



Standard Classification for Serviceability of an Office Facility for Manageability^{1,2}

This standard is issued under the fixed designation E 1701; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification contains pairs of scales (see Figs. 1-8) for classifying an aspect of the serviceability of an office facility, that is, the capability of an office facility to meet certain possible requirements for manageability.

1.2 Within that aspect of serviceability, each pair of scales (see Figs. 1-8) are for classifying one topic of serviceability. Each paragraph in an Occupant Requirement Scale summarizes one level of serviceability on that topic, which occupants might require. The matching entry in the facility rating scale is a translation of the requirement into a description of certain features of a facility which, taken in combination, indicate that the facility is likely to meet that level of required serviceability.

1.3 The entries in the Facility Rating Scale (see Figs. 1-8) are indicative and not comprehensive. They are for quick scanning, to estimate approximately, quickly, and economically, how well an office facility is likely to meet the needs of one or another type of occupant group, over time. The entries are not for measuring, knowing, or evaluating how an office facility is performing.

1.4 This classification can be used to estimate the level of serviceability of an existing facility. It can also be used to estimate the serviceability of a facility that has been planned but not yet built, such as one for which single-line drawings and outline specifications have been prepared.

1.5 This classification indicates what would cause a facility to be rated at a certain level of serviceability, but does not state how to conduct a serviceability rating nor how to assign a serviceability score. That information is found in Practice E 1334. The scales in Figs. 1-8 are complimentary to and compatible with Practice E 1334. Each requires the other.

2. Referenced Documents

2.1 ASTM Standards:

E 631 Terminology of Building Constructions³

E 1334 Practice for Rating the Serviceability of a Building or Building-Related Facility³

E 1679 Practice for Rating Serviceability of a Building or Building-Related Facility³

2.2 ISO Documents:⁴

ISO 6240 International Standard, Performance Standards in Building—Contents and Presentation

ISO/DIS 7162 Draft International Standard, Performance Standards in Building—Contents and Format of Standards for Evaluation of Performance

ISO/DIS 7164 Draft International Standard, Performance Standards in Building—Definitions and Means of Expression for the Performance of a Whole Building

3. Terminology

3.1 Definitions:

3.1.1 *facility, n*—a physical setting used to serve a specific purpose.

3.1.1.1 *Discussion*—A facility may be within a building, or a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.

3.1.2 *facility serviceability*—the capability of a facility to perform the function(s) for which it is designed, used, or required to be used.

3.1.2.1 *Discussion*—The scope of this performance is of the facility as a system, including its subsystems, components, and materials and their interactions, such as acoustical, hydrothermal, air purity, and economic; and of the relative importance of each performance requirement.

3.1.3 *office*—a place, such as a room, suite, or building, in which business, clerical, or professional activities are conducted.

¹ This classification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

Current edition approved April 15, 1995. Published August 1995.

² Portions of this document are based on material originally prepared by the International Centre for Facilities (ICF) and © 1993 by ICF and Minister of Public Works and Government Services Canada. Their cooperation in the development of this standard is acknowledged.

³ *Annual Book of ASTM Standards*, Vol 04.11.

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

**B.2. Manageability****Scale B.2.1. Reliability of external supply**

Facility Management Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ FREQUENCY OF POWER OUTAGES: Required levels are: electrical power out not more than once, for less than 3 hours, in a 3 year period.</p> <p>○ FREQUENCY OF LOSS OF LISTED SERVICES: Required levels are: no loss of building services (see Table B2-A.) in a 12 month period, or backup services available.</p> <p>○ WORK DURATION DURING LOSS OF SERVICES: Required levels are: staff able to work for up to one day with loss of two building services, e.g. windows open, sufficient daylight for almost all people, or enough standby power to continue essential operations.</p> <p>○ NEED FOR EVACUATION: Required levels are: no evacuations.</p> <p>7 <input type="checkbox"/> ○ FREQUENCY OF POWER OUTAGES: Required levels are, for a 12 month period: electrical power out 1 or 2 times, each lasting less than half a day, or 3 times, each lasting less than 20 minutes.</p> <p>○ FREQUENCY OF LOSS OF LISTED SERVICES: Required levels are, for a 12 month period: loss of building services (see Table B2-A.) 1 or 2 times, each lasting less than half a day, or 3 times, each lasting less than 30 minutes.</p> <p>○ WORK DURATION DURING LOSS OF SERVICES: Required levels are, for a 12 month period: staff able to work for up to half a day with loss of two building services, e.g. sufficient daylight for most people, and windows open.</p> <p>○ NEED FOR EVACUATION: Required levels are, for a 12 month period: no evacuations.</p> <p>5 <input type="checkbox"/> ○ FREQUENCY OF POWER OUTAGES: Acceptable levels are, for a 12 month period: electrical power out 1 or 2 times, each lasting less than half a day, or 3 times, each lasting less than 30 minutes.</p> <p>○ FREQUENCY OF LOSS OF LISTED SERVICES: Acceptable levels are, for a 12 month period: loss of building services (see Table B2-A.) 2 or 3 times, each lasting less than half a day, or 5 times, each lasting less than 30 minutes.</p> <p>○ WORK DURATION DURING LOSS OF SERVICES: Acceptable levels are, for a 12 month period: staff able to work for up to half a day with loss of one building service, e.g. sufficient daylight for most people, but windows do not open.</p> <p>○ NEED FOR EVACUATION: Acceptable levels are, for a 12 month period: no evacuations.</p>	<p>9 <input type="checkbox"/> ○ Electrical power supply: There were no electrical power outages in the last 12 months. Electrical power (utility supply or on-site distribution) was out not more than once, for less than 3 hours, in the last 3 years.</p> <p>○ Building services (except power): From the list in Table B2-A. there was no loss of service in the last 12 months, or, there are backup services for continued operations.</p> <p>7 <input type="checkbox"/> ○ Electrical power supply: Electrical power (utility supply or on-site distribution) was out 1 or 2 times in the last 12 months, with each occasion less than half a day.</p> <p>○ Building services (except power): From the list in Table B2-A. loss of service in the last 12 months was 1 or 2 outages, each less than half a day.</p> <p>5 <input type="checkbox"/> ○ Electrical power supply: Electrical power (utility supply or on-site distribution) was out 2 or 3 times in the last 12 months, with one occasion more than half a day.</p> <p>○ Building services (except power): From the list in Table B2-A. loss of service in the last 12 months was 2 or 3 outages, each less than half a day.</p>

