TOWN OF GEORGINA

BUILDING PERMIT GUIDE

NEW HOUSES AND ADDITIONS

ENCLOSED

1. SPECIFICATIONS AND REQUIREMENTS
2. PERMIT APPLICATION PROCESS CHECKLIST
3. SAMPLE SITE PLAN
4. CONSTRUCTION DETAILS -ATTACHMENTS
5. CONSTRUCTION SPECIFICATIONS AND SCHEDULES

This Information is provided for convenience purpose only. All projects must be evaluated in its own merits. More or less information may be required

New Houses and Additions

All new houses and additions to an existing building or structure required a building permit. Your first stop should be to the Town Planning & Building Department to obtain the zoning information that you will need in order to establish the parameters of construction. This inquiry will reveal height, depth, set-back and lot coverage restrictions.

Design is the next step and you will need a set of construction drawings before the Building Division will issue the permits prior to construction. All addition projects are required to

- Demonstrate compliance with local zoning by-laws, Ontario building code and all applicable laws
- Clearance from Lake Simcoe Region Conservation authority (Most projects) and
- Lot grading approval from the Engineering Division

Once the completed set of building permit construction drawings are filed at the building division it takes up to 10 business days (after all applicable laws received) before the permits are issued

When applying for a building permit we require:

- Application for a Permit to Construct or Demolish
- Schedule 1 – Designer Information
- (2) Copies of detailed site plan (showing all building, set back to lot lines of all existing and proposed building, lot dimensions etc.) Site plan should be based on a recent survey of the lot
- (2) Copies of all construction drawings drawn to scale and dimensioned.
- (2) Copies of the heat loss design and calculations
- Layouts for Engineered floor and roof systems
- Septic system information (If applicable)
- Letter of Authorization signed by owner (If applicant is an agent)
- Permit application process checklist
- Permit fees per ft2 for all floor area (Including attached garage space)
- Deck and porch construction drawings
- Connection to municipal services included
- Flat fee for Woodstove and each Masonry fireplace
- Occupancy Deposit to be paid. This Deposit is refunded if a Final Inspection is passed within 6 months of occupancy occurring.

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PERMIT APPLICATION PROCESS CHECKLIST

SINGLE FAMILY DWELLING/ADDITION

TOWN OF GEORGINA

905-476-4301 building@georgina.ca

Required for Application Submission: Application and Schedule 1, Permit fees, 2 Copies of a Site Plan, 2 Sets of Construction Drawings. Additional required documents may follow at a later date.

Application Number: _____

REQ'D	REC'D	
		Detailed Site Plan (showing all buildings, setbacks to lot lines of all existing and proposed buildings, lot dimensions, north indicator, civic address, wells/septic, driveway location, watercourses, ponds, rivers, street location). Highlight new construction. Site plan to match that submitted for lot grading and LSRCA approval.
		Foundation Plan (beams, layout of floor joists, size, span, specs of all joists and beams)
		For Additions: Existing foundation system and connection details
		Floor Plans (all rooms identified, bedroom closets, plumbing fixtures size, span, spacing of framing above i.e. second floor or roof plan)
		Cross Sections
		Elevations (all doors and windows indicated including lintel sizes, roofing material, exterior cladding)
		Truss Drawings Sealed by P. Eng or Roof Framing Details if Roof is Conventionally Framed (Cut-Roof)
		Heat Loss: Schedule 1 for Duct Design
		Heat Loss Calculations (for new and addition 15% of the living space, size and location of the duct required)
		Duct Design (or mechanical plans)
		Mechanical Ventilation Summary Sheet
		Energy Efficiency Summary Sheet
		Layouts for Engineered Floor or Roof Systems such as Nascor, Jagar, TJI etc. Spec Sheets for Products such as LVL, PSL, LSL Beams etc.
		Schedule 1 - Designer
		Part 8 Approval (for construction related to a septic system)
		Site Alteration Permit Provide Application, 2 copies Grading Plan, Fees $
		Permit to Connect
		Entrance Permit ☐ Town ☐ Region (895-1231x75207) ☐ MTO (416-235-4276) For Town of Georgina Roads, Apply at the first floor Service Georgina counter $ 200
		Lake Simcoe Region Conservation Authority Approval (if applicable) $ (905-895-1281 ext. 266 or 1-800-465-0437)
		Letter of Authorization Signed by Owner
		House Number (please provide an 8x11 site plan)

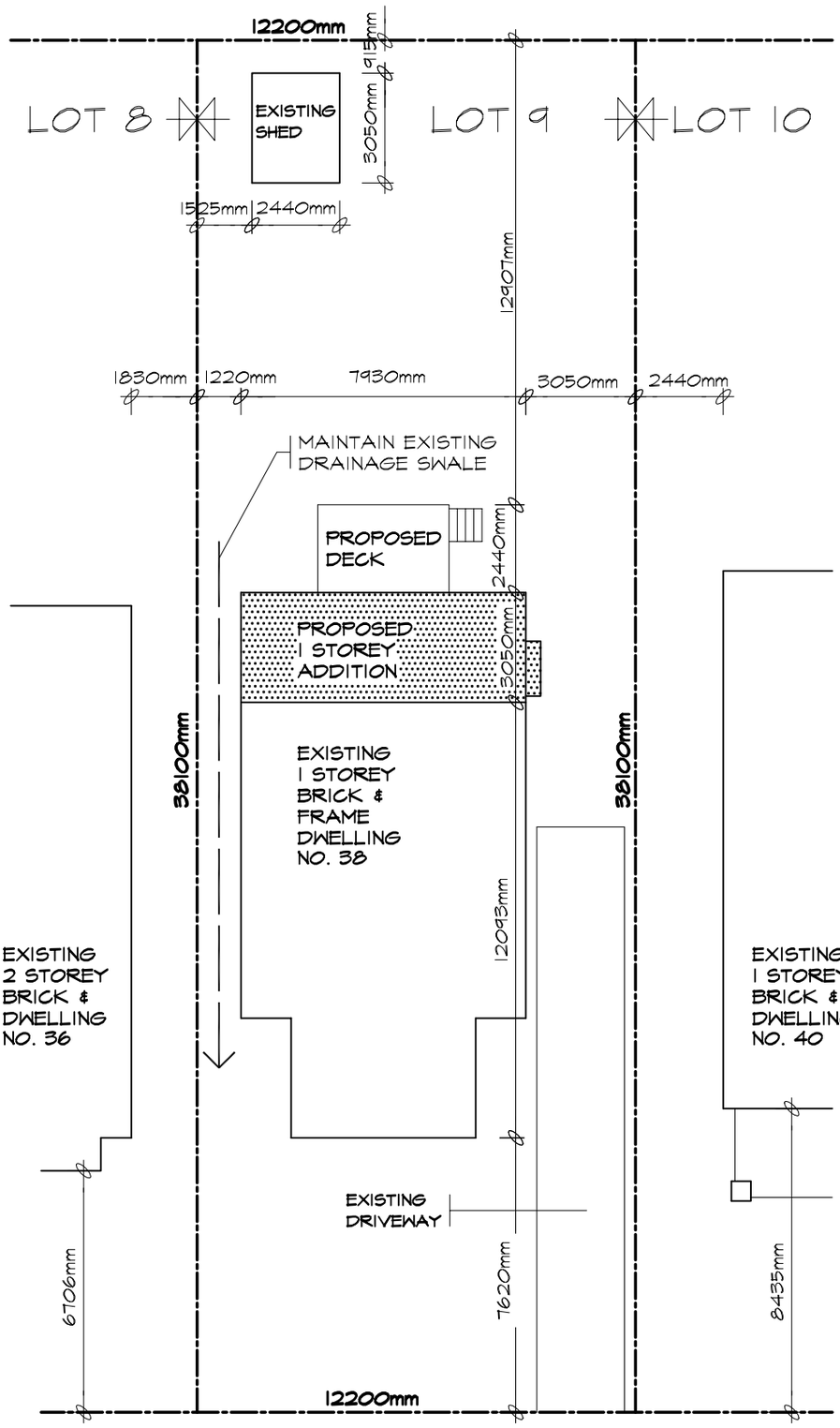
** If trees are to be removed within an area that would constitute a woodlot of more than 0.5 acres, please contact the Regional Municipality of York. 1-877-464-9675 x75258

** A Road Occupancy Permit is required for any work or parking of vehicles or construction equipment on a Town owned road allowance. Please apply at the first floor Service Georgina Counter. 905-476-4301 ext. 2443

Further review will be completed by the Zoning Examiner and Plans Examiner, at which time more information and/or amendments to the drawings may be required.

