

## **NOTIFICATION OF NEW EDITION OF CODE OF PRACTICE ON ENVIRONMENTAL HEALTH (2025 EDITION)**

**Reference:** NEA/EP/PDD/05-00075

**Date** : 1 December 2025

### **CIRCULAR TO PROFESSIONAL INSTITUTIONS**

Who should know

Developers, Architects, Engineers

Dear Sir/Madam,

We would like to notify all Qualified Persons (QPs) that a new 2025 Edition of the Code of Practice on Environment Health (COPEH) has been released.

2. **Table 1** shows the summary of amendments to the COPEH appendices.

**Table 1: COPEH Appendices**

<b>Removed/ Amended/ No change/ New</b>	<b>Previous Appendix no.</b>	<b>Name of Previous Appendix</b>	<b>Current Appendix no.</b>	<b>Name of Current Appendix</b>	<b>Amendments</b>
Amended	2	Provision of Sanitary Facilities	2	Provision of Sanitary Facilities	Amendments to point (a) and notation
Removed	3	Details of Deck Level Channel	5		Subsumed into new Appendix 5
Removed	5	Glossary of Terms	2	Provision of Sanitary Facilities	Subsumed into Appendix 2 with updates on PUB's mandatory Water Efficiency labelling Scheme requirements for flush valves
New	-	-	3	Illustrations of Separation Distance Measurement from Kitchen Exhaust Outlet to the Building it is Facing	Addition of illustrations of separation distance measurement of kitchen exhaust outlet

Removed/ Amended/ No change/ New	Previous Appendix no.	Name of Previous Appendix	Current Appendix no.	Name of Current Appendix	Amendments
Amended	4	Example of 5m Setback Measurement of a Cooling Tower	4	Illustration of Setback Measurement of a Cooling Tower and Acceptable Structural Measures	Include illustration of boundary of development and acceptable structural measures of cooling tower siting requirement
New	-	-	5	Details of 1 metre Buffer Measurement of an Aquatic Facility and Deck Level Channel	Addition of details of 1m buffer measurement of an aquatic facility

3. Sections 4.2, 5.2.1 and Appendices 3 to 5 are amended for better clarity and will take place with immediate effect. New/revised requirements under Section 2 and Appendix 2 will take effect on 1 June 2026. Please refer to frequently asked questions (FAQs) on the amendments in **Annex 1** and the list of COPEH amendments in **Annex 2**.

4. The new COPEH (2025 Edition) can be downloaded from NEA website at <https://www.nea.gov.sg/corporate-functions/resources/practices-and-guidelines/guidelines/practices>.

5. Please note that it is the responsibility of the QPs to design the developments to meet the above COPEH.

6. Should you require further clarification on the matter, please contact us via the OneService ([www.oneservice.gov.sg](http://www.oneservice.gov.sg)) or the myENV ([www.nea.gov.sg/myenv](http://www.nea.gov.sg/myenv)) mobile applications. Alternatively, you may reach us via the Online Feedback Form available on the NEA website ([www.nea.gov.sg/feedback](http://www.nea.gov.sg/feedback)).

Thank you.

Sincerely,




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## **Annex 1 – FAQs for COPEH Amendments**

### **General**

#### **1. Does building plan submitted at development stage need to comply with the new/revised requirements of COPEH 2025?**

New/revised requirements under Section 2 and Appendix 2 will take effect for building plans submitted from 1 June 2026 onwards.

Sections 4.2, 5.2.1 and Appendices 3 to 5 are existing requirements amended for better clarity and will take place with immediate effect.

### **Section 2.4 Sanitary and Water Fittings Required in Public Toilet**

#### **2. Why is there a change in grating material for scupper drains within cubicle?**

The change takes into consideration the effort required by cleaners to remove the grating for cleaning maintenance.

### **Section 4.2.1 Siting of Cooling Tower**

#### **3. For the acceptable structural measures using non-porous wall and canopy, if there is a door in the non-porous wall, what should I do?**

You can explore using air-tight door (e.g. hermetic door) or ensure the proposed measure is able to ensure there is no leaking of aerosol from the door entering the 5 m radius of setback distance.

#### **4. Please illustrate the 5m setback from cooling tower with regard of boundary of development?**

You may refer to Appendix 3 illustration of boundary of development for details.

### **Section 5: Aquatic Facility (AF)**

#### **5. What is considered as one rinse shower?**

One rinse shower refers to a shower head with a dedicated pipe.

#### **6. Could NEA provide flexibility on the number of rinse showers provision, especially for developments with multiple small aquatic facilities?**

For premises with multiple aquatic facilities (AFs), the rinse shower requirements are:

- Minimum one rinse shower for the largest AF (based on pool surface or splash zone area)
- One rinse shower for each additional AF

If the AFs are connected in a way that allows water can flow from one pool to another at the surface level akin to a common basin, these connected pools are considered as one AF and require one rinse shower, even if they appear as separate pools.

**7. Do I need to comply with 1m buffer requirement for shallow pools?**

For pools with depth of 0.6m or less, the 1m buffer requirement does not apply as the maintenance staff can enter the pool to clean effectively due to lower water resistance.

**8. How do I determine if my Aquatic Facility (AF) design complies with the maintenance buffer space requirement?**

A buffer space of at least 1m along the perimeter of AF shall be buffered to facilitate maintenance so that all edges of the entire AF can be cleaned when the pool depth is more than 0.6m. If the design is unable to comply, the QP is to ensure that the entire AF can be cleaned without having 100% coverage of 1m buffer using the alternate method stated in Section 5.2.1b of the COPEH with detailed instructions in Appendix 5.

**9. Can the 1m buffer space requirement be reduced for AF equipped with in-line vacuum systems?**

The 1m buffer space must be maintained even when an AF is equipped with an in-line vacuum system. The buffer space is needed in view of the minimum area required during an emergency evacuation; maintenance personnel may also need space to perform manual cleaning using pole-cleaning methods if the in-line vacuum system fails.

**10. My telescopic cleaning pole can be extended to a length of more than 7m. In that case, can I draw circles that are more than 7m radius using the alternate method?**

The Swimming Pools & Aquatic Association (SPAA) recommended a maximum pole length of not more than 7.5m for effective exertion of strength for pool cleaning, i.e. 7m for cleaning and 0.5m for holding the pole. Thus, the maximum acceptable circle radius is 7m.

**11. What should I look out for when designing landscape near aquatic facilities?**

The landscaping to enhance the appearance of an AF shall not be done to an extent that it can potentially contaminate the AF water or create a problem for the maintenance of the AF. The design of planting strip(s) close to the edge of AF shall incorporate measures (e.g. slope away and raised kerb) to ensure no overflow of water or run-off from the planting strip(s)/area(s) into the water. Planting strip(s) within the AF is/are not encouraged as contamination (from pesticides and organic matter from plants and soil) may compromise water quality.

## Annex 2 – List of COPEH Amendments

S/N	Section	Description of Amendments to the COPEH	Current clause	Revised clause ( <i>new inputs in <a href="#">BLUE</a></i> )  <i>Note: Deleted text(s) are not reflected</i>
1	2.1	To minimise contact of surfaces to reduce transmission of infectious diseases	The public toilets shall be designed to withstand heavy usage.	The public toilets shall be designed to withstand heavy usage <u>and with hands-free access where possible.</u>
2	2.3 (a)	To ensure premises owners choose durable materials to facilitate maintenance and cleaning	Wall finishes shall be of materials which are impervious and durable such as ceramic tiles and phenolic panels to facilitate cleaning.	Wall finishes shall be of materials which are impervious, <u>stain-resistant</u> and durable such as ceramic tiles and phenolic panels to facilitate cleaning.
3	2.3 (b)	To provide clarity on anti-slip requirements and align such requirements with BCA	Floors shall be constructed of waterproof, non-slip surfaces like ceramic tiles, natural stone, homogeneous tiles or other impervious materials to facilitate cleaning.	Floors shall be constructed of non-slip surfaces like ceramic tiles, natural stone, homogeneous tiles or other impervious materials.  <u>QPs may refer to the Singapore Standard 485 'Specification for slip resistance classification of pedestrian surface materials' for recommended R10 rating for toilet floor tiles.</u>
4	2.3 (c)	Amend wording for better clarity - 'good-to-have' guidelines updated to 'should'	The toilet's main entrance shall preferably have no door and with a labyrinth entrance, and the cubicles, urinals and mirrors shall be away from the line of sight from the main entrance.	The toilet's main entrance <u>should</u> have no door and with a labyrinth entrance, and the cubicles, urinals and mirrors shall be away from the line of sight from the main entrance.
5	2.3 (h)	To allow ease of use for users and cleaners	-	<u>The toilet should be designed to ensure sufficient circulatory space for users and for cleaners to manoeuvre cleaning/automation equipment.</u>
6	2.4	To allow child wash hand basin to be counted as part of COPEH sanitary facilities requirement	Where sanitary and water provisions are to be made for persons with disabilities and families with young children, such provisions shall be in accordance with the	Where sanitary and water provisions are to be made for persons with disabilities and families with young children, such provisions shall be in accordance with the requirements stipulated in BCA's " <b>Code on Accessibility in the Built</b>

S/N	Section	Description of Amendments to the COPEH	Current clause	Revised clause ( <i>new inputs in BLUE</i> )  <i>Note: Deleted text(s) are not reflected</i>
			requirements stipulated in BCA's " <b>Code on Accessibility in the Built Environment</b> ". Sanitary facilities for premises are to be provided in accordance with the requirements stipulated in <b>Appendix 2</b> . These facilities provided are over and above the BCA's requirements with regard to the provisions of accessible toilet, family toilet, child-friendly toilet and child-friendly wash basin.	<b>Environment</b> ". Sanitary facilities for premises are to be provided in accordance with the requirements stipulated in Appendix 2. These facilities provided are over and above the BCA's requirements with regard to the provisions of accessible toilet, family toilet, and <a href="#">child-friendly water closet</a> .
7	2.4.1 (a)	Amend wording for better clarity – mandatory requirements updated to 'shall' to ensure adoption	The number of public toilets and sanitary fittings to be provided in buildings accessible to the general public is given in Appendix 2. The numbers of facilities provided are minimum requirements and QPs should design the toilets to ensure sufficient facilities are provided based on the expected toilet use during peak hours.	The number of public toilets and sanitary fittings to be provided in buildings accessible to the general public is given in Appendix 2. The numbers of facilities provided are minimum requirements and QPs <a href="#">shall</a> design the toilets to ensure sufficient facilities are provided based on the expected toilet use during peak hours.
8	2.4.2 (a)	Amend wording for better clarity – mandatory requirements updated to 'shall' to ensure adoption	Pedestal type water closets shall preferably be wall hung, without leg support, so as to facilitate cleaning.	Pedestal type water closets <a href="#">shall</a> be wall hung, without leg support, so as to facilitate cleaning.
9	2.4.2 (b)	To prevent germ build-up and facilitate easier cleaning and maintenance	Each water closet shall be fitted with a sensor-operated flush valve and coupled with manual by-pass and manual override.	Each water closet shall be fitted with a sensor-operated flush valve and coupled with manual by-pass and manual override. <a href="#">Water closet features should ease maintenance, such as rimless design and vortex flushing.</a>
10	2.4.2 (c)	To allow flexibility in providing either a bidet	A water closet with a bidet fixture shall be provided within at least one cubicle of the toilet.	A water closet with a bidet fixture <a href="#">or water tap points with spring loaded nozzle</a> shall be provided within at least one cubicle of the toilet.

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		fixture or spring loaded nozzle		
11	2.4.2 (d)	<ul style="list-style-type: none"> <li>Amend wording for better clarity – mandatory requirements updated to 'shall' to ensure adoption</li> <li>To allow flexibility in the material of grating to facilitate cleaning while ensuring proper cleaning maintenance</li> <li>To set minimum width to facilitate efficient drainage of water</li> </ul>	For cubicles where water closets with bidet fixtures or water tap points with spring loaded nozzle are provided, the cubicle floor shall be properly graded towards the gully/floor trap within the cubicle. Scupper drains with metal grating shall preferably be installed within the cubicle to facilitate the draining off of water. For such cubicles, there shall be signage on the cubicle door indicating the provision of the water closet with a bidet fixture. Signage is not required for toilets where all cubicles are provided with the water closet with a bidet fixture.	For cubicles where water closets with bidet fixtures or water tap points with spring loaded nozzle are provided, the cubicle floor shall be properly graded towards the gully/floor trap within the cubicle. Scupper drains with grating <b>should</b> be installed within the cubicle to facilitate the draining of water. <b>The width of the scupper drain should not be less than 150mm. Scupper drains shall be adequately maintained.</b> For such cubicles, there shall be signage on the cubicle door indicating the provision of the water closet with a bidet fixture. Signage is not required for toilets where all cubicles are provided with the water closet with a bidet fixture <b>or water tap points with spring loaded nozzle.</b>
12	2.4.3 (c)	<ul style="list-style-type: none"> <li>To prevent users from tripping over the scupper drain</li> <li>Provide clarity on siting of scupper drain</li> <li>To set a minimum width to ensure they are wide enough to contain urine drips</li> </ul>	There shall be a scupper drain underneath the urinals along the wall where urinals are installed to facilitate the removal of dripping during cleaning of the floor. The width of the scupper drain should not be more than 150 mm.	There shall be a scupper drain <b>with grating</b> underneath <b>lips of</b> the urinals, <b>parallel to</b> the wall where urinals are installed. <b>This is</b> to facilitate <b>drainage and</b> cleaning of the floor. The width of the scupper drain should not be <b>less</b> than 150 mm. <b>Scupper drain shall be adequately maintained.</b>



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13	2.4.3 (d)	Provide guideline on appropriate height for full length urinal that would be effective to reduce splash back and suit various user heights (including children)	Individually wall-hung full length urinal units shall be installed to facilitate use for different users and to reduce urine drip onto floors.	Individually wall-hung full length <u>(minimum of 800mm in height as a guide)</u> urinal units shall be installed to facilitate use for different users and to reduce urine drip onto floors.
14	2.4.4 (b)	<ul style="list-style-type: none"> <li>Prevents water spillage and wetting of clothes</li> <li>Graded vanity top prevents water ponding</li> </ul>	For basins that sit on top of the counter or are stand-alone, these shall be deep enough to prevent water splashing out of the basins when in use. The water discharge point from the wash hand basin tap shall also be of a sufficient height above the bottom of the wash hand basin to prevent contact of hands with the basin.	For basins that sit on top of the counter or are standalone, these shall be deep enough to prevent water splashing out of the basins when in use. <u>Sink vanity tops should have kerb aprons and properly graded.</u> The water discharge point from the wash hand basin tap shall also be of a sufficient height above the bottom of the wash hand basin to prevent contact of hands with the basin.
15	2.4.4 (d)	<ul style="list-style-type: none"> <li>Prevents wetting of toilet floor</li> <li>Allows handwashing without entering toilets</li> </ul>	Wash hand basins should also be provided for public toilets located at common areas.	<u>At least one</u> wash hand basin should be provided <u>outside toilets for common use.</u>
16	2.4.4 (e)	<ul style="list-style-type: none"> <li>Amend wording for better clarity - 'good-to-have' guidelines updated to 'should'</li> <li>To minimise risk of airborne contaminants reaching food</li> </ul>	In food retail outlets where toilet facilities are provided, wash hand basins shall preferably be provided outside the toilet.	In food retail outlets where toilet facilities are provided, wash hand basins <u>should</u> be provided outside the toilet. <u>Toilet entrances and common wash hand basins should be sited away from food stalls to prevent any possible food contamination. For example, a minimum distance of 5 metres away for both toilet entrance and/or common wash hand basin from nearest food stall or a physical wall between wash hand basin and the nearest food stall.</u>

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17	2.5 (a)	To accept alternative designs so long as it facilitates monitoring and enable timely refills of soap	The dispenser shall have a transparent window so that the level of soap in the dispenser is clearly visible.	The <a href="#">soap</a> dispenser shall have <a href="#">an indicator or</a> transparent window <a href="#">that provides indication on</a> the level of soap in the dispenser.
18	2.6 (a)	To encourage more use of mechanical ventilation, especially for smaller toilets	The toilet shall be well-ventilated by natural or mechanical means to remove odours and to keep floors dry.	The toilet <a href="#">should</a> be well-ventilated by mechanical means to remove odours and to keep floors dry. <a href="#">Natural ventilation should only be used exclusively, if it can effectively remove toilet odours.</a>
19	4.2	<p>Reword to bridge the gap in interpretation observed for the lines highlighted and combine a), b) &amp; c) into a list for clarity and ease of reading.</p> <p>A circular was issued in Mar 2024 to provide clarity on Acceptable Structural Measures for Cooling Tower (CT) Siting Requirement and include them in COPEH 2025 formally.</p> <p>Add (d) on maximum drift loss efficiency of drift eliminator for clarity</p>	<p>4.2 Design Requirements</p> <p>A qualified person (QP) shall ensure the following design siting requirements are complied with.</p> <p>(a) The cooling tower shall be located at least 5 m from any air circulating and ventilating inlet, openable window and occupied area, pedestrian thoroughfare, trafficable area and any other areas of public access.</p> <p>(b) The cooling tower shall also be located at least 5 m from any kitchen exhaust discharge outlet, air handling system or other areas where nutrients conveyed from these systems could assist in the growth of <i>Legionella</i> bacteria in the cooling tower system.</p> <p>(c) The cooling tower shall also be located at least 5 m from any kitchen exhaust discharge outlet, air handling system or</p>	<p>4.2 Design Requirements</p> <p>A qualified person (QP) shall ensure the following design siting requirements are complied with.</p> <p>(a) All edges of a cooling tower shall be located at least 5 m from any of the following:</p> <p><a href="#">i. areas where access are not restricted to trained personnel*, such as occupied spaces and trafficable areas;</a></p> <p><a href="#">ii. building facade where the opening is leading to areas described in (i). including openable windows;</a></p> <p><a href="#">iii. outdoor air supply inlet;</a></p> <p><a href="#">iv. exhaust outlet or vent capable of carrying nutrients that could aid in the growth of <i>Legionella</i> bacteria in the cooling tower system, including kitchen exhaust discharge outlet; and</a></p> <p><a href="#">v. boundary of development (refer to <b>Appendix 4</b> for illustration).</a></p>

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			other areas where nutrients conveyed from these systems could assist in the growth of <i>Legionella</i> bacteria in the cooling tower system.	<p><u>*Trained personnel being maintenance staff who understand the risk of acquiring Legionellosis from inhaling aerosol from Legionella contaminated cooling tower water and will work in accordance with their safe work procedures (SWP) based on their risk assessment.</u></p> <p><u>(b) The measurement point for</u> the minimum 5 metres setback distance shall be measured from the nearest edge or structure of the cooling tower system. This includes:</p> <ul style="list-style-type: none"> <li>i. the base, basin, or sump;</li> <li>ii. the packing/ infills,</li> <li>iii. the outlet point of cooling tower exhaust; and</li> <li>iv. the outlet point of the exhaust extension/diversion hood, if any is installed.</li> </ul> <p><u>Refer to <b>Appendix 4</b> for a typical example illustrating the 5 metres setback measurement and the illustrations of acceptable structural measures.</u></p> <p>(c) All access routes such as doorways leading to the areas that is within the 5 m setback distance of the cooling towers shall:</p> <ul style="list-style-type: none"> <li>i. restrict access of the areas to only maintenance staffs who understand the risk of acquiring Legionellosis from inhaling aerosol from Legionella contaminated cooling tower water; and</li> <li>ii. display clear signage <ul style="list-style-type: none"> <li>a. to deter public from entry and,</li> <li>b. instruct maintenance staffs entering this area to follow safe work procedures based on their risk assessment; and</li> </ul> </li> </ul>

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				<p>wear adequate personal protection equipment <u>(e.g. fluid-resistant N95 respirator)</u>.</p> <p><u>(d) Each cooling tower shall be equipped with an effective drift eliminator with maximum drift loss not exceeding 0.01%. To further reduce the risk of contaminated aerosol dispersion, it is recommended that a drift eliminator with maximum drift loss not exceeding 0.002% be used, which can be achieved by modern drift eliminators.</u></p>
20	5.2.1 (b)	<p>To provide clarity for 1 m buffer distance along the perimeter of AF to facilitate cleaning</p> <p>To provide clarity on landscaping along the AF edges</p>	<p>5.2.1 The minimum design criteria that QP should take note are:</p> <p>(b) AF edges and landscaping shall be of such design and materials to facilitate easy maintenance and minimise the contamination of water (e.g. accumulation of debris, etc.). The landscaping to enhance the appearance of the AF shall not be done to an extent that it can contaminate the water in the AFs or create a problem for the maintenance of the AF. The design of planting strips(s) close to the edge of AF shall incorporate measures to ensure no overflow of water or run-off from the planting strip(s)/ area(s) into the water. A space of at least 1 m along the perimeter of AF shall be buffered to facilitate maintenance.</p>	<p>5.2.1 The minimum design criteria that QP should take note are:</p> <p>(b) AF edges and landscaping shall be of such design and materials to facilitate easy maintenance and minimize the contamination of water (e.g. accumulation of debris, etc.).</p> <p>i. The landscaping to enhance the appearance of the AF shall not be done to an extent that it can contaminate the water in the AFs or create a problem for the maintenance of the AF. The design of planting strips(s) close to the edge of the AF shall incorporate measures <u>(e.g. slope away and raised kerb)</u> to ensure no overflow of water or run-off from the planting strip(s)/ area(s) into the water. <u>Planting strips within the AF are not encouraged as it may compromise water quality e.g. contamination from pesticides and organic matter from the plants and soil.</u></p> <p>ii. A space of at least <u>a continuous 1 metre buffer space</u> along the perimeter of the AF shall be buffered to facilitate maintenance <u>so that all edges of the AF can be cleaned when the AF is deeper than 0.6 metre. If the design is unable to comply with the requirement for a continuous 1 metre buffer space, the QP shall ensure that the entire AF can be cleaned</u></p>

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				<p><u>from the remaining 1 metre buffer spaces along the perimeter using the method in Table 1.</u></p> <p><u>Table 1: Alternate Method to Demonstrate Pool Maintainability from the Remaining 1 metre Buffer Spaces of Same Height as Pool Edge</u></p> <table><tr><th><u>Pool depth</u></th><th><u>Maintenance Coverage Verification Method<sup>#</sup></u></th></tr><tr><td><u>&gt;0.6 to 1.2 metres</u></td><td><p><u>Demonstrate complete cleaning reach of an AF by drawing circles with 7-metre radius along the perimeter of AF.</u></p><p><u>Where structure within the AF (e.g. wall, feature, planter box) obstructs coverage from perimeter circles, additional buffer spaces shall be provided so that the entire AF can be cleaned.</u></p></td></tr><tr><td><u>&gt;1.2 metres</u></td><td><p><u>Calculate the required cleaning reach using the Pythagorean theorem (right-angled triangle formula). Draw circles using the calculated radius along the perimeter of AF. The circles must be able to cover the entire pool area for cleaning.</u></p><p><u>Where structure within the AF (e.g. wall, feature, planter box) obstructs coverage from perimeter circles, additional buffer spaces shall be provided so that the entire AF can be cleaned.</u></p></td></tr></table>	<u>Pool depth</u>	<u>Maintenance Coverage Verification Method<sup>#</sup></u>	<u>&gt;0.6 to 1.2 metres</u>	<p><u>Demonstrate complete cleaning reach of an AF by drawing circles with 7-metre radius along the perimeter of AF.</u></p> <p><u>Where structure within the AF (e.g. wall, feature, planter box) obstructs coverage from perimeter circles, additional buffer spaces shall be provided so that the entire AF can be cleaned.</u></p>	<u>&gt;1.2 metres</u>	<p><u>Calculate the required cleaning reach using the Pythagorean theorem (right-angled triangle formula). Draw circles using the calculated radius along the perimeter of AF. The circles must be able to cover the entire pool area for cleaning.</u></p> <p><u>Where structure within the AF (e.g. wall, feature, planter box) obstructs coverage from perimeter circles, additional buffer spaces shall be provided so that the entire AF can be cleaned.</u></p>
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<u>&gt;1.2 metres</u>	<p><u>Calculate the required cleaning reach using the Pythagorean theorem (right-angled triangle formula). Draw circles using the calculated radius along the perimeter of AF. The circles must be able to cover the entire pool area for cleaning.</u></p> <p><u>Where structure within the AF (e.g. wall, feature, planter box) obstructs coverage from perimeter circles, additional buffer spaces shall be provided so that the entire AF can be cleaned.</u></p>									

