MULTI-UNIT RESIDENTIAL BUILDINGS:

STANDARD METHODS OF MEASUREMENT

Developed by:
Building Owners and Managers Association (BOMA) International
Institute of Real Estate Management
National Association of Home Builders
National Multi Housing Council®

Approved American National Standard ANSI

BOMA International

IREM Institute of Real Estate Management

NAHB

NMHC National Multi Housing Council®

CONTENTS

BOMA International
Suite 800
1101 15th Street, NW
Washington, DC 20005
202.408.2662
www.boma.org

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Secretariat
Building Owners and Managers Association International

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Building Owners and Managers Association International (BOMA)
1101 15th St, NW, Suite 800
Washington, DC 20005
Phone: 202.408.2662
Fax: 202.326.6377
www.BOMA.org
Publication orders: www.BOMA.org/BOMAstore
or 1.800.426.6292

Institute of Real Estate Management (IREM)
430 North Michigan Avenue
Chicago, Illinois 60611
Phone: 1.800.837.0706
Fax: 1.800.338.4736
www.irem.org

National Association of Home Builders (NAHB)
1201 15th Street, NW
Washington, DC 20005
Toll Free Phone: 1.800.368.5242
Local Phone: 202.266.8200 x0
Fax: 202.266.8400
www.nahb.org

National Multi Housing Council® (NMHC)
1850 M Street, NW, Suite 540
Washington, DC 20036
Phone: 202.974.2300
Fax: 202.775.0112
www.nmhc.org

The Developers wish to extend its appreciation to those individuals who contributed to the development of *Multi-Unit Residential Buildings: Standard Methods of Measurement (2010)*:

Rebecca B. Hanner, CPM, RPA
Task Force Chair
Cassidy Turley
Raleigh, North Carolina

Fraser Rowe
Task Force Vice-chair
American Building Calculations
Land O Lakes, Florida

Dave Collins, FAIA
The Preview Group
Cincinnati, Ohio

Miles Haber
Monument Construction Inc.
Chevy Chase, Maryland

Joe McDonnell
American Building Calculations
Land O Lakes, Florida

Jody Resnick
Pace Compumetrics, Inc.
Woodland, California

Jim Tostado, RPA
Hibiscus Investments
San Diego, California

Patrick Connelly, RPA
Committee Chair
Matrix Development Group
Monroe, New Jersey

Bill Tracy, AIA, MBA, NCARB
Task Force Vice-chair
Building Area Measurement LLC
Denver, Colorado

Adam Fingret
Extreme Measures, Inc.
Toronto, Ontario

Jim Jonas, CPA
REDICO Management
Southfield, Michigan

Ron Nickson
National Multi Housing Council
Washington, DC

Peter Stevenson
Stevenson Systems, Inc.
Laguna Niguel, California

David P. Tyree, P.E., C.B.O.
BOMA International
Washington, DC

Kent Gibson, CPM
Past Committee Chair
Property Reserve, Inc.
Salt Lake City, Utah

Charles A. Achilles
Institute for Real Estate Management
Chicago, Illinois

Tery Finigan, CPM
Stevenson Systems, Inc.
Laguna Niguel, California

Bruce Lyman
City Creek Reserve, Inc.
Salt Lake City, Utah

Matthew O'Hara
Institute for Real Estate Management
Chicago, Illinois

Don Surrena, CBO
National Association of Home Builders
Washington, DC

Davis S. Wright, CPM
Property Reserve, Inc.
Salt Lake City, Utah

MEASUREMENT METHODS

Two versions of the Wall Priority Diagram are shown below, one (Chart 1) for use in conjunction with the unit gross area and the other (Chart 2) for use in conjunction with the unit net area.

Chart 1 – Wall Priority Diagram Method A: Unit Gross

Within construction gross area, the boundary of the major space class below is the indicated surface or centerline of the wall between it and the adjacent major space class to the right: FS: Far side finished surface of wall CL: Centerline of wall NS: Near side finished surface of wall	MAJOR VERTICAL PENETRATION	LIVING UNIT GROSS AREA STORAGE UNIT GROSS AREA	RESTRICTED HEADROOM	LIMITED COMMON AREAS (BALCONY, ROOF TERRACE, DECK, PORCH…)	COMMON AREAS	STRUCTURED PARKING
MAJOR VERTICAL PENETRATION	CL	FS	FS	FS	FS	FS
LIVING UNIT GROSS AREA STORAGE UNIT GROSS AREA	NS	CL	FS	FS	FS	FS
RESTRICTED HEADROOM	NS	NS	CL	FS	FS	FS
LIMITED COMMON AREAS (BALCONY, ROOF TERRACE, DECK, PORCH…)	NS	NS	NS	CL	FS	FS
COMMON AREAS	NS	NS	NS	NS	CL	FS
STRUCTURED PARKING	NS	NS	NS	NS	NS	CL

When computing unit gross areas, the boundary of all classes of space adjacent to the perimeter of the building is the building perimeter. Refer to Illustrations # 5, 8 & 11.

Chart 2 – Wall Priority Diagram Method B: Unit Net

Within construction gross area, the boundary of the major space class below is the indicated surface or centerline of the wall between it and the adjacent major space class to the right: FS: Far side finished surface of wall CL: Centerline of wall NS: Near side finished surface of wall	MAJOR VERTICAL PENETRATION	STRUCTURED PARKING	COMMON AREAS (INCLUDING DEMISING WALLS & EXTERIOR ENCLOSURES)	LIMITED COMMON AREAS (BALCONY, ROOF TERRACE, DECK, PORCH…)	RESTRICTED HEADROOM	LIVING UNIT NET AREA STORAGE UNIT NET AREA
MAJOR VERTICAL PENETRATION	CL	FS	FS	FS	FS	FS
STRUCTURED PARKING	NS	CL	FS	FS	FS	FS
COMMON AREAS (INCLUDING DEMISING WALLS & EXTERIOR ENCLOSURES)	NS	NS	CL	FS	FS	FS
LIMITED COMMON AREAS (BALCONY, ROOF TERRACE, DECK, PORCH…)	NS	NS	NS	*	FS	FS
RESTRICTED HEADROOM	NS	NS	NS	NS	*	FS
LIVING UNIT NET AREA STORAGE UNIT NET AREA	NS	NS	NS	NS	NS	*

**NOTE: In Method B, units, restricted headroom & limited common areas are generally separated by demising walls, which are common area, so they generally do not share common boundaries.*

When computing unit net area, all exterior enclosing walls at the perimeter of the building are classified as common area. Refer to Illustrations #6, 9 & 12

When this Step III is completed, the spaces classification and boundaries are established and the area of each class of space is computed. This constitutes the raw square footage data that is required for the computations in Step IV below.

SECTION 7: LIST OF ILLUSTRATIONS AND WORKSHEETS

The Illustrations provide graphic support for users of this standard. However, the text governs in the event that there is any conflict between the text and the illustrations.

This document is intended for distribution in an electronic format and the illustrations listed below are referred to from within the text using hyperlinks indicated by text that is colored and underlined. Some illustrations are referenced from many locations within the text.

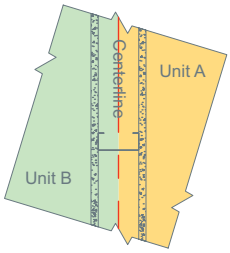
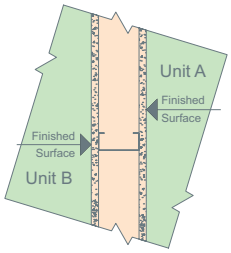
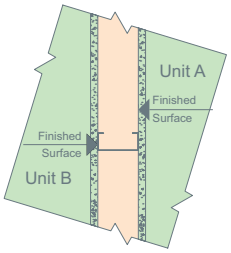
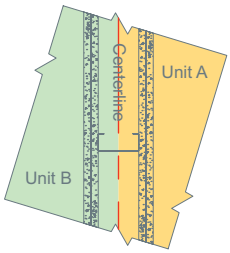
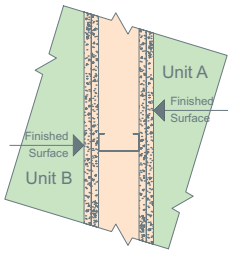
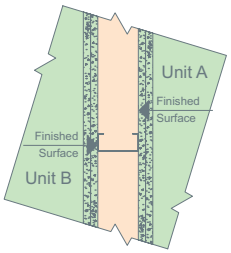
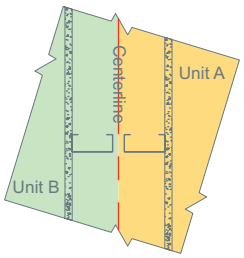
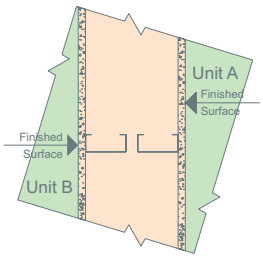
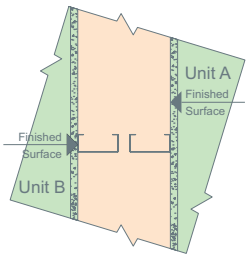
For readers who prefer to use a printed version of this standard, the Developers recommend printing the illustrations in color and binding them separately from the text so that they can be viewed side-by-side. Alternatively, the text may be read in printed form and the illustrations viewed electronically where they can be enlarged for increased resolution of details.

List of Illustrations and Worksheets

ILLUSTRATION ID	ILLUSTRATION DESCRIPTION
1	Demising Wall Detail Boundaries Methods A&B
2	Demising Wall Detail Boundaries Methods A&B
3	Reserved
4	Plan A Construction Gross Area
5	Plan A Method A (Gross)
6	Plan A Method B (Net)
7	Plan B Construction Gross Area
8	Plan B Method A (Gross)
9	Plan B Method B (Net)
10	Plan C – Construction Gross Area
11	Plan C – Method A (Gross)
12	Plan C – Method B (Net)
Chart 3	Global Summary of Areas Worksheet

ILLUSTRATION 1 METHODS A & B

DEMISING WALL DETAIL BOUNDARIES

Method A (Gross)	Method B (Net) Leased Units	Method B (Net) Owned Units
		
Demising Wall A	Demising Wall A	Demising Wall A
		
Demising Wall B	Demising Wall B	Demising Wall B
		
Demising Wall C	Demising Wall C	Demising Wall C

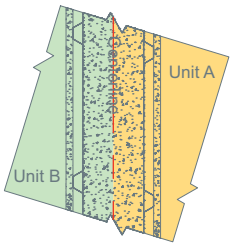
KEY:

- UNIT GROSS AREA
- UNIT NET AREA
- COMMON AREA (NET)

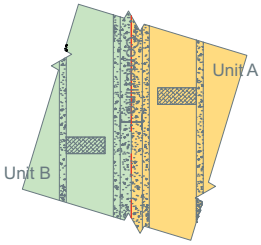
ILLUSTRATION 2 METHODS A & B

DEMISING WALL DETAIL BOUNDARIES

Method A (Gross)

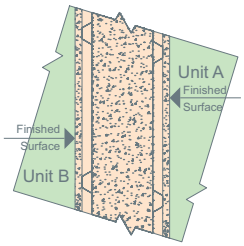


Demising Wall D

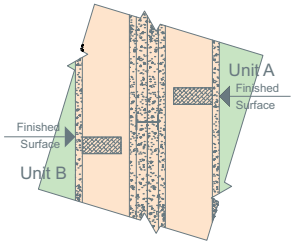


Demising Wall E

Method B (Net) Leased Units

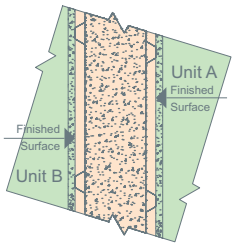


Demising Wall D

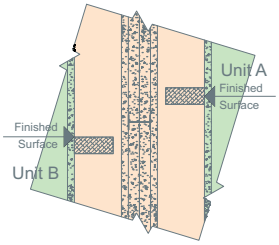


Demising Wall E

Method B (Net) Owned Units



Demising Wall D



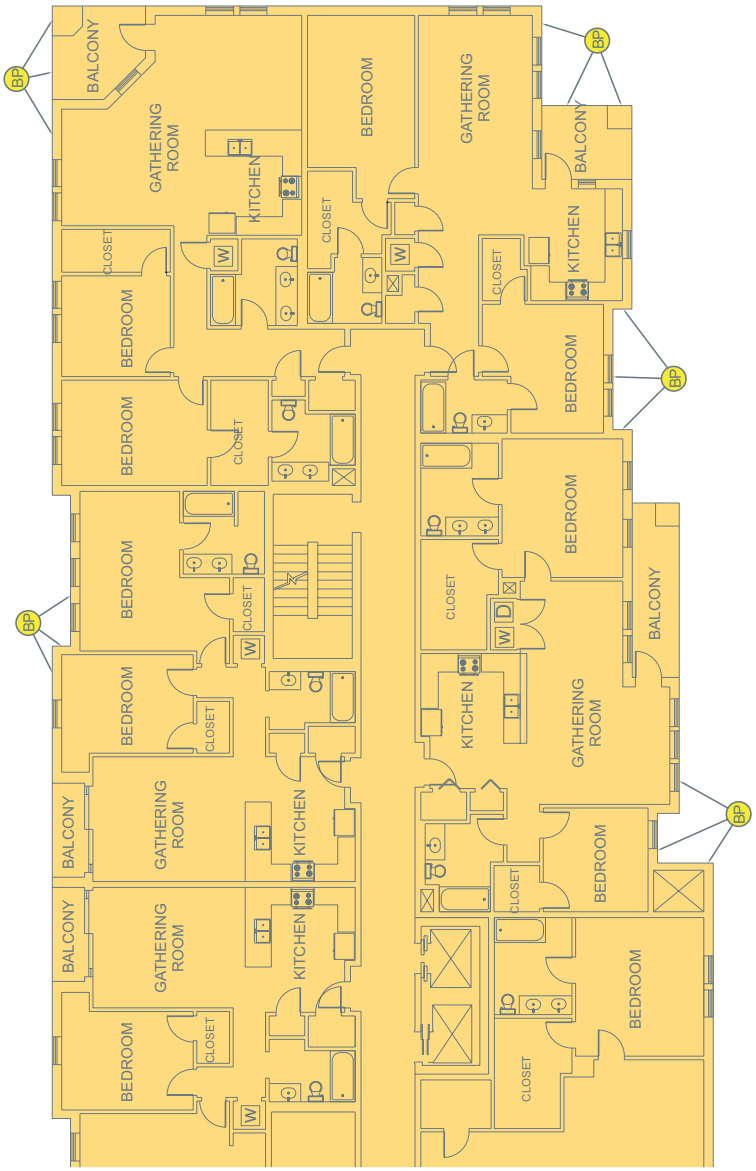
Demising Wall E

KEY:

- UNIT GROSS AREA
- UNIT NET AREA
- COMMON AREA (NET)

ILLUSTRATION 4

PLAN A – CONSTRUCTION GROSS AREA



KEY:

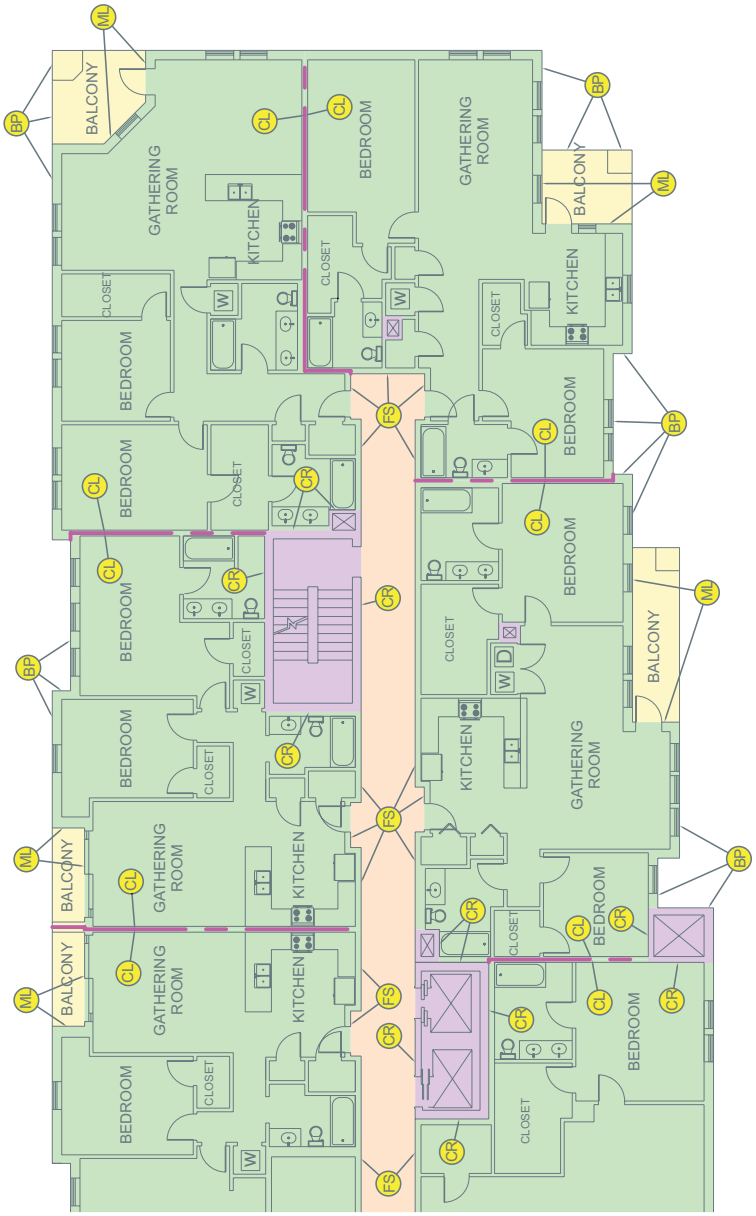
CONSTRUCTION GROSS AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

ILLUSTRATION 5

PLAN A – METHOD A (GROSS)



KEY:

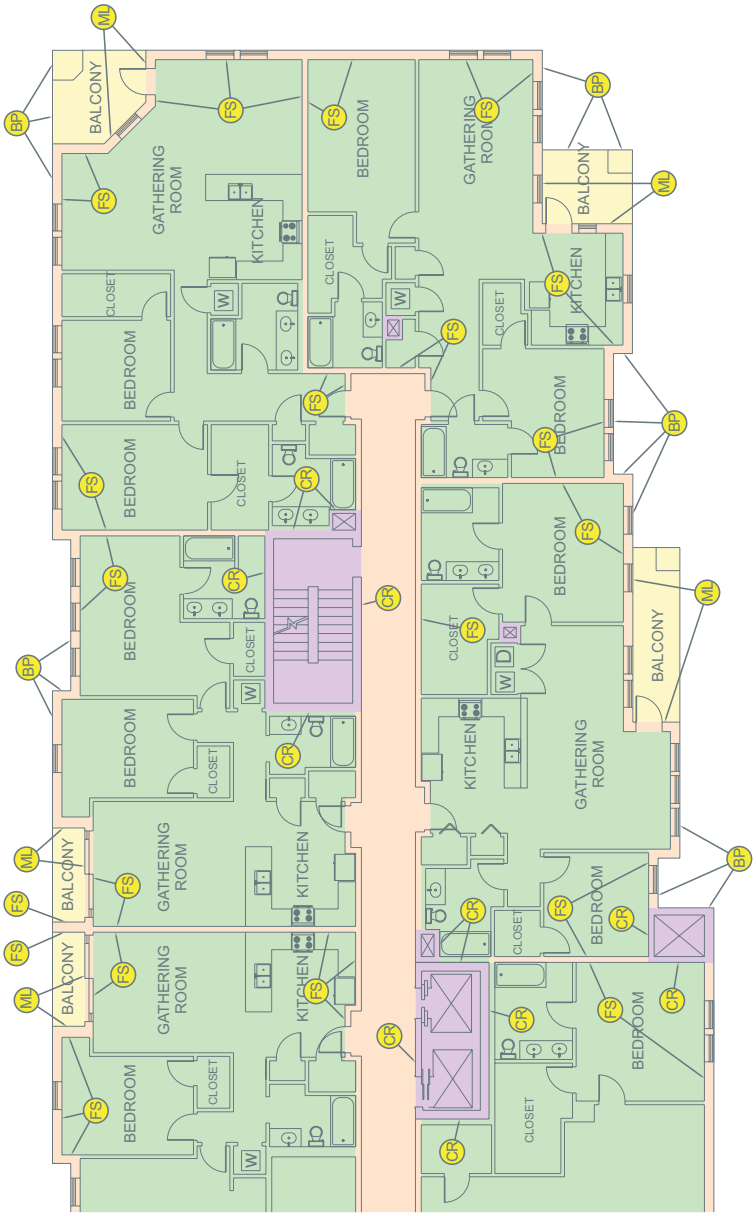
- MAJOR VERTICAL PENETRATIONS
- UNIT GROSS AREA
- LIMITED COMMON AREA
- COMMON AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

ILLUSTRATION 6

PLAN A – METHOD B (NET)



KEY:

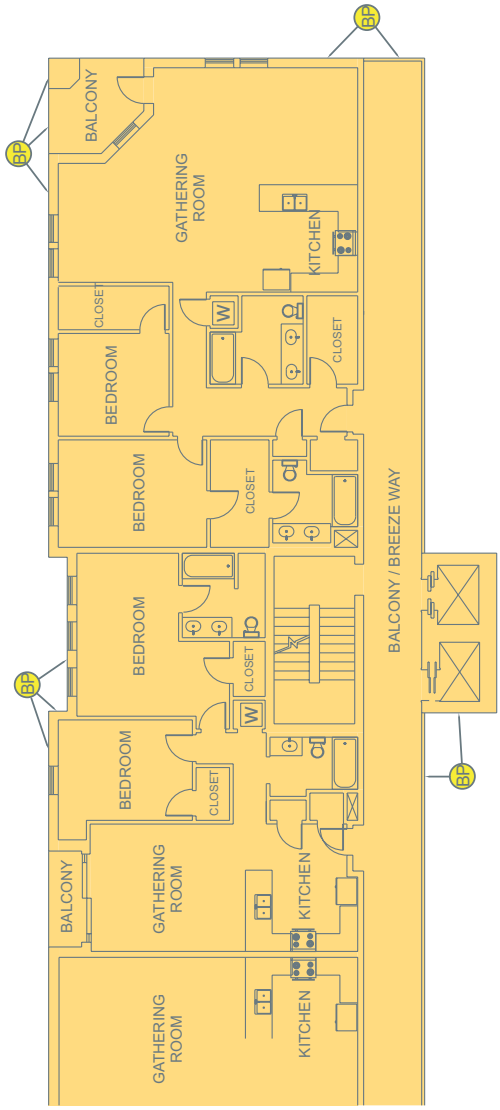
- MAJOR VERTICAL PENETRATIONS
- UNIT NET AREA
- LIMITED COMMON AREA
- COMMON AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

ILLUSTRATION 7

PLAN B – CONSTRUCTION GROSS AREA



KEY:

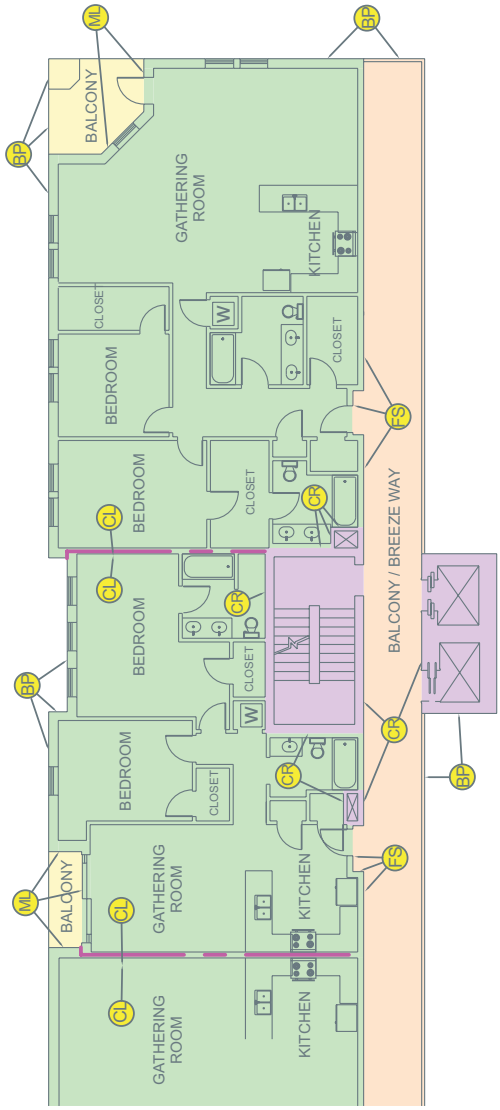
CONSTRUCTION GROSS AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

ILLUSTRATION 8

PLAN B – METHOD A (GROSS)



KEY:

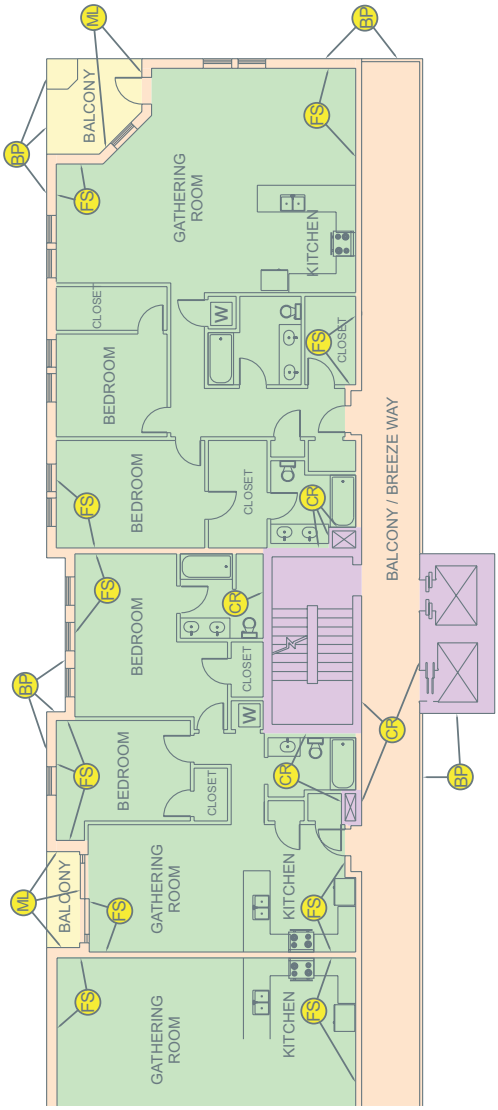
- MAJOR VERTICAL PENETRATIONS
- UNIT GROSS AREA
- LIMITED COMMON AREA
- COMMON AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

ILLUSTRATION 9

PLAN B – METHOD B (NET)



KEY:

- MAJOR VERTICAL PENETRATIONS
- UNIT NET AREA
- LIMITED COMMON AREA
- COMMON AREA

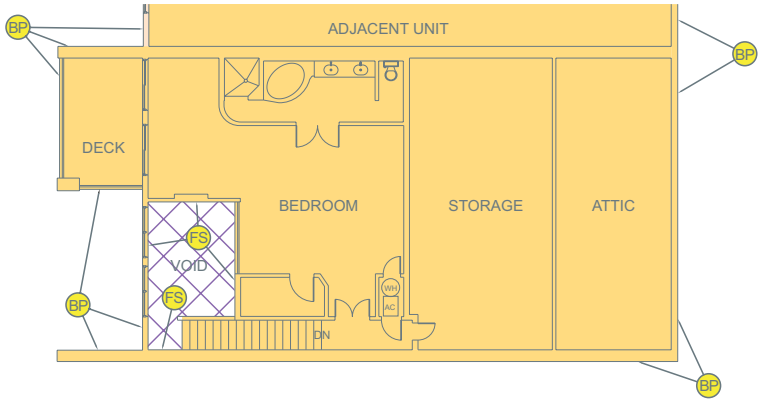
BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

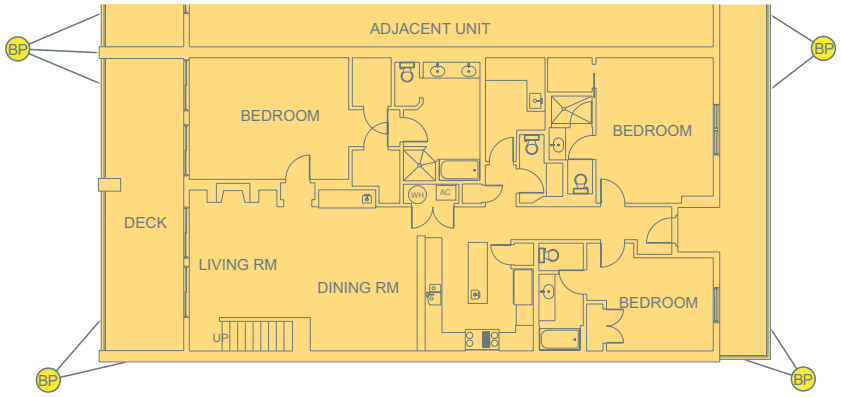
ILLUSTRATION 10

PLAN C – CONSTRUCTION GROSS AREA

Upper Level Plan



Lower Level Plan



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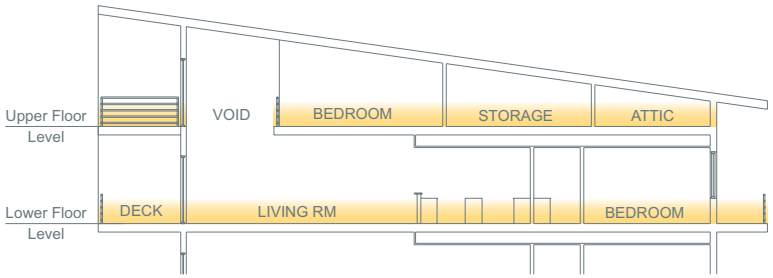


KEY:

CONSTRUCTION GROSS AREA

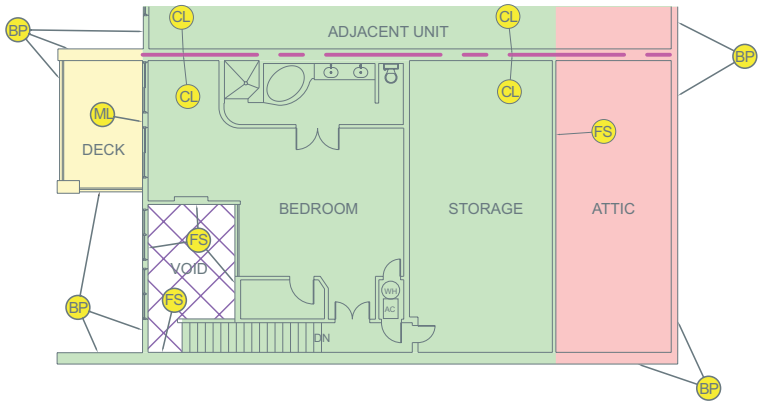
BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

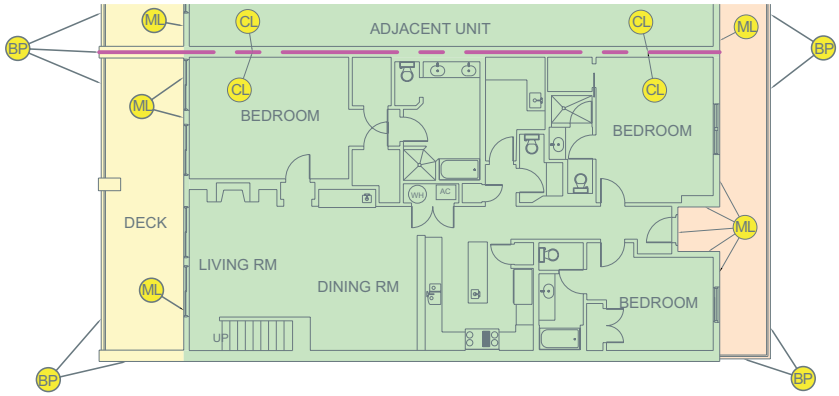
ILLUSTRATION 11

PLAN C – METHOD A (GROSS)

Upper Level Plan



Lower Level Plan



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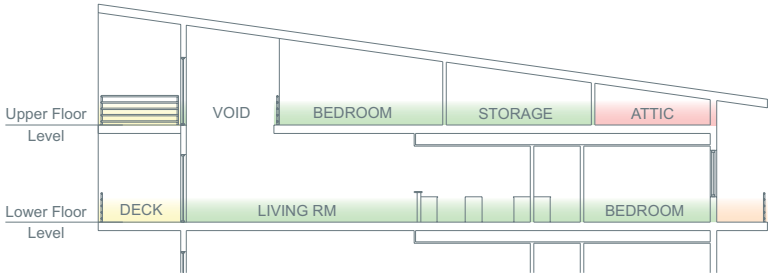


KEY:

- RESTRICTED HEADROOM
- UNIT GROSS AREA
- LIMITED COMMON AREA
- COMMON AREA

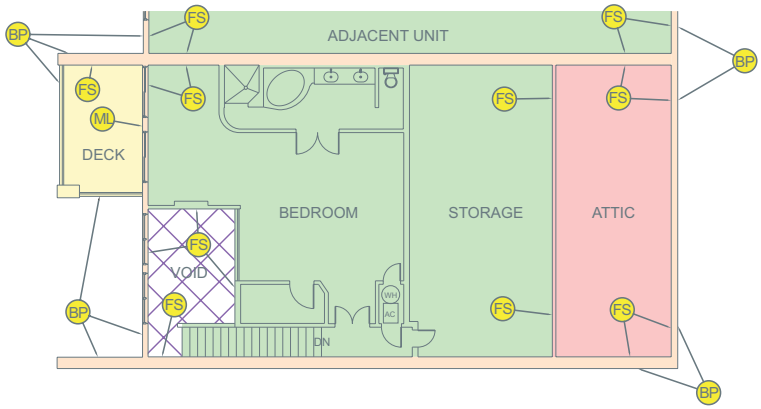
BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL

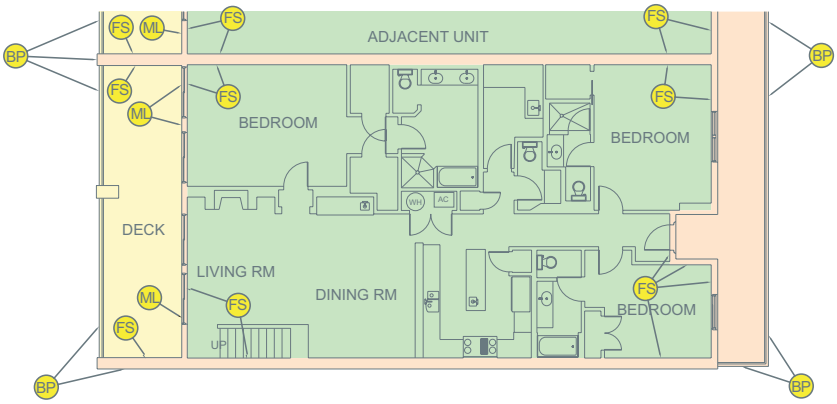
ILLUSTRATION 12

PLAN C – METHOD B (NET)

Upper Level Plan



Lower Level Plan



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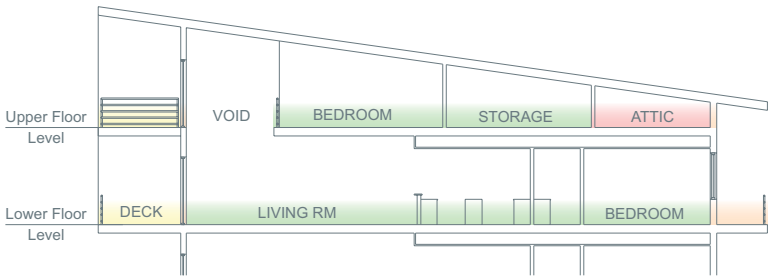

KEY:

- RESTRICTED HEADROOM
- UNIT NET AREA
- LIMITED COMMON AREA
- COMMON AREA

BOUNDARY KEY:

- BP BUILDING PERIMETER
- ML MEASURE LINE
- FS FINISHED SURFACE
- CL CENTERLINE
- CR CODE-REQUIRED ENCLOSING WALL