

## ARCHITECTURAL DESIGN APPROACH TO SOCIAL LIFE PATTERNS AFTER THE COVID-19 PANDEMIC

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### Abstract

Covid-19 is a national disaster where all sectors are affected so that adaptation is needed to deal with it, one that needs attention is the existence of a new normal. In new conditions, of course, all arrangements will adjust according to health protocols such as: maintaining distance, washing hands and wearing masks. From WHO news, it turns out that the covid-19 virus can stick to certain materials for quite a long time and can also last a long time in air-conditioned rooms and rooms that don't get enough light, and this virus spreads through drop let and direct contact, or existing droplets or attached to building materials / elements. As architects, of course, they are required to think about the design both in terms of interior and exterior, therefore research during the pandemic and activities carried out during the pandemic is subject to study, such as maintaining distance, for architects to maintain distance regarding the design of public spaces and details such as: lobbies, lifts, stairs, entrances / entrances, finger print absences need to be designed in such a way as to pay attention to the concept of health protocols, where keep your distance, don't touch / touch public objects and choose materials that are in accordance with health protocols, as well as lighting design and conditioning. air from the building. For washing, a special design is needed because it involves electrical energy sources, clean water, and automatic soap holders and what is no less important is the water utility from the hand washing area which must comply with health and environmental protocols, meanwhile for outdoor spaces, landscapes of public spaces, green open spaces, and others that are places to gather and sit, the design of benches is required in accordance with health protocols. After a pandemic, it is very useful to guard against people / users from committing actions that are against norms and religion.

### Keywords:

*Covid-19, new normal, health protocol, hand washing, keep your distance*

### Introduction

The Covid-19 pandemic has been going on for several months, and until now a vaccine for prevention and medicine has not been found that can be sold freely, which raises anxiety, on the one hand people have to do activities to turn the wheels of the economy and on the one hand there is a virus lurking that does not exist the cure. If conditions drag on and society

Its activities are also limited. Over time the people's economic resilience will also collapse, likewise the Government will be very heavy bearing the economic burden. In recent days, there has been a new social life after this pandemic, what is a new social life and how long does the so-called new last last, this is a question that has become intriguing. The new social life due to the covid-19 virus in the perspective of the author's thinking is life that is carried out as a continuation during the pandemic, namely: (1) wear a mask if you go outside; (2) Keep Distance; (3) Wash your hands with soap before touching your face and so on, these three precautions make social life new, then how long, certainly until a vaccine that is effective and can be bought and sold in stores is found, if there are people who are infected with the virus, such as example; flu, coughs, colds and so on. For the first treatment, we can buy medicine at the shop next to our house, only then if in 3-7 days it does not go away go to the hospital, but in general it will get better with initial treatment. But from the perspective of Landscape Architecture design, it is very important to pay attention to why Landscape Architecture, because the landscape is an outer space, and the regional landscape is an area where people interact in a large way, such as tourist areas, industrial areas, CBD areas and so on, and in a different perspective. more specifically examples of road landscapes, office landscapes, residential landscapes, city parks, environmental parks and so on, where the essence is public spaces, with the connotation of public space, it automatically needs a design direction that adopts new social life criteria in Landscape Architecture design.

Architecture is the science of designing buildings to function properly with measurable values of beauty and Landscape Architecture at ISTN is the study of space beyond the regional scale. Its scope is the outer space at the regional scale including the planning of tourism area landscapes, industrial area landscapes, trade area landscapes, also including city parks, and so on. Part of the area is divided into street landscapes, city parks, and much more.

