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HOUSING FOR 3 GENERATION WITH APPLICATION OF UNIVERSAL DESIGN (SENTUL, KUALA LUMPUR)

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ABSTRACT

The main objective for this paper is to obtain a framework to allow adaptable and flexible housing solution for multi-generational living by applying universal design approach to make it more user friendly. Malaysian population shall reach 32 million by 2020, and almost 70 percent will be in urban area by 2020, today, 63.8 percent is urbanized. Malaysia will also reach ageing nation and the projection of 15 percent of the population will be aged 60 and above in 2050. This calls for a new housing trend that will address these issues. Application of universal design during pre-construction should be encouraged. The methodology applied is by using table research and literature review. Primary data from qualitative approach, including interviews, observation and questionnaire will be analysed. Secondary data from literature, using content analysis will be carried out. This paper will conclude by producing a set of design criteria for three generation housing, which applied universal design approach, which promote financially rewarding to both developers and residents, and to create as a catalyst for the future housing development in Malaysia.

RESEARCH METHODOLOGY

In the commencement of this research, the methodology adapted in collecting data is to ensure comprehensiveness of the whole process perform well. For this research table research and exhaustive literature will be carried out. Both primary and secondary data will be collected. The primary data includes interviews and distributing questionnaires while the secondary data are case studies and literature reviews.

REFERENCES

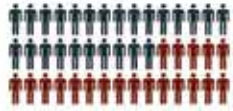
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FINDINGS

29,834,066
Malaysia's Population July 2013
Shall reach 32 million by 2020

+70%

Malaysia's Population will be URBAN 2020
61.8% urbanised today

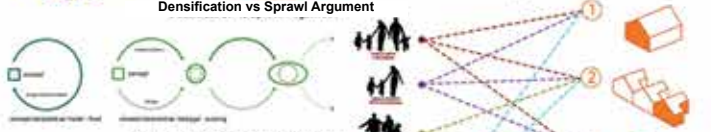
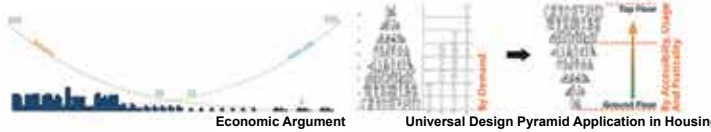
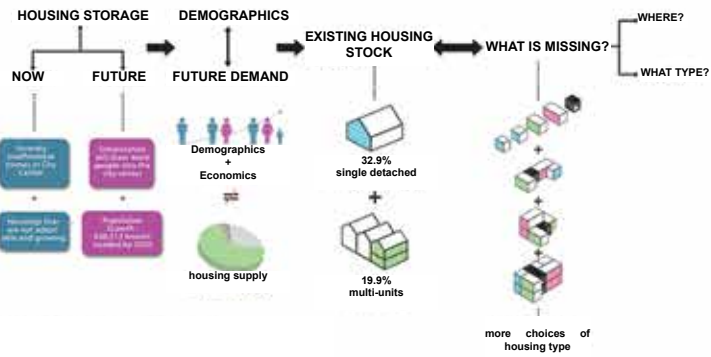


Malaysia Towards Aging Nation

Malaysia will reach Aging Nation status by 2035
Projection of 15% of the population will be aged 60 and above



