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Designing and preparing housing plan for a plot of land located outside the general planning for the city, Bani Walid (Al-Husnah district), Libya.

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ABSTRACT

This study included how to make a housing planing outside the general planning for the city of Bani Walid for a plot of land in Al-Hosnah neighborhood for the northern part, according to the foundations and criteria followed in the design. And the random buildings in the city, which caused the narrowing of the streets. The aim of this study is to create a suitable urban environment and provide all services to the residents according to the principles of the design criteria for the plans until the planning is completed in a civilized way.

Keywords: *Residential plan, Al-Husnah Bani Walid, urban design, urban planning.*

1 Introduction

We chose this address in line with the requirements of the labor market, as most citizens who own private lands that are outside the city's general plan go to owners of engineering companies and offices who wish to divide and prepare housing and agricultural plans for their lands. Significant overpopulation and indiscriminate buildings causing narrowing and uncoordinated streets ... etc.
Hence the idea of choosing us for this project came from the design of a residential plan for a plot of land in the Al-Husnah district of Bani Walid in the northern part, and in most neighborhoods of the city of Bani Walid, which suffers from narrowing the streets due to random buildings, where construction is carried out without housing plans which caused this problem This study summarizes in finding a solution to the problems of overpopulation and random buildings in the city according to the foundations.

1.1 Study problems

The study summarizes in finding a solution to the problem of overpopulation and random buildings located in the city according to the foundations and criteria used in designing residential and civil plans properly and civilly.

1.2 Study objectives

2 Creating an urban environment that provides the residents with comfort and safety, and that the planning is completed to increase the residents 'sense of belonging and responsibility towards the neighborhood.

3 That the distribution of land uses and building regulations take into account the greatest possible degree of privacy at the neighborhood level and that the planning is appropriate to the topography of the area.

4 That the services be available in suitable areas and in appropriate locations according to the needs of the residents, taking into account the existing and approved services and the importance of cars reaching all the plots of land in the scheme.

1.3 Location of the property

The property is located outside the general plan of the city, Bani Walid, in the northern part of Al-Hosnah, show Figure 1, with an area of 6 hectares and its boundaries: -

North: S3 -ر3.South: Street. East: S3 -ر3.West: Street.

location

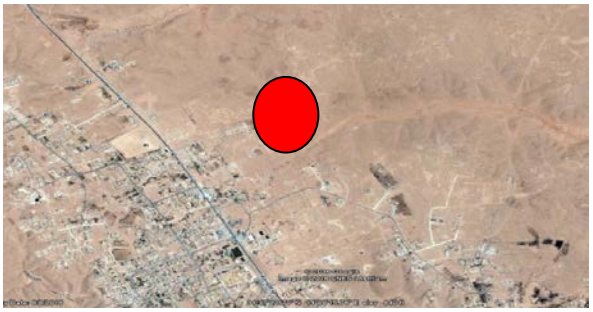


Figure 1 map showing the location of the property for a plot of land in Al-Hosna District.

2 How to make a survey and the regulations for using and classifying areas for plans according to the Urban Planning Authority - Libya

The area survey for any area is the work of a horizontal projection of this region on a scale drawn to show all the landmarks and the details that exist in this region, whether it is natural or industrial. There are many ways to upload or draw maps from nature on paper.

2.1 Preparing the site survey: -

Surveying preparation is required according to the following principles and steps:

• Preparing the area survey for the site to be planned (after applying the limits and lengths of the legal instrument in the case of private lands), specifying the measurements for each side, indicating the scale of the angle of refraction of the sides and the necessity of closing the site polygon accurately.

• Selecting fixed land points that can be relied upon and referred to when needed.

• The elevation of the area map is based on the points of the national geodetic network in the Kingdom and the flatness (projection) system used in the Kingdom, noting that if the land is located in one of the detailed map boards size (1/100) then there is no need to create a new survey map, but it is sufficient to update the detailed map And determining the coordinates of the outer borders of the land and signing them on the map (placing a concrete amputation on all corners of the land to be surveyed so as to use it during the surveying and during downloading the detailed plan on the nature).

• Connecting the surveying area (the outer frame) to a nearby fixed landmark, such as existing roads, the built site, or the approved plans. ①

• The final survey of the site must include the following:

- Clarify the topography of the site and determine the streams of torrents/reefs/flumes/mountains as well as all the coordinates on the site such as buildings, farms, fences, cemeteries, wells, sabkha or soft land, roads or contained in the title deed, public utility networks and lines (electricity, water, Telephone, sanitation) existing, approved or proposed.

- Land ownership (private, government) of the site.

- Draw the final spatial survey of the land and its environs on the A0, A1, A2 map/maps and choose the size of the map according to the size of the land.

- According to the scale of (500: 1,100 or 2500) with an indication of the direction of the north and the direction of the qiblah on the map and the date of the surveying meter, certified by the competent surveyor and head of the Survey Department, and stamped with the stamp of the competent municipality after the authority of the authority certifies the secretariat/municipality.

- Preparing a report on the suitability of the soil for the establishment of construction by a competent technical authority by the municipality or private accredited offices. ①

2.1.3 Network Leveling:

It takes place in the longitudinal and transverse directions together to define and show the shape of the raised area surface, and make a contour map for it, with the information of the points spread on this surface. ①

2.1.3.1 Purpose of the network Leveling: -

The grid leveling is used when it is necessary to know the levels of points on the surface of the lining of the specified area and when implementing engineering projects it is necessary to know the levels of the different points of the project and the network leveling to enable the preparation of maps showing the nature of the land and topographical knowledge and the work of contour lines. ②

2.1.3.2 Contour line: -

The contour line is defined as an imaginary line that passes by the equal points in one level and is produced from the intersection of the surface of the earth with a known horizontal level. ②

2.1.3.3 Contouring period:

It is the vertical dimension between each consecutive contour lines. There are several factors that determine the value of the contouring period, namely: -

1 If the purpose is to level the land or calculate the quantities of cubes, the contour period is small.

Area 2: The larger the area, the greater the contouring period.

3 Nature of the region: If the area with highs or lows is large, as large as the contouring period, the flat ground will shorten the period.

4 Scale drawing: The contouring period is large when the scale is small and vice versa.

5 Time and costs: The contouring period is if the time is short and the possibilities are few and vice versa. ②The contouring period used shall be as follows: -

1 for construction sites 0.25 - 0.50 m.

2 city charts 1 m - 2 m.

3 for general purpose 3 m and more.②

2-1-3-4 Steps to implement the retina budget and make a contour map: -

Ground division and monitoring.

1 Divide the plot of land into rectangles or squares with similar dimensions, then start the leveling work from a known level to determine the levels of the intersection points and draw a horizontal projection and a sketch that writes special readings at each point.
2 We choose the distance in residential lands (20,10,5,) and in agricultural lands, we usually choose (40,50) m between each point②

2.2 The Regulations for the Use and Classification of Zones (for Implementation Plans), pursuant to the Department of Urban Planning, Housing and Utilities, Libya

2.2.1 Article (14): - According to the Urban Planning Regulations: -

- Uses of tourist, leisure and open areas

The recreational, touristic and open archaeological areas shall be within the boundaries of the lands referred to by symbol (ر) in the plans of the plans, which include the following uses:

2.2.1.1 Protection Zones: These are the areas symbolized by the symbol (3ر) on the maps of the plan that include:

- Various protection belts.
- Turning Island and Road Crossings.

It is prohibited to construct any installations or buildings other than traffic lights, metal, and memorials. As for the protection belts, the parts overlooking them and they have no other entrance approved by the plan have the right to enter from them, with the condition not to build any 'structures on them or fences. ③

2.2.1.2 Use of the valley course: These are areas that are symbolized by the symbol (4 ر) in the maps of the plan, which include the streams of wadis and natural and industrial lakes, and it is forbidden to establish any facilities or barriers other than bridges and control and pumping rooms. ③

2.2.1.3 Sports Uses: These are areas that are denoted by the symbol (5ر) in the maps of the scheme, which include: -

- Sports fields. Clubs and sports fields. - Other sports activities. ③

2.2.2 Article (15) according to the Urban Planning Regulations

2.2.2.1 Uses of residential areas (س): -

It is the one that is used for the most part for housing. It is permissible to continue the existing agricultural use inside the residential areas until the classification and conditions of the region are implemented, and the uses mentioned later are considered authorized uses in all residential areas unless they are expressly excluded in any area and these uses are: -

- Residential use.
- Schools, institutes, and offices and housing that they require, not to include industrial vocational schools related to industrial production.
- Facilities of pain, world politics and mosques.
- Secondary uses, such as parks and slopes. ③

2.2.3 Educational facilities according to the Urban Planning Regulations

The educational facilities standards have been classified and defined in each of the prevailing educational levels as follows:

2.2.3.1 Kindergarten: -

Age from 4 to 5 years.
Mixed school.
Kindergarten per 4000 people, with an average of 2 kindergartens per primary school.
- The total area of the site is 25 sq m.
Class size from 15 to 20 children.
The distance is within walking distance of the residence (500 meters). ③

2.2.3.2 Primary education: -

Age from 6 to 11 years old.
Mixed school.
Attendance 100%.
Average school population of 1,000 to 5,000 people, 19% of the total population.
- The class area is 2.5 to 3 square meters per student.
- The covered area is from 6 to 8 m 2 for each student.
- The total area of the site is from 20 to 30 m 2 for each student.
School size from 6 to 36 classes.
Class size from 25 to 30 students.
The distance is within walking limits. ③

2.2.3.3 Preparatory education: -

Age from 12 to 16 years old.
A separate school.
Banners are 100% in addition to 10% in reserve.
Population size from 5,000 to 15,000 people, 8% of the total population, based on two separate schools, boys and girls.
The area of the class is from 2.5 to 3 m 2 for each student.
The covered area is from 8 to 10 m 2 for each student.
- The total area of the site is from 20 to 30 square meters per student and from 30 to 40 square meters per student.
School size from 6 to 24 classes.
Class size from 25 to 30 students. ③

2.2.4 Religious facilities

2.2.4.1 Mosques: -

A mosque for each residential neighborhood, the capacity of which is determined on the basis of 12% of the population of Mahalla at 3 m 2 of the land and 1/2 1 m 2 roofed for each chapel. These spaces operate on the prayer house, courtyard and purity facilities.

2.2.5 Green areas (recreation areas and sports fields)

2.2.5.1 Children's playgrounds:

These playgrounds must be available in every neighborhood in the harsh areas and in every village. Also, there must be 2 to 4 children playgrounds in every region with an elementary school and the space required for these playgrounds is estimated on the basis of 1.0 m 2 to 1.5 m 2 per child and it is preferable to link these playgrounds Kindergarten children whenever possible. ③

2.2.5.2 Green areas and gardens: -

Green areas must be provided, such as: squares, parks and parks for the purpose of recreation and improving the surrounding environment whenever local conditions permit, and water is available to construct and maintain neighborhoods, cities and residential communities. And to provide space. ③

Green areas and gardens: -

Giving high priority to developing sporting facilities for sport in Libya, including the following facilities:

- Sports stadiums.
- Football fields and fields.
- Grouped Sports Cities.

2.2.6 Parking spaces: -

Car parking spaces must be provided in residential and industrial areas and areas of social, recreational and sporting facilities. Special care must also be taken to provide parking stations in crowded city centers. This is by studying the possibility of designing a multi-storey building for parking cars. The number of parking spaces for each type of land use. ③

Table (1) Standards for parking requirements for some uses.③

No	Use	car parking
1	Residence	2 housing or home
2	School	0.50 One classroom of high school and above 1 classroom for below
3	Mosque	10 to 12 people
4	Sports stadiums	10 to 20 seats or spectators

2.2.7 Article (35) according to the urban regulations

Uses of public facilities (technical environment): (ف): -

The uses of these facilities shall be within the limits of the uses referred to in the symbol (ف) in the maps of the plan, and they are represented in the locations of the technical facilities such as sewage purification stations, water source sites, water pumping stations, ground and upper water tanks, electricity transfer rooms, telephone exchanges buildings, and antennas. ⍰

These uses may be independent sites if the areas allocated for them are large, such as water or pumping sources, and the requirements of the public facilities areas are applied to them, taking into account all health and security requirements prescribed for these facilities and their sites, including the deficiencies of protection.③

2.2.8 Classification of residential areas according to the Urban Planning Regulations according to Article (47) of Bani Walid:③

1- Residential areas with a low density (500 m ^{2}) (1س): -
2- The maximum area of the plot (500m^2)
3- The maximum amount of land required for each housing unit (500m2)
4- Minimum width of the plot (20m)
5- The upper limit of the depth of the piece does not exceed two meters and the text of the width of the piece
6- Minimum front yard (4m)

7- The minimum lateral yard (3 m ^{2})
8- Minimum backyard (3 m ^{2})
9- The maximum percentage of the total area covered (50%).
The maximum height of the building (8.5 m ^{2})

3 Surveying

3.1 The practical part: -

Before starting the surveying work, the location of the drug was discovered and then its boundaries were revealed, and a group of reference points was planted (p1, p2, p3, p4, p5, p6, p7, p8) As in Table No. 3-1, and then we divided the plot of land into square dimensions (10 X 10) Then we installed the device on point (p5) and imposed its points (N = 155.859), (E = 70.032), (Z = 199.835), which is the right place to take all the project points because they are the highest point on the project site, and use the coordinate method and direction The north, and thus we started taking all the points of the project. About 400 points were registered and organized with the excel program.

3.2 Reference coordinates:

Table No. (2) reference coordinates.

No	N	E	Z
P1	73.583	303.352	200.394
P2	176.658	339.788	199.440
P3	103.509	202.900	199.864
P4	133.609	82.241	199.612
P5	155.859	70.032	199.835
P6	177.331	88.401	199.469
P7	262.664	365.415	198.587
P8	353.117	54.692	192.301

Figure (3) Surveying site

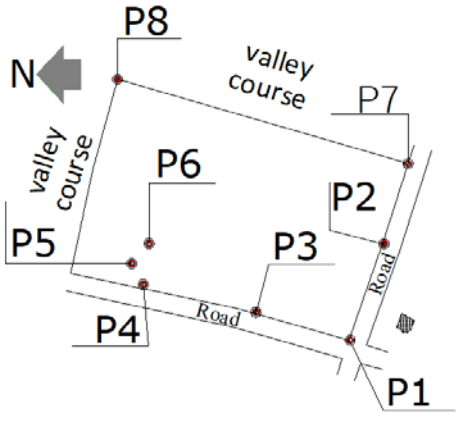


Figure (2) shows the marks, points, and reference coordinates.

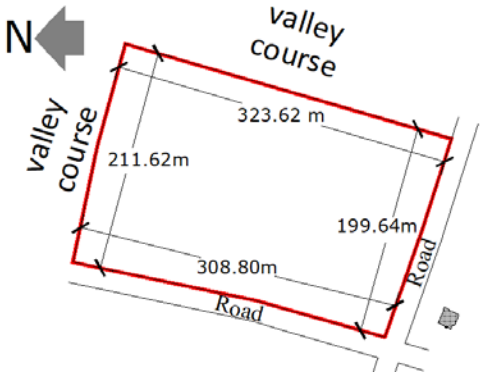


Figure (4) shows the project site dimension

Figure (5)The device used for surveying: (Topcon GTS 230)④

3.3 The coordinates of the project points: - Table No. (3) the coordinates and levels of the project points.

Follows, Table No. (3) the coordinates and levels of the project points.

N	E	Z	N	E	Z	N	E	Z	N	E	Z
125.875	275.644	200.214	141.608	198.449	199.690	152.772	159.591	199.663	168.461	125.770	199.804
115.899	270.416	200.276	149.031	204.989	199.791	160.983	165.874	199.610	177.324	130.942	199.544
105.984	264.404	200.417	156.265	211.389	199.740	168.845	171.013	199.476	186.289	136.216	199.402
96.476	259.888	200.401	165.405	216.680	199.609	176.189	170.148	199.410	195.202	141.576	199.108
86.713	255.509	200.064	172.422	222.485	199.578	184.101	180.606	199.235	203.994	146.892	198.931
88.898	246.674	200.141	180.467	228.615	199.386	192.199	185.409	199.092	212.595	151.717	199.635
98.462	251.881	200.225	188.324	234.671	199.065	200.352	190.248	198.648	221.274	156.687	198.450
108.595	257.054	200.315	194.742	241.766	198.948	208.117	195.153	198.579	228.746	160.986	198.157
118.884	262.305	200.155	202.295	249.127	198.499	216.149	199.305	198.321	236.673	154.227	197.997
129.239	267.850	200.154	201.819	248.984	198.513	221.680	203.121	198.006	228.090	150.535	197.771
138.811	271.706	200.265	205.059	238.061	198.380	225.435	193.218	198.025	218.750	146.439	197.930
148.921	276.451	200.016	197.227	231.051	198.632	216.870	186.881	198.341	209.909	141.259	198.180
158.826	281.436	199.701	190.409	223.982	198.823	207.791	180.590	198.554	200.339	136.896	198.405
168.626	286.504	199.461	184.706	216.223	199.241	199.560	173.009	198.696	190.833	132.197	198.687

4 Design and preparation of the planner

Introduction

Preparing and designing the housing plan. This completed chapter is considered to be a surveying process in the study area. There is no doubt that the process of studying and designing plans in accordance with the urban planning regulations contributes to developing the area in a good future, which contributes to building the infrastructure and limits the construction of informal areas that help the large cost In reorganizing it, and from this, we extend our thanks to most of the public authorities that have provided us with some information on the study site and this idea in order to build an organized society that reflects the civilization of a society and gives an honorable future view that is mentioned by future generations and is appropriate for the environmental and social climate and the Moral, cultural and economic.The programs used in this study are Surfer and. ADCAD. We put all the coordinates and levels in the Surfer program, and we got the contour maps showing the highs and lows, as well as the area of the property, the property, and three-dimensional ... etc.

4.1 Location Features:

4.1.1 Location: -

The new Al-Husnah community is located approximately (5 km) from the city center of Bani Walid, with an area of approximately (6,465) hectares.

- The site is a spatial region with little terrain.
- The site is devoid of areas suitable for agricultural use.
- The site is located in the desert climate zone.
- The site is a stone land with no existing uses.

4.2 Contents of the planning:

4.2.1 Residential use:

Residential areas were divided into residential neighborhoods according to the residential density classification adopted in the land use scheme, where the area of the plots in the classification of (S1) was (500: 550) m 2, and the total number of residential plots was (62) residential plots covering an area of (3.115) hectares with a ratio (48.18%) of the total area of the pool. The population is expected to accommodate 372 people, or about 62 families.

4.2.2 Educational facilities:

The educational facilities criteria have been classified and defined at each level of the prevailing education levels, and it constitutes a ratio of (7.52%) and an area of (0.486) hectares of the total area of the community, As follows: -

- Kindergarten: - Mixed Kindergarten.Age from 4 to 5 years. The number of children is expected to be about 31 children.

Elementary school: -Age from (6) to (11) years. The number of students is expected to be about 62.

Mixed school.The distance is within walking limits.Middle school: - Age from (12) to (16) years. The number of pupils is about 32.

4.2.3 Religious facilities: -

The Mosque: -

These spaces include a prayer house, a nave, and purity facilities. A place should also be provided for the establishment of a small library to teach the Qur'an and all associated facilities, parking stations, and service areas. It covers an area of (0.07) hectares, at a rate of (0.17)% of the total area.

4-2-4 Public Facilities: -

The areas of public utilities cover about (0.111) hectares, at a rate of (1.72) % of the total area of the region. This area includes a water tank, pumping station, and a basic electric power station.

4-2-5 Recreational areas:

It contains: -Five-a-side stadium.It constitutes (1.61%) with an area of (0.104) hectares of the total area of the community.

4-2-6 Car parks:

Given the importance of the presence of car parks next to the uses of the various lands, in a manner that ensures easy access and approaching all services, as well as avoiding the expected congestion .Accordingly, the scheme provided a parking area next to all services, and the total area of these parking spaces reached (0.392) hectares, at a rate of (6.06) % of the total area of the area.

4-2-7 Methods: -

The main roads cover an area of (1.766) hectares and constitute (27.32) % of the total area of the area, which separates the residential neighborhoods and links the land uses to the community with a width of (20) m.

The feeding roads were connected to a group of access and approach methods that work to connect all housing units to the road network by gathering, on the basis of a gradient from the road leading to the road fed to the collective road and vice versa.

4.3 The percentages and areas used in the plan: -After applying the planning criteria outlined above, areas of land use and their proportions were reached in accordance with Table No. (4).

Table No. (4) shows areas and percentages of land use needs (including internal methods).

No	Use	The area (Hectare)	The ratio(%)
1	Residential	3.115	48.18
2	Education	0.486	7.52
3	Religious	0.491	7.59
4	Entertainment (playground)	0.104	1.61
5	Utilities (Power and Water Station)	0.111	1.72
6	Car parking	392.0	6.06
7	Roads	1.766	27.32
	Total	6.465	%100.00

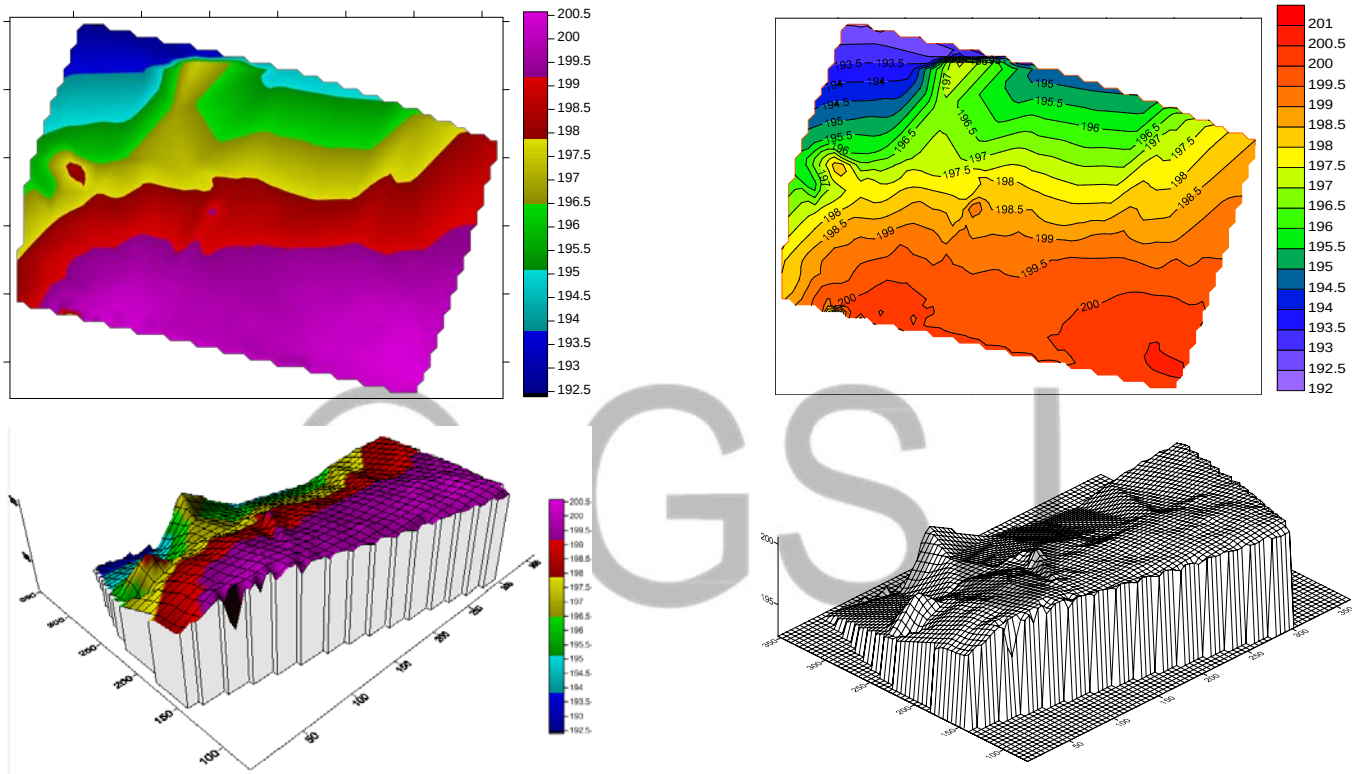
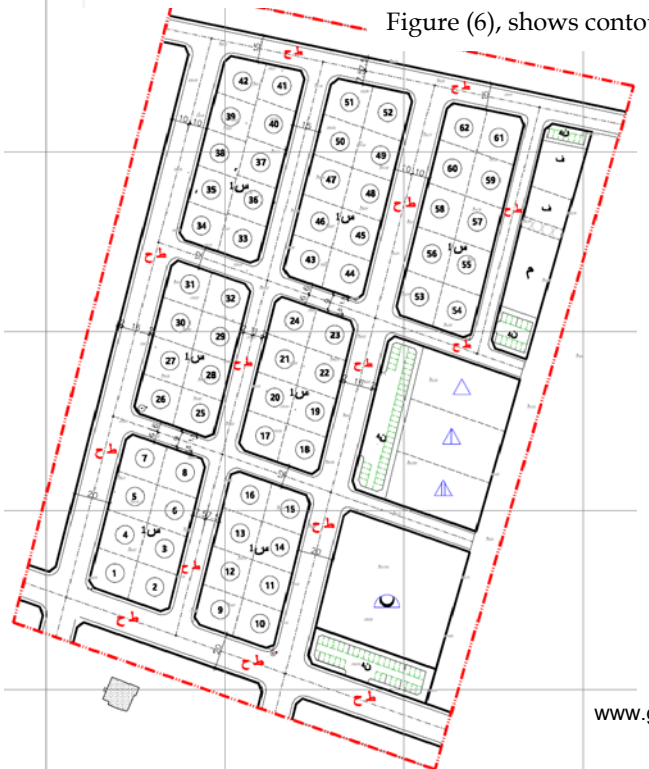
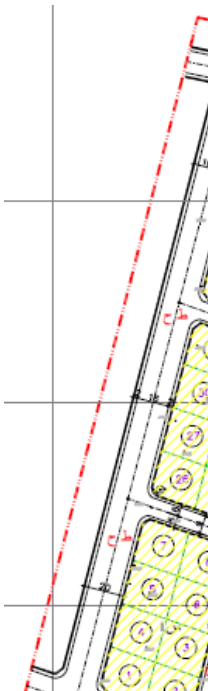


Figure (6), shows contour lines for project location and 3D.





4-4 Design coordinates of the project: -

Plot No. (1)	Plot No. (2)	Plot No. (3)	Plot No. (4)	Plot No. (5)
Area = 511.792 m2	Area =511.792 m2	Area =517.027 m2	Area =517.027 m2	Area =516.283 m2
X= 309.715 Y= 95.603	X= 316.159 Y= 114.063	X= 296.092 Y= 123.330	X= 288.341 Y= 101.125	X= 266.967 Y= 106.648
X= 288.341 Y= 101.125	X= 314.572 Y= 118.585	X= 274.707 Y= 128.820	X= 266.967 Y= 106.648	X= 245.593 Y= 112.170
X= 280.590 Y= 78.921	X= 296.092 Y= 123.330	X= 266.967 Y= 106.648	X= 259.227 Y= 84.475	X= 237.864 Y= 90.030
X= 299.050 Y= 74.122	X= 288.341 Y= 101.125	X= 288.341 Y= 101.125	X= 280.590 Y= 78.921	X= 259.227 Y= 84.475
X= 303.271 Y= 77.144	X= 309.715 Y= 95.603			

Plot No. (6) Area =516.283 m^2 X= 274.707 Y= 128.820 X= 253.321 Y= 134.310 X= 245.593 Y= 112.170 X= 266.967 Y= 106.648	Plot No. (7) Area =509.558 m^2 X= 245.593 Y= 112.170 X= 224.218 Y= 117.692 X= 217.490 Y= 98.416 X= 220.372 Y= 94.577 X= 237.864 Y= 90.030	Plot No .(8) Area =509.560 m^2 X= 253.321 Y= 134.310 X= 235.810 Y= 138.806 X= 230.947 Y= 136.968 X= 224.218 Y= 117.692 X= 245.593 Y= 112.170	Plot No. (9) Area =511.607 m^2 X= 330.201 Y= 154.288 X= 308.805 Y= 159.748 X= 301.059 Y= 137.559 X= 319.534 Y= 132.800 X= 323.757 Y= 135.828	Plot No. (10) Area = 511.810 $م^2$ X= 336.645 Y= 172.747 X= 335.055 Y= 177.262 X= 316.556 Y= 181.953 X= 308.805 Y= 159.748 X= 330.201 Y= 154.288
Plot No. (11) Area = 517.075 m^2 X= 316.556 Y= 181.953 X= 295.150 Y= 187.383 X= 287.409 Y= 165.208 X= 308.805 Y= 159.748	Plot No. (12) Area =516.474 m^2 X= 308.805 Y= 159.748 X= 287.409 Y= 165.208 X= 279.680 Y= 143.067 X= 301.059 Y= 137.559	Plot No. (13) Area =515.361 m^2 X= 287.409 Y= 165.208 X= 266.013 Y= 170.667 X= 258.301 Y= 148.575 X= 279.680 Y= 143.067	Plot No. (14) Area =516.362 m^2 X= 295.150 Y= 187.383 X= 273.743 Y= 192.812 X= 266.013 Y= 170.667 X= 287.409 Y= 165.208	Plot No. (15) Area =509.673 m^2 X= 273.743 Y= 192.812 X= 256.214 Y= 197.258 X= 251.348 Y= 195.409 X= 244.617 Y= 176.127 X= 266.013 Y= 170.667
Plot No. (16) Area =508.269 m^2 X= 266.013 Y= 170.667 X= 244.617 Y= 176.127 X= 238.240 Y= 157.859 X= 239.827 Y= 153.334 X= 258.301 Y= 148.575	Plot No. (18) Area =508.573 m^2 X= 239.671 Y= 198.370 X= 236.783 Y= 202.186 X= 219.253 Y= 206.632 X= 211.550 Y= 184.565 X= 232.946 Y= 179.105	Plot No. (19) Area =513.838 m^2 X= 219.253 Y= 206.632 X= 197.847 Y= 212.061 X= 190.154 Y= 190.025 X= 211.550 Y= 184.565	Plot No. (20) Area =513.838 m^2 X= 190.154 Y= 190.025 X= 182.462 Y= 167.989 X= 203.847 Y= 162.498 X= 211.550 Y= 184.565	Plot No. (21) Area =513.126 m^2 X= 190.154 Y= 190.025 X= 168.758 Y= 195.485 X= 161.077 Y= 173.479 X= 182.462 Y= 167.989
Plot No. (22) Area =513.126 m^2 X= 197.847 Y= 212.061 X= 176.440 Y= 217.490 X= 168.758 Y= 195.485 X= 190.154 Y= 190.025	Plot No. (23) Area =506.437 m^2 X= 176.440 Y= 217.490 X= 158.911 Y= 221.936 X= 154.045 Y= 220.087 X= 147.362 Y= 200.945 X= 168.758 Y= 195.485	Plot No. (24) Area =506.435 m^2 X= 168.758 Y= 195.485 X= 147.362 Y= 200.945 X= 140.680 Y= 181.802 X= 143.566 Y= 177.975 X= 161.077 Y= 173.479	Plot No. (25) Area =507.819 m^2 X= 218.955 Y= 139.020 X= 217.380 Y= 143.538 X= 198.886 Y= 148.286 X= 191.186 Y= 126.227 X= 212.496 Y= 120.721	Plot No. (26) Area =505.928 m^2 X= 212.496 Y= 120.721 X= 191.186 Y= 126.227 X= 183.485 Y= 104.168 X= 201.803 Y= 99.405 X= 206.037 Y= 102.422
Plot No. (27) Area =513.644 m^2 X= 191.186 Y= 126.227 X= 169.811 Y= 131.749 X= 162.122 Y= 109.722 X= 183.485 Y= 104.168	Plot No. (28) Area =513.644 m^2 X= 198.886 Y= 148.286 X= 177.501 Y= 153.776 X= 169.811 Y= 131.749 X= 191.186 Y= 126.227	Plot No. (29) Area =512.900 m^2 X= 177.501 Y= 153.776 X= 156.115 Y= 159.267 X= 148.437 Y= 137.271 X= 169.811 Y= 131.749	Plot No. (30) Area =512.900 m^2 X= 169.811 Y= 131.749 X= 148.437 Y= 137.271 X= 140.759 Y= 115.276 X= 162.122 Y= 109.722	Plot No. (31) Area =506.176 m^2 X= 148.437 Y= 137.271 X= 127.063 Y= 142.794 X= 120.385 Y= 123.663 X= 123.268 Y= 119.824 X= 140.759 Y= 115.276
Plot No. (32) Area =506.178 m^2 X= 156.115 Y= 159.267 X= 137.636 Y= 164.011 X= 133.412 Y= 160.980 X= 127.063 Y= 142.794 X= 148.437 Y= 137.271	Plot No. **(33)** Area =500.775 m^2 X= 121.536 Y= 164.033 X= 119.927 Y= 168.559 X= 101.673 Y= 173.222 X= 94.030 Y= 151.328 X= 115.298 Y= 145.833	Plot No. **(34)** Area =480.776 m^2 X= 115.298 Y= 145.833 X= 95.002 Y= 151.077 X= 87.352 Y= 129.162 X= 104.860 Y= 124.610 X= 109.061 Y= 127.639	Plot No. **(35)** Area =487.117 m^2 X= 95.002 Y= 151.077 X= 74.599 Y= 156.348 X= 66.960 Y= 134.464 X= 87.352 Y= 129.162	Plot No. **(36)** Area =509.494 m^2 X= 101.673 Y= 173.222 X= 80.279 Y= 178.687 X= 72.656 Y= 156.851 X= 94.030 Y= 151.328
Plot No. **(37)** Area =508.160 m^2 X= 80.279 Y= 178.687 X= 58.885 Y= 184.152 X= 51.282 Y= 162.373 X= 72.656 Y= 156.851	Plot No. **(38)** Area =486.439 m^2 X= 74.599 Y= 156.348 X= 54.197 Y= 161.620 X= 46.568 Y= 139.765 X= 66.960 Y= 134.464	Plot No. **(39)** Area =485.761 m^2 X= 54.197 Y= 161.620 X= 33.794 Y= 166.891 X= 26.176 Y= 145.067 X= 46.568 Y= 139.765	Plot No. **(40)** Area =506.826 m^2 X= 58.885 Y= 184.152 X= 37.490 Y= 189.617 X= 29.908 Y= 167.895 X= 51.282 Y= 162.373	Plot No. **(41)** Area =488.548 m^2 X= 37.490 Y= 189.617 X= 19.011 Y= 194.338 X= 14.517 Y= 192.392 X= 10.421 Y= 172.930 X= 29.908 Y= 167.895
Plot No. **(42)** Area =515.619 m^2 X= 10.421 Y= 172.930 X= 6.297 Y= 153.332 X= 9.550 Y= 149.390 X= 26.176 Y= 145.067 X= 33.794 Y= 166.891	Plot No. **(43)** Area =527.518 m^2 X= 135.585 Y= 203.950 X= 113.323 Y= 209.631 X= 105.669 Y= 187.704 X= 125.141 Y= 182.705 X= 129.344 Y= 185.743	Plot No. **(44)** Area =524.483 m^2 X= 142.150 Y= 223.102 X= 139.246 Y= 226.924 X= 120.977 Y= 231.557 X= 113.323 Y= 209.631 X= 135.585 Y= 203.950	Plot No. **(45)** Area =533.760 m^2 X= 120.977 Y= 231.557 X= 98.598 Y= 237.233 X= 90.955 Y= 215.339 X= 113.323 Y= 209.631	Plot No. **(46)** Area =533.758 m^2 X= 113.323 Y= 209.631 X= 90.955 Y= 215.339 X= 83.312 Y= 193.444 X= 105.669 Y= 187.704
Plot No. **(47)** Area =532.978 m^2 X= 90.955 Y= 215.339 X= 68.586 Y= 221.047 X= 60.955 Y= 199.184	Plot No. **(48)** Area =532.981 m^2 X= 98.598 Y= 237.233 X= 76.218 Y= 242.909 X= 68.586 Y= 221.047	Plot No. **(49)** Area =532.203 m^2 X= 76.218 Y= 242.909 X= 53.838 Y= 248.585 X= 46.218 Y= 226.755	Plot No. **(50)** Area =532.199 m^2 X= 68.586 Y= 221.047 X= 46.218 Y= 226.755 X= 38.597 Y= 204.924	Plot No. **(51)** Area =511.628 m^2 X= 46.218 Y= 226.755 X= 22.996 Y= 232.680 X= 18.872 Y= 213.083

X= 83.312 Y= 193.444	X= 90.955 Y= 215.339	X= 68.586 Y= 221.047	X= 60.955 Y= 199.184	X= 22.128 Y= 209.152 X= 38.597 Y= 204.924
Plot No. **(52)** Area =579.704 m^2 X= 53.838 Y= 248.585 X= 31.614 Y= 254.222 X= 27.119 Y= 252.269 X= 22.996 Y= 232.680 X= 46.218 Y= 226.755	Plot No. **(53)** Area =546.134 m^2 X= 157.252 Y= 265.686 X= 132.927 Y= 271.856 X= 125.648 Y= 251.006 X= 146.097 Y= 245.819 X= 150.963 Y= 247.668	Plot No. **(54)** Area =546.134 m^2 X= 163.213 Y= 282.761 X= 161.623 Y= 287.275 X= 140.205 Y= 292.707 X= 132.927 Y= 271.856 X= 157.252 Y= 265.686	Plot No. **(55)** Area =552.111 m^2 X= 140.205 Y= 292.707 X= 115.879 Y= 298.876 X= 108.601 Y= 278.026 X= 132.927 Y= 271.856	Plot No. **(56)** Area =552.111 m^2 X= 132.927 Y= 271.856 X= 108.601 Y= 278.026 X= 101.322 Y= 257.175 X= 125.648 Y= 251.006
Plot No. **(57)** Area =552.111 m^2 X= 115.879 Y= 298.876 X= 91.554 Y= 305.046 X= 84.275 Y= 284.195 X= 108.601 Y= 278.026	Plot No. **(58)** Area =552.111 m^2 X= 108.601 Y= 278.026 X= 84.275 Y= 284.195 X= 76.997 Y= 263.345 X= 101.322 Y= 257.175	Plot No. **(59)** Area ²ۦ 552.111 = X= 91.554 Y= 305.046 X= 67.228 Y= 311.215 X= 59.949 Y= 290.365 X= 84.275 Y= 284.195	Plot No. **(60)** Area =541.068 m^2 X= 84.275 Y= 284.195 X= 60.436 Y= 290.242 X= 53.157 Y= 269.391 X= 76.997 Y= 263.345	Plot No. **(61)** Area =559.765 m^2 X= 67.228 Y= 311.215 X= 44.806 Y= 316.902 X= 40.311 Y= 314.950 X= 36.394 Y= 296.339 X= 59.949 Y= 290.365
Plot No. **(62)** Area =507.326 m^2 X= 60.436 Y= 290.242 X= 59.949 Y= 290.365 X= 36.394 Y= 296.339 X= 32.622 Y= 277.554 X= 35.737 Y= 273.809 X= 53.157 Y= 269.391	Mosque +  Parking Area =6321.48 m^2 X= 367.791 Y= 261.972 X= 283.182 Y= 286.603 X= 259.942 Y= 220.028 X= 262.830 Y= 216.213 X= 340.703 Y= 196.462 X= 345.569 Y= 198.311	Mosque  Area =4911.3 m^2 X= 348.562 Y= 267.570 X= 283.182 Y= 286.603 X= 259.985 Y= 220.152 X= 262.830 Y= 216.213 X= 325.119 Y= 200.415	School (kindergarten + primary + middle school + carpark)  Area=6630.054 m^2 X= 271.644 Y= 289.961 X= 187.034 Y= 314.592 X= 162.639 Y= 244.707 X= 165.527 Y= 240.891 X= 243.400 Y= 221.141 X= 248.266 Y= 222.990	Water tank station + parking (in) Area=948.319 m^2 X= 86.816 Y= 343.765 X= 48.710 Y= 354.858 X= 44.020 Y= 332.574 X= 47.280 Y= 328.655 X= 78.755 Y= 320.672
Elementary school Area=1660.967 m^2 X= 244.723 Y= 297.798 X= 215.878 Y= 306.195 X= 197.458 Y= 253.426 X= 226.649 Y= 246.022	Middle school Area=1521.763 m^2 X= 271.644 Y= 289.961 X= 244.723 Y= 297.798 X= 226.649 Y= 246.022 X= 253.894 Y= 239.113	Stadium + parking () Area=1542.092 m^2 X= 175.497 Y= 317.950 X= 109.155 Y= 337.263 X= 101.362 Y= 314.938 X= 164.624 Y= 298.893 X= 169.490 Y= 300.742	Power station (P) Area=416.328 m^2 X= 103.386 Y= 338.942 X= 86.816 Y= 343.765 X= 78.755 Y= 320.672 X= 95.524 Y= 316.419	Kindergarten Area=1692.524 m^2 X= 215.878 Y= 306.195 X= 187.034 Y= 314.592 X= 168.267 Y= 260.830 X= 197.458 Y= 253.426

5 Conclusion

The project represents in preparing the design and planning of a residential plan with its services (schools, mosque, recreational facility, power station and water station with its accessories), according to the principles and standards used in the design of housing plans in a correct and civilized way (Urban Planning List), so that needs and requirements are met The residents are financially and spiritually in the neighborhood, and this scheme must be implemented and applied in order for it not to happen from the slums buildings, which caused the narrowing of the streets, etc.

5-1 Recommendations of the study: -

- Protection of the fixed points (reference) so that they can be referred to during the process of sorting out the plots. The viewing angles in the planned cutting should be implemented.
- The plan must be approved by the authority (Urban Planning Authority) in order to be linked to air panels close to the plan in the future.

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