

**MINISTRY OF HEALTH OF THE REPUBLICS OF ARMENIA
HEALTH PROJECTS IMPLEMENTATION UNIT**

**NON-COMMUNICABLE DISEASE PREVENTION AND CONTROL
PROJECT**

Environmental Management and Monitoring Plan
for reconstruction of the Center of Hematology named after Prof. R.H. Yeolyan

PART A: GENERAL PROJECT AND SITE INFORMATION

SITE DESCRIPTION	
Name of site	Center of Hematology after prof.R.H.Yeolyan, CJSC Yeravan, Republic of Armenia
Describe site location	<p>The site is located in northern part of the city of Yerevan, in a populated urban area. The land plot under the Center makes 0.78 hectares. The land plot is fenced and gated. (Cadastral code of the land Certificate - 01-012-318-014-001)</p> <p>Attachment 1: Site Map <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Attachment 2: Minutes of Consultation Meeting</p>
Who owns the land?	The land plot under the Center of Hematology after prof. R.H.Yeolyan is State owned and user rights to the land are held by the Center, which is registered as a Closed Joint Stock Company.
Description of geographic, physical, biological, geological, hydrographic and socio-economic context	<p>Yerevan is the capital and the largest city of Armenia. Situated along the Hrazdan River, Yerevan is the administrative, cultural, and industrial center of the country. Population: 1,121,900 (2011). Area: 227 km².</p> <p>Yerevan is situated in the Ararat Valley. Its average elevation from the sea level is 990 m (3,248.03 ft), with a minimum of 865 m (2,837.93 ft) and a maximum of 1,390 m.</p> <p>Climate of the area is expressed continental: hot and dry summers are followed by moderately cold winters with unstable snow cover. Characteristics of the climate are determined by the invasion of hot dry air masses from the south in summer and cold air masses from the north in winter. Maximum wind speed is 30 m/sec; annual average temperature is +11.6°C, minimum temperature is -25°C, and the absolute maximum reaches +40°C. Relative air humidity is 49% - 53% in summer, 73% - 76% in winter, 57% - 61% in spring, and 51% - 70% in autumn. Prevailing wind direction is to the north-east.</p> <p>Central Armenian basins are sandwiched between the more prominent Kura Basin on the north and east and the Arax River Basin to the west and south. They are smaller; the sedimentary section is thinner; and they contain considerable volumes of terrestrial and subaqueous volcanic rocks in addition to molasse and flysch-like sediments.</p> <p>Typical soils are light greyish, soil erosion is expressed weakly. Main water source of the city is Hrazdan River.</p>

<p>Locations and distance for material sourcing, especially aggregates, water, stones?</p>	<p>All main suppliers of construction materials and their base warehouses are located in Yerevan. Works contractor is unlikely to mine for any materials, but rather purchase them from multiple existing licensed providers. If a contractor still prefers to extract materials rather than purchase them, this activity will be subject to licensing according to the mining legislation of Armenia.</p> <p>The existing and operational Center of Hematology holds all necessary permissions for water use and waste water discharge. It is connected to the municipal networks of power, gas, and water supply and sewage collection. Disposal of domestic wastes are done according to decision of Council of Yerevan Municipality N360 N (December 23, 2011).</p> <p>Volume of waste generated during the reconstruction works is expected to be modest and will be disposed at Nubarashen municipal landfill.</p>
LEGISLATION	
<p>Identify national & local legislation & permits that apply to project activity</p>	<p>The NDPC project triggers World Bank safeguard policy OP/BP 4.01 Environmental Assessment and according to it is classified as environmental Category B. Rehabilitation of the Center of Hematology implies conventional renovation works within the present perimeter of its sub-buildings. There will be no need to set up a work camp for the period of construction. Temporary storage of all construction materials and waste, as well as placement of construction equipment will be possible inside the fenced area of the Center, that excludes traffic congestion and restriction of access. Overall, reconstruction of the Center of Hematology is a low-risk activity with minimal temporary negative impacts well known upfront. Therefore, the present Environmental management Checklist is used as a tool for planning environmental management and monitoring of this activity.</p> <p>Armenian legislation does not require any type of environmental impact assessment, approval, or permitting for the proposed reconstruction of the Center of Hematology.</p> <p>According to the national regulatory system:</p> <ul style="list-style-type: none"> (i) general designer of reconstruction works must be licensed, (ii) works contractor must be licensed, (iii) construction materials must be obtained from licensed providers, (iv) in an unlikely case of contractor wishing to operate own concrete plant (rather than purchasing these materials from other providers), then the contractor must obtain an environmental permit with an established ceiling of pollutant concentrations in emissions; (v) disposal of the construction waste into a landfill or permanent placement of access inert material generated in the course of earth works in a selected location must be approved by Yerevan municipality in written. <p>Copies of construction licenses, if applicable, and waste disposal permits will be attached to this EMP once the contractor is selected and mobilized to the work site.</p> <p>The national design and construction norms (Sanitary norms and Regulations - SNIP) must be adhered to.</p>
PUBLIC CONSULTATION	
<p>Identify when / where the public consultation process took place</p>	<p>Present site-specific EMP will be disclosed nation-wide through the web page of the Ministry of Health, and hard copies will be delivered to Aarhus centers for easy access by all stakeholders, including population of the city of Yerevan and the NGO community. The EMP was discussed in a consultation meeting and minutes are attached hereby.</p>

PART B: SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
	Activity/Issue	Status	Triggered Actions
Will the site activity include/involve any of the following?	A. Building rehabilitation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section A below
	B. New construction	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section A below
	C. Individual wastewater treatment system	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section B below
	D. Historic building(s) and districts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section C below
	E. Acquisition of land ¹	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section D below
	F. Hazardous or toxic materials ²	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section E below
	G. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section F below
	H. Handling / management of medical waste	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section G below
	I. Traffic and Pedestrian Safety	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section H below

¹ Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

² Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	<ul style="list-style-type: none"> (a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	<ul style="list-style-type: none"> (a) During interior demolition debris-chutes shall be used above the first floor (b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) There will be no excessive idling of construction vehicles at sites
	Noise	<ul style="list-style-type: none"> (a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	<ul style="list-style-type: none"> (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	<ul style="list-style-type: none"> (a) Waste collection and disposal pathways and sites will be identified for all major waste types Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (b) Construction waste will be collected and disposed properly by licensed collectors (c) The records of waste disposal will be maintained as proof for proper management as designed. (d) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
E. Toxic Materials	Asbestos management	<ul style="list-style-type: none"> (a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	<ul style="list-style-type: none"> (a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used

G. Disposal of medical waste	Infrastructure for medical waste management	(a) In compliance with national regulations the contractor will insure that rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: <ul style="list-style-type: none">▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal; and▪ Appropriate storage facilities for medical waste are in place; and▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
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PART D: MONITORING PLAN

Activity	What	Where	How	When	Why	Who
CONSRUCTION PHASE						
Provision of construction materials	Purchase of construction materials from the licensed providers	In the provider's office or warehouse	Verification of documents	During conclusion of supply contracts	Ensure reliability of construction materials and their safety for human health	Health Project Implementation Unit (HPIU)
Transportation of construction materials and waste Movement of construction machinery	<ul style="list-style-type: none"> - Technical condition of vehicles and machinery; - Confinement and protection of truck loads with lining; - Respect of the established hours and routes of transportation. 	<ul style="list-style-type: none"> - Construction site - Routs of transportation of construction materials and wastes 	Inspection of roads adjacent to the construction object in the direction of the movement rout	Undeclared inspections during work hours and beyond	<ul style="list-style-type: none"> - Limit pollution of soil and air from emissions; - Limit nuisance to local communities from noise and vibration; - Minimize traffic disruption. 	HPIU, Inspection Police State Environmental Inspectorate
Maintenance of construction equipment	<ul style="list-style-type: none"> - Washing of cars and construction equipment outside the construction site or on maximum distance from the river; - Refueling or lubrication of construction equipment and outside the construction site or at the predetermined confined area; - Technical order of the construction equipment maintenance point: <ul style="list-style-type: none"> • solid impenetrable floor or adsorbent (sand fine gravel, membrane) cover • enough area and 	Construction site	Inspection of activities	During operation of equipment	<ul style="list-style-type: none"> - Avoid pollution of water and soil with oil products due to operation of equipment; - Timely localize and decrease expected damage in case of fire. 	HPIU

	<ul style="list-style-type: none"> impenetrable barriers around fuel containers • basic fire extinguishing means 					
Extraction of inert material	Purchase of inert materials from the existing licensed suppliers	Offices and warehouses of material providers Quarries of inert materials	Inspection of documents Inspection of activities	During conclusion of supply contracts During excavation and reclamation at quarries	- Limit slope erosion and landscape damage; - Limit erosion of river banks, pollution of water flow with weighted particles and disturbance of aquatic life.	HPIU State Environmental Inspectorate
Generation of construction waste	- Temporary storage of construction waste in especially allocated areas; - timely disposal of wastes to the formally designated locations.	Construction site; Waste disposal site	Inspection of activities	Periodically during construction and upon its completion	- Prevent pollution of soil, surface water and ground water; - Avoid accidents at the construction site due to scattered fragments of construction materials and debris; - Retain esthetic appearance of the construction site and its surroundings.	HPIU Yerevan Municipality
Generation of asbestos containing construction waste from roof replacement	- Removal of asbestos containing roof sheets with minimal fragmentation to avoid dust generation; - Watering of roof sheets during removal to minimize dust generation; - Temporary storage of removed roof sheets under a cover in a designated location of the construction site; - Timely removal of roof sheets to the designated disposal site in a covered truck;	Construction site; Waste disposal site	Inspection of documents to ensure transport and disposal is done by licensed company with ultimate disposal to a suitable site. activities Inspection of activities	Periodically during construction and upon its completion	- Prevention of health hazards to construction workers and other people which may enter the construction site; -Prevention of health hazards to waste disposal workers and other people which may enter waste disposal site.	HPIU Yerevan Municipality

	<ul style="list-style-type: none"> - Covering of asbestos containing waste with a layer of earth at the site of its final disposal; - Wearing uniforms and protective gear (eyeglasses and respirators) by workers and personnel handling asbestos containing waste at any stage. 					
Production of domestic wastes	<ul style="list-style-type: none"> - Placement of waste collection containers at the construction site and construction base (if any); - Agreement with Yerevan Municipality on regular disposal of domestic wastes. 	Construction site	Visual observation	Total period of construction	Prevent pollution of soil and water with domestic waste	HPIU Yerevan Municipality
Production of liquid wastes	<ul style="list-style-type: none"> - Arrangement and regular cleaning of drainage system for rain water collection and drain; - Arrangement of sedimentation pond for water used for domestic and machinery washing purposes. 	Construction site	Visual observation	Total period of construction In case of waste precipitations	<ul style="list-style-type: none"> - Prevent flooding of construction site and disruption of works due to water logging; - Reduce pollution of surface and ground waters. 	HPIU
Operation of asphalt-concrete plant	<ul style="list-style-type: none"> - Obtaining of emission permit by the construction contractor and strict compliance with it; - Arrangement of sedimentation pond for waste water from the plant. 	Construction site	<ul style="list-style-type: none"> Inspection of documents Inspection of activities 	Total period of plant operation	<ul style="list-style-type: none"> - Limit population disturbance near the construction site; - Limit atmospheric air and surface water pollution. 	HPIU State Environmental Inspectorate
Construction site re-cultivation and landscaping	Final cleaning of the construction site and permanent access roads and landscaping-greening of the area	Construction site,	Inspection of activities	Final period of construction	Reduce loss of aesthetical value of the landscape due to the water treatment facility construction	HPIU Yerevan Municipality
Workers' health and safety	<ul style="list-style-type: none"> - Provision of constructors with working clothes and PPE; - Strict compliance with the rules of construction equipment operation and usage of PPE 	Construction site	Inspection of activities	Total period of works	Reduce probability of traumas and accidents to constructors	HPIU

OPERAIION PHASE

Medical waste management	<ul style="list-style-type: none"> - Separation of medical waste from other types of waste generated at the Center; - Arrangements in place with especially licensed entity for regular out-transporting and disposal of medical waste in compliance with the national legislation and the best national practice. 	Premises of the Center of Hematology	<ul style="list-style-type: none"> - Inspection of the Center's premises - Checking; presence and validity of waste removal and disposal agreement with a licensed entity 	Total period of operation of the facility	<ul style="list-style-type: none"> - Maintenance of good sanitary conditions at the Center; - Avoid spread of infection from the Center's area; - Limitation of soil, surface and ground water pollution. 	<p>State Environmental Inspectorate</p> <p>Ministry of Health</p>
Household waste management	<ul style="list-style-type: none"> - Presence of adequate type and number of household waste bins; - Timely removal of household waste from the Center's territory on the basis of out-transporting and disposal arrangements. 	Premises of the Center of Hematology	<ul style="list-style-type: none"> - Inspection of Center's premises; - Checking presence and validity of waste removal and disposal agreement with a licensed entity. 	Total period of operation of the facility	<ul style="list-style-type: none"> - Maintenance of good sanitary conditions at the Center; - Limitation of soil, surface and ground water pollution. 	<p>State Environmental Inspectorate</p>
Emergency preparedness	Presence of fire alarm and fire localization system, and emergency back-up systems for power and water supply	Premises of the Center	Periodic check-ups	Total period of operation of the facility	<ul style="list-style-type: none"> - Reduce risks for the staff and patients of the Center; - Avoid disruption in the provision of utility services to the Center. 	<p>Ministry of Emergency Situations</p>

Attachment I. Land Certificate, drawings, and maps of the Center of Hematology buildings and the land plot under it

Cadastral code: 01-012-318-014
 Area: 078 ha
 Purpose: Centre of Hematology

ՀՈՂԱՄԱՍԻ ՏՎՅԱԼՆԵՐԸ

ԿԱՂԱՍՏՐԱՅԻՆ ՀԱՄԱՐԸ 01-012-318-014
 ՆՊԱՏԱԿԱՅԻՆ ՆՇԱՆԱԿՈՒԹՅՈՒՆԸ Ճարտարապետական
 ՕԳՏԱԳՈՐԾՄԱՆ ՆՊԱՏԱԿԸ առողջապահական կենտրոն կառուցելու
 ՀՈՂԱՄԱՍԻ ՉԱՓԸ (հա) 0,78
 ԻՐԱՎՈՒՆՔԻ ՏԵՍԱԿԸ սեփականություն

ՇԵՆՔԻ ՏՎՅԱԼՆԵՐԸ

ԿԱՂԱՍՏՐԱՅԻՆ ՀԱՄԱՐԸ 01-012-318-014-001
 ՆՊԱՏԱԿԱՅԻՆ ՆՇԱՆԱԿՈՒԹՅՈՒՆԸ հասարակական
 ՕԳՏԱԳՈՐԾՄԱՆ ՆՊԱՏԱԿԸ այգուամայրամասի կենտրոն
 ՄԱԿԵՐԵՍԸ (քառ. մ.) 9766,28
 ԻՐԱՎՈՒՆՔԻ ՏԵՍԱԿԸ սեփականություն

ՇԻՆՈՒԹՅԱՆ ՏՎՅԱԼՆԵՐԸ

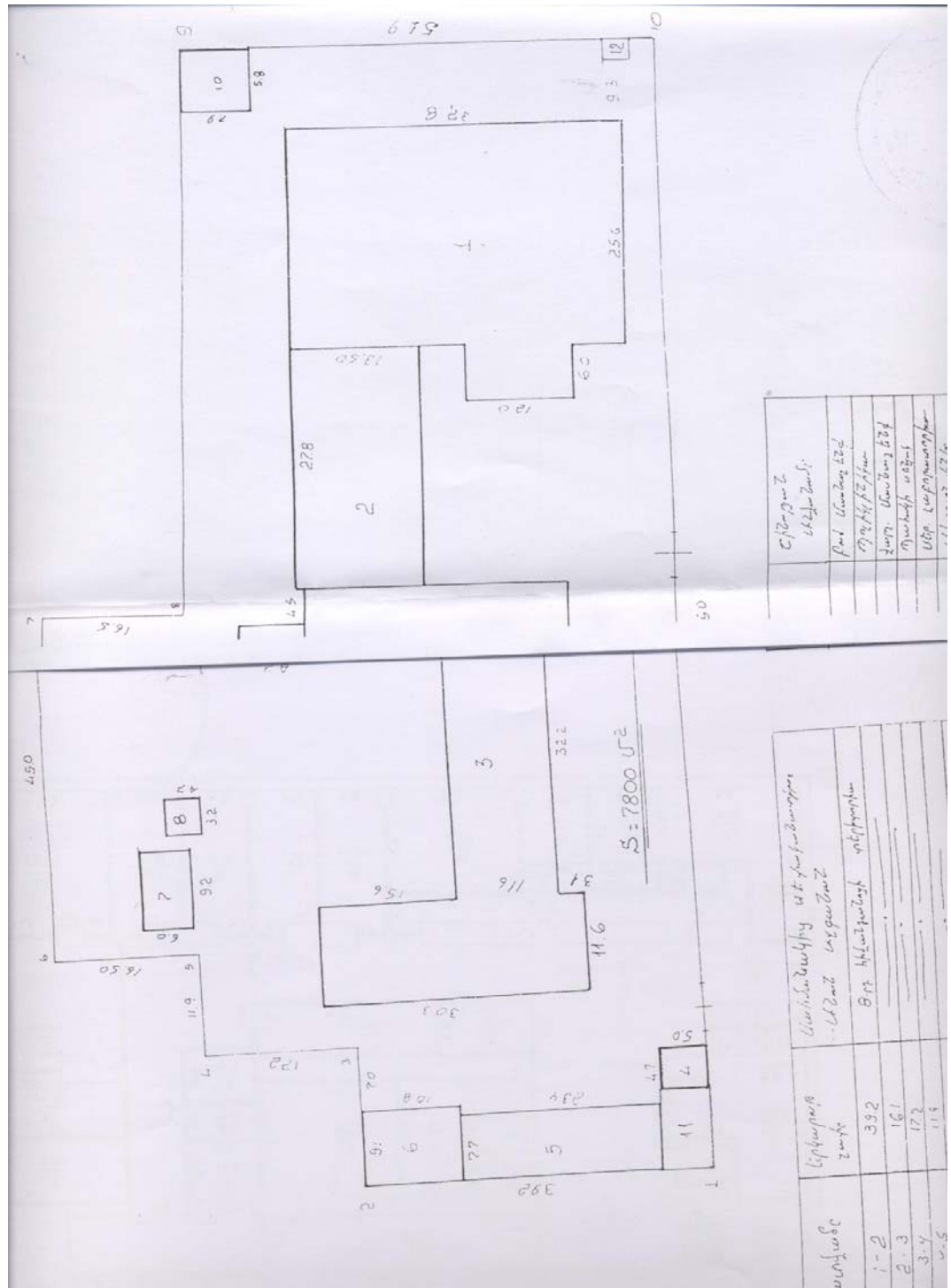
Դ/Դ	ԿԱՂԱՍՏՐԱՅԻՆ ՀԱՄԱՐԸ	ՕԳՏԱԳՈՐԾՄԱՆ ՆՊԱՏԱԿԸ	ՄԱԿԵՐԵՍԸ (քառ.մ.)	ԻՐԱՎՈՒՆՔԻ ՏԵՍԱԿԸ
		ՕՏ. ղրկարան	53,6	սեփական
		ՕՏ. ղրկարան	6,0	սեփական

Լրացուցիչ նշումներ, փոփոխություններ Ճարտարապետական սեփականության կենտրոնի կառուցման համար 2010.05.27 հիմնված 139-Ն քննչի 23-րդ հոդվածի պահանջներին համապատասխանաբար կատարված փոփոխությունները արտացոլված են ստորագրությունների և ստորագրողների անունների միջոցով:

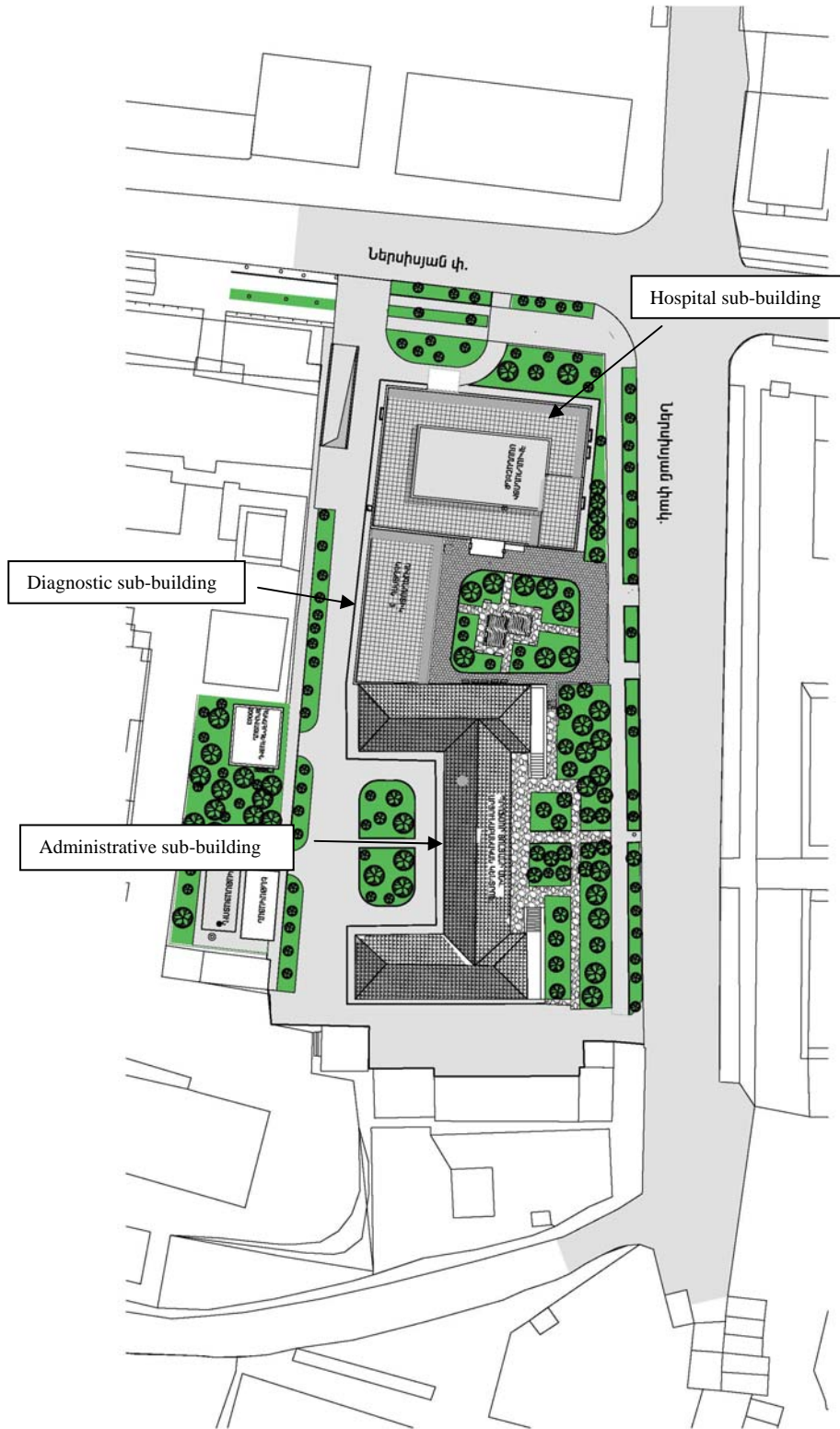
Կատարողներ Ա. Նազարյան
 (ստորագրություններ)
Յ. Մարտիրոսյան
Գ. Մարտիրոսյան

The below drawing depicts all buildings of the Center of Hematology.

Building 1 is hospital sub-building, building 2 is polyclinics sub-building, building 3 is administrative sub-building. The project will finance reconstruction of sub-buildings 1 and 2.



General Layout



Google Map



**Public Consultation Meeting on NDPC Project
Environmental Management Framework and
Environmental Management Plan for the Reconstruction of the Center of Hematology**

Date 24 December, 2012
Place of Meeting National Institute of Health, Yerevan city

List of participants:

1. Vram Tevosyan Local consultant, environmental management specialist
2. Menua Brurtyan Lori Marz Residents' Association, Charity NGO
3. Khoren Vardanyan Member, Vanadzor city community local Parliament
4. Marta Simonyan Regional Cooperation, NGO
5. Melkon Garaseferyan Head of Department, Hematology Center
6. Eduard Kabasakalyan Medical doctor, Hematology Center
7. Karen Meliksetyan Medical doctor, Hematology Center
8. Hayrapet Galstyan Director, National Oncology Center
9. Armen Tananyan Deputy Director, National Oncology Center
10. Arthur Avetisyan Oncologist, National Oncology Center
11. Artak Edoyan Deputy Director, Vandazor MC

HPIU

12. Nelson Zuloyan HPIU, Acting Director
13. Davit Meli-Nubaryan Coordinator, Hospital network optimization component
14. Naira Kalantaryan Specialist, Hospital network optimization component
15. Ruzanna Astvatsatryan Assistant Coordinator, Hospital network optimization component

Summary

The public consultation was conducted On 24 December 2012 in the National Institute of Health regarding to the new WB- financed "Non-communicable diseases prevention and control" project EMF and EMP of the construction works of the Center of Hematology under the same Project, with participation of local NGOs, stakeholders, community members, representatives of local government, MoH and HPIU.

In the opening speech HPIU Director Nelson Zuloyan made a brief presentation on the main components and goals of "Non-communicable diseases prevention and control" project. He noted that the early detection of NCD will be implemented through mass screening program. Besides, a new building for Vanadzor MC of Lori marz will be constructed and modernization of the Center of Hematology with the establishment of BMT department will be implemented, as well as new Oncology center will be established with construction of new building.

Afterwards, ecologist Vram Tevosyan presented "Non-communicable diseases prevention and control" EMF and the EMP of the Hematology Center renovation works. He noted that these documents have been developed based on the requirements of the World Bank Operational Manual, which presents the WB environmental policy. Then Mr. Tevosyan noted that possible environmental impacts and risks for three projects were preliminary studied and assessed in the mentioned documents. The expert told that the expected environmental impact is predicted to be minimal.

- Director of National Oncology Center asked about the potential impacts of the ground water on the building of the new oncology center at the operation phase.

Ecologist Vram Tevosyan answered that the norms and environmental safeguard requirements must be taken into account, while design and construction of the radiotherapy center.

- There were no other questions concerning the environmental issues. The discussion was continued concerning mass screening activities, planned in the scope of the new project. Director of National Oncology Center Galstyan was concerned about the choice of selection of screenings. On his opinion the breast cancer screening is more important in Armenia, but it is not included in the list.

Coordinator Melik- Nubaryan answered that in the initial version of the new project breast cancer screening was included in the list of screenings, but due to financial restrictions this item was excluded from the list of screenings.

At the end HPIU Director Nelson Zuloyan thanked the participants for taking part in the discussion.

Scanned signatures of the participants:

