INFORMATION TECHNOLOGY
UNIVERSITY OF THE PUNJAB

Ref. No: ITU/OEW/2024/183
Dated: May 11, 2024

To,

All the Prequalified Contractors
For the construction of the PSDP Funded Multi-Purpose Building of ITU

Subject: **ADDENDUM – 01 TO BIDDING DOCUMENTS FOR THE CONSTRCUTION OF PSDP FUNDED MULTI-PURPOSE BUILDING OF INFORMATION TECHNOLOGY UNIVERSITY OF THE PUNJAB AT BARKI ROAD, LAHORE**

1. Further, to clarifications requested by participants of the bid for subject project, Addendum – 01 to bidding documents is hereby issued with details appended below:
   a) Bid submission date is hereby extended till Monday, 20th May, 2024. The timing for submission and opening of the bid shall remain the same. The bids shall be submitted as per the extended date and no further extension will be provided on any grounds.
   b) Topographical report soft copy is emailed to official email address of all participants. Same can be collected from our office in USB during working hours.
   c) Volume # 2 B.O.Q Item No.2, color of granite marble shall be as approved by the Engineer in charge.
2. PRA rate of applicable tax shall be 5% as of now. The Contractor shall be liable to pay all the applicable taxes, revised taxes as imposed by the Government from time to time.
3. Performance and Mobilization Advance Guarantees must comply with the specification outlined in the issued bidding documents.
4. Electricity and water arrangements shall be the sole responsibility of contractor.
5. Concrete strength required in the BOQs shall be ensured.
6. All the Contractors are required to work out the rates on their own and prepare the bids.
7. AutoCAD drawing is the sole property of the client which cannot be shared however PDF drawings can be collected from office through USB, and are available on ITU Website with the already issued bidding document.
8. List of Suppliers & Manufacturers is hereby attached for your information, record, and further necessary action.

Project Director
Information Technology University of the Punjab

CC:

1. PA to Registrar, Information Technology University of the Punjab

LIST OF RECOMMENDED MANUFACTURