

# Existing Ministerial Regulations Based on the Building Control Act of Thailand

## Remark

The Minister of Interior has issued many Ministerial Regulations, and around 45 Ministerial Regulations are effective as of 2007.

This is the document combining “Ministerial Regulations issued by, based on the Building Control Act of Thailand”, which include those listed in the Table 1, but do not include those listed in the Table 2. shown as below. Provided that,

as of 31 January, 2008, which was issued in 1979 and was amended in 1992, 2000 and 2007.

In this text,

- **Characters in blue** are:

- supplementary comments added by Mr. Hasegawa (JICA expert), or
- original Thai words.

- **Characters in red** are important words.

- Year of BE (Buddhist Era) has been converted to year of AD.

In this text, **sentences in blue** are supplementary comments added by Mr. Hasegawa (JICA expert), and **sentences in red** are provisions concerning fire safety.

## 1. Contents

**Table 1 Ministerial Regulations applying to all over Thailand without the designated rural areas**

In the table below,

- **Ministerial Regulations in purple numbers** are effective, while **those in green numbers** are not effective now.

- MRs after No.60 do not have their numbers. The names such as BF are given by Mr. Hasegawa for convenience.

Meanings of \*1, \*2, \*3, \*4, and \*5 are as shown below.

\*1: the field of Procedure

\*2: the field of Technical regulations

\*3: the field of Structure and Shape of the building

\*4: the field of Fire safety

\*5: the field of Equipments

No. of MR & Year of issue	Page	Contents and Amendment	Main Field			
			手續 *1	技術基準 構造 形態 *3	防火 *4	*2 設備 *5
<b>No.7 based on the Old Act</b> (1974)	4	<b>Parking lots</b> / This MR is based on the old Act but still effective, and amended by <b>41</b> .		○		
<b>1</b> (1981)	7	<b>Qualifications of a technical official and an upper technical official</b>	○			
<b>2</b> (1981)	7	<b>Identification cards of a technical official and an upper technical official</b>	○			
<b>3</b> (1983)	8	<b>Measures against violation</b>	○			
<b>4</b> (1983)	11	<b>Construction procedure</b> / amended by <b>18</b> (1987)	○			
<b>5</b> (1984)	16	<b>Definition of “Building under control of use”</b>	○			
<b>6</b> (1984)	17	<b>Structural stability, fire resistance, etc.</b> / amended by <b>48</b> (1997) and <b>60</b> (2006)		○	○	
<b>7</b> (1985)	26	<b>Fee for permission</b>	○			

<b>8</b> (1985)	28	<b>Application forms, etc.</b>	<input type="radio"/>			
<b>9</b> (1985)	31	<b>Exemption of application</b> / amended by <b>14</b> (1986)	<input type="radio"/>			
<b>10</b> (1985)	33	<b>Application forms etc. &amp; attachments</b> (partially duplicate with MR8) / amended by <b>29</b> (1991), <b>45</b> (1995), <b>56</b> (2000), <b>57</b> (2001).	<input type="radio"/>			
<b>11</b> (1985)	38	<b>Definition of “modification” and “demolition”</b>	<input type="radio"/>			
<b>12</b> (1985)	39	<b>Allowance from the permitted plan</b>	<input type="radio"/>			
<b>21</b> (1989)	42	<b>Retroactive provisions on Clause 21bis of MR4</b>	<input type="radio"/>			
<b>23</b> (1989)	42	<b>Definition of “Signboard as a building”</b>	<input type="radio"/>			
<b>33</b> (1992)	43	<b>Regulations on high-rise or extra-large buildings</b> / amended by <b>42</b> (1994), <b>50</b> (1997)			<input type="radio"/>	<input type="radio"/>
<b>39</b> (1994)	55	<b>Fire prevention for low or middle-rise buildings</b>			<input type="radio"/>	<input type="radio"/>
<b>41</b> (1994)	61	<b>Parking lots and mechanical parking system</b>	<input type="radio"/>			

<b>44</b> (1995)	62	<b>Regulations of drainage facility</b> / amended by <b>51</b> (1998).				○
<b>47</b> (1997)	66	<b>Retroactive provisions on existing buildings</b> / <b>38</b> (1992) was repealed by 47.	○		○	
<b>49</b> (1997)	69	<b>Seismic design in northern and western region</b>		○		
<b>55</b> (2000)	73	<b>Space and height responding to the width of the road, etc</b> / amended by <b>58</b> (2001).		○	○	
<b>BF</b> (2005)	82	<b>Facility for people with disabilities</b>		○		
<b>PI-1</b> (2005)	89	<b>Objective buildings for periodical inspection</b>	○			
<b>PI-2</b> (2005)	91	<b>Qualification of an inspector for periodical inspection and Proceeding of periodical inspection</b>	○			

**Table 2 Ministerial Regulations applying to specific regions**

No. of MR & Year of issue	Page	Applied areas / amendment
<b>15</b> (1986)	<b>39*</b>	<b>Phuket Province</b> (Patong beach area)
<b>16</b> (1987)	-	<b>Nakhon Pathom Province</b> (Bhuddha Monthon area)
<b>19</b> (1988)	-	<b>Songkhla Province</b>
<b>20</b> (1989)	-	<b>Phuket Province</b> (other than the area mentioned in MR15)
<b>22</b> (1989)	-	<b>Surat Thani Province</b>
<b>24</b> (1990)	-	<b>Nonthaburi Province</b>
<b>25</b> (1990)	-	<b>Nonthaburi Province</b> (other than the area mentioned in MR24)
<b>27</b> (1991)	-	<b>Suphanburi Province</b>
<b>28</b> (1991)	-	<b>Chiangmai Province</b> / amended by <b>52</b> (1997)
<b>30</b> (1991)	-	<b>Phetchaburi Province</b>
<b>31</b> (1991)	-	<b>Chanthaburi Province</b>
<b>32</b> (1991)	-	<b>Chonburi Province</b>
<b>34</b> (1992)	-	<b>Nakon Nayok Province</b>
<b>35</b> (1992)	-	<b>Satun Province</b>
<b>36</b> (1992)	-	<b>Prachuap Khirikhan Province</b> (Hua-hin area)
<b>37</b> (1992)	-	<b>Samut Prakarn Province</b> / <b>17</b> (1987) was repealed by 37.
<b>40</b> (1994)	-	<b>Chonburi Province</b> (other than the areas mentioned in MR32)
<b>46</b> (1997)	-	<b>Pathumthani Province and Nonthaburi Province</b> (other than the area mentioned in MR24, 25)
<b>53</b> (1997)	-	<b>Ayutthaya Province</b> / <b>13</b> (1985), <b>26</b> (1991) and <b>43</b> (1994) were repealed by 53.
<b>54</b> (1997)	-	<b>Chachoengsao Province</b>
<b>59</b> (2005)	-	<b>Surathani Province</b> (Samui Iland)
<b>AP</b> (2004)	-	<b>Surrounding area of new airport</b>

\* Only MR 15 is available in English.

これらの MR は都市計画的な観点からの規制（高さ規制、用途規制等）である。一方、都市計画法に基づく建築規制も別途実施されているところであり、建築規制法に基づくこれらの規制は、

- ・都市計画法がカバーしていない地域において都市計画的な規制を行う場合、又は
- ・都市計画法に基づく手続きが煩雑なため、便宜的に建築規制法を使って都市計画的な規制を行う場合に活用されている。

## 2. Abbreviation in this text

BCA	Building Control Act
MR	Ministerial Regulation based on Building Control Act
MOI	Ministry of Interior
Minister	Minister of Interior

#### 4. Provisions of MRs on Building Fire Safety

MR (Year of Issue)	Provisions in Categories					
	Definitions & General Provisions			Fire Extinguishing		
	↓	Fire Prevention ↓	Evacuation ↓	↓	Existing Buildings ↓	Others ↓
MR6 (1984) (Amended in 1997 and 2006) *	1	23,24,25				
Building having special uses and scales						
MR33 (1992) (Amended in 1994 and 1997)	1, 1bis	2,3,4,5,6,7	8,8bis,8ter,9, 10,10bis,13, 14,22,23,24, 25,26,27,29	15,16,18, 19,20,28, 43,44,48		11,12,14,30, 31,32,33,34, 35,36,37,38, 39,40,41,42
(1) High-rise building (2) Extra-large building						
MR39 (1994)	1,2		7	3,4,5,6		
(1) Row-wooden-buildings Row-brick-building, Townhouse (2) Building used for public gathering (3) Apartment building with 4 or more dwelling units, and Dormitory (4) Building with 3 or more stories except (1)(2)(3)						
MR47 (1997)	2,3				4, 5, 6, 7	
Existing (1) High-rise building (2) Extra-large building (3) Large building						
MR55 (2000) (Amended in 2001)	1	5,15,16,17, 18,34,36, 38,39	14,24,27,28, 29,30,31,32			
All buildings						

\* Original MR6, which was issued in 1984, didn't include provisions on fire safety. MR48, which was issued in 1997, amended MR6 and added it with provisions on fire safety.

#### Explanatory notes

High-rise building	23m high or more
Extra-large building	10,000m <sup>2</sup> large or more in total floor area
Large building	(1) 2,000m <sup>2</sup> large or more in total floor area (2) 15m high or more and 1,000m <sup>2</sup> large or more in total floor area
Buildings used for public gathering	such as; Theaters, Meeting halls, Hotels, Hospital, Educational institutes, Libraries, Indoor sports stadiums, Marketplaces, Department stores, Shopping centers, Entertainment, Airports, Parking buildings, Mass transit terminals, Parking lots, Harbors, Restaurants, Offices, Government offices, Factories and Commercial building

# Ministerial Regulation No.7

## based on the Building Construction Act 1936

Issued in 1974, amended by MR41 in 1994

**Clause 1** Under this MR,

- (1) “**Car park**” means a place to be used as a car park specifically for the building.
- (2) “**Car U-turn**” means an area arranged for turning the car to facilitate a parking or an in-out entry of cars.
- (3) “**In-out access for car**” means a path for car to get in and out from a car park to an in-out entrance for cars.
- (4) “**In-out entrance for car**” means a part of an in-out access for cars linking with a public path.
- (5) “**Bridge slope**” means a portion of a path linking a bridge with a slope exceeding 2 in 100.
- (6) “**Theatrical hall**” means a building or any part of building used as theatrical hall under the law governing prevention of danger from theatrical play.
- (7) “**Hotel**” means a building or any part of building used as a hotel under the law governing hotel.
- (8) “**Condominium**” means a building or any part of building used as living quarters for many families where each family has bedroom, kitchen, lavatory and bathroom independently, with corridors, stairs or lifts for common use.  
この定義では、Condominium に賃貸共同住宅も含まれるように記述されているが、実際には分譲住宅のみが規制対象であるとして運用されている。なお、MR6 では「Condominium は区分所有法に基づく住宅」と定義されている。
- (9) “**Restaurant**” means a building or any part of building used for selling food or refreshment, with an area for setting a food table for service within or outside of the building.
- (10) “**Department**” means a building or any part of building used as a commercial building for show or sale of different merchandises.
- (11) “**Office (sam-nak-ngaen)**” means a building or any part of building used as an office (thii-tham-kaan).
- (12) “**Large building**” means a building constructed for use of a building or any part of it to perform business of single or many categories;
  - more than 15 m in height above the road level, and having a total floor area in the same building over 1,000 m<sup>2</sup>, or
  - having a total floor area in the same building over 2,000 m<sup>2</sup>.
- (13) “**Assembly hall**” means any part of building used as a gathering or conference.

**Clause 2** It is to specify category of building which must have a car park, U-turn and in-out access for car as follows:

- (1) Theatrical hall with seating area for the audience more than 500 persons.
- (2) Hotel with more than 30 rooms.
- (3) Condominium with area for each family more than 60 m<sup>2</sup>.
- (4) Restaurant with area for setting food table not less than 150 m<sup>2</sup>.
- (5) Department with area not less than 300 m<sup>2</sup>.
- (6) Office with area not less than 300 m<sup>2</sup>.
- (7) Large building.
- (8) Assembly hall of hotel of (2), restaurant of (4) or large building of (7).

**Clause 3** Number of car park shall be arranged as following stipulations:

- (1) In boundary of Bangkok locality, especially in capital municipality under the Revolutionary Party Notification no. 25 dated 21st December 1971.
  - (A) Theatrical hall shall have car park not less than 1 car for each 20 seats of audience, fraction of 20 seats is counted as 20 seats.  
The theatrical hall in district of Bangkok, Thonburi, Bangrak, Pathumwan, Pomprab Satrupai and Sampantawongse, shall have car park not less than 1 car for each 10 seats of audience, and fraction of 10 seats shall be counted as 10 seats.
  - (B) Hotel  
Hotel of not more than 100 rooms shall have a car park not less than 10 cars for the first 30 rooms; for the part of more than 30 rooms shall be counted as 1 car for each 5 rooms. Fraction of 5 rooms shall be counted as 5 rooms.  
Hotel of more than 100 rooms shall have a car park under rate in the first paragraph for the first 100 rooms, for the part of more than 100 rooms shall be counted as 1 car for each 10 rooms. Fraction of 10 rooms shall be counted as 10 rooms.
  - (C) Condominium shall have a car park not less than 1 car per family.
  - (D) Restaurant

Restaurant with area for setting food table not over 750 m<sup>2</sup> shall have car park not less than 1 car for each food table area of 15 m<sup>2</sup>. Fraction of 15 m<sup>2</sup> shall be counted as 15 m<sup>2</sup>.

Restaurant with area for setting food table more than 750 m<sup>2</sup> shall have car park under rate in the first paragraph for the first 750 m<sup>2</sup> in setting area of food table, part of more than 750 m<sup>2</sup> shall be counted as 1 car for each 30 m<sup>2</sup>. Fraction of 30 m<sup>2</sup> shall be counted as 30 m<sup>2</sup>.

- (E) Department store shall have a car park not less than 1 car for each 20 m<sup>2</sup> in area. Fraction of 20 m<sup>2</sup> shall be counted as 20 m<sup>2</sup>.
- (F) Office shall have car park not less than 1 car for each area of 60 m<sup>2</sup>. Fraction of 60 m<sup>2</sup> shall be counted as 60 m<sup>2</sup>.
- (G) Assembly hall of hotel, restaurant or large building of Clause 2 (8) shall have a car park not less than 1 car for each 10 m<sup>2</sup> in hall area. Fraction of 10 m<sup>2</sup> shall be counted as 10 m<sup>2</sup>.
- (H) Large building shall have a car park as a number as specified in each category of building used as business operation premises in the large building altogether or having car park not less than 1 car for each 120 m<sup>2</sup> in building area. Fraction of 120 m<sup>2</sup> shall be counted as 120 m<sup>2</sup>. In this regard, more number of car parks shall be a criterion for consideration.

A large building with nature of shop house not taller than four stories must have a car park outside the building or in the underground room of building not less than 1 car for each room.

- (2) Within area of every municipality or in the locality under Royal Decree to enact Building Construction Act 1936 to be in force.

- (A) Theatrical hall shall have car park not less than 1 car for each 40 seats of audience, and fraction of 40 seats shall be counted as 40 seats.

- (B) Hotel

Hotel of not over 100 rooms shall have car park not less than 5 cars for the first 30 rooms; part of more than 30 rooms shall be counted as 1 car for each 10 rooms. Fraction of 10 rooms shall be counted as 10 rooms.

Hotel of over 100 rooms, shall have car park under rate in the first paragraph for the first 100 rooms, part of more than 100 rooms shall be counted as 1 car for each 15 rooms. Fraction of 15 rooms shall be counted as 15 rooms.

- (C) Condominium shall have a car park not less than 1 car for each 2 families. Fraction of 2 families shall be counted as 2 families.
- (D) Restaurant shall have a car park not less than 1 car for each 40 m<sup>2</sup> in setting area of food table. Fraction of 40 m<sup>2</sup> shall be counted as 40 m<sup>2</sup>.
- (E) Department store shall have a car park not less than 1 car for each 40 m<sup>2</sup> in area. Fraction of 40 m<sup>2</sup> shall be counted as 40 m<sup>2</sup>.
- (F) Office shall have a car park not less than 1 car 120 m<sup>2</sup> in area. Fraction of 120 m<sup>2</sup> shall be counted as 120 m<sup>2</sup>.
- (G) Assembly hall of hotel, restaurant or large building of Clause 2 (8) shall have a car park not less than 1 car for each 30 m<sup>2</sup> in hall area. Fraction of 30 m<sup>2</sup> shall be counted as 30 m<sup>2</sup>.
- (H) Large building shall have a car park as a number as specified in each category of building used as business operation premises in that large building altogether or having car park not less than 1 car 240 m<sup>2</sup> in building area. Fraction of 240 m<sup>2</sup> shall be counted as 240 m<sup>2</sup>. In this regard, more number of car parks shall be a criterion for consideration.

A large building with nature of shop house not taller than four stories must have a car park outside the building or in the underground room of building not less than 1 car for each 2 rooms.

**Clause 4** For the building or any part of the building used for various categories of business operation, if it is the type of building required to have car park, U-turn and in-out access for cars of Clause 2, there must be car park as a number as specified in Clause 3 for each building category used as business operation premises in the building or any part of that building altogether.

Following clause of "Clause 5" was repealed by MR 41 in 1994.

**Clause 5:** Car park for 1 car must be rectangular shape with breadth not less than 2.50 m, length not less than 6 m, in which there must be sign showing character and boundary of car park in appearance.

**Clause 6** Car park must be arranged within area of the building; if being outside there must be pavement not longer than 200 m to the building.

**Clause 7** Car U-turn must have sufficient area in suitable place to enable car to u-turn to the in-out access for car comfortably, by apparently marking symbol of car turning line.

In case of one way traffic arrangement from in-entrance to out-entrance, there may be no U-turn.

**Clause 8** In-out access for car must not be less than 6 m in width. In case of one way traffic arrangement, the in-out access must not be less than 3.50 m in width, by apparently making symbol showing in-out access for car, and the in-out entrance for car must be as follows:

- (1) Center point line at in-out entrance must not be at the place being common or intersection path and must be distant from curve starting point or turning point of the common or public intersection curbs, with the distance not less than 20 m. As for the theatrical hall, the said distance must not be less than 50 m.
- (2) The center point line at in-out entrance must not be on the bridge slope portion and must be distant from the utmost point of bridge slope portion not less than 50 m. As for the theatrical hall, the said distance must not be less than 100 m.

Given on April 30, 1974 Minister

**Remark:** The reason in proclaiming this MR is :- Since Building Construction Act 1936 with amendment by the Revolutionary Party's Notification no. 192 dated 31st July 1972, has specified that the owner of some category of building used in public service to gain benefit, must arrange car park for those gaining benefit from that building; and the specification of building category, needed area to be used as car park, car U-turn and in-out access for car shall be done by MR, it is therefore necessary to issue this MR.

Proclaiming in Government Gazette Volume 91 Part 86, dated May 21, 1974.

# Ministerial Regulation No.1

Issued in 1981

**Clause 1** A local government official (*kharaca-kaan ruu phana-nga-an suan-thon-thin*) to be appointed by the competent officer as a technical official must have either certificate of the knowledge and qualifications as follows:

- (1) a certificate of vocational upper secondary education level in the field of construction, survey, public works engineering or public works drawing: or
- (2) a certificate issued by the Civil Service Commission as the specific qualification for the position of a public works engineering official 1 or equivalent.

**Clause 2** A local government official (*kharaca-kaan ruu phana-nga-an suan-thon-thin*) to be appointed as an upper technical official must have one of the knowledge and qualifications as follows:

- (1) an advanced certificate in the field of construction, survey, public works engineering or public works drawing;
- (2) a certificate issued by the Civil Service Commission as the specific qualification for the position of a public works engineer;
- (3) a third grade engineer's certificate under an official course duly certified by the Civil Service Commission or a license to carry on controlled engineering profession of grade 1 (civil engineer) under the law on engineering profession: or
- (4) being a person having knowledge or qualification under Clause 1 of this MR and being a government servant or local administration personnel of level 3 or more.

Given on July 6, 1981 Minister

# Ministerial Regulation No.2

Issued in 1981

Upper technical official identification cards and technical official identification cards shall be in accordance with the forms annexed hereto.

Given on July 6, 1981 Minister

# Ministerial Regulation No.3

Issued in 1983

**Clause 1** In this MR:

“**Construction material (wassadu gosaan) and things (khong)**” means a construction material which have been pulled down from the demolished building and things which have been relocated out from the demolished building.

**Clause 2** To seize and keep construction materials and things, and to sell them and keep money instead of the property can be carried out by the local competent officer, only in case where:

- (1) The Court has given the local competent officer the power to conduct an enforcement to demolish; and
- (2) The local competent officer has put up the signboard (**prakart**) to predict the demolition in the area for 7 days or more; and
- (3) The local competent officer has carried out the demolition after the period as notified under (2).

**Clause 3** In the seizure (**ywt**) process of construction materials and things, the local competent officer:

- (1) Shall declare the seizure of the construction materials and things and put up the signboard at the place of the seizure conspicuously;
- (2) Shall prepare the list of construction materials and record them;
- (3) Declare the seizure of the construction materials and things to the owner or occupier of the building, the building work executor or the supervisor of the work, in response to the condition (**raute korani**).

Section 47 of BCA 1979 shall apply to the declaration of the seizure mutatis mutandis.

The seizure of the construction materials and things shall cover also the interest of (**the money of**) such construction materials and things.

**Clause 4** The local competent officer shall show clearly that such construction materials and things have been sized, by putting up the tag and affixed with wax seal or stick the tag to the seized construction materials and things or make a marking as appropriate to conform with the list of construction materials and things so seized. If they can be collected in the box or cabinet, they shall be so placed in the box or cabinet, they shall be placed in the box or cabinet and put up the wax seal to it.

**Clause 5** Then list of construction materials and things seized shall have particulars such as name, type, model, feature, quantity, size, weight, condition and estimate value of the construction materials and things.

If the construction materials and things seizure are numerous and of small value, they may be tied up or pied up and listed as one item.

If the construction materials and things seized are in set, they may be listed in set or separately:

**Clause 6** The local competent officer shall keep the construction materials and things seized at the place to seizure or they may be taken to be kept at any place as deemed appropriate, and if necessary a graduated may be hired or the place may be rent for safe keeping.

**Clause 7** The local competent officer shall note in the list of construction materials and things seized as how they are kept, including the expenses in the seizure and safe keeping.

**Clause 8** The owner of the property shall come to receive back the construction materials and things which have been seized within thirty days form the date of having been informed of the seizure under Clause 3 (3). If the owner of the property has not come to receive back the property within said period of time, the local competent officer may take out the construction materials and things so seized for action sale.

For the case several persons all claim to be owner of the property or the proceed from the sale, the local competent officer shall instruct all those claiming to be the owners to settle among themselves or to take the case to court. If settlement has not been made or the case taken to court within sixty days from the date the local competent officer has issued instruction, the local competent officer may take the seized construction materials or things for auction sale.

If the construction materials and things which have been seized are easily deteriorating items, or if delay in safe keeping will be riskily to damage, or if the expenses for safe keeping will exceed the value of the construction materials and things, the local competent officer may take those construction materials and things for auction sale or for sale by other means, before the date the owner or occupier, building work executor or the supervisor of he work shall have been informed of the seizure under Clause 3 (3).

**Clause 9** If the owner of the property shall come to receive back to seized construction materials and things, the owner of the property shall pay for the expenses in the seizure, rent for place of safe keeping, cost for safe guarding and other expenses concerning with the seizure construction materials and things.

If the owner of the property shall not pay or shall not pay the full amount under the first paragraph, the local competent officer may take out the seized construction materials and things for auction sale, and the first paragraph of Clause 19 shall apply mutatis mutates.

**Clause 10** The action sale of the seized construction materials and things shall be carried out by the local competent officer preparing the particulars concerning the properties to be auctioned sale as much as they can be given, such as the name of the owner of property, date, time and place of the auction sale, name, type, model, feature, quantity, weight and condition of the property and so on.

**Clause 11** The local competent officer shall put up the notice of the auction sale in conspicuous place at the area where there has been the demolition, the area for the auction sale and office of local competent officer, not less than seven days before the date of auction sale.

In case the person the owner of the property to be auctioned sale in known, the local competent officer shall send the notice of auction sale to the owner of the property, not less than seven days before the date of the auction sale.

Section 47 of BCA 1979 shall apply to the sending of the notice of auction sale mutatis mutandis.

In case it is deemed appropriate, the local competent officer may announce the auction sake through the newspaper or radio broad casting station before the date of the auction sale.

In case of the owner of the property to be auction sale apply to the return of the property before or during sale, such auction sale shall be stopped.

**Clause 12** If the property to be auctioned sale is antique or art object under the law on historical places, antique, art objects and national museum, the local competent officer shall send the notice to the Department of Fire Arts not less than seven days before the auction sale.

**Clause 13** If the property to be auction sale is a safe, box or steel chest which has not been opened, it shall be opened first before it can be auctioned sale.

**Clause 14** In the auction sale the local competent officer may appoint any official to act as sale official.

Before the auction sale, the sale official shall read out the notice of the auction sale at the place for the auction sale in public, and shall act as follows:

- (1) Agreement on the sale shall be shown by banging on the wood;
- (2) Shout out the price bided the first time thrice, if there is no other person bidding higher, shout out the second time thrice, when there is no higher bidder and the price is reasonable, shout the third time together with banging the wood. But before banging the wood there is the wood there is a contesteer for higher price, the price shall be shouted out again from the start in said respective order;
- (3) If the contesteer withdraw has bid before the banging of the wood, a shout for the bid shall be started again;
- (4) When it is seen that the price given by the higher bidder is insufficient, the sale official may withdrawn the property form the auction sale;
- (5) After banging the wood, the buyer shall pay the money immediately, except that the property is valued from more than Five Thousand Baht up, the sale official may make allowance for the buyer to put up the deposit of not less than 25 % of the buying price and execute a contract for the payment of the balance of the amount with a period of not less than fifteen days. When the full amount has been paid, the property may then be transferred to the buyer.

**Clause 15** The sale official shall make up the record concerning with the auction sale. If the property which has been auctioned sale is value from Five Thousand Baht up, the number of persons who come to the auction sale, the bidders, including the amount bidder shall be stated in respective order.

**Clause 16** When the auction sale has been completed, if the buyer has not paid or has not made the deposit or has not paid the balance, the local competent officer shall take out the property for auction sale again, and inform the buyer of the date, time, and place for the auction sale. Whenever is the proceed from the last auction sale, the expenses in the previous auction sale shall be deducted first and if it does not cover the price in the last auction sale, the local competent officer shall demand from the original buyer to pay for the amount so short.

**Clause 17** Sale by other method under the third paragraph of Clause 8 shall be executed by the local competent officer, as deemed appropriate and the record of such sale shall be made.

**Clause 18** If the property to be sold yields interest during the seizure, the local competent officer shall also sell such interest.

**Clause 19** After having obtained the proceed from the sale, the local competent officer shall deduct the expenses in the seizure, rent for the place of safe keeping, cost of safe-guarding and other expenses relating to the seizure and safe-guarding of the property. The remaining amount of the proceeds is then to be returned to the owner.

In case the owner of the property has not come to receive it, the money shall be held in lieu of the property and shall be deposit with the treasury in the nature of outside find, for which the Regulation of Ministry of Finance relating to the keeping of the money and remittance of money to the treasury of the authority shall apply mutatis mutandis.

In case the owner of the property has not claim for that money within one year from the date there is a notice for the demolition, the local shall make remittance of money to the treasury without delay.

Given on April 5, 1983 Minister

# Ministerial Regulation No.4

Issued in 1997, amended by MR18 in 1987

**Clause 1.** In this MR:

“**Residential building (aakhaan yuu aa-saai)**” means a building in which people dwell in day and night time, either permanent or temporary.

“**Row brick building**” means a building constructed in two units or more which are partitioned into a unit by wall and mostly consist of fire resistance materials.

“**Commercial Building**” means

- a building used for
  - commerce or
  - business administration or
  - industries using machinery to produce capacity less than 5 horse power, and also includes
- other buildings located not exceeding 20 m far from the road (thanon) or public road (thaang-saa-tharana) which are utilized for commerce.

“**Factory**” means a building or either part of the building which is utilized as a factory concerning factorial laws.

“**Public building**” means the building which are utilized for people’s congregation for

- government services,
- politics,
- education,
- religion,
- society,
- entertainment or
- commerce,

such as

- |                         |                        |                         |                       |
|-------------------------|------------------------|-------------------------|-----------------------|
| - theaters,             | - shopping center      | - car parking building, | - landing pontoon,    |
| - convention halls,     | (suung-kaan-khaa),     | - vehicle station,      | - cemetery,           |
| - hotel,                | - indoor sports field, | - dock,                 | - crematorium,        |
| - hospital,             | - market               | - entertain premises,   | - religious premises. |
| - educational premises, | (talaat),              | - airport,              |                       |
| - library,              | - department store     | - tunnel,               |                       |
| - outdoor sports field, | (haang-sappa-sinkhaa), | - bridge,               |                       |

“**Special Building**” means a building requiring special standards of sturdiness and safety, such as the following buildings;

- (A) Theater, amphitheater, convention hall, library art gallery, museum or religious premises;
- (B) Dock, boat rollers or pier for ship of capacity exceeding 100 ton gross;
- (C) Building or structure with the height exceeding 15 m, or bridge, or building or roof structure with one portion exceeding 10 m, or having structural characteristics which may cause danger to the general public;
- (D) Building for storage of inflammable materials, explosive materials or materials disseminating toxic or radiation in accordance with the laws governing such matters.

**Clause 2** The principle, measure and condition of construction, modification, demolition, relocation or changing type of use is as required in this Regulation.

## Chapter 1 Building Constructions

**Clause 3** The applicant (phuu-dai-rub-bai-a-nu-yhat) who received the permit (form 1) or the building work executor (phuu-dam-nern-karn) shall operate as requirement in condition of license and shall have the operation supervisor (phuu-kuab-kum-ngaon) as listed in the license. If the building work executor is not in the site work, there shall have the deputy for the supervisor in order to remain the responsibility for the building work executor. Then, the deputy shall answer the technical official who supervises the building. Also, it is said that the technical official has interviewed the building work executor.

**Clause 4** Before constructing a residential building (aakhaan yuu aa-saai) exceeding 2 stories, row-brick building (tuk-theew), commercial building (aa-khaan-pha-nit), factory (roong-ngaon), public building (aa-khaan-sa-tha-ra-na) or special building (aa-khaan-phi-seet), a building work executor shall post the signboard which is not less than 0.50 m width and not less than 1 m length inside the building construction site. Also, the

signboard shall be obviously located with the titles below;

Type of the building.....  
Amount .....use.....  
Permit No. ....issued date.....  
Finished date.....  
Building's owner .....  
Building work executor (phuu-dam-nern-kaan) .....  
Supervisor (phuu-kuab-kum-ngaán) .....P.E. registered no.....  
Supervisor (phuu-kuab-kum-ngaán) .....P.A. registered no.....

**Clause 5** For the building constructed nearby public area, the building work executor shall conduct some materials against some materials falling off which might cause health, life, physical or property danger before building construction.

**Clause 6** The building work executor shall inspect and maintain the equipment to be ready and safe to be utilized always.

If the supervisor think that the equipment may cause health, life, physical or property danger, the supervisor shall notify the building work executor to fix or change the equipment or the method of construction to be safe and appropriately.

**Clause 7** The building work executor shall not do anything which may cause health, life, physical or property danger while constructing.

If the building work executor is permitted by the local competent officer to install, heap or store equipments, constructing materials or structural parts temporarily in public area, the building work executor shall conduct the protection and the light sufficient for the sun set till the sun down.

**Clause 8** Materials which are concerned about life load, resistance, durability or security shall have be characterized and qualified as determinate in the plan, supplementary particulars to a design plan and authorized calculation list.

If the technical official suspects that there are some materials unqualified and uncharacterized in the constructing building, the applicants, building work executors or supervisors shall send structuring materials to technical official without charge.

**Clause 9** The building work executor shall drill, press, hammer or excavate the building foundation from the sun down to the sun set. If the building work executor would like to conduct it from the sun set to the sun down, the building work executor shall have an authorization from the engineering technician.

**Clause 10** The applicant who received the permit or the building work executor shall conduct a temporary fence at least 2 m height along the site line of constructed buildings more than 10 m in height and the horizontal distances from the exterior wall to public area, to the area of different owner or occupier, less than half of building height, and shall conduct something protecting rubbles falling down which may cause health, life, physical and property danger.

Building construction as following in the first paragraph close to the area of different owner or occupier, The applicant who received the approval or the building work executor shall not conduct a temporary fence, the building construction as following in the first paragraph close to the area of different owner or occupier.

After finishing building construction, the applicant who received the permit or the building work executor shall demolish the temporary fence.

**Clause 11** During under construction, the building work executor shall inspect the strength and security of scaffolding always. The building work executor shall monthly report and signature at the building site. Then, the [technician 1](#) or [technician 2](#) shall inspect the scaffold to be under condition as below;

(a) The building work executor shall submit the grounds-plan, design plan and supplementary particulars to a design plan of the scaffold, which are equipped with an over five-floors or more than 21 m building and designed by the professional engineer, to the local competent officer before constructing.

(b) The steel scaffold with the base shall bear exceeding double capacities of the maximum capacity of the scaffold and not less than four times of wooden scaffold.

**Clause 12** Before constructing, the building work executor shall correct the detail, site, depth and size of basement structure, neighboring building foundation or other structure system; for example, water supply, cable etc. Also, the building work executor shall provide the protection system to protect health, life, physical or property danger.

**Clause 13** If there is an excavation near to the public area or in the public area, the building work executor shall provide something or handrails surrounding that area to protect things falling down and settle the warning signboard for people security. Furthermore, there shall have enough lights or blinking red lights from the sun set to the sun down.

**Clause 14** If there is an excavation near or next to the public area, the building work executor shall not leave the pile of soil in the public area and shall not excavate into the public area, except for receiving the authorization from the local competent officer.

**Clause 15** If there is an excavation near or close to the building, road or wall which its depth may be harmful to, the building work executor shall conduct shoring, sheet pile or supplementary foundation to the building as necessary. Accordingly, the building work executor shall inspect shoring, sheet pile or supplementary foundation to be stable and safe always.

**Clause 16** The building work executor shall not heap the materials up; such as, stone, sand or soil etc. near or close to the excavated pound to protect pound wall damage.

**Clause 17** The building work executor shall provide a helmet which inside it shall be supported with leathers, plastic, cloths or others to protect danger to head of the applicant whom is allowed to go inside.

**Clause 18** The building work executor shall not use the electrical instruments into high voltage cords or instruments, except for conducting one of these items below;

- (a) Insulator between high voltage area and electrical instrument.
- (b) Earth cords equipped with electrical instruments.
- (c) The high voltage cord or instrument with insulators properly.
- (d) The powering high voltage cords or instruments off.

**Clause 19** The building work executor shall use chains, rods, slings, pulleys, cranes or lifts to deliver heavy things and proper size to lift, lay down and lift something up on the air safely.

**Clause 20** After finishing of using cranes or lifts everyday, the building work executor shall keep the cranes or lifts not to move, fall or spin which might cause health, life, physical or property danger.

**Clause 21** The building work executor shall have the supervisor specialized in using technical and mechanical instruments, and inspected and maintained the instruments safe and fine always.

**Clause 21bis** If the building work executor installs cages or the like in the conditions as follows:

- being installed in doors or windows either inside or outside of them; and
- being located on the second floor or more; and
- which the authority will not be able to access in case of fire,

“the applicant who received the approval” or “the building work executor” shall install at least one space:

- more than 0.6 m in width and more than 0.8 m in height

so that the authority could access the building from the outside directly. (Added in 1987)

## **Chapter 2**

### **Building modification**

**Clause 22** Applying the principles, method and condition of building construction from chapter 1 shall come to in force in building modification mutatis mutandis.

## **Chapter 3**

## **Building demolition**

**Clause 23** The supervisor shall study about the detail and the environment of building structure, the building which will be demolished and supervise the building work executor operating the building according to the procedure, measure and demolition safely. If the building work executor does not follow the procedure, measure, it might cause life danger. Then, the building work executor shall responsible for improving correctly or safely.

**Clause 24** The building work executor shall inspect and provide the measure to prevent public service; for example, electric, telephone, water supply or gas pipes etc. Also, the building work executor shall provide the measure to protect other part of the building which might fall to cause health, life, physical and property damage while demolishing.

**Clause 25** During the demolition, the building work executor shall provide a warning signboard and the outline of the area with red flashing lights surrounded to prohibit others entering. Also, there shall have an authority to secure people entering and to maintain the signboard and the light.

Building demolition, the building work executor shall operate from the sun down to the sun set. If not, the demolished area shall be authorized by the local competent officer and have enough lights.

**Clause 26** The building work executor shall provide something to prevent dust and rubbles from the demolishing building which is near or close to the public area, other buildings or land of different owner or occupier less than 2 m. It may cause health, life, physical or property danger.

**Clause 27** The building work executor shall provide something to prevent rubbles of the demolishing buildings, which are higher than 15 m and far horizontally from public road or area than 4.5 m that may fall to cover public road or area. The building work executor shall build strong and big roof surrounded to protect rubbles of the demolishing buildings falling if there are footpath in the public road or area.

**Clause 28** The building work executor shall provide parapet preventing rubbles along the demolished exterior-wall more than 8 m in height from the ground level and far from other buildings, public road or areas. The parapet shall be strong and big enough and shall slope to prevent rubbles falling off or sticking on the parapet.

**Clause 29** The building work executor shall utilize a proper rail and conveyor to transfer rubbles from high to low safely for passing by the transportation lift or crane or to throw away etc. The building work executor shall conduct it after provided health, life, physical and property protection secured.

The building work executor shall not heap rubbles up on the floors or others part of the building which is higher than floor level.

## **Chapter 4 Building relocation**

**Clause 30** The supervisor shall study about the detail and the environment of building structure, which will be relocated, and supervise the building work executor operating the building according to the procedure, measure and relocation safely. If the building work executor does not follow the procedure, measure, it might cause life danger. Then, the building work executor shall responsible for improving correctly or safely.

**Clause 31** The building work executor shall inspect and provide the measure to prevent public service; for example, electric, telephone, water supply or gas pipes etc. Also, the building work executor shall provide the measure to protect other part of the building which might fall to cause health, life, physical and property damage while relocating.

**Clause 32** During the time of conducting building structure; such as, cutting, extracting, dismantling, demolishing etc., the building work executor shall provide a warning signboard and red flashing lights surrounded to prohibit others entering. Also, the quantity and distance of the light shall be proper from the building and there shall have an authority to secure people entering and to maintain the signboard and the light.

Building relocation, the building work executor shall operate from the sun down to the sun set. If not, the demolished area shall be authorized by the local competent officer.

**Clause 33** The building work executor shall not do anything which may cause health, life, physical or property danger while constructing.

If the building work executor is permitted by the local competent officer to install, heap or store equipments, constructing materials or structural parts temporarily in public area, the building work executor shall conduct the protection and the light sufficient for the sun set till the sun down.

## **Chapter 5 Usage and changing type of building use**

**Clause 34** The owner or occupier of controlled usage building shall maintain and repair the building firmly, strongly, safely, sanitary, and shall protect health, life and property occurred while using the building.

**Clause 35** The owner or occupier of controlled usage building shall utilize the building or allow occupants to utilize the building without doing any interrupted activities affectively to environmental conservation which cause health, life, physical and property danger.

**Clause 36** In this case, the owner or occupier of the building which is not controlled usage shall utilize or allow occupants utilizing the building as a controlled usage building and the building is authorized, Clause 34 and 35 are come to in force mutatis mutandis.

The first paragraph shall come to in force in the case of changing type of building use to another mutatis mutandis.

# Ministerial Regulation No.5

Issued in 1984

**Clause 1** This MR shows that “Buildings under control of use” under Section 32 (2) are as follows:-

- (1) Buildings to be used for commercial purpose.
- (2) Buildings to be used for industrial purpose.
- (3) Buildings to be used for educational purpose.
- (4) Buildings to be used for a conference hall.
- (5) Buildings to be used for an office.

**Clause 2** “Buildings to be used for commercial purpose” are buildings being used for trade or business operation or other businesses: having the area not less than 80 m<sup>2</sup>.

**Clause 3** “Buildings to be used for industrial purpose” are buildings being used for industry where machinery for production has combine production capacity or equivalent power an upwards of 5 Horse power.

**Clause 4** “Buildings to be used for educational purpose” are buildings being used for educational purpose with area not less than 80 m<sup>2</sup>.

**Clause 5** “Buildings to be used for a conference hall” are buildings being used for a meeting or conference with area not less than 300 m<sup>2</sup>.

**Clause 6** “Buildings to be used for an office” are buildings being used for an office with area not less than 300 m<sup>2</sup>.

**Clause 7** The area which is concerned with the business and is inside of the building shall be conducted to be the area to be calculated.

In case of the area in the first paragraph is in row-brick-building or townhouse, the area of each room or each unit of each activity shall be calculated all together.

Government Gazette Vol. 101 part 37 Special issued page 1 dated March 22, 1984.

# Ministerial Regulation No.6

Issued in 1984, and amended by MR 48 in 1997, and MR 60 in 2006.

**Clause 1** In this MR:

- “**Ultimate Load**” means the load which will cause the matter to be separated into parts or to collapse.
- “**Tension**” means the force to material to be separated.
- “**Bending force**” means the force to cause the matter to bend or deflect.
- “**Wind Load**” means the force of wind to the structure.
- “**Shear Stress**” means the force which will cause the matter to become separated as though cut by scissors.
- “**Ultimate Stress**” means the stress which will cause the material to be separated into parts.
- “**Ultimate Compaction**” means the compaction which will cause the material to collapse.
- “**Ultimate Stress of Concrete**” means the stress along the horizontal axle to cause the concrete cylinder, diameter 15 cm. height 30 cm., age 28 days, to collapse.
- “**Load**” means the load divided by the cross-section taking that load.
- “**Proved Stress**” means the stress obtained by drawing straight line at point 0.2 in 100 of the stress, in parallel to the straight line of relative strength between the stress and tension to intersect said line.
- “**Depress Load**” means the load caused between the surface of the pile and the soil.
- “**Load at analogy**” means the load at the maximum point of the straight line showing relation between the load and the tension.
- “**Stress**” means the proportion of the expansion or contraction of the material accepting the load to the length of that material.
- “**Yield Strength**” means the strength to pull material which yields without increasing further strength.
- “**Safety Part**” means the figure used to divide ultimate stress to the safety factor. For material with yield strength or proved stress, the value of yield strength or proved stress shall be used instead of the ultimate stress.
- “**Superimposed Load**” means the load to be prescribed in addition to the building, apart from the load of that building.
- “**Ultimate Load**” means maximum load prescribed for calculation under the shear Stress Theory.
- “**Parts of Building**” means the parts of building to be shown particulars of calculation in the load and stress, such as floor, beams and foundation.
- “**Concrete**” means materials consist of cement, fine mass such as sand, rough mass such as stone, gravel and water.
- “**Reinforced Concrete**” means concrete having steel embedded to five more strength.
- “**Stress Concrete**” means concrete with reinforced steel embedded inside which causes the stress in quantity to erase out the stress of the load.
- “**Reinforced Steel**” means steel embedded in the concrete to reinforce the stress.
- “**Pre-stress Concrete**” means reinforced steel embedded in stress concrete, which may be single wire, twisted wire or steel wire in group.
- “**Deformed Bar**” means reinforced steel with bar at the surface.
- “**Twisted Bar**” means reinforced steel which is twisted into thread.
- “**Cast Iron**” means iron having carbon as mixture from 2% upwards in weight.
- “**Structure Steel**” means steel produced with different cross-sections into various shapes used for the construction.
- “**Soft Wood**” means wood not resistant against weather and insect, such as termite, or having property as prescribed under Clause 14, such as Yang and Ta Baek.
- “**Medium Texture Wood**” means wood resistant to weather and insect, such as termite, quite reasonably or having property as prescribed under Clause 14, such as Pine.
- “**Hardwood**” means wood which resists weather and insect, such as termite under normal condition and/or having quality as stated under Clause 14, such as teng and takien thong.
- “**Soil**” means natural material making the earth crust, such as rock, stone, sand, clay etc.
- “**Gravel**” is the stone occur according to nature, being more than 3 mm.
- “**Sand**” means fine stone not exceeding 3 mm.
- “**Subsoil Stone**” means stone with fine texture consisting of clay or sand compacted in thin layers, whether with or without bonding agent.
- “**Limestone**” means stone compacted hard with different colors consisting of calcite.
- “**Sandstone**” means rough stone consisting of sand bonded together.
- “**Igneous rock**” means rough stone caused by cool down of stone under the earth crust, consisting of feldspar, quartz, mostly are very hard.
- “**Pile**” means the pile driven in or cast in the soil to take the load of the building.

“**Efficient surface of pile**” means the result of multiplication of length of pile and length of circumference of cross-section of that pile.

“**Foundation**” means part of the building which transfer the load of the building to the soil.

“**Load of soil**” means the capacity of soil to take the load with slump which will not cause damage to the building.

“**Load of pile**” means the capacity of the pile to take the load without sinking more than the rate specified in this MR.

“**Noncombustible Material**” means a construction material which is not combustible. (Added by MR 48)

“**Combustible Material**” means a construction material which is combustible. (Added by MR 48)

“**Floor**” means the area of a building which persons may to live or use within the scope of the beam or joist or within such area or within the area between the building walls including the balcony or porch. (Added by MR 48)

“**Partition**” means an internal vertical part which divides the area in a building into rooms. (Added by MR 48)

“**Wall**” means an external vertical part which separates the building into units. (Added by MR 48)

“**Principal structure**” means a building component which is a column, beam, joist, or floor considered to be a important part to the sturdiness of such building. (Added by MR 48)

“**High-rise Building**” means a building which people can enter to live or utilize, not less than 23 m in height. The height of the building shall be measured from the ground level of the construction to the roof deck. For the gable roof or hip roof building, the height shall be measured from the ground level to the top of the wall on the highest story. (Added by MR 48)

“**Extra-large Building**” means a building for use in the whole or any part thereof to live in or to operate business in one or several categories, having a total area or of any floor of the same building not less than 10,000 m<sup>2</sup>. (Added by MR 48)

“**Large Building**” means a building for use to live in or to operate business in one or several categories, having a total area or of any floor more than 2,000 m<sup>2</sup> or a building not less than 15.00 m in height and having a total area or of any floor more than 1,000 m<sup>2</sup> and not more than 2,000 m<sup>2</sup>, measured from the ground level to the top ground and, for a gabled and non-gabled building, from the ground level to the top height of the wall on the highest floor. (Added by MR 48)

“**Hotel**” means a building or part thereof under the law governing hotels;

“**Condominium**” means a building under the Collective Building Act. (Added by MR 48)

“**Theater**” means a building or any part thereof which is use as a theater under the law governing prevention of danger from entertainment”. (Added by MR 48)

“**Reliable institution**” means a government agency or limited company which has the objective to advice on civil engineering by qualified professional engineers under the law governing engineering profession and to certify controlled engineering tests. (Amended by MR 48)

**Clause 2** The building and part of the building shall be strong to take the load of the building and actual load which may occur or has occurred, for which any part of the building shall not accept the load in excess of that stipulated in this MR, except there is document to prove the strength of the material accepting the load as certified by reliable institute. But this shall not include the load as specified under Clause 6.

**Clause 3** In calculating the parts of the building which consists of brick or concrete block bonded by masonry material, the stress shall be not more than 8.0 mega Pascal (8 kg/cm<sup>2</sup>).

**Clause 4** In calculating the parts of building which consists of concrete; the stress shall be not more than 33.3% of ultimate stress of concrete, and not to exceed 6 mega Pascal (60 kg/cm<sup>2</sup>).

**Clause 5** In calculating different parts of the building made of reinforced concrete according to elastic theory or safety stress, the stress of concrete shall not exceed 37.5% of ultimate stress of concrete, and not to exceed 6.5 mega Pascal (65 kg/cm<sup>2</sup>).

**Clause 6** In calculating the parts of building made of reinforced concrete according to elastic theory or safety stress, the reinforced concrete used shall have stress (**actual stress**) from 240 mega Pascal (2,400 kg/cm<sup>2</sup>), and the strength of reinforced concrete shall not exceed the following:

(1) Tension (**tension for calculation**)

(a) In case using round steel bar with tension of 240 mega Pascal (2,400 kg/cm<sup>2</sup>) or more, tension (**tension for calculation**) shall be not more than 120 mega Pascal (1,200 kg/cm<sup>2</sup>).

(b) In case using deformed bar with tension of 240 mega Pascal (2,400 kg/cm<sup>2</sup>) or more and not more than 350 mega Pascal (3,500 kg/cm<sup>2</sup>), tension (**tension for calculation**) shall be not more than 50% of tension (**proved tension**) and not more than 150 mega Pascal (1,500 kg/cm<sup>2</sup>).

- (c) In case using deformed bar with tension of 350 mega Pascal (3,500 kg/cm<sup>2</sup>) or more and not more than 400 mega Pascal (4,000 kg/cm<sup>2</sup>), tension ([tension for calculation](#)) shall be not more than 160 mega Pascal (1,600 kg/cm<sup>2</sup>).
  - (d) In case using deformed bar with tension of 400 mega Pascal (4,000 kg/cm<sup>2</sup>) or more, tension ([tension for calculation](#)) may be used not more than 170 mega Pascal (1,700 kg/cm<sup>2</sup>).
  - (e) In case using twisted steel bar, tension ([tension for calculation](#)) shall be 50% of proved stress and not more than 240 mega Pascal (2,400 kg/cm<sup>2</sup>). This shall have test result of cold bending, certified by reliable institute.
- (2) Stress in reinforced concrete column
- (a) Round steel bar, according to criteria specified under (1) (a)
  - (b) Deformed bar, may be not more than 40% of the stress, but not more than 210 mega Pascal (tension of 2,100 kg/cm<sup>2</sup>).
  - (c) Twisted steel bar, may be not more than 40% of the stress but not more than 210 mega Pascal (tension of 2,100 kg/cm<sup>2</sup>). This shall have test result of cold bending certified by reliable institute.
  - (d) Column with structural steel, shall be not more than 125 mega Pascal (tension of 1,250 kg/cm<sup>2</sup>).
  - (e) Cast steel shall be not more than 70 mega Pascal (tension of 700 kg/cm<sup>2</sup>).
- (3) In calculating parts of reinforced concrete building using reinforced steel, shall use the stress of steel calculated under elastic theory or safety stress not more than double, but the stress calculated shall not exceed that under (1).

**Clause 7** In calculating the parts of reinforced concrete building under [ultimate load theory](#), ultimate load shall be as follows:

- (1) For part of building not calculated for wind load, ultimate load shall be :

$$UL = 1.7 CL + 2.0 SL$$

- (2) For part of building which wind load is also calculated, the ultimate load shall be :

$$UL = 0.75 (1.7 CL + 2.0 SL + 2.0 WL) \text{ or}$$

$$UL = 0.9 CL + 1.3 WL$$

for which the ultimate load is greater, But this shall not be below ultimate load in (1) also.

UL = Ultimate Load

CL = Constant Load

SL = Superimposed Load

WL = Wind Load

**Clause 8** In calculating parts of building of reinforced concrete building under [ultimate load theory](#), the ultimate load of concrete shall not exceed 15 mega Pascal (tension of 150 kg/cm<sup>2</sup>).

**Clause 9** In calculating parts of building of reinforced concrete building under ultimate load theory, the tension of reinforced steel shall be as follows:

- (1) Plain round steel bar shall be not more than 240 mega Pascal (tension of 2,400 kg/cm<sup>2</sup>).
- (2) Other reinforced steel shall be not more than 400 mega Pascal (tension of 4,000 kg/cm<sup>2</sup>).

**Clause 10** In calculating parts of pre-stressed concrete building under [ultimate load theory](#), ultimate load shall be the same as Clause 7.

**Clause 11** In calculating parts of pre-stressed concrete building, the pre-stressed concrete shall be as follows:

- (1) Pre-stressed concrete temporary transferred from pre-stressed steel before depreciation of pre-stressed concrete shall not exceed 60% of ultimate load of concrete.
- (2) Pre-stressed load used in the calculation for the design after depreciation of pre-stressed concrete shall not exceed 40% of ultimate load of concrete.

**Clause 12** In calculating parts of building consisting of pre-stressed concrete, the tension of pre-stressed steel shall be as follows:

- (1) Tension while stressing shall not exceed 80% of ultimate load of pre-stressed steel or 90% of proved stress, whichever is smaller.
- (2) Tension immediately transferred to concrete shall not exceed 70% of ultimate load of pre-stressed steel.
- (3) Tension shall not exceed 70% of ultimate load or 80% of proved stress, whichever is smaller.

**Clause 13** In calculating parts of building consisting of structural steel, the tension of steel shall be as follows:

- (1) In case there is not tensile test for steel less than 40 mm. Thick, the stress shall be not more than 240 mega Pascal (tension of 2,400 kg/cm<sup>2</sup>). For steel over 40 mm. Thick, the stress shall be not more than 220 mega Pascal (tension of 2,200 kg/cm<sup>2</sup>).
- (2) Stress, compression and bending force shall be not more than 60% of the stress under (1)
- (3) Shear stress shall be not more than 40% of stress under (1)

**Clause 14** In calculating parts of building consisting of various timber, the load shall not exceed the followings:

Type of wood	Unit bending & tensile stress Mega Pascal (kg/cm <sup>2</sup> )	Unit compression parallel to grain Mega Pascal (kg/cm <sup>2</sup> )	Unit compression crossing grain Mega Pascal (kg/cm <sup>2</sup> )	Unit shear stress parallel to grain Mega Pascal (kg/cm <sup>2</sup> )
1.Soft wood	8 (80)	6 (60)	1.6 (16)	0.8 (8)
2.Medium wood	10 (100)	7.5 (75)	2.2 (22)	1 (10)
3.Hard wood	12 (120)	9 (90)	3 (30)	1.2 (12)

In case there is test result of wood, safety part shall be with stress of not more than 1 in 8 of ultimate stress or 1 in 6 of load at analogy, whichever is smaller.

**Clause 15** Superimposed load (**live load**) for various types and parts of building, apart from the weight of the building or machinery or other equipment, shall be calculated on average not below the following:

Types and parts of building	Unit superimposed load as Kg/m <sup>2</sup>
(1) Roof	30
(2) Eaves or concrete roof	100
(3) Residential place ( <b>thii phak aasaai</b> ), Kinder garden, Bathroom, Toilet	150
(4) Row-wooden-building and Row-brick-building <u>used for residential purpose</u> ( <b>thii chai phak aa-saai</b> ), Condominium, Dormitory, Hotel, and Special patient room in hospital	200
(5) Office, Bank	250
(6) (a) Commercial building, Part of Row-wooden-building and Row-brick-building used for commercial purpose, University, College, School, and Hospital (b) Hall, stair, corridor of condominium, dormitory, hotel, office and bank	300
(7) (a) Market, Department store, Assembly hall, Theater, Restaurant, Conference room, Reading room in library, Parking for car or motor cycle (b) Hall, stairs, corridor of commercial building, university, college and school	400
(8) (a) Warehouse, Gymnasium, Museum, Stadium, Industrial plant, Press,	500

(b) Storage for documents or supplies Hall, stairs, corridor in market, department store, conference room, assembly hall, theater, restaurant, library	500
(9) Storage room of library	600
(10) Parking or storage for empty truck	800

**Clause 16** In calculating for the design if it appears that any part has to take the load of machinery or equipment or other superimposed load which is more than the superimposed load specified under Clause 15, the heavier superimposed load shall be used for that part.

**Clause 17** In calculating the design for the structure of the building, the wind load shall be considered. If it has to be calculated and there is no document certified by a reliable institute, the following wind load shall be used.

Height of building or part of building	Minimum wind load in kilopascal (kg/m <sup>2</sup> )
1 Height of building not exceeding 10 m	0.5 (50)
2 Height of building over 10 m, but not exceeding 20 m	0.8 (80)
3 Height of building over 20 m, but not exceeding 40 m	1.2 (120)
4 Height of building exceeding 40 m	1.6 (160)

In this, it is allowed that the load to other parts of the building, including soil resistance under the foundation, may exceed the value specified under this MR by 33.3%. But it shall not cause other parts of the building be less secured when calculated normally without wind load (Table 3).

**Clause 18** The soil load at the foundation of the building shall be calculated suitably for security and safety. If there is no certificate issued by reliable institute the test result or the calculation shall be shown or made not exceeding the load of the soils as follows:

- (1) Soft soil or compact land fill, at 2 metric ton/m<sup>2</sup>.
- (2) Medium soil or loosed sand, at 5 metric ton/m<sup>2</sup>.
- (3) Compact soil or compact sand, at 10 metric ton/m<sup>2</sup>.
- (4) Gravel or subsoil stone, at 20 metric ton/m<sup>2</sup>.
- (5) Subsoil rock, at 25 metric ton/m<sup>2</sup>.
- (6) Limestone or sandstone, at 30 metric ton/m<sup>2</sup>.
- (7) Igneous rock not transformed, at 100 metric ton/m<sup>2</sup>.

**Clause 19** In calculating the load transferred to the column, beam or structure taking the column and foundation, the full load of the building for superimposed load shall be used as specified under Clause 15, by reducing proportionally according to the story of the building as follows:

Floor load	Rate of reduction of load superimposed load on each floor in %
1 Roof or roof-top	1
2 First floor from roof or roof-top	1
3 Second floor from roof or roof-top	1
4 Third floor from roof or roof-top	10
5 Fourth floor from roof or roof-top	20
6 Fifth floor from roof or roof-top	30
7 Sixth floor from roof or roof-top	40
8 Seven floor from roof or roof-top	50

For theater, conference room, assembly hall, library, museum, half-moon, warehouse, industrial plant, car park for cars or motorcycle the superimposed load shall be calculated in full for all stories.

**Clause 20** In calculating the foundation on the pile driven in soft soil, if there is no certificate from reliable institute showing the test of soil property and maximum load of the pile, the press of soil shall be as follows:

- (1) For soil not deeper than 7 m under MSL (Mean Sea Level) the press of soil shall be not more than 6 kilopascal (600 kg/m<sup>2</sup>) of the efficient surface of the pile.
- (2) For soil deeper than 7 m under MSL, calculate the press of soil for over 7 m in depth, according to the following formula:

$$\text{Press force in kg/m}^2 = 600 + 220 L$$

L = the length in meter of the part of the pile, not more than 7 m under MSL.

**Clause 21** In calculating the foundation on the pile, with certificate from reliable institute, showing the soil property, or there is test for the load of the pile in the construction site or surrounding area, the load of the pile shall not exceed the following:

- (1) Load of pile calculated from the test of soil property, the load resistance shall not exceed 40% of maximum load.
- (2) Load of the pile obtained from testing shall not exceed 50% of maximum load.

**Clause 22** In testing the load of pile, the sunken rate and the sunk of the pile at maximum load shall be under the following criteria:

- (1) Total sunk of the pile from maximum load which left for 24 hours shall not exceed 25 mm.
- (2) The sunk of the pile after taking on maximum load and left for 24 hours shall not exceed 1.25 mm/hour.
- (3) The net sunken depth of pile after taking on maximum load for 24 hours without interference shall not exceed 6 mm.

**Clause 23** Components of the fire escape or principal structure for a building taller than 3 stories must be made of material not being a combustible material. (Added by MR 48)

**Clause 24** (1<sup>st</sup> Paragraph) Principal structure of building as follows;

- (1) A building for use as
  - a warehouse,
  - a theater,
  - a hotel,
  - a condominium, or
  - a medical treatment facility;
- (2) A building more than 1,000 m<sup>2</sup> in total floor area for use as
  - commerce
  - industry,
  - education, or
  - public health business

A building containing not less than 3 stories and (かつ) more than 1,000 m<sup>2</sup> in total floor area for use as

- office (sam nak ngaan) or working place (thii tham kaan)

この号のタイ語原文を忠実に翻訳すると下記のとおりであり、規制対象建築物が上記とは異なることとなる。しかし、現実には上記のように運用されているということなので、そのように訳出した。

A building for use as

- commerce
- industry,
- education,
- public health business or
- office or working place

containing not less than 3 stories and (かつ) more than 1,000 m<sup>2</sup> in total floor area;

- (3) - A high-rise building,
- An extra-large building,
- A large building, or
- A building or any part of the building used as a meeting hall

shall be constructed with noncombustible materials having qualities or properties as follows:

Kind of Construction and Principal Structure		Minimum Thickness of - Concrete covering Iron Bar, or - Concrete covering Steel (mm)		
1. Reinforced concrete (including SRC)	1.1 A <u>quadrilateral column</u> (角型柱) with the narrow side not less than 300 mm	40		
	1.2 <u>Circular or pentagonal or polygon at column</u> (円柱、五角柱、多角柱) not less than 300 mm in diameter	40		
	1.3 <u>Concrete beam and truss</u> (コンクリート梁、コンクリート・トラス) with a width of 300 mm or more	40		
	1.4 <u>Floor</u> (床) with thickness not less than 155 mm	20		
2. Pre-stressed concrete	2.1 A pre-drawn wire beam	75		
	2.2 A post-drawn wire beam	(1) 200 mm wide, and unrestrained	115	
		(2) との中間の場合は、かぶり厚さも中間をとる (第2段落を参照)。		
		(2) width of 300 mm or more, and unrestrained		65
		(3) 200 mm wide, and restrained		50
	(4) width of 300 mm or more, restrained	45		
2.3 Pre-drawn wire floor with thickness of 155 mm more	40			
2.4 Post-drawn wire floor with thickness of 155 mm or more	(1) under-strained	40		
	(2) restrained	20		
3. Steel structure framework	3.1 Steel column, 150 x 150 mm	50		
	3.2 Steel column, 200 x 200 mm	40		
	3.3 Steel column, 300 x 300 mm or more	25		
	3.4 Steel beam	50		

鉄骨造の場合、床の耐火性能に関する記述がない。

(2<sup>nd</sup> Paragraph) In case the principal structure has a size between those specified in the table, the value of the minimum thickness of the reinforced concrete shall be calculated by means of comparison.

(3<sup>rd</sup> Paragraph) In case the principal structure is constructed with reinforced concrete or pre-stressed concrete in a size or thickness less than that specified in the table above,

- other material shall be used or

- protection shall be otherwise taken

to make

- the column or beam have a fire-resistance rate not less than three hours or

- joist or floor have a fire-resistance rate not less than two hours.

(4<sup>th</sup> Paragraph) In case of a principal structure which columns or beams are constructed with steel structure framework not using reinforced concrete, it must be protected by other method of fire-resistance rate not less than three hours, and a supporting document certifying the fire-resistance rate issued by a reliable institution must be attached to the application for permission.

第4段落及び第5段落に記述されている Reliable institution は、タイ語で sathan-baan thii chua thoe dai である。

(5<sup>th</sup> Paragraph) A roof truss of a building pursuant to paragraph one, which is constructed with the steel structure framework,

- within a one-story building, shall have (ton mii) fire resistance rate of at least one hour, and

- within a two-or-more stories building, shall have (ton mii) fire resistance rate of at least two hours.

A supporting document certifying the fire-resistance rate issued by a reliable institution must be attached to the application for permission.

(6<sup>th</sup> Paragraph) A roof truss of a building pursuant to paragraph one may not have (mai ton mii) fire resistance rate as prescribed in paragraph five in the following cases;

- (1) A roof truss of a building which has the total floor area not exceeding 1,000 m<sup>2</sup>, except for theaters, hospitals and assembly halls
- (2) A roof truss of a building which locates more than 8 meters in height from the floor, and the building is equipped with:
- an automatic fire extinguisher system, or
  - heat protection (or heat ventilation) so that the roof truss does not come into danger.

(7<sup>th</sup> Paragraph) Method of test of the fire-resistance rate pursuant to the third, forth, and fifth paragraphs shall be in accordance with ISO 834 or ASTM E 119 standards.

改正経緯

(Number of existing paragraphs) (Amendment)

Paragraph 1 to 4	These paragraphs were added by MR 48 in 1997.
Paragraph 5 and 6	These paragraphs were added by MR 60 in 2006.
Paragraph 7	This paragraph was added by MR 48 in 1997 as 5 <sup>th</sup> paragraph. Then it was amended by MR 60 in 2006 and replaced as 7 <sup>th</sup> paragraph.

第5及び第6段落の趣旨

The meaning of the 5<sup>th</sup> and 6<sup>th</sup> paragraph is considered as follows;

“Provided, that the first paragraph shall not apply to

- (1) A roof truss of a one-story building in case where the roof truss has fire resistance rate of one hour or more, and
- (2) A roof truss of a two-or-more-stories building in case where the roof truss has fire resistance rate of two hours or more.

Provided, that the first paragraph shall not apply to

- (1) A roof truss of a building which does not exceed 1,000 m<sup>2</sup>, except for theaters, hospitals and assembly halls; and
- (2) A roof truss of a building in case where:
- the roof truss is 8 m or more in height from the floor, and
  - the building is equipped with:
    - an automatic fire extinguisher system, or
    - a heat protection (or heat ventilation) so that the roof truss does not come into danger.

**Clause 25** Materials used for the finishing of the building external surface or as the building wall must be securely adhered to the building by means not likely to fall and cause danger or damage. (Added by MR 48)

**Clause 26** Construction materials used inside buildings (\*) shall not produce suspended solid (浮遊物質) in the air, which may harm health, such as (\*\*) asbestos, silica, or fiberglass, unless they (construction materials) are coated or covered to prevent from

- causing suspended solid and
- spreading into the air

in the usable area (\*\*\*) of the building. (Added by MR 48)

(\*) この条文全体として、建築物の外皮（屋根や外壁）に使用することは、許容されている。

(\*\*) ここで”such as”として示されている物質は、文章構成上、”Construction materials”の例示でもなく、”suspended solid”の例示でもない。例示されているアスベスト等は、”Construction materials”の中に含まれ、”suspended solid in the air, which may harm health”となりうる物質として例示されている。そのあとの”Unless”以下の文章の意味あいも考慮しても、そのように解釈されるべきである。従って、文章構成上は修正されるべき点があると思われる。

(\*\*\*) “usable area of the building”とは、“一般的な室内空間”のほか、“機械室、パイプスペース等”を含み、さらに”バルコニー等の屋外空気に面する建築空間”を含むと解釈されている。一方、“屋根（屋上として使用されている場合を除く）”や”屋外空気に面する空調室外機置き場等”は、“usable area”から除外されるものと解釈されている。

**Clause 27** The material which is the external wall surface or is used to finish the external wall surface must have light refractive quality not exceeding 30 %. (Added by MR 48)

**Clause 28** Glass used to make the external wall of a high-rise building, extra large building and large building must be a combination of at least 2 layers with a material in between to connect the layers and each of the glass

layers must have the properties to prevent or reduce the risk of injury from them when broken and material in between must prevent the broken fragments from being loosen or falling off.

The glass attached to the rails and used as the partition of the hall or passage within a high-rise building, extra large building, and large building must have the properties to prevent or reduce the risk of injury from broken glass fragments.

(Added by MR 48)

Given on September 17, 1984 Minister

**Remark:** The reason for the publication of this MR is that Section 8 (2) and (3) of BCA 1979 prescribed that Minister by advice of the Control of Building Committee, shall have power to issue MR prescribing the load taking, resistance, including characteristic and property of construction material or for modification or repair of building and the load taking, resistance and stability of the building or soil area of the building. Therefore it is necessary to issue this MR.

Given on September 29, 1997 Minister

**Remarks:** The justification for promulgation of this MR is: Whereas at present the main structure of most building use material which does not resist fire long and when said buildings are under fire they collapse or tumble down easily, making it difficult to save the people or property in time and causing damage to life, body, or property of a great number of people, and whereas at present glass is used widely in building construction while the law governing building control does not prescribe properties of the glass which may cause danger to life or body of the people when broken or cracked or disturb other people with light reflection, it is expedient that qualities and properties of material used as main structure of buildings and glass used in building construction to prevent damage which may be caused by a fire; it is therefore necessary to issue this MR.

# Ministerial Regulation No.7

Issued in 1985

**Clause 1** The fee for the issue of Permit shall be as follows:

- (1) Permit to construct: 20 Baht each
- (2) Permit to modify: 10 Baht each
- (3) Permit to demolish: 10 Baht each
- (4) Permit to relocate: 10 Baht each
- (5) Permit to change the use: 20 Baht each
- (6) Certificate: 10 Baht each
- (7) Substitute Permit or Substance Certificate: 5 Baht each

**Clause 2** The fee for renewal of Permit shall be as follows:

- (1) Permit to construct: 20 Baht each
- (2) Permit to modify: 10 Baht each
- (3) Permit to demolish: 10 Baht each
- (4) Permit to relocate: 10 Baht each

**Clause 3** The fee for checking the plan for construction or for modification for the construction or for the section where there is modification shall be as follows:

- (1) For building which is not more than two-stories high or not more than 21 m in high, shall be charged according to the are of the floor together at 0.50 Baht/m<sup>2</sup>.
- (2) For building which is not more than three-stories high or higher than 12 m but not more than 15 m in height shall be changed according to the area of the floor altogether at 2.00 Baht/m<sup>2</sup>.
- (3) For building of more than three-stories high or more than 15 m in height, shall charged according to the area of the floor although at 4.00 Baht/m<sup>2</sup>.
- (4) Building which has to carry the load in any floor of more than 500 kg/m<sup>2</sup>, will be charged according to the total floor area, at 4.00 Baht/m<sup>2</sup>.
- (5) Space or construction for car park, car tuning area and entrance & exit for building under Section 8 (9), shall be charged according to the total floor are of the parking space, car turning are and entrance & exit, at 0.50 Baht/m<sup>2</sup>.  
In case the space or building constructed for use as car park, are turning are and entrance & exit for car, for building specified under Section 8 (9) is in the building of any floor of the building, there is no fee for the inspection of the plan again.
- (6) Bill board shall be charged according to the area by multiplying the widest part by the longest part, at 4.00 Baht/m<sup>2</sup>.
- (7) Construction which is measured by the length, such as dam, road or drainage, fence or wall, including the fence gate or the gate of the wall, is charged 1.00 Baht/m in length.

In charging the fee for the checking of the plan, fraction of m<sup>2</sup> or m shall be considered as on if the fraction is over half and discharged if less than half.

In counting the height of the building in meter, measure the height from the ground to the roof or the highest part of the building.

In counting the floor of the building, counts the building floor which is used except mezzanine.

In case the building has the mezzanine, the floor shall also be including as area of the building for the calculation of the fee for checking the plan also.

**Clause 4** The following buildings shall be exempted from the fee in issuing the permit under Clause 1, renewal of the permit under Clause 2, and checking of the plan for construction or modification under Clause 3.

- (1) The building of Ministry, Bureau, Department for government service or public service.
- (2) The building for the local administration organization for government service or for public service.
- (3) Building of the state established under a law which is used for the service of the organization or for public service.
- (4) Ancient place, temple or building for religious use where there is specific law governing the construction.
- (5) Building which the international organization or building of the agency established under the agreement between the Thai Government and Foreign country.

- (6) Building which is the embassy or consulate of foreign government.
- (7) Temporary building for use in the construction of permanent building which is not higher than two stories or not over 5 m and there is a period specified to be pulled down.
- (8) Building for temporary purpose which not more than two stories high or not higher than 9 m and is not a public building, special building or building which the use is controlled under Section 32 and there is a period of time specified to be pulled down.

Given on January 8, 1985 Minister

# Ministerial Regulation No.8

Issued in 1985

**Clause 1** The forms of application for permit and certification shall be according to those appended to this MR as follows:

- (1) Application for construction, modification or demolition of a building shall be according to Form B.1;
- (2) Application for relocation of a building shall be according to Form B.2;
- (3) Application for change of the use of a building shall be according to Form B.3;
- (4) Application for modification or use of a car park, car turning area, or entrance and exit for other purposes shall be according to Form B.4;
- (5) Application for construction, modification, demolition, relocation of a building, modification or use of a car park, car turning area and entrance and exit, for other purposes shall be according to Form B.5;
- (6) Application for certification of construction, modification or relocation of a building, shall be according to Form B.6;
- (7) Application for reissue of a permit or certificate shall be according to Form B.7;
- (8) Application for transferring a permit to construct, modify, demolish, or relocate a building, or change the use of a building, shall be according to Form B.8;
- (9) Permit to construct, modify or demolish a building shall be according to Form Orr.1;
- (10) Permit to relocate a building. For the relocation of the building:
  - to the same local area or
  - from the area where BCA 1979 enforced to the area where BCA 1979 is not enforced, or
  - from the area where BCA 1979 is not enforced to the area where it is enforced,shall be according to Form Orr.2;
- (11) Permit to relocate a building to other juristic area, shall be according to Form Orr.3;
- (12) Permit to modify or use a car park, car turning area and entrance and exit for other purpose, shall be according to Form Orr.4;
- (13) Permit to change the use of a building shall be according to Form Orr.5;
- (14) Certificate of construction, modification or relocation of a building shall be according to Form Orr.6.

**Clause 2** The form of order of a local competent officer shall be in accordance with those appended to this MR:

- (1) Order to change the plan of area, drawings and supplementary details or details of calculation under the first paragraph of Section 27 shall be according to Form C.1;
- (2) Order not to approve the renewal of permit under Section 35 shall be according to Form C.2;
- (3) Order to stop the construction, modification or relocation of a building under the first paragraph of Section 40 or to stop a demolition of the building under the first paragraph of Section 41 (for the case of executing it without permit) shall be according to Form C.3;
- (4) Order prohibiting to use building or allow other person to use building in manner which may be harmful under the first paragraph of Section 40 or the first paragraph of Section 41 (for the case of construction, modification, relocation or demolition without permit) shall be according to Form C.4;
- (5) Order to stop a construction, modification or relocation of a building under the first paragraph of Section 40 or to stop a demolition of a building under the first paragraph of Section 41 (for the case of performing incorrectly with the permit) shall be according to Form C.5;
- (6) Order prohibiting the use of building to allow another person to use building in manner which may be under the first paragraph of Section 40 or the first paragraph of Section 41 (for the case of construction, modification, relocation or demolition of a building incorrect with the permit) shall be according to Form C.6;
- (7) Order to demolish a building under the first paragraph of Section 42 (for the case of construction, modification or relocation of a building without the permit) shall be according to Form C.7;
- (8) Order to demolish a building under the first paragraph of Section 42 (for the case of construction, modification or relocation of a building different from the permit) shall be according to Form C.8;
- (9) Order to submit an application for permit for a construction, modification or relocation of a building under the first paragraph of Section 43 (for the case having carried out without the permit) shall be according to Form C.9;
- (10) Order to make correction and to submit the application for permit for a construction modification, demolition, or relocation of a building under the first paragraph of Section 43 (except for having carried out without the permit) shall be according to Form C.10;
- (11) Order to submit an application for permit for a construction, modification or relocation of a building under the first paragraph of Section 43 (for the case of carrying out the work differently from the permit) shall be according to Form C.11;

- (12) Order to make a correction and to submit an application for permit for a construction, modification or relocation of a building under the first paragraph of Section 43 (for the case of carrying out the work differently from the permit) shall be according to Form C.12;
- (13) Order to carry out the modification under Section 41 and the first paragraph of Section 43 (from the case of demolition of a building differently from the permit) shall be according to Form C.13;
- (14) Order to change the plan of the area, drawings, details or calculation under the second paragraph of Section 43 (for the case the local competent officer order the submission of the application according to the first paragraph of Section 43) shall be according to Form C.14;
- (15) Order to demolish a building according to Section 42 and the third paragraph of Section 43 (for the case of falling to comply with order of the local competent officer to submit application for permit to modify building or change the application for the permit) shall be according to Form C.15;
- (16) Order to stop using the building under Section 44 (for the case the certificate is not yet granted) shall be according to Form C.16;
- (17) Order to stop using the building under Section 44 (for the case the building is used for other purpose except that stated in the permit for construction, modification or relocation) shall be according to Form C.17;
- (18) Order to stop using the building under Section 44 (for the case it is not the building under control, but used for business which is under control) shall be according to Form C.18;
- (19) Order to stop using the building under Section 44 (for the case the building is changed from the use under one type of business to that of another under control) shall be according to Form C.19;
- (20) Order to stop using the area or building for other purpose under Section 45 in case the area or building is used as car park, car turning area and entrance and exit for car, shall be according to Form C.20;
- (21) Order to stop the modification and to carry out the correction of the area or building back into original state under Section 45 (for the case the area or building is used as car park, car turning area or entrance and exit) shall be according to Form C.21;
- (22) Order to demolish a building under Section 42 and Section 45 (for the case of not stopping the use of area or building constructed for other purpose or not correcting the area or building back into original state which has been used as car park, car turning area and entrance and exit) shall be according to Form C.22;
- (23) Order to carry out the correction of the building area under the first paragraph of Section 46 (for the case the building is under the condition or is used in the manner which may be harmful to health, life or property or not safe from fire or which may cause nuisance to effect the environment) shall be according to Form C.23;
- (24) Order to demolish a building under Section 42 and the second paragraph of Section 46 (for the case of falling to comply with the order to carry out correction of building which is in condition or may be used in manner harmful to health, life, person or property or not safe from fire or which may be a nuisance or effects environment) shall be according to Form C.24;
- (25) Order to demolish a building under Section 77 (1) (for the case the building is constructed on state land and there is Royal Decree to improve the building in that area) shall be according to Form C.25;
- (26) Order to modify the building under Section 77 (2) (for the case the building is constructed on state land and there is Royal Decree to improve the building in that area) shall be according to Form C.26;
- (27) Order to get rid of or stop the cause or which may cause unsuitable condition or not safe for living in, prevention of fire, health and maintenance of environment, town planning and according traffic convenience under Section 77 (3) (for the case the building is constructed on state land and there is Royal Decree to improve the building in that area) shall be according to Form C.27;
- (28) Order to execute the land lease agreement under Section 77(4) (for the case of the building is constructed on state land and there is Royal Decree to improve the building in that area) shall be according to Form C.28;

**Clause 3** The form of the letter of the local competent officer for use in the execution of BCA 1979 shall be according to the forms appended to this MR as follows:

- (1) Letter of the local competent officer in issuing the permit for the construction, modification, demolition or relocation of as building under Section 26 or for the use or change the use of the building under Section 33 (for the case the local competent officer could not inform the applicant for permit other way) shall be Form Nor.1;
- (2) Letter of the local competent officer stating the order not approving the construction, modification, demolition, or relocation of a building under Section 26 or for the use or change the use of the building under Section 33, shall be according to Form Nor.2;
- (3) Letter of the local competent officer notifying the extension of time for the issuance of permit or not to approve under the second paragraph of Section 26 and Section 33. Shall be according to Form Nor.3;
- (4) Letter of consent of the building supervisor (attaching to the application for permit for a construction, modification, demolition or relocation of a building) under Section 29 shall be according to Form Nor.4;
- (5) Letter stating the cancellation of the building supervisor of the permit holder under the first paragraph of Section 30 shall be according to Form Nor.5;

- (6) Letter stating the cancellation of building supervisor of the supervisor under the first paragraph of Section 30 shall be according to Form Nor.6;
- (7) Letter station the cancellation of building supervisor together with the letter of consent of the new building supervisor under the second paragraph of Section 30 shall be according to Form Nor.7;
- (8) Letter of consent of the new supervisor (attaching to Form Nor.7) under the second paragraph of Section 30 shall be according to Form Nor.8;
- (9) Letter of local competent officer notifying the approval to transfer the permit under Section 36, shall be according to Form Nor.9;
- (10) Letter of the Appeal Committee notifying the ruling to the appellant under the second paragraph of Section 52 shall be according to Form Nor.10;
- (11) Letter of the Appeal Committee notifying the rule to the local officer under the second paragraph of Section 52 shall be according to Form Nor.11.

Given on January 8, 1985 Minister

# Ministerial Regulation No.9

Issued in 1985, and amended by MR 14 in 1986

**Clause 1** The building as follows shall be exempted from having to apply for permit under Section 21, Section 22, Section 23, Section 24, Section 32, Section 33 and Section 34:

- (1) The building of the Ministry, Bureau and Department which is used for official or public service;
- (2) The building of the local authority which is used or official or public service;
- (3) The building of the state organization established under the law, which is used for the activity of the state organization or for public service;
- (4) The temple or building used for religious purpose, for which there is special law for the control of construction;
- (5) The building of international organization or building of the agency established under the agreement between the Government of Thailand and foreign government;
- (6) The embassy or consulate of foreign government.

The person who is responsible for the building under the first paragraph shall notify and submit the plan, drawings and details supplementing the plan as prescribed in MR relating to prescribing the principles, method and conditions in the application for the permit, the approval, renewal of the permit, issue of certificate and issue of substitute permit or substitute certificate, in 2 sets, to the local competent officer before carrying out the construction, modification, demolition or relocation of a building, not less than 30 days; and the plan, drawings and details supplementing the plan shall be correct and be in accordance with MR, local bye-law or notification of the Minister issued under BCA 1979.

The first paragraph shall not apply to the construction, modification, demolition, relocation, use or changing the use, adapt or use the area or construction which is used as car park, car turning area and entrance-exit for cars, for other purpose within the inner and outer area of Krung Ratanakosin.

The second and third paragraph shall not apply to buildings in the first paragraph which are related to the security of the government, armed forces or police or to buildings mentioned in the first paragraph (1) and (5) permitted by the Cabinet of Ministers in cases having special reasons. In this connection, conditions may be prescribed as well.

(Amended by MR 14 in 1986)

**Clause 2** When the local competent officer has been informed and has received the plan, drawing and supplementary details under the second paragraph of Clause 1, the check shall be carried out within fifteen days from the date of receiving the plan, drawing and supplementary details. This is only for keeping the line of the building along the road in good order, level of the ground floor, relation between the building and the way, road or public place or building of different owner or occupier, and area prohibited against certain type or class of building. When the local competent officer considers there are things to be corrected the person who is responsible shall be notified in writing.

**Clause 3** The building which is for temporary common use of the authority, public charity or public use, and there is a time fixed for a demolition or which is constructed or under control of the authority, organization or public charity shall be exempted from having to apply for the permit under Section 21, Section 22, Section 23 and Section 24.

**Clause 4** Temporary building for use in the construction of permanent building, which is not more than two stories high or not more than 9 m from the ground to the roof or highest part of the building, and has to be pulled down when the permanent building is completed shall have to apply to permit under Section 21 but shall be allowed not to comply with MR, local bye-law or notification of the Minister issued under Section 8(1), (2), (3), (4), (6), (7), (8) and (10) and shall be exempted from having to apply for the permit for a demolition under Section 23.

**Clause 5** The building for temporary use instead of the old building which was destroyed or damaged through natural disaster or by fire or other similar nature, which is not more than two stories high or not more than 9 m from the ground to the roof or higher part of the building, and is not public building, special building, or building for which the use is controlled under Section 32 with demolition period of not more than twelve months, shall have to apply for the permit under Section 21 but shall be allowed not to comply with MR, local bye-law or notification of the Minister issued under Section 8(1), (2), (3), (4), (6), (7), (8), (9) and (10) and shall be exempted from having to apply for the permit for a demolition under Section 23.

**Clause 6** The building which has the nature of being the tent for temporary use and is not the building for use in commerce, industry or education, with period of a demolition not more than ten days shall be exempted from having to apply for the permit under Section 21, Section 22, Section 23 and Section 24.

Given on January 8, 1985 Minister

# Ministerial Regulation No.10

Issued in 1985

Amended by MR 29 in 1991, by MR 45 in 1995, by MR 56 in 2000, and by MR 57 in 2001

**Clause 1** Any building owner who wishes to receive the permit for:

- (1) a construction, modification or demolition of the building shall submit the application according to Form B.1 together with documents as stated under Form B.1, to the local competent officer, and
- (2) relocation of a building shall submit the application according to Form B.2 together with documents as stated under Form B.2 to the local competent officer where that building is situated, except for the relocation of building from area not under BCA 1979, to the area under BCA 1979 the application shall be submitted to the local competent officer of the area where the building will be relocated to.

The application for the permit shall attach document concerning with the plan, drawing and supplementary details as specified under Form B.1 and Form B.2 in 5 sets together with the application. For the application of permit for construction of building, modification or relocation of the building which is under control of use under Section 32, the local competent officer will notify the applicant for permit to attach more than five sets of such documents, but no more than seven sets.

The applicant for a construction, modification or relocation of a building concerning with public building, special building or building constructed mainly of permanent and fire resistant material, one set of calculation shall be attached with the application under (1) or (2).

Application for a construction, alternation, demolition or relocation of a building within a boundary of the provincial administrative body in the area of Tambon council or the area of the Tambon administrative body but not being in the area as fixed by the MR or local provisions under Section 8(10), or the notification of MOI issued by the Minister under Section 13 being in force: in case of the following buildings, outlined mapping for buildings and copy of land right document together with applicant shall be attached:

- (a) Dwelling building having not more than two stories with combined area in every floor in the same building not more than 150 m<sup>2</sup>.
- (b) Agriculture produce storage building having combined area in every floor in the same building not exceeding 100 m<sup>2</sup>.
- (c) Livestock feed building having combined area in every floor in the same building not exceeding 100 m<sup>2</sup>.
- (d) Fence, wall, gate, projecting roof or street stall.
- (e) Water tank tower with height not exceeding 6 m.

(Amended by MR 29 in 1991, by MR 45 in 1995, and by MR 56 in 2000)

**Clause 2** When the local competent officer has received the application under Clause 1, examination of:

- the site plan,
- design drawings,
- particular specifications, and
- calculation sheets (if necessary)

shall be carried out.

If it appears that:

- the site plan,
- design drawings,
- particular specifications, and
- calculation sheets (if necessary)

are correct and in accordance with:

- MR,
- Local by-law and/or
- Notice of the Minister

issued under BCA 1979, the local competent officer shall issue the permit under Form Orr.1 or Form Orr.2.

In case there is application to relocate a building to other area under control of other local competent officer, when the local competent officer where that building is situated has examined according to the first paragraph and has it them to be correct, he shall issued permit for the part which the local competent officer where the building to be relocated is situated according to Form Orr.3 and send the permit and copies of documents concerning with the plan drawings and supplementary details in 4 sets together with 1 set of calculation (if any) to the area where the building will be relocated to. When the local competent officer of the area where the building is to be relocated to

has considered according to the first paragraph and has been them to be correct, permit shall be issued for the part which the local competent officer where that building is relocating to is responsible, according to Form Orr.3.

**Clause 2/1** To issue the license, the local competent authority shall issue the expiry related with a size of building space on the license in the case of applying license for building construction and modification.

- (1) One-year expiry for building space less than 10,000 sqm<sup>2</sup>
- (2) Two-years expiry for building space more than 10,000 sqm<sup>2</sup>, but not more than 100,000 sqm<sup>2</sup>
- (3) Two-years expiry for building space more than 100,000 sqm<sup>2</sup>

(Added by MR 57)

**Clause 3** When the holder of permit for construction, modification or relocation of the building, which is under control according to Section 32, has carried out the construction, modification or relocation of the said building properly, the owner or occupier of the building shall submit the application for the certificate from the local competent officer according to Form B.6 together with documents as stated under Form B.6.

When the local competent officer has received the application according to the first paragraph and has examined the construction, modification or relocation of the building to be correct according to the permit, the local competent officer shall issue the certificate according to Form Orr.6.

**Clause 4** In case the owner or occupier of the building which is not under control according to Section 32, wishes to use the building for the activity under control, or when the owner or occupier of the building which is under control of use according to Section 32 wishes to change the use of the building for another activity the owner or occupier shall submit an application for permit to change the use of the building according to Form B.3 to the local competent officer together with documents as stated under Form B.3.

The second and third paragraph of Clause 1 shall apply to the application under the first paragraph for those concerning with documents to be attached with the application relating to the plan, drawings and supplementary details or the calculation mutatis mutandis.

When the local competent officer has received the application under the first paragraph, he shall proceed according to the first paragraph of Clause 2, and when it is seen to be correct the local competent officer shall issued the permit according to Form Orr.5.

**Clause 5** For the case the owner or occupier of the building must have the area of construction to be used as car park, car turning area and entrance-exit for car under Section 8(9), shall wish to adapt or use the car park, car turning area and entrance-exit for car, for other purpose, and has constructed the area or buildings to be used as car park, are turning area and entrance-exit for cars to replace the original car park under Section 34, the owner of occupier of the building shall submit an application according to Form B.4 to the local competent officer together with the documents as stated under Form B.4.

The second and third paragraph of Clause 1 shall apply to the application for permit under the first paragraph in so far as it concerns with the documents to be attached with the application relation to plan, drawings, supplementary details or the calculation mutatis mutandis.

When the local competent officer has received the application according to the first paragraph, he shall proceed according to the first paragraph of Clause 12; and when it is seen to be correct the local competent officer shall issue the permit according to Form Orr.4.

**Clause 6** Any permit holder who shall wish to apply for renewal of the permit for a construction, modification or relocation of a building, or to renew the permit for a modification or use of a car park, car turning area and entrance-exit for card for cars for other purpose, the application for the renewal shall be submitted according to Form B.5 to the local competent officer together with documents specified in Form B.5 before the expiry of the permit.

When the local competent officer has received the application according to the first paragraph, the application and the reason for the renewal shall be considered. When it is deemed appropriate the local competent officer shall grant the renewal by showing at the end of the permit or a new permit may be issued.

**Clause 6/1** In considered process of first renewal of license, the local competent authority shall give permission not exceeding the period of time which are mentioned in Clause 2/1.

In case there is the extension of license as the first paragraph, the local competent officer can render license extension, only when the work on the whole foundation of the building has been finished, or there has been construction or modification of building more than 10 % of the permitted building area; and the local competent officer can extend the license not more than three times, each time for one year.

The license under the second paragraph has duty in reporting advancement of building construction or modification to the local competent officer for each ninety days. In this regard, the local competent officer shall instruct the upper technical official or the technical official to investigate the construction or modification every time receiving the report.

In applying for license extension of building construction or modification for every time, the license extension applicant must alter the building plan to have or improve fire hazard preventive system and safety within the building, which shall be in line with the MR or local provision issued under BCA 1979 being force while applying for that license extension.

(Added by MR 57)

**Clause 6/2** The licensee for building construction or modification who has not applied for license extension prior to its expiry, but the construction or modification had been further proceeded until being unable to alter plan for applying to get the new license under the principle as fixed in the MR, local provision or notification of MOI issued under BCA 1979 being in force at that time, if requiring to further proceed, he shall submit permission application of Clause 1 within ninety days from date of the license expiry. In this regard, the local competent officer shall consider issuing new license under the same principle as issuing the old license, except for the matter of fire hazard preventive system and safety system within the building which shall be in line with MR or local provision issued under BCA 1979 being in force while applying for the new license.

(Added by MR 57)

**Clause 6/3** In case the license for building construction or modification has not been granted an extension or unable to extend after Clause 6/1 and unable to receive the new license after Clause 6/2, if it appears that the construction or modification is still incomplete and being unable to alter plan for application to get the new license under the principle as fixed in the MR, local provision or notification of Minister of Interior issued under BCA 1979 being in force at that time, the building owner may submit permission application to alter the building to enable construction of various parts of the building or to further install job and equipment, in this respect, as only necessary to enable the safety usage of that building which shall not be the job of adding the height and area of the building except being the essential construction for installing system job and various equipment on the uppermost floor of the building such as, lift mechanic room, water storage tank or fire alarm ladder room (火の見やぐら?) , etc.

Having received the permission application as the first paragraph, the local competent officer the upper technical official or the technical official to look over that building. If it is found that the permission application for building modification is just a necessity to enable the safety usage of that building, the local officer shall issue the license to the permission applicant as the first paragraph.

The permission application under the first paragraph and license under the second paragraph shall be applied with Khor 1 Form and Or 1 Form annexed to the MR No.8 (1985) issued under BCA 1979.

(Added by MR 57)

**Clause 7** In case the permit or certificate is lost, destroyed or damaged in the important part, the holder of the permit or certificate shall apply for the substitute according to Form B.7 to the local competent officer together with documents stated under Form B.7 within fifteen days from the date of learning of the loss, destruction or damage.

When the local competent officer has received the application under the first paragraph, the application shall be considered and if seen to be appropriate the local competent officer shall issue the substitute for the permit or certificate to the applicant.

The substitute for the permit of certificate shall be stamped in red as “substitute” and there shall be the date of issue of the substitute together with signature of the local competent officer or of the person assigned by him.

**Clause 8** When any holder of permit shall wish to transfer the permit for construction, modification, demolition, relocation or changing the use of the building to another person, and application according to Form B.8 shall be submitted together with the documents specified in Form B.8 to the local competent officer.

When the local competent officer has received the application under the first paragraph, he shall consider it and if seen to be appropriate the local competent officer shall issue a letter to notify the transfer of permit according to Form Nor.9 to the applicant for the transfer.

In case the local competent officer has approved the transfer of the permit, it stamped in red as “Transferred”, standing the name of the transferee and there shall be the date approved for the transfer, in the permit for the construction, modification, demolition, relocation or changing the use of building, including the signature of the local competent officer or of the person assigned by him.

**Clause 9** The plan, drawing, supplementary details and calculation shall printed, copy, photo-copy or written in ink and shall be according to the principles and conditions as follows:

- (1) The scale, size, distance, weight and units for the calculation shall be metric system.
- (2) The plan of the area shall be not less than 1 : 500, showing location and area of the land and the building applied for the construction, modification, demolition, relocation, changing use, adapt or use the car park, car turning area and entrance-exit of cars for other purpose, and the application to construct the area or building for use as car park, car turning area and entrance-exit of cars to replace the former one, with the following details:

- (A) External boundary of the existing building;
- (B) Distance from the external boundary of the building applied for to the boundary of the land on all sides;
- (C) Distance between the buildings existing and the building applied for in the area of the land.
- (D) The nature and extent of the public land and the building in the adjoining area in sketch together with making of directions;
- (E) In case there is no public water drain in the application for draining water to public drain or other method of draining water, including the indication of the flow and incline.
- (F) Show the level of the ground floor of the building and relation to the level of the nearest way or public road and the ground level.
- (G) The plan for the relocation of the building shall show the original plan of the building and the plan where the new building will be relocated to.

- (3) The plan for the building under Section 4, except for the building, house, shop, raft, warehouse, office and other construction which people may live or use shall have details according to (A), (B), (C), (D), (E), (F) or (G), as there are according to the feature of the building.

The plan shall be of scale not less than 1:100, showing the followings: floor plan, side views (not less than 2 sides) cross-sections crosswise, cross-section, lengthwise, beams of the floors and foundation of the building applied for the construction, modification, demolition, relocation, changing use or modification of the car park, car turning area and entrance-exit for card for other use, including the details as follows:

- (A) The plan shall have the significant details in size, marking, materials and users of the parts of the building, sufficient to be considered according to MR and bye-law or notification of MOI issued under the control of BCA 1979;
- (B) The plan for the construction of building shall show the parts to be construction clearly;
- (C) The plan for modification of the building shall show the original parts and the parts to be modified clearly;
- (D) The plan for a demolition of a building shall show the step, method and safety measures in the demolition of the building;
- (E) The plan for a relocation of the building shall show the steps of the method, security and safety measures in the relocation of the building.  
For building with cross-section crosswise or lengthwise having the width, length or height of over 90 m, the plan may be smaller than 1:100, but not less than 1:250.
- (F) The plan for the change of the use of the building shall show the original part and the parts to be changed clearly.
- (G) The plan for modifying or using the car park, car turning area and entrance-exit for cars for other purpose shall show the original parts and the parts to be constructed to replace the original. For the construction of building as car park, car turning area and entrance-exit for cars the difference parts of the building to be constructed shall be clearly shown.

The plan of the building under Section 4, except for the building, house, shop, raft, warehouse, office and building for other purpose which people may live in or use shall show details according to (A), (B), (C), (D), (E), (F) and (G), as there are according to the feature of the building.

- (4) The supplementary details shall show the details of the quality and type of material, including the method of performance or method of construction, modification, demolition, relocation, changing use or modification of the car park, car turning area and entrance-exit for card for other purpose.
- (5) The calculation details shall show the method according to the engineering principles by calculating the strength of materials, load and resistance of different parts of the building.

**Clause 10** The person in charge of the design or the person in charge of the design and calculation shall sign and write down his name in the plan, drawings, supplementary details and calculation sheets, and state the office or address together with qualification of the person in charge in each set of the plan, drawing, supplementary details and calculation sheets, or the print, copy, photo-copy of the work of the person in charge of the design or design and calculation which he has sign and write down his name may be used instead.

In case the person in charge of the design or the person in charge of the design and calculation is the licensee to practice the profession of architecture under control or engineering under control under the law on architecture profession or engineering profession, his license number shall also be stated.

Given on January 8, 1985 Minister

Given on March 13, 1995 Minister

Given on September 20, 2000 Deputy Minister acting on behalf of Minister

**Remarks:-** The reason in proclaiming this MR is since it is suitable to be lenient for stipulation concerning documents to be attached with permission application for building construction, building modification, building demolition or building removal for some certain categories location in area of provincial administrative body only in area within the Tambon council of area of Tambon administrative body, but not being in area as fixed by MR or provision of local body under Section 8(10) of BCA 1979 or notification of MOI issued by Minister under Section 13 of the said Act being in force, and to repeal leniency for building in sanitation area in which MR 45 (1995) issued under BCA 1979 which has leniency clauses concerning the documents to be attached with the said permission application for building of some categories in the sanitation area, but since at present the sanitation local government has been cancelled by the Act on changing status of sanitation to municipal body 1999, it is necessary to issue this MR.

Given on July 23, 2001 Deputy Minister acting for Minister

**Clause 3 of MR 57:** The license for a building construction or modification issued prior to the enforcement date of this MR shall be valid as specified in the license. For the license extension, procedure shall be as specified in Clause 6/1.

**Clause 4 of MR 57:** For the license for building construction or modification which has need extended prior to the enforcement date of this MR, if a further extension is required, procedure shall be as specified in the second, third and fourth paragraph of Clause 6/1.

# Ministerial Regulation No.11

Issued in 1985

**Clause 1** The following actions are not regarded as building modification:

- (1) Changing the structure of the building by using materials of the same size, number and type as the original ones, excluding the change of the structure of the building which is reinforced concrete, compressed concrete or pattern structured steel.
- (2) Changing various parts of the building not being structure of the building by using the same materials as the original ones or other materials not adding load to the structure of the original building in any parts more than 10 %.
- (3) Changing, extending, adding, decreasing or expansion of boundary character, model, shape, ratio, weight, area of various parts of the building not being structure of the building and not adding load to the structure of the original building in any parts more than 10 %.
- (4) Decreasing or expanding the area of any floors to lessen or enlarge the area not more than 5 m<sup>2</sup> altogether, in this regard, by not decreasing or increasing number of posts or beams, or
- (5) Decreasing or expanding the area of the roof to enlarge the area not more than 5 m<sup>2</sup> altogether, by not decreasing or increasing number of posts or beams.

In this regard, the actions under the first paragraph must not be contradictory to MR issued under Section 8, local provision issued under Section 9 or Section 10 or notification of Minister issued under Section 13 or Section 59 of BCA 1979.

**Clause 2** Demolition of other parts of the following structure of building is regarded as the building demolition:

- (1) Reinforced concrete canopy.
- (2) Partition or wall which is the structure of the building or reinforced concrete partition or wall.
- (3) Reinforced concrete staircase.
- (4) Reinforced concrete floor up from the 2nd floor of the building and over.

In case there is razing of other parts of the structure of the building under the first paragraph for action of Clause 1 in part of the building modification, the razing of that part is not regarded as building demolition.

Given on August 26, 1985 Minister

**Remark:** - The reason for the publication of this MR is that, Section 4 and Section 5 (3) of BCA 1979 have prescribed that the minister has the authority to issue MR prescribing the action not regarded as building modification and prescribing other parts of the building structure of which the razing is regarded as the building demolition, it is therefore necessary to issue this MR.

Proclaiming in Government Gazette, Special Issue, Volume 102 Part 134, issued on September 26, 1985

# Ministerial Regulation No.12

Issued in 1985

The construction, modification, demolition or relocation of a building differently from the area plan, drawing and details supplementing the drawings approved, including the method or condition which the local competent officer has specified in the permit, may be carried out in the following cases:

- (1) Not changing the area plan, except that the distance of the location of the building to the boundary of the land or edge of public land is different from the plan approved by more than 20 %.
- (2) Not changing, adding, increasing, decreasing or expanding the characteristic, scope, form or shape of the structure of the building, except:
  - A. The structure of the building will be different from the plan or details supplementing the plan approved by more than 5 %, or
  - B. When the calculator of the plan, details supplementing the drawings and details of calculation under Section 28, has considered that it is necessary to change, add, increase, decrease or expand the structure of the building for strength, without causing the characteristic, form or shape, area and location of the building different from that approved and has informed the supervisor and owner of the building, including to notify in writing the local competent officer with reason for the necessity, including the drawings, details supplementing the drawings and details of the calculation of the structure of that part of the building. However, it shall be notified before the permit for the construction, modification, demolition or relocation of the building shall have expired.
- (3) Not changing, adding, increasing, decreasing or expanding the characteristic, scope, form or shape of the structure of the building or area of other parts of the building which are not structure of the building, which is increasing the weight to the structure of the building in any part by more than 10 %.

The case under the first paragraph shall not contradict MR issued under Section 8, local by-law issued under Section 9 or Section 10, or Notification of Minister issued under Section 13, or Section 59 of BCA 1979.

Given on August 26, 1985 Minister

# Ministerial Regulation No.15

Issued in 1986

**Clause 1** In this MR:

"Area No.1" means the land in the area,

- which starts from the line of the Building Control Area on the Western side towards the east, and
- which crosses over within 15 m from the center line of
  - Patong-Komala Road,
  - Thaweewongse Road and
  - the road on the edge of Patong Beach
    - towards the north until the area of Tambon Komala
    - towards the south until the area within 500 m from the center of Klong Pak Bang
    - towards the south along the line of the road on the edge of Patong Beach,

"Area No.2" means the land in the area 15 m on each side measured from the center line of

- Rassadorn Uthit Road,
- Song Roi Pee Road and
- all the roads that connect
  - Thaweewongse Road and Rassadorn Uthit Road and
  - Thaweewongse Road and Song Roi Pee Road.

"Area No.3" means the land in the area within 150 m from the end of the line of Area 1,

"Area No.4" means

- the land in the area between Area No.2 and Area No.3 and
- the land in the area within 150 m from the end of the line of Area No.2 towards the north and the south all the way along the line of Area No.3,

as the map annexed to this MR.

**Clause 2** The land in the locality of Tambon Patong, Kato District, Phuket Province, inside the area of the area of the map annexed to this MR shall be prescribed as an area in which it is forbidden to construct the following types and categories of buildings:

(A) Inside Area No.1 and Area No.2, nobody is allowed to construct buildings other than:

- (1) residential buildings (**aakhaan thii phak aa-saai**) in the category of single-story bungalows not more than 5 m in height and which have an open space around the building not less than 75 % of the plot of land;
- (2) dams, water drainage paths or pipes, fences, walls, gates and bridges that are not constructed down into the sea;
- (3) land spaces for use as car parks that do not have construction of buildings and entrances and exits for vehicles;
- (4) jetties, buildings or sites belonging to the government.

(B) Inside Area No.3, nobody is allowed to construct the following buildings:

- (1) buildings with a height exceeding 12 m;
- (2) buildings the entrances and exits of which, from the buildings themselves to the public paths, are less than 3.50 m in width;
- (3) factories of the laws governing factories;
- (4) places of entertainment of the laws governing the prevention of disasters that happen due to entertainment operations;
- (5) places of transportation of the laws governing land transportation;
- (6) all types of animal-rearing places that have an area of all floors in the same building or several buildings totaling more than 10 m<sup>2</sup>;
- (7) big buildings which have a total area of all floors or any one floor in the same building of more than 2,000 m<sup>2</sup>;
- (8) markets which have an area of all floors in the same building or several buildings totaling more than 300 m<sup>2</sup> or markets which are less than 50 m away from other markets;
- (9) shops for repairing, constructing or servicing vehicles that are driven by all types of engines;
- (10) places of packing gas, places of storage of gas and service stations of the laws governing the packing of liquid petroleum gas;
- (11) places of storage and distribution of fuel oils of the laws governing the storage of fuel oils;
- (12) medical clinics that have more than 5 inpatient beds;
- (13) religions places and places of education;
- (14) sign boards or things that are constructed for affixing or installing signboards of all types except for signboards of names of places that have a height not exceeding 12 m;

- (15) buildings that are constructed of mostly nonpermanent or non-fire-resistant materials, except for buildings that are in the category of single-story bungalows that have a height not exceeding 6 m and must be at least 5 m away from other buildings all around;
  - (16) shacks or stalls;
  - (17) buildings which have open spaces in the plots of land on which the buildings are constructed that are less than 50 % of the area of those plots of land;
  - (18) shop houses or townhouses;
  - (19) crematoriums of the laws governing the control of cemeteries and crematoriums;
  - (20) warehouses, buildings or any parts of buildings that are of a similar description that are used to store, hold or load goods or things for business or industrial benefit.
- (C) Inside Area No.4 nobody is allowed to construct the following buildings:
- (1) the buildings mentioned in (B)(2)(3)(6)(9)(10)(11)(13) and (15);
  - (2) the buildings mentioned in (B)(20) which have a floor area in the same building or several buildings totaling more than 200 m<sup>2</sup>;
  - (3) buildings which have open spaces in the plots of land on which the buildings are constructed that are less than 30 % of the areas of those plots of land.

Height shall be measured from the ground level to the highest part of the building.

**Clause 3** Inside the land areas prescribed in Clause 2, nobody is allowed to modify any building unless it is notification which does not cause that building to have specifications contrary to the buildings prescribed in Clause 2.

**Clause 4** In the land areas prescribed in Clause 2, nobody is allowed to change the utilization of any building to become another type or category of building that has specifications contrary to the buildings prescribed in Clause 2.

**Clause 5** The buildings that are already existing on the land prescribed in Clause 2 before or on the date that this MR comes into force shall be exempted from having to comply with this MR, but it is forbidden to modify or change the utilization of the said buildings unless it is a modification or change of utilization in a manner that is not contrary to the specifications of the buildings prescribed in Clause 2.

**Clause 6** Buildings the construction, modification, use or change in utilization of which has been permitted under the laws governing the control of buildings or which has been permitted under the specific laws governing that activity before the date of enforcement of the Notification of the MOI on the subject of prescribing the areas in which it is forbidden to construct, modify, use or change the utilization of some types or categories of buildings in some localities in Tambon Patong, Katoo District, Phuket Province, dated June 10, 1985, and the construction, modification, use or change of utilization of which is still not yet completed, shall be exempted from having to comply with this MR, but it is not allowed to apply to change the permission to be contrary to this MR.

Given on June 9, 1986 Minister of Interior

# Ministerial Regulation No.21

Issued in 1989

## Clause 1

- In case there is installment of
    - guard rail,
    - bent steel or
    - others with the same feature,at doors, windows or inside or outside the building up from the second floor,
  - no matter being installed before the date of BCA1979 being in force, which is contradictory to Clause 21bis of MR 4 (1983) based on BCA1979 with amendment by MR18 (1987) based on BCA1979,
  - which will cause that building to have dangerous effect to human life or body;
- the local competent officer is empowered to instruct the building owner or occupier to proceed with corrective improvement to follow Clause 21bis of the MR4 (1983) based on BCA1979 with amendment by MR18 (1987) based on BCA1979, for a completion within time specified by the local competent officer, but not less than 90 days, except for the case of suitable reason the local competent officer may give an extension of not exceeding 90 days.

The order to proceed corrective improvement of the building under the first paragraph shall apply with Kor. 23 Form annexed to MR8 (1985) based on BCA1979.

**Clause 2** Prior to ordering the building owner or occupier to proceed with improvement of Clause 1, the local competent officer shall authorize the technical official or the upper technical official to inspect condition of the said building and report the outcome to the local competent officer. Such report must at least consist of plan and side shape of the building as necessary, measure of improvement and duration needed for improvement.

Given on July 19, 1989 Deputy Minister, acting for Minister

**Remark:** The reason for the publication of this MR is that, since it is appropriate to specify principles, procedure and condition to give authority to the local competent officer to instruct the owner or occupier of building to proceed improvement to building which is installed with guard rail, bent steel or others with same feature, which may cause that building to have dangerous effect to human life and body, and since the first paragraph of Section 46 has enacted principles, procedure and condition for this subject in MR, it is therefore necessary to issue this MR.

Proclaiming in Government Gazette, Special Issue, Volume 106 Part 135, issued on August 23, 1989.

# Ministerial Regulation No.23

Issued in 1989

The following is regarded as a building under Section 4 ;

The signboard or structure built for fixing or installing signboard fixed or installed in a distance from public site, which upon horizontally measured the distance from public site is less than the height of that signboard measured from the ground, and width of signboard exceeding 50 cm, or its length exceeding 1 m, or area of signboard exceeding 5,000 cm<sup>2</sup>, or the weight of signboard or built structure used for fixing or installing signboard, any or both of them having the total weight exceeding 10 kg.

Given on September 27, 1990 Minister

**Remark :** The reason for the publication of this MR is that, since Section 4 of BCA1979 has prescribed the meaning of "Building" to include signboard or structure built for fixing or installing at the distance from public site which upon horizontally measured the distance from public site is less than the height of that signboard measured from the ground, with size or weight exceeding the limit in MR, it is therefore necessary to issue this MR.

Proclaiming in Government Gazette, Special Issue, Volume 107 Part 198, issued on October 3, 1990

# Ministerial Regulation No. 33

Issued in 1992, Amended by MR42 in 1994, Amended by MR50 in 1997

この省令には、規制対象建築物を「a high-rise or extra-large building」 「a high-rise building」若しくは「a extra-large building」と明記している規定と、一切明記していない規定がある。明記していない規定に関しては、「a high-rise or extra-large building」が規制対象であると解釈されている。

**Clause 1** In this MR:

“**High-rise Building**” means a building which people can enter to live (yuu) or utilize (chai soi), not less than 23 m in height. The height of the building shall be measured from the ground level of the construction to the roof deck. For a gable roof or hip roof building, the height shall be measured from the ground level to the top of the wall on the highest story.

“**Extra-large Building**” means a building which is constructed for use of the building or part for residential purpose (pen thii yuu aa-saai) or operate one or several businesses, having combined area on all stories or any one story in the same building not less than 10,000 m<sup>2</sup>.

“**Floor area**” means the space of each story of a building in which a person can enter to stay in it or enter to utilize it within the external boundary or the beams or inside that story or within the external boundary of the walls of the building and the meaning includes verandas or balconies as well but not include sundeck space and stairs outside the roof. (Amended by MR50)

“**Land space which is used as the location of the building**” means the space of the plot of land which is used for application for permission for construction of a building, regardless of whether it is land under a single certificate or several certificates showing rights to land which is contiguous land. (Amended by MR50)

“**Sundeck**” means the topmost space of a building which is not covered by a roof and persons can go up to make use of it. (Amended by MR50)

“**Vacant land**” means space which is without the cover of a roof or construction artifact. Such a space may be organized as a well, a swimming pool, a waste water tank, a waste holding space, a waste gathering holding space or a car park which is outside a building, and it shall also mean the space of a construction artifact or a building which is not more than 1.20 m in height from ground level and there is no roof or construction. (Amended by MR50)

“**Public Road**” means the road opening or permitting to the public to enter and use as traffic way, no matter a toll fee is collected or not.

“**Noncombustible Material**” means a construction material which is not combustible.

“**Fire Wall**” means

- a solid brick wall made of ordinary brick of not less than 18 cm thick and there is no space which fire or smoke go through, or
- a solid wall made of other fire resistant material having the property in preventing fire better than ordinary brick wall of 18 cm thick. If it is reinforced concrete wall, it shall be no less than 12 cm in thickness. (実質 2 時間)

“**Stand-pipe System**” means water supply pipe and equipment for fire fighting.

“**Waste Water**” means liquid which has been used of all types, with or without residue.

“**Reservoir for Waste Water**” means public drain, ditch, canal, river, sea and public water source.

“**Waste Water Treatment System**” means the process for making or improving wastewater to have the quality to be drain water, including draining water from the building.

“**Water Supply System**” means water supply for using and drinking.

“**Refuse**” means refuse under the law on public health.

“**Refuse Storage**” means equipment or place for storage of refuse to wait for being moved to the common refuse storage.

“**Common Refuse Storage**” means the equipment or place for storage of refuse to wait for being moved for eradication.

“**Emergency lift**” means the lift which the fire fighting personnel can control during that building being on fire.

**Clause 1bis** This MR shall not apply to a car park building installed a system moving cars by mechanical means which has been designed for the benefit of parking cars specially. (Added by MR42)

## Chapter 1

### Shape of Building and Open Space outside the Building and Line of Building

**Clause 2** With regard to land which is used as the location of a high-rise or extra-large building not more than 30,000 m<sup>2</sup> in total floor area, any of the sides of that land which is not less than 12 m in length must adjoin a public road which has a passage area not less than 10.00 m in width and an entire contiguous length until it connects about public road which has a passage area not less than 10.00 m in width.

With regard to land which is used as the location of a high-rise or extra-large building more than 30,000 m<sup>2</sup> in total floor area, any of the sides of that land which is not less than 12.00 m in length must adjoin a public road which has a passage area not less than 18.00 m in width and an entire contiguous length until it connects another public road which has a passage area not less than 18.00 m in width.

The side of the land which adjoins a public road under the first and second paragraph must have a width of not less than 12.00 m and an entire contiguous length until it reaches the vicinity of the location of the building, and that land must be vacant so that it can be used as a convenient entrance and exit for fire engines.

(Amended by MR50)

**Clause 3** A high-rise or extra-large building must provide a road with a traffic surface not less than 6.00 m in width which is free from covers all round the building so that fire engines can enter and leave conveniently.

The road under the first paragraph may be inside the distance where it is forbidden to construct some types or some categories of building along the edge of a road or a highway under local legal provisions or under the relevant laws.

In the case where a local legal provision or a relevant law prescribing the line for road construction or expansion is in force, the width of the road under the first paragraph shall be calculated from the line.

(Amended by MR50)

**Clause 4** The part which is the outer most boundary of a high-rise or extra-large building, regardless of where it is at a level above the ground or lower than ground level, must be not less than 6.00 m away from the boundary of land belonging to other people or public road. This shall not include the part which is the foundation of the building. (Amended by MR50)

**Clause 5** With regard to a high-rise or extra-large building which are constructed on land space which used as the locations of the buildings, the maximum value of the ratio of the total building area of all the stories of all the buildings to the land space which is used as the locations of the buildings must not exceed 10 to 1.

In the case where there is another building or another building will be constructed in the land space which is used as the same building location as that of a high-rise building or an extra-large building, the maximum value of the ratio of the total building space of all the stories of all the buildings to the land space which is used as the locations of the buildings must not exceed 10 to 1.

(Amended by MR50)

**Clause 6** A high-rise or extra-large building must have vacant land at not less than the following ratios;

- (1) A residential building (aakhaan thii yuu aa-saai) must have vacant land at not less than 30 % of the land space which is used as the location of the building.
- (2) A commercial building, a factory, a public building and other buildings which are not used for residential purpose (pen thii yuu aa-saai) must have vacant land at not less than 10 % of the land space which is used as the location of the building, but of that building is used for residential purpose (pen thii yuu aa-saai) as well, it must have vacant land in accordance with (1).

(Amended by MR50)

**Clause 7** A high-rise or extra-large building which has building space below ground level must an air ventilation system and a waste treatment and water discharge system in accordance with Chapter 2 and Chapter 3 independent of the above-ground air ventilation system and waste water treatment and safe water discharge system. The building space which is below ground level under the first paragraph is not allowed to be used for residential purpose (pen thii yuu aa-saai). (Amended by MR50)

**Clause 8** A high-rise or extra-large building which has building space below the level of the road in front of the building from the 3rd floor downwards or below the level of the road in front of the building from 7.00 m downwards must be provided with;

- (1) A lift system in accordance with Chapter 6;

(2) Convenient fire escape from the lowest story to the building space which has an exit to the outside, and these fire escapes must have a lighting system and an air compression system which has a working air pressure of not less than 3.86 cubic Pascal working all the time, and the walls on all sides of the fire escapes must be reinforced concrete with a thickness of not less than 10 cm. Fire escape must not be more than 60.00 m away from each other when measure along the walkway. These are to be used for escaping from danger in cases of emergency.

(Amended by MR50)

**Clause 8bis** A high-rise or extra-large building must be provided with walls or doors made of fire-resistant material which can be closed off to prevent flames or smoke during a fire from entering the vicinity of the building's stairs which are not fire escapes. In this connection, the said walls or doors must be able to withstand fire for not less than 1 hour. (Added by MR50)

**Clause 8ter** A high-rise or extra-large building must be provided with a layout of each story of the building affixed in the vicinity of every lift lobby of each those stories in clearly visible positions and arrangements must be made to store the drawings of all the stories of the building at the ground floor of the building so that they can be inspected conveniently.

The layout of each story of the building shall consist of

- (1) The positions of all of the rooms on that story;
- (2) The positions where fire hose cabinets or valves for connecting fire hose cabinets are installed and the other fire extinguishing equipment on that story;
- (3) The position of the fire doors or escape on that story;
- (4) The positions of the fireman's lift on that story.

(Added by MR50)

## Chapter 2 Ventilating system, electricity system and fire protection system

**Clause 9** With regard to the ventilation of air in a high-rise building, air ventilation by means of natural methods or by means of mechanical methods must be provided, as follows;

- (1) Ventilation of air by natural methods shall be used only for a room in a building which has at least one wall on the outside of the building, by providing an opening to the outside of the building, such as a door, window or louvers, which must be opened when that room is being used, and the space of this opening must be capable of opening not less than 10 % of the area of that room.
- (2) Ventilation of air by mechanical methods shall be used for a room in a building of any characteristic, by means of providing air-ventilation mechanical equipment, which must work throughout the time that that room is being used so that air from the outside is brought inside at the rates;(The rate is shown in the attached table.)

### Air Ventilation

No	Place	Rate of Air Discharge Not Less Than the Number of the Volume of the Room in 1 Hour
1	Bathroom, lavatory of a residential place ( <u>thii phak aa-saai</u> ) or an office	2
2	Bathroom, lavatory of a public building	4
3	Car park which is below ground level	4
4	Factory	4
5	Place of amusement	4
6	Place where food and beverage are sold	7
7	Office	7
8	Room in a hotel or condominium	7
9	Kitchen of a residential place ( <u>thii phak aa-saai</u> )	12
10	Kitchen of a place where food and beverage are sold	24
11	Passenger lift and fireman's lift	30

With regard to a place where food and beverages are sold, if air ventilation covering the sources of origin of smells, smoke or gases which require discharge in the appropriate ventilation has been provided for, the rate of discharge of air in the other parts of that kitchen may be less than the rate prescribed in the table. However, it must not be less than 12 times the volume of the room in 1 hour.

For other places which are not stated in the table, the rate of air ventilation for places with similar characteristics and the rates prescribed in the table shall be used.

The position of an opening bringing in air from the outside by means of mechanical methods must be not less than 5.00 m away from a source of spent air and an opening for discharge of waste air and not less than 1.50 m in height from the ground.

The bringing in of air from the outside and the discharge of waste air by means of mechanical methods must not create and irritate to the neighbor.

(Amended by MR50)

**Clause 10** Air ventilation in high-rise or extra-large building with air-conditioning system shall be of the following features:

- (1) There shall be supply of external air into the area of the air condition or exhaust of air from inside the area to outside at least not less than the rates shown in the table below.

**Air Ventilation in case of Air-conditioning system**

Item	Place	Cu.m/Hour/Sq.m	
1	Department Store (Shopping Corridor)	2	
2	Factory	2	
3	Office	2	
4	Massage parlour	2	
5	Floor for business contact with bank	2	
6	Room in a hotel or condominium	2	
7	Operation room	2	
8	Barber	3	
9	Bowling alley	4	
10	Theater (seat for the spectators)	4	
11	Study room	4	
12	Physical health room	5	
13	Beauty salon	5	
14	Conference room	6	
15	Bathroom, toilet	10	
16	Place for sale of food and drink (for eating)	10	
17	Night –club, bar or dance hall	10	
18	Kitchen	30	
19	Hospital	Patient room	2
		Operating room and child delivery room	8
		I.C.U. Unit	5

Other places not specified in the table shall be according to the ventilating rate of the place of similar nature.

- (2) It is prohibited that refrigerant which is harmful to person or highly flammable shall be used with the air-conditioning system using refrigerant directly.
- (3) Air condition system by water, it is prohibited that water pipe of the air-conditioning system shall be connected to the water supply pipe directly.
- (4) The air duct of the air-conditioning system shall have the following characteristics:
  - (a) The air duct, material covering the duct and lining material inside the air duct shall be noncombustible material and shall not cause smoke when there is a fire.
  - (b) That part of a air duct which is installed through a fire wall or the floor of a building which is made of fire-resistant material must be installed with a fire damper which closes tightly automatically when the temperature is higher than 74 degrees centigrade, and the fire damper must have a fire resistance rate of not less than 1 hour and 30 minutes. (Amended by MR 50)
  - (c) It is not allowed to use a corridor, a staircase opening or lift shaft of a building as part of the supply air duct system or the return air duct system, except for the part which is empty space between the ceiling and the floor of the upper story or the roof which has a ceiling component which has a fire resistance rate of not less than 1 hour. (Amended by MR 50)
- (5) Circulation of the air by the air-conditioning system shall have the following characteristics:
  - (a) There shall be switch of the fan manually operated, installed at suitable area and enabling to turn off the switch when there is a fire.

(b) Air-conditioning system with circulated air-flow from 50 m<sup>3</sup>/min upwards, shall be installed with smoke detection equipment or fire detection equipment, having efficiency of not less than smoke detection equipment, which can control the switch to stop the operation automatically.

Anyway, the design and installation control of the air-conditioning system and air vent system in high-rise or extra-large building shall have to be carried out by the authorized person with license to operate control engineering, from Ordinary Class upwards, under the law on control of engineering profession.

**Clause 10bis** A high-rise or extra-large building which has a space inside the building as an opening penetrating through the floors of two or more stories of the building and without enclosed walls must be provided with a smoke dispersal control system which is capable of working automatically when there is a fire. This is to discharge smoke out of the building quickly. (Added by MR50)

吹き抜け空間の上部に設けている排煙機は、この規定に基づくものである。

**Clause 11** A high-rise or extra-large building shall have electricity distribution system for the lighting or power, which require wiring and installation of electrical equipment according to standard of Metropolitan Electricity Authority or Provincial Electricity Authority.

In case it is beyond the responsible area of Metropolitan Electricity Authority or Provincial Electricity Authority, the safety standard of electricity of Office of National Energy shall be used. In the electricity distribution system there shall be main switch installed in special place provided separately from the utilized area for other purpose.

In this case, a separate room may be provided for the case of installation inside the building, or a separate building may be constructed for the purpose. Installation of the transformer or generator, the second paragraph shall apply by including the area for installation of main switch, transformer and generator in the same place.

When current is fully consumed as prescribed in the plan for electricity, the voltage in the wire of the sub-circuit may be different from the voltage at the main switch of not more than 5%.

**Clause 12** (With regard to a high-rise or extra-large building,) all sub-circuit switches of the electricity system shall be grounded.

In grounding, the main ground cable and method of connection shall be according to the standard of Metropolitan Electricity Authority or Provincial Electricity Authority. In case it is outside the responsibility of Metropolitan Electricity Authority or Provincial Electricity Authority, the safety standard of electricity of Office of National Energy shall be used.

**Clause 13** A high-rise building shall have the system from protection from lightning, which consists of lightning arrester, cable, conductor, ground cable and main ground cable which are connected as a system.

For the ground cable it shall have cross-section of not less than twisted copper cable of 30 mm<sup>2</sup>. This ground cable shall be independent from other ground cable system.

Each building shall have conductor all round the building with ground cable for each 30 m distance, measuring from the outer circumstance of the building. The ground cable of each building shall be not less than two.

Reinforced steel or structural steel in the building may be used as ground conductor, but there shall be system for transfer of electricity charge from the structure to the main ground cable, correct with the technique.

Lightning arrester system shall be according to the safety standard of the Office of National Energy.

**Clause 14** A high-rise or extra-large building shall have reserve electricity discharge system for emergency, being independent from other system, and capable of operating automatically, when the normal system does not function.

The emergency electricity system under the first paragraph shall be capable of discharging electricity sufficiently under the following criteria.

(1) Discharging electricity for a period of not less than two hours for the marking for emergency exit, corridor, lobby, stairs and fire warning system.

- (2) Discharging electricity throughout the time for the emergency lift, fire engine pump, emergency room, communication room, for the safety of the general public and industrial production processes which may cause harm to the life and health of people when there is electricity shut down.

**Clause 15** (With regard to a high-rise or extra-large building.) electricity current to be used with the emergency lift shall be connected to the main switch of the building as independent circuit from the general circuit.

Reserve electricity circuit for the emergency lift shall be sufficiently protected against damage due to fire as appropriate.

**Clause 16** In a high rise or extra-large building there shall be fire warning system on all stories. The fire warning system shall at least consist of:

- (1) Equipment for transmitting sound or signal to those in the building to hear or know.
- (2) Fire warning equipment shall be both automatic and manual for the equipment under (1) to operate.

**Clause 17** (With regard to a high-rise or extra-large building.) electrical drawings shall consist of:

- (1) Electrical circuit diagram for each story of the building of the same scale as prescribed under MR, relating to the drawings to be submitted for permit in construction of building, which shall show:
  - (a) Details of wiring and installation of all electrical equipment in each sub-circuit of the lighting and power system.
  - (b) Details of wiring and installation of equipment of all fire alarm systems.
  - (c) Details of wiring and installation of all emergency power supply system.
- (2) Electrical circuit diagram showing details of ground wire and cables, main cable, including details for protection of said main cable and all electrical equipment of all systems.
- (3) Details supplementing the drawings showing details of the use of electricity.
- (4) Drawings of circuit and installation of transformer, control panel or switchboard for power supply and the system for discharging electricity reserve.
- (5) Drawings and details of wiring and installation of all equipment system for protection against lightning.

**Clause 18** A high-rise or extra-large building shall have a fire protection system which consists of a vertical pipe, a water tank, and a fire hydrant as follows:

- (1) The surface of the vertical pipe shall be plain metal. The vertical pipe shall be able to work at pressure of not less than 1.2 mega Pascal, be painted red, and be installed from the lowest to the highest story of the building. Every vertical pipe shall be connected to;
  - the main water pipe and a water transmission pipe from the building and
  - a fire hydrant outside of the building.
- (2) In every floor, there shall be a fire nozzle cabinet which;
  - keeps a hose of diameter 25 mm (1 inch) with a fire fighting nozzle and a quick coupling fire fighting nozzle of diameter 65 mm (2.5”),
  - is covered and chained, and
  - is located for each 64.00 m distance.And when the fire hose with a fire hydrant is used, the hose shall be within 30.00 m in length and can be used to put out fire in the story.
- (3) A high-rise building shall have a water tank for the purpose to put out fire, and shall have a water transmission system at the highest story with nozzle pressure at not less than 0.45 mega Pascal and not more than 0.7 mega Pascal, with flow rate of 30 liter/sec. And there shall be a valve to open and shut and a valve for automatic flow control.
- (4) The fire hydrant installed outside the building shall be a connecting-type with quick coupling of diameter 65 mm (2.5”) which can receive water from the fire engine with quick thread coupling of diameter 65 mm (2.5”). The fire hydrant shall be covered and chained. Every vertical pipe system shall have an outside-fire-hydrant which the fire fighting personnel may access easily and which shall be located as near the public fire hydrant as possible. Near the outside-fire-hydrant, there shall be a sign with reflective paint “fire nozzle receptacle”.
- (5) The volume of transmission water shall have volume of discharging;
  - not less than 30 liter/sec for the first vertical pipe, and
  - not less than 15 liter/sec for each additional vertical pipe in the same building, but
  - it shall not be more than 95 liter/sec in totaland be able to discharge water of not less than 30 minutes.

**Clause 19** Adding to the fire protection system under Clause 18, a high rise or extra-large building shall be installed with portable fire extinguishers, of which type and size shall be appropriate to put out the supposed fire which depends on the combustible materials in each story. They shall be installed;

- one unit for each 1,000 m<sup>2</sup> in area,
- for each distance of not more than 45 m, and
- not less than 1 unit per story.

The portable fire extinguisher shall be installed top of which is not more than 1.50 m in height above the floor, in conspicuous place with instruction which can be read, and it shall be easy to take them out to use.

The portable fire extinguisher shall be filled with not less than 4 kg of chemical.

**Clause 20** A high-rise or extra-large building shall be equipped with automatic fire extinguishing system of sprinkler system or other system which is equivalent, which can operate automatically in case of fire to cover all the area in all floors. In this case, the drawings and details supplementing the automatic fire fighting system for each floor should be submitted.

**Clause 21** (With regard to a high-rise or extra-large building,) the drawings of the water pipe system in each floor of the building shall be of the same scale as prescribed in MR relating to the size of the plan to be submitted for permission for construction of building, by having the following details:

- (1) Water supply pipe showing piping as a system from the water source supply to all the equipment and sanitary equipment.
- (2) Fire fighting pipe-showing piping as a system from the water source supply or fire department connection to the hose cabinet and water reserve tank.
- (3) Water drainage system showing installation plan of rain drainage pipes or waste water pipes from sanitary equipment and other drain pipes as well as the waste water treatment, system and air vent of the drain pipe.
- (4) Storage and supply system of water from reserve tank.

**Clause 22** A high-rise building shall have fire escape staircase from the highest story or roof top to the ground, by at least 2 units, situated in the place where anyone at any point of the building can reach with ease, and each fire escape staircase shall be at distance of not more than 60.00 m, measuring from the line of walkways.

The fire escape system under the first paragraph shall show by calculation that it can transport all the persons out of the building within 1 hour.

**Clause 23** (With regard to a high-rise or extra-large building,) the fire escape stairway shall be made of noncombustible material and not corrodible, such as reinforced concrete, having the width of not less than 90 cm with tread of not less than 22 cm and raiser of not more than 20 cm, having landing between the stairs of not less than 90 cm wide, and with handrail at least on one side.

本来は、踏面幅(run) 22cm 以上と規定するべきと考えられるが、本規定では踏板幅(tread) 22cm 以上と規定されている。なお、タイ語には踏面幅(run)に対応する言葉がない。バリアフリーの省令(MR BF)の Coause 11 (4) では踏面幅(run)について規定しているが、タイ語には対応する言葉がないため説明調の規定となっている(ただし、英訳では単純に踏面幅(run) とした)。

The fire escape stairs shall not be constructed as circular stairs.

**Clause 24** (With regard to a high-rise or extra-large building,) the stairs and landing outside the building shall have the wall which the stairs is based upon, as fire wall.

**Clause 25** (With regard to a high-rise or extra-large building,) a fire escape which is inside a building must have ventilation of air from the outside. Each story must have:

- an air ventilation opening which has a total space of not less than 1.4 m<sup>2</sup> capable of opening to the outside of the building or
- an air compression system inside the fire escape which has a working air pressure of not less than 3.86 Pascal that can work automatically when there is a fire, and

have the fire escape which goes down to the ground floor of that building must be in a position capable of going out to the outside conveniently. (Amended by MR50)

階段室は、各階に 1.4 m<sup>2</sup>以上の開口部を持つ開放型とするか、又は加圧式とすることを義務付けている。なお、実際の運用に関しては、以下のとおり。

- ① 開放型に関し、ここでは **capable of opening** と規定しているが、技術的観点からすれば常時開放（又は自動感知式の開放）とすべきなので、そのような指導が一部でされている（徹底はされていない）。
- ② 加圧式に関し、出入口以外の開口部（窓等）については記述されていない。技術的観点からすればそのような開口部があると加圧の効果が十分に得られないが、実態上は換気等を目的とした開口部が設けられている場合が多い。なお、加圧力について、法令集によれば上記のとおり **3.86 Pascal** とされているが、内務省の担当者は「**38.6 Pascal** とすべきところの記載の誤りである。」としている。NFPA の規定は **38.6 Pascal** である。

**Clause 26** (With regard to a high-rise or extra-large building), the fire escape stairs within the building shall have fire wall all round except the air vent and there shall be lighting from the emergency electricity, capable of lighting the path while there is fire, and sign of the floor number and sign showing the fire escape, both inside and outside the fire escape door of very floor with size of character which can be seen clearly, of not less than 10 cm.

**Clause 27** (With regard to a high-rise or extra-large building), the fire escape door shall be made of noncombustible material, opening to the outside, complete with equipment which can be closed automatically. The net width and height shall be not less than 90 cm and 1.90 cm respectively, and can be opened to the outside with ease all the time. The door to the fire escape stairs shall not have steps or door step or edge.

**Clause 28** A high-rise building shall have special space for person from outside to enter for public rescue in the building in all floors. This space maybe emergency lift or fire escape stair, and on every floor there shall be vacant room with space of not less than 6 m<sup>2</sup>, connected to this space, and being the area free from flame and smoke in the same manner as the fire escape stairs and is the erection location of the fire fighting cabinet and nozzle for certain floor of the building.

**Clause 29** A high-rise building must have a sundeck and the dimensions of the space area on the sundeck are such that the width and length are not less than 10.00 m on each side. It must be empty and vacant so that it can be used as a fire exit by air, and fire exits must be provided on the sundeck story that will lead to all the fire escapes conveniently, including the provision of equipment and devices for escaping from fire from the building down to the ground safely. (Amended by MR50)

## CHAPTER 3

### Water treatment system and water drainage

**Clause 30** The design and calculation of details for water treatment system and water drainage from a high-rise or extra-large building shall be carried out by the person who holds the license to operate controlled engineering profession, from ordinary engineer upwards under the law on engineering profession.

**Clause 31** Drainage of rain water from a high-rise or extra-large building may be drained directly to the reservoir, but it shall not harm health, life or property or affect the conservation of environment.

**Clause 32** (With regard to a high-rise or extra-large building), wastewater treatment shall be an independent system, as a separate building or combined with the central unit, but it shall not cause sound, foul smell, foam, residual or other thing to the extent it may cause harm to the health, life, or property, or effecting the conservation of environment or annoyance to the public living in the neighborhood.

**Clause 33** (With regard to a high-rise or extra-large building), waste water shall have to go through the treatment system before draining to the source of drainage. The quality of drainage water shall be according to notification of office of National Environment, Re: Prescribing standard of quality of drainage water from building.

**Clause 34** (With regard to a high-rise or extra-large building), drainage must be able to be checked and cleaned with ease. In case the drain is a closed type, there shall be man hole for the inspection of water for each distance of 8.00 m and at every turning corner.

**Clause 35** (With regard to a high-rise or extra-large building), in case the source for receiving drainage water is not sufficient to receive the water drained from the building during the hour of maximum use, there shall be a place for receiving water in serve to accept the excess of water from the source before draining water to the source.

## CHAPETER 4 Water supply system

**Clause 36** A high-rise or extra-large building shall have a water tank which can discharge water during maximum hour of use for no less than 2 hours, and there shall be piping system with pressure in the discharge pipe and quantity as follows:

- (1) Pressure in the discharge pipe to the sanitary ware during maximum hour of use, of not less than 0.1 mega Pascal.
- (2) Quantity of water to be discharged to user in the building for each type of sanitary ware shall be according to the following criteria:

**Table 2: Comparison for Water Supply in Unit of Sanitary Ware to Find Volume of Water**

Sanitary Equipment	Type of Control	Fixture Unit	
		Personal Sanitary Unit	Public Sanitary Unit
Toilet	Flush valve	6	10
	Flush tank	3	5
Piss pot	Flush valve	5	10
	Flush tank	3	5
Wash basin	Water tap	1	2
Shower	Water tap	2	4
Bathtub	Water tap	2	4

Sanitary unit means the figures showing the quantity of use of water or water drainage, as compared to different type of sanitary ware.

Other sanitary ware not specified shall be compared to the above figures.

**Clause 37** (With regard to a high-rise or extra-large building,) the water discharge pipes shall have method of protection against foreign matter from getting inside.

In case the water discharge pipes are separated between usable and potable water, the discharge pipe shall be clearly separated. The two types of pipes shall not be connected.

## CHAPTER 5 Refuse Disposal System

**Clause 38** A high-rise or extra-large building, the refuse shall be collected by means of conveyance or drop into the refuse chute.

**Clause 39** (With regard to a high-rise or extra-large building,) calculation of volume of refuse occurred in the building shall be made from the following ratio of use:

- (1) Use for residential purpose (kaan chai poea kaan yuu aa-saai), the volume of refuse shall be not less than 2.40 liter per person per day.
- (2) Use for commercial purpose or other, the volume of refuse shall be not less than 0.4 liter/m<sup>2</sup> per day.

**Clause 40** A high-rise or extra-large building shall have common refuse collection as follows:

- (1) There shall be capacity of not less than 3 times the amount of refuse occurred each day under Clause 39.
- (2) The wall shall be made of permanent and fire resistant material.
- (3) The interior surface shall be smooth and anti-seepage.
- (4) There shall be protection against foul smell and rainwater.
- (5) There shall be drainage of waste water from the refuse to the water treatment system.
- (6) There shall be air vent and water proof.

The common refuse collection shall be at distance from the place of cooking or food storage by no less than 4.00 m. But if the common refuse collection has capacity of over 3 m<sup>3</sup>, it shall be at distance from said area by not less than 10.00 m and can be easily reached to remove the refuse.

**Clause 41** The refuse collection of a high-rise or extra-large building shall have the following characteristics:

- (1) Ceiling, wall and door shall be strong and durable. The door shall be completely sealed to prevent foul smell.
- (2) The size shall be suitable to the place and convenient to clean.

**Clause 42** Refuse chute of a high-rise or extra-large building shall have the following characteristics:

- (1) Made of fire resistant material having the width on each side or having diameter no less than 60 cm. Smooth internal surface, easily clean and there is no part which will cause the refuse to become stuck.
- (2) The door or refuse chute space shall be made of fire resistant material and tightly sealed in order to prevent refuse from being drawn back or become stuck.
- (3) There shall be air vent to prevent foul smell.
- (4) The end of the refuse chute shall have tightly sealed door to prevent foul smell.

## **CHAPTER 6**

### **Lift system**

**Clause 43** Passenger lift and emergency lift for a high-rise building shall have loading capacity of not less than 630 kg.

**Clause 44** A high-rise building shall have at least 1 set of emergency lift, with details as follows:

- (1) A emergency lift shall be able to stop on all floors of the building and shall have special control for the fire fighter for their use while fighting fire.
- (2) The area of the lobby of the emergency lift on each floor shall be installed with fire fighting cabinet or hydrant and other fire fighting equipment.
- (3) The lobbies in front of the fireman's lifts on every story must be closed off by walls or doors made of fire-resistant material to prevent flames or smoke from entering. There must be windows capable of opening out to the outside of the building directly or there must be an air compression system inside the lobby in front of the fireman's lift which has a working air pressure of not less than 3.86 cubic Pascal that can work automatically when there is a fire.
- (4) The time for the emergency lift to move continuously between the top floor and the ground floor shall not exceed 1 minute.

During normal time the emergency lift may be used as a passenger lift.

**Clause 45** (With regard to a high-rise building,) in the lift shaft, it is prohibited to install wire duct, water pipe, drainage and other equipment except for parts of the lift or as necessary for the operation or maintenance of the lift.

**Clause 46** (With regard to a high-rise building,) the lift shall have the system and equipment to provide safety and welfare and health of the passengers as follows:

- (1) There shall be operating system to make the lift to stop at the ground level and the lift door shall be opened automatically when the electricity is off.
- (2) There shall be warning signal and the lift shall not move when overloaded.
- (3) There shall be equipment to stop the lift as specified automatically when the lift is running at excessive speed.
- (4) There shall be system to prevent the lift door from squeezing the passengers.
- (5) The lift shall not move when the lift door is not properly closed.
- (6) The lift door shall not open while the lift is moving or does not park properly.
- (7) There shall be system for communication with outside the lift and signal to indicate obstruction.
- (8) There shall be ventilating system in the lift and door front where the lift is parked.
- (9) There shall be air vent system in the lift as prescribed under Clause 9(2).

**Clause 47** (With regard to a high-rise building,) there shall be operating instruction, help request, giving assistance and prohibition of use as follows:

- (1) The operating instruction and help request shall be installed in the lift.
- (2) The rescue method shall be affixed in the engine room and the room of the caretaker of the lift.
- (3) The prohibition to use the lift shall be fixed at the outside of the lift door on all floors.

**Clause 48** (With regard to a high-rise building,) control of installation and inspection of the lift system shall be carried out by the electrical engineer or mechanical engineer who holds license to practice control engineering under the law on engineering profession.

### **(TRANSITORY PROVISIONS)**

**Clause 49** The construction, modification or change the use of a high-rise or extra-large building which has been applied for or has been authorized under the law on control of construction prior to the date of enforcement of this MR, shall be exempted from applying under this MR.

**Clause 50** With regard to a building exempted under Clause 49 which is currently under construction or the construction of which has already been completed, if there is a wish to apply for permission to rectify the plans in the part which has not yet been constructed or to apply for permission to modify or change the utilization of the building or inform the local competent authority of an application to modify the building and proceed in accordance with Section 39bis differently from that for which permission has been granted, it may be done and shall be exempted from having to comply with this MR, subject to the following conditions;

- (1) Arrange for an air ventilation system, and electrical system and a fire prevention system in accordance with Chapter 2 Clause 14, Clause 15, Clause 16, Clause 18, Clause 19, Clause 20, Clause 22, Clause 23, Clause 24, Clause 25, Clause 27 and Clause 29 and a lift system in accordance with Chapter 6 Clause 44 (2) and (4).
- (2) It does not increase the combined total space of the building of every floor by more than 2 % of the combined total space of the building of every floor for which permission had been granted at first.
- (3) It does not increase the height of the building.
- (4) It does not increase the space covering the earth.
- (5) It does not change the position or the boundaries of the building to be different from those for which permission had been granted at first.

In this connection, the design and computation of the building must be carried out by a first class engineer of the category of qualified engineer under the law governing the engineering profession and who must not be a person whose name circular under Section 49bis.

(Added by MR 50)

**Clause 51** With regard to buildings exempted under Clause 49, specifically in the case of buildings the construction of which has been granted permission but have not yet been constructed and the permit has not yet expired or the permit has been accepted for renewal, if there is a wish to apply for permission to rectify the plans or change the utilization of the building differently from that for which permission has been granted, it may be exempted from having to comply with this MR, subject to the following conditions;

- (1) Arrange for an air discharge system, an electrical system and a fire prevention system in accordance with Chapter 2 and a lift system in accordance with Chapter 6.
- (2) It does not increase the combined total space of the building of every floor by more than 2 % of the combined total space of the building of every floor for which permission had been granted at first.
- (3) It does not increase the height of the building.
- (4) It does not increase the space covering the earth.
- (5) It does not change the position or the boundaries of the building to be different from those for which permission had been granted at first.

(Added by MR50)

Given on February 14, 1992 Minister

**Remark:** The reason for the publication of this MR is due to the fact at present there are construction of high rise and extra large building for use for residential purpose (*kaan yuu aa-saai*) or operation under one or several activities. The structure and equipment as part of the construction are different according to the type of use. It is appropriate to control the use of high rise and extra large building, especially for the sake of securities, safety, fire protection, sanitation, conservation of environment, town planning, architecture and traffic direction, including planning and development of public utilities of the state. Therefore it is necessary to issue this MR.

Government Gazette, Vol. 109, Part 11, dated February 17, 1992

Given on August 22, 1994 Minister

Given on November 5, 1997 Minister

**Clause 16 of MR 50** The construction, modification or change in utilization of a high-rise building or an extra-large building for which an application for permission has been submitted or for which permission has been granted or the local competent officer has been informed and action taken in accordance with Section 39bis, with effect from the date of enforcement of MR33 (1992) issued pursuant to BCA 1979, until prior to the date of enforcement of this MR, shall be exempted from having to comply with this MR. If there is a wish to apply for permission to rectify the plans or change the utilization of the said high building or extra large building differently from that for which permission has been granted, on or after the date of enforcement of this MR, exemption shall be granted from having to comply with Clause 2, Clause 3, Clause 5, Clause 10 and Clause 25 of MR33 (1992) issued pursuant to BCA 1979, that have been amended by this MR.

# Ministerial Regulation No.39

Issued in 1994

**Clause 1** In this MR,

“**Row-wooden-building** (hong theew)” means a building of two or more units (khuu-haa) connected with a common wall to other units and mainly built with combustible materials;

“**Row-brick-building** (dtuk theew)” means a brick building of two or more units (khuu-haa) connected with a common wall to other units and mainly built with noncombustible materials;

“**Townhouse** (baan theew)” means a row-brick-building (dtuk theew) or a row-wooden-building (hong teew) used as housing, with a space on the front and on the rear between the fence or the land border and each dwelling unit (baan);

“**Semi-detached house** (baan feed)” means a building used as housing (aakaan tii-yuu-asai), divided by a common wall into two dwelling units (baan) which have space on the front, the rear and the side of each dwelling unit (baan) between the fence or the land border and the building, and have separate entrances for each dwelling unit (baan);

“**Apartment Building** (aakaan yuu-aasaai ruam)” means a building (aakaan) or a part thereof which is used as housing (thii-yuu-asai) for families, is divided into units (nuai). And there are bathrooms, toilet rooms, corridors, entrances, and stairs or lifts, in separate or common for each family (khroop-khrua).

## Chapter 1

### Types of and procedures for Installation of Fire prevention System

**Clause 2** The following buildings must follow the procedures for fire prevention as prescribed in this MR:

- (1) - Row-wooden-buildings,
  - row-brick-buildings,
  - townhouses, and
  - semi-detached house;
- (2) Buildings used for public gathering such as
  - theaters,
  - meeting halls,
  - hotels,
  - hospitals,
  - educational institutes,
  - libraries,
  - indoor sports stadiums,
  - marketplaces,
  - department stores,
  - shopping centers,
  - entertainment building,
  - airports,
  - parking buildings (tuk jot rot),
  - mass transit terminals,
  - parking lots (thii jot rot),
  - harbors,
  - restaurants,
  - offices,
  - government offices,
  - factories, and
  - commercial building;
- (3) - Apartment building with 4 or more dwelling units and
  - dormitories;
- (4) - Buildings with 3 or more stories besides those pursuant to (1), (2) and (3).

**Clause 3** Every room or unit of;

- a row-wooden-building,
- a row-brick-building,
- a townhouse, and
- a semi-detached house

with not more than 2 stories must be installed with portable fire extinguishers. Their type and volume shall follow Table 1 annexed hereto.

**Table 1 types and sizes of portable fire extinguisher.**

Type of building	Type of fire extinguisher	Volume must not less than
1. Row-wooden-building, Row-brick-building, Townhouse, and Semi-detached house which are not exceeding 2 stories	1. Pressured water	10 liters
	2. Acid-Soda	10 liters
	3. Chemical foam	10 liters
	4. Carbon dioxide	3 kgs.
	5. Chemical powder	3 kgs.
	6. Halon 1211	3 kgs.
2. Others	1 Chemical foam	10 liters
	2 Carbon dioxide	4 kgs.
	3 Chemical powder	4 kgs.
	4 Halon 1211	4 kgs.

The buildings besides those pursuant to the first paragraph must be installed with portable fire extinguishers of a type and volume as prescribed in the table pursuant to the first paragraph. The extinguishers shall be installed;

- one for each building area (puun-tii akaan) not exceeding 1,000 sq.m.

In practice, "each building area" is considered to be "each unit composing the building".

- one for each distance not exceeding 45 m, and

- not less than one for each floor.

Fire extinguishers pursuant to the first and second paragraph must be installed the top of which is not exceeding 1.50 m high from the building floor, where the instructions for use are clearly legible. And they shall be conveniently accessible and be maintained always in serviceable condition.

**Clause 4** A row-wooden-building, row-brick-building, townhouse, and semi-detached house with not more than 2 stories must be installed with at least 1 fire alarm system in every room or unit.

A row-wooden-building, a row-brick-building, a townhouse, and semi-detached house with more than 2 stories must be installed with at least 1 fire alarm system in every room or unit on every floor.

**Clause 5** Buildings besides those pursuant to the first paragraph of Clause 3 more than 2,000 m<sup>2</sup> in total area must also be installed with a fire alarm system on every floor.

**Clause 6** The fire alarm system pursuant to Clause 4 and Clause 5 must be composed of at least.

(1) The operating equipment both automatically activated and manually operated;

(2) The transmitting equipment to give signal or sound to warn people of fire.

**Clause 7** The building under Cluse 2 (2) and (3) with two or more stories and the building under Clause 2 (4) more than 2,000 m<sup>2</sup> in total area must have signboards on each floor showing the floor number and the direction to fire escapes, with letters not less than 10 cm in height or symbols placed conspicuously and clearly legible at all times, and must have sufficient light from emergency lighting systems to make the fire escape way clearly visible in case of fire.

## Chapter 2 Design and Number of Bathrooms and Toilet rooms

**Clause 8** A building which persons may enter to live or use must have bathrooms and toilet rooms in a number not less than that prescribe in Table 2 annexed hereto.

**Table 2 the number of bathroom and lavatory of buildings**

Types or a kind of building use		Lavatory		Bath room	Sink
		Defecate pot	Piss pot		
(1)	Residential building (aakhaan yuu aa-saai)	1	-	1	-
(2)	Row-wooden-building or row-brick-buildings in which either are used for commerce or residential purpose (phak aa-saai) for each unit is totally not exceeding 200 sq.m <sup>2</sup>	1	-	1	-
	Row-wooden-building or row-brick-buildings in which either are used for commerce or residential purpose (phak aa-saai) for each unit is totally exceeding 200 sq.m <sup>2</sup>	2	1	1	-
	Row-wooden-building or row-brick-buildings in which either are used for commerce or residential purpose (phak aa-saai) for each unit is higher than 3 story	2	1	1	-
(3)	Factory, for each 400 sq.m <sup>2</sup> in floor area	a) for male	1	1	1
		b) for female	2	-	1
(4)	1 Hotel and house for rent, for each room	1	-	1	1
(5)	Condominium, for each unit	1	-	1	1
(6)	Dormitory, for each 50 sq.m <sup>2</sup> in floor area	1	-	1	1
(7)	An area of assembly hall or theater, for each 200 sq.m <sup>2</sup> or 100 people whose work in this building, mainly amount is in principle	a) for male	1	2	-
		b) for female	2	-	-
(8)	School	a) for each 50 students in male's school	2	2	-
		b) for each 50 students in female's school	3	-	-
		c) for each 50 students in coeducation's school	1	1	-
(9)	Office, for each 300 sq.m <sup>2</sup> in floor	a) for male	1	2	-
		b) for female	2	-	-
(10)	Area for dining table in restaurant	a) for male	1	2	-
		b) for female	2	-	-
(11)	Commercial building, for each 200 sq.m <sup>2</sup> in floor area	a) for male	1	2	-
		b) for female	2	-	-
(12)	Storage, for each 1,000 sq.m <sup>2</sup> in floor area	1	1	-	1
(13)	Legal hospital, for each 200 sq.m <sup>2</sup> in floor area	a) for male	2	2	-
		b) for female	2	-	-
(14)	Legal entertainment, for each 200 sq.m <sup>2</sup> in floor area	a) for male	1	2	-
		b) for female	2	-	-
(15)	Bus station, for each 200 sq.m <sup>2</sup> in floor area	a) for male	2	4	-
		b) for female	5	-	-
(16)	Car parking building for people, for each 1,000 sq.m <sup>2</sup> in floor area	a) for male	1	1	-
		b) for female	1	-	-
(17)	Indoor stadium, for each 200 sq.m <sup>2</sup> in floor area or 100 people in principle	a) for male	1	2	-
		a) for male	2	-	-
(18)	Market, for each 200 sq.m <sup>2</sup> in floor area	a) for male	1	2	-
		b) for female	2	-	-
(19)	Legal gas station by laws and/or gas station by laws concerning petrol jelly	a) for male	1	1	1
		b) for female	2	-	-
(20)	Temporary building, for each 200 sq.m <sup>2</sup> in floor area	1	-	-	-

Number of bathrooms and toilet rooms prescribe in the table pursuant to the first paragraph is the minimum of bathrooms and toilet rooms which be available, even if such building may have an area or number of person less than that prescribed in the table pursuant to the first paragraph.

If the building has an area or number of persons greater than that prescribed in the table pursuant to the first paragraph, there must be an addition of bathrooms and toilet rooms in proportion to the excess area of the building or number of persons, a fraction, if any, shall be counted a whole number.

For a kind or type of building not included in the table pursuant to the first paragraph, number of bathrooms and toilet rooms shall be determined as a rule to be the same as that of building, with comparable nature of use, as prescribed in said table.

**Clause 9** The bathroom and the toilet room may be one same room or separate ones, but must be conveniently maintained and have air vents area at a rate not less than 10 % of the room area or adequate exhaust fans.

The vertical distance from the room floor to the top wall or ceiling must not be less than 1.80 m. In case the bathroom and the toilet are separate, each must have an area not less than 0.90 s.q.m. and an internal width not less than 0.90m. But the room with both a bath and a toilet must have an interval area not less than 1.50 s.q.m.

**Clause 10** The toilet cesspit or latrine pit must be situated at a distance not less than 10 m. from a river, ditch, canal, or public water resource, except a toilet with proper sewage disposal system according to public health principle in a suitable size, however, as promulgated in the Government Gazette by MOI with approval of Ministry of Public Health.

### Chapter 3 Lighting and Ventilation Systems

**Clause 11** The various parts of the building must have a lux of illumination not less than that prescribed in Table 3 annexed hereto.

**Table 3: Lighting illumination**

No.	Place (type of use)	Lighting illumination (Lux)
1	Parking lots	50
2	Corridors inside apartment building	100
3	Rooms for hotel or condominium	100
4	Bathrooms and toilets of factory, school, hotel, office or apartment building Theaters (seat area for an audience while no performing)	100
5	Corridors inside factory, schools, hotels, offices or hospital	100
6	Bus station (passenger room)	200
7	Factory	200
8	Shopping malls	200
9	Markets	200
10	Bathrooms and toilets of theaters, hospitals, bus stations, shopping malls or	200
11	markets Library, classrooms	200
12	Meeting halls	300
13	Workshop area inside the office	300
14		300

For other place not included in the table pursuant to the first paragraph, the lux of illustration shall be the same as that of a place of similar nature prescribed in said table.

**Clause 12** The building may be equipped with natural or mechanical ventilation systems.

**Clause 13** In case the building is equipped with natural ventilation systems, rooms in the building of any kind or type must have doors, windows, or air vents on the side adjacent to outside air in an total area not less than 10 % of the area of such room, not including the area of the doors, windows, and air vents adjacent to other room or corridor within the building.

The first paragraph shall not apply to building or places for storage of material or goods.

**Clause 14** In case natural ventilation system pursuant to Clause 13 cannot be made available, mechanical ventilation system shall be provided, using mechanical equipment to circulate air. This equipment must operate all the times during the period of use of such area and air from outside must be brought into the area at a rate not less than that prescribed in Table 4 annexed hereto.

**Table 4: rate of air mechanical ventilation**

No.	Place(type of use)	Rate of air discharge shall not be less than a multiple of room volume in an hour
1	Toilets, toilet of residential place (thii phak aa-saai) or offices	2
2	Toilets, toilet of public building	4
3	Underground parking lots	4
4	Factory	4
5	Theaters	4
6	Commercial buildings	4
7	Shopping malls	4
8	Places for selling food and beverage	7
9	Offices	7
10	Rooms of hotel or condominium	7
11	Kitchens of residential place(thii phak aa-saai)	12
12	Kitchens for selling food and beverage	24

For the kitchen of a place where food and beverage is served, if ventilation is to be provided source of smell, smoke, or gas to be ventilated at a suitable rate, ventilation in other part of such kitchen may be at a rate less than that prescribed in the table pursuant to the first paragraph, but not less than that prescribed in the table pursuant to the first paragraph, but less than 12 times the room volume in 1 hour.

In other place not included in the table pursuant to the first paragraph, the rate of ventilates shall be the same as that of the place with similar nature as prescribed in said table.

**Clause 15** In case ventilation with air-conditioning system is provided, fresh air must be brought the conditioned area or air must be pumped out of the conditioned area at a rate not less than that prescribed in Table 5 annexed hereto.

**Table 5: Air Ventilation for the Case of Air**

Item	Place (Type of use)	Cu.m/Hour/Sq.m
1	Department Store (Shopping Corridor)	2
2	Factory	2
3	Office	2
4	Massage parlor	2
5	Floor for business contact with bank	2
6	Room in hotel or condominium	2
7	Operation room	2
8	Barber	3
9	Indoor stadium	4
10	Theater (audience seat area)	4
11	Classroom	4
12	Physical health room	5
13	Beauty saloon	5
14	Conference room	6
15	Bathroom, lavatory	10
16	Place for sale of food and beverage (for dining)	10
17	Night –club, bar or dance hall	10
18	Kitchen	30
19	Hospital	
	Patient room	2
	Operating room and child delivery room	8
	C.P.R. Unit	5
	I.C.U. Unit	5

In other place not included in the table pursuant to the first paragraph, ventilation shall be the same as that of the place with similar nature as prescribed in said table.

**Clause 16** The vent bringing air from outside by mechanical means must be located at a distance from the exhaust source and vent not less than 5 m and at a high not lower than 1.50 m. above the ground.

In bringing the air in from outside and letting the exhaust out by mechanical means, no trouble must arise to neighbors.

**Clause 17** A factory, hotel, theater, meeting room, indoor stadium, hospital, mass transit terminal, office, department store, or market place must provide standby energy supply system, such as battery or generator, separate from the regular system and capable of automatically function upon failure of the regular power supply system.

The standby emergency power supply source pursuant to the first paragraph must be capable of supplying electrical energy sufficiently in accordance with requirements as follows.

- (1) Supplying electrical energy for a period not less than 2 hours for signs showing electrical emergency exit, corridor, hall, stairs, fire escape, and fire alarm system.
- (2) Supplying electrical energy throughout the operational period for the I.C.U. room, C.C.U. room, Emergency Room, communications system, and fire fighting water pump for public safety, and industrial production process likely to cause harm to life or health upon electricity failure.

#### **Chapter 4 Miscellaneous**

**Clause 18** In applying for permission to construct a building pursuant to Clause 2, the applicant must produce the design of and procedure for installation of fire prevention systems, design and number of bathrooms and toilet rooms, an lighting and ventilation system for said building along with the application.

**Clause 19** In case there exists in effect other law prescribing criteria for design of and procedure for installation of fire prevention systems, design and number of bathrooms and toilet rooms, and lighting and ventilation systems in particular for any building, the criteria for said matter shall apply as required by that law.

**Clause 20** A building pursuant to Clause 2 already constructed before the effective date of this MR, if to be subsequently altered or changed in use, such alteration or change shall be made in accordance with this MR.

Given on May 31, 1994     Minister

# Ministerial Regulation No.41

Issued in 1994

**Clause 1** Repeal Clause 5 of MR7 (1974) issued under Building Construction Act 1936.

**Clause 2** Car park area for 1 car shall be rectangular and having the following, dimensions:

- (1) In case the car parking area is parallel to the traffic way or making angle with the traffic way of less than 30 degree, it shall be not less than 2.40 m in width and not less than 6.00 meter in length;
- (2) In case the car parking area is perpendicular to the traffic way, it shall be not less than 2.40 m in width and not less than 5.00 m in length. But the cars shall not be arranged for one-way traffic;
- (3) In case the car parking area is at angle with the traffic way of more than thirty degree, it shall be not less than 2.40 m in width and not less than 5.50 m in length.

**Clause 3** Each space for the car shall have marking showing nature and scope of the car on the floor, and there shall be traffic way connected directly to the entry-exit and car turning area.

**Clause 4** The net height between the area used for car parking, traffic way and inclination of the car and the minimum height of the next floor of the building, shall not be less than 2.10 m.

The part of the car park at different level may be different by not more than 1.00 m, and the different part may be less than 2.10 m.

**Clause 5** Car park building installed with the system of elevating the car up and down between the floor of the building by lift, shall have distance from the entrance to the lift of not less than 20 m.

The building of the first paragraph may not have inclination for going up and down of vehicle between the floors of the building.

The lift for lifting the cars between the floors of the building under the first paragraph shall be inside the building, by have one lift to 30 units of cars, but shall not be less than 2 units per building, and it shall not be used as passenger lift.

**Clause 6** The car park building installed with the system moving cars by mechanical means which has been designed for the benefit of car parking specially shall have the following characteristics:

- (1) The distance of traffic way to the entrance to the building shall be not less than 20 m;
- (2) The floor or wall of the building shall be at distance from the area of other person or public read, as follows:
  - (a) In case the height of the building from the ground is from 23.00 m upwards, the distance shall be not less than 6.00 m;
  - (b) In case the height of the building from the ground is less than 23.00 m, the distance shall be not less than 3.00 m.

Design of the car park building under the first paragraph shall be carried out by the licensee to carry out engineering profession under the law on engineering profession, and Clause 2, Clause 3 and Clause 4 shall not apply.

**Clause 7** Control the installation and safety inspection of lifting system between the floors of the build by lift and system moving cars by a machine shall be calculated and designed for the benefit of car parking, shall be carried out by the licensee authorized to carry out control engineering profession, ordinary engineer, under the law on engineering profession.

Given on August 22, 1994 Minister

# Ministerial Regulation No.44

Issued in 1995, and amended by MR 51 in 1998

**Clause 1** In this MR,

“**Wastewater (nam-sia)**” means liquids which have been used, with or without sludge.

“**Wastewater Treatment System (ra-bob bam-bud nam-sia)**” means the process of:

- purifying wastewater into drain water, including
- disposal of drain water from the building (tham hai nam-thing phon pai jaak aakhaan).

“**Drain water (nam-thing)**” means water:

- from wastewater treatment system of the building, which discharges and purifies wastewater until being qualified as standard of drain water,
- to drain reservoir.

“**Reservoir for Drain Water (lhaeng rong-rub nam-thing)**” means public sewers, moat, canal, river, ocean, and water resource of the publics.

**Clause 2** The building which is under construction or demolition shall provide an appropriate and sufficient storm sewer in order to drain rain water off the building without disturbing neighboring building and others.

Storm sewer in paragraph 1 is to drain water directly to drain reservoir.

**Clause 3** The building which has types and characteristics as below shall sufficiently provide efficient drainage and wastewater treatment system to treat wastewater to be qualified drain water.

**(1) Class A**

- (a) Condominiums under the Regulation of Condominium which have total units of 500 or more in the buildings.
- (b) Hotels under the Regulation of Hotel which have total rooms of 200 rooms or more in the buildings.
- (c) Government hospitals or Nursing Home Condominium which are under Regulation of Nursing Home which have total patient beds of 30 or more in the buildings.
- (d) Educational buildings which have total floor area of 25,000 m<sup>2</sup> or more in the buildings.
- (e) Office buildings of government, state enterprise, international organization or private company which have total floor area of 55,000 m<sup>2</sup> or more in the buildings.
- (f) Shopping centers and department stores which have total floor area of 25,000 m<sup>2</sup> or more in the buildings.
- (g) Markets which have total floor area of 2,500 m<sup>2</sup> or more in the buildings.
- (h) Restaurants or food shops which have total floor area of 2,500 m<sup>2</sup> or more in the buildings.

**(2) Class B**

- (a) Condominiums under the Regulation of Condominium which have total units of 100 to 499 in the buildings.
- (b) Hotels under the Regulation of Hotel which have total rooms of 60 to 199 in the buildings.
- (c) Dormitories under the Regulation of Dormitory which have total rooms 250 or more in the buildings.
- (d) Entertainment Service under the Regulation of Services which have total floor area of 5,000 m<sup>2</sup> or more in the buildings.
- (e) Government hospitals and Nursing Homes under the Regulation of Nursing Homes which have total patient beds of 10 to 29 in the buildings.
- (f) Educational buildings which have total floor area of 5,000 m<sup>2</sup> to 25,000 m<sup>2</sup> (excluding just 25,000 m<sup>2</sup>) in the buildings.
- (g) Office buildings of government, state enterprise, international organization or private company have total floor area of 10,000 m<sup>2</sup> to 55,000 m<sup>2</sup> (excluding just 55,000 m<sup>2</sup>) in the buildings.
- (h) Shopping centers and department stores which have total floor area of 5,000 m<sup>2</sup> to 25,000 m<sup>2</sup> (excluding just 25,000 m<sup>2</sup>) in the buildings.
- (i) Markets which have total floor area of 1,500 m<sup>2</sup> to 2,500 m<sup>2</sup> (excluding just 2,500 m<sup>2</sup>) in the buildings.
- (j) Restaurants or food shops which has total floor area of 500 m<sup>2</sup> to 2,500 m<sup>2</sup> (excluding just 2,500 m<sup>2</sup>) in the buildings.
- (l) Apartment buildings which have total floor area of 10,000 m<sup>2</sup> or more in the buildings.

**(3) Class C**

- (a) Condominiums under the Regulation of Condominium which have total units of less than 100 in the buildings.
- (b) Hotels under the Regulation of Hotel which have total rooms of less than 60 in the buildings.
- (c) Dormitories under the Regulation of Dormitory which has total rooms of 50 to 249 in the buildings.
- (d) Entertainment Service under the Regulation of Services which have total floor area of 1,000 m<sup>2</sup> to 5,000

m<sup>2</sup> (excluding just 5,000 m<sup>2</sup>) in the buildings.

- (e) The buildings which are constructed on the site of the people who are allowed to allocate the land into more than 10 buildings but not more than 100 buildings.
- (f) Office building of government, state enterprise, international organization or private company which has total floor area greater than 5,000 m<sup>2</sup> but not more than 10,000 m<sup>2</sup> for one building or more.
- (g) Shopping center and department store in one building or more which has total floor area greater than 1,000 m<sup>2</sup> but not more than 5,000 m<sup>2</sup>.
- (h) Market in one building or more which has total floor area greater than 1,000 m<sup>2</sup> but not more than 1,500 m<sup>2</sup>.
- (j) Restaurants or food shops which has total floor area of one building or more greater than 250 m<sup>2</sup> but not more than 500 m<sup>2</sup>.
- (l) One building or more of apartment buildings which have total floor area greater than 2,000 m<sup>2</sup> but not more than 10,000 m<sup>2</sup>.

**(4) Class D**

- (a) Dormitories under the Regulation of Dormitory which has total room of one building or more greater than 10 rooms but not more than 50 rooms.
- (b) Entertainment Service under the Regulation of Services which does not have total floor area of one building or more greater than 1,000 m<sup>2</sup>.
- (c) Government hospitals and Nursing homes under the Regulation of Nursing homes which does not have total patient bed of one building or more greater than 10 beds.
- (d) Educational buildings which does not have total floor area of one building or more greater than 5,000 m<sup>2</sup>.
- (e) Office building of government, state enterprise, international organization or private company which does not have total floor area of one building or more greater than 5,000 m<sup>2</sup>.
- (f) Shopping centers and department stores which does not have total floor area greater than 1,000 square meters of one building or more.
- (g) Markets in one building or more which have total floor area greater than 500 m<sup>2</sup> but not more than 1,000 m<sup>2</sup>.
- (h) Restaurants or food shops which have total floor area of one building or more greater than 100 m<sup>2</sup> but not more than 250 m<sup>2</sup>.
- (i) Apartment buildings which does not have total floor area of one building or more greater than 2,000 m<sup>2</sup>.

- (5) **Class E** means including a building or more of restaurants or food shops which do not have total floor area greater than 100 m<sup>2</sup>.

**Clause 4** Drain water which is discharged to drain reservoir shall be qualified as criteria below.

Quantity of drain water	CLASS				
	A	B	C	D	E
1. pH value	5-9	5-9	5-9	5-9	5-9
2. B.O.D (Biochemical Oxygen Demand) is not more than (mls/l)	20	30	40	50	200
3. Suspension value is not more than (mgs/l)	30	40	50	50	60
4. Solutions value	500	500	500	500	-
5. Settleable Solids	0.5	0.5	0.5	0.5	-
6. TKN (Total Kjeldahl Nitrogen)	35	35	40	40	-
7. Organics-Nitrogen	10	10	15	15	-
8. Ammonia-Nitrofen	-	-	25	25	-
9. Fat., oil and Grease	20	20	20	20	100
10. Sulfide (mgs/l)	1.0	1.0	3.0	4.0	-

“pH” means acid-base value of water due to the minus value Logarithm of density of.

“BOD, Biochemical Oxygen Demand” means the amount of oxygen with 20 Celsius degree that bacteria utilize to digest some dissolvable organic substance in five days. That is a mean of checking a quantity of organic substance in the sample water.

“Suspended solid” mean the substances which remains on the glass fiber filter-disc with the diameter of 4.7 centimeters wide; such as, “Whatman” type GF/C or “Gelman” type A.

“Solution value” means substances which dissolved and remain sludge in the water after evaporating and dehydrating water at 103-105 Celsius degree in an hour.

“Metal Sludge” means suspended solids in the water which are settled down due to the stable of gravity in an hour.

“TKN (Total Kjeldahl Nitrogen)” means Nitrogen which is in a form of Ammonia and Organics-Nitrogen.

“Organics-Nitrogen” means Nitrogen which is an organic compound of Protein and Polypeptide and Amino

Acids.

“**Ammonia-Nitrogen**” means all types of Nitrogen which balance in a form of  $\text{NH}_4^+$  or  $\text{NH}_3$ .

“**Oil, fat and grease**” mean an organic matter such as oil, fat, wax and fatty acid with high molecular weight which are compounds of Hydrocarbon and Ether etc. These substances are extracted by solutions of Hex-, Chloroform, and Diethyl ether and then analyzed by evaporation at 103 Celsius Degrees.

“**Sulfide**” means compounds of both dissolved Hydrosulfide and radical Hydrosulfide including compounds of metal sulfide mixed with suspended sludge in water.

**Clause 4bis.** The buildings construction or modification of Class C on the site in which is allocated for particular people whose are authorized to allocate more than 10 buildings but not more than 100 buildings shall provide a common or individual wastewater treatment to qualify drain water as criteria in Clause 4.

**Clause 5** If one building is consisted of many types of use as prescribed in Clause 3 and each type of building use has a different standard of drain water, the quality of drain water is to calculate by follow the highest standard of the use in that buildings.

**Clause 6** To construct or demolish buildings in Class A, B and C which are prescribed in Clause 3 is required to provide plan and calculation list of wastewater treatment system that is to purify wastewater to qualified drain water as determined in Clause 4.

**Clause 7** To construct or demolish buildings of -

- Class D which are prescribed in Clause 3, and
- Housing building such as
  - Row-wooden-building,
  - Row-brick-building,
  - Townhouse, or
  - Semi-detached house

shall provide plan and calculation list of wastewater treatment system that consist of;

- (1) Septic tank that is entirely covered to separate sediments from wastewater, and
- (2) Cesspool shall provide reservoir for wastewater to collect wastewater from septic tank and deliver it through bricks or others becoming drain water.

Septic tank and cesspool in paragraph 1 shall have an appropriate size which is suitable with the resident inside buildings.

If paragraph 1 and 2 are not implemented, another solutions shall be used to qualify wastewater as standard as criteria in clause 4 for Class-D buildings.

**Clause 8** To eliminate drain water from the building is to drain to reservoir for wastewater or to the ground by passing through the cesspool or another means that is suitable for building state; however any mean shall not disturb or be harmful to people and environment.

**Clause 9** If the building provides the sewers to drain waster to reservoir for wastewater, the attribute of the sewers shall be practical to be inspected and cleaned. Also the line of the sewers shall be as straight as possible. The slope of sewer pipe shall not be less than 1:200 or the flowing speed of drain water of sewer pipe shall not be less than 60 cm per second.

The size of the sewers shall relate to volume of drain water of the building. If the pipe of the sewers is end-of pipe, the radius of the sewers shall not be less than 10 centimeters. Also the manhole shall provide at every angle of the sewers for inspection and shall not distance greater than 12 m, or shall not distance greater than 24 m unless the inner radius is 60 cm or more. If the pipe of the sewers is the other type, the outer radius shall not be less than 10 cm.

**Clause 10** The building which are utilized as markets, hotels, restaurants and nursing homes shall provide refuse storage as criteria below;

- (1) The wall shall make off durable materials and noncombustible materials.
- (2) Internal surface shall be smooth and shall protect leaking water.
- (3) There shall deodorize refuse and protect refuse from rain water.
- (4) There shall provide rubbish and sludge drainage to wastewater treatment.
- (5) Ventilation and waterproof shall be provided.

(6) the capacity shall not be less than 1.2 liters per m<sup>2</sup> of total floor area of the building.

(7) It shall be located in the area that is convenient to delivery refuse and sediment.

And shall not distance refuse storage from cooking area and food storage less than 4 m. If the capacity of refuse storage is not greater than 3 m<sup>3</sup>, it shall not be distance less than 10 m.

# Ministerial Regulation No.47

Issued in 1997

**Clause 1** MR38 (1992) issued under BCA 1979 shall be repealed.

**Clause 2** In this MR,

**“High-rise building”** means a building which people may enter to live or utilize, not less than 23.00 m in height. The height of the building shall be measured from the ground level to the sun deck level. For a gabled or hip roof building, the height shall be measured from the ground level to the top of the wall on the highest story;

**“Extra-large building”** means a building constructed to use the whole building or any part thereof for residential purpose (pen thii yuu aa-saai) or for operating business in a single or several categories, with a total area on all floors or either one floor in the same building with floor area from 10,000 m<sup>2</sup> up ward

**“Large building”** means a building constructed to use the whole building or any part thereof for residential purpose (pen thii yuu aa-saai) or for operating business in a single or several categories in the same building, with a total floor area or on any one floor more than 2,000 m<sup>2</sup>, or a building not less than 15.00 m in height and having a total floor area or on any or on any floor in the same building more than 1,000 m<sup>2</sup> and not more than 2,000 m<sup>2</sup> measured from the ground level to the top floor and, for a gabled or hip roof building, from the ground level to the wall top on the highest floor;

**“Public building”** means a building which the general public can use in operating official, political, educational, religious, social, recreational, or commercial activities, such as theaters, meeting halls, hotels, hospitals, educational institutes, libraries, outdoor sports stadiums, indoor sports stadiums, marketplaces, department stores, trade centers, entertaining, airports, tunnels, bridges, parking buildings, bus terminals, harbors, pontoons, cemeteries, crematorium, monasteries, etc;

**“Apartment building”** means a building or any part thereof which is used for several families to live in, divided into units of the respective, with separate or common bathrooms, lavatories, corridor, entrance, exits and stairs or lifts;

**“Factory”** means a building or any part thereof which is used as a factory under the law governing factories;

**“Restaurant”** means a building or any part thereof which is used for selling food or beverage, with a space for tables and chairs within or outside the building not less than 300 m<sup>2</sup>;

**“Office”** means a building or any part thereof which is used as office or workplace not less than 300 m<sup>2</sup> in area.

**Clause 3** In the event a building which was constructed, altered, or relocated by and with permission under BCA 1979 has condition or is used in a manner which may cause danger to health, life, body, or property or may not be safe from fire or may cause a nuisance or affect environmental quality maintenance, the local competent officer shall have the power to order the owner or occupier of the building to effect correction in accordance with the MR issued under Section 8 or local ordinance issued under Section 9 or Section 10 in force on the date of the permission or notification to construct, alter, or relocate the building within the period specified by the local competent officer but not less than thirty days. In the case there is cause to extend the period, the local competent officer may do so.

**Clause 4** In the case the building which was constructed, altered, or relocated before the effective date of BCA 1979 and is subjected to BCA 1936 or Building Construction in Fire Destruction Area Act 1933 has condition or is used in a manner which may cause danger to health, life, body, or property or may not be safe from fire or which may cause a nuisance or affect environmental quality maintenance, the local competent officer shall have the power to order the owner or occupier of the building to effect corrections in accordance with the MR, municipal ordinance, provincial ordinance, rule, regulation, announcement, or directive issued under BCA 1936 or Building Construction in Fire Destruction Area Act 1933 in force at the time being within the period specified by the local competent officer but not less than thirty days. In the case there is cause to extend the period; the local competent officer may do so.

In the case of a building which was constructed, altered, or relocated before the effective date of BCA 1979 but is not subject to BCA 1936 or Building Construction in Fire Destruction Area Control Act 1933 has condition or is used in a manner which may cause danger to health, life, body, or property or which may not be safe from fire or which may cause a nuisance or affects environmental quality maintenance, the local competent officer shall have the power order the owner or occupier of the building as necessary and fair to the owner or occupier to effect corrections as necessary and practicable within the period specified by the local competent officer but not less than thirty days. In the case there is cause to extent the period, the competent officer may do so.

**Clause 5** In the case the building under Clause 3 or Clause 4 is a high-rise building, a extra-large building, large building, public building, apartment building, factory, restaurant, and office, has condition or is used in a manner not safe from fire, the local competent officer shall have the power to order the owner or occupier of the building to take necessary actions to make it safe from fire within the period specified by the local competent officer but not less than thirty days. In the case there is cause to extend the period, the local competent officer may do so.

In ordering corrections pursuant to the first paragraph, the local competent officer may order to owner or occupier of the building to take actions in cases as follows:

- (1) For a building having four and more stories, to install fire escapes not being vertical stairs in addition to the principal stairs suitable with the area of each floor of the building to enable to evacuate all the people from the building within one hour which shall not be deemed to be on modification of the building but an application must be submitted to the local competent officer for consideration to approve and the fire escapes shall be as follows:
  - (a) The internal escape must be enclosed on all sides made of noncombustible material.
  - (b) The door opening leading to the fire escape must remain open and is made of noncombustible material complete with equipment of the kind capable of automatically closing the door to prevent smoke and flame from entering into the fire escape, and have a net width not less than 80 cm and a height on less than 2.00 m.
- (2) Arrangements must be made for installation of the layout of the building on each floor showing position of the various rooms, position of installation of the various fire extinguishers, doors or fire escapes of such floors conspicuously in the hall area or in front of every lift on every floor of the building and at the area of the ground floor of the building the construction plan of every floor of the building must be kept available for convenient inspection.
- (3) Hand-held fire extinguishers of either kind and capacity specified in the table annexed hereto shall be installed for putting out a fire arising from the type of material on each floor, at the rate of a extinguisher for each 1,000 m<sup>2</sup> in area at every interval not more than 45.00 m, but not less than 1 extinguisher per floor. In installing hand-held fire extinguishes, the upper part of the extinguishers must be at a height not exceeding 1.50 m above the building at a place enabling reading of the instructions for use and conveniently accessible, and the extinguishers must be serviceable at all time.
- (4) A fire warning system shall be installed on every floor, to consist of at least:
  - (a) Signal transmitting equipment capable of sending sound or signal that can be heard by all in the building;
  - (b) Cause identifying systems, both automatic and manual, to activate equipment under (a).
- (5) Standby lighting system shall be installed to make the passage visible and signs indicating the floor and the fire escape inside and outside the fire escape door on every floor in letters clearly visible in a size not smaller than 0 cm.
- (6) A system preventing danger from thunderbolt shall be installed, consisting of the lightning pole, lightning line, grounding line, and grounding stake, meeting the electrical safety standards of Department of energy Development and Promotion.

In the case of the building pursuant to the first paragraph already has the system of safety from fire but is in no condition for operation, the local competent officer shall have the power to order the owner or occupier of the building to effect correction of said system within the given period but not less than thirty days. In the even there is ground to extend the period, the local competent officer may do so.

**Clause 6** Before the local competent officer orders the owner or occupier of the building to effect corrections under Clause 3, Clause 4, or Clause 5, the upper technical official assigned by the local competent officer shall make examinations of condition or use of the building or system of safety from fire and report to the local competent officer for information.

In such report, it must include at least results of the examination, problems to be remedied, procedures for remedying and time period therefore. If the said upper technical official finds that such building has condition or is used in a manner or has a system of safety from fire which may cause danger to life or body and make it necessary to urgently alleviate the cause, the upper technical official shall promptly local competent officer for consideration for further action.

**Clause 7** In the event the local competent officer himself finds that the building under Clause 3, Clause 4, or Clause 5 has condition or is used in a manner which may cause danger to life or body or receives a report from the upper technical official under the second paragraph of Clause 6 and the local competent officer is of the opinion that it is an urgent case, the local competent officer shall have the power to order to owner or occupier of the building to effect actions to abruptly alleviate the cause of such danger in accordance with the procedures prescribed by the local competent officer and, if necessary, the local competent may forbid the owner or occupier

of the building to use or permit other person to use the building or part of the building until completion of such corrections.

Given on September 29, 1997 Minister

**Remarks:** The justification for publication of this MR is: Whereas some building which were constructed, altered, or relocated by and with permission under BCA1979 have condition or are used in a manner which may cause danger to health, life body, or property or may be not be safe from a fire or may cause a nuisance or may affect environmental quality maintenance, it is expedient to improve rules, procedures, and conditions for the local competent officer to order the owner or occupier of said buildings to improve or modify their system of safety from fire.

Table MR47/1 shows type and size of mobile fire extinguisher.

Proclaiming in Government Gazette Volume 114 Part 52 A, issued on October 2, 1997.

**Table 1: Type and Size of Mobile Fire Extinguisher**

Type of Fire Extinguisher	Content not less than
Carbon dioxide	4 kg
Dried chemical powder	4 kg

# Ministerial Regulation No.49

Issued in 1997

**Clause 1** This MR shall be enforced in the localities of Kanchanaburi Province, Chiengrai Province, Chiengmai Province, Tak Province, Nan Province, Phayao Province, Phrae Province, Mae Hong Son Province, Lampang Province and Lampoon Province.

**Clause 2** This MR shall apply to buildings in categories of:

- amusement,
- department stores,
- art galleries,
- conference buildings,
- shopping centers,
- museum premises,
- hotels, hospitals,
- service stations,
- buildings for storage of:
- educational premises,
- airports,
- explosives,
- libraries,
- car park buildings,
- inflammable materials,
- open-air stadiums,
- vehicle stations,
- poisonous materials or
- indoor stadiums,
- religious premises,
- radioactive materials,
- markets,
- the Crescent,
- other buildings more than 15 m in height.

**Clause 3** In designing the structures of buildings,

- their geometry (ruup-reekha-khanit) for their stability against earthquake vibrations,
- the specification (ganhai) of minor details in the vicinity of the joints among the ends of structural components, and
- arrangements of the whole structure to have ductility in order to prevent total disaster shall be considered.

The computation of the design of each building structural component shall utilize a higher power unit value among

- the effects of earthquakes and
- the effects of wind power as prescribed in (Clause 17 of) MR6 (1984) based on BCA1979.

**Clause 4** In the matter of computing the designs of the structures of buildings with

- irregular shapes or
  - the structures of other buildings which are not the buildings prescribed in Clause 5,
- the person making the design computation must be a person who has obtained a license to be a person engaged in the profession of supervisory engineering of the category of ordinary engineer or higher and must compute to ensure that the buildings are capable of bearing earthquake vibrations acting against the buildings, by means of using the method of seismological computations.

**Clause 5** With regard to the structural design of a building which has the characteristics of

- medium buildings (tuk),
  - small buildings (baan),
  - light buildings (ruan),
  - big buildings (roon) or
  - other artifacts which have similar characteristics,
- the designer of the building shall compute to ensure that the building is stable against earthquake vibrations, by computing the shear according to the following method ((1) and (2)), unless other means are used. They are cases that
- the Engineering Institute of Thailand,
  - a government agency, or
  - a juristic person which has an engineer in the category of a qualified engineer in the field of civil engineering under the law governing the engineering profession and the person gave the advisory recommendations and signed in certification of the results of inspecting the supervisory engineering work in certification thereof.

(1) Compute the total horizontal shear at ground level as follows:

$$V = ZIKCSW$$

V	is the <u>total horizontal shear at ground level</u> .
Z	is the <u>coefficient of the concentration of the earthquake</u> as set in Clause 6.
I	is the <u>multiplier connected with the building utilization</u> as set in Clause 7.
K	the <u>coefficient of the building's structure</u> which bears the horizontal force as set in Clause 8.
C	is the <u>coefficient value</u> which can be found from the formula in Clause 10.
S	is the <u>coefficient of the coordination of the natural frequency</u> between the building and the level

of the <u>ground location of the building</u> as set in Clause 11.
W is the <u>total weight of the building</u> inclusive of the weights of the materials and equipment which are fixed stationary, excluding the temporary load for buildings in general, or the total weight of the building plus 25 % of the weight of the temporary load for warehouses.

この式については、米国のUBC1985に準じたものだと説明されている。

Wを除いたZIKCSは、その考え方においては、日本の基準における「1階 (Ai= 1) の層せん断力係数」つまりZRtCoに近いと思われる。その最大値及び最小値は、おおむね以下のとおり。

	Min	Max
Z	0.38	1.00 (Max is not clear.)
I	1.00	1.50
K	0.67	1.33
C	0.04 (in case of 28 stories)	0.12 (in case of 3 stories or more)
S	1.0	1.5
ZIKCS	0.01	0.36

ただし、Ultimate Load Theoryで地震時の計算をする場合には、MR6のClause 7の式においてWind Load に係数2.0を乗じていることを準用して、上記のVにも係数2.0を乗ずることと解釈されている。

(2) Disperse the total horizontal shear at ground level to become the horizontal force acting against various floor levels, as follows:

(A) The horizontal force acting against the topmost story of the building shall be computed as follows:

$$F_t = 0.07 TV$$

With regard to the value of Ft obtained from this formula, it is not allowed to use more than 0.25 V, and if T has a value equal to or lower than 0.7 second, use a value of Ft equal to 0.

36階建以上の場合、Ft は最大の0.25Vとなる。理由は、通常、Tの算定はClause 9 (2)の式を使うということなので、N=36 → T=3.6 → 0.07T=0.252 となることによる。

(B) The horizontal force acting against the various floor levels of the building shall be computed as follows:

$$F_x = \frac{(V - F_t) W_x h_x}{\sum_{i=1}^n W_i h_i}$$

Ft	is the horizontal force acting against the topmost story of the building.
Fx	is the horizontal force which will be acting against the “x”th floor story of the building.
T	is the natural pendulum <u>cycle swing</u> of the building <u>per second</u> . The value can be found in the formula in Clause 9.
V	is the total horizontal shear at ground level.
Wx, Wi	are the weights of the “x”th and “i”th story of the building respectively
Hx, hi	are the heights from ground level to the “x”th and “i”th story respectively.
i = 1	is for the first story which is next higher than the <u>ground floor</u> of the building.
x = 1	is for the first story which is next higher than the <u>ground floor</u> of the building.
$\sum_{i=1}^n W_i h_i$	is the sum of the product of the weight and the height, <u>from the 1st story to the “n”th story</u> .
n	is the total number of story of the building.

(1)でいうT はtotal horizontal shearであり、(2)ではそれをdisperseするとしている。

**Clause 6** The coefficient value of the concentration of the earthquake (Z) equals to 0.38 or more.

地域の地震発生危険による係数である。

**Clause 7** Use the following multipliers connected with the building utilization (I):

Type of Building	Value of I
(1) A building that is essential to the livelihood of the public, such as <ul style="list-style-type: none"> <li>- a hospital,</li> <li>- a fire station,</li> <li>- a communications center building or</li> <li>- a public disaster relief center building, etc.</li> </ul>	1.50
(2) A building capable of holding more than 300 persons per gathering.	1.25

(3) Other buildings.	1.00
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建築の重要度による係数であり、日本では施主のオプションである。

**Clause 8** Use the following coefficient of a horizontal force building structure (K):

System and Type of Horizontal Force Structure	Value of K
(1) Structure which is designed such that - the shear wall or - the braced frame bears the total horizontal force.	1.33
(2) Structure which is designed such that - the ductile moment-resisting space frame bears the total horizontal force.	0.67
(3) Structure which is designed such that the ductile moment-resisting space frame is combined with the shear wall or the braced frame to resist the horizontal force; with the following stipulations for the design computations: (A) The ductile moment-resisting space frame must be capable of resisting not less than 25 % of the total horizontal force. (B) The shear wall or the braced frame when separated independently from the ductile moment-resisting space frame must be capable of resisting the total horizontal force. (C) The ductile moment-resisting space frame together with the shear wall or the braced frame must be capable of resisting the total horizontal force, such that the ratio of the force acting against each system of structure shall be in accordance with the rigidity ratio, taking into consideration the circulation of the force between both structures.	0.80
(4) The water tower is supported by not less than 4 pillars and secured by a brace and is not located on top of the building. <b>Remarks:</b> With regard to the product of the K value and the C value, use the lowest value equal to 0.12 and the highest value equal to 0.25.	2.5
(5) Building structure systems other than the building structures in (1), (2), (3) or (4)	1.0

**Clause 9** With regard to the natural pendulum cycle swing of the building (T), if it is not possible to compute and find the natural pendulum cycle swing of the building correctly by means of other methods, compute according to the following formula:

(1) For all types of buildings in general, compute according to the formula

$$T = \frac{0.09 h_n}{\sqrt{D}}$$

(2) For a ductile moment-resisting space frame, compute according to the formula

$$T = 0.10 N$$

$h_n$  is the height of the floor of the topmost story of the building measured from ground level, in meter.

$D$  is the structural width of the building in the direction parallel to the earthquake force, in meter.

$N$  is the total number of stories of the building which is above ground level.

T は日本の一次固有周期に対応するものと思われる。通常の高層ビルは(2)の式を使うとのこと。

**Clause 10** In the matter of the computation of the earthquake force acting against the building or the various parts of the building, compute the coefficient value (C) according to the following formula:

$$C = \frac{1}{15\sqrt{T}}$$

If the coefficient value (C) is computed more than 0.12, use a value equal to 0.12.

固有周期によって変動する係数である。

**Clause 11** The coefficient values of the coordination of the natural frequencies between the building and level of the ground location of the building (S) are as follows:

Characteristics of Ground Level	Value of S
(1) Stone	1.0
(2) Hard earth	1.2
(3) Soft earth	1.5

“**Stone**” means all characteristics of stone, regardless of whether it is stone similar to shale or that which is a natural crystal or hard type earth, the depth of the topsoil of which is not more than 60 m and the type of earth resting above the stone level is earth with good stability, such as sand, gravel or hard clay.

“**Hard earth**” means hard type earth the depth of the topsoil of which is more than 60 m and the type of earth resting above the stone level is earth with good stability, such as sand, gravel or hard clay.

“**Soft earth**” means soft clay to medium hard clay and hard clay with a thickness of more than 9 m may or may not have an intermediate layer of sand.

If the product of the value of C and the value of S is more than 0.14, use a value equal to 0.14.

地盤の係数であり、日本ではRt に反映されているところである。

#### **Clause 12**

- A building

- for which a license has obtained or

- for which a receipt of report of construction has been obtained or

- a building which existed before the date of enforcement of this MR

shall be exempted from having to comply with this MR.

**Remarks:** The reasons for announcing the use of this MR are as follows: It is appropriate to prescribe the weight supported by and the resistance and durability of a building or the ground supporting a building in respect of construction of buildings in a zone which might be subjected to the force of earthquake vibrations so that the building is able to withstand the said vibration force. Furthermore, Section 8(3) of BCA 1979, provides that such prescription must be made in the form of MR. It is therefore necessary to issue this MR.

# Ministerial Regulation No.55

Issued in 2000

**Clause 1** In this MR,

**“Residential Building (aakhaan yuu aa-saai)”** means a building in which people dwell day and night, either permanently or temporarily.

**“Row-wooden-building (hong theew)”** means a building constructed in row of more than two units, with walls dividing the building into separate units, and mainly built with combustible materials.

**“Row-brick-building (dtuk theew)”** means a building constructed in row or more than two units, with walls dividing the building into separate units, and mainly built with noncombustible materials.

**“Townhouse (baan theew)”** means a row-wooden-building or a row-brick-building used as residential place (pen thii yuu aa-saai), having an open space in front and at the rear between the fence of land boundary and the building of which unit, and of not more than three-story height.

**“Semi-detached house (baan feed)”** means a residential building (aakhaan thii chai pen thii yuu aa-saai) constructed as twin houses, with a wall dividing the building into two houses, having open spaces between the fence or boundary line and the building in front, at the rear and the side of each house, and each house has separate access.

**“Commercial Building”** means a building used for commercial or business or industrial purpose, using machinery with production capacity less than five horse power, and means to include and other building constructed at the distance of not more than 20 m from the road or public way which may be used for commercial purpose.

**“Public Building”** means a building used for congregation of the general public for the activities concerning government services, politics, education, religion, society, recreation or commerce, such as;

- |                         |                           |                     |                       |
|-------------------------|---------------------------|---------------------|-----------------------|
| - a theater,            | - outdoor sports field,   | - airport,          | - pontoon landing,    |
| - convention hall,      | - indoor sports field,    | - tunnel,           | - cemetery,           |
| - hotel,                | - market,                 | - bridge, car       | - crematorium,        |
| - hospital,             | - department store,       | - parking building, | - religious premises. |
| - educational premises, | - shopping center,        | - bus terminal,     |                       |
| - library,              | - entertainment premises, | - dock,             |                       |

**“Special Building”** means a building requiring special standards of sturdiness and safety, such as following buildings;

- (A) A theater, amphitheater, convention hall, library art gallery, museum or religious premises,
- (B) A dock, boat roller or pier (for ships of capacity exceeding 100 ton gross),
- (C) A building or structure with the height exceeding 15 m, or A bridge, or A building or roof structure (with one portion exceeding 10 m, or having structural characteristics which may cause danger to the general public),
- (D) A building (for storage of inflammable materials, explosive materials or materials disseminating toxic or radiation in accordance with the laws governing such matters).

**“Apartment Building”** means a building or any part of a building used for residential purpose (pen kaan yuu aa-saai) by several households, dividing into separate units for each household.

**“Large Building”** means a building with the total area collectively of every story or of any floor, exceeding 2,000 m, or a building with the height of 15.00 m and upwards and having the total area collectively of every story or of any floor, more than 1,000 m<sup>2</sup> and less than 2,000 m<sup>2</sup>. The building's height is measured from the ground level at the site up to the top deck, or from the ground level at the site up to the top of the highest floor of a building with gable or “hip” roof.

**“Office”** means a building or any part of building used as offices or working premises.

**“Warehouse”** means a building or any part of a building used for storing goods or articles for commercial or industrial purpose.

**“Factory”** means a building or any part of a building used as a factory in accordance with the law-governing factory.

**“Theater”** means a building or any part of a building used for showing movie, performing play, concert or other form of entertainment, with an objective of opening to the general public and whether receiving remuneration or not.

**“Hotel”** means a building or any part of a building used as a hotel in accordance with the law-governing hotel.

**“Restaurant”** means a building or any part of a building used for selling food or beverages, with an area for setting table for serving; inside or outside the building.

**“Durable Materials”** means materials normally not changing its condition too easily by water, fire or climate.

**“Noncombustible Materials”** means the construction materials not being flammable.

- “**Floor**” means an area of a building, in which persons dwell or make use, within the boundary of the beam or “joist” supporting the floor or within the floor or within the area of building walls including porch or balcony.
- “**Partition**” means a vertical structure dividing the interior of a building into different rooms.
- “**Wall**” means a vertical structure dividing the exterior or between units of a building into separate houses or units.
- “**Fire Wall**” means
- a solid brick wall made of normal bricks with thickness not less than 18 cm thick and has no hole for fire or smoke to pass through, or
  - a solid wall made of other noncombustible materials with specifications to resist the fire not lower than a wall made of normal bricks with thickness of not less than 18 cm; for a reinforced concrete wall the thickness must be not less than 12 cm.
- “**Normal Brick**” means soil made into a block and baked until finished.
- “**Roof**” means a thing covers the top of a building for protection of sunshine and rain, including a structure or any thing assembled for supporting the thing covers the top to ensure sturdiness.
- “**Roof Deck**” means the floor on top of a building without roof, and persons can go up to make use thereof.
- “**Stairs Flight**” means the stairs with continuing steps (from the floor to the next floor or the landing).
- “**Riser**” means the distance of rising of a step of the stairs.
- “**Tread**” means the distance of tread of a step of the stairs. “**Net Width**” means the distance measured from one point to the other point without barrier.
- “**Open Space**” means an area without roof or covering structure which may be provided for a well, swimming pool, waste water well, garbage area, garbage collection area or parking lot outside a building; including an area of a structure or a building at the height not exceeding 1.20 m from the ground level and without roof or covering structure.
- “**Public Road**” means a road open for or consenting the people to have an access or make use as a passageway, whether collecting a fee or not.

## Chapter 1 Characteristics of Building

**Clause 2** Each unit of row-wooden-building or row-brick-building

- must have
  - the width, measuring at 90 degree angle from the center of the column in one side to the center of the column on the other side, of not less than 4 m;
  - the depth, measuring at 90 degree angle with the front wall of the ground floor, of not less than 4 m and not exceeding 24 m,
- must have the total area of the ground floor not less than 30 m<sup>2</sup>; and
- must have access doors both in front and at the rear of the building.

In case the depth of the building exceeds 16 m, an open space without cover must be arranged at the distance from 12 m to 16 m, the total area of which must be not less than 10/100 of the total area of the ground floor of the building.

The row-wooden-building or row-brick-building, constructed at the rim of a public road, must have the level of the ground floor at the height of 10 cm from the ground level in front of the building, or the height of 25 cm from the center of the public road in front of building.

**Clause 3** Each unit of townhouse must have the width, measuring at 90 degree angle from the center of column on one side to the center of the column on the other side, of not less than 4 m, the depth of the building, measuring at 90 degree angle with the front wall of the ground floor, or not less than 4 m and not exceeding 24 m, and with the total area of the ground floor of not less than 24 m<sup>2</sup>.

In case the depth of the building exceeds 16 m, and open space without cover must be arranged at the distance from 12 m to 16 m, the total area of which must be not less than 20/100 of the total area of the ground floor of the building.

**Clause 4** A row-wooden-building, row-brick-building or townhouse shall be constructed connectedly not exceeding ten units, and the total length of the building shall not exceed 40 m, measuring at 90 degree angle from the center of the first column to the center of the last column on the other side; whether belonging to the same owner and using the same or separate building structure or not.

長屋の長手方向を 40m 以下に規制する基準である。民間においては守られていないケースが多いらしいが、公共機関においては遵守されている。

**Clause 5** A fence or wall situated at the corner of a public road, which has the width of 3 m and upwards and the angle of not less than 135 degree, must be leveled off at a distance of not less than 4 m and at the same angle with the public road at every corner.

**Clause 6** A private bridge for cars must have the width for traffic of not less than 3.5 m and the slope of not exceeding 10/100.

A public bridge for cars must have the width for traffic of not less than 6 m, the slope of not exceeding 8/100 and footpaths on both sides with a width of not less than 1.50 m each, except a bridge constructed especially for cars which may not have footpath, and has sturdy rails along the bridge on both sides.

**Clause 7** A sign or structure made for attaching or installing at the building must not block air ventilation, a window, door or fire escape.

**Clause 8** A sign or structure made for attaching or installing on the roof or top deck of a building must not protrude outside the building's external wall; and the top of the sign or structure made for attaching or installing must not exceed the height of 6 m from the top of the roof or top deck of the concerned building.

**Clause 9** A sign protruding from a building's wall must not protrude the eaves, and having the height not exceeding 60 cm or the total area of the sign not more than 2 m<sup>2</sup>.

**Clause 10** A sign installed above the eaves, which does not protrude the building's wall, is permitted, whereby the height of which must not exceed 60 cm, measuring from the top at the end of the eaves, or the total area of the sign not more than 2 m<sup>2</sup>.

**Clause 11** A sign installed under the eaves must be attached to the building's wall and at the height of not less than 2.50 m from the footpath.

**Clause 12** An advertisement sign of theater is to be installed parallel with the theater's wall, but must not stick out from the wall exceeding 50 cm; or if having installed on the eaves, it must not stick out beyond the eaves, and the height of the sign in both cases must not exceed the building's height.

**Clause 13** A sign installed directly on the ground must have the height not exceeding the distance measuring from the point of installation to the center of the nearest public road, and the length not exceeding 32 m.

## Chapter 2 Various Parts of Building Part 1 Building Materials

**Clause 14** All things made for a sign, to be attached or installed directly on the ground must be made of noncombustible materials.

**Clause 15** All columns, beams, floors, stairs and walls of a building of three-story and upwards, a theater, convention hall, factory, hotel, hospital, library, department store, large building, service premises under the law governing service premises, airport or tunnel, must be made of noncombustible durable materials.

**Clause 16** The walls of a row-brick-building or a townhouse must be made of durable and noncombustible materials; if made of normal bricks or non-reinforced concrete the wall must have thickness of not less than 8 cm. 実態は、厚さ 7.5cm の軽量コンクリートブロック（2時間耐火）である場合が多い。

**Clause 17** A row-wooden-building, row-brick-building or townhouse constructed continuously must have a fire wall at each distance of not exceeding five units, which must be constructed from the ground level up to the top deck and made of durable and noncombustible materials. In case the roof is made of noncombustible materials, the fire wall must be constructed of not less than 30 cm above the roof slope of the roof.

**Clause 18** A kitchen in the building must have the floor and walls made of noncombustible materials, and if the partition and ceiling are not made of noncombustible materials, they must be lined with noncombustible materials.  
木造の建築物に台所を設置することはできない？

## Part 2 Interior Area of Building

**Clause 19** Each unit of a apartment building must have the interior area not less than 20 m<sup>2</sup>.

**Clause 20** A bedroom on the building must have the width of the narrowest side of not less than 2.5 m, and the total area of not less than 8 m<sup>2</sup>.

**Clause 21** A walkway in the building must have the width of not less than that in the table bellow.

Type of Building	Width
1. Residential building (aakhaan yuu aa-saai) Residential building の定義は Apartment building や Hotel (public building のひとつ) を含むが、それらは 2 において記述されているので、1 には含まれないと解すべきだと思われる。	1.00 m
2. Apartment building, dormitory of accordance with the law governing dormitory, office, public building, commercial building, factory, special building	1.50 m

**Clause 22** A room or part of building used for various activities must have a vertical distance of not less than that in the table below.

Category of Use of Building	Vertical Distance	
1. Room used for residential place (chai pen thii phak aa-saai), townhouse, hotel room, kindergarten classroom, kitchen for residential building (aakhaan yuu aa-saai), special patient's room, walkway in building	2.60 m	
2. Room used for an office, a classroom, cafeteria, restaurant hall, factory	3.00 m	
3. Shop, convention hall, collective patients' room, warehouse, kitchen, market and others of the like	3.50 m	
4. row-wooden-building,	4.1 ground floor	3.50 m
row-brick-building	4.2 second floor and upwards	3.00 m
5. Porch		2.20 m

The vertical distance prescribed in the first paragraph is to be measured from floor to floor. In case of an attic, it is to be measured from the floor to the top of partition or wall of the building. In case of a room or part of the building within the roof structure, it is to be measured from the floor to the top of partition or wall of the said building which is not the roof structure.

A room in the building with the vertical distance from one floor to the other of 5 m and upwards, a mezzanine floor may be constructed therein; provided that the said mezzanine floor area shall not exceed 40% of the total area of the room, and the vertical distance from the floor of the mezzanine to the other floor must be not less than 2.40 m and from the room floor to the floor of the mezzanine not less than 2.40 m as well.

A restroom, toilet must have the vertical distance between the floor and the ceiling not less than 2 m.

## Part 3 Stairs of Building

**Clause 23** If there are stairs in a residential building (aakhaan yuu aa-saai), at least one stairs must have the net width not less than 80 cm, the height of each stairs flight not exceeding 3 m, the riser not exceeding 20 cm, the tread, after deduction of the overlapping steps, of not less than 22cm, and the area in front of the staircase must have the width and length of not less than the width of the staircase.

If the stairs flight is higher than 3 m, there must have a landing for each 3 m or less, and the landing must have the width and length of not less than the width of the stairs. The vertical distance from the stairs or the landing to the lowest part of building above must be not less than 1.90 m.

**Clause 24** Stairs of a apartment building, dormitory in accordance with the law governing dormitory, offices, pubic building, commercial building, factory and special building, for use with the above floors of the total area of not more than 300 m<sup>2</sup>, must have the net width not less than 1.20 m, but the stairs of the said building for use with the above floors of the total area more than 300 m<sup>2</sup> must have the net width not less than 1.50 m whereby if the net width of the stairs is less than 1.50 m there must be at least two stairs and each stairs must have the net width not less than 1.20 m.

The stairs of a building used for congregation of large crowds such as stairs of a convention hall or lecture room not less than 500 m<sup>2</sup> in total area, or the stairs of cafeteria or service premises more than 1,000 m<sup>2</sup> in total area, or the stairs of each floor of the building not less than 2,000 m<sup>2</sup> in total area, must have the width not less than 1.50 m of at least two stairs, or the width of 3 m if there is one stairs.

If a stairs is higher than 4 m, there must be a landing for each 4 m or less, and the vertical distance from the stair or the landing to the lowest part of building above must be not less than 2.10 m.

The landing and the area in front of the stairs must have with width and length not less than the net width of the stairs, except the stairs has the net width exceeding 2 m then the length of the landing and the area in front of the stairs may be not exceeding 2 m.

The stairs prescribed in the first and second paragraph must have the riser not exceeding 18 cm, the tread, after deduction of the overlapping steps, of not less than 25 cm and rails. A stairs, with the width exceeding 6 m and stair flight exceeding 1 m, must have rails on both sides and the stair nosing must have materials preventing slippery.

**Clause 25** The stairs prescribed in Clause 24 must have the distance not exceeding 40 m from the farthest point of such floor.

**Clause 26** The stairs prescribed in Clause 23 and Clause 24 with a curve line exceeding 90 degree may not have a landing, provided that the average width of the tread is not less than 22 cm for the stairs under Clause 23, and not less than 25 cm for the stairs under Clause 24.

#### **Part 4 Fire-escape**

**Clause 27** A four-story building and upwards with the height not exceeding 23 m, or a three-story building with the top deck above the third floor of an area exceeding 16 m, in addition to the regular stairs of building, must have at least one fire-escape made of noncombustible materials and the walkway to the fire-escape must be without barrier.

**Clause 28** A fire-escape must have slope less than 60 degree, except a row brick building and townhouse of not exceeding four stories which may have slope more than 60 degree and must have a landing at every floor.

**Clause 29** A fire-escape outside the building must have the net width of not less than 60 cm and the wall, adjacent to the fire-escape, must be a solid wall and made of noncombustible durable materials.

If the fire-escape prescribed in the first paragraph does not touch the ground floor of the building, there must be a metal stair sliding or extending or lowering to the ground floor accordingly.

**Clause 30** A fire-escape inside the building must have the net width not less than 80cm, with solid wall made of noncombustible durable materials all around, except the ventilating shaft and fire-escape door, and must have air flowing in from outside the building, whereby each floor must have ventilating shaft opening to outside the building, with the total space not less than 1.4 m<sup>2</sup> and must have adequate lighting both day and night.

**Clause 31** A fire-escape door must be made of noncombustible materials, with the net width not less than 80cm and height not less than 1.90 m, and push opening to outside only, a device must be installed for the door to have automatic closing, and the door must be convenient to open at all times. The door or exit to the fire-escape must not have threshold or edge.

**Clause 32** The floor in front of a fire-escape must have the width not less than the width of the stair, and the other side of not less than 1.50 m.

## Chapter 3 Open Space Outside building

**Clause 33** Each building or unit must have open spaces as follows;

- (1) A residential building (aakhaan yuu aasaai) and apartment building must have an open space not less than 30 of 100 parts of the floor which has the widest are in the building.
- (2) A row-wooden-building, row-brick-building, commercial building, factory, public building and other type of building not being used for residential place (pen thii yuu aa-saai), must have an open space not less than 10 of 100 parts of the floor which has the most area in the building. However, if such building is used for residential place (pen thii yuu aa-saai), the open space required shall be according to (1).

**Clause 34** A row-wooden-building and (ruu) row-brick-building with the front not adjacent to a public road must have an open space in front of the building not less than 6 m, whereby no part of the building shall intrude the said area.

A row-wooden-building and (ruu) row-brick-building must have an open space not less than 3 m at the rear of the building for connecting each other, whereby no part of the building shall intrude in the said area; except a fire-escape outside the building which can protrude not exceeding 1.40 m.

At the side of a row-wooden-building and (ruu) a row-brick-building, constructed for 10 units or having the total length of 40 m, there must be an open space of not less than 4 m like a channel throughout the depth of the row-wooden-building and (ruu) a row-brick-building for connecting with the open space behind the building.

A row-wooden-building and (ruu) a row-brick-building, constructed less than 10 units or having the total length less than 40 m but has an open space at the side of the row-wooden-building and (ruu) the row-brick-building less than 4 m, shall not be deemed as having an open space at the side of the row-wooden-building and (ruu) the row-brick-building, but shall be deemed that the row-wooden-building and (ruu) the row-brick-building are constructed connectedly as the same row.

In the open space prescribed in the first, second and third paragraph, no building, fence, wall or any structure shall be constructed, and it shall not be provided for a well, swimming pool, garbage area or garbage collection area.

A row-wooden-building and (ruu) row-brick-building with the side near the other person's land must have an open space at the side between the row-wooden-building or row-brick-building and the other person's land of not less than 2 m, except the row-wooden-building and (ruu) row-brick-building constructed as replacement of the previous one and having the area not exceeding that of the previous one and the height not exceeding 15 m.

**Clause 35** A row-wooden-building or row-brick-building, with an open space at the rear of the building as prescribed in the second paragraph of Clause 34 and the building line has receded according to Clause 41, does not need to have an open space according to Clause 33 (1) and (2).

**Clause 36** A townhouse must have an open space in front, between the fence or boundary line and the building wall, of the width not less than 3 m; and an open space all the rear of the building, between the fence or boundary line and the building wall, of the width not less than 2 m.

Between the side of the townhouse constructed connectedly 10 units or having the total length of 40 m, must have an open space at the side of the townhouse of not less than 4 m as a gap throughout the depth of the townhouse.

The townhouse constructed connectedly less than 10 units or having the total length less than 40 m, but have an open space between row at the side of the house with the width less than 4 m shall not be deemed as having an open space at the side of the townhouse, but shall be deemed as the townhouse constructed connectedly as the same row.

**Clause 37** Twin houses must have an open space in front and at the rear, between the fence or boundary line and the building wall, of the width not less than 3 m and 2 m respectively, and an open space at the side of not less than 2 m.

**Clause 38** A warehouse not less than 100 m<sup>2</sup> and not more than 500 m<sup>2</sup> in total floor area, must have an open space from the boundary lines of the plot of land on which it is constructed of not less than 60 m on both sides and not less than 3 m on other sides.

A warehouse more than 500 m<sup>2</sup> in total floor area must have an open space from the boundary lines of the plot of land on which it is constructed of not less than 10 m on both sides and not less than 5 m on other sides.

If the warehouse building in the first and second paragraph are located in the area of industrial estate, one side of the building which is next to another area shall be located far from the area boarder (line) not less than 10 m pursuant to Act of Industrial Estate Authority of Thailand.

**Clause 39** A factory not less than 200 m<sup>2</sup> and not more than 500 m<sup>2</sup> in total floor area for operation must have an open space from the land boundary lines of the plot of land on which it is constructed of not less than 3 m on both sides whereby the walls on these sides must be solid and made of bricks or concrete, except the fire-escape door, and not less than 6 m on other sides.

A factory not less than 500 m<sup>2</sup> and not more than 1,000 m<sup>2</sup> in total floor area for operation must have an open space from the boundary lines of the plot of land on which it is constructed of not less than 6 m on every side.

A factory more than 1,000 m<sup>2</sup> in total floor area for operation must have an open space from the boundary lines of the plot of land on which it is constructed of not less than 10 m on every side.

If the factorial building in the first, second and third paragraph are located in the area of industrial estate, one side of the building which is next to another area shall be located far from the area boarder (line) not less than 10 m pursuant to Act of Industrial Estate Authority of Thailand.

## **Chapter 4**

### **Building Lines and Various Distances of Building**

**Clause 40** Construction or modification of a building or any part of a building shall not include into the public place, unless permission has been obtained from the official in charge of the said public place.

**Clause 41** A building, to be constructed or altered near a public road with the width less than 6 m, the building line must be receded at the distance at least 3 m from the center of the said public road.

With regard to a building higher than two stories or 8 m, row-wooden-building, row-brick-building townhouse, commercial building, factory, public building, sign or thing made for attaching or installing the sign, or warehouse, to be constructed or altered near the public road:

- (1) If the said public road is less than 10 m in width, the building line must be receded at least 6 m from the center of the public road.
- (2) If the said public road has the width 10 m and upwards but not exceeding 20 m, the building line must be receded at least 1/10 of the width of the public road from the boundary of the public road.
- (3) If the said public road is not less than 20 m in width, the building line must be receded at least 2 m from the boundary of the public road.

**Clause 42** A building, to be constructed or altered near a public water source such as river, trench, canal, irrigation gutter or ditch, if such public water source has the width less than 10 m, the building line must be receded at the distance not less than 3 m from the public water source; if such public water source has the width 10 m and upwards, the building line must be receded at the distance not less than 6 m from the public water source.

A building, to be constructed or altered near a large public water source such as a large swamp, lake or sea, the building line must be receded at the distance not less than 12 m from such public water source.

An exception is made for a bridge, dam, fence, drainage pipe, wharf, sign, dock, boat rollers or an open space used as a parking lot, whereby receding of the building line is not required.

**Clause 43** The building, to be constructed according to Clause 41 and Clause 42, must have the lowest part of the eaves or protruding architectural part at the height of not less than 3.25 m from the footpath level but not including a decorative part protruding from the wall of not exceeding 50 cm, and must have a pipe draining water

from the eaves or the roof attached to or embedded in the wall or the building's column down to a public pipe or manhole.

**Clause 44** The height of a building from any point shall not exceed two times of the horizontal distance, measuring from that point to be 90 degree angle of the opposite boundary of the public road nearest such building.

The building's height is to be measured vertically from the road level or the ground level of the site up to the highest point of the building, or to the top wall of the highest floor for the building with gable or "hip" roof

**Clause 45** A building having two public roads of different width on either side, if the distance between the two public roads is not exceeding 60 m and the building's width along the line of the wider public road is not exceed 60 m, the height of the building at any point must not exceed two times of the nearest horizontal distance from that point to be at 90 degree angle of the opposite boundary line of the wider public road.

**Clause 46** A building situated at the corner of two public roads of different width, the height of the building at any point must not exceed two times of the nearest horizontal distance from that point to be at 90 degree angle of the opposite boundary line of the wider public road, and the length of the building along the narrower public road must not exceed 60 m.

As for a row-wooden-building or row-brick-building, the length of the building along the narrower public road must not exceed 15 m.

**Clause 47** A fence or wall, constructed adjacent to or at the distance from the public road less than the fence's height the fence is to be constructed not higher than 3 m above the level of footpath or that of the public road.

**Clause 48** Construction of a building near other building on the plot of land of the same owner, the floor or wall of the building with the height not exceeding 9 m must be at the distance of not less than 4 m from other building, while the building with height exceeding 9 m but less than 23 m must be at the distance of not less than 6 m from other building. The contents of the first paragraph shall not apply to the open space used as a parking lot.

**Clause 49** Construction of building at the side of a row-wooden-building or row-brick-building:

- (1) If such row-wooden-building or row-brick-building consisted of ten units or not less than 40 m in total length and the building to be constructed is a row-wooden-building or row-brick-building, the row-wooden-building or row-brick-building to be constructed must be at the distance not less than 4 m from the existing row-wooden-building or row-brick-building; but in case of other type of building, the distance from the existing row-wooden-building or row-brick-building shall be not less than 2 m.
- (2) If such row-wooden-building or row-brick-building consisted of less than ten units or having the total length of less than 40 m, the building to be constructed must be at the distance not less than 2 m from the existing row-wooden-building or row-brick-building; except in the case of constructing a row-wooden-building or row-brick-building connected to the existing row-wooden-building or row-brick-building as described in (4).

**Clause 50** The building's wall with window, door, air ventilation shaft or transom, or porch of the building, must have the distance from the land boundary as follows:

- (1) A building with the height not exceeding 9 m, the wall or porch must be at the distance not less than 2 m from the land boundary.
- (2) A building with the height exceeding 9 m but less than 23 m, the wall or porch must be at the distance not less than 3 m from the land boundary.

The building's wall at the distance less than prescribed in (1) or (2) must be at the building's wall at the distance not less than 50cm, unless such building is to be constructed adjacent to the land boundary and in which case the building's height must not exceed 15 m. The building's wall adjacent to the land boundary or at the distance less than prescribed in (1) or (2) must be solid wall and the wall on this side must be a solid wall and constructed higher than the roof deck of not less than 1.80 m. In case of construction a building adjacent to the land boundary, a written consent must be obtained of the land owner of this side as well.

Issued on July 28, 2000 Deputy Acting Minister

**Remarks:** The rationale for announcement of this MR is because it is deemed appropriate to set forth the characteristics, design, shape, ratio, area, location of the building, level, open space outside the building or building line, and the distances or levels between building and building or other person's land or between building

and road, footpath or public place, for the benefit of sturdiness, strength, safety, fire prevention, public health, preservation of quality of the environment, city planning, architecture and facilitate traffic. Furthermore, Section 8(1), (7) and (8) of BCA1979 has stipulated that such matters must be set forth in MR. Therefore, it is necessary to issue this MR.

# Ministerial Regulation BF On Facility for People with Disabilities

Issued in 2005

**Clause 1** This MR is to come into force 60 days after the day of issue by the Government Gazette.

**Clause 2** In this MR:

**“Facilities for people with disabilities or handicaps and elderly men”** is:

- a part of the building and
- building component

which are equipped or installed in interior and exterior buildings for people with disabilities to access.

In this text, Thai words of “phuu-pi-karn ruu tuup-pol-la-phap le khon-cha-ra” are translated into English words of “people with disabilities” as shown above. The original meaning of the Thai words are, however, “people with disabilities because of their physical accidents, or people with disabilities because of their diseases, and aged people”.

**“Lift”** means an instrument which is utilized for transporting people from floor-to-floor. And it excludes an escalator and a conveyer.

**“Tactile path”** means the surface and the color of the floor which are differentiated from another in the same area for the blind.

**“Net width”** means the width which is measured from one to another with free barrier.

**Clause 3** The following types and characteristics of the building shall provide facilities for people with disabilities as prescribed under this MR. in public area.

(1) - Hospital,

- clinic,
  - public health service center,
  - health station,
  - government office building,
  - government enterprise office,
  - by-law government association,
  - education institution,
  - government library and museum,
  - mass transit station such as airport, railway station, bus terminal, pier
- which provide service area in the part of building with an area more than 300 m<sup>2</sup> for people.

(2) - Offices,

- theaters,
- hotels,
- assembly halls,
- department stores,
- shopping malls

which provide service area in the part of building with an area more than 2,000 m<sup>2</sup> for people.

## Chapter 1

### Sign Board of Facilities for people with disabilities

**Clause 4** The building as prescribed in Clause 3 shall be provided;

- (1) Symbol of people with disabilities
- (2) Signs which lead people with disabilities or handicaps and elderly men to facilities.
- (3) Symbols or letters which indicate the category of facilities for people with disabilities.

**Clause 5** Either the following symbols of clause 4 shall be white and blue background, or the symbols shall be blue and white background;

- Symbol of people with disabilities.
- Signs which leads people with disabilities to facilities.
- Symbols or letters which indicate the category of facilities for people with disabilities.

**Clause 6** Signboards of facilities shall locate;

- distinctly,
- in sight distance and,

- appropriately  
and shall provide lights in the daytime and nighttime.

## **Chapter 2 Ramp and Lift**

**Clause 7** If the internal floor, internal and external floor or hallway of the following building in Clause 3 are different with one another more than 20 mm, ramp or lift should be provided. If the difference is not more than 20 mm, slope of ramp shall not exceed 45 degrees.

**Clause 8** The ramp shall conform to criteria below;

- (1) The ramp surface shall not be slippery.
- (2) The joint of ramp shall be evenly.
- (3) The ramp width shall not be less than 900 mm. If total distance of the ramp is 6,000 mm or more, the ramp shall be 1,500 mm in width or more.
- (4) The landing shall be provided in front of the ramp not less than 1,500 mm in length.
- (5) The gradient of ramp shall not exceed 1:12 and the length of each span shall not exceed 6,000 mm. The landing shall be provided not less than 1,500 mm in length between each spans of ramp if the length of the ramp exceeds 6,000 mm.
- (6) The ramp shall be provided curb not less than 50 mm in thickness from the level of ramp surface and provided safety rail on the side which is without partition.
- (7) If the ramp is 2,500 mm in length or more, rails shall be provided along both sides of the ramp as criteria below;
  - (A) The rail shall be smoothly seamless and firmly strong materials. Also, it shall not be danger and slippery to be hold.
  - (B) The rail should be cylinder and its diameter shall be at least 30 mm, but it shall not exceed 40 mm.
  - (C) The rail shall be equipped at least 800 mm high from the ramp surface, but it shall not exceed 900 mm.
  - (D) The rail which is against the wall shall;
    - space at least 50 mm against the wall and,
    - stand 120 mm in height from the ramp surface,and the wall which is against the rail shall be smooth.
  - (E) Rail shall be continually long and the part of rails which cling rails on the wall shall not obstruct or shall not be an obstacle for the blind.
  - (F) The rail edge shall be expanded further on beginning and ending of ramp not less than 300 mm.
- (8) The signboard of floor directory, floor position and floor-number shall be provided at ascent and descent ramp of building connection for the blind and aged.
- (9) The symbol of people with disabilities which are provided for people with disabilities shall be installed at the ascent and descent of the ramp.

**Clause 9** The following buildings in clause 3 which have two stories or more shall be provided a lift or ramp between building's floor for people with disabilities.

The lift for people with disabilities shall;

- be accessed to every floor, and
- provide the lift-controlled system for people with disabilities to;
  - control
  - use safely and,
  - operate easily.

Symbol of people with disabilities shall be provided on exterior door of the lift to notify people with disabilities to utilize.

**Clause 10** The lift hall for people with disabilities shall follow criteria below;

- (1) The lift hall shall be 1,100 mm in width or more and 1,400 mm in length or more.
- (2) The lift door shall be 900 mm in width or more and shall be equipped with censoring system against passengers clamped by the door.
- (3) Tactile path shall be provided in front of the lift door with the size of 300 mm in width and 900 mm in length. Also, tactile path shall distance at least 300 mm against the lift door, but it shall not exceed 600 mm.
- (4) Lift buttons, lift control panel and buttons of alarm system shall conform to criteria as below:
  - (a) If the width and length of the lift hall is less than 1,500 mm,

- the lowest button of lift control panel shall not be located less than 900 mm in height from the floor,
  - the top button of lift control panel shall not be located exceeding 1,200 mm in height from the floor, and,
  - the lift control panel shall not be distance less than 400 mm far from the lift corner.
- (b) The diameter of the button shall not be less than 20 mm, and every buttons shall indicate by Braille letter. The buttons shall produce loud ring and light when the passenger presses the button.
- (c) There shall not be an obstacle in the area of lift control panel.
- (5) Handrail bar shall be throughout provided inside the lift hall as prescribed in Clause 8(7) (a), (b), (c) and (d).
- (6) The floor number and audio announcer shall be provided when the lift stops and goes up or down.
- (7) The signboard of floor number and floor plan shall be located in front of the lift hall and obviously.
- (8) When the lift is out of order, an audio and visual alarm shall ring and blink;
- red light to inform the blind and dumb and,
  - green light to respond the dumb that the outsiders are notified the lift in difficultly and then the outsider is giving an assistance.
- (9) An intercom shall be provided inside the lift hall to contact with outsiders by installing not less than 900 mm height from the floor, but it shall not exceed more than 1,200 mm.
- (10) When the light is out, the lift shall be automatically park at the ground level and also the lift door shall be automatically open. These kinds of system shall be provided.

### **Chapter 3 Stairs**

**Clause 11** Each floor of the following buildings in Clause 3 shall provide at least one staircase for people with disabilities. The staircase shall conform to criteria as below:

- (1) The width of stairs shall be 1,500 mm or more.
- (2) The landing shall be provided every vertical distance which shall not exceed 2,000 mm in width.
- (3) Both sides of stairs shall provide handrails which conform to criteria in clause 8(7).
- (4) The height of riser shall not exceed 150 mm. The run shall not be less than 280 mm wide and shall be evenly throughout stairs. If the step of stair is overlapped or has nosing, the overlapped or nosing distance shall not exceed 20 mm.
- (5) The surface of steps shall not be slippery.
- (6) The riser shall not be opening.
- (7) The signboard of direction, site plan or floor number of the building shall be provided on floor-to-floor around the area of stair for the blind and elderly men.

### **Chapter 4 Parking lot**

**Clause 12** The following buildings in Clause 3 shall provide parking lanes for people with disabilities as ratio below;

- (1) If there are 10 to 50 parking lanes, at least one parking lane shall be provided for people with disabilities.
- (2) If there are 51 to 100 parking lanes, at least two parking lanes shall be provided for people with disabilities.
- (3) If there are 101 parking lanes or more, at least two parking lanes shall be provided. One more parking lane shall be provided for every additional parking lane. If the excess of parking lanes are more over than 50 parking lanes, it is assumed as 100 parking lanes.

**Clause 13** The parking lanes for people with disabilities shall be located nearby the building exit-entrance the most and shall not parallel to the traffic lane. The surface floor of the parking lane shall be smooth and even. Also, the symbol of people with disabilities shall be located on the surface of the parking lane and nearby the traffic lane with the size of not less than 900 mm in width and length. Furthermore, signboard of symbol of people with disabilities shall be provided obviously to be seen with the size of not exceeding 300 mm in width and length, and shall not be located less than 2,000 mm high from the ground.

**Clause 14** The parking lane shall be rectangular with the size of not less than 2,400 mm wide and not less than 6,000 mm long. Also, on the side of the lane shall space not less than 1,000 mm wide along the length of lane. Furthermore, the space shall be smooth and even with the parking lane.

### **Chapter 5 Access, passageway between buildings, extension path of the building**

**Clause 15** The following building in Clause 3 shall provide a building access for people with disabilities as criteria below; such as,

- (1) The floor of the access shall be even, no slippery, free barrier or no excess part of the building which may harm people with disabilities.
- (2) The floor of access shall level with passageway of outside the building or parking lot. If they are difference level, the ramp shall be provided nearby the parking lot.

**Clause 16** If several buildings, as prescribed in Clause 3, in the same area share building use with or without fence, the passageway shall be provided between buildings and among buildings to public parking lot or parking buildings.

The passageway in paragraph one shall conform to criteria as below;

- (1) The floor of the passageway shall be smooth and 1,500 mm wide or more, but it shall not be slippery.
- (2) If there is drain or gutter beyond the floor of the passageway, fitting cover shall be provided. If the cover is a bar or boring, diameters of apertures shall not exceed 13 mm and the bar row or line shall bar the passageway.
- (3) Tactile path shall be provided on an intersection or the turn area.
- (4) If there is any necessary barrier placed on the passageway, the barrier shall be alignment without barrier and the warning block or blocking shall be provided before reach to barrier. The block shall be provided at least 300 mm far from barriers.
- (5) The signboard or others hanging above the passageway shall be hung over at least 2,000 mm high from the floor.
- (6) If the floor of passageway and car park area are different level, the difference shall not exceed 1:10.

**Clause 17** The following building in Clause 3 which has building connection shall provide sidewall or safety rails along both sides of the extension as required in Clause 8(7)(a)(b)(c)(d) and (e) and shall be provided passageway as required in Clause 16 (1)(2)(3)(4) and (5).

## **Chapter 6 Doors**

**Clause 18** The door of the building as prescribed in Clause 3 shall conform to criteria below;

- (1) The door shall be easy to open and to close.
- (2) If there is a threshold, the height of the threshold shall not exceed 20 mm and both edge of threshold shall not slope exceeding 45 ° degrees for people with disabilities to across by.
- (3) The door width shall be 900 mm or more.
- (4) If the door is a double acting door, the width and length of the doorway shall be 1,500 mm or more when the door is opened through the corridor or balcony.
- (5) If the door is a sliding door or a swinging door, vertical handrail shall be provided of an interior and exterior door as criteria in Clause 8(7) (b). Also the upper tip of the bar shall be distanced not less than 1,000 mm in height from the floor, and the lower edge of the bar shall be distanced from the floor 800 mm in height or less. If the winging door provides a horizontal pushing bar inside and outside open, the pushing bar shall be distanced 800 mm in height from the ground floor but it shall not over than 900 mm along the width of the door.
- (6) The symbol of people with disabilities or a color line shall be equipped obviously on the door if the door or the panel of the door is made of glass.
- (7) The door shall provide lever handle or pushing bar which is equipped not less than 1,000 mm high from the floor but exceeding 1,200 mm.

The door in paragraph one shall not be equipped with automatic closing door because the door might attack to people with disabilities.

**Clause 19** The fire exit and automatic closing door are not to conform to criteria in clause 18.

## **Chapter 7 Lavatory**

**Clause 20** The building as prescribed in Clause 3 which provide latrines shall provide at least one lavatory for people with disabilities inside or separate from latrines but in the same area.

The by-law gas station shall provide at least one lavatory for people with disabilities.

**Clause 21** A lavatories for people with disabilities shall conform to criteria below;

- (1) The lavatory shall provide clearance at least 1,500 mm radius or more for rotation of wheelchair.
- (2) The door of lavatory shall be;
  - inside-out swinging door with 90° degree hung up or more; or,
  - sliding doorand shall provide symbol of people with disabilities sticking in the front of the door. Besides mentioned above, the door shall conform to criteria of chapter 6.
- (3) The floor inside lavatory shall be level with an exterior floor. If it is difference, ramp as criteria of chapter 2 shall be provided and the flooring of ramp shall not be slippery.
- (4) The floor inside lavatory shall be beveled adequately to drainage protecting flood.
- (5) The toilet bowl of flush toilet shall;
  - be equipped 450 mm high from the floor, but it shall not exceed more than 500 mm
  - provide a backrest for people with disabilities whom cannot balance themselves
  - be provided lever button, large button or other alike which are convenience for people with disabilities. One side of the toilet bowl shall distance against the wall 450 mm far from the center of toilet bowl but not exceeding 500 mm with handrail. On the other side of the wall shall provide enough space for a wheelchair of people with disabilities to access. If both sides of toilet bowl distances from the wall over 500 mm, handrail shall be provided as criteria in (7).
- (6) A vertical and horizontal handrail shall be provided to support criteria below;
  - (a) Horizontal handrail shall be located at least 650 millimeters in height from the floor but not exceeding 700 mm in height and the handrail shall not be overlapped from the front of toilet bowl less than 250 mm but not more than 300 mm.
  - (b) The vertical handrail which is continuously extended to horizontal handrail from toilet bowl upward shall be 600 mm long or more.The handrail in 6(a) and (b) may be continuous rail.
- (7) On the side of toilet bowl which is not adjacent to the wall shall provide horizontal folding. When it is expanded, it shall provide locking system which people with disabilities shall be able to unlock it easily. It shall not distance from the edge of toilet bowl less than 150 mm but not exceeding 200 mm and it shall be 550 mm or more.
- (8) Besides the handrail in (6) and (7), other handrails to sanitary ware of the toilet shall be equipped 800 mm high from the floor but not exceeding 900 mm.
- (9) Audio and visual indicator system shall be equipped inside and outside the toilet for people with disabilities. If there is an emergency, the outsider can notify people with disabilities inside the toilet and people with disabilities can call for help from inside the toilet. The button or censoring panel which people with disabilities can utilize it easily shall be provided
- (10) Basin shall conform to criteria below;
  - (a) Throughout underneath of the basin shall space for wheelchairs to access. The curb of the basin shall not against the wall less than 450 mm and shall locate on the position that people with disabilities can access without obstacles.
  - (b) The height of the basin from the floor to the curb of the basin shall not be less than 750 mm but it shall not exceed 800 mm and horizontal handrails shall be provided on both sides of the basin.
  - (c) The faucet shall be;
    - flush handle
    - lever handle
    - cross handle or,
    - automatic handle.

**Clause 22** If;

- the toilet for people with disabilities is inside the latrine; and,
  - there is an access before reach the toilet,
- the toilet for people with disabilities shall be located to access easily.

If the toilet is divided between men and women, the toilet in paragraph 1 shall provide Brielle on the side wall of the entrance of the toilet.

**Clause 23** The toilet for males which is not for people with disabilities as following in clause 20 and 21 shall provide at least one urinal with horizontal handrails. The horizontal handrail shall be equipped;

- on the top of the urinal, not less than 1,200 mm high from the floor but not exceeding 1,300 mm with 500 mm in

- length but not exceeding 600 mm and,  
- on both sides of the urinal, not less than 800 mm high from the floor but not exceeding 1,000 mm with 550 mm in length but not exceeding 600 mm.

**Clause 24** Handrail inside the lavatory shall be provided as criteria in Clause 8(7) (a) and (b).

## **Chapter 8 Tactile path**

**Clause 25** The building as in Clause 3 shall provide tactile path for the blind at;

- an interchange which floor level is different more than 200 mm
- the ascend and descend of pavement or stairs
- the landing in the front and the back of the entrance and,
- the area in front of the door of the restroom.

The width of the tactile path shall be 300 mm. The length shall equalize along with and parallel to the width of ascend and descend of an interchange, pavement, stairs or doors 300 mm or more, but it shall not exceed 350 mm.

In the case of mass transportation, the edge of the tactile path shall not distance to the edge of the bus terminal less than 600mm far, but it shall not exceed 650 mm.

## **Chapter 9 Theater, assembly hall and hotel**

**Clause 26** Theaters or assembly halls as in clause 3 shall provide at least one service ability area per 100 seats for a wheelchair. The service ability area shall be flat at least 900 mm in width and 1,400 mm in length and shall be easy to access.

**Clause 27** Hotels as in clause 3 shall provide at least one room to service people with disabilities per 100 rooms for service. The room for people with disabilities shall consist of and conform to criteria below;

- (1) The room shall be located nearby stairs, fire exit or firemen lift.
- (2) The room shall equip with audio and visual and vibration alarm or warning devices inside the room to indicate residents inside and outside of the room that there are some people inside the room.
- (3) Braille site plan shall be provided inside the room which is serviced for people with disabilities. The site plan shall be provided inside the room, at the stairs for fire escape and on the direction to fire escape in the middle of an interior of the door, and shall be located at least 1,300 mm from the floor but exceeding 1,700 mm.
- (4) The disability signboard shall be located in the front of the room for people with disabilities.

**Clause 28** The toilet which is serviced for people with disabilities shall provide shower or bath tub as criteria below;

- (1) Shower-bath;
  - (a) shall provide space which is not less than 1,100 mm in width and not less than 1,200 mm in length.
  - (b) shall provide a seat which is not less than 450 mm in height from the floor but not exceeding 500 mm.
  - (c) - Horizontal handrail, which is not less than 650 mm height from the floor but exceeding 700 mm and,  
- vertical handrail, which is at least 600 mm continuous from horizontal handrail  
shall be provided aside of the seat.
- (2) Bath tub;
  - (a) Vertical handrail shall be equipped
  - (b) Horizontal handrail shall be provided continually from the vertical handrail along the side wall to the edge of the tub.  
Vertical and horizontal handrail shall be continuous and shall be conform to criteria in Clause 8(7) (a) and (b).
- (3) Things, wares and accessory which are provided in the shower area shall not be equipped less than 300 mm in height from the floor but exceeding 1,200 mm.

## **TRANSITORY PROVISIONS**

**Clause 29** If the buildings;

- is existed,
- has been approval to be constructed,
- was authorized to be constructed,

- was authorized to be modified, or
  - was submitted to local competent officer and was complied with Section 39bis.
- before this MR is issued, these building are exempt to comply with this MR.

**Clause 30** The building in Clause 29 which are necessary to be modified are exempt to comply with this MR if they complied the provision as below;

- (1) floor area expansion shall not be increased more than 2% of total floor area.
- (2) building height shall not be increased.
- (3) building area shall not be expanded.
- (4) the building site or building line shall not be relocated from approval, before this MR is effective.

If;

- the building modification does not conform to criteria in paragraph one or,
  - the building in Clause 3 will be changed the type of the use,
- these building shall provide facilities as in Clause 4, 5, 6, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24 and Clause 25 for people with disabilities.

# Ministerial Regulation PI-1 on Objective Buildings for Periodical Inspection

Issued in 2005

Section 32bis of the Act の詳細を定める MR のひとつであり、MR PI-2 とセットである。

**Clause 1** The following buildings shall be inspected by engineering or architectural inspectors according to Section 32bis. この部分のタイ語原文の構造はタイ語特有のものとなっている（詳細は次ページ参照）。

- (1) Theater
- (2) Hotel under the laws of hotels having exceeding 80 rooms.
- (3) The service place (**Sa-thaan bori-khaan**) under the law of service places having area exceeding 200 m<sup>2</sup>.
- (4) Condominium under the law of condominiums or apartment building having area of 2,000 m<sup>2</sup> or more.
- (5) Factory building under the law of factories having the height more than 1 story and having used area of 5,000 m<sup>2</sup> or more.
- (6) Signboard or other constructions for sticking or setting signboards having:
  - not less than 15 m in height; or
  - having size exceeding 50 m<sup>2</sup>,or, signboards setting on the roof or the building deck or either part of the building having size of 25 m<sup>2</sup> or more.

**Clause 2** As for the buildings under Clause 1(4),

- (1) The building which area is not exceeding 5,000 m<sup>2</sup> is accepted not having a building inspector 7 years since the regulation issued.
- (2) The building which area is exceeding 5,000 m<sup>2</sup> is accepted not having a building inspector 5 years since the regulation issued.

Given on 25 October, 2005 Minister

## Principle:

To determinate the type of the building shall have an engineering or architectural inspector to inspect the building structure and building instruments.

## Reason:

By virtue of the Section 32bis (3) of BCA 2000 stipulate the minister's authority to promulgate the MRs, to designate the type of building that shall have engineers or architects inspected the building status, structure and instrument for building use of strengthening and security.

Target buildings are as shown in the table below.

	Use	Condition
(1)	Theater	All
(2)	Hotel	More than 80 rooms
(3)	Service place	Area exceeding 200 m <sup>2</sup>
(4)	Condominium	All
	Apartment building	Area of 2,000 m <sup>2</sup> or more
(5)	Factory	- more than 1 story; and - used area of 5,000 m <sup>2</sup> or more.
(6)	Signboard	- not less then 15 m in height; or - size exceeding 50 m <sup>2</sup> , or, signboards setting on the roof or the building deck or either part of the building having size of 25 m <sup>2</sup> or more

## 第1条本文の解説

第1条本文のタイ語原文の基本構造は次のとおり。

タイ語	aakhaan	ton cat hai	mii phuu-tua-soop
英語（逐語訳）	a building	must manage to let	have an inspector

まず、aakhaan (building) は「人」ではないので、ton cat hai (must manage to let)の主語にはなりえない。法32条の2で定期検査は建築所有者の義務と規定されていることも考え合わせると、主語は建築所有者であり、ここでは省略されているものと考えられる（タイ語では、日本語と同様に主語の省略がしばしば行われる）。

次に、mii phuu-tua-soop (have an inspector) の主語については、aakhaan (building)であると考えられる。つまり、aakhaan mii phuu-tua-soop (A building have an inspector.)である。aakhaan (building) は「人」ではないので、この文章も若干不自然に聞こえるかもしれないが、意味するところは、There is an inspector in the building.である。タイ語の mii (have) はしばしばこのような使われ方がされる場所であり、タイ語として不自然さはない。

以上を総合すると、この文章の文法的な基本構造は次のとおりであり、その上で、ton cat hai が文章の頭になるのは不自然なので、目的語(aakhaan)を文頭に移動したものと解釈される（タイ語においてはしばしば行われる）。

タイ語	(cau khoon aakhaan)	ton cat hai	aakhaan	mii phuu-tua-soop
英語（逐語訳）	(a building owner)	must manage to let	a building	have an inspector
文法上の位置 付け	主語（ただし、省略 されている）	動詞 A（使役動詞）	動詞 A の目的語 かつ 動詞 B の主語	動詞 B

よって、この部分は、下記のような英訳を行った。  
The buildings shall be inspected by inspectors.

# Ministerial Regulation PI-2 on Qualification of an Inspector for Periodical Inspection and Proceeding of Periodical Inspection

Issued in 2005

Section 32bis of the Act の詳細を定める MR のひとつであり、MR PI-1 に続き、公布された。

## Chapter 1 Inspector's specific qualifications and prohibited qualifications

**Clause 1** An applicant who would apply for a building inspector shall possess specific qualifications and shall not possess prohibited qualifications as below;

- (1) If they are natural persons, they are required;
  - (a) To possess Thai nationality,
  - (b) Either to achieve the license of a controlled engineering profession under the law of engineer or to achieve the license of a controlled architecture profession under the law of architect.
  - (c) To pass “Certified Building System and Equipments Inspection Training by Building Control Committee”. (“Building Control Committee”, hereafter referred as to “BCC”)
  - (d) Not to be abrogated the license of the building inspector registration within 2 years before applying for the building inspector registration.
- (2) If they are juristic persons, they are required;
  - (a) To be registered as a juristic person under Thai law:
    - At least half of shareholder of registered assets shall be Thai,
    - Not less than half of all partners, shareholders or members shall be Thai.
  - (b) Either to achieve the license of a controlled engineering profession under the law of engineer or a controlled architecture profession under the law of architect.  
法人が建築技術者資格又は建築家資格を持つという本規定は、不思議。主旨は、当該法人の administration members (samaa-chik nai-khana phuu borihaan。定義は本 Clause の第 2 段落を参照) に対して有資格者であることを義務付けることであると思われる。
  - (c) At least half of administration members of juristic persons have passed “Certified Building System and Equipments Inspection Training by BCC”.
  - (d) Administration members of juristic persons, (c), not to be abrogated the license of the building inspector registration within 2 years before applying for the building inspector registration.

Administration members of juristic persons are such as partners, members, managing directors or other administrators which are authorized to supervise building inspection.

## Chapter 2 Principle, procedure and condition of license application

**Clause 2** The applicant in Clause 1 shall submit an I-1 form with the supported document to BCC through:

- Building Control Bureau, Department of Public Works and Town & Regional Planning, (“Building Control Bureau, Department of Public Works and Town & Regional Planning” hereinafter referred as to “BCB”. “Department of Public Works and Town & Regional Planning”, hereinafter referred as to “DPT”) or
- provincial DPT covering:
  - the location of the juristic person, or
  - the domicile or present address of the applicant.

**Clause 3** The registrar who receives documents in Clause 2 shall check qualifications and the supported document of the applicant, and then submit them to BCC through BCB within 30 days after they received documents.

**Clause 4** BCC shall judge the documents, as Clause 3, within 30 days after they received documents.

After BCC has approved the documents, BCC shall notify the applicant. Then, the applicant shall submit:

- insurance contract and

- property insurance policy,  
as provided in Clause 5, to BCC through BCB or provincial DPT covering the location of the juristic person, or the domicile or present address of the applicant within 30 days after they received notification documents.

Following that BCC received the insurance documents of the second paragraph, the chairman of BCC shall issue the license within 30 days after they received insurance documents.

If the applicant does not submit insurance contract and property insurance policy of the second paragraph without notifying:

- a reason (hed phon) or
- an inconvenience (koot khat khong)

to BCC within 30 days, BCC shall assume that the applicant does not want to apply for a building inspector.

The registered certification shall be effective for 2 years after issue. The certification shall be compliance with IC-1 herewith this MR.

**Clause 5** The insurance contract and property insurance policy which the applicant shall submit to BCC as in Clause 4 shall ensure to be responsible for applicant's misfeasance which does not conform with criteria of building inspector by crediting;

- at least one million Baht per time,
- at least two millions Baht per year; and,
- at least three years duration.

Inspector がミスをした場合の補償のための保険制度を義務付けるものだと想像される。which does not conform with criteria of building inspector の部分は、補償するミスの範囲を限定する主旨のようであるが、理解不能。

**Clause 6** If BCC determines to refuse the applicant's registration, applicants shall be informed the resolution with reasons within 30 days after the determination of the committee.

**Clause 7** At least 60 days before the building inspection certification expires, the inspector shall apply for the renewal by submitting application form, A-2 form, with supporting documents to BCC or provincial DPT covering the location of the juristic person applicant or the address of the applicant for an inspector. In the duration of validity, the applicant could operate his duties until he is informed the rejection to validate the license by the registrar.

Clause 3, 4, 5 and 6 is come to in force to renewal validated letter of certification.

Renewal validated letter of certification shall be:

- attached to the license; or
- issued as a new license.

As for a renewal validated letter of certification in the first paragraph, it shall be issued for the duration of 2 years after the former is expired.

**Clause 8** If the registered certificate:

- is lost,
- is ruined or
- loses its important data,

the inspector shall submit I-3 with the supported document herewith this MR for replacement of the certificate to BCC through BCB or provincial DPT covering the location of the juristic person, or the domicile or present address of the applicant.

To authorize a copy of replacement of the certificate,

- the word "replacement" with red fonts on the same form of original's and
  - the issued date of BCC's chairman signature
- shall be specified.

**Clause 9** An inspector's power will be expired:

- if the license is expired; or
- if,

- (1) The inspector passes away.
- (2) The juristic person does not prolong the period of inspector certificate.
- (3) BCC abrogates the inspector certificate.

### Chapter 3 License Abrogation

**Clause 10** The director of BCB or provincial DPT shall propose BCC to consider license abrogation by submitting to BCB within 60 days after consideration if BCC, BCB or provincial DPT recognizes that the inspector goes for Clause 11.

Order of procedure is as follows:

- (1) The inspector goes for Clause 11.
- (2) BCC, BCB or provincial DPT recognizes (1).
- (3) BCC, BCB or provincial DPT considers (1).
- (4) BCB or provincial DPT proposes BCC to consider license abrogation on (1).

BCC shall propose this subject into BCC consideration after duration (60days) is expired pursuant to the first paragraph and the director of BCB or provincial DPT does not propose to BCC.

**Clause 11** BCC shall abrogate the license when;

- (1) The inspector:
  - is not qualified or
  - possesses prohibited characters as prescribed in Clause 1.
- (2) The inspector submitted false information or false documents in application form or in replacement application form.
- (3) The insurance in Clause 5 is expired for any matter in insurance stipulations.
- (4) An inspector did not comply with stipulations in Clause 15
- (5) The inspector:
  - submitted false report on the inspection of the building system and building equipment, or
  - did not inspect the building systems and equipment according to the rules or standards in Clause 18.
- (6) The inspector is impaired, corrupt or inefficient as an inspector.
- (7) The inspector;
  - disobeys or does not conform the regulations, and,
  - BCC determines to abrogate the license.

**Clause 12** If BCC determined to abrogate inspector's license, the inspector shall be notified to return his certificate to BCC through BCB or provincial DPT covering the location of the juristic person, or the domicile or present address of the inspector, within 15 days after receiving notification.

### Chapter 4 Inspection of Building System and Equipments

**Clause 13** Inspection of building system and equipments is classified into two types as follows;

- (1) Major inspection: inspection of building system and equipments as detailed in Clause 17 for each 5 years.
- (2) Annual inspection: inspection of building system and equipments in compliance with an inspector's annual plan of building system and equipments for pursuant to Clause 14(2) every year during major inspection.

**Clause 14** According to Clause 17, an inspector shall submit followings to a building owner in every major inspection:

- (1) Maintenance Plan of building system and equipments, including a handbook (khoe-moe) to guide (naew-taan):
  - how to maintenance and
  - how to make a maintenance report; and
- (2) An annual inspection plan of building system and equipments, including inspection guideline which is useful for annual inspection of building system and equipments.

Clause 13 では inspector's annual plan と言い、Clause 14 では annual inspection plan と言っている。微妙に異なるが、主旨的には同じであると思われる。

**Clause 15** The inspector shall not inspect buildings;

- (1) which the inspector or inspector's spouse, inspector's employees or representatives perform or be responsible for designing the plan or calculation list of building structure, supervision, construction or installing equipments.
- (2) which the inspector or inspector's spouse is the owner or a shareholder in administration or utilizing the building.

**Clause 16** In case where the building is a condominium, for building safety, the manager is authorized to provide and operate building inspection, concerned with private property and maintenance, instead of the owner.

**Clause 17** The building system and equipments shall be inspected in at least following items,

- (1) The building strength; namely,
  - (a) modification of the building
  - (b) change of loads on the floor
  - (c) change of type of use of the building
  - (d) change of the constructional or decorative materials
  - (e) deterioration of the building
  - (f) structural disaster of the building
  - (g) subsidence of the building foundation
- (2) The building system and equipments; namely,
  - (a) service and facility system
    - (1) elevator system
    - (2) escalator system
    - (3) electrical system
    - (4) air-conditioning system
  - (b) sanitation and environmental system
    - (1) water supply system
    - (2) waste water drain and treatment system
    - (3) rain drain system
    - (4) garbage system
    - (5) ventilation system
    - (6) air-pollution and noise-pollution control system
  - (c) fire protection and suppression system; namely,
    - (1) fire exits and stairs for fire escape
    - (2) signs and illumination of emergency signboard
    - (3) smoke exhaust and smoke control system
    - (4) secondary power
    - (5) emergency lift
    - (6) fire alarm system
    - (7) installation system for fire extinguishers
    - (8) standpipe and hose system, fire pump
    - (9) automatic fire extinguishing system
    - (10) lightning protection system
- (3) The efficiency of building systems and equipments to evacuate occupants; namely,
  - (a) fire exits and stairs for fire escape
  - (b) signs and illumination of fire exits
  - (c) fire alarm system
- (4) Building security management system; namely,
  - (a) Fire protection and fire suppression plan inside the building
  - (b) Evacuation practice plan for occupants
  - (c) Administration in building security
  - (d) Administration of building inspector

定期報告の検査対象項目を列記している。実際の検査要領においては、(2)から(4)の項目に関しては、作動することの確認や該当設備の有無の確認等を義務付けるものと思われる。一方、(1)の項目に関しては、鉄筋量の確認等を義務付けることはできないと考えられるので、検査員が目視でわかる範囲内での意見を報告書に記載する程度を義務付けることになるとと思われる。従って、スラブが垂れ下がっている等の、目視でもあきらかな問題が生じている場合を除き、あまり踏み込んだ検査にはならないものと想像される。

**Clause 18** The inspector shall inspect (phit caranaa) building system and equipments from the view whether they meet rules or standards (“from the view whether they meet rules or standards” is translation of “tung<sup>⑤</sup> lak keen<sup>③</sup> ruu mad tra than) as below;

- (1) - Effective Building Regulations (kot-maai waa duai-kaan kwapkhum aakhaan) or  
- Other effective laws on buildings under construction, or

Inspector は建築物の完成後に点検する役割なのに、なぜ施工中の建物に関する法令をカバーするのか、不明。

- (2) Building Safety Standards issued by:

- government organizations,
- council of engineers or EIT の standard ではない。
- council of architects.

**Clause 19** An inspector shall make a report of building system and equipments of either major inspection or annual inspection to the building’s owner.

If the inspector recognizes that some parts or lists of the building system and equipments are not compliant with criteria in Clause 18, the inspector shall give a recommendation to modify building system and equipments in compliance with requirement or standard to building’s owner.

An inspector shall determine to adjust fire safety system not less than requirements in MR 47 by virtue of BCA in a recommendation if the inspected building is;

- a high-rise or extra-large building, which is exempt from requirements in MR 33 by virtue of BCA; or (le)
- assembly building.

**Clause 20** If the building which are required to provide an building inspection as Section 32bis by virtue of BCA does not have plans or diagrams of building construction as required, the building owner shall provide or arrange an inspection of building system and equipments pursuant to Clause 17.

何を要求しているのか、不明。

**Clause 21** The condominium’s owner or manager shall yearly report an inspection of building system and equipments to local competent officers within 30days before a one-year certificate of inspection expires.

After the local competent officers have received the report, they shall:

- consider reports of building inspection, and,
- notify the building owner or manager the results within 30 days after they received the report.

If the building is:

- pursuant to Regulations or standards in Clause 18 and,
- safe,

the local competent officers shall issue the building inspection certificate, C-1, for building’s owners within 30 days after they finished consideration (as mentioned in the second paragraph).

The building owner or manager shall distinctly display the certificate, pursuant to the third paragraph, inside the building.

**Clause 22** The owner of the building in Section 32bis by virtue of BCA shall;

- provide maintenance of building system and equipments pursuant to
  - manufacturer or installer’s manual of installation of building system and equipments; or,
  - inspector’s maintenance plans of building system and equipments maintenance,

and,

- conduct building system and equipment maintenance in the duration of interval.

### Temporary Provision

**Clause 23** An owner of any of the buildings provided in Section 32bis of BCA, in case where the building:

- has been constructed or qualified before this MR comes into force (before December 2005); or
- is constructed or qualified within one year after this MR comes into force (from December 2005 to December 2006),

shall;

- provide the first major inspection of building system and equipments pursuant to Clause 13(1); and,
- report to local competent officers,  
within 2 years since this MR comes to in force (until December 29, 2007).

Clause 23 のタイ語の原文は説明不能な内容であるため、上記の英訳は、Clause 23 の主旨を担当者から聴取し、その結果を記したものである。

The translation above is not a word-for-word translation from the original Thai text because the original text is very difficult to understand. The text above shows what the original text means.

The requirement in ordinary cases is not mentioned clearly in this MR. Responding to the fact that this MR requires annual inspection, it is considered that:

An owner of any of the buildings provided in Section 32bis of BCA, in case where the building is constructed or qualified later than one year after this MR comes into force (later than December 2006), shall;

- provide the first major inspection of building system and equipments pursuant to Clause 13(1); and,
- report to local competent officers,  
within 1 year since the completion of the construction work or the qualification.

Issued in December 29, 2005  
General Kongsak Wantana  
Minister of Interior Ministry