



Misr University for Science and Technology
P.I.S Project Implementation Section



SUSTAINABILITY FACTORS

MUST Extension Project



Prepared by:
PIS Projects Studies & development Team



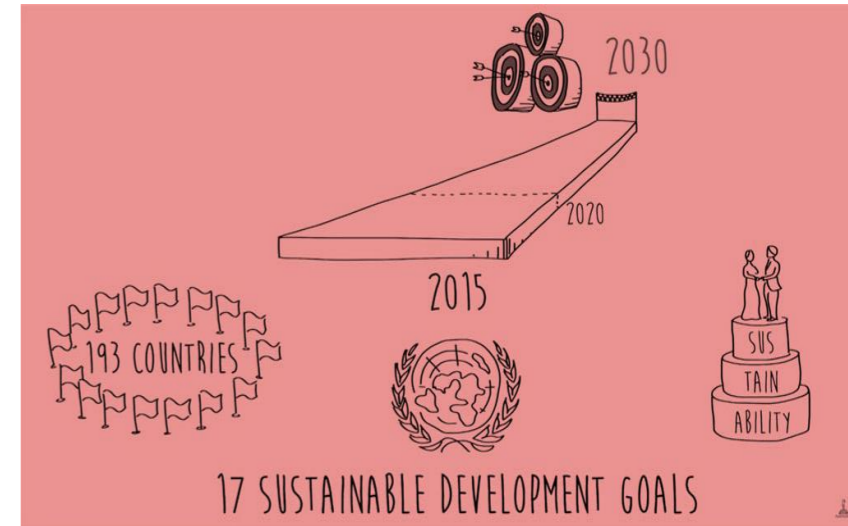


SUSTAINABLE DEVELOPMENT GOALS

Tools to change the World

In 2015,

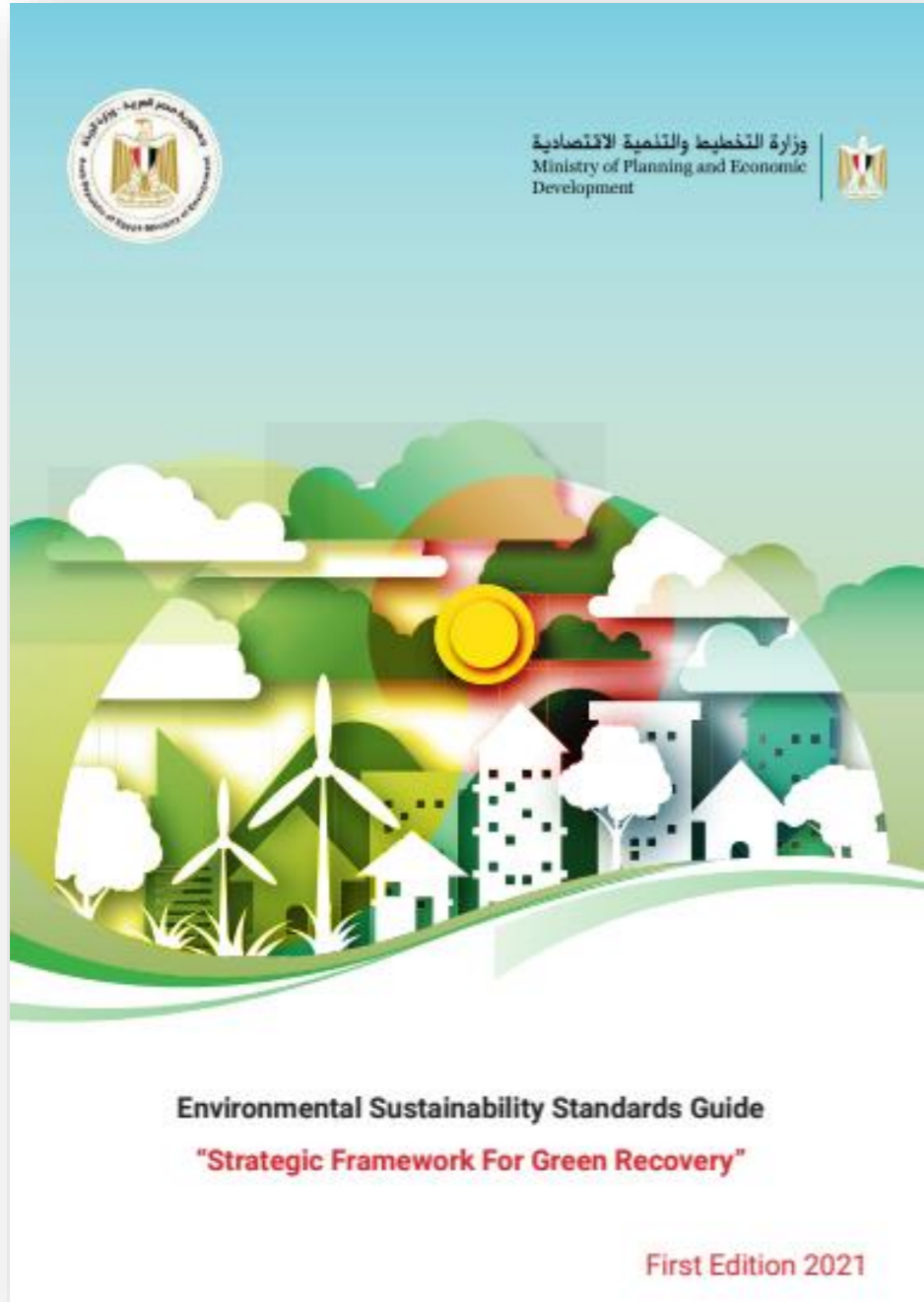
The UN setup 17 sustainable development goals, also known as SDG's, that were adopted by 193 countries and the mission is to achieve these goals by 2030



Sustainable Development Goals in Egypt

The Sustainable Development Goals are a global call to eradicate poverty, protect the climate and the environment, and ensure that people everywhere enjoy peace and prosperity. These are the same goals that the United Nations is working on in Egypt.





Investments that do not take into Account sustainability patterns:

- It means any projects that do not improve the standard of Living of the citizen.
- Cause the waste of natural resources, especially
 - water.
 - Energy,
 - Land,
 - Environmental pollution,
 - Or result in an increase in waste generation and non- recycling, whether in the implementation or operation phase.