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				<p><b>Note:</b> Deleted text(s) are not reflected</p> <p><u>Note<sup>#</sup>: The centre of each circle on the pool edge is where the maintenance staff would be standing to conduct the necessary cleaning and maintenance work, and these locations shall be provided with at least 1 metre buffer space. See illustrated examples in <b>Appendix 5</b>.</u></p> <p>iii. <u>For buffer space at a different height compared to pool edge, QPs are required to follow the Table 2 below with detailed instructions in <b>Appendix 5</b>.</u></p> <p><u>Table 2: Allowable Height for the 1 metre Buffer Space at a Different Height</u></p> <table><tr><th><u>Buffer space</u></th><th><u>Allowable height</u></th></tr><tr><td><u>Raised buffer floor</u></td><td><u>Follow the AF depth of &gt; 1.2 metres using Pythagorean theorem (right-angled triangle formula) to determine the radius of a circle to be drawn to ensure the entire AF can be cleaned</u></td></tr><tr><td><u>Lowered buffer floor</u></td><td><u>≤1 metre</u></td></tr></table>	<u>Buffer space</u>	<u>Allowable height</u>	<u>Raised buffer floor</u>	<u>Follow the AF depth of &gt; 1.2 metres using Pythagorean theorem (right-angled triangle formula) to determine the radius of a circle to be drawn to ensure the entire AF can be cleaned</u>	<u>Lowered buffer floor</u>	<u>≤1 metre</u>
<u>Buffer space</u>	<u>Allowable height</u>									
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<u>Lowered buffer floor</u>	<u>≤1 metre</u>									
21	5.2.1 (d)	<ul style="list-style-type: none"><li>Define what is rinse shower</li><li>Define what is each AF</li><li>Revise number of rinse shower</li></ul>	<p>(d) Rinse showers shall be situated adjacent to each of the AF to encourage users to use the rinse shower before entering the AF.</p> <p>i. For premises with one AF, a minimum of two rinse showers shall be provided for the AF. Premises with multiple AF shall have a minimum of two rinse showers for the largest AF (based on pool/splash zone</p>	<p>(d) <u>A minimum of one rinse shower, an individually piped shower head, shall be provided next to each AF (based on pool surface or splash zone area).</u> Rinse showers are not required for AFs where compulsory showering is enforced before entry (<u>e.g. indoor spa pools</u>).</p> <p><u>i. The rinse showers are designed for AF users to rinse off dirt or organic material before entering the AF.</u> Clear signages are to be provided in conspicuous places next to</p>						

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			<p>area of AF), and a minimum of one rinse shower for each additional AF.</p> <p>ii. A minimum of one rinse shower shall be provided for each standalone water playground within a premises. Standalone water playground refers to water playground that does not share the filtration system with any other types of AF.</p> <p>iii. The rinse shower water shall not drain into the AF and the overflow perimeter flow system or splash zone of AF.</p> <p>iv. It is strongly encouraged to provide signages to direct users to use the rinse showers before entering the AF.</p>	<p>AF to direct every person to use the rinse showers before entering the AF.</p> <p>ii. The rinse shower water shall not drain into the AF and the overflow perimeter flow system or splash zone of AF.</p>										
22	5.2.1 (h)	Insert turnover rate of 4 hour for competition/ training pool	<p>(h) The water-circulation pumps and motors shall be of adequate sizes to turn over the entire AF pool water capacity as below: Table 3: Criteria for maximum permissible turnover time</p> <table><tr><th>Type of AF</th><th>Max permissible turnover time</th></tr><tr><td>Swimming Pool (designed mainly for young children's use*)</td><td>2 hours</td></tr></table>	Type of AF	Max permissible turnover time	Swimming Pool (designed mainly for young children's use*)	2 hours	<p>(h) The water-circulation pumps and motors shall be of adequate sizes to turn over the entire AF pool water capacity as below: Table 3: Criteria for maximum permissible turnover time</p> <table><tr><th>Type of AF</th><th>Max permissible turnover time</th></tr><tr><td>Swimming Pool (designed mainly for young children's use*, <u>wading, dipping, learning</u>)</td><td>2 hours</td></tr><tr><td><u>Swimming pool (designed for competition, training)</u></td><td><u>4 hours</u></td></tr></table>	Type of AF	Max permissible turnover time	Swimming Pool (designed mainly for young children's use*, <u>wading, dipping, learning</u> )	2 hours	<u>Swimming pool (designed for competition, training)</u>	<u>4 hours</u>
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			Swimming Pool (designed for all other uses)	6 hours	Swimming Pool (designed for all other uses)	6 hours
			Multi-use Spa Pool	2 hours	Multi-use Spa Pool	2 hours
			Water playground (including interactive water fountain)	30 minutes	Water playground (including interactive water fountain)	30 minutes
			<i>* individuals up to age of 5</i>			
23	5.2.1 (i)	Add regenerative media filters (RMF) as an approved filtration system	(i) The filtration plant shall be either the rapid sand, diatomaceous earth, glass, zeolite or any other filtration system approved by the Director-General of Public Health. Individual filters shall be designed with necessary valves and piping to permit isolation of individual filters for repairs or backwashing while other units are in service.		(i) The filtration plant shall employ one of the following filtration systems:  i. Pressure or gravity filtration units utilising approved filter media such as rapid sand filter, diatomaceous earth (DE), activated filter media, glass media, zeolite or cartridge filter ii. <a href="#">Regenerative media filter (utilising DE, zeolite, perlite or equivalent approved media)</a> iii. Any other filtration system approved by the Director-General of Public Health iv. Individual filters shall be designed with necessary valves and piping to permit isolation of individual filters for repairs or backwashing while other units are in service.	
24	5.2.1 (k)	Add in the minimum clear headroom to facilitate maintenance (adopted from URA: M&E floors with headroom of up to 1.8m are excluded from GFA)	(k) Design of indoor AF and equipment rooms shall be adequately ventilated to control the level of moisture and trapped chemicals. The minimum ventilation rate shall be in accordance with the relevant guidelines available within SS 556 Code		(k) Design of indoor AF and equipment rooms shall be adequately ventilated to control the level of moisture and trapped chemicals. The minimum ventilation rate shall be in accordance with the relevant guidelines available within SS 556 Code of Practice for The Design and Management of Aquatic Facilities on ventilation in indoor aquatic facilities. <a href="#">A</a>	



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			of Practice for The Design and Management of Aquatic Facilities on ventilation in indoor aquatic facilities.	<a href="#">minimum clear headroom of 1.8 metres (measured from finish floor level) shall be provided in the filtration and pump room to facilitate maintenance.</a>
25	5.2.1.3 (b)	Add % coverage for spa using overflow perimeter system, align with swimming pool requirement	(b) The perimeter overflow system shall be designed and constructed so that the water level in the multi-use spa pool is maintained at the operation level of the rim or weir device.	<a href="#">(b) A perimeter overflow system shall be provided for at least 50% of the perimeter of the pool and designed such as to avoid water stagnancy.</a>
26	5.3	Add relevant references	Nil	<p><b>5.3 Other Requirements and Guidelines</b></p> <p>The following are references (*) for Qualified Persons and licensees to refer to.</p> <p>(a) Singapore Standard SS 556: Code of Practice for the Design and Management of Aquatic Facilities and Singapore Standard SS 700: Code of Practice for Water Safety – Aquatic Facilities: guidance on the safety components for AF and other relevant requirements, e.g.: the requirement for minimum ventilation rate for the design of indoor AF and equipment rooms shall be adequately ventilated to control the level of moisture and trapped chemicals, <a href="#">lighting requirement, etc.</a></p> <p>(b) <a href="#">Urban Redevelopment Authority (URA)'s Landscaping for Urban Spaces and High-Rises (LUSH) scheme and Gross Floor Area (GFA) Handbook on Mechanical and Electrical (M&amp;E) Spaces.</a></p> <p>(c) <a href="#">Building Control Authority (BCA)'s Design for Maintainability Guide (Residential/Non-Residential): Requirement of headroom for Maintenance and Equipment room (e.g. AF pump room) and other relevant design for</a></p>

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				<u>maintainability and pre-requisite in Green Mark for Residential Building: Requirement of clear access route from lift lobby or carpark area to the filtration system, clear working/walking space in the filtration pump room for regular maintenance, the access space for replacement of major component must follow manufacture's recommendation, etc.</u>
27	Appendix 2 (a)	To allow premises owners the option of providing some unisex toilets that can be used by both female and male	Sanitary facilities shall be provided in accordance with the requirements listed below. The numbers are meant for concurrent usage.	<p>Sanitary facilities shall be provided in accordance with the requirements listed below. The numbers are meant for concurrent usage.</p> <p><u>Premises can provide unisex toilets of up to 20% of the total numerical requirements of male and female WCs. There shall be at least one female WC and one male WC provided.</u> Should premises wish to provide more unisex toilets (above the cap), they may do so if the numerical requirements for male and female WCs are fulfilled. The unisex toilets are also subjected to the toilet design requirements stipulated in Section 2. Signages should be clearly indicated for male, female and unisex toilets. If the calculation of 20% of numerical requirements of male and female toilets combined is less than 1, premises may provide 1 unisex toilet.</p> <p><u>The corresponding number of WHB provision shall be based on the ratio of 1 WHB for every 2 count of WCs and/or URs, subject to a minimum of 1.</u></p>
28	Appendix 2 (a)	To allow child wash hand basin to be counted as part of COPEH sanitary facilities requirement	Note: These facilities are over and above the provisions of accessible toilet, family toilet, child-friendly toilet and child-friendly wash basin as stipulated in BCA's Code on Accessibility in the Built Environment.	Note: These facilities are over and above the provisions of accessible toilet, family toilet and <u>child-friendly water closet</u> as stipulated in BCA's Code on Accessibility in the Built Environment.

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29	Appendix 2  Under Notation	To provide clarity on definition of a unisex toilet To ensure that unisex toilets are sited at appropriate locations	*: To be used by both male and female	<u>*: Unisex toilet – An enclosed cubicle with one water closet which can be used by both male and female.</u>  <u>Unisex toilet requirements: Unisex toilet units can be standalone (i.e. a single unisex toilet unit on its own) or situated next to/together with male and/or female toilet units, with all units in an open corridor walkway i.e. the space outside all the toilet units will be a public common area and not a fully enclosed space. QPs should ensure adequate ventilation and privacy safeguards are in place where unisex toilet units are provided.</u>
30	Appendix 2	To align with PUB's Mandatory Water Efficiency Labelling Scheme requirements w.e.f 1 Jan 2022  <i>Note: Originally in Appendix 5; subsumed into Appendix 2</i>	<b>Glossary of Terms</b>  1. Sensor-operated flush valves  A valve with an electronic control device that is automatically actuated to supply a predetermined quantity of water (not more than 4.5 and 1.0 litres of water per flush for WC and urinal respectively) to a WC or urinal for the purpose of flushing after each use.  3. Manual override cum by-pass  When the override cum by-pass button is used, the manual override and by-pass features override the sensor operation and discharge only a pre-set volume of water (not more than 4.5 litres of water	<b>Glossary of Terms</b>  1. Sensor-operated flush valves  A valve with an electronic control device that is automatically actuated to supply a predetermined quantity of water (not more than <u>4.0</u> and 1.0 litres of water per flush for WC and urinal respectively) to a WC or urinal for the purpose of flushing after each use.  3. Manual override cum by-pass  When the override cum by-pass button is used, the manual override and by-pass features override the sensor operation and discharge only a pre-set volume of water (not more than <u>4.0</u> litres of water per flush) even if the button continues to be held actuated.

