Governor's Office of the Capital City

INTEGRATED PROJECT MANAGEMENT OFFICE

CSCEC AECOM Consultants Co., Ltd

FEASIBILITY STUDY & CONCEPT DESIGN

"FIRST RING ROAD" project

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Ulaanbaatar
2025

“NEW HYDRO PROJECT LLC

PRELIMINARY ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

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INTRODUCTION

The main purpose of the preliminary environmental and social impact assessment is to determine the current environmental and socio-economic status of the project area and to assess in advance the impact of the project activities on the environment and society of the area.

Environmental Status, The preliminary environmental and social impact assessment was carried out in the field survey and on-site development stages, and the site condition survey was conducted on-site with the involvement of relevant professional experts, and the on-site development work was carried out in accordance with the "Environmental Impact Assessment Methodology" in Appendix 3 of the Order No. A-117 of the Minister of Environment and Green Development of 2014. These included:

- Detailed review of the "New Ring Road" project planning and collection of necessary information and materials,
- Study of the legal framework and documents related to the project implementation activities;
- Conduct field surveys at the project site to determine the current state of erosion, pollution, and degradation of vegetation, land surface, surface water, and soil cover, document them with photographs, and take soil and water samples for analysis at an accredited laboratory and draw conclusions;
- Assess the current state of the natural environment and socio-economic conditions of the project site;
- Assess and evaluate the environmental and social impacts during and after the project implementation in stages.

The BONNUI report has a total of 7 chapters and 208 pages, and is documented with photographs of the project area and other relevant annexes.

1. SECTION I. PROJECT DESCRIPTION

1.1. RATIONALE FOR PROJECT IMPLEMENTATION

- "Vision 2050", Mongolia's long-term development policy document, sets the goal of developing Ulaanbaatar into an internationally competitive, large city and ensuring a proper settlement system and rational spatial planning by establishing and developing satellite cities.
- The 2040 Ulaanbaatar City Development Plan aims to establish a comprehensive road network in Ulaanbaatar, comprising 8 horizontal, 12 vertical, and 3 ring roads. Additionally, it plans to expand the main and auxiliary road network by 618.7 km, resulting in a 110 per cent increase in the total road length. It is estimated that after the planned road network is fully operational, traffic indicators will improve, and the average speed during peak hours will increase from 6-13 km/h to 22.5 km/h.
- The Mongolian Government has declared 2025 as the "Year of Supporting the Development of the Capital's Infrastructure" and plans to implement 24 mega projects to solve the problems facing the capital.

These mega projects include the development of the road network: the 25 km long "New Circle" highway project.

The "New Circle" highway is approximately 24.39 km long and has 3 lanes in each direction, for a total of 6 lanes. The estimated speed is planned to be 80 km/h.

1.2. PROJECT GOALS AND SIGNIFICANCE

The goal is to reduce road congestion, a pressing problem in Ulaanbaatar, the capital city of Mongolia, and increase the speed of vehicle traffic.

Road and transport development is characterised by its comprehensive impact on many sectors of the country's society and economy. Implementing this road project can reduce road congestion in the capital city, leading to the following economic and social benefits. These include:

• The road will have a positive impact on the environment in the affected area.

• Road traffic will decrease, road safety will be ensured, and road accidents will decrease.

• A healthy and safe living environment for the population living within the service area of the road will be provided to a certain extent.

• All sectors of the society and economy, including production, trade, health, culture, and education, will be provided with opportunities for more intensive development in the affected area of the road, and production and services will reach consumers more quickly.

• The well-being of the population will improve, and their attention and attitude to their own health, culture, education, and daily life will increase.

• Travel time by road will be reduced, and freight and passenger traffic will improve.

• Vehicle breakdowns and delays will be reduced, and the service life and durability of vehicles will be increased, and transportation operating costs will be reduced.

1.3. LOCATION OF THE PROJECT AREA

The new ring road route is planned to cover a total of 24.39 km in length and 60 m in width in 29 khoroos of 5 districts of Ulaanbaatar city.

Table 1. Administrative units and road lengths within the highway route area

№	District	Committee	Road length, km
1	Bayangol	29-р хороо	1.46
2	Songinohairkhan	6, 7, 8, 11, 17, 23, 28, 39, 40-р хороо	7.45
3	Chingeltei	12, 13, 14,20,21-р хороо	3.92
4	Sukhbaatar	13-р хороо	0.99
5	Bayanzurkh	8, 12, 19, 21, 24, 26, 27, 29, 31, 32, 36, 37, 38-р хороо	10.57
Total			**24.39**

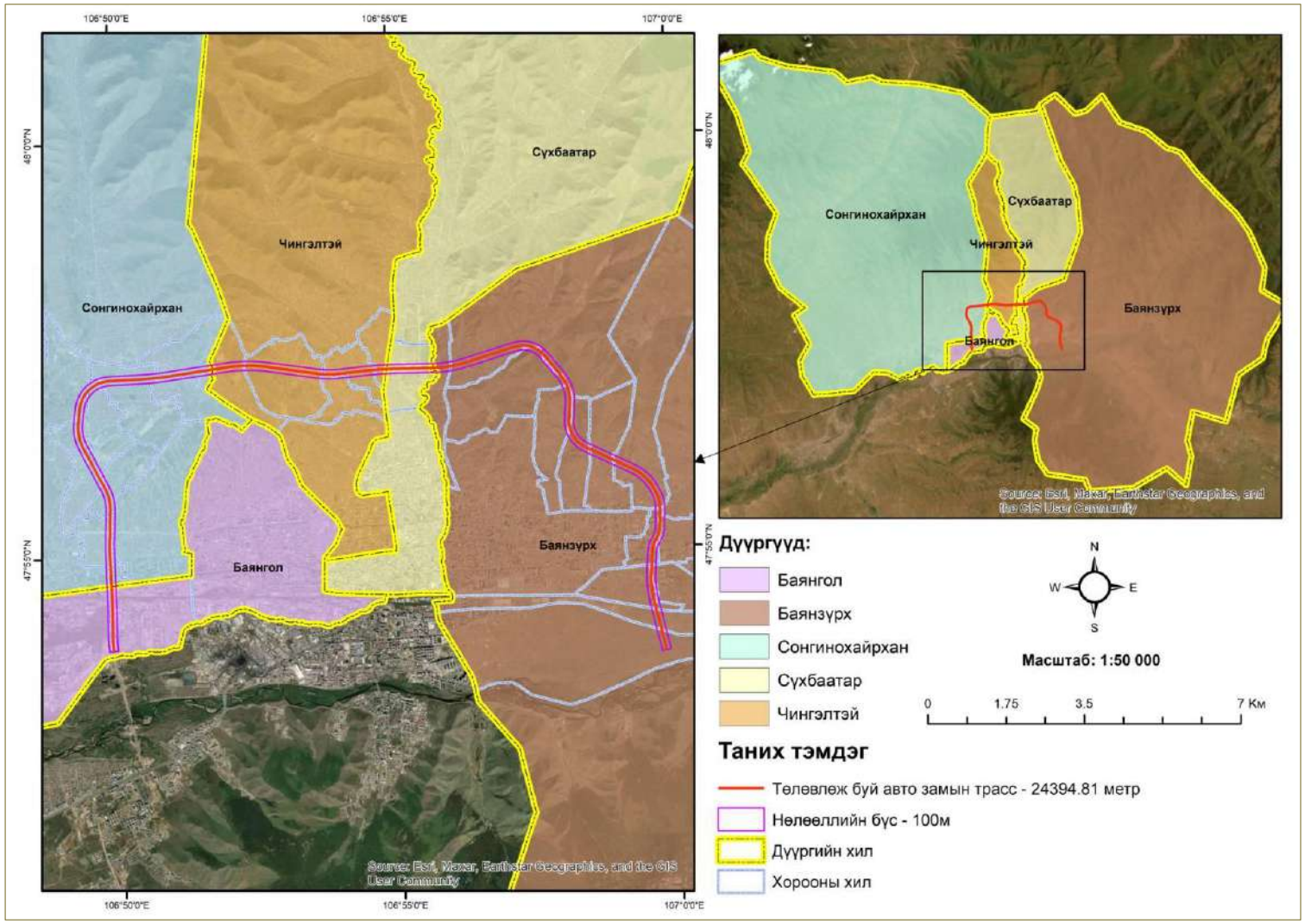


Figure 1. Location of the new ring road route

1.4. PROJECT BRIEF

ACCORDING TO THE PRELIMINARY PROJECT PLANNING, THE TOTAL LENGTH OF THE HIGHWAY ROUTE IS 24.39 KM, OF WHICH 7.8 KM ARE BRIDGES, 14.59 KM ARE HIGHWAYS, AND 2.0 KM ARE TUNNELS. THE HIGHWAY IS PLANNED TO BE 60 M WIDE, 2 LANES, AND 6 LANES.

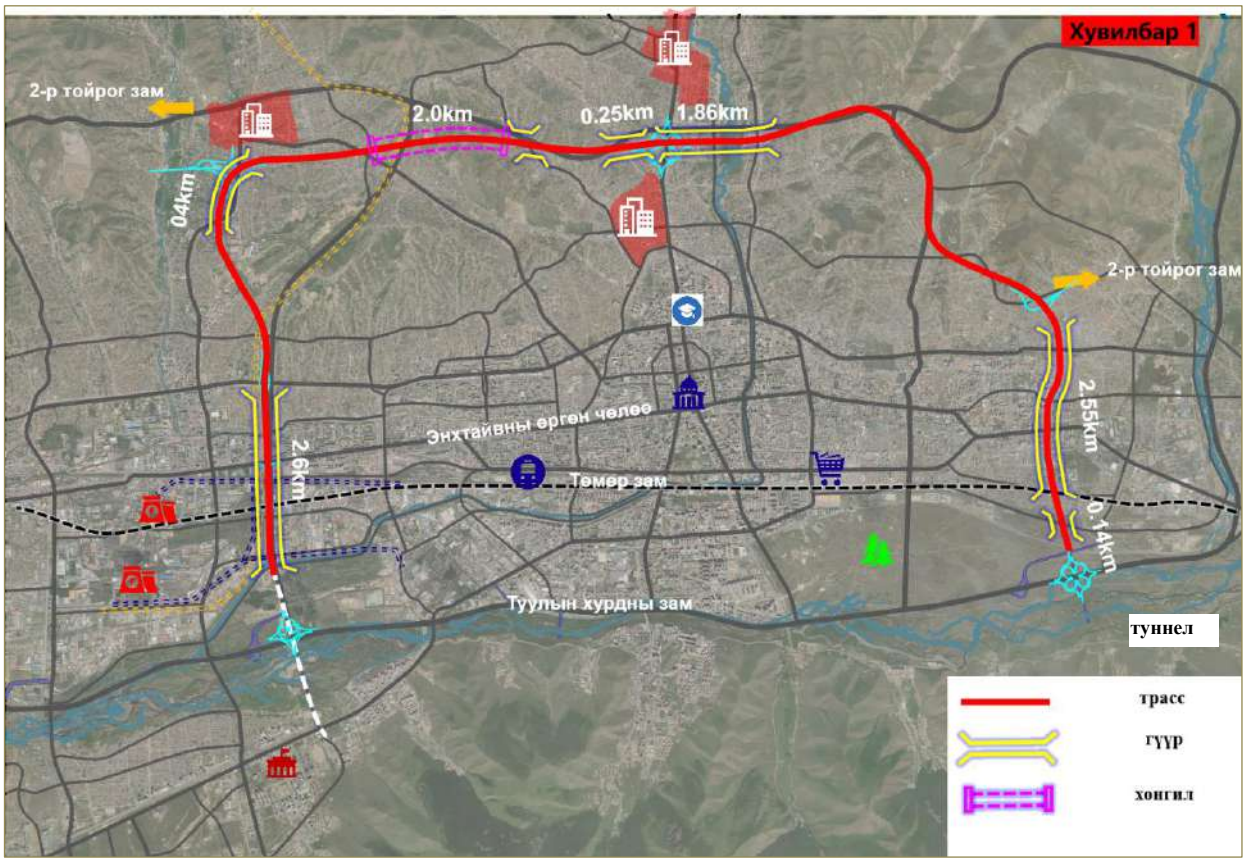


Figure 2. Road planning along the route

The planned road category belongs to the main road categories 1 and 2 according to the Highway Design Regulations of the Mongolian Government 22-004-2016 and the Urban Street and Road Planning Regulations of the Mongolian Government 32.01.04.

By the technical conditions and work instructions, the planning area is densely populated and mountainous, so the planning speed is calculated to be 80 km/h under the existing road network.

This project is designed to meet the following purposes. These include:

- Slowing down traffic from east to west
- Delimiting traffic to the city center and the outskirts
- Crossing other city centers
- Supporting the development of the western side of the city
- Improving the stability of the city's road network
- Improving public transport accessibility

Road, bridge, and tunnel planning

Table 2. Technical specifications of the road

№	Indicator	Proposed	Description
1	Road category	Class 1 highway	
2	Design speed Road width	Main road 80 km/h	
		Secondary road 40 km/h	
3	Road lane width	45~60 m	
4	Level of traffic service	3.5 m - 3.75 m	
5	Minimum height of the bottom of the bridge	Level 3	Steady flow C
6	Straight line	4.9 m	
7	Circle radius	Longest 1600 m	
		Shortest 480/160 m	
8	Maximum slope	1000/400	Highest rotation and no rotation
9	Minimum slope length	3.5%/4.0%	Snow and ice
10	Indicator	200 m	

This project has 7 main line bridges, width 19.0~26.5 m, the structure is precast prestressed concrete bridge or prestressed concrete cast-in-place continuous bridge. The substructure is double-pillar, high-variable pavement or gate-type wide-walled column, the foundation is a bearing platform, column foundation.

Figure 3. Highways and bridges

Table 3. Types of bridges

Structural solutions	Prefabricated small bridge	Cast iron bridge	Precast concrete bridge
Construction methods	It is simple and convenient to assemble in the factory and lift on site.	Use the support bridge method in construction	Many processes such as factory assembly, on-site lifting, and welding
Mechanical properties of the structure	The overall pressure resistance is good.	The overall structural performance is good, and the turning part is stiff	Good overall pressure resistance
Construction difficulties	The technology is advanced and the process is simple.	A large number of construction supports are required and many processes are required	The technology is relatively complicated and the welding workload is high
Impact on traffic during construction	The impact on traffic during the bridge lifting work is small.	The construction work takes a long time and greatly affects the traffic	It is necessary to close the road for a short time during assembly and welding work

Figure 4. Types of bridges

Taking into account hydrogeological and geological conditions, a comprehensive economic assessment will be conducted and the planned tunnel will be constructed using the underground mining method..

Figure 5. Tunnel

2. CHAPTER II. LAW

2.1. LEGAL AND POLICY DOCUMENTS

2.1.1. Law and Justice

Table 4. Legislation of Mongolia

№	Name of the Law	Related items
	Law on Highways, 2020.05.05	Article 18. Technical and economic feasibility of roads, 18.1, 18.2 Article 19. Design of roads and road structures, 19.1, 19.2, 19.4 Article 20. Construction of roads and road structures, 20.1-20.6 Article 22. Maintenance and repair of roads, 22.1, 22.4 Article 27. Road registration and database, 27.1-27.3 Article 28. Commissioning of roads and road structures, 28.1, 28.4 Article 31. Closure of roads and road structures, 31.1, 31.2 Article 34. State control of roads, 34.1
	Law on Construction, 2016.02.05	Article 16. Requirements for construction sites, 16.1-16.4 Article 26. Construction permits, 26.1.3 Article 27. Construction permit issuance activities, 27.1.2, 27.5, 27.6, 27.8 Article 28. Issuance of construction permit certificates, 28.1-28.4 Article 30. Construction permit term, 30.1-30.5 Article 37. Duties of the customer, 37.1, 37.4-37.9 Article 38. Duties of the designer, 38.1-38.3 Article 40. Duties of the construction contractor, 40.1-40.3 Article 41. Security regime for buildings, 41.1-41.8 Article 47. State technical supervision of constructions, 47.1-47.4 Article 48. Commissioning of constructions, 48.1, 48.3, 48.5
	Law on Road Safety, 2015.07.08	Article 19. Basic requirements for ensuring road safety in the planning, construction, expansion, repair and maintenance of roads and road structures, 19.1, 19.3
	Law on Urban Development, 2008.05.29	Article 20. Creation of infrastructure for people with disabilities, 20.1, 20.2 Article 23. Restrictions on urban development activities, 23.1 Article 27. Compensation for damage, 27.1-27.4
	Law on Land, 2002.06.07	Article 13. Land for roads and utilities, 13.1 Article 39. Termination of land tenure, 39.1.5 Article 41. Release of land upon termination of land tenure, 41.1. Article 42. Replacement or repurchase of land owned by others before the expiration of the contract, 42.1-42.5 Article 43. Provision of compensation for replacement or repurchase of land owned by others before the expiration of the contract, 43.1-43.6
	Law on Reducing Traffic Congestion in the Capital City of Ulaanbaatar and Housing Ger Districts, 2023.12.07	Article 10. Land acquisition based on social necessity, 10.1, 10.2.10, 10.3-10.6, Article 11. Principles to be followed in land acquisition and forms of compensation, 11.1-11.3 Article 12. Evaluation of land compensation, 12.1-12.5
	On Environmental Protection, 2005.11.18	Article 20. Environmental Capacity Standards, 1,1, 1.3, 1.7 Article 21. Protection of the Environment from Pollution, 1, 3.1, 3.2, 4 Article 25. Restoration of Natural Resources, 1.2

№	Name of the Law	Related items
		Article 31. Duties of Enterprises and Organizations, 1-4
	On Environmental Impact Assessment, 2012.05.17	Article 7. Impact assessment, 7.1-7.5 Article 8. Detailed environmental impact assessment, 8.1-8.8 Article 9. Environmental management plan, 9.1, 9.2, 9.5-9.9, Article 13. Rights of project and program implementers Article 14. Obligations of project and program implementers, 14.1.1 Article 18. Public participation in impact assessment activities, 18.4
	On Air, 2012.05.17	Article 9. Rights and obligations of business entities, organizations and citizens, 9.1 Article 20. Limitation of emissions of pollutants into the air and negative physical impacts, 20.2
	On Water, 2012.05.17	Article 22. Protection of water resources, 22.2, 22.2.1, 22.4, 22.6 Article 24. Protection of water resources from pollution, 24.1 Article 28. Permits to be issued to water users, 28.1, 28.2, 28.4
	On Soil Protection and Prevention of Desertification, 2012.05.17	Article 7. Measures for soil protection and prevention of desertification, 7.2 Article 9. Rights and obligations of citizens and legal entities regarding soil protection and prevention of desertification, 9.3
	On Subsoil, 1988.11.29	Article 27. Design of underground structures for mineral extraction plants and for purposes other than mineral extraction, 1, 3 Article 29. Basic requirements for design of underground structures for mineral processing plants and for purposes other than mineral extraction, 1 Article 30. Basic requirements for construction and use of structures Article 36. Procedure for use of subsoil for purposes other than mineral extraction, 1-3 Article 37. Ensuring safety during subsoil use, 1, 2 Article 38. Basic requirements for ensuring safety during subsoil use, 1, 2, 4, 5 Article 39. Obligations of persons performing mining work to comply with safety rules and regulations, 1-5 Article 40. Mining rescue service, 1, 4
	On Cultural Heritage Protection, 2014.05.15	Article 27. Research on cultural heritage, 27.8 Article 38. Prohibited activities related to the protection of cultural heritage, 38.1.2, 38.3
	On Waste,	Article 10. Rights and obligations of citizens, business entities and organizations regarding waste, 10.1, 10.2.1-10.2.5, 10.2.11, 10.2.14, 10.2.15-10.2.17, 10.3.1-10.3.3, 10.3.5-10.3.7
	2017.05.12	Article 17. Rights and obligations of business entities and organizations regarding fire safety, 17.1.1, 17.2, 17.3 Article 19. General requirements for fire safety, 19.3, 19.5-19.7 Article 21. Requirements for fire safety in the design and control of buildings and facilities, 21.1-21.5
	On Disaster Prevention, 2017.02.02	Article 7. Disaster risk assessment, 7.1, 7.2, 7.6 Article 8. Disaster protection planning, 8.1, 8.2 Article 9. Disaster risk reduction, 9.1-9.3 Article 34. Rights and obligations of legal entities, 34.1, 34.2
	On Health, 2011.05.05	Article 44. Duties of business entities and organizations regarding the protection and promotion of health, 44.1
	On Occupational Safety and Hygiene,	Article 7. Requirements for the production environment and buildings, 7.2 Article 8. Requirements for joint ownership and use of production buildings and main, fixed equipment and tools, 8.1, 8.2

№	Name of the Law	Related items
		Article 9. Requirements for machinery and equipment. 9.1-9.5 Article 10. Requirements for lifting, moving and transporting mechanisms, 10.1-10.4 Article 11. Requirements for pressure vessels and pipelines, 11.1 Article 12. Requirements for handling toxic and hazardous chemicals, explosives, blasting equipment, radiation and biologically active substances, 12.1-12.5 Article 13. Requirements for fire safety, 13.1-13.2 Article 14. Medical examination, 14.1, 14.2 Article 15. Provision of employees with special work clothes and protective equipment, 15.1-15.4 Article 16. Requirements for occupational safety and hygiene conditions for citizens with disabilities, 16.1, 16.2 Article 17. Occupational safety, hygiene and professional training, 17.1-17.4 Article 18. Rights and obligations of citizens and employees engaged in work related to providing them with favorable working conditions, 18.1, 18.2 Article 27. Structure and organization responsible for occupational safety and hygiene issues of business entities and organizations, 27.1-27.7 Article 28. Rights and obligations of employers regarding occupational safety and hygiene, 28.1-28.4
	2008.05.22	Article 41. Conditions for the formation of employment relations, 41.1-41.3 Article 42. Basic rights and obligations of the employee, 42.1, 42.2 Article 43. Basic rights and obligations of the employer, 43.1, 43.2 Article 47. Employment contract, its parties, 47.1, 47.2 Article 49. Conditions of employment contract, 49.1-49.3 Article 50. Term of employment contract, 50.1-50.5

Figure 6. Environmental quality standards of Mongolia

№	Standard		
	Number	Name	Scope
1	MNS 5885:2008	Air pollutant tolerance standards	This standard applies to the detection, assessment, and control of the tolerance standards for outdoor air pollutants.
2	MNS 4585:2016	Air quality. General technical requirements	This standard applies to the detection, assessment, and control of outdoor and indoor air quality in urban areas, residential areas, offices, entertainment venues, public service areas, and civil buildings and structures during the planning and operation of the project.
3	MNS 5850:2008	Maximum permissible levels of soil pollutants	This standard establishes the maximum permissible (tolerable) levels of pollutants and elements that may be contained in the soil of Mongolia. If the levels specified in this standard are exceeded, the soil is considered polluted.
4	MNS 4943:2015	Water quality, wastewater.	This standard applies to all citizens, business entities, organizations, factories, and service facilities that treat

№	Standard		
	Number	Name	Scope
			wastewater from domestic and industrial use and supply it to the environment directly or through sewage facilities, and they are obliged to treat the treated wastewater supplied to the environment in accordance with these general requirements. It applies to monitoring activities before discharging treated wastewater into the environment.
5	MNS 0900:2018	Environment. health protection. safety. Drinking water. hygienic requirements, quality and safety assessment	The purpose of this standard is to meet the hygienic, quality and safety requirements for water intended for drinking and domestic purposes. It covers the entire range of activities for monitoring the hygienic requirements, quality and safety of water intended for drinking and domestic purposes (hereinafter referred to as "drinking water") at each stage of the water supply network, from centralized and decentralized water supply sources (water extraction, storage, quality improvement, distribution, transportation and storage) to water users and consumers.
6	MNS 5014:2009	Diesel-engined vehicles - Maximum permissible levels of soot emissions and measurement methods	The purpose of this standard is to reduce the amount of air pollutants emitted into the air from the use of motor vehicles by revising the maximum allowable soot emission levels for diesel-engined vehicles, thereby reducing and eliminating the negative impacts of air pollution, public health, and the ecological environment, and strengthening ecological control over the use and technical condition of motor vehicles.
7	MNS 5013:2009	Gasoline-engined vehicles - Maximum permissible levels of harmful substances in exhaust gases and measurement methods	The purpose of this standard is to establish new maximum permissible levels of air pollutants (CO, CH) in the exhaust gases of gasoline-powered vehicles, reduce the amount of air pollutants emitted into the air from vehicle use, and thereby strengthen environmental control over the use and technical condition of vehicles to reduce and eliminate the negative effects of air pollution, public health, and the ecological environment.
8	MNS 5342:2007	Car parking, classification. general requirements	The project implementer shall follow the basic requirements set forth in this standard when planning and constructing buildings, structures, and areas for parking (storage) of vehicles.
9	MNS 5973:2009	Барилга байгууламж, инженерийн шугам сүлжээг төлөвлөхөд ногоон Approach distance and size of the facility	This standard shall be applied to the design and construction of buildings and engineering networks, establishing and implementing the distance and size of green spaces. When designing buildings and infrastructure facilities, the project implementer must adhere to the distance and size of trees and shrubs located on the site as specified in this standard.
10	MNS 4969:2000	Occupational safety and health. Training organization. Basic rules	Occupational safety and health training will be organized in stages for preschool children, students at all levels of school, new and second-level vocational training, and employees engaged in work, engineering, technical, and managerial personnel.

Table 5. Some environmental rules and regulations to be followed within the project

№	Name of environmental rules and regulations, name of the place of approval, date	Relevant rules and regulations
1	Design of highways, ZZBNbD 22-004-2016	Norms and rules for roads and road structures in Mongolia
2	Planning of streets and roads of urban settlements BnbD 32.01.04	
3	On approval of technical requirements, norms and regulations (design of highway bridges and pipelines), BnbD 32.02.11	Technical requirements, norms and rules
4	"Rules of labor safety and hygiene" ZZBNbD 15-002-2016	Road and road structure norms and rules
5	"Standard norms of budget for highway construction work" ZZBNbD 83-017-2016	
6	"Standard norms of production for highway construction work" ZZBNbD 83-015-2016	
7	Standard norms of production for reinforced concrete bridges and pipelines construction, ZZBNbD 83-4v-2023	
8	Rules for compliance with the regime of special and ordinary protection and sanitary zones of water bodies and water sources	Joint Order No. A-230/127 of the Minister of Environment, Green Development and Tourism and the Minister of Construction and Urban Development of 2015
9	Waste disposal at the source Coded lists and their classification	A/349 of the Minister of Environment and Tourism of 12 December 2017
10	List of hazardous waste	Annex to the Government Resolution No. 116 of 02 May 2018
11	Methodology for determining the normative amount of ordinary waste	Annex to the Order No. A/369 of the Minister of Environment and Tourism of 25 December 2017
12	Procedures for the development, review and reporting of environmental management plans	Order No. a/618 of the Minister of Environment and Tourism of 29 October 2019
13	Procedures for conducting cultural heritage surveys	Order No. A/141 of the Minister of Education, Culture and Science of 04 April 2015

2.1.2. Policy documents

- National Security Concept of Mongolia (Resolution No. 48 of the Parliament)
- Vision-2050
- Action Plan for the Implementation of the Green Development Policy
- New Revival Policy
- Regional Development Concept
- Mongolian Development Plan for 2025
- Government Action Plan for 2024-2028

Priority Policy Directions of Mongolia in 2024, Appendix 1, Direction 6 of Resolution No. 39 of the Mongolian State Great Khural of 2023.

Urban planning documents

- Urban development policy
- Environmental protection policy
- Industrial development trends
- Traffic congestion reduction policy
    - Ulaanbaatar city development master plan – 2040
    - Ulaanbaatar city master plan
    - Ulaanbaatar city land management plan
    - State policy on industry
    - Ulaanbaatar city road and transport plan
    - Ulaanbaatar city engineering preparatory measures plan
    - Ulaanbaatar city integrated plan for underground engineering networks
    - Ulaanbaatar city transport infrastructure plan

3. SECTION III. ENVIRONMENTAL CONDITIONS

3.1. PHYSICAL GEOGRAPHICAL CONDITIONS

The territory of Ulaanbaatar city is a land with a continental climate, which belongs to the Khentii sub-region of the Khangai-Khenti mountain region of the Khentii region, a sub-region of the Khangai-Khenti mountain region in the physical geographical region of Mongolia.

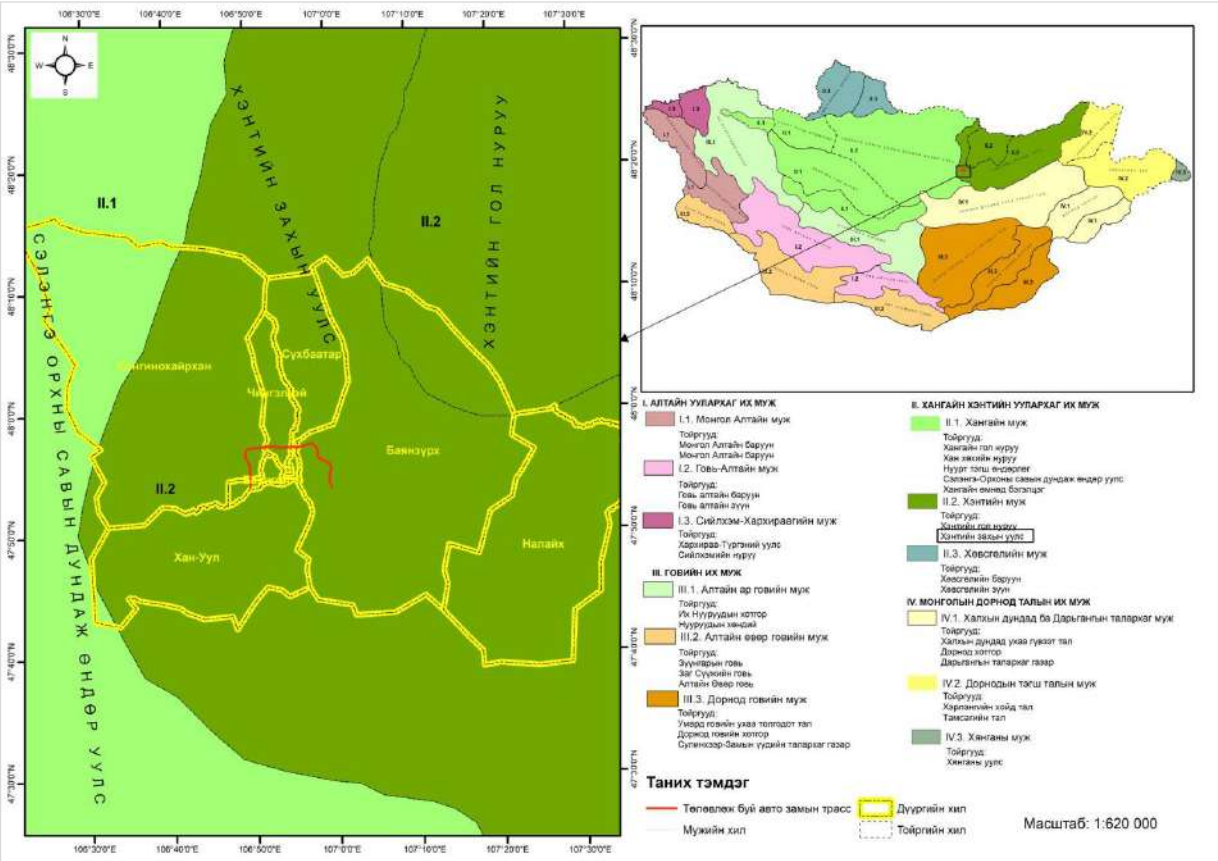


Figure 7. Physical geography of the project area

Landscape, terrain

Ulaanbaatar city and its surrounding area are located in the southwestern tip of the Khangai Khentii mountainous region, in the Tuul River valley, which extends 2.5-4 km, and in the southwestern branch of the Great Khentii Range, in the forest-steppe zone of its sub-region, in the independent highlands of Gorkhi, Terelj, Bogdkhan, Songinokhairkhan, Chingeltei, and Bayanzurkh, with an absolute height of 1950-2265 m above sea level, and in the trough-shaped valley of the Tuul River, which extends 2.5-4.0 km, and in the slopes, foothills, and terraces of the above mountains.

The highest point in the territory of Ulaanbaatar city is the peak of Bogdhan Mountain, Tsetse Gun (2256 m), and the lowest point is the Shuvuun Factory District (1203 m) in the Tuul River Valley. The absolute height of the built-up area in the central part of Ulaanbaatar city is 1250-1345 m in the Tuul River Valley and its lower reaches. However, the absolute height of the mountains surrounding the river valley, such as Songinokhairkhan, Chingeltei, Bayanzurkh,

Tolgoit, Bayankhoshuu, Bayantsogt, Khoyd Bayan, and Tsagduult, is 1515-1950 m, and the highest peak of Bogdhan Mountain is 2265 m. The average absolute height of the small mountains surrounding Ulaanbaatar city, such as Tolgoit, Bayankhoshuu, Bayantsogt, Khoit Bayan, and Tsagduult, is 1,513-1,831 m, and the slope of the side slopes is 15-20 degrees, and in some areas it reaches 30-35 degrees.

Natural zones and belts

The project area falls within the forest-steppe zone of the Mongolian natural zones and belts N. Ulziihutag (1989). The territory of Mongolia is characterized by the formation of several vertical belts and belts due to the change in latitude from north to south..

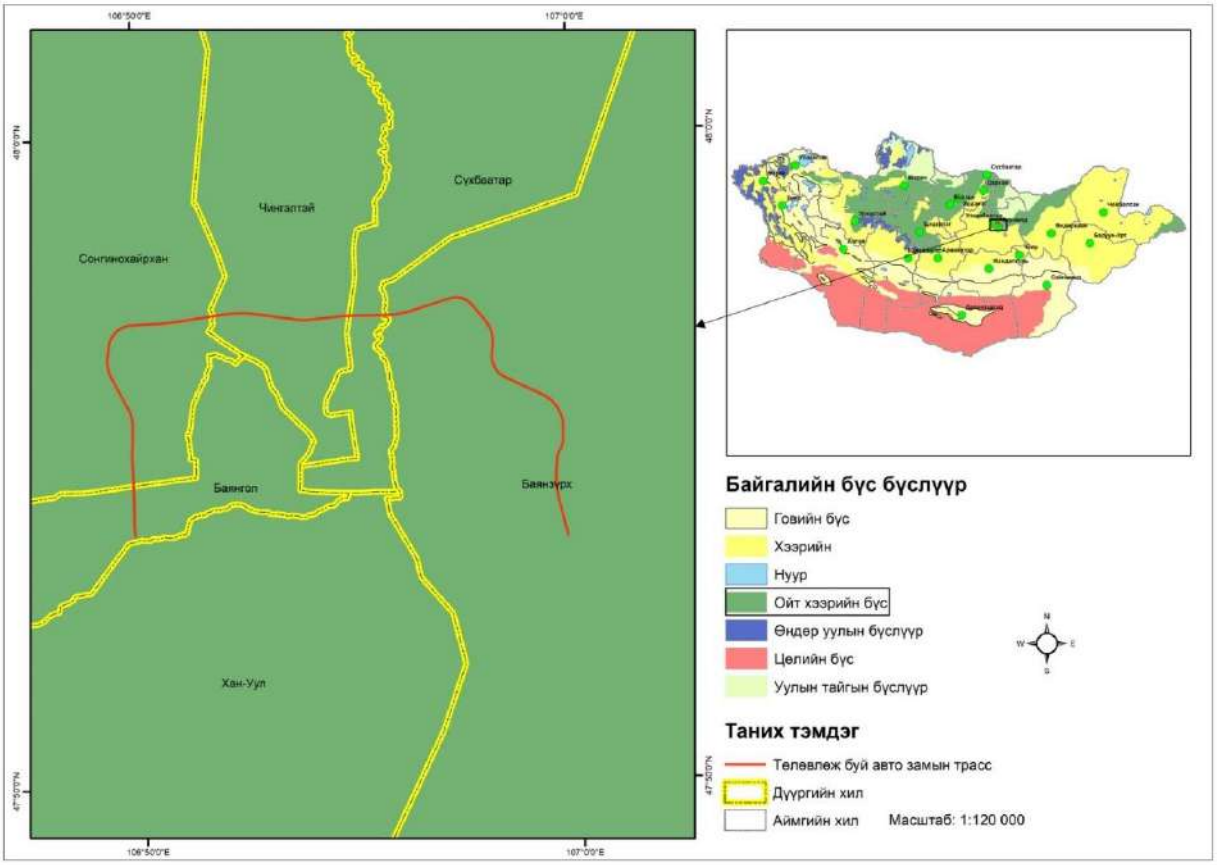


Figure 8. Natural zones and belts of the project area

The forest-steppe zone is found in the northernmost part of the dry steppes and deserts of Central Asia, the southernmost part of the great taiga of Eastern Siberia, the Khangai, Khentii, and Altai mountain ranges, the Orkhon-Selenge basin, and the Khyangan mountain range in the easternmost part of Mongolia.

A unique feature of the forest-steppe zone is that the back of the mountains is covered with sparse forests, mainly black spruce, while the upper slopes are mountain-steppe. This feature creates a unique combination of forest and steppe flora and fauna.

3.2. WEATHER AND CLIMATE INDICATORS OF ULAANBAATAR CITY

3.2.1. Climate regime around Ulaanbaatar city

The climate of Ulaanbaatar is characterized by extremes that fully reflect the continental characteristics of our country's climate. In other words, it has distinct annual variations that reflect the extreme continental characteristics of the temperate continental climate.

It has four seasons, with cold winters, absolute low temperatures of -49°C and absolute high temperatures of 39.50C, and the absolute high and low temperatures of (88.5 0C) are very different, and such a large difference occurs in only a few major cities in the world.

Air temperature

As seen from the climate graph showing the general climate of Ulaanbaatar (Figure 3.3), the average annual air temperature for the last 49 years between 1975 and 2024 is -1.10C, and in winter (December to February) -17.60C, in spring (March to May) -0.40C, in summer (June to August) -15.50C, and in autumn (September to November) -0.50C. The average annual air temperature is 33.20C. The highest air temperature is usually observed in July, averaging 17.80C, while the lowest temperature is observed in January, averaging -23.10C.

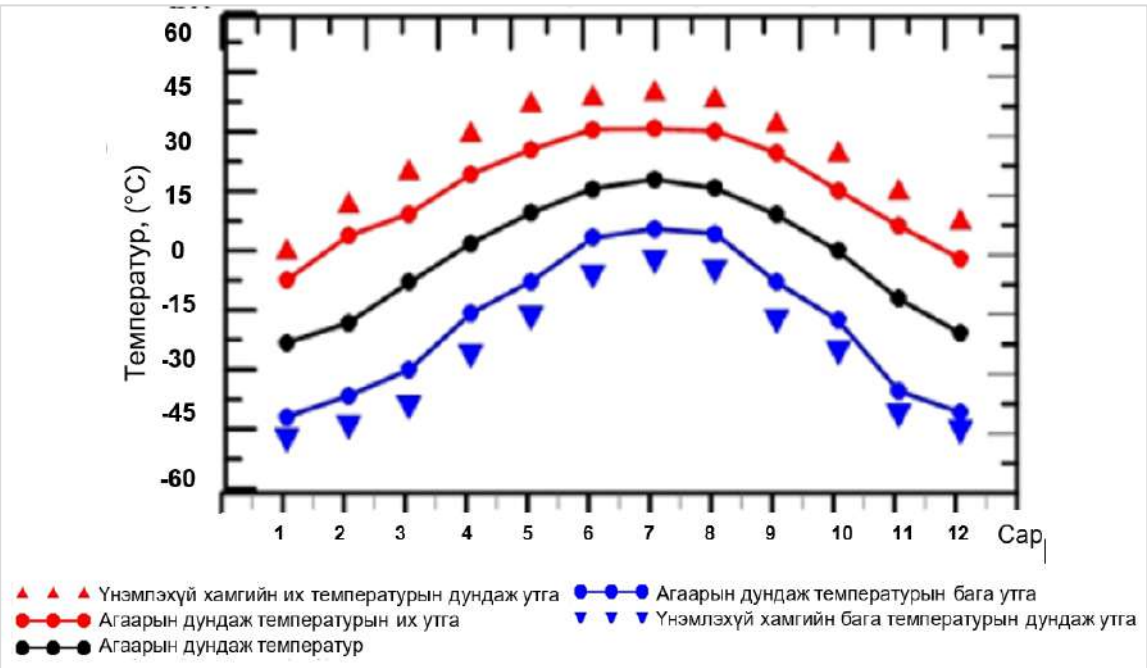


Figure 9. Climatogram of air temperature, by month (1975–2024)

In summer, the temperature exceeds 30°C for approximately 8 days, and in autumn, it exceeds 10°C for about 115 days, spanning from May 20 to September 10. The temperature of the coldest month is -23.1°C, and the number of days when the temperature drops below -30.00°C is about 40 per year. The average duration of frost-free days in Ulaanbaatar over many years (1975-2024) is from around May 15 to October 15, or more than 153 days. Depending on the weather conditions and the movement and characteristics of the atmospheric circulation, the number of days may vary. The cold season in this capital city lasts relatively longer than in other capital cities. This period is challenging for both the population and the economy, as winter weather conditions are severe. Consequently, air pollution and harmful emissions increase during this

season. According to climatic conditions, the winter season in the city centre spans from October 30 to November 9 and from March 10 to April 3 of the following year, lasting 147-150 days. The spring season begins from March 14 to 29 and lasts from May 15 to

The summer season, which begins at the end of spring, spans from May 15-23 and lasts for 105-116 days until September 5-8. The autumn season lasts from the end of summer to the beginning of winter, from September 5-8, from October 30 to November 9, for 52-60 days in the central part of the city, and from October 30 to November 9, for 64-70 days in the western part of the city (Namkhaizhantsan, 2012).

Precipitation and relative humidity

The amount of precipitation is distributed differently in each region depending on the geographical location and altitude above sea level. Since Mongolia is far from the ocean, which is the primary source of moisture, the climate in Mongolia is relatively dry, with relatively low precipitation and low humidity compared to neighbouring countries in the north and south..

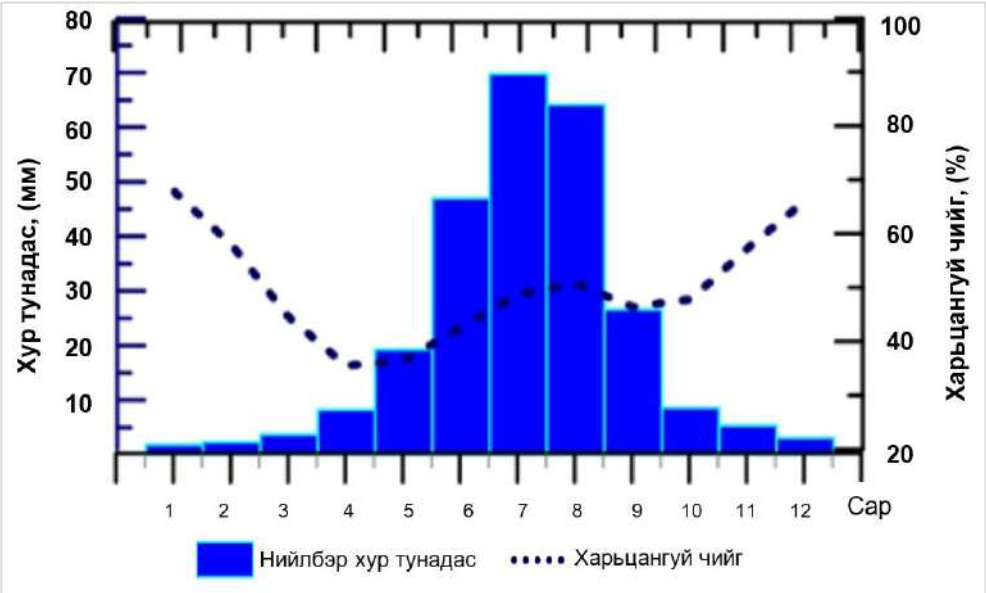


Figure 10. Precipitation and relative humidity climagram, by month (1975–2024)

The annual precipitation in the Ulaanbaatar city area over the past 49 years (1975–2024) is 418.9 mm on average, with most of the precipitation (392.7 mm or 93.7%) falling in the warm season (April–October), of which 74.4% (292.3 mm) falls only in June–August. In terms of the annual distribution of precipitation, the Khentii Mountains located northeast of the city receive slightly more precipitation.

One of the characteristics of the precipitation regime in our country is that precipitation is high in the warm season, but low in the cold season. The action of the pressure field determines the precipitation regime, but the influence of local thermal convection in the warm season is greater. Between 1975 and 2024, the average frequency of heavy rain in the city during the warm season in June–July was 8 days, while the average frequency of heavy rain in August–September was relatively higher, at 7–8 days. There is a high frequency of normal snowfall in all months of the cold season. Heavy snowfall occurs for 1-2 days in the spring and autumn transition seasons.

Relative humidity is generally inversely related to air temperature and also depends on clouds and precipitation. Relative humidity varies in cities and rural areas.

The average is 63.1%, with the highest (74.7%) in winter, and the lowest (43.0%) in spring and autumn, or when the dryness is high, the average is (61.1%) in summer..

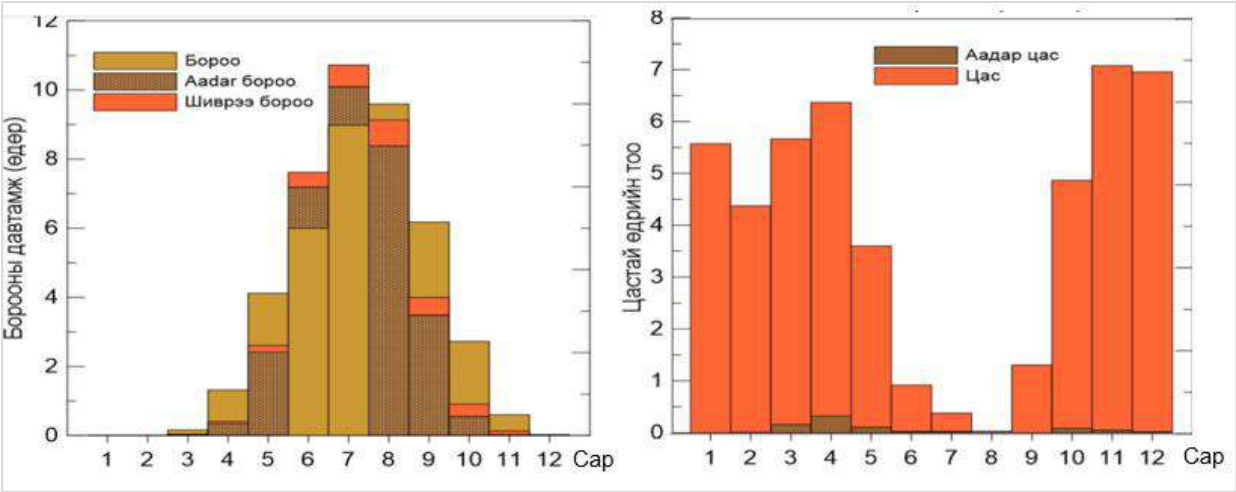


Figure 11. Number of days with liquid and solid precipitation observed in the vicinity of Ulaanbaatar city (by month, 1975–2024)

Wind and air pressure

The occurrence of dust storms and soil erosion depend not only on wind speed but also on the state of the land cover in the region (UNEP 1997). The susceptibility of land cover to wind erosion is characterised by the interaction of vegetation growth-erosion cycles, soil moisture, snow cover, and the effects of urbanisation, which in turn influence seasonal and interannual variations in dust storms.

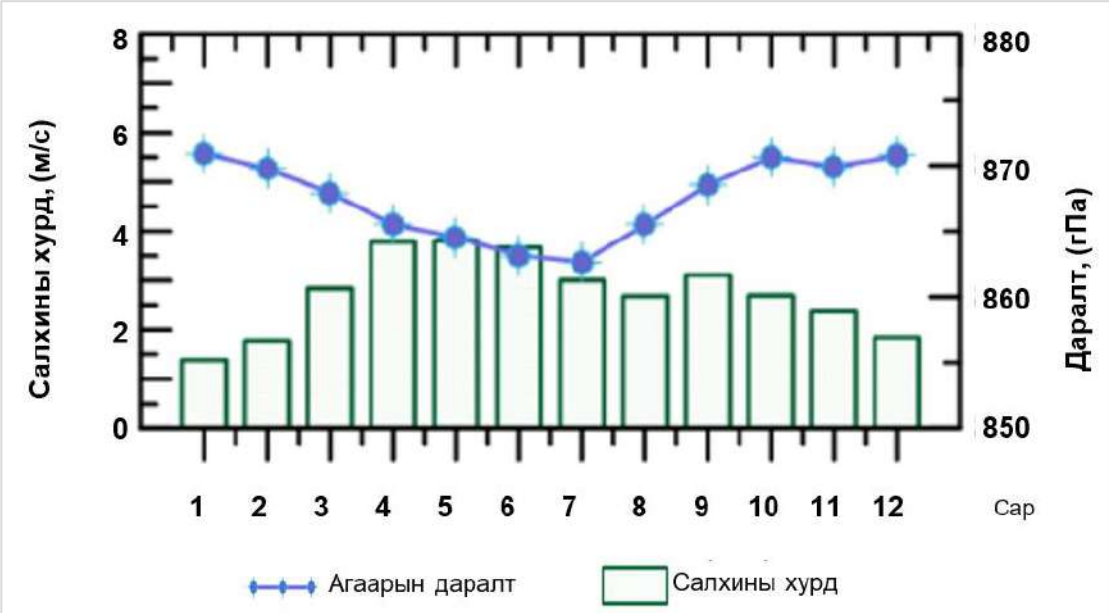


Figure 12. Climatogram of wind and air pressure, by month (1975–2024)

Between 1975 and 2024, the city experienced dust storms on an average of 21 days per year. Of these, 9 days were dust storms and 12 days were landslides.

(Figure 3.7). The high incidence of dust storms is associated with high soil erosion rates, weak soil surfaces, low soil moisture content, and low vegetation cover. In terms of seasonality, soil erosion and dust storms are most common in spring (March–May).

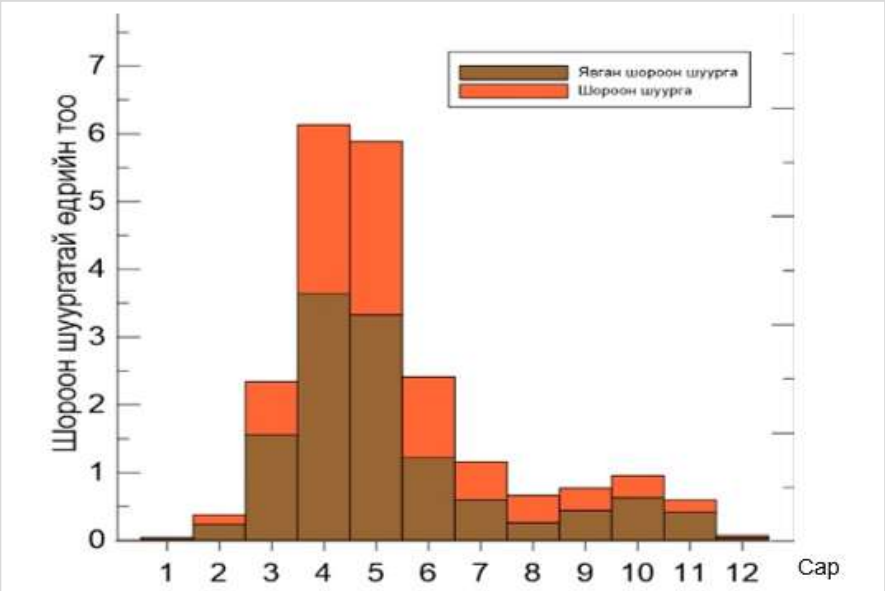


Figure 13. Number of days with dust and hail storms observed in the Ulaanbaatar area (by month, 1975–2024)

In winter, the centre of the anticyclone is formed in Ulaanbaatar, and the air pressure reaches 1037 Pa, so the sky is clear. Ulaanbaatar is one of the capital cities with the clearest blue sky in the world, and it has about 250 clear days a year.

Snow cover forms around the 10th of November, and there are about 130 days of snow with a thickness of about 18 cm until the 20th of March. The mountains experience about 10 days of heavy snow, followed by about 10 days of snowstorms. The shortest day of the year is the winter solstice on the 22nd of December, and the day length on this day lasts 8 hours and 24 minutes. On this day, the noon sun angle in Ulaanbaatar is 18.50.

In Mongolia, anticyclones or high-pressure areas predominate in the cold season, and cyclones or low-pressure areas predominate in the warm season. Analysis of climate observation data from 1975-2024 shows that the average annual wind speed in Ulaanbaatar city is 2.8 m/s, and in general, the wind is relatively stable in winter and summer, with an average wind speed of 1-3 m/s, and the maximum is 4–5 m/s in the spring and autumn transition season (Figure 3.6). Ulaanbaatar city is one of the least windy cities in Mongolia, with about 100 windless days per year, and the prevailing wind direction is northwesterly. The maximum wind speed was 40 m/s.

3.2.2. Climate change around Ulaanbaatar city

Mongolia is one of the most vulnerable countries to climate change due to its arid and extreme climate, fragile ecosystems, and agro-climatic economic systems such as pastoralism. In the last 49 years (1975−2024), the average air temperature around Ulaanbaatar city has warmed by 1.340 °C.

Considering the intensity of warming by season, the average air temperature is increasing more intensively in the spring (2.56°C) and summer (2.14°C) seasons. However, in winter, although the air temperature is almost unchanged, the intensity of warming is lower than in other seasons (0.43°C), and colder than average winters have occurred in the last twenty-five years (2000, 2005, 2010–2012).

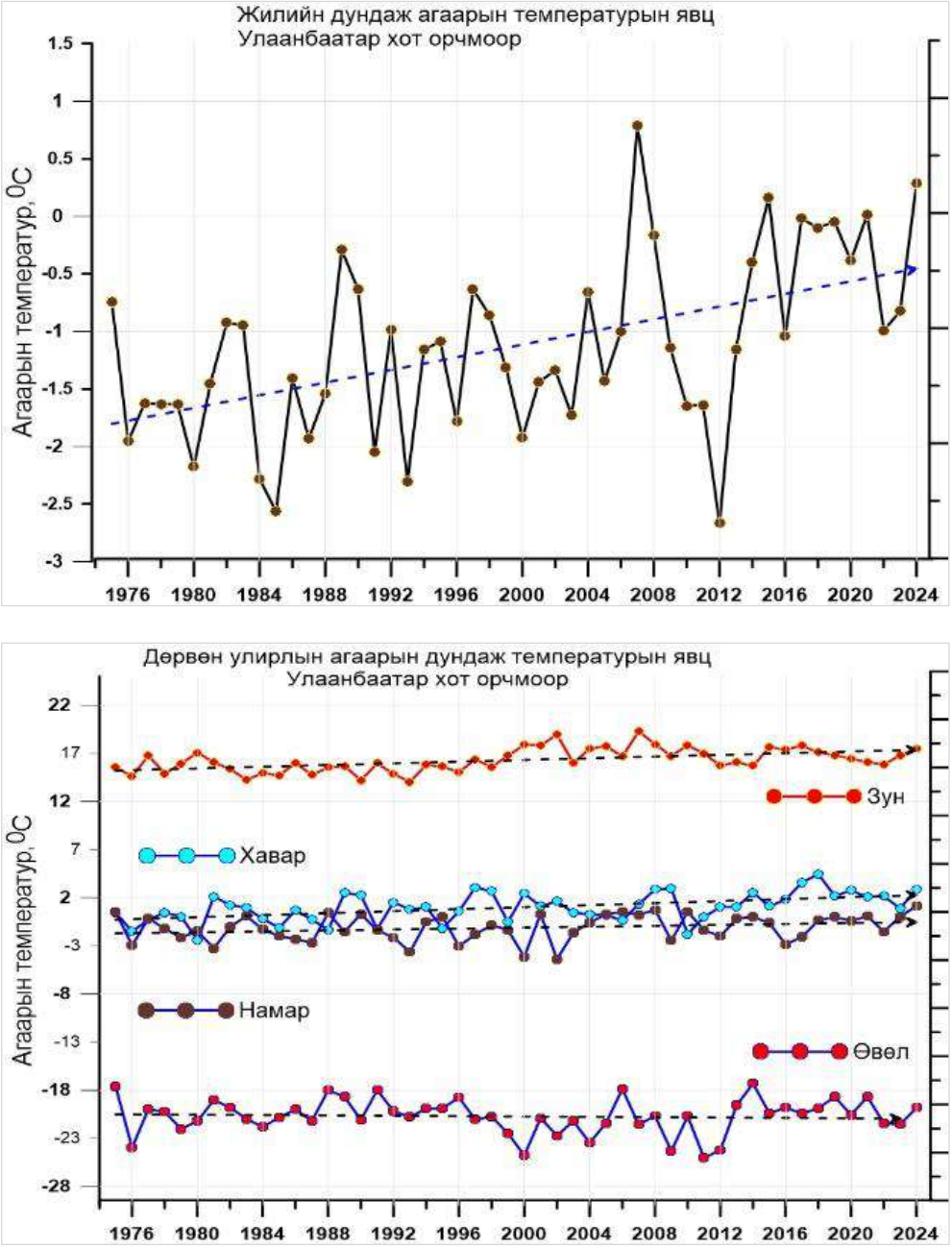


Figure 14. Changes in average air temperature around Ulaanbaatar city, annual and seasonal trends (1975-2024)

Ulaanbaatar has experienced more frequent warm periods since 2000, and only warm years since 2013, indicating that the city is being intensely affected by climate change. Ulaanbaatar's warming situation

The last 50 years were divided into two periods (1975–1999 and 2000–2024) for the assessment. Compared with the previous 25 years (1975–1999), the intensity of warming in the entire region in the last 25 years (2000–2024) has increased relatively, doubling or warming by 1.0–1.50C.

Considering the multi-year changes in total annual precipitation, it has tended to increase by 166.1 mm (14.8% compared to the 1981–2010 average) in the Ulaanbaatar city area over the last 50 years. In addition, the amount of precipitation in the city in the summer season has increased relatively, increasing by 223.5 mm or 136.9%, and the increase in other seasons is relatively small. This is due to a significant increase in the number of temporary heavy rains during the rainy season, which is June–August.

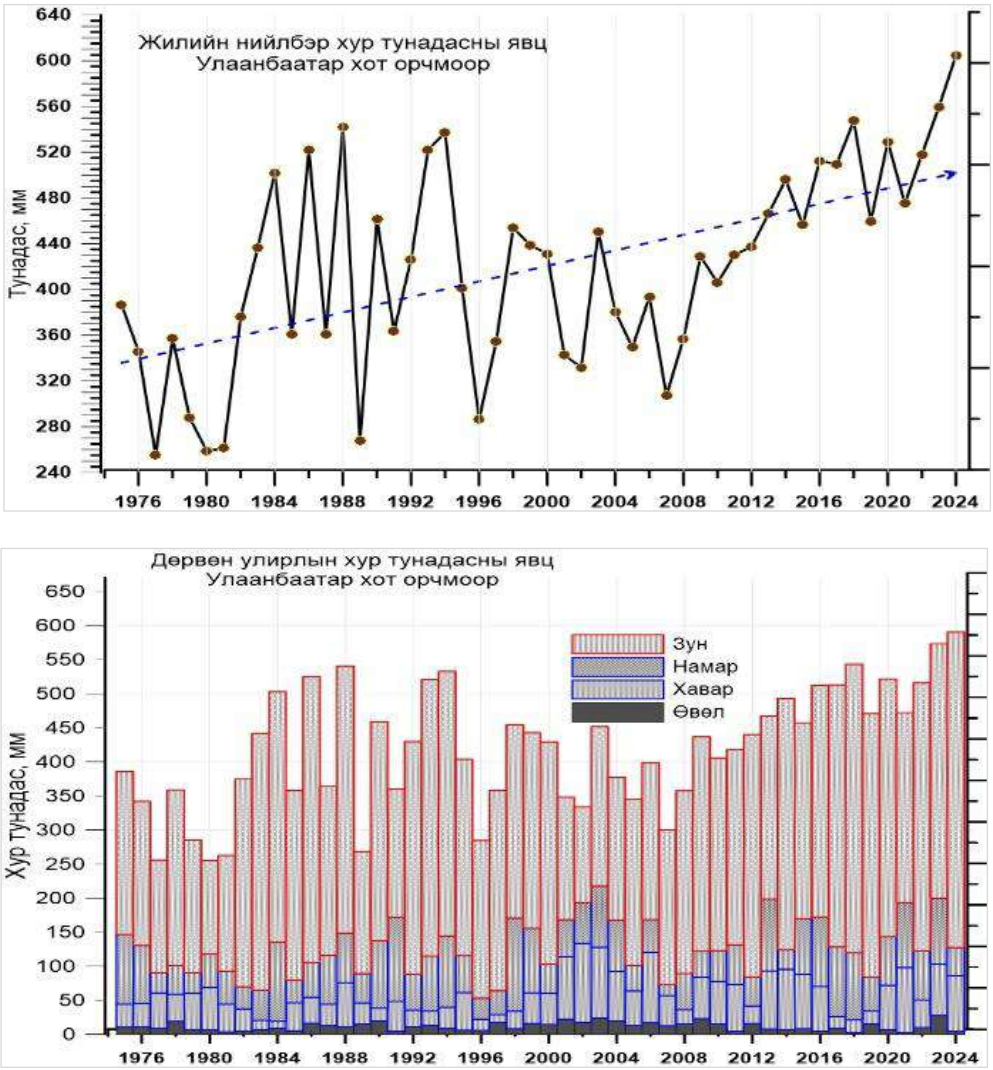


Figure 15. Changes in total precipitation around Ulaanbaatar city, annual and seasonal trends (1975-2024)

To assess the changes in annual precipitation in Ulaanbaatar, the last 50 years were divided into two periods (1975–1999 and 2000–2024) and compared. In the last 25 years (2000–2024), compared to the previous 25 years (1975–1999), the total area

While the annual precipitation in the country has increased by 56.6 mm or 14.5%, winter and summer precipitation have increased by 9-25% in the last 25 years.
In addition, considering the long-term trend of precipitation, since 2009, the total annual precipitation has been higher than the long-term average (1981-2010) for several years, and the continuous increase in precipitation is also related to the increased frequency of temporary heavy rains. On the other hand, there is a tendency for the frequency of relatively dry years, especially in the spring season.
In recent years, the intensity of precipitation has increased and its type has changed not only in Mongolia but also globally (Nandintsetseg et al., 2007; Vandandorj et al., 2017).

Since the increase in the amount of precipitation in the warm season in Ulaanbaatar may be related to the changing intensity of rainfall, the frequency of each type of rainfall was examined. In the region, there is a general trend of increasing frequency of heavy rainfall events over the period 1975–2024, which is more pronounced in the last 20 years (2012–2024), with a 2.1-fold increase in the frequency of heavy rainfall events (Figure 4.10). This is despite an increase in annual precipitation, but the majority of this rainfall is heavy. Most of the rainfall is lost to surface runoff and has little infiltration into the soil, which is why it is not a good source of moisture for plant growth, but is likely to be a significant factor in increasing soil erosion (Eekhout et al., 2018). This increase in total annual precipitation may be related to changes in rainfall intensity in recent years.

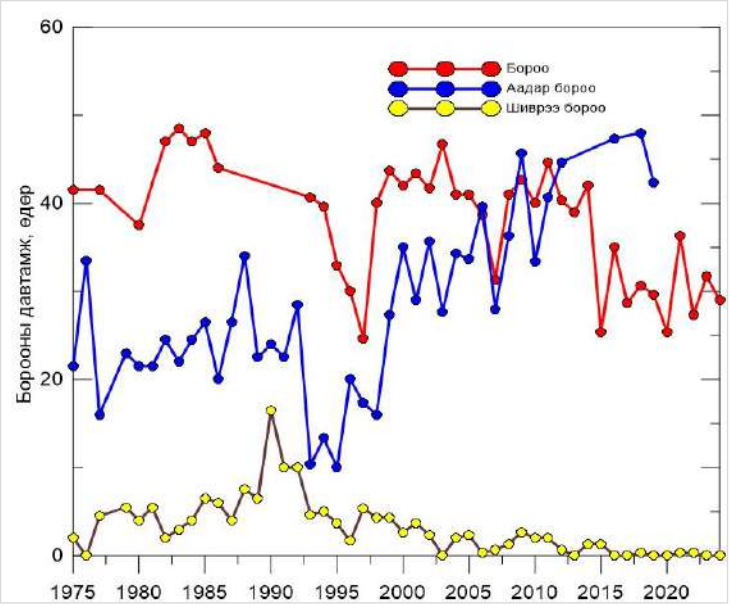


Figure 16. Changes in the intensity of rainfall (standard, heavy and drizzle) observed in Ulaanbaatar city (1975-2024)

The increase in the frequency and intensity of these heavy rainfall events, both regionally and globally, may be due to global warming, which is increasing surface temperatures, accelerating evaporation from water and land surfaces, increasing the amount of water vapor in the Earth's atmosphere, and causing changes in the local climate system (Trenberth et al., 2003; Munkhjargal et al., 2020).

3.2.3. Natural disasters caused by climate change

As global climate change progresses, since the 1970s, the frequency, intensity, and scope of dangerous and catastrophic atmospheric phenomena (extreme heat, extreme cold, drought, dzud, floods, extreme weather conditions, dust storms, fires, etc.) have increased. Research results continue to show that the damage to the country's ecology, society, economy, population health, and sustainable development is increasing and is likely to continue to increase.

Negative consequences such as ecosystem degradation and water resource depletion are seriously affecting livelihoods directly dependent on natural resources, especially in regions with arid climates (including Mongolia). The most damaging atmospheric natural disasters in our country include drought, dzud, extreme heat, cold, dust storms, and landslides. These natural disasters are compounded by inappropriate human activities (e.g., deforestation, mining, etc.) and are increasing disaster risk..

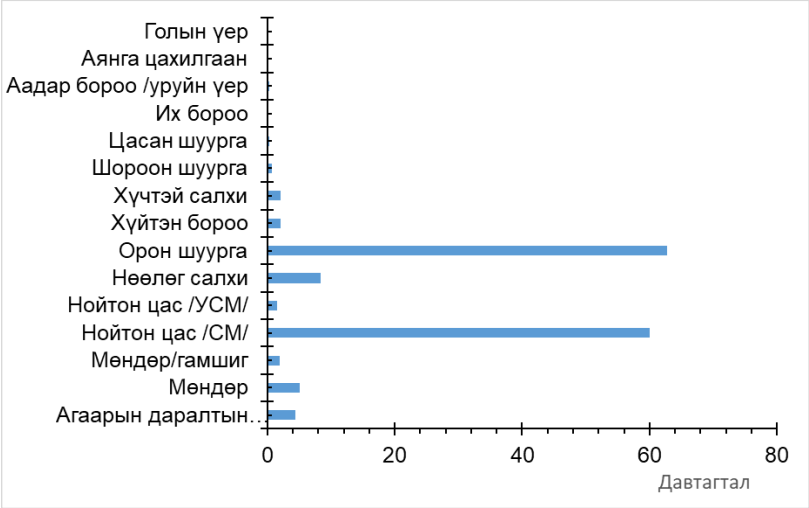


Figure 17. Recurrence of hazardous and catastrophic events observed around Ulaanbaatar city (2005-2024)

The frequency of dangerous and catastrophic events observed in the vicinity of Ulaanbaatar city over the past 20 years (2005-2024) is shown in Figure 3.11. As can be seen from the figure, the most frequent event element is storms, which were observed on average 66 times per year, while wet snow was observed on average 63 times per year, reaching the level of dangerous and catastrophic events. However, dangerous events such as gusty winds and hail occurred on average 2–8 times per year. Considering the most frequent events in Ulaanbaatar city over two decades, the number of events in the last decade has doubled..

Table 6. Decadal recurrence of the most frequently observed phenomena in the vicinity of Ulaanbaatar city (2005-2024)

	Wet snow	Gentle breeze	Storm in the sky
2005-2014	44	7	57
2015-2024	80	14	74

Recent studies have linked the increasing dust storms originating from the Mongolian Gobi to the degradation of land cover in Mongolia (Bao et al., 2021; Y. Kurosaki et al., 2011; Yong et al., 2021). Dust storms are natural phenomena that occur in areas with poor vegetation, dry, and

loose soil, when wind speed reaches a certain threshold. Depending on the frequency of this phenomenon, it is possible to determine the progress of soil erosion and desertification in a given change and the degradation of land cover due to inappropriate human activities.

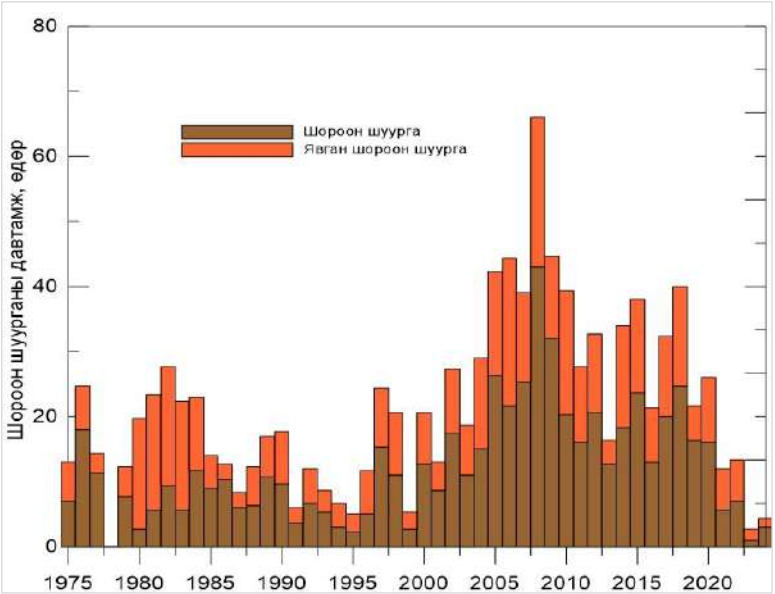


Figure 18. Changes in dust storms in Ulaanbaatar (1975-2024)

In addition to the natural disasters caused by climate change in major cities around the world, one of the biggest disasters caused by human activities is undoubtedly air pollution. Air pollution in Ulaanbaatar has been observed to increase from October to March of the following year, due to the formation of adverse weather conditions (temperature inversion, cold winter). Currently, the primary sources of air pollution in the capital are more than 170 thousand households using conventional coal-fired stoves, three thermal power plants, more than 122 thousand vehicles, and more than 2 thousand small and medium-sized low-pressure heating boilers.

Thermal power plants, low-pressure boilers, households, businesses, and organisations burn about 6 million tons of raw coal and more than 240 thousand m3 of wood annually, releasing more than 260.0 thousand tons of toxic substances into the air. An additional 1.8-2.0 million tons of historical coal will be burned to build a fifth heat source.

The concentration of sulphur dioxide in the air is high in the city centre and lower districts, which are located at relatively low altitudes. In 2004, the annual average concentration of sulphur dioxide in the city was 14 µg/m3, and the highest daily average concentration of 96 µg/m3 was observed in the 13th district of Bayanzurkh district (UB-4) in January. In particular, pollution increased sharply in January, February, and December of this year, and about 50 per cent of the total observations in these months exceeded the MNS-4585-98 "Air Quality Standard", and the number of cases of sulphur dioxide exceeding the air quality standard increased compared to the previous year.

The concentration of nitrogen dioxide near the city centre or the intersection of the West 4 roads is almost twice as high as in other parts of the city. The nitrogen dioxide concentration in the city

The annual average concentration of carbon dioxide was 30 µg/m3. The maximum daily average concentration was 104 µg/m3 near the intersection of the West 4 roads (UB-2 guard) in February,

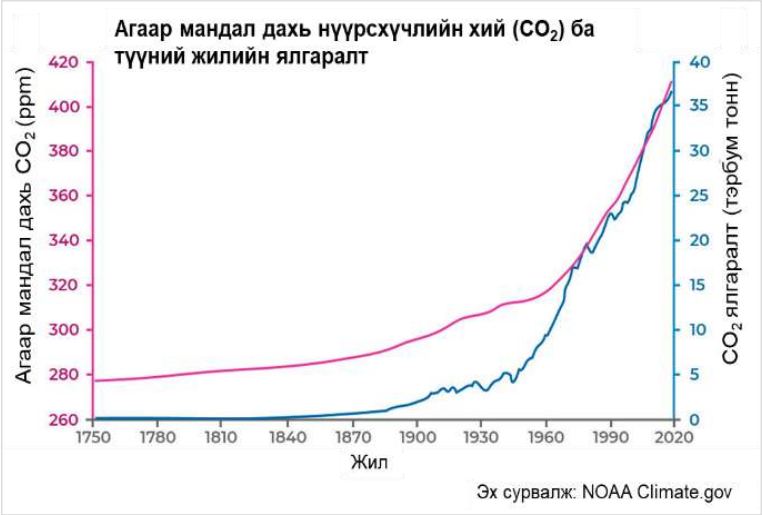
and the cases of pollution exceeding the air quality standard near the intersection of the West 4 roads reached 57 per cent of the total observations.

3.2.4. Future trends in climate

In the past twenty years, we have witnessed firsthand the climate situation changing before our eyes. For a long time, we have been aware that the frequency and intensity of catastrophic events are increasing dramatically worldwide. Scientists continue to warn humanity that this is just the beginning, that "the era of global warming is over" and "the era of global boiling has arrived." The fate of not only the country but also human civilisation largely depends on whether humanity can limit further rapid changes and adapt to changing climate conditions. Due to the effects of greenhouse gases naturally accumulating in the atmosphere, our planet maintains a stable average temperature of 15°C, which is neither too hot nor too cold, and allows life to thrive. However, since the Industrial Revolution that began in the 18th century, the concentration of greenhouse gases in the atmosphere has increased significantly (Figure 3.13), and researchers have proven that human activities cause this increase (IPCC, 2014). The increase in greenhouse gas emissions is directly related to the increase in the temperature of our planet, and as a result, the frequency of catastrophic weather events is increasing. The increase in population, the energy required to meet it, the effects of urbanisation, such as the production and services of all types of transport, agriculture, light and food industries, industry, construction, and the waste generated by them, all contribute to the emission of greenhouse gases. For example, carbon dioxide, which accounts for the majority of all greenhouse gases, is produced by burning fossil fuels (coal, oil shale, and oil), reducing green spaces, deforestation, and improper land use.

The number of hot years is increasing every year, and 2023 was the warmest year on record since 1850. Global warming in 2023 was 1.54°C above pre-industrial levels (1850−1900). The Paris Agreement on climate change aims to keep the long-term increase in global average temperatures well below 2°C. At current rates, the long-term increase in global average temperatures is projected to exceed 1.5°C above the 1850–1900 average by 2032, and reach 2°C by 2057. The rise in greenhouse gas emissions in the atmosphere due to human activities is a direct cause of global warming. Therefore, significant progress in reducing greenhouse gas emissions is urgently needed to achieve the goal of keeping global warming below 2°C set out in the Paris Agreement.

According to the future outlook for climate change, global warming is expected to intensify (Hoegh-Guldberg et al., 2018; IPCC, 2022), and the negative impacts of this will tend to be higher than the global average due to our geographical location and characteristics (MARCC, 2014). The negative impacts of climate change are likely to pose significant challenges and high risks to the future socio-economic development of our country. In particular, it is expected to have a substantial impact on the livelihoods of nomadic livestock and herders, who are directly dependent on natural conditions, and the loss of a decent level of environmental quality.



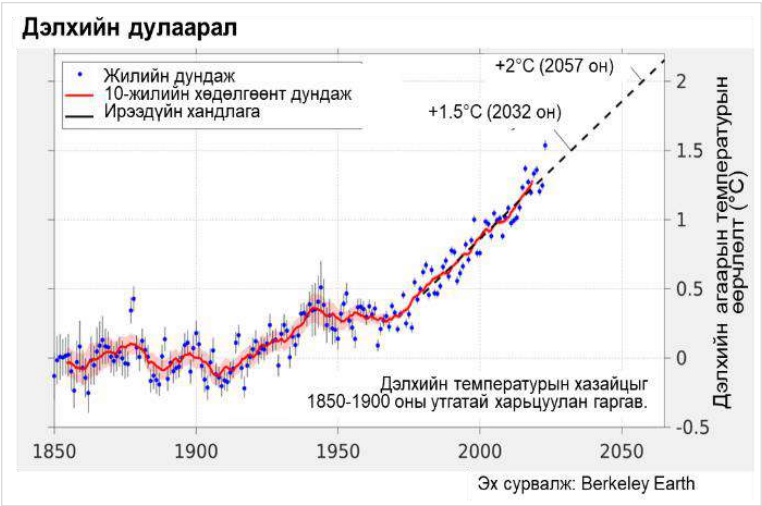


Figure 19Carbon dioxide (CO2) in the atmosphere, its annual emissions, and global annual average temperature changes (current and future trends)

There is a need to adopt policies to adapt to the drought caused by global warming early.

When calculating the scenario of an increase in the radiative load of greenhouse gas emissions by 8.5 W, the number of days with temperatures above 25°C and 30°C will increase by 20 days by the middle of this century, and the number of days with temperatures above 30°C will increase by 19 days.

According to future climate projections, by the end of this century, the average annual air temperature will warm by 4-5°C, the number of days with temperatures above 30°C will increase by 19 days, and evaporation will increase by 6-10 times compared to precipitation, which will lead to an increase in drought (UAEI-2014).

Therefore, it is important to make all-out efforts to implement comprehensive policies that take into account not only the natural and climatic characteristics of urban areas, but also the socio-economic conditions.

The physical, biological, and biophysical impacts of climate change will directly and indirectly (chain) affect production, livelihoods, and food security by affecting urban ecosystems, water

resources, and humans. The negative impacts of climate change have already had a significant impact on the well-being of the population by affecting ecosystems (degradation), water resources (scarcity), economic decline, and biodiversity.

The increasing frequency and intensity of extreme events such as temperature increases, changes in precipitation, and droughts have a direct impact on the health of the population, mortality, and food security. They are likely to continue in the future.

Therefore, it is necessary to pay great attention to diversifying the sources of income of citizens, providing training in entrepreneurship, pooling assets to finance economic activities, and ensuring financial and market access.

Nowadays, no country in the world can avoid natural disasters. Developing a systematic policy that provides early warning and comprehensive risk assessment, which can be coordinated with the country's economy and infrastructure, will enable disaster prevention and reduce socio-economic losses and victims of climate change.

3.3. AIR QUALITY

The “New Ring Road” project, aimed at reducing road congestion in Ulaanbaatar, will pass through various residential areas of the city. The primary air pollutant generated during road construction is dust particles, and the distribution of dust varies depending on the season.

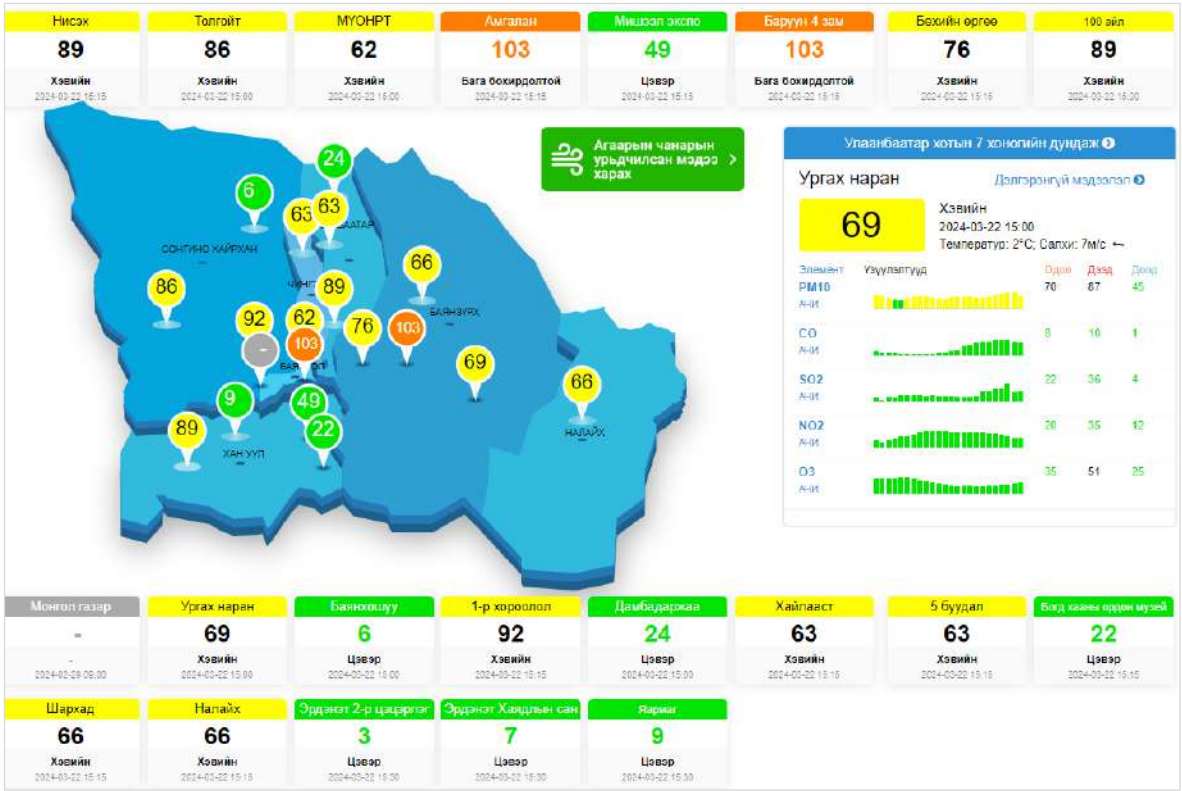


Figure 20. Location of air quality monitoring stations in UB city

3.3.1. Air quality indicators in Ulaanbaatar city (2012-2023)

PM2.5 PARTICULATE MATTER

PM2.5 particulate matter in the air of Ulaanbaatar city was 1.6-4.2 times higher than the permissible concentration in the Air Standard MNS 4585:2016 in 2012-2023, with the highest concentration in 2012 and the lowest concentration in 2022-2023.

According to the results of 2012-2023, the concentration of PM2.5 particulate matter in 2022 and 2023 decreased compared to previous years, or 2.5 times lower than in 2012 (Figure 3.15).

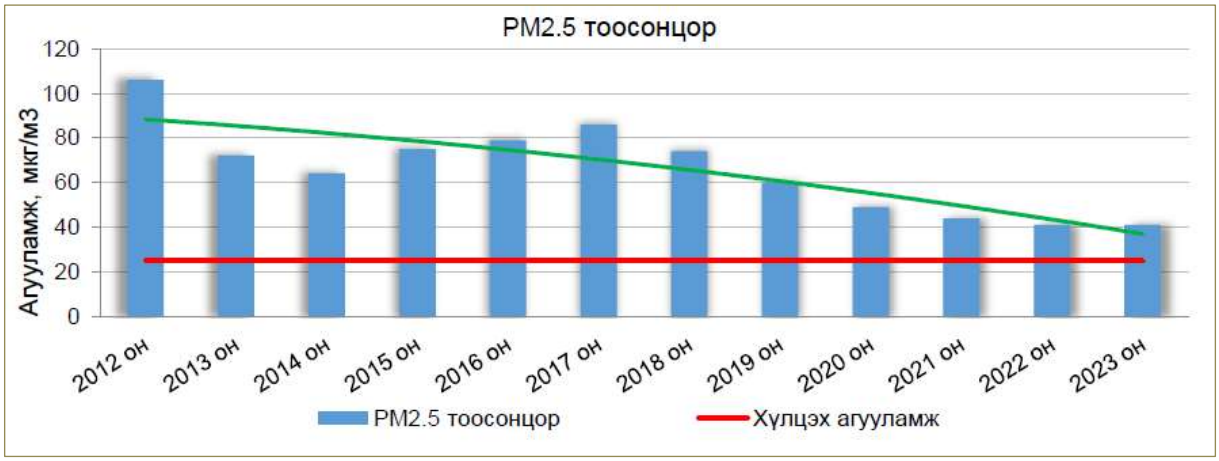


Figure 21. Annual average concentration of PM2.5 particles in the air of Ulaanbaatar city

SULFUR DIOXIDE-SO2

The annual average concentration of sulphur dioxide in the air of Ulaanbaatar city in 2023 is 56 µg/m3, which is 7 µg/m3 or 11% lower than in 2022. In 2012-2023, it was 1.1-3.3 times higher than the permissible concentration, and the annual average maximum concentration was 66 µg/m3 in 2021 (Figure 3.16).

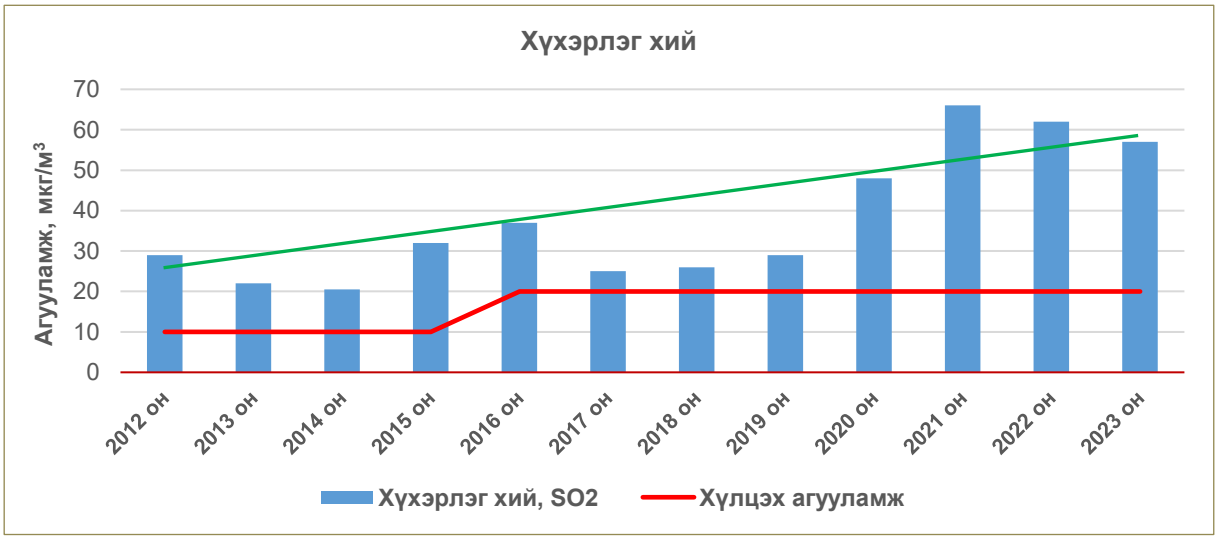


Figure 22. Average annual concentration of sulphur dioxide in the air of Ulaanbaatar city

PM10 PARTICLES

The highest concentration of PM10 particles in the air of Ulaanbaatar city was in 2012, and the lowest concentration was in 2023. According to the results of 12 years, the concentration of

PM10 particles in 2020-2023 was 35-171 µg/m3 lower than in previous years (Figure 3.17).

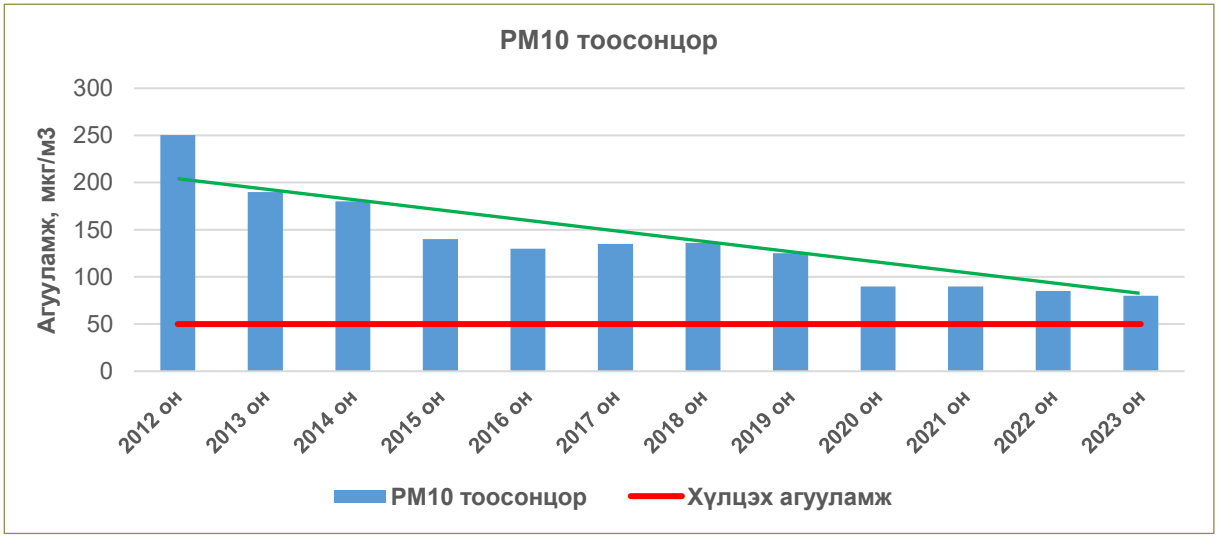


Figure 23. Annual average concentration of PM10 particles in the air of Ulaanbaatar city

NITROGEN DIOXIDE, NO2

Over the 12 years, the annual average concentration of nitrogen dioxide in the air of Ulaanbaatar city reached its maximum in 2013, when it was twice as high as the permissible concentration in the air quality standards, while it did not exceed the allowable concentration in 2016-2023 (Figure 3.18).

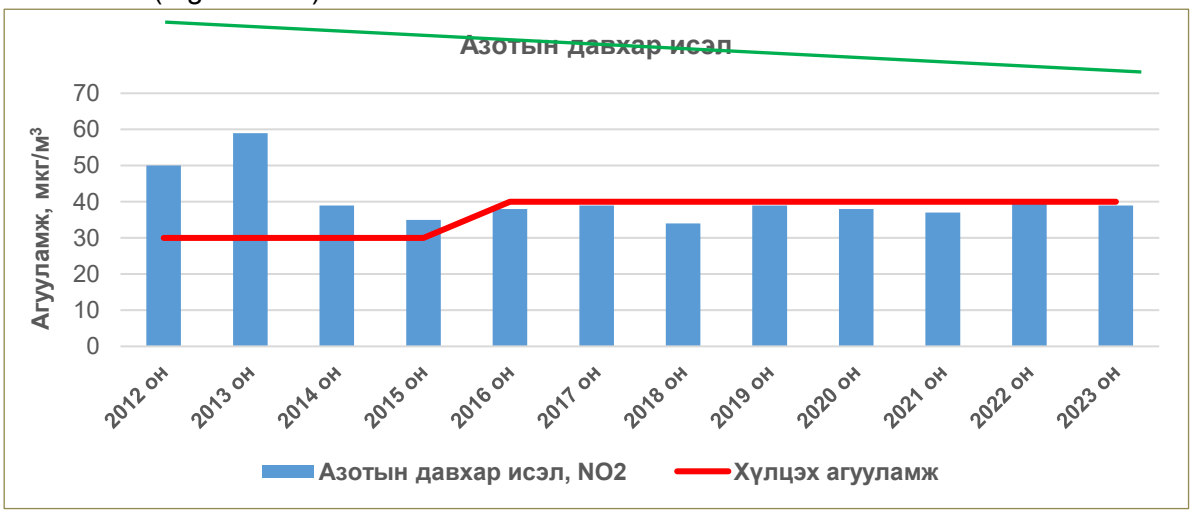


Figure 24. Average annual concentration of nitrogen dioxide in the air of Ulaanbaatar city

CARBON MONOXIDE, CO

Carbon monoxide is a pollutant that is released into the air from all types of incomplete combustion and can cause serious adverse effects on human health in the short term.

The average annual concentration of carbon monoxide in the air from 2012 to 2023 was 863-1410 µg/m3, with the highest concentration in 2021 and the lowest concentration in 2013. In 2023, the average annual concentration of carbon monoxide reached 1241 µg/m3, which is 36 µg/m3 or 3% lower than in 2022.

Figure 25. Average annual concentration of carbon monoxide in the air of Ulaanbaatar city

3.3.2. Air quality indicators of Ulaanbaatar city (2024)

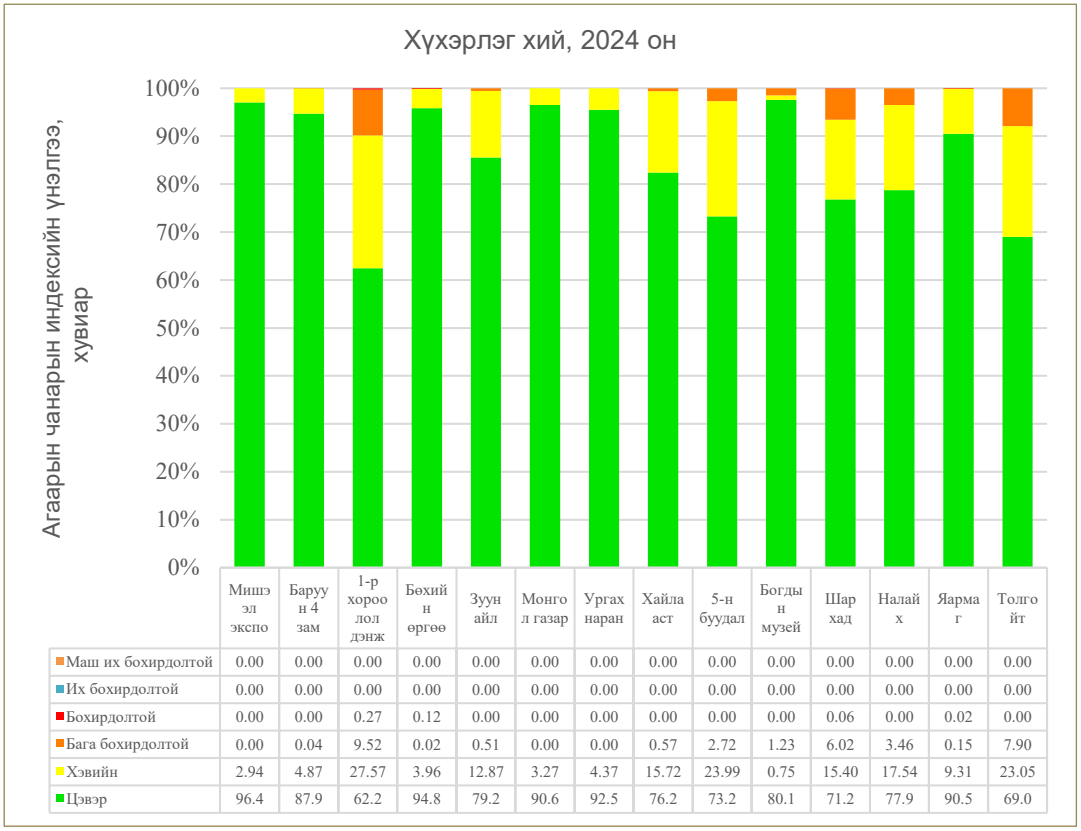
The air quality indicators for 2024, the impact of air pollution sources, and the seasonal and daily changes in pollutants were considered based on the results of a study supported by the United Nations Children's Fund, and data from stations located near the roadway were used to analyse the seasonal and daily changes in pollutants.

The air quality monitoring network of Ulaanbaatar city continuously monitors pollutants such as sulfur dioxide (SO2), nitrogen oxides (NOx), carbon monoxide (CO), ozone (O3), and particulate matter (PM), and the current state of air quality was evaluated using the 2024 data and compared with the Mongolian Air Quality Standard and General Technical Requirements for Air Quality MNS4585:2016.

Sulphur gas. According to the measurement results of 14 air quality monitoring stations operating in Ulaanbaatar city, the concentration of sulphur gas is relatively high during the cold season, especially in the area around the ger districts.

Sulphur dioxide is a toxic gas, and when present in high concentrations, symptoms such as shortness of breath occur. The main effects are that it can cause respiratory diseases, damage organs, and negatively affect all aspects of human health, the environment, and infrastructure by creating dust particles and acid rain (H2SO4). According to the results of the 2024 monitoring of 14 residential areas in Ulaanbaatar, the highest concentration of sulphur dioxide in the air was found near the terraces and Tolgoit in the 1st district, and the lowest pollution was found near

the Bogd Museum and Michel Expo (Figure 3.20).



	Мишээл экспо	Баруун 4 зам	1-р хороолол дэнж	Бөхийн өргөө	Зуун айл	Монгол газар	Ургах наран	Хайласт	5-н буудал	Богдын музей	Шархад	Налайх	Яармаг	Толгойт
Маш их бохирдолтой	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Их бохирдолтой	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Бохирдолтой	0.00	0.00	0.27	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.02	0.00
Бага бохирдолтой	0.00	0.04	9.52	0.02	0.51	0.00	0.00	0.57	2.72	1.23	6.02	3.46	0.15	7.90
Хэвийн	2.94	4.87	27.57	3.96	12.87	3.27	4.37	15.72	23.99	0.75	15.40	17.54	9.31	23.05
Цэвэр	96.4	87.9	62.2	94.8	79.2	90.6	92.5	76.2	73.2	80.1	71.2	77.9	90.5	69.0

Figure 26. Annual average concentration of sulphur dioxide, air quality monitors

Nitrogen dioxide. Nitrogen dioxide is a by-product of high-temperature combustion of nitrogen-containing fuels and is usually formed as a result of heat absorption reactions during combustion, causing environmental pollution. The primary source of pollutants is all types of vehicles, and these pollutants, both individually and in the form of acid precipitation and ground-level ozone, have negative impacts on human health and the environment.

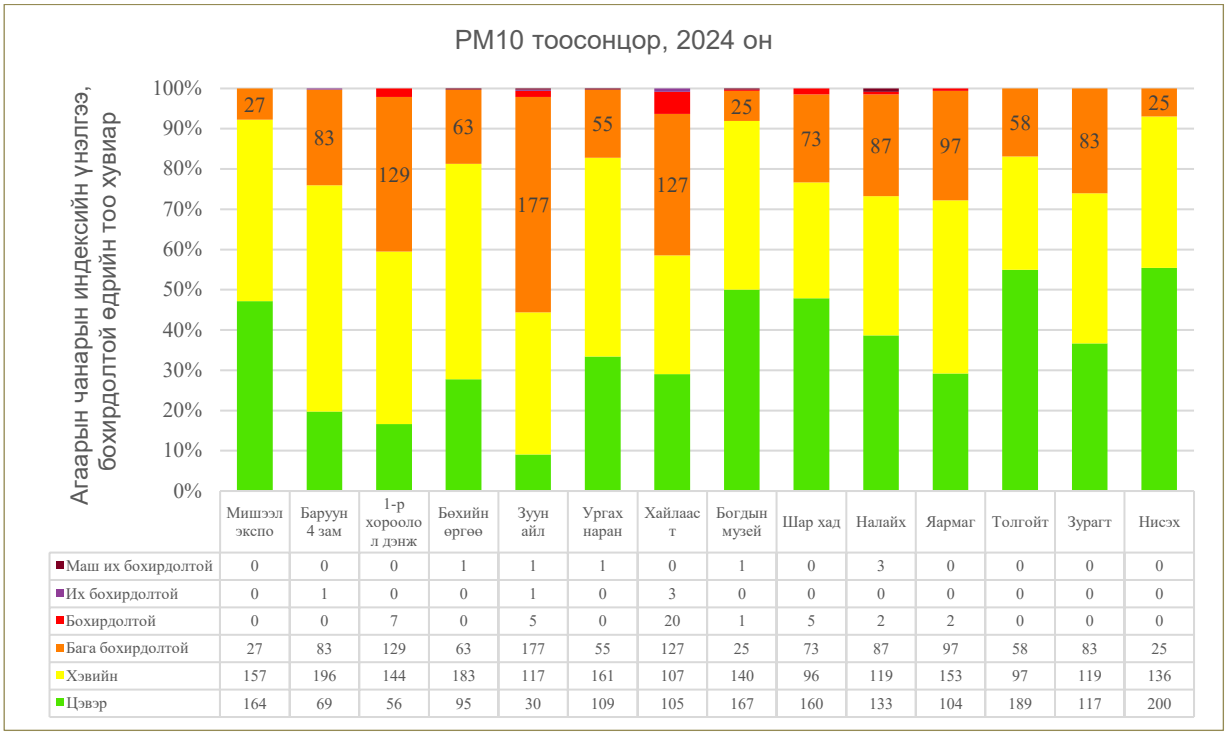
The monitoring results show that nitrogen dioxide pollution in the city centre areas and the vicinity of major roads, such as the West 4th Road, exceeds the maximum permissible levels specified in the standard. Considering the location of the guards, nitrogen dioxide in the ambient air is measured at the highest level near West 4th Street, and the pollution exceeds the TLV throughout the year. However, in locations far from major roads, the annual concentration of nitrogen dioxide is within the permissible limits specified in the standard (Figure 27).

	Мишээл экспо	Баруун 4 зам	1-р хороолол дэнж	Бөхийн өргөө	Зуун айл	Монгол газар	Ургах наран	Хайласт	5-н буудал	Богдын музей	Шархад	Налайх	Яармаг	Толгойт	Зурагт	Амгалан	Нисэх
Маш их бохирдолтой	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Их бохирдолтой	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Бохирдолтой	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Бага бохирдолтой	1.59	10.86	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00
Хэвийн	10.38	43.76	3.27	0.38	5.30	0.19	0.69	0.04	3.48	0.00	7.19	5.09	2.56	13.26	3.03	5.14	3.37
Цэвэр	84.49	45.32	95.07	99.59	92.56	99.81	99.06	95.44	95.33	99.05	92.81	94.91	97.44	86.58	89.35	93.94	66.62

Figure 27. Average annual concentration of nitrogen dioxide in urban air, by AQFs

PM10 particles. At 19 points in the Ulaanbaatar city air quality monitoring network, the mass concentration of particles smaller than 10 microns and at 15 points, the mass concentration of dust smaller than 2.5 microns is continuously determined by beta radiation absorption and laser scattering methods. According to data from 14 stations with more than 90% performance in 2024, the annual average maximum concentration of PM10 particles in the air reached 123 µg/m3 near “Zuun Ayl”, which is 2.5 times the TLV, and pollution was observed for 25-184 days depending on the location (Figure 3.22).

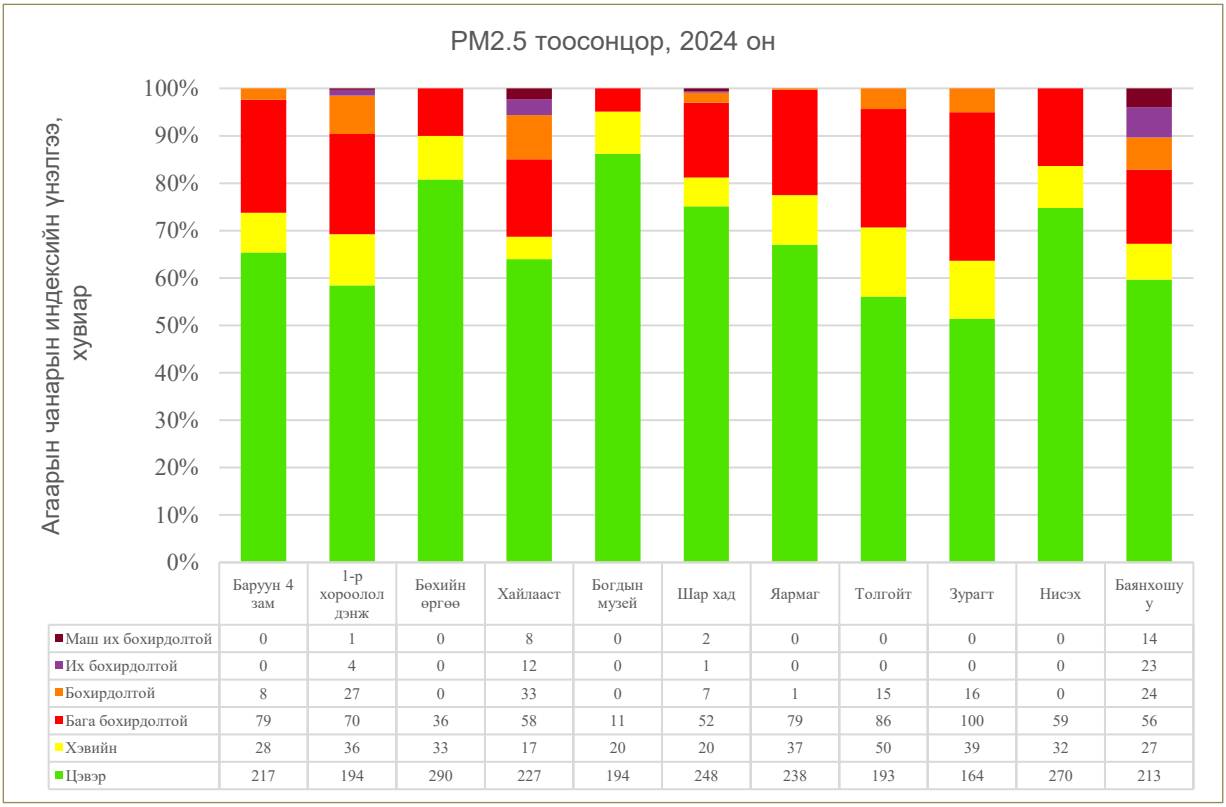
According to data from 11 stations with more than 90 per cent performance in 2024, the annual average maximum concentration of PM2.5 particles in the air reached 76 µg/m3 near “Bayankhoshuu”, 3 times the OEL, and was polluted for 36-117 days depending on the location (Figure 29).



	Мишээл экспо	Баруун 4 зам	1-р хороолол дэнж	Бөхийн өргөө	Зуун айл	Ургах наран	Хайлааст	Богдын музей	Шар хад	Налайх	Яармаг	Толгойт	Зурагт	Нисэх
Маш их бохирдолтой	0	0	0	1	1	1	0	1	0	3	0	0	0	0
Их бохирдолтой	0	1	0	0	1	0	3	0	0	0	0	0	0	0
Бохирдолтой	0	0	7	0	5	0	20	1	5	2	2	0	0	0
Бага бохирдолтой	27	83	129	63	177	55	127	25	73	87	97	58	83	25
Хэвийн	157	196	144	183	117	161	107	140	96	119	153	97	119	136
Цэвэр	164	69	56	95	30	109	105	167	160	133	104	189	117	200

Figure 28. Annual average concentration of PM10 particles in urban air, by AQFs

Figure 3. 22. Annual average concentration of PM10 particles in urban air, by AQFs



	Баруун 4 зам	1-р хороолол дэнж	Бөхийн өргөө	Хайлааст	Богдын музей	Шар хад	Яармаг	Толгойт	Зурагт	Нисэх	Баянхошуу
Маш их бохирдолтой	0	1	0	8	0	2	0	0	0	0	14
Их бохирдолтой	0	4	0	12	0	1	0	0	0	0	23
Бохирдолтой	8	27	0	33	0	7	1	15	16	0	24
Бага бохирдолтой	79	70	36	58	11	52	79	86	100	59	56
Хэвийн	28	36	33	17	20	20	37	50	39	32	27
Цэвэр	217	194	290	227	194	248	238	193	164	270	213

Figure 29. Annual average PM2.5 concentrations in urban air, by AECs

3.3.3. Impact of air pollution sources in Ulaanbaatar

Another factor determining the composition of urban particulate matter is vehicle exhaust and dust from road traffic. The analysis of elements involved in road asphalt and smoke filters (Pt, Rh, Pd), and elements involved in vehicle tires and brake linings (Cu and Sb) determines the contribution of vehicle traffic to air pollution.

The first significant study to determine the composition of particulate matter in Ulaanbaatar was conducted in 2004-2008, during which the daily average maximum concentration of PM10 dust in the air reached 1100 µg/m3. Dusty days exceeding 300 µg/m3 occurred many times, while the concentration of PM2.5 particles sometimes exceeded 100 µg/m3. Within the scope of this study, the composition of particulate matter was determined in detail at 1 point (National University of Mongolia, Nuclear Research Centre, eastern part of the city), and four sources of PM2.5-10 particles and seven sources of PM2.5 particles were identified using the positive matrix factor (PMF) method. The primary sources of particulate matter in the air were considered to be pollutants from soil and coal combustion.

Also, a joint team of researchers from the National Institute of Environmental Studies of Japan and the Institute of Water and Meteorology of our country conducted a study to determine the source based on the chemical composition of particulate matter and the content of stable carbon isotopes in particulate matter, and found that 47% of particulate matter in winter is carbon-containing compounds from coal combustion, and 33% of particulate matter in summer is diesel.

It was determined that carbon-containing compounds originating from exhaust fumes from vehicles in engines are formed (Masataka Nishikawa, 2011).

In 2022, a study was conducted with the funding of the United Nations Children's Fund to determine the seasonal sources of air pollution in Ulaanbaatar city, and the contribution of sources was determined based on chemical composition by taking samples of particulate matter during the heating and non-heating seasons in four different residential areas. This study found that the contribution of sources to air pollution varies depending on the season and location.

Therefore, the results of the study conducted in Hailaast, a residential area of the ger district, and the West 4 road, a major road with heavy traffic, were considered.

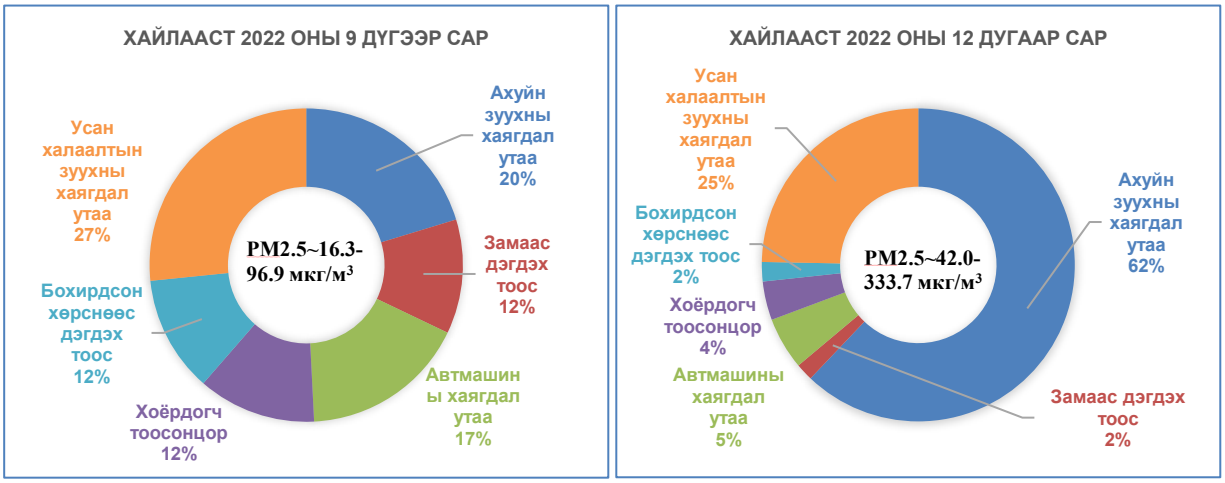


Figure 30. The proportion of dust particles in the air around Hailaast

The above comparison results show that the mass concentration of PM2.5 particles increases 3.5 times in December compared to September, and the proportion of household exhaust fumes also increases 3 times. The influence of vehicle exhaust fumes in September is 17% and 5% in December, but the mass amount is approximately 16 µg regardless of the season. The amount of dust emitted from the road is 11.6 µg, which is 12% in September, and 2% or 6.7 µg during the heating season. This indicates that the dust accumulated on the road surface is relatively large during the dry season in spring and autumn. Also, the amount of dust emitted from dirt roads in the ger districts may decrease with the formation of snow cover.

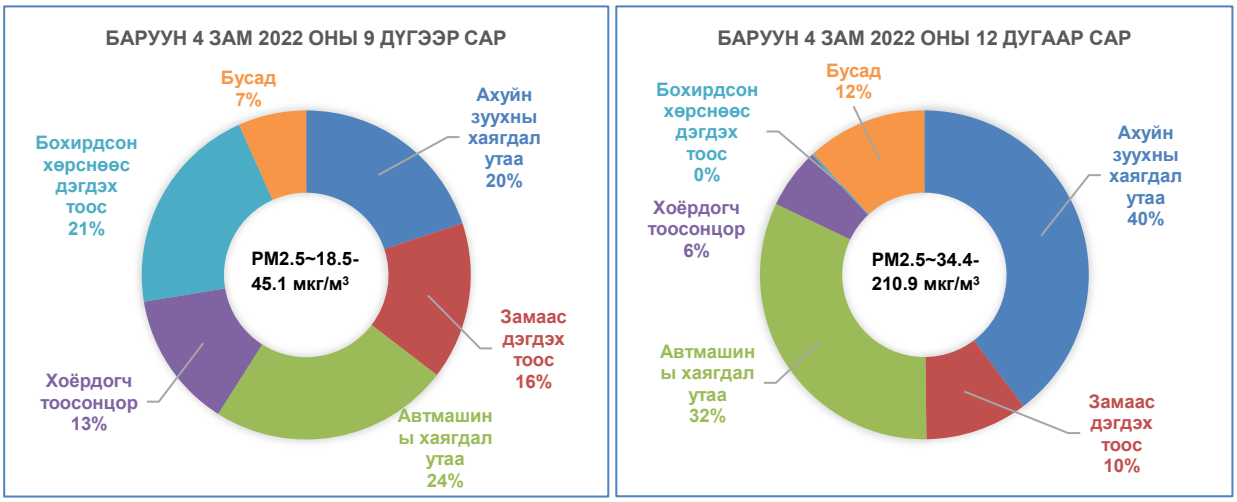


Figure 31. Percentage of particulate matter sources in the air around West 4 Road

The impact of vehicle exhaust fumes around West 4 Road increases to 24% in September and 32% in December. This may be due to the increase in vehicle fuel consumption and traffic congestion in the cold season. However, the impact of ger exhaust fumes at this location is also evident regardless of the season, and the effect doubles in winter.

3.3.4. Air quality around the project site

The road route passes through various residential areas of Ulaanbaatar city, and the current state of the project site is determined by data from air quality measurement stations located near the road..

Figure 32. Location of highway routes and air quality monitors

Along the road route, air quality monitors are located at Mongol Gazar (UB07), 1st District Rear Terrace (UB03), Bayankhoshuu, Hailaast (UB11), 5th Station (UB12), Sharkhad (UB14), and Amgalan.

Dust. The primary air pollutant in Ulaanbaatar city is dust, which has significant seasonal variations, with dust concentration increasing sharply during the heating season and decreasing in the summer months. However, the measurement results of some monitors are significantly affected by local air pollution sources, and dust from the dirt road around Mongol Gazar (UB07) significantly affects the measurement results of the station. The daily evolution of dust in the air increases from 7 am, coinciding with morning traffic and vehicle traffic, and reaches its maximum value at 11 am. It then increases again during evening traffic, peaking at around 11 pm. The slightly different values for the Mongolian and five stations indicate the influence of sources near the stations.

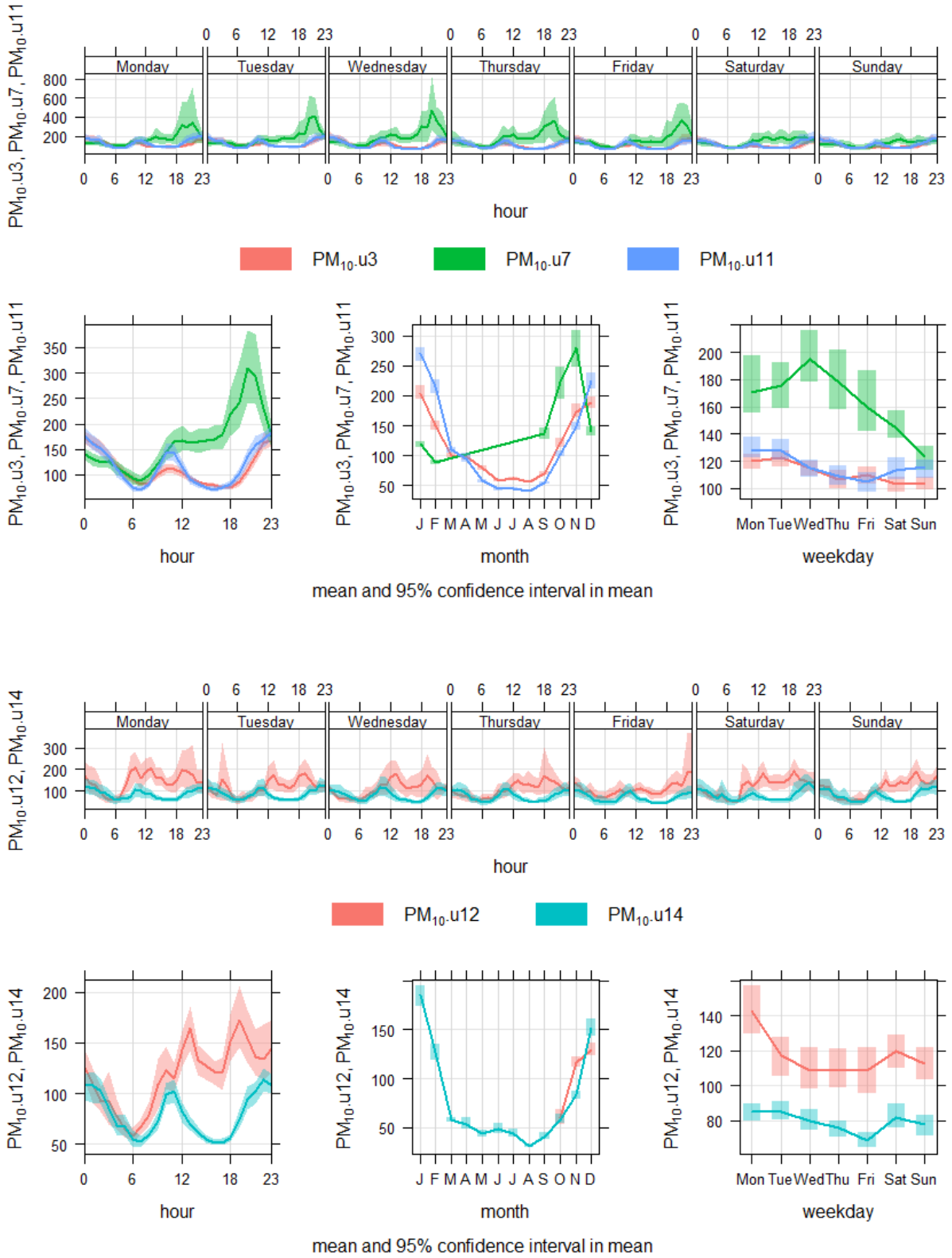


Figure 33. PM10 particle statistics, air quality stations

PM2.5 particles are mainly generated by fuel combustion and reach their maximum values during the heating months and decrease during the summer months. For stations other than Station 5 (UB12), the daily variation increases with the same heating hours and decreases at

other times. Therefore, the measurements at Station 5 (UB12) indicate that there is an influence of other pollution sources in addition to household stove pollution. It is possible that there is an influence of waste smoke from nearby water heating boilers and Selbe thermal power plant

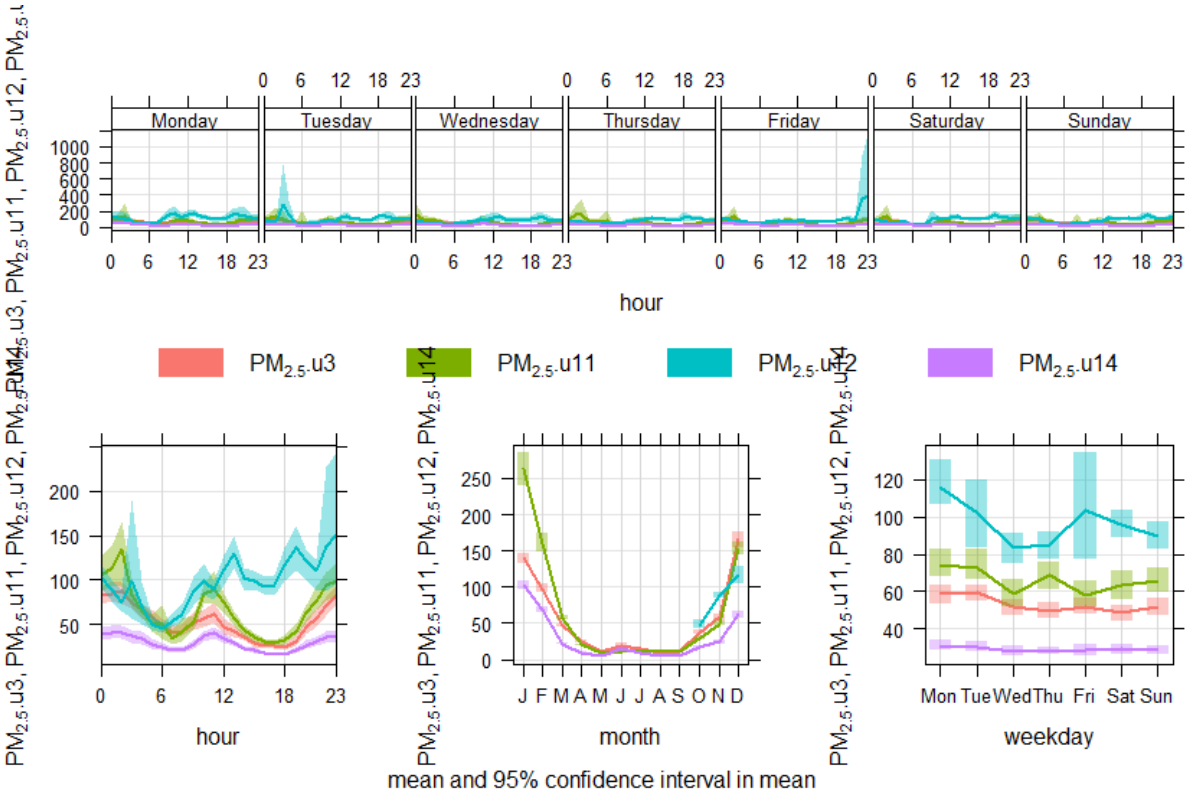


Figure 34. PM2.5 particle statistics, air quality stations

Gas pollutants. While countries around the world have already resolved their sulphur dioxide pollution, sulphur dioxide pollution related to solid fuel consumption continues to occur in our country. According to the measurement results of stations located in the Ger Khorool region, the average concentration in January reached 150-350 µg/m3, indicating that sulphur dioxide pollution is very high (Figure 3.29).

Nitrogen dioxide is primarily contained in vehicle exhaust fumes, and seasonal and daily changes are visible. Also, depending on the location, it is lowest near Hailaast and highest near Mongolia (Figure 3.30). The high amount of nitrogen oxides near Mongolia may be due to the movement of large vehicles and the impact of the exhaust fumes from the asphalt plant located near the station.

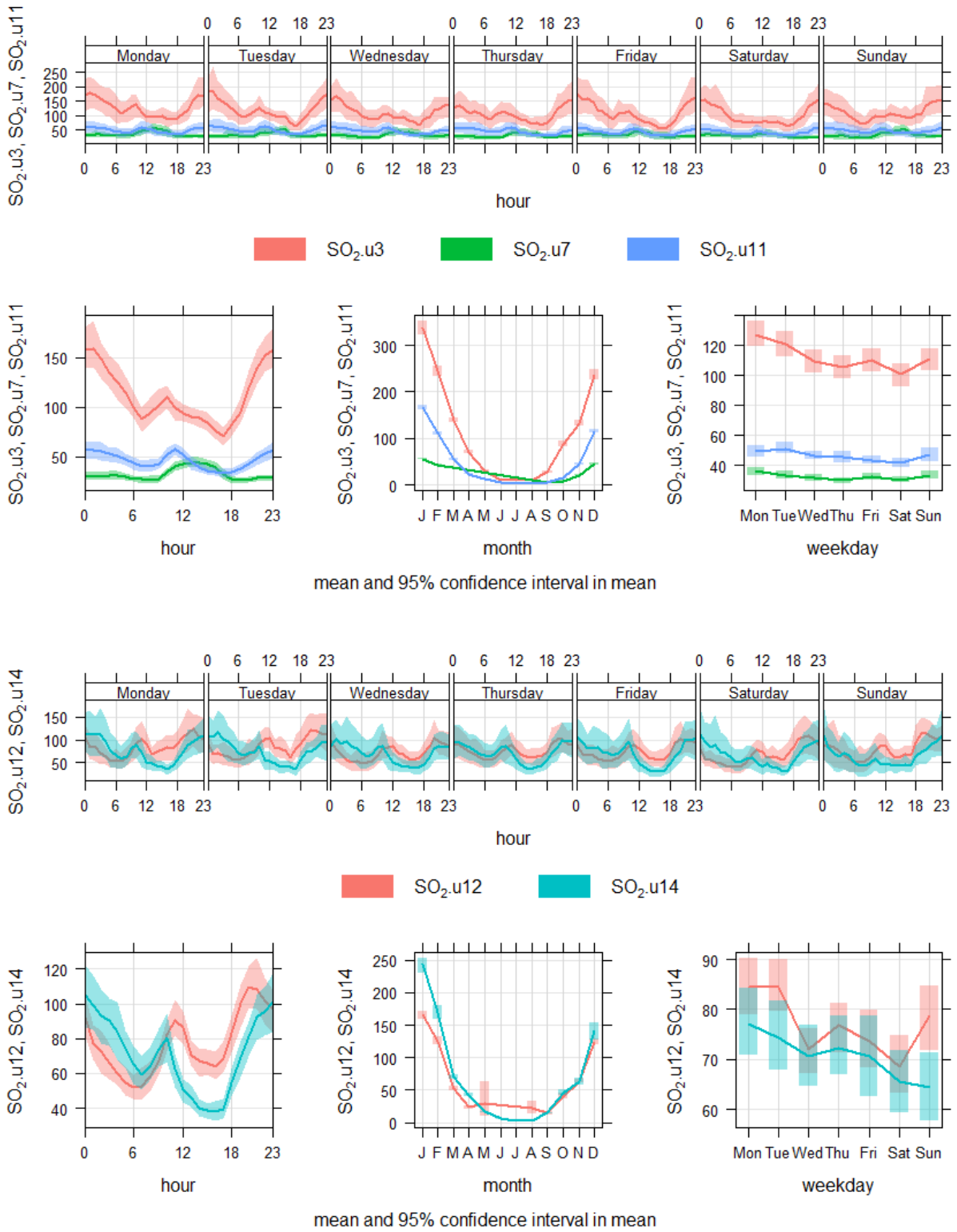


Figure 35. Sulfur dioxide statistics by air quality stations

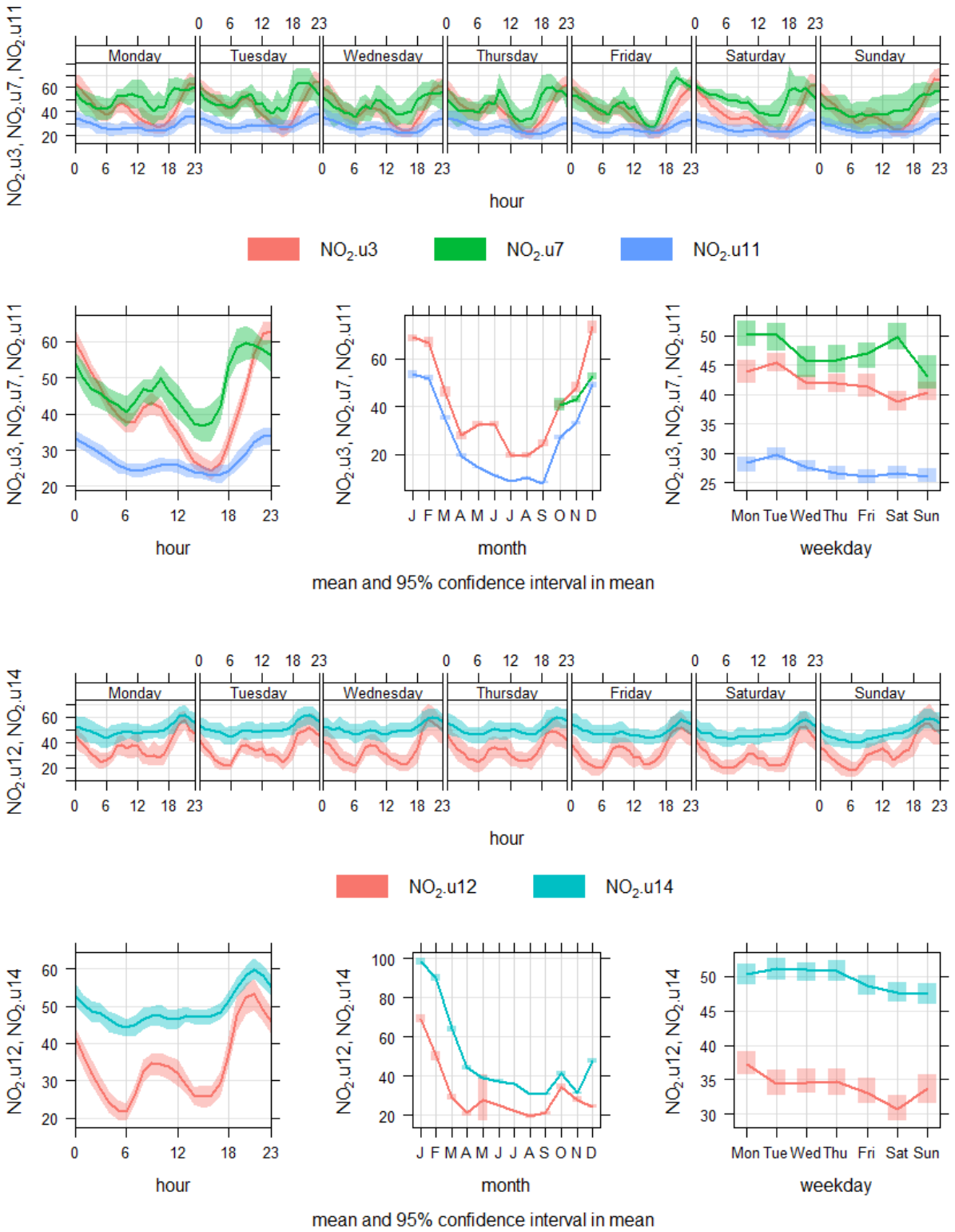


Figure 36. Nitrogen dioxide statistics, by air quality stations

The 8-hour average concentration of carbon monoxide in the air of Ulaanbaatar city sometimes exceeds the maximum permissible level specified in the general technical requirements for air quality of Mongolia.

Carbon monoxide is produced by incomplete combustion of any fuel and is observed in ger areas and near main roads. In particular, it is produced largely by the combustion of solid fuels during the heating season and has a significant impact on indoor air quality. In recent years, the number of cars has increased dramatically, as well as the number of cars with engine failures or without exhaust pipes participating in traffic, which has increased pollution around the roads.

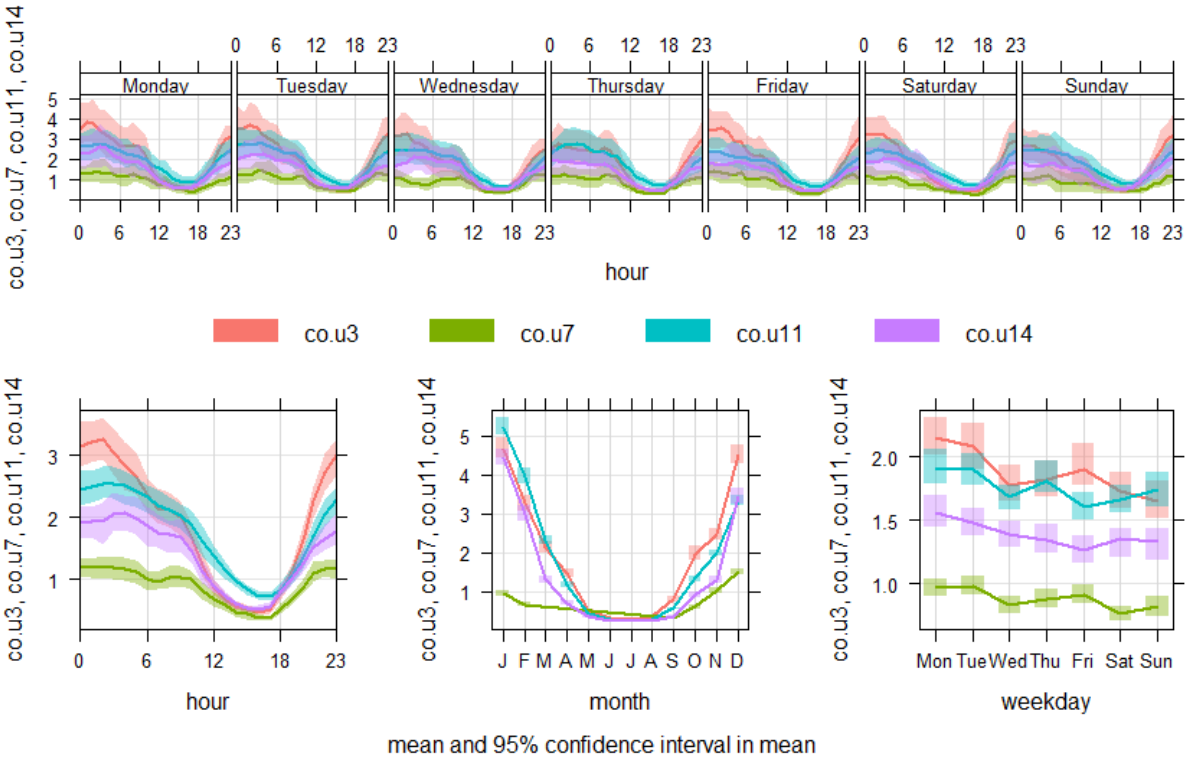


Figure 37. Nitrogen dioxide statistics, by air quality stations

3.4. PHYSICAL POLLUTION

Noise and vibration. Noise and vibration propagate in the surrounding environment in the form of oscillating waves and have a negative impact on humans, animals, and plants. The distribution patterns of noise and vibration are the same, and the negative impact on the natural environment (humans, animals, plants, cities, and buildings) is similar.

The main sources of noise and vibration in urban areas are various industrial and repair sites, as well as road, air, and rail transport.

Basic parameters of noise and vibration. When calculating and assessing the harm caused by noise to the surrounding environment, humans, animals, and plants, the following indicators are considered:

- The loudness of noise is determined by its oscillation frequency (Hz)
- The loudness is expressed in decibels (dB), which determine the normative level of its impact on the environment.
- Vibrations and noise propagate in the environment in the form of waves. This is a process of energy transfer (diffusion) in the environment. The amount of energy corresponding to a surface of 1 m2 normal to the direction of sound propagation per unit time is called sound intensity (power). It is measured in W/m2.

According to hygienic standards, the environment is classified according to its noise level as follows:

a. If the noise level is higher than 80 dBA, it is considered an unpleasant environment, if it is 80-130 dBA, it is considered dangerous to cause damage, if it is above 130 dBA, it is considered extremely dangerous to cause damage,

b. If it is 60-80 dBA, it is considered a relatively unpleasant environment,

c. If it is 40-60 dBA, it is considered a relatively favorable environment,

d. If it is less than 40 dBA, it is a favorable environment.

3.4.1. Noise levels near Ulaanbaatar city roads (2024)

The following main factors are considered to affect road noise in many countries. These include:

- Vehicle type: Heavy trucks, old and poorly maintained cars produce higher noise levels. Road noise levels vary depending on the type of vehicle.
- Road surface: Road surfaces have a significant impact on sound reflection and absorption. Hard surfaces such as asphalt and concrete reflect more sound, while soft materials (e.g., rubber - pavement) are effective at absorbing sound.
- Vehicle speed: Road noise increases as speed increases. When driving on high-speed roads, noise increases due to the friction between the tires and the road.
- Traffic density: When road density is high, the sounds of vehicles are combined, creating more noise.
- Surrounding environment: Environmental elements such as trees and buildings absorb sound and reduce noise. The impact of road noise is less in green areas.

In 2024, the National Center for Public Health conducted a survey to measure road traffic and noise levels in Ulaanbaatar, assess pollution, and identify influencing factors.

In this survey, the type of road, location, road traffic, and surrounding buildings, kindergartens, homes, hospitals, and schools were selected, taking into account the type and location of roads along the central highways of Ulaanbaatar (Figure 3.32).

Figure 38. Location of measurement points

According to the study, the maximum value of the night measurement at 2300-0100 hours is 86 dB(A), the minimum value is 49 dB(A), and the average of the maximum values is 69.4±7.7 dB(A). This is an average of 9.4-13 dB(A) above the maximum permissible level during the day or 0700-2200 hours specified in the Mongolian air quality general technical requirements MNS4585:2016 standard, and an average of 9-29.3 dB(A) above the maximum permissible level at night or 2300-0100 hours, respectively.

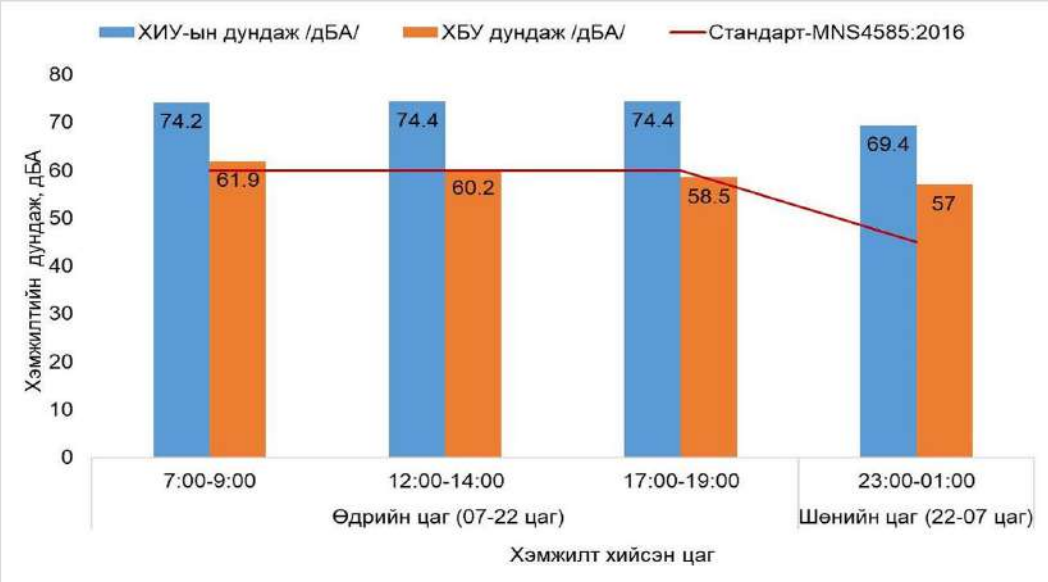


Figure 39. Average maximum and minimum values (hourly)

During the measurement period, the maximum value was recorded at 1200-1400 hours along the four western roads, which was 97 dB(A), while the minimum value was recorded at 1700-1900 hours along the four western roads, which was 47 dB(A).

The average noise pollution levels were compared by weekday and weekend. The average maximum values during the morning (700-900), evening (1700-1900), and night (2300-0100) hours on weekdays were 0.59-4.33 dB(A) higher than those during weekends,

and weekends were 0.59-4.33 dB(A) higher than those during weekends. The maximum value of the daytime (1200-1400) was 2.79 dB(A) higher than the average working day (Table 7).

Table 7. Average values for working and rest days

Measurement day		Working day		Weekend		MNS4585:2016
		Maximum value dB(A)	Low value dB(A)	Maximum value dB(A)	Low value dB(A)	
Day	Morning (700-900)	75.5±3.1 ↑	62.8±4.2↑	71.1±6.0↑	60.1±3.2	60
	Day (1200-1400)	73.5±6.3↑	60.4±4.5	76.3±7.9↑	59.8±4.4	
	Evening (1700-1900)	75.8±5.5↑	59.3±3.8	71.2±7.9↑	56.8±4.4	
Night	(23^{00}-01^{00})	69.9±7.3↑	57.5±3.9↑	68.1±8.5↑	55.9±4.1↑	45

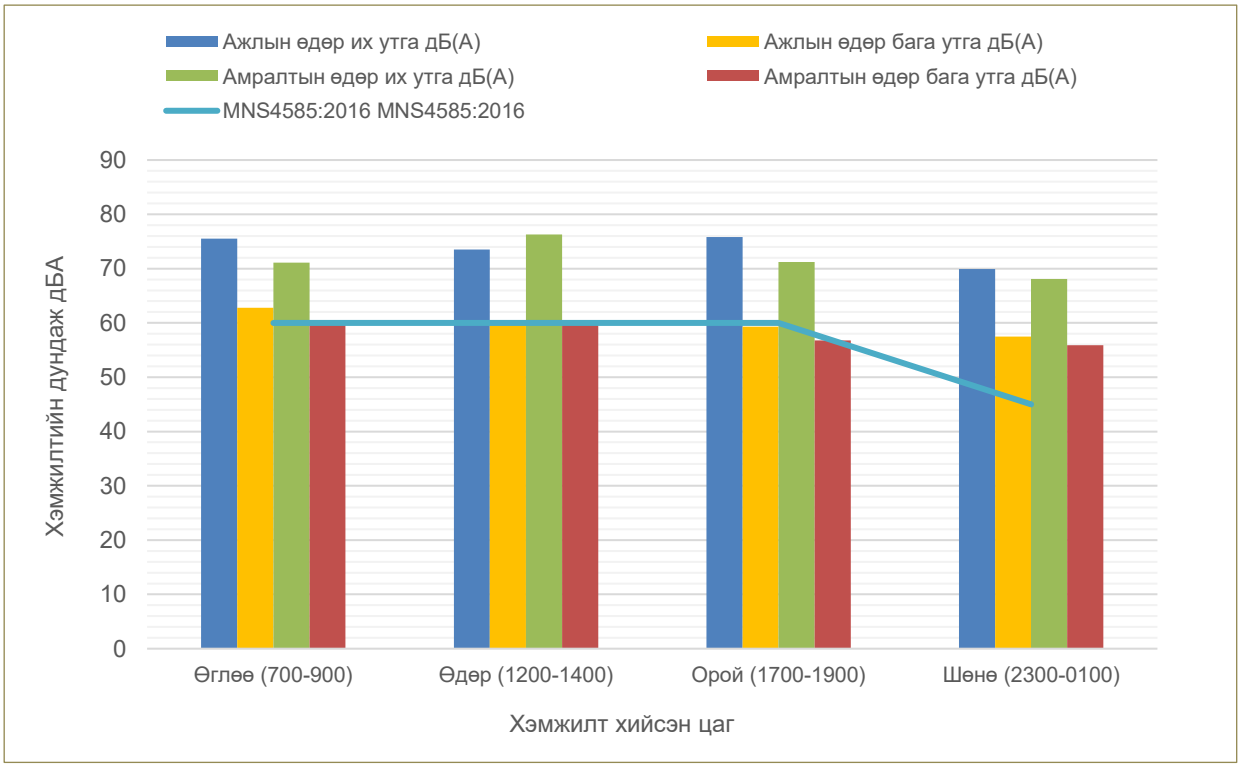


Figure 40. Average noise pollution (by workday and weekend)

The factors affecting noise pollution on the main road are the number of vehicles on the road and the number of horn users.

According to the above study:

The noise level along the road exceeds the maximum permissible level specified in the "Air Quality. General Technical Requirements MNS 4585:2016" standard by an average of 37 dB(A) during the day (700-2200) and by an average of 41 dB(A) during the night (700-2200), which is at a level that negatively affects the physical and mental health of the population.

It has been concluded that the number of vehicles on the road and the frequency of use of horns are directly related to noise pollution and contribute to an increase in noise levels by 1.5-4.5 times.

3.5. GEOLOGICAL FORMATIONS AND GEOMORPHOLOGY

3.5.1. Geological formations, engineering geological conditions

The Lower-Middle Devonian, Lower and Upper Carboniferous, and Lower Cretaceous Cenozoic sediments are distributed in the project area.

1. **Devonian system. Middle-Upper Devonian Gorkhi Formation (D2-3 gr)**

History of the study: The rocks of this formation, distributed in the basins of Gorkhi Mountain, Tuul, Terelj, and Minj rivers near Ulaanbaatar, were first identified in 1973 by V.A. Amantov and named after Gorkhi Mountain.

Researchers have classified the sediments of the Gorkhi Formation, distributed around Ulaanbaatar, as Middle Paleozoic, Devonian, Lower-Middle Devonian, and Upper Devonian-Lower Carboniferous, with different ages and thicknesses. In 1998, during the geological mapping of the 1:50,000 mastab by B. Dorjsuren, the Gorkhi Formation was divided into 2 members. Kulihari and colleagues found radiolarian remains in the sediments of the Gorkhi Formation and considered them to be Late Silurian-Late Devonian in age. The rocks of this formation contain zircons older than 339 million years.

Distribution: The Gorkhi Formation rocks are located in the western, northwestern, and southwestern parts of Ulaanbaatar city, and partially in the southeastern part, extending from southwest to northeast over a relatively large area.

Internal classification: The Gorkhi Formation is divided into two members, namely, sandstone and sandstone, from bottom to top. The rocks of the sandstone-siltstone member occupy more than 90% of the widespread rock layers.

Lithology: Widely distributed in the northwest, north, and northeast of Ulaanbaatar city. The lower member is relatively sparse in terms of rock composition, consisting mainly of sandstone, siltstone, and shale, and is composed of greenish-gray, medium- and fine-grained, variously composed sandstone, tuff-sandstone, clay shale, microshale, and siltstone, as well as quartzite and reddish-brown siltstone.

The upper part is dominated by sandstones of various compositions, and the 1100-3400m thick member is mainly composed of dark green, dark gray, and green gray fine-grained, arkose, shale-like sandstones, siltstones, shales, and quartzites.

Transformation and structure: It was formed by the accumulation of seabed turbidite sediments, and was affected by varis folding, forming anticlinal and synclinal folds extending from northeast to west. It is usually northeast-northeast-trending, with almost vertical dips /70-800/. The rocks of the Gorkhi Formation have been extensively subjected to regional metamorphism, and cement нь дахин талсжсан, аргиллит алевролит нь элсэн чулуунаас It has a more shale-like texture and is subject to carbonation. Quartz and epidote are occasionally cut by veins and striations with chlorite and carbonate inclusions..

2. Carboniferous system. Mississippian Altan Ovoo Formation (C1-2ao)

History of research: V.A. Amantov first identified and named the Lower Carboniferous rocks after Altan Ovoo in 1961. It was studied and identified by M.G. Korolev, Y.S. Zhelubovsky (1952), D. Chuluun (1952), J. Byamba, D. Chagnaadorj (1989), and Makoto Takeuchi.

Distribution: The Altan Ovoo rock formation is located in the southwestern tip of Ulaanbaatar city, and in the western and central parts, it extends from southwest to northeast, with a small area along the Tuul River.

Stratigraphic boundaries: The sediments of the Altan Ovoo Formation are separated from the Orgich Mountain Formation to the west by the Shar Khayrkhan Fault and the Gorkhi Formation to the southeast by the Oortsrgi Fault, and are overlain by Lower Cretaceous Boorulyut and Pliocene Quaternary sediments.

Internal classification: The sediments of the Altan Ovoo Formation are classified into sandstone-siltstone and conglomerate members. The lower sandstone-siltstone sediments consist of dark gray and greenish gray shaly, medium and coarse-grained polymictic sandstone, shaly siltstone interbedded with small gravelly conglomerates and gravelites.

The upper conglomerate sediments consist of gray small and large gravelly conglomerates and sandstones with granite, acid effusive, siltstone, shale, and quartzite gravels.

Lithology: Predominant sandstone and argillite layers, with occasional red sandstone, basalt monoliths, lavas, basic and acidic tuffs. The argillites and sandstones are overlain by shale in the western part of Bogd Mountain and in the northwestern part of the field.

The sediments of the Altan Ovoo and Orgich Uul formations are believed to have originated from a widespread sedimentary environment.

Age basis: The age of the formation was determined by the discovery of Lower Carboniferous moss and invertebrate remains from the sandstone and argillite of the formation. Also, the discovery of 404 million year old zircons from the sandstone of this formation suggests that it is Lower Carboniferous or younger.

Metamorphism and structure: The sediments of the Altan Ovoo Formation are observed to be folded by anticline and syncline folds, similar to the Gorkhi Formation.

3. Carboniferous system. Mississippian-Pennsylvanian Orgioch Uul Formation (C2or)

Research history: The formation is named after Orgioch Uul. V.A. Varlamov (1961) studied it from the Upper Proterozoic Cambrian, and V.A. Yakimov from the Cambrian-Ordovician. Furthermore, researchers such as L.P. Zonenshein, J. Byambaa, D. Chagnaadorj, etc. have reached similar conclusions.

Area distribution: The sediments of the Orgioch Uul Formation are mainly distributed around Tuul River, Bogd Uul, Zuun Mod, Altan Bulag, and Orgioch Uul.

Stratigraphic boundary: Bounded by tectonic faults with other rocks.

Lithology: This formation is coarser-grained, blue-gray in color than the rocks of the Altan Ovoo Formation, with conglomerate layers at the base, and the layers are quite stable along the extension, sometimes forming small depressions. The rocks are predominantly greenish-gray, blue-gray, bright blue in the unweathered parts, medium-grained, monolithic, composed of silty sandstone, silty gravelly sandstone, gravel, and conglomerate interbedded with limestone.

4**. Cretaceous system. Lower Cretaceous Booroljut Formation (Kıbr)**

History of research: Distributed in the vicinity of the railway station of Tuv aimag, Booroljut valley, and Bayan-Ovoo mountain, and was first distinguished into a suite named Booroljut valley by D. Tovuudorj and D. Chuluun in 1981.

The sediments distributed in the study area have been studied by researchers (M.G. Korolev, Yu.S. Zhelubovsky 1952; B. Bezzubtsev 1959; M.E. Fillipova 1977; D. Chuluun 1979; J. Byamba, D. Chagnaadorj 1989, Onudelger, 1992; Oyunchimeg et al., 2003) in various research works and attributed to various ages, such as Triassic, Jurassic, Lower Cretaceous, Neogene, etc. T. Oyunchimeg et al. (2003) classified the thick, interbedded, light gray, white, light yellow, light siltstone, siltstone, shale, sandstone, and conglomerate sediments found in the vicinity of Khambyn ovoo, Bayankhoshuu, Khambyn denj, Khureetoosgo, Dalandavkharyn övur, and Hadat Tolgoi as the Altantevsh Formation, and confirmed their age to be Lower Cretaceous based on the remains of freshwater mussels and shells. They conducted a southeast-southeast thrust section across the Nairamdal brick factory mine.

Area distribution: Distributed in the northern part of the district, between the Selbiin River and the Bayankhoshuu valley, around Sambalkhundev Mountain. It is also distributed to a small extent in the southern part of Bagahangain district of Ulaanbaatar city.

Stratigraphic boundary: Overlies the Paleozoic sediments of the district and is covered by Quaternary sediments. Also, in the Bagakhangai area of Ulaanbaatar city, the rocks of the Neoproterozoic Yargait-Uul Formation are covered with loose Quaternary sediments.

Lithology: This formation consists of gray, greenish gray, and dull gray argillites, siltstones, sandstones, carbonaceous shale, gravelites, conglomerate-sandstones, and coal-bearing strata with animal and plant remains. Total thickness is 225-230 m.

Plant remains collected from this sediment near Ulaanbaatar (collection of Yu.S. **Paleontological characteristics and age evidence** Zhelubovsky, description by A.S. Feresvetov 1944) were re-examined by A.A. Monin and determined that it was of Jurassic age (description by I.I. Krechetovich).

Onudelger et al. (1992) collected plant, animal, and insect remains from the Tolgogyt clay quarry and found ostracods such as Clyocyprimorpha sp nov, Cypridea Faveolata (Egger), Ctrita Lub, Darwinula Contracta Mand, D. Ovata Gal, and a pelecypod called Lutpocyrena ex gr. Reshetovi Mart (collection by B. Banzragchi, description by Y. Khand), which were found to be related to the uppermost part of the Lower Cretaceous Shinye

Khudag Formation (Gotorev-Barremian). Geological age basis: A.G. Gumerov found ostracod species (Nuocypris gibba Randohr, Hyvcypris araloensis Monclelst, Candona schubina Mandelst, Candona mareida Mandelst, Pontocypris sp., nov) in the brown mud of Guntsagaan Lake (13-50 m) in the Lower Cretaceous Börulzhut Formation, which is unconformably overlain

by basalt and covered by Quaternary basalt, and was assigned to the Pliocene based on the description by A.G. Shleifer..

5. Upper Neogene. Bishou Formation (N2gs)

The Neogene sediments distributed in the study area were given by Y.S. Zhelubovsky, Anpilov, and Somenko. The most widespread areas of these sediments are in the vicinity of Ulaanbaatar, in the areas of Zuun Naran, Gandan Khiid, Tasgany Ovoo, Ulaan Khuaran, Khujir Bulan, the western side of the Nalaikhin depression, and the Khuliin Gol valley.

In addition, the Songin "gateway" (the narrow part of the Tuul valley) was identified in the valleys of the Yarmag, Bokhugin Gol, and Khuin Gol rivers. In these areas, the Pliocene red and reddish-brown sediments are quite characteristic in their distribution and are not usually found on the surface, but are often found protruding from under the Quaternary sediments in the banks, edges, and slopes of large river valleys, depressions, and depressions.

These sediments are sandy and clayey sediments composed of loosely packed sand, silt, and usually reddish-brown, sometimes grayish-brown clay, with a high content of siltstone (more than 50%). Of these, the most prominent features of the sediments are the sediments distributed around Tasgan Ovoo and Khuliin Gol.

The sediments found in the Tasgan Ovoo terrace extend westward for almost 10 km as a high terrace cut by many small ravines with a height of 10-12 m.

In such large siltstones with silt and sand aggregates, the clayey fine-grained fraction (>0.01 mm) of the sediments is 2.7-6.4 % and is suitable for building construction. The sediments around Ulaan Khuaran and Khujir Bulan are similar in color and composition to those of Tasgan Ovoon, but the proportion of boulders, gravel, and sand does not exceed 30%. In the deep embankment excavated for agricultural purposes on the west bank of the Khuliin Gol on the west side of the Nalaikh Valley, clayey sediments with quite tightly bound, poorly worn or almost sharp-angled clasts of various sizes of red, red-brown, and brown-red colors have been found. The clasts are mainly composed of metasilt and sandstone of Devonian and Carboniferous age. In any part of the excavation, there are poorly visible stratifications in some places, which are manifested by color changes. The thickness of the exposed sediments reaches 7-8 m. It should be noted that samples were taken for particle analysis from the 1st and 4th periods of Tasgan Ovoon and from the embankment above the Khuliin Gol, but they did not give clear results. Such large red-brown igneous sedimentary rocks are found in the Yarmag, Songino, Bokhugin Gol, and Khuyn Gol valleys and their terraces and edge beds, and are rarely exposed in large areas because they are covered by Quaternary sediments. Therefore, in the Bokhugin Gol and Khuyn Gol valleys, several lines of structural holes were drilled in order to determine the composition, lithology, structural location, and thickness of these sediments. According to the cross-sections of these lines, red, red-brown, light gray, and yellowish gray igneous rocks of various sizes are found.

(20-60%) consists of loosely bound sandstones, siltstones, and clays.

According to the cross-section of the Bokhugin and Khuyn rivers, there are usually reddish, yellowish gray, and light gray sandy clays, gravel-sandstones, sandy loams, clays, and clayey sediments, which contain small silts (5-30%) and sometimes reach 40-60%.

Here, independent clayey sediments occupy a significant proportion, usually containing silts of rocks such as metasilt, metasilolite, and quartz (3-5%), and are often pure. Such clays are usually dry, sometimes moist (5-10%), and at this stage, they are very viscous.

The red, reddish brown, and greyish grey sediments are almost horizontal in their position, and lithologically they are quite variable in both vertical and horizontal directions.

The visible thickness of the sediments exposed on the surface reaches 8-12 m, but according to the cuttings made during drilling, it reaches 35 m in the Tuul Valley, 10-15 m at a depth of 20-25 m in the Selbiy Adag (Gomanko, 1942), 30-50 m in the Bokhug Valley, 30 m in the Gandan Denji, and 20-21 m in the Khuyn Gol Valley.

According to the results of gravity mapping in the Yarmag and Buyant Ukhaa valleys, the thickness of the sediments, which include Quaternary sediments, is 40-80 m. Structurally, it is almost horizontal, and sometimes it is inclined at an angle not exceeding 100.

The Pliocene red-brown sediments are mostly metamorphic and overlain by terrigenous sediments of Paleozoic age (Lower-Middle Devonian, Carboniferous) and are confirmed by angular and stratigraphic unconformities (observations made in trenches excavated at Khambyn Ovo). As a basis for their age, the remains of rhinoceratidia (V.S. Dombrovsky 1926) found in red-brown sediments on river terraces near the "Onion Gate" in the Tuul Valley are attributed to the Pliocene.

Also, the fossils of Ochotona sr, Prosiphneus, and Bison sr, found in the lower part of the red and reddish-brown thickening of the Lower Pleistocene sediments determined by animal remains near the junction of the Tuul River and the Nalaikh River, are very widespread in the Upper Pliocene (V.I. Jegallo, 1982), which shows that it is pretty reasonable to attribute such sediments, which are widespread in the distance from Songino Khairkhan to Nalaikh, to the Upper Pliocene.

Ya. Tovuudorj et al. (1979-1980) discovered red clay and siltstone in the Gashuun and Booroljut valleys and the Khangai gorge during drilling work in the Baga Khangai area during a 1:50,000 scale mapping. Current researchers (Ya. Dagvaochir et al. 2010) have compared them to the Pliocene sediments around Ulaanbaatar and considered them to be part of the Upper Neogene Gashuun Formation.

6. Quaternary system (ap,aQ1-2)

Quaternary sediments are widely distributed in the Ulaanbaatar region, covering the valleys of major rivers, their branches, the central parts of tributaries, and the slopes of intermountain valleys.

In terms of age, sediments from the Lower Pleistocene to the Upper Quaternary and modern can be observed. In terms of origin, they can be distinguished as fluvial, alluvial-proluvial, deluvial-proluvial, glacial, lacustrine, and aeolian, as well as technogenic (formed by human activity) sediments.

In the study area, Quaternary sediments were considered in terms of age as Lower Pleistocene, Pleistocene-Holocene, and Holocene.

Lower Pleistocene: Sediments of this age were determined only as remnants in the area where the II-III terraces of the Tuul Valley are clearly distinguished and as glacial sediments around Bogdkhan Mountain. For example, the Tuul River and the Nalaikh River are located in the widened area at the border of the ravine. In this area, the I-III terraces of the Tuul River have relatively clearly distinguishable elevations,

and the I terrace (3-5 m high) and II terraces (10-12 m) consist of sand and gravel alluvial deposits. They are relatively young, belonging to the Pleistocene-Holocene.

Alluvial-proluvial sediments (back). In the widened area of the Tuul River valley, near the village of "Songino" (Morin uul, Shandny tolgoi), it is quite clearly visible as the P terrace. This is a terrace about 60 m above the river water level, 12-17 m high, and an open pit was dug in the sand-gravel thickness about 6.0 m deep. The sediments are usually composed of well-washed sand, gravel, and small gravel-bearing sandstone, with fine gravel, and the joints are weakly deformed. Sediments of this origin are most widely distributed and are fairly symmetrically distributed in the center and lateral slopes of the valleys of major rivers and their tributaries. In particular, the Tuul River valley is not only the most widely distributed but also the thickest. The sediments of this age can be classified into alluvial-proluvial sediments (arI-II, proluvial-deluvial (pdIII-IV), proluvial (PIII-IV), and lateral (dIII-IV) depending on the results of the provenance drilling.

Alluvial-proluvial sediments (arQ1-2) are not only distributed in the central part of the valleys of large and medium-sized rivers in the area, but also fill the Tuul Valley, especially in the Ulaanbaatar Basin.

Upper Pleistocene-Holocene: This sediment was studied by R.A. Krieger (1960), who divided the sediments of the Ulaanbaatar Basin into two thicknesses: an upper or gravel and gravel sand thickness (up to 30 m) and a lower or floodplain sediment (horizon) (10-12 m). Also, PNIIS (1979), which thoroughly studied the waterlogging of Quaternary sediments in the Ulaanbaatar area, also found such two thicknesses. The formation is distinguished. This sediment, which consists mainly of gold-bearing gravel, pebbles, and sand, is widely distributed in the Tuul Valley, and is 3 km wide in the Uliastai area, narrowing to 1.5 km in the Amgalan area, widening to 4.5 km in the Mahkombinat area, and becoming 5.5 km wide in Buyant-Ukhaad. The total thickness of the gold-bearing sediment varies between 5-65 m, and the river flow

It is characterised by increasing thickness from top to bottom, from the sides of the river valley to the centre, and from the widening part of the valley to the narrowing part.

The lower layer is usually 1 m to 5-8 m thick. It consists of sand, silt, clayey aggregates with interlayers or joints of sand and gravel.

The aggregates contain a large amount of fine-grained sand, silt and clayey admixtures, as well as narrow joints of clay and sandstone.

Deluvial-proluvial sediments are sporadically distributed over the relatively largest areas near the sides and bottoms of the valleys, covering them with a thickness of up to several tens of m. The lateral sediments in the lower part of the valley are always gradually replaced by temporary rainwater and runoff sediments, forming side-to-side sediments on the slopes with a low slope. The thickness varies from 15 to 30 m. It is mainly composed of sand, silt, and clay with siltstone. They are distinguished by their low thickness, poor differentiation, and unsmoothed nature of the sediments.

Proluvial sediments are thin sheets of poorly smoothed siltstone, gravel, siltstone, siltstone, and sand formed at the ends of small valleys of the Tuul River and its tributaries (Tolgoit, Bokhug, Khul, Selbe, Uliastai, Gatsuurt, Huandai, Deendei, Terelj, etc.). The bedrock of these tributaries was formed at different levels by recent tectonic movements, so the thickness of the sediments varies and changes sharply.

Deluvial sediments are distributed on the sides of the valleys and cover them with a thickness of 1 m to several m, and they always gradually move into each other with the sediments of the

escarpment (eluvium) and the skirt sediments, and sometimes they are directly mixed and merged. These sediments consist of silt, siltstone, and clayey sand, depending on the composition of the surrounding bedrock. In addition, the escarpment sediments are formed from bedrock layers on flat tops or gently sloping slopes and consist of silt and siltstones with various grain sizes of clayey sand. Their thickness does not exceed 1 m. However, in the fault zone, it can reach 10-20 m. However, this cannot be reflected in the geological map.

Holocene: Modern or Holocene sediments are found in the valleys with regular water flow (Tuul, Terelj, Selbe, Uliastai, Turgen, etc.) of the region, and are distributed in a limited way in the backs of some valleys, with small, regular lakes without outflow. Holocene sediments can be classified according to their origin as fluvial, lacustrine, and wind-induced. It is also possible to distinguish technogenic or derived sediments created by human activities.

Fluvial sediments are found in valleys with regular water flow, and consist of the most finely ground gravel and pebbles, with sand and clay filling them.

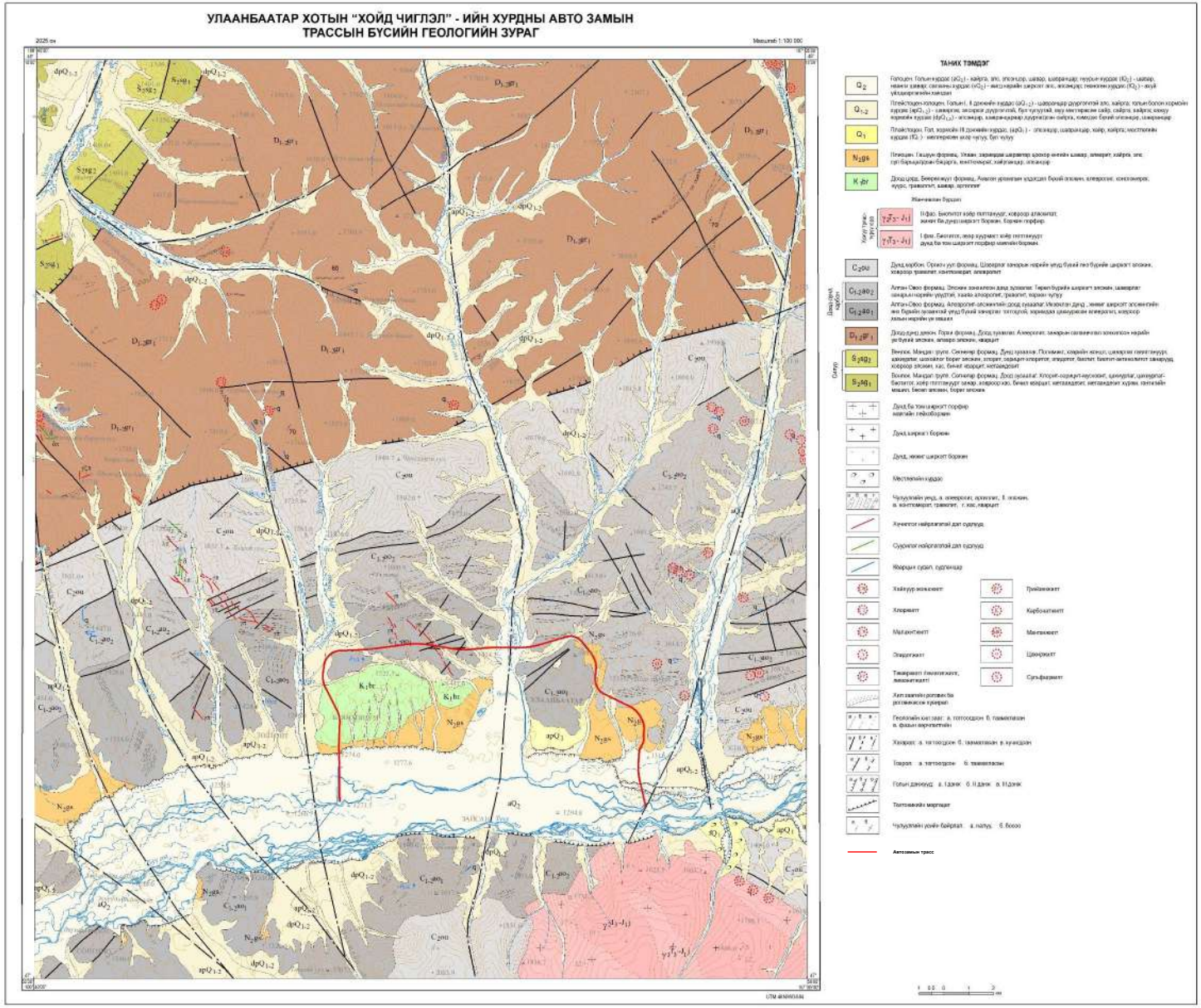


Figure 41 Geological formations around the project area

Engineering-geological conditions

The engineering-geological survey of the project area was carried out by "Land Test" LLC.

Based on the above survey report, the engineering-geological conditions of the project area were determined.

The beginning of the highway route, or about 0-1.5 km, is located in the valley of the Tuul River and is a flat area with large-scale sediments of alluvial-proluvian origin, where the subsoil is exposed from a shallow depth.

Around 1.5-8.5 km of the route, there is a concave-convex surface with the characteristics of low-altitude small mountains, and the modern Quaternary clayey-bonded subsoil is distributed in layers of varying thickness depending on the surface morphology, and below it, a weathered zone of sandstone of sedimentary origin of Carboniferous age is exposed.

At about 8.5-10 km of the route, it crosses the Selbe River valley, and in this section, large alluvial-proluvian sediments have accumulated, and the groundwater is found at a shallow depth due to the hydraulic dependence of the river water level.

At about 11-17 km of the route, it crosses the foothills and side slopes of the Chingeltey mountain range, and in this section, the ground surface is highly dissected, or there is a strong linear erosion through small ravines between the small mountains. The tops and sides of the small mountains have a thin layer of loose sediment, but in the depressions and ravines of the mountains, clayey soil and loose sediment are found thicker.

The highway route is located at the junction of the western and eastern branches, or along the stretch of a large valley between the mountains, with a lot of clay soil, with shallow groundwater levels, and seasonal linear and field erosion along the slopes and small gullies in the valley area.

The end of the highway route is located in the transition area of the Tuul River valley and continues across a flat area with sandy gravel soils and shallow groundwater levels.

3.5.2. Geomorphology

Ulaanbaatar city is located in the Tuul River basin, on the slopes of the Asralt Khairkhan (2799 m), the highest peak of the Khentii Range, on the slopes of the Bogd Khan Mountain (average height 1350 m), and is surrounded by the Chingeltei Mountain (1949 m), Bayanzurkh Mountain (1834 m), Bogd Khan Mountain (2256 m), and Songinokhairkhan Mountain (1652 m). The built-up and construction area of the capital Ulaanbaatar city is 1260-1350 m above sea level, and the entire land surface has a system of slopes from the northern mountains to the Tuul River basin. The absolute height of the area is 1200-1500 m. The highest point in the territory of Ulaanbaatar city is the peak of the Bogdkhan Mountain, Tsetse Gun (2256 m). м),

The lowest point is Tuul village (Shuvuun Fabrik) (1203 m) in the Tuul River valley. According to geomorphological conditions, the relief (relief) spread in the Ulaanbaatar region can be divided

into 4 main types according to their origin: tectonic-erosive, erosional, erosion-accumulation, and accumulation.

Tectonic-erosive type of relief. This type of relief includes all types of mountains, from flat, flat-topped, dome-shaped, and sharply dissected, steep-sided medium-high mountains to flat-topped, sloping-sided, and almost unincised low mountains. They are concave and convex mountains that were formed by tectonic movements but later eroded and changed due to external forces. Since mountains of this type differ in absolute and relative height and morphological characteristics, they form sub-types of medium-high mountains and low mountains.

Erosion-type depressions. This type of depression includes all the rivers, terraces, erosion craters, and erosion-erosion mouths that are eroded by permanent and temporary water flows originating from the highlands. For example, the Terelj, Uliastai, Selbe, Khandgait, and many of their tributaries, which are tributaries of the Tuul River in the Arctic Ocean basin, are included. The valleys of the mentioned rivers are mostly consequent valleys along the structural extension, and the lateral tributaries that join them are subsequent and resequent (located diagonally across the structural extension) valleys

Erosion-accumulation type depressions. Such types of depressions include mountain slopes, deluvial-proluvial and proluvial slopes, alluvial plains, moraine embankments with final and lateral moraine deposits, hilly slopes, ravines, and depressions. These are areas where erosional material has accumulated slowly but continuously. The slopes of mountains and deluvial-proluvial slopes are widely distributed along the edges of medium-altitude, low mountains, hills, and ridges. These surface forms are formed by relatively little tectonic influence, but external factors play a dominant role, that is, they are formed as a result of long-term erosion and are later modified and reshaped by external forces such as flowing water and wind.

Accumulation type depressions. This type of depressions gives rise to several subtypes. These include:

- Sedimentary slopes of mountains and deluvial-proluvial slopes. Such plains are spread at the foot of the mountainous plateaus around Ulaanbaatar city, and are mainly composed of capes and dry deltas, and the absolute height does not exceed 1400-1500 m. Here, processes such as erosion and deposition occur.
- Proluvial and proluvial-alluvial sedimentary plains. The depressions of this subtype are located at the transition from the foot of the mountain to the surface, bordering the depressions of the above subtypes. It is mainly covered with sediments of the Quaternary Eopleistocene, Pleistocene Galic or Holocene, and the processes of erosion and deposition mainly occur.
- Alluvial and alluvial-proluvial sedimentary plains. Such a sub-type of depression is the confluence of the Tuul River and its tributaries, and the mouth of erosion. It is distributed along the edges of valleys, intermontane plains, and valleys and depressions. The surface is generally fairly smooth and consists mainly of Quaternary sediments. Accumulation is predominant here.
- khöndiin adag, uul khoorondyn khotos, khöndii, khotgoryn zakh orchmoor tarkhsan baidag. Gadargyn baidal ni yerönkhiidöö nileed jigd gol tölöv dörövdögchiin khurdasnaas togtono. End khurimtluulakh üil ajillagaa zonkhilon yavagdana.
- 215 / 5,000

- It is distributed along the edges of valleys, intermontane plains, and valleys and depressions. The surface is generally fairly smooth and consists mainly of Quaternary sediments. Accumulation is predominant here. адаг, уул хоорондын хотос, хөндий, хотгорын зах орчмоор тархсан байдаг. Гадаргын байдал нь ерөнхийдөө нилээд жигд гол төлөв дөрөвдөгчийн хурдаснаас тогтоно. Энд хуримтлуулах үйл ажиллагаа зонхилон явагдана.
- *Proluvial and proluvial-alluvial sedimentary mountain interior plains. This subtype covers the bottom of large valleys in the mountains. For example, such valleys include the Great, Small Khushig, and Bokhug valleys. The surface is flat and thickly covered with Quaternary sediments.*
- *Tectonic basins. Tectonic basins of this subtype are relatively rare, and the most prominent place is the Nalaikh basin of tectonic origin..*

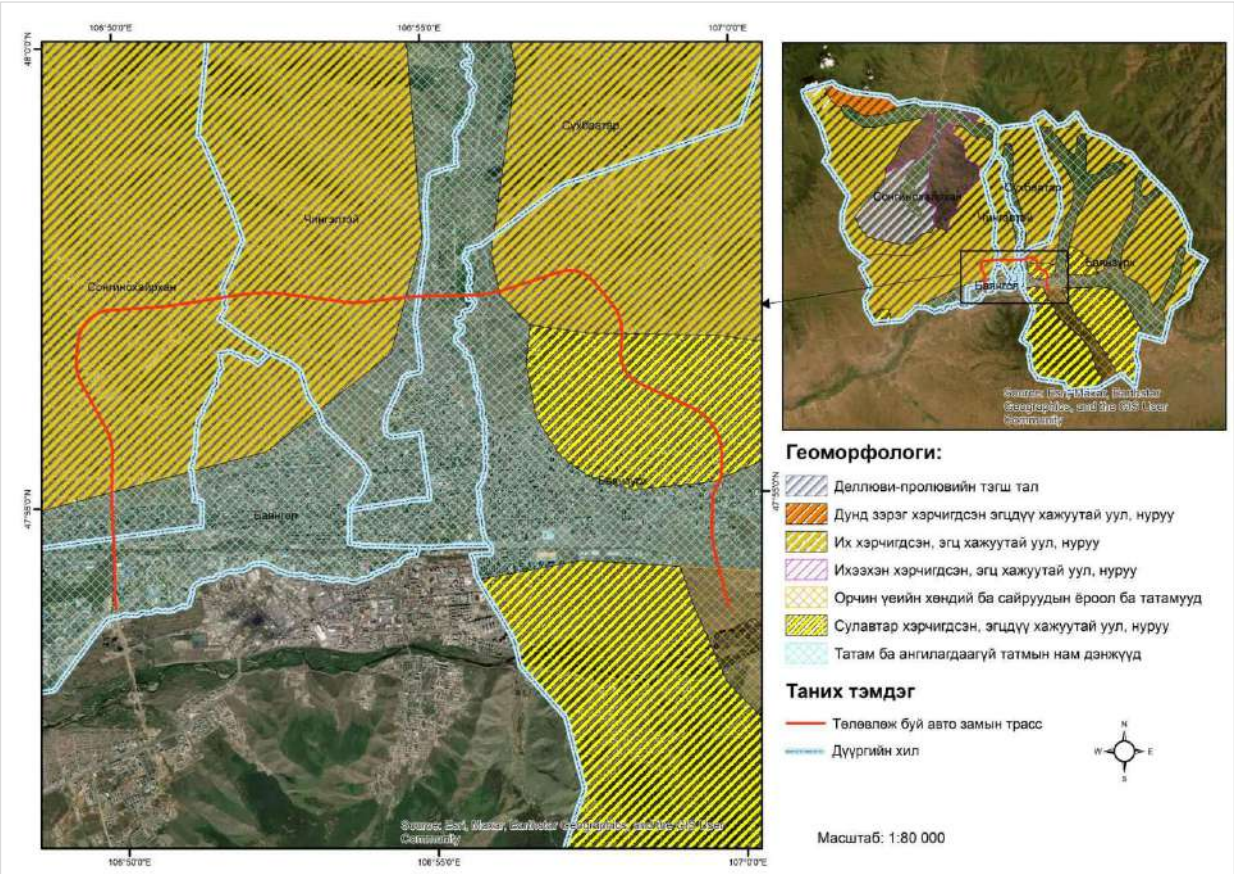


Figure 42. Geomorphological characteristics of the project area

3.6. EARTHQUAKE

3.6.1Earthquake zone of Mongolia

The first map of the general seismic zone used in building codes in our country was created in 1983 by our scientists in collaboration with scientists from the USSR.

Since then, over the past 30 years, research techniques and technologies have developed rapidly, modern digital recording stations have been put into operation, our scientists have further expanded and enriched the seismic database, and using new research methodologies,

new knowledge has been obtained about regional seismic activity, neogeodynamics, modern tectonic movements, and active faults of strong earthquakes.

The work "Development of a general seismic zone map of the territory of Mongolia" was completed by the Institute of Astronomy and Geophysics of the Academy of Sciences in 2016-2019 by order of the Ministry of Construction and Urban Development.

The work included the creation of a general seismic zone map of the territory of Mongolia at a scale of M1:1,000,000, a seismic activity map, a seismotectonics map, a general seismic zone map for the study area and region, and a probabilistic assessment method for the earthquake strength (at a scale of 1:1,000,000) to estimate the peak ground acceleration that may occur in 50 years with a probability not exceeding 10%.

In creating the "M1:1,000,000 scale map of the general seismic zone of Mongolia," the project team set the goal of introducing innovative seismic hazard assessment research methodologies widely used at the international level and processing the research results using probabilistic and baseline assessment methods.

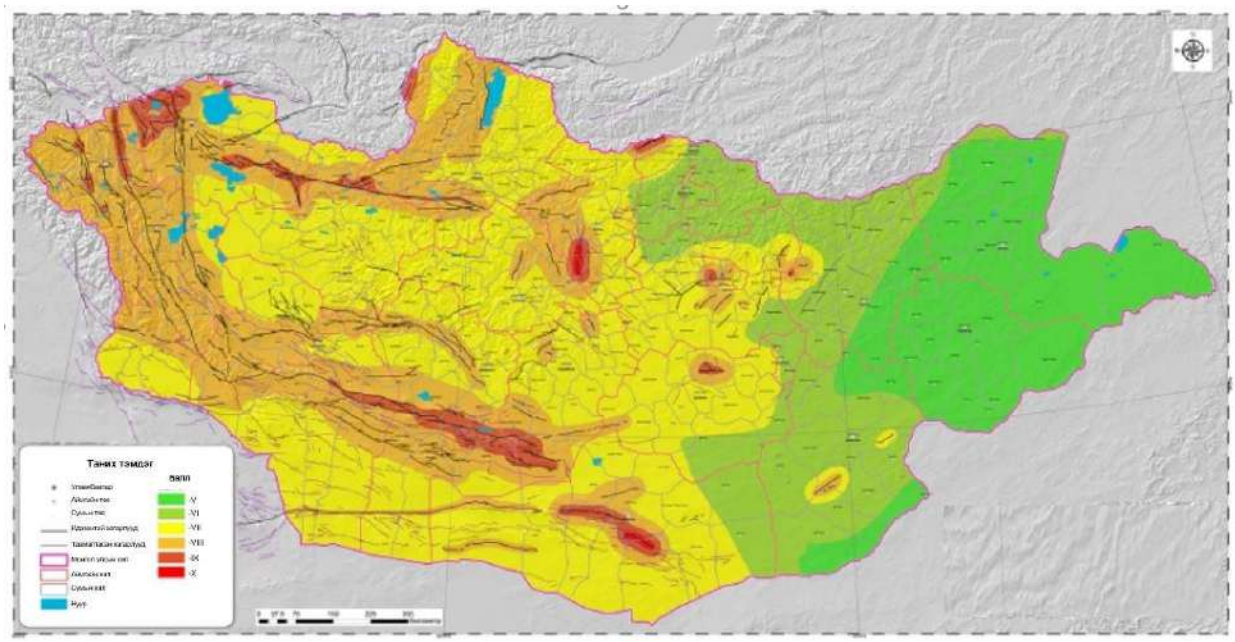


Figure 43. General seismic zone of Mongolia (return period of 500 years)

3.6.2. Surveyed status of the project area

Microzonation work on the Ulaanbaatar city area was carried out in 1969 and 2006 (in 2010, the 25,000 scale map made in 2006 was rescaled to 10,000), and a study of faults around Ulaanbaatar was conducted by Mongolian-French-Russian-Portuguese scientists with government funds in 2012.

In Ulaanbaatar, the 7.5 magnitude earthquake that occurred in Mogod soum, Bulgan aimag in 1967 was reported to be 4-6 points in the city area. After the earthquake, in 1971, our scientists, together with scientists from the USSR, created a microzonation map of the Ulaanbaatar city, which was used in building codes until recently. In this map, the Tuul and Selbe rivers of Ulaanbaatar are zoned as 8 points, rocky soil as 6 points, and the rest of the area as 7 points.

In 2000-2006, a study was conducted in collaboration with French scientists to assess the seismic hazard of Ulaanbaatar. As a result of this study, a 1:25,000 scale map was created, dividing the area of Ulaanbaatar into 7-8 magnitude zones. During this study, it was determined that there were active seismic faults in areas such as Khustai, Emeelt, Gunj, Avdar, Sharkhai, and Deren around Ulaanbaatar, but the fault survey was not detailed at that time. However, in 2010, the work of making the boundaries of this map detailed to a 1:10,000 scale was commissioned by the Capital.

By order of the Ministry of Construction and Urban Development, the Institute of Astronomical Geophysics has prepared a 1:10,000 scale seismic microregion map covering the Ulaanbaatar city center and ger districts - 57,435 ha, Nalaikh district - 8,212 ha, Baganuur district - 6,469 ha, Bagahangai district - 3,833 ha, and Emeelt - 3,079 ha between 2012 and 2014.

The following research activities were carried out and the results were obtained. These include:

Seismic activity and regime study: The study of the regional seismic activity of Ulaanbaatar identified the regions of strong earthquakes in the region and determined the main parameters of the seismic regime of these regions.

Geophysical (seismic, georadar) and geological (route, trench) studies on active faults in the vicinity of Ulaanbaatar were included in the previous study. The study of the Mungunmort fault was carried out within the framework of this project. The location, recurrence period, and corresponding magnitude of the faults of Emeelt, Khustai, Gunj, Mungunmort, Sharkhai, and Avdar mountains were determined. The advantage of this study over previous studies is that the age of earthquakes on active seismic faults was determined and a map of active seismic faults in the region was made.

Seismic wave propagation study: Since Mongolia does not have its own propagation law, the closest propagation law was selected from 17 internationally used propagation laws by comparing the data accumulated in the country's database.

Synthetic seismogram: The seismic waves that would occur in the event of an earthquake were calculated using the Stochastic Green's function method for each fault for every 1 km of the study area.

Seismic hazard assessment: The seismic hazard assessment was calculated using the deterministic and probabilistic methods, and the maximum acceleration of seismic waves that could occur in the rock soil was determined. The seismic force assessment of rock and soil using the basic assessment method and the probabilistic assessment method is shown in the area of Ulaanbaatar city

Table 8. Earthquake strength

Field	Baseline assessment methodology	Probability assessment 475 years (10% probability of exceedance in 50 years) Applied to microregions	Probability rating 975 years (5% probability of exceeding in 50 years)	Probability assessment 2475 years (2% probability of exceeding in 50 years)
Ulaanbaatar	VIII-IX	VII-IX	VIII-IX	IX-X

The above calculated values vary depending on the influence of the site or the environmental geology and engineering geology conditions.

Geophysical measurement: For Ulaanbaatar city and its surrounding districts, measurements were made along 22 profiles with a total length of 85.22 kilometers, and the measurement data was processed to produce a model of the P (rigid) wave velocity in loose soil depending on depth and a surface wave analysis to produce an S wave model. Vibration survey work was carried

out along 2 profiles with a total length of 5420 m in the Bayangol, Khan-Uul, and Songinokhairkhan districts of Ulaanbaatar city.

Gravity survey: In the Ulaanbaatar city area, reference points were determined and measurements were taken at 2557 points in the entire study area. For each area, a 500-meter grid was drawn and measurements were taken, and the Cenozoic thickness of each area was determined.

Weak earthquakes: Weak earthquake measurements were taken at 32 points (previously 34 points) in the Ulaanbaatar city area for 14 days. The weak earthquake research was carried out using the spectral ratio method developed by Wrochert.

Microseism: Microseism measurements were taken at a total of 1660 points for 1 hour and the frequency of soil amplification was determined using the spectral ratio method. The measurements were made using a 500-meter grid for each area, and the spectral ratio of the vertical and horizontal components of the microseism was used to process the measurement values. The results of the spectral ratio method were compared with the results of the weak earthquake research and a dominant soil frequency map was prepared.

The Ulaanbaatar city area was divided into 4 zones with dominant frequencies of 1-4 Hz, 4-7 Hz, 7-10 Hz and no dominant soil frequency. The results of the study show that the Tuul River Valley was in one zone in terms of engineering geology, but in terms of the dominant frequency, it is divided into 2 zones around Amgalan. However, the areas with Neogene soil in Khujirbulan, Sharkhad and the northwest part of the city belong to the same dominant frequency range as the Tuul River region, but the increase in peak ground acceleration is different, and the study area is divided into 6 zones between 110 - 366 m/s2. However, in terms of seismicity, the northwest outskirts of the city are IX, and the Tuul River Valley and the west are VIII.

However, the city center and eastern part of the city are classified as zone VII due to the rocky and eluvial-deluvial slopes..

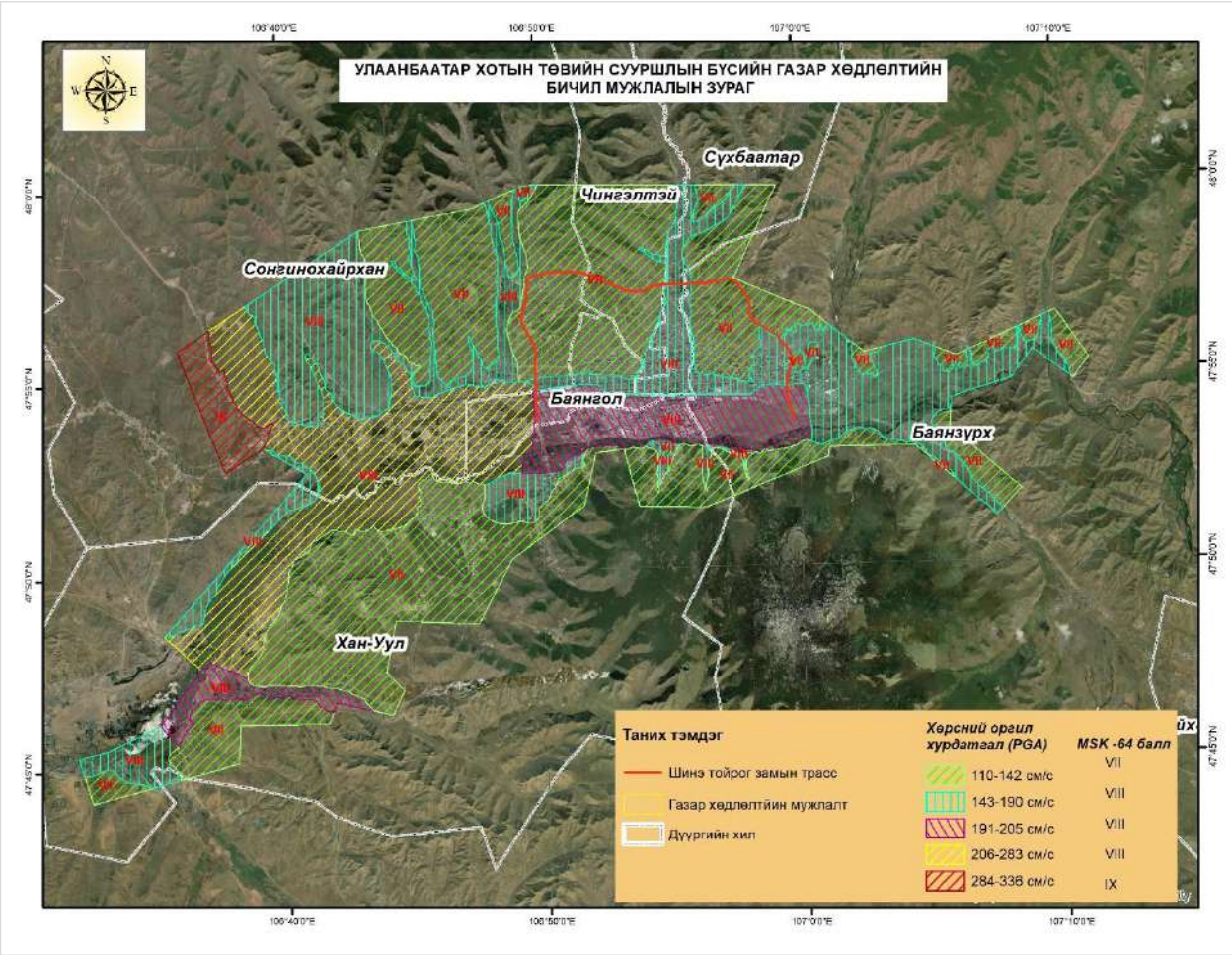


Figure 44. Earthquake microregion map

According to the seismic micro-region map prepared based on the results of the research, the area of the highway route falls within the seismic intensity range of VII and VIII.

3.7. SURFACE WATER

The capital city of Ulaanbaatar is hydrologically part of the Tuul River basin of the Arctic Ocean. The Tuul River basin is a combination of high, medium, and low mountains, hilly plains, erosional hills, plains, intermountain depressions, and proluvial sediments, which creates unique conditions for surface runoff. The Tuul River basin includes many rivers, including the Khyid, Khag, Baruun Bayan, Terelj, Galty, Khul, Gachuurt, Uliastai, Selbe, Bokhug, Guna, Khaliuch, Bad, Tarnay, and Kharbukh, and their topographic parameters, water regimes, and resources differ from each other depending on the physical geography and land cover conditions of the basin.

There are 226 first-order streams and rivers in the Tuul River basin, their average length is 2.3 km, and their average catchment area is 6.3 km2, 320 second-order streams, 64 rivers, 14

fourth-order streams, and 4 fifth-order rivers.

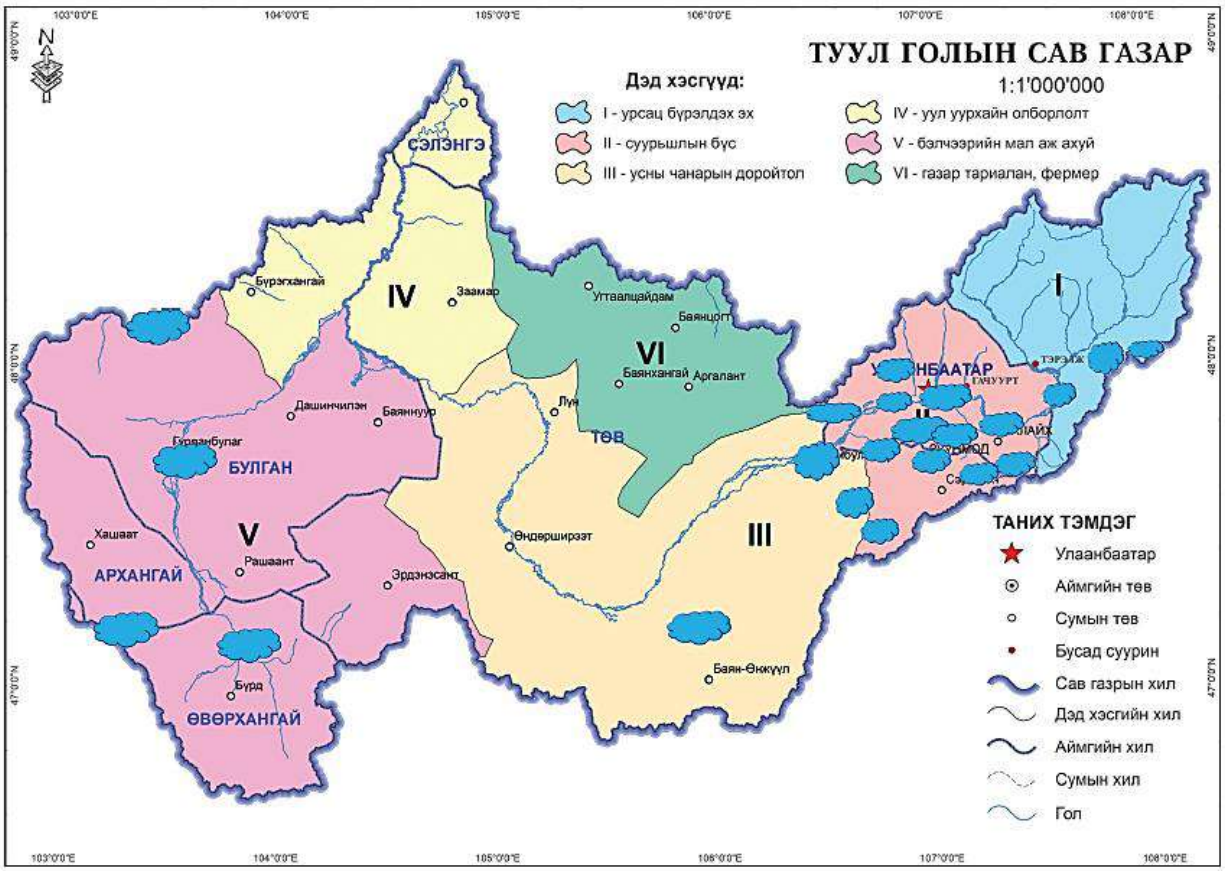


Figure 45. Tuul River Basin

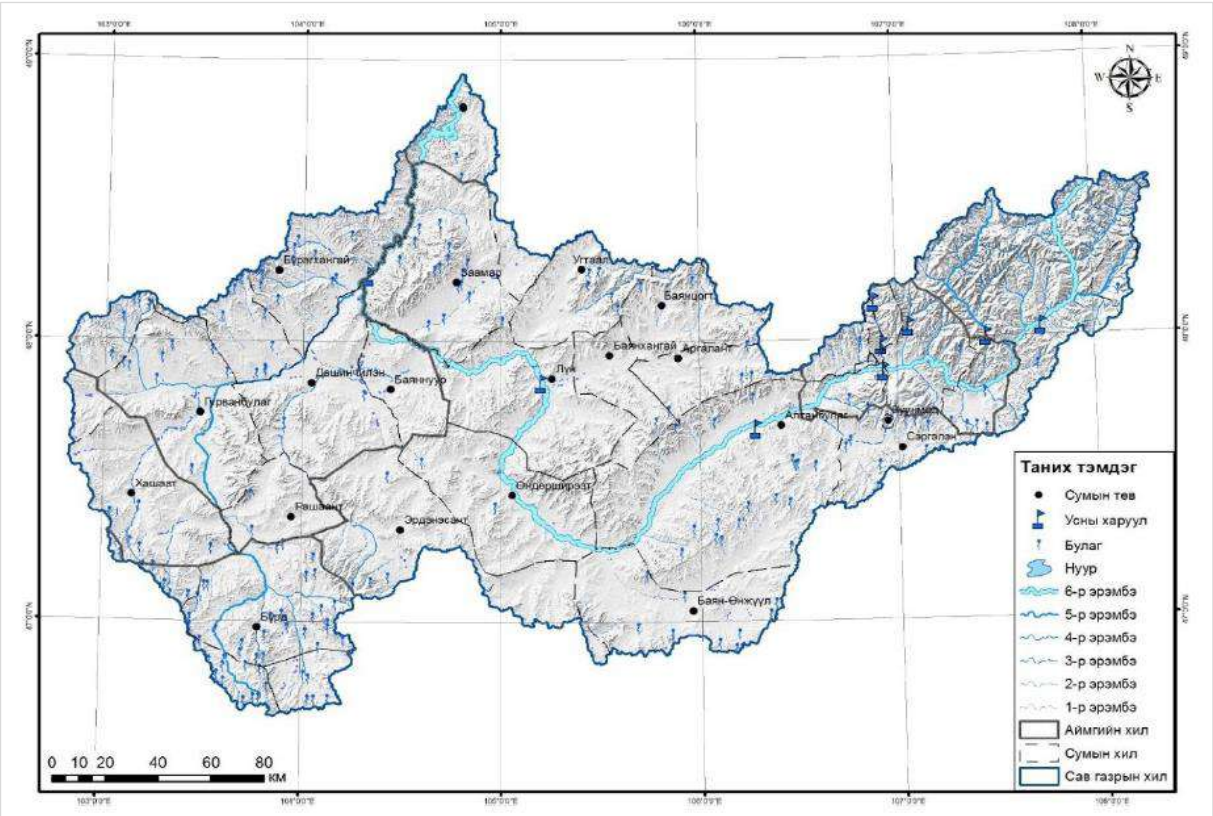


Figure 46. Hydrological network around the project area

3.7.1. Tuul River

Tuul is a 6th-order river. The average elevation of the Tuul River is 1,160 m, the watershed length is 2,056 km, the average elevation is 1,719 m, the density of the river network is 0.16 km/km2, the height of the catchment area is 1,300 m, the average valley depth is 559 m, and the average width of the catchment area is 56.1 km.

The water supply of the Tuul River is characterized by a relatively small percentage of its flow from groundwater and seasonal snowmelt. 25% of the river flow is groundwater, 6% is melted snowmelt, and 69% is rainwater. This indicates that the Tuul River belongs to the river with spring yellow water and summer rainy flood regimes. Since the main factor shaping the river flow is summer and autumn rainfall, the water level is very unstable in the warm season. Spring yellow water floods occur in late April and early May, but their duration and flow are less than those of the rainy season. After the spring yellow water floods, a short period of summer drought is observed, and from July to September, summer and autumn rainy floods are observed, and the river has abundant water. The high level of rainy water floods is

It is 1.5-2 times higher than in the previous period. After the end of the rainy season, the water level gradually decreases until the ice phenomenon begins, and the drought period continues..

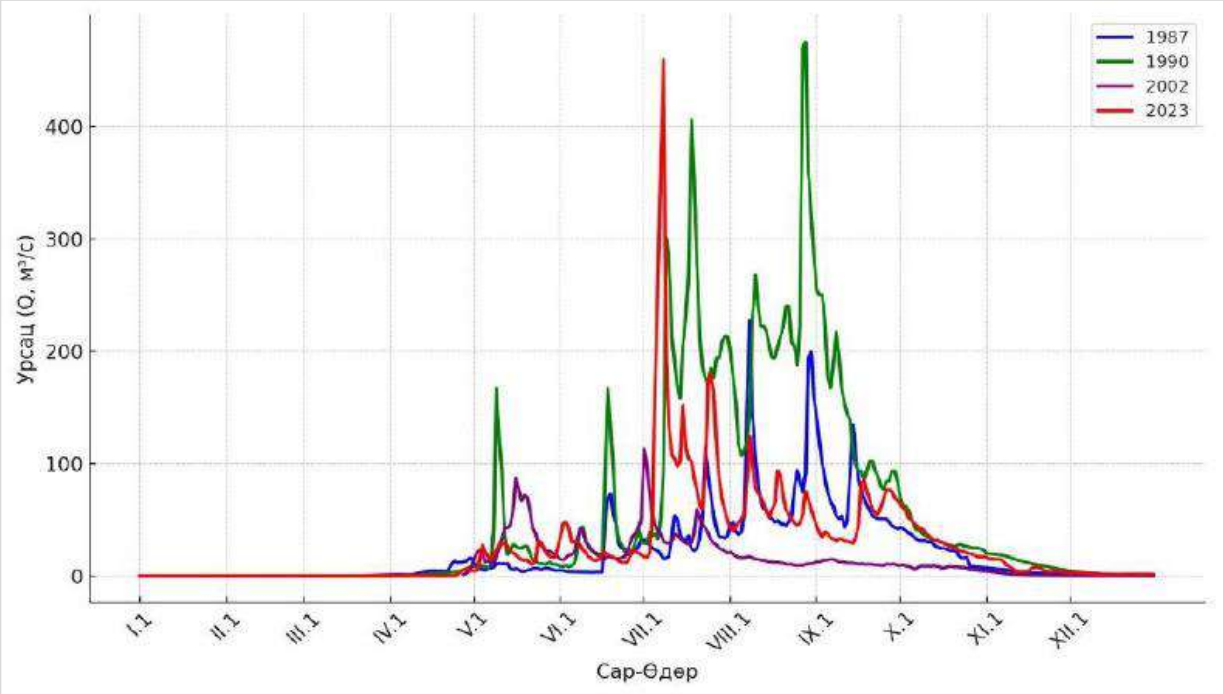


Figure 47. Annual flow hydrograph, Tuul River-Ulaanbaatar basin

The average annual flow of the Tuul River is 7.44 m3/sec at the Terelj River-Terelj Recreation Area, 9.67 m3/sec at the Tuul-Bosgyn Bridge Area, 24.5 m3/sec at the Tuul River-Ulaanbaatar Area, and 23.2 m3/sec at the Tuul River-Gachuurt Area. The normal average or norm flow at the Tuul River-Ulaanbaatar Area is equal to the average annual flow.

Table 9. Average annual flow

№			Water harvesting	Average annual flow	C_v	C_s

	River and pass name	Observation period	Field, м^2	Average height, m	Q, м^3/сек	q, л/с·км^2	h, мм		
1	Terelj-Terelj Rest	1972-2023	1281	1995	7.44	5.81	183	0.40	0.80
2	Selbe-Sanzai	1994-2023	33.1	1723	0.11	3.35	106	0.58	1.15
3	Selbe-Dambadarjaa	1995-2023	192	1650	0.37	1.94	61.3	0.49	0.98
4	Uliastai-Uliastai	1990-2023	209	1840	0.48	2.32	73.2	0.69	1.38
5	Tuul-Bosgyn Bridge	2002-2023	2192	1896	9.67	4.41	116	0.46	0.92
6	Tuul-Ulaanbaatar	1945-2023	6445	1808	24.5	3.8	120	0.58	1.17

The average annual flow of the Tuul River downstream of Ulaanbaatar and along its length can be represented by the results of measurements conducted by researchers from the Hydrology Sector of Ulaanbaatar University and Kh. Badarch at additional points in 2008, 2009, 2010, and 2012. According to the results of the measurements from June 2008 to June 2012, the flow from the source of the Tuul River to Kharztai increases, starting with a 15% decrease near the Zaisang Bridge,

reaching a 30% loss at Biokombinata, and a total loss of 55% at Shuvuut. However, in the Tuul River-Shuvuut to Altanbulag section, the flow has increased by 30%, confirming the relationship between flow loss and recovery along the length of the river.

Table 10. Trends in flow increase and loss between selected points and dams, %

Selected points, lookouts Tuul-Bosgyn Bridge	Water reflection								
	2008		2009		2010		2012		Average, %
	м^3/с	%	м^3/с	%	м^3/с	%	м^3/с	%	
Tuul-Terelj Delta	2.38		12		11.1		8.14		
Tuul-Kharztai	2.8	18	15.7	32	20.6	85	15.1	85	55
Tuul-Bayanzurkh	5.37	91	24.7	57	27.9	35	24.8	64	62
Tuul-Zaisan	4.2	-22	23.1	-7	24.4	-13	21.7	-12	-13
Tuul-Biocombinat	2.97	-29	20.2	-13	19.6	-20	20.1	-7	-17
Tuul-Shuvuut	2.46	-17	11.7	-42	17.5	-11	12.8	-46	-31
Tuul-Altanbulag	2.53	3	12.6	8	12.9	-26	9.43	-25	-10
Selected points, lookouts	3.63	43	15.5	23	13.4	-4	14.4	52	30

The measurement results confirm that this flow loss pattern is caused by the water consumption of Ulaanbaatar city, overexploitation of groundwater, and the influence of tributaries along the river. The drying up and loss of the Tuul River downstream of the Zaisang Bridge is largely due to human activities, which poses a serious threat to the ecosystem. Thus, although flow loss is caused by the influence of Ulaanbaatar city water supply wells along the river, the long-term average flow in the Tuul River-Altanbulag and Tuul River-Lun Gars areas at the end of the basin

will not decrease significantly from the Tuul River-Ulaanbaatar Gars flow.

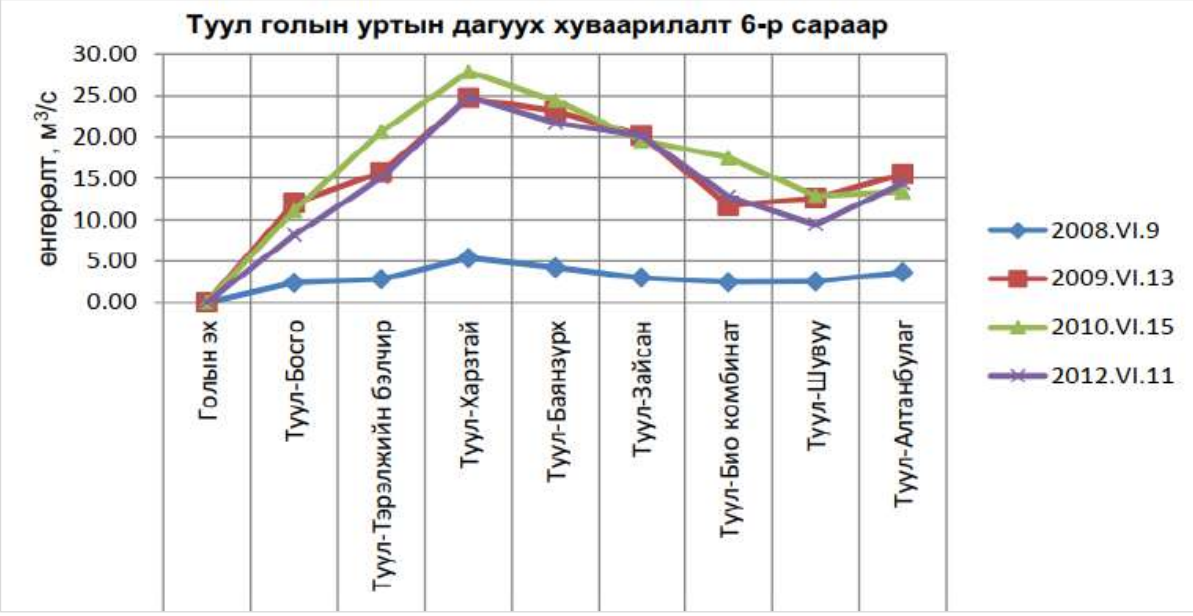


Figure 48. Flow loss along the length of the Tuul River

Table 11. Average annual flow with different levels of supply, m3/s

River and port name	Supply P, %								
	1	5	10	25	50	75	90	95	97
Tuul-Ulaanbaatar	71.8	50.3	41.1	28.9	20.5	14.3	11.9	11.2	10.9
Tuul- Gachuurt	62.7	52.6	42.6	30.3	19.2	13.3	8.9	6.9	5.3
Tuul-Bosgyn Bridge	27.0	19.2	15.8	11.4	8.0	11.4	5.2	4.9	4.8
Terelj-Terelj	17.3	12.8	10.9	8.4	6.4	8.4	4.8	4.7	4.6

The Tuul River's 50% water availability flow is 20.5 m3/sec near Ulaanbaatar. In a year with abundant water or 5% water availability, the flow reaches 50 m3/sec, and in dry years it drops to 10.9 m3/sec.

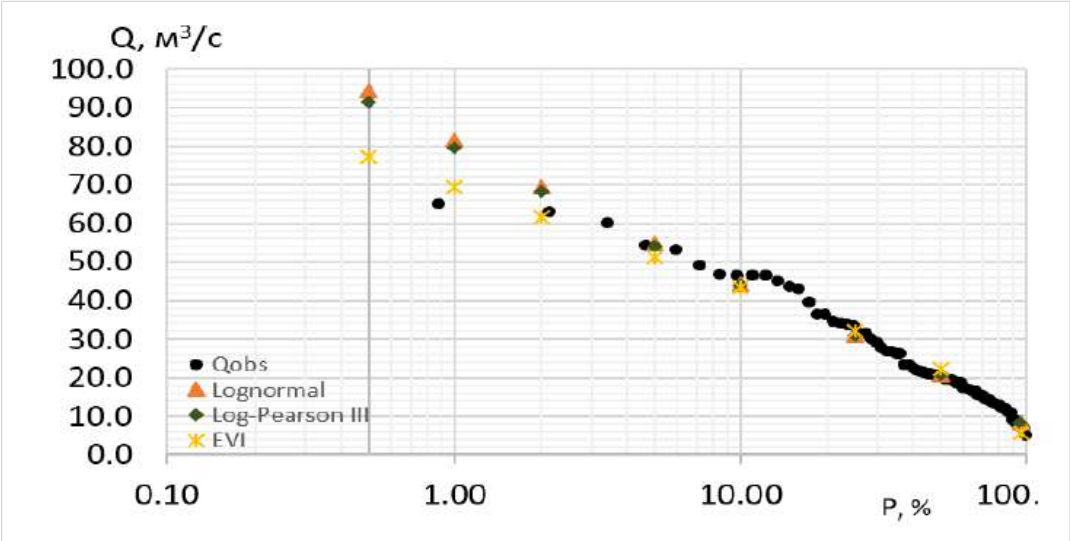


Figure 49. Average annual flow supply curve, Tuul River-Ulaanbaatar reservoir

Maximum and low-flow flows

High flows occur when the water level rises sharply during the rainy season and snowmelt, while conversely, during the dry season, when precipitation decreases and evaporation increases, the water level decreases, and a low flow or low flow occurs.

High flows. Including the data for 2024, the maximum flood discharge of the Tuul River, which is likely to occur once in 100 years, is 1,824 m3/sec in the Tuul River and 704 m3/sec in the Terelj River, as summarized in Table 3.7. However, the maximum flood discharge reaches its maximum near the end of the Tuul River drainage area, near Ulaanbaatar City, and decreases as the flood wave moves downstream. This is explained by the principle that the base lengthens and spreads along the length of the flood wave.

In the Tuul River basin, especially in its tributaries, such as the Selbe and Uliastai, the flood pattern is characterized by a sharp peak and a short duration. Yellow water floods are observed in the rivers of the Tuul River basin.

Yellow water floods, which are likely to occur once a year, will reach 480 m3/sec in the Tuul River and 140 m3/sec in the Terelj River.

Table 12. Heavy rainfall flood discharge

№	River-guard		Flow rate Q (m3/s), module q (l/s□km2), flow height h (cm) with different conditions					
			0.1	1	2	5	10	25
1	Tuul-Ulaanbaatar	Q	5625	1824	1300	831	592	378
		q	893	290	206	132	94	60
		h	463	150	107	68	49	31
2	Terelj-Terelj	Q	1432	704	615	498	409	292
		q	1118	549	480	388	319	228
		h	-	237	207	168	138	98
3	Selbe-Dambadarjaa	Q	125	73	62.8	49.4	39.3	25.8

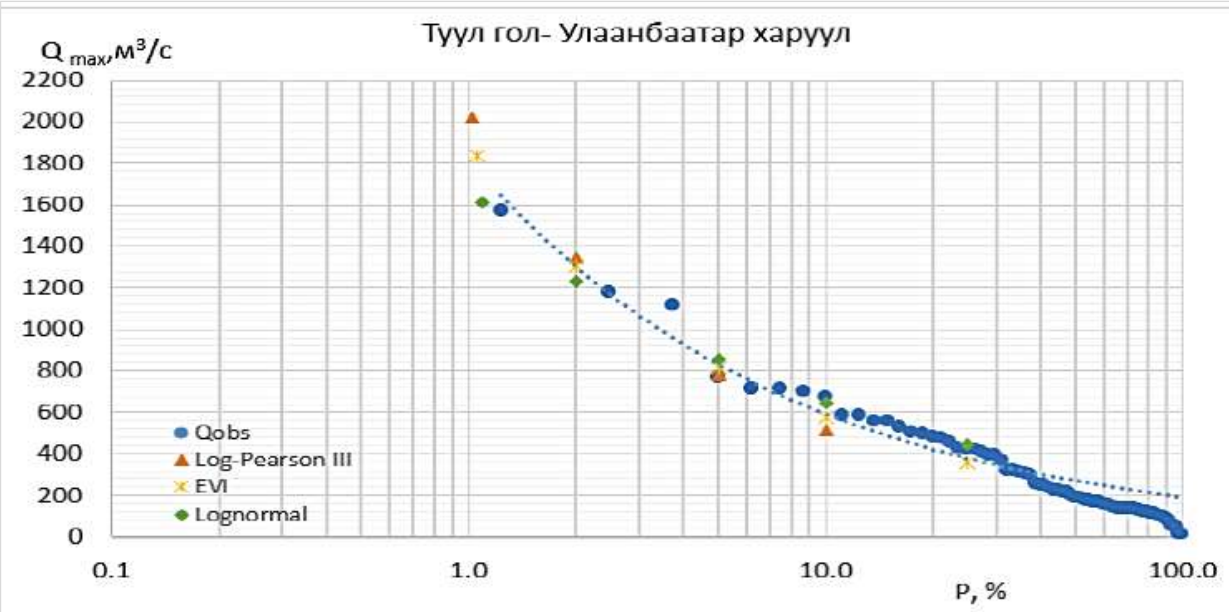


Figure 50. Tuul River rainfall peak discharge stress curve, Tuul River – Ulaanbaatar corridor

Low flow. During the observation period from 1972 to 2022, the average discharge of the 30-day minimum water flow decreased by 3.31 m3/sec and the minimum discharge of the warm season decreased by 0.97 m3/sec. However, the decrease in low flow is more noticeable in the Ulaanbaatar reservoir. In the last 76 years, the average discharge of the 30-day minimum water flow decreased by 4.06 m3/sec and the minimum discharge of the warm season decreased by 4.68 m3/sec, which is related to the impact of urban water supply and industrial water consumption. The trend of low flow in the Tuul-Ulaanbaatar reservoir is shown in Figure 3.45. In the area of the Lun reservoir, the low flow decreased by 11.3-13.5 m3/sec in the last 24 years, indicating that the decrease in flow is more intense due to natural and human activities.

Figure 51. Minimum flow trend of the Tuul River, Tuul River – Ulaanbaatar

In a year with a 50 percent sufficient flow during the dry season, the flow at the head of the river fluctuates between 2.56-4.85 m3/s near Terelj Gars, 6.10-11.1 m3/s near Ulaanbaatar, and 7.90-9.60 m3/s near Lun Gars, with a decreasing trend toward the end of the river, as shown in Table 3.8.

Table 13. Flow rate during drought, m3/s

№	River and Guard	Dry season	Supply ratio					
			50	75	80	90	95	97
1	Tuul River-Ulaanbaatar Guard	30-day average rainfall with the lowest water level	11.0	7.43	6.85	5.19	4.00	2.80
		Warm season minimum rainfall	6.10	4.06	3.74	2.30	1.00	0.87
2	Tuul River-Terelj Guard	30-day average rainfall with the lowest water level	4.85	2.90	2.70	1.70	0.64	0.50
		Warm season minimum rainfall	2.56	1.45	1.21	0.70	0.32	0.22

Hot and cold water mode

The balance of solar radiation and the thermal regime of water play an important role in the aquatic environment and its ecosystem. When the water temperature increases sharply, the number of animal and plant species and species decreases. For example, green plants disappear when the water temperature reaches 380C, diatoms at 450C, blue-green algae at 600C, and bacteria at 700C. Roundworms, roundworms, crustaceans, insects, and mollusks disappear at temperatures above 400C. The main factors that affect water temperature and thermal balance are climate, geography, water balance, and sedimentary rocks. The annual average water temperature of Mongolian rivers varies in height by 0.3-0.60C per 100 m.

The water temperature of the Tuul River in the spring reaches 1.20C in the last 10 days of April, and on average reaches 7.00C in May, and the warmest reaches 15.00C in July. The maximum water temperature reaches 230C around July 15. After that, the water temperature decreases along with the decrease in air temperature, which has an effect on the environment, leading to the phenomenon of autumn ice. All this is the natural regime of the water of the Tuul River and its tributaries.

Table 14. Water temperature

Indicator	Month and day when 0.20C is observed in spring	Monthly average							Month and day when 0.20C is observed in autumn	The most	
		IV	V	VI	VII	VIII	IX	X		Temperature	Day, day
Tuul-Bosgy Bridge, 1986-2022											
Medium	VI.18		5.3	11.4	13.7	12.9	8.0	2.07	X.29	18.3	VII.22
High (early)	IV.1		12.5	15.0	19.4	16.6	11.5	5.5	X.21	23.5	VI.16
Low (late)	IV.19		0.2	5.5	9.5	6.7	1.8	0.2	XI.25	13.6	VII.11
Tuul-Ulaanbaatar, 1945-2022											
Medium	IV.17	1.04	7.19	12	15	14	9	3	XI.03	20.9	VIII.08
High (early)	III.19	5.5	13.7	18	19	18	13	10	IX.28	28.9	VI.01
Low (late)	V.28	0.1	0.9	8	9	10	3	0	XII.25	14	VIII.25
Terelj-Terelj, 1970-2022											
Medium	V.03		3.7	8.49	10.5	9.89	5.75	1.78	X.28	16.4	VII.21
High (early)	IV.06		11.6	12.2	13.9	13	8.9	5.5	X.27	24.6	VI.05
Low (late)	VI.13		0.1	2.1	7.3	6.9	1.6	0.2	IX.12	11.4	VIII.22

In the Tuul River basin, the maximum water temperature decreased by an average of 0.06 degrees per year near Terelj, while it warmed by an average of 0.03 degrees near Ulaanbaatar,

as can be seen in Figure 3.46.

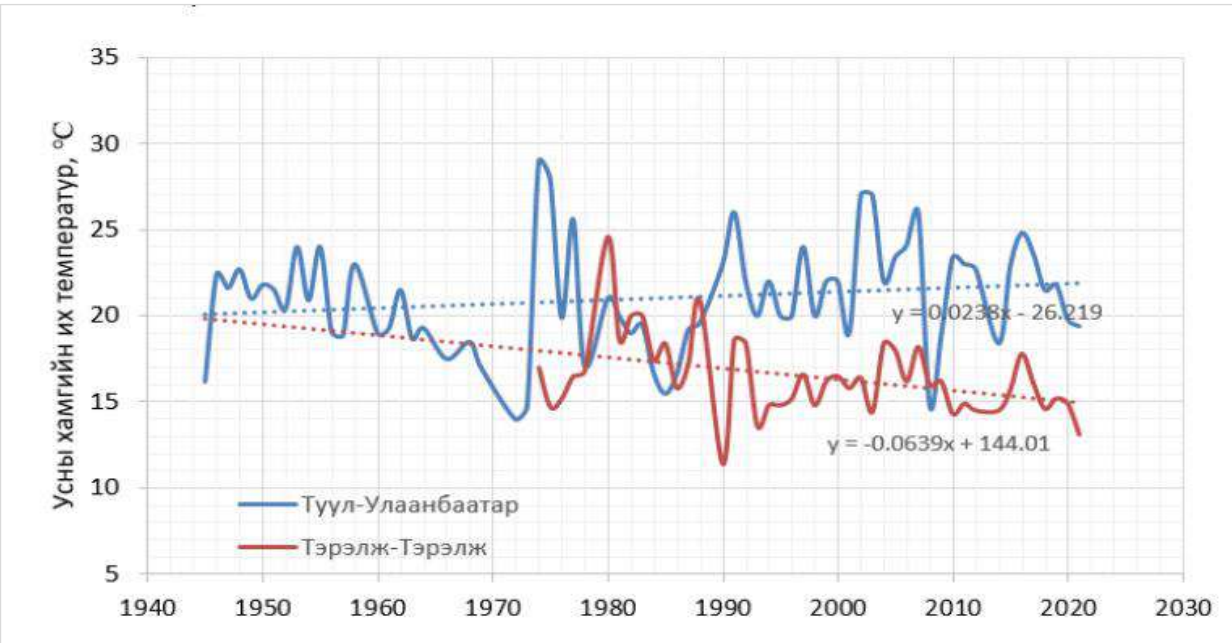


Figure 52. Maximum water temperature of the Tuul River

Depending on the river flow pattern and the influence of tributaries, ice phenomena are observed in each basin uniquely. Since the Tuul River flows mostly along the latitude, ice phenomena are observed almost simultaneously along the entire length of the river. In this basin, ice phenomena begin on average around October 20 in autumn, and after about 5 days, the ice melts, and then the ice cover is formed by mid-November. The duration of ice phenomena is 170-180 days at the average elevation of the river catchment area of 1,000-1,500 m, and 185-200 days at the headwaters of the river, which are 1,500-2,000 m high. The duration of ice cover has been shortened by 5 days at the headwaters and 2 days at the headwaters compared to the average for 1991-2008. The duration of ice phenomena is shown in Table 3.10.

Spring ice events tend to end 10 days earlier in the Terelj River. However, the intensity of the change in the end time of spring ice events in the Tuul-Ulaanbaatar region has increased by -0.31 days/year in the period 1990-2008, which is twice as high as the previous period 1946-1989.

Table 15. Observation period of ice phenomena

Indicator	Month and day of observation					The most			
	The fall ice phenomenon begins.	Autumn festival run	Ice formation	Spring is coming soon.	The spring ice phenomenon ends	Autumn festival	Spring is coming	Ice cap	Total ice phenomenon
Tuul-Bosgy Bridge, 1986-2023									
Medium	X/18	X/25	XI/18	IV/23	V/02	8	6	147	196
High (early)	X/01	X/14	XI/02	IV/16	IV/10	22	15	174	217
Low (late)	XI/04	XI/10	XII/01	V/01	V/24	1	1	121	165
Tuul-Ulaanbaatar, 1945-2023									
Medium	X/19	X/25	XI/13	IV/21	IV/26	14	6	154	189
High (early)	X/08	X/12	X/28	IV/01	IV/09	44	16	185	209
Low (late)	XI/10	XI/17	XII/01	V/07	V/11	1	1	114	160
Selbe-Sanzai, 1970-2023									
Medium	X/06	X/08	X/21	-	IV/23	4	-	165	199
High (early)	IX/21	X/02	X/09	-	IV/10	4	-	197	219
Low (late)	XI/01	X/11	XI/11	-	V/08	3	-	141	166

Table 16. Ice thickness, cm

Indicator	XI			XII			I	II	III			IV	The most	
	10	20	30	10	20	30	31	28	10	20	30	10	cm	month and day
Tuul-Bosgy Bridge, 1986-2022														
Medium	30	35	47	60	67	73	89	98	92	86	79	167	113	II.28
High (early)	53	61	75	81	86	90	160	271	196	128	126	110	271	II.28
Low (late)	4.0	14	23	41	41	41	61	69	69	61	34	41	75	I.30
Tuul-Ulaanbaatar, 1945-2022														
Medium	17	27	38	46	56	65	86	85	83	80	72	57	98	II.15
High (early)	35	60	91	75	104	122	163	178	157	193	158	145	193	III.20
Low (late)	8.0	8.0	9.0	7.0	5.0	11	26	22	21	21	12	10	30	II.21
Selbe-Sanzai, 1994-2022														
Medium	24	28	31	33	34	34	33	33	34	34	36	37	36	I.20
High (early)	38	48	88	88	88	88	88	88	88	88	88	80	89	XII.31
Low (late)	1.0	1.0	1.0	12	13	13	13	13	13	13	13	18	13	XII.20

Water quality

According to the results of the water quality monitoring conducted by the Ministry of Water Resources and Environment along the Tuul River from Uubulan point to Khadan Khisaa in January-March 2024, the electrical conductivity of the water at points upstream of Ulaanbaatar city is 91.1-99 µCi/cm, and from Songino downstream to Khadan Khisaa, it is 1072-1228 µCi/cm, and the primary ion pollution indicator does not exceed the tolerance level in the Mongolian surface water standard MNS4586:98, and the general hardness is 0.68-0.96 mg-eq/l or "Very soft water", and from Songino downstream to Khadan Khisaa, it is in the "Hard water" category.

The concentration of biogenic compounds at the monitoring points from Ulaanbaatar to the Songino Upper Point to the Khadan Khasaa point exceeded the permissible concentration in the Mongolian Surface Water Standard by 48.7-106.5 times; the concentration of ammonium nitrogen by 41.2-96.6 times; the concentration of nitrite nitrogen by 12.5-14.5 times; and the concentration of mineral phosphorus by 22.8-39.8 times. The dissolved oxygen regime around the Songino Lower Point and the Khadan Khasaa point is lost and is at the "extremely polluted" level.

However, according to the results of the analysis in February 2025, the electrical conductivity of water above and around Ulaanbaatar city was 99-111 µCi/cm, from Songino Lower to Khadan Khasaa below Ulaanbaatar city was 849-1072 µCi/cm, the general hardness was 1.04-1.14 mg-eq/l at the Uubulan and Songino Upper monitoring points, and 1.58-4.58 mg-eq/l at the Songino Lower to Khadan Khasaa points, or in the "Possibly Soft Water" category, the general mineralization was 284-907 mg/dm3, or at a level with high mineralization, with a neutral environment (pH=7.79-8.12), and the biogenic indicators, which are biochemical oxygen demand, at points below Ulaanbaatar city were 47.2-64.8 times higher than the LD, and ammonium nitrogen was 40.9-170.6 again, nitrite nitrogen is 32-43 times higher, and from the Songino River to the Khadan Khasaa point, there is an exceptionally high level of pollution.

The water quality of the Tuul River above Ulaanbaatar city is in the "Very soft water" category according to A.E. Posokhov, as no indicators exceeding the permissible concentration in the surface water standard MNS 4586:98 were observed.

During the field study (April 2025), when samples were taken from the Tuul River and transferred to the laboratory, the river water was of the hydrocarbonate class, calcium group, type 1, and was very fresh and very soft water in terms of quality. The analysed parameters meet the

requirements of the "Water environment quality. General requirements MNS 4586:2024" standard. (Laboratory analysis results are attached)

3.7.2. Selbe River

The Bayang River originates between the small mountains of Ikh Bayan (2033.3 m) and Tsokhiot Mountain (1706 m) on the southwestern side of the Baga Khentii Range. It joins the Khandgait River from the east. It flows through a valley with forests and meadows between low mountains called Selbe, before flowing into the Tuul River near Ulaanbaatar City (DHPP-4). More than 10 streams flow from the west and east of the Selbe River, forming a large floodplain..

The length of the Selbe River is 50.67 km, the catchment area is 323 km2, and after the confluence with the Baruun Oulu Canal, it is 430.4 km2. The channel gradient is 14.5%, and it is included in the 3rd-order river. The Selbe River is located at an altitude of 1510-1620 m above sea level. It is drained by the following rivers: Khandgaitin River, Hailaast River, Chingeltei River, Sharga Moryt River, Belekhiin River, Yargaitin Gorkhi, Ar Guntiin Gorkhi, Shadivlangiin Gorkhi, etc. The width of the river valley averages 100-150 m, with some parts reaching 400-500 m. The side slopes are 4-5 m high, and the area is covered in meadow vegetation. The channel of the river changes gradually, has gullies and gullies, and in some places, small islands have been formed. The width of the river channel is 20-25 m along the banks, the average water depth is 0.1-0.5 m, and the river bank height is 0.4-0.6 m.

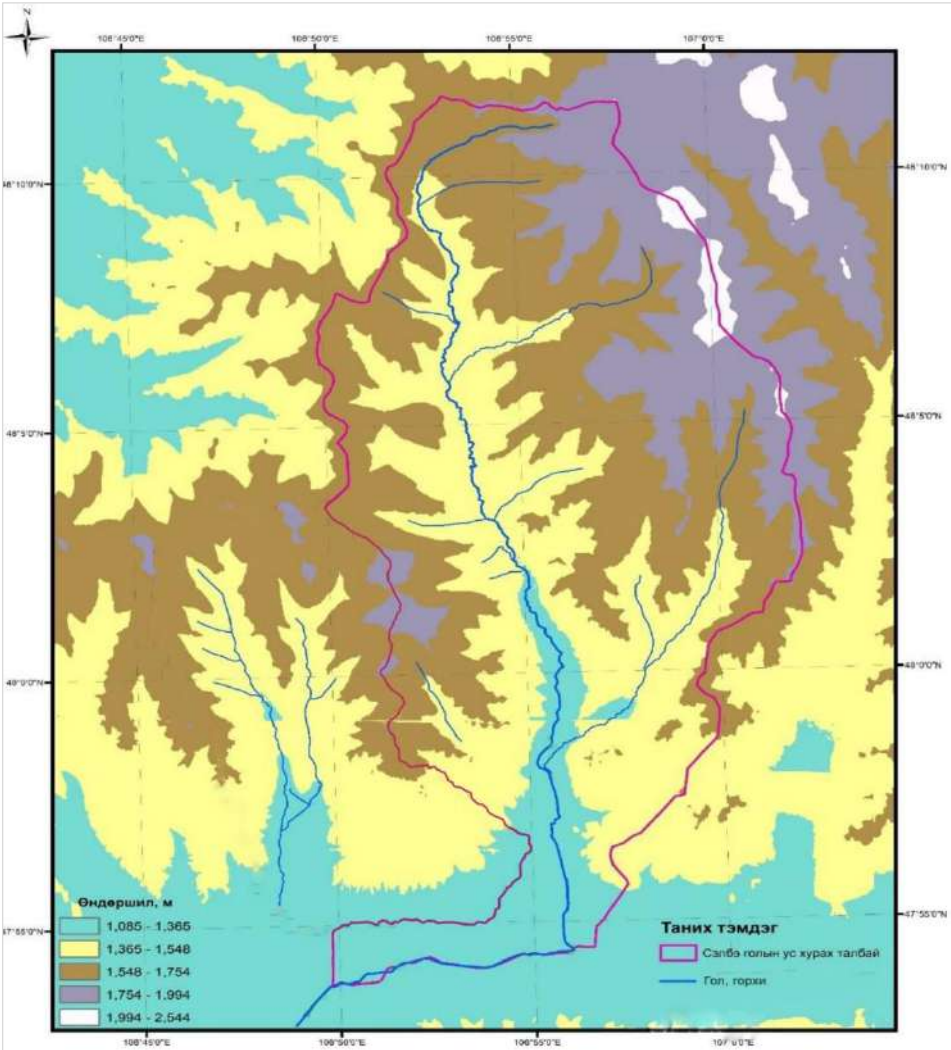


Figure 53. Selbe River catchment area

SELBE RIVER WATER SUPPLY AND FLOW DISTRIBUTION

The Selbe River is classified as a river with spring yellow water and summer rainy season floods in terms of river regime. In any part of the river, rainy season floods are observed more often and in larger quantities than yellow water floods. This is because the primary source of river water is rainwater. Spring yellow water floods occur in April.

It is observed from the end of June and usually lasts for 25-30 days. Summer monsoon floods usually begin in the upper and middle reaches of the river in late June and last until the end of July. During this period, floods are observed 2-3 times. The water level drops sharply between floods. The cold drought period spans from the onset of river freezing to the beginning of thawing, and in winter, due to the lack of groundwater recharge, the flow rate is relatively lower than in summer. The warm season drought period is observed from the end of the spring yellow water flood until the beginning of the summer rainy flood, and after the summer rainy flood until the beginning of the winter drought period. The first summer drought period is observed when the spring yellow water flood gradually subsides and the summer rainy flood begins. It lasts from the second decade of April to the first decade of June. The autumn drought period lasts from the first 10 days of October to early November.

Average annual flow

The regular study of the Selbe River regime was started in 1985-1991 in the Dambadarjaa area and in 1994 in the Sanzai recreation area by establishing a hydrological observatory. The flow regime indicators of the Selbe River were determined by the flow observation data of the Selbe-Sanzai (1994-2017) and Selbe-Dambadarjaa (1985-2017) observatories of the Ulaanbaatar Hydrological Research Institute in the Sukhbaatar district of Ulaanbaatar city, and the long-term average and various flow conditions were determined. The Selbe-Sanzai observatory has a long-term flow modulus (Mo) of 0.06 l/sec*km2, and a long-term average flow of 2.00 m3/sec, and the Selbe-Damba observatory has a long-term average flow of 5.84 m3/sec, and a long-term average flow modulus (Mo) of 0.39 l/sec*km2.

According to the material from the observed years, the maximum flow of the Selbe River reached 15.1 m3/sec at the Dambadarjaa dam in 1990 and 3.56 m3/sec at the Sanzai dam in 1994.

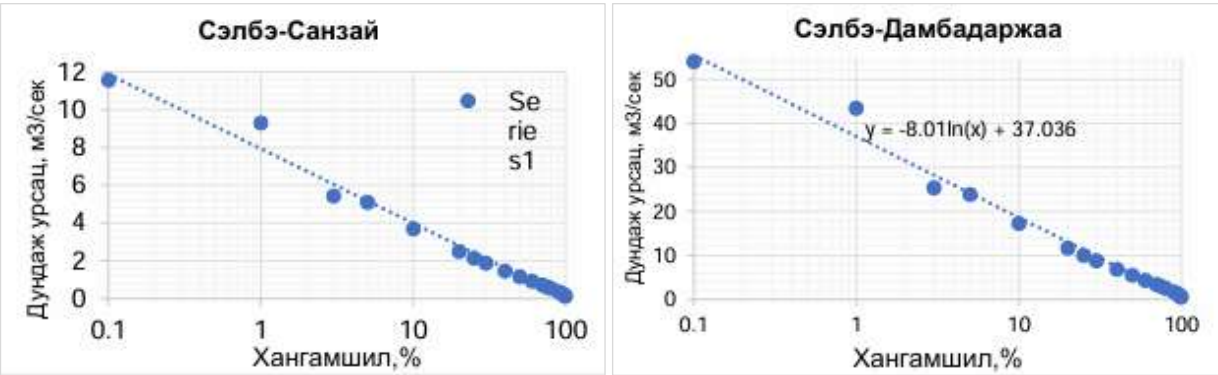


Figure 54. Long-term average flow supply curve of the Selbe River (based on data from the Selbe-Sanzai and Selbe-Dambadarjaa hydrological stations)

Table 17. Some indicators of the average flow of the Selbe River hydrological station (Based on the average flow data of the hydrological station observations)

Khondolur Selbe-Sanzai	Observed annual average flow				Observed annual average discharge with different supplies, m3/sec			
	Flow module l/sec*km2	Average flow, m3/sec	Evolution coefficient					
			Cv	Cs	25%	50%	75%	95%
Selbe-Dambadarjaa	0.06	2.00	0.59	0.05	2.14	1.16	0.62	0.10
Khondolur	0.39	5.84	1.15	1.53	6.26	3.41	1.84	0.75

Great flow

The 1% flood risk of the Selbe River flood was calculated by various hydrologists based on many years of observational flood data using various methods. In 2015, G. Adyaabadam "JEMR" LLC, as part of the work on assessing flood risk and developing a management strategy for Ulaanbaatar, calculated the maximum flow rate of the 0.1% flood risk of the Selbe River as 345.9 m3/sec. .8. Groundwater

3.8.1. Hydrogeological conditions of the study area

The new bypass is planned to be laid along the Tuul River valley and its northern foothills. In terms of hydrogeological stratigraphy in this area, the following aquifers and groundwater accumulations are distinguished based on the geological formations and hydrogeological conditions of the study area. These include:

1. Holocene alluvial loose sediment aquifer (aQ2)
2. Pleistocene alluvial-proluvial loose sediment aquifer (apQ1-2)
3. Neogene loose sediment aquifer,
4. Dispersed groundwater in Lower Cretaceous sedimentary rocks
5. Dispersed groundwater in Lower-Middle Carboniferous sedimentary-metamorphic rocks
6. Dispersed groundwater in Upper Triassic-Lower Jurassic deep rocks (γT3-J1)
1. **Holocene alluvial loose sediment aquifer (alQ2)**

hydrogeological wells with a depth of 23.7-91.0 meters were drilled in the Holocene alluvial loose sediment aquifer in 1933 (near the Factory of Ulaanbaatar city), and the water table was recorded in these The borehole flow rate varied between 2.1 and 10.2 l/s, indicating that it may have relatively large water reserves.

As a result of research conducted between 1957 and 1970, the aquifer in the Holocene alluvial sediments was divided into upper and lower periods based on water content, infiltration quality, and lithological composition. The water-bearing rocks of this aquifer are dominated by silt, silt, and sand with various petrographic compositions. The groundwater has a free surface and a stable level. In the 1960s and 1980s, it was found at a depth of 0.2-5.84 meters, but since 2005, it has been found at a depth of 1.2-6.0 m. In some wells of the water sources of the Central, Industrial, and 3rd Power Stations of Ulaanbaatar city, Holocene alluvial aquifers The maximum yield of the upper layer is 50.0-105 l/s. The yield of the water exploration wells drilled in the upper alluvial aquifer of the Holocene period distributed around the central source during the experimental depletion is 23.7-48.8 l/s, the water level decrease is 0.24-3.3 m, and the yield of the water exploration wells drilled near the source of the industrial complex is 14.4-36.9 l/s, the water level decrease is 0.65-18.84 m.

The upper and lower layers have different water seepage characteristics depending on the lithological composition of the rocks, their porosity and their characteristics. The characteristics of the seepage of the aquifers were determined by the 1977-1980 research. According to the results of this depletion, the infiltration coefficient of the boreholes in the upper stage is calculated as 62-242 m/day, with an average of 90-130 m/day, and the most probable infiltration coefficient is 100 m/day. The second aquifer layer is located directly adjacent to the upper stage, and the infiltration coefficient of this stage is determined as 10-45 m/day, usually 10-30 m/day, and an average of 19 m/day.

The thickness of the upper well-watered stage in the Central, Upper, and Lower source areas is 13-32 m, and in the study area it is usually 10-22 m, with an average thickness of 17 m. Under natural conditions, the thickness varies from 9-31 m in summer, with an average thickness of 16 m, and from 6-28 m in winter and spring.

The chemical composition of the alluvial aquifer is dominated by calcium and sodium carbonate superfresh water. A 1978 study of dry sediments showed that the content of 72-122 mg/l increased in some single wells to 240 mg/l. This is directly related to the thickness of the lower layers of the sedimentary rock formations in the area, water seepage, infiltration, recharge, and feeding regime. Depending on the proximity of groundwater to the surface and the exchange regime, the water temperature reaches 2.5-4 degrees in January and February, and 9-10 degrees in summer and autumn, August and September. The water temperature decreases from the end of October and increases in May.

The free surface water of the alluvial sediment aquifer is mainly fed by free infiltration of atmospheric precipitation and long-distance underground flow along the Tuul River valley, and is of great practical importance as it is a major source of concentrated water supply for drinking and domestic purposes.

2. **Pleistocene alluvial-proluvial loose sediment aquifer (dpQ1-2)**

The aquifer in the Pleistocene alluvial-proluvial sediments is distributed along the 2nd and 3rd terraces and tributaries of the Tolgoit and Selbe Uliastain rivers, which are located in the western part of the Tuul River valley. The water-bearing sediments are mainly composed of silt, gravel, sand, siltstone, and clay.

The thickness of the Pleistocene aquifer varies from 19.5 to 33.5 m, and the clayey layer and mesh within it reach 2.6 to 20.0 m. The water of the aquifer in the Pleistocene alluvial-proluvial sediments distributed in the valleys of the rivers is sometimes under slight pressure. The water supply of this aquifer is very variable, and the maximum yield of the well, which was drained by lowering the water level by 1.9 m, was 24.1 l/s. The lowest water level was 10.0 m below the bottom of the Uliastai River, and when the water level was lowered, it gave 0.9 l/s near the bottom of the Uliastai River. The water of the aquifer in the Pleistocene alluvial-proluvial sediments has a chemical composition of hydrocarbonate calc-sodium, calcium-magnesium, and is mineralized up to 0.7 g/l.

The Pleistocene aquifer is a sediment of the shale formations that form the bottom of the tributaries of the Selbe, Uliastai, Tolgoit, and Gachuurt rivers. The water-bearing sediments consist of silt, clayey sand, sandstone, loam, silt, gravel, and sometimes boulders. The water in this layer occurs at a depth of 0.2-11.3 meters, but is usually found at a depth of 4-6 m. The thickness of the water-bearing aquifer sediments is 16-36 m. The highest yield of the well drilled in the Uliastai River basin was 8.0 l/s, the water level decreased by 8.1 m, while the lowest yield of 0.5 l/s was also observed in the well drilled near the river mouth. The water of the aquifer in the Hoshuud belt has a chemical composition of sulfate-chlorine magnesium-sodium, chloride-sulfate sodium, with a mineralization of up to 1.5 g/l, hardness up to 8.3 mg-eq/l, and in most cases does not meet the requirements for drinking water by any indicators, and nitrate and nitrite pollution is detected in some wells.

The water of the aquifer in the Pleistocene alluvial sediments has a chemical composition of hydrocarbonate calcium-sodium, calcium-magnesium, with a mineralization of up to 0.7 g/l.

The Pleistocene clayey gravel, clayey sand with gravel, and sandy aquifers of the Central, Khujand, Mak Kombinat, TPP-3, and TPP-4 sources were found to be directly adjacent to the Holocene aquifers during the drilling work, and were found to be 10-28 meters thick at the time of drilling. The water permeability coefficient of the aquifers is relatively lower than that of the Holocene sediments, and the water yield and water permeability coefficients are relatively low, which is recorded and classified by data.

The lithological composition of the aquifers of the loose sediments of that age, which are mainly distributed on the slopes, slopes, and small ridges and terraces of the Tuul River valley, is dominated by sand and sandy-sandy aggregates. Groundwater, which has a rather limited natural resource in alluvial-proluvium

sediments, is mainly used for drinking purposes by small private tourist camps through shallow wells (up to 12.0-18.0 m deep). The thickness of these aquifers, which have little practical significance, is relatively small and does not exceed 5-7 m, and the borehole yield is 0.2-0.8 l/s, and in very rare cases reaches 1.0 l/s. In some parts of the geological section of the Pleistocene aquifer, multi-year frost heaving occurs.

3**. Aquifers in Neogene sediments**

Red-colored sediments of continental Neogene origin are limitedly distributed in the western part of the Tuul River valley in the vicinity of Ulaanbaatar, covered with Holocene and Pleistocene sediments. The water-bearing rocks consist of sand, gravel, silt, gravel, and sandstone interbedded with clay and silt. The aquifer in the Neogene loose sediments has been relatively well studied in the Ulaanbaatar area..

For example, in the hydrogeological well drilled on the Gandang terrace, groundwater emerged from a compacted layer at a depth of 119 m, while in the well drilled on the terrace, two water-bearing zones were found: the first zone was found at a depth of 19.37 m, and the second zone was found at a depth of 156 m. The water depth detected in the wells drilled on the Gandang terrace reached 87.2-130.0 m. In the Amgalang area, a thin zone with a thickness of 1.0-1.75 m was discovered, and the depth was 1.9-21.25 m, as previously determined.

The yield of the wells drilled in the aquifer in the Neogene loose sediments reaches 2.0-3.8 l/s. The occurrence of water that does not meet the requirements for drinking water by its chemical composition is relatively common.

In the Ulaanbaatar city area, the sediment is found in a clearly visible thickness on the surface of the land on the western bank of the Uliastain River mouth, in the Shar Khad, Maahuur Tolgoi, Gandangiin Denj, Denji Myang Am, and the construction zone of District 1. According to the above research data, the Neogene aquifer is determined to be of no practical importance and has relatively weak water supply.

4. Groundwater with a patchy distribution in the Lower Cretaceous sedimentary rocks.

Geological maps have shown that the patchy distribution of water in the Lower Cretaceous igneous-lake-derived loose sediments is distributed in the area of the ger district and the Khan material of the rear terrace of District 1 along the new bypass road. The water-bearing rocks are mainly green siltstone, sandstone, argillite, brown coal, clay, and basal conglomerate.

Groundwater, which is scattered in the Lower Cretaceous sedimentary rocks, is of little practical importance in the Tuul River valley.

According to the data from a well drilled in 1933 near the First Power Plant (in the area of the current industrial complex), the thickness of the water-bearing layer in the loose sediments of Holocene alluvial origin reached 61 m, and researchers believed that a layer of water-bearing Neogene and Cretaceous sediments was discovered. However, since 2010, individual water supply wells of households and enterprises in the ger districts drilled with Korean gas percussion drilling have revealed a 3-12 m thick aquifer, and the yield of the wells was 0.2-0.7 l/s.

5. Groundwater with a patchy distribution in the Lower-Middle Carboniferous sedimentary-metamorphic rocks

The patchy distribution of groundwater in the Lower-Middle Carboniferous metamorphic sedimentary rocks is distributed throughout the mountains surrounding the Tuul Valley.

The geological section of the sedimentary-metamorphic rocks is intercalated and successively formed by small-fractured sandstones, blue-gray highly igneous sandstones, flysch-like structural units of clay shale,

dark gray andesite-diabase, and thin layers of chert chert, in addition to the mixed composition of siliceous and chert sandstones, there are also occasional pebbles, siliceous chert, reddish brown, and purple jasper,

The water content of the water-bearing fracture zone depends on the thickness of the fracture zone and the activity of water circulation, and is generally sparse and patchy, with very small differences in the yield of wells and boreholes.

In the wells drilled in Tolgoto, groundwater was found in the metamorphic sandstone at a depth of 4.7-15.85 m. The yield of the boreholes varied from 0.07 to 2.5 l/s, with low to very low yields. There are also numerous springs along the fracture zone, with the maximum yield of the springs reaching 14 l/s. In the Chingeltei uplift zone, a 60-meter-deep well drilled at the end of the Denji ridge revealed an aquifer at 13-14 m and 53-54.5 m, with a total thickness of 2.5 m and a yield of 0.35 l/s. Studies of these individual wells show that the waterlogging of the massif is of little practical importance.

Within the study area, the thickness of the Middle-Upper Carboniferous sedimentary-metamorphic rocks is distributed only in the relatively high-elevation mountain range on the side slopes of the Tuul River and its small tributaries, forming a watershed zone in that area.

The chemical composition of the water is hydrocarbonate-sodium, with a predominant mineralization of hydrocarbonate-sodium-calcium reaching 0.1-1.06 g/l.

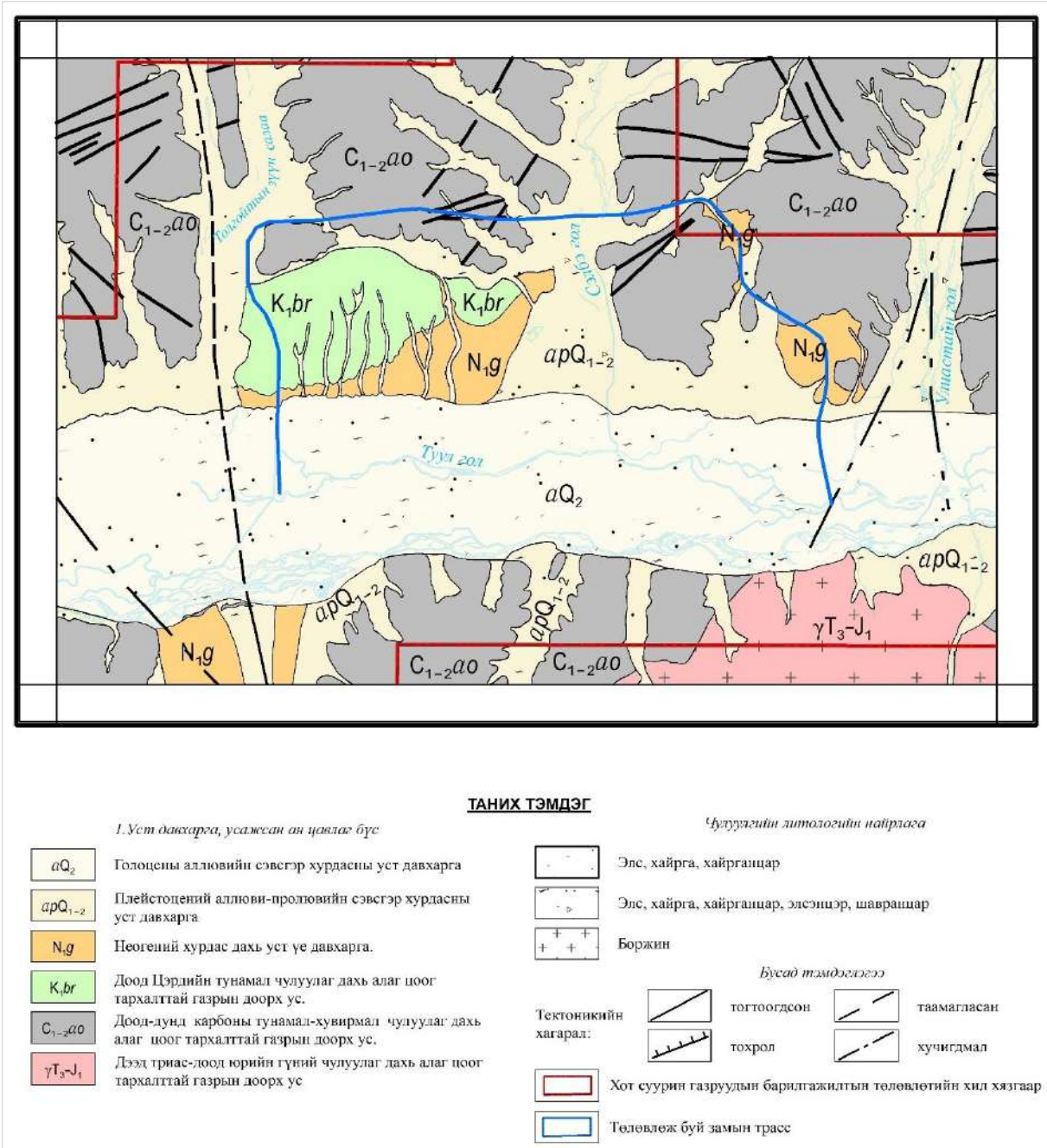


Figure 55. Hydrogeological map of the project area

3.8.2 Groundwater quality and composition

Mongolia's groundwater resources are unevenly distributed and vary in quality, with increasing mineralization from west to east and north to south. This is due to climate change, such as increased precipitation, air temperature, and evaporation, and the basic characteristics of the water-bearing sediments.

The Tuul River Basin Integrated Water Resources Management Plan classifies groundwater around Ulaanbaatar by quality and composition, and uses water chemistry by district.

are grouped by their composition. For example, the water of Sukhbaatar district and Chingeltei district has high mineralization and hardness, while the water of Khan-Uul district has relatively low mineralization, or is fresh and soft water.

The long-term average of the mineralization of groundwater in the territory of Ulaanbaatar city is shown in Figure 3.50 below, categorized by districts.

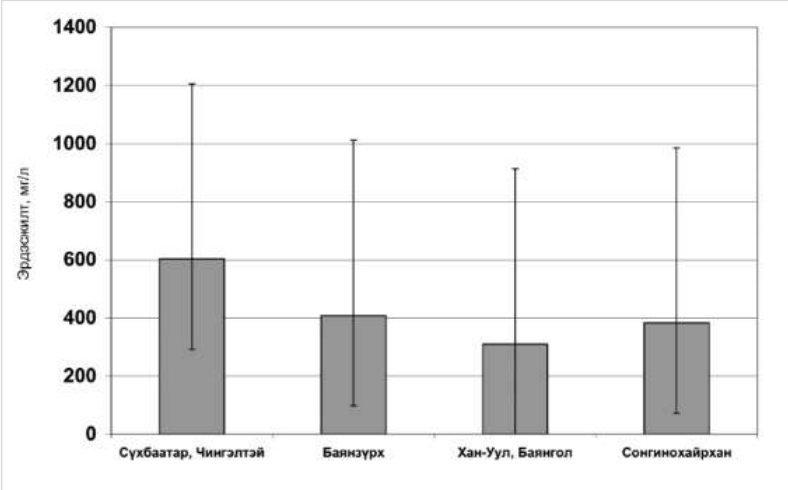


Figure 56. Average mineralization of groundwater around Ulaanbaatar city

The groundwater around Ulaanbaatar is classified as highly saline or moderately mineralized, with some areas containing saline water.

The average groundwater hardness around Ulaanbaatar is shown in Figure 3.51, grouped by district.

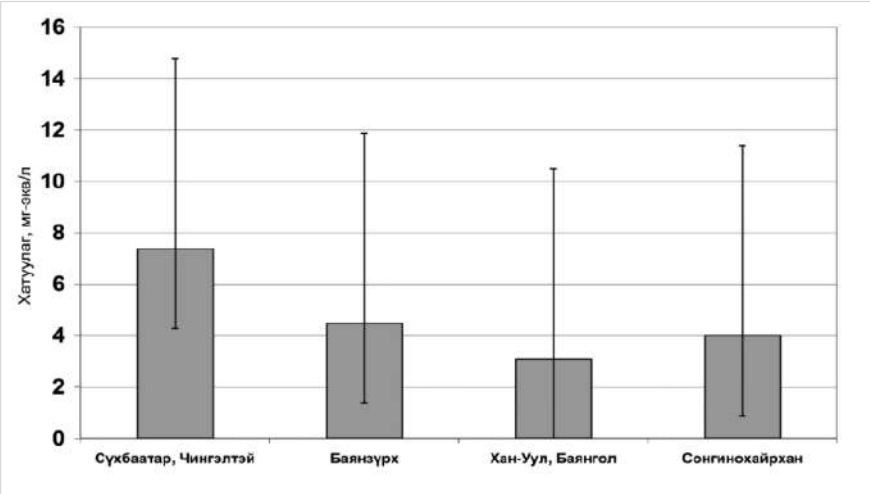


Figure 57. Average groundwater hardness around Ulaanbaatar city

The figure shows that the groundwater in most districts is soft, but in Sukhbaatar and Chingeltei districts it is relatively hard, exceeding the drinking water standard of 5 mg-eq/l and the maximum permissible limit of 7 mg-eq/l. The groundwater environment in the territory of Ulaanbaatar city is shown in Figure 3.52.

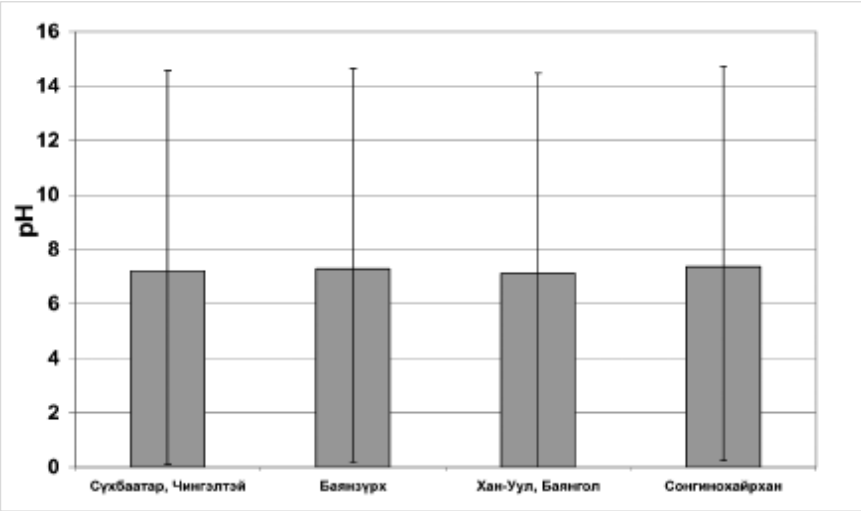


Figure 58. Groundwater pH in Ulaanbaatar city

The drinking water standard specifies a pH of 6.5 – 8.5, and the pH of groundwater around Ulaanbaatar city ranges from slightly acidic to slightly alkaline, or pH=6.5 – 8.5, which meets the requirements of the drinking water standard..

Table 18. Heavy metal concentrations in groundwater

Name of the sampling site	Indicators, мг/л						
	Mn	Fe	Cu	Cd	Pb	Zn	Cr
Airport landing well	<0.01	0.36	0.06	<0.003	<0.02	0.20	<0.01
Chingeltei, terminal well	<0.01	0.13	0.07	<0.003	<0.02	0.20	<0.01
Zaisan, children's prison well	<0.01	0.09	0.08	<0.003	<0.02	0.04	<0.01
Sharkhadny hospital well	<0.01	0.16	0.10	<0.003	<0.02	0.03	<0.01
Dambadarjaa, deep well to the east of the mosque	<0.01	0.27	0.08	<0.003	<0.02	0.04	<0.01
MNS 900:2005	0.1	0.3	1.0	0.003	0.01	5.0	0.05

Table 3.13 shows that the heavy metal content does not exceed the maximum permissible levels specified in the drinking water standards..

3.9. FROST COVER

3.9.1. Research methodology

Research objectives

The study was conducted to identify the current state of soil cover at the site of the "New Bypass" project to reduce congestion in Ulaanbaatar, as well as the chemical and physical properties of the topsoil, the average thickness and resources of the topsoil, the level of pollution, and the negative impacts on the soil cover.

In addition to field survey tools, an aerial photograph was taken using a Phantom 4 pro drone to map the current state of soil distribution in the project area.

Soil sampling: Soil field survey or sampling and observation measurements were completed in the study area in April 2025. Within the scope of this study, soil sampling was carried out at a total of 13 points along the highway route and 13 samples were taken. Soil heavy metal samples were taken in a mixed manner. The samples were taken in accordance with the "General Requirements for Analytical Sampling MNS 3298:1990" standard. Information about the points where soil sampling was carried out is provided in Table 3.14.

Table 19. General information about soil sampling points

Sample Name	Soil type	Solbitsol	
		Length	Latitude
Circular Road-1	Industrially tilled	106° 49' 51.5	47° 53' 54.2
Circular Road-2	Industrially tilled	106° 49' 50.7	47° 54' 42.9
Circular Road-3	Industrially tilled	106° 49' 46.7	47° 55' 20.8
Circular Road-4	Industrially tilled	106° 49' 24.6	47° 56' 19.6
Circular Road-5	Industrially tilled	106° 49' 52.5	47° 57' 33.2
Circular Road-6	Industrially tilled	106° 52' 8.5	47° 57' 40.2
Circular Road-7	Industrially tilled	106° 54' 56.6	47° 57' 21.6
Circular Road-8	Industrially tilled	106° 55' 38.7	47° 57' 37.6
Circular Road-9	Industrially tilled	106° 57' 29.1	47° 57' 25.6
Circular Road-10	Industrially tilled	106° 58' 55.9	47° 56' 0.2
Circular Road-11	Industrially tilled	106° 59' 46.5	47° 55' 26.4
Circular Road-12	Industrially tilled	106° 59' 32.6	47° 54' 37.9
Circular Road-13	Industrially tilled	106° 59' 56.7	47° 53' 9.1

Laboratory analysis: The general chemical and physical properties of the samples taken from the field were determined by the Soil Research Laboratory of "Land Owner" LLC using the following methods:

№	Soil Parameters	Soil Parameters
1	Humidity	Humidity
2	Organic Carbon	Organic Carbon
3	Resistance (pH)	Resistance (pH)
4	Carbonate	Carbonate
5	Electrical Conductivity (EC)	Electrical Conductivity (EC)
6	Mobile Phosphorus	Mobile Phosphorus
7	Mobile Potassium	Mobile Potassium

The highly toxic (Cd, Cr, Pb) and toxic bioactive (Cu, Ni, Zn) elements in the soil were also determined in the above laboratory using the ICP40B method using an Optical Spectrometer (OS) instrument.

Soil mapping: The location of soil sampling points, the distribution of soil cover, and the mapping of soil erosion were performed using the Geographic Information System ArcGIS 10.4.1 software. The mapping was developed at a scale of 1:31000.

3.9.2. Distribution and characteristics of soil cover in the project area

The project area covers the residential area of Ulaanbaatar city, and the highway is 24.4 km long, passing through a variety of soil types, including:

Natural soil types:

1. *Alluvial peat*
2. *Alluvial gravel*
3. *Dark brown silty soil*

Types of compacted soil:

1. *Compacted in residential areas*
2. *Compacted in ger areas*
3. *Compacted in industrial areas*

Compacted in cemeteries

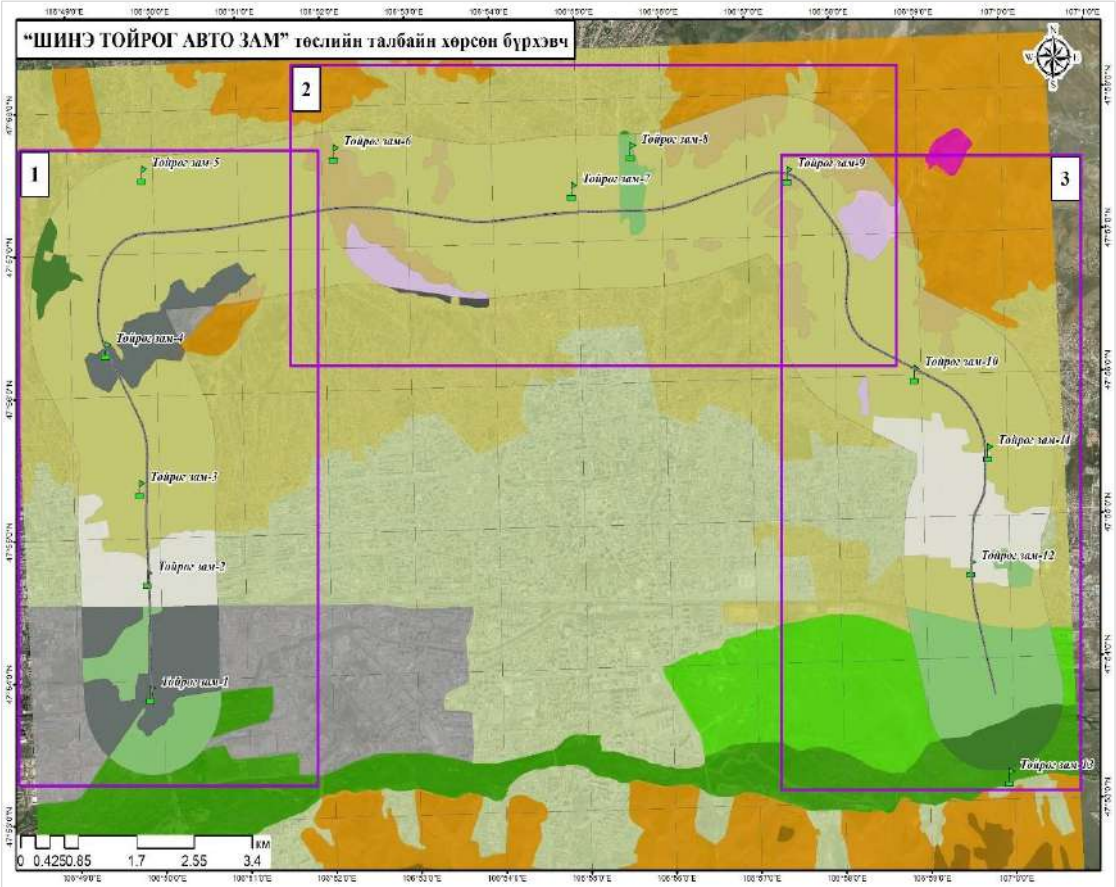


Figure 59. Soil cover of the project area

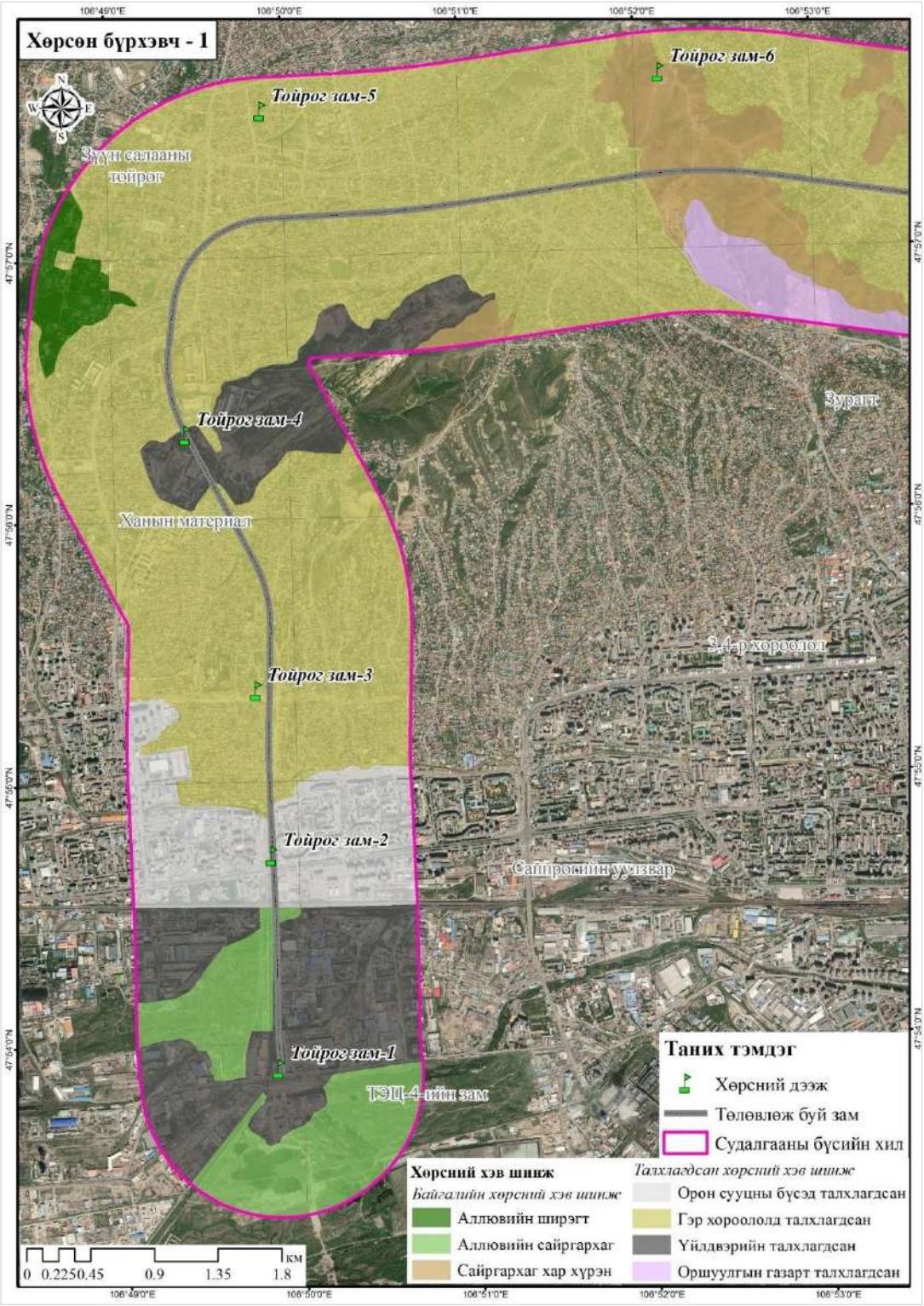


Figure 60. Soil cover of the project area (Part 1)

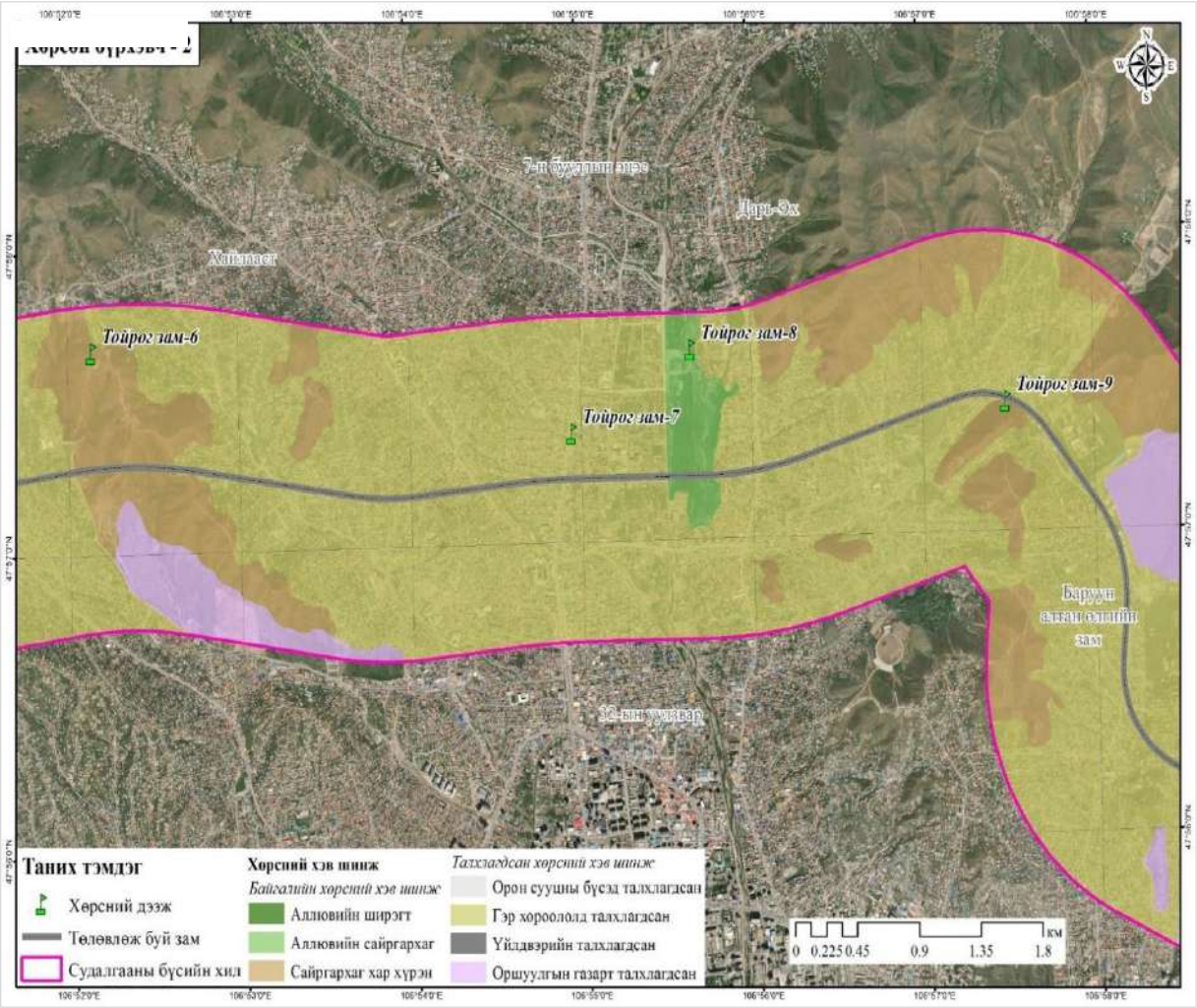


Figure 61. Soil cover of the project area (part 2)

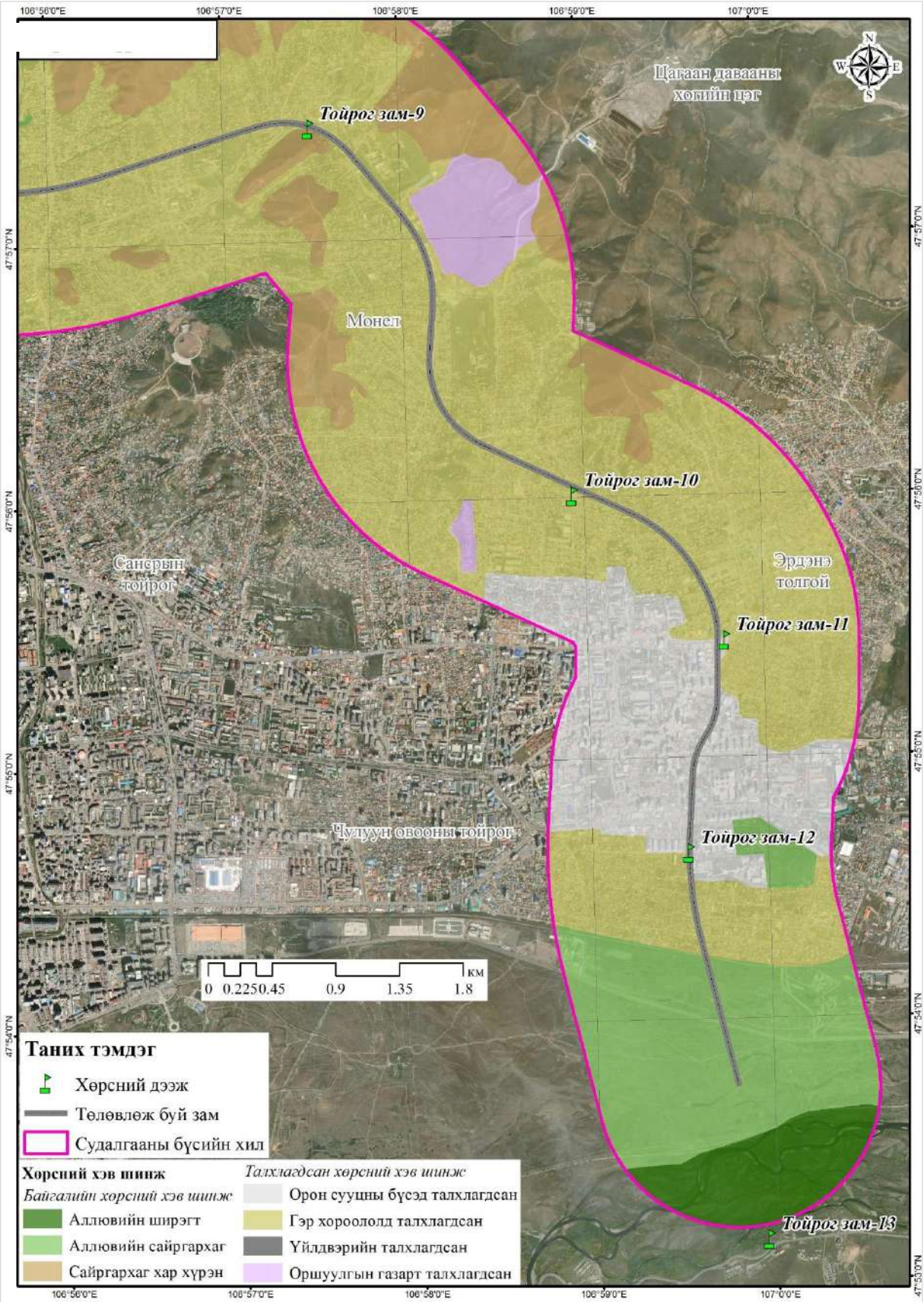


Figure 62. Soil cover of the project area (Part 3)

3.9.3. Surface and layer morphological characteristics of distributed soils

When recording soil morphology, a distinction is made between soil in its natural state and soil that has been eroded.

Soil in its natural state. This type includes soils that have preserved their basic soil structure and have a layer of nutrients. During the field study, Sairgarhag brown soil (Route 6, Route 8) and Alluvial peat soil (Route 13) were encountered. These soils have undergone little technogenic damage, are relatively covered with vegetation, and have managed to maintain their natural appearance.

Soil that has been eroded. Of the 13 soil samples taken during the field study, 10 were soil samples that have been eroded. Soils of this type have completely lost their natural appearance, have no vegetation cover, and no soil layers are distinguished. These samples include samples numbered 1, 2, 3, 4, 5, 7, 10, 11, and 12.

Soil Section No. 1 - Bypass Road 1. Soil cover of the industrial zone. The soil layers are missing and have been eroded due to technical influences..

Figure 63. Soil in the industrial zone

Soil cut #2 - Ring Road 2. Soil compacted in the residential area. Although restoration grass has been done, the first 20cm below is mixed with gravel-clay layer and topsoil, making it untidy..

Figure 64. Soil compacted in a residential area

Soil Section No. 3 - Bypass Road 3. Soil is eroded in the Ger area. Due to technical influences, it has been severely damaged, and clayey sediments have been exposed and mixed. Weeds have settled, but they do not form soil stratification.

Figure 65. Soil compacted in the Ger area

Soil cut #4 - Ring Road 4. The soil in the Ger area is heavily eroded due to technical influences, and snow and rainwater accumulate in the lower part of this area, moistening the soil in this area and creating a dense vegetation cover. However, it does not form a layered structure because it is mixed with construction and household waste..

Figure 66. Soil compacted in the Ger area

Soil Section No. 5 - Detour Road 5. The soil in the Ger Khorool area has been heavily damaged by technical influences and has lost its vegetation cover. However, there are faded soil layers, which are traces of the presence of the old brown soil.

Figure 67. Soil compacted in the Ger area

Soil profile #6 - Detour 6. Light brown soil. Located at the top of the mountain, in the middle of the ger area. Between 0-10 cm lies the A layer, which is quite gravelly. Below that lies the B *layer, which* gradually changes in color. Below that, rocks and clay begin to appear.

Figure 68. Surface and layers of loose brown soil

Soil cut #7 - Toirog road 7. Soil that has been eroded in the Ger area. Located next to the road and heavily damaged by technical and human influences. The soil was compacted for the purpose of grassing, but due to the damage, it has lost its basic structure and only remains with vegetation around the tree planting pits.

Figure 69. Soil compacted in the Ger area

Soil profile #8 - Bypass 8. Alluvial loamy soil. This type of alluvial soil has generally lost its structure due to the erosion of running water. Therefore, it has a mixed texture of gravel and clay, and is moist, so it has good vegetation cover. Household waste is widespread.

Figure 70. Surface and strata of alluvial loamy soil

Soil profile #9 - Bypass road 9. Sairgarkhag brown soil. Located at the foot of the mountain, in the middle of the ger district. Between 0-30 cm lies the A layer and is quite gravelly. Below that, between 30-40 cm lies the B layer, which changes dramatically in color. Below that, rocks and clayey sediments begin to mix.

Figure 71. Surface and layers of Sairgarkhag brown soil

Soil cut #10 - Ring Road 10. Soil is broken in the Ger area. Located next to the road and heavily damaged by technical and human influences. The basic structure of the soil has been lost.

Figure 72. Soil compacted in the Ger area

Soil cut #11 - Ring Road 11. Soil compacted in the Ger area. Located next to the road and heavily damaged by technical and human influences. The basic structure of the soil has been lost.

Figure 73. Soil erosion in the Ger Khorool area

Soil section No. 12 - Ring Road 12. Soil erosion in the residential area. Located next to the road and heavily damaged by technical and human influences. The basic structure of the soil has been lost.

Figure 74. Soils in the residential area

Soil profile No. 13 - Bypass Road 13. Alluvial peat soil. Located on the southern bank of the Tuul River, the A layer is a dark soil layer 0-20 cm thick, rich in plant roots. Below it is a sandy layer washed by river water. No surface debris damage.

Figure 75. Surface and stratification of alluvial peat soil

3.9.4 Soil fertility level and chemical and physical properties

The main indicators that determine the level of soil fertility are soil humus, mobile phosphorus, potassium, and soil chemical properties, such as soil pH, carbonate content, and soil soluble salinity (EC), are determined, and the results of each indicator are described in detail below.

Table 20. Soil chemical properties

Sample Name	pH	Salt, %	ЦДЧ	$CaCO_3$, %	Yalzmag	Absorbed bases		Nutrient elements	
						Ca	Mg	P_2O_5	K_2O
Circular Road-1	8.66	0.06	0.119	0	3.57	25.6	1.8	0.9	37
Circular Road-2	9.36	0.21	0.41	0.82	3.13	9.4	1.4	1.3	16
Circular Road-3	8.95	0.09	0.178	0.99	3.57	19.8	2.6	0.9	20
Circular Road-4	8.48	0.1	0.203	1.65	2.91	20.2	3	2.7	24
Circular Road-5	9.1	0.1	0.2	0.66	4.29	20.5	4.8	2.9	87
Circular Road-6	9.14	0.15	0.295	2.31	1.72	11	4.6	1.5	10
Circular Road-7	7.65	0.02	0.0611	0	1.8	20.8	2.2	1.4	11
Circular Road-8	8.58	0.31	0.615	0	3.93	24	2.3	1.9	26
Circular Road-9	8.91	0.04	0.075	0	2.39	18.2	1.2	1.6	11
Circular Road-10	8.12	0.05	0.091	0	4.05	30	3	1.3	13
Circular Road-11	8.8	0.22	0.433	1.81	1.73	20.6	4.6	1.6	9
Circular Road-12	8.69	0.25	0.502	0	1.99	28	2.2	1.7	8
Circular Road-13	9.25	0.11	0.212	0.49	0.8	13.4	3.2	1.3	13
Suitable Size	5.6-8.4	-	0.26-0.77	2-10	2-5	-	-	2-4	10-50

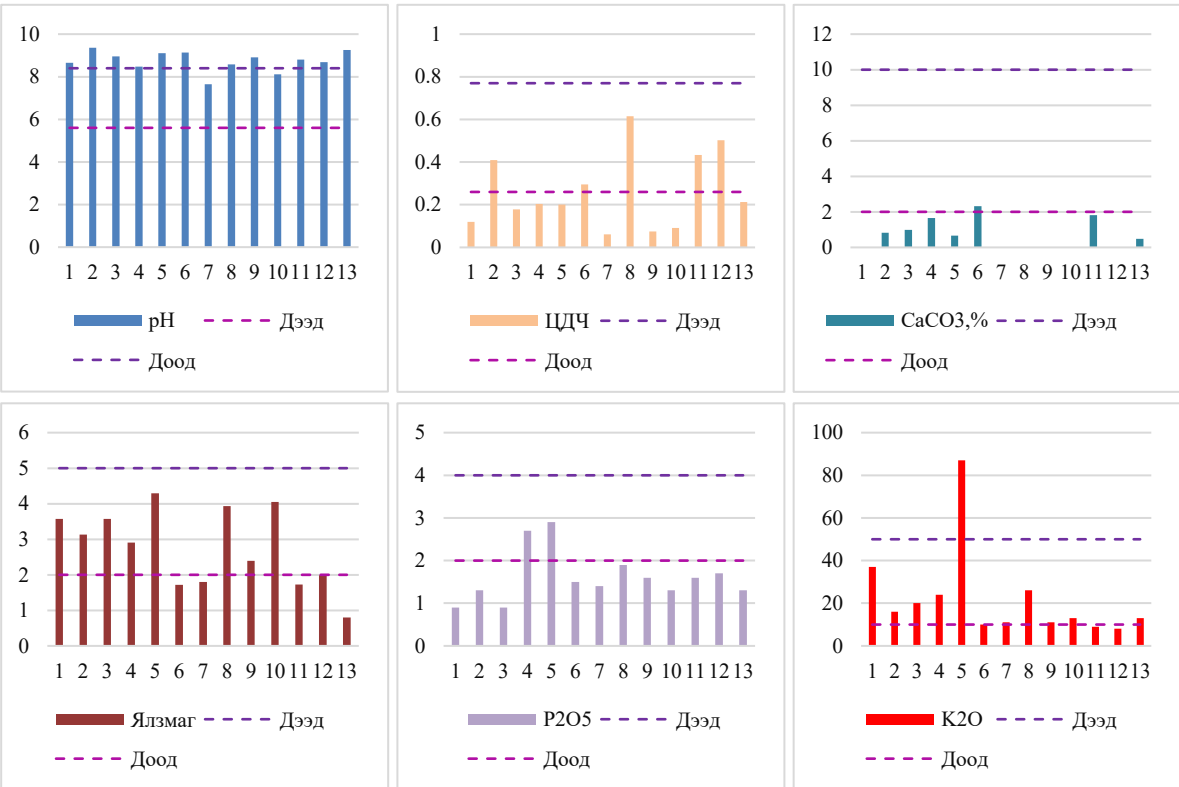


Figure 76. Soil chemical quality indicators

Soil reaction environment (pH): This indicator is an indicator of the acidity or alkalinity of the soil. The pH of the soil determines the chemical processes that occur in the soil

There is a direct and inverse relationship. The soil pH range is 5.6-6.0 is considered moderately acidic, 6.1-6.5 is weakly acidic, 6.6-7.3 is neutral, 7.4-7.8 is weakly alkaline, 7.9-8.4 is moderately alkaline, and 8.5-9.0 is strongly alkaline. In a field study, a total of 13 samples were taken, and

all samples were found to be weakly alkaline, moderately alkaline, and strongly alkaline. Therefore, it can be concluded that the soil is alkaline.

Soil Carbonation: Soil carbonate is a salt of earth metals (Ca, Mg) combined with carbon dioxide (CO3). There are various primary and secondary carbonates in the soil. Of these, the most common forms are calcite (CaCO3) and dolomite [CaMg(CO3)2]. Carbonate indicates whether the soil pH is basic or alkaline. The distribution and amount of carbonate affects soil fertility, erosion resistance, and potential moisture capacity. Soils are classified by carbonate content as 0% non-carbonated, 0-2% weakly carbonated, 2-10% moderately carbonated, 10-25% strongly carbonated, and >25% very strongly carbonated. A soil carbonate content of moderate to <10% is considered suitable. The results of the study showed that the carbonate content of most of the topsoil samples was less than 2%, which is a low level of plant growth.

Soil humus content: Soil humus is a dark, mineral-organic compound formed in the soil from the decomposition of plant and animal remains. Humus is the most important indicator of soil fertility because it contains a wide range of nutrients (especially nitrogen). The humus content is approximately 60% carbon, 6% nitrogen, and macro and micro elements such as phosphorus and sulfur. Soils are evaluated as having <1% very low humus content, 1-2% low, 2-5% moderate, and >5% high humus content. According to the results of the study, the humus content of the soil in the upper layers is 0.8-4.29%, which is generally considered to be reasonable.

Soil salinity (EC): EC or electrical conductivity of the soil is an indicator that determines the amount of salt that is easily soluble in water in the soil (soil salinity). It is an important indicator of soil quality, and EC affects plant yield, plant suitability, plant nutritional quality, and soil microbial activity. Excess salt in the soil affects the soil-water balance and inhibits plant growth. Also, based on the results of soil EC, soil salinity control and improvement are carried out. Soils are classified as slightly saline at 0.0-0.26 dS/m, moderately saline at 0.26-0.77 dS/m, highly saline at 0.77-1.78 dS/m, very saline at 1.78-3.55 dS/m, and extremely saline at >3.55 dS/m, with an EC1:2.5. The results of the study showed that the salinity in all samples was extremely high, and there was no consistent difference between ger and industrial areas.

Soil mobile phosphorus and potassium supply: Nitrogen, phosphorus, and potassium (N, P, K) are the most important primary macronutrients for plants, and the lack of any one of them will result in plant failure. Phosphorus (P) performs a number of functions necessary for healthy plant growth and contributes to structural integrity, crop quality, and seed yield. Phosphorus pentoxide (P2O5) in the soil is available to plants

The most easily used. Phosphorus pentoxide is considered to be in low supply if its content is <1 mg/100g, and in good supply if it is 2-3 mg/100g. Potassium (K) is often called a "quality element" and affects many characteristics of plants, such as quality, size, shape, color, taste, etc. Potassium oxide (K2O) is considered to be in low supply if its content is <10 mg/100g, and in good supply if it is 10-20 mg/100g. The results of the study show that the mobile phosphorus and potassium supply of the soil were low in most samples.

Soil mechanical composition: The water-physical properties of the soil are generally highly dependent on the mechanical composition of the soil. The mechanical composition is expressed as the ratio of solid particles smaller than 2 mm, such as sand, silt, and clay, and the name of the mechanical composition of the soil depends on which fraction predominates. Soils with sandy and sandy mechanical composition have poor water retention capacity and are poor in fertility that can be easily used by plants, but they are better for the free growth and development of

plant roots. The results of the study show that the predominant soil particle composition is sandy and fine sand, with a predominance of large sand and silt fractions.

Table 21. Mechanical composition of soil

Sample Name	Mechanical particles %, particle size mm						
	2-0.25	0.25-0.05	0.05-0.01	0.01-0.005	0.005-0.001	<0.001	<0.01
Circular Road-1	7	41.9	24.5	8.7	7.3	6.2	22.2
Circular Road-2	41.9	26.8	12.8	4.7	7.8	6	18.5
Circular Road-3	11.9	33.1	25.3	6.1	11.8	11.8	29.7
Circular Road-4	43.5	25.6	12.4	2.7	11.5	4.4	18.6
Circular Road-5	11	28.6	23.6	9.7	14.3	12.8	36.8
Circular Road-6	20.4	24.3	16	8.4	20.2	10.7	39.3
Circular Road-7	38.6	20.4	15.4	5	4.7	15.9	25.6
Circular Road-8	24.2	44.7	15.2	5.4	7.7	2.7	15.8
Circular Road-9	17.9	49.1	23.2	0.8	6.3	2.7	9.8
Circular Road-10	6.9	31.4	26.2	21.5	7.2	6.8	35.5
Circular Road-11	33.9	23.7	22.5	3.2	14.5	2.3	20
Circular Road-12	19.9	37.4	21.2	7.3	8.4	5.8	21.5
Circular Road-13	55.9	23.9	6.2	2.5	8.3	3.2	14

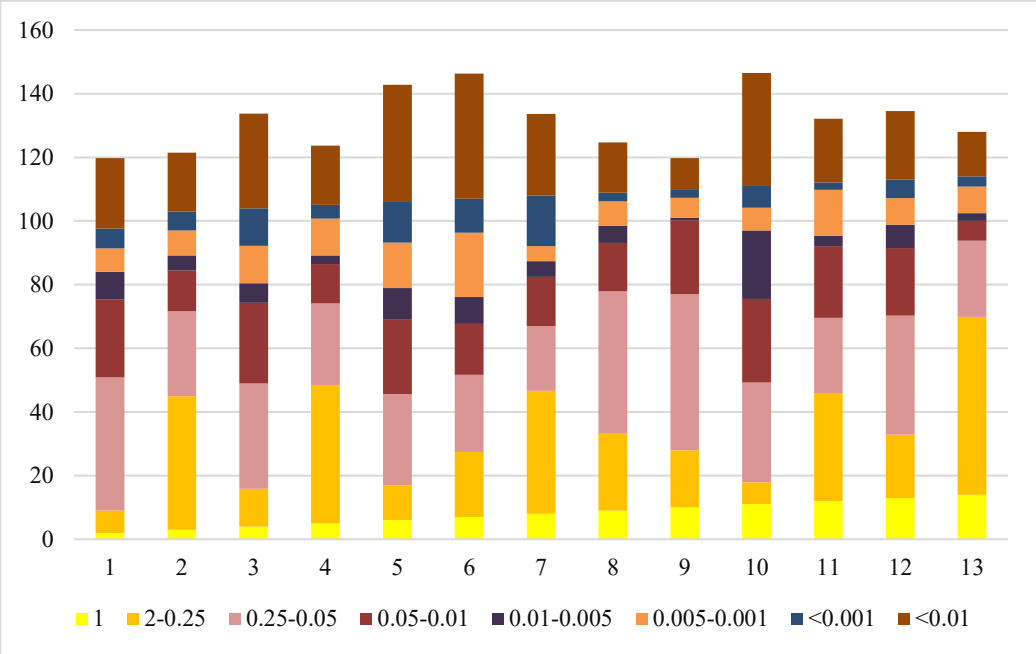


Figure 77. Mechanical composition of soil

3.9.5. Soil cover damage and crusting

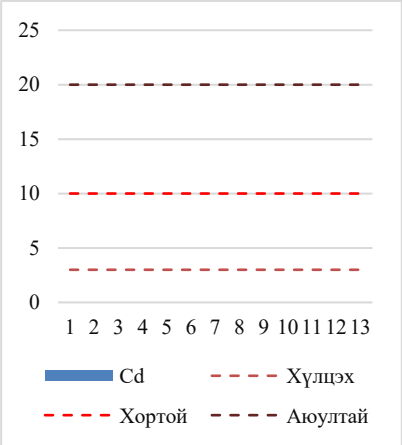
The entire project area is located within the residential area of Ulaanbaatar city, and 10 of the 13 samples fall into the category of damaged soil. Samples that have retained their natural appearance were collected at 3 locations.

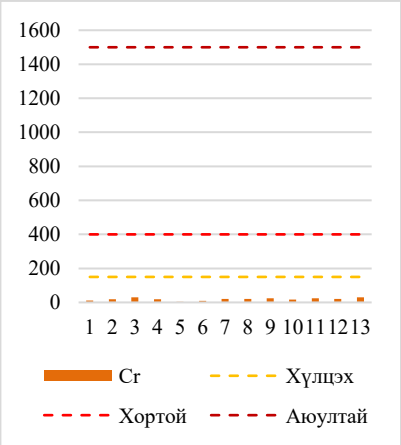
3.9.6. Soil pollution

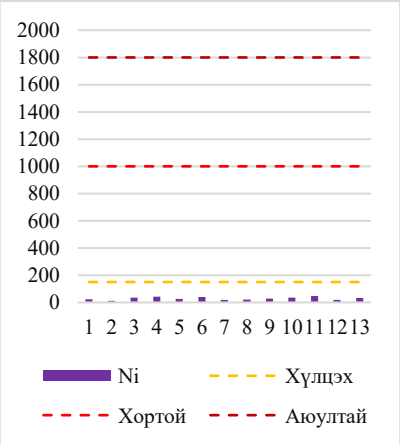
Heavy metal content. Toxic heavy metals include the following 6 heavy metals. These include: lead (Pb), cadmium (Cd), chromium (Cr), zinc (Zn), nickel (Ni), and copper (Cu). Of these, Cd, Cr, and Pb are particularly toxic. Cu, Ni, and Zn are considered toxic bioactive heavy metals. Extremely toxic heavy metals have a high toxicity to living organisms and can cause disease and death if ingested in large quantities. Toxic bioactive heavy metals, on the other hand, are less toxic than extremely toxic heavy metals and must be present in living organisms to a certain extent, but if they accumulate in living organisms in large quantities, they can cause endemic or nosocomial diseases. The results of the study showed that the content of 6 heavy metals did not reach the acceptable level or were not contaminated..

Table 22. Heavy metal content in soil

Sample Name	Cd	Cr	Ni	Pb	Zn	Cu
Circular Road-1	ND	10.3	23.5	15.9	38.5	12.4
Circular Road-2	ND	19.2	12.5	18.6	43.2	22.5
Circular Road-3	ND	29.8	35.8	22.1	50.1	32.6
Circular Road-4	ND	18.5	41.5	20.4	48.6	15.4
Circular Road-5	ND	2.8	26	13.8	28.3	8.9
Circular Road-6	ND	8.6	39.3	17.2	49.5	17.2
Circular Road-7	ND	19.9	17.7	18.6	39.4	14.3
Circular Road-8	ND	19.8	21.5	22.3	18.6	32.5
Circular Road-9	ND	23.8	26.9	11.9	22.3	22.9
Circular Road-10	ND	15.9	35.5	18.6	11.9	15.2
Circular Road-11	ND	25	46.2	20.4	18.6	11.6
Circular Road-12	ND	21.4	18.9	20.1	20.4	18.7
Circular Road-13	ND	30.3	33.3	14.1	20.1	20
Tolerable Content	**3**	**150**	**150**	**100**	**300**	**100**
Toxic Content	**10**	**400**	**1000**	**500**	**600**	**500**
Dangerous Content	**20**	**1500**	**1800**	**1200**	**1000**	**1000**







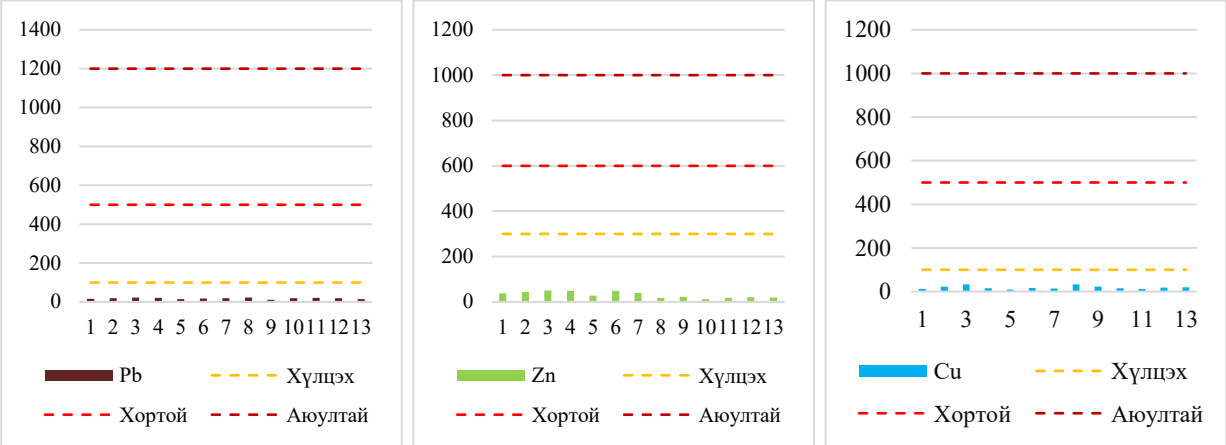


Figure 78. Heavy metal content in soil

Soil hygiene. During the field study, a total of 13 samples were taken from ger areas, residential areas, industrial areas, and healthy areas and analyzed for bacterial contamination, which is an indicator of soil hygiene. According to the laboratory results, a total of 13 samples showed clean or uncontaminated results for E. coli titer (E. coli) and anaerobic titer.

Table 23. Soil health indicators

Sample Name	Bacterial count	Escherichia coli titer (E.coli)		Anaerobic titer	
	Test result	Test results	Pollution level	Test results	Pollution level
Circular Road-1	$1.1*10^4$	1	Clean	0.1<	Clean
Circular Road-2	$2.1*10^5$	1	Clean	0.1<	Clean
Circular Road-3	$1.5*10^5$	1	Clean	0.1<	Clean
Circular Road-4	$3.3*10^4$	1	Clean	0.1<	Clean
Circular Road-5	$2.9*10^5$	1	Clean	0.1<	Clean
Circular Road-6	$1.8*10^4$	1	Clean	0.1<	Clean
Circular Road-7	$2.6*10^5$	1	Clean	0.1<	Clean
Circular Road-8	$1.6*10^4$	1	Clean	0.1<	Clean
Circular Road-9	$4.2*10^4$	1	Clean	0.1<	Clean
Circular Road-10	$2.2*10^5$	1	Clean	0.1<	Clean
Circular Road-11	$2.1*10^5$	1	Clean	0.1<	Clean
Circular Road-12	$1.8*10^4$	1	Clean	0.1<	Clean
Circular Road-13	$3.6*10^4$	1	Clean	0.1<	Clean

3.10. VEGETATION

A field survey of the vegetation cover status of the "New Bypass Highway" project area to reduce congestion in Ulaanbaatar city was completed in March 2025.

The field survey included familiarization with the project area, field measurement, collection of basic vegetation data, and determination and confirmation of the current vegetation status of the affected area.

3.10.1. Vegetation geographical region

The terrain of Ulaanbaatar city belongs to the Mongolian Dagur mountain steppe region in the Mongolian phytogeographic region (Ulziihutag N.).

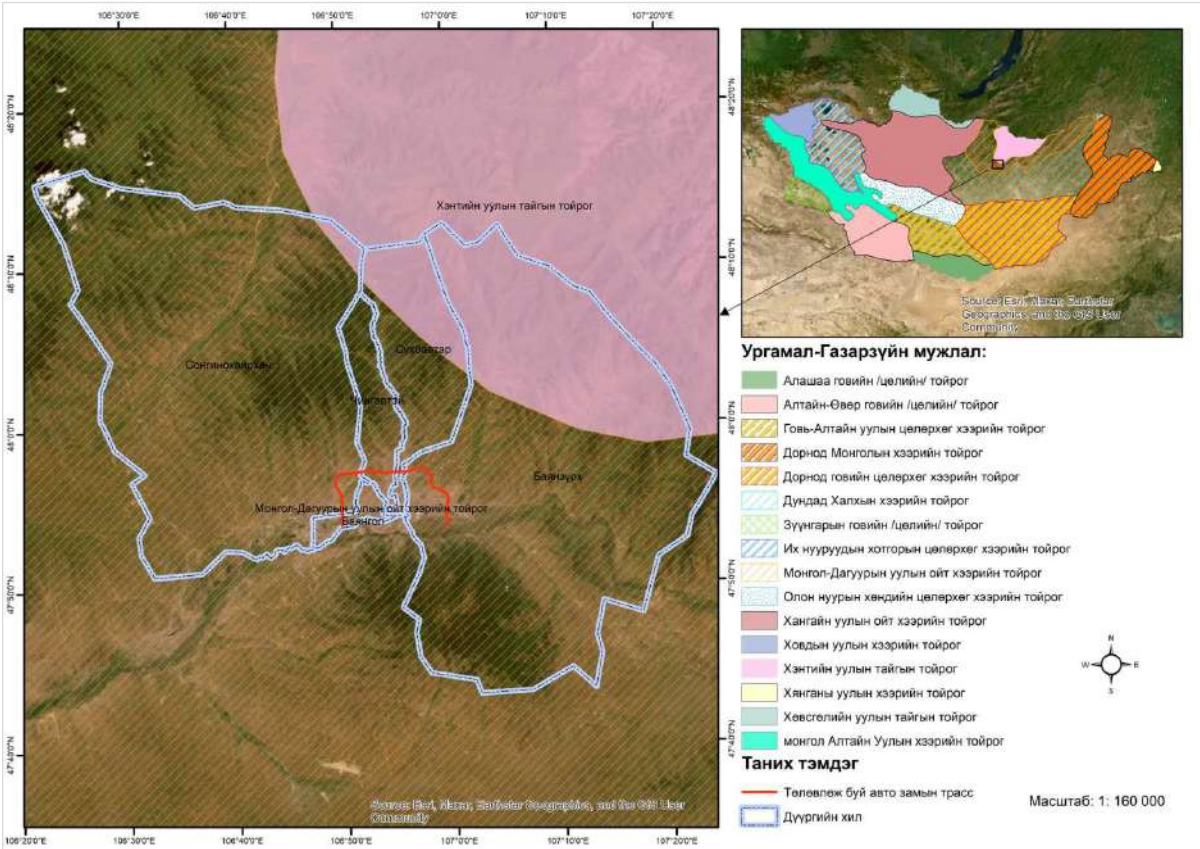


Figure 79. Vegetation of the project area – geographical range

3.10.2 Research methodology

For field research, a 10m x 10m area was selected and a complete geobotanical record was made according to the vegetation research method (Kh. Buyan-Orshikh, 2005). The species composition was determined according to V.I. Grubov (1982) “Mongolian vegetation description book”, the number of herbaceous plants was determined according to O. Drude’s percentage, the number of shrubs was determined according to the individual counting method, the cover of the plant was determined by visual inspection, the height and phenological stage were recorded, and the yield samples were taken in 6 replicates, equal to the number of plants per 1 m2 area and the soil. The obtained samples were dried, weighed and averaged to determine the yield of the area.

3.10.3. The state of vegetation cover has been studied.

In the area around Ulaanbaatar, there are two main vegetation zones: high mountains and mountain steppe or mountain forest-steppe, and one zone called steppe, and an intermediate vegetation zone along the river floodplain meadows.

High mountain zones dominated by spruce, alder, and birch are found on the slopes of mountain peaks and in the gaps between rocks. Larch and cedar are the main forest-forming trees, and

spruce, pine, birch, and alder grow here. The spruce forests found here are considered a rare group in Mongolia.

The vegetation cover belongs to the forest-steppe and meadow types, and the total area is 55.8% or 22.9 thousand hectares, of which 56.8% is larch, 22.2% is cedar, 15.4% is spruce, 1.4% is pine, 2.6% is birch, and 1% is shrubs.

The steppe vegetation forms vertical zonation at the sub-type level depending on the location, difference in latitude, and altitude.

Dry steppes are located at the foothills, slopes, and wide valleys of the mountains, meadow steppes are located along the moist slopes of the lower forest edges, and mountain steppes are located along the rocky peaks, ridges, and slopes of the mountains. In the mountain steppe, Lena's sedge and large-leaved sedges dominate, while in the dry steppe zone, small-leaved sedges such as sedge, sedge, bridle grass, and sedge are common.

In the temperate zone, along river valleys, stream banks, and swamps, swampy meadows with a variety of grasses, meadows with sedge and sedge, and meadows covered with sedge alternate.

In the vicinity of Ulaanbaatar, Siberian bird's-foot trefoil Polypodium sibiricum, Silver fern Aleuritopteris argentea, Turchaninov's sorghum Melica turczaniviniana, Mountain onion Allium altaicum, Hyena's spring yellow Gagea hiensis, Corallorhiza trifida, Creeping primrose Goodyera repens, Green hyacinth Coeloglossum viride, March orchid Dactylorhiza salina, Spring grass Spiranthes amoena, Single-leaved primrose Malaxis monophyllos, Red-seeded primrose Actaea erythrocarpa, Greater celandine Chelidonium majus, Pink primrose Rhodiola rosea, Four-leaf primrose Rhodiola quadrifida, Siberian rowan Sorbus sibirica, Succulent Ortuosa Oxytropis pseudoglandulosa, Swamp primrose Astragalus uliginosus, Double-flowered violet Viola biflora, Higmel violet viola dissecta, Mongolian dogar Caryopteris mongolica, Natural Banzdoo There are 23 species of rare and endangered plants, including Saussurea baicalensis, Orkher Bulgan plate, and Antennaria dioica.

The flora of the Khentii taiga is classified by ecological group: 324 species of humid and humid-arid plants (33.16%), 176 species of marsh plants (18.01%), 20 species of aquatic plants (2.05%), 214 species of cold plants (21.9%), and 163 species of stony plants (16.69%). 52 species of dry plants (5.32%) and 8 species (0.82%) penetrate the taiga edge.

In the foothills of the low and medium-altitude low mountains on the outskirts of the Khentii Mountains, grasslands such as sedge-sedge, sedge-sedge-small-sedge, small-sedge, small-sedge, sedge In the valleys between the mountains and in the steppes of the depressions, there are meadows with sedge-grass, sedge-small sedge,

3.10.4. Current status of vegetation in the project area

During the study, the highway route was inspected and recorded at 5 points to determine species composition, vegetation cover, and biomass. When selecting sites for field studies of vegetation cover, the principles of ecological-phytocoenological research were used, taking into account the growing environment, plant diversity, land use diversity, and cultivation. 90% of the project area has lost its natural vegetation and has been damaged or degraded.

The project area and the surrounding area have a mountain steppe vegetation in terms of plant ecology and vegetation cover, which has changed depending on the type of use.

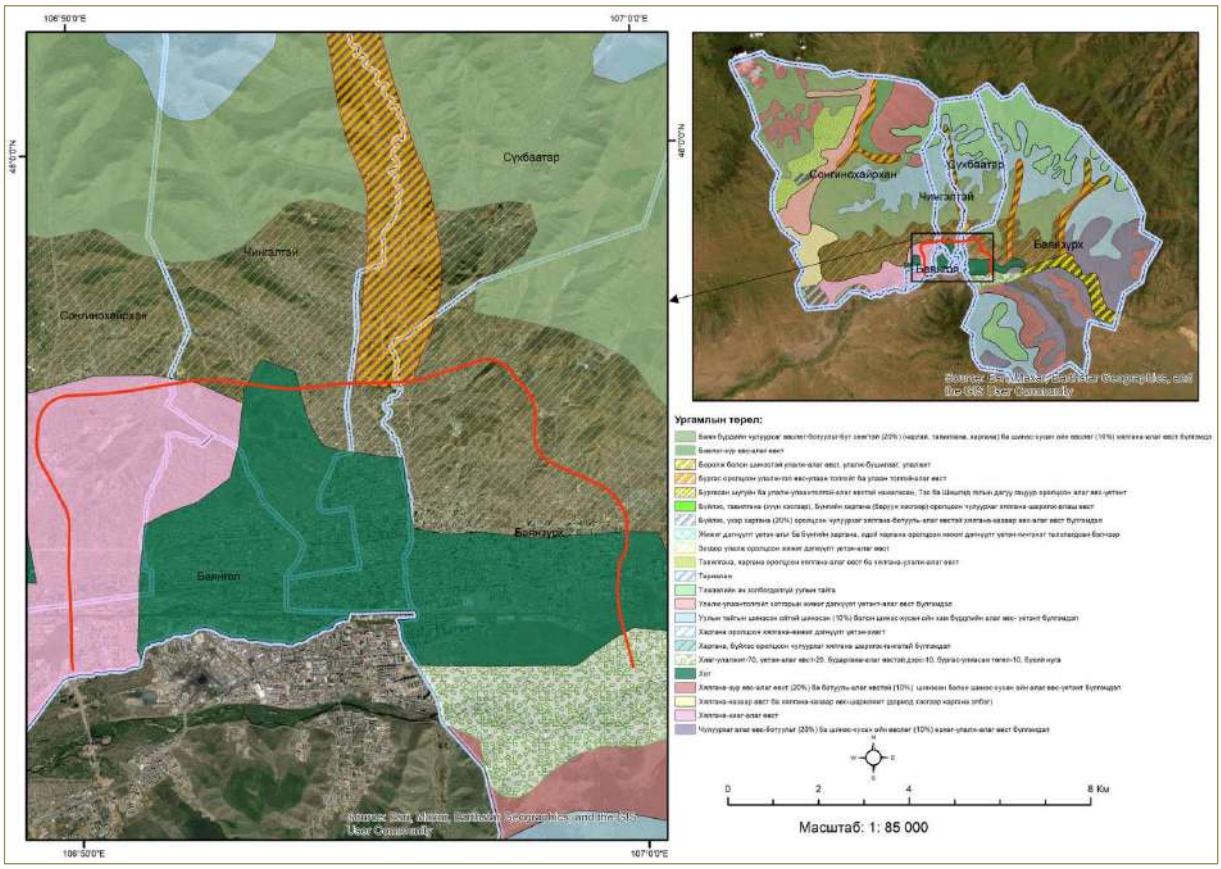


Figure 80. Vegetation of Ulaanbaatar city

Plant groups, genera, and species composition

The vegetation map was prepared by combining information such as geographic information system Arc GIS 10.5, topographic map (M1:100000), Sentinel-2 satellite image of July, and SNAP6.0 programs, and was prepared based on field research and vegetation cover classification.

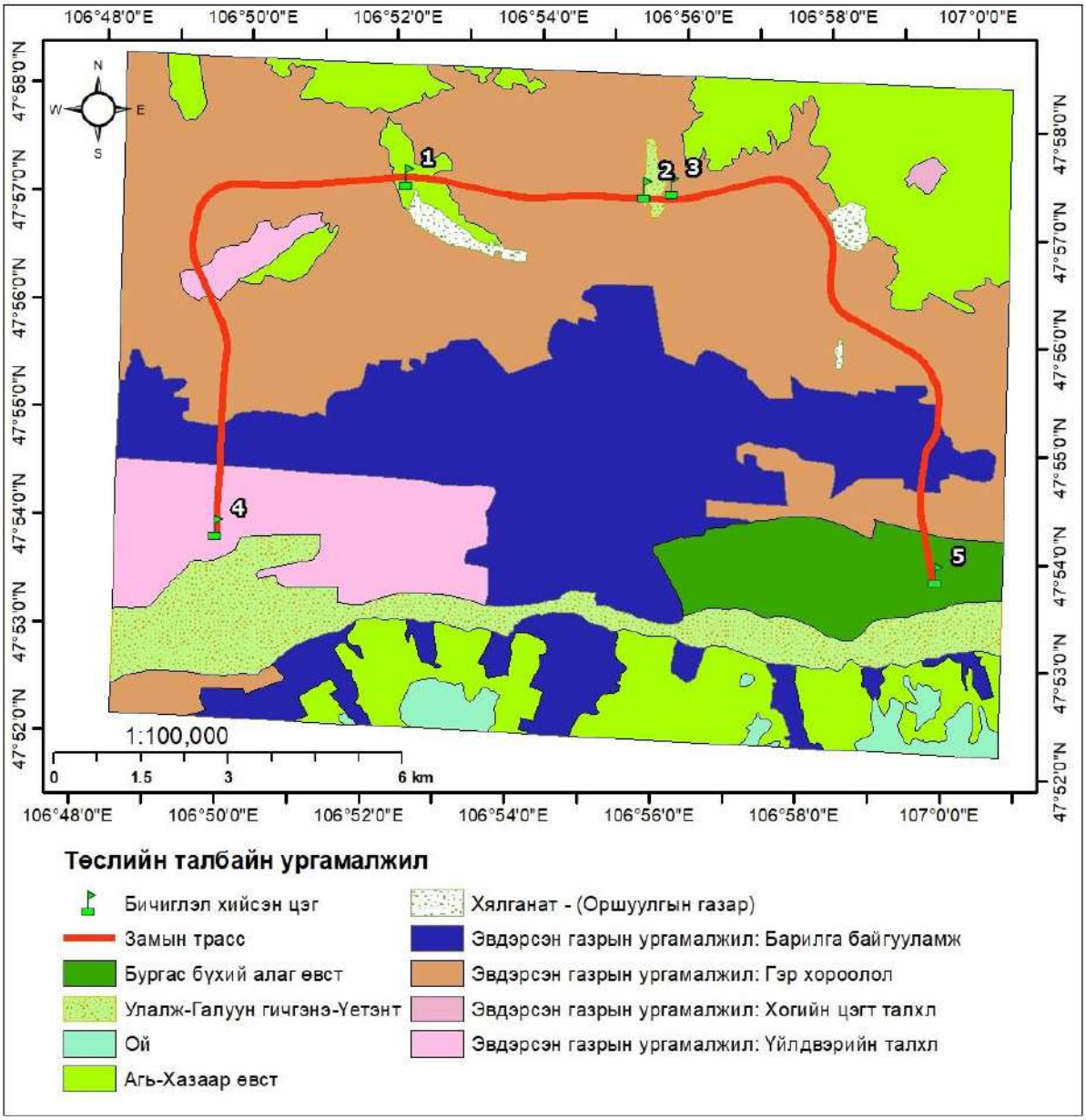


Figure 81. Vegetation of the project area

RESEARCH POINT -1

Figure 82. Mountain steppe sedge-grass community

Mountain steppe agi – bridle grass community. Vegetation cover is 65%, with 29 species of plants (record 1) recorded. Plants such as imt gichgene, shireg ullaj, agi, azaulin gichgene from the agave grasses grow, from the agave grasses, bridle grasses, shiveet xylanga, botuul, and from the agave grasses, arzgar sogsoolj, umkhi sarmilj, gelygar xylanga, tsek tuumtana grow. Yield is 3.5 t/ha. Plant height is 5-15 cm, small-leaved kharagana grows up to 40-80 cm. Pasture fertility is medium. Due to the arid climate, the mountain sarmilgan community has undergone succession and dried up, forming an agri-bridle grass community.

Table 24. Note -1

Plant species composition					
№	Latin name of the plant	Mongolian plant names	Cover,%	Category	Useful
1	Arenaria capillaris	Devhergen kuendsagaan		Grass	Plenty
2	Artemisia adamsii	Mukhii sarmilj	1	Human	Plenty
3	Artemisia drancunculus	Gyalgar sarmilj	1	Human	Plenty
4	Artemisia frigida	Agì	20	Grass	Plenty
5	Astragalus adsurgens	Numraa hunchir		Grass	Plenty
6	Bassia dasyphylla	Mananhamhag		Human	
7	Caragana microphylla	Jijigalit hargana		Grass	Plenty
8	Caragana pygmeae	Altan hargana		Grass	Plenty
9	Carex stenophylla	Nariin ulalj	3	Human	Plenty
10	Chamaerhodos erecta	Teh tuumtana	1	Grass	Plenty
11	Cleistogenes squarrosa	Derveen khazaargana	25	Grass	Plenty
12	Convovulus ammonii	Ammonium sedergene		Grass	Plenty
13	Heteropappus hispidus	Arzgar sogsoolj	1	Human	
14	Iris tigrida	Bartsookhor kihildag		Grass	Plenty
15	Koeleria macrantha	Daagansõul	3	Grass	Plenty
16	Leymus chinensis	Nangiad hunge	3	Pasture	Plenty
17	Oxytropis oxyphylla	Shovkh hlavatsart ortuuz		Pasture	Plenty
18	Polygonum angustifolium	Narrow-leaved tarana		Pasture	Plenty
19	Potentilla bifurca	Imt gichgene	1	Pasture	Plenty
20	Potentilla nivea	Tsagaalin gichgene	1	Pasture	Plenty
21	Pulsatilla turczaninovii	Turchaninov's yargui		Pasture	Plenty
22	Salsola collina	Tolgodin budraa		Humanity	Plenty
23	Scorzonera austrica	Narrow-leaved havisgana		Pasture	Plenty
24	Sibaldiathe adpessa	Nalchgar kereen khoshuu		Pasture	
25	Stelleria dichotoma	Atsen ajigana		Pasture	Rare
26	Stipa krylovii	Shiveet khilgana	5	Pasture	
27	Thermopsis lancelaota	Tarvagan shiir		Pasture	Plenty
28	Thymus gobicus	Gobiin ganga		Pasture	Plenty
29	Tripolium lupinaster	True-leaf clover		Pasture	

Research point -2

Figure 83. Trees and shrubs planted along the route

Along the road route, there are paved areas, buildings, and household fences, and the natural native plants have been destroyed and green spaces and trees and shrubs have been planted. Here, aspen trees have adapted to grow up to 2-5m tall, and elm and willow have been planted from shrubs. Willows and poplars have spread along the Selbe River and are protected by fences. In this fence, a 20-40cm high plant canopy has formed, increasing the diversity of species and creating a natural native community.

RESEARCH POINT -3

Figure 84. Selbe River floodplain

It spreads along the banks of the Selbe River and has a community of Ulalj-galuun gichgene-paugten (Hordeum brevisubulatum, Agrostis trinii), the cover of the tusga is 95-100%, 33 species of plants (record-2) were recorded, the yield was 4.3 c/ha. The dominant plants in the field are Ulaantolgoi, nugyn bieleg, nangiad hunge, and Holtsontsetseg, syreg ulalj, galuun gichgene, and tsagaan bagvaahai from the grasses. Willows are sparse along the river and can reach a height of 1.5 m - 2.4 m. The river floodplain is not affected by grazing, but has been degraded by human factors.

Table 25. Note-2

Plant community: Buckwheat with buckwheat-barley-grass (Hordeum brevisubulatum, Agrostis trinii)				
№	Plant name	Vegetation cover		Category
1	Elymus dahuricus	1	2	pasture plants
2	Medicago falcata		1	pasture plants

3	Primula farinosa			pasture plants
4	Odontites vulgaris			pasture plants
5	Parnasia palustris	2	5	useful plant
6	Plantago major	5	5	useful plant
7	Poa pratense	10	15	pasture plants
8	Polygonum aviculare	1		pasture plants
9	Potentilla anserina	20		useful plant
10	Hordeum brevisubulatum	20	15	pasture plants
11	Halerpestes sarmentosa	3		pasture plants
12	Ranunculus grandis	1	5	pasture plants
13	Sausurea salsa			pasture plants
14	Taraxacum leuncanthum	1	3	pasture plants
15	Carex enervis	2		pasture plants
16	Triglochin maritima	1		pasture plants
17	Puccinella tenuiflora	1		pasture plants
18	Carex duriuscula	15	20	pasture plants
19	Agrostis trinii	10		pasture plants
20	Salix miyabeana			pasture plants
21	Salix rhamomnifolia			pasture plants
22	Sanguisorba officinalis			useful plant
23	Gentiana aquatica	1		pasture plants
24	Vicia cracca	2		pasture plants
25	Carum carvi			pasture plants
26	Glaux martimata			pasture plants
27	Cirsium arvense		1	pasture plants
28	Beckmannia syzigachne			pasture plants
29	Urtica cannabiana			useful plant
30	Artemisia integrifolia	4	15	pasture plants
31	Astragalus melilotoides			pasture plants
32	Leymus chinensis		10	pasture plants

Research point -4

Figure 85. Dry meadow plain (Tuul river)

The site is located in the wide valley of the Tuul River, and has a sedge-grass community with mountain dry meadow willow (Potentilla anserina, Allium senescens, Artemisia frigida), with a 52% cover of the tusga, 17 species of plants (record-3) were recorded, and the spring yield was 1.9 t/ha. The height of the vegetation cover was 5 cm, and one layer was observed. The dominant plants were the sedge-grass, the nangiad hunge, the daagansul, the medicinal sod, the ag, the mangir, and the young plants. In the flooded areas, willows grew in small parts, growing to a height of 1.5-3 m. Human and technical impact is high.

Table 26. Note-3

Plant community: sedge family				
№	Plant names	Mongolian names	Cover, %	Category
1	Allium senescens	Mangir	1	useful plant
2	Androsace incana	Buural gandbadraa		useful plant
3	Artemisia frigida	Agi	1	useful plant
4	Carex duriuscula	Shireg ulalj	25	useful plant
5	Festuca lenensis	Lenin botuul	1	pasture plants
6	Iris tigrida	Bartsookhor tsakhildag		useful plant
7	Koeleria macrantha	Daagan tömë	5	pasture plants
8	Oxytropis myriophylla	Tumennavchit ortuuz		pasture plants
9	Potentilla acaulis	Navtuul gichgene	2	useful plant
10	Potentilla anserina	Galuun gichgene	10	useful plant
11	Potentilla nivea	Tsagaalin gichgene		useful plant
12	Potentilla sercea	Torgon gichgene	1	useful plant
13	Pulsatilla bungeana	Bungiin yargui		useful plant
14	Stipa krylovii	Shiveet xylgana	1	pasture plants
15	Taraxacum officinalis	Emin baguakhai		useful plant
16	Thalictrum simplex	Egel burjgar	0	useful plant
17	Veronica incana	Buural gandbadraa	0	useful plant

Research point -5

Figure 86. Appearance of the damaged area

The species is distributed in the last 2-3 years in unused fields and around the edges of household yards, with a young age group, 10-90% cover, 24 species of plants (record-4) were recorded, and the yield was 3.6 t/ha. The dominant plants in the field are sedge, sedge, and sedge, and the common grass is arzgar sogsoolj and imt gichgene. Among the young plants, goat wormwood, white-tailed sedge, hilly sedge, carvan, green sedge, small sedge, green sedge, and reverse sedge fill the damaged and degraded areas.

is growing. There is no pasture land, it has been degraded by human activities and technical influences. Filler plants have grown along the edges of the fields and between the fields, restoring their natural balance.

Table 27. Note 4

№	Latin name of the plant	Mongolian plant names	In the fenced area	Category
1	Achnatherium splendens	Glyar ders	*	pasture plants
2	Artemisia drancunculus	Glyar wormwood	*	humanoid plant
3	Amaranthus retroflexus	Urvuu gagdai	*	humanoid plant
4	Artemisia adamsii	Smelly wormwood	*	humanoid plant
5	Artemisia anetifolia	Bojmog wormwood	*	humanoid plant
6	Artemisia annua	Summer wormwood	*	humanoid plant
7	Artemisia frigida	Aggi	*	элбэг
8	Artemisia macrocephala	Tsarvan	*	pasture plants
9	Artemisia pectinata	Shulkhii wormwood	*	humanoid plant
10	Atriplex sibirica	Siberian shornoi	*	humanoid plant
11	Bassia dasyphilla	Manan hamkhag	*	humanoid plant
12	Carex duriuscula	Shireg ulalj	*	pasture plants
13	Chenopodium acuminatum	Shorgor luul	*	humanoid plant
14	Chenopodium aristatum	Sortoy luul	*	humanoid plant
15	Chenopodium viride	Nogoon luul	*	humanoid plant
16	Chloris virgata	Sarvaan vele	*	humanoid plant
17	Heteropappus hispidus	Arzgar sogsoolj	*	pasture plants
18	Lappula myosotis	Dursgaljirhuu zanguu	*	хүмүүнсэг ургамал
19	Leymus chinensis	Nangiad kunnge	*	pasture plants
20	Potentilla bifurca	Imt gichgene	*	pasture plants
21	Reagrostis minor	Baga khurgalj	*	humanoid plant
22	Salsola collina	Tolgodon budraa	*	humanoid plant
23	Setaria viridis	Nogoon kala budaa	*	humanoid plant
24	Urtica cannabianna	Oslog halgai	*	humanoid plant

Тайлбар: * - *тохиолдоно*

3.10.5. Plant classification

The vegetation field survey was conducted in late March 2025, taking into account the previous baseline survey and recording the potential occurrences along the route.

The survey recorded 83 plant species from 63 genera belonging to 24 families in the project area and its vicinity. The number of species, cover and density are highly dependent on the weather characteristics of the year, so the number of plant species may vary slightly depending on the specific time of the field survey in a given year.

Table 28. Plant taxonomy

Last name	Type	Latin name of the species	Mongolian name of the
Alliaceae	Allium	Allium odorum	Onion
		Allium senescens	Mangir
Amaranthaceae	Amaranthus	Amaranthus retroflexus	Inverted Gagdai
	Buplerium	Buplerium bicaule	Two-stemmed Berish

Apiaceae	Sphallerocarpus	Sphallerocarpus gracillis	Cow Anise
Asteraceae	Artemisia	Artemisia adamsii	Smelly Wormwood
		Artemisia annua	Summer Wormwood
		Artemisia anthifolia	Bozhmog Wormwood
		Artemisia drancunculus	Glazed Wormwood
		Artemisia frigida	Aggi
		Artemisia glauca	Gray Wormwood
		Artemisia lacinata	Salbant Wormwood
		Artemisia leucophylla	Tsagaalin Wormwood
		Artemisia macrocephala	Tsarvan
		Artemisia pectinata	Shulhi Wormwood
		Artemisia tanacetifolia	Maralkhai Wormwood
	Heteropappus	Heteropappus hispidus	Arzgar Sogsoolj
	Inula	Inula britanica	British Zoosontsetseg
	Saussurea	Saussurea salicifolia	Burgas Leafy Plantain
		Saussurea sp	Plantain
	Scorzoneria	Scorzoneria ausrtica	Austrian Havisgana
	Senecio	Senecio vulgaris	Egel Zhaimon
	Serratula	Seratula centauroides	Khongorzularhuu
	Taraxacum	Taraxacum mongolicum	Mongol Bagvaahai
	Youngia	Youngia tenuifolia	Nariin Ishit Yungi
Brassicaceae	Dontostemon	Dontostemon integrifolius	Buhelnavchit Bagdai
	Lepidium	Lepidium ruderale	Sug Tsanguu
Chenopodiaceae	Atriplex	Atriplex sibirica	Siberian Shornoi
	Chenopodium	Chenopodium acuminatum	Shorgor Luul
		Chenopodium aristratum	Sortoy Luul
		Chenopodium viride	Nogoon Luul
	Salsola	Salsola collina	Tolgodin Budraa
Convolvulaceae	Convolvulus	Convolvulus arvense	Deugiin Sedergene
Cyperaceae	Carex	Carex duruiscula	Shireg Ulalj
		Carex sp	Ulalj
Euphorbiaceae	Euphorbia	Euphorbia discolor	Alag Milk Grass
Fabaceae	Astragalus	Astragalus adsurgens	Numraa hunchir
	Medicaga	Medicaga falcata	Yellow alfalfa
		Medicaga ruthenica	Russian alfalfa
	Thermopsis	Thermopsis dahurica	Daugur marvaganshiyr
	Trifolium	Trifolium lupinater	Shokhoylog hohoongor
	Vicia	Vicia cracca	Agagan gish
Geraniaceae	Eriodium	Eriodium stephanii	Stepan's elephant's plate
	Geranium	Geranium pratense	Nugun shimtegle
		Geranium sibiricum	Siberian Primrose
Iridaceae	Iris	Iris bungeana	Bungiin Iris
Lamiaceae	Cymbaria	Cymbaria dahiricum	Dagur Queen Flower
	Dracocephalium	Dracocephalium foetidium	Smelly Scented Flower
	Linaria	Linaria buriatica	Buryat Sheep's-foot Twig
	Phlomes	Phlomes tuberosa	Siberian Gunkhukh
	Scutelleria	Scutelleria sibirica	Gobiin Ganga
	Thymus	Thymus gobicus	Siberian Flax
Linaceae	Linum	Linum sibircum	Fine-leaved Cotton Plant
Onagraceae	Chamaenerion	Chamaenerion angustifolium	Great Tavansalaa
Plantagoceae	Plantago	Plantago major	Glyar Ders
Poaceae	Achnatherium	Achnatherium splendens	Saman Erkhog
	Agropyron	Agropyron cristatum	Sorguy Sogoovor
	Bromus	Bromus inermis	Derveen Brizaar Grass
	Cleistogenes	Cleistogenes squarrosa	Siberian Khiag
	Elymus	Elymus sibiricus	Daagansuul
	Koeleria	Koeleria macrantha	Nangiad Khiag
	Leymus	Leymus chinensis	Tuujhuuni Bodylage
	Poa	Poa attenuatta	Baga Khurgalj
	Reagrostis	Reagrostis minor	Nogoon Kak Rice
	Setaria	Setaria viridis	Molkhoo Sheerenge

	Silene	Silene repens	Shiveet Khylgane
	Stipa	Stipa krylovii	Unegen Tailed Tarna
Polygonaceae	Polygonum	Polygonum alopecuroids	Suman Leafy Tarna
		Polygonum convolvulus	Namkhan Moleure
	Rheum	Rheum undulatum	Buural Dalantovch
Primulaceae	Androsace	Androsace incana	Durgaljirhuu Zanguu
	Lappula	Lappula mysotis	Japanese Hotsontsetseg
Ranunculaceae	Ranunculus	Ranunculus japonicus	Tseh Tuumtana
Rosaceae	Chamaerhodes	Chamaerhodes erecta	Navtuul Gichgene
	Potentilla	Potentilla acaulis	Galuun Gichgene
		Potentilla anserina	Imt Gichgene
		Potentilla bifurca	Maralzgana Leafy
		Potentilla tanacetifolia	Emin Sod grass
	Sanguisorba	Sanguisorba officinalis	Smelly curl
	Thalictrum	Thalictrum foetidium	Yellow drill
Rubiaceae	Galium	Galium verum	Brown gandbadra
Scrophylluriaceae	Veronica	Veronica incana	Rose nettle
Urticaceae	Urtica	Urtica cannabianna	Siberian Primrose

3.10.6. Current status of rare and critically endangered plant protection

The extremely rare and rare plants listed in the "Red Book of Mongolia" (2013), the "Compilation of the Red List of Mongolian Plants and Conservation Plans" (2012), and the plants listed in the Red List (Nyambayar et al., 2012) that have not been studied internationally, have not been classified as regionally endangered, and have not been recorded.

39 species with rare status included in the "List of Useful Plants" approved by the Minister of Environment and Forestry, Order No. A/603 of 2022 (Agropyron cristatum-Saman yerkhög, Allium senescens-mangir, Amaranthus retroflexus-reverse gagdai, Artemisia adamsii-Smelly wormwood, Artemisia annua-summer wormwood, Artemisia drancunculus-glossy wormwood, Artemisia frigida-Agì, Artemisia pectinata-shulkhyi wormwood, Buplerium bicaule-two-stemmed berish, Convolvulus arvense-rural bindweed, Cymbaria dahiricum-Dagur queen flower, Dracocephalium foetidium-smelly shimedeg, Galium verum-yellow burdock, Geranium sibiricum-Siberian shimteglei, Goniolemon speciosum-goo yult, Inula britanica-British zoosontsetseg, Iris bungeana-Bungi iris, Lappula mysotis-Melodious yarrow, Linaria buriatica-Buryat yarrow, Medicaga falcata-Yellow alfalfa, Plantago major-Great yarrow, Potentilla acaulis-Nattuul yarrow, Potentilla anserina-Goose yarrow, Potentilla bifurca-Spicy yarrow, Potentilla tanacetifolia-Maralzgana-leaved yarrow, Rheum undulatum-Low yarrow, Salsola collina-Hill yarrow, Sanguisorba officinalis-Medicinal yarrow, Saussurea salicifolia-Burgas-leaved yarrow, Scorzoneria ausrtica-Austrian yarrow, Senecio vulgaris-Common yarrow, Seratula centauroides-Khongorzularhuu yarrow, Silene repens-Molkhoo sheerenge, Sphallerocarpus gracillis-Cow anise, Taraxacum mongolicum-Mongolian butterbur, Thalictrum foetidium-Smelly yarrow, Thymus gobicus (Gobi nettle), Urtica cannabianna (nettle), Veronica incana (brown ragwort), etc.

3.10.7. Current status of vegetation cover utilization, protection, and degradation

During the field research and development, the grasslands were classified according to the MNS 5546:2005 standard for determining the degradation of vegetation cover throughout Mongolia, taking into account the proportion of dominant, subdominant, general cover, heathland, and anthropogenic vegetation in the community, and classified according to the degree of degradation as weakly, moderately, severely degraded, and undegraded normal sorghum grasslands.

In the study area, the vegetation cover has been severely degraded in areas where it has been disturbed, and the main communities have been severely degraded.

Table 29. Degree of vegetation degradation

Name of the group	Grazing habits	Pasture code	MNS 5546:2005
Variegated grass - perennial	Variegated grass	БТ	Great
Green facilities			strong
Broken place			strong

During the survey, the road alignment was inspected and 5 points were fully documented to determine species composition, vegetation cover, and biomass. It was found that 90% of the project area had lost its natural vegetation and was degraded.

According to the MNS 5546:2005 standard for determining the degree of degradation of vegetation cover, the vegetation cover was severely degraded in the damaged areas, and the main community was severely degraded.

There are 39 plant species with a rare status included in the "List of Useful Plants" approved by the Minister of Environment and Forestry's Order No. A/603 of 2022.3.11. Animal kingdom

3.11.1. Fauna and species composition of the project area

In the residential areas of Ulaanbaatar city, the fauna species have already completely lost their natural habitat and migration, and only a few mammals and birds live in urban areas.

For example, among birds, the most common are the domestic (P.domesticus) and steppe (P.montanus) sparrows, the blue pigeon (C.livia), the blind kite (Milvus migrans), the magpie (P. pica), the red-crowned crane (Pyrrhocorax pyrrhocorax), the black crow (Corvus corone), and the raven (Corvus corax).

Among mammals, the common jay, the common jay, the white-tailed eagle, and the house mouse are found. Among insects, various beetles are mainly found.

Table 30. List of dominant animal species

Bird class - *AVES*

Falconiformes	*Falconiformes*
Khartsgain tribe	*Accipitridae*
Sohor elee	*Milvus migrans*
Falcon tribe	*Falconidae*
Idleg falcon	*Falco cherrug Gray*
Towiformes	*Columbiformes*
Tow tribe	*Columbidae*
Rock dove	*Columba rupestris Pall.*
Sparrow iformes	*Pessriformes*
Boljmor tribe	*Alaudidae*
Shooron motley lark	*Eremophila alpestris L.*
Kharagchni tribe	*Motacillidae*
Kheerin shiikhnuuhei	*Anthus richaridii Vieill.*
Talyn shiikhnuuhei	*Anthus campestris (L).*
Raven tribe	*Corvidae*

Khon raven	*Corvis corax L.*
Turliah	*Corvis frugilegus*
Mottled magpie	*Pici pica*
Jungaa	*Pyrrhocorax pyrrhorax*
Khuöndei tribe	*Turdidae*
Aduuch chigchoohoi	*Oenanyhe oenanthe L.*
Buzhimch chigchoohoi	*Oenanyhe pleshanka (Lep.)*
Myaraan chigchoohoi	*Oenanyhe isabellina Temm*
Sparrow tribe	*Passeridae (Ploseidae)*
Steppe sparrow	*Passer montanus L.*
Rock sparrow	*Perronia petronia L.*
Orongi sparrow	*Passer domesticus.*

Breastfeeding class - *MAMMALIA*

Orog zusag	*Phodopus sungotus*
Hergerzii ogno	*Microtus gregalis*
House mouse	*Mus musculus*

3.11.2. Bogdhan Mountain Fauna Province

A total of 54 species of mammals have been recorded in the protected Bogdhan Mountain, of which 4 species, including brown bear, moose, dog lynx, and blind leopard, have migrated from here, and 2 new species, including ibex and mink, have been added. Bogdhan Mountain, which is located in the steppe zone, is of particular importance in studying the distribution and location of mammals in Mongolia. This is because Bogdhan Mountain is the southernmost branch of the Khentii taiga, and therefore serves as the southernmost boundary for the distribution of many species of mammals in the taiga and forest zones. For example, the tsarmyn atahai, the udsun atahai, the asgany ogdoi, the baraan gerem, the zamba jirkh, the kukvur olbi, the taiga khuvkholjin, the brown bear, the badanga khuder, and the moose. Bogdhan Mountain is home to 35 percent of Mongolia's mammal fauna, or 54 species of mammals from 17 families, 217 species of birds from 41 families, 1659 species of insects from 174 families, 93 species of microfauna from 43 families, 259 species of mesofauna from 13 families, 2 species of amphibians from 2 families, and 4 species of reptiles from 4 families. Of these, 15 species of rare mammals, such as the ibex, the mountain hare, and the forest sable, which have been present for about 20 years, 10 species of birds, such as the black stork and the white-tailed eagle, and 5 species of insects are becoming endangered.

There are 217 bird species in the Bogdhan Mountain Reserve, belonging to 120 genera and 16 orders and 41 families, of which 150 are migratory, 67 are sedentary, 118 are nesting, 20 are wintering, and 75 are occasional. In terms of numbers, there are 11 common, 54 are common, 114 are rare, and 27 are extremely rare. In terms of geographical distribution and origin, there are 57 Palearctic, 69 are Siberian, 18 are Chinese, 11 are Mongolian-Tibetan, 14 are Mongolian-Mediterranean, 8 are European-Chinese, 13 are European, 12 are European-Siberian, 4 are Tibetan, and 7 are Mongolian. Of the above species, 119 occur in woodlands and shrublands, 42 in water and wetlands, 28 in rocks and escarpments, 14 in steppe, and 2 truly alpine species are distributed in this area.

Of the Bogdhan Mountains, 121 occur in woodlands and shrublands, 42 in wetlands, 22 in rocks, 21 in steppe, and 2 in high mountain. There are 7 species in the Mongolian Red Book, 2 species of rare birds, 4 species in the Asian Red Book, 3 species from Appendix 1 of CITES, 32 species from Appendix 2 of CITES, 2 species from Appendix 1 of the IUCN, and 27 species from Appendix 2 of the IUCN.

Among the birds of the Bogdkhan Mountain National Park, 5 species of birds are included in the list

of rare animals according to the Decree of the Government of Mongolia No. 164 of 2001 on the Fauna of Mongolia.

Insects play a huge role in ensuring the connection, survival, and balance of living nature. Species that do not live in other parts of Mongolia also live in this region.

Out of 19 species of insects included in the Mongolian Red Book, the Bogdkhan Mountain is home to the Burmese shrike –

Hemaris tityus Linnaeus, (1758). Mahaon devur -. Papilio machaon Linnaeus 1758, Apollon - Parnassius apollo Linnaeus 1758, Modestus kuur hedgene - Bombus modestus Eversmann, 1852, Apollon butterfly is also included in Appendix 1 of the "Convention on International Trade in Endangered Species of Wild Fauna and Flora" (CITES), These three species of butterflies are rightfully considered the most beautiful and elegant butterflies in our country. Therefore, studying the insect kingdom of this area, determining its composition and protecting it is an important issue related to protecting not only local but also regional and global insect kingdoms, and further the existence of living nature.

Out of 27 insect orders registered in Mongolia, 16 orders of insects have been recorded in Bogdhan Mountain so far. Considering the possibility of finding more orders in the future, this indicates that the insect kingdom is rich in resources.

Table 31. Biological diversity of Bogdhan Mountain

	Last name	Type	Item	Rare	Remainder
Fauna					
Mammals	17	36	54		
Birds	41	120	217	22	
Insects	174	270	1659	4	
Microfauna	43		93		
Mesofauna	13	100	259	11	
Amphibians		2	2		
Terrestrials		4	4		
Flora					
Woody plants	4	9	20	1	
Shrubs	4	5	21		
Rhizomes	69	259	579	16	3
Lichens	35	72	225	5	
Mushrooms	33	80	163	5	
Algae	17	37	67		
Mushrooms		13	15	5	

Table 32. Survey of rare and endangered species in the Bogdhan Mountain Nature Reserve

№	Animal names	Scientific name	Distribution	Description	Resources
1	Ore	Moschus moschiferus L	On the top of the mountain	Very rare	
2	Black stork	Ciconia nigra L	Tor Khurakh	Very rare	
3	Red deer	Cervus elaphus L	Turgen, Jargalant, Ugeumur, Zuun Baw	Very rare	34
4	Wild deer	Capra sibirica Pall	Nukht	Rare	18
5	Peregrine falcon	Palco amurensis Radde	Tsetsee Gun, Tushe Gun	Rare	

6	White-tailed eagle	Haliaeetus	Around the banks of the Tuul River	Rare	
7	Wild bird	Remiz pendulinus	Willow thickets of the Tuul River, in the northern part of the mountain	Rare	
Very rare: 2 species of mammals, 1 species of birds. Rare: 1 species of mammals, 3 species of birds.					

4. CHAPTER IV. SPECIALLY PROTECTED AREAS

4.1. Specially protected areas

Depending on the subject of special protection, specially protected areas are classified as:

- State specially protected areas
- Local specially protected areas.

State specially protected areas are classified into 4 categories. These include:

1. Sanctuary
2. Natural complexes
3. Natural reserves
4. Monuments

Locally protected areas are included in the unified land fund classification of special needs areas and local special needs areas, and are classified as aimag, capital city, and soum district by administrative unit. Locally protected areas are classified according to the purpose and characteristics of protection:

1. Forest, animal, plant, and water reserves;
2. Natural and historical monuments.

The planned route of the highway and the area of its impact zone do not overlap with specially protected areas (figure 4.1). The beginning and end of the route are 1-2.8 km from the bogdhan mountain nature reserve.

4.2. River protection zone

The project area is located in the valley of the tuul river and its tributaries.The project area does not belong to the special and ordinary protection zones of the tuul river, but passes through the special and ordinary protection zones of the selbe river. By resolution no. 69 of 2024 of the city council of citizens, the map of the special protection zone of water reservoirs, the list of intersections of water reservoirs, the map of the ordinary protection zone of water reservoirs, and the list of intersections of water reservoirs were approved, respectively, in order to increase the flow of the headwaters and tributaries of the rivers in the territory of the city, to accumulate resources, to use and protect them properly, and to prevent the population from flood disasters. The protection zones of water bodies are divided into two categories: 1. Special protection zones and 2. Ordinary protection zones.

A joint order of the Minister of Environment, Green Development and Tourism and the Minister of Construction and Urban Development in 2015 approved the regulations for the implementation of special and ordinary protection and sanitary zones for water bodies and water sources.

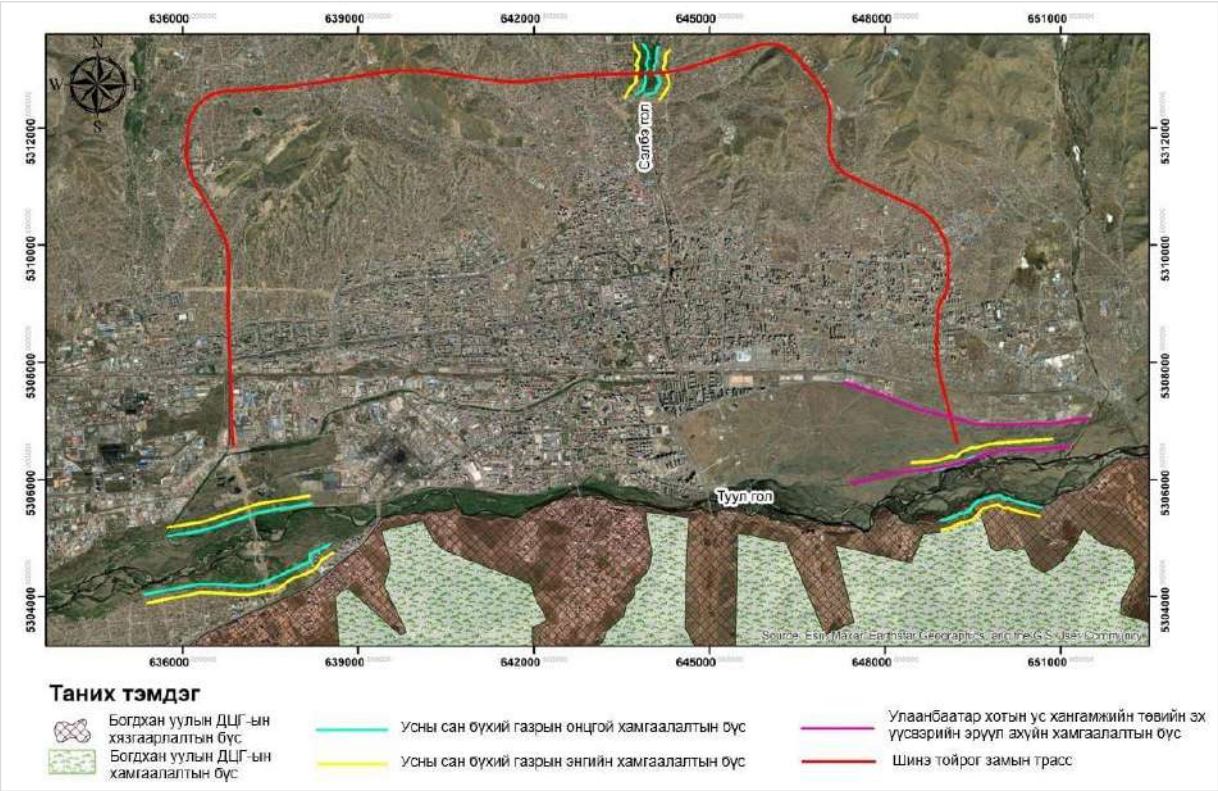


Figure 87. Specially protected areas around the project site and its vicinity

The relevant provisions of the protection zone for water bodies:

1. The special protection zone shall be established as follows:

- ✓ at a distance of not less than 50 meters from the banks of rivers, streams, springs, and ponds, or wider, and in the case of swampy floodplains, it shall be expanded to the extent of the total floodplain;
- ✓ at a distance of not less than 200 meters from the banks of water bodies in urban areas and not less than 100 meters from flood protection dams; in the sanitary prohibition zone of water supply sources;
  at a distance of up to 30 meters from flood protection canals and their protection dams.
- ✓ Flood protection, adjustment dams, ports, flood water storage reservoirs, water structures, and infrastructure facilities such as roads, bridges, water stations, water, electricity, and heat transmission lines may be built in the special protection zone.

It is prohibited to carry out all types of activities other than those listed below and to establish camping and settlement areas in the special protection zone. These include:

- ✓ coastal landscaping;нийтийн эзэмшлийн ногоон байгууламж, гольфоос бусад спорт тоглоомын талбай байгуулах, мод бут сөөг тарих;

2. The boundaries of the simple protection zone are determined as follows.

- ✓ Within the territory of the capital and the aimag center, up to 1000 meters from the shore of a water reservoir

The following activities are prohibited in the simple protection zone:

- ✓ Cutting down trees and bushes;
- ✓ Placing gas stations, washing machines and equipment;
- ✓ Disposing of waste and pollutants, placing waste disposal points;
- ✓ Building and using substandard sewage wells and toilets.

The end of the new ring road route passes through the sanitary protection zone of the deep wells of the Ulaanbaatar city water supply center.

5. CHAPTER V. SOCIETY AND ECONOMY

This chapter presents the current socio-economic situation of 29 khoroos in 5 districts of Ulaanbaatar city that will be included in the route area of the new ring road. These include: 1 khoroo in Bayangol district, 9 khoroos in Songinokhairkhan district, 5 khoroos in Chingeltei district, 1 khoroo in Sukhbaatar district, and 13 khoroos in Bayanzurkh district.

5.1. SOCIO-ECONOMIC INDICATORS OF BAYANZURKH DISTRICT

5.1.1. Demographics

As of 2023, the district has a population of 434,976 people (209,223 men and 2,125,753 women) in 127,339 households, with a density of 351.1 people per km2. There are 43 administrative units. There are 104,764 households in ger districts and 80,037 households in byr districts..

5.1.2. Health and education

Health

In August 2023, 4912 children were born in the district hospital, an increase of 160 children (3.4%) compared to the same period of the previous year. Deaths were recorded at 1112, a decrease of 8 people (0.7%) compared to the same period of the previous year. The number of people suffering from infectious diseases was 4332, a decrease of 36462 people (89.4%) compared to the same period of the previous year. In Bayanzurkh district, the number of infectious diseases per 10,000 population in August 2023 was 109.3, a decrease of 976.3% compared to the same period of the previous year.

Education

As of December 2023, there were 306 educational institutions in Bayanzurkh district, of which 69 were secondary schools, of which 30 were state-owned, 24 were private, and 1 was AT-NTBTev. There are also 202 preschool educational institutions, of which 44 are state-owned and 152 are private kindergartens. There are 50 childcare institutions.

A total of 89,609 children are enrolled in educational institutions, of which 97,339 are secondary school students, of which 10,563 are in private schools and 51,557 are in state-owned schools. The number of children in preschool education is 27,489, of which 11,150 are in private kindergartens and 15,909 are in state-owned kindergartens.

The educational level is 749 with a doctorate degree, 5,797 with a master's degree, 99,362 with a bachelor's degree, 5,937 with a diploma, 12,458 with a specialized secondary education, 6,781 with a technical or vocational degree, 104,175 with a complete secondary education, 26,289 with basic education, 20,641 with primary education, and 87,832 with no education.

5.1.3. Employment and crime

Employment

The number of unemployed citizens registered with the district labor department and actively looking for work was 301 in August 2023, an increase of 71 people (30.9 percent) from the same period last year. Of the total unemployed, 76 (25.2 percent) are women.

3 citizens with disabilities registered with the labor department in March.

Crime

In 2023, a total of 6130 cases were registered in the district, a decrease of 163 (2.59%) from the same period of the previous year. Of the total crimes, 5644 were minor and 486 were serious. Also, 2.07% of the total crimes were crimes against human life, 0.35% were intentional homicide, 19.28% were crimes against human health, 68.54% were crimes against property rights, 1.9% were crimes against human sexual freedom, 1.27% were crimes against human inviolability and freedom, 13.94% were theft, 0.94% were robbery, 47.62% were fraud, 1.32% were embezzlement, 0.18% were crimes against the environment, 0.32% were crimes against children, and 1.47% were crimes against electronic information security.

The total number of victims of crime is 6,008, of which 2,962 are women and 331 are children under the age of 18..

5.1.4. Other socio-economic indicators

Economy

According to the preliminary execution of August 2023, the district's budget revenue was 131.9 billion tugriks, budget expenditure was 74.8 billion tugriks, and the budget balance was in surplus of 57.1 billion tugriks.

Budget revenue: Of the 131.9 billion tugriks, 127.6 billion tugriks (96.7%) were tax revenue, 1.6 billion tugriks (1.2%) were non-tax revenue, and 2.8 billion tugriks (2.1%) were local development fund revenue. Budget revenue execution was 33.0 billion tugriks short of the plan. This was mainly due to the 33.3 billion tugriks (20.7%) shortfall in tax revenue.

Budget expenditure: Considering the structure of budget expenditure, 13.4 percent are salaries, wages and additional incentives, 2.2 percent are contributions paid by employers to the social insurance fund, 9.8 percent are fixed costs related to the use of premises, 11.8 percent are costs of supplies and inventory, 13.7 percent are payments and fees for services performed by others, 30.2 percent are current transfers, and 18.9 percent are other expenses.

Social insurance and welfare

As of 2023, the income of the social insurance fund amounted to 336.9 billion tugriks, an increase of 154.3 billion tugriks from the same period of the previous year. 78.3 percent of the income of the social insurance fund was provided by the pension insurance fund, 11.9 percent by health insurance, 5.1 percent by pension insurance, 3.7 percent by the NHI insurance, and 1.0 percent by the unemployment insurance fund..

In August 2023, the Social Insurance Fund's expenditure was 285.4 billion tugriks, or 12.3 billion tugriks more than the planned 273.1 billion tugriks.

In August 2023, 73.6 percent of the total expenditure of the Social Welfare Fund was spent on child benefits, 8.6 percent on welfare pensions, 4.0 percent on childcare benefits for

children aged 0-3, 7.8 percent on care benefits, 2.3 percent on livelihood support benefits, 1.9 percent on assistance and discounts for the elderly, 0.6 percent on food and nutrition programs, 0.5 percent on pregnant women's benefits, and 0.7 percent on other benefits.

5.1.5. Bayanzurkh District Khoros included in the project impact area

Subdistrict No. 8

The subdistrict has an area of 96 hectares and a population of 11,735 in 3,324 households as of 2023.

The Amgalan Complex School of General Education, School No. 92, the private Turk Empati Secondary School, the State Head Kindergarten No. 32, the Kindergarten No. 301, and the Railway Kindergarten No. 177 operate in the subdistrict.

Areas covered by the impact zone: Area 3.

Subdistrict No. 12

The subdistrict has an area of 140 hectares and a population of 6,805 in 1,964 households as of 2023.

36.2 percent of the total population lives in apartments and 63.8 percent in ger districts. The subdistrict has a population of 147 in General Education, ASHUIS, Kindergarten No. 20, and Ehrenke Adem Kindergarten. It is also home to major shopping malls such as Wellmart Supermarket, Orgil Hypermarket, and Orgil Jade Food Market.

Areas covered by the impact area: Area 5.

Khoroo 19

This khoroo covers an area of 500 hectares and has a population of 12,911 in 3,901 households as of 2023.

This khoroo is located in the western part of Ulaanbaatar city, northwest of the central part of Bayanzurkh District. This khoroo contains residential, ger neighborhoods, and medium-sized business areas and is located close to the city center. The khoroo borders Khoroo 18 of Bayanzurkh District to the northwest, Khoroo 20 to the northeast, and Khoroo 21 to the southwest.

The population density of the khoroo is relatively high, with residents living in residential, ger neighborhoods, and small business areas.

Areas covered by the impact area: Area 10.

Subdistrict 21

The subdistrict has an area of 450 hectares and a population of 8,493 in 2,291 households as of 2023.

The subdistrict is located in the northern part of Ulaanbaatar city, northwest of the central part of Bayanzurkh district. Small businesses, shopping centers, and other commercial and service centers operate in the vicinity of the subdistrict center and residential areas.

Areas covered by the impact zone: Areas 5, 7, 8, 9, 10, and 11.

24th District

The khoroo has an area of 26.8 hectares and a population of 8,018 in 2,238 households as of 2023. It borders khoroos 9,17,19 of Bayanzurkh district. There are 90 enterprises and organizations engaged in production, service, and trade activities in the territory of the khoroo. There is 1 state kindergarten and there are no state or private schools, and the khoroo consists only of ger khoroos. Sections included in the impact zone: Sections 5, 10, 13, and 14.

Khoroo 26

The khoroo has an area of 934 hectares and a population of 22,767 in 6,752 households as of 2023. Starting from the northern axis of the Marshal Bridge, it goes north along Hunnu Street and reaches the northern axis of the Marshal Bridge. The western boundary of the committee extends to the Home Plaza shopping center, the eastern boundary to the Bayanzurkh Bridge, the southern boundary to the Tuul River bank, and the northern boundary to Hunnu Street.

Khoroo 27

This khoroo has an area of approximately 500 hectares and a population of 11,210 in 3,227 households as of 2023.

This khoroo is located in the eastern part of Ulaanbaatar city, east of the central part of Bayanzurkh district. Khoroo 27 borders Khoroo 26 to the west, Khoroo 28 to the south, and Khoroo 10 to the north of the district. The population density of the committee is relatively high, and residents live in residential areas, ger districts, and small business areas. Small businesses, shopping centers, and markets, as well as trade and service centers, operate in the vicinity of the committee center and residential areas.

Areas covered by the impact area: Areas 1 and 2.

29th Khoroo

The Khoroo covers an area of 128.275 hectares and has a population of 6693 in 2255 households as of 2023. 9 percent of the total population lives in apartments and 91 percent in ger districts.

The 29th Khoroo is home to the 102nd general education school and Dayankhuu kindergarten. There are shopping centers such as Dar Ekh Market, Yu Kombini, and Shinye Hotel.

Areas covered by the impact zone: Area 9.

31st Khoroo

The Khoroo covers an area of 164 hectares and has a population of 10599 in 3113 households as of 2023. 95 percent of the total population lives in ger districts. The Joint Team of the 31st District operates within the framework of the function of "Preventing, detecting, and stopping domestic violence against children, and supporting the victimized child to return to normal health and emotional conditions." The "Nomgon Yoghant" Family Health Center was established in June 2023, and the center is staffed by 4 doctors, 3 nurses, and 3 staff members. The police unit consists of 2 officers.

Areas covered by the impact zone: Areas 11 and 13.

Khoroo 32

The Khoroo covers an area of 450 hectares and has a population of 9,030 in 2,769 households as of 2023.

It is a Khoroo located in the northwest of Ulaanbaatar city, northwest of the central part of Bayanzurkh district. Khoroo 32 borders Khoroo 31 of the district to the east, Khoroo 33 to the southwest, and Khoroo 20 to the north.

Small businesses and shopping centers, including shopping malls, operate in the vicinity of the Khoroo and residential areas. Areas covered by the impact zone: Areas 11 and 12.

Khoroo 36

The Khoroo covers an area of 550 hectares and has a population of 16,769 in 5,163 households as of 2023. Khoroo 36 is located in the northwest of Ulaanbaatar city and is relatively far from the center of Ulaanbaatar city. This khoroo is one of the mixed and developed areas with a mixed residential environment consisting of apartments, ger neighborhoods, and businesses. It borders khoroos 37, 38, and 35 of Bayanzurkh district.

Khoroo 37

This khoroo has an area of 520 hectares and a population of 10,626 in 3,152 households as of 2023. This khoroo is located in the northwest of Ulaanbaatar city, northwest of the center of Bayanzurkh district, and is one of the mixed and developed areas with a mixed residential environment consisting of apartments, ger neighborhoods, and businesses. It borders khoroos 38, 36, and 39 of Bayanzurkh district. the areas included in the impact area are: sections 8, 10, 11, and 12.

Khoroo 38

This khoroo has an area of 66 hectares and a population of 9,731 in 2,969 households as of 2023. The subdistrict is located in the western part of Ulaanbaatar city, southwest of the center of Bayanzurkh district. The number of enterprises located in the subdistrict is 73, of which 3 are state organizations, 65 are business services, 3 are universities, 1 is a private kindergarten, and 3 are homeowners' associations. Bayanzurkh Complex School and Kindergarten No. 289 are located and operate. The affected areas are: 1, 10, and 15.

5.2. SOCIO-ECONOMIC INDICATORS OF CHINGELTEI DISTRICT

5.2.1. Demographics

As of 2023, 140,264 people (67,326 men and 72,938 women) from 37,736 households live in the district, and 1,526 people per 1 km2 of the district. There are 19 subdistricts as administrative units. There are 28,486 households (104,264 people) living in the ger district, and 9,250 households (36,000 people) living in the byr district.

5.2.2. Health and education

Health

According to the District Health Center, in the first nine months of 2024, 1,439 mothers gave birth and 1,458 children were born, which is a decrease of 292 (16.9%) in the number of mothers and 283 (16.3%) in the number of children born compared to the same period of the previous year. In the first nine months of 2024, 590,267 people underwent examinations, which is an increase of 39,815 (7.2%) compared to the same period of the previous year. The number of people hospitalized decreased by 1,445 (21.4%) to 5,323.

Education

In the district, the number of students in general education schools in the 2023-2024 academic year increased by 543 (1.8%) children compared to the same period of the previous year to 30,229. A total of 10,251 children were enrolled in preschool education in the 2023-2024 academic year.

5.2.3. Employment and Crime

Employment

The number of unemployed citizens registered with the district labor department and actively seeking work was 301 in August 2023, an increase of 71 people (30.9 percent) from the same period last year. Of the total unemployed, 76 (25.2 percent) were women.

Crime

A total of 2,666 crimes were registered in the district in 2023, a decrease of 182 (6.39%) cases from the same period last year. Of the total crimes, 2,465 were minor and 201 were serious. Also, 0.6% of the total crimes are crimes against human life, 0.41% are intentional killing, 13.18% are crimes against human health, 40.65% are crimes against property rights, 0.59% are crimes against human sexual freedom, 0.73% are crimes against human rights and freedom, 9.5% are theft, 0.48% are robbery, 27.85% are fraud, 0.75% are embezzlement, 0.41% are crimes against the environment, 0.16% are crimes against children, and 0.59% are crimes against electronic information security. The total number of citizens affected by crimes is 2,559, of which 1,296 are women and 156 are children under the age of 18.

5.2.4. Other socio-economic indicators

Economy

The consolidated budget balance of the district amounted to 2.7 billion tugriks in September 2024. The total revenue of the district budget amounted to 159.0 billion tugriks in September 2024, which was 9.7 billion tugriks (5.8%) less than planned. Tax revenue accounted for 95.2 percent of the total budget revenue, non-tax revenue for 4.1 percent, and aid revenue for 0.7 percent. In September 2024, the district's tax revenue reached 151.4 billion tugriks, which was 13.6 million tugriks or 8.2 percent less than planned, and non-tax revenue reached 6.5 billion tugriks, which was 4.0 billion tugriks, 2.6 times less than planned.

Total local budget expenditures and repayments decreased by 29.7 billion tugriks (15.5%) from the planned 161.7 billion tugriks in September 2024. 5.7 percent of total budget expenditures are wages and additional bonuses, 0.6 percent are employer contributions to social insurance, 24.1 percent are other goods and services expenses, and 59.5 percent are current transfer expenses.

Social insurance and welfare

The income of the Social Insurance Fund reached 435.4 million tugriks in the first nine months of this year, an increase of 47.2 (12.1%) million tugriks compared to the same period of the previous year, and the fund's expenditures reached 189.8 million tugriks, an increase of 56.5 (42.4%) million tugriks compared to the same period of the previous year. By fund, the income of the pension insurance fund increased by 32.7 (10.4%) million tugriks, the income of the unemployment insurance fund increased by 1.2 (19.1%) million tugriks, the income of the

pension insurance fund increased by 5.8 (18.3%) million tugriks, and the income of the Social Security Insurance Fund increased by 7.4 (21.4%) million tugriks compared to the same period of the previous year. The expenditures of the funds increased by 59.9 (52.5%) million tugriks, the expenses of the Social Security Insurance Fund increased by 0.2 (23.4%) million tugriks, the expenses of the unemployment insurance fund increased by 0.8 (19.6%) million tugriks, and the expenses of the pension insurance fund decreased by 4.4 (32.0%) million tugriks.

The Social Welfare Fund provided pensions and benefits worth 75.0 billion tugriks to 113.9 thousand people in September 2024, which is an increase of 1028 (0.9%) thousand people and 6100.7 (8.8%) million tugriks compared to the same period of the previous year.

As of September 2024, 2459 people were covered by social welfare pensions and 7478.9 million tugriks were provided, which is a decrease of 20 (0.8%) people from the same period of the previous year, while the amount of cash pension provided increased by 1405.7 (23.1%) million tugriks. 70704 people were covered by social welfare benefits and 53942.7 million tugriks were provided, which is an increase of 514 (0.7%) people and 1304.1 (2.5%) million tugriks compared to the same period of the previous year.

5.2.5. Khoroos of Chingeltei district included in the project impact area

Khoroo 12

This khoroo has an area of 158.6 hectares and a population of 5713 in 1598 households as of 2023.

The khoroo is bordered by Khoroo 11 of Chingeltei district to the south, Khoroo 13 to the northeast, Khoroo 15 and 16 to the north, and Khoroo 10 to the southwest, respectively, and is located 3 km from the city center and the district center. Khoroo 12 has 181 streets numbered 1-10. In addition to the 61st General Education School, 154th Kindergarten, 276th Kindergarten, 144th General Education School, Lifelong Education Center, the Detention Center of the Metropolitan Police Department, the "Chingelteyd samtullev-3" Employment Support Center, and the Narantuul-2 Shopping Center, there are 17 grocery stores selling alcoholic beverages, 6 specialty grocery stores, 2 karaoke bars, and 14 public buildings. The households and citizens of the committee live up to 3 km from the center of the committee.

Areas covered by the impact zone: Section 8.

Subdistrict No. 13

The subdistrict has an area of 72 hectares and a population of 6,497 in 1,768 households as of 2023.

The subdistrict borders subdistrict No. 12 of Chingeltei district to the south and west, and subdistricts No. 14 and 15 of Chingeltei district to the north or east. It is a large ger subdistrict with 13% of the total population being elderly, 37% being children aged 0-18, and 50% being people aged 19-55/60. More than 60 private sector enterprises and individuals operate in the subdistrict, including the Bagachuud Food Processing Plant, Batseju Footwear Factory, Ub-17, Telmen Impex, and grocery stores. There are also 7 government organizations.

Subdistricts covered by the impact zone: Sections 4, 5, 9, and 10.

14th Khoroo

The Khoroo has an area of 9 hectares and a population of 5827 in 1618 households as of 2023.

It borders Khoroo No. 18 of Chingeltei District to the north, Khoroo No. 15 of Chingeltei District to the west, Khoroo No. 13 of Sukhbaatar District to the east, and Khoroo No. 13 of Chingeltei District to the south. There are 1 state school, 2 state kindergartens, 1 private kindergarten, 1 family health center, 53 business entities, and 8 water distribution facilities.

Areas covered by the impact zone: Area 2.

Khoroo No. 20

The Khoroo has an area of 157 hectares and a population of 4772 in 1320 households.

It borders on the north with the 28th khoroo of the SHD, on the east with the 22nd khoroo of the ChD, on the southwest with the 11th khoroo of the BGD, and on the southeast with the 7th khoroo of the ChD.

Within the committee, there are 149 state schools, 224 kindergartens, 291 kindergartens, private Aavudun kindergartens, 1 Service Center infrastructure center, 5 6-brand grocery stores, 12 8-brand grocery stores, 3 churches, 4 wells, 6 car washes and repairs, and 3 public buildings, a total of 36 business entities and organizations operating.

Sections included in the impact zone: Section 8.

21st khoroo

This khoroo has an area of 178.6 hectares and a population of 6,878 in 1,782 households.

It is located 5 km from the city center and the district headquarters. It borders Khoroo No. 7 of the district to the west, Khoroo No. 16 to the north, and Khoroo No. 12 to the south.

A total of 6,541 people live in 176 households, including rural areas and temporary residents of Ulaanbaatar city.

The 21st khoroo has 95 streets numbered 18-22, 1397 courtyards, EB primary school No. 138 and kindergartens No. 220 and 154, Mon Kara LLC, Zamguuri bus station, 17 boutique shops, 5 boutique shops, 6 public buildings, 4 public buildings, etc., and a total of 28 business entities.

The areas covered by the impact area are: 5, 6, 7, 8, and 9-th sections.

5.3. SOCIO-ECONOMIC INDICATORS OF SONGINOKHAIRKHAN DISTRICT

5.3.1. Demographics

As of 2023, 341390 people (168593 men, 172797 women) live in 95895 households, and there are 369.1 people per 1 km2 of territory in Ulaanbaatar city. There are 43 khoroos as administrative units.

There are 237,370 people living in 66,830 households in the ger district, and 104,020 people living in 29,065 households in the byr district.

The number of working-age population increased by 1,101 (0.5%) people from 227,434 in 2019 to 228,535 in 2023. The number of employees increased by 11,111 (10.5%) people from 105,850 in 2019 to 116,961 in 2023. The number of job seekers decreased by 2,331 (77.7%) people from 3,000 in 2019 to 669 in 2023. In 2023, the number of working-age population increased by 2.6 (1.1%) thousand people from the same period of the previous year to 238.2. The employment rate is 49.0, down 1.3 (2.6%) points from 2019.

5.3.2. Health and education

Health

In 2023, there are 4 state hospitals, 26 family hospitals, and 843 beds. The number of hospital employees is 354, down 48 (11.9%) from 2019. As of 2023, 24.6 percent of the total hospital employees are senior doctors, down 22 (20.2%) from 2019.

In the district, 6,376 babies were born to 6,342 mothers in 2023, down 903 (12.5%) from 2019.

In 2023, the number of people who underwent early screening for arterial hypertension for the first time decreased by 4,792 (4.2%) from 2022, the number of people who underwent early screening for type 2 diabetes for the first time decreased by 15,912 (16.2%), and the number of people who underwent early screening for liver cancer increased by 1,897 (13.6%).

In outpatient examinations, 93,321 non-communicable diseases were registered in 2023, a decrease of 36,882 (28.3%) from 2022, and 57,940 (62.1%) of the total diseases were newly registered. The number of infectious diseases was 2,560.

Education

In the 2023 academic year, 3,771 students graduated from 3 higher education institutions, 25,304 from 115 secondary education institutions (67 state-owned, 48 private), and 66,428 from 34 secondary schools (27 state-owned, 7 private).

5.3.3. Employment and crime

Employment

In 2019, the number of job seekers was 3,000, of which 1,546 (51.5%) were women. In 2019, 63 citizens were employed, while in 2023, 1,261 citizens were employed. Of the job seekers, 578 (2.6%) were immigrants, 109 (2.9%) were graduates, 3 (0.4%) were discharged from the military, 13 (0.5%) were dropouts, 661 (22.0%) were unemployed, 175 (5.8%) were looking for a job to increase their income, 185 (6.2%) were looking for a job, and 68 (2.3%) were looking for a job because their household or personal businesses were no longer profitable.

Of the unemployed registered in 2023, 8 (1.2%) were retired, 108 (16.1%) were due to staff reductions, 121 (18%) were due to health reasons, and 45 (6.7%) were unemployed due to the liquidation of the organization.

Crime

A total of 3,385 cases were registered in the district in 2023, an increase of 95 (2.8%) cases compared to the same period of the previous year. Of the total number of crimes, 2,958 were

minor and 427 were serious. Also, 1.6% of the total crimes are crimes against human life, 0.97% are intentional killing, 34.24% are crimes against human health, 53.97% are crimes against property rights, 2.0% are crimes against human sexual freedom, 0.53% are crimes against human rights and freedom, 20.0% are theft, 3.01% are robbery, 24.46% are fraud, 1.5% are embezzlement, 0.77% are crimes against the environment, 0.26% are crimes against children, and 0.53% are crimes against electronic information security.

The total number of citizens affected by the crime is 3,359, of which 1,508 are women and 271 are children under the age of 18.

5.3.4. Other socio-economic indicators

Economy

In 2019, the district's local budget revenue was 32916.4 million tugriks, while in 2023 it was 109201.2 million tugriks, an increase of 3.3 times. 82.8 percent of the total local budget revenue was made up of tax revenue. Local budget expenditure in 2023 is 93383.7 million tugriks, an increase of 3.2 times from 2019. 13896.2 (14.8%) million tugriks of the total expenditure in 2023 are salaries, bonuses, and additional expenses. This is an increase of 8936.8 million tugriks, or 2.8 times, from 2019.

According to the results of industrial enterprises covered by official statistical data, in 2022, they produced products worth 1,216,440.1 million tugriks, which increased to 1,717,920.3 (41.2%) million tugriks in 2023. Sales of industrial products increased from 1,517,911.7 million tugriks in 2022 to 2,178,349.5 (43%) million tugriks in 2023. Food industrial enterprises produced products worth 696,982.9 million tugriks in 2022, which increased to 1,191,996.7 million tugriks in 2023, or 71.0 percent, and the production of non-food products increased from 519,457.2 million tugriks in 2022 to 525,923.6 million tugriks in 2023, or 0.01 percent.

5.3.5. Khuros of Songinokhairkhan District included in the project impact area

Khoroo No. 6

The khoroo covers an area of 760 hectares and has a population of 10,500 in 2,719 households as of 2023.

The khoroo is located in the western part of Ulaanbaatar city, about 5 km west of the center of Songinokhairkhan district. This khoroo contains residential areas, ger areas, and service centers. The population density of the khoroo is relatively high, and residents live in residential and ger areas. There are commercial centers such as Harsh and Kharkhorin market, as well as small and medium-sized businesses, as well as chemical and food production and construction materials factories.

Areas covered by the impact zone: Areas 4, 5, and 6.

Khoroo 7

The khoroo covers an area of 280 hectares and has a population of 9,275 in 2,438 households as of 2023.

The khoroo is located in the western part of Ulaanbaatar city, about 3-4 km west of the central part of Songinokhairkhan district, and borders khoroo 9 to the northwest, khoroo 8 to the northeast, khoroo 5 and 6 to the southeast and south, and khoroo 24 and 26 to the west.

The population density of the khoroo is relatively high, and residents live in residential and ger areas. Kharkhorin market and small shopping centers are operating.

There are 9 water distribution points and 1 reservoir of clean water sources in the khoroo, which meet the population's drinking water needs. 800 households and 4 business entities are connected to the centralized water supply system.
The areas covered by the impact zone are: 1, 2, 4, and 9.

Subdistrict No. 8
This subdistrict has an area of 220 hectares and a population of 7,887 in 2,200 households as of 2023.
The 8th khoroo is located on the northwest side of the high-voltage line of the terrace behind the 1st khoroo, on the southwest side of the brick factory of the “Sumber Ord” group with the 7th khoroo, on the west side of the lake 9, 7, Z Zuunbayantsagaan 2, 3, 4, 5, Bayantsagaan 1, 2, 3, 4, 4, 5, Bayantsagaan 1, 2, 3, 4, 4, 5, 6, 5, 4, 6, 5, 4, 6, 5, 4, 6, 7, Bayantsagaan 1, 2, 3, 4, 6, 7, 8, 7, Bayantsagaan 1, 11, 10, 8, 7, Zuunbayantsagaan 1, 11, 10, 8, 7, Bayantsagaan 1, 12 It is bordered by the 6th and 23rd districts, respectively.
Areas included in the impact zone: Areas 5, 6, 7, and 8.
11th Khoroo

The Khoroo covers an area of 650 hectares and has a population of 9,530 in 2,435 households as of 2023.

The Khoroo is located in the western part of Ulaanbaatar city, and is a region dominated by ger khorool, where agriculture and small and medium-sized enterprises are developing. In 2023, a new 2-story kindergarten building with a capacity of 150 children was put into operation in Khoroo 11.

The Khoroo's water and sewage network has been renovated, the Khoroo's streets and roads have been improved, and public areas have been landscaped and illuminated. The construction sector is the main source of employment in the Khoroo, while small and medium-sized enterprises and trade and service sectors are developing.

Areas covered by the impact zone: Areas 9 and 11.

Khoroo 17

The Khoroo covers an area of 300 hectares and has a population of 5,626 in 1,517 households as of 2023.

The khoroo is located in the central part of Songinokhairkhan district. The khoroo has residential areas, service areas, and shopping centers.

The khoroo has many residential areas, and in total there are 4-5 residential areas (for example, Songinokhairkhan-1, Songinokhairkhan-2, etc.), where more than 2,000 families live. The khoroo covers an area of approximately 300 hectares and includes housing, small farms, and service areas. There is more than 5 km of main road in the khoroo, which connects residential areas and shopping centers.

There are 2 general education schools in khoroo 17, with about 1,500 students studying in these schools. There are 4 kindergartens, with a total of more than 600 children enrolled in kindergartens. There is 1 family clinic and 1 private clinic in the khoroo. 300-500 people use them daily for health services.

The commune has 3 large shopping centers and 20-30 small and large businesses.

Areas covered by the impact zone: 2, 4, 5, 6.

Khoroo No. 23

The commune has an area of 120 hectares and a population of 5,521 in 1,670 households as of 2023.

The commune is located in the northwestern part of Songinokhairkhan district, bordering Gachuurt and Bayanzurkh districts.

Khoroo No. 23 is located not far from the center, and a 5-7 km road facilitates access by public and private transport, as well as connecting it to major roads. 2-3 bus routes depart from the commune, transporting more than 1,000 people per day.

The khoroo has a general education school No. 143, with a total of more than 1,000 students. There are 2 private kindergartens, 6 water distribution points, a carpentry workshop, a stove workshop, a vacuum window factory, 23 grocery stores, and 2 shopping centers operating in the khoroo territory. The affected areas include sections 2, 4, and 7.

Khoroo No. 28

The khoroo covers an area of 750 hectares and has a population of 7,458 in 1,922 households as of 2023. The khoroo is located in the western part of Ulaanbaatar city, about 6-7 km northwest of the central part of Songinokhairkhan district. The population density of the khoroo is relatively high, with residents living in apartments, ger neighborhoods, and small business areas. Businesses such as markets, shops, and small shopping centers operate.

Areas covered by the impact zone: 3, 4, 5.

39th Khoroo

This Khoroo has an area of 100 hectares and a population of 5964 in 1526 households as of 2023. The geographical location is bordered by Khoroo 8 to the north, Khoroo 30 and 31 to the east, Khoroo 23 to the south, and Khoroo 6 to the west. The territory is a ger-like Khoroo located on high ground.

The Khoroo does not have a public school or kindergarten. A total of more than 1300 children study in secondary schools No. 143 and 9. There are 1 private kindergarten, 7 water distribution points, and 20 grocery stores operating in the territory of the Khoroo.

Areas covered by the impact zone: 1, 2, 3, 4, and 7.

40th Khoroo The Khoroo has an area of 2200 hectares and a population of 8041 in 2251 households as of 2023.

Khoroo No. 7 and 8 border the east, Khoroo No. 41 borders the west, and Khoroo No. 9 borders the north. There are no secondary schools or kindergartens in the territory of the Khoroo. "Enkhin Uygoe 2" provides health services to the citizens of the Khoroo. More than 70 enterprises and organizations operate, including the Voyage Pure Water Plant, Tumbaash, Suvdan Undur Od shopping centers, the Social Insurance Department, and the 29th Emergency Fire Department.

The areas covered by the impact zone are: 1, 3, 4, and 6.

5.4. SOCIO-ECONOMIC INDICATORS OF BAYANGOL DISTRICT

5.4.1. Demographics

As of 2023, 252,979 people (123,959 men and 129,020 women) live in 69,519 households, and there are 8,578.5 people per km2 in Ulaanbaatar city. There are 34 khoroos as administrative units.

Also, 82.7 percent of the total households in the district live in residential areas, and 17.3 percent in ger areas.

5.4.2. Health and education

Health

Bayangol district has large state-owned hospitals, such as the National Health and Medical Center, the Third State Central Hospital, the National Children's Hospital, the Central Children's Hospital, and the Narcology Hospital.

The Bayangol District Health Center also implements, coordinates, and monitors the policies, orders, and decisions of the Ministry of Health, the Ministry of Health, the Ministry of Health, and the District Health Committee at the territorial level, and provides public health and secondary medical care to the population, as well as medical and public health care to the population of the district in the form of outpatient and inpatient treatment.

In addition, the Health Center operates in 34 khoroos, which are the primary administrative units, and provides primary health care to citizens in a timely manner.

In 2023, the number of hospitalized patients was 197,649, an increase of 7,123 (1.04%) people from the previous year.

Education

As of 2023, there were 22 state-owned and 30 non-state-owned schools in Bayangol district, and a total of 52 schools were operating in 1,733 groups, with a total of 61,360 students enrolled. Of these, 30,814 are at the primary education level, 18,090 are at the basic education level, and 7,964 are at the secondary education level. There are also 2,113 state-owned schools and 508 non-state-owned schools, totaling 2,621 full-time teachers.

5.4.3. Employment and crime

Employment

In Bayangol district, 34,822 citizens aged 18-64 are unemployed, accounting for 23 percent of the adult population. The lack of jobs in Bayangol district is likely due to the fact that wholesale and retail trade is the main sector of employment (44% compared to the city average of 29%). In districts 6, 22, and 9, out of 20,111 of working-age people, 19,564 are employed, which is the lowest level of unemployment. However, the 13th Khoroo, 8th Khoroo, and 1st Khoroo have the highest unemployment rates. These three Khoroos together have 18,252 working-age people.

It is reported that 8,306 citizens are unemployed. In Bayangol district, 74 percent of the total population is employed in the private sector, 13 percent in government organizations, 11 percent are self-employed, and 1 percent are daily wage workers. In Khoro 16 and 19, the private sector (100%) dominates, while in Khoro 14, the state administration (80%) dominates. The high level of influence of the private sector in Bayangol district (6 percent higher than the average of 68 percent in the capital) may be due to the low unemployment rate.

Crime

In 2023, a total of 4,456 crimes were registered in the district, which is a decrease of 67 (1.48%) cases from the same period of the previous year. Of the total crimes, 4,222 were minor and 234 were serious. Also, 1.3% of the total crimes are against human life, 0.56% are intentional killing, 18.22% are against human health, 71.5% are against property rights, 1.23% are against human sexual freedom, 0.83% are against human rights to inviolability and freedom, 12.72% are theft, 1.5% are robbery, 50.5% are fraud, 2.24% are embezzlement, 7 0.16% are against the environment, 0.18% are against children, and 1.39% are against electronic information security.

The total number of citizens affected by the crime is 4364, of which 2137 are women and 190 are children under the age of 18.

5.4.4. Other socio-economic indicators

Economy

As of January 2025, the total revenue of the district budget amounted to 15836.8 million tugriks, which is 12538.9 (55.8%) million tugriks less than planned. Tax revenue (income tax, property tax, other taxes, fees, and charges) accounts for 97.9 percent of the total budget revenue, and non-tax revenue accounts for 2.1 percent.

As a result of tax revenue, personal income tax transfers account for the highest amount, or 14193.8 (91.5%) million tugriks.

As of January 2025, the total expenditure of the district budget amounted to 21228.8 million tugriks, which is 7146.9 (74.8%) million tugriks less than planned. Current expenses are the highest among the total budget expenditures.

The total revenue and expenditure of the district budget increased by 61.9 percent and expenditure by 19.9 percent compared to the same period of the previous year.

Social Insurance and Welfare

In 2023, the revenue of the social insurance fund in the capital reached 2005.6 billion tugriks, with Bayangol district collecting the largest share, 23.2 percent (466.4 billion tugriks), an increase of 219.7 (89.0%) tugriks compared to the same period of the previous year.

In the accumulated insurance fund, 74.3 percent of the total premium income was concentrated in the pension insurance fund, 5.0 percent in the occupational accident and disease (OAD) insurance fund, 6.0 percent in the benefit insurance fund, 2.0 percent in the unemployment fund, and 12.7 percent in the health insurance fund.

As of the end of 2023, the Social Insurance Fund spent 256.3 billion tugriks on pensions, benefits, payments, assistance, and service expenses for insured citizens, an increase of 52.9 (26.0%) billion tugriks compared to the same period last year.
Of the total expenses, 87.7 percent were pension expenses, 0.6 percent in the OAD, 7.9 percent in benefits, and 3.8 percent in the unemployment insurance fund.
Out of the total expenditure of 20105.3 million tugriks for 29166 people, 4300.5 (21.4%) million tugriks have been spent on 22444 people who have temporarily lost their ability to work, 15723.8 (78.2%) million tugriks have been spent on 6641 pregnant and postpartum mothers, and 81.0 (0.4%) million tugriks have been spent on funeral benefits for 81 citizens.

5.4.5. Khoroo of Bayangol District included in the project impact area

29th Khoroo

This Khoroo has an area of 850 hectares and a population of 8383 in 2407 households as of 2023.

Khoroo 29 of Bayangol District is located in the western part of Ulaanbaatar city, in the western part of Tamir Bridge, near Sonsgolon and Tolgoit. The khoroo combines various areas, including industrial zones, ger districts, and new residential districts.

The industrial sector is concentrated in the central part of the khoroo. Chemical and food factories, construction materials companies, and small businesses, as well as the "Kharkhorin Market", "Shine Sunday", and "Bars 2" shopping centers operate. The western part of the khoroo has a ger district zone and new residential districts (Onur district, Erin district). 3-4 state and private kindergartens operate.

Areas covered by the impact zone: Areas 3 and 4.

5.5. SOCIO-ECONOMIC INDICATORS OF SUKHBAATAR DISTRICT

5.5.1. Demographics

As of 2023, 141,990 people (69,575 men and 72,415 women) live in 39,984 households, and in Ulaanbaatar city, there are 679.2 people per 1 km2 of territory. There are 20 administrative units.
Also, 54.0 percent of the total households in the district live in residential areas and 44.0 percent live in ger areas.

5.5.2. Health and education

Health

The district health center, along with a general hospital and 18 family hospitals, provides primary and secondary healthcare services to citizens. In addition to the first health institutions of Mongolia, the State Clinical General Hospital and the first and second maternity hospitals, Sukhbaatar district is home to more than 100 public and private health institutions and pharmacies in the central district of the capital, providing healthcare services to citizens.

As of the end of 2022, 900 out of 10,000 people had acute and 20 infectious diseases. A total of 12,622 cases of coronavirus infection were registered in 2022. Syphilis and gonorrhea accounted for the largest share of infectious diseases, accounting for 64.9%.

Education

Sukhbaatar district is home to Mongolia's first general education schools No. 1, 2, 3, kindergartens No. 1, 2, and the first state university, the Mongolian State University, the University of Education, the University of Science and Technology, and the University of Health Sciences. Today, educational institutions in the district are expanding and developing. 32,138 children are studying in 22 state-owned and 30 non-state-owned general education schools, 10,064 children are studying in 26 state-owned and 39 non-state-owned kindergartens. In addition, many universities, colleges, and vocational schools have been established, and 60,000 students are studying.

5.5.3. Employment and crime

Employment

According to the administrative statistics of the Department of Labor and Welfare Services, the number of registered unemployed citizens who are actively looking for work decreased by 134 people or 47.6 percent in 2022 compared to the previous year. Of the unregistered unemployed citizens, 637 were employed at the end of 2022, a decrease of 403 or 38.8 percent from the same period of the previous year.

Crime

A total of 3,832 crimes were registered in the district in 2023, an increase of 206 (5.37%) from the same period of the previous year. Of the total crimes, 3,495 were minor and 337 were serious. Also, 0.86% of the total crimes are crimes against human life, 0.31% are intentional killing, 16.54% are crimes against human health, 70.67% are crimes against property rights, 1.07% are crimes against human sexual freedom, 1.51% are crimes against human inviolability and freedom, 16.13% are theft, 1.17% are robbery, 47.52% are fraud, 2.24% are embezzlement, 0.18% are crimes against the environment, 0.07% are crimes against children, and 1.93% are crimes against electronic information security.

The total number of citizens affected by the crimes is 3,734, of which 1,658 are women and 181 are children under the age of 18

5.5.4. Other socio-economic indicators

Economy

The total budget revenue of the district amounted to 297.8 billion tugriks as of the end of 2022, and the revenue plan was fulfilled by 100.3 percent. Current revenue accounted for 96.7 percent of the centralized revenue, and current budget financing revenue accounted for 3.3 percent. However, tax revenue accounted for 99.0 percent of the current revenue, and non-tax revenue accounted for 1.0 percent. Total budget expenditure: As of December 2022, 98.7 percent of the centralized revenue was spent on current expenses. The majority of current expenses, or 99.7 percent, was spent on goods and services, and 0.3 percent on other expenses. The majority of goods and services expenses, or 76.2 percent, were spent on revenues concentrated in the capital, 2.0 percent on salary increases and bonuses, 0.2 percent on employer contributions to social insurance, and 21.6 percent on other goods and services expenses.

Social Insurance and Welfare

The Social Insurance Fund's revenue in 2022 reached 415.7 billion tugriks, an increase of 47.4 (1.1%) billion tugriks from the same period of the previous year, and the fund's expenditure reached 182.6 billion tugriks, an increase of 147.5 (5.2%) billion tugriks from the same period of the previous year.

In 2022, the Social Welfare Fund provided 21.5 thousand people with a pension of 151.5 billion tugriks, an increase of 1,000 (1.05%) people and 35.2 (1.3%) billion tugriks in pensions, and 32.8 thousand people with a pension of 31.1 billion tugriks, an increase of 3,900 (1.11%) people and 1.7 (1.05%) billion tugriks in pensions, compared to the same period of the previous year.

In December 2022, 1905 people were covered by social welfare pensions and 534.3 million tugriks were paid, which is a decrease of 90 (1.05%) people from the same period of the previous year, while the cash pension paid also decreased by 12.1 (1.02%) million tugriks. 52267 people were covered by social welfare benefits and 5326.7 million tugriks were paid, which is an increase of 742 (1.01%) people and 174.2 (1.03%) million tugriks compared to the same period of the previous year.

5.5.5. Sukhbaatar district khoroo included in the project impact area

Khoroo No. 13

The khoroo has an area of 148 hectares and a population of 7419 households in 2042 households as of 2023. The committee has a total of 25 streets in 11 sections. It borders on the 14th khoroo of the SBD in the north, the 2nd khoroo of the BZD in the east, the 12th khoroo of the district in the south, and the 13th and 14th khoroos of the ChD in the west. The khoroo is located along the 1.6 km road from the 32nd bus station to the Zasvar station. The khoroo has 51 organizations and enterprises, including kindergarten No. 150, Sankoll Family Hospital, Jasiun Center, Max-Khuns LLC branch, Tod Oyms LLC, Badruun Center, and Altdyn Gol LLC. Most of the enterprises are engaged in commercial activities. Sections included in the impact zone: Sections 5, 6, 8, 9, 11.

5.6. LAND USE SURVEY OF IMPACT AREA

5.6.1. Land Use Survey of Impact Area

The new ring road route will pass through 5 districts of the capital city, and the current status of land use types in an area of 100 m in both directions from the axis of the highway route is shown in Figures 6.1-6.5.

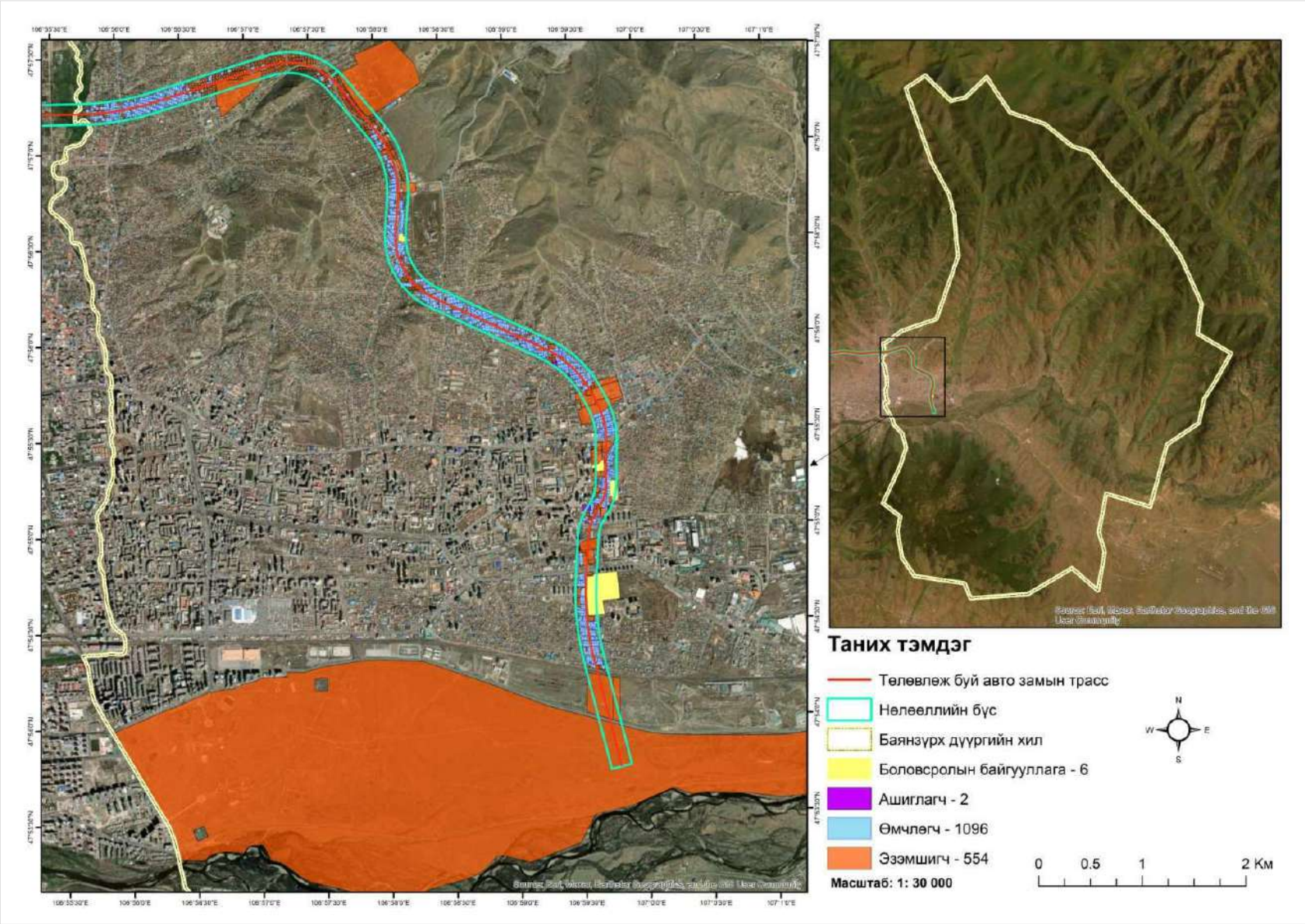


Figure 88. Bayanzurkh district

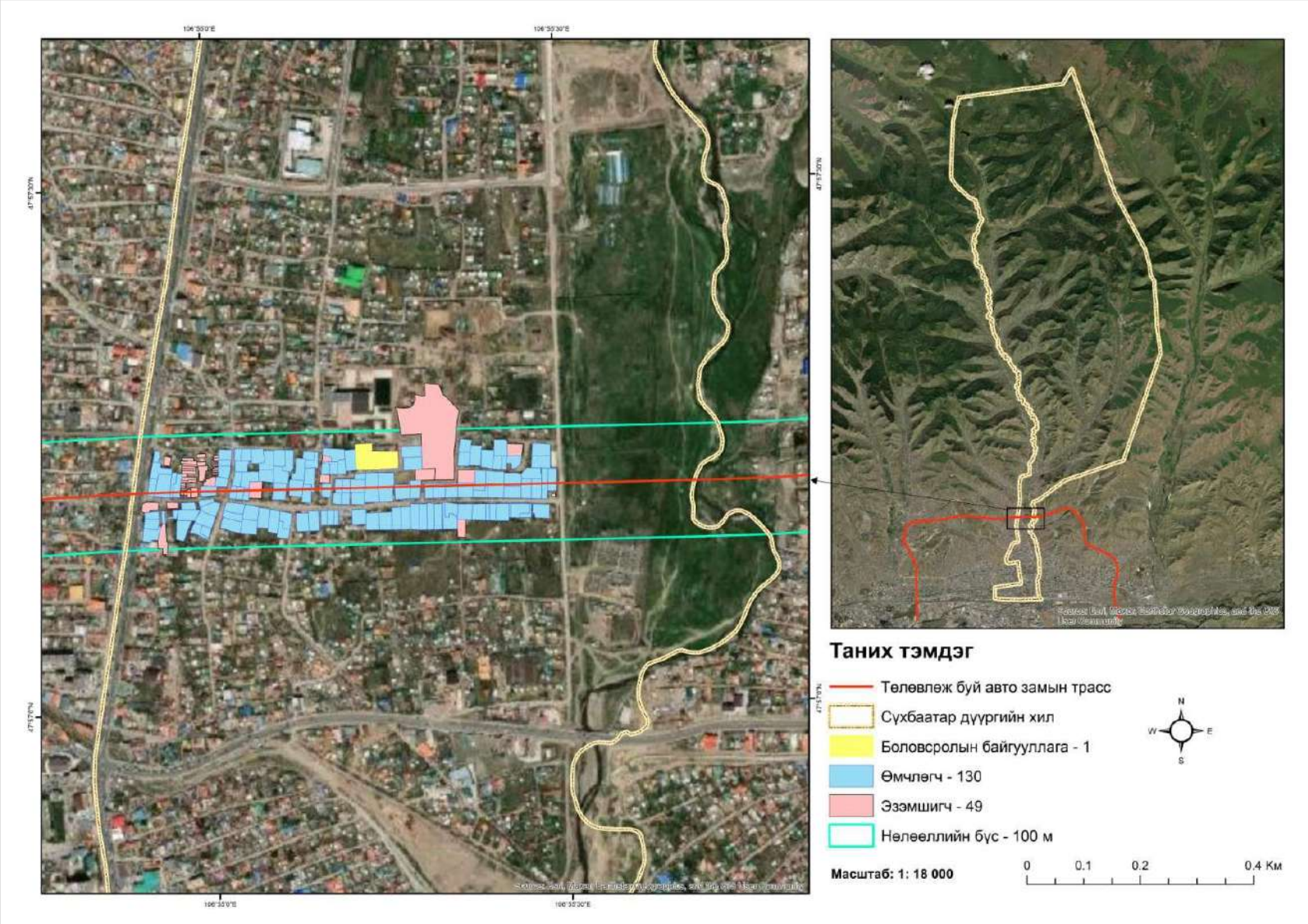


Figure 89. Sukhbaatar district

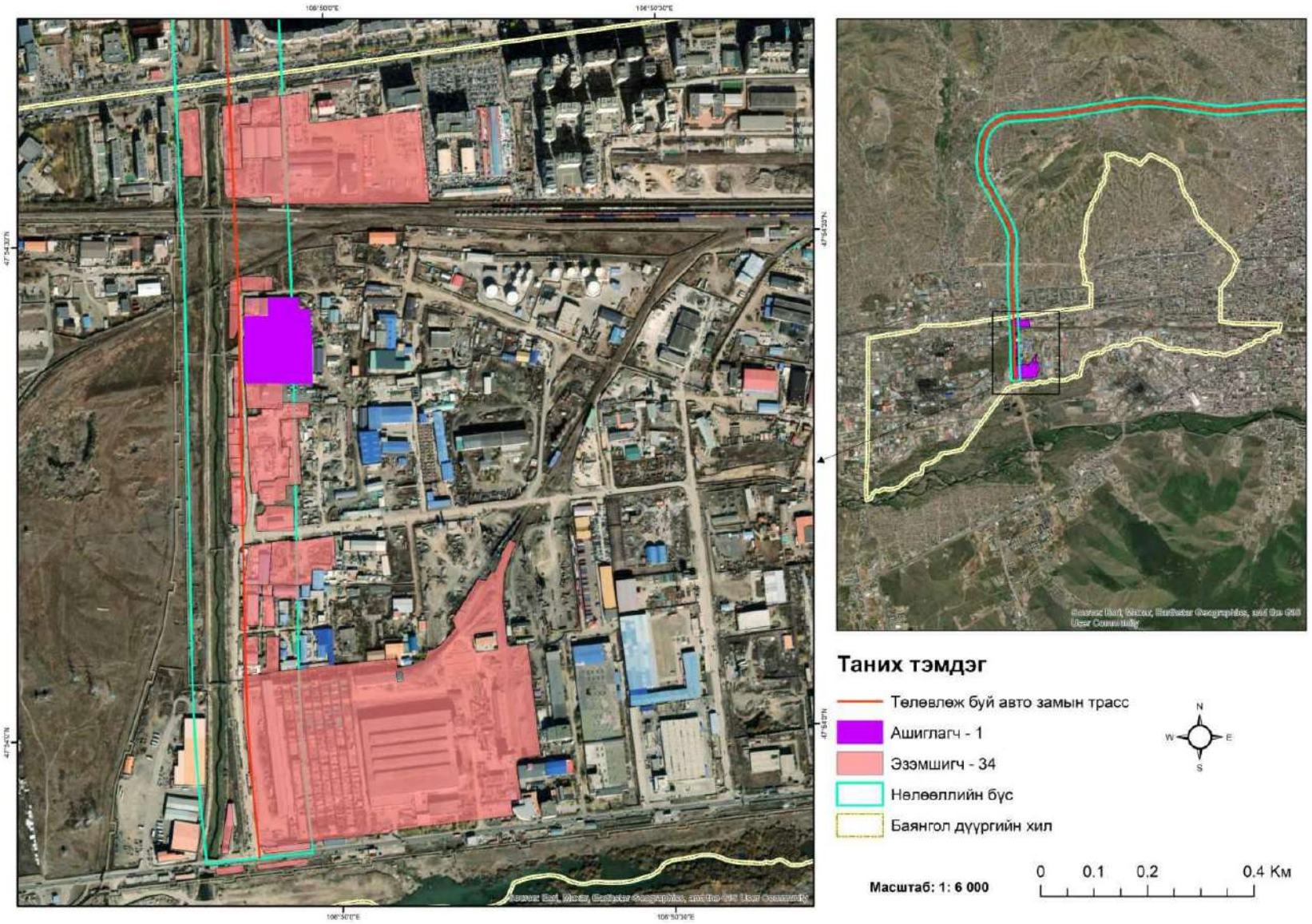


Figure 90. Bayangol district

Figure 91. Songinokhairkhan district

Figure 92. Chingeltei district

A summary of land use areas within the impact zone of the highway alignment is shown in Table 5.1.

Table 33. Amount of land use type in the impact area

№	District	Land use type				Total
		Owner	Owner	User	Educational institution	
1	Bayanzurkh	1096	554	2	6	1658
2	Sukhbaatar	130	49	-	1	180
3	Bayangol	-	34	1	-	35
4	Songinohairkhan	1141	229	1	4	1375
5	Chingeltei	550	156	1	-	707
Score		**2917**	**1022**	**5**	**11**	**3955**

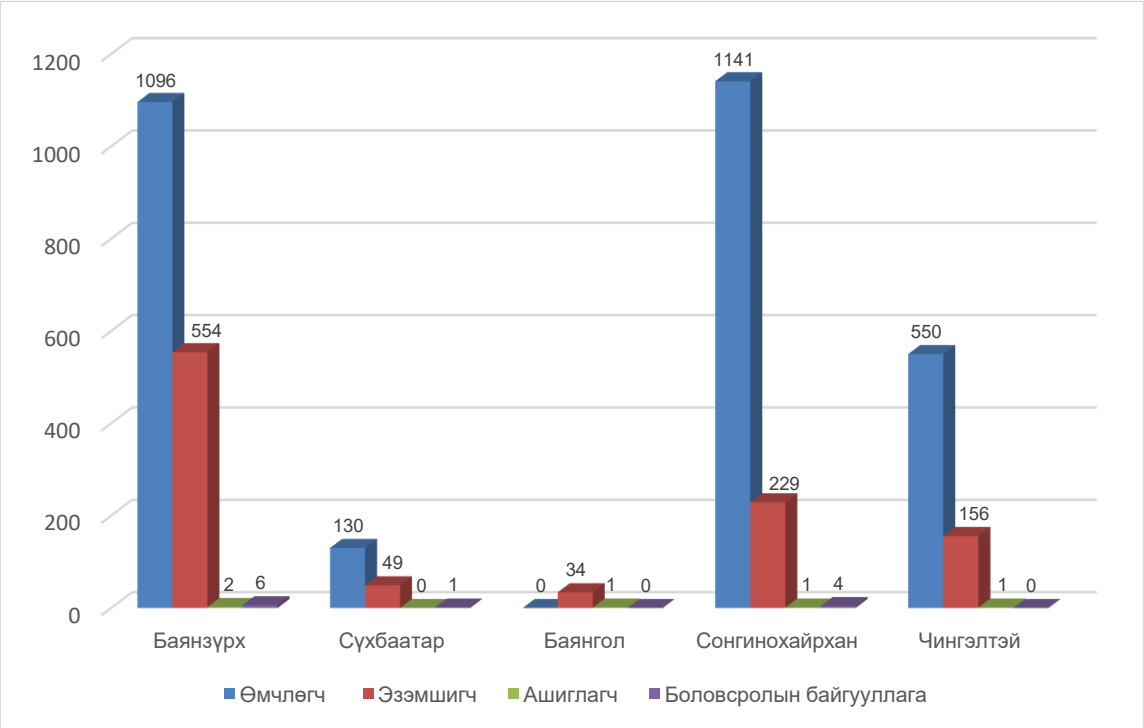


Figure 93. Land use type, by district

Table 34. Types of land tenure and number of units of land within the impact area

Land use purpose	Bayanzurkh district	Sukhbaatar District	Chingeltei District	Bayangol district	Onion-loving district	Total
House and apartment yard	484	41	152	5	204	886
Industrial buildings, structures, other areas	5		1	13		19
Buildings and structures intended for motor transport services	1			0		1
Work and household	2		1	6	2	11
Public housing with 4 floors or less	2			0		2
Gas stations, warehouses	4			0	1	5

Automobile repair and service stations	2			0		2
Public housing with 9 floors or more	6			0	2	8
Trade and public service centers, centers, complexes	21		1	7	7	36
Educational institutions	6	1		0	4	11
Serviced housing	6			0	0	6
State administrative organizations	9	4		1	4	18
Public housing with 5-8 floors	3			0	1	4
Other publicly owned areas	1			0	0	1
Residential housing	2			0		2
Water distribution points	0	1	1	0		2
Communication, information transmission and reception stations	0	1		0		1
Family camping sites	0	1		0	1	2
Water distribution, pumping and lifting facilities	0			1		1
Fountains	0			1		1
Car garages	0			0	2	2
Playgrounds	0			0	1	1
Total	**554**	**49**	**156**	**34**	**229**	**1022**

Table 35. Types and number of units of land with permitted use in the impact zone

Land use purpose	Bayanzurkh district	Sukhbaatar District	Chingeltei District	Bayangol district	Onion-loving district	**Total**
Houses and residential courtyards			1			**1**
Industrial buildings, structures, other lands	1			1		**2**
Shopping and public service areas, centers, complexes	1					**1**
Other publicly owned lands					1	**1**
Total	**2**	**0**	**1**	**1**	**1**	**5**

All 2917 land units owned are designated for residential and residential yard land.

5.6.2. Large buildings, structures, and objects exposed to construction sites

The number of major facilities and structures that may be affected by construction along the planned highway route is shown in Table 5.4.

Table 36. Number of major objects affected by road construction (by district)

№	District name	Number of objects to be exposed
1	Bayanzurkh	36
2	Sukhbaatar	2
3	Chingeltei	1
4	Songinohairkhan	11
5	Bayangol	11
Total		**61**

Note: The width of the strip exposed to buildings is taken as 60 m.

The location and visibility of buildings and objects for each district are shown in Figure 5.7 to Figure 5.32.

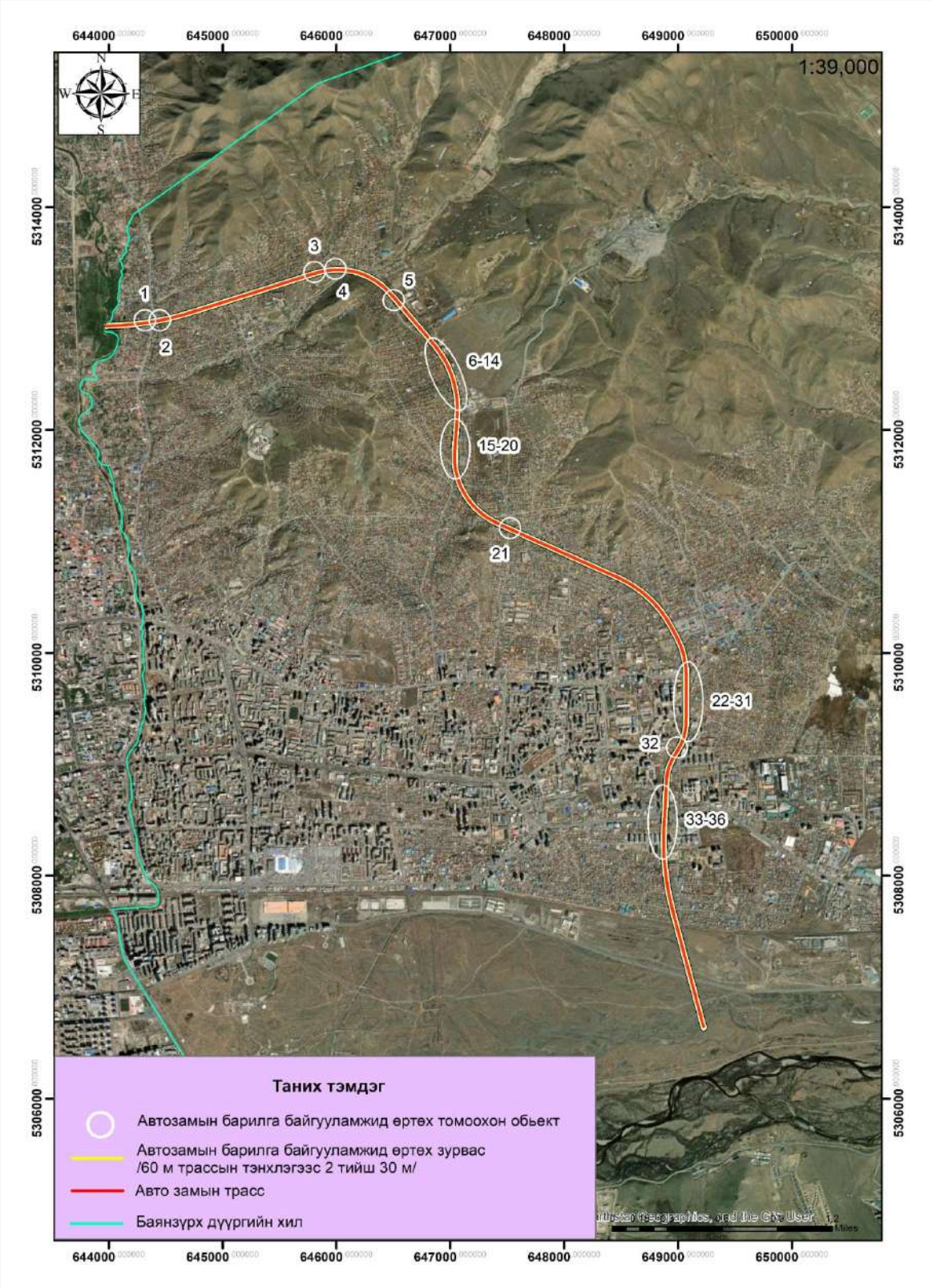


Figure 94. Location of major objects affected by road construction in Bayanzurkh district

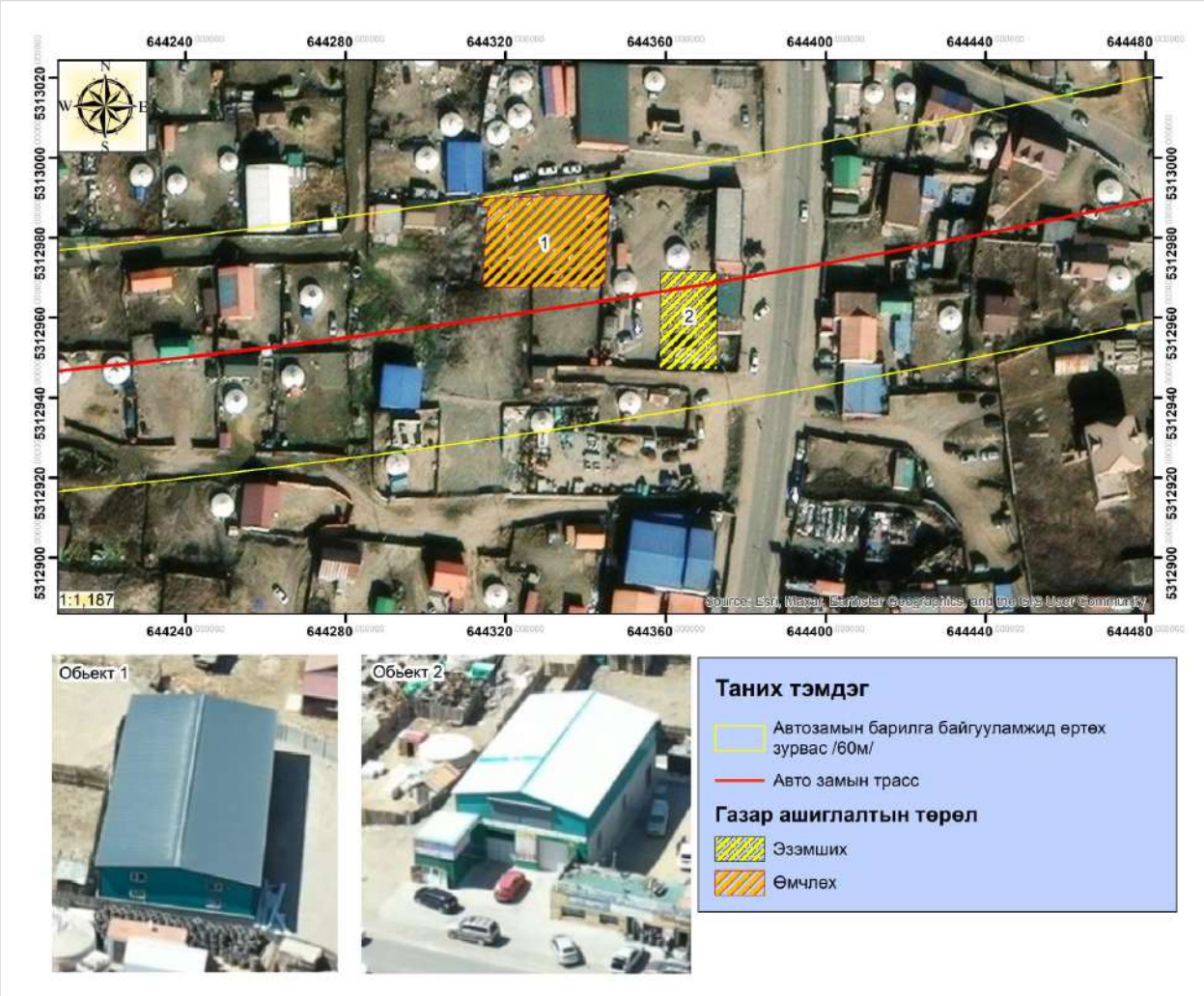


Figure 95. Objects 1, 2

Figure 96. Objects 3, 4

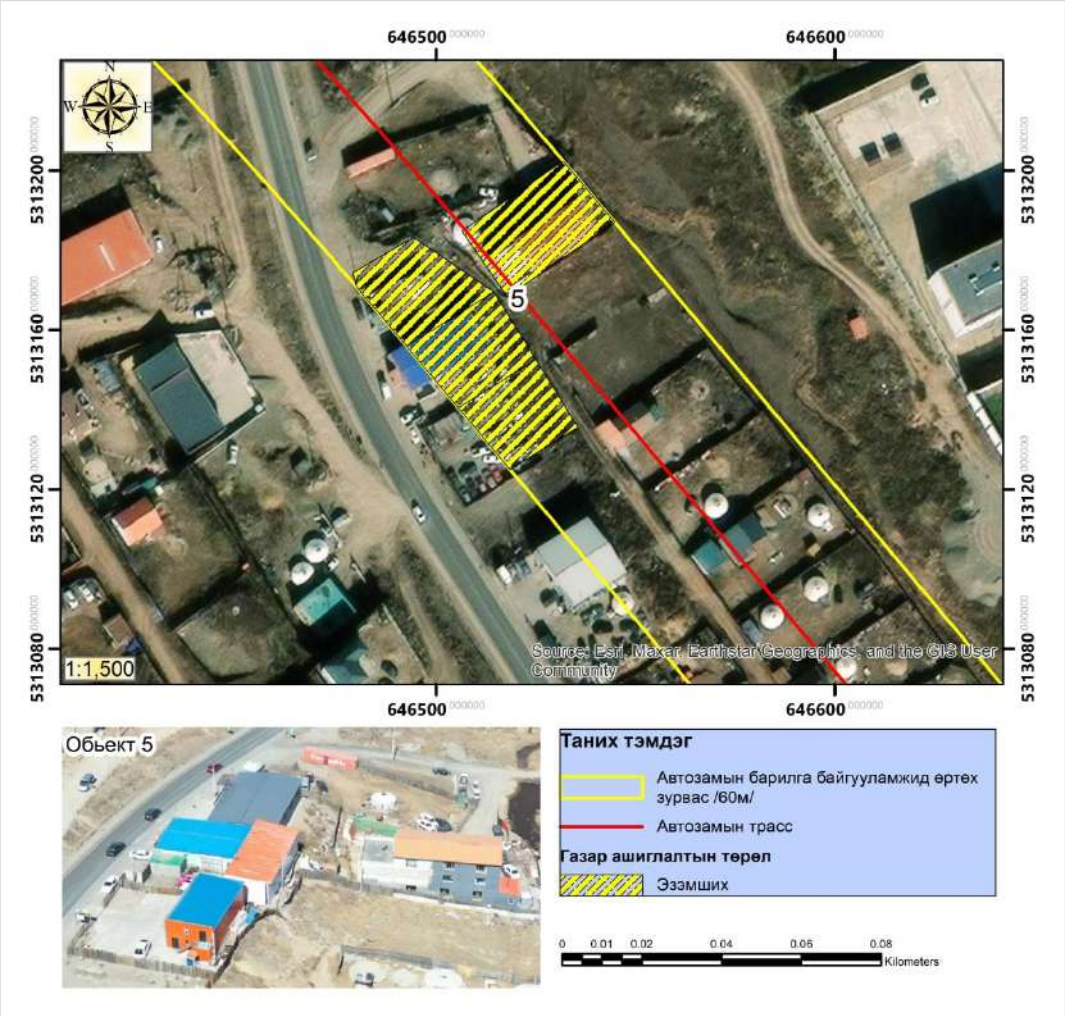


Figure 97. Object 5

Figure 98. Objects 6-9

Figure 99. Objects 10-14

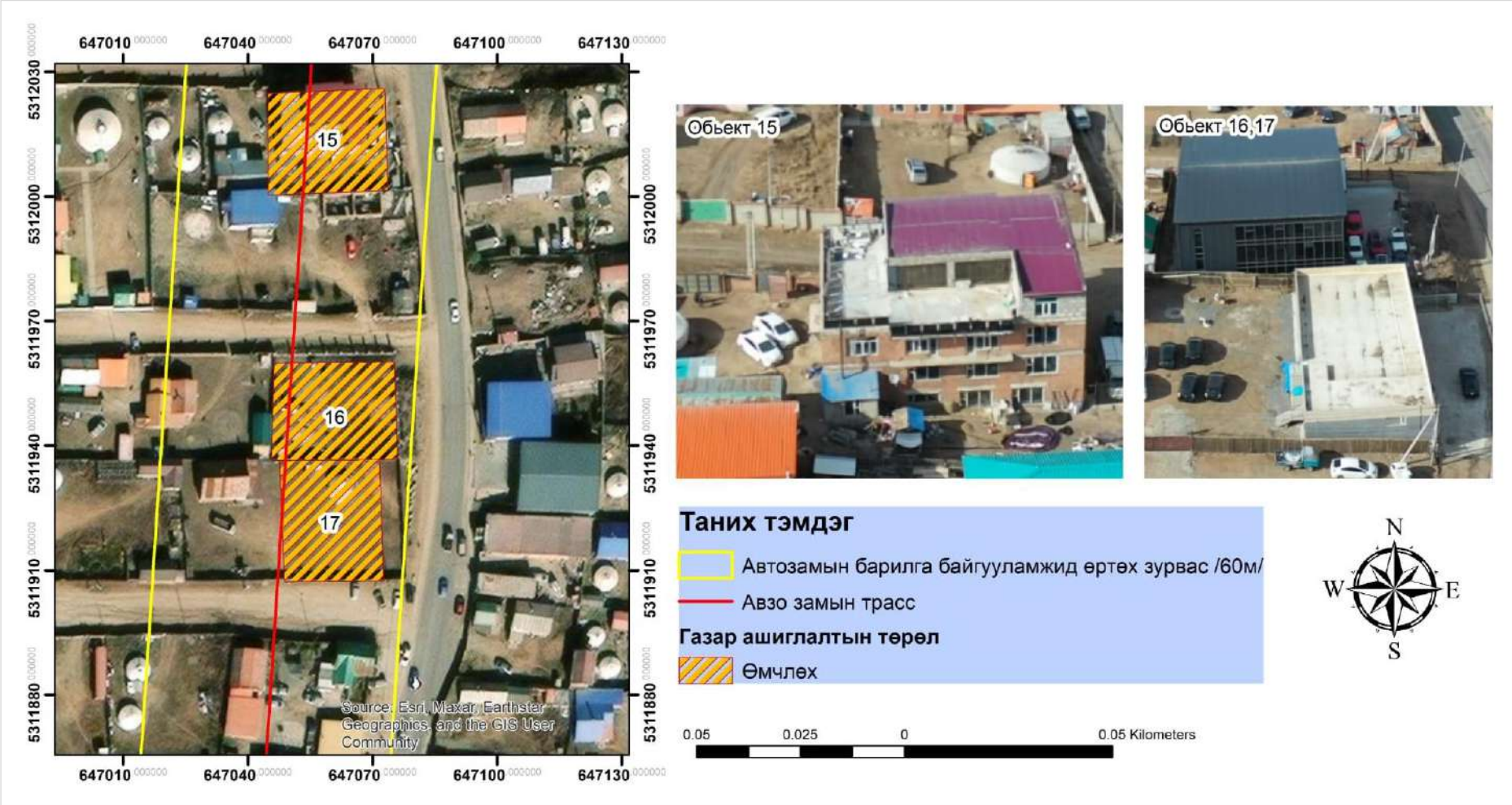


Figure 100. Objects 15-17

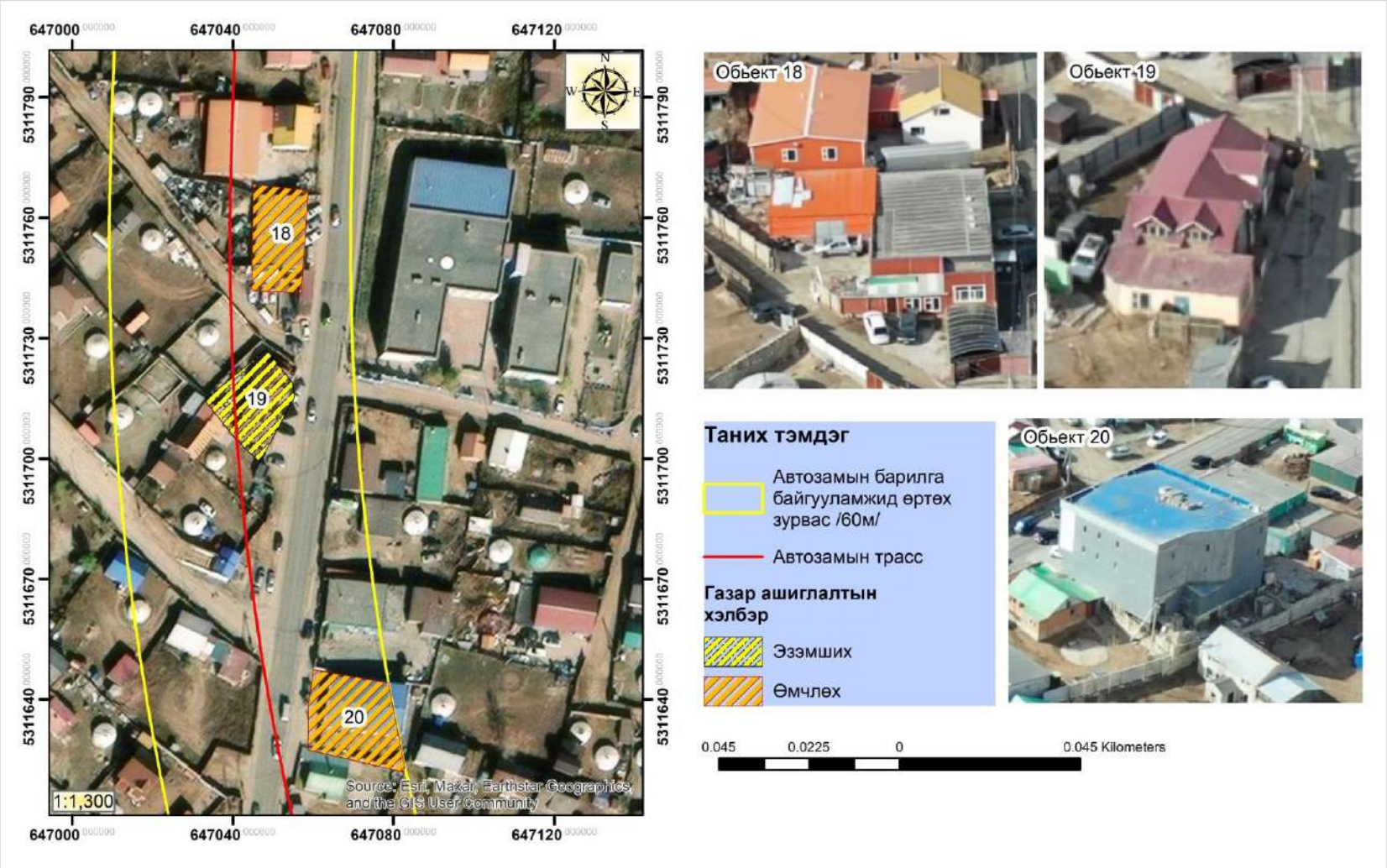


Figure 101. Object 18-20

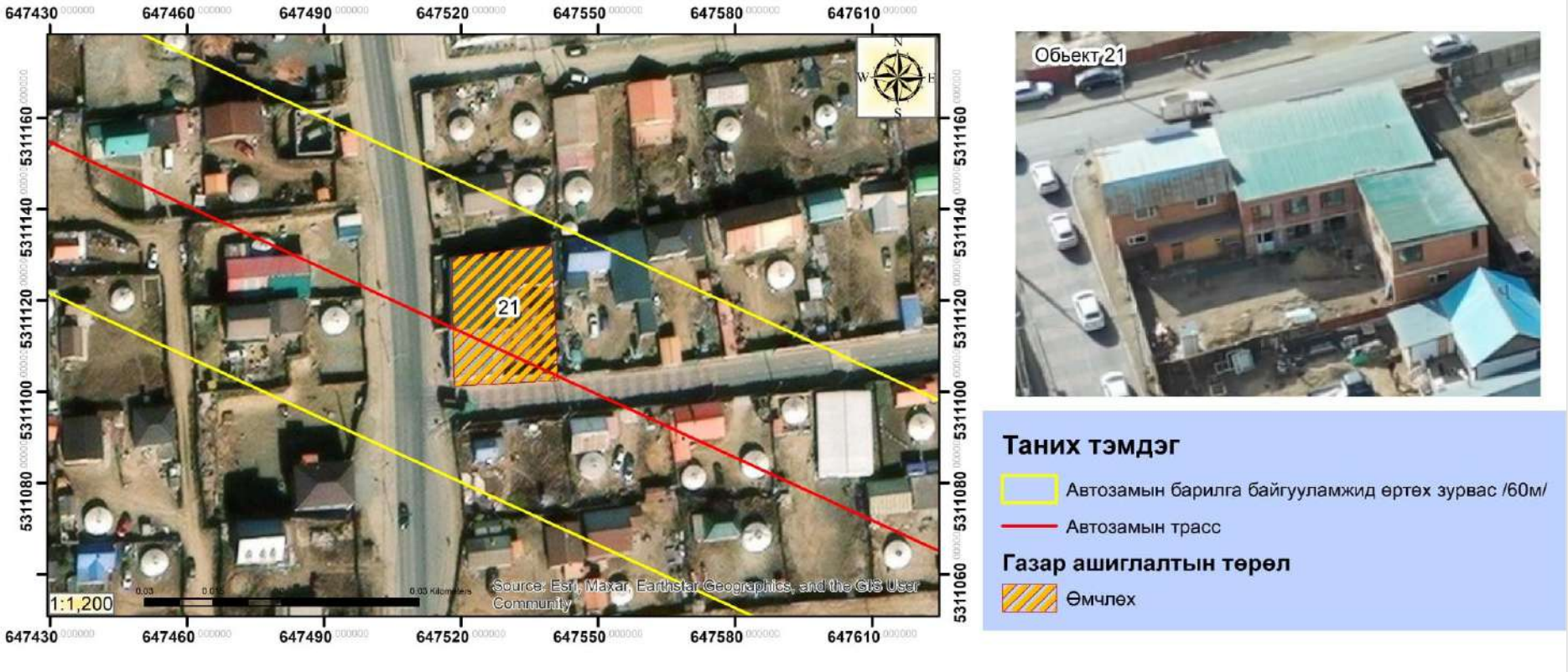


Figure 102. Object 21

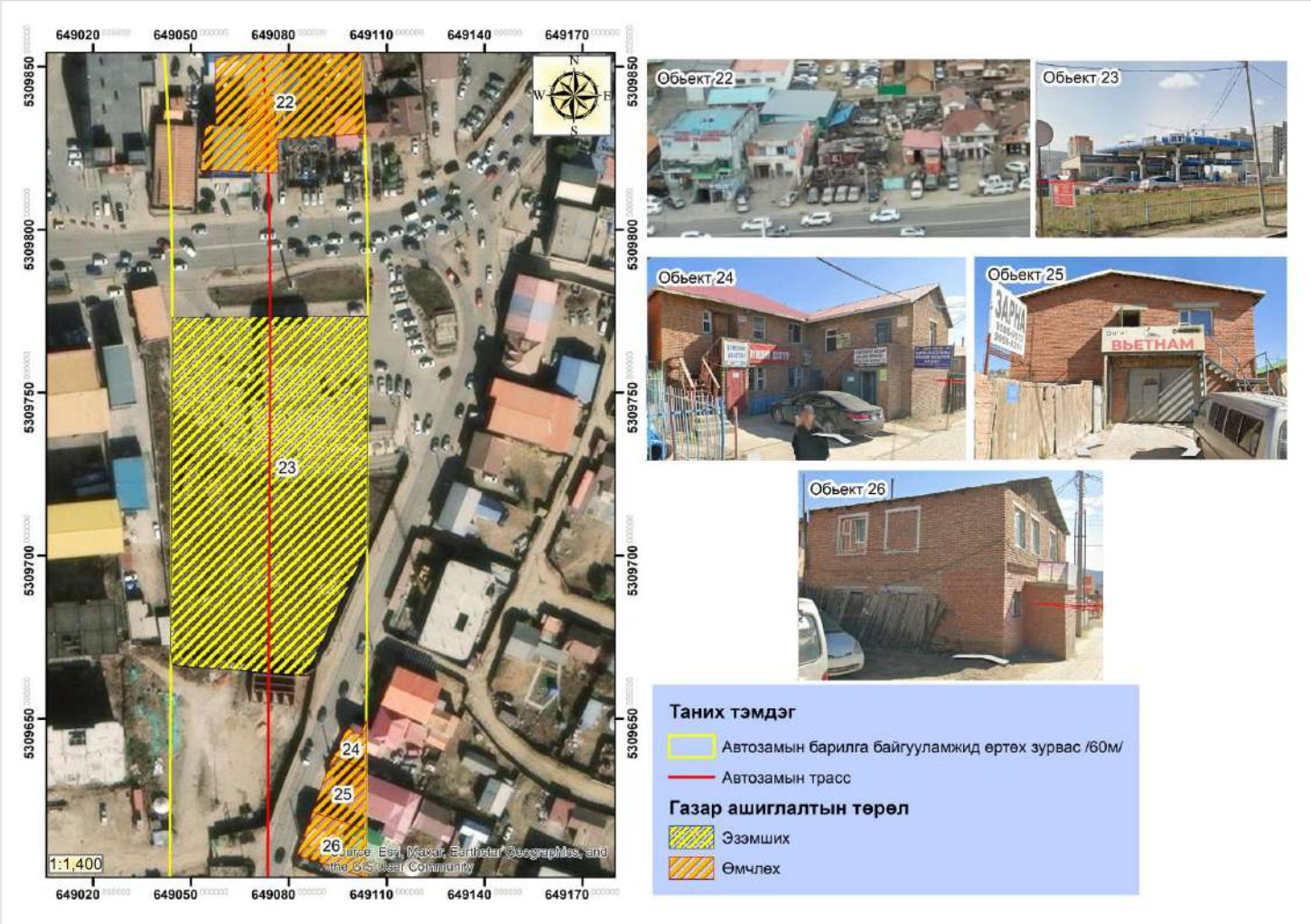


Figure 103. Objects 22-26

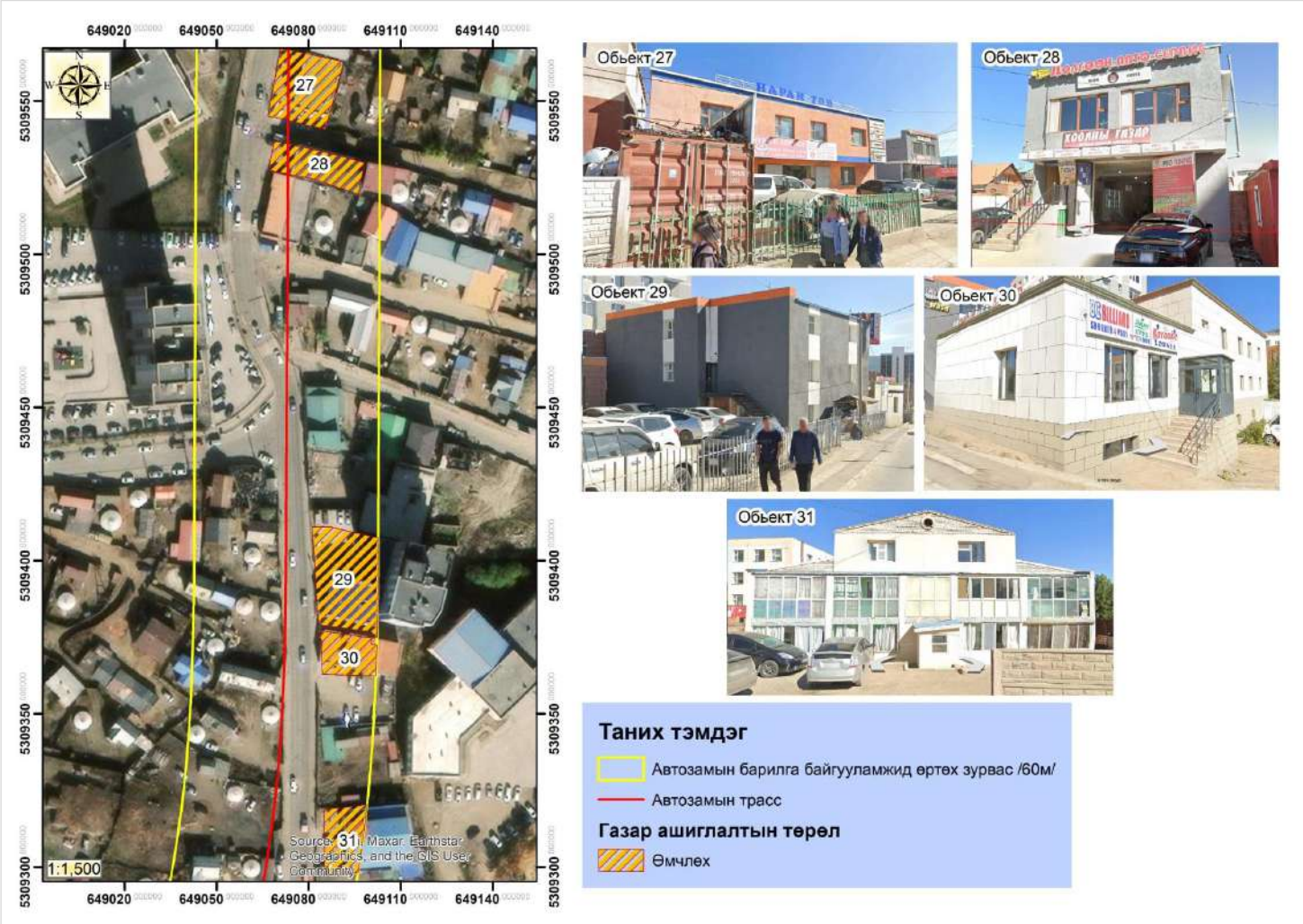


Figure 104. Objects 27-31

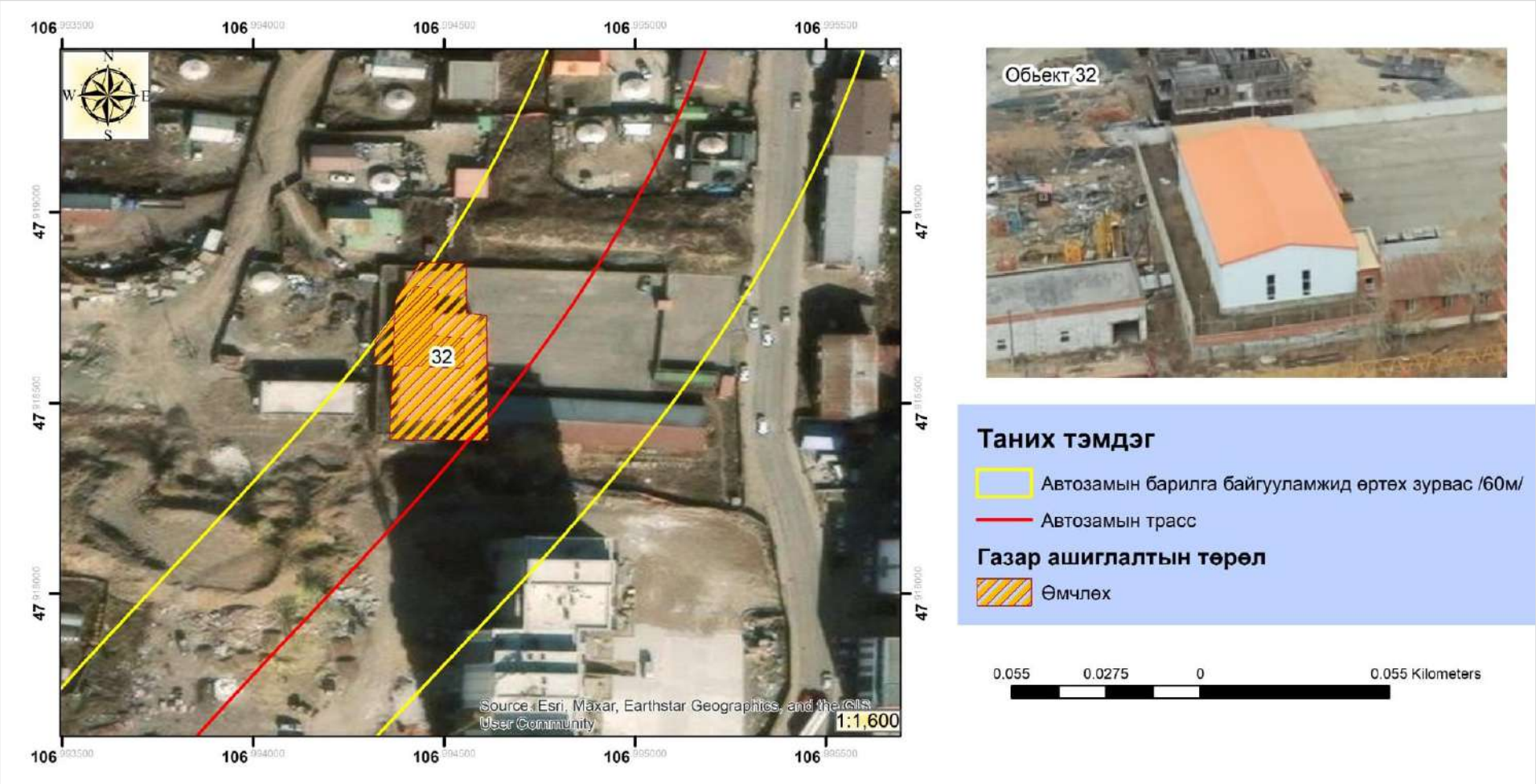


Figure 105. Object 32

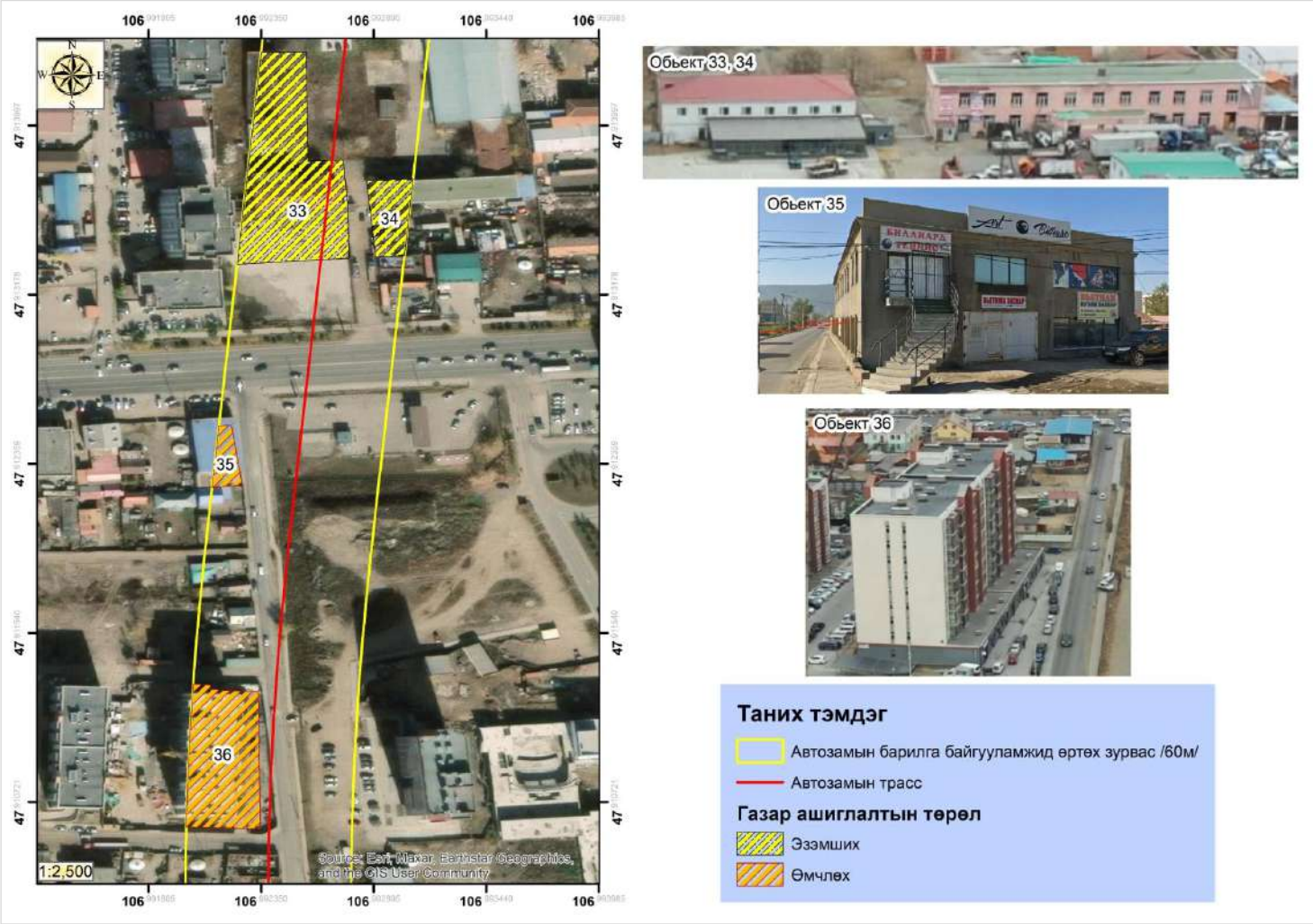


Figure 106. Objects 33-36

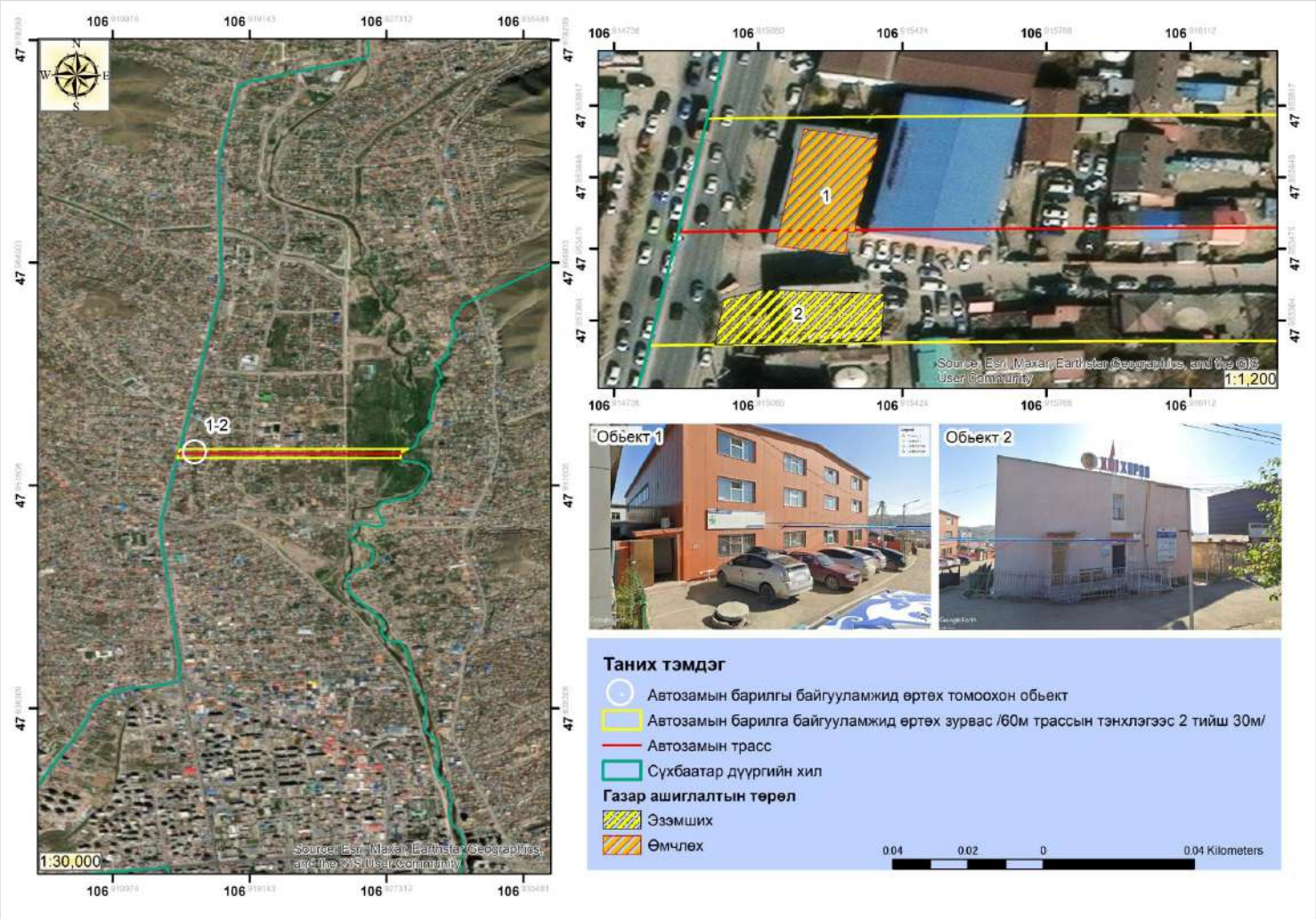


Figure 107. Location of major objects affected by road construction in Sukhbaatar district

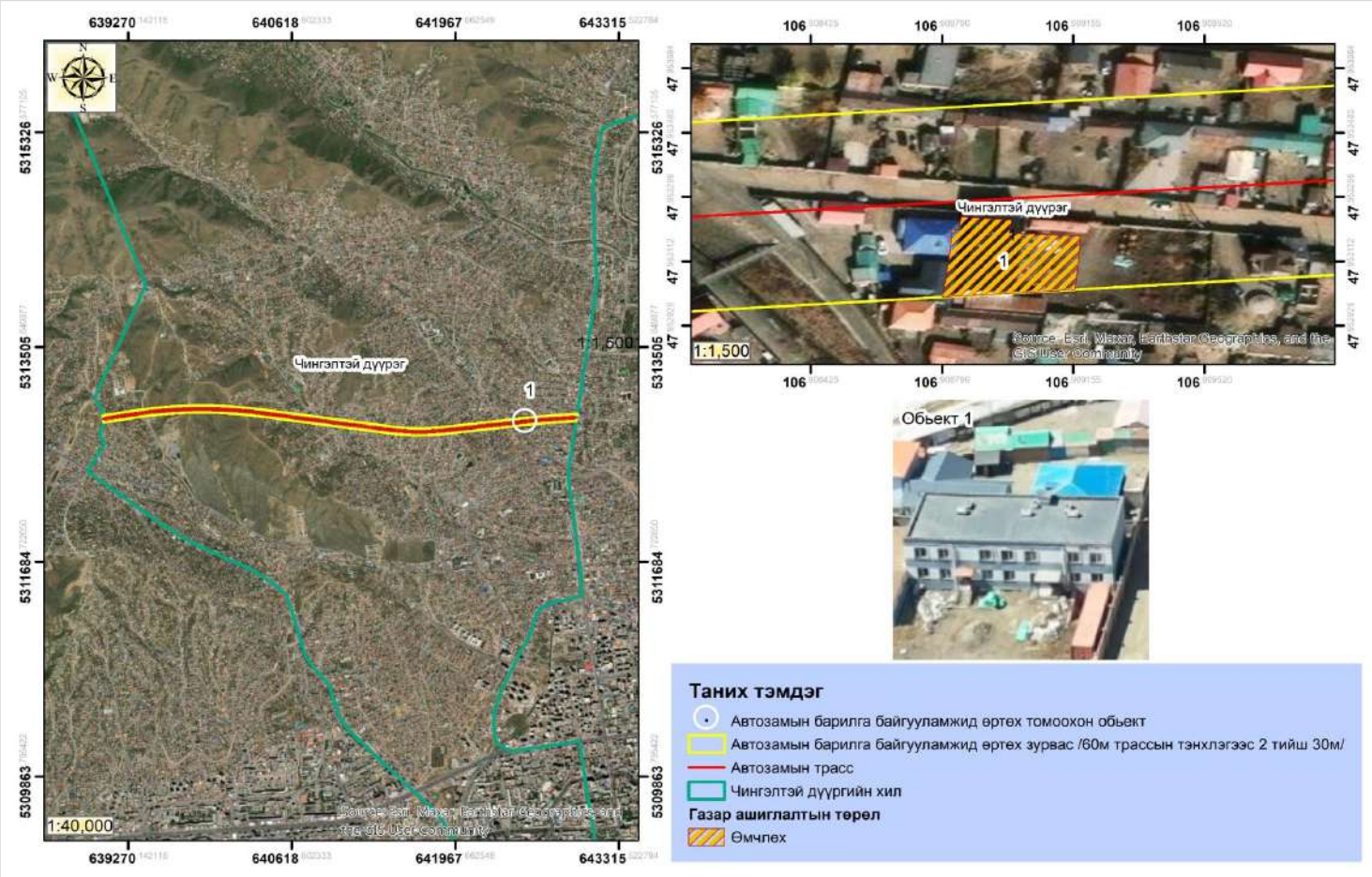


Figure 108. Location of major objects affected by road construction in Chingeltei distric

Figure 109. Location of major objects affected by road construction in Songinokhairkhan district

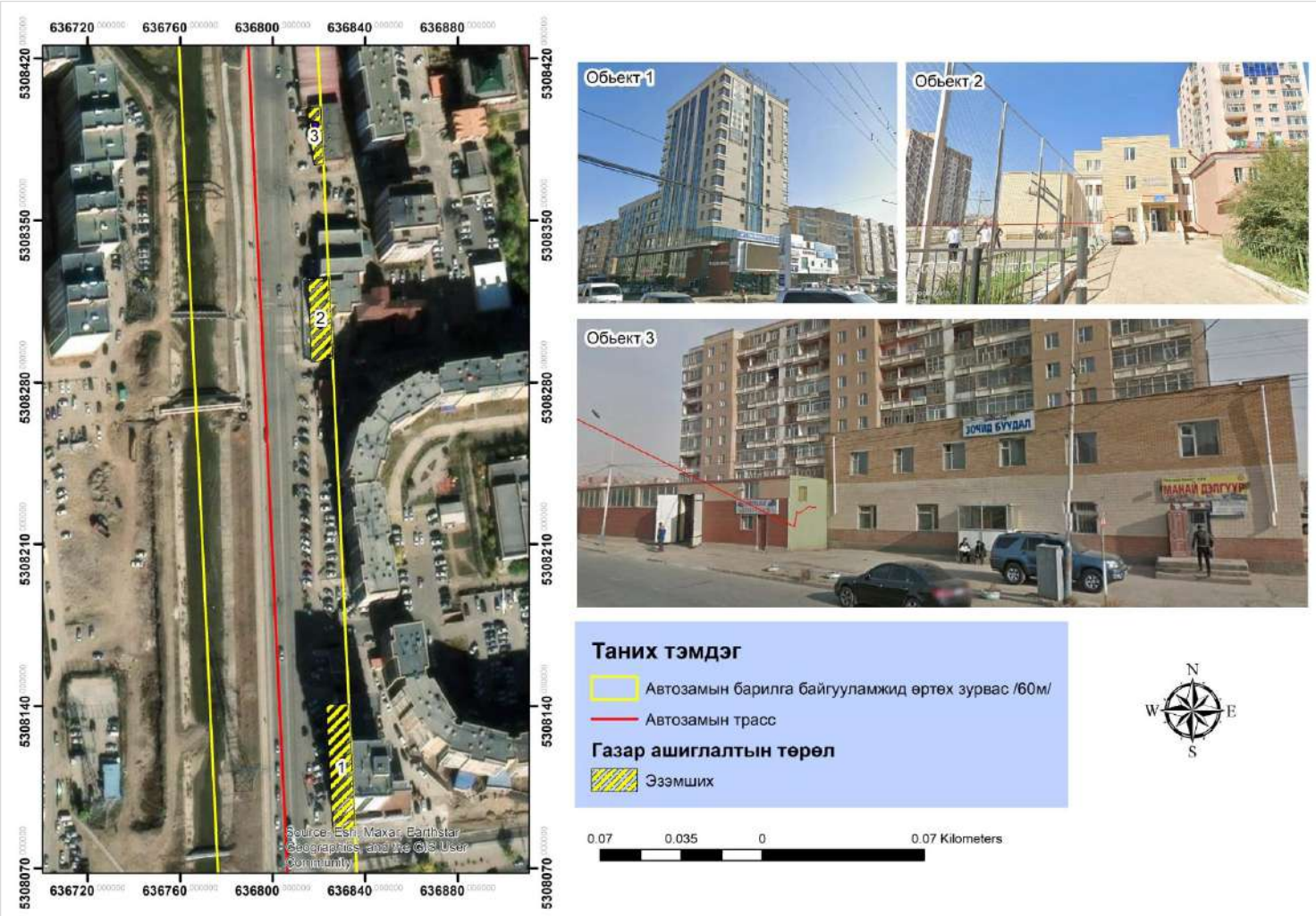


Figure 110. 24. Object 4-6

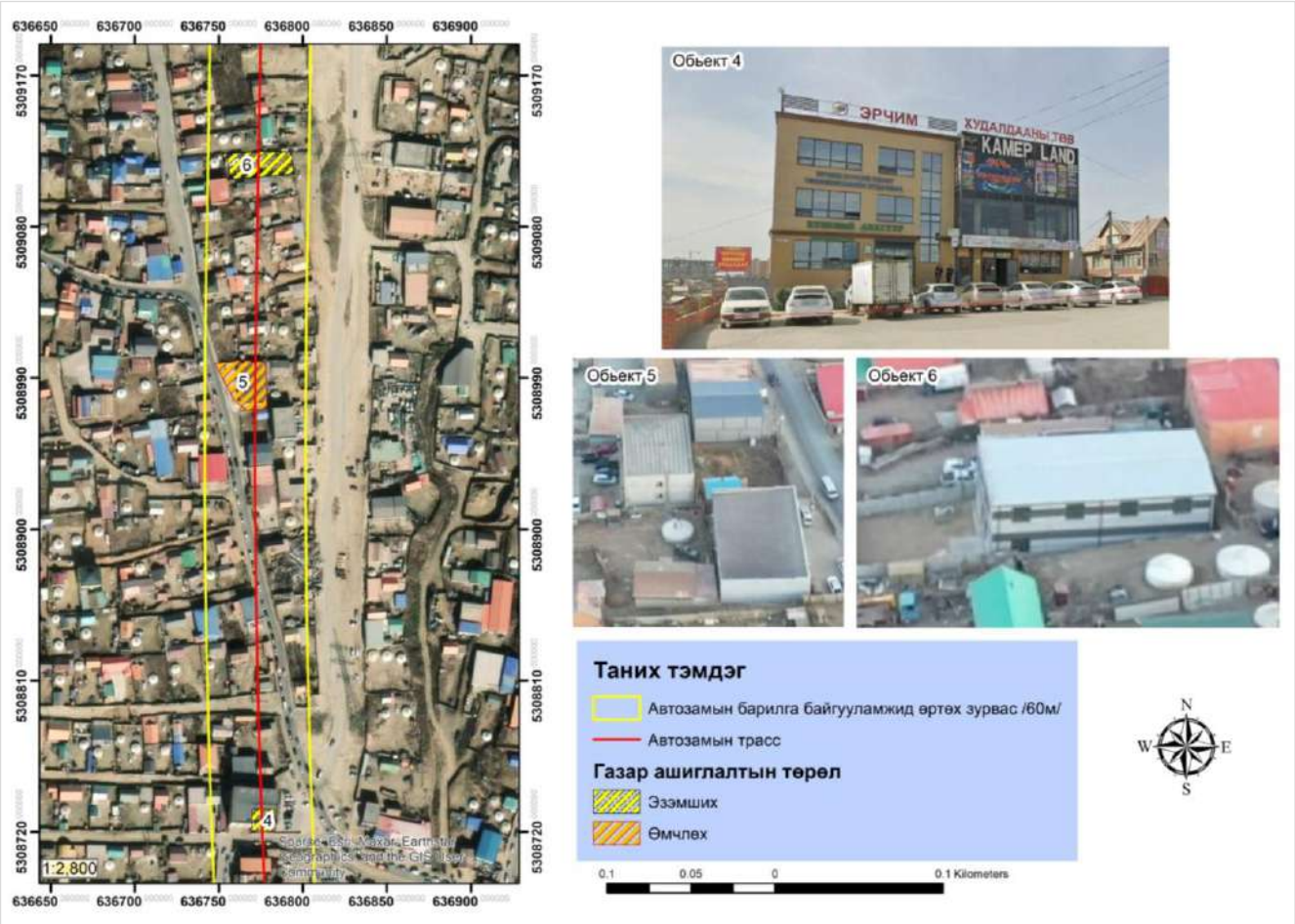


Figure 111. Object 4-6

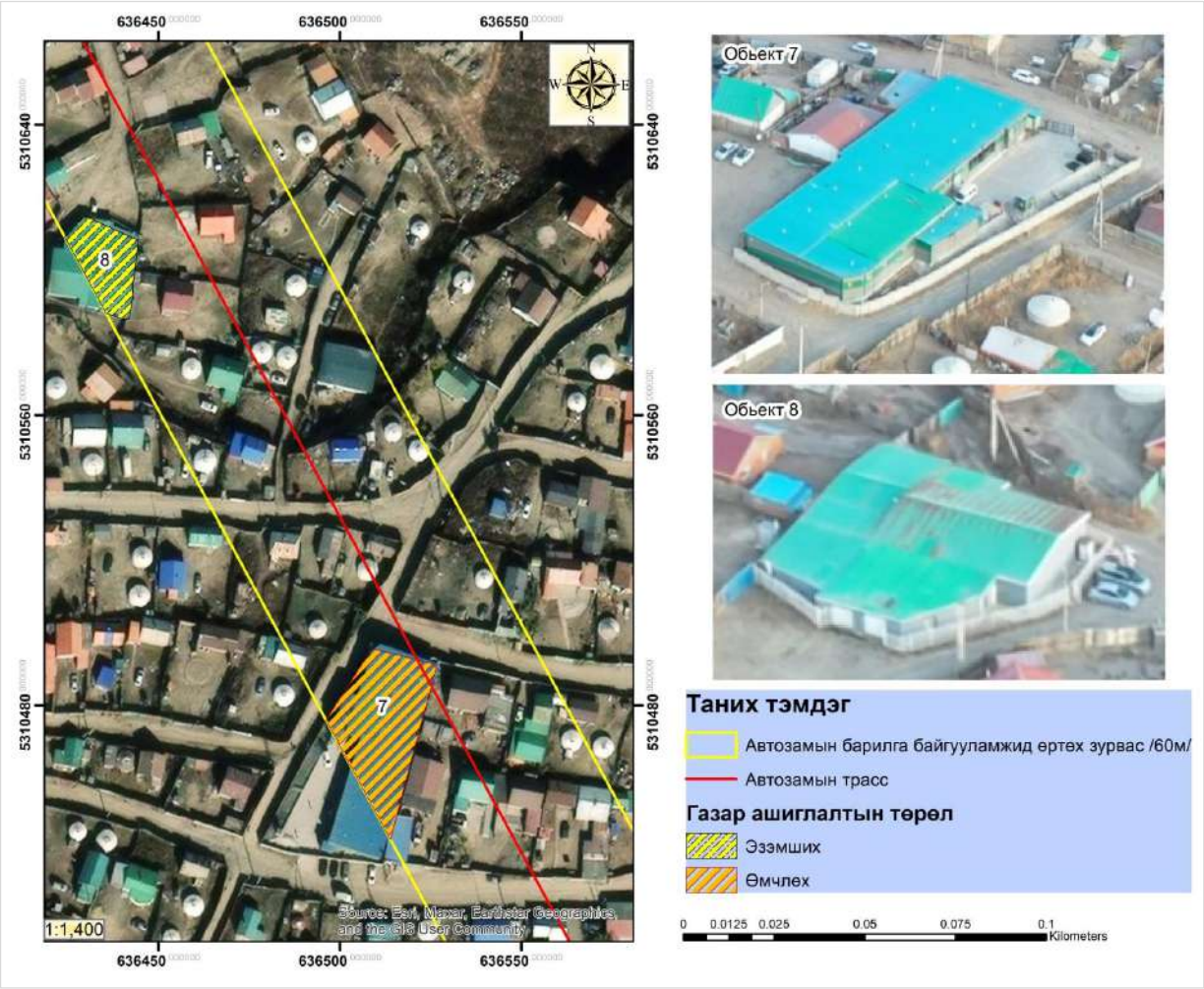


Figure 112. Objects 7, 8

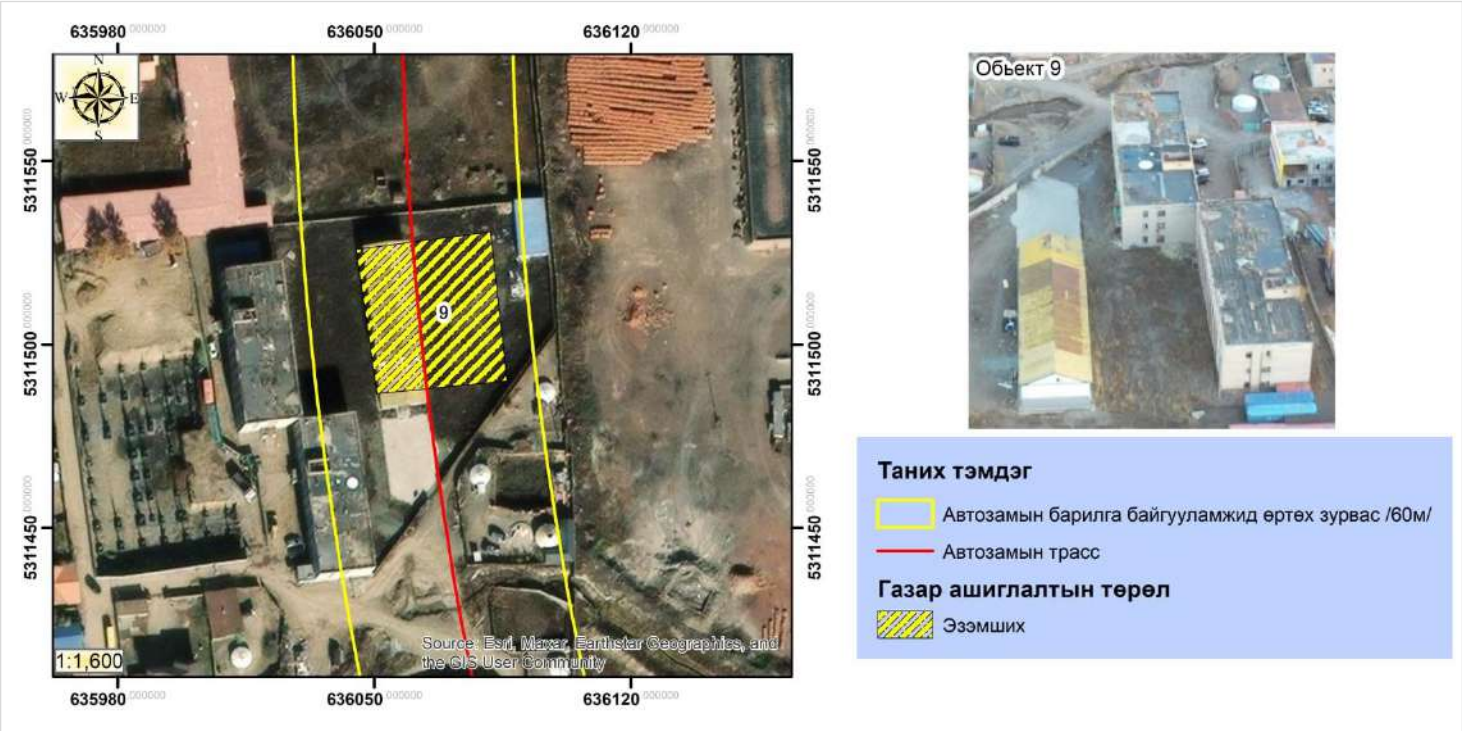


Figure 113. Object 9

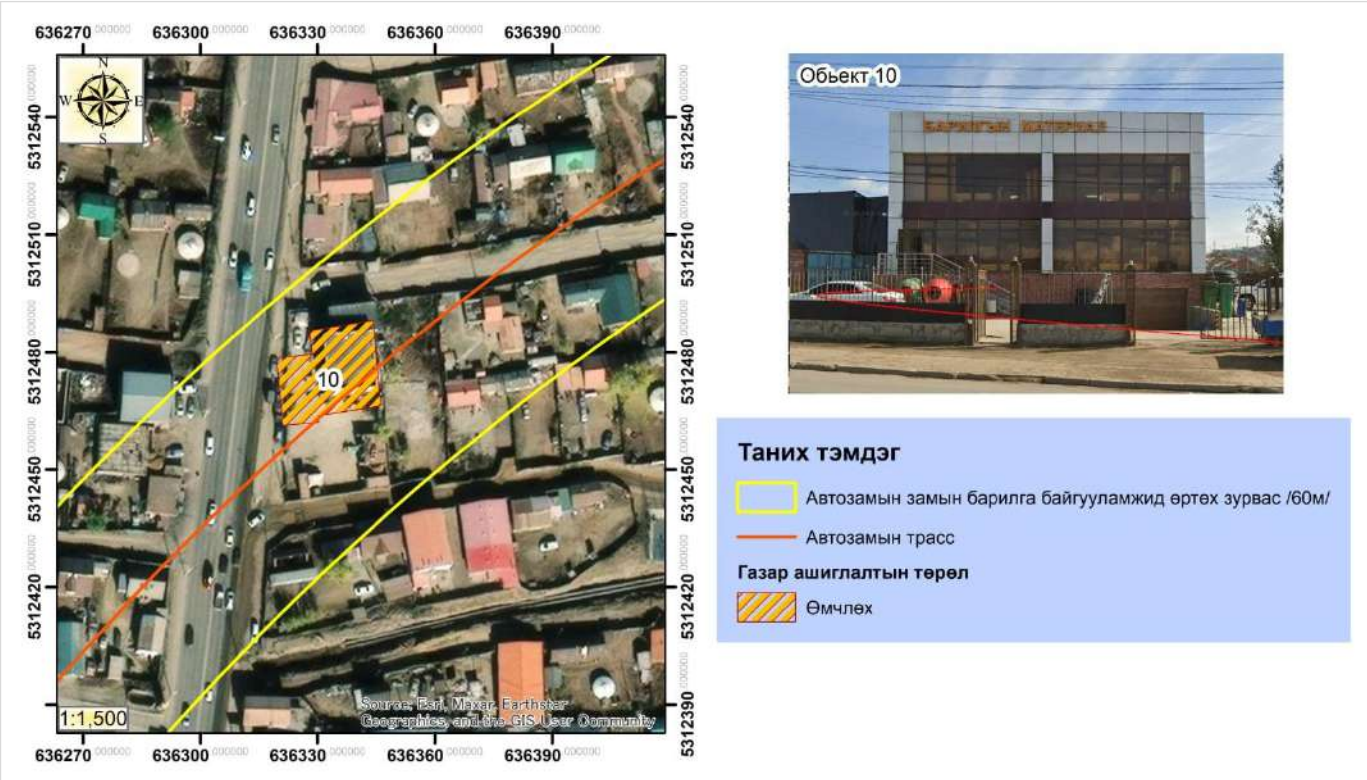
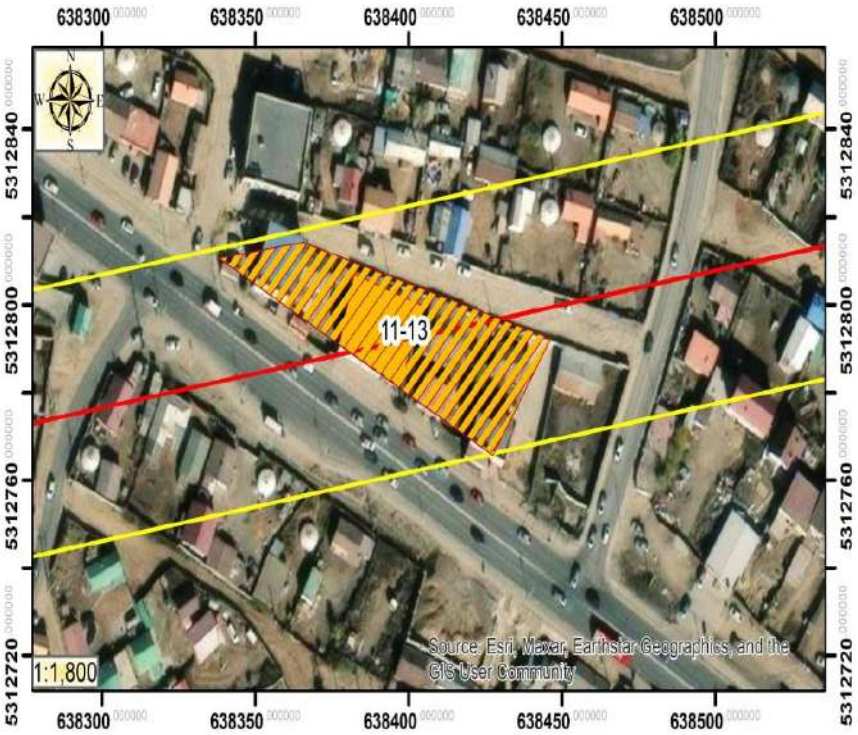


Figure 114. Object 10



Таних тэмдэг

Автозамын замын барилга байгууламжид өртөх зурвас /60м/

Автозамын трасс

Газар ашиглалтын төрөл

Өмчлөх

Figure 115. Objects 11-1

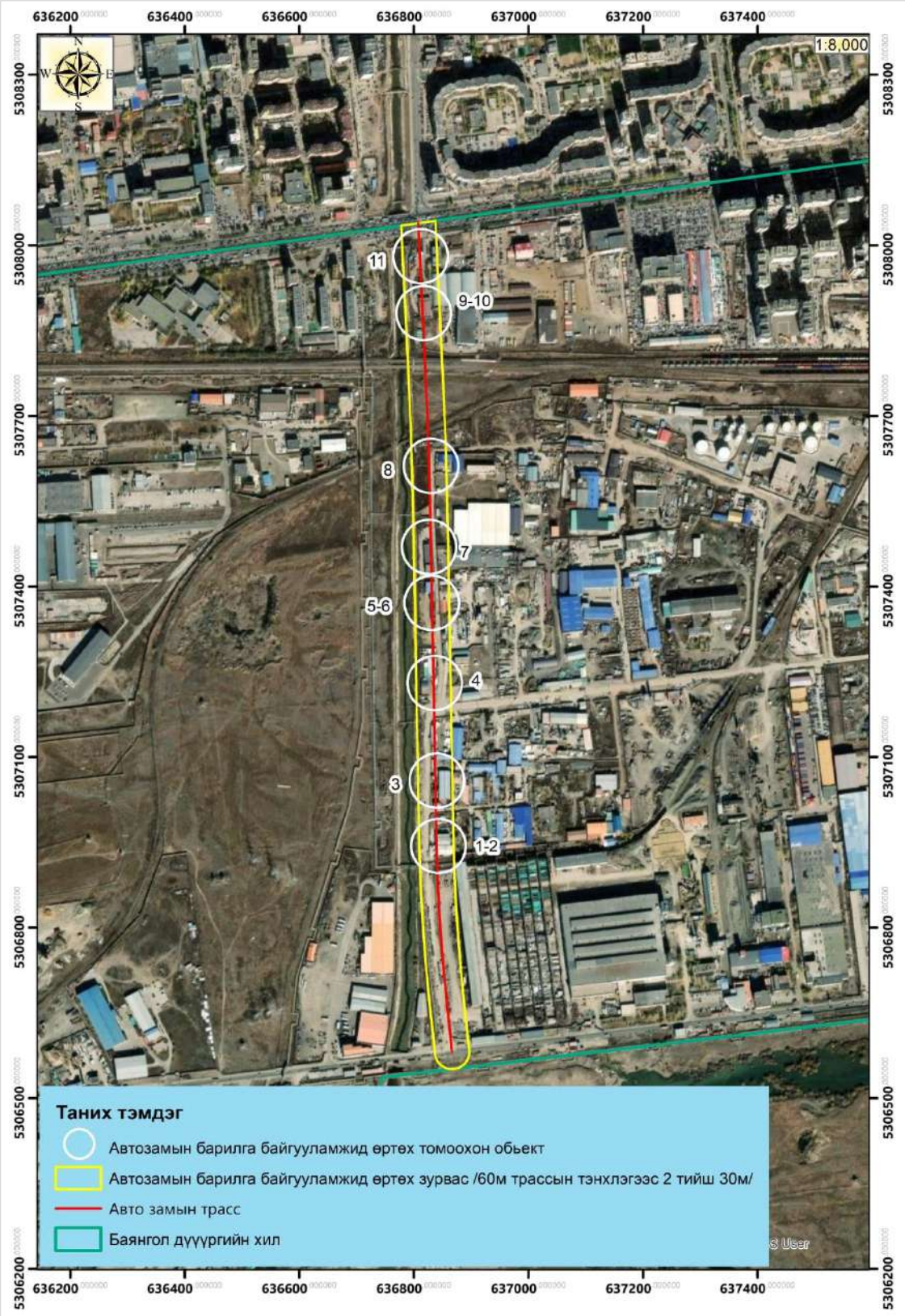


Figure 116. Location of major objects affected by road construction in Bayangol district

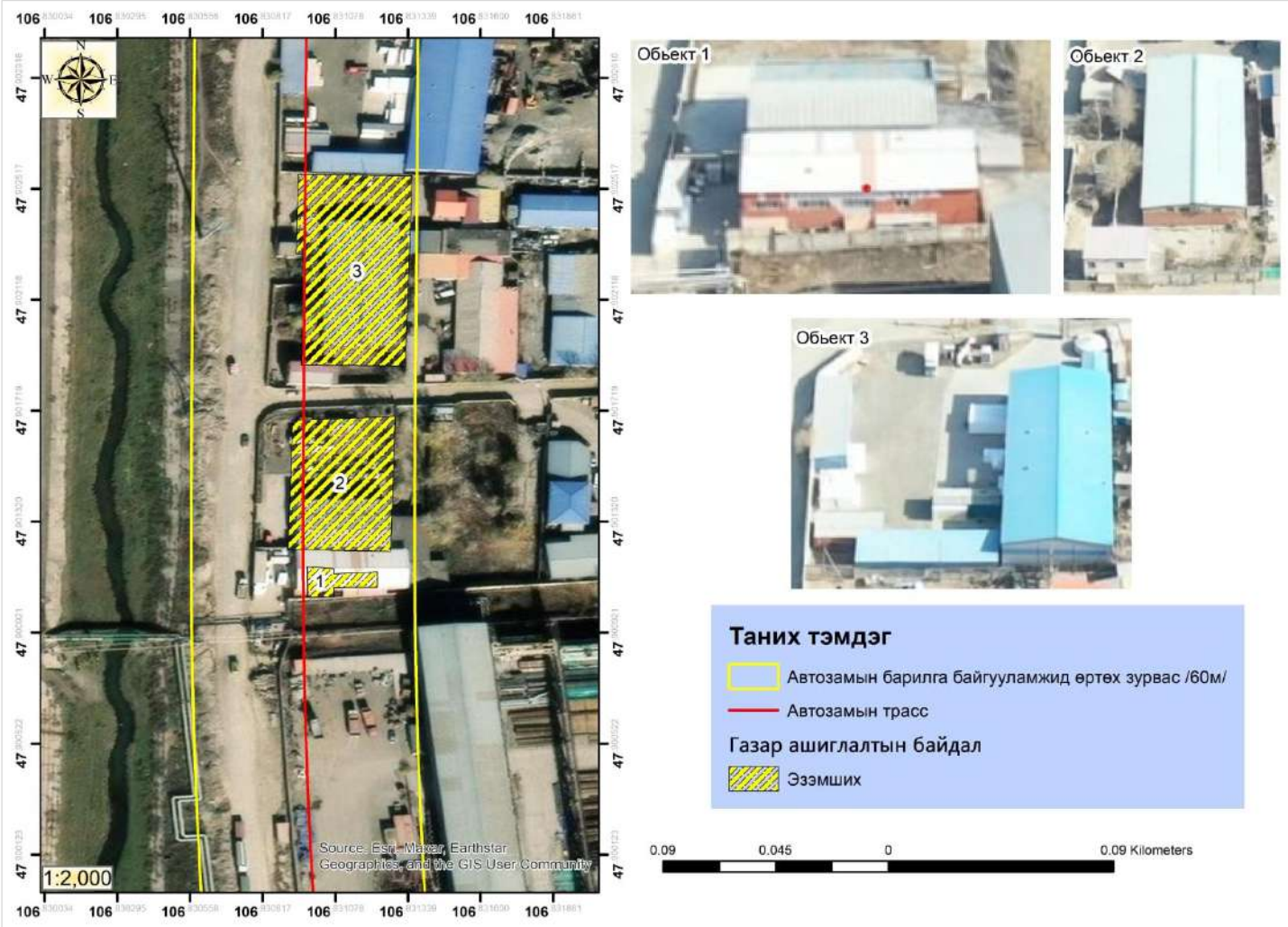


Figure 117. Objects 1-3

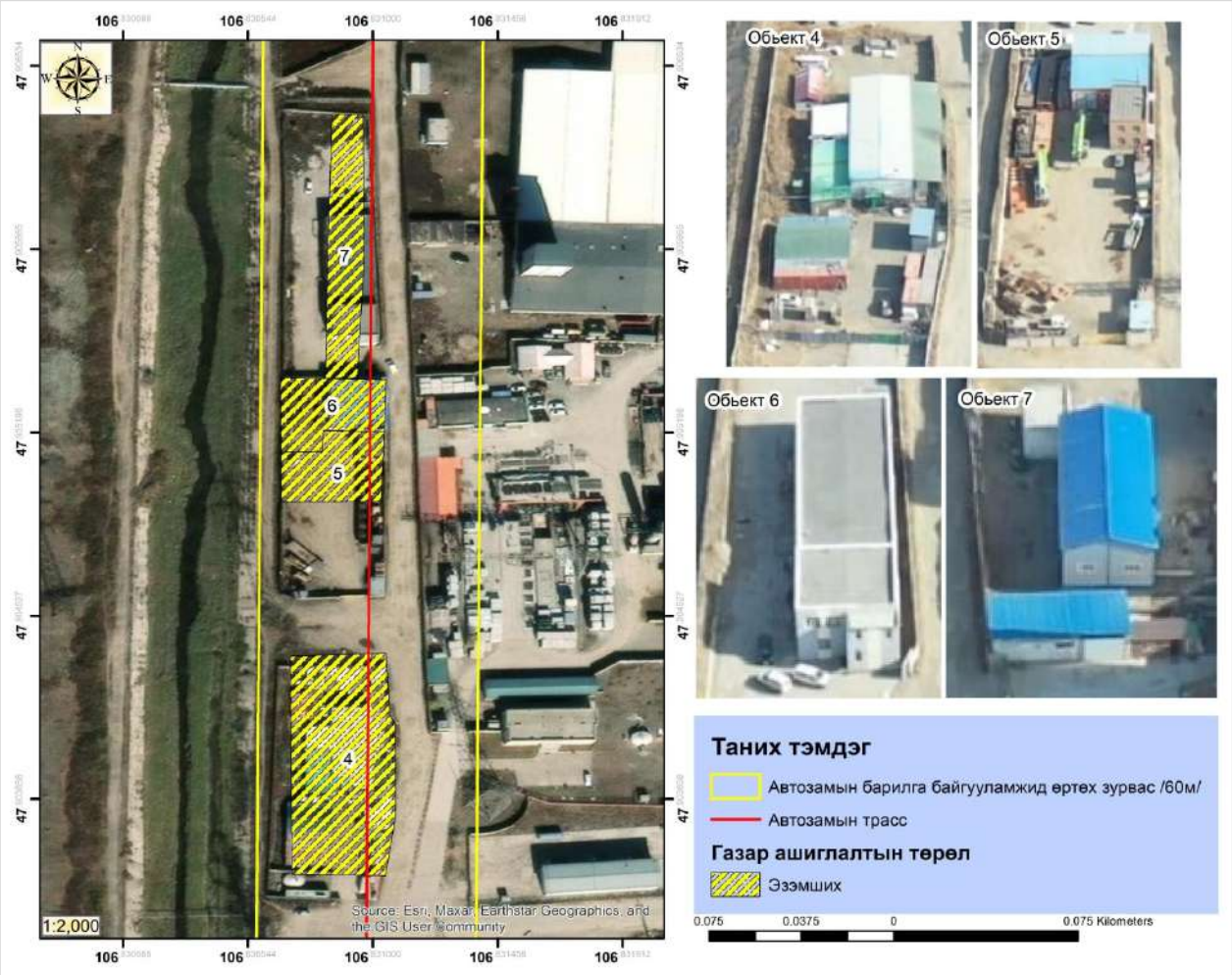


Figure 118. Объект 4-7

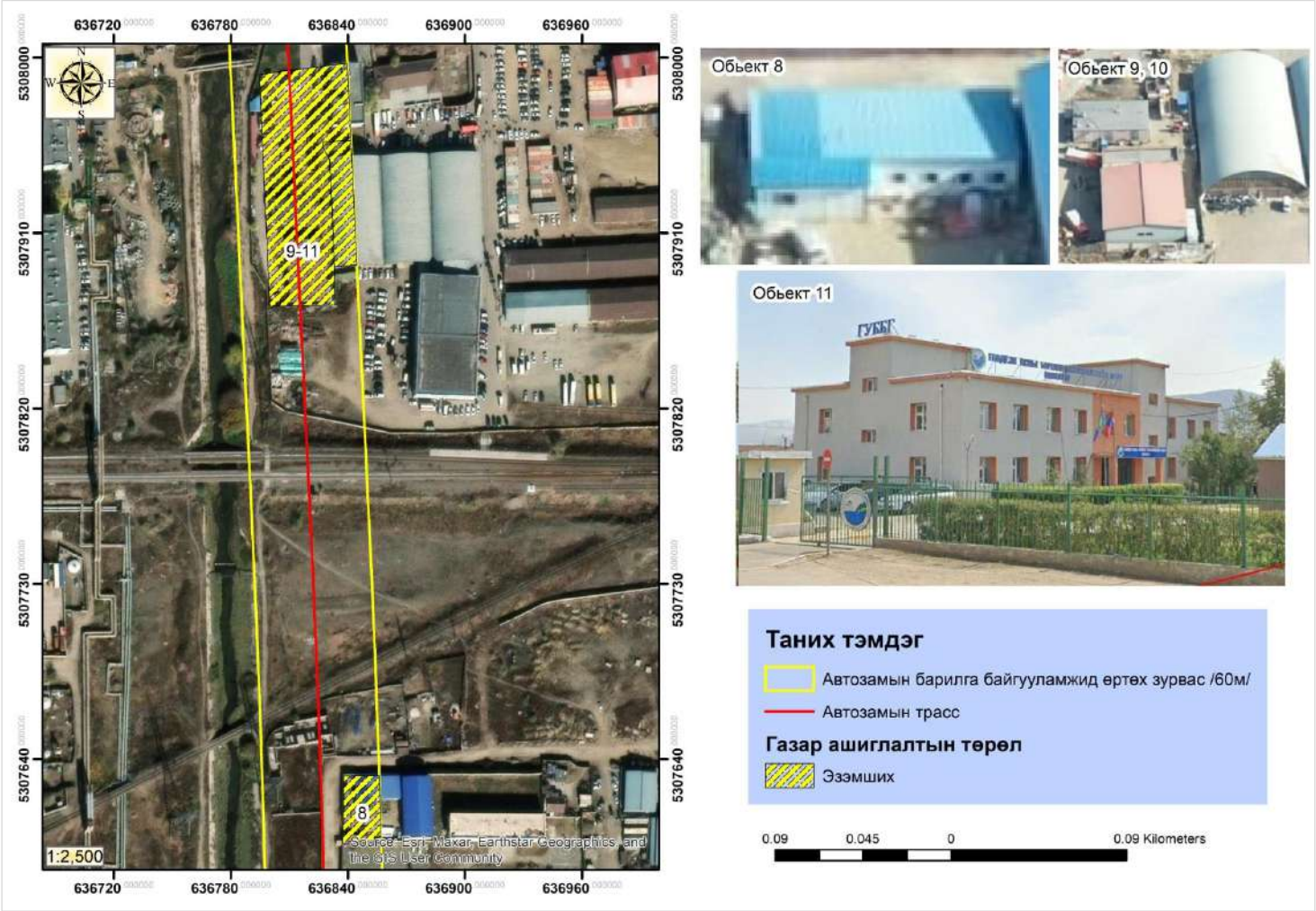


Figure 119. Объект 8-11

5.6.3. Survey of areas affected by construction work along the route

The land use area within a 60 m wide strip along the highway alignment is summarized in Table 5.5.

Table 37. Обьект 8-11

№	District	Land use type				Total
		Owner	Owner	User	Educational institution	
1	Bayanzurkh	666	357	-	5	1028
2	Sukhbaatar	71	25	-	-	96
3	Bayangol	-	26	1	-	27
4	Songinohairkhan	694	136	-	-	830
5	Chingeltei	324	109	1	-	434
Score		**1755**	**653**	**2**	**-**	**2415**

The types of land use areas and the number of units of land affected by the 60 m wide strip along the highway route are shown in Tables 5.6-5.7..

Table 38. Types of land tenure and number of units of land belonging to the 60 m wide strip along the route

Land use purpose	Bayanzurkh district	Sukhbaatar District	Chingeltei District	Bayangol district	Onion-loving district	Total
Houses and residential areas	310	21	107	4	120	**562**
Industrial buildings, structures, and other areas	3			9	4	**16**
Buildings and structures for motor transport services						**0**
Workplaces	2		1	5	1	**9**
4-story public housing and less	2					**2**
Gas stations, warehouses	3				1	**4**
Automobile repair and service stations						**0**
9-story public housing and more	2				1	**3**
Trade and public service centers, centers, and complexes	15			6	5	**26**
Educational institutions	5					**5**
Serviced housing	5					**5**
State administrative organizations	7	2		1	2	**12**
5-8-story public housing and more						**0**
Other publicly owned land	1					**1**
Residential housing	2					**2**
Water distribution points		1	1			**2**
Communication, information transmission and reception station						**0**
Family camping site		1				**1**

Water distribution, pumping and lifting facilities				1		**1**
Fountain						**0**
Car garage					1	**1**
Playground					1	**1**
Total	**357**	**25**	**109**	**26**	**136**	**653**

Table 39. Types of permitted use areas and number of units of land within 60 m of the route

Land use	Chingeltei District	Bayangol district	**Total**
Houses and residential areas	1		**1**
Industrial buildings, structures, other land		1	**1**
Total	**1**	**1**	**2**

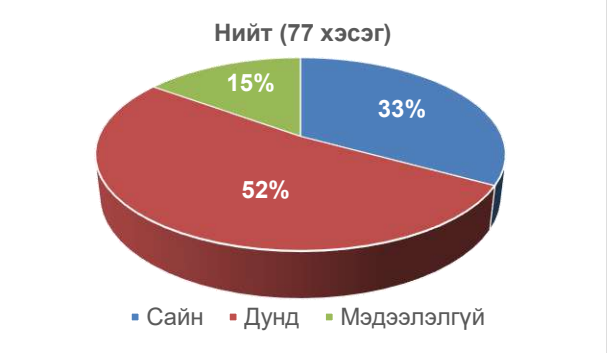
All 1,755 units of land acquired are designated for residential and residential yard use.

5.6.4. Questions and research results

A survey was conducted on the "New Ring Road" project from the leaders of 77 sub-districts in 29 khoroos in 5 districts that will be affected by the highway route.

If we combine the results of the poll:

1. Project information



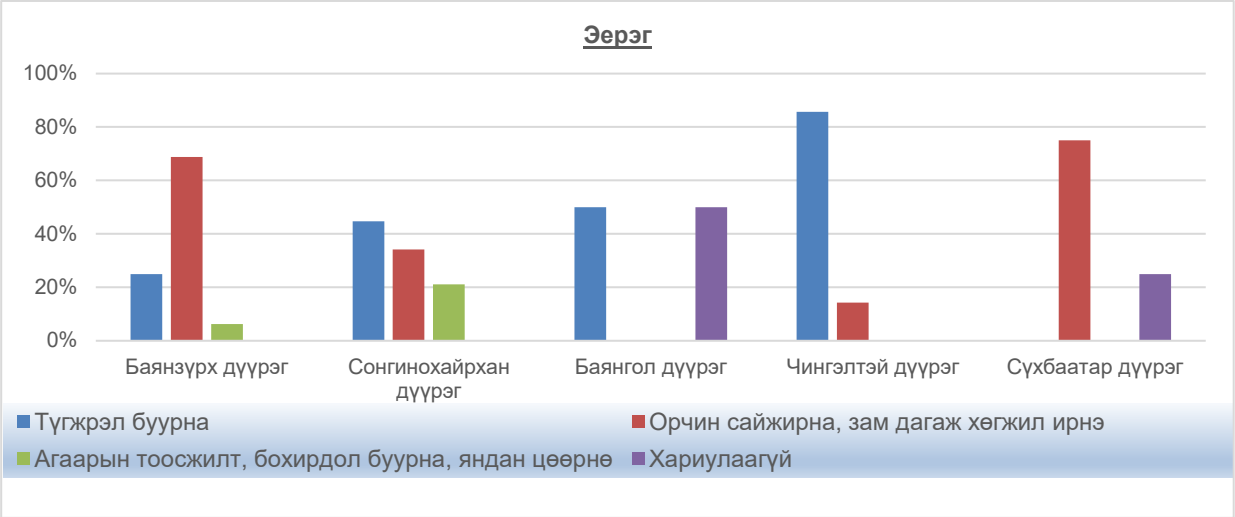
2. Living standards of households in the project area

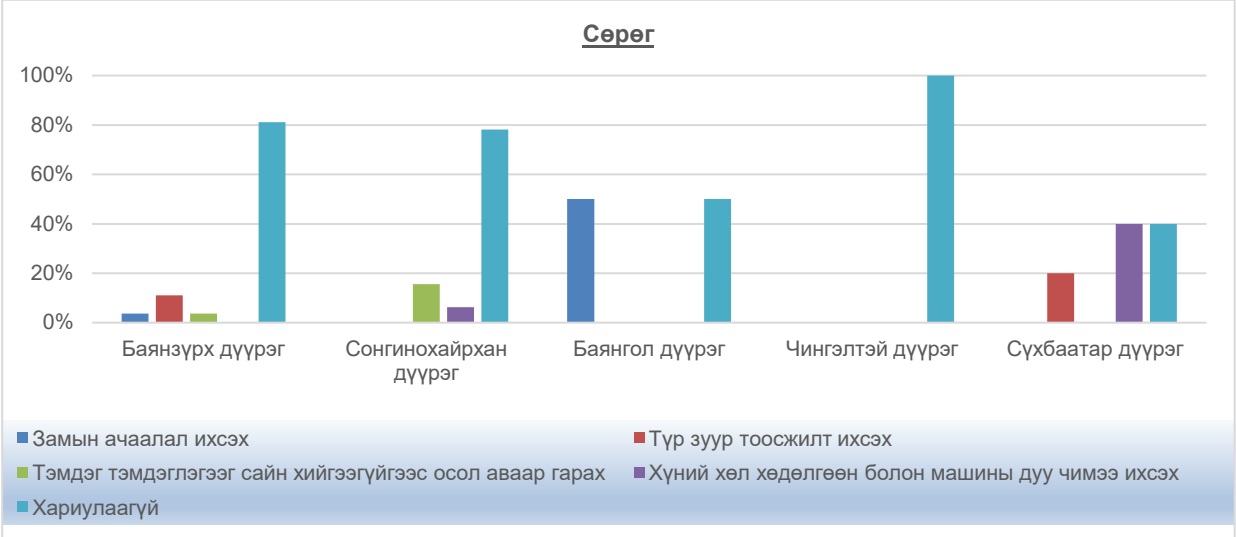
Note: There are no households in the territories of the participating khoroos of Bayangol district.

3. Difficulties in land acquisition in unit fields

№	Answers	Districts					Total
		Баянгол (2 хэсэг)	Onionkhairkhan (32 episodes)	With a bag (11 parts)	Sukhbaatar (part 5)	Bayanzurkh (part 27)	
1	No problems	50%	14.7%	33.35%	-	14.8%	16.7%
2	Difficult to provide compensation	-	11.8%	-	-	14.8%	5.2%
3	Prices are not suitable, difficult to reach an agreement	-	29.4%	11.1%	20%	-	20.8%
4	Difficult to relocate	-	20.6%	44.45%	-	18.5%	20.8%
5	Lots of business objects	50%	14.7%	11.1%	-	11.1%	13%
6	Many families live in the same yard	-	8.8	-	-	11.1%	7.8%
7	Agree on the location to relocate	-	-	-	-	7.4%	2.6%
8	Documentation problems	-	-	-	-	18.5%	6.5%
9	Lots of talk	-	-	-	-	3.7%	1.3%
10	Lots of dirt, debris, and 00 holes left	-	-	-	80%	-	5.2%

3. Positive and negative aspects of the project implementation



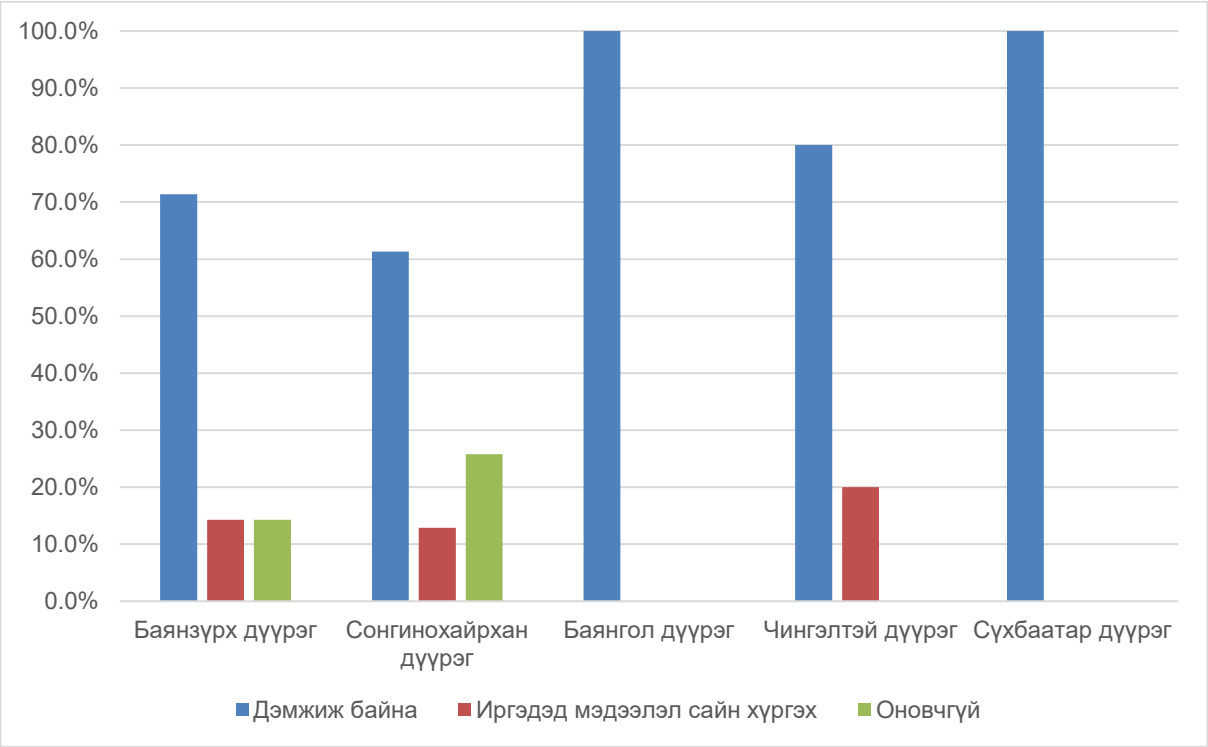


5. Enterprises and small business and service points within the project area

№	Answers	Districts					Total
		Bayangol (part 2)	Onionkhairkhan (32 episodes)	With a bag (11 parts)	Sukhbaatar (part 5)	Bayanzurkh (part 27)	
1	Business entity		61			91	152
2	Service office	10	16	11	2	18	57
3	Public building		1	3		-	4
4	Electricity center		1			-	1
5	Auto repair shop		3	4		3	10
6	Store		13	3	2	10	28
7	Car wash		1	1		3	5
8	Water distribution point		1	1		-	2
9	Kindergarten		2		1	1	4
10	Industrial site		1	1		-	2
11	Gas station					2	2
12	Construction facility				1	5	6
13	Prison					1	1
14	Coal sales point			1		2	3

	Amount	10	100	25	6	136	277

6. Optimality of road route planning



Suggestions and recommendations from the leaders of the groups who participated in the survey:

- build quality roads according to standards;
- complete road construction work in a short time;
- provide information to citizens and businesses quickly and clearly;
- conduct good research;
- build wide roads;
- have parking lots along the road and the distance between two road objects must meet the standards;
- build quality roads including road entrances, exits, lighting, cameras, and water outlets;
- have good road signs.

Conclusion

Summarizing the results of the survey conducted among the leaders of the districts and khoroos that may be included in the impact area of the "New Ring Road" project, the following conclusions can be drawn:

There is a lack of information about this project among citizens. Therefore, it is necessary to intensify information and publicity work through the governors of the districts before the project is implemented

- More than 90 percent of the total length of the highway route is planned in the ger district area, and the standard of living of the citizens is considered to be "average". This indicator should be

taken into account when calculating the amount of compensation for the release of land for individual plots.

- Citizens have a good understanding of the positive impact that the project will have on the socio-economic situation.
- However, it is necessary to take into account the possibility of difficulties in vacating land for construction sites and determining the amount of compensation during construction.
- The majority of the survey participants did not express any opinions about the negative impacts of the project, which indicates that they are positive about the results of the project.
- According to the information provided by the survey leaders, there are approximately 300 business entities, small and medium-sized enterprises, and small-scale civil service units in the project impact area, which should be taken into account when planning land acquisition and compensation amounts in advance.
- It is important to note that the recommendations from the survey participants emphasized the need to complete the road construction work in the shortest possible time and to provide citizens with good information to business entities.

6. CHAPTER VI. PRELIMINARY ASSESSMENT OF IMPACTS ON THE ENVIRONMENT AND SOCIETY

The purpose of this chapter is to identify and assess the positive and negative impacts on the environment and society during the construction of the project, the construction of the facilities, and after the project is implemented. In order to identify potential impacts, the impacts arising from the construction activities of the facilities were mainly considered.

6.1. ASSESSMENT METHODOLOGY

The assessment of the potential impacts on the environment during the implementation of the project was carried out using the methodology approved by the Minister of Environment and Forestry A-117 dated April 10, 2014 and the matrix method of the "Methodological Recommendations for Improving Environmental Management" issued by the World Bank.

Matrix Method (Matrices)

- Definition: This is a method that allows for a comprehensive assessment of the positive and negative impacts on the environment during the project activities and their implementation.
- Basic processing: Issues directly related to the project activities and issues related to the environmental components are classified along the vertical and horizontal lines of the matrix and their interactions are recorded in the matrix fields. The matrix is created using a list of project activities and a table or card of natural conditions.
- Input data: Issues directly related to the project activities and issues related to the environmental components
- Output: The sum of the row and column numbers is used to determine which project activities or environmental components should receive more attention in the future. The sum of the numbers is sometimes called the "occupancy weight".

Table 40. Impact assessment system

Impact intensity	Duration	Type of impact
No impact	ST-Short-term impact	Direct impact
Low		
Moderate	MT-Medium-term impact	Potential impact
High		
Dangerous	LT-Long-term impact	Indirect impact

6.2. CLIMATE IMPACT

Researchers have proven that global warming is related to the increase in greenhouse gas concentrations in the atmosphere, which is caused by human activities. In particular, urbanization has a significant impact on greenhouse gas emissions. Most of the greenhouse gas emissions are caused by the burning of fossil fuels, the reduction of green spaces, and improper land use.

These factors are issues that need to be addressed in a densely populated capital city.

The implementation of the new ring road project will have a positive impact on reducing greenhouse gas emissions in the project area.

The project activities will not have a negative impact on the climate.

Climate Impact Assessment

The results of the climate impact assessment analysis of the project implementation are shown in Table 6.2.

Table 41. Results of the climate impact analysis matrix

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
Positive impact						
1	Reducing greenhouse gas emissions		LT			
Conclusion: The positive impact on the climate is considered to be of moderate intensity and direct impact. The impact will last for a long time.						

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.3. IMPACT ON AIR QUALITY

During the implementation of the project, there will be a significant increase in the number of people, vehicles, and equipment, mechanical excavation of sediments, and transportation of equipment and construction materials, which will lead to changes in the quality of the ambient air, including dust, toxic gases emitted from the exhaust fumes of heavy machinery, and noise.

A. Dusting

Dust during construction work

Primary sources of dust:

The main source of dust is the earthworks carried out at the construction site. In other words, the following technological activities will be the main sources of dust during the construction period. These include:

- Soil stripping;
- Excavation, compaction, loading and stacking operations at the construction site;
- Loading and unloading of materials;

All of the above earthworks carried out over a relatively large area, as well as the disturbed, eroded and crushed land, piled soil and sedimentary rocks, etc., that are caused by these operations, are all the main sources of dust.

The amount of dust generated in the air depends on the size and particle composition of the source of its generation, as well as on wind, precipitation and humidity.

In the spring (autumn) season, when there is relatively high wind, the dust concentration from the construction site and freight transport routes will be high and the dispersion distance will be long.

Post-project dust

After the project construction work is completed and the landscaping and biological restoration work is completed in the damaged area, there will be no source of dust.

B. Toxic gases and soot

During the work of earthmoving, heavy loading and unloading machinery and self-dumping vehicles at the project site, toxic gases and soot emitted into the air due to incomplete combustion of liquid fuel will affect the ambient air quality.

The greater the capacity of the machinery, the greater the amount of fuel consumed. The amount of fuel consumed will pollute the surrounding air.

The amount of pollution, which contains about 200 chemical compounds and toxic substances in the exhaust of internal combustion engines, depends on many factors, including the wear and tear of the machinery, the distance traveled, its fuel consumption, capacity, its own weight, the total amount of road resistance, the condition of the dirt road, speed, driver skill, the quality of the fuel and lubricants used, the quality and quantity of maintenance performed on the engines, whether they are damaged or not, whether the maintenance has been inadequate, and whether the earthworks being carried out are difficult and difficult.

The most common pollutants from them include CO, NO2, SO2, and soot.

According to the results of the study, when a car burns 1 kg of gasoline at an average speed and load, an average of 300-310 g of toxic substances are released into the air, and when burning 1 kg of diesel fuel, 80-100 g of toxic substances are released into the air.

When the project is fully implemented, the above sources of air pollution will no longer exist, and pollution will not occur.

B. Noise and vibration

The main sources of noise are heavy machinery, electrical and gas-powered equipment used in the construction of buildings.

Drilling and blasting work to loosen rocks and sediments will have a negative impact on the surrounding environment in the short term.

Air quality impact assessment

The results of the air quality impact assessment analysis after the project is implemented are shown in Table 6.3.

Table 42. Results of the air quality impact analysis matrix

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	During construction, dust will be generated from the damaged areas and dispersed into the environment.		ST			
2	Dust, smoke, and noise from construction will travel 10-100 m from the source, depending on the prevailing wind speed, weather conditions, and traffic intensity, and will disperse to the natural background level.		ST			
3	Smoke from the exhaust of vehicles used in construction will negatively affect the air quality in the surrounding area.		ST			
After the project is implemented						
Positive impact						
1	Increasing vehicle speeds will reduce the impact on air quality			MT		
Conclusion: The impact on the air environment during construction is considered to be low in intensity. In terms of impact type, it is a direct impact. The duration of the impacts will be short-term.						

The project will have a positive impact of medium intensity upon implementation. In terms of impact type, it will be a direct impact and will last for a medium period.

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.4. IMPACT ON SOIL COVER

During construction work

№	Impact
1	During construction, the soil cover is disturbed and the surface condition changes.
2	Changes in the surface of the soil cover cause the soil to be compacted, compacted, and its structure changes, and its natural fertility is lost.
3	The movement of automobiles and heavy machinery creates many roads and creates loose soil, which creates conditions for the formation and blowing of loose soil.
4	Solid particles such as dust and volatile substances resulting from soil erosion and damage will spread throughout the site, covering the soil cover and thus polluting it.
5	The soil cover will be polluted by household waste and spillage of fuel and lubricants from machinery.

During the construction of the project site, 146.3 hectares of soil cover will be directly affected and destroyed along the 24.39 km highway route.
At the end of the project construction work, technical and biological restoration will be required to restore soil damage and erosion.

After the project is implemented

There will be no new soil erosion, degradation, or pollution after the project is implemented.
As a result of biological restoration, the natural landscape will be restored by planting grass, trees, and shrubs along the highway, and the area that has been damaged by human activities and earthworks will be created a comfortable environment.

Impact assessment on soil cover

The results of the impact assessment of the project on soil cover are shown in Table 6.4.

Table 43. Results of the soil cover impact analysis matrix

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	Soil cover destruction in areas affected by construction			LT		
2	During construction, the surface condition changes due to earthworks		LT			
3	Changes in the surface of the soil cover cause soil compaction, compaction, and loss of natural fertility		ST			
4	Erosion and damage to the soil due to the movement of machinery			ST		
5	Soil cover contamination from household waste and spillage of fuel and lubricants from machinery		ST			
6	Solid particles such as dust and volatile substances generated by soil erosion and damage spread into the field environment, polluting the soil cover		ST			
After the project is implemented						
Positive impact						
7	The natural landscape will improve as the soil cover is restored.			LT		
Negative effects						
8	Decrease in the area covered by soil			LT		

Conclusion: Considering the intensity of the impact on the soil cover during construction, the majority of the impacts are of low intensity, while the rest are of moderate intensity. In terms of the type of impact, the direct and potential impacts are similar. The duration of the impacts will be short and long-term.
After the project is implemented, there will be no negative impact and a moderate positive impact. In terms of the type of impact, there will be a direct impact and will be long-term.

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.5. IMPACT ON VEGETATION

The impact on vegetation from project activities will vary in magnitude depending on the size of the affected area, the length of the highway route, and the type of land use and buildings along the route..

During construction work along the highway route, a certain amount of vegetation will be destroyed and degraded. During earthworks, the vegetation in the area will be destroyed and degraded.

During construction work

Due to the relocation of households in the project area, the removal of waste, and the stripping, transportation, piling, blasting, excavation and transportation of soil at the project site, and the movement of heavy machinery, the vegetation cover will decrease, the number of plant species will decrease, the soil microenvironment will change and the plant species will increase, and the soil will lose its fertility and the vegetation cover will be destroyed.
Another indirect impact that will affect the vegetation cover during the project operation is dust. Dust generated from the disturbed areas and the movement of heavy vehicles will remain in the area for a long time. As a result, the fine soil mulch deposited on the plant leaves will negatively affect the viability of the plants.

After the project is implemented
By planting grass, trees, and shrubs through biological restoration, it is possible to positively affect the plant yield in the area.
However, the construction of a highway in the project area will reduce the area with vegetation cover.
After the project is implemented, 146.3 hectares of vegetation cover will be directly stripped and destroyed.
As a result of biological restoration of the degraded area, the natural appearance will be restored and comfortable conditions will be created.

Assessment of the impact on vegetation cover
The results of the assessment of the impact on vegetation cover after the project is implemented are shown in Table 6.5

Table 44. Results of the vegetation impact analysis matrix

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	Construction of buildings and complete destruction of vegetation cover in the area			LT		
2	During construction, new dirt roads and surrounding vegetation will be directly or indirectly affected		ST			
3	Piles of topsoil and construction and household waste will affect vegetation cover		ST			
After the project is implemented						
Positive impact						

4	Biological restoration creates favorable conditions for plant growth in the natural environment.			LT		
Negative effects						
5	Destruction and degradation of vegetation cover			LT		
Conclusion: The impact of construction on vegetation is considered to be of moderate intensity in terms of intensity. In terms of impact type, potential impacts predominate. The duration of impacts will be short-term and long-term. After the project is implemented, there will be a positive impact of moderate intensity. In terms of impact type, there will be a direct impact and will continue for a long time. However, the negative impact of complete destruction of vegetation is expected.						

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.6 IMPACT ON FAUNA

As the fauna species, habitats, and migrations of Ulaanbaatar city's urban areas have been completely lost, leaving only a small number of mammals and birds living in urban areas, there is no need to assess the impact on fauna.6.7. Гадаргын усан орчинд үзүүлэх нөлөөлөл

6.7 DURING CONSTRUCTION

The Selbe River floodplain will have an impact on the river's water regime and quality during construction. For example, dust generated in the air during construction will fall to the water surface, construction materials will enter the river in large quantities, pollution from the work site will enter the river through the ravine and ravine with rainwater, and soil pollution from construction activities will enter the river through the seepage of rainwater, floodwater, and groundwater.

The negative impact on the river water will be eliminated after construction work..

Surface Water Impact Assessment

The results of the surface water impact assessment analysis upon project implementation are presented in Table 6.6..

Table 45. Results of the impact analysis matrix for the surface water environment

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	Soil contamination is carried by temporary runoff and pollutes the river flow		ST			
2	Changes in the flow regime and water quality of the Selbe River		ST			

Conclusion : The impact on surface water during construction is considered to be of low intensity. In terms of impact, it will be a short-term and direct impact. After the project is implemented, there will be no positive or negative impact on the flow of the Selbe River. .

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.8. IMPACT ON GROUNDWATER

During construction

During the construction of bridge piers and tunnels, groundwater may be contaminated and its regime may change due to the decrease in groundwater levels during the drainage of water..

Groundwater Impact Assessment

The results of the assessment analysis of the impact of the project on groundwater are presented in Table 6.7.

Table 46. Results of the impact analysis matrix for the surface water environment

№	Influence	Impact intensity				
		Not affected	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	Soil and surface water pollution during construction work will contaminate groundwater		ST			
2	Reducing groundwater levels and changing regimes		ST			
Conclusion: The impact on groundwater during construction is considered to be of low intensity. The impact will be short-term with potential impacts. There will be no positive or negative impacts on groundwater after the project is implemented.						

Description:

LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.9. IMPACT ON SPECIALLY PROTECTED AREAS AND HISTORICAL AND CULTURAL MONUMENTS

Since the project area is not included in any specially protected areas, and no historical, cultural, archaeological, or paleontological artifacts have been discovered, there is no need to determine the impacts and assessments during project implementation..

6.10. IMPACT ON LAND USE

During construction

The highway route and its impact zone will have some impact on the land use types of a total of 3955 plots.In particular, the ownership, possession, and use rights of plots affected by the construction of the highway will be terminated, and the plots will be completely vacated and transferred to public ownership.

Therefore, there will be a need to resolve the issue of land acquisition with minimal negative impact on the interests of residents living in the plots, businesses operating in the plots, and citizens.

Land Use Impact Assessment

The results of the land use impact assessment analysis after the project is implemented are shown in Table 6.8.

Table 47. Land Use Impact Analysis Matrix

№	Influence	Impact intensity				
		Нөлөөгүй	Junior	Middle	Great	Dangerous
During construction work						
Negative impacts						
1	Changes in the type and size of land use in the impact area		LT			
2	Revocation of rights to areas affected by construction work and transfer to public ownership				LT	
After the project is implemented						
Positive impact						
1	The size of public areas will increase, creating a comfortable and convenient environment.		ST		LT	
Conclusion: There will be moderate to high intensity, long-term direct impacts during construction.						

Description:
LT – long-term effects (more than 10 years)
MT – medium-term impact (3-10 years)
ST - short-term impact (up to 3 years)

	direct impact
	potential impact
	indirect impact

6.11. LIKELIHOOD OF ENVIRONMENTAL IMPACT

Table 48. List of probable environmental impacts during the construction phase

Potential impacts	Influence			Impact intensity			Form of influence			Duration of influence		
	Positive	Negative	Not affected	Junior	Middle	Great	Directly	Possible	Dam	Length	Middle	Short
Climate			+									
Air quality		+		+			+					+

Potential impacts	Influence			Impact intensity			Form of influence			Duration of influence		
	Positive	Negative	Not affected	Junior	Middle	Great	Directly	Possible	Dam	Length	Middle	Short
Surface water		+		+			+					+
Groundwater		+		+				+				+
Land cover		+		+	+		+	+		+		+
Vegetation		+		+	+		+	+		+		+
Fauna			+									
Specially protected areas			+									
Land use		+		+		+	+			+		
Score		**6**	**3**	**6**	**2**	**1**	**5**	**3**		**3**		**5**

When assessing the impact of the project during the construction phase using 9 indicators, 33.3 percent had no impact and 66.7 percent had a negative impact.

The negative impacts to be shown are low and medium intensity, direct and potential, long and short-term impacts.

Table 49. List of probable environmental impacts after project implementation

Potential impacts	Influence			Impact intensity			Form of influence			Duration of influence		
	Positive	Negative	Not affected	Junior	Middle	Great	Directly	Possible	Dam	Length	Middle	Short
Climate	+			+			+			+		
Air quality	+				+		+				+	
Surface water			+									
Groundwater			+									
Land cover	+	+			+		+			+		
Vegetation	+	+			+		+			+		
Fauna			+									
Specially protected areas			+									
Land use	+			+		+	+			+		+
Score	5	2	4	2	3	1	5			4	1	1

After the project is implemented, the environmental impact is assessed using 9 indicators, and 45.4 percent are positive, 36.4 percent are neutral, and 18.2 percent are negative.

The impacts to be assessed are of low to medium intensity, have immediate effects, and most are long-term impacts.

According to the results of the above two phases of assessment, the negative environmental impact will prevail during the construction phase, but the impact period will be short, and after the project is implemented, it will have positive effects and the impact will continue for a long time.

6.12. IMPACT ON SOCIETY

6.12.1. Area of exposure in the impact zone

The implementation of this project will directly affect 243.9 hectares in the impact zone and 146.3 hectares in the main road construction area.

2415 units of land will be affected in the construction area.

6.12.2. Social and economic impact

When determining the potential social impacts of a project, the Environmental and Social Impact Assessment Methodology states that the implementation of the project will result in changes in the regional infrastructure sectors such as road transport, communications, energy and water supply, the impacts arising from them, the increase in jobs in the region, and the benefits and interests expected from the project by local residents.

The project implementation will change the land use and how it will affect the livelihoods of citizens.

Possible changes in the infrastructure sector:

Positive impact:

- The number of multi-lane highways that meet international standards will increase throughout the capital city
- The planning of infrastructure (communication, electricity, water supply, heating pipelines, etc.) along the highway route will improve.

Possible changes at the workplace and local level:

Positive impact:

Temporary jobs will be created during the construction of the project, permanent jobs will be created during the operation of the project, and citizens interested in working in the construction can be employed on the basis of various training courses.

The average speed of traffic on the highway will increase when the highway is put into operation. In addition, by freeing up many areas of ger districts, it will reduce air pollution in the city and have a positive impact on improving the health and living conditions of citizens.

Changes in land use and impact on people's livelihoods:

Negative impacts:

People who have lived in the affected area for generations will have certain difficulties when starting to live in a new place.

Negative impacts on people's health:

Temporary physical pollution during the construction of the project will negatively affect the health, living environment, and comfort of people.

Risk to human health and life:

Risks may arise if safety rules and procedures are violated during the construction phase.

During construction work

Negative impacts

Workers working on construction sites may violate labor protection and safety rules and procedures, resulting in accidents and injuries at work.

People working in workplaces with extreme heat, cold, noise, and dust will be exposed to occupational diseases.

There are negative impacts such as the possibility of various infectious diseases due to the large number of people working and living at the same time.

Positive impacts:

- Temporary jobs will be created.
- Domestic supply of construction materials and raw materials will support the operations of enterprises.
- Household income of construction workers will affect the standard of living and sales of enterprises.

After the project is implemented

Negative effects

- As construction work has been completed and the project has begun implementation, the negative impacts are minimal. If the disputes that arose during the acquistion and relocation of land use units continue, they will have a negative impact on the lives of citizens..

Positive impact:

- Expanding services and manufacturing activities along the road, creating new jobs, and increasing income for citizens
- The land vacated along the highway route will begin to be used as public land
- A green space along the highway route will be created, creating a comfortable environment.
- The project may create opportunities to support the education of local residents, and may also create opportunities to sell meat, dairy products, and vegetables for the station staff

6.12.3. Socio-economic impact assessment

6.12.3.1. Methodology

Due to the different phases of the project, the impacts of the project construction and post-project implementation will differ in nature, scope, timing, and magnitude.

The potential impacts on the social environment were assessed using the following scoring methodology.

Total impact score: $\Sigma = C * (Di + O + E + Du)$

Table 50. Impact assessment indicators and scores

Indicators		Degree of impact		
C	Symptoms	Positive (1)	Positive (1)	No effect (0)
Di	Power, energy	High (3)	High (3)	Little (1)
O	Probability of occurrence	Almost likely (3)	Almost likely (3)	Almost no effect (1)
E	Scope of influence	Region (3)	Local (2)	Specific area, point (1)
Du	Duration	Length (3)	Medium (2)	Short (1)

C. Impact Characteristics: Impact characteristics and scores are (-1) negative, (0) no impact, and positive (+1), and impact scores range from 1 (low) to 3 (high).

Di. Potential Impact Strength and Intensity: Indicates the extent of the potential socio-economic impact and change that the project will cause.

Table 51. Impact force and intensity

Di	Major (3)	Medium (2)	Minor (1)
Impact force and energy	Social activities and conditions will change significantly (Many populations, organizations, and households will be affected)	Significant changes in social functioning and behavior (Small number of populations, organizations, and households affected)	There will be little change in social activities or conditions (very small number of people, organizations, and households affected)

1.

O. Likelihood: The likelihood of potential impacts from the project.

Table 52. Probability of impact

O	Almost done. (3)	Likely to happen (2)	Almost impossible. (1)
Likely to happen	65-100%	31-64%	1-30%

E. Scope or amplitude: Indicates how much land the potential impact covers.

Table 53. Scope or amplitude of impact

E	Regional (3)	Local (2)	Specific area, point (1)
Scope or amplitude	Mongolia or regionally	Aimag soum level	Project area or specific point

Du. Duration: Indicates how long the impact will last..

Table 54. Duration of impact

Du	Long (3)	Medium (2)	Short (1)
Duration	The impact will continue even after the project is completed	During project implementation	A specific phase of the project or seasonal

The criteria for the assessment level of potential impacts are presented in Table 6.14..

Table 55. Impact Score Evaluation Criteria

Negative effects		Positive impact	
Impact Level	Оноо	Impact Level	Оноо
High	≤-10	High	+10≤
Medium	(-6, -10)	Medium	(+6, +10)
Low	-5≤	Low	≤+5

6.12.3.2 Impact assessment

Table 56. Scored assessment of the impact on the social status and health of citizens during the development or construction phase

№	Impact factors	Impact score						Level of impact
		C	Di	O	E	Du	Σ	
1	Land use areas affected	-1	-3	-3	-2	-2	-11	Very negative
2	Impact on the living environment of citizens	-1	-2	-2	-1	-2	-8	Medium negative
3	Adversely affect the health of citizens	-1	-1	-1	-1	-2	-6	Medium negative
4	Accidents and injuries in the workplace due to violation of labor protection and safety rules and procedures	0	-1	-1	-1	-2	-5	Low negative
5	People working in workplaces with extreme heat, cold, noise, and dust will be exposed to occupational diseases	0	-1	-1	-1	-2	-5	Low negative
6	Infectious diseases will occur due to the large number of people coming to work in newly created workplaces	0	-1	-1	-1	-2	-5	Low negative
7	Creation of temporary jobs	+1	+2	+3	+2	+2	+10	Very positive
8	Improvement of the living standards of citizens by meeting the needs of construction materials and raw materials locally	+1	+2	+3	+2	+2	+10	Very positive
9	Increase in the household income of construction workers and increase in sales of enterprises	+1	+2	+3	+2	+2	+10	Very positive
10	Impact on citizens' access to social services	-1	-2	-2	-1	-2	-8	Moderately negative
11	Increase in road congestion	-1	-2	-2	-1	-2	-8	Moderately negative
12	Disruption of electricity, energy, and water supply	-1	-1	-1	-1	-2	-6	Moderately negative
13	Impact on communication and information	0	-1	-1	-1	-2	-5	Low negative

When assessing the impact of the project during the construction phase using 13 indicators, 23.1 percent were positive and 76.9 percent were negative.

Table 57. Scored assessment of the impact of the project on society and citizens after implementation

№	Impact factors	Impact score						Level of impact
		C	Di	O	E	Du	Σ	
1	Impact on traffic congestion and speed	+1	+3	+3	+2	+3	12	Very positive
2	Impact on citizens' health	+1	+2	+2	+2	+3	10	Very positive
3	Income of citizens and businesses	+1	+2	+2	+2	+3	10	Very positive
4	Services and production activities	+1	+2	+2	+2	+3	10	Very positive
5	Creation of new jobs	+1	+2	+2	+1	+3	9	Medium negative
6	Access to social services	+1	+3	+3	+2	+3	12	Very positive
7	Citizens' leisure time, knowledge and education	+1	+3	+3	+3	+3	13	Very positive
8	Comments and complaints from citizens and businesses	-1	-1	-1	-1	-1	-5	Low negative

After the project is implemented, the impact on society is assessed using 8 indicators, with 75 per cent positive and 25 per cent negative.
According to the results of the above two phases of assessment, the negative impact on society will prevail during the construction phase. However, the impact period will be short, and after the project is implemented, the positive impact will be long-term.
The main positive impact of the project is that road congestion will decrease and the average speed of vehicle traffic will increase after the project is implemented.
This is the source of the project's positive environmental and social impacts.

7. CHAPTER VII. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUGGESTIONS, RECOMMENDATIONS AND OVERALL CONCLUSIONS

SUGGESTIONS AND RECOMMENDATIONS

Based on the results of the project's EIA, the following suggestions and recommendations are made:

- ✓ Since the impact area of the new ring road project includes 3955 land use areas and 2415 land use areas in the construction area, it is necessary to plan measures to resolve land issues at the capital city level in advance.
- ✓ Mutually agree on compensation for citizens and businesses affected by land acquisition;
- ✓ Work with professional organizations as archaeological and paleontological artifacts may be discovered during the excavation phase;
- ✓ After the project feasibility study is approved and the decision to implement the project is made, a detailed Environmental Impact Assessment and Environmental Management Plan will be completed by a professional organization and approved by the Ministry of Environment, Forestry and Fisheries.

OVERALL CONCLUSION

1. 1. The Environmental and Social Impact Assessment for the New Ring Road Feasibility Study has outlined the environmental status, impact assessment, and resettlement of potentially affected areas. Therefore, it is necessary to study the environmental and social impacts in detail at the detailed environmental impact assessment stage.
2. 2. This project is a project that will have a positive impact on the socio-economic situation by reducing road congestion in the capital city of Ulaanbaatar and increasing the average speed of vehicle traffic.
3. 3. The number of production and service points along the highway route will increase, and the income from work and services and household income will increase the local budget.
4. 4. By planning green spaces along the highway route, the characteristics of the surrounding soil will improve, erosion conditions will decrease, and the natural landscape will be improved.
5. 5. The technology used in the project will allow engineers and technicians to improve their knowledge and skills.
6. 6. The households participating in the land acquisition will be provided with comfortable housing and their living conditions will improve, while the number of chimneys in the ger areas will decrease, thereby reducing the negative impact on air pollution.
7. 7. The project will have negative impacts on the environment and society during the construction phase, but after the project is implemented, it will not have a negative impact on the environment and will have a positive impact on the socio-economic situation, so it is fully feasible to implement this project.

MATERIALS USED

1. "Methodology for Environmental Impact Assessment" approved by the Order of the Minister of Environment and Green Development No. A-117 dated April 10, 2014, 2014.
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1. FIELD SOIL ANALYSIS RESULTS

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Дээж ирсэн огноо: 2025.04.04-11
Шинжилгээ хийлгэж буй байгууллага, хувь хүн: “ Ньюгидро проект ” ХХК
Холбоо барих дугаар: 95348411
Дээж авсан газар: Шинэ Тойрог Зам Төсөл

Хөрсний химийн задлан шинжилгээний дүн / MNS3310:1991/

№	Лаб №	Дээжний нэр	Гүн см	pH	Давс, %	ЦДЧ	$CaCO_3$%	Ялзмаг %	Шингээгдсэн суурьууд, мг-экв/100 гр		Шим тэжээлийн элементүүд мг/ 100 гр	
									Ca	Mg	P_2O_5	K_2O
0	1	2	3	4	5	6	7	8	9	10	11	12
1	25/2609	47°53'54.2" 106°49'51.5"	0-20	8.66	0.06	0.119	0.00	3.57	25.6	1.8	0.9	37
2	25/2610	47°54'42.9" 106°49'50.7"	0-20	9.36	0.21	0.410	0.82	3.13	9.4	1.4	1.3	16
3	25/2611	47°55'20.8" 106°49'46.7"	0-20	8.95	0.09	0.178	0.99	3.57	19.8	2.6	0.9	20
4	25/2612	47°56'19.6" 106°49'24.6"	0-20	8.48	0.10	0.203	1.65	2.91	20.2	3.0	2.7	24
5	25/2613	47°57'39.7" 106°49'52.8"	0-20	9.10	0.10	0.200	0.66	4.29	20.5	4.8	2.9	87
6	25/2614	47°57'40.2" 106°52'08.5"	0-20	9.14	0.15	0.295	2.31	1.72	11.0	4.6	1.5	10
7	25/2615	47°57'21.6" 106°54'56.6"	0-20	7.65	0.02	0.061	0.00	1.80	20.8	2.2	1.4	11
8	25/2616	47°57'37.6" 106°55'38.7"	0-20	8.58	0.31	0.615	0.00	3.93	24.0	2.3	1.9	26
9	25/2617	47°57'25.6" 106°57'29.1"	0-20	8.91	0.04	0.075	0.00	2.39	18.2	1.2	1.6	11
10	25/2618	47°56'00.2" 106°58'55.9"	0-20	8.12	0.05	0.091	0.00	4.05	30.0	3.0	1.3	13
11	25/2619	47°55'26.4" 106°59'46.5"	0-20	8.80	0.22	0.433	1.81	1.73	20.6	4.6	1.6	9
12	25/2620	47°54'37.9" 106°59'32.6"	0-20	8.69	0.25	0.502	0.00	1.99	28.0	2.2	1.7	8
13	25/2621	47°53'09.1" 106°59'56.7"	0-20	9.25	0.11	0.212	0.49	0.80	13.4	3.2	1.3	13

Жич:Шинжилгээний харму нь зөвхөн тухайн цэгийн дээжинд хамаарах ба хувилан олшруулахыг хориглоно.

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Шинжээч: /С. Мягмардаш/

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Шинжилгээ хийлгэж буй байгууллага, хувь хүн: " Ньюгидро проект " ХХК
Холбоо барих дугаар: 95348411
Дээж авсан газар: Шинэ Тойрог Зам Тесел

Хөрсний механик бүрэлдэхүүн /MNS 6824:2020/

	Лаб №	Дээжний нэр	Гүн, см	Механик ширхэгүүд, % ширхэгийн хэмжээ, мм						
				2.0-0.25	0.25-0.05	0.05-0.01	0.01-0.005	0.005-0.001	<0.001	<0.01
1	25/2609	47°53'54.2'' 106°49'51.5''	0-20	7	41.9	24.5	8.7	7.3	6.2	22.2
2	25/2610	47°54'42.9'' 106°49'50.7''	0-20	41.9	26.8	12.8	4.7	7.8	6.0	18.5
3	25/2611	47°55'20.8'' 106°49'46.7''	0-20	11.9	33.1	25.3	6.1	11.8	11.8	29.7
4	25/2612	47°56'19.6'' 106°49'24.6''	0-20	43.5	25.6	12.4	2.7	11.5	4.4	18.6
5	25/2613	47°57'39.7'' 106°49'52.8''	0-20	11.0	28.6	23.6	9.7	14.3	12.8	36.8
6	25/2614	47°57'40.2'' 106°52'08.5''	0-20	20.4	24.3	16.0	8.4	20.2	10.7	39.3
7	25/2615	47°57'21.6'' 106°54'56.6''	0-20	38.6	20.4	15.4	5.0	4.7	15.9	25.6
8	25/2616	47°57'37.6'' 106°55'38.7''	0-20	24.2	44.7	15.2	5.4	7.7	2.7	15.8
9	25/2617	47°57'25.6'' 106°57'29.1''	0-20	17.9	49.1	23.2	0.8	6.3	2.7	9.8
10	25/2618	47°56'00.2'' 106°58'55.9''	0-20	6.9	31.4	26.2	21.5	7.2	6.8	35.5
11	25/2619	47°55'26.4'' 106°59'46.5''	0-20	33.9	23.7	22.5	3.2	14.5	2.3	20.0
12	25/2620	47°54'37.9'' 106°59'32.6''	0-20	19.9	37.4	21.2	7.3	8.4	5.8	21.5
13	25/2621	47°53'09.1'' 106°59'56.7''	0-20	55.9	23.9	6.2	2.5	8.3	3.2	14.0

Жич:Шинжилгээний хариу нь зөвхөн тухайн цэгийн дээжинд хамаарах ба хувилан олшруулахыг хориглоно

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Шинжээч: /С. Мягмардаш/

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Холбоо барих дугаар: 95348411
Дээж авсан газар: Шинэ Тойрог Зам Төсөл

Хөрсний хүнд металл /MNS ISO 11466:2007/

№	Лаб №	Дээжний нэр	Гүн, см	Хүнд металл мг/кг					
				Cd /Кадми/	Cr /Хром/	Ni /Никель	Pb /Хар тугалга/	Zn /Цайр/	Cu /Зэс/
1	25/2609	47°53'54.2" 106°49'51.5"	0-20	-	10.3	23.5	15.9	38.5	12.4
2	25/2610	47°54'42.9" 106°49'50.7"	0-20	-	19.2	12.5	18.6	43.2	22.5
3	25/2611	47°55'20.8" 106°49'46.7"	0-20	-	29.8	35.8	22.1	50.1	32.6
4	25/2612	47°56'19.6" 106°49'24.6"	0-20	-	18.5	41.5	20.4	48.6	15.4
5	25/2613	47°57'39.7" 106°49'52.8"	0-20	-	2.8	26.0	13.8	28.3	8.9
6	25/2614	47°57'40.2" 106°52'08.5"	0-20	-	8.6	39.3	17.2	49.5	17.2
7	25/2615	47°57'21.6" 106°54'56.6"	0-20	-	19.9	17.7	18.6	39.4	14.3
8	25/2616	47°57'37.6" 106°55'38.7"	0-20	-	19.8	21.5	22.3	18.6	32.5
9	25/2617	47°57'25.6" 106°57'29.1"	0-20	-	23.6	26.9	11.9	40.5	22.9
10	25/2618	47°56'00.2" 106°58'55.9"	0-20	-	15.9	35.5	18.6	50.8	15.2
11	25/2619	47°55'26.4" 106°59'46.5"	0-20	-	25.0	462	20.4	44.4	11.6
12	25/2620	47°54'37.9" 106°59'32.6"	0-20	-	21.4	18.9	20.1	42.3	18.7
13	25/2621	47°53'09.1" 106°59'56.7"	0-20	-	30.3	33.3	14.1	45.9	20.0
Шавранцар хөрсний зөвшөөрөгдөх дээд хэмжээ				1.5	100.0	100.0	70.0	150.0	100.0
Элсэнцэр хөрсний зөвшөөрөгдөх дээд хэмжээ				1.0	60.0	60.0	50.0	100.0	60.0
Элементүүдийн зөвшөөрөгдөх дээд хэмжээ стандарт				/MNS 5850:2019/					

Жич:Шинжилгээний хариу нь зөвхөн тухайн цэгийн дээжинд хамаарах ба хувилан олшруулахыг хориглоно

ШИНЖИЛГЭЭ ГҮЙЦЭТГЭСЭН:

Шинжээч: /С. Мягмардаш/

ХЯНАЖ БАТАЛГААЖУУЛСАН:

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Холбоо барих дугаар: 95348411
Дээж авсан газар: Шинэ Тойрог Зам Тесел

Хөрсний эрүүл ахуй / MNS 6341:2012, MNS 5367:2004, MNS 6341:2012/

№	Лаб №	Дээжний нэр	Нянгийн тоо	Гэдэсний савханцарын титр (E.Coli)		Анаэробын титр (Cl.perfringens)	
			Шинжилгээний харьцуулалт	Шинжилгээний харьцуулалт	Бохирдлын зэрэг	Шинжилгээний харьцуулалт	Бохирдлын зэрэг
1	25/2609	47°53'54.2'' 106°49'51.5''	$1.1*10^4$	1.0	Цэвэр	0.1<	Цэвэр
2	25/2610	47°54'42.9'' 106°49'50.7''	$2.1*10^5$	1.0	Цэвэр	0.1<	Цэвэр
3	25/2611	47°55'20.8'' 106°49'46.7''	$1.5*10^5$	1.0	Цэвэр	0.1<	Цэвэр
4	25/2612	47°56'19.8'' 106°49'24.6''	$3.3*10^4$	1.0	Цэвэр	0.1<	Цэвэр
5	25/2613	47°57'39.7'' 106°49'52.8''	$2.9*10^5$	1.0	Цэвэр	0.1<	Цэвэр
6	25/2614	47°57'40.2'' 106°52'08.5''	$1.8*10^4$	1.0	Цэвэр	0.1<	Цэвэр
7	25/2615	47°57'21.6'' 106°54'56.6''	$2.6*10^5$	1.0	Цэвэр	0.1<	Цэвэр
8	25/2616	47°57'37.6'' 106°55'38.7''	$3.5*10^5$	1.0	Цэвэр	0.1<	Цэвэр
9	25/2617	47°57'25.6'' 106°57'29.1''	$1.6*10^4$	1.0	Цэвэр	0.1<	Цэвэр
10	25/2618	47°56'00.2'' 106°58'55.9''	$4.2*10^4$	1.0	Цэвэр	0.1<	Цэвэр
11	25/2619	47°55'28.4'' 106°59'46.5''	$2.2*10^5$	1.0	Цэвэр	0.1<	Цэвэр
12	25/2620	47°54'37.9'' 106°59'32.6''	$1.8*10^4$	1.0	Цэвэр	0.1<	Цэвэр
13	25/2621	47°53'09.1'' 106°59'56.7''	$3.6*10^4$	1.0	Цэвэр	0.1<	Цэвэр

Жич:Шинжилгээний харьцуулалт нь зөвхөн тухайн цэгийн дээжинд хамаарах ба хувилан олшруулахыг хориглоно.

ШИНЖИЛГЭЭ ГҮЙЦЭТГЭСЭН:

Шинжээч: /Т. Гэрэлтуяа/

ХЯНАЖ БАТАЛГААЖУУЛСАН:

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2. RESULTS OF WATER ANALYSIS OF THE TUUL RIVER

ШИНЖЛЭХ УХААНЫ АКАДЕМИ
ГАЗАРЗҮЙ-ГЕОЭКОЛОГИЙН ХҮРЭЭЛЭН
УСНЫ ШИНЖИЛГЭЭНИЙ ЛАБОРАТОРИ

Усны химийн шинжилгээний тодорхойлолт

Сорьц авсан: 2025 оны 04 сарын 07 өдөр
Шинжилгээ хийсэн: 2025 оны 04 сарын 09 өдөр
Сорьц авсан газрын нэр: Баянзүрх дүүрэг, Туул гол

Сорьц шинжлүүлсэн байгууллага, хувь хүн: "Ньюгидро проект" ХХК

Солбицол: X=47'53'13.64 Y=106'56'47.89 Гүн: м Ундарга:

Уст цэгийн төрөл ба дугаар: Гол

Тодорхойлсон нь:

Анион	1дм^3 -д байгаа			Катион	1дм^3 -д байгаа		
	мг	мг-экв	мг-экв%		мг	мг-экв	мг-экв%
Cl^-	7.5	0.21	10.5	Na^++K^+	15.3	0.67	33.2
SO_4^{--}	8.0	0.17	8.3	Ca^{++}	18.8	0.94	46.9
NO_2^-	0.0	0.00	0.0	Mg^{++}	4.9	0.40	19.9
NO_3^-	8.0	0.13	6.4	NH_4^+	0.0	0.00	0.0
CO_3^{--}	0.0	0.00	0.0	Fe^{++}	0.0	0.00	0.0
HCO_3^-	91.5	1.50	74.8	Fe^{+++}	0.0	0.00	0.0
Дүн	115.0	2.01	100.0	Дүн	39.0	2.01	100.0

HCO_3^- ийн хагасыг хассан анион катионуудын нийлбэр: 108.3 мг/ дм^3
Анион катионуудын нийлбэр: 154.0 мг/ дм^3
Ерөнхий хатуулаг 1.34 мг-экв/ дм^3
EC: 172 µS/cm
pH: 7.73
TDS: 86 ppm
Исэлдэх чанар : 2.40 мг/ дм^3

Физик шинж чанар

Тунгалаг: 30 см Үнэр: үгүй Тунадас: үгүй
Өнгө: үгүй Амт: *** Булингаршил: 1.0 NTU

Усны найрлагын томъёо: $M_{0.1}\frac{HCO_3^-75\ Cl^-11}{Ca^{2+}47\ Na^++K^+33\ Mg^{2+}20}$

Дүгнэлт

Химийн бүрэлдэхүүнээрээ гидрокарбонатын ангийн, кальцийн бүлгийн, 1-р төрлийн, чанарын хувьд нэн цэнгэг, маш зөөлөн ус байна. Шинжилсэн үзүүлэлтүүд нь "Усан орчны чанар. Ерөнхий шаардлага MNS 4586:2024" стандартын шаардлага хангаж байна.

***Жич**: Энэхүү уст цэгээс сорьц авах үйл явцыг шинжлүүлсэн байгууллага, хувь хүн хариуцан гүйцэтгэсэн болно.*

Гүйцэтгэсэн: Химич, ЭШДаА: /С.Эрдэнэчимэг/
Шинжилгээг
Хянаж баталгаажуулсан: Лабораторийн эрхлэгч: /Д.Гэрэлт-Од/

3. QUESTIONNAIRES

3.1. Bayangol district

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг ЗТД-29 Хороо 29 Хэсэг 3 Хэсгийн ахлагчийн овог, нэр Зайн-Очирын Бурэнжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн ✓	Дунд зэрэг	Мэдэхгүй

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Асуудал байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тулгэрэг бүрэн

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

10

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Тулгэрэг бүрэн АННБ-н ажилтнуд явахад сайн талтай замын тоосжилт бүрэн.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг БГД Хороо 29 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Болорго.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

-том, зах эзэмшлийн их

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

-Тээврийн нөхцөл, (1-р хороолол)

-Ядуучуд нуу эвхэд амар хялбар болно.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

- Зах эзэмшлийг төвлөрөх хэсэг замын аюулгүй нөс байдал туе. сайн судалгаа эхлэх трасс төлөвлөгөөг боловсруулах хэрэгтэй

- орлого том зах тавих,

3.2. Songinokhairkhan District

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг СХД Хороо 6 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр А. Арцупнарсал.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Тоотоо огоод айл өрхүүдэтэйгээ зөвшөөлцөөд хүндрэл үүсч байгаа

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тухтайгаа бүрэлдэх эерэг бүхэн үлдэх болсогдох.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

2 бий он ахуй нэгж

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг СХД Хороо 6 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр Батхуяг Баярцэцэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
+		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Гар хүндрэл байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Сөрөг тал байхгүй

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Авто зам трассын төлөвлөлт орох нь зөв зөв гэж омгорж бна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар ____ өдөр

Дүүрэг СХД Хороо 6 Хэсэг 6 Хэсгийн ахлагчийн овог, нэр Болд Мөнхбүргэл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
		✓

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Чнэ тохирох.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Авто замын түгжрэл буурах

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

2

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Одоогоор газар үүр авто замын
төсөлд оруулж үзэхэд бүгд.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 7 Хэсэг I Хэсгийн ахлагчийн овог, нэр С. Цэрмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд хүндрэл
цуглуулах мөлдөлтэй
ААНБ - зөвшөөрөх хэрэгтэй байна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тосолд хамрагдах айл
өрхүүд, ААНБ дэмжинэ. Байх
Сөрөг тал гарах мөлдөлтэй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Ажил үйлчилгээний - 3 ААНБ

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Авто замын чиглэлийг бууруулах,
гол хөдөлгөөн ихтэй болгосон
замуудыг чөлөөт цаг
ашиглуулах, нөлөөг багасгах болгох.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг СХД Хороо 7 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр Б. Оюунчимэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	V	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд бага зэрэг хүндрэлтэй байх магадлалтай. (Ам аюул гэх)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Айл өрхүүд дэмжих ажилтнуудтай. аажмаараа (байгуулагдаад) зөвшөөрөлгүй хаяжуулах хүндрэл гарах магадлалтай.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

7 вагон, барилгын материалын 1 том аанын орно. Нийтийн бүрэн 1, аан – 1.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Шулуун бүрдүүлэх, ургаг бүрдүүлэх, замуудын голоос эл оногдоох газар бий болох магадлалтай.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 7 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Ф. Ундармаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд хүндрэлтэй байх.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Гүүр хэсэгт 8 нэрийн дугуур 2ш, кранус авто засвар 1ш, барилгын материал 1ш, сити шоп 1ш, сахны тавбай 1ш, куузов завод 1ш,

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 7 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр Д. Ганцогт

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд АДНБ- болон айл өрхүүд хүндрэл үүсэх (нүүлгэх, АДНБ-ыг удтсан зогсоолцоо хийх)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тойрог төсөл хэрэгжсэнээр дэд бүтэц сайжирч ажлын байрууд нэмэгдэж бүсчлэн газар зохион байгуулах боломжтой болно,

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Тус хэсэгт Авто-Засвар-1, Супермаркет 1, Дэлгүүр Zc-1, Барилгын мат-л дэлгүүр 1, Авто Угаалга 1,

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Ард иргэдэд мэдээлэлтэй оновчтой сайн хуртэмжтэй ажиллах

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4. сар 21. өдөр

Дүүрэг СХД Хороо 8 Хэсэг 5. Хэсгийн ахлагчийн овог, нэр ГАНБАТ

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Иргэдтэйгээ зөвшилцөх.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

1. Тоф замын тулграх бүрдүүлэх.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

3-н. дэлгүүр байгаа.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

3,5 ц — 4,5 гудамнаас дундуур явуулах.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг СХД Хороо 8 Хэсэг 6. Хэсгийн ахлагчийн овог, нэр Д. Сувдаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Үнэ хямдхан гудамж.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замаар нурдан явах машин маш хөдөө?
Шулуун цаг хамгийн боломжтой болох

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Зөв хэсэг ЗБСЗ 4-5 дунд зуурах болуу. Зургаар бол тэр замд оёрхон байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 8 Хэсэг 7 Хэсгийн ахлагчийн овог, нэр Ганцэцэг.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Иргэдтэй зөвшилцөж хурдан.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Сөрөг тал нь авто замын хайс чанжала хий чгүй бол хүнсүүдэд эзлэгдэж байна. Эерэг тал нь, ирэхэд нэг тойрог ойрхон авто замтай болох.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой байна. Баян хошууны 25-р гудамжаас дээшээ ЗБК-5-р гудамжаар явуулах хүсэлтэй байна. Мөн нуурын хойд авто замтай холбох хүсэлтэй байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 8 Хэсэг 8 Хэсгийн ахлагчийн овог, нэр С.Аюушжав

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Иргэдтэй зөвшилцөх, цилгэх тал дээр

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эерэг тал, нүүрэрх бүрэх тоо зөөлөн ачаалал бууриа.

Сөрөг: Иргэдийн байдал, ажларуулах, түлшний гаргах хий, Замын чанар, стандарт шаардлага хангах

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

3. дэлгүүр ДДН

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

ЗБЧ – 5.4 гүүрэлсэн орцон шууд оновчтой байх.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 25 өдөр

Дүүрэг СХД Хороо 11 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр Г. Пүрэвхүү.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Ямар ямс тогтрох хүндрэл гарна
ААНБ олон, тоолох ёстой гэдэг

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын түгжрэл бууна гэж бодож
байна. Сөрөг талыг нь мэдэхгүй байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААНБ-13 (хувиараа цэг ажиллах ЭБ үйлдвэр 4 өрх
өрх хатан-74

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

мэдэхгүй

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг СХД Хороо 11 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр Ц. Цэрэнсаан. Б. Энхтуяа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хамгаалалт олон орх б/дог. Бол хэцүү зөм объект. Бол бас хэцүү.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын. тээвэр бууран хаацлалт.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААНД – 13 Өрхийн үйлчилгээ – 4

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Маш их дэмжиж байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг СХД Хороо 17 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр П. Ганцаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам сайжин замаар зүсвэр суваг замын гүүрнүүд ашиглах хэн хэнд ээ сайн талтай

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 . өдөр

Дүүрэг СХД Хороо 17 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Чойгонпав Цэндэвд.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
V		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	V	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

байхгүй
газар чөлөөлөх айл өрх байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Түгжрэл багасах авто замын асуу
багасах байх гэж бодож байна аа

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

1 үйлчлүүлэгчийн нэг байгаа (ЕБС)

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Санал гомдол байхгүй (Дэмжиж байгаа)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг СХД Хороо 17 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр П.Цоохчимаг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

гарахгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тойм хэсгээрээ авто замын түгжрэл багасч, замын хөдөлгөөн илүү хөнгөн болно гэж бодлоо.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

3.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Маш оновчтой тойм гэж бодмоор байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг СХД Хороо 17 Хэсэг 6 Хэсгийн ахлагчийн овог, нэр Ц.Баяндаулин

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
+		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хүндрэл байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Ая тухтай алхах боломж бүрдэнэ, аюулгүй орчин бүрдэнэ

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Шаардлагатай тохиолдолд хот руу ПТА

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг СХД Хороо 23 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр Б. Өлзий тэргэл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Бичиг баримт ямар хэмжээтэй байх вэ?

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Түгжрэл бууна цэвэр орчин сайжраа.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

14-ААН - 65 өрх

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Тосов можно хэлэхэд мурийж тахир дуухгүй шулуун явах, мөн

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар - өдөр

Дүүрэг СХД Хороо 23 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Д. Арнхнжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	√	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

ААН 5 — худ, Нохой олговор олгохгүй хэцүү

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

6-н Эгнээ зам,

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

3

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

дэд бүтэцтэй дэлгэцийг б/гаа

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 23 Хэсэг 7 Хэсгийн ахлагчийн овог, нэр Б Оюунгэрэл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Гол авто замаар болсон тойрог хөдөлгөхдөө борж айл өрхүүд үнэхээр уйтгар болох нь.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тойрог бүрдэх олон сайхан боломж байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

69 өрх 8 ААНБ хүнс цэг хоногдсон байна.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг СХД Хороо 28 Хэсэг 3 Хэсгийн ахлагчийн овог, нэр Баат-Эрдэнэ Хулан.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

– Өвөл үйлчлэхийн газруудад нүүр гаргаагүй олон айл өрх хаяагдах учир сонин зорчигдох могдмогой хугацаа заавал өгөгдөх ёстой байх.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

эерэг: жидэн цоорхо, зам дагаж хөгжинө, нүүрэх боломж
сөрөг: замын машиний дуу чимээ эсвэл.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ажил: 15 үйлчилгээ: 7.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

хүрдний зам тових газарт орсон айл өрх, ХХН-д мэдэгдэх сайн онох.
зам тавих ажил хурдан шуурхай байх.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он ____ сар ____ өдөр

Дүүрэг СХД Хороо 28 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Д. Пүрэвжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Олон айл орх хамрагдах болохоор санал зөрөлдөх магадлалтай. Там объектын ААНБ болон айл орх газраа чөлөө-лөхөд зовшоорохгүй байх.
Хүрэлцэх зам анх удаа гэр хороолол дунд хийх болсон тул иргэдийн ойлголт муу байх.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Гэр хороололын тоо цоорч ядан багасч удаа / бууна. Тиржрэл багасна. Тоосжилтгүй болох
Сорох тал зогсолтгүй ургашлах машины урсгалаас болж гарц хүрээд хугацаа өрөө гэж бодоно / байна. Дуу чимээ ихэснэ.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААНБ – 7 Айл орх – 107

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Иргэдэд мэдээллийг гүрдэг шуурхай өгөх

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг СХД Хороо 28 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр Т. Одзэрэл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Мэдээ чөлөөлөх чөлөөлөх гүй санал зөрөх асуудал байгаа.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

1. Түгжрэл багасна.
2. Орчны тоос шороо багасна.
3. Аюулгүй байдал илүү бурэлдэнэ.
4. Зам дагасан хогийн сөг хогшил ирнэ.
Дуу чимээ ихэснэ.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААНБ байхгүй. ~~5000~~ ~~40000~~ ойролцоогоор 50 өрхийн 42 гаран чөлөөлөх.

6. Авто замын трассын төлөвлөлтийн өөрчлөлтийн талаар таны санал (бичнэ үү)

Трансит өрөн айл өрхийн ирээдүй мэдээлэл тодорхой өгөх.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 25 өдөр

Дүүрэг СХД - Хороо 39 Хэсэг 1 Хэсгийн ахлагчийн овог, нэр П. Цэрэнжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Айл өрхийн тустай шороо тос болохоо

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

байхгүй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

оновчтой гэж үзэж байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 25 өдөр

Дүүрэг СХД Хороо 39 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр Ж. Цолмон

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Айл өрхүүд ихэнх нь байшинтай нь хашаанд олон өрх амьдардаг

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Энэ төсөл хэрэгжиж айл өрхүүд тухтай шороо тоос багатай болно.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Нийгэм 35 цэгийнд 284-р цэцэрлэг, 734-р ус тунгах байр

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Манай хэсгийн байдлаар цэцэрлэг ~~сурлуулна~~ улаанаа баруун тийш нь шилжиж өвөл төвлөрөхтэй байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг СХД Хороо 39 Хэсэг 3 Хэсгийн ахлагчийн овог, нэр З. Мөнхзул

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

1 Хашаандаа 2-3 орц байдаг
2. Гэрээгүй байшинтай айл орц байдаг.
3. Хүн жуг мууг ойрхон байна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Ган даган хотхон ирнэ тоос шороо багасна замын түгжрэл буурна, хаягдал гэмтэл болсоны дараах эрчим хав тогтвортой болж сайжрана.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Найман нэрийн дэлгүүр - 1 хаягийн 49-22
Ү нугаа бар - 1 хаягийн 51-7

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Олон нуугдмаг дунгуур дайрч онцорч байгаа нэг талдаа цоон цоон айлууд ундуг байгаа Үн таарчгүй ь шаардлагатай орц гарц гарах зүйлс бүрэн зүйл таарчгүй зүйлс.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг СХД. Хороо 39 Хэсэг 4 Хэсгийн ахлагчийн овог, нэр Ч. Дэнжирсан

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

1. 1. замаасаа 2-3 орх байдаг.
2. Гадар чөлөөлөхөд байшин хашаагаа бүрэлдэхэд зарим орх хүн хэцүү мэрдэг байдаг.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эерэг тал нь түнэхэрх багасч айл өрхүүдийн гарах орлого нь сайжирна. Сөрөг тал нь позорбоо ихэссэн, сургууль байдаа хөдлөх хэрэгтэй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Өрхийн тоо үйлчилгээний цэг байхгүй?

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Санал байхгүй.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг СХД Хороо 39 Хэсэг 7. Хэсгийн ахлагчийн овог, нэр Д. Лхагвашим

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Ноо хашаанд олон өрх байдаг, мөн хүрдэг хийн газар голоолоход хүн хүч шаардлагатай

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам далан хөшиг цэвэр гэж нэр хүлээсийг авах нөхцөл сайжирна.

Замтай ойрхон амьдрах айл өрхөс бага насны хүүхдүүд ойр гэмтэж болох магадлалтай.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Иодны цех - 1.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Санал байхгүй

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг СХД Хороо 40 Хэсэг 1 Хэсгийн ахлагчийн овог, нэр Л. Алтанцэцэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Ямаа малчдаа тэжээлгэхэд хүндрэлтэй байдаг

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Гоё замтай болж байгаа бодлого байна

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Айл өрх — 216
ААНБ — 3

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Сонгосон хэсэгт байхгүй

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

СХ Дүүрэг 40-р Хороо 3-р Хэсэг ____ Хэсгийн ахлагчийн овог, нэр Р.Өнөгөрөө

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		дээгээр мэдэхгүй

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

дээхнээгээ айл өрхүүдэй зүүлгаагүй байна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

нүүдэлчдэй амар зам болох нөхцөлтэй
ерөнхийдөө, үнэлгээ эсэх нэрэх
дээр тойрогдсон сайн байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

нийт өрх = 50 өрх
аа нийт = 0

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Замын тусгаарлалт бүхэлдэх анхлах
санал нэгдэй дэмжинэ байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг 40 Хороо 4 Хэсэг ____ Хэсгийн ахлагчийн овог, нэр Э.Билгүүнзаяа.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Талбарсан нохой

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Ямаршуу дуртай тохиролцоогүй байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

~~ААН – 2~~ ААН – 2

Айл өрх – 67

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг СХД Хороо 40 Хэсэг 6 Хэсгийн ахлагчийн овог, нэр Д.Алтан-Эрдэнэ

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хний дан
Толгой нохцол.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Иргэд болон, гүйцэтгэгч байгууллага санал
болгох нийлэхгүй байх.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

4.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой.

Танд баярлалаа.

3.3. Chingeltei District

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 21 өдөр

Дүүрэг ГД Хороо 12 Хэсэг 8 Хэсгийн ахлагчийн овог, нэр Ганцоо Цэрэн

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

1. Байшин бүдүүлэх
2. Хашаа гуулах
3. Гэр бүдүүлэх.
4. Залгуулсан дулаан сүлжээ

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

1. Цэвэр сайн тосгон
2. Гуулин бүдрах.
3. Цэл гуулсаа. хонох.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

1. Нүүрс борлуулах.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Бид зам давалдсанаар гуулин
бүрэл цэл бүлгүй хонго.
Мөнгө зөрөг бэлтгэх.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг ЧД В-р Хороо 4-5 Хэсэг 4-5 Хэсгийн ахлагчийн овог, нэр Г. Нарангерел

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

сүрчулуйн 19 р гудамж 19-301, чр 20-331, 20-332, 20-328 19-300
20-330, 21-341 21-342, 21-348, 21-355 21-352, 21-356, 21-355
чр 22-366, 22-360, 22-367 22-360, 22-362. 22-361, 23-181 23-427
23-428 24-133. 24-129б 24-129, 24-130 24-126

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг ЧД 13р Хороо 13 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр М Изгэлалтр

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Сургуулийн 34-680 34-681-34-682 -34-692 тоот хашаанууд орсон байна

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг УД-ийн Хороо 13 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр А. Доморжав

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
✓		

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

сур-38-763а, 763, 760, 758, 757,
сур-39-786, 788, 791, 793, 795, 797,
сур-40-803, 800 тоотууд орсон байна

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг Чингэлтэй Хороо 14 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр Ч. Онцгэрэлмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

100б жишээлбэл машины давхрыг гадар байрлуулсан, нийтийн орон сууц (4 сууц) бусдыг хөндрөлгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Авто замын түгжрэл багасч болно

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

авто дэлгэр, нийтчлэх байр 2.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Түгжрэл арилж и байвал сайн байнаа ирээд дэлгэцийн байлгаа.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг 4/9 Хороо 20 Хэсэг 8 Хэсгийн ахлагчийн овог, нэр Энэбиш Баярмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Гуулгын өндөрлөгтэй өрхүүд одоо-н эдийн засгийн газрыг бүслэлээн. оршин суух.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Айл довтолдохгүй байх магадлал өндөр.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

байхгүй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Шинэ хувьд дэмжинэ байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 21 өдөр

Дүүрэг Чингэлтэй Хороо 21 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр Б. Онолнямаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

А А - нутгуудийн сайн мэдэхгүй б/на
айл өрхүүд б тайлбар зүйгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тулгарсан бурууна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

10.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг Чингэлтэй Хороо 21 Хэсэг 6 Хэсгийн ахлагчийн овог, нэр Д. Алтанзуя

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	✓

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Чиглэл усны нуур гойр байгаа тул хүндрэл үүсч магадгүй Шашин байгуулна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам далан гоцлол сайн орж ирэх учир.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Зөв. Дэмжиж байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 21 өдөр

Дүүрэг Чингэлтэй Хороо 21 Хэсэг 7 Хэсгийн ахлагчийн овог, нэр Т Пүрэвдулам

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Айл өрхүүд аитиргаалаа дэлгэж худалдаа үйлчлүүлж үлдвэрлэл эрхлэх тол цаалардал, амьдрах байр шуух

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын түгжирэх байхгүй болно.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Курсний дэргүүр авто засвар

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Түгжирэх аюул байлаад бэрхшээл болно.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 09 сар 21 өдөр

Дүүрэг УД 21- Хороо 21 Хэсэг 8 Хэсгийн ахлагчийн овог, нэр Пүрвээрэн

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	✓

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Цуцрах бага

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

цэвэрлэх бүхий байлгах

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

2 жилийн дэд цуцр 1 худал
моар нуцалмаг хоолой хийдэг газ оршуй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

зөв.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 21 өдөр

Дүүрэг Чингэлтэй Хороо 21 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр С.Сарантуяа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Дугуй засвар, авто угаалга, хаалт ус нийтийн бай байгаа. Бусад өрхүүд татгалзах зүйлгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тээврийн бөөгнөрөл.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Дугуй засвар – 1 авто угаалга – 1 хаалт ус – 1 нийтийн бай – 1 тос тосолгоо авто засвар – 1

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой байна

Танд баярлалаа.

3.4. Sukhbaatar District

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 23 өдөр

Дүүрэг СБД Хороо 13 Хэсэг 6 Хэсгийн ахлагчийн овог, нэр Г. Энхтуяа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хүнтэй нүүгчидтэй тооцоонд
хоцрогдоно хүндрэлтэй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Тоос шороо
хоцрогдоно

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Спорт заал; НДУ; дэлгүүр.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Зам дагуулж хөгжилтэй сурах
тун сайн; тохиромжтой.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг ЧСБГ Хороо 15 Хэсэг 2 Хэсгийн ахлагчийн овог, нэр Д. Бихзд.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Өөр орлого тийм шуурхай
олох шаардлага ихтэй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

эерэг — зам доогуур хөдлөх
сөрөг — хөдлөгөөн хязгаарлах

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

байхгүй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

их айл орох хаягдсан
нуд сайн тавихгүй

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг Сүхбаатар Хороо 13 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр Ц. Цэцэгмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Тоосжилт, чимэг шуугиан, хөдөлгөөн хязгаарлалт

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам тавьж байгаань сайн байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

248-р цэгүүд

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Замын нэмэлт нэмэлтийг сайн байх

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг Сүхбаатар Хороо 13 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр Н. Өнөөзүл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Шороо тоос ихтэй болдог, жид тэндгүй ОО-н нух, ил задгай хог үүсдэг. Иргэдийн газрыг ухлаад бариад х'х, ихэнхдээ ертөн дундуур улдэх тоо өндөр.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын орц гарц, гүүлтүүлэг, камер зүүгийг бодоосой: усны хөлөгөө зүүгийг бодоосой авто замаа маш сайн чанартай тавлах гүүтэй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Хүнсний дэлгүүр - 1, усны - 1.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Замаа дагасан зогсоолтой, зам объект хоёрын хоорондох зай талбайг хэмжээ стандартыг мөрдөх. болох

Танд баярлалаа.

3.5. Bayanzurkh district

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг ЗЗД Хороо 8 Хэсэг 3 Хэсгийн ахлагчийн овог, нэр Д. Энхчимэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар головлостой орсон айлуудыг нүүж суухад бараг госов хороонд эргэж буух хэрэгтэй байдаг гэмээр асуудал хүндрэлтэй байна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Нэг бүдүүн зам харгуй тавих нь сайн байна гэхдээ гарах асуудлууд их байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

"Их Орлого" ХХК, Авто угаалга, Долгоон авто угаалга ХХК, Ветжан засвар, Авто засвар гэх мэт.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Сайхан замтай. Болох гэж байгаад талархаж байна. Гарах хүндрэл хэцүү юм.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 02 өдөр

Дүүрэг ЗЗД Хороо 12 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр Ц. Бямбаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

"Жаст-Ойл" ШТС-ын талбайг 100% дайчлах
Эзэдтэй нь уулзаж ярилцах хэрэгтэй.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын түгжрэл бууруулах сайн талтай.
Сөрөг тал нь хорооны газар нутгийн
авто замын асфальт муудах магадлалтай.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Жаст-Ойл ШТС, АМУУЦС-н дотуур байр, АМУУЦС-
ийн нэмэлт сан, Монгол-Японы эмнэлэг, хашаа, Ботаник
Центр хотхон, машины засвар

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23. өдөр

Дүүрэг БЗД Хороо 19 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр Д. Алтан-гоо

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Бүрх, олих газар байхгүй.
Нүүх, газраа ~~чөлөөлөх~~ чөлөлөхөд асаасан машин, хэрэгсэл болно. Нүүлгэн шилжүүлэхэд гарах зардлыг хэн шийдэх вэ? Алдраг ~~ах~~ эрэх гэр, байрны алдлыг яах шийдэх вэ?

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Орчин тойрны тохижилт, үндэсний орчин тааруу. Зам талбайд явган аялдал ургах хэсэгтэй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Дөч – 8 нэрийн хүнсний дэлгүүр

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Байхгүй.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг БЗД Хороо 19 Хэсэг 12 Хэсгийн ахлагчийн овог, нэр С. Баярмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		Б/гүй

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	Дунд	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Буух газарчуд дарга нь нуухгүй б/х тальтай. Цаашдаа саад нийлхгүй байх

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эр эрх тал нь дээр тэлбэйтэй болж / бий гэж нь шаналтай сорох тал нь айлууд цаашдаа болох буух газар хэцүү.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

5. – 1 сургууль – Энэрэлийн хүнс дэлгүүр
– 1 ТҮК – Замчлах шатахуан
– ИЛ ТӨБ үйлчлэр.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Байгаагүй.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 23 өдөр

Дүүрэг БЗД Хороо 21 Хэсэг 5 Хэсгийн ахлагчийн овог, нэр П.Баасанжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	Дунд	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Бичиг баримт асуудал

4. Тесел хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

хүнд ачаалал

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

5

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Стандарт дагуу гаргах нь зөв байх гэж бодлоо.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг БЗД Хороо 21 Хэсэг 7 Хэсгийн ахлагчийн овог, нэр Н. Лхагважав

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

1. Газрын бичиг баримт нэр шилжүүлэгдэх дилэмтэй, зарим айлууд нь газар чөлөөлөгчийн дэмжлэгтэй, мөн ЭТГ аваар дорой жийд дөт үүн дээр цаг хугацаа их орсон

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

1. Зам дагаад хогийн цэг, орчин сойжиана
2. Сөрөг бол нь ганцаг мөртөй эрвэлзэх хөдөлгөөнд оюуцаг гүй,

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Маш ойр хөгт дэлгүй үйлчилгээний газар байгаа. (1 дэлгүүр байгаа) нийт (5)

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Болгожийн хаалгийн гол нь ганцаг ойн, хурдан гүйцэтгэх нэг өгөгдөл байдаг.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг Баянгол Хороо 21. Хэсэг 8 Хэсгийн ахлагчийн овог, нэр Ю. Батцэцэг.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Сайн мэдэхгүй -

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Агаар орчин, ус уламж улмаас боломжоо,

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

байхгүй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Оновчтой мэдэхгүй. байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг ЧЗД Хороо 21 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр Б.Гонгорсүрэн

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

- Бичиг баримтын асуудалтай (хаяг, ул хөрөнгө)
- Зорчих нь довтолгоо зорчих нь довтолгоотой
- Толгойлогч Гаргалгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эерэг	Сөрөг
- Зам дагуу хотын орчин - Зам дагуу өнөө байгаа үйл ажиллагаа ямар нөлөөтэй байх гэж болно	Өөр хүмүүсээ дуугүй үлдэр хүрэх бэлгүүдэд тулгуурлах ба ямар ямаг

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

- 1 хорих анги (44Х)

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

- Оновчтой байна гэхэд нөлөөтэй стандартын дагуу барих
- Дурсгал дагаваргаа ~~гу~~ байх

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг БЗД Хороо 21 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр О. Батдалгар

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газрын гэрчилгээ ашуудалтай айл өрх байгаа.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын шинэчлэл бүрэн хийгдэн иргэдэд ашиг.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

5.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Стандартын дагуу гаргартай зам байх.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг БЗД Хороо 21 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр З. Ононгэрэл

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
✓	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

хүндрэл маш их гардаг.
газрын бүлэг баримт, нэр шилжүүлэгчгүй
ирсэн их байдаг. Ирсэн хоборондын
маргаан их гардаг.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

стандартад нийцсэн байх ёстой.
чанар муутай гүүр.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

цэгүүдийн тоо -5

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

зам тавьж оруулах нь сайн бөгөөд
тов зам дагуу чанартай тавих хэрэгтэй

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг БЗД Хороо 24 Хэсэг 05 Хэсгийн ахлагчийн овог, нэр И. Зоригоо

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	дундаас доош	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Зарим нь хашаанд 2-3 айлууд байдаг учир хүндрэл гарах магадлал байна

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Сайн тал нь замд хөдөлгөөн цэг,
Хашаандаа 2-3 айлуудын асуудалтай шийдчихвэл хүндрэл байхгүй

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Ломбардны хоосон хашаа байгаа
Ойрхон 3-10 гэрэлтэй

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

дэмжиж ажиллана.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг БЗД Хороо 24 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр Ж. Ерөлзод

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Байгаа. Ерөнхий хөёр талтай
хашаандаа 23-н орц байгаа. Бүгдэ олон
жил амьдарч байгаа.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам дагуу нөгөө урж давуу талтай.
(Сөрөг) хашаандаа 9.3-н орц байгаа мөн
АДНБ-д ачуудаг гарах бөгж.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

5-8-н аж ахуйн нэгж байгаа

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Дэмжинэ байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04. сар 23. өдөр

Дүүрэг БЗД. Хороо 24 Хэсэг 14. Хэсгийн ахлагчийн овог, нэр Д. Мөнхцэцэг.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Ат ахуй нэг бий цуглуулах хэсэг хуучин гарт мицуцуй. 3-н нийлэгдэн байрлах 24-айл өрх байгаа.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Зам тийш чиглэсэн хэсэгт цэвэр агаар дээшлэх гэж үзэж байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

2-ат ахуй нэг бий цуглуулах байгаа.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Дэмжиж байна.

Танд баярлалаа.

9212 0004
Цэнгэл.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг ЗЗД. Хороо 24 Хэсэг 13. Хэсгийн ахлагчийн овог, нэр Д. Цэнгэл.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Байхгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

(сөрөг) Хорцоолол 10, 11, 12, 14-р цудалж буулгах ус дороосоо ундардаг.
(эерэг) Газар тоосгүйтэнэ өрөх хугацаатай байгаа. Ургац дэлгэнэ.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААНБ - 2. (хуушин дэлгүүр).

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Дэмжинэ байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог авто зам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Коронциум

БОННҮ: "Ньюгидро проект" ХХК

Санал асуулгын судалгаа

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг БЗД Хороо 27 Хэсэг 1

Хэсгийн ахлагчийн овог, нэр: Ю.Баяраа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд зэрэг	Мэдэхгүй
	дунд	

3. Айл өрхийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд айлууд дургүй байдаг. Газраа чөлөөлөхгүй. Учраас хийгээд мөнгө тогтоо авна гэж ярьдаг.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Төсөл хэрэгжсэнээр зам доголдол хөгжил ирнэ. Чер үсны аюулгүй сурчийлдэх. Сөрөг тал нь байхгүй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

А.А.Н-ууд бүгд айл өрхүүд нь орно. З-н А.А.Н-айл гэр 16 айл байдаг.

6. Авто зам трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

ирээдүй мэдээжгүй муу огдог

Төслийн нэр: Шинэ тойрог авто зам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Коронциум

БОННУ: “Ньюгидро проект” ХХК

Санал асуулгын судалгаа

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг БЗД Хороо 27 Хэсэг 2

Хэсгийн ахлагчийн овог, нэр: Ю. Болорцэцэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
Сайн		

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд зэрэг	Мэдэхгүй
	Дунд	

3. Айл өрхийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Газар чөлөөлөхөд айлууд дургүй байдаг. Газраа чөлөөлөхгүй үлдэхийг хүсдэг. Шинэ тойрог авна. Үнэ өндөр.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Төсөл хэрэгжсэнээр зам далайс хөдөлгөөн ирнэ. Үер усны аюулаас сэргийлдэг. Сөрөг тал байхгүй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

А.А.Н-ууд болон айл өрхүүдийг хөдөлгөх 8-н ААН, айл гр 20 айл.

6. Авто зам трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Цаашдаа мэдээлэх шаардлагатай.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг Баянзүрх Хороо 29 Хэсэг 9 Хэсгийн ахлагчийн овог, нэр Э. Баярцэцэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		+

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Үгүй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эерэг тал: Хорсний устай болхоор иргэдэд таалагдсан байна.

Сөрөг тал: Орчны 100м байгаа айл өрхийн оюуны байдал

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

1. Батмонх цэцэн айл ХХК

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

А 3бр гүүдэлтэй явбал ААНБ байхгүй дан айл орхоор дайрна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Захиалагч: Нийслэлийн ЗДТГ

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг БЗД Хороо 31 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр Г. Монхбаяр.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
✓		

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү) Монгол 35-1

Нэлээд удаан газар нарсны ажил хийгдэх бол хэцүү л байна.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Мэдэхгүй ээ.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Замаа өргөн болговол сайн л байна.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг БЗД Хороо 31 Хэсэг 13 Хэсгийн ахлагчийн овог, нэр Нарамжоо

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хүмүүс голоос болж хүндрэлтэй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Газар голоос хүндрэлтэй

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

2. айл

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Мэдэхгүй

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 23 өдөр

Дүүрэг 13 Дүүрэг Хороо 32 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр Цэнжмаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Гарах хүндрэл харьцангуй бага орлого ихтэй бүтээн байгуулалт хийхийг маш сайн дэмжиж

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Орлого тохижих сайжирна. Эдийн засгийн сайжирна. Үйлчлэлт бүрэн хөгжинэ. Сөрөг талд авто замын тойрох тойрлогоор орц гарц доголдох бол осол аваар гарах эрсдэлтэй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

шүүрс борлуулах цэг 1, хүнсний пав -1, Автозогсоол-1 цэцэрлэг-1, орхидоо ц-лт-2, авто угаалга-1

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Морьтоны хөшөөний цэцэрлэг нарийн тойроолоор гарч байгаа нөлөөлөх зүйлс нь бага байгаа бай х гэж үзэж байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 23 өдөр

Дүүрэг 332 Хороо 32 Хэсэг 12 Хэсгийн ахлагчийн овог, нэр Ганхуяг Тумэнжаргал

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Гарах хүндрэл алга

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Эерэг нөл-сайжран замнай болж байгаа
сөрөг нөл-орх болон А А Нэжмэй замцах

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

"Эдэн Булаг" дэлгүүр" Тумэнцуурэнтуяа,

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Зам тойрсон замын төлөвлөлтөд
орж байгаас дэмжиж байна

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг БЗД. Хороо 37 Хэсэг 8 Хэсгийн ахлагчийн овог, нэр М. Оюунчимэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Зөрүүл айл нь дахин тоноглогдсоноос. ААН-3 нь

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Нь жосоо хүрэгцээтэй. Аюулгүй байдлыг бодох. Бүрэх жирийн бага.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ААН-3. хүнсний дэлгүүр 1. хоолны ногоо тариалах орх-1.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Цэцэг зов лидэрлэгч сүүх НЦХ, тоноглогч нар болон Золе гэхэрцэн бүс цэцэгтэй уулзаж санал бодлыг авах.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг ЗЗД Хороо 37 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр Д. Оюундалай.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Айл өрхүүдийн нүүлгэжд хүндрэлтэй.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

тосгол хөгжиж, жижиг айл өрхүүдэд. эерэг тал нь, мөн сөрөг талууд их байна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Айл өрхүүд, аж ахуйн нэгж. спорт заал.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг ЗҮД Хороо 37 Хэсэг 11 Хэсгийн ахлагчийн овог, нэр П. Бямбаа

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
✓	✓	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Хүндрэл их гарна. Яг харгуй ажиллана. Цалин урамшуулал байхгүй. Айл өрх нууд, хуучин гэдлийн сайн санаатай.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Айл өрх нуухгүй удна. Өнө, өвөлжөө шилжлээн их гарна.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Дэлгүүр, склад.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Одоогоор мэдэх зүйл алга.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: "Ньюгидро проект" ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 04 сар 22 өдөр

Дүүрэг БЗД. Хороо 37 Хэсэг 12 Хэсгийн ахлагчийн овог, нэр Ц.Мөнхэрдэнэ

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	✓	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	✓	✓

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Цаг хугацааны эрсдэл. Нэмэлт цалин урамшуулалгүй хүмүүс нь уур бухимдалтай ханддаг. Өрх айлууд нүүх шилжихэд маш хүндрэлтэй.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Айл өрхүүд, Агуулах ААН: нүүж утаагүй болж цэвэр орчинтой б.но. Газрын асуудал-г шийдэж айлуудтаа тохиролцох

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Айл өрхүүд - Агуулах ААН.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг БЗД Хороо 38 Хэсэг 1 Хэсгийн ахлагчийн овог, нэр Т. Батчимэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

ГР-70,76-р байрны 16 давхар 8 байр хаяг банктай 4 давхар 5 ААНБ-ийн ателлагаа явуулж буйгаа зогсоох хүндрэлтэй

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Ном давхар барилга барьсан 16 давхар айлгүй буйгаа тул буцаах хүндрэл арга зам байхгүй

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

ГР 70.76 байранд мөн чиг баяжуулж 8 ААН. үйл ажиллагаа явуулж буйгаа

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Лоттолж дүгнүүр тов нүдний зам явах болсон байхгүй гэж бодож байна.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННУ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он 4 сар 22 өдөр

Дүүрэг БЗД Хороо 38 Хэсэг 10 Хэсгийн ахлагчийн овог, нэр Л. Оюунчимэг

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
	+	

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу
	+	

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

МТ-хаалт байгаа.
GS-25.

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Байхгүй.

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

МТ. хаалт. GS-25.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Зүүнээр төлөвлөхөд болно.

Танд баярлалаа.

Төслийн нэр: Шинэ тойрог автозам

Гүйцэтгэгч: Си Эс Си И Си & Ай Юу И Консорциум

Захиалагч: Нийслэлийн ЗДТГ

БОННҮ: “Ньюгидро проект” ХХК

САНАЛ АСУУЛГЫН СУДАЛГАА

Огноо: 2025 он _____ сар _____ өдөр

Дүүрэг БЗД Хороо 58 Хэсэг 15 Хэсгийн ахлагчийн овог, нэр Ц. Ураントогос.

1. Та энэхүү төслийн талаар ямар мэдээлэлтэй байгаа вэ?

Сайн	Дунд зэрэг	Мэдэхгүй
		✓

2. Төслийн талбайд харьяалагдах айл өрхүүдийн амьжиргааны түвшин

Сайн	Дунд	Муу

Ихэнх ахмад настан б/гаа.

3. Айл өрхүүдийн газар чөлөөлөхөд гарах хүндрэлүүд (бичнэ үү)

Богод ХХК – нийт үйл ажиллагаа явуулж байгаа 14 гэгээ б/гаа, Эмха ХХК, Хайтаг худалдаа 16 давхар орон сууц, Авто замаар; тавгаг

4. Төсөл хэрэгжсэнээр гарах эерэг болон сөрөг талууд (бичнэ үү)

Замын төсөлтэй харилцах харилцаа их байгаа; үйл ажиллагаа явуулж байгаа гэрчүүдэд хүндрэл,

5. Төслийн талбайд харьяалагдах өрхийн ажил, үйлчилгээний цэгүүдийн тоо

Нийт 18 үйл ажиллагаа явуулж байгаа гэрчүүд байгаа.

6. Авто замын трассын төлөвлөлтийн оновчтой байдлын талаар таны санал (бичнэ үү)

Бид замын төслийг дэмжиж ажиллах бид хэзээ замын төсөл хэрэгжиж болохгүй.

Танд баярлалаа.

2. Certificate and license from the organization that conducted the environmental assessment

3.

УБ-2

Монгол Улсын Засгийн газрын
2004 оны 20 дугаар тогтоолоор батлав.

МОНГОЛ УЛС
УЛСЫН БҮРТГЭЛИЙН ГЭРЧИЛГЭЭ

000029753

2012.01.19
/ Бүртгэсэн он,сар,өдөр /

9011326069
/ Улсын бүртгэлийн дугаар /

5554071
/ Регистрийн дугаар /

Ньюгидро проект Хязгаарлагдмал хариуцлагатай компани
/ Хуулийн этгээдийн нэр, хариуцлагын хэлбэр /

Дүрэм
/ Үүсгэн байгуулах баримт бичиг /

Тогтоол / шийдвэрийн нэр /
01 / дугаар /
2012.01.19 / он,сар,өдөр /

511000 Гадаад худалдаа
/ код / / Үндсэн эрхлэх үйл ажиллагааны чиглэл /

514300 Барилгын материалын худалдаа
511000 Усны байгууламжын тоног төхөөрөмжийн худалдаа
020000 Цэцэрлэгжүүлэлт

/ код / / Туслах эрхлэх үйл ажиллагааны чиглэл /

Хугацаагүй / хугацаа /
2 / гишүүдийн тоо /
1,000.0 / өөрийн хөрөнгийн хэмжээ, мянган төгрөгөөр /

Баянгол, 8-р хороо, 4-р хороолол, 11 - 265 тоот, утас1:94070706, утас2: , факс:
/ хуулийн этгээдийн албан ёсны хаяг /

Улсын бүртгэлийн ерөнхий газрын Хуулийн
этгээдийн бүртгэлийн газар
/ бүртгэсэн байгууллагын нэр /

Харилцах дансны бүртгэл

Харилцагч банкны нэр	Дансны төрөл	Дансны дугаар	Бүртгэсэн ажилтан тэмдэг
Голомт төв банк	Төгрөгийн	1410005123	Ц.Билэгсүх

Хуулийн этгээдийн үүсгэн байгуулах баримт бичиг оруулсан нэмэлт өөрчлөлтийн бүртгэл

Д/д	Нэмэлт өөрчлөлтийн агуулга	Бүртгэсэн	
		Огноо	Ажилтан тэмдэг
1	Голомт төв банк банкны 1410005126 тоот валютын дансыг бүртгэв.	2012.01.26	Ц.Билэгсүх
3	Биндэрьяа овогтой Зоригоо -г Захирал-р томилсныг бүртгэв	2012.04.18	Ц.Билэгсүх
4	Хувь нийлүүлэгчэс 1 нэмэгдэж, 2 хасагдаж үүсгэн байгуулагчийн тоо нийт 1 болж өөрчлөгдсөнийг бүртгэв.	2015.02.12	Э.Ганцэцэг
5	Майнбаяр овогтой Энхбаяр -г Захирал-р томилсныг бүртгэв.	2015.02.12	Э.Ганцэцэг
6	Улаанбаатар, Чингэлтэй, 3-р хороо, 18, 1 Утас1: 99110706, Утас2: 91110741, Факс: хаягийг шинээр бүртгэв.	2020.01.06	Г.Санжаа
7	Хувьцаа эзэмшигч 1 нэмэгдэж хувьцаа эзэмшигчийн тоо нийт 2 болж өөрчлөгдсөнийг бүртгэв.	2020.01.06	Г.Санжаа
8	Цэдэн овогтой Сосорбарам-г Гүйцэтгэх захирал -р томилсоныг бүртгэв.	2020.01.06	Г.Санжаа

Энэхүү гэрчилгээг хуурамчаар үйлдсэн этгээдэд Монгол Улсын хуулийн дагуу хариуцлага хүлээлгэнэ.
Улсын бүртгэлийн гэрчилгээ засвартай бол хүчингүй.

МОНГОЛ УЛС
БАЙГАЛЬ ОРЧИН, АЯЛАЛ ЖУУЛЧЛАЛЫН ЯАМ

БАЙГАЛЬ ОРЧНЫ НӨЛӨӨЛЛИЙН
НАРИЙВЧИЛСАН ҮНЭЛГЭЭ ХИЙХ ЭРХИЙН

ГЭРЧИЛГЭЭ

Дугаар: 0000174

“НЬЮ ГИДРО ПРОЕКТ” ХХК

РЕГИСТРИЙН ДУГААР:5554071
/Аж ахуйн нэгжийн нэр, регистрийн дугаар/

“Байгаль орчныг хамгаалах тухай” хуулийн 7 дугаар зүйлийн 5., “Байгаль орчинд нөлөөлөх байдлын үнэлгээний тухай” хуулийн 12 дугаар зүйлийн 12.1. дэх хэсэг, Засгийн газрын 2013 оны 374 дүгээр тогтоолоор батлагдсан “Байгаль орчны нөлөөллийн үнэлгээний журам”-ын 4.2., Байгаль орчин, аялал жуулчлалын сайдын 2019 оны 01 дугаар сарын 28-ны өдрийн A/27 дугаар тушаалыг тус тус үндэслэн дараах чиглэлүүдээр байгаль орчны нөлөөллийн нарийвчилсан үнэлгээ хийх эрхийн гэрчилгээг гурван жилийн хугацаагаар олгов.

Үүнд:

УУЛ УУРХАЙ

ДЭД БҮТЭЦ

ХӨДӨӨ АЖ АХУЙ, ҮЙЛДВЭРЛЭЛ

ҮЙЛЧИЛГЭЭ

БАЙГАЛЬ ОРЧИН,
АЯЛАЛ ЖУУЛЧЛАЛЫН САЙД Н.ЦЭРЭНБАТ

2019 оны 02 сарын 02-ны өдөр

НЭМЭЛТ ӨӨРЧЛӨЛТИЙН БҮРТГЭЛ

№	Нэмэлт өөрчлөлтийн агуулга	Бүртгэсэн	
		он, сар, өдөр	Гарын үсэг
1.	Гэрчилгээг 3 жилийн хугацаатайгаар сунгав. 2022.03.14	БОАЖСайдын 2022.03.11-ний өдрийн А/64 дугаар тушаал	ХБОБНУГ-ын дарга А.ЭНХБАТ
2.	Мэргэжлийн байгууллагын эрхийг 3 жилийн хугацаагаар сунгав. 2025.03.13	БОУАӨСайдын 2025.02.27-ны өдрийн А/101 дугаар тушаал	ХБОБХГ-ын дарга Г.ЭНХМӨНХ

Энэхүү гэрчилгээг хуулбарлах, олшруулахыг хориглоно.

Санамж:

Тус яамнаас олгосон энэхүү гэрчилгээг зориулалтын бусаар ашигласан, үйл ажиллагаандаа ноцтой алдаа дутагдал гаргасан, худалдан борлуулсан, холбогдох хууль тогтоомжийг зөрчсөн бол хүчингүй болгох үндэслэл болно.