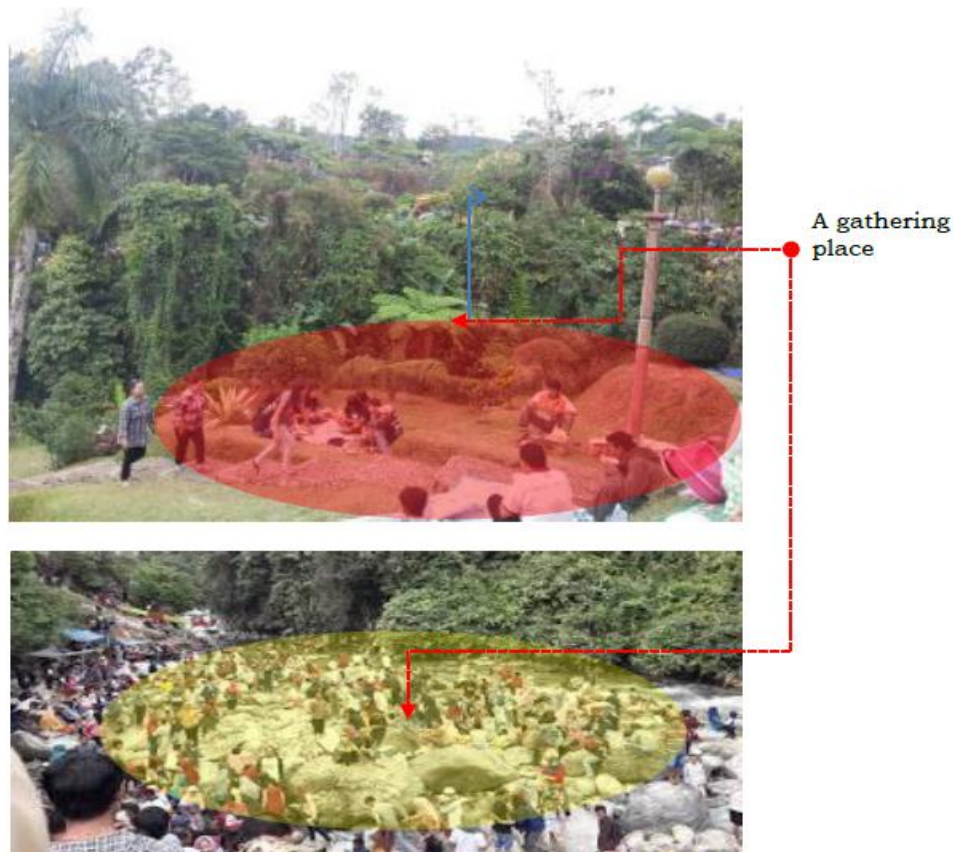
Based on the scope of course, it is the large number of people gathered, for that based on the new social life, in planning and architectural design it is necessary to include elements, which adopt the Government's recommendation, namely keep your distance, wash your hands with soap and wear a mask: **keep your**

**distance, washing hands** is an element related to design, while wearing a mask is a common element. **Of the two elements: (1) keep your distance and (2) wash your hands will result in a good design more specifically an architectural design.**

### 1. *Physical distancing*

In architectural design and landscape architecture, of course, it has implications for the extent and arrangement of the planning area, for example: lobby rooms, waiting rooms, corridors, and lounges in parks, tourist areas are generally areas with large numbers of visitors.

So what are the implications of maintaining distance, of course starting from the standard and capacity of the spatial plan.



Footpaths and pedestrians with a width that are not in accordance with the physical distancing if on solid state



**Figure 1.** Current general condition

In landscape architecture there are two main elements, namely hardscape and softscape, where hardscape is hard elements, such as statues, park benches, gates, bolards, etc. and softscape elements are plants.

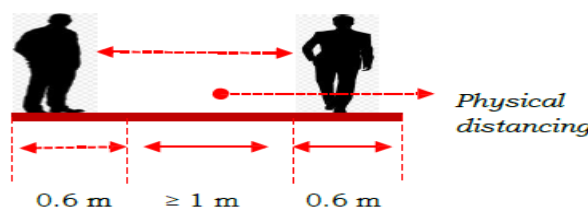
As an area with a specific function in it, it can consist of a path, a bridge, a gazebo, a gate, an artificial recreation area such as a water boom, a fish pond, a plaza for art, a plaza for gathering, a viewing tower, and elements inherent in activities such as park benches, trash, and so on. This activity, of course, with the existence of a new social life, namely keeping a distance, certainly has implications for design. For example, a pedestrian in the tourist area as shown in the picture has a width of 100 cm and the corridor is in the room if it is in congested conditions, there will be people

those who walk back and forth will certainly bump into it, and this is based on the new order should be avoided, there are at least two views, namely based on space and material.

