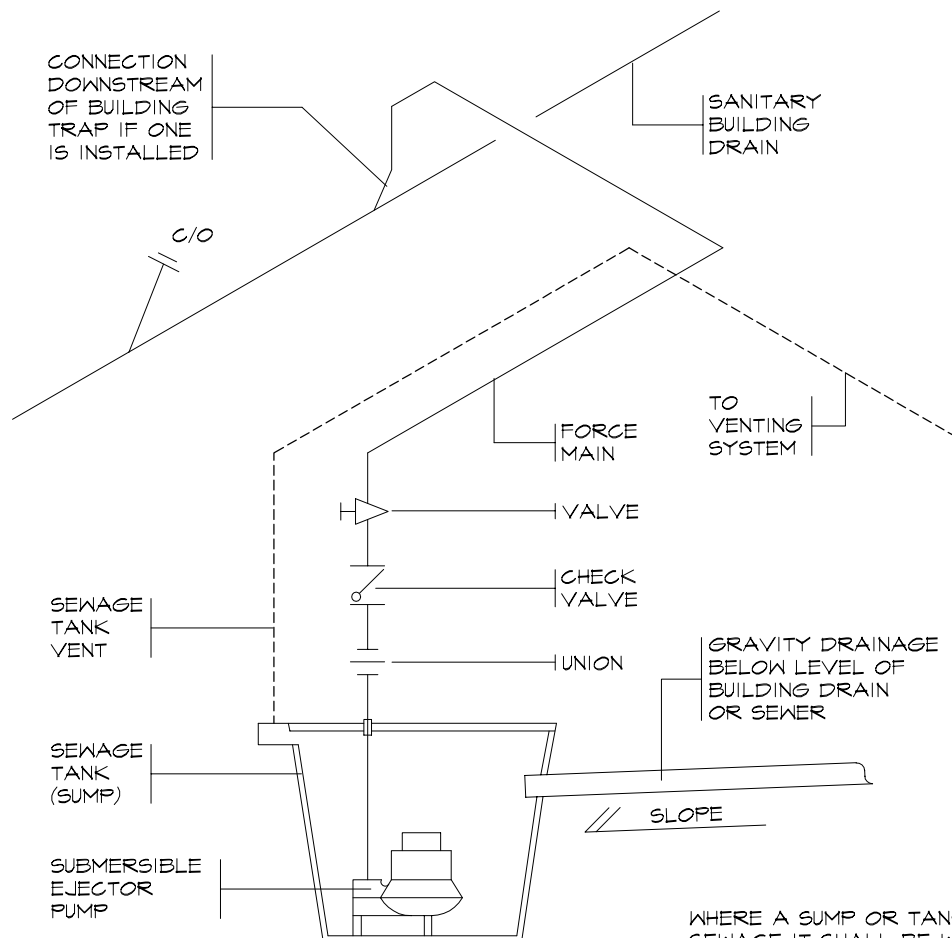


DISCHARGING SUBSOIL DRAINAGE ABOVE GRADE - SEPARATE SYSTEM



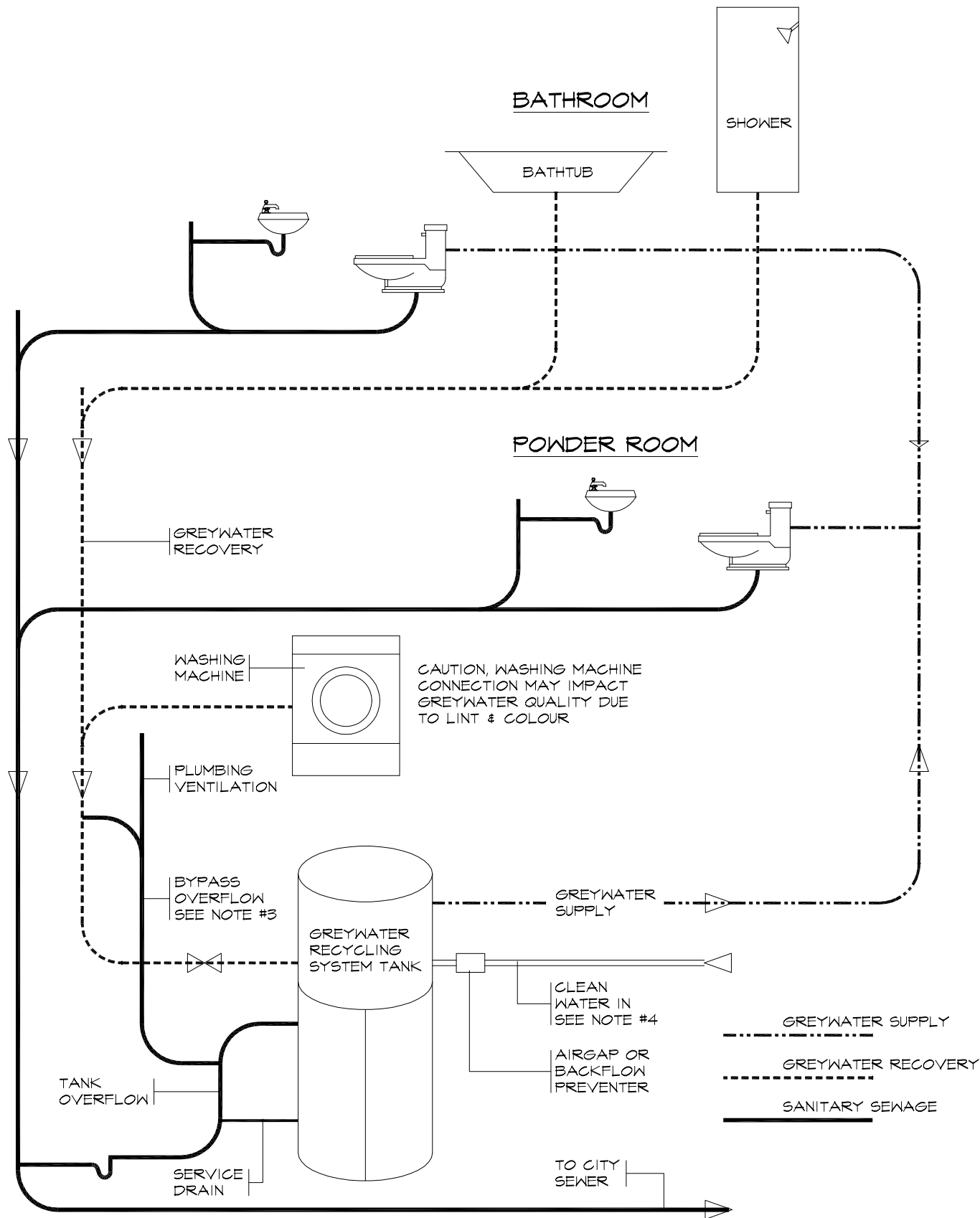
STORM SUMP PUMP

WHEN NO STORM DRAIN IS AVAILABLE OR IT IS NOT ALLOWED, THE FOUNDATION DRAINAGE MUST DISCHARGE ABOVE GRADE AT LEAST 3M FROM THE BUILDING AND MUST NOT CREATE A HAZARD



SANITARY SEWAGE PUMP

WHERE A SUMP OR TANK RECEIVES SEWAGE IT SHALL BE WATER TIGHT, AIR TIGHT AND SHALL BE VENTED.



NOTES:

1. THE BUILDING CODE PERMITS TOILETS, URINALS AND TRAP SEALS TO BE SUPPLIED BY RECYCLING GREYWATER RATHER THAN BY THE POTABLE WATER SUPPLY SYSTEM. GREYWATER IS THE DISCHARGE FROM FIXTURES OTHER THAN TOILETS, URINALS, BIDETS OR OTHER SANITARY UNITS.
2. THE GREYWATER SYSTEM MUST BE COMPLETELY SEPARATED FROM THE SANITARY DRAINAGE SYSTEM USING INDEPENDENT GREYWATER SUPPLY AND DRAINAGE PIPING, AS SHOWN ON THE SCHEMATIC DIAGRAM. ALL CONNECTED FIXTURES MUST BE CONNECTED AND VENTED ACCORDING TO THE BUILDING CODE.
3. AN OVERFLOW PIPE CONNECTED TO A SANITARY DRAIN MUST BE INSTALLED FROM THE GREYWATER SUPPLY TANK WHICH INCORPORATES AN AIR GAP OR CHECK VALVE TO PREVENT CONTAMINATION IN THE EVENT OF A SANITARY SEWAGE BACKUP.
4. BACKUP POTABLE WATER SUPPLY TO THE GREYWATER SUPPLY TANK IS REQUIRED TO MAINTAIN SUPPLY IN THE EVENT CONNECTED FIXTURE DEMAND EXCEEDS THE TANK SUPPLY CAPACITY. THE POTABLE WATER SUPPLY PIPE MUST BE PROTECTED WITH AN AIR GAP OR TESTABLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR.
5. A NON-POTABLE WATER SYSTEM SHALL NOT BE CONNECTED TO A POTABLE WATER SYSTEM
6. NON-POTABLE WATER SUPPLY PIPING SHALL BE IDENTIFIED BY MARKINGS THAT ARE PERMANENT, DISTINCT AND EASILY RECOGNIZED.
7. AN OUTLET FROM A NON-POTABLE WATER SYSTEM SHALL NOT BE LOCATED WHERE IT CAN DISCHARGE INTO A SINK OR LAVATORY, A FIXTURE INTO WHICH AN OUTLET FROM A POTABLE WATER SYSTEM IS DISCHARGED OR A FIXTURE THAT IS USED FOR A PURPOSE RELATED TO THE PREPARATION, HANDLING OR DISPENSING OF FOOD, DRINK OR PRODUCTS THAT ARE INTENDED FOR HUMAN CONSUMPTION.

1. MATERIALS AND EQUIPMENT

- A 'T' FITTING SHALL NOT BE USED IN A DRAINAGE SYSTEM EXCEPT TO CONNECT A VENT PIPE.
- A CROSS FITTING SHALL NOT BE USED IN A DRAINAGE SYSTEM.
- NO 'Y', DOUBLE 'TY', DOUBLE 'T' OR DOUBLE WASTE FITTING SHALL BE INSTALLED IN A NOMINALLY HORIZONTAL SOIL OR WASTE PIPE.

2. DRAINAGE SYSTEM

- EVERY SANITARY DRAINAGE SYSTEM AND STORM DRAINAGE SYSTEM SHALL BE PROVIDED WITH CLEANOUTS THAT WILL PERMIT CLEANING OF THE ENTIRE SYSTEM.
- A CLEANOUT FITTING SHALL BE PROVIDED ON THE UPSTREAM SIDE AND DIRECTLY OVER EVERY RUNNING TRAP. HORIZONTAL SOIL OR WASTE PIPE.
- WHERE THERE IS A CHANGE OF DIRECTION GREATER THAN 45 DEGREES IN A SANITARY BUILDING DRAIN OR SANITARY BUILDING SEWER, A CLEANOUT SHALL BE INSTALLED AT EACH CHANGE IN DIRECTION.
- EVERY SANITARY BUILDING DRAIN OR STORM BUILDING DRAIN SHALL BE PROVIDED WITH A CLEANOUT FITTING THAT IS LOCATED AS CLOSE AS PRACTICAL TO THE PLACE WHERE THE DRAIN LEAVES THE BUILDING.
- EVERY SOIL OR WASTE STACK SHALL BE PROVIDED WITH A CLEANOUT FITTING AT THE BOTTOM OF THE STACK.
- A CLEANOUT SHALL BE INSTALLED ON A FIXTURE DRAIN SERVING A KITCHEN SINK.
- WHEN GRAVITY DRAINAGE TO A SANITARY DRAINAGE SYSTEM IS POSSIBLE, A FLOOR DRAIN SHALL BE INSTALLED IN A BASEMENT, FORMING PART OF A DWELLING UNIT.
- SANITARY UNITS, BATHTUBS AND SHOWER BATHS SHALL NOT BE INSTALLED ADJACENT TO WALL AND FLOOR SURFACES THAT ARE PERVIOUS TO WATER.
- EVERY FIXTURE SHALL BE PROTECTED BY A SEPARATE TRAP.
- PROVISION SHALL BE MADE FOR MAINTAINING THE TRAP SEAL OF A FLOOR DRAIN BY THE USE OF A TRAP SEAL PRIMER.
- EVERY DRAINAGE PIPE THAT HAS A SIZE OF 3 INCHES (75mm) OR LESS, SHALL HAVE A DOWNWARD SLOPE IN THE DIRECTION OF FLOW OF AT LEAST 1 IN 50 (1/4 INCH PER FOOT).
- WHERE IT IS NOT POSSIBLE TO COMPLY WITH 1 IN 50 SLOPE A LESSER SLOPE MAY BE USED IF IT WILL PROVIDE A GRAVITY FLOW OF NOT LESS THAN 0.60M PER SECOND.
- EVERY SANITARY BUILDING DRAIN AND EVERY SANITARY BUILDING SEWER SHALL BE AT LEAST 4 INCHES IN SIZE.
- EVERY STORM BUILDING DRAIN AND EVERY STORM BUILDING SEWER SHALL BE AT LEAST 4 INCHES IN SIZE.
- INDIRECT CONNECTIONS OR ANY TRAP THAT MAY OVERFLOW SHALL NOT BE LOCATED IN A CRAWL SPACE OR ANY OTHER UNFREQUENTED AREA.
- THERE SHALL BE NO UNUSED OPEN ENDS IN A DRAINAGE SYSTEM AND DEAD ENDS SHALL BE SO GRADED THAT WATER WILL NOT COLLECT IN THEM.
- ONLY PIPING THAT IS TOO LOW TO DRAIN INTO A BUILDING SEWER BY GRAVITY SHALL BE DRAINED TO A SUMP OR RECEIVING TANK.
- WHERE THE SUMP OR TANK RECEIVES SANITARY SEWAGE IT SHALL BE WATER AND AIR-TIGHT AND SHALL BE VENTED.
- THE DISCHARGE PIPE FROM EVERY PUMPED SANITARY SEWAGE PUMP SHALL BE EQUIPPED WITH A UNION, A CHECK VALVE AND A SHUT-OFF VALVE INSTALLED IN THAT SEQUENCE IN THE DIRECTION OF DISCHARGE.
- A SUBSOIL DRAINAGE PIPE THAT DRAINS INTO A SANITARY DRAINAGE SYSTEM THAT IS SUBJECT TO SURCHARGE SHALL BE CONNECTED IN SUCH A MANNER THAT SEWAGE CANNOT BACK UP INTO THE SUBSOIL DRAINAGE PIPE.
- THE DEVELOPED LENGTH OF EVERY FIXTURE OUTLET PIPE SHALL NOT EXCEED 1200mm.
- WHERE CLOTHES WASHERS DO NOT DRAIN TO A LAUNDRY TRAY, THE TRAP INLET SHALL BE FITTED WITH A VERTICAL STANDPIPE THAT IS NOT LESS THAN 600mm LONG MEASURED FROM THE TRAP WEIR AND THE TOP OF THE STANDPIPE SHALL TERMINATE ABOVE THE FLOOD LEVEL RIM OF THE CLOTHES WASHER IT SERVES.

3. VENTING SYSTEM

- EVERY TRAP SHALL BE VENTED.
- EVERY SANITARY BUILDING DRAIN SHALL TERMINATE AT ITS UPSTREAM END IN A STACK OF AT LEAST 3 INCHES IN SIZE.
- A STACK SHALL BE A SOIL STACK IF ONE IS AVAILABLE AND MAY BE A VENT STACK OR WASTE STACK THAT PROVIDES AT LEAST 3 INCHES STACK VENT AND THAT GOES TO OPEN AIR ABOVE THE ROOF, EITHER DIRECTLY OR THROUGH A HEADER.
- EVERY SUMP OR TANK THAT RECEIVES SANITARY SEWAGE SHALL BE PROVIDED WITH A VENT PIPE THAT IS CONNECTED TO THE TOP OF THE SUMP OR TANK.
- THE MINIMUM SIZE OF THE VENT PIPE FOR A SANITARY SEWAGE PUMP OR TANK, OR DILUTION TANK SHALL BE ONE SIZE SMALLER THAN THE SIZE OF THE LARGEST BRANCH OR FIXTURE DRAIN DRAINING TO THE SUMP OR TANK.
- AIR ADMITTANCE VALVES SHALL ONLY BE USED IN BUILDINGS UNDERGOING RENOVATION AND INSTALLATIONS WHERE CONNECTION TO A VENT MAY NOT BE PRACTICAL.
- INSTALLED AIR ADMITTANCE VALVES SHALL BE ACCESSABLE AND LOCATED IN A SPACE THAT ALLOWS AIR TO ENTER THE VALVE.