Scale B.2.1. continued on next page

FIG. 1 Scale B.2.1 for Reliability of External Supply

B.2. Manageability

Scale B.2.1. Reliability of external supply (continued)

Facility Management Requirement Scale		Facility Rating Scale
<p>3 <input type="checkbox"/> ○ FREQUENCY OF POWER OUTAGES: Acceptable levels are, for a 12 month period: electrical power out 2 or 3 times, each lasting less than 1 day, or 4 to 6 times, each lasting less than 30 minutes.</p> <p>○ FREQUENCY OF LOSS OF LISTED SERVICES: Acceptable levels are, for a 12 month period: loss of building services (see Table B2-A.) up to 3 times, each lasting less than one day, or 4 to 6 times, each lasting less than 1 hour.</p> <p>○ WORK DURATION DURING LOSS OF SERVICES: Acceptable levels are, for a 12 month period: staff able to work for up to 2 hours, e.g. sufficient daylight for some people, but windows do not open.</p> <p>○ NEED FOR EVACUATION: Acceptable levels are, for a 12 month period: occasional full or partial evacuation of the building, e.g. once in 1 to 3 years.</p> <p>1 <input type="checkbox"/> ○ FREQUENCY OF POWER OUTAGES: Acceptable levels are, for a 12 month period: electrical power out more than 3 times, lasting more than 1 day on one of the occasions.</p> <p>○ FREQUENCY OF LOSS OF LISTED SERVICES: Acceptable levels are, for a 12 month period: serious loss of building services (see Table B2-A.) more than 3 times, each lasting a day or more.</p> <p>○ WORK DURATION DURING LOSS OF SERVICES: Acceptable levels are, for a 12 month period: staff unable to work during that time; e.g. not enough daylight, windows do not open.</p> <p>○ NEED FOR EVACUATION: Acceptable levels are, for a 12 month period: full or partial evacuation of the building 2 or more times.</p>	<p>2</p> <p><input type="checkbox"/></p>	<p>3 <input type="checkbox"/> ○ Electrical power supply: Electrical power (utility supply or on-site distribution) was out 2 or 3 times in the last 12 months, each less than 1 day.</p> <p>○ Building services (except power): From the list in Table B2-A. loss of service in the last 12 months was up to 3 outages, each lasting less than 1 day.</p> <p>1 <input type="checkbox"/> ○ Electrical power supply: Electrical power (utility supply or on-site distribution) was out more than 3 times, or more than 1 day, in the last 12 months.</p> <p>○ Building services (except power): From the list in Table B2-A. there was serious loss of service, e.g. more than 3 times in the last 12 months, with each lasting a day, or more.</p>

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level = ☐ NA ☐ NR ☐ Zero ☐ DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 1 Scale B.2.1 for Reliability of External Supply (continued)

3.1.4 For standard definitions of additional terms applicable to this classification, as well as those in 3.1.1-3.1.3, see Terminology E 631.

4. Significance and Use

4.1 Each facility rating scale in this classification (see Figs. 1-8) provides a means to estimate the level of serviceability of a building or facility for one topic of serviceability, and to compare that level against the level of any other building or facility.

4.2 This classification can be used for comparing how well different buildings or facilities meet a particular requirement

for serviceability. It is applicable despite differences such as location, structure, mechanical systems, age, and building shape.

4.3 This classification can be used to estimate the amount of variance of serviceability from target or from requirement, for a single office facility, or within a group of office facilities.

4.4 This classification can be used to estimate the following:

4.4.1 Serviceability of an existing facility for uses other than its present use.

4.4.2 Serviceability (potential) of a facility that has been planned but not yet built.

B.2. Manageability

Scale B.2.2. Anticipated remaining service life

Facility Management Requirement Scale		Facility Rating Scale
<p><input type="checkbox"/> 9 ○ REMAINING SERVICE LIFE OF BUILDING COMPONENTS AND SYSTEMS: The acceptable level is a total of 26 or more points from Table B2-B. with remedial action budgeted or approved on remaining items.</p>	<p>8 <input type="checkbox"/></p>	<p><input type="checkbox"/> 9 ○ <u>Major building components</u>: A total of 26 or more points are scored from Table B2-B., with remedial action budgeted and approved on the remaining items.</p>
<p><input type="checkbox"/> 7 ○ REMAINING SERVICE LIFE OF BUILDING COMPONENTS AND SYSTEMS: The acceptable level is a total of 22 to 25 points from Table B2-B.</p>	<p>6 <input type="checkbox"/></p>	<p><input type="checkbox"/> 7 ○ <u>Major building components</u>: A total of 22-25 points are scored from Table B2-B.</p>
<p><input type="checkbox"/> 5 ○ REMAINING SERVICE LIFE OF BUILDING COMPONENTS AND SYSTEMS: The acceptable level is a total of 16 to 21 points from Table B2-B.</p>	<p>4 <input type="checkbox"/></p>	<p><input type="checkbox"/> 5 ○ <u>Major building components</u>: A total of 16-21 points are scored from Table B2-B.</p>
<p><input type="checkbox"/> 3 ○ REMAINING SERVICE LIFE OF BUILDING COMPONENTS AND SYSTEMS: The acceptable level is a total of 11 to 15 points from Table B2-B.</p>	<p>2 <input type="checkbox"/></p>	<p><input type="checkbox"/> 3 ○ <u>Major building components</u>: A total of 11-15 points are scored from Table B2-B.</p>
<p><input type="checkbox"/> 1 ○ REMAINING SERVICE LIFE OF BUILDING COMPONENTS AND SYSTEMS: The acceptable level is less than 10 points from Table B2-B.</p>		<p><input type="checkbox"/> 1 ○ <u>Major building components</u>: Less than 10 points are scored from Table B2-B.</p>

<input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance.
Minimum <u>Threshold level</u> = <input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 2 Scale B.2.2 for Anticipated Remaining Service Life

4.4.3 Serviceability (potential) of a facility for which a remodeling has been planned.

4.5 Use of this classification does not result in building evaluation or diagnosis. Building evaluation or diagnosis generally requires a special expertise in building engineering or technology, and the use of instruments, tools, or measurements.

4.6 This classification applies only to facilities that are building constructions, or parts thereof. (While this classification may be useful in rating the serviceability of facilities that are not building constructions, such facilities are outside the scope of this classification.)

4.7 This classification is not intended for, and is not suitable for, use for regulatory purposes, nor for fire hazard assessment nor fire risk assessment.

5. Basis of Classification

5.1 The scales in Figs. 1-8 contain the basis for classification.

5.2 Instructions for use of this classification are contained in Practices E 1334 and E 1679.

6. Keywords

6.1 building; energy consumption in office buildings; facility; facility occupants; function; maintenance and operation; ease of; manageability; of building; office; performance; rating; rating scale; requirements; serviceability

**B.2. Manageability****Scale B.2.3. Ease of operation**

Facility Management Requirement Scale		Facility Rating Scale	
9	<input type="checkbox"/> ○ STOREROOM FOR BUILDING OPERATIONS: Require well located, well ventilated storeroom for supplies and parts for building operations. <input type="checkbox"/> ○ SPACE FOR BUILDING OPERATION PERSONNEL: Require space for building operation personnel that is quiet, convenient, and well ventilated.	9	<input type="checkbox"/> ○ Storeroom: A good size storeroom for supplies and small consumables for building operations is provided. It is well located, with good humidity control and air quality. <input type="checkbox"/> ○ Space for building operation personnel: The operator's office and locker space are well ventilated, and quiet, with a convenient location. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating instructions are complete and up-to-date for instruction and verification.
7	<input type="checkbox"/> ○ STOREROOM FOR BUILDING OPERATIONS: Require well located, well ventilated storeroom for supplies for building operations. <input type="checkbox"/> ○ SPACE FOR BUILDING OPERATION PERSONNEL: Require space for building operation personnel that is quiet, convenient, and well ventilated.	8	<input type="checkbox"/> ○ Storeroom: An adequate storeroom for supplies and small consumables for building operations is provided. <input type="checkbox"/> ○ Space for building operation personnel: The operator's office, adjacent to the mechanical room, is well ventilated, and quiet. There are lockers in the corridor. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating manuals are up-to-date, and adequate for instruction and verification.
5	<input type="checkbox"/> ○ STOREROOM FOR BUILDING OPERATIONS: Basic storeroom for building operations is needed. <input type="checkbox"/> ○ SPACE FOR BUILDING OPERATION PERSONNEL: Size and condition of space for building operator's office are not important.	6	<input type="checkbox"/> ○ Storeroom: A barely adequate storeroom for supplies and small consumables for building operations is provided. <input type="checkbox"/> ○ Space for building operation personnel: The operator's office is just adequate, e.g. noisy, small, ventilation just adequate. There are lockers in the corridor. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating manuals are up-to-date, and adequate for instruction and verification.
3	<input type="checkbox"/> ○ STOREROOM FOR BUILDING OPERATIONS: No need for a building operations storeroom on-site.	5	<input type="checkbox"/> ○ Storeroom: A barely adequate storeroom for supplies and small consumables for building operations is provided. <input type="checkbox"/> ○ Space for building operation personnel: The operator's office is just adequate, e.g. noisy, small, ventilation just adequate. There are lockers in the corridor. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating manuals are just adequate, e.g. mostly up-to-date.
1	<input type="checkbox"/> ○ STOREROOM FOR BUILDING OPERATIONS: No need for a building operations storeroom on-site.	4	<input type="checkbox"/> ○ Storeroom: There is no building operations storeroom on-site, but shelving and storage lockers are provided in shops and mechanical spaces. <input type="checkbox"/> ○ Space for building operation personnel: The operator's area is inadequate, e.g. operator's desk and lockers are in the mechanical room or passage. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating manuals are just adequate, e.g. mostly up-to-date.
		3	<input type="checkbox"/> ○ Storeroom: There is no building operations storeroom on-site, but shelving and storage lockers are provided in shops and mechanical spaces. <input type="checkbox"/> ○ Space for building operation personnel: The operator's area is inadequate, e.g. operator's desk and lockers are in the mechanical room or passage. <input type="checkbox"/> ○ Operating instructions for services and equipment: Operating manuals are poor, e.g. incomplete operating instructions.
		2	<input type="checkbox"/> ○ Storeroom: There is no building operations storeroom on-site. <input type="checkbox"/> ○ Space for building operation personnel: There is no allocated space for the operator. <input type="checkbox"/> ○ Operating instructions for services and equipment: Manuals are mostly missing, or non-existent.
		1	<input type="checkbox"/> ○ Storeroom: There is no building operations storeroom on-site. <input type="checkbox"/> ○ Space for building operation personnel: There is no allocated space for the operator. <input type="checkbox"/> ○ Operating instructions for services and equipment: Manuals are mostly missing, or non-existent.

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level =

☐ NA ☐ NR ☐ Zero ☐ DP
NOTES Space for handwritten notes on Requirements or Ratings

FIG. 3 Scale B.2.3 for Ease of Operation

**B.2. Manageability****Scale B.2.4. Ease of maintenance**

Facility Management Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> REQUIRED LEVEL OF MAINTENANCE: Building operations require that there be no delays due to failure of the ventilating, heating or cooling systems.</p> <p>STORAGE AND WORKSHOP: An ample storeroom for tools and spares, and a well equipped workshop</p> <p>ACCESS TO CONTRACTORS AND PARTS: Easy access to maintenance contractors, and same-day access to replacement parts/equipment.</p> <p>DATA FOR INVENTORY AND MAINTENANCE PROGRAM: Complete data for an inventory and maintenance program.</p> <p>EASE OF MAINTENANCE AND REPAIRS OF SURFACES AND MATERIALS: Surfaces and materials need to be very easy to maintain and repair.</p> <p>7 <input type="checkbox"/> REQUIRED LEVEL OF MAINTENANCE: Building operations require an above average level of maintenance.</p> <p>STORAGE AND WORKSHOP: An adequate storeroom for tools and a minimum of spares, and a basic workshop.</p> <p>ACCESS TO CONTRACTORS AND PARTS: Access to maintenance contractors, and same-day access to replacement parts/equipment.</p> <p>DATA FOR INVENTORY AND MAINTENANCE PROGRAM: Adequate data for an inventory and maintenance program.</p> <p>EASE OF MAINTENANCE AND REPAIRS OF SURFACES AND MATERIALS: Surfaces and materials that are easy to maintain and repair.</p> <p>5 <input type="checkbox"/> REQUIRED LEVEL OF MAINTENANCE: Building operations require an average level of maintenance.</p> <p>STORAGE AND WORKSHOP: An adequate storeroom for tools and a minimum of spares, and a basic workshop.</p> <p>ACCESS TO CONTRACTORS AND PARTS: Access to maintenance contractors, and access to replacement parts/equipment within 24 hours.</p> <p>DATA FOR INVENTORY AND MAINTENANCE PROGRAM: Adequate data for an inventory and maintenance program.</p> <p>EASE OF MAINTENANCE AND REPAIRS OF SURFACES AND MATERIALS: Surfaces and materials that are reasonably easy to maintain and repair.</p>	<p>9 <input type="checkbox"/> Storeroom for maintenance: The storeroom is generous for tools and spares, and conveniently located.</p> <p>Maintenance workshop: A well-equipped workshop is on-site.</p> <p>Maintenance contractors: To fix or replace key or major equipment in each of the main categories, there is a choice of competing maintenance contractors available locally to fix or replace key/major equipment.</p> <p>Availability of replacement parts: Important replacement parts/equipment for all major units are available for same-day delivery or installation.</p> <p>Data for maintenance: Complete data is available for inventory and maintenance program.</p> <p>Painting and repairs: Surfaces and materials require little attention. Where required, they are very easy to paint or repair. Repairs require average skill.</p> <p>7 <input type="checkbox"/> Storeroom for maintenance: The storeroom is quite adequate for tools and minimum spares, and is conveniently located.</p> <p>Maintenance workshop: A basic workshop is on-site.</p> <p>Maintenance contractors: At least one firm of each type of maintenance contracting is locally available to fix or replace all categories of key or major equipment.</p> <p>Availability of replacement parts: Important replacement parts/equipment for most key equipment are available for same-day delivery or installation.</p> <p>Data for maintenance: Data is available for most parts of an inventory and maintenance program.</p> <p>Painting and repairs: Surfaces and materials are easy to paint or repair. Repairs require average skill.</p> <p>5 <input type="checkbox"/> Storeroom for maintenance: The storeroom is adequate for tools and minimum spares, but not conveniently located.</p> <p>Maintenance workshop: Workshop functions are carried out in a section of one of the mechanical rooms, or in part of a storeroom.</p> <p>Maintenance contractors: At least one firm of each type of maintenance contracting is available either locally or within 24 hours to fix or replace key or major equipment.</p> <p>Availability of replacement parts: Important replacement parts/equipment are available within 24 hours.</p> <p>Data for maintenance: Basic data is available for the start of an inventory and maintenance program, but it is incomplete.</p> <p>Painting and repairs: Surfaces and materials are reasonably easy to paint or repair. Repairs require average skill.</p>

Scale B.2.4. continued on next page

FIG. 4 Scale B.2.4 Ease of Maintenance

**B.2. Manageability****Scale B.2.4. Ease of maintenance (continued)**

Facility Management Requirement Scale	Facility Rating Scale
<p>3 <input type="checkbox"/> REQUIRED LEVEL OF MAINTENANCE: Building operations require a basic level of maintenance.</p> <p>○ STORAGE AND WORKSHOP: A storeroom for tools and essential spares, and a basic workshop.</p> <p>○ ACCESS TO CONTRACTORS AND PARTS: Access to some types of maintenance contractors, and access to replacement parts/equipment within several days or weeks.</p> <p>○ DATA FOR INVENTORY AND MAINTENANCE PROGRAM: Maintenance data for some components.</p> <p>○ EASE OF MAINTENANCE AND REPAIRS OF SURFACES AND MATERIALS: Surfaces and materials may be very difficult to paint or repair, and repairs may require above average skill.</p>	<p>3 <input type="checkbox"/> ○ Storeroom for maintenance: The storeroom is just adequate for essential spares, tools.</p> <p>○ Maintenance workshop: No maintenance workshop is provided, but some space could be converted.</p> <p>○ Maintenance contractors: Maintenance contractors or technicians are not locally available for some key components.</p> <p>○ Availability of replacement parts: It takes several days or weeks to replace essential parts/equipment.</p> <p>○ Data for maintenance: Maintenance data is missing on some key components.</p> <p>painting and repairs: Surfaces and materials are difficult to paint or repair. Repairs require above average skill, e.g. broadloom carpet under partitions, complicated shapes, difficult access, poor condition of substrate.</p>
<p>1 <input type="checkbox"/> REQUIRED LEVEL OF MAINTENANCE: Ease of maintenance or speed of repairs is either completely irrelevant or completely unimportant to occupants.</p>	<p>1 <input type="checkbox"/> ○ Storeroom for maintenance: No storeroom is provided, and no space is available for future installation.</p> <p>○ Maintenance workshop: No workshop is provided, and no space is available for future installation.</p> <p>○ Maintenance contractors: There are no maintenance contractors in the locality.</p> <p>○ Availability of replacement parts: It takes several weeks or a month to replace essential parts/equipment.</p> <p>○ Data for maintenance: No manuals are available for performance verification, inventory, and maintenance program.</p> <p>○ Painting and repairs: Surfaces and materials are very difficult to paint or repair. Repairs require above average skill, e.g. broadloom carpet under partitions, complicated shapes, difficult access, poor condition of substrate.</p>

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level =

☐ NA ☐ NR ☐ Zero ☐ DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 4 Scale B.2.4 Ease of Maintenance (continued)

**B.2. Manageability****Scale B.2.5. Ease of cleaning**

Facility Management Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ EASE OF CLEANING OF SURFACES: Ease of cleaning is important. Surfaces need to be of a type that minimize the need for cleaning.</p> <p>○ EASE OF CLEANING OF FITTINGS AND FIXTURES: Equipment, fixtures, fittings and furniture need to be very easy to clean, and surfaces and materials need to be in excellent condition. Excellent access for cleaning is needed.</p> <p>○ FACILITIES FOR PROPER WASTE REMOVAL AND RECYCLING: To encourage proper removal and recycling of waste, facilities for waste handling must be particularly convenient, functional and clean, with an excellent facility for sorting and holding for recycling, and for keeping food waste separate from other waste. Waste containers should be self-contained, with drip pans, etc., to avoid attracting rats.</p> <p>7 <input type="checkbox"/> ○ EASE OF CLEANING OF SURFACES: Surfaces should be inherently easy to clean.</p> <p>○ EASE OF CLEANING OF FITTINGS AND FIXTURES: Most equipment, fixtures, fittings and furniture need to be easy to clean, and surfaces and materials need to be in good condition, with adequate access for cleaning.</p> <p>○ FACILITIES FOR PROPER WASTE REMOVAL AND RECYCLING: To encourage proper removal and recycling of waste, facilities for waste handling must be accessible and functional, with adequate facility for sorting and holding for recycling, and for keeping food waste separate from other waste. Waste containers should be self-contained, with drip pans, etc., to avoid attracting rats.</p>	<p>9 <input type="checkbox"/> ○ Types of surfaces and materials: Surfaces and materials are soil and mark resistant.</p> <p>○ Fixtures, furniture, etc.: Most items of equipment, fixtures, fittings and furniture are very easy to clean, and none are difficult.</p> <p>○ Condition: All surfaces and materials are in excellent condition and easily kept clean with average effort and skill.</p> <p>○ Accessibility: Access is excellent for cleaning.</p> <p>○ Waste handling: Waste containers are accessible from inside the building via a locked door. The containers are adjacent to a freight elevator. Food waste is kept separate from other waste. Waste containers are self-contained, with drip pans, etc., to avoid attracting rats. Have capacity to hold 3 extra days of garbage in case of delay in collection.</p> <p>○ Recycling: Facility for containers for sorting and holding waste to be recycled is adjacent to a freight elevator, and accessible from inside the building via a locked door.</p> <p>7 <input type="checkbox"/> ○ Types of surfaces and materials: Most types of surfaces and materials are inherently soil and mark resistant, e.g. brushed chrome, semi-gloss paint.</p> <p>○ FIXTURES, furniture, etc.: Most items of equipment, fixtures, fittings and furniture are easy to clean.</p> <p>○ Condition: Surfaces and materials are in good condition and can be kept clean with average effort and skill.</p> <p>○ Accessibility: Access is adequate for cleaning.</p> <p>○ Waste handling: Waste containers are accessible from the street or alley and have good access to a loading dock and freight elevator. Food waste is kept separate from other waste. Waste containers are self-contained, with drip pans, etc., to avoid attracting rats. Have capacity to hold 1 extra day of garbage in case of delay in collection.</p> <p>○ Recycling: Facility for sorting and holding waste to be recycled is adequate, with good access to a loading dock and freight elevator.</p>

Scale B.2.5. continued on next page

FIG. 5 Scale B.2.5 for Ease of Cleaning

**B.2. Manageability****Scale B.2.5. Ease of cleaning (continued)**

Facility Management Requirement Scale		Facility Rating Scale	
5	<input type="checkbox"/> ○ EASE OF CLEANING OF SURFACES: Average ease of cleaning is required, e.g. surfaces should be inherently easy to clean. ○ EASE OF CLEANING OF FITTINGS AND FIXTURES: Most equipment, fixtures, fittings and furniture need to be reasonably easy to clean, and surfaces and materials need to be in fair condition, with access for cleaning mostly adequate. ○ FACILITIES FOR PROPER WASTE REMOVAL AND RECYCLING: Facilities for waste handling must be accessible from a freight elevator, and must include capability for holding a portion of waste for recycling. Sorting for recycling is not required.	4	<input type="checkbox"/> ○ <u>Types of surfaces and materials:</u> Many types of surfaces and materials are inherently soil and mark resistant, e.g. brushed chrome, semi-gloss paint, but some types require extra care and time. ○ <u>Fixtures, furniture, etc.:</u> Most items of equipment, fixtures, fittings and furniture can be cleaned without significant difficulty. ○ <u>Condition:</u> Surfaces and materials are in fair condition but can be kept looking clean with average effort and skill. ○ <u>Accessibility:</u> Most access for cleaning is adequate. ○ <u>Waste handling:</u> Waste containers are accessible from the street or alley and have good access to a freight elevator. ○ <u>Recycling:</u> Waste to be recycled is held accessible from the street or alley, with good access to a freight elevator.
3	<input type="checkbox"/> ○ EASE OF CLEANING OF SURFACES: Difficulty in cleaning can be tolerated, e.g. surfaces and materials that are difficult to keep clean. ○ EASE OF CLEANING OF FITTINGS AND FIXTURES: Equipment, fixtures, fittings and furniture that are difficult to clean, deteriorated condition of surfaces, awkward layout. ○ FACILITIES FOR PROPER WASTE REMOVAL AND RECYCLING: Recycling of waste is not required.	2	<input type="checkbox"/> ○ <u>Types of surfaces and materials:</u> Some types of surfaces and materials are difficult to keep clean, e.g. bright chrome, flat paint, that easily show soil and finger marks. ○ <u>Fixtures, furniture, etc.:</u> Some equipment, fixtures, fittings and furniture are difficult to clean, e.g. complicated shapes. ○ <u>Condition:</u> The deteriorated condition of surfaces make cleaning difficult, e.g. worn carpet, abraded surfaces, stains, old paint. ○ <u>Accessibility:</u> Access is awkward, e.g. furniture is against some windows, a crowded layout of furniture and equipment. ○ <u>Waste handling:</u> The waste area is not close to a freight elevator. Bins are inadequate for holding waste. ○ <u>Recycling:</u> No recycling program in effect.
1	<input type="checkbox"/> ○ EASE OF CLEANING OF SURFACES: The ease of cleaning of surfaces and materials, and recycling of waste, are either completely irrelevant or completely unimportant to occupants.	1	<input type="checkbox"/> ○ <u>Types of surfaces and materials:</u> Most types of surfaces and materials are very difficult to keep clean, e.g. bright chrome and flat paint, that easily show soil and finger marks. ○ <u>Fixtures, furniture, etc.:</u> Equipment, fixtures, fittings and furniture are all very difficult to clean, e.g. complicated shapes. ○ <u>Condition:</u> The deteriorated condition of surfaces make cleaning extremely difficult, e.g. badly worn carpet, abraded surfaces, heavy stains, old and deteriorated paint. ○ <u>Accessibility:</u> Access is very difficult, e.g. furniture is against windows, a crowded layout of furniture and equipment. There is no hoist, but a stage or platform is used for window cleaning outside. ○ <u>Waste handling:</u> No area is provided for waste handling, or, the area is very remote from a freight elevator. Bins are insufficient or inadequate for holding the waste. ○ <u>Recycling:</u> No recycling program in effect.

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level =

☐ NA ☐ NR ☐ Zero ☐ DP
NOTES Space for handwritten notes on Requirements or Ratings

FIG. 5 Scale B.2.5 for Ease of Cleaning (continued)

B.2. Manageability

Scale B.2.6. Janitorial services

Facility Management Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> ○ LEVEL OF JANITOR FACILITIES: Well above average facilities for janitors are needed. ○ SPACES FOR JANITOR FACILITIES: Generous and well-kept lockable storage space for supplies, separate room or closet for cleaning equipment, convenient to elevators, storage space for bulk supplies in a separate area from cleaning equipment, one or more cleaning closets on each floor, space available for loading and unloading cleaning supplies from trucks. ○ AMENITIES FOR JANITORIAL CONTRACTORS AND STAFF: Generous and efficient facilities for contractors and staff, including staff lockers and use of lunchroom, secure vehicle parking.</p> <p>7 <input type="checkbox"/> ○ LEVEL OF JANITOR FACILITIES: Above average facilities for janitors are needed. ○ SPACES FOR JANITOR FACILITIES: Adequate storage space for supplies and cleaning equipment, convenient to elevators, storage space for bulk supplies in a separate area from cleaning equipment, cleaning closets on each floor, space available for loading and unloading cleaning supplies from trucks. ○ AMENITIES FOR JANITORIAL CONTRACTORS AND STAFF: Adequate facilities for contractors and staff, including staff lockers and use of lunchroom, secure vehicle parking.</p> <p>5 <input type="checkbox"/> ○ LEVEL OF JANITOR FACILITIES: Adequate facilities for janitors are needed. ○ SPACES FOR JANITOR FACILITIES: Adequate storage space for supplies and cleaning equipment, or storage space available in other areas, cleaning closets on each floor, space available for loading and unloading cleaning supplies from trucks. ○ AMENITIES FOR JANITORIAL CONTRACTORS AND STAFF: Minimal facilities such as lockers, chairs and tables for contractors or staff.</p>	<p>9 <input type="checkbox"/> ○ Supplies store: There is a generous and well-kept supplies store, locked, and with a desk for inventory control. A separate cleaning equipment room or closet is provided close to the elevators. ○ Closets on each floor: One or more well-appointed cleaning closets are provided on each typical rental floor, with shelving and locked cabinets. ○ Parking and facilities: Generous, efficient and pleasant facilities are provided for cleaning and janitorial personnel, whether staff or contract. Truck parking is provided, with ample space for loading and unloading.</p> <p>7 <input type="checkbox"/> ○ Supplies store: Adequate supplies storage facilities are provided. Bulk supplies are kept in a separate room from cleaning equipment. Cleaning equipment is in a storage space convenient to elevators. ○ Closets on each floor: An adequate cleaning closet is provided on each typical rental floor, with limited shelving. ○ Parking and facilities: There is space for loading and unloading cleaning equipment from a truck. Adequate facilities are provided for in-house janitors, including staff lockers and use of lunchroom in a large building, or, if contract janitors, there is adequate secure vehicle parking.</p> <p>5 <input type="checkbox"/> ○ Supplies store: The supplies store is just adequate for minimum supplies, or other spaces used, e.g. bulk supplies are in a locked closet within a room containing cleaning equipment. The location is convenient to the elevators. ○ Closets on each floor: An adequate cleaning closet is provided on each typical rental floor, with no shelving or cabinet. ○ Parking and facilities: Space is available for loading and unloading cleaning equipment from a truck. Minimal facilities are provided for contract or staff janitors, e.g. lockers, chairs and table in the supplies store.</p>

Scale B.2.6. continued on next page

FIG. 6 Scale B.2.6 for Janitorial Facilities

B.2. Manageability

Scale B.2.6. Janitorial services (continued)

Facility Management Requirement Scale		Facility Rating Scale
<p>3 ○ LEVEL OF JANITOR FACILITIES: Some basic facilities are needed.</p> <p><input type="checkbox"/> ○ SPACES FOR JANITOR FACILITIES: A low level can be tolerated, e.g. inadequate storage space for supplies and cleaning equipment, cleaning closets on each floor although not conveniently located, no space to park or unload trucks.</p> <p> ○ AMENITIES FOR JANITORIAL CONTRACTORS AND STAFF: Janitors are contractors, who are rarely on-site.</p> <p>1 ○ LEVEL OF JANITOR FACILITIES: No special facilities for janitors are needed, or the janitorial facilities are irrelevant to occupants.</p> <p><input type="checkbox"/></p>	<p>2</p> <p><input type="checkbox"/></p>	<p>3 ○ <u>Supplies store:</u> A supplies store is provided, but is inadequate to hold all the supplies and cleaning equipment.</p> <p><input type="checkbox"/> ○ <u>Closets on each floor:</u> Closets are on each floor, but are inadequate in size and not located adjacent to washrooms.</p> <p> ○ <u>Parking and facilities:</u> There is no off-street space to park or unload a truck. In a large building, no on-site facilities for contractors or staff are provided, e.g. lockers, lunchroom.</p> <p>1 ○ <u>Supplies store:</u> No supplies store is provided.</p> <p><input type="checkbox"/> ○ Supplies and equipment are kept in other locations, e.g. corridors, washrooms, electrical closet.</p> <p> ○ <u>Closets on each floor:</u> No closets are provided. Janitors use the washrooms.</p> <p> ○ <u>Parking and facilities:</u> No space is provided to park or unload a truck. In a large building, no on-site facilities for contractors or staff are provided, e.g. lockers, lunchroom.</p>

<input type="checkbox"/> <u>E</u> xceptionally important. <input type="checkbox"/> <u>I</u> mportant. <input type="checkbox"/> <u>M</u> inor Importance.	
Minimum <u>T</u> hreshold level =	<input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP

NOTES *Space for handwritten notes on Requirements or Ratings*

FIG. 6 Scale B.2.6 for Janitorial Facilities (continued)

B.2. Manageability

Scale B.2.7. Energy consumption

Facility Management Requirement Scale		Facility Rating Scale
<p><input type="checkbox"/> 9 ○ REQUIREMENT FOR HEATING AND COOLING COSTS: Require relatively low heating and cooling costs.</p>	<p>8</p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/> ○ Building envelope and systems: Building envelope and systems are excellent. Energy consumption is well below average with no evidence of problems due to building envelope. <i>Refer to Table B2-C for examples of causes and evidence.</i></p> <p>○ Effects: There are low heating and cooling costs in relation to other buildings in the locality.</p>
<p><input type="checkbox"/> 7 ○ REQUIREMENT FOR HEATING AND COOLING COSTS: Require below average heating and cooling costs.</p>	<p>6</p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/> ○ Building envelope and systems: Building envelope and systems are good. Energy consumption is below average. There is evidence of few problems due to building envelope, and remedial action is budgeted and approved. <i>Refer to Table B2-C. for examples of causes and evidence.</i></p> <p>○ Effects: Heating and cooling costs are below average in relation to other buildings in the locality.</p>
<p><input type="checkbox"/> 5 ○ REQUIREMENT FOR HEATING AND COOLING COSTS: Require average heating and cooling costs.</p>	<p>4</p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/> ○ Building envelope and systems: Building envelope and systems are adequate. Energy consumption is average. There is evidence of some problems due to building envelope, but most could be rectified easily. <i>Refer to Table B2-C. for examples of causes and evidence.</i></p> <p>○ Effects: Heating and cooling costs are average in relation to other buildings in the locality.</p>
<p><input type="checkbox"/> 3 ○ REQUIREMENT FOR HEATING AND COOLING COSTS: Significant heat losses or gains can be tolerated, as can relatively high heating and cooling costs.</p>	<p>2</p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/> ○ Building envelope and systems: There are significant heat losses or gains in many parts of the building due to poor envelope design, construction, or inadequate maintenance. Energy consumption is high. <i>Refer to Table B2-C. for examples of causes and evidence.</i></p> <p>○ Effects: Heating and cooling costs are high in relation to other buildings in the locality.</p>
<p><input type="checkbox"/> 1 ○ REQUIREMENT FOR HEATING AND COOLING COSTS: Heat losses and gains in the building, and the cost of heating and cooling are either completely irrelevant or completely unimportant.</p>		<p><input type="checkbox"/> ○ Building envelope and systems: Massive heat losses or heat gains are experienced throughout the building due to poor building envelope design, construction or maintenance. Energy consumption is very high. <i>Refer to Table B2-C. for examples of causes and evidence.</i></p> <p>○ Effects: Heating and cooling costs are extremely high in relation to other buildings in the locality.</p>

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level = ☐ NA ☐ NR ☐ Zero ☐ DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 7 Scale B.2.7 for Energy Consumption

B.2. Manageability

Scale B.2.8. Energy management and controls

Facility Management Requirement Scale		Facility Rating Scale
<p>9 ○ LEVEL OF ENERGY MANAGEMENT AND CONTROLS: The acceptable level is a total of 15 or more points scored from Table B2-D.</p>	8	<p>9 ○ <u>Energy system components</u>: A total of 15 or more points are scored from Table B2-D.</p>
<p>7 ○ LEVEL OF ENERGY MANAGEMENT AND CONTROLS: The acceptable level is a total of 13 to 14 points scored from Table B2-D.</p>	6	<p>7 ○ <u>Energy system components</u>: A total of 13-14 points are scored from Table B2-D.</p>
<p>5 ○ LEVEL OF ENERGY MANAGEMENT AND CONTROLS: The acceptable level is a total of 10 to 12 points scored from Table B2-D.</p>	4	<p>5 ○ <u>Energy system components</u>: A total of 10-12 points are scored from Table B2-D.</p>
<p>3 ○ LEVEL OF ENERGY MANAGEMENT AND CONTROLS: The acceptable level is a total of 6 to 9 points scored from Table B2-D.</p>	2	<p>3 ○ <u>Energy system components</u>: A total of 6-9 points are scored from Table B2-D.</p>
<p>1 ○ LEVEL OF ENERGY MANAGEMENT AND CONTROLS: The acceptable level is less than 5 points scored from Table B2-D.</p>		<p>1 ○ <u>Energy system components</u>: Less than 5 points are scored from Table B2-D.</p>

☐ Exceptionally important. ☐ Important. ☐ Minor Importance.

Minimum Threshold level = ☐ NA ☐ NR ☐ Zero ☐ DP

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 8 Scale B.2.8 for Energy Management and Controls

**TABLE 1 Building Services (other than electrical power)**

Telecommunications
Gas supply
Water supply system
Sewage or drainage system
Heating, ventilating, and air conditioning system
Elevators and escalators

TABLE 2 Anticipated Remaining Service Life^A

Count ^B	Remaining Useful Life at Least: Equal to
3 =	Building envelope: seals, joints = 10 years or more
4 =	Roofing and flashing = 15 years or more
5 =	HVAC prime movers and main systems = 20 years or more
3 =	HVAC secondary distrib., for example, small fans = 10 years or more
4 =	HVAC controls = 10 years or more
3 =	Elevators and escalators = 20 years or more
4 =	Ceiling systems, including fixtures = 15 years or more
3 =	Interior finishes, for example, coverings = 10 years or more
3 =	Operable items, for example, doors, windows = 20 years or more
2 =	Other systems, for example, plumbing = 20 years or more
2 =	Site, for example, paving, sidewalks, etc. = 15 years or more
2 =	Electrical system = 15 years or more
2 =	Life safety system = 20 years or more

^A The anticipated remaining service life on the items listed in this table should be on file, likely in an asset management plan for the facility. Otherwise, rating on this aspect of serviceability requires expert judgement on each item, and cannot be completed within a normal half-day site visit. If information is not available, then omit this item from the rating, and note that on the rating form.

^B Do not add pro rata counts for any remaining life that is estimated to be less than the threshold years given in the legend. The count in this table is not a sliding scale, for example, give all points or no points.

**TABLE 3 Causes and Evidence of Energy Consumption**

Causes of Excessive Energy Consumption	Evidence on Energy Consumption
Air leakage around windows and doors	Expert opinion such as building operator, engineering technical expert
Inadequate roof insulation	Occupants' verbal reports, based on direct experience
Inadequate wall and window insulation, or none	Observable defects, for example, stains, icicles,
Defective vapor retarder, or none	moisture/condensation, drafts
Inappropriate orientation of building	Specifications and drawings for the facility
No solar control, or not effective	Technical reports based on field measurements
Inefficient systems or equipment for HVAC	Operating records
Improperly sized HVAC equipment	Energy bills, compared with similar facilities
Poor energy management and controls (see Table 4).	

TABLE 4 Energy Management and Controls

NOTE—The first two items go together, but a building could have one feature without the other:

Count

3 = Occupant participation in energy conservation program

4 = Automatic response to user-control, for example, if windows are opened

2 = Flushing program adjusted in extreme weather conditions

NOTE—A building can only have 1 out of the next 3 choices:

5 = Computerized direct digital control of building systems,

or 4 = Only monitoring and control are computerized.

or 2 = Only time clocks (automatic shutdown).

1 = Heat recovery or heat pump system.

2 = Night setback.

1 = Renewable energy source (for example, solar).

2 = On-site or "district" power generation or cogeneration.

3 = Energy use data is collected, targets set and met.

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