#### A. Room based review

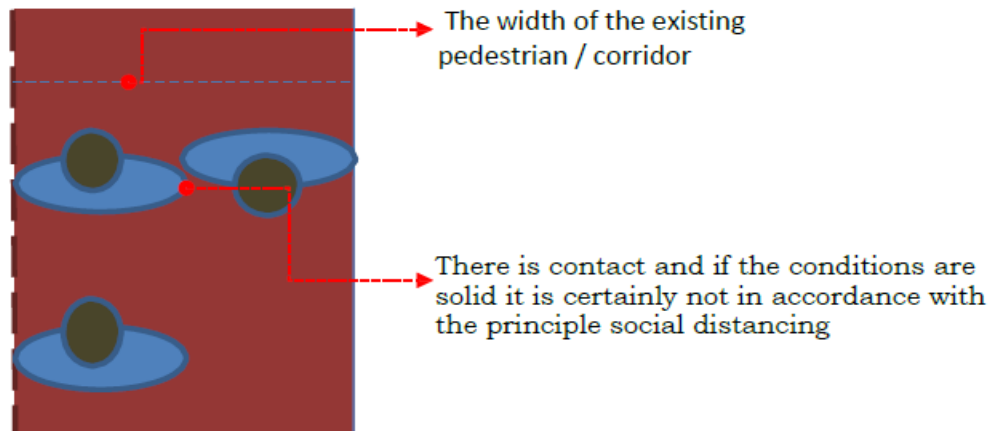
The space referred to here can be in the form of pedestrians, plazas, rest areas, sports venues, etc., where people gather.

1) New place design is possible to anticipate, namely by make the road width according to the rules to keep the distance of 1 meter. If the basic width of 1 person is 60 cm, 2 people becomes 120 cm + 100 m (social distancing) then the width will be 220 cm. So that the space needed per person also increases, for example, if it is set according to the standard before a new life, 4 m<sup>2</sup> per person, after social distancing it is possible to have the size 2 x, namely 8 m<sup>2</sup>, so that space as a whole to be added.



**Figure 2.** Keep your distance concept

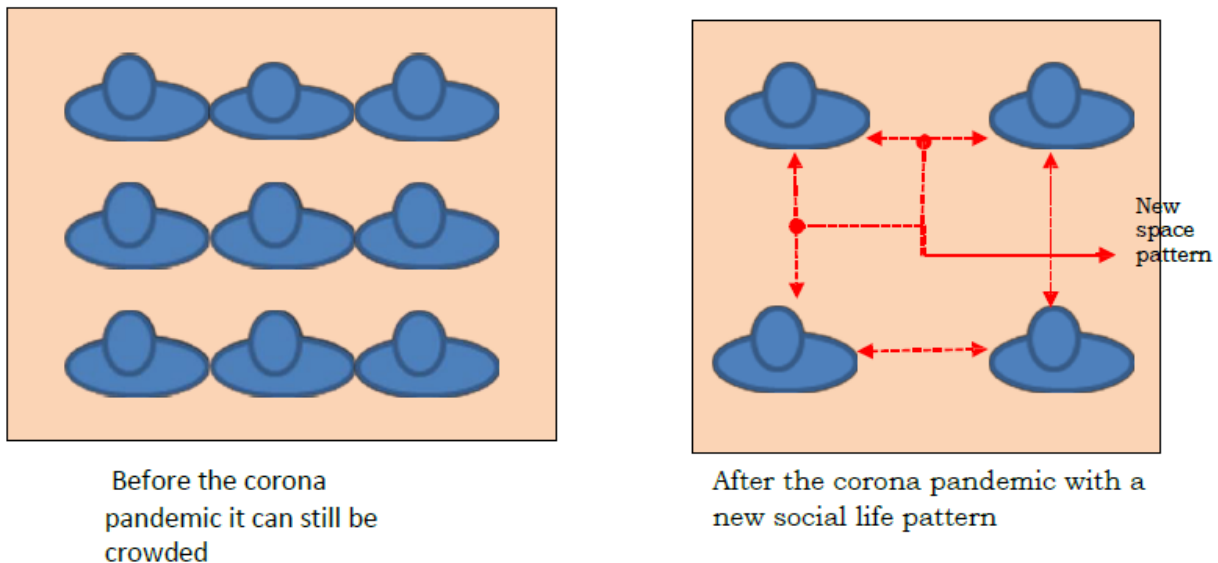
2) To anticipate the design of an area that has been built, to anticipate that is to make the road width according to the rules of guarding the distance, if the existing width is still sufficient, it is possible to widen it, but of course this requires additional costs, which of course must be adjusted to the available funds, and for the building not possible for widening so the second possibility is to limit the number visitors so that the movement becomes looser.



**Figure 3.** Conditions before the pandemic

To avoid the congestion of pedestrians, visitors, and so on, it is necessary to remind them by creating sinages so that they are always alert and reminded of the importance of distance, so that public spaces are safe to use for activities.

So that space can be described as follows:



**Figure 4.** The concept of changing space after a pandemic with the concept of keeping distance

## B. Overview based on Architectural materials

From the material side, based on the observations of the virus doctors, it is possible to live longer in certain materials, and not be exposed to sunlight, therefore the choice of material is very important in the framework of new social life, such as the use of metal element materials is reported to last longer for a long time, this is very risky for areas with high occupancy rates, or during holidays, therefore in planning and design it is necessary to consider the problem of using materials considering the virus cannot last longer. Therefore, it needs to be considered in the design of which elements are often touched by users, based on the inventory, the type of material and the finishing method will be determined so that the virus does not last long.



There are still many roads that need to be reviewed with the existence of a new social life, namely the concept of keeping the distance still not meeting the requirements.

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type selection  
The material and its  
placement are made to be  
able to get rid of the virus  
fish as quickly as possible.  
Given for metal elements  
and in the space  
conditions in the building  
viruses can last longer.



Stair railing is a frequent object on the touch, therefore the choice of material types and their placement is endeavored to be able to get rid of the virus fish as quickly as possible. Given for metal elements and in the space conditions in the building viruses can last longer.

**Figure 5.** Frequently touched elements and materials



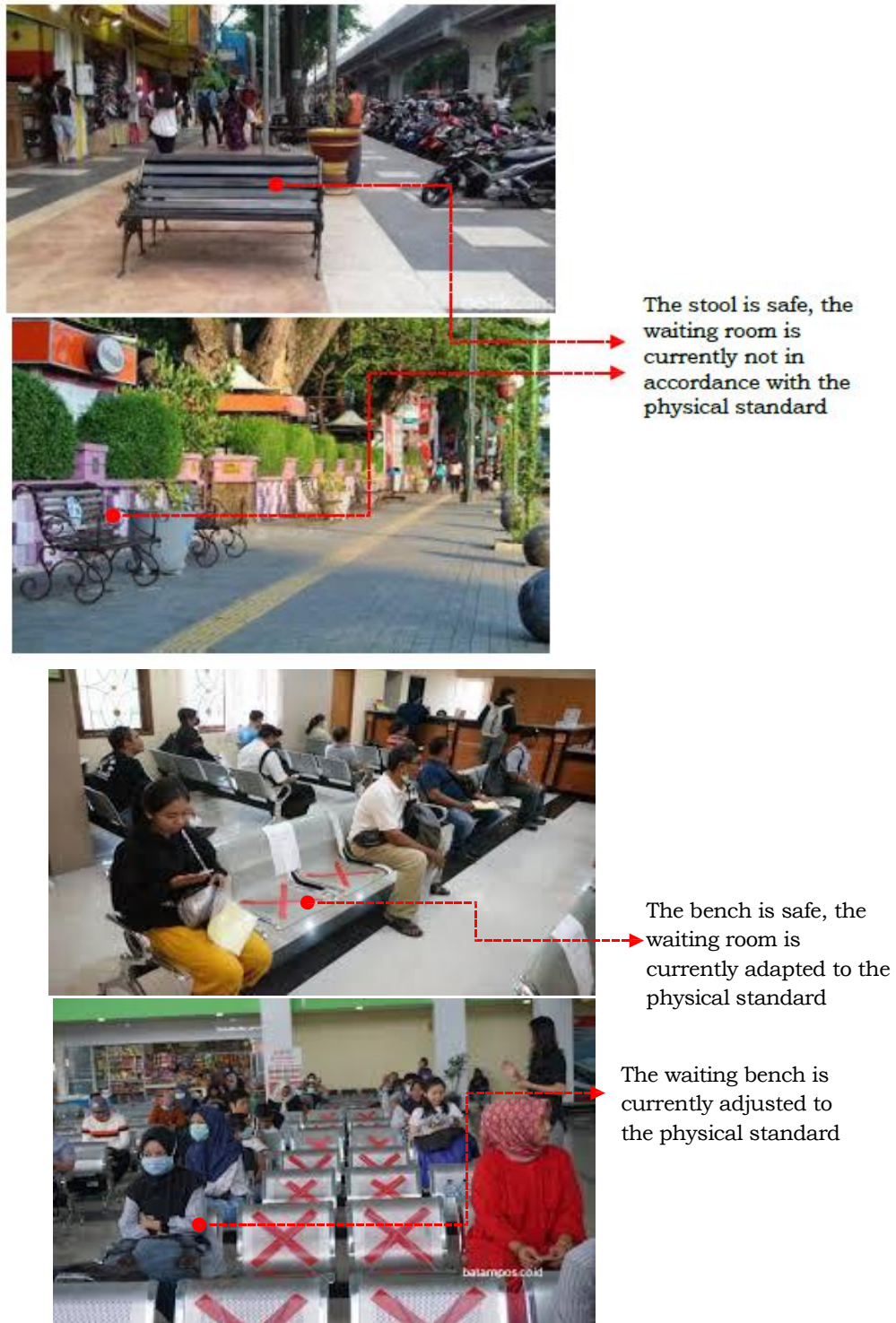
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general users do not make contact / hold the door handle in general, so that not become a center of transmission This fingerprint absent machine can also be an intermediary for the spread of the covid-19 virus

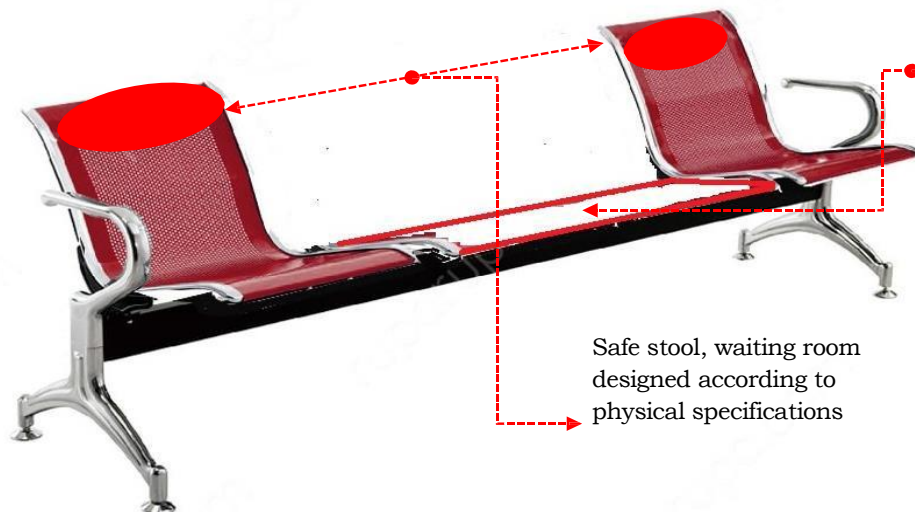
This face detection machine avoids the user from giving a thumbs up in general so it really is good for prevent transmission by contact grip large.