4. POTABLE WATER

- EVERY POTABLE WATER SYSTEM SHALL BE CAPABLE OF WITHSTANDING WITHOUT LEAKAGE A WATER PRESSURE THAT IS AT LEAST 1000 kPa (145 PSI) FOR AT LEAST 1 HOUR OR WITHSTANDING FOR AT LEAST 2 HOURS WITHOUT A DROP IN PRESSURE, AN AIR PRESSURE THAT IS AT LEAST 100 kPa (102 PSI).
- EVERY FIXTURE SUPPLIED WITH SEPARATE HOT AND COLD WATER CONTROLS SHALL HAVE THE HOT WATER CONTROL ON THE LEFT AND THE COLD ON THE RIGHT.
- A BUILDING CONTROL VALVE SHALL BE PROVIDED ON EVERY WATER SERVICE PIPE AT THE LOCATION WHERE THE WATER SERVICE PIPE ENTERS THE BUILDING.
- EVERY WATER CLOSET SHALL BE PROVIDED WITH A SHUT-OFF VALVE ON ITS WATER SUPPLY PIPE.
- EVERY WATER PIPE THAT SUPPLIES A HOT WATER TANK, PRESSURE VESSEL, PLUMBING APPLIANCE OR WATER USING DEVICE SHALL BE PROVIDED WITH A SHUT OFF VALVE LOCATED CLOSE TO THE TANK, PRESSURE VESSEL, PLUMBING APPLIANCE OR WATER USING DEVICE.
- EVERY PIPE THAT PASSES THROUGH AN EXTERIOR WALL TO SUPPLY WATER TO THE EXTERIOR OF THE BUILDING SHALL BE PROVIDED WITH A FROST-PROOF HYDRANT WITH A SEPARATE SHUT-OFF VALVE OR A STOP-AND-WASTE COCK LOCATED INSIDE THE BUILDING AND CLOSE TO THE WALL.
- WHERE A HOSE BIB IS INSTALLED OUTSIDE A BUILDING, INSIDE A GARAGE OR WHERE THERE IS AN IDENTIFIABLE RISK OF CONTAMINATION, THE POTABLE WATER SYSTEM SHALL BE PROTECTED AGAINST BACKFLOW BY A BACKFLOW PREVENTER.
- NO WATER SYSTEM BETWEEN THE POINT OF CONNECTION WITH THE WATER SERVICE PIPE OR THE WATER METER AND THE FIRST BRANCH THAT SUPPLIES A WATER HEATER SHALL BE LESS THAN 3/4 INCH IN SIZE.
- EVERY WATER SERVICE PIPE SHALL NOT BE LESS THAN 3/4 INCH IN TRADE SIZE.
- A CHECK VALVE SHALL BE INSTALLED AT THE BUILDING END OF THE WATER SERVICE PIPE WHERE THE PIPE IS MADE OF PLASTIC THAT IS SUITABLE FOR COLD WATER USE ONLY.
- PROTECTION AGAINST THERMAL EXPANSION SHALL BE REQUIRED WHEN A CHECK VALVE, A BACKFLOW PREVENTER OR A PRESSURE REDUCING VALVE IS REQUIRED.

5. HOT WATER TEMPERATURE CONTROL

- SHOWER VALVES SHALL BE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES. A PRESSURE BALANCED OR THERMOSTATIC MIXING VALVE SHALL NOT BE REQUIRED FOR SHOWERS WHERE THE HOT WATER SUPPLY FOR SHOWERS, ARE CONTROLLED BY A MASTER THERMOSTATIC MIXING VALVE. PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES SHALL BE DESIGNED SUCH THAT THE OUTLET TEMPERATURE DOES NOT EXCEED 49°C (120°F).

Excavation and Backfill

- Excavation shall be undertaken in such a manner so as to prevent damage to existing structures, adjacent property and utilities
- The topsoil and vegetable matter in unexcavated areas under a building shall be removed. The bottom of excavations for foundations shall be free of all organic material
- If termites are known to exist, all stumps, roots and wood debris shall be removed to a minimum depth of 300mm in excavated areas under a building, and the clearance between untreated structural wood elements and the ground shall be no less than 450mm
- Backfill within 600mm of the foundation walls shall be free of deleterious debris and boulders over 250mm in diameter

Dampproofing and Drainage

- In normal soil conditions, the exterior surfaces of foundation walls enclosing basements and crawl spaces shall be dampproofed. Where hydrostatic pressure occurs, a waterproofing system is required
- Masonry foundation walls shall be parged with 6mm of mortar covered over the footing prior to dampproofing
- 100mm dia. foundation drains shall be laid on level, undisturbed ground adjacent to the footings at or below the top of the basement slab or crawl space floor, and shall be covered with 150mm of crushed stone. Foundation drains shall drain to a storm sewer, drainage ditch, dry well or sump
- Window wells shall be drained to the footing level or to a ditch or sump pump.
- Downspouts not directly connected to a storm sewer shall have extensions to carry water away from the building, and provisions shall be made to prevent soil erosion
- Concrete slabs in attached garages shall be sloped to drain to the exterior
- The building site shall be graded so that surface, sump and roof drainage will not accumulate at or near the building and will not adversely affect adjacent properties

Footings

- minimum 15MPa poured concrete
- minimum 1200mm below finished grade
- Footings shall be founded on natural undisturbed soil, rock or compacted granular fill with minimum bearing capacity of 75kPa
100kPa for ICF

Footing Size

- | Floors Supported | Supporting Ext. Wall | Supporting Int. Wall | Column Area |
|------------------|----------------------|----------------------|-------------|
| 1 | 250mm | 200mm | 0.40m2 |
| 2 | 350mm | 350mm | 0.75m2 |
| 3 | 450mm | 500mm | 1.00m2 |
- Increase exterior footing width by 65mm for each storey of brick veneer supported, by 130mm for each storey of masonry and by 150mm for ICF
 - Increase interior footing width by 100mm for each storey of masonry above footing, and by 100mm for each 2700mm of wall height above 5500mm
 - The projection of an unreinforced footing beyond the wall supported shall not be greater than its thickness
 - Column area based on max. 3000mm spacing

Step Footings

- 600mm max. rise
600mm min. run

Foundation Walls

- To be poured concrete, unit masonry, ICF or preserved wood (see drawings for type and thickness)
- Dampproofing shall be a heavy coat of bituminous material.
- Foundation wall to extend minimum 150mm above finished grade or 200mm for cladding. adversely affected by moisture.
- A drainage layer is required on the outside of a foundation wall where the interior insulation extends more than 900mm below exterior grade. A drainage layer shall consist of
 - Min. 19mm mineral fibre insulation with min. Density of 57 kg/m³
 - Min. 100mm of free drainage granular material, or
 - An approved system which provides equivalent performance
- Foundation walls shall be braced or have the floor joists installed before backfilling

Concrete Floor Slabs

- Garage, carport and exterior slabs and exterior steps shall be 32MPa concrete with 5-8% air entrainment
- Basement slab 25MPa concrete, minimum 75mm thick, placed on a minimum 100mm of coarse, clean, granular material
- All fill other than coarse clean material placed beneath concrete slabs shall be compacted to provide uniform support

Masonry Walls

- Where constructed of 90mm brick, wall shall be bonded with a header course every 600mm o/c vertically and horizontally and 900mm o/c for block or tile.
- Provide 50mm solid masonry, concrete filled top course or continuous 38x89 wood plate under all roof and floor framing members
- Provide 190mm solid masonry under beams and columns
- Masonry wall to be tied to each tier of joists with 40mm x 4.76mm corrosion resistant steel straps, keyed minimum 100mm into masonry. When joists are parallel to wall, ties are to extend across at least 3 joists @ 2000mm o.c.
- Inside of wall to be parged and covered with No. 15 breather-type asphalt paper
- For reduced foundation walls to allow a brick facing while maintaining lateral support, tie minimum 90mm brick to minimum 90mm back-up block with corrosion resistant ties at least 17.8mm² in cross sectional area, spaced 200mm vertically and 900mm horizontally, with joints completely filled with mortar
- Masonry over openings shall be supported on corrosion resistant or prime painted steel lintels with a minimum of 150mm end bearing

Masonry Veneer

- Minimum 70mm thick if joints are not raked and 90mm thick if joints are raked
- Minimum 25mm air space to sheathing
- Provide weep holes @ 800mm o.c. at the bottom of the cavity and over doors and windows
- Direct drainage through weep holes with 0.5mm poly flashing extending minimum 150mm up behind the sheathing paper
- Veneer ties minimum 0.76mm thick x 22mm wide corrosion resistant straps spaced @ 500mm vertically and 600mm horizontally
- Fasten ties with corrosion resistant 3.18mm diameter screws or spiral nails which penetrate at least 30mm into studs

Wood Frame Construction

- All lumber shall be spruce-pine-fir No. 1 & 2, and shall be identified by a grade stamp
- Maximum moisture content 19% at time of installation
- Wood framing members which are supported on concrete in direct contact with soil shall be separated from the concrete with 0.05mm polyethylene or type 'S' roll roofing

Walls

- Exterior walls shall consist of:
 - cladding
 - air barrier system lapped 100mm at joints
 - lumber, plywood, OSB or gypsum sheathing
 - 38x140 studs @ 400mm o.c.
 - RSI 4.23 insulation
 - 38x140 bottom plate
 - 38x140 double top plate
- Interior loadbearing walls shall consist of:
 - 38x89 studs @ 400mm o.c.
 - 38x98 bottom plate and double 38x89 top plate
 - 38x89 mid-girts if not sheathed
 - 12.7mm gypsum board sheathing

Floors

- See 50ld for floor joist size and spacing requirements
- Joists to have minimum 38mm of end bearing
- Joists shall bear on a sill plate fixed to foundation with 12.7mm anchor bolts @ 2400mm o.c
- Header joists between 1200mm and 3200mm in length shall be doubled. Header joists exceeding 3200mm shall be sized by calculations
- Trimmer joists shall be doubled when supported header is between 800mm and 2000mm. Trimmer joists shall be sized by calculations when supported header exceeds 2000mm
- 38x38 cross bridging required not more than 2100mm from each support and from other rows of bridging
- Joists shall be supported on joist hangers at all flush beams, trimmers, and headers.
- Non-loadbearing partitions shall be supported on a joist or on blocking between joists.
- See 50ld for subflooring requirements

Roof & Ceilings

- See 50ld for rafter, roof joist and ceiling joist size and spacing requirements
- Hip and valley rafter shall be 38mm deeper than common rafters
- 38x89 collar ties @ rafter spacing with 19x89 continuous brace at mid span if collar tie exceeds 2400mm in length
- See 50ld for roof sheathing requirements

Notching & Drilling of Trusses, Joists, Rafters

- Holes in floor, roof and ceiling members to be not larger than 1/4 the actual depth of member and not less than 50mm from edges
- Notches in floor, roof and ceiling members to be located on top of the member within 1/2 the actual depth from the edge of bearing and not greater than 1/3 the joist depth
- Wall studs may be notched or drilled provided that no less than 2/3 the depth of the stud remains, if load bearing, and 40mm if non-load bearing
- Roof truss members shall not be notched, drilled or weakened unless accommodated in the design

Roofing

- Fasteners for roofing shall be corrosion resistant. Roofing nails shall penetrate through or at least 12mm into roof sheathing
- Every asphalt shingle shall be fastened with at least 4 nails for 1000mm wide shingle (or 6 11mm staples)
- Eave protection shall extend 900mm up the roof slope from the edge, and at least 300mm from the inside face of the exterior wall, and shall consist of Type M or Type S Roll Roofing laid with minimum 100mm head and end laps cemented together, or glass Fibre or Polyester Fibre coated base sheets, or self sealing composite membranes consisting of modified bituminous coated material or NO.15 saturated felt lapped and cemented. Eave protection is not required for unheated buildings, for roofs exceeding a slope of 1 in 1.5, or where a low slope asphalt shingle application is provided
- Open valleys shall be flashed with 2 layers of roll roofing, or 1 layer of sheet metal min. 600mm wide
- Flashing shall be provided at the intersection of shingle roofs with exterior walls and chimneys
- Sheet metal flashing shall consist of not less than 1.73mm sheet lead, 0.33mm galvanized steel, 0.33mm copper, 0.35mm zinc, or 0.48mm aluminum

Columns, Beams & Lintels

- Steel beams and columns shall be shop primed 350W steel.
- Minimum 89mm end bearing for wood and steel beams, with 190mm solid masonry beneath the beam.
- Steel columns to have minimum outside diameter of 73mm and minimum wall thickness of 4.76mm
- Wood columns for carports and garages shall be minimum 89mm x 89mm; in all other cases either 140mm x 140mm or 184mm round, unless calculations based on actual loads show lesser sizes are adequate. All columns shall be not less than the width of the supported member
- Masonry columns shall be a minimum of 290mm x 290mm or 240mm x 380mm
- Provide solid blocking the full width of the supported member under all concentrated loads

Insulation & Weatherproofing

- | | |
|---------------------------|----------|
| Ceiling with attic | RSI 8.81 |
| Roof without attic | RSI 5.46 |
| Exterior Wall | RSI 4.23 |
| Foundation Wall | RSI 3.52 |
| Foundation > 50% exposed | RSI 4.23 |
| Exposed Floor | RSI 5.46 |
| Slabs on Grade (unheated) | RSI 1.76 |
| (heated) | RSI 1.76 |
- Supply Ducts in unheated space RSI 2.11
 - Insulation shall be protected with gypsum board or an equivalent interior finish, except for unfinished basements where 0.15mm poly is sufficient for fibreglass type insulations
 - Ducts passing through unheated space shall be made airtight with tape or sealant
 - Caulking shall be provided for all exterior doors and windows between the frame and the exterior cladding
 - Weatherstripping shall be provided on all doors and access hatches to the exterior, except doors from a garage to the exterior
 - Exterior walls, ceilings and floors shall be constructed so as to provide a continuous barrier to the passage of water vapour from the interior and to the leakage of air from the exterior

Natural Ventilation

- Every roof space above an insulated ceiling shall be ventilated with unobstructed openings equal to not less than 1/300 of the insulated ceiling area
- Insulated roof spaces not incorporating an attic shall be ventilated with unobstructed openings equal to not less than 1/150 of the insulated ceiling area.
- Roof vents shall be uniformly distributed with min. 25% at top of the space and 25% at bottom of the space designed to prevent the entry of rain, snow or insects
- Unheated crawl spaces shall be provided with 0.1m² of ventilation for each 50m²
- Minimum natural ventilation areas, where mechanical ventilation is not provided, are:
Bathrooms: 0.09m²
other rooms: 0.28m²
Unfinished basement: 0.2% of floor area

Doors and Windows

- Every floor level containing a bedroom and not served by an exterior door shall contain at least 1 window having an unobstructed open area of 0.35m² and no dimension less than 380mm, which is openable from the inside without tools. Maximum sill height 1000mm for fin. floors above grade.
- Exterior house doors and windows within 2000mm from grade shall be constructed to resist forced entry. Doors shall have a deadbolt lock
- The principal entry door shall have either a door viewer, transparent glazing or a sidelight
- Maximum U-value 1.8 for windows & sliding glass doors

Exterior Walls

- No windows or other unprotected openings are permitted in exterior walls less than 1200mm from property lines
- 15.9mm type 'x' fire rated drywall shall be installed on the inside face of attached garage exterior walls and gable ends of roofs which are less than 1200mm and not less than 600mm from property lines
- Non combustible cladding shall be installed on all exterior walls less than 600mm from property lines

Ceramic Tile

- When ceramic tile is applied to a mortar bed with adhesive, the bed shall be a minimum of 12.5mm thick & reinforced with galvanized diamond mesh lath, applied over polyethylene on subflooring on joists at no more than 400mm o.c. with at least 2 rows cross bridging

Access to Attics and Crawl Spaces

- Access hatch minimum 545mmx 588mm to be provided to every roof space which is 10m² or more in area and more than 600mm in height
- Access hatch minimum 500mmx 700mm to be provided to every crawl space

Garage Gasproofing

- The walls and ceiling of an attached garage shall be constructed and sealed so as to provide an effective barrier to exhaust fumes
- All plumbing and other penetrations through the walls and ceiling shall be caulked
- Doors between the dwelling and attached garage may not open into a bedroom and shall be weatherstripped and have a self-closer

Alarms and Detectors

- At least one smoke alarm shall be installed on each floor, in each bedroom and in the basement level 900mm or more above an adjacent level
- Smoke alarms shall be interconnected and installed on or near the ceiling and provided with a battery backup
- All smoke alarms to have a visual signalling component conforming to NFPA 72. Visual device to be interconnected to smoke alarm
- A carbon monoxide alarm shall be installed adjacent to every sleeping area for dwellings with fuel burning fireplace or stove, or an attached garage

Stairs

- Maximum Rise 200mm
- Minimum Run 210mm
- Minimum Tread 235mm
- Minimum Head Room 1950mm
- Minimum Width 860mm
- Curved stairs shall have a min. run of 150mm at any point and a minimum average run of 200mm
- Winders which converge to a point in stairs must turn through an angle of no more than 90°, with no less than 30° or more than 45° per tread. Sets of winders must be separated by 1200mm along the run of the stair
- A landing is required at the top of any stair leading to the principal entrance to a dwelling and other exterior entrances with more than 3 risers
- Exterior concrete stairs with more than 2 risers require foundations

Handrails and Guards

- A handrail is required for interior stairs containing more than 2 risers and exterior stairs containing more than 3 risers
- Guards are required around every accessible surface which is more than 600mm above the adjacent level and where the adjacent surface has a slope more than 1:2
- Interior and exterior guards min. 900mm high. Exterior guards shall be 1070mm high where height above adjacent surface exceeds 1800mm
- Guards shall have openings smaller than 100mm and no member between 140mm and 900mm that will facilitate climbing

Plumbing

- Every dwelling requires a kitchen sink, lavatory, water closet, bathtub or shower stall and the installation or availability of laundry facilities
- A floor drain shall be installed in the basement, and connected to the sanitary sewer where gravity drainage is possible. In other cases, it shall be connected to a sewage ejection pump.

Electrical

- An exterior light controlled by an interior switch is required at every entrance
- A light controlled by a switch is required in every kitchen, bedroom, living room, utility room, laundry room, dining room, bathroom, vestibule, hallway, garage and carport. A switched receptacle may be provided instead of a light in bedrooms and living rooms
- Stairs shall be lighted, and except where serving an unfinished basement shall be controlled by a 3 way switch at the head and foot of the stairs
- Basements require a light for each 30m², controlled by a switch at the head of the stairs

Mechanical Ventilation

- A mechanical ventilation system is required with a total capacity at least equal to the sum of:
 - 10.0 L/S each for basement and master bedroom
 - 5.0 L/S for each other room
- A principal dwelling exhaust fan shall be installed and controlled by a centrally located switch identified as such
- Supplemental exhaust shall be installed so that the total capacity of all kitchen, bathroom and other exhausts, less the principal exhaust, is not less than the total required capacity
- A Heat Recovery Ventilator may be employed in lieu of exhaust to provide ventilation. An HRV is required if any solid fuel burning appliances are installed
- Supply air intakes shall be located so as to avoid contamination from exhaust outlets

ROOF RAFTERS (WHERE NO CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (M)						
RAFTER SIZE	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
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 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
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

FLOOR JOISTS

MAXIMUM CLEAR SPAN (M)												
JOIST SIZE	19x64mm STRAPPING OR DRYWALL CLG.			38x38mm CROSS BRIDGING			BOTH STRAPPING & BRIDGING			38-51mm CONCRETE TOPPING		
	JOIST SPACING (mm)			JOIST SPACING (mm)			JOIST SPACING (mm)			JOIST SPACING (mm)		
	300	400	600	300	400	600	300	400	600	300	400	600
38x89	1.86	1.72	1.58	1.99	1.81	1.58	1.99	1.81	1.58	1.99	1.81	1.58
38x140	2.92	2.71	2.49	3.14	2.85	2.49	3.14	2.85	2.49	3.14	2.85	2.49
38x184	3.54	3.36	3.20	3.81	3.58	3.27	3.99	3.72	3.27	4.12	3.75	3.27
38x235	4.17	3.96	3.77	4.44	4.17	3.92	4.60	4.29	4.00	5.27	4.79	4.13
38x286	4.75	4.52	4.30	5.01	4.71	4.42	5.17	4.82	4.49	6.23	5.81	4.79

CEILING JOISTS

SUBFLOORING

MAXIMUM CLEAR SPAN (M)			
JOIST SIZE	JOIST SPACING (mm) O.C.		
	300	400	600
38x89	3.11	2.83	2.47
38x140	4.90	4.45	3.89
38x184	6.44	5.85	5.11
38x235	8.22	7.47	6.52

FLOOR JOIST UP TO (mm) O.C.	SUBFLOORING MIN. THICKNESS (mm)		
	PLYWOOD	WAFER BD.	LUMBER
400	15.5	15.9	17.0
500	15.5	15.9	19.0
600	18.5	19.0	19.0

ROOF SHEATHING

ROOF FRAMING (mm) O.C.	ROOF SHEATHING MIN. THICKNESS UNSUPPORTED EDGES (mm)	ROOF SHEATHING MIN. THICKNESS TONGUE & GROOVE, 'H'-CLIPS OR OTHER EDGE SUPPORT (mm)
300	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER
400	9.5 PLYWOOD, 11.1 WAFER BD. OR 17.0 LUMBER	7.5 PLYWOOD, 9.5 WAFER BD. OR 17.0 LUMBER
600	12.5 PLYWOOD OR 19.0 LUMBER	9.5 PLYWOOD, 11.1 WAFER BD. OR 19.0 LUMBER

GENERAL NOTES

1. ALL LUMBER TO BE NO. 1&2 SPF OR BETTER
2. STRAPPING & CROSS BRIDGING MAXIMUM 2100mm FROM END SUPPORT & OTHER ROWS OF STRAPPING & BRIDGING.
3. CEILING JOIST TABLE MAY BE APPLIED ONLY WHERE ATTIC IS NOT ACCESSIBLE BY A STAIRWAY.
4. WHERE FINISHED FLOORING CONSISTS OF 19mm WOOD STRIPS, SUBFLOOR MAY BE REDUCED TO 12.7mm.

LMCBO
STANDARD
DETAILS

TITLE SPECIFICATION - BUILDING CODE STANDARDS
STRUCTURAL SPAN TABLES & 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.

Sold

2012

ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING ON
APPROVED ROOF TRUSSES OR
WOOD RAFTERS (SEE PLANS) USE
'H'-CLIPS IF 600mm O.C. SPACING

EAVE PROTECTION TO EXTEND
FROM THE EDGE OF THE ROOF,
900mm UP THE SLOPE BUT NOT LESS
LESS THAN 300mm BEYOND THE INT.
FACE OF THE EXTERIOR WALL

EAVESTROUGH, RVL
FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
THE ELEVATIONS

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

SLOPE GRADE AWAY
FROM BUILDING FACE

BITUMINOUS DAMPPROOFING
ON MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL
W/ PARGING COVERED OVER
POURED CONCRETE FOOTING

(POURED CONCRETE WALLS
TO HAVE TIE HOLES FILLED
WITH CEMENT MORTAR
OR DAMPPROOFING)

DRAINAGE LAYER
- MINIMUM 19mm MINERAL FIBRE
INSULATION W/ A DENSITY OF
NOT LESS THAN 57 kg/M³, OR
- MINIMUM 100mm OF FREE DRAINING
GRANULAR MATERIAL, OR
- A B.M.E.C. APPROVED
DRAINAGE LAYER MATERIAL

BACKFILL W/ FREE
DRAINING MATERIAL

450x130 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

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

ROOF VENTILATION
1:300 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

CARRY MIN. RSI 3.52 INSULATION
TO COVER INTERIOR FACE
OF EXTERIOR WALL

INTERIOR CEILING FINISH
CONT. AIR/VAPOUR BARRIER
W/ MINIMUM RSI 0.81 INSULATION

CONTINUOUS AIR/
VAPOUR BARRIER

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

WINDOWS SHALL HAVE A
MAX. U VALUE OF 1.8

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19x64 STRAPPING
OR 38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

SEAL HEADER WRAP
TO VAPOUR BARRIER

HEADER WRAP AIR BARRIER AROUND
CONTINUOUS HEADER JOIST W/
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE

SEAL HEADER WRAP
TO FOUNDATION WALL

SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

38x89 WOOD STUDS @ 406 O.C.
STAND OFF FROM FDN. WALL
RSI 2.11 INSULATION W/ 0.15mm POLY
VAPOUR/BARRIER W/
RSI 1.76 RIGID INSULATION
(INTERIOR FINISH IS OPTIONAL)
INSUL. MAY BE TERMINATED
200mm ABOVE FLOOR

BASEMENT WALL MUST HAVE
MIN. RSI 3.52 INSULATION VALUE

BLOCK SIZE	MAX. HEIGHT FROM SLAB TO GRADE
190	1200mm
240	1800mm
290	2200mm

BASEMENT SLAB
75mm POURED CONC. SLAB
15 MPa W/ 0.15mm POLY
25 MPa WITHOUT POLY
100mm CRUSHED STONE

POLY MOISTURE BARRIER
SEAL TO FDN. WALL & SLAB

MAX. TOTAL MASONRY HEIGHT 2500mm

LMCBO
STANDARD
DETAILS

TITLE

FRAME WALL SECTION FULL BASEMENT

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING
JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

W01

2012

ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING ON
APPROVED ROOF TRUSSES OR
WOOD RAFTERS (SEE PLANS) USE
'H'-CLIPS IF 600mm O.C. SPACING

EAVE PROTECTION TO EXTEND
FROM THE EDGE OF THE ROOF,
900mm UP THE SLOPE BUT NOT LESS
LESS THAN 300mm BEYOND THE INT.
FACE OF THE EXTERIOR WALL

EAVESTROUGH, RVL
FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
THE ELEVATIONS

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 400 O.C.
RSI 4.23 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

SLOPE GRADE AWAY
FROM BUILDING FACE

BITUMINOUS DAMPPROOFING
ON MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL
W/ PARGING COVERED OVER
POURED CONCRETE FOOTING

(POURED CONCRETE WALLS
TO HAVE TIE HOLES FILLED
WITH CEMENT MORTAR
OR DAMPPROOFING)

DRAINAGE LAYER
- MINIMUM 19mm MINERAL FIBRE
INSULATION W/ A DENSITY OF
NOT LESS THAN 57 kg/M³, OR
- MINIMUM 100mm OF FREE DRAINING
GRANULAR MATERIAL, OR
- A B.M.E.C. APPROVED
DRAINAGE LAYER MATERIAL

450x130 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

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

ROOF VENTILATION
1:300 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

CARRY MIN. RSI 3.52 INSULATION
TO COVER INTERIOR FACE
OF EXTERIOR WALL

INTERIOR CEILING FINISH
CONT. AIR/VAPOUR BARRIER
W/ MINIMUM RSI 0.81 INSULATION

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19x64 STRAPPING
OR 38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

ACOUSTIC
SEALANT

CONTINUOUS HEADER JOIST W/
BATT OR FOAM INSULATION, EXTEND
VAPOUR BARRIER & SEAL
TO JOIST & SUBFLOOR

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE
SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

38x140 WOOD STRAPPING @ 400 O.C.
RSI 3.52 INSULATION W/ 0.15mm POLY
VAPOUR/BARRIER W/
MOISTURE BARRIER TO HEIGHT
OF EXTERIOR GRADE BETWEEN
FOUNDATION WALL & WOOD FRAMING
(INTERIOR FINISH IS OPTIONAL)

BLOCK SIZE	MAX. HEIGHT FROM SLAB TO GRADE
190	1200mm
240	1800mm
290	2200mm

BASEMENT SLAB
75mm POURED CONC. SLAB
15 MPa W/ 0.15mm POLY
25 MPa WITHOUT POLY
100mm CRUSHED STONE

CAULK & SEAL @ SLAB
& MOISTURE BARRIER

INSUL. MAY BE TERMINATED
200mm ABOVE FLOOR

MAX. TOTAL MASONRY HEIGHT 2500mm

**LMCBO
STANDARD
DETAILS**

TITLE **FRAME WALL SECTION**

FULL BASEMENT W/ FULL INSULATION & DRAINAGE LAYER

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DWG. NO.

WOLA

2012

ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING ON
APPROVED ROOF TRUSSES OR
WOOD RAFTERS (SEE PLANS) USE
'H'-CLIPS IF 600mm O.C. SPACING

EAVE PROTECTION TO EXTEND
FROM THE EDGE OF THE ROOF,
900mm UP THE SLOPE BUT NOT LESS
LESS THAN 300mm BEYOND THE INT.
FACE OF THE EXTERIOR WALL

EAVESTROUGH, RVL
FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
THE ELEVATIONS

BRICK VENEER WALL
90mm FACE BRICK
25mm AIR SPACE
0.76mm THICK x22mm WIDE
GALVANIZED METAL TIES
INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZONTAL
600mm O.C. VERTICAL
SHEATHING PAPER W/ LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN CONT.
CONTACT W/ SHEATHING
CONTINUOUS VAPOUR/AIR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

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

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

SLOPE GRADE AWAY
FROM BUILDING FACE

BITUMINOUS DAMPPROOFING
ON MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL
W/ PARGING COVED OVER
POURED CONCRETE FOOTING

(POURED CONCRETE WALLS
TO HAVE TIE HOLES FILLED
WITH CEMENT MORTAR
OR DAMPPROOFING)

DRAINAGE LAYER
- MINIMUM 19mm MINERAL FIBRE
INSULATION W/ A DENSITY OF
NOT LESS THAN 57kg/M³, OR
- MINIMUM 100mm OF FREE DRAINING
GRANULAR MATERIAL, OR
- A B.M.E.C. APPROVED
DRAINAGE LAYER MATERIAL

BACKFILL W/ FREE
DRAINING MATERIAL

450x130 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

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

ROOF VENTILATION
1:300 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

CARRY MIN. RSI 3.52 INSULATION
TO COVER INTERIOR FACE
OF EXTERIOR WALL

INTERIOR CEILING FINISH
CONT. AIR/VAPOUR BARRIER
W/ MINIMUM RSI 0.81 INSULATION

CONTINUOUS AIR/
VAPOUR BARRIER

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

WINDOWS SHALL HAVE A
MAX. U VALUE OF 1.8

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19x64 STRAPPING
OR 38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

SEAL HEADER WRAP
TO VAPOUR BARRIER

HEADER WRAP AIR BARRIER AROUND
CONTINUOUS HEADER JOIST W/
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE

SEAL HEADER WRAP
TO FOUNDATION WALL

SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

38x89 WOOD STUDS @ 406 O.C.
STAND OFF FROM FDN. WALL
RSI 2.11 INSULATION W/ 0.15mm POLY
VAPOUR/BARRIER W/
RSI 1.76 RIGID INSULATION
(INTERIOR FINISH IS OPTIONAL)
INSUL. MAY BE TERMINATED
200mm ABOVE FLOOR

BASEMENT WALL MUST HAVE
MIN. RSI 3.52 INSULATION VALUE

BLOCK SIZE	MAX. HEIGHT FROM SLAB TO GRADE
190	1200mm
240	1800mm
290	2200mm

BASEMENT SLAB
75mm POURED CONC. SLAB
15 MPa W/ 0.15mm POLY
25 MPa WITHOUT POLY
100mm CRUSHED STONE

POLY MOISTURE BARRIER
SEAL TO FDN. WALL & SLAB

MAX. TOTAL MASONRY HEIGHT 2500mm

LMCBO
STANDARD
DETAILS

TITLE

BRICK VENEER WALL SECTION FULL BASEMENT

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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.

W02

2012

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE
SLOPE GRADE AWAY
FROM BUILDING FACE

BITUMINOUS DAMPPROOFING
ON MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL

450x100 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

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

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19x64 STRAPPING
OR 38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

SEAL HEADER WRAP
TO VAPOUR BARRIER

UNHEATED CRAWL SPACE

RSI 5.46 INSULATION IN FLOOR
EXTEND VAPOUR BARRIER
SEAL TO JOIST & SUBFLOOR
PROVIDE 0.1M² VENT AREA PER
50M² OF CRAWL SPACE &
500mmx700mm ACCESS
TO CRAWL SPACE

SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

CRAWL SPACE CLEARANCE MINIMUM
600mm CLEAR TO U/S OF STRUCTURE
50mm ASPHALT GROUND COVER OR
100mm of 15 MPa PORTLAND CEMENT
CONCRETE OR 0.1mm POLY MIN. 100mm
OVERLAP @ JOINTS WEIGHTED DOWN

U/S OF FOOTING

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE
SLOPE GRADE AWAY
FROM BUILDING FACE

BITUMINOUS DAMPPROOFING
ON MINIMUM 6mm PARGING ON
CONCRETE BLOCK FDN. WALL

450x100 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

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

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
CONTINUOUS 19x64 STRAPPING
OR 38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

SEAL HEADER WRAP
TO VAPOUR BARRIER

HEADER WRAP AIR BARRIER AROUND
CONTINUOUS HEADER JOIST W/
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

HEATED CRAWL SPACE

PROVIDE 500mmx700mm
ACCESS TO CRAWL SPACE

SEAL HEADER WRAP
TO FOUNDATION WALL

SEMI-SOLID BLOCK COURSE
AT OR BELOW GRADE LEVEL

RSI 3.52 INSULATION W/ 0.15mm
VAPOUR BARRIER, PROTECT
INSULATION W/ INTERIOR FINISH

CRAWL SPACE CLEARANCE MINIMUM
600mm CLEAR TO U/S OF STRUCTURE
PROVIDE 0.15 POLY GROUND COVER
MIN. 300mm OVERLAP, SEALED AT JOINTS
& FOUNDATION WALL & WEIGHTED DOWN

RSI 1.76 TO 600mm
BELOW GRADE

U/S OF FOOTING

**LMCBO
STANDARD
DETAILS**

TITLE

CRAWL SPACE HEATED & UNHEATED

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DWG. NO.

W04

2012

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

MIN. 6mm PARGING ON
BLOCK FDN. WALL
ABOVE GRADE ONLY

SLOPE GRADE AWAY
FROM BUILDING FACE

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE

450x100 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON
38x38 SLEEPERS @ 406 O.C.
POLY DAMPPROOFING UNDER
W/ RIGID INSULATION RSI 1.76 (R10)

SEAL HEADER WRAP
TO VAPOUR BARRIER

75mm POURED CONCRETE SLAB
15MPa W/ 0.15mm POLY
25MPa WITHOUT POLY
100mm CRUSHED STONE

RSI 1.76 RIGID INSULATION ON
CONCRETE BLOCK FDN. WALL
MIN. 600mm BELOW EXT. GRADE

BRICK VENEER WALL
90mm FACE BRICK
25mm AIR SPACE
0.76mm THICK x22mm WIDE
GALVANIZED METAL TIES
INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZONTAL
600mm O.C. VERTICAL
SHEATHING PAPER W/ LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN CONT.
CONTACT W/ SHEATHING
CONTINUOUS VAPOUR/AIR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

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

MIN. 6mm PARGING ON
BLOCK FDN. WALL
ABOVE GRADE ONLY

SLOPE GRADE AWAY
FROM BUILDING FACE

TOP BLOCK COURSE FILLED
W/ MORTAR OR CONCRETE

450x130 DEEP POURED
CONC. FTG. (TYPICAL)
FOOTING TO BEAR ON
UNDISTURBED SOIL

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON
38x38 SLEEPERS @ 406 O.C.
POLY DAMPPROOFING UNDER
W/ RIGID INSULATION RSI 1.76 (R10)

WOOD SILL PLATE FASTENED TO
FOUNDATION WALL W/ MINIMUM
12.7mm DIAMETER ANCHOR BOLTS
EMBEDDED MIN. 100mm IN CONCRETE
@ 2400mm O.C. MAX. & PROVIDE
CONTINUOUS AIR BARRIER BETWEEN
PLATE & FOUNDATION WALL

SEAL HEADER WRAP
TO VAPOUR BARRIER

75mm POURED CONCRETE SLAB
15MPa W/ 0.15mm POLY
25MPa WITHOUT POLY
100mm CRUSHED STONE

RSI 1.76 RIGID INSULATION ON
CONCRETE BLOCK FDN. WALL
MIN. 600mm BELOW EXT. GRADE

**LMCBO
STANDARD
DETAILS**

TITLE

SLAB ON GRADE

FRAME & BRICK VENEER WALLS

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.