Misr University for Science and Technology

represented in the P.I.S
“project implementation sector”

relied on the "Environmental Sustainability Standards Guide" issued by the Ministry of Planning and Economic Development.

& Because of our deep belief in our societal role, we sought to develop our projects in line with the directions of the state, especially in Giza Governorate, specifically October City, containing 36 Projects, and ours.

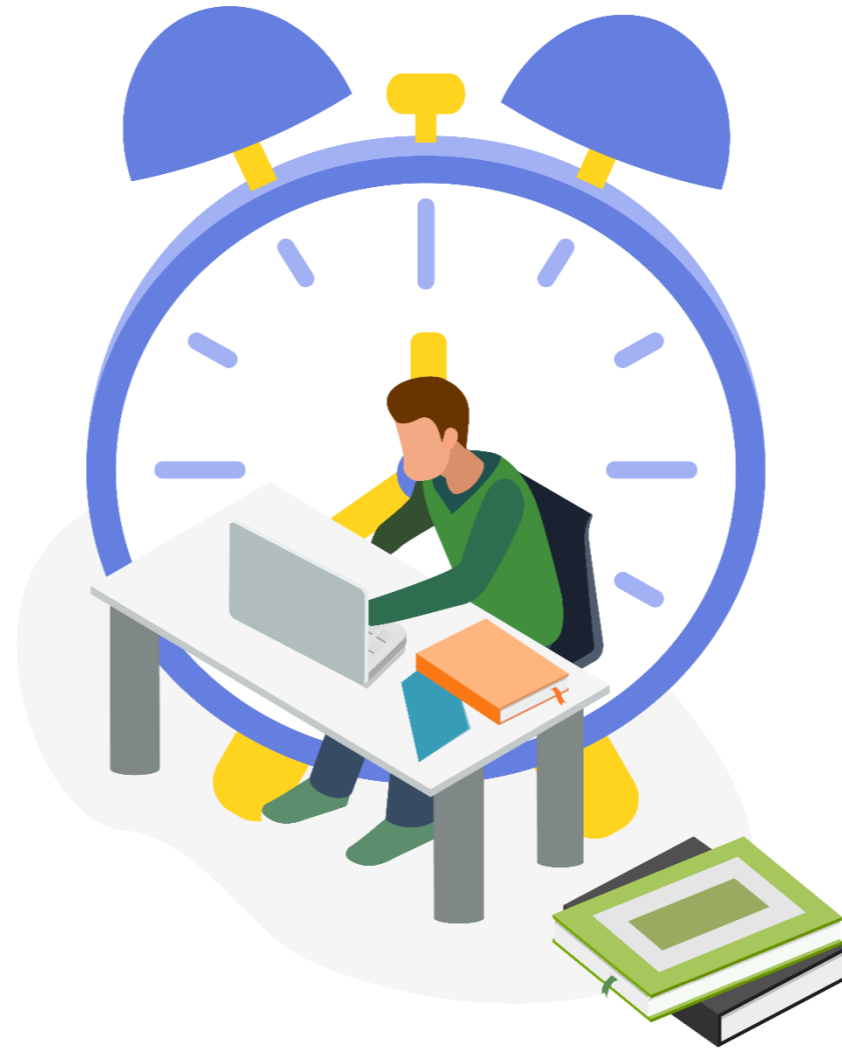
The National Agenda for Sustainable Development & 2030 Overview

- Environmental Law No. (4) of 1994 and its amendments.
- Investment Law No. 72 of 2017.
- Law No. 182 of 2018 Regulating Contracts Concluded by Public Entities
- Presidential Decree No. 560 of 2018.
- Cabinet Meeting Resolution No. (98) dated 25/6/2020.
- Cabinet Meeting Resolution No. (115) dated 10/28/2020.



Project Stages



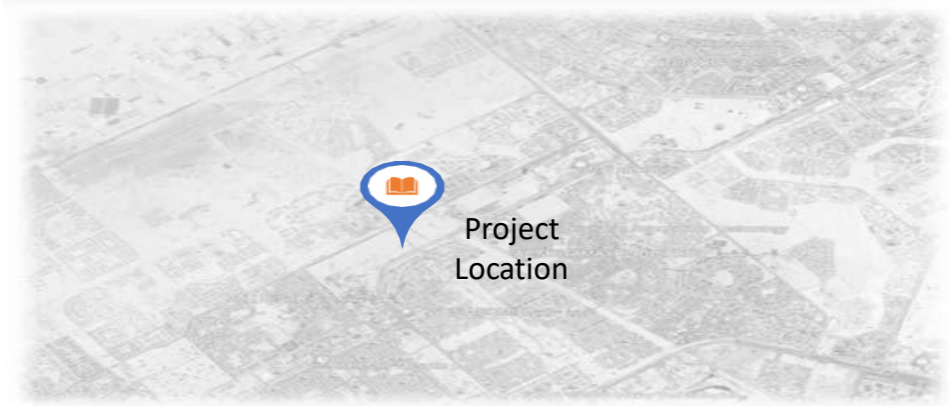


Planning Stage

Planning Stage

To prepare an environmental impact assessment study for each of the investment projects required to be included in sustainable development plans, Excluding projects that do not take into account sustainability patterns, by determining the environmental conditions for managing resources and ensuring their sustainability, on the basis of as follows:

1- Geographical location (in case of proximity or within coastal areas/ lakes / Nile River / nature reserves): an indicator is created Environmental sensitivity of the site.



Brownfield Location

2-While as our Project is out of range of the above locations / from the beginning MUST had selected the site / Location carefully

3-MUST selected a brownfield location to improve our environment and construct an eco-friendly systems university on empty sandy and unusable Land that enhances all aspects of human life and the environment.





Local Authority Collaboration

- The new project, called Extension of Misr University, in collaboration with the Ministry of Planning and Economic Development.
- The project is also aligned with Egypt's Vision 2030, which is the national sustainable development strategy that aims to enhance the country's economic, social, and environmental dimensions.
- MUST is proud to be part of this innovative project that will enhance the quality of education and the competitiveness of graduates in the labor market.
- The university believes that this project will help create a more resilient economy and a more inclusive society in Egypt.
- MUST Collaborate with all local authority to achieve this Project and Reach to it to be a sustainable-eco-friendly Project.