There are no Transgenerational Housing in Malaysia Yet

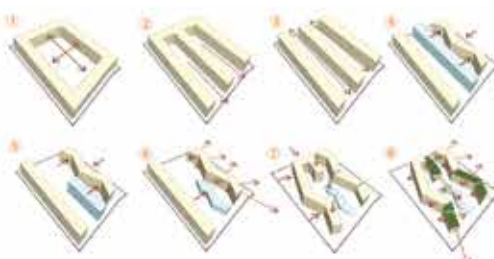


FORM & MASSING MORPHOLOGY



SITE SYNTHESIS

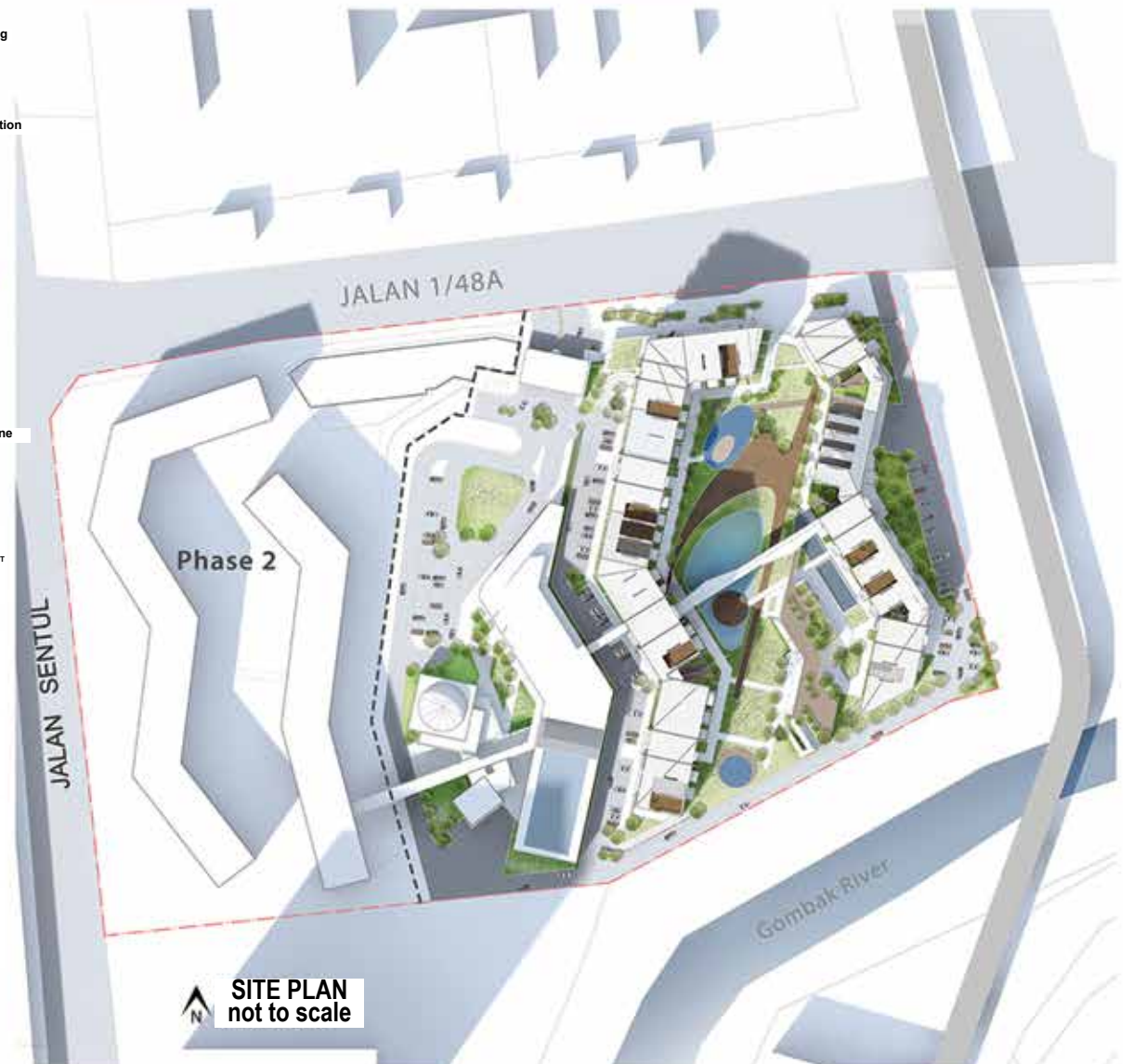
The massing is formed due to the opportunities, strengths and constraints of the site. The form maximizes the view points, ventilations and also blocks out few unwanted elements such as lack of privacy and excessive sound from the LRT



- COMMUNITY ORIENTED LIVING COMPLEX
- LONGER PATHWAY
- CREATE FACE TO FACE UNIT ARRANGEMENT
- CREATE SERIES OF GATHERING SPACES
- SENIOR FRIENDLY LIVING COMPLEX
- CONTRASTING COLORS
- DISTINCTIVE TEXTURE
- BARRIER FREE DESIGN
- CREATE GREEN SPACES
- FLEXIBLE UNIT PLAN
- ATTACHABLE/DETACHABLE UNITS
- OBSERVATION POINT
- A SHORT CUT: VERTICAL CIRCULATION
- EFFICIENCY IN DAYLIGHTING
- ADEQUATE VENTILATION STRATEGY
- ADAPTIVE TECHNOLOGY
- VISUAL CONNECTIVITY
- INTERGENERATIONAL LIVING COMPLEX
- DIVERSIFYING MORE UNIT PLANS
- ACTIVITIES EXCHANGEABLE SPACE
- PROPER SCALE/ PROPER RATIO



AERIAL VIEW PERSPECTIVE





GROUND FLOOR PLAN
not to scale



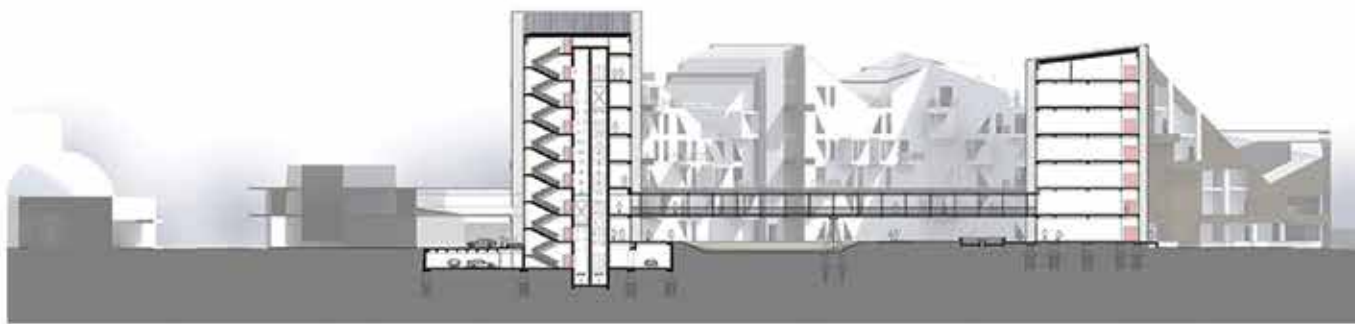
FIRST FLOOR PLAN
not to scale



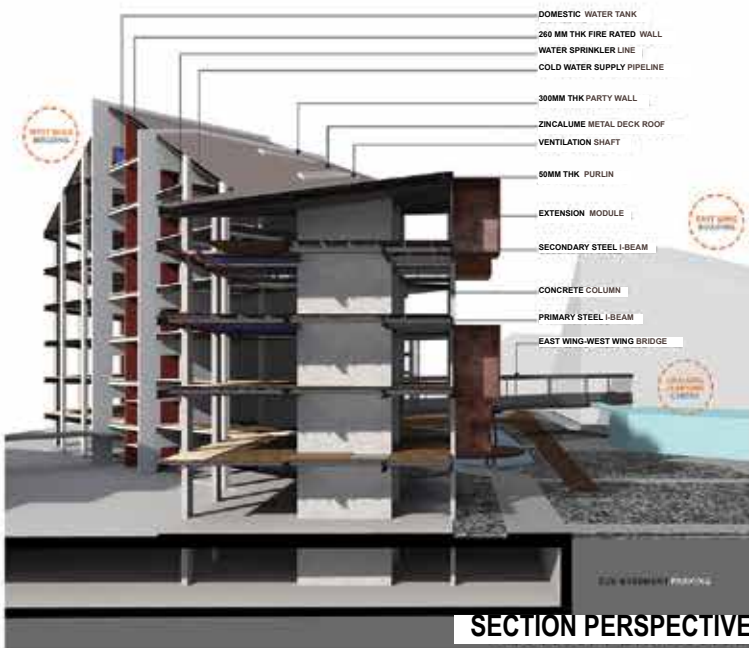
SECOND FLOOR PLAN
not to scale



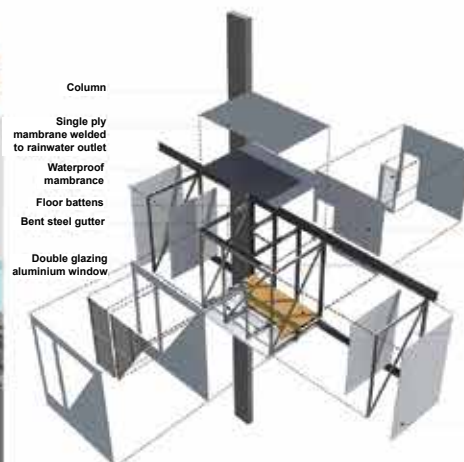
SIXTH FLOOR PLAN
not to scale



SECTION X-X
not to scale



SECTION PERSPECTIVE



EXTENSION ROOM 3D

3 GENERATION HOUSING QUICK FACTS

Comprises of:
- Single unit : 168 Possible Units
- Double unit : 54 Possible Units
- Triple unit : 25 Possible Units

EXTENSION CAPABILITIES

Single Units
- Option of Type A, B, F
- Balcony Extension
- Room Extension

Double Units
- Balcony Extension
- Room Extension
- Selection of ready made Unit type C, E, G
- Addition Unit type A or B

Triple Units
- Balcony Extension
- Room Extension
- Option to combine with any Unit Types

CATEGORIES SINGLE PROFESSIONALS SINGLE ELDERLY TEMPORARY WORKERS STUDENTS	CATEGORIES YOUNG COUPLE ELDERLY PERSONS HOUSE SHARING STUDENTS	CATEGORIES FAMILY WITH CHILDREN ELDERLY PERSONS HOUSE SHARING STUDENTS	
APARTMENT UNIT TYPE B 58 MQ	APARTMENT UNIT TYPE B 85 MQ	APARTMENT UNIT TYPE C 45 MQ	
UNIT SPACE DESCRIPTION OPEN SPACE : 20.00 MQ LIVING/KITCHEN : 20.00 MQ ROOM : 18.00 MQ WC : 3.70 MQ	UNIT SPACE DESCRIPTION OPEN SPACE : 35.00 MQ LIVING/KITCHEN : 16.00 MQ MASTER BEDROOM : 14.20 MQ WC : 3.70 MQ	UNIT SPACE DESCRIPTION OPEN SPACE : 20.00 MQ LIVING : 20.00 MQ KITCHEN : 19.50 MQ DINING : 27.80 MQ MASTER BEDROOM : 14.20 MQ WC : 5.80 MQ WC : 3.70 MQ	
CATEGORIES FAMILY WITH CHILDREN HOUSE SHARING STUDENTS	CATEGORIES FAMILY WITH CHILDREN HOUSE SHARING STUDENTS	CATEGORIES FAMILY WITH CHILDREN HOUSE SHARING STUDENTS	CATEGORIES FAMILY WITH CHILDREN HOUSE SHARING EXTENDED FAMILY STUDENTS
APARTMENT UNIT TYPE D 58 MQ	APARTMENT UNIT TYPE E 58 MQ	APARTMENT UNIT TYPE F 85 MQ	APARTMENT UNIT TYPE G 45 MQ
UNIT SPACE DESCRIPTION OPEN SPACE : 37.00 MQ LIVING/KITCHEN : 15.50 MQ MASTER BEDROOM : 12.00 MQ DOUBLE ROOM : 5.70 MQ WC : 3.70 MQ	UNIT SPACE DESCRIPTION OPEN SPACE : 20.00 MQ LIVING : 40.00 MQ DINING/KITCHEN : 20.50 MQ MASTER BEDROOM : 19.50 MQ WC : 3.70 MQ	UNIT SPACE DESCRIPTION OPEN SPACE : 18.50 MQ LIVING : 20.00 MQ KITCHEN : 20.00 MQ ROOM : 14.00 MQ MASTER BEDROOM : 5.40 MQ WC : 5.80 MQ	UNIT SPACE DESCRIPTION OPEN SPACE : 58.00 MQ LIVING/KITCHEN : 18.50 MQ MASTER BEDROOM : 18.50 MQ DOUBLE ROOM : 11.00 MQ SINGLE ROOM : 5.40 MQ WC : 5.80 MQ

CATALOGUE OF OPTIONS: OPTIONAL VARIOUS TYPES OF USAGE, SIZES AND MATERIALS



PLAN OF FLEXIBLE WALL PANEL



EAST ELEVATION
not to scale



NORTH ELEVATION
not to scale

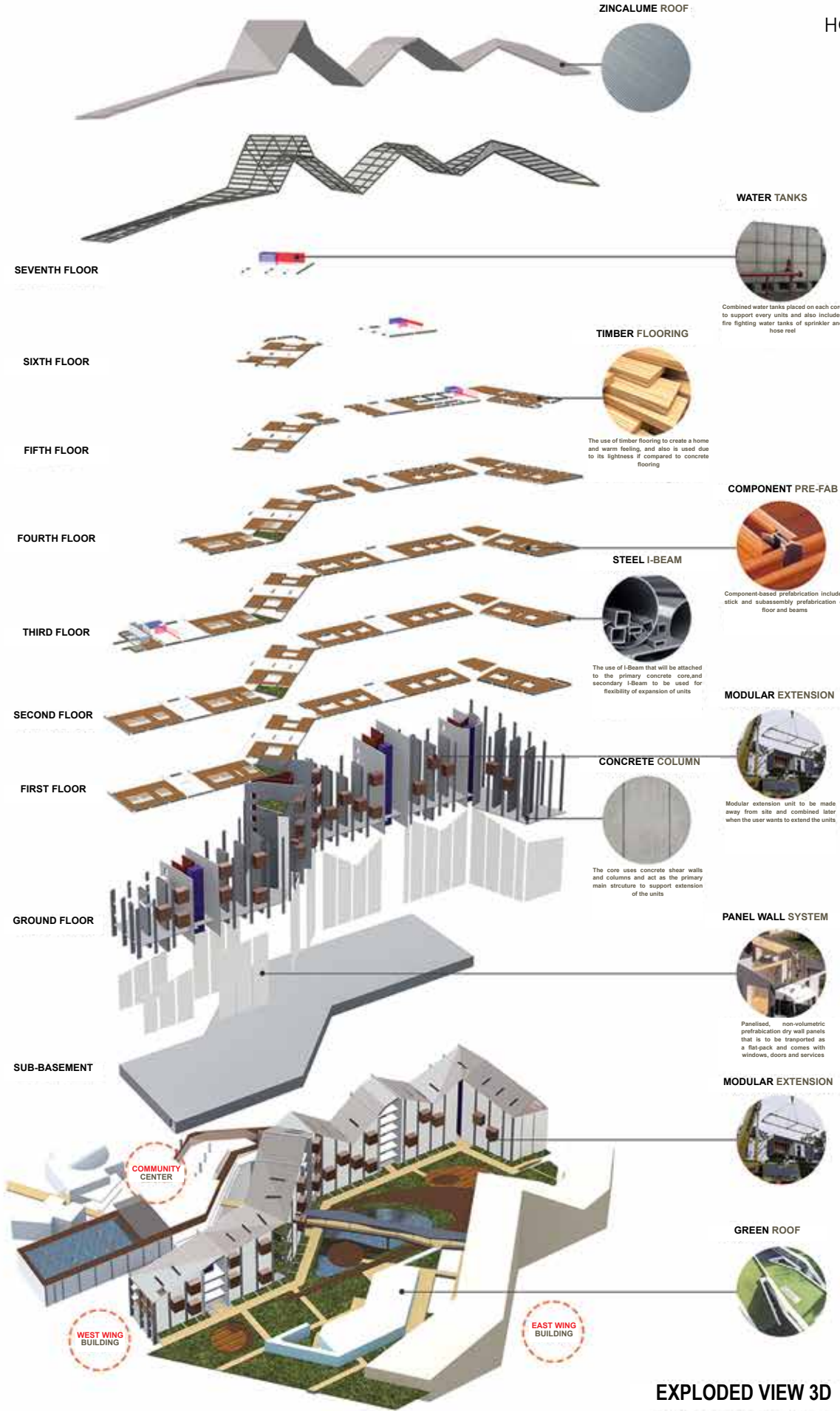
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INFINITY POOL AREA



INTERIOR VIEW OF COURTYARD



18 SOUTH ELEVATION
not to scale



WEST ELEVATION
not to scale