W05

2012

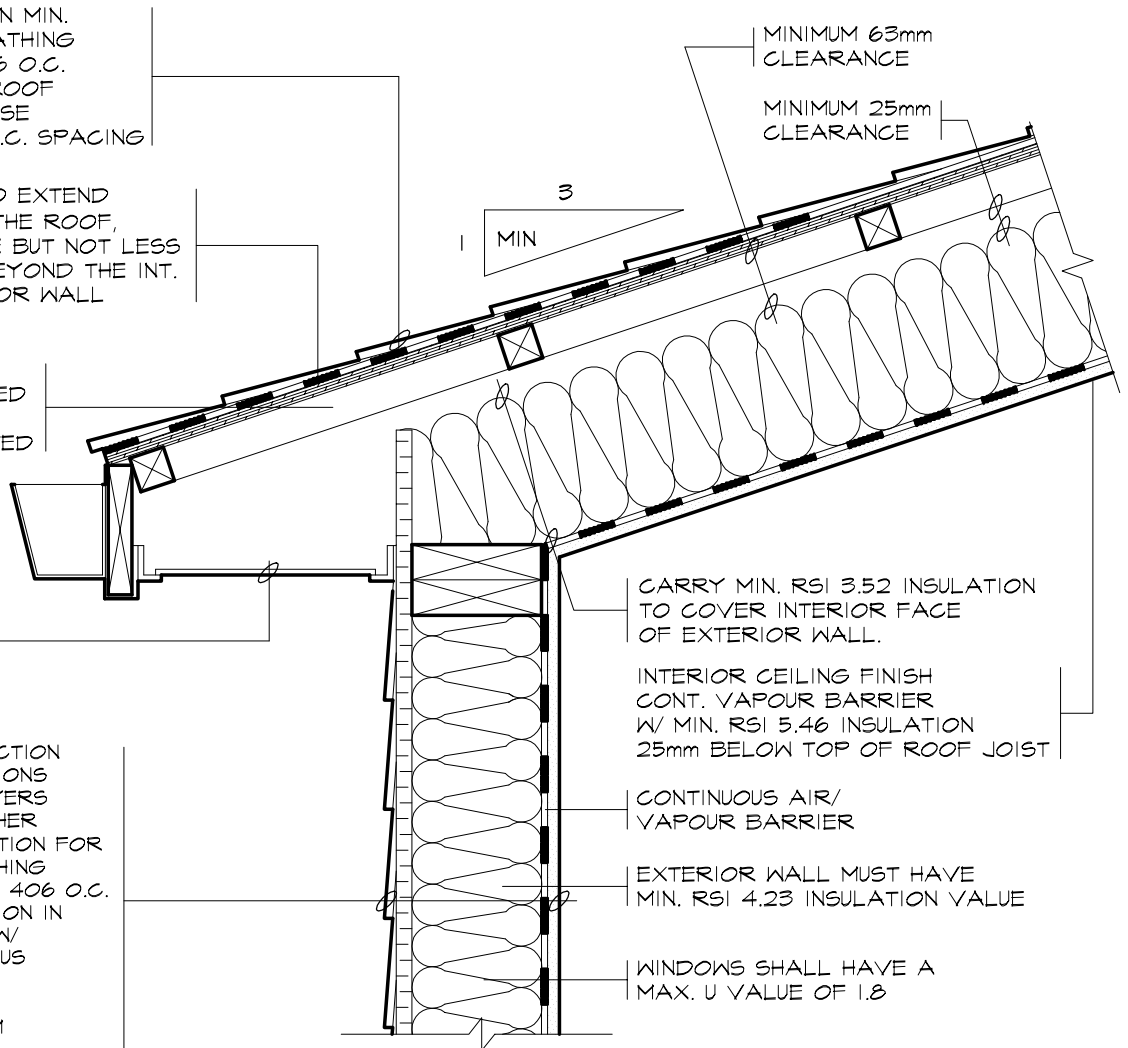
ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING
38x38 PURLINS @ 406 O.C.
PERPENDICULAR TO ROOF
JOISTS (SEE PLANS) USE
'H'-CLIPS IF 600mm O.C. SPACING

EAVE PROTECTION TO EXTEND
FROM THE EDGE OF THE ROOF,
900mm UP THE SLOPE BUT NOT LESS
LESS THAN 300mm BEYOND THE INT.
FACE OF THE EXTERIOR WALL

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

EAVESTROUGH, RWL,
FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
ELEVATIONS

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

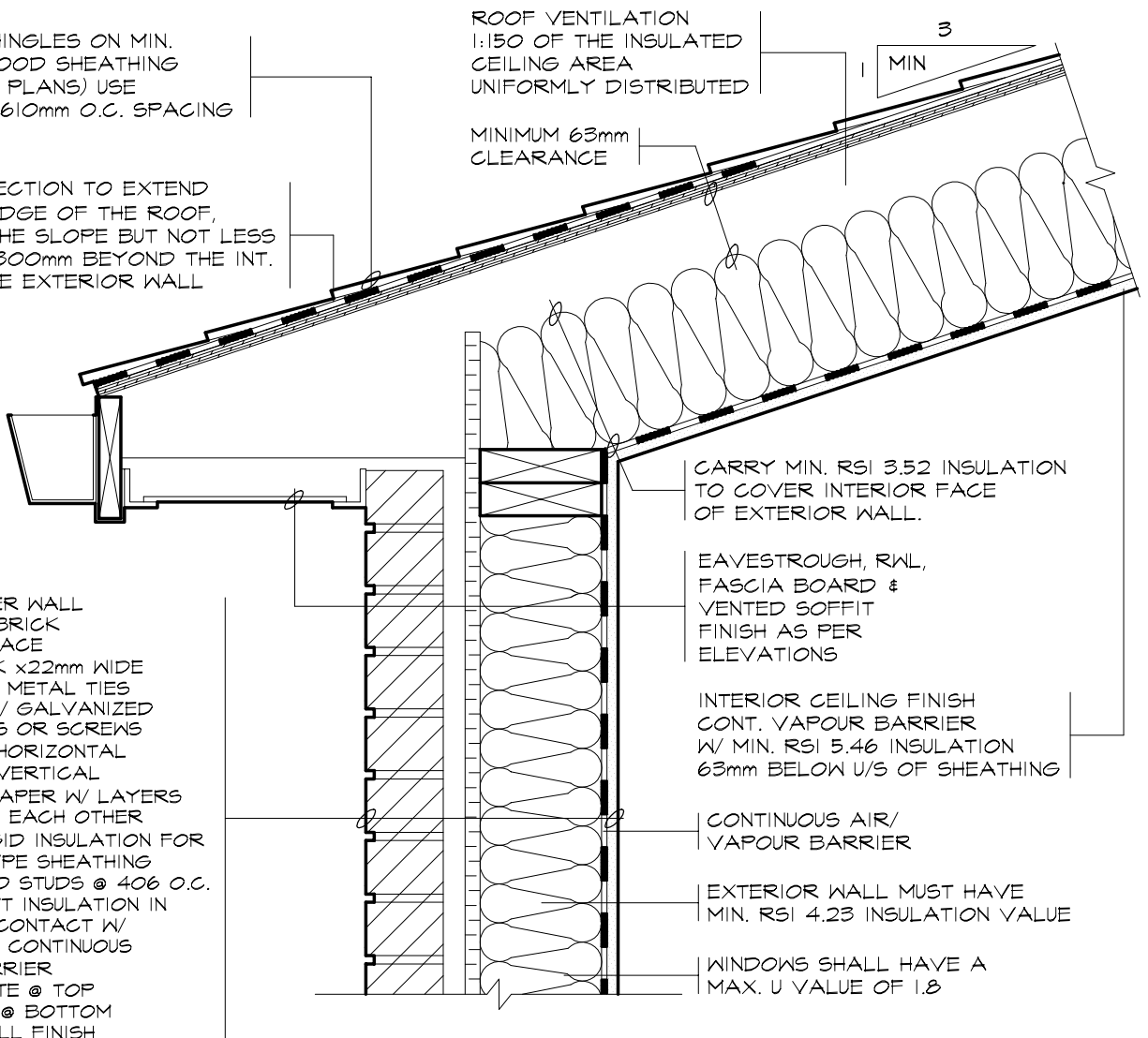


ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING
JOISTS (SEE PLANS) USE
'H'-CLIPS IF 610mm O.C. SPACING

EAVE PROTECTION TO EXTEND
FROM THE EDGE OF THE ROOF,
900mm UP THE SLOPE BUT NOT LESS
LESS THAN 300mm BEYOND THE INT.
FACE OF THE EXTERIOR WALL

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

MINIMUM 63mm
CLEARANCE



BRICK VENEER WALL
90mm FACE BRICK
25mm AIR SPACE
0.76mm THICK x22mm WIDE
GALVANIZED METAL TIES
INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZONTAL
600mm O.C. VERTICAL
SHEATHING PAPER W/ LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

CARRY MIN. RSI 3.52 INSULATION
TO COVER INTERIOR FACE
OF EXTERIOR WALL.

EAVESTROUGH, RWL,
FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
ELEVATIONS

INTERIOR CEILING FINISH
CONT. VAPOUR BARRIER
W/ MIN. RSI 5.46 INSULATION
63mm BELOW U/S OF SHEATHING

CONTINUOUS AIR/
VAPOUR BARRIER

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

WINDOWS SHALL HAVE A
MAX. U VALUE OF 1.8

**LMCBO
STANDARD
DETAILS**

TITLE **SLOPING ROOF DETAIL**

INSULATION & VENTILATION W/ ALTERNATIVE

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.

W06a

2012

GRAVEL FINISH ON
3 PLY FELT ROOFING
12.5mm PLYWOOD SHEATHING
38x38 PURLINS @ 406 O.C.
PERPENDICULAR TO ROOF
JOISTS (SEE PLANS)

GRAVEL STOP
FLASHING

FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
ELEVATIONS

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

SLOPE FOR
DRAINAGE

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

MINIMUM 63mm
CLEARANCE

MINIMUM 25mm
CLEARANCE

INTERIOR CEILING FINISH
CONT. VAPOUR BARRIER
W/ MIN. RSI 5.46 INSULATION
25mm BELOW TOP OF ROOF JOIST

CONTINUOUS AIR/
VAPOUR BARRIER

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

WINDOWS SHALL HAVE A
MAX. U VALUE OF 1.8

GRAVEL FINISH ON
3 PLY FELT ROOFING
12.5mm PLYWOOD SHEATHING ON
ROOF JOISTS (SEE PLANS)

GRAVEL STOP
FLASHING

FASCIA BOARD &
VENTED SOFFIT
FINISH AS PER
ELEVATIONS

BRICK VENEER WALL
90mm FACE BRICK
25mm AIR SPACE
0.76mm THICK x22mm WIDE
GALVANIZED METAL TIES
INSTALLED W/ GALVANIZED
SPIRAL NAILS OR SCREWS
400mm O.C. HORIZONTAL
600mm O.C. VERTICAL
SHEATHING PAPER W/ LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

SLOPE FOR
DRAINAGE

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

MINIMUM 63mm
CLEARANCE

INTERIOR CEILING FINISH
CONT. VAPOUR BARRIER
W/ MIN. RSI 5.46 INSULATION
63mm BELOW U/S OF SHEATHING

CONTINUOUS AIR/
VAPOUR BARRIER

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

WINDOWS SHALL HAVE A
MAX. U VALUE OF 1.8

**LMCBO
STANDARD
DETAILS**

TITLE

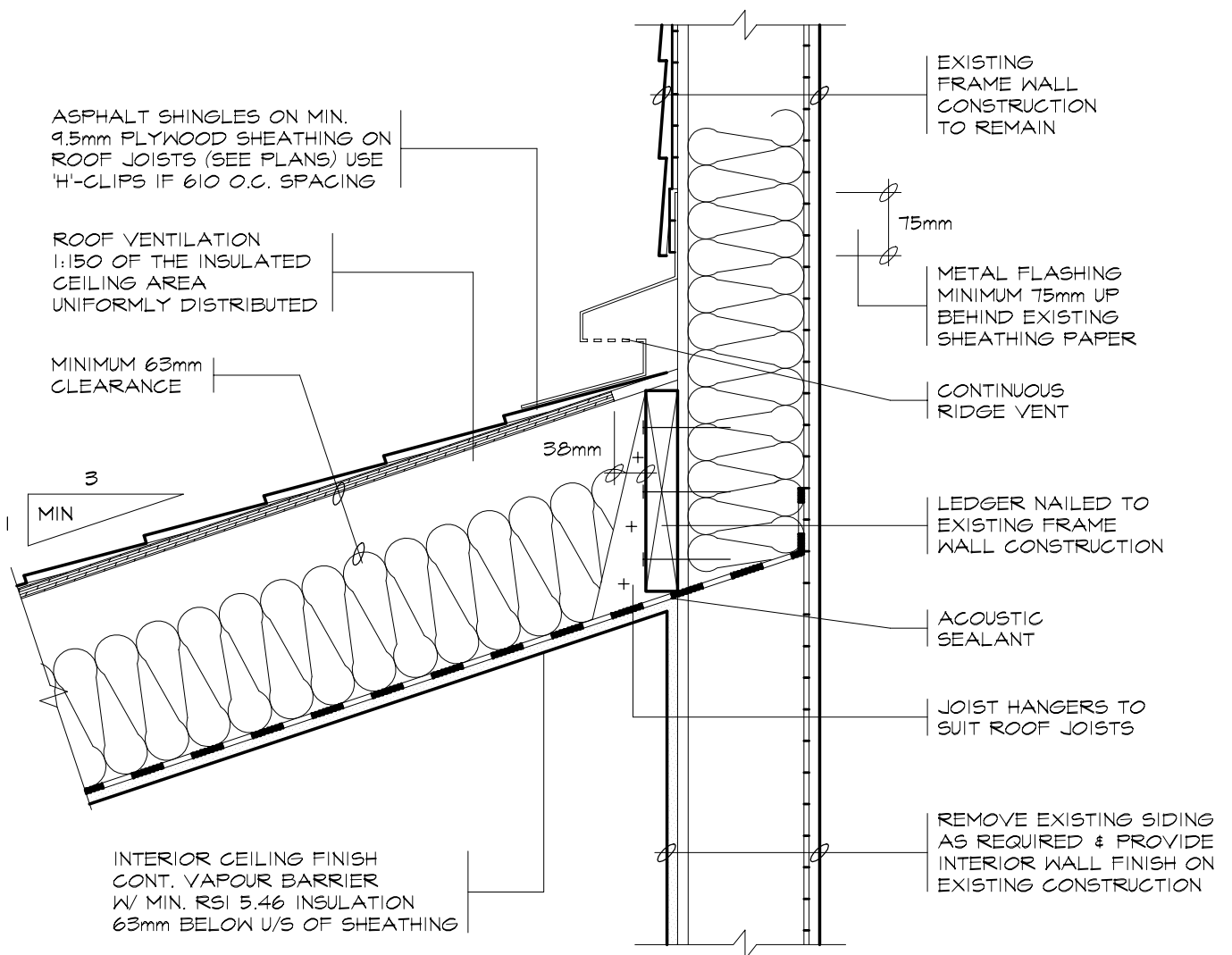
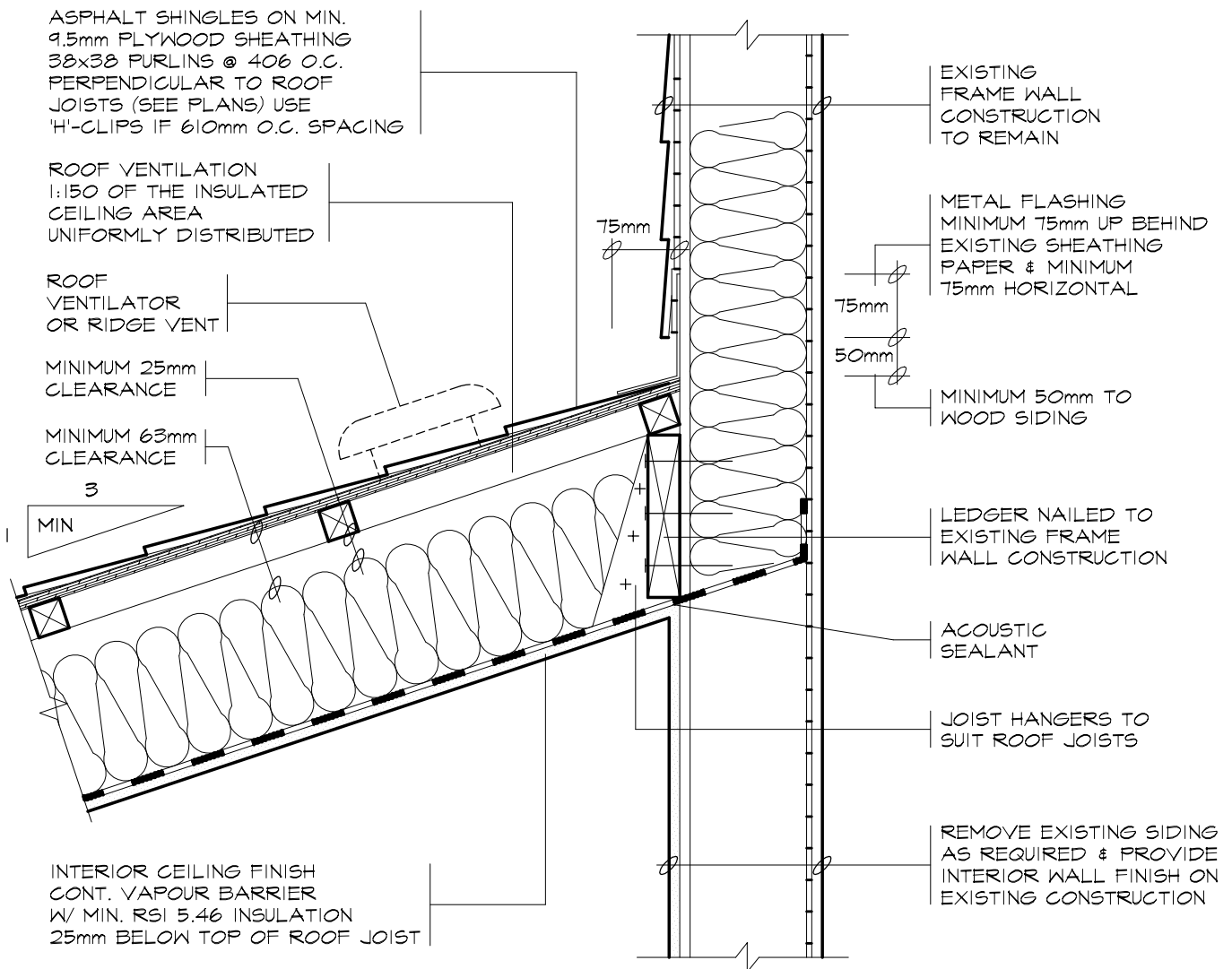
FLAT ROOF DETAIL INSULATION & VENTILATION W/ ALTERNATIVE

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

W06b

2012



**LMCBO
STANDARD
DETAILS**

TITLE **NEW ROOF ATTACHED TO
EXISTING FRAME WALL**

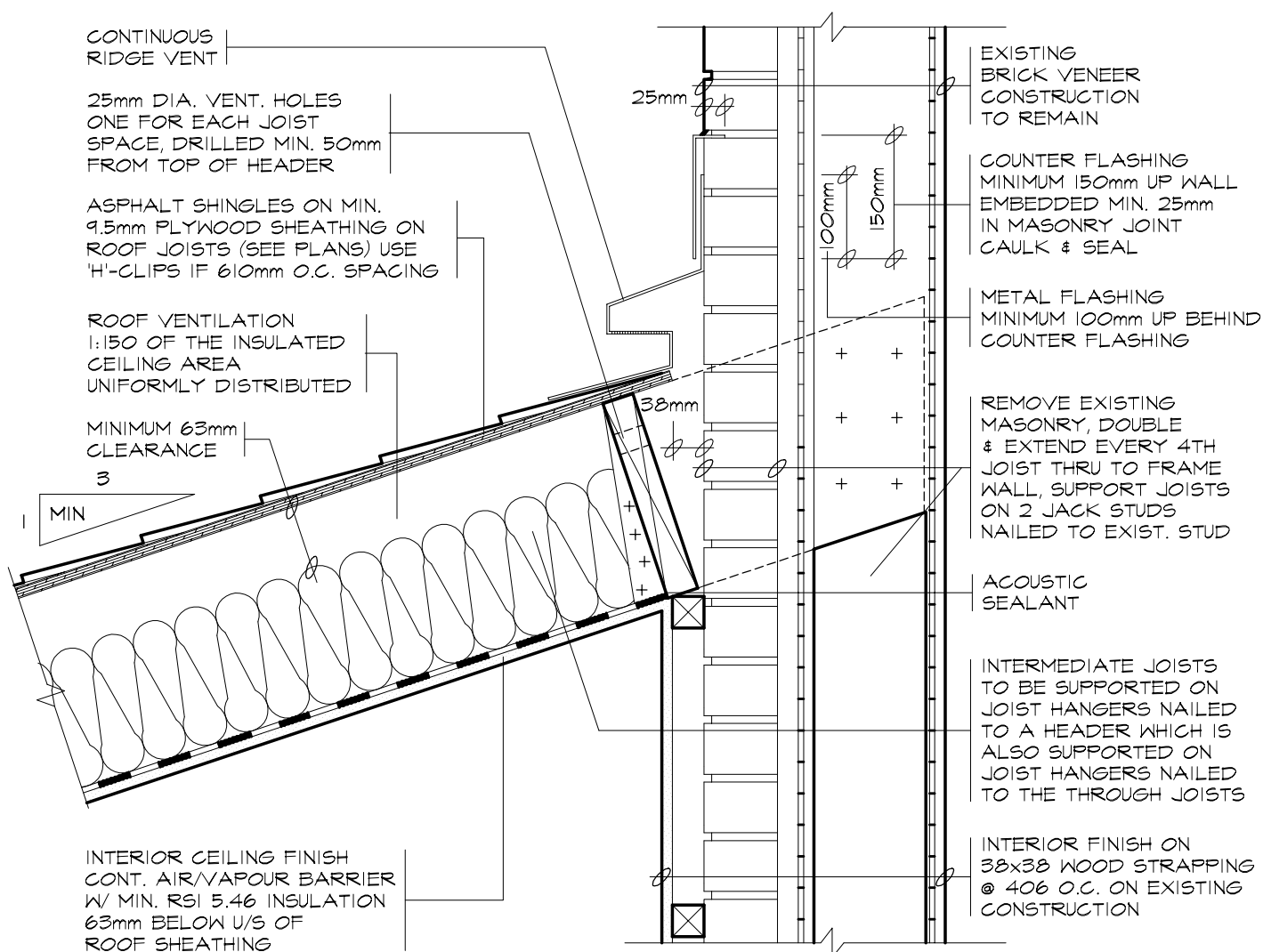
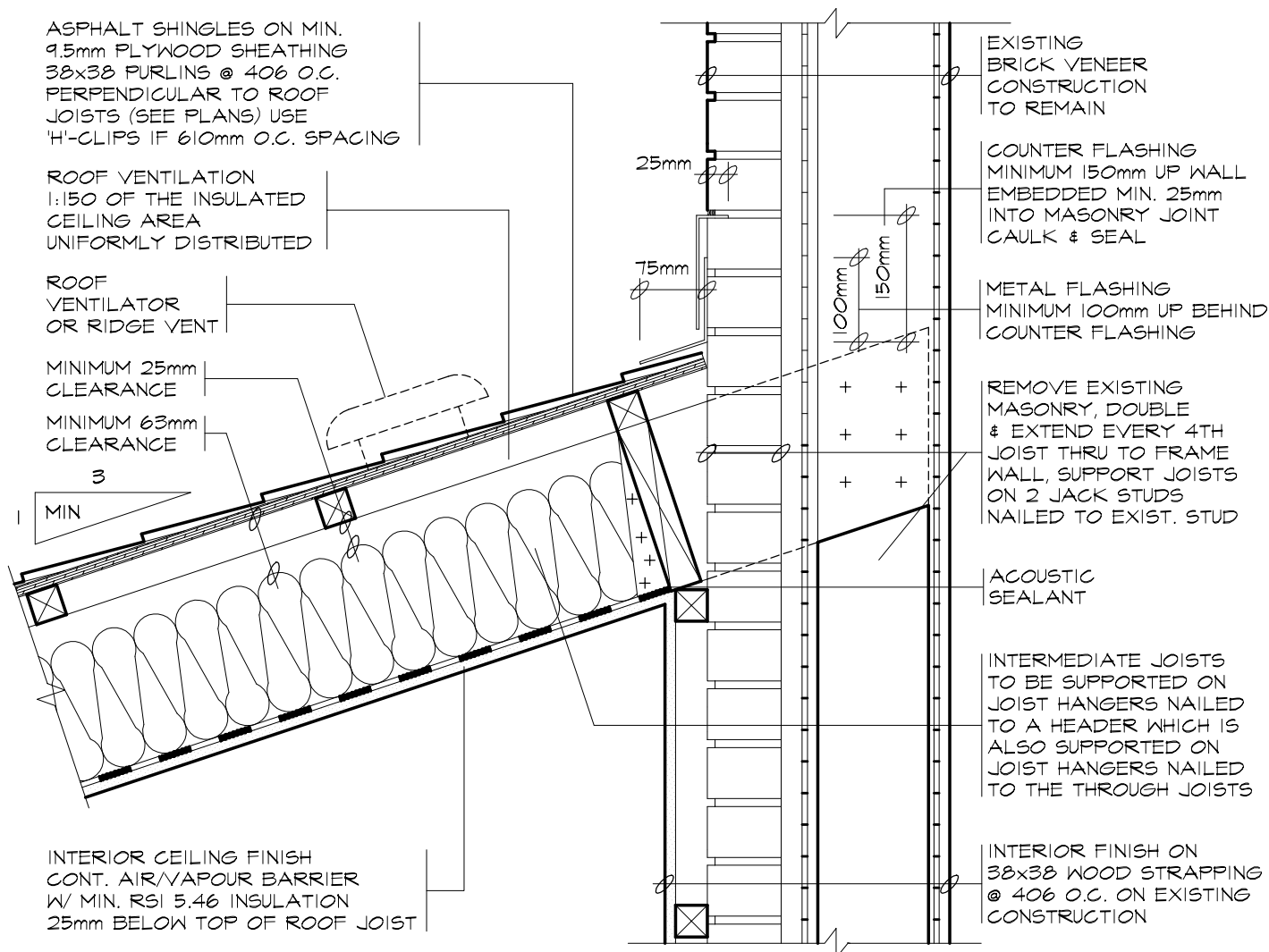
SLOPING ROOF

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DWG. NO.

W07a

2012



**LMCBO
STANDARD
DETAILS**

TITLE **NEW ROOF ATTACHED TO
EXISTING BRICK VENEER WALL**

SLOPING ROOF

DWG. NO.

W07b

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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

ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING
38x38 PURLINS @ 406 O.C.,
PERPENDICULAR TO ROOF
JOISTS (SEE PLANS) USE
'H'-CLIPS IF 610mm O.C. SPACING

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

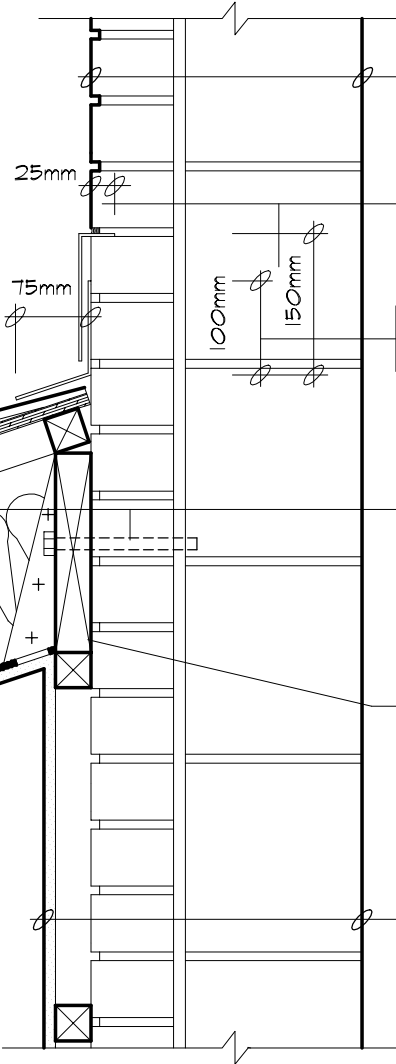
ROOF
VENTILATOR
OR RIDGE VENT

MINIMUM 25mm
CLEARANCE

MINIMUM 63mm
CLEARANCE

3
MIN

INTERIOR CEILING FINISH
CONT. VAPOUR BARRIER
W/ MIN. RSI 5.46 INSULATION
25mm BELOW TOP OF ROOF JOIST



EXISTING
SOLID MASONRY
CONSTRUCTION
TO REMAIN

COUNTER FLASHING
MINIMUM 150mm UP WALL
EMBEDDED MIN. 25mm
INTO MASONRY JOINT
CAULK & SEAL

METAL FLASHING
MIN. 100mm UP BEHIND
COUNTER FLASHING

ROOF JOISTS TO BE
SUPPORTED ON JOIST
HANGERS NAILED TO A
HEADER WHICH IS
FASTENED TO EXISTING
SOLID MASONRY WALL
W/ 12.7mm DIA. ANCHOR
BOLTS @ 800 O.C.

ACOUSTIC
SEALANT

INTERIOR FINISH ON
38x38 WOOD STRAPPING
@ 406 O.C. ON EXISTING
CONSTRUCTION

CONTINUOUS
RIDGE VENT

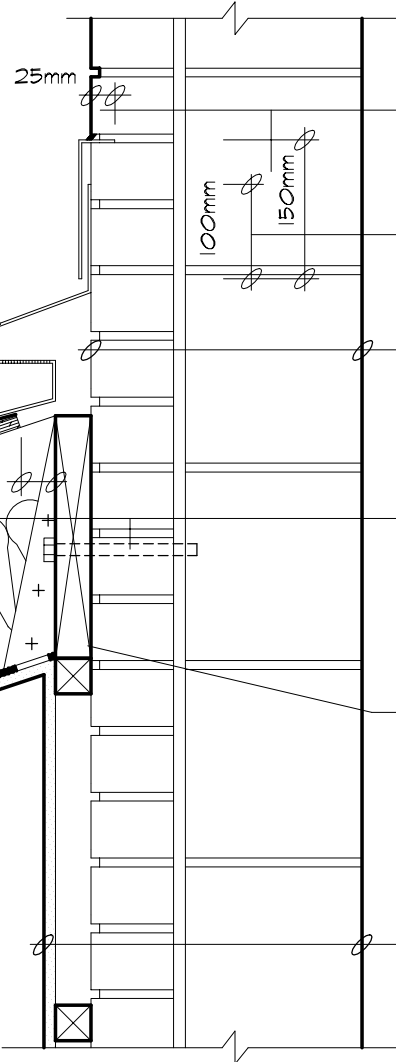
ASPHALT SHINGLES ON MIN.
9.5mm PLYWOOD SHEATHING ON
ROOF JOISTS (SEE PLANS) USE
'H'-CLIPS IF 610 O.C. SPACING

ROOF VENTILATION
1:150 OF THE INSULATED
CEILING AREA
UNIFORMLY DISTRIBUTED

MINIMUM 63mm
CLEARANCE

3
MIN

INTERIOR CEILING FINISH
CONT. VAPOUR BARRIER
W/ MIN. RSI 5.46 INSULATION
63mm BELOW U/S OF SHEATHING



COUNTER FLASHING
MINIMUM 150mm UP WALL
EMBEDDED MIN. 25mm
INTO MASONRY JOINT
CAULK & SEAL

METAL FLASHING
MIN. 100mm UP BEHIND
COUNTER FLASHING

EXISTING
SOLID MASONRY
CONSTRUCTION
TO REMAIN

ROOF JOISTS TO BE
SUPPORTED ON JOIST
HANGERS NAILED TO A
HEADER WHICH IS
FASTENED TO EXISTING
SOLID MASONRY WALL
W/ 12.7mm DIA. ANCHOR
BOLTS @ 800 O.C.

ACOUSTIC
SEALANT

INTERIOR FINISH ON
38x38 WOOD STRAPPING
@ 406 O.C. ON EXISTING
CONSTRUCTION

**LMCBO
STANDARD
DETAILS**

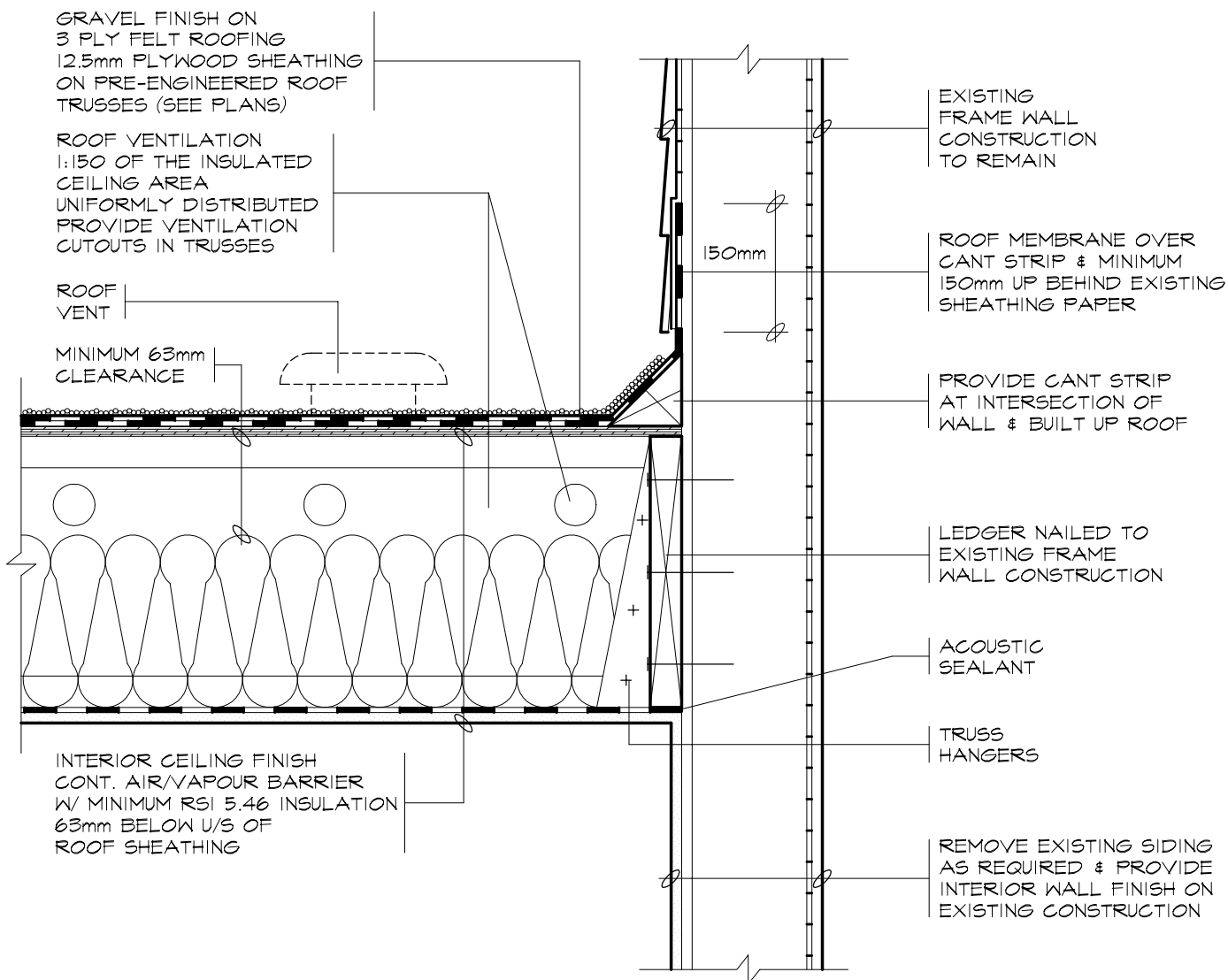
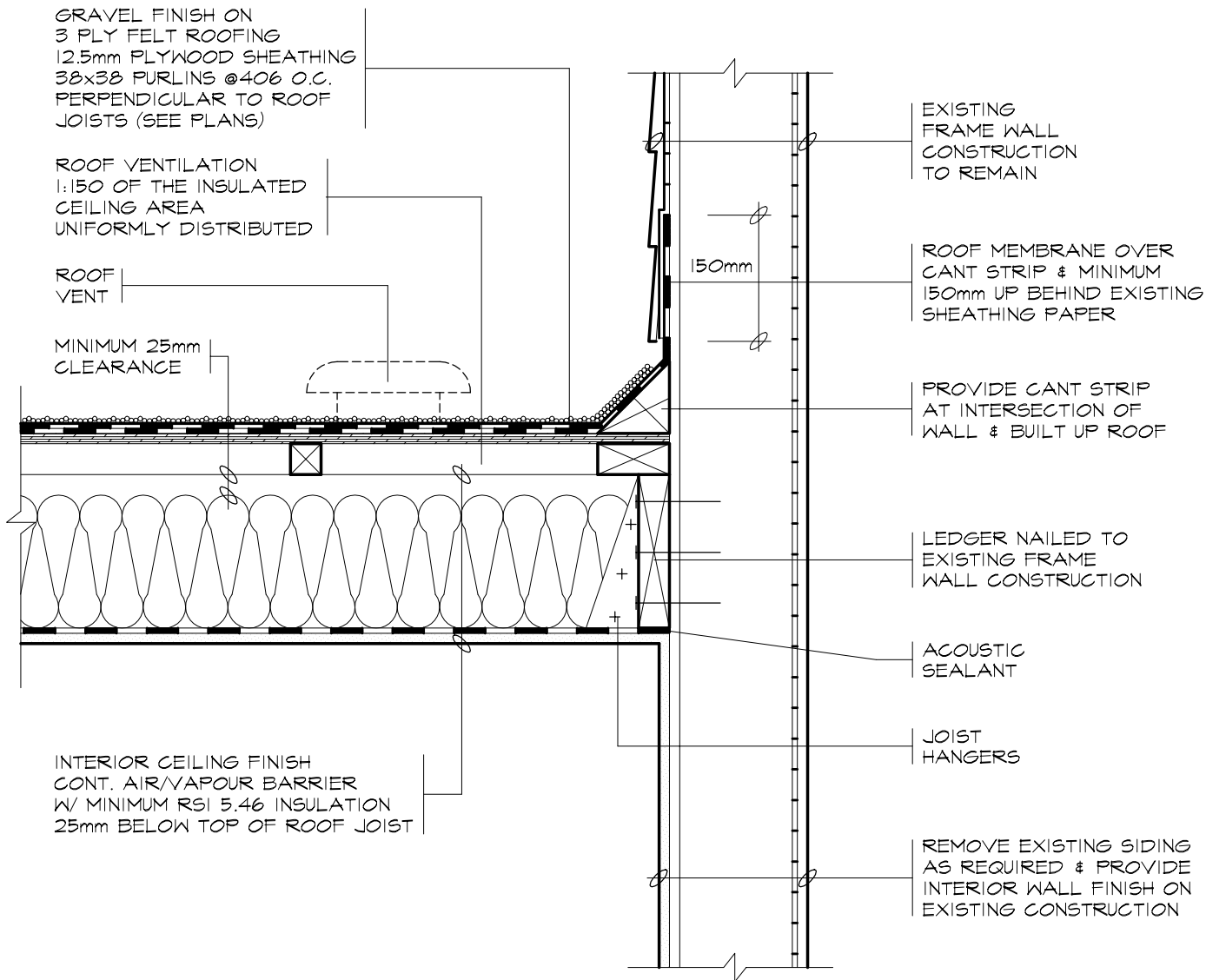
TITLE **NEW ROOF ATTACHED TO
EXISTING SOLID MASONRY WALL SLOPING ROOF**

