



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 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 survey of the lot.
- (2) Copies of all construction drawings drawn to scale and dimensioned.
- Septic system information ( If applicable)
- Letter of Authorization signed by owner (If applicant is an agent.)
- Permit application process checklist
- Permit fee - \$1.28/ft<sup>2</sup> for all floor area(Including attached garage space and plumbing fixtures)
- Deck and porch less than 10 m<sup>2</sup> included
- Connection to municipal services included
- \$300 Flat fee for Woodstove and each Masonry fireplace
- \$300 Occupancy Deposit. This Deposit is refunded if a Final Inspection is passed within 6 months of occupancy occurring.

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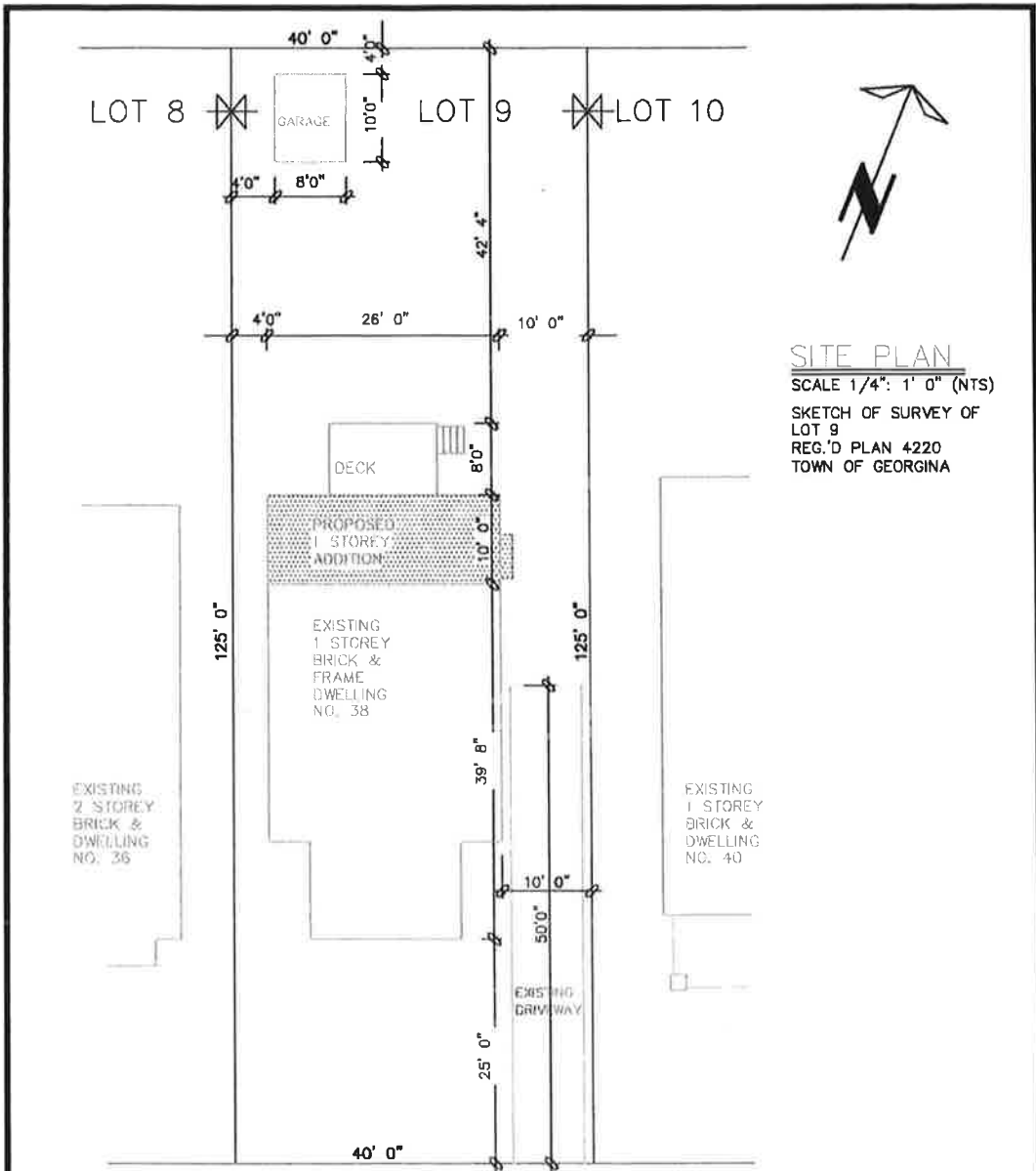
TOWN OF  
GEORGINA

## PERMIT APPLICATION PROCESS CHECKLIST

### SINGLE FAMILY DWELLING/ADDITION

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 and legal address, wells, septic, driveway location, watercourses, ponds or rivers, and street location). Highlight new construction. Site plan to match that submitted for lot grading and LSRCA approval.
		Foundation Plan (Footing sizes, piers, Excavation heights etc)
		For Additions: New & Existing foundation system and connection details
		Floor Plans (all rooms identified and dimensioned, bedroom closets, plumbing fixtures, framing over doors and windows size/ span/ spacing of framing above)
		Cross Sections
		Elevations (all doors and windows indicated including window sizes, roofing material, exterior cladding, Height of Building, Height of eaves Percentage of glazed openings etc )
		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
		Truss Drawings Sealed by Professional Engineer or Roof Framing Details if Roof is Conventionally Framed (Cut-Roof)
		Layouts for Engineered Products such as LVL, PSL, LSL Beams, joists, TJI, Jagar, Nascor Etc. Floor or Roof Systems
		Schedule 1 – Designer Information
		Septic System Approval
		Site Alteration Permit ( From Engineering Division)
		Permit to Connect (From Operation Division)
		Entrance Permit (From Operation Division)
		Lake Simcoe Region Conservation Authority Approval (if applicable)
		Letter of Authorization Signed by Owner (If the applicant is not the owner)
		House Number

This checklist constitutes a preliminary review to determine suitability of drawings for Zoning/Building Permit application only. A further review will be completed by the Zoning Examiner and Plans Reviewer, at which time more information and/or amendments to the drawings may be required.



**SITE PLAN**  
 SCALE 1/4" = 1' 0" (NTS)  
 SKETCH OF SURVEY OF  
 LOT 9  
 REG'D PLAN 4220  
 TOWN OF GEORGINA

ANYWHERE STREET

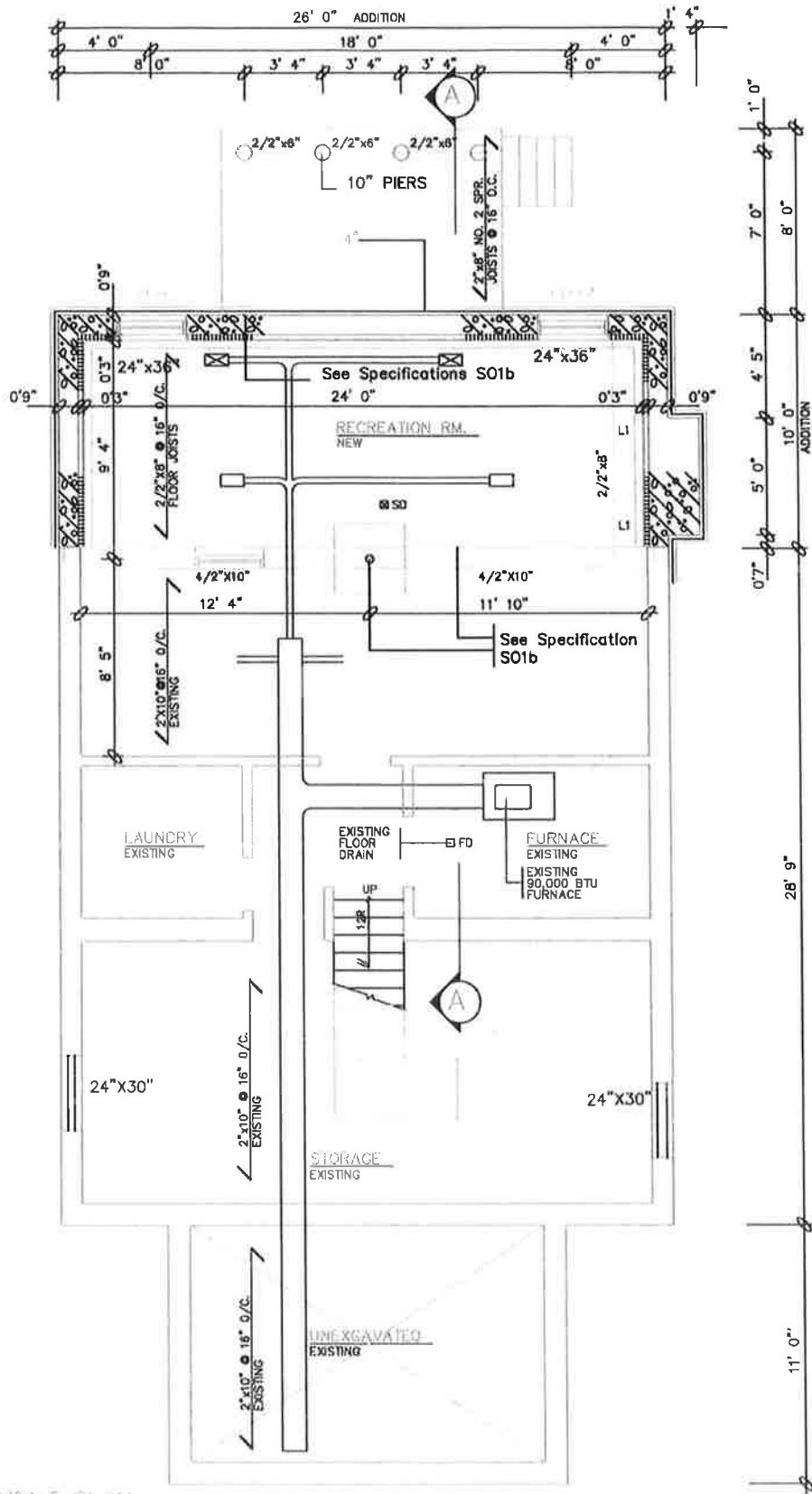
ZONING	LOT NO:		PLAN NO:	LOT AREA		LOT FRONTAGE		LOT DEPTH	
R2 Z0.6	LOT 9		4220	5300 SQ FT		40' 0"		125' 0"	
DESCRIPTION	EXISTING	ADDITION	TOTAL	%	ALLOWED	%	SETBACKS	EXISTING	PROPOSED
LOT COVERAGE	930.95 SQ FT	260.00 SQ FT	1190.95 SQ FT	19.0	-----	-----	FRONT YARD	25' 0"	25' 0"
GROSS FLOOR AREA	930.95 SQ FT	260.00 SQ FT	1190.95 SQ FT	19.0	1500 SQ FT	30.0	REAR YARD	60' 4"	42' 4"
LANDSCAPED AREA							INTERIOR SIDE (east)	10' 0"	10' 0"
NO. OF STORES HEIGHT	1 STOREY 15' 0"	1 STOREY 15' 0"	1 STOREY 15' 0"		36' 0"		INTERIOR SIDE (west)	4' 0"	4' 0"
WIDTH	26' 0"	26' 0"	26' 0"				EXTERIOR		
DEPTH	40' 0"	10' 0"	50' 0"		55' 0"				
PARKING									

NOTE: ZONING RESTRICTIONS VARY IN EVERY ZONE. CONTACT THE TOWN OFFICE FOR SPECIFIC SETBACKS AND OTHER LIMITATIONS IN YOUR AREA.


TOWN OF GEORGINA  
 STANDARD DETAIL  
 TACBOC

SAMPLE DRAWING  
 SITE PLAN

A3a

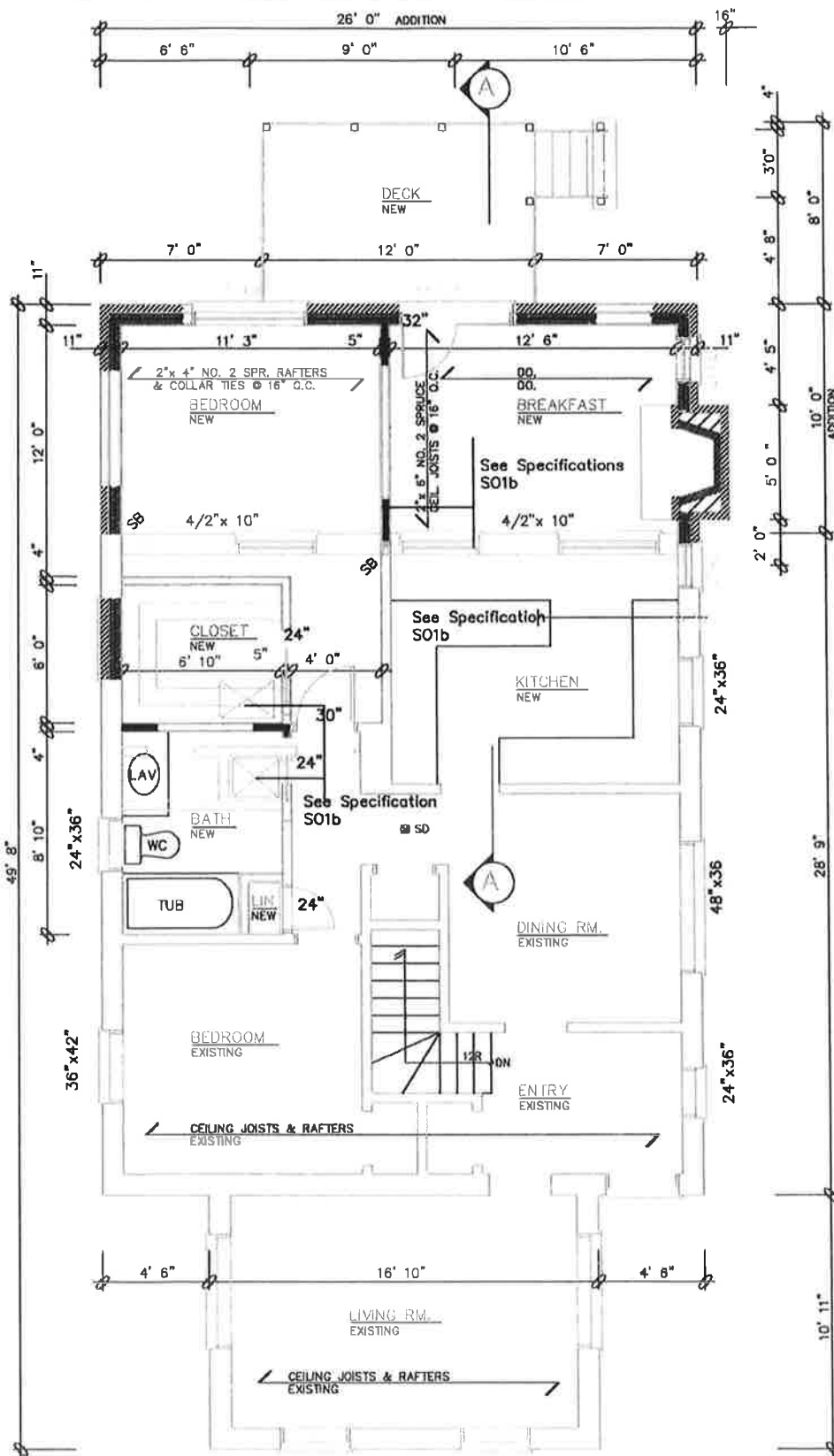


**BASEMENT PLAN**  
SCALE 1/2" = 1'0"(NTS)

TOWN OF GEORGINA  
  
 STANDARD DETAIL  
 TACBOC

NO. 1  
 SAMPLE DRAWING  
 BASEMENT PLAN

DATE: 05/11/05  
 A05



**GROUND FLOOR PLAN**

SCALE 1/4" = 1' 0" (NTS)

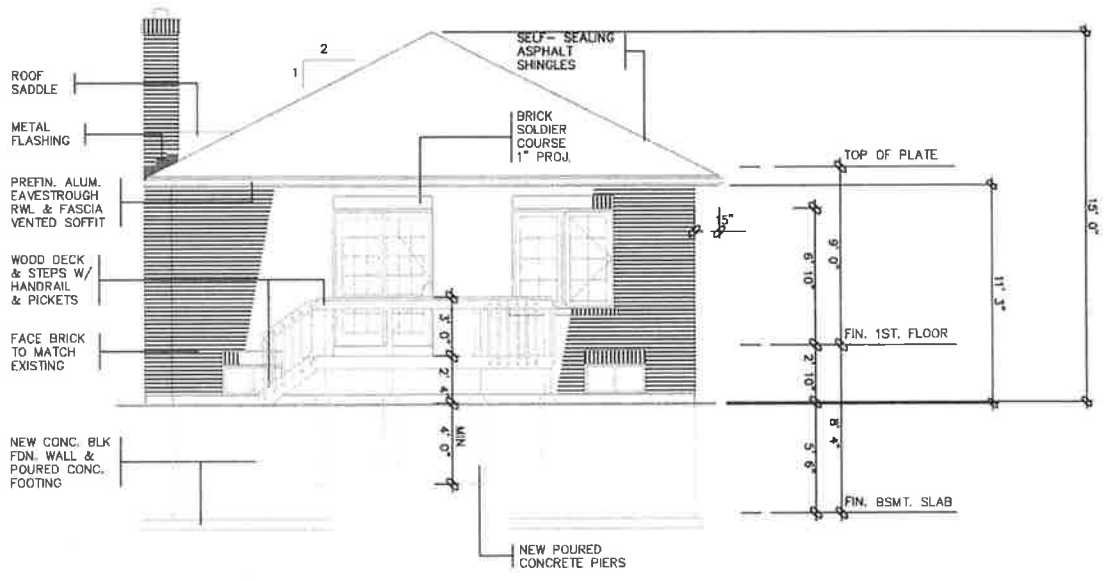
TOWN OF GEORGINA  
  
 STANDARD DETAIL  
 TACBOC

HP-1  
 SAMPLE DRAWING  
 GROUND FLOOR PLAN

A0c

TOWN OF GEORGINA  
STANDARD DETAIL  
TA000

Sample Drawing  
Elevation

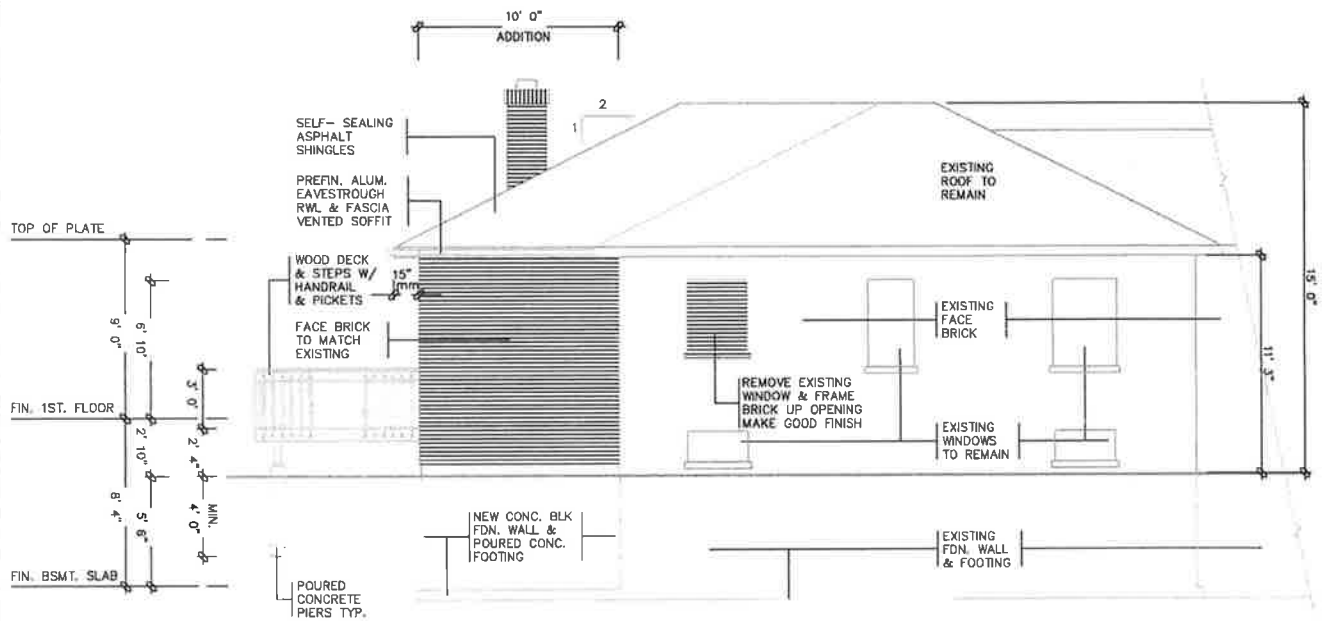


NORTH ELEVATION  
SCALE 1/2"=1'0"

ADD

TOWN OF GEORGIA  
STANDARD DETAIL  
TAOB00

SAMPLE DRAWING  
ELEVATION



WEST ELEVATION

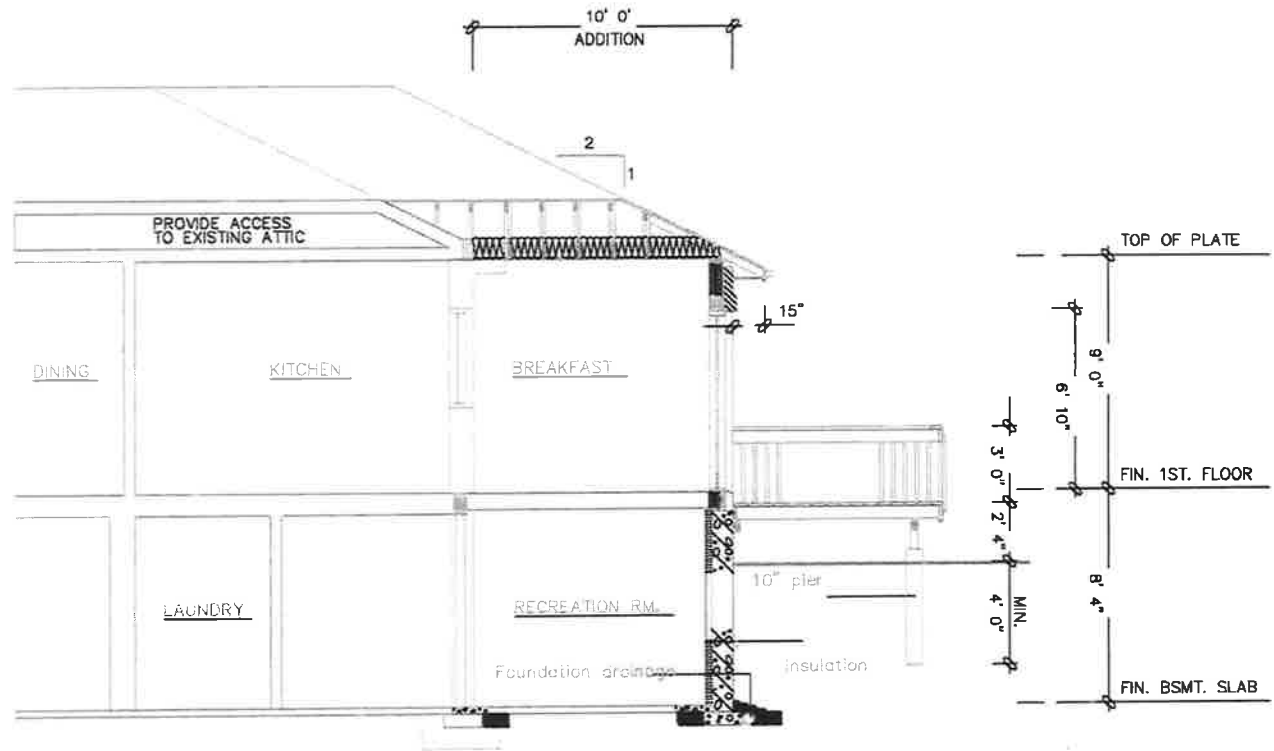
SCALE 1/2"=1'0"(NTS)

UNPROTECTED OPENINGS

NO NEW OPENINGS  
EXISTING TO REMAIN

ADP





SECTION A-A  
 SCALE 1/2"=1'0" (NTS)

ASPHALT SHINGLES ON MIN. 3/8" PLYWOOD SHEATHING ON APPROVED ROOF TRUSSES OR WOOD RAFTERS (SEE PLANS) USE 'H'-CLIPS IF 24" O.C. SPACING

EAVE PROTECTION TO EXTEND FROM THE EDGE OF THE ROOF, 2' 11" UP THE SLOPE BUT NOT LESS THAN 12" BEYOND THE INT. FACE OF THE EXTERIOR WALL

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

FRAME WALL CONSTRUCTION FINISH AS PER ELEVATIONS SHEATHING PAPER, LAYERS TO OVERLAP EACH OTHER EXTERIOR TYPE SHEATHING 2"x 6" WOOD STUDS @ 16" O.C. RSI 3.34 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 1/2" DIAMETER ANCHOR BOLTS EMBEDDED MIN. 4" IN CONCRETE @ 7' 10" O.C. MAX. & PROVIDE CONTINUOUS AIR BARRIER BETWEEN PLATE & FOUNDATION WALL

SLOPE GRADE AWAY FROM BUILDING FACE

BITUMINOUS DAMPPROOFING ON MINIMUM 1/4" PARING ON CONCRETE BLOCK FDN. WALL W/ PARING COVERED OVER POURED CONCRETE FOOTING

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

DRAINAGE LAYER  
- MINIMUM 3/4" MINERAL FIBRE INSULATION W/ A DENSITY OF NOT LESS THAN 3.6 lb/ft<sup>3</sup>, OR  
- MINIMUM 4" OF FREE DRAINING GRANULAR MATERIAL, OR  
- A B.M.E.C. APPROVED DRAINAGE LAYER MATERIAL

16"x 6" DEEP POURED CONC. FTG. (TYPICAL) FOOTING TO BEAR ON UNDISTURBED SOIL

4" DIA. WEEPING TILE W/ 6" CRUSHED STONE COVER

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

CARRY MIN. RSI 2.11 INSULATION TO COVER INTERIOR FACE OF EXTERIOR WALL

INTERIOR CEILING FINISH CONT. AIR/VAPOUR BARRIER W/ MINIMUM RSI 7.00 INSULATION

FLOOR FINISH 3/8" T&G PLYWOOD SUBFLOOR OR APPROVED EQUAL ON WOOD FLOOR JOISTS BRIDGED W/ CONTINUOUS 1"x 3" STRAPPING OR 2"x 2" CROSS BRIDGING OR SOLID BLOCKING @ 6' 11" O.C.

ACOUSTIC SEALANT

CONTINUOUS HEADER JOIST W/ RSI 3.34 BATT 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

2"x 3" WOOD STRAPPING @ 16" O.C. RSI 2.11 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
8"	3' 11"
10"	5' 11"
12"	7' 3"

BASEMENT SLAB 3" POURED CONC. SLAB 15 MPa W/ 0.15 MM POLY 25 MPa WITHOUT POLY 4" CRUSHED STONE

POLY DAMPPROOFING MEMBRANE UNDER BOTTOM PLATE

INSUL. MAY BE TERMINATED 15" ABOVE FLOOR

ACOUSTIC SEALANT

MAX. TOTAL MASONRY HEIGHT 8' 2"

ASPHALT SHINGLES ON MIN. 3/8" PLYWOOD SHEATHING ON APPROVED ROOF TRUSSES OR WOOD RAFTERS (SEE PLANS) USE "H"-CLIPS IF 24" O.C. SPACING

EAVE PROTECTION TO EXTEND FROM THE EDGE OF THE ROOF, 36" UP THE SLOPE BUT NOT LESS THAN 12" BEYOND THE INT. FACE OF THE EXTERIOR WALL

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

BRICK VENEER WALL  
 4" FACE BRICK  
 1" AIR SPACE  
 0.03" THICK x 7/8" WIDE GALVANIZED METAL TIES INSTALLED W/ GALVANIZED SPIRAL NAILS OR SCREWS  
 16" O.C. HORIZONTAL  
 24" O.C. VERTICAL  
 SHEATHING PAPER W/ LAYERS TO OVERLAP EACH OTHER  
 EXTERIOR TYPE SHEATHING  
 2"x 6" WOOD STUDS @ 16" O.C.  
 RSI 3.34 BATT INSULATION IN CONT. CONTACT W/ SHEATHING  
 CONTINUOUS VAPOUR/AIR BARRIER DOUBLE PLATE @ TOP SOLE PLATE @ BOTTOM  
 INTERIOR WALL FINISH

20mil POLY FLASHING MINIMUM 6" UP BEHIND SHEATHING PAPER PROVIDE WEEP HOLES @ MAX. 2' 7" APART

WOOD SILL PLATE FASTENED TO FOUNDATION WALL W/ MINIMUM 1/2" DIAMETER ANCHOR BOLTS EMBEDDED MIN. 4" IN CONCRETE @ 7' 10" O.C. MAX. & PROVIDE CONTINUOUS AIR BARRIER BETWEEN PLATE & FOUNDATION WALL

SLOPE GRADE AWAY FROM BUILDING FACE

BITUMINOUS DAMPPROOFING ON MINIMUM 1/4" PARING ON CONCRETE BLOCK FDN. WALL W/ PARING COVERED OVER POURED CONCRETE FOOTING (POURED CONCRETE WALLS TO HAVE TIE HOLES FILLED WITH CEMENT MORTAR OR DAMPPROOFING)

DRAINAGE LAYER  
 - MINIMUM 3/4" MINERAL FIBRE INSULATION W/ A DENSITY OF NOT LESS THAN 57kg/m<sup>3</sup>, OR  
 - MINIMUM 4" OF FREE DRAINING GRANULAR MATERIAL, OR  
 - A B.M.E.C. APPROVED DRAINAGE LAYER MATERIAL

16"x 6" DEEP POURED CONC. FTG. (TYPICAL) FOOTING TO BEAR ON UNDISTURBED SOIL

4" DIA. WEEPING TILE W/ 6" CRUSHED STONE COVER

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

CARRY MIN. RSI 2.11 INSULATION TO COVER INTERIOR FACE OF EXTERIOR WALL

INTERIOR CEILING FINISH CONT. AIR/VAPOUR BARRIER W/ MINIMUM RSI 7.00 INSULATION

FLOOR FINISH  
 5/8" T&G PLYWOOD SUBFLOOR OR APPROVED EQUAL ON WOOD FLOOR JOISTS BRIDGED W/ CONTINUOUS 1"x 3" STRAPPING OR 2"x 2" CROSS BRIDGING OR SOLID BLOCKING @ 6' 11" O.C.

ACOUSTIC SEALANT

CONTINUOUS HEADER JOIST W/ RSI 3.34 BATT 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

2"x 3" WOOD STRAPPING @ 16" O.C. RSI 2.11 INSULATION W/ 6 mil 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
8"	3' 11"
10"	5' 11"
12"	7' 3"

BASEMENT SLAB  
 3" POURED CONC. SLAB  
 15 MPa W/ 6mil POLY  
 25 MPa WITHOUT POLY  
 4" CRUSHED STONE

POLY DAMPPROOFING MEMBRANE UNDER BOTTOM PLATE

INSUL. MAY BE TERMINATED 15" ABOVE FLOOR

ACOUSTIC SEALANT

MAX. TOTAL MASONRY HEIGHT 6' 2"

TOWN OF GEORGINA  
  
 STANDARD DETAIL  
 TACBOC

BRICK VENEER WALL SECTION  
 FULL BASEMENT W/ FULL INSULATION & DRAINAGE LAYER

W02

ASPHALT SHINGLES ON MIN.  
3/8" PLYWOOD SHEATHING  
2" x 2" PURLINS @ 16" O.C.  
PERPENDICULAR TO ROOF  
JOISTS (SEE PLANS) USE  
'H'-CLIPS IF 24" O.C. SPACING

EAVE PROTECTION TO EXTEND  
FROM THE EDGE OF THE ROOF,  
36" UP THE SLOPE BUT NOT LESS  
LESS THAN 12" 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  
EXTERIOR TYPE SHEATHING  
2" x 6" WOOD STUDS @ 16" O.C.  
RSI 3.34 BATT INSULATION IN  
CONTINUOUS CONTACT W/  
SHEATHING & CONTINUOUS  
VAPOUR BARRIER  
DOUBLE PLATE @ TOP  
SOLE PLATE @ BOTTOM  
INTERIOR WALL FINISH

MINIMUM 2 1/2"  
CLEARANCE

MINIMUM 1"  
CLEARANCE

CARRY MIN. RSI 2.11 INSULATION  
TO COVER INTERIOR FACE  
OF EXTERIOR WALL.

INTERIOR CEILING FINISH  
CONT. VAPOUR BARRIER  
W/ MIN. RSI 4.93 INSULATION  
1" BELOW TOP OF ROOF JOIST

ASPHALT SHINGLES ON MIN.  
3/8" PLYWOOD SHEATHING  
JOISTS (SEE PLANS) USE  
'H'-CLIPS IF 24" O.C. SPACING

EAVE PROTECTION TO EXTEND  
FROM THE EDGE OF THE ROOF,  
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ROOF VENTILATION  
1:150 OF THE INSULATED  
CEILING AREA  
UNIFORMLY DISTRIBUTED

MINIMUM 2 1/2"  
CLEARANCE

CARRY MIN. RSI 2.11 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 4.93 INSULATION  
2 1/2" BELOW U/S OF SHEATHING

BRICK VENEER WALL  
4" FACE BRICK  
1" AIR SPACE  
0.03" THICK x 7/8" WIDE  
GALVANIZED METAL TIES  
INSTALLED W/ GALVANIZED  
SPIRAL NAILS OR SCREWS  
16" O.C. HORIZONTAL  
24" O.C. VERTICAL  
SHEATHING PAPER W/ LAYERS  
TO OVERLAP EACH OTHER  
EXTERIOR TYPE SHEATHING  
2" x 6" WOOD STUDS @ 16" O.C.  
RSI 3.34 BATT INSULATION IN CONT.  
CONTACT W/ SHEATHING  
CONTINUOUS VAPOUR/AIR BARRIER  
DOUBLE PLATE @ TOP  
SOLE PLATE @ BOTTOM  
INTERIOR WALL FINISH

ASPHALT SHINGLES ON MIN.  
3/8" PLYWOOD SHEATHING  
2"x2" PURLINS @ 16" O.C.  
PERPENDICULAR TO ROOF  
JOISTS (SEE PLANS) USE  
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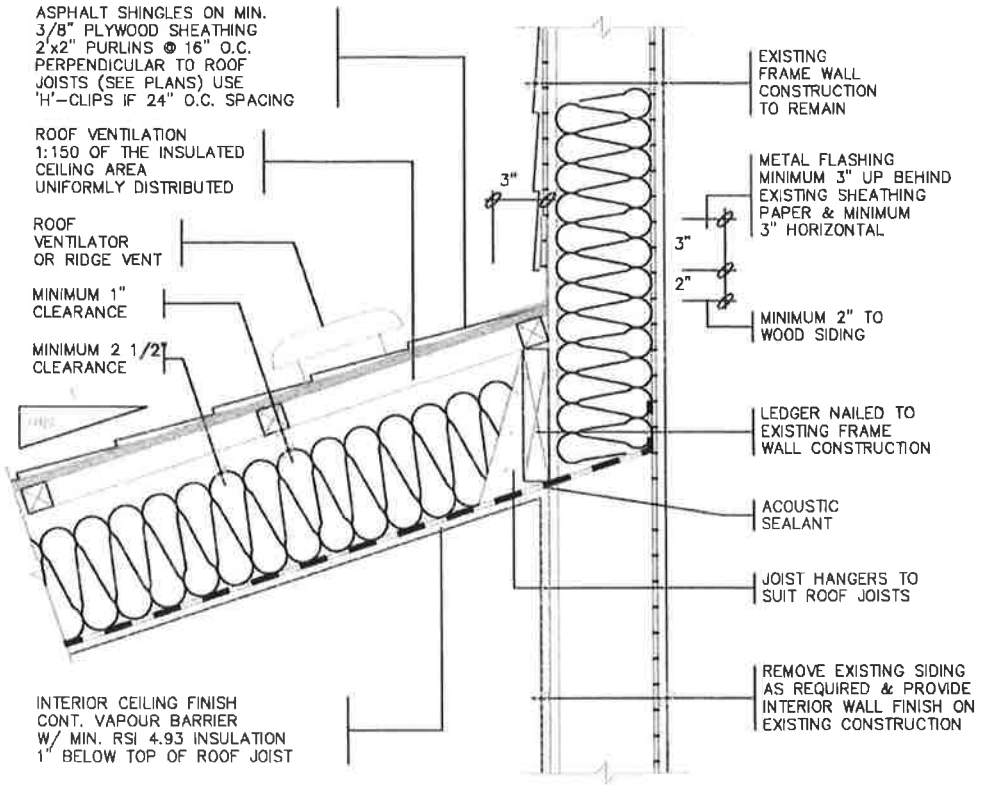
ROOF VENTILATION  
1:150 OF THE INSULATED  
CEILING AREA  
UNIFORMLY DISTRIBUTED

ROOF  
VENTILATOR  
OR RIDGE VENT

MINIMUM 1"  
CLEARANCE

MINIMUM 2 1/2"  
CLEARANCE

INTERIOR CEILING FINISH  
CONT. VAPOUR BARRIER  
W/ MIN. RSI 4.93 INSULATION  
1" BELOW TOP OF ROOF JOIST



EXISTING  
FRAME WALL  
CONSTRUCTION  
TO REMAIN

METAL FLASHING  
MINIMUM 3" UP BEHIND  
EXISTING SHEATHING  
PAPER & MINIMUM  
3" HORIZONTAL

MINIMUM 2" TO  
WOOD SIDING

LEDGER NAILED TO  
EXISTING FRAME  
WALL CONSTRUCTION

ACOUSTIC  
SEALANT

JOIST HANGERS TO  
SUIT ROOF JOISTS

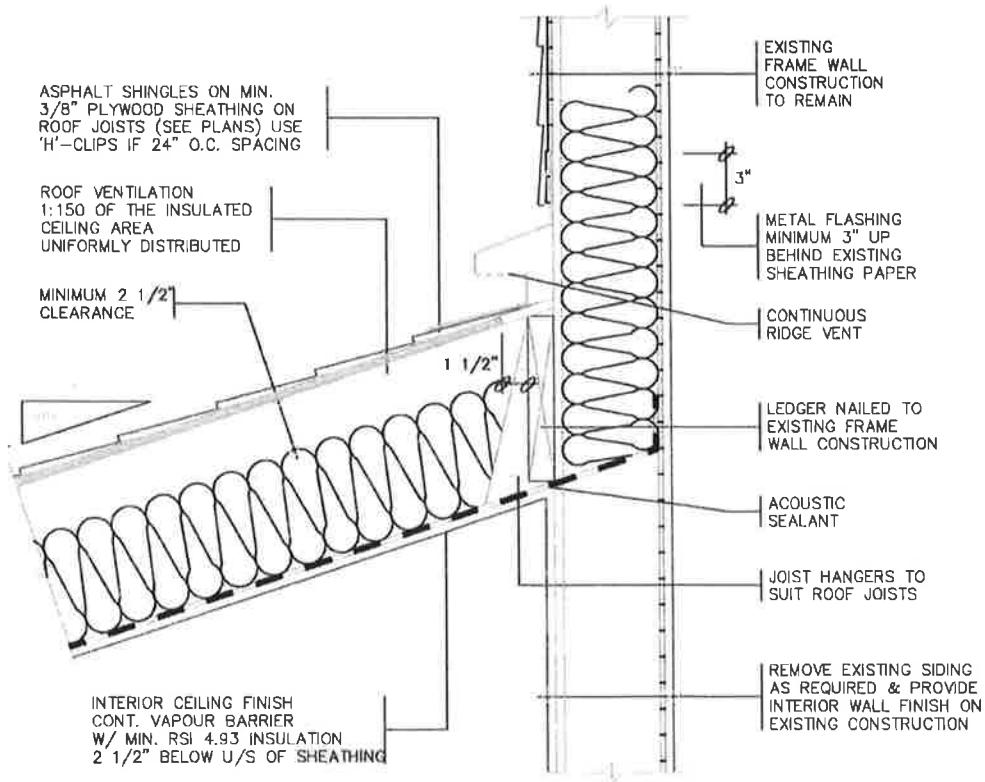
REMOVE EXISTING SIDING  
AS REQUIRED & PROVIDE  
INTERIOR WALL FINISH ON  
EXISTING CONSTRUCTION

ASPHALT SHINGLES ON MIN.  
3/8" PLYWOOD SHEATHING ON  
ROOF JOISTS (SEE PLANS) USE  
'H'-CLIPS IF 24" O.C. SPACING

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

MINIMUM 2 1/2"  
CLEARANCE

INTERIOR CEILING FINISH  
CONT. VAPOUR BARRIER  
W/ MIN. RSI 4.93 INSULATION  
2 1/2" BELOW U/S OF SHEATHING



EXISTING  
FRAME WALL  
CONSTRUCTION  
TO REMAIN

METAL FLASHING  
MINIMUM 3" UP  
BEHIND EXISTING  
SHEATHING PAPER

CONTINUOUS  
RIDGE VENT

LEDGER NAILED TO  
EXISTING FRAME  
WALL CONSTRUCTION

ACOUSTIC  
SEALANT

JOIST HANGERS TO  
SUIT ROOF JOISTS

REMOVE EXISTING SIDING  
AS REQUIRED & PROVIDE  
INTERIOR WALL FINISH ON  
EXISTING CONSTRUCTION

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 11 3/4" in excavated areas under a building, and the clearance between untreated structural wood elements and the ground shall be no less than 17 3/4"
- Backfill within 23 5/8" of the foundation walls shall be free of deleterious debris and boulders over 9 7/8" 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 1/4" of mortar covered over the footing prior to dampproofing
- 4" 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 6" 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 2200psi poured concrete
- minimum 8" below finished grade
- Footings shall be founded on natural undisturbed soil, rock or compacted granular fill with minimum bearing capacity of 1570 psi

Footing Size

Floors Supported	Supporting Ext. Wall	Supporting Int. Wall	Column Area
1	9 7/8"	9 7/8"	4.3 ft2
2	13 3/4"	13 3/4"	8.1 ft2
3	17 3/4"	19 3/4"	10.9 ft2

- Increase exterior footing width by 2 5/8" for each storey of brick veneer supported, by 5 1/8" for each storey of masonry and by 6" for ICF
- Increase interior footing width by 4" for each storey of masonry above footing, and by 4" for each 8' 10" of wall height above 5 1/8"
- The projection of an unreinforced footing beyond the wall supported shall not be greater than its thickness

Step Footings

- 23 5/8" max. rise  
23 5/8" 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 7/8" above finished grade.
- A drainage layer is required on the outside of a foundation wall where the interior insulation extends more than 11" below exterior grade. A drainage layer shall consist of
  - Min. 3/4" mineral fibre insulation with min. Density of 3.6 lb/ft<sup>3</sup>
  - Min. 4" 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 4650 psi concrete with 5-8% air entrainment
- Basement slab 3600psi concrete, minimum 3" thick, placed on a minimum 4" 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 3 1/2" brick, wall shall be bonded with a header course every 24" o/c vertically and horizontally and 2' 11" o/c for block or tile.
- Provide 2" solid masonry, concrete filled top course or continuous 2" x 4" wood plate under all roof and floor framing members
- Provide 7 1/2" solid masonry under beams and columns
- Masonry wall to be tied to each tier of joists with 1 9/16" x 3/16" corrosion resistant steel straps, keyed minimum 4" into masonry. When joists are parallel to wall, ties are to extend across at least 3 joists @ 6' 7"
- 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 1/2" brick to minimum 1/2" back-up block with corrosion resistant ties at least 0.028 in<sup>2</sup> in cross sectional area, spaced 7 7/8" vertically and 2' 11" 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 7/8" end bearing

Masonry Veneer

- Minimum 2 3/4" thick if joints are not raked and 3 1/2" thick if joints are raked
- Minimum 1" air space to sheathing
- Provide weep holes @ 31 1/2" o.c. at the bottom of the cavity and over doors and windows
- Direct drainage through weep holes with 20mil poly flashing extending minimum 5 7/8" up behind the sheathing paper
- Veneer ties minimum 0.030" thick x 7/8" wide corrosion resistant straps spaced @ 15 3/4" vertically and 23 5/8" horizontally
- Fasten ties with corrosion resistant 0.125" diameter screws or spiral nails which penetrate at least 1 3/16" 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 6mil polyethylene or type 'S' roll roofing

### Walls

- Exterior walls shall consist of:
  - cladding
  - air barrier system lapped 4" at joints
  - lumber, plywood, OSB or gypsum sheathing
  - 2"x 6" studs @ 16" o.c.
  - RSI 3.34 insulation
  - 2"x 6" bottom plate
  - 2"x 6" double top plate
- Interior loadbearing walls shall consist of:
  - 2"x 4" studs @ 16" o.c.
  - 2"x 4" bottom plate and double 2"x4" top plate
  - 2"x 4" mid-girts if not sheathed
  - 1/2" gypsum board sheathing

### Floors

- See S01d for floor joist size and spacing requirements
- Joists to have minimum 1/2" of end bearing
- Joists shall bear on a sill plate fixed to foundation with 1/2" anchor bolts @ 7' 10" o.c.
- Header joists between 3' 11" and 10' 6" in length shall be doubled. Header joists exceeding 10' 6" shall be sized by calculations
- Trimmer joists shall be doubled when supported header is between 2' 7" and 6' 7". Trimmer joists shall be sized by calculations when supported header exceeds 6' 7"
- 2"x 2" cross bridging required not more than 6' 11" 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 2" deeper than common rafters
- 2"x 4" collar ties @ rafter spacing with 1"x 4" continuous brace at mid span if collar tie exceeds 7' 10" 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 2" 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 9/16" 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 1/2" into roof sheathing
- Every asphalt shingle shall be fastened with at least 4 nails for 3' 3" wide shingle (or staples)
- Eave protection shall extend 2' 11" up the roof slope from the edge, and at least 11 3/4" from the inside face of the exterior wall, and shall consist of Type M or Type S Roll Roofing laid with minimum 4" 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. 24" 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 1/16" sheet lead, 0.013" galvanized steel, 0.018" copper, 0.018" zinc, or 0.019" aluminum

### Columns, Beams & Lintels

- Steel beams and columns shall be shop primed 350W steel.
- Minimum 3 1/2" end bearing for wood and steel beams, with 7 7/8" solid masonry beneath the beam.
- Steel columns to have minimum outside diameter of 2 7/8" and minimum wall thickness of 3/16"
- Wood columns for carports and garages shall be minimum 3 1/2"x3 1/2" in all other cases either 5 1/2"x5 1/2" or 7 1/4" 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 11 3/8" x 11 3/8" or 9 1/2" x 15"
- Provide solid blocking the full width of the supported member under all concentrated loads

### Insulation & Weatherproofing

- |                                |                 |
|--------------------------------|-----------------|
| Ceiling with attic             | R -31           |
| Roof without attic             | R -20           |
| Exterior Wall                  | R -17           |
| Foundation Wall                | R -8            |
| Foundation > 50% exposed       | R -17           |
| Exposed Floor                  | R -25           |
| Slabs on Grade                 | (unheated) R -8 |
|                                | (heated) R -10  |
| Supply Ducts in unheated space | R -12           |
- Insulation shall be protected with gypsum board or an equivalent interior finish, except for unfinished basements where 5Mmil 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 1.1ft<sup>2</sup> of ventilation for each 538 ft<sup>2</sup>
- Minimum natural ventilation areas, where mechanical ventilation is not provided, are:  
Bathrooms: 0.97 ft<sup>2</sup>  
other rooms: 3 ft<sup>2</sup>  
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 3.8 ft<sup>2</sup> and no dimension less than 15", which is openable from the inside without tools. Maximum sill height 1000mm for fin. floors above grade.
- Exterior house doors and windows within 6' 7" 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 4" from property lines
- 5/8" 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 4" and not less than 24" from property lines
- Non combustible cladding shall be installed on all exterior walls less than 24" from property lines

#### Ceramic Tile

- When ceramic tile is applied to a mortar bed with adhesive, the bed shall be a minimum of 1/2" thick & reinforced with galvanized diamond mesh lath, applied over polyethylene on subflooring on joists at no more than 16" o.c. with at least 2 rows cross bridging

#### Access to Attics and Crawl Spaces

- Access hatch minimum 19 3/4" x 23" to be provided to every roof space which is 108 ft<sup>2</sup> or more in area and more than 24" in height
- Access hatch minimum 20" x 27" 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 2' 11" or more above an adjacent level
- Smoke alarms shall be interconnected and located such that one is within 16' 5" of every bedroom door and no more than 49' 3" 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 7 7/8"
- Minimum Run 8 1/4"
- Minimum Tread 9 1/4"
- Minimum Head Room 6' 5"
- Minimum Width 2' 10"
- Curved stairs shall have a min. run of 5 7/8" at any point and a minimum average run of 7 7/8"
- 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 3' 11" 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 24" above the adjacent level and where the adjacent surface has a slope more than 1:2
- Interior and exterior guards min. 2' 11" high. Exterior guards shall be 3' 6" high where height above adjacent surface exceeds 5' 11"
- Guards shall have openings smaller than 4" and no member between 5" and 2' 11" 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 323ft<sup>2</sup> 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.cfm each for basement and master bedroom
  - 5.cfm 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)

RAFTER SIZE	MAXIMUM CLEAR SPAN (FT)					
	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	RAFTER SPACING (in) O.C.			RAFTER SPACING (in) O.C.		
	12"	16"	24"	12"	16"	24"
2" x 4"	10' 2"	9' 3"	8' 1"	8' 11"	8' 1"	7' 1"
2" x 6"	16' 0"	14' 7"	12' 9"	14' 0"	12' 9"	11' 1"
2" x 8"	21' 1"	19' 2"	16' 9"	18' 5"	16' 9"	14' 5"
2" x 10"	27' 0"	24' 6"	20' 1"	23' 6"	21' 4"	17' 8"

## ROOF JOISTS (WHERE CEILING IS INSTALLED)

JOIST SIZE	MAXIMUM CLEAR SPAN (FT)					
	ROOF SNOW LOAD 1.0 kPa			ROOF SNOW LOAD 1.5 kPa		
	JOIST SPACING (in) O.C.			JOIST SPACING (in) O.C.		
	12"	16"	24"	12"	16"	24"
2" x 4"	8' 1"	7' 4"	6' 5"	7' 1"	6' 5"	5' 7"
2" x 6"	12' 9"	11' 6"	10' 1"	11' 1"	10' 1"	8' 9"
2" x 8"	16' 9"	15' 2"	13' 5"	14' 7"	13' 5"	11' 7"
2" x 10"	21' 4"	19' 5"	17' 0"	18' 6"	17' 0"	14' 10"

## FLOOR JOISTS

JOIST SIZE	MAXIMUM CLEAR SPAN (FT)											
	1" x 3" STRAPPING OR DRYWALL CLG.			2" x 2" CROSS BRIDGING			BOTH STRAPPING & BRIDGING			1 1/2" - 2" CONCRETE TOPPING		
	JOIST SPACING (in)			JOIST SPACING (in)			JOIST SPACING (in)			JOIST SPACING (in)		
	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
2" x 4"	8' 1"	5' 7"	5' 2"	6' 6"	5' 11"	5' 2"	6' 6"	5' 11"	5' 2"	6' 6"	5' 11"	5' 2"
2" x 6"	9' 6"	8' 10"	8' 2"	10' 3"	9' 4"	8' 2"	10' 3"	9' 4"	8' 2"	10' 3"	9' 4"	8' 2"
2" x 8"	11' 7"	11' 0"	10' 6"	12' 6"	11' 9"	10' 8"	13' 1"	12' 2"	10' 8"	13' 6"	12' 3"	10' 8"
2" x 10"	15' 5"	12' 11"	12' 4"	14' 6"	13' 8"	12' 10"	15' 1"	14' 0"	15' 1"	17' 3"	15' 8"	13' 6"
2" x 12"	15' 7"	14' 4"	14' 1"	16' 5"	15' 5"	14' 6"	16' 11"	15' 9"	14' 8"	20' 5"	19' 0"	15' 8"

## CEILING JOISTS

JOIST SIZE	MAXIMUM CLEAR SPAN (FT)		
	JOIST SPACING (in) O.C.		
	12"	16"	24"
2" x 4"	10' 2"	9' 3"	8' 1"
2" x 6"	16' 0"	14' 7"	12' 9"
2" x 8"	21' 1"	19' 2"	16' 9"
2" x 10"	26' 11"	24' 6"	21' 4"

## SUBFLOORING

FLOOR JOIST UP TO (in) O.C.	SUBFLOORING MIN. THICKNESS (in)		
	PLYWOOD	WAFER BD.	LUMBER
16"	3/8"	3/8"	1 1/16"
20"	3/8"	3/8"	3/4"
24"	3/4"	3/4"	3/4"

## ROOF SHEATHING

ROOF FRAMING (in) O.C.	ROOF SHEATHING UNSUPPORTED EDGES MIN. THICKNESS (in)	ROOF SHEATHING TONGUE & GROOVE, H-CUPS OR OTHER EDGE SUPPORT MIN. THICKNESS (in)
12"	5/8" PLYWOOD, 5/8" WAFER BD. OR 1 1/16" LUMBER	3/16" PLYWOOD, 5/8" WAFER BD OR 1 1/16" LUMBER
16"	3/8" PLYWOOD, 7/16" WAFER BD. OR 1 1/16" LUMBER	3/16" PLYWOOD, 5/8" WAFER BD OR 1 1/16" LUMBER
24"	1/2" PLYWOOD OR 3/4" LUMBER	5/8" PLYWOOD, 7/16" WAFER BD OR 3/4" LUMBER

## GENERAL NOTES

- ALL LUMBER TO BE NO. 1&2 SPF OR BETTER
- STRAPPING & CROSS BRIDGING MAXIMUM 6' 11" FROM END SUPPORT & OTHER ROWS OF STRAPPING & BRIDGING.
- CEILING JOIST TABLE MAY BE APPLIED ONLY WHERE ATTIC IS NOT ACCESSIBLE BY A STAIRWAY.
- WHERE FINISHED FLOORING CONSISTS OF 3/4" WOOD STRIPS, SUBFLOOR MAY BE REDUCED TO 1/2".