بيان صلاحية الموقع من الناحية التخطيطية والاشتراطات البنائية

هيئة المجتمعات العمرانية الجديدة
جهاز تنمية مدينة طيبة الجديدة
الإدارة العامة للمشروعات
ادارة التخطيط

بيانات الطلب

تاريخ تقديم الطلب: ٢٠٢٤/١٢/١٨
رقم الطلب: ١٠٦٢١٠٠٤٦٨١٣

بيانات مقدم الطلب

الاسم: جامعة مصر للعلوم والتكنولوجيا
رقم قومي: ٢٩٥٠١٠١١٤٢٧٥٣٥

التصنيف:
العنوان: ٦ أكتوبر - جامعة مصر للعلوم والتكنولوجيا

بيانات الموقع

العنوان: - في الضمات والمنطقة السياحية قطعة جامعة مصر

مساحة الارض: ١٨٦٧٤٨.٤٩

الواجهة	بطول م	تتبل على
البحرية	٤٢٢.٥٣ م	شريق
الشرقية	٤٢٧.٥٨ م	شريق
الجنوبية	٣٩٤.٠٦ م	شريق
الغربية	٥٠٧.٢٧ م	شريق

الاشتراطات الخاصة

٢٠ دور مكررة
الالتزام بالتدابير الخاصة بوزارة التعليم العالي وأخذ موافقتها
لا يسمح بعمل أي فسول درامية وسمايل بالاندروم

الوجهة	الامتداد بامتار	الحدود بامتار
البحرية	لا يقل عن ١٠ متر	
الجنوبية	لا يقل عن ١٠ متر	
الشرقية	لا يقل عن ١٠ متر	
الغربية	لا يقل عن ١٠ متر	

الاستخدامات المقررة للموقع: تعليمي
النسبة البنائية: ٢٢.٠٠%

اشتراطات صادرة من المجلس الاعلى للتخطيط والتنمية العمرانية
الموقع صالح للبناء من الناحية التخطيطية والاشتراطات البنائية ولا تعتبر هذه الشهادة بآلة حل من الاحوال سدا تقالا للملكية ودون ادنى مسئولية على الجهة الإدارية المختصة.
التوقيع

المهندس المسؤل:
مدير التراخيص:
تأيب رئيس جهاز:

بمعه رئيس جهاز:
مستشار:
متمم الجمعية:

هيئة المجتمعات العمرانية الجديدة



Financial Stage

Financial Stage

The Egyptian state has encouraged the implementation of green projects, and provided appropriate funding through the following:

Giving priority in financing investment projects to green projects in the state's investment plan.
Gradual exit from financing investment projects that do not take into account environmental sustainability patterns.

“Models of Projects and Practices Targeted Gradual Exit from their Funding”

1. Primary sewage treatment plants.
 2. Installation of ordinary light bulbs in columns and in government buildings.
 3. Overfishing and intensive fishing in natural fisheries in seas and lakes.
 4. Irrational and regulated use of pesticides and industrial chemical fertilizers.
 5. Overgrazing leads to the erosion of vegetation cover.
 6. Systems of dependence on surface irrigation by immersion in agriculture.
- Relying on green bonds to finance environmentally friendly development projects.
 - Taking into account green government purchases in the allocations for the item “purchasing goods and services” in the state's general budget.
 - Reducing customs duties on imports of green products.
 - Granting tax incentives and export support for green-oriented private sector projects and products.
 - Incorporating the green approach into the projects of the sovereign fund.
 - Granting financing incentives to green-oriented small and medium-sized enterprises.





Design Stage

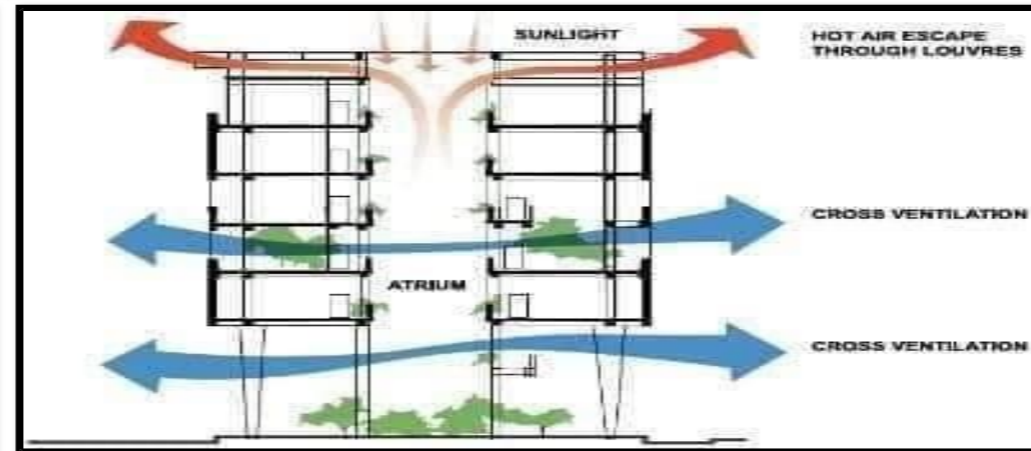
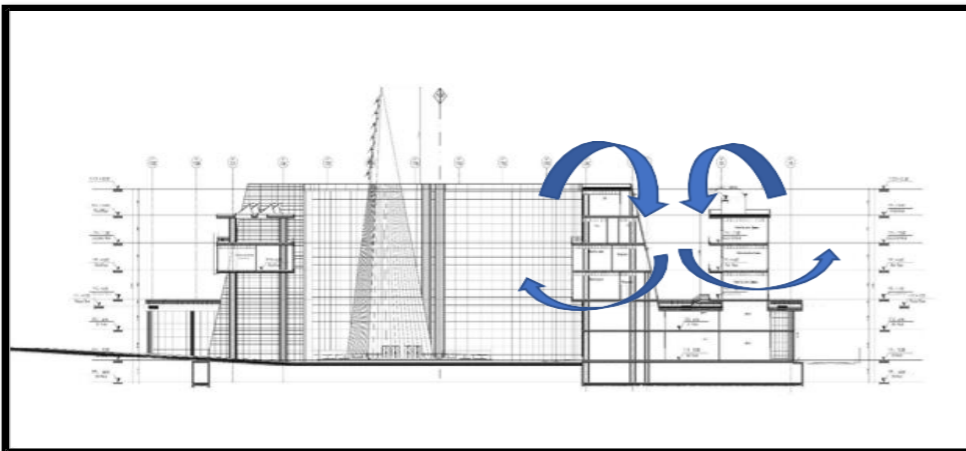
Supporting the orientation of green buildings and taking into account environmental sustainability when designing projects, focusing on the following:

- Benefit from the climatic zone design in which the building is built according to the climatic zones defined by the Building Energy Efficiency Code, which includes eight climatic zones in Egypt.
- Following the “passive design” strategies, especially with regard to orientation, thermal insulation, building envelope, and thermal properties of the building materials used, which reduces energy consumption in the building, especially cooling and heating.
- Exploitation of the building envelope in creating good thermal boundaries between the internal and external environment, by preventing air leakage, insulating heat, removing thermal bridges, choosing external finishing materials, and choosing and using appropriate windows and glass surfaces that have high thermal performance.
- Rely on natural cooling and heating systems.
- Water efficiency, rationalization and recycling.
- Taking into account the collection of rainwater for reuse.
- Raising the quality of the indoor environment in terms of compatibility between natural and artificial lighting, acoustic comfort, and thermal comfort.
- Compliance with local codes and specifications, and global trends in sustainable green design.
- Rational use of raw materials, the use of local building materials, and the selection of environmentally friendly construction methods.
- Use energy-saving lighting and LED technology, and make use of natural lighting as much as possible.
- Rely on high-efficiency devices that carry energy efficiency labels.
- Use new and renewable energies whenever possible, whether in the production of electricity or water heating.
- Surface cultivation.
- Sustainable management of the building to reduce the environmental impact during operation and maintenance so that the concepts of sustainability for the building are achieved in the long term.



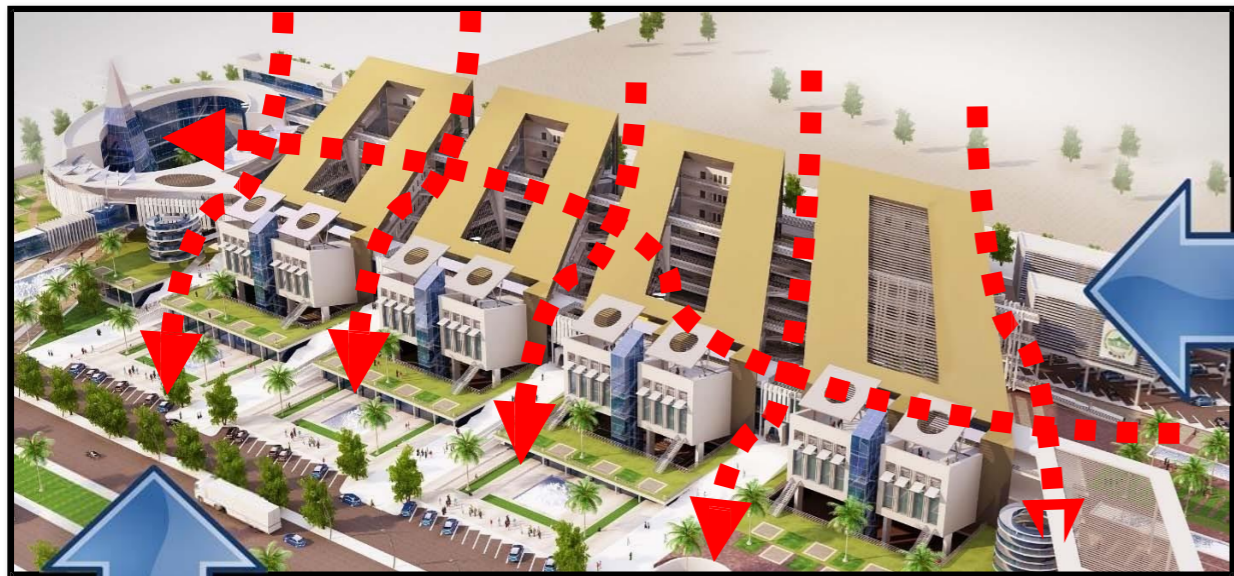
Relying on natural heating and cooling systems.

Distinguished environmental design with spacious inner courtyards in the summer

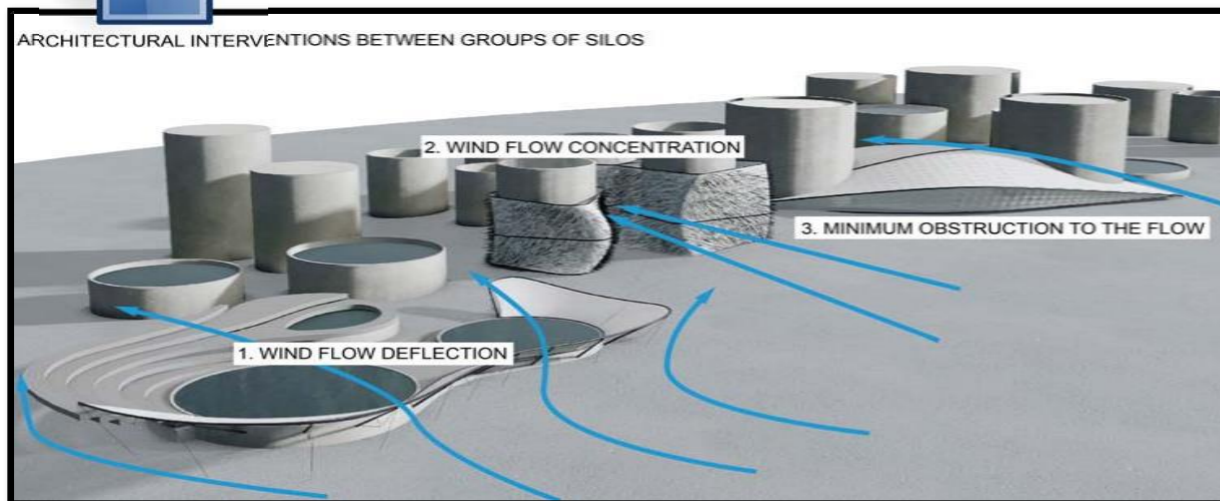


Illustrative sketch of air movement through the inner courtyards and the resulting shading in the project