DWG. NO.

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.

W07c

2012



**LMCBO
STANDARD
DETAILS**

TITLE **NEW ROOF ATTACHED TO
EXISTING FRAME WALL**

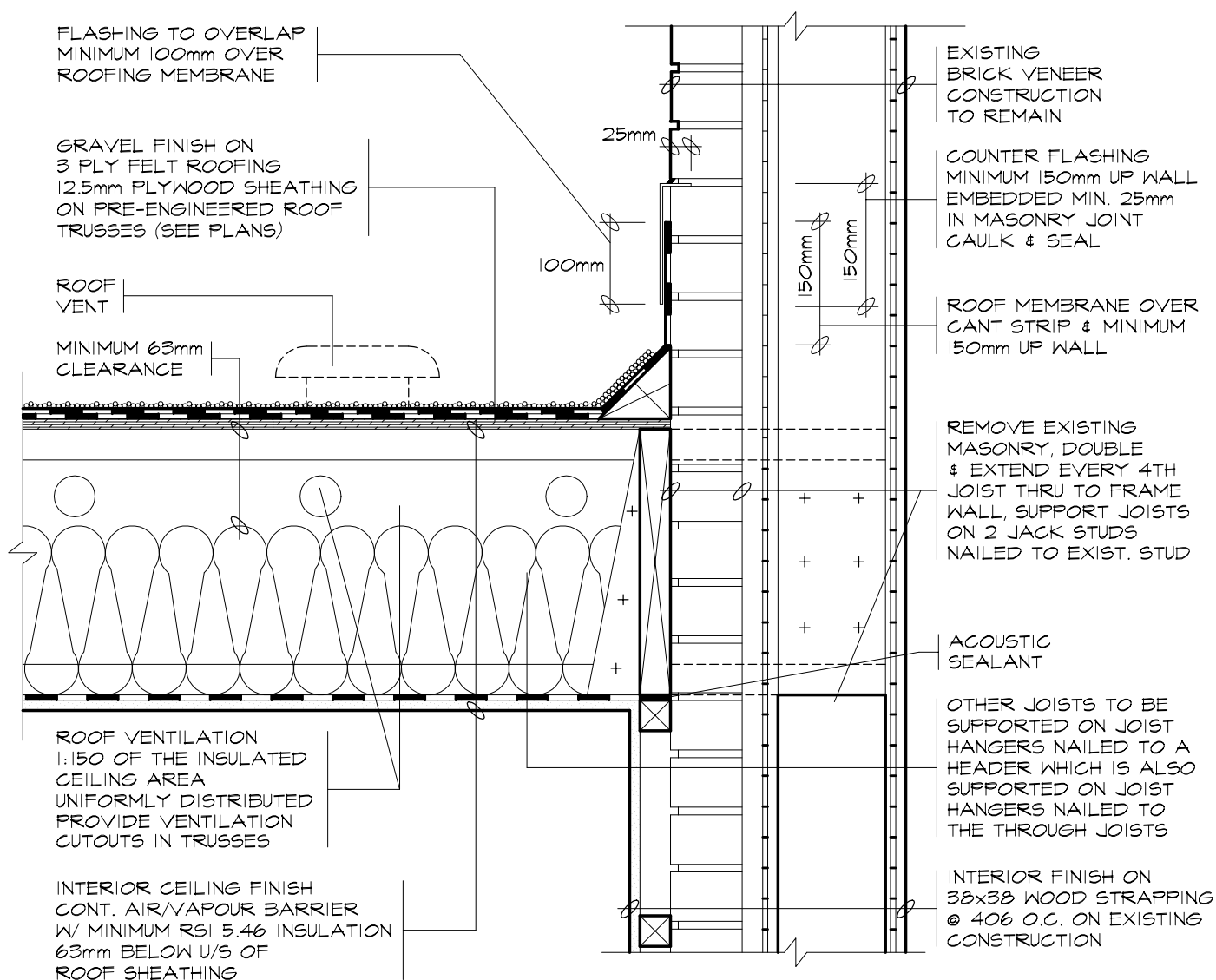
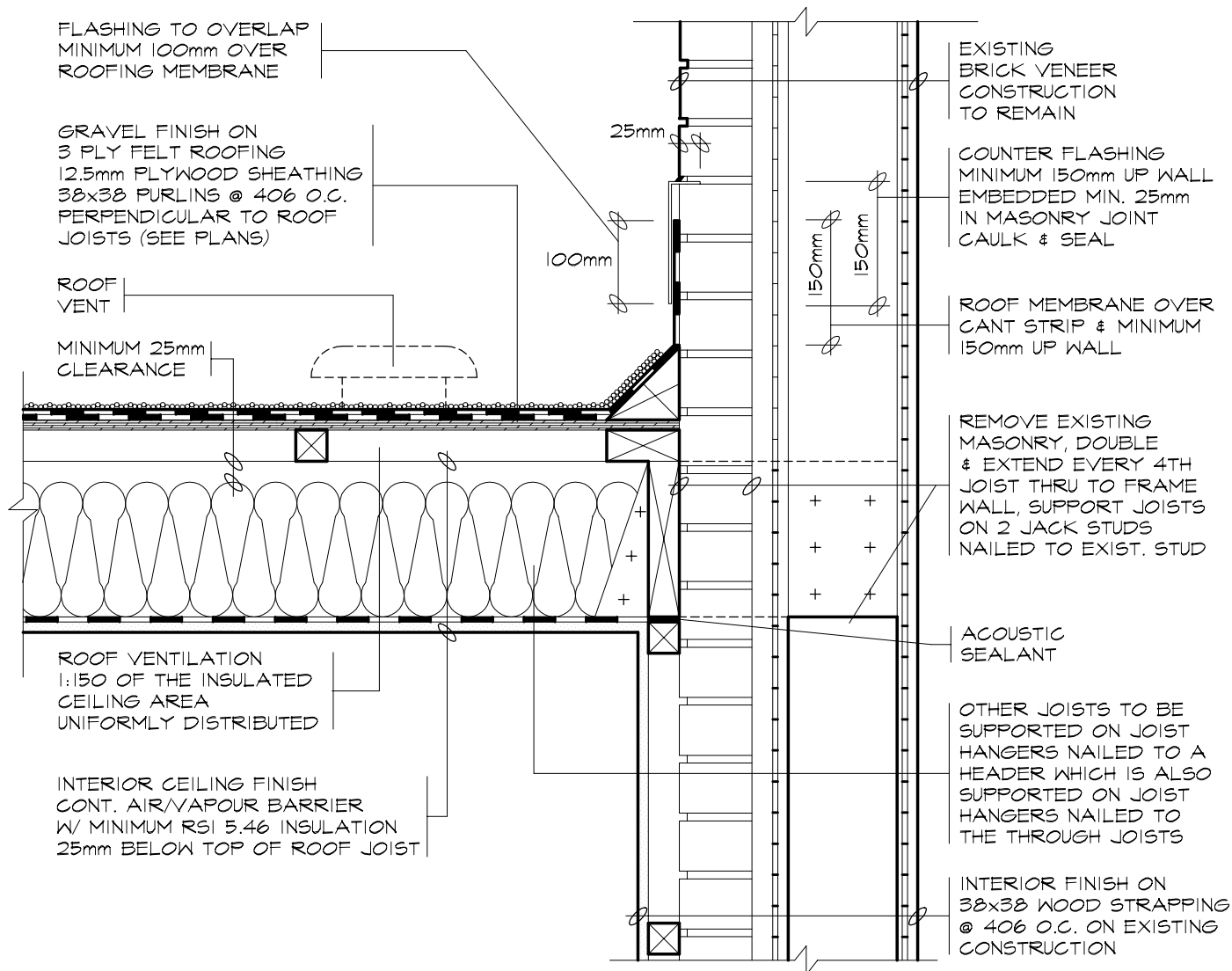
FLAT ROOF

DWG. NO.

W08a

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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



**LMCBO
STANDARD
DETAILS**

TITLE **NEW ROOF ATTACHED TO
EXISTING BRICK VENEER WALL**

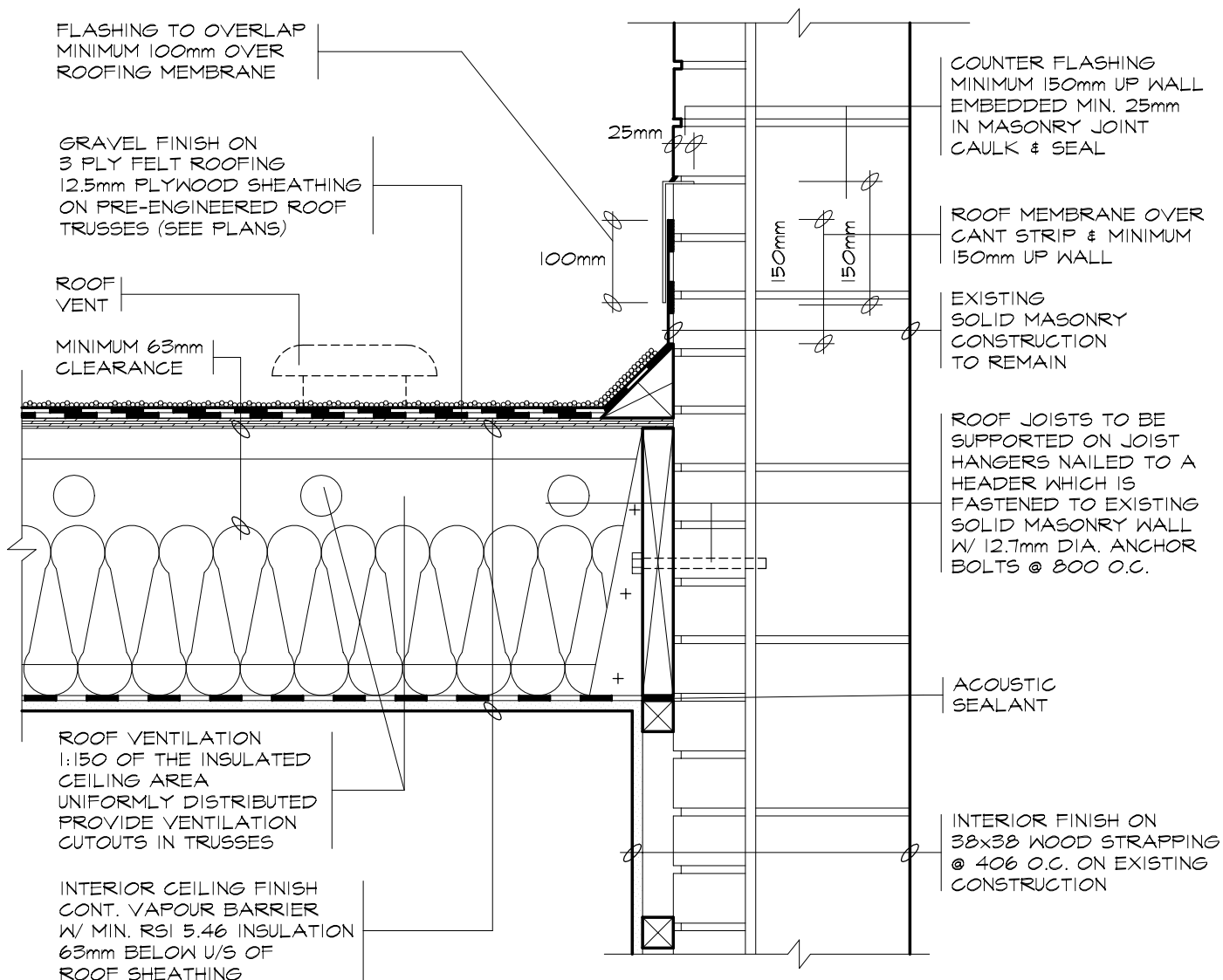
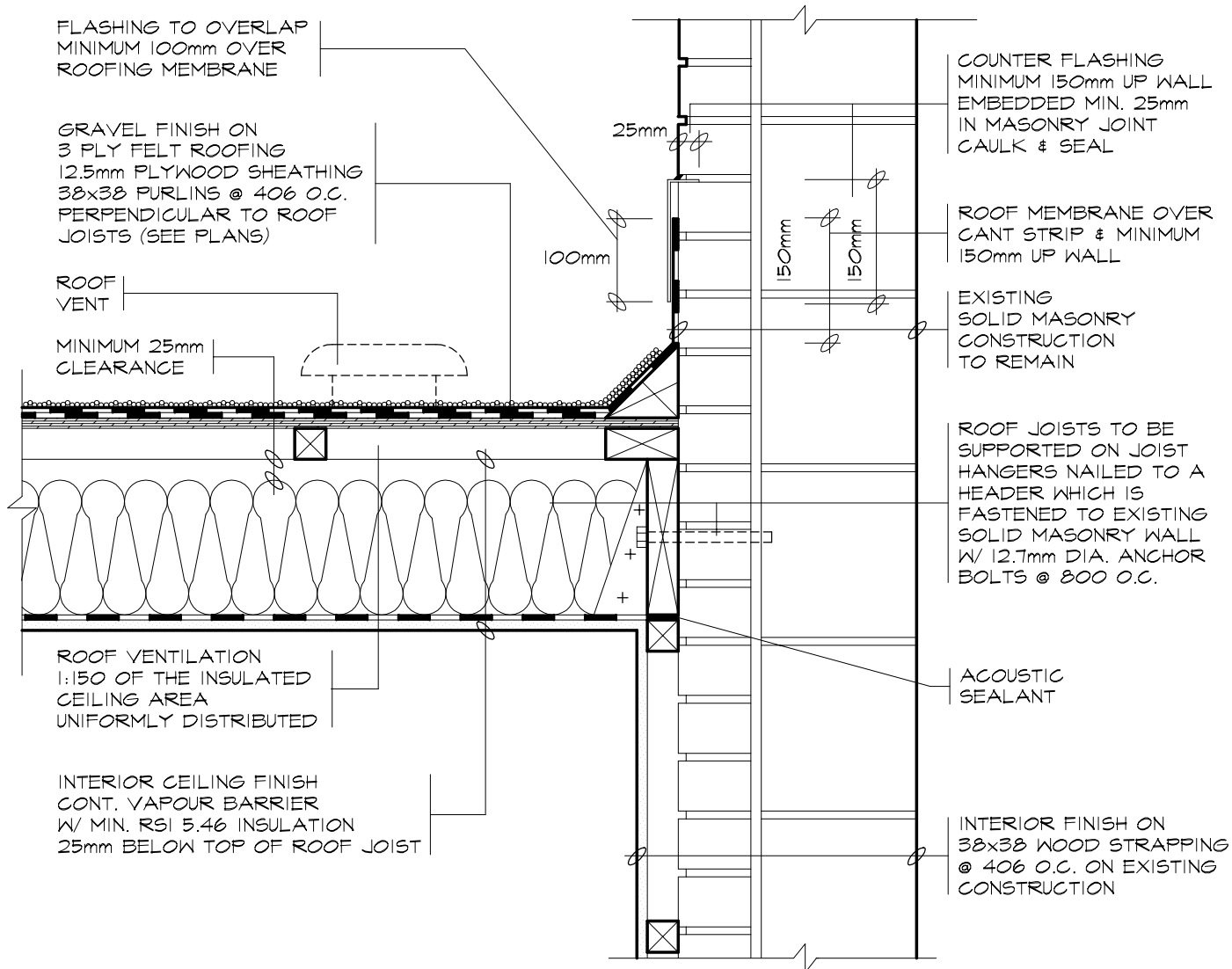
FLAT ROOF

DWG. NO.