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			per flush) even if the button continues to be held actuated.	
31	Appendix 3	<p>Added illustrations on how separation distance is measured from kitchen exhaust outlet to the facade of the building that it is facing referenced in Section 3.</p> <p>Grouped the Deck Level Channel illustration in the current Appendix 3 with the other Aquatic Facility illustrations in the new Appendix 5.</p>	Details of Deck Level Channel	<p><u>Illustrations of Separation Distance Measurement from Kitchen Exhaust Outlet to the Building it is Facing</u></p> <p><u>The separation distance should be measured in a horizontal direction from the nearest edge of the KE outlet to the facade of the building that the kitchen exhaust outlet is facing. This horizontal measurement is taken regardless of any downward angle of the exhaust outlet.</u></p>
32	Appendix 4	Include illustration of boundary of development as well as the acceptable structural measures of cooling tower siting requirement	Example of 5m Setback Measurement of a Cooling Tower	<p>Illustration of Setback Measurement of a Cooling Tower</p> <ol style="list-style-type: none"> <li>1. Example of 5 metres Setback Measurement of a Cooling Tower</li> <li>2. <u>Illustration of Boundary of Development</u></li> <li>3. <u>Acceptable Structural Measures for Cooling Tower (CT) Siting Requirement</u> <ol style="list-style-type: none"> <li>i. <u>A structural barrier such as a wall or fence of minimum height of 1.8 metres will need to be built around the CT, at a distance of at least 5 metres from the CT, to restrict access to the 5 metres setback areas of the CT; or</u></li> </ol> </li> </ol>

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				<ul style="list-style-type: none"> <li>ii. <u>A structure used to elevate the cooling tower such that its base is 6.8 metres high (5 metres setback + 1.8 metres adult height); or</u></li> <li>iii. <u>A non-porous wall with a non-porous canopy will need to be built, with the canopy extending to at least 5 metres (where necessary) from the nearest edge of the CT if the non-porous wall is not of sufficient height to block the 5 metres plume radius from edge of CT; or</u> <i>This does not apply when there is an opening e.g. door on the non-porous wall.</i></li> <li>iv. <u>A non-porous wall with the highest edge of the wall at least 5 metres from the nearest edge of the CT</u> <i>This does not apply when there is an opening e.g. door on the non-porous wall</i></li> </ul>
33	Appendix 5	New addition of details of 1m buffer measurement of an aquatic facility with illustrations and the existing deck level channel illustration from the Appendix 3 are Aquatic Facility related contents grouped together	-	<p>Details of <u>1 metre Buffer Measurement of an Aquatic Facility</u> and Deck Level Channel</p> <ul style="list-style-type: none"> <li>1. <u>Illustration on 100% Pool Coverage for Cleaning</u> <ul style="list-style-type: none"> <li>a. <u>To demonstrate the entire AF can be cleaned without having a continuous 1-metre buffer around the entire AF, draw circles of 7 metres radius along the AF perimeter for pool depth between &gt;0.6 to 1.2 metres. For pool depth &gt;1.2 metres, use Pythagorean theorem (right-angled triangle formula) to calculate the radius of the circles.</u></li> <li>b. <u>The centre of each 7-metre radius circle on the pool edge is where the maintenance staff would be standing to conduct the necessary cleaning and maintenance work, and these locations shall be</u></li> </ul> </li> </ul>

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				<p><u>provided with at least 1-metre maintenance buffer space.</u></p> <p>2. <u>Buffer Space of a Different Height to Pool Edge</u></p> <table><tr><th>Buffer Space</th><th>Allowable height</th></tr><tr><td><u>Raised floor</u></td><td><u>Follow the AF depth of &gt; 1.2metres using Pythagorean theorem (right-angled triangle formula) to determine the radius of a circle to be drawn to ensure the entire AF can be cleaned</u></td></tr><tr><td><u>Lowered floor</u></td><td><u>≤ 1 metre</u></td></tr></table> <p>i. Alternate method to demonstrate pool maintainability with 1 metre maintenance buffer space (using the Pythagorean theorem)</p> <p>ii. Illustration of maximum allowable barrier height for lowered buffer floor for effective cleaning</p>	Buffer Space	Allowable height	<u>Raised floor</u>	<u>Follow the AF depth of &gt; 1.2metres using Pythagorean theorem (right-angled triangle formula) to determine the radius of a circle to be drawn to ensure the entire AF can be cleaned</u>	<u>Lowered floor</u>	<u>≤ 1 metre</u>
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