Please note that Developments Charges may apply, confirm with the Zoning Examiner

Please review the refund policy for building permits: Building By-law 2015-0150 Section 16.1- 16.



SITE PLAN

SCALE 1:200

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

KHALMUR CRESCENT

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

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

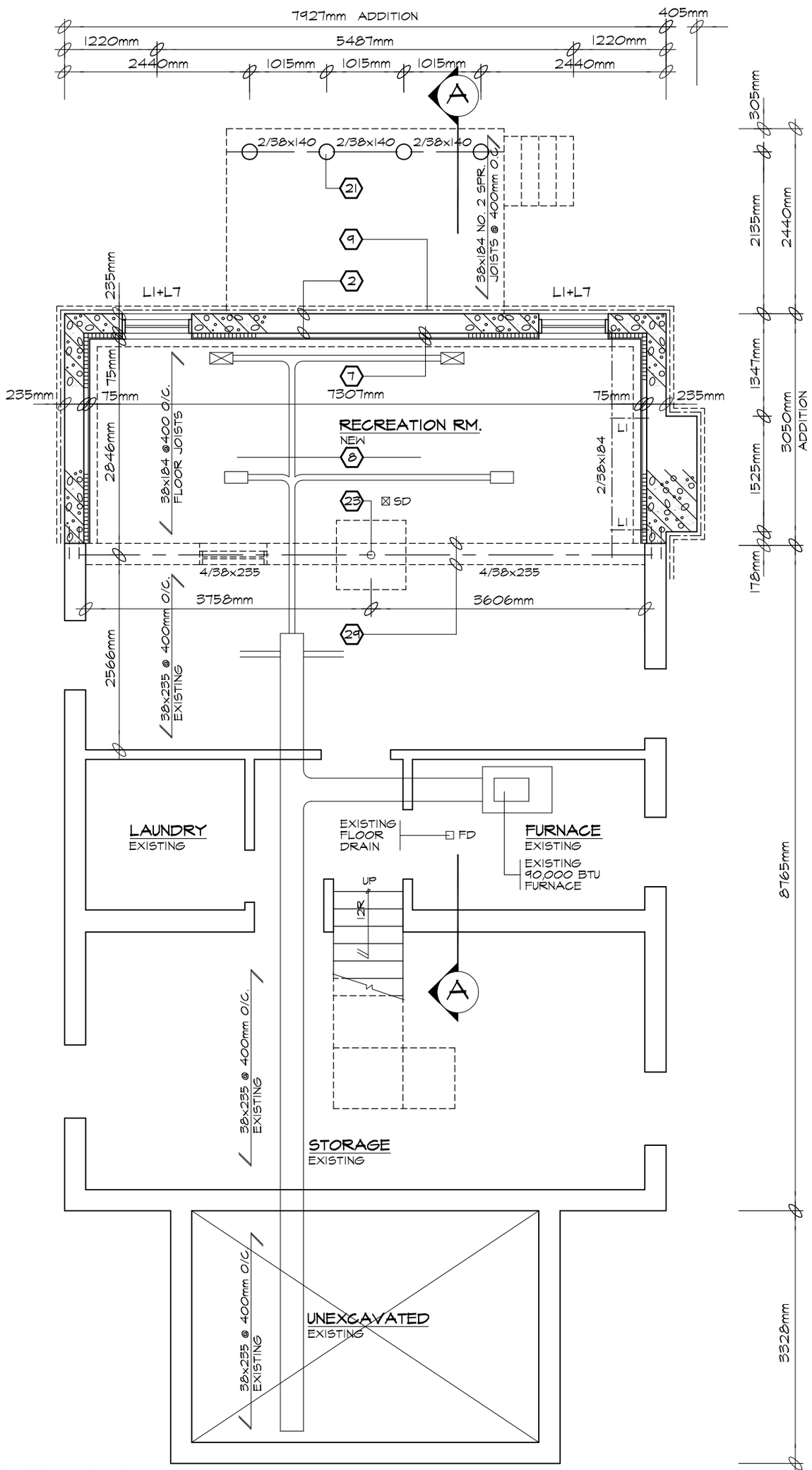
SETBACKS	EXISTING	PROPOSED
FRONT YARD	7620mm	7620mm
REAR YARD	18390mm	12907mm
INTERIOR SIDE (east)	3050mm	3050mm
INTERIOR SIDE (west)	1220mm	1220mm
EXTERIOR	----------	----------

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

TACBOC
STANDARD DETAIL

TITLE
SAMPLE DRAWING
SITE PLAN

DWG. NO.
A03a
2007



BASEMENT PLAN

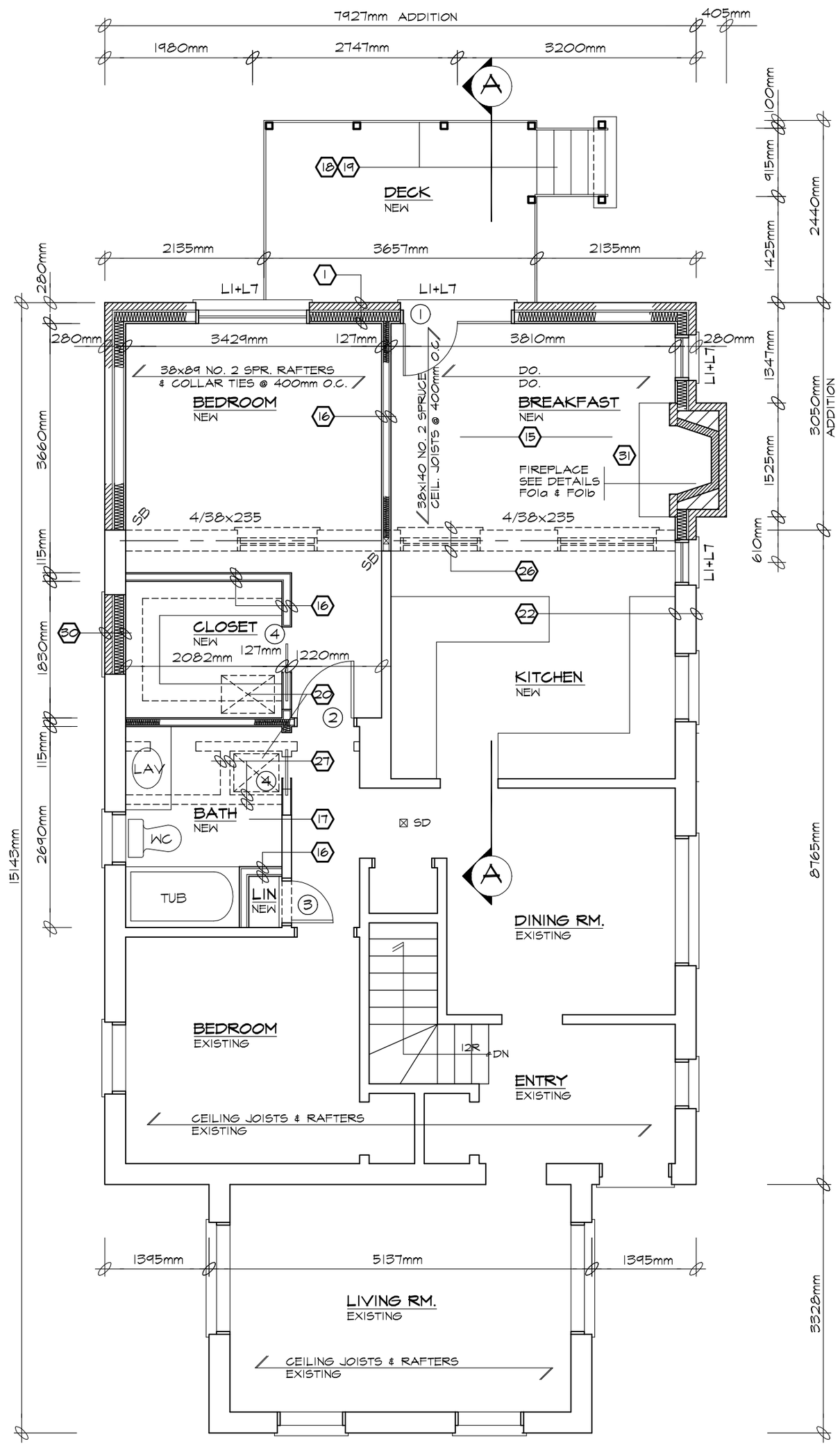
SCALE 1:50

TACBOC
STANDARD DETAIL

TITLE
SAMPLE DRAWING
BASEMENT PLAN

DWG. NO.
A03b

2007



GROUND FLOOR PLAN

SCALE 1:50

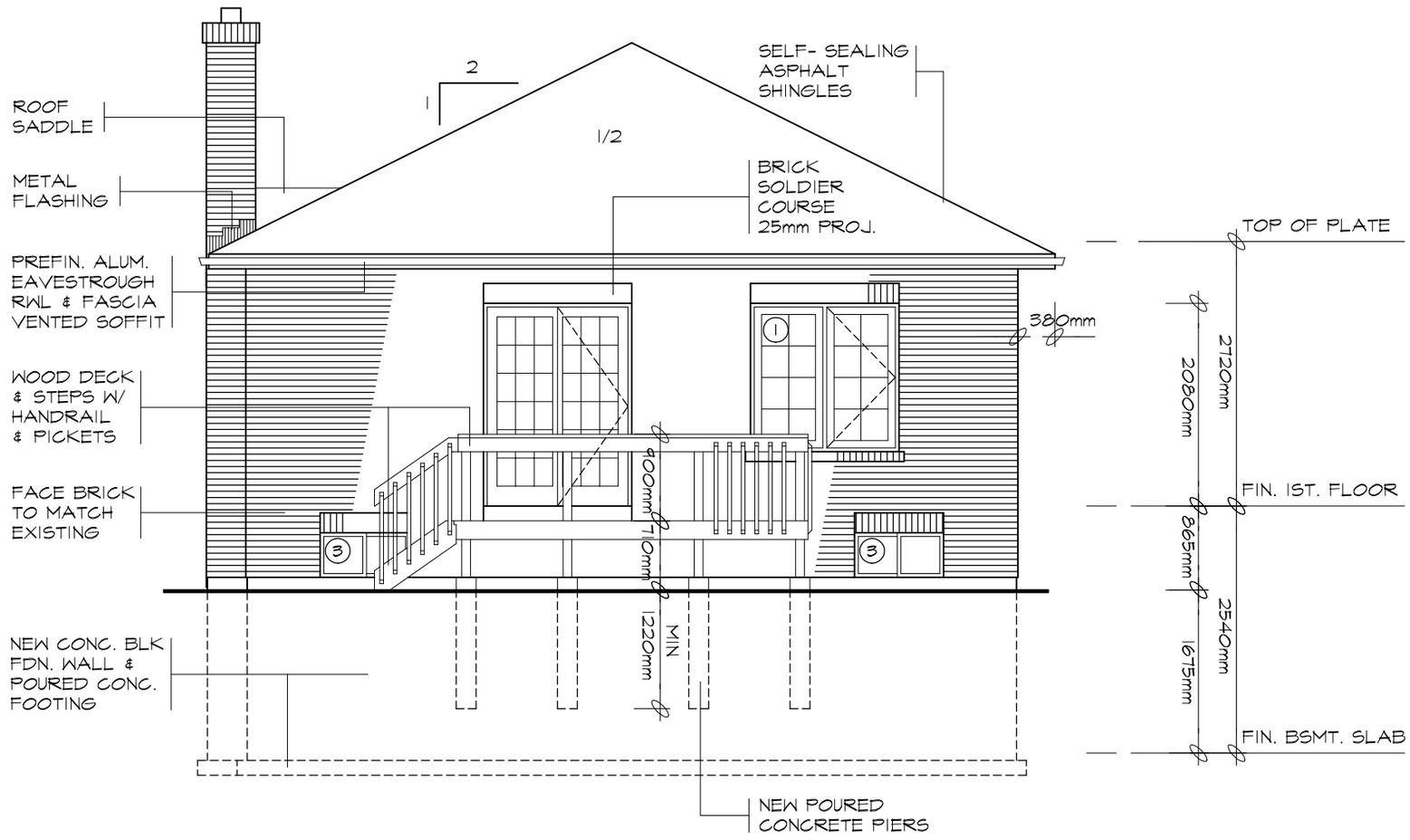
TACBOC
STANDARD DETAIL

TITLE
SAMPLE DRAWING