**Figure 6.** Frequently touched elements and materials



Perforated



**Figure 7.** Safe stool, waiting room designed in accordance with physical standards

The design of park benches, waiting rooms that have been adapted to pandemic conditions with the concept of guarding distance can actually continue to be developed because it has the following advantages: (1) It is cheaper, (2) for benches placed in the park it has the advantage of avoiding immorality where it minimizes young people to be close together. in a park / quiet place in the park. Whereas the disadvantage is that it requires more space for the capacity of people, so that overall it requires a larger cumulative space, if it is not possible that the space to be added will result in a reduction in the capacity of people / users, for example: if the sitting room is enough for 100 people with 25 The row of seats with four seats after physical distancing will reduce to only 50 people, and if we are to design a new one, the space area must be twice as large.

How after everything returns to normal and the virus is not a threat, for cleanliness must be continued in the room, by cleaning frequently touched areas with disinfectant, applying face detection absences, washing hands in the main room entrance area, it can still be done, for indoor waiting room benches buildings can be applied normally, but for park benches it is still best to keep a distance, this is to avoid immoral problems..



**Figure 8.** in times of pandemic free people do not have to keep their distance

### C. Overview based on Shoftscape

Softscape is a plant element, in planning and designing towards a new life it is very important to pay attention, as an illustration where the virus can survive for a long time in a cool and comfortable environment, therefore a gathering place under a tree will create a cool atmosphere, this condition is very risky. where possible the virus can last longer.

So in the design, it is very necessary to study the placement of the place where people gather not in a dense atmosphere because it is possible that the virus will last longer, so that in the analysis it is necessary to understand and deepen the direction of the sun, which can kill the virus and the place where people gather is cultivated by using the spatial concept. such as spatial discussion.



**Figure 9** Softscape elements

For this reason, in planning and designing the softscape it is very necessary to consider the right type of plant so that it does not cause a damp atmosphere, which is very risky to users / visitors because with this atmosphere the virus can last quite a long time, from a combination of shade / protective plants, shrubs and ground cover can be combined in the area so that the sun can still shine very well so that the virus does not last long. The zoning of the softscape type placement must be in accordance with the placement of the activities of the user.

### D. Overview based on Building Physics

For outside the building it is possible to be creative in the natural landscape as much as possible, but for inside the building that needs attention are: (1) lighting, (2) air conditioning :

- 1) In architectural design, the placement of windows to get sufficient sunlight and as air circulation is very necessary for human health, poor air circulation and lack of natural light will cause disease, especially with the covid-19 virus, it is possible if there is a lack of lighting and air circulation. good will be a long time sticking to building materials in the building, for that architectural design needs to apply adequate lighting and good air circulation.
- 2) The use of AC, in Indonesia with tropical and hot air, it is very common to install AC, this will certainly add to the coolness of the room so that users in the room do not become hot and do not sweat easily which is certainly uncomfortable, but with the presence of Covid-19 where the room conditions are cold , will result in the covid virus-19 takes a long time to die and will easily spread so that the use of air conditioning will be able to result in the length of time the covid-19 virus lives until danti is touched and developed. Therefore, for air-conditioned rooms, it is imperative to maintain their sterilization and cleanliness so that they do not become a source of general infection. The use of central air conditioning may be dangerous for public spaces, therefore it is better to use partial air conditioning, which is combined with air and natural lighting, so that indoor air conditioning can be adjusted as needed, for spaces with central air conditioning that need to be. Keep in mind is routine and continuous room sterilization and cleaning of space so that viruses do not live long in materials that are often touched by humans such as door handles, stair railing, elevator buttons, fingerprint absences, escalator railing, travelators and so on.
- 3) Sanitation and waste management, with the existence of Covid-19 where the virus is transmitted through humans and can last a long time if it sticks to an object, new problems will arise, namely waste whatever:
  - a) Mask waste, if many people use one-time masks and throw them away, the question is where to throw them away, if there is one patient under supervision or a person without symptoms using a mask and hanging in the trash in general, then it is very possible transmission, as well as covid-19 treatment hospital waste, it is necessary to manage more carefully, for large hospitals that can last a long time when attached to an object, new problems will arise, namely waste of whatever:



It certainly has good waste management standards, what if it is not a hospital (only an emergency place) of course it will be very dangerous, therefore with the standards from WHO and those implemented by the task force it is certain that hospital waste will be safe because it is always strictly controlled. The problem is that mask waste needs a more detailed explanation, what is burned, disposed of in a place that has been given a disinfectant, etc., also tissue waste to wipe the nose, mouth and sneeze cover, where to throw it away, so it is necessary to provide a sterile and safe place that is not directly related with waste that is not hazardous waste, because it is very likely to infect garbage managers or collectors. (This needs further study and SOP from the Ministry of Health) and must be socialized.

## 2. Hand washing concept



Figure 10. Washing hands

The concept of washing hands has an implication in the design is by placing a container of water and soap, most of which are for example in the picture, the hand washing place will be a risky place too, where the faucet material, both the washing water faucet or the soap button, will be touched by many people. Therefore, in planning and design, it is necessary to think about automation or how the faucets and soap buttons are not touched by everyone.

By combining between maintaining distance and washing hands, it can be applied in planning and design as follows;

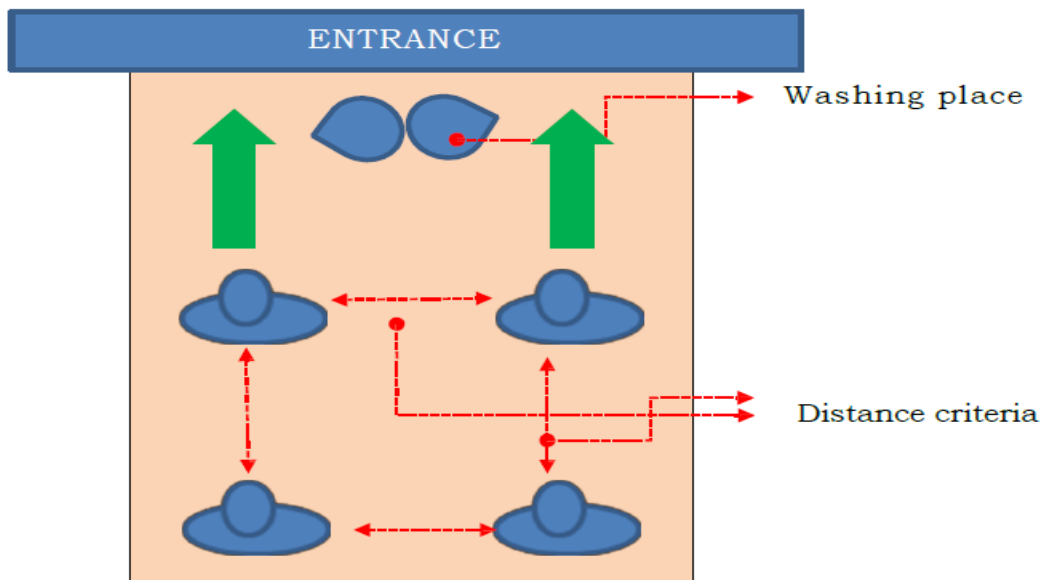


Figure 11. New concept with Hand Wash Criteria

## Conclusion

In the era of new social life during the Covid-19 pandemic, in the future until the antidote for the corona drug is found, it is very necessary to develop a design, namely by taking into account maintaining distance, through spatial, material, and softscape features. and it is necessary to design a gate by preparing the concept of washing hands and keeping a distance, so that users before entering the area have already provided a place for washing hands, and at each entrance to the sub-region it is also very necessary to have a gate that only fits 1 person who must wash hands before entering the area. For planning park benches in addition to avoiding the corona virus, it can also be able to avoid immoral acts, namely by designing park benches with the concept of keeping distance. The concept of lighting, natural and artificial air conditioning needs to be paid close attention to to maintain the health of the user, the placement of special trash cans for masks and sneezing covering wipes, mouth rags are considered based on hazardous waste standards and health standards. Also the consistency of spraying the area and vehicle sterilization from above and below so that the environment can be sterile at the main door of the area. With a development concept based on keeping your distance and washing your hands, an artistic and useful appearance for prevention can be maximized by architectural concepts through careful analysis and concepts in every planning and design.

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