W08b

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2012



**LMCBO
STANDARD
DETAILS**

TITLE **NEW ROOF ATTACHED TO
EXISTING SOLID MASONRY WALL** FLAT ROOF

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DWG. NO.

W08c

2012

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

MAXIMUM JOIST CANTILEVER
406mm 38x184 JOISTS
610mm 38x235 JOISTS

38x89 FRAMING @ 406 O.C.
NOT SUPPORTED ON BRICK

REMOVE EXISTING ROOF
AS SHOWN DOTTED

EXISTING BRICK VENEER
CONSTRUCTION TO REMAIN

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

CONTINUOUS AIR
VAPOUR BARRIER

FLOOR FINISH
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS (SEE PLANS)

SEAL HEADER WRAP
TO VAPOUR BARRIER

HEADER WRAP AIR BARRIER AROUND
CONTINUOUS HEADER JOIST W/
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

INTERIOR
CEILING FINISH

JOISTS TO BE BRIDGED W/
38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

EXPANSION SPACE CAULKED
AND WEATHER TIGHT

LMCBO
STANDARD
DETAILS

TITLE

SECOND STOREY ADDITION

CEILING REPLACEMENT

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DWG. NO.

W09a

2012

FRAME WALL CONSTRUCTION
FINISH AS PER ELEVATIONS
SHEATHING PAPER, LAYERS
TO OVERLAP EACH OTHER
RSI 0.88 RIGID INSULATION FOR
EXTERIOR TYPE SHEATHING
38x140 WOOD STUDS @ 406 O.C.
RSI 3.52 BATT INSULATION IN
CONTINUOUS CONTACT W/
SHEATHING & CONTINUOUS
VAPOUR BARRIER
DOUBLE PLATE @ TOP
SOLE PLATE @ BOTTOM
INTERIOR WALL FINISH

NEW 38x89 TOP PLATE ON
EXISTING CEILING JOIST

MAXIMUM JOIST CANTILEVER
406mm 38x184 JOISTS
610mm 38x235 JOISTS

38x89 FRAMING @ 406 O.C.
NOT SUPPORTED ON BRICK

REMOVE EXISTING ROOF
AS SHOWN DOTTED

EXISTING BRICK VENEER
CONSTRUCTION TO REMAIN

EXTERIOR WALL MUST HAVE
MIN. RSI 4.23 INSULATION VALUE

CONTINUOUS AIR/
VAPOUR BARRIER

FLOOR FINISH (SEE PLANS)
15.5mm T&G PLYWOOD SUBFLOOR
OR APPROVED EQUAL ON WOOD
FLOOR JOISTS BRIDGED W/
38x38 CROSS BRIDGING OR
SOLID BLOCKING @ 2100 O.C.

SEAL HEADER WRAP
TO VAPOUR BARRIER

HEADER WRAP AIR BARRIER AROUND
CONTINUOUS HEADER JOIST W/
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

PROVIDE NEW WOOD BLOCKING
BETWEEN EXISTING CEILING JOISTS
RSI 1.76 RIGID INSULATION AND
RSI 3.52 BATT OR FOAM INSULATION

EXISTING CEILING
STRUCTURE TO REMAIN

EXPANSION SPACE CAULKED
AND WEATHER TIGHT

LMCBO
STANDARD
DETAILS

TITLE

SECOND STOREY ADDITION

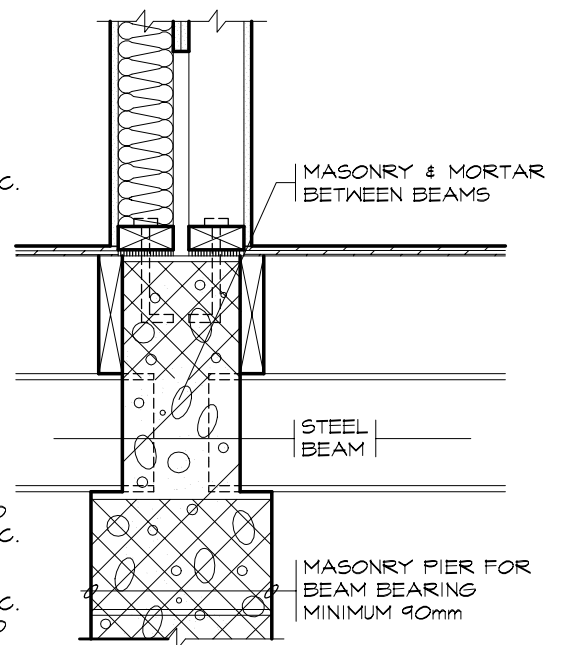
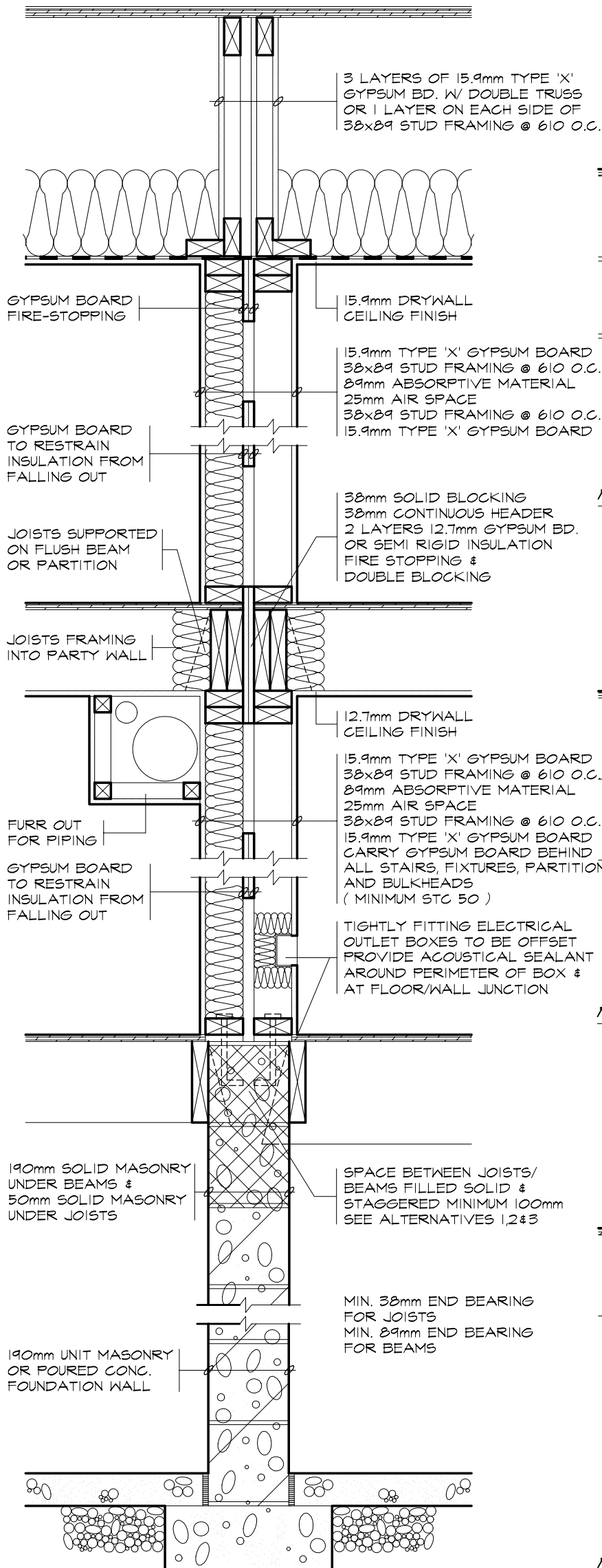
MAINTAIN EXISTING CEILING

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

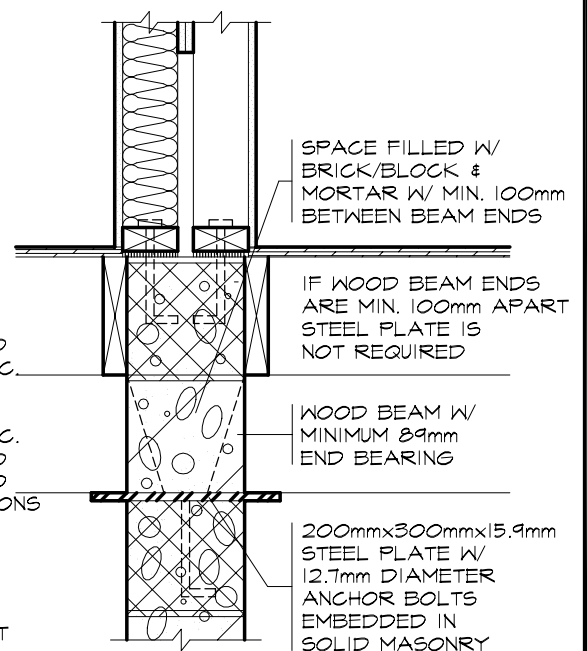
DWG. NO.

W09b

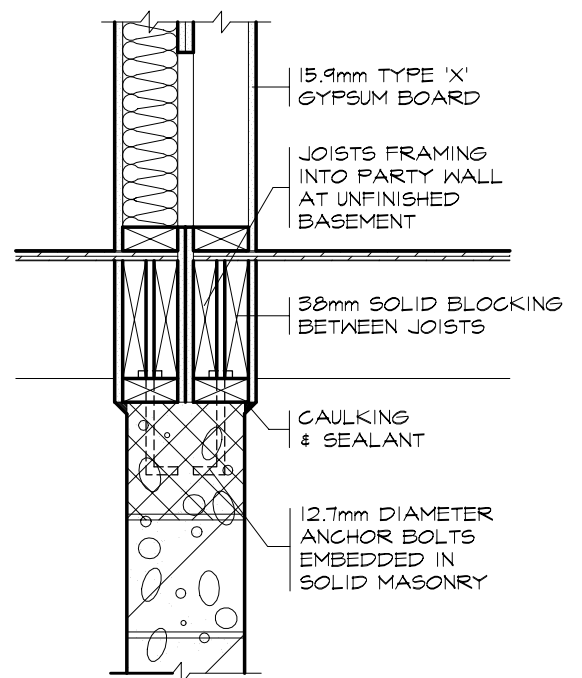
2012



ALTERNATIVE 1



ALTERNATIVE 2



ALTERNATIVE 3

**LMCBO
STANDARD
DETAILS**

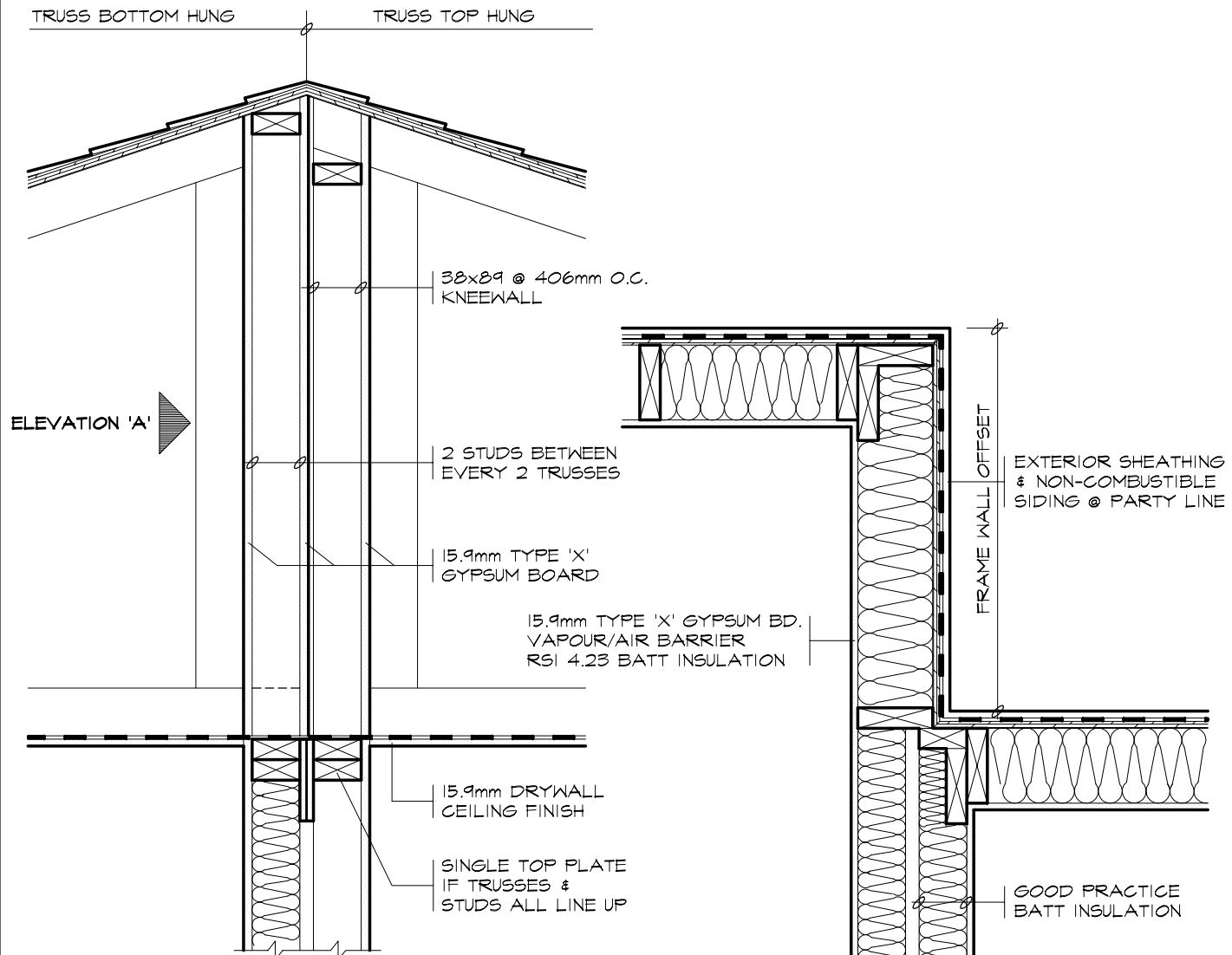
TITLE
FRAME PARTY WALL VERTICAL SECTION

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.

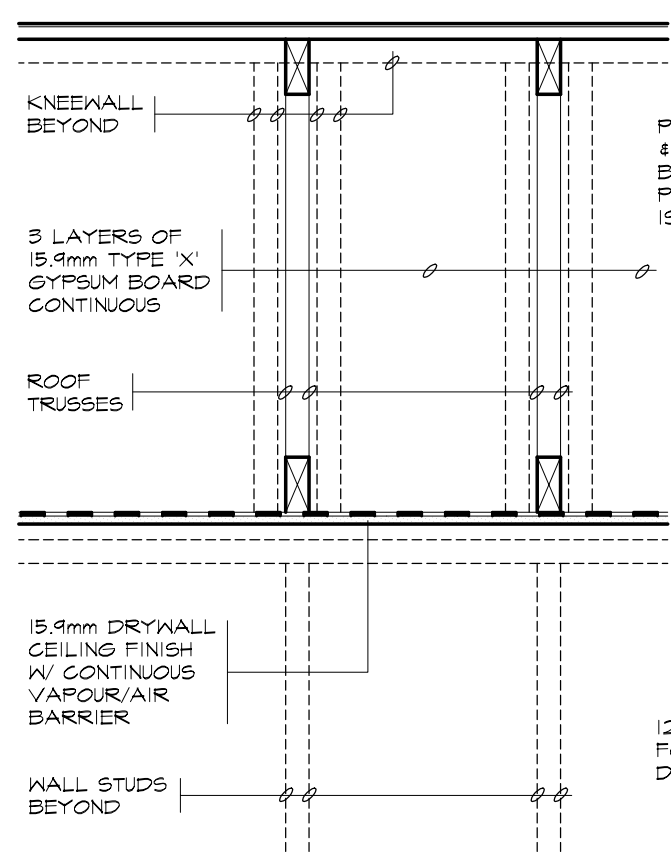
W10a

2012

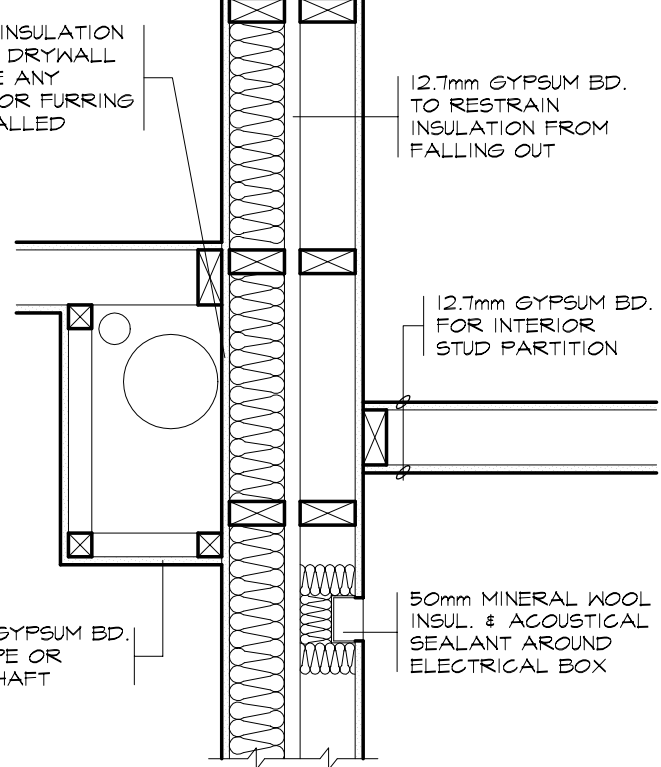


VERTICAL SECTION TRUSSES NORMAL TO PARTY WALL

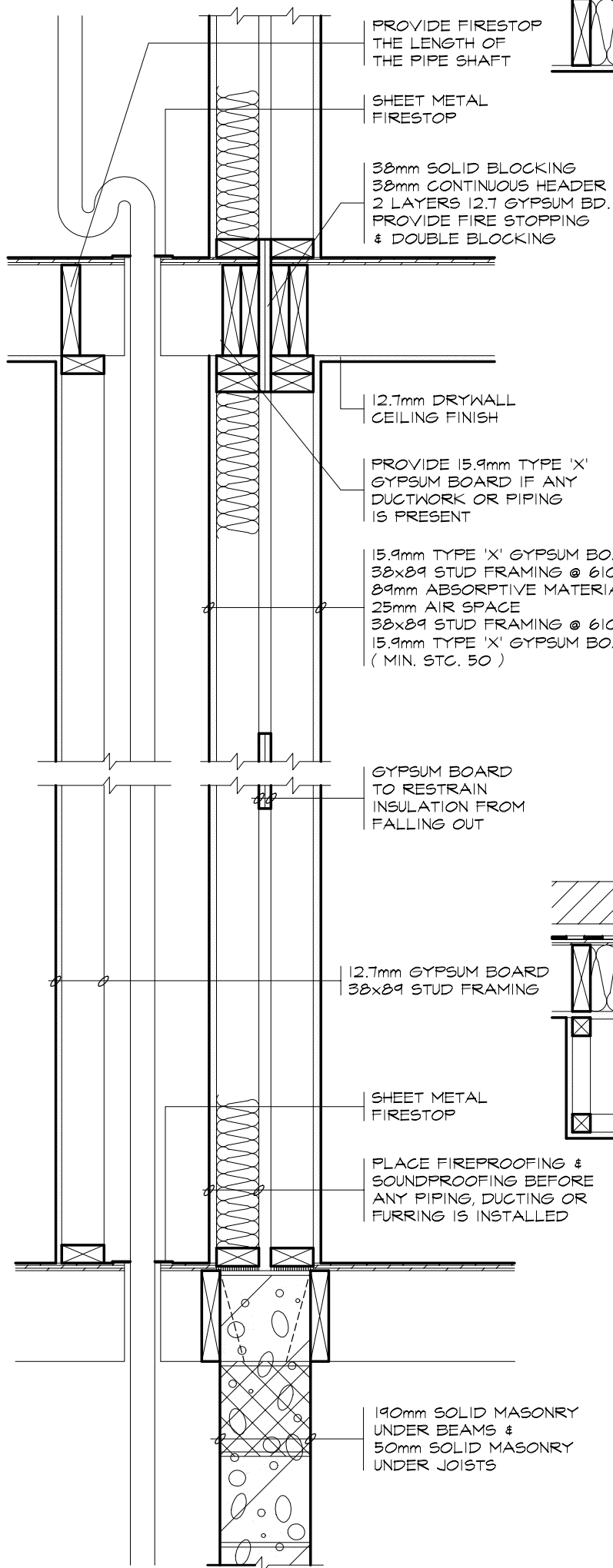
15.9mm TYPE 'X' GYPSUM BOARD
38x89 STUD FRAMING @ 600 O.C.
89mm ABSORPTAVE MATERIAL
25mm AIR SPACE
38x89 STUD FRAMING @ 610 O.C.
15.9mm TYPE 'X' GYPSUM BOARD
(MIN. STC. 50)



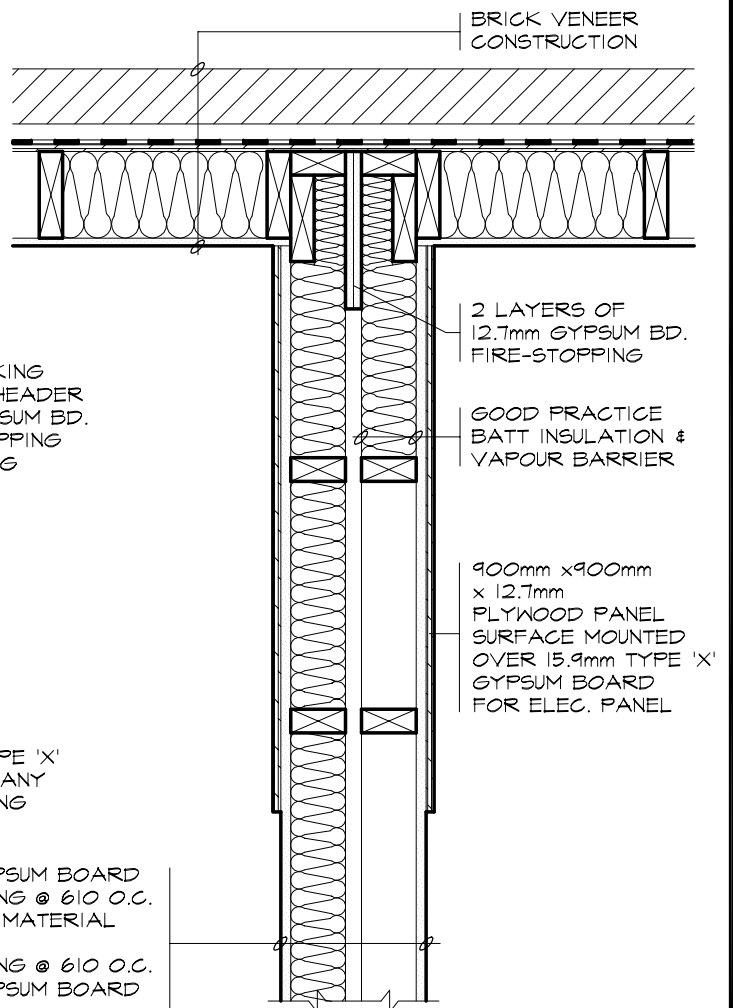
ELEVATION 'A'



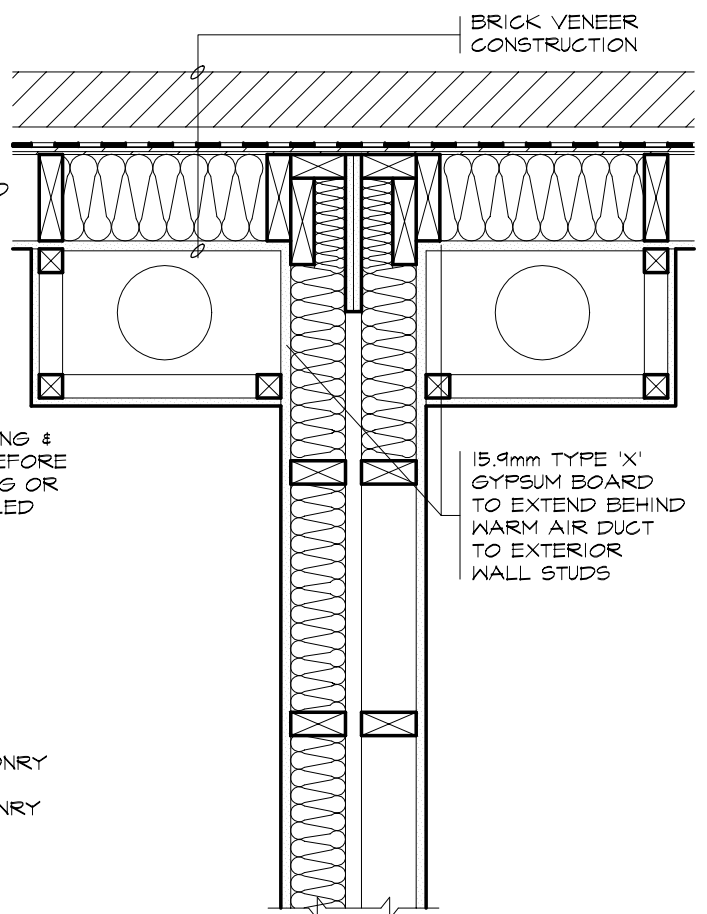
HORIZONTAL SECTION



VERTICAL SECTION



HORIZONTAL SECTION MOUNTING OF ELEC. PANEL BOXES



PLAN VIEW OF PARTY WALL

**LMCBO
STANDARD
DETAILS**

TITLE

FRAME PARTY WALL

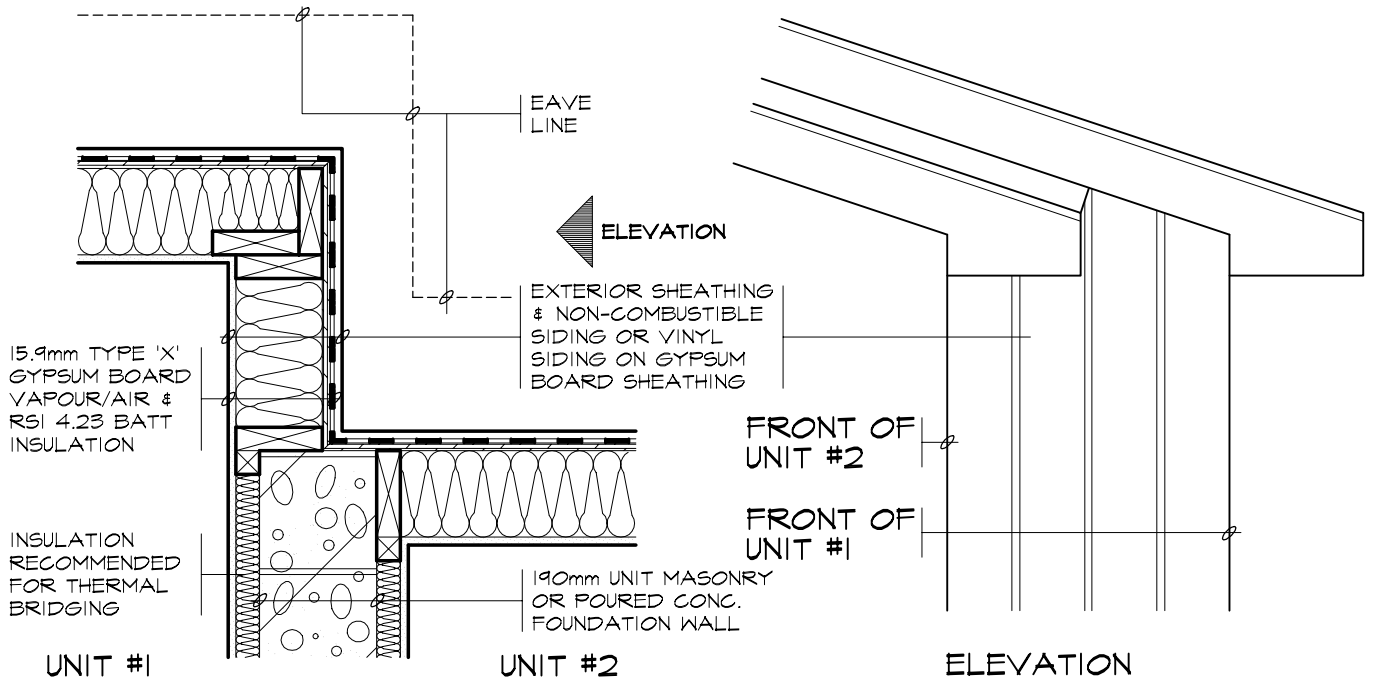
SERVICE DETAILS

NOTE: UNDER THE BUILDING CODE ACT, THE LOCAL MUNICIPALITY IS THE AUTHORITY HAVING JURISDICTION FOR ENFORCING THE ACT AND ITS 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.

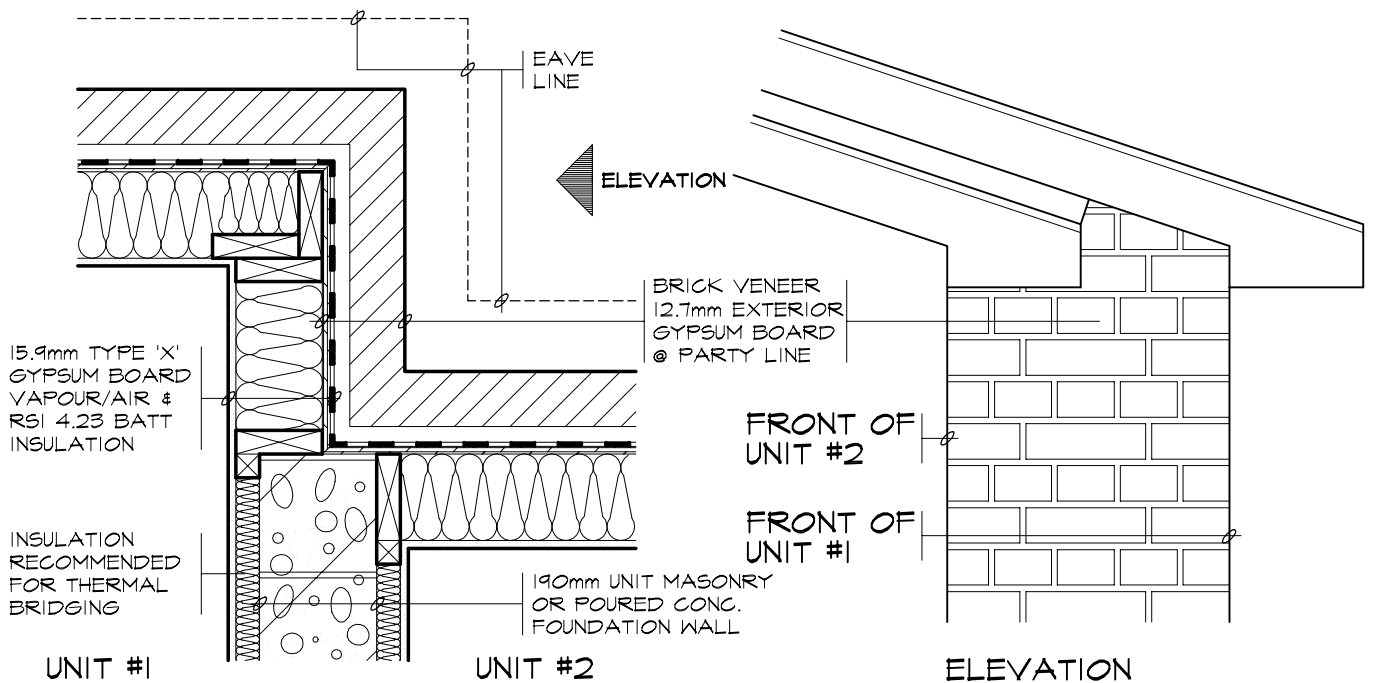
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W10C

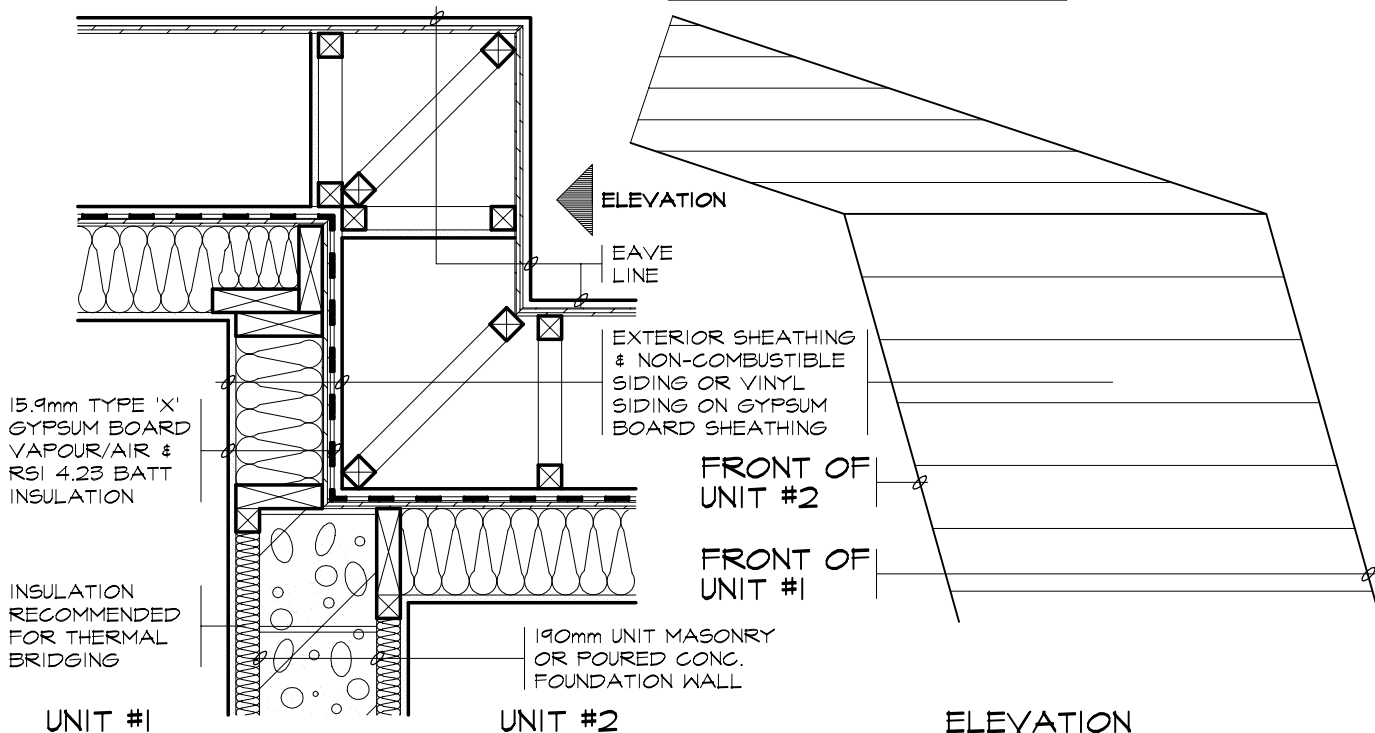
2012



NON-COMBUSTIBLE SIDING



BRICK VENEER



MANSARD

**LMCBO
STANDARD
DETAILS**

TITLE

BLOCK PARTY WALL ELEVATIONS & PLAN DETAILS

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DWG. NO.

W10d

2012