GROUND FLOOR PLAN

DWG. NO.
A03c
2007

TACBOC
STANDARD DETAIL

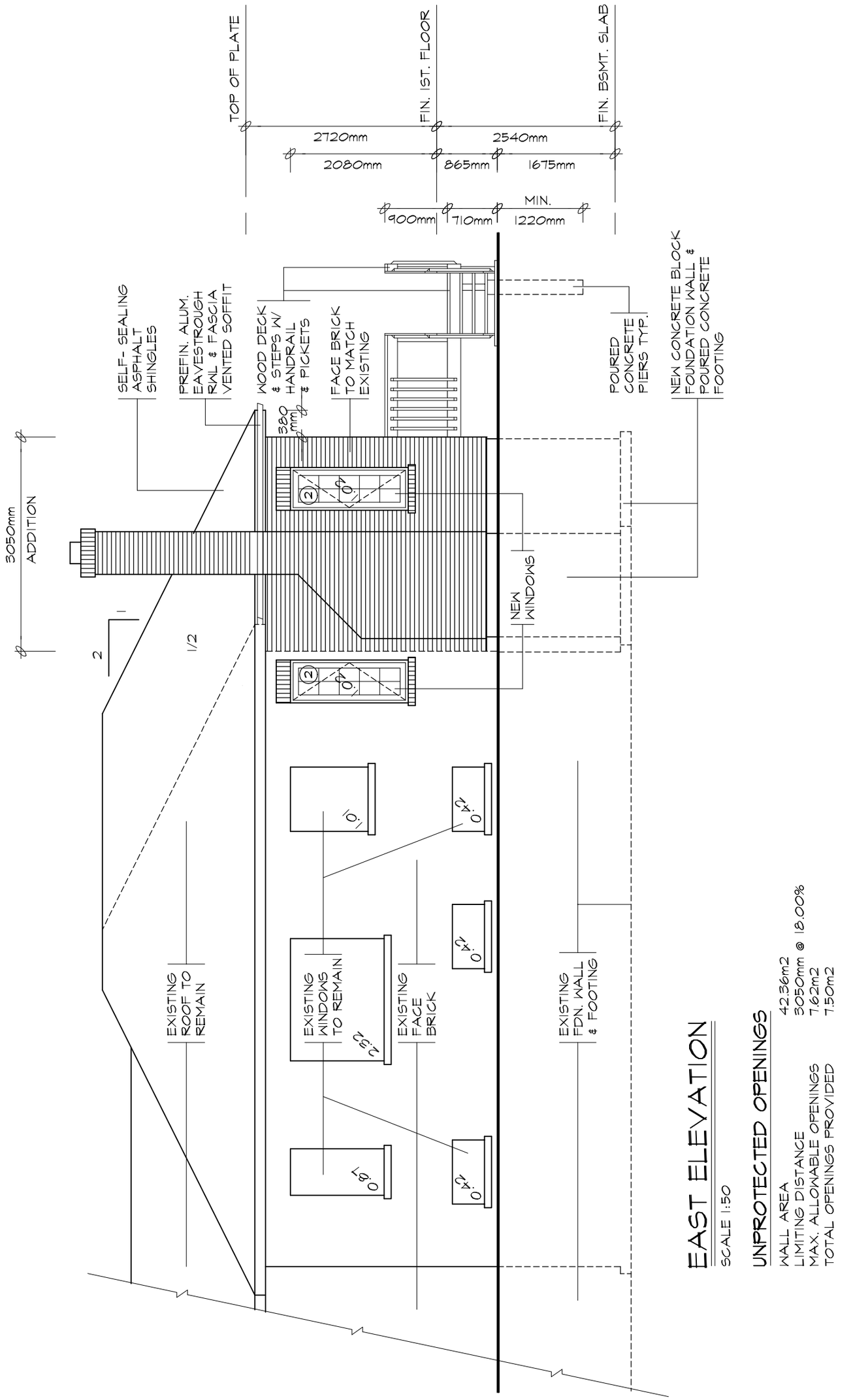
TITLE
SAMPLE DRAWING
ELEVATION



NORTH ELEVATION

SCALE 1:50

DWG. NO.
A03d
2007



EAST ELEVATION

SCALE 1:50

UNPROTECTED OPENINGS

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

TACBOC
STANDARD DETAIL

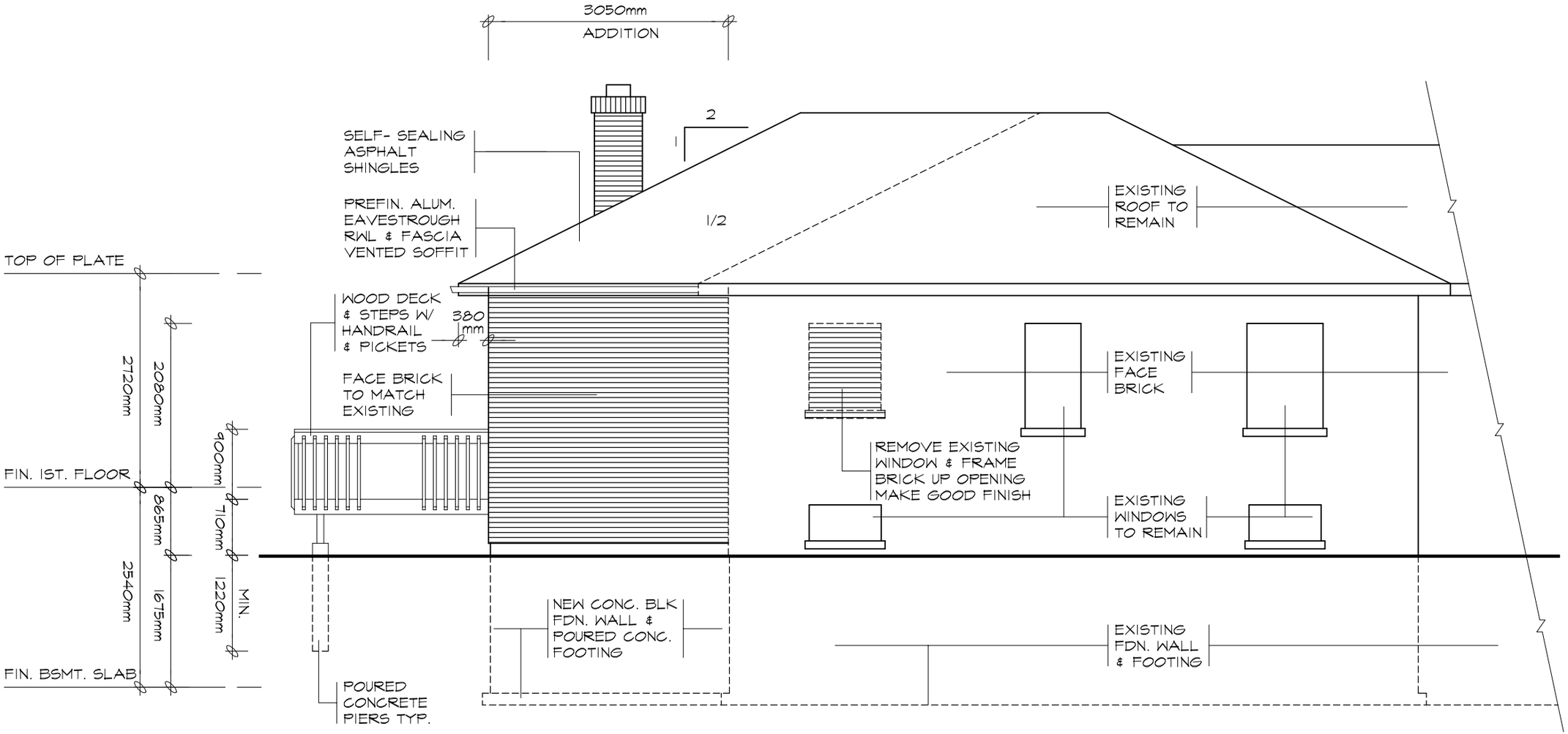
TITLE
SAMPLE DRAWING
ELEVATION

DWG. NO.
A03e

2007

TACBOC
STANDARD DETAIL

TITLE
SAMPLE DRAWING
ELEVATION



WEST ELEVATION

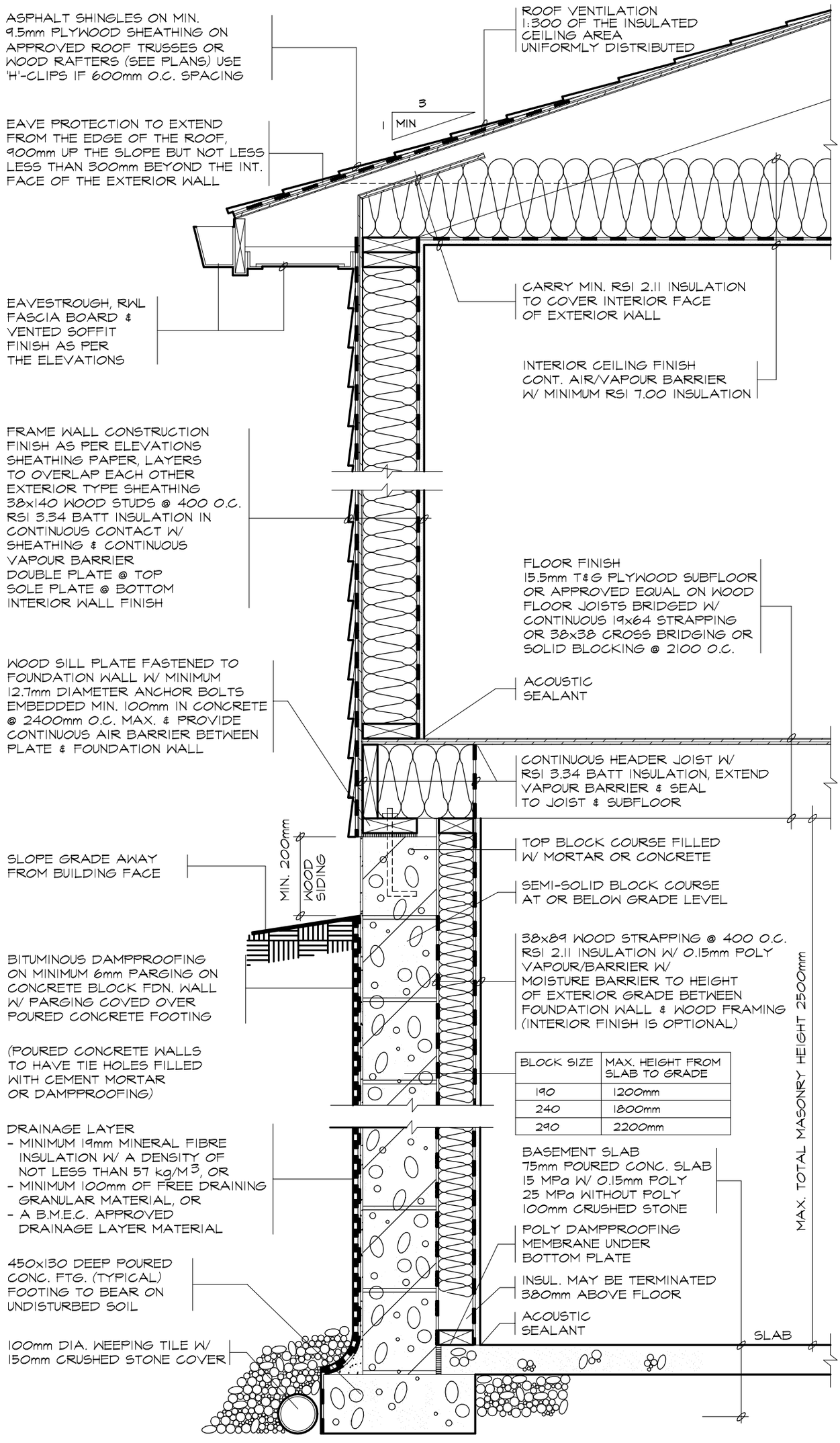
SCALE 1:50

UNPROTECTED OPENINGS

NO NEW OPENINGS
EXISTING TO REMAIN

DWG. NO.
A03

2007



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

TACBOC
STANDARD DETAIL

TITLE

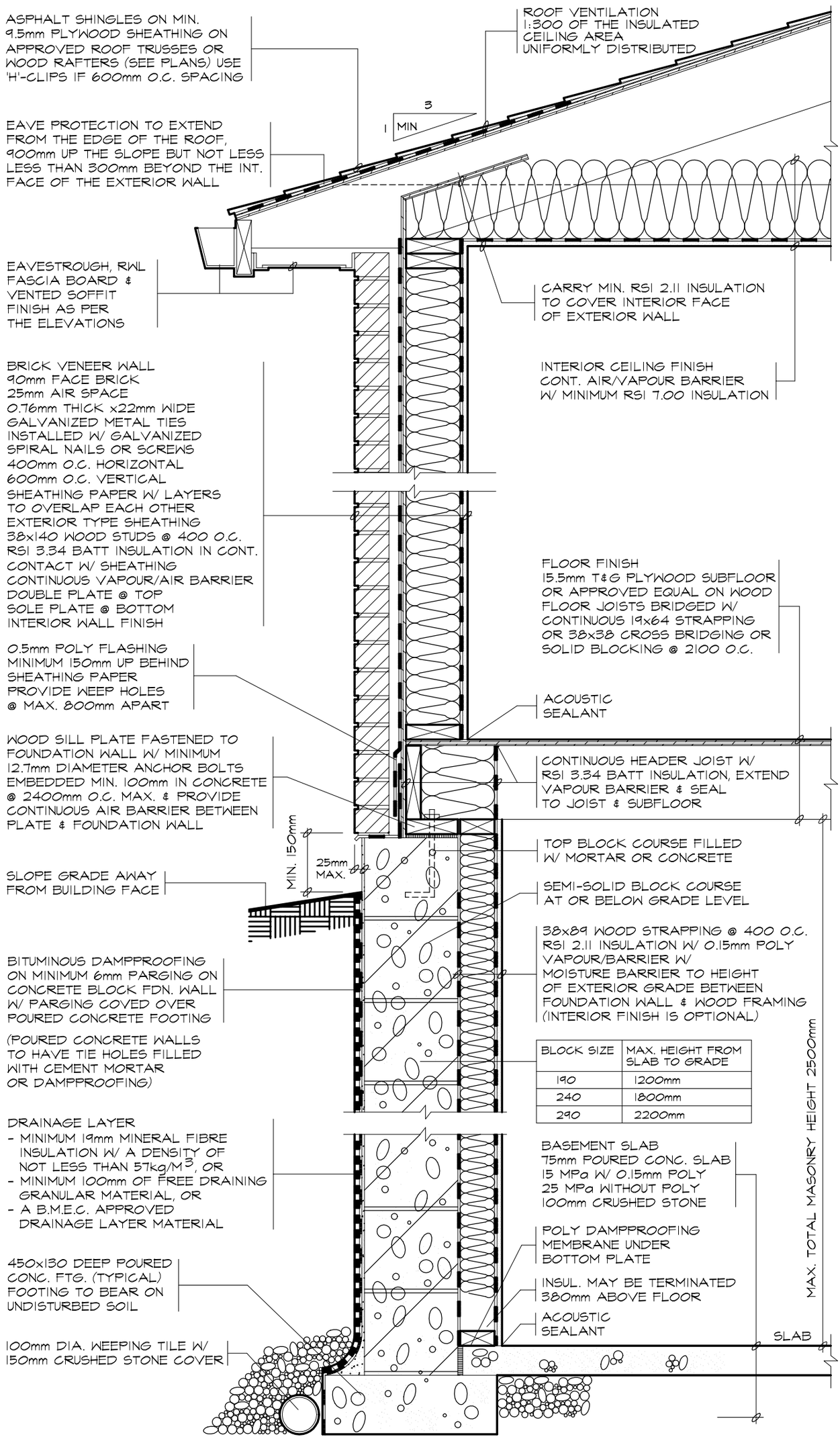
FRAME WALL SECTION

FULL BASEMENT W/ FULL INSULATION & DRAINAGE LAYER

DWG. NO.

W01

2007



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

TACBOC
STANDARD DETAIL

TITLE

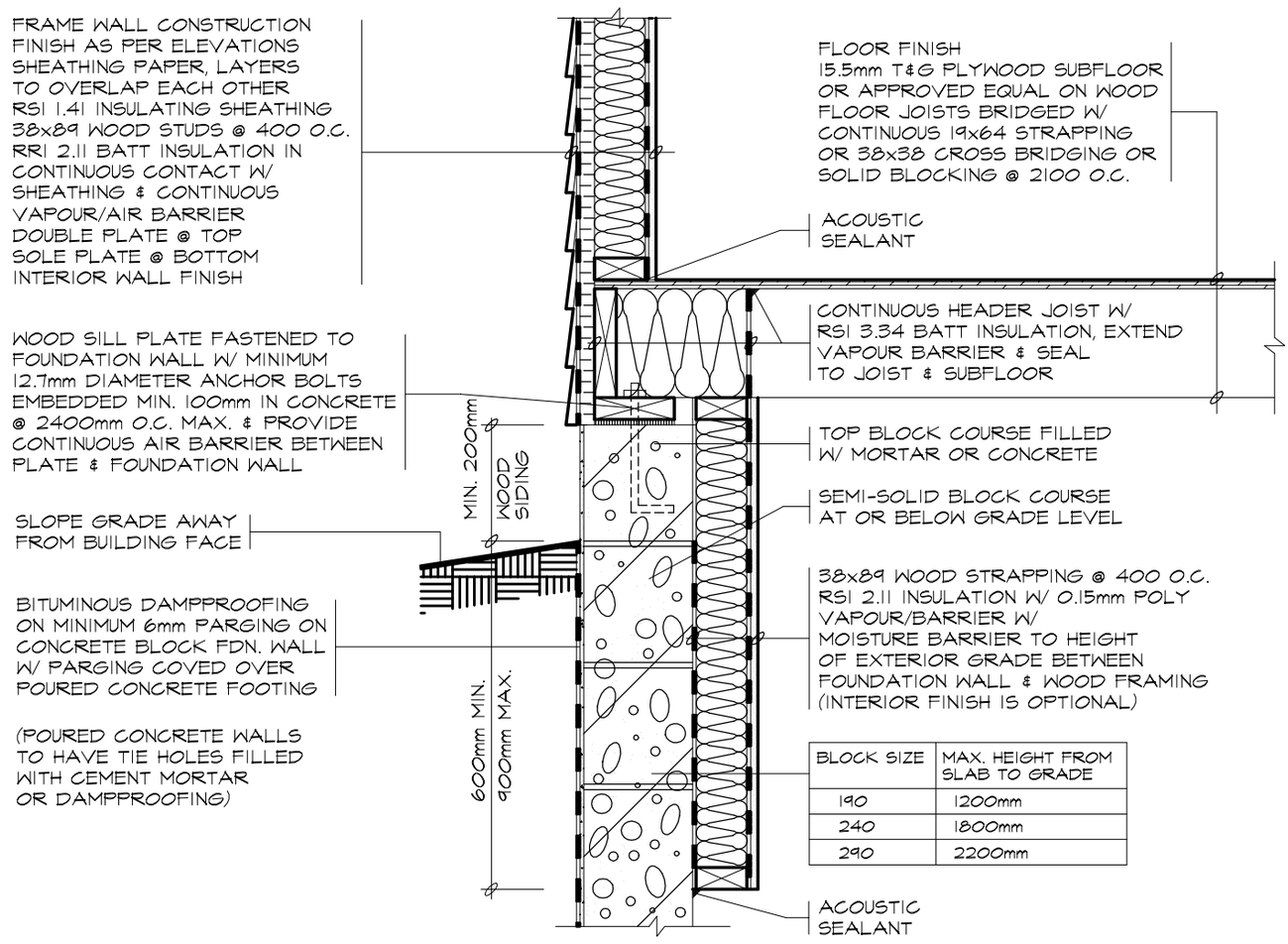
BRICK VENEER WALL SECTION

FULL BASEMENT W/ FULL INSULATION & DRAINAGE LAYER

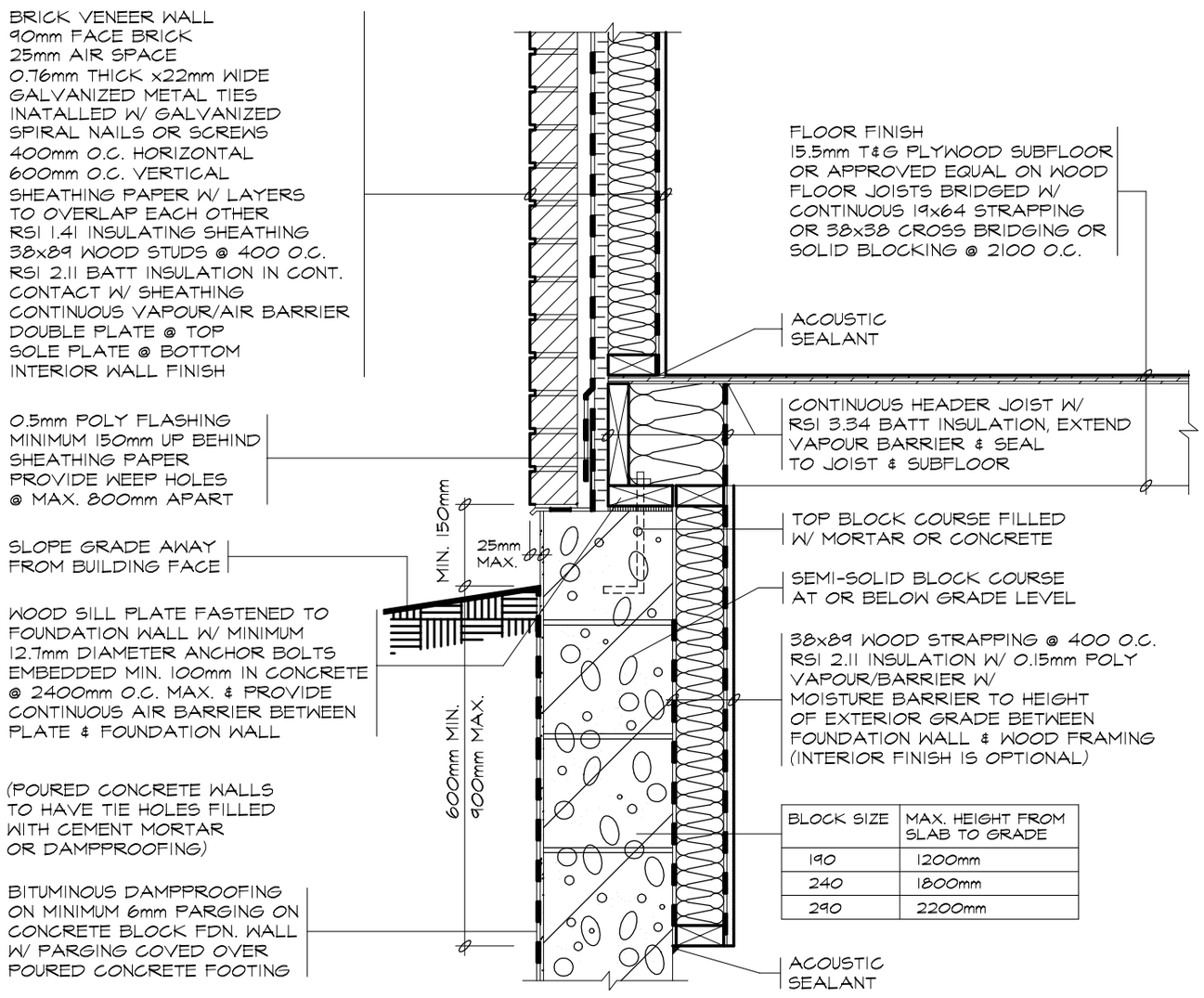
DWG. NO.

W02

2007



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



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

TACBOC
STANDARD DETAIL

TITLE

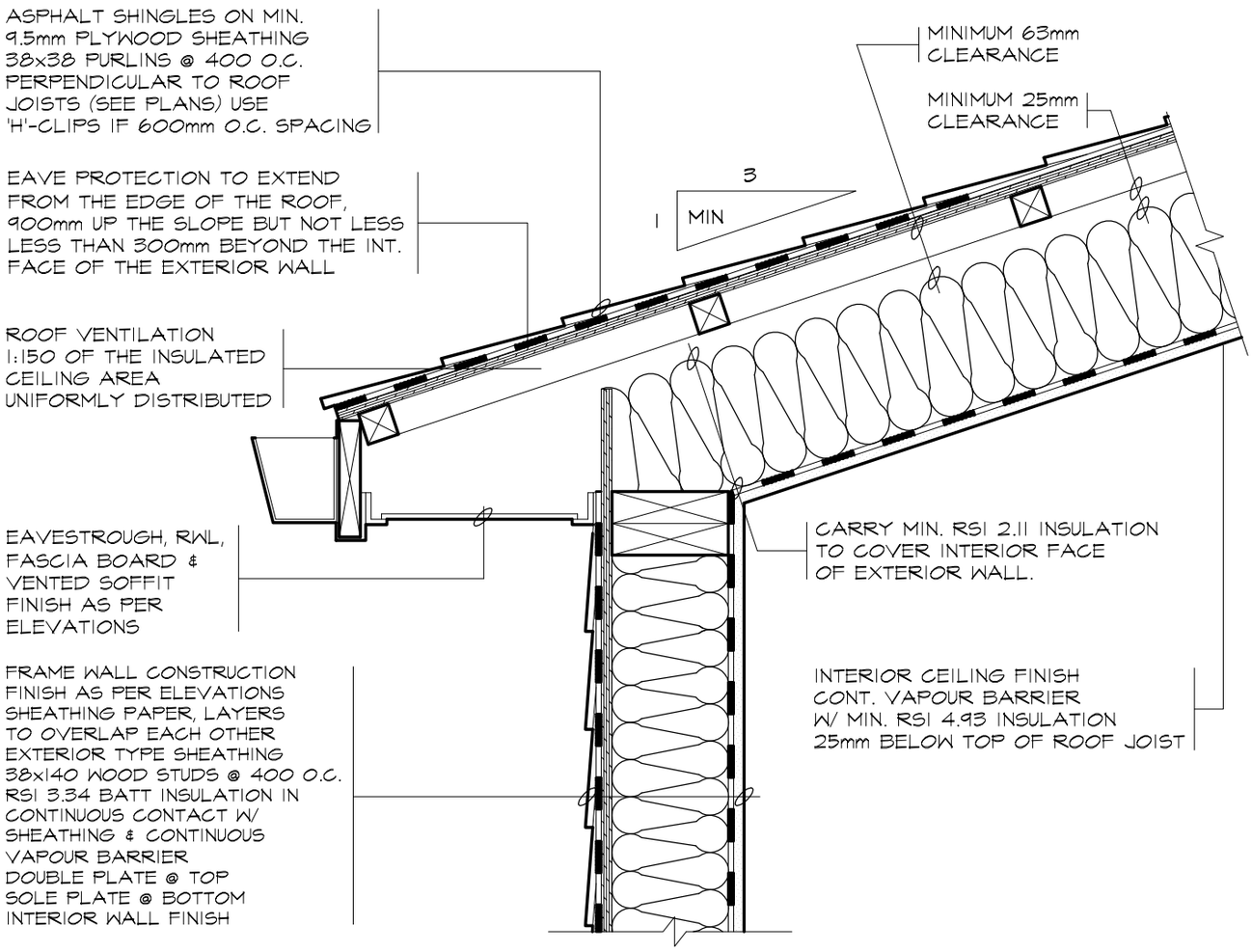
INSULATED SHEATHING

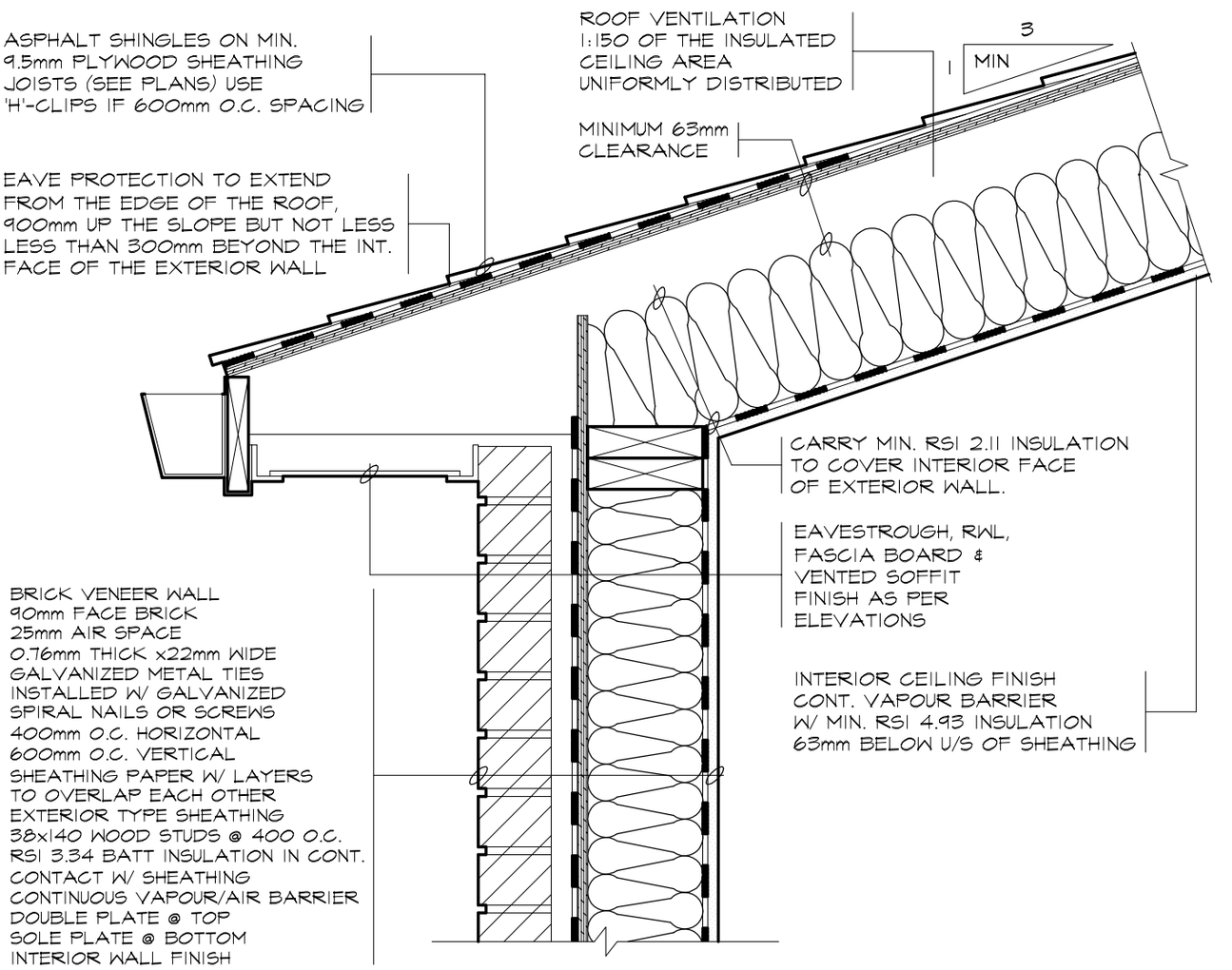
FRAME & BRICK VENEER WALLS

DWG. NO.

W03

2007





TACBOC
STANDARD DETAIL

TITLE

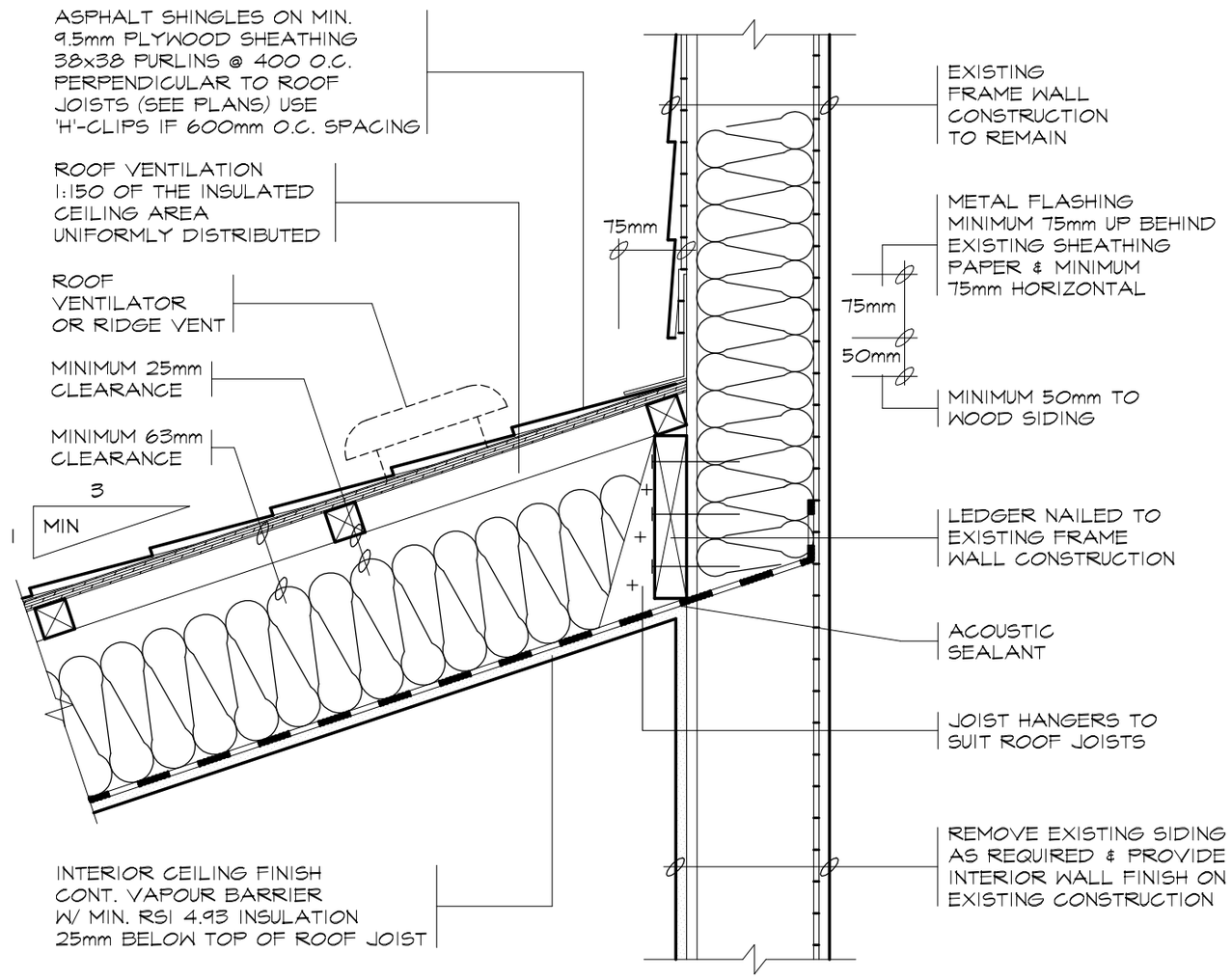
SLOPING ROOF DETAIL

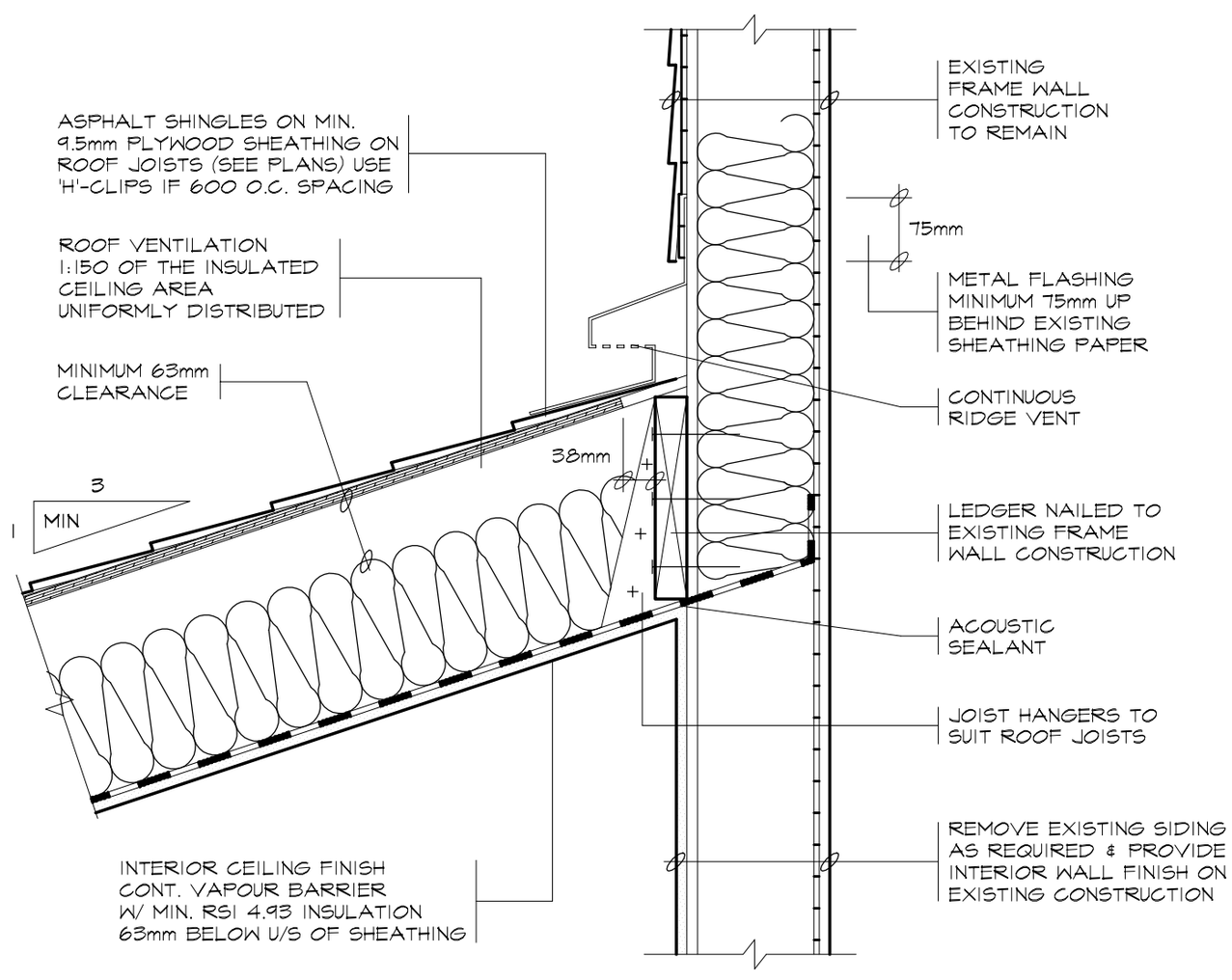
INSULATION & VENTILATION W/ ALTERNATIVE

DWG. NO.

W06a

2007





TACBOC
STANDARD DETAIL

TITLE
NEW ROOF ATTACHED TO EXISTING FRAME WALL
SLOPING ROOF

DWG. NO.
W07a
2007

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 coved 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

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.
- 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/m^3**
  - 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 **17.8mm^2** 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

TACBOC
STANDARD DETAIL

TITLE
SPECIFICATION - BUILDING CODE STANDARDS
EXCAVATION, CONCRETE & MASONRY

DWG. NO.
S01a
2007

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 3.34 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 S01d 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 S01d for subflooring requirements

Roof & Ceilings

- See S01d 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 S01d 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 7.00
Roof without attic		RSI 4.93
Exterior Wall		RSI 3.34
Foundation Wall		RSI 2.11
Foundation > 50% exposed		RSI 3.34
Exposed Floor		RSI 4.40
Slabs on Grade	(unheated)	RSI 1.41
	(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 0.1m^2 of ventilation for each 50m^2
- Minimum natural ventilation areas, where mechanical ventilation is not provided, are:
  Bathrooms: 0.09m^2
  other rooms: 0.28m^2
  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 0.35m^2 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

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 1Om^2 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 or near the ceiling on each floor and basement level 900mm or more above an adjacent level
- Smoke alarms shall be interconnected and located such that one is within 5m of every bedroom door and no more than 15m travel distance from any point on a floor
- A carbon monoxide detector 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 30m^2, 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 1.5 kPa			ROOF SNOW LOAD 2.0 kPa		
	RAFTER SPACING (mm) O.C.			RAFTER SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	2.72	2.47	2.16	2.47	2.24	1.96
38x140	4.28	3.89	3.40	3.89	3.53	3.08
38x184	5.62	5.11	4.41	5.11	4.64	3.89
38x235	7.18	6.52	5.39	6.52	5.82	4.75

ROOF JOISTS (WHERE CEILING IS INSTALLED)

MAXIMUM CLEAR SPAN (M)						
JOIST SIZE	ROOF SNOW LOAD 1.5 kPa			ROOF SNOW LOAD 2.0 kPa		
	JOIST SPACING (mm) O.C.			JOIST SPACING (mm) O.C.		
	300	400	600	300	400	600
38x89	2.16	1.96	1.71	1.96	1.78	1.56
38x140	3.40	3.08	2.69	3.08	2.80	2.45
38x184	4.46	4.05	3.54	4.05	3.68	3.22
38x235	5.70	5.18	4.52	5.18	4.70	4.11

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

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

SUBFLOORING

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 (mm) UNSUPPORTED EDGES	ROOF SHEATHING MIN. THICKNESS (mm) TONGUE & GROOVE, 'H'–CLIPS OR OTHER EDGE SUPPORT
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.