

Gending Architectural Design of the Javanese Arts Performance Center in Wonogiri City, Central Java

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Abstract: The aim of this study is to provide facilities for fans and performers of the arts, in the form of a building that is able to accommodate a number of local cultural arts activities that represent Wonogiri's local wisdom while at the same time being able to reflect technological advances so that they can embrace young people's interest in loving traditional culture. The approach used in the design is research-based design, and the study of architectural history, namely design that is supported by research results, regarding the wishes and expectations of residents for activities and facilities, which takes into account the history of the city, traditional buildings, patterns of life and culture of the community, to support the design. The results showed that the design consists of several zones of public, semi-public, semi-private, private, service, with 4 main room divisions including the main lobby room, main performance room, semi out door show room, and education and training room. The layout of the building, site, and external performance of the building are designed with a mix of cultures and illustrate the meaning of the name Wonogiri which means forest and mountain, which is combined with modern architecture.

Keywords: Architectural design, culture, Javanese arts, performance center.

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Introduction

Authors Central Java province has 29 regencies and 6 cities with the city of Semarang as the provincial capital, which has relatively the same cultural arts in each region. Performing Arts which is a branch of Central Javanese art include; (a) *Ketoprak*, (b) Shadow Puppet, (c) *Jemblung* Puppet (People), (d) *Lengger Calung*, (e) *Begalan*, (f) *Angguk*, (g) *Ebeg* Dance, (h) *Bondan Payung* Dance, (i) *Gambyong* Dance, (j) *Srimpi* Dance, (k) *Sendratari Ramayana* Dance, (l) *Macapat*, (m) *Dengklung*, and (n) *Tayuban*. In particular, the Wonogiri area has several regional arts, including: (a) *Ketek Ogleng*, (b) *Barong Prak/Barong Abang*, (c) *Kotekan Lesung*, and (d) *Karawitan* (Dirjenbud, 2018).

The performance building and cultural arts center is a place that accommodates all artistic and cultural activities for artists and the public to study traditional arts and culture, as well as introduce culture by holding exhibitions, seminars and traditional Central Javanese art performances (Saputra, 2017). The arts and culture center building can be interpreted as a place that is used to create art and a place to organize cultural activities (Ardhiati, 2014). The scope of cultural values reflected in architectural works is religion, social, politics, science and technology, economics, and aesthetics (Vindya, 2018).

According to Ki Hajar Dewantara, art is all human actions arising from feelings and beautiful qualities, thus moving the human soul and feelings. Art is a vessel for expressing a creation that exists in every culture (Saputra, 2017). Along with the development of the times, human needs and understanding, art is also growing. This was followed by the birth of new arts in society into various branches of art.

Culture is a way of life that develops and is shared by a group of people and is passed down from generation to generation. According to the Big Indonesian Dictionary, culture is thought or reason. According to *Kamus Besar Bahasa Indonesia*, a cultural center is a place to foster and develop culture (Setiawan, 2022).

The design theme is carried out in the form of a combination of forest and mountain elements taken from the meaning of the name Wonogiri City. The theme is outlined as a theme by exploring the atmosphere which describes the condition of the Wonogiri region in the form of rice fields, gardens, forests and mountains for outdoor performance. The way to approach the design according to the theme is through applying the theory of Postmodern Architecture by Charles Jenck (Ardhiati, 2022a). One of the 13 Postmodern Architecture theories presented by Jenck is Metaphor to Natural and Cultural, which is a theory that guides the design process by combining modern architecture with traditional architecture which has multiple characteristics and is more oriented and translates personal meaning in the form of technology, building materials, culture, social order, social level, historical values, building styles, and the environment as an important part of architecture (Aini, 2019).

There are three precedent studies used in the design of the Javanese Cultural Arts Performing Center Building, including the following. First, the Central Java Cultural Park or called the Surakarta Cultural Park (TBS) is a place that is a place for development, research, documentation, and appreciation of Indonesian arts and culture established by the Provincial Government of Central Java.



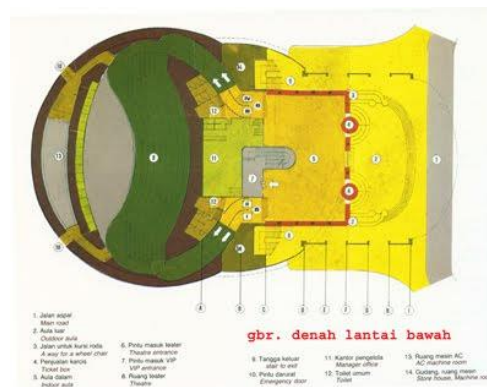
[Source: Anwar, 2022]

Figure 1. Central Java Cultural Park Site Plan

Figure 1 shows the site plan of the Central Java Cultural Park with the following facilities: (i) Pendhapa Ageng, (ii) Pendhapa Alit, (iii) Wisma Seni, (iv) Murtidjono Indoor Theater Building, (v) Arena Theater Building, (vi) 'Bong' Open Theatre, (vii) Fine Arts Gallery, (viii) Secretariat Building, (ix) Library Building, (x) Wisma Seni Building, (xi) Prayer Room, (xii) Music Studio, (xiii) Recording Studio, (xiv) Puppetry Studio, (xv) Karawitan Ward.

Second, the Keong Mas Imax Theatre, is a theater building in the shape of a giant golden snail which is a place for high-tech film screenings and performances. Inaugurated on April 20, 1984, it became the first IMAX theater in Indonesia. The establishment of this theater building is intended as a recreational facility that educates, introduces Indonesia's natural and cultural riches through showing films with the sophistication of modern IMAX Projector cinematography technology that gives the impression of being in it and acting as a player.

Several films are available to be screened including (a) the film Indonesia Indah I, (b) Indonesia Indah II (Indonesian Children), (c) Indonesia Indah III (Indonesia Manikam Strings on the Equator), and (d) Indonesia Indah IV (I Am Proud to Be an Indonesian Child) (Taman Mini Indonesia Indah, 2022).

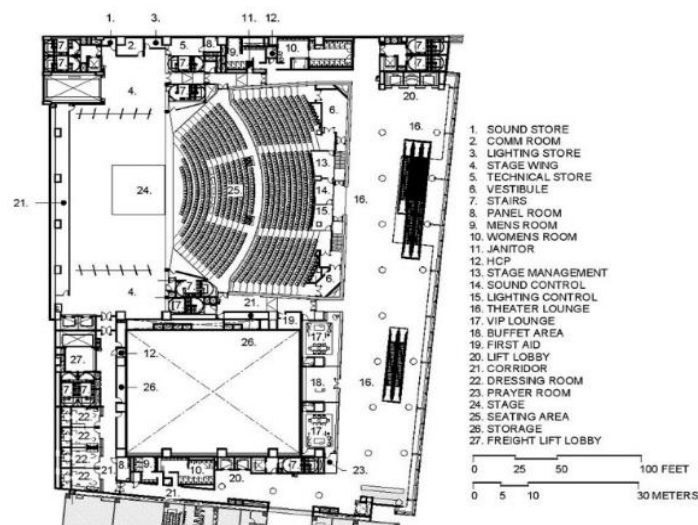


[Source: tamanmini.com, 2022]

Figure 2. Floor plan 1 of the Imax Keong Mas Theater Building

Figure 2 is a floor plan of the Keong Mas Imax Theater Building with the following facilities: (i) Park, (ii) Lobby, (iii) Prayer room, (iv) Toilets/bathrooms, (v) IMAX Theater ROOM with 811 regular seats and VIPs as many as 36 people.

Third, JEXPO Convention Center and Theater which is one of the affiliated properties of PT Jakarta International Expo (JIEXPO), which has held many national and international events since 2018, with memorable and inspiring events. It is commonly used as a venue for hosting various types of events ranging from meetings, conferences, product launches, weddings and social events to cultural performances, live theater and music concerts.



[Source: wsdg.com, 2022]

Figure 3. Floor Plan of L1 JEXPO Convention Center And Theater

Figure 3 shows the first-floor plan with the following facilities: (i) Theater Lounge, (ii) Vip Lounge, (iii) Lift Lobby, (iv) Prayer Room, (v) Seating Area, (vi) Toilet, (vii) Meeting Room, (viii) Service Lobby, (ix) Food and Beverage Store (WSDG, 2022).

Residents of the Wonogiri City show enthusiasm in terms of preserving local art and culture, this can be seen from the existence of an active community in art activities organized by the government and independently by the community such as art performances, festivals and competition activities, and art activities are often held. and national level culture such as the Wonogiri Reog Festival.

In addition to the unavailability of venues for artistic activities in Wonogiri, the rapid development of technology in the digital age has raised concerns that traditional Indonesian arts and culture are increasingly being abandoned, because people, especially young people, can move on to modern art that relies on technology. However, with the existence of a number of artistic and cultural communities in Wonogiri, a number of traditional arts can be maintained, so that the unique arts and culture of Wonogiri and Central Javanese art in general will continue to be preserved. Ideally, art and cultural communities are facilitated in Wonogiri. However, adequate cultural arts performance center facilities are not yet available. For this reason, it is necessary to have a center for performing arts and culture in Central Java which is expected to become a forum for the arts community, a forum for education, promotion, as well as preserving Central Javanese arts and culture through a series of art training activities to performances or performances.

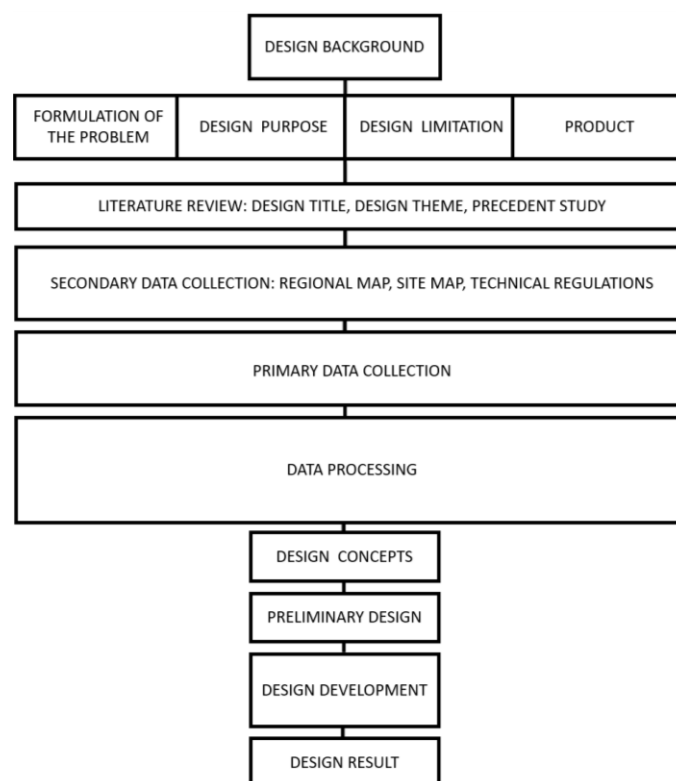
In order for the youth community to be able to love the traditional arts of Central Java, efforts are needed so that technological advances can also be synergized into the building so that traditional Javanese art remains sustainable, and develops in tandem with advances in technology that can be utilized for promotional events that are make art more popular.

Methodology

The approach used in the design of the Javanese Cultural Arts Performing Center Building in the Wonogiri City use a qualitative research-based design, and an architectural history study approach (Ardhiati, 2017), namely a design that is supported by research results, regarding the wishes and expectations of residents for activities and facilities, which takes into account the history of the city, traditional buildings, patterns of life and culture of the community, to support design (Ramdana, 2018; Studio Architecture, 2020; Tedjo, 1988).

The design method used in the design of the Javanese Cultural Arts Performing Center Building in Wonogiri City uses a survey method at the design location to obtain data as was done by Ardhiati (2022), Gunawan & Ardhiati (2022), and Luthfianto & Anggita (2022). The author also conducts interviews with people who have used the arts and culture center building to obtain data on activities in the building, data on building facilities, data on the level of visitor density and peak hours of visitors to buildings and secondary data collection through online literature to Obtain design standards.

In this case, the building precedent study method was used with similar functions and design themes, namely Postmodern architecture in buildings to obtain data in the form of space program analysis. Description of site analysis and building analysis which includes architectural, structural, and mechanical electrical plumbing/MEP analysis in the design stage.

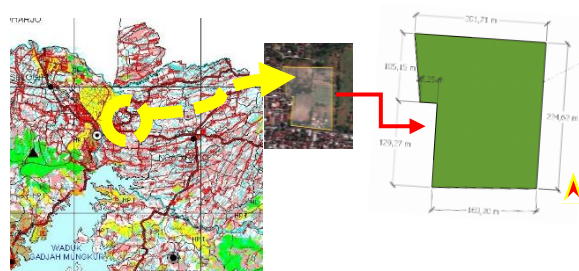


[Source: Farras, 2022]
Figure 4. Design Framework

Results and discussion

The design location for the Javanese Cultural Arts Performing Center Building in Wonogiri City is at Jalan Diponegoro No. 95, Jatirejo, Wonobojo, Wonogiri District, Wonogiri Regency, Central Java 57615, According to the Wonogiri Spatial Plan and Area, this site is included in the red zone or industrial area. The following regional regulations apply to this site.

- KDB: 60% x 4.0 Ha = 24,000m,
- KLB: 420% x 4.0 Ha = 168,000m,
- KDH: 20% x 4.0 Ha = 8,000m,
- Max Height: 7 layers (32m),
- GSB: 5m.



[Source: Google Earth, 2022]

Figure 5. Site Location

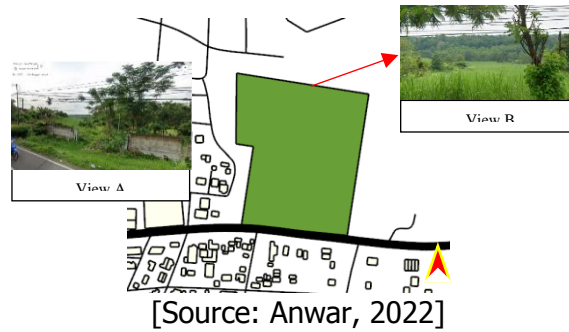
The site boundaries are as follows:

- a) North: Vacant land (sugar cane)
- b) East: Vacant land (sugar cane)
- c) South: Wonogiri-Ponorogo highway
- d) West: Residential settlements.

Site Analysis

Wonogiri's average temperature ranges from 22°C - 31°C, with a humidity level of 89%. Wonogiri's average rainfall throughout 2022 is 294 millimeters (Ventures, 2022).

Wonogiri's wind speed experiences significant seasonal variations throughout the year. Moderate winds, averaging over 11.3 kph, last from June to November. The highest wind speed, with an average wind speed of 14.6 kilometers per hour occurs in August. Meanwhile, the lowest wind speed occurred in March, with an average wind speed of 8.1 kilometers per hour (Ventures, 2022).



[Source: Anwar, 2022]

Figure 6. Site View

From the data and analysis that has been done, it is necessary to make adjustments to the site which can affect the orientation of the building (a) Point A is a Point of Interest from the outside to the site, then point A will be made as the front of the building which will be visible from that point. (b) Point B is the Point of Interest of the site to the outside, namely the view facing towards the hill, this point is suitable for making openings on the site and buildings because of the natural conditions that can be enjoyed visually.

Noise Analysis

The source of solid noise on the site comes from the south of the site, namely the activity of the Wonogiri-Ponorogo highway, low noise in the west direction is caused by the activities of SMPN 2 Wonogiri and residents' settlements, minimal noise levels are in the north and east areas due to vacant land in the form of sugar cane plantations and settlements far from the site, so adjustments are needed in designing and placing buildings to provide comfort for users and residents around the site.



[Source: Anwar, 2022]

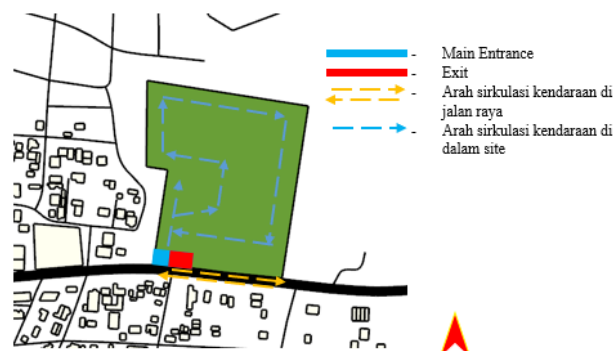
Figure 7. Synthesis of Noise Sources Around the Site

In Figure 7 there are adjustments to the site in the form of building placements and adding noise-canceling vegetation, (a) at point A is a point that has noise that can disrupt site activities, this point will be a vegetation area that will hold noise from outside the site, and vice versa, (b) at point B is a moderate noise level entering the site, namely by placing open spaces in area B or buildings

that do not affect site noise. (c) at point C, adjustments to that part will be placed in rooms that need quiet, such as libraries, prayer rooms, etc.

Circulation Analysis on the Site

On the site there is no separate health insurance, because the site is vacant land. The circulation around the site is the Wonogiri-Ponorogo highway consisting of 2 lanes, 4 lanes, 2 directions with a road width of 10 meters without pedestrian lanes, which is a Provincial Road. The following is a picture of additional circulation on the site.



[Source: Anwar, 2022]

Figure 8. Site Circulation Synthesis

Site Contour Analysis

The contour of the site has a fairly steep slope with the southern part as the highest area directly adjacent to the main road, and the northern boundary as the lowest area on the site, with a height difference of approximately 30m.



[Source: Google Maps, 2022]

Figure 9. Location Contours

Space Program Analysis

To make it easier to determine space requirements, the activities in the Javanese art and cultural performance center building can be grouped as follows:

- a) Show. It is the main activity in the building to display a variety of performing arts.

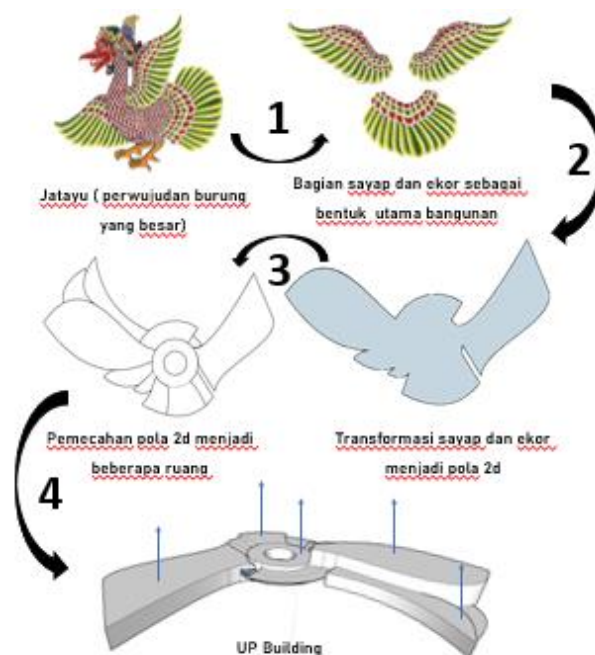
- b) Education. In the form of education and knowledge about performing arts in Central Java.
- c) Recreation. Activities that can be done by visitors on the sidelines of the show.
- d) Administrative. Activities related to administration, regulations, and the needs of the theater.

Area	Width	Circulation	Total m ²
Parking	4427,5	885,5	5313
Public	3849,2	769,84	4619,04
Show	1888,2	377,64	2265,84
Exhibition	874,2	874,2	1748,4
Study & Practice	1743,2	348,64	2091,84
Manager	719,2	143,84	863,04
Service	1363,32	272,664	1635,984
Outdoor Show	827	165,4	992,4
Total Building Area			19529,544

[Source: Anwar, 2022]

Table 1: Space Amount

Building Philosophy and Metaphor



[Source: Anwar, 2023]

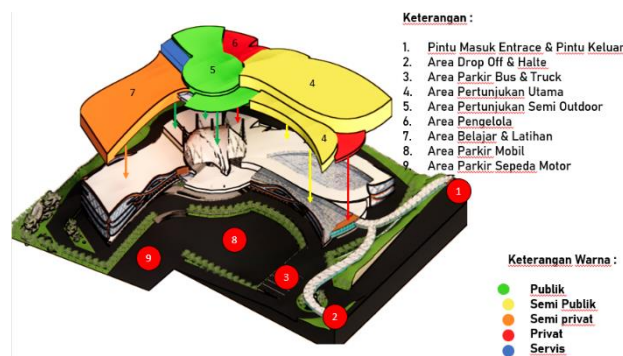
Figure 10. The Mass Composition Metaphor

In accordance with the theme, the idea of mass composition forms is taken from the process of blending modern architecture with traditional architecture which has dual characteristics and is more oriented and translates personal

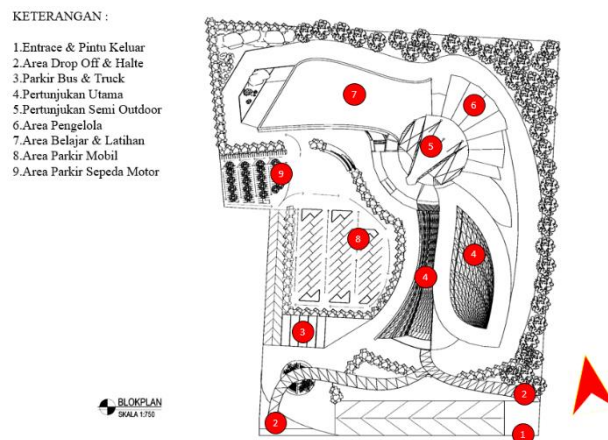
meaning in the form of technology, culture, and historical values, Jatayu, who is the protagonist of the epic Ramayana and is the embodiment of a large bird like a giant, which can speak which is a symbol of the attitude: kindness, courage, defender of truth, never give up, wise, loyal.

Site Design Concept

The site design concept produces 8 zones as follows: (i) Drop Off & Bus Stop Area, (ii) Bus & Truck Parking Area, (iii) Main Show Area, (iv) Semi Outdoor Show Area, (v) Management Area, (vi) Learning & Training Area, (vii) Car Parking Area, (viii) Motorcycle Parking Area.



[Source: Anwar, 2023]
Figure 11. Site Zoning Concept



[Source: Anwar, 2023]
Figure 12. Vehicle Circulation Concept

On the site there are several circulation paths for vehicles, and for pedestrians, with several facilities for pedestrians in the form of pedestrian paths, and a sky walk that connects between bus stops and buildings, which makes it easier for pedestrians to reach their destination as well as a ramp to provide convenience for persons with disabilities.

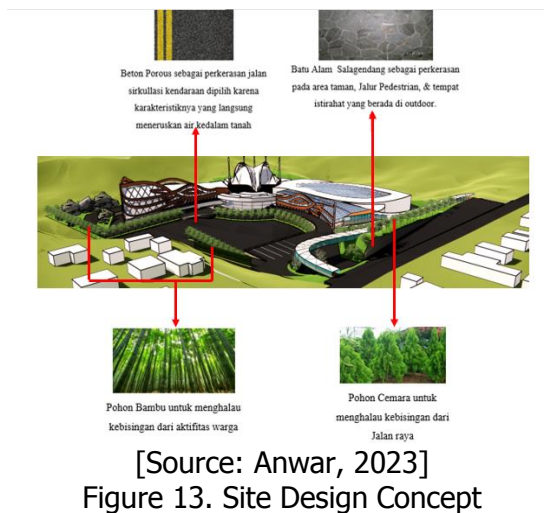


Figure 13. Site Design Concept

The site concept in this design is taken from the theme, approach, atmosphere which, in accordance with the theme, namely Metaphor to Natural and Cultural. The site will be made with lots of green space to get harmony with the surrounding area which is still beautiful and green, with the selection of vegetation not only for beauty but for its function for buildings or activities that occur around it, around the site several materials from wood and natural stone will be used, as well put some mountain rocks to emphasize the natural impression and still reflect the meaning of the name of the Wonogiri City, and Most of the pavement used is porous concrete which will direct water to the ground quickly.

Building Design Concept

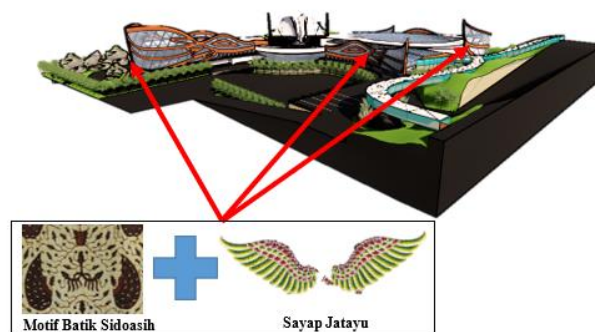


Figure 14. Architectural Concept

The architectural concept in planning incorporates elements of the meaning of the name Wonogiri City, namely forest and mountain, which is in line with the Metaphor to Natural and Cultural approach by combining modern architecture with traditional architecture which has the characteristics double and more oriented and interpret personal meaning in the form of technology, building materials, culture, social structure, social level, historical value, building styles, and the environment as an important part of architecture.

Table 2. Architectural Concepts

Types	Types of Materials	Application to the Building
Wall	<ul style="list-style-type: none"> - Brick - Curtain Wall 	<ul style="list-style-type: none"> - Use of brick walls in several buildings that are vulnerable to water exposure, as well as in areas that require soundproofing to keep sound out. - Curtain Wall is used around the building to give a luxurious impression on the building facade.
Wallcoverings	<ul style="list-style-type: none"> - Paint - Ceramics - Silencer foam - Carpet 	Wall coverings in the Main Performance Room, Practice Room, and Recording Studio use a combination of sound absorbing foam, carpet/glasswool to dampen sound, and ceramics for areas prone to water exposure.
Floor	<ul style="list-style-type: none"> - Ceramics - Vinyl - Carpet 	<ul style="list-style-type: none"> - Floor materials in service areas such as toilets, bathrooms and prayer rooms use ceramics because they are water resistant - Carpet material is used in areas where soundproofing is required to dampen sound.
Plafond	<ul style="list-style-type: none"> - GRC - Gypsum - PVC 	Ceilings used in buildings are GRC, PVC, and gypsum.
Window	<ul style="list-style-type: none"> - Aluminium - Glass 	The door material used is aluminum with wood and glass motifs. Special glass material in the main lobby zone.

[Source: Anwar, 2023]

Table 3. Structure Concept

Category	Selected Type of Construction
Sub Structure (Foundation)	- The foundation used in the building is a strong pile foundation to withstand loads and wide spans.
Mid Structure	- Mid structure in buildings In buildings using a combination of steel construction and concrete as columns, and steel beams are chosen for reasons of strength, lightness, and relatively faster processing time.
Upper Structure	- The upper structure of the semi-outdoor show building uses a Space Frame structure, a combination of reinforced concrete structures and Space Frames in the main performance building, as well as reinforced concrete structures in training and learning buildings

[Source: Anwar, 2023]

Mechanical Electrical and Plumbing Concepts

In this case, the building precedent study method was used with similar functions and design themes, namely Postmodern architecture in buildings to obtain data in the form of space program analysis. Description of site analysis and building analysis which includes architectural, structural, and mechanical electrical plumbing/MEP analysis in the design stage.

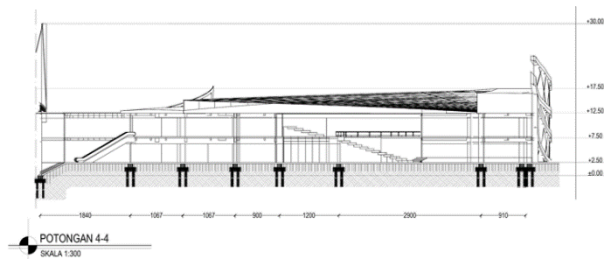
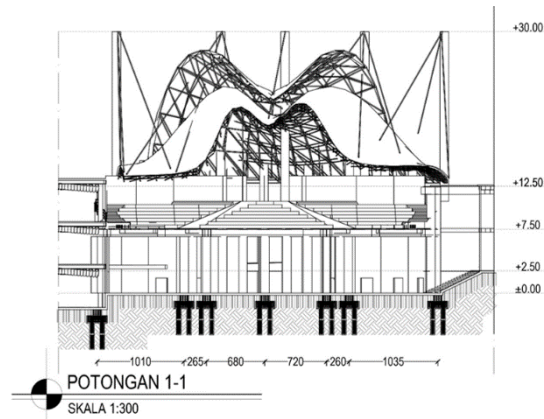
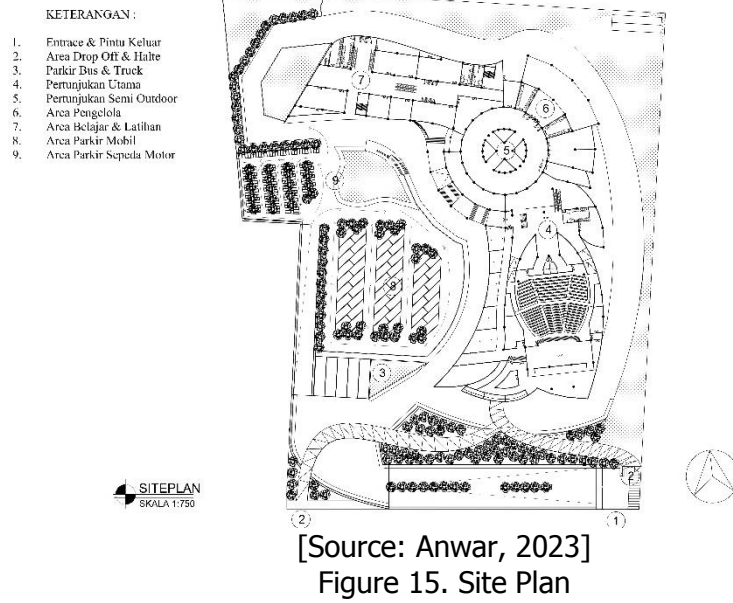
Table 4. MEP Concept

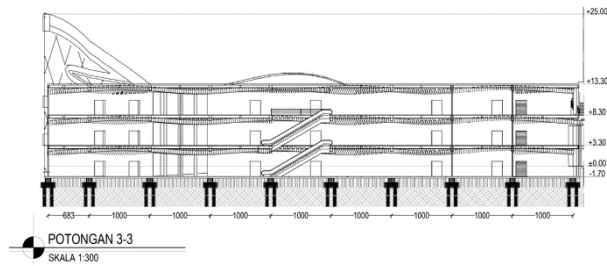
Description	Type
Transportation system	• Visitor Elevator
	• Freight Elevator
	• Escalator
	• <i>Ramps</i>
	• Emergency Stairs
Plumbing	• <i>Ground Water Tank</i>
	• <i>Pressure Tank Pump</i>
	• STP
	• PDAM
Air Condition	• Natural
	• AC
Sound system	• <i>Speaker</i>
Electrical Mechanical	• PLN
	• Generators
	• Panels
Mitigation	• (Kebakaran)
	• <i>Smoke Detector</i>
	• <i>Sprinkler</i>
	• <i>Alarm</i>
	• Emergency Stairs
	• Earthquake
	• Evacuation route alarm
Lighting	• Natural
	• TL Lamp
	• <i>Downlight Lamp</i>
	• LED spotlight
Lightning rod	
Waste Disposal	• Segregated trash
	• Temporary trash cans

[Source: Anwar, 2023]

Design Drawings

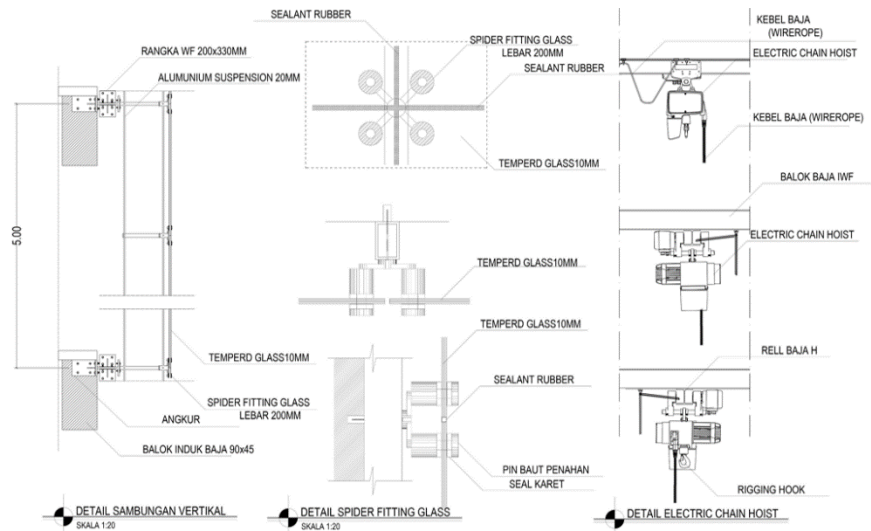
The building can be divided into 4 (four) main rooms, namely, main lobby room, main performance room, semi outdoor performance room, and education and training room.





[Source: Anwar, 2023]

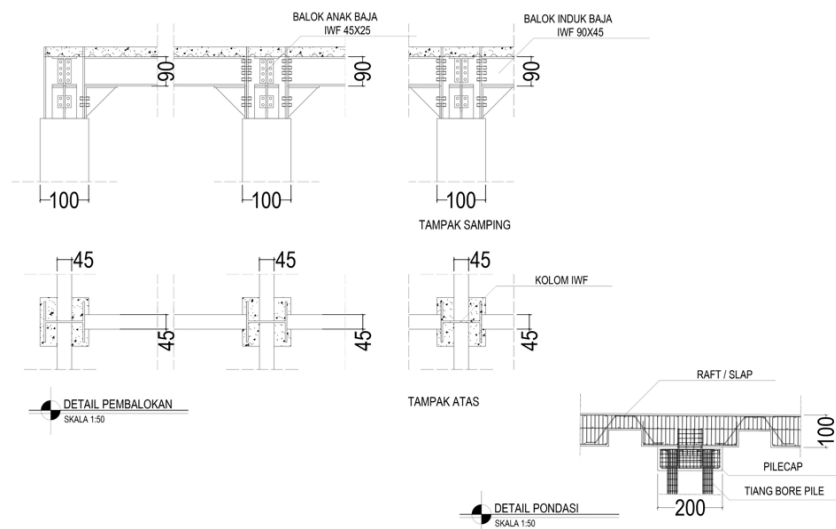
Figure 18. Section 3 - Education & Training Room



[Source: Anwar, 2023]

Figure 19. the Architectural Details

Figure 19 is an architectural detail drawing in the form of a detailed Curtain Wall and Electric Chain Hoist which functions as a show support tool.



[Source: Anwar, 2023]

Figure 20. The Structure Details

Figure 20 shows the details of the building structure in the form of pile foundations, composite steel columns, and steel beams chosen to support the strength of buildings with wide spans.

Conclusion

The Javanese Cultural Arts Performing Center Building in Wonogiri City, located at Jalan Diponegoro No. 95, Jatirejo, Wonoboyo, Kec. Wonogiri, Wonogiri Regency, Central Java 57615, with a site area of 4.0 ha. The design consists of several public, semi public, semi private, private, service zones, with 4 main room divisions including the main lobby room, main show room, semi out dorr show room, and education and training room. The layout of the building, the site, and the external performance of the building are designed with a mix of cultures and give an idea of the meaning of the city's name Wonogiri which means forest and mountain, combined with modern architecture.

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