Sketch showing the effect of separate masses on the movement of air and wind

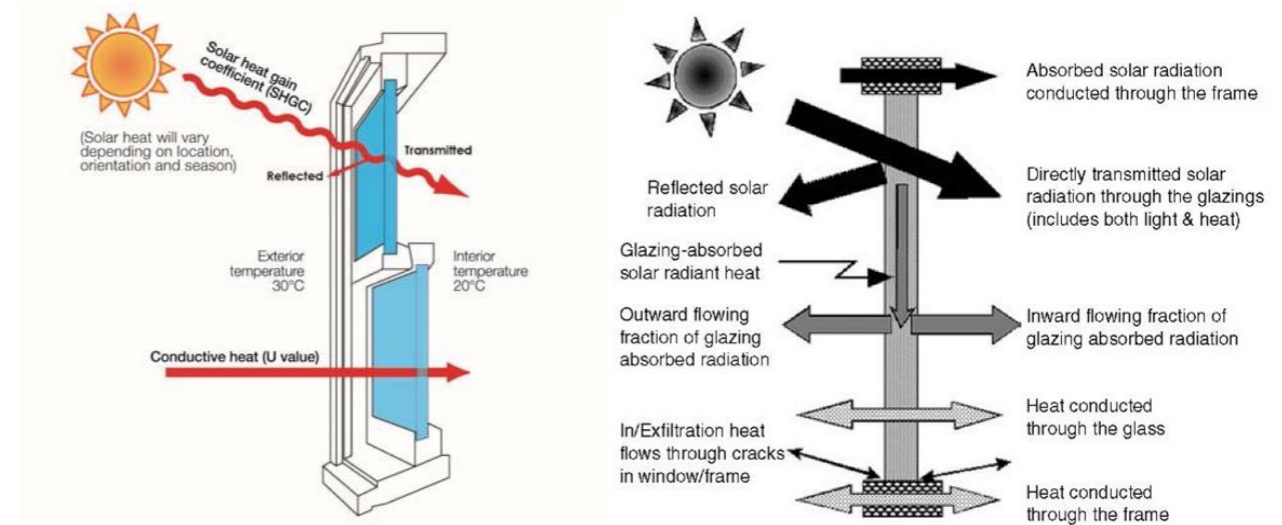


Distribution of internal masses to achieve a mass displacement that allows the passage of natural air currents necessary for ventilation, cooling and to reduce heat retention.

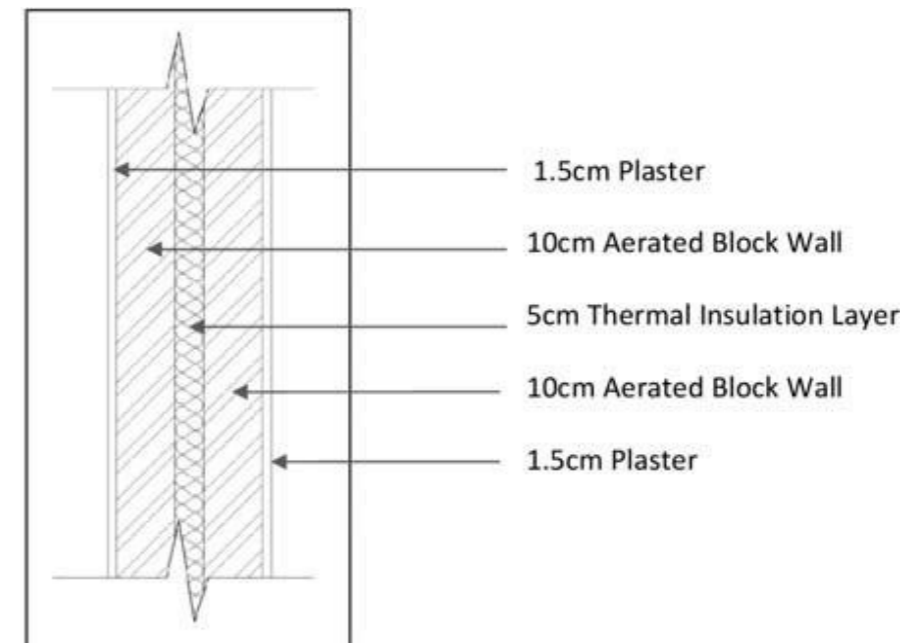


Thermal Properties of the building materials used

Exploitation of the building envelope in creating good thermal boundaries between the internal and external environment, by preventing air dust, and isolating Heat, removal of thermal bridges, selection of exterior finishing materials, selection and use of appropriate windows and panes which have high thermal performance.



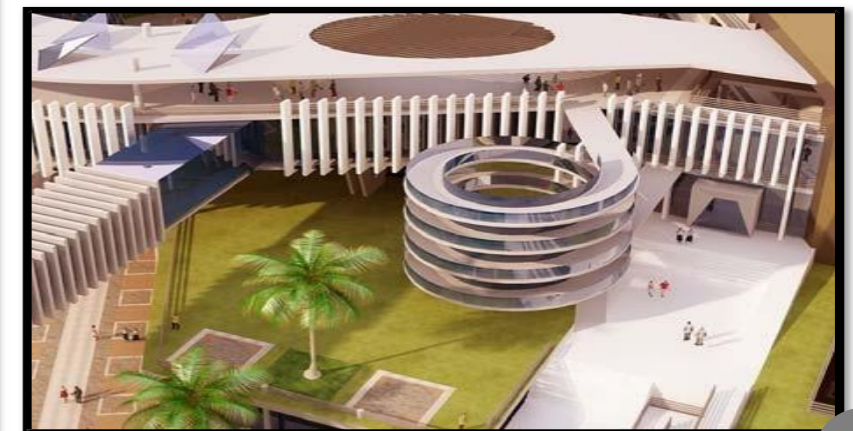
Building Cover & Thermal Insulation



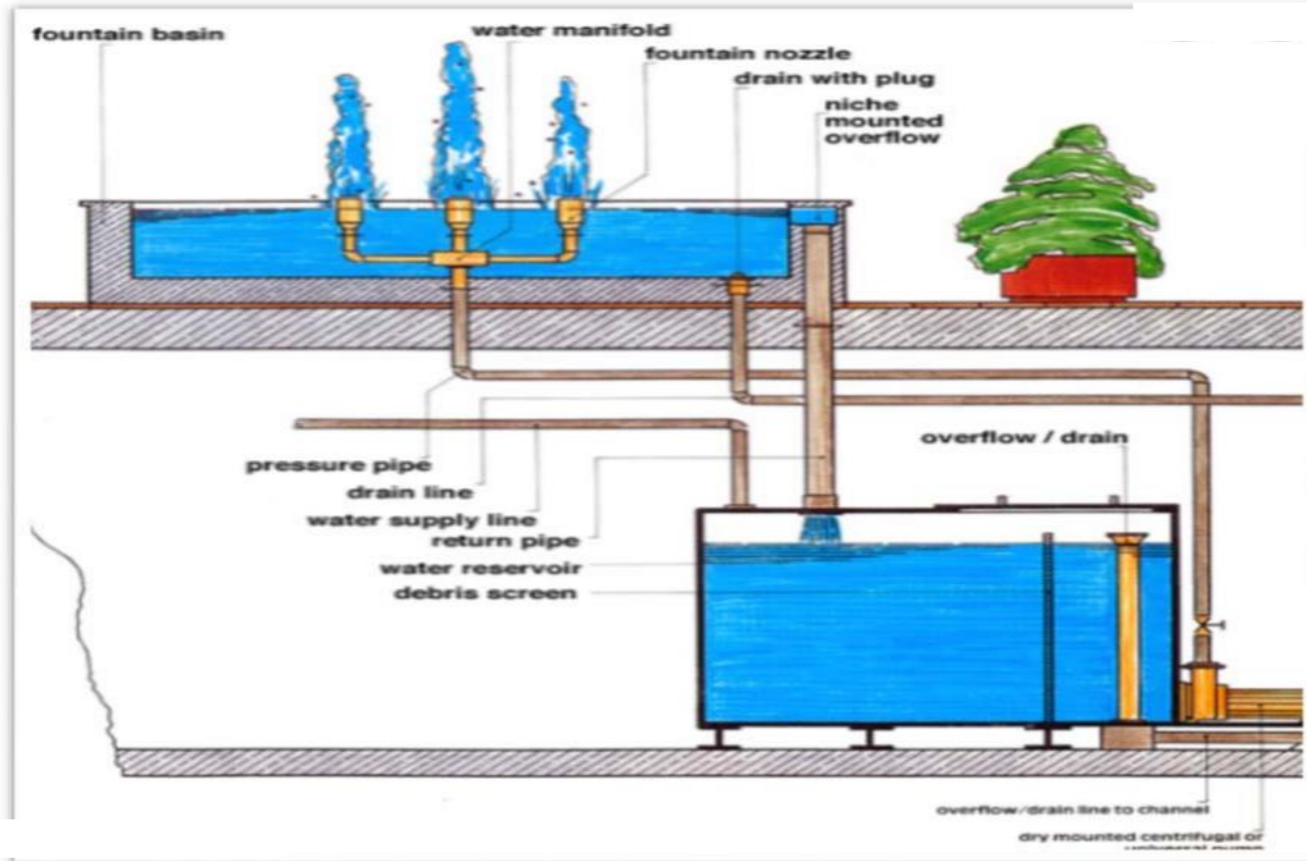
Xeriscaping landscape./ Less Grassing and more color

A design that supports and provides activity and vitality for users, through corridors and walking distances, taking into account people with special needs, with entry ramps for the building and for all roles in the project.

Incorporating Natural Elements



Water use efficiency, rationalization and recycling.



Softening the internal environment of the courtyards by using artificial fountains and lakes with an economical design that are fed with the least amount of water and filters. Taking into account the collection of rainwater for reuse.

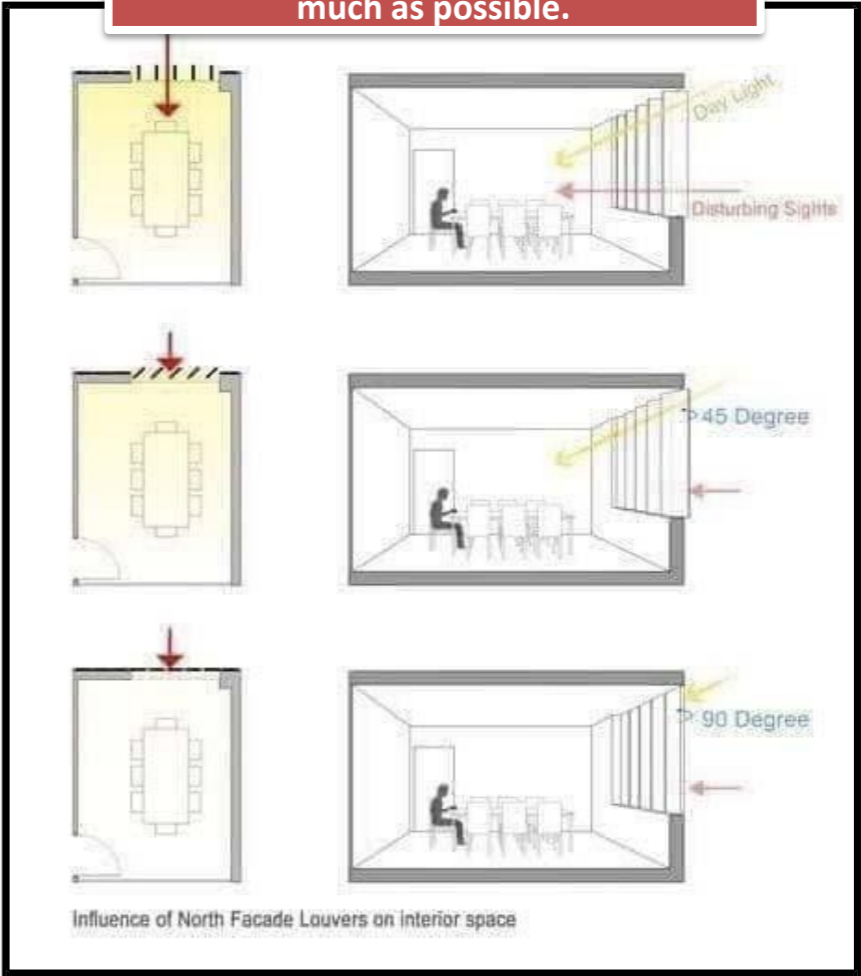
Raising the quality of the indoor environment

Using energy-saving lighting

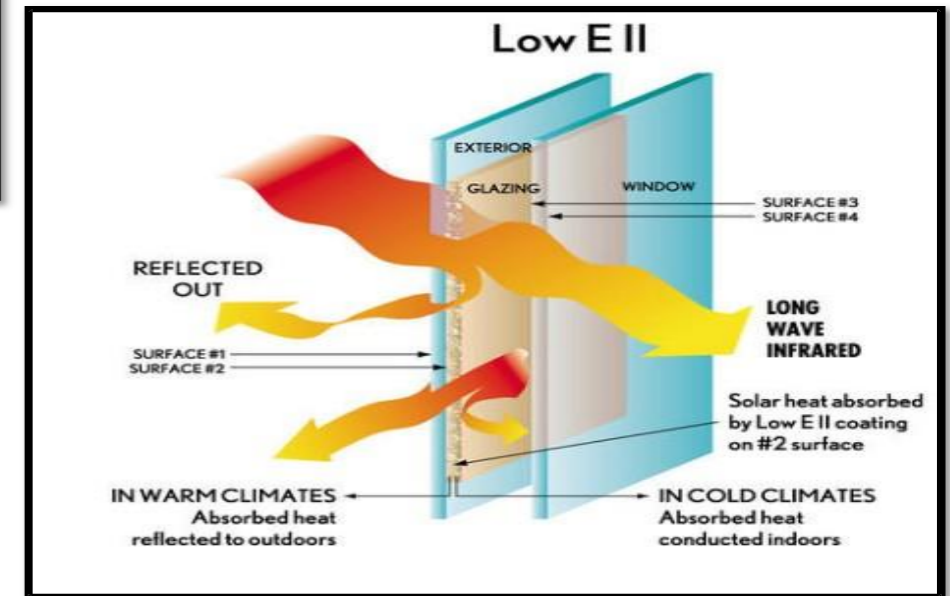
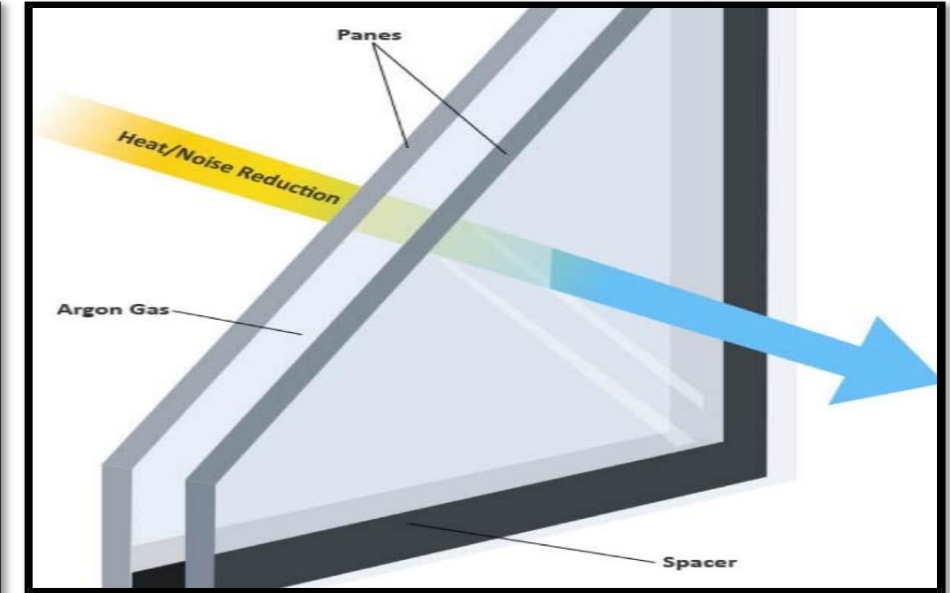
The use of longitudinal and submersible windows in the external facades to reduce the percentage of heat transferred through the walls



and making use of natural lighting as much as possible.



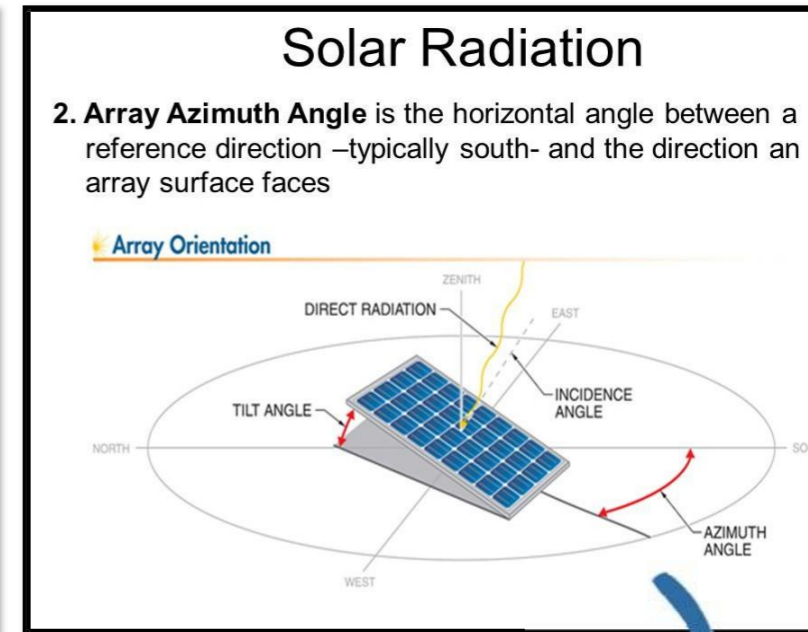
Double wall of high-performance double-glazed glass, to reduce energy use for air conditioning and refrigeration.



The shape of the windows in the project and its effect on the void inside

Compatibility between natural & artificial lighting, acoustic comfort, and thermal comfort.

Roofing and Openings



Relying on daylight through appropriate window openings according to local and international codes for educational buildings with occupancy sensors.

Making inclined roofs and placing solar panels to generate and store electricity and to easily transport rainwater for storage



Mechanical Air Conditioning

Airside economy cycle on all central air handling units. Airconditioning systems with water and air coolers with high efficiency.

Using the natural gas as an alternative to electricity (the availability of gas in abundance in Egypt).

Avoiding the use of Freon based air conditioning systems to preserve the environment from global warming.



Chiller Plant



Compatibility with local codes

- Compatibility with local codes and specifications, and global trends in sustainable green design.



Rational use of raw materials

- The use of local building materials, and the selection of environmentally friendly construction methods.

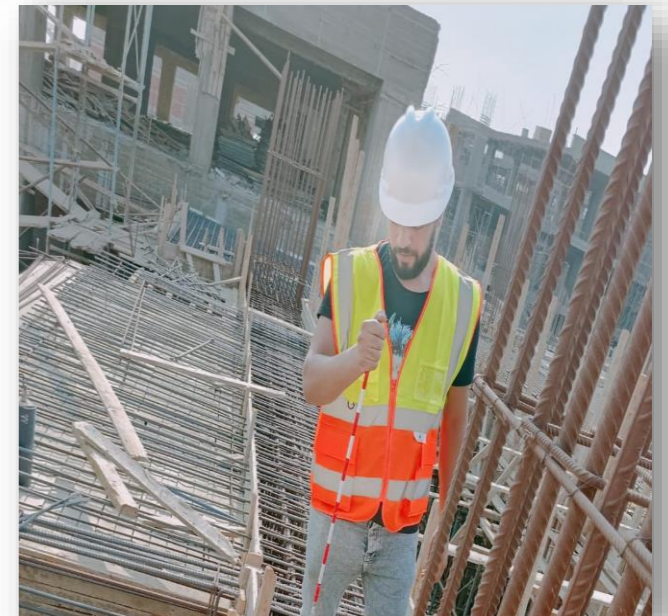




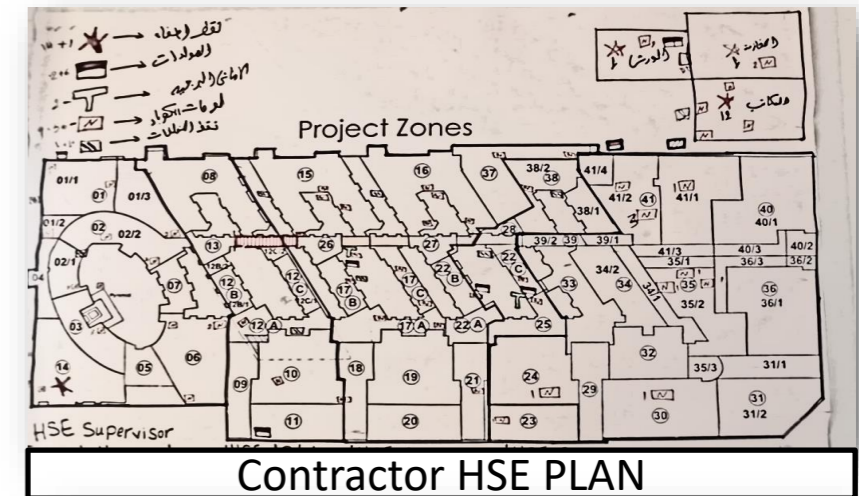
Execution Stage

Execution Stage

- Develop an environmental and social management plan, explaining the work team that implements it.
- Coordinating with the local community before setting timelines for implementation in order to determine when activities should be reduced during disturbing times (such as rest/ night times or prayer), and times when work stops completely (in the evening from 6 pm to 6 am).
- The contractor shall surround the work site with guide signs and an appropriate fence.
- Store flammable liquids away from areas where there is a fire hazard. Prohibit the storage of oxidizing materials that react with flammable materials.
- Do not store chemicals that interact with each other, with warning signs on them.
- Covering transport vehicles loaded with friable and volatile materials.
- Covering friable and volatile materials, with periodic moistening of volatile materials.
- Turning off all noise-causing machines when they are not used at work.
- Place signage in easy-to-see places that indicate locations where the noise level is high.
- Providing means of occupational safety and health according to different circumstances.
- Determine the distance between the site and the nearest noise receiver.
- Moisten the soil by spraying before and during excavation work when necessary.
- Providing sufficient garbage bins on the site and placing them in appropriate places, taking into account that they are emptied at the end of the daily work.
- Emptying the paint into boxes designated for it, other than those used for garbage, provided that they are disposed of in the correct manner.
- Work on the absence of any pollution or the disposal of any solid or liquid waste, whether on surface or ground water, as well as on the soil surface, avoiding any emissions or dust to the surrounding environment.



- Store materials and liquids to the extent limited for the working condition of the site only.
- The contractor is obligated to provide storage places for equipment and raw materials, as well as for the separation of different types of waste, and the separation of hazardous waste, on municipal waste.
- The contractor is obligated to provide a suitable place at the work site suitable for use by the competent irrigation department team and the housing directorate to receive any complaints from citizens related to the project, and he is obligated to inform them of any complaints or accidents that occur within the scope of the work.
- Using licensed equipment effectively, and maintain it regularly.
- An appropriate maximum speed for vehicles used within the project boundaries (20 km/h).
- Implementation of a preventive maintenance program for all vehicles and equipment used in the implementation of the project, and immediate repair of the vehicles broadcasting visible exhaust.
- Do whatever is necessary to restore the nature and environment of the area to its original condition as much as possible.



Contractor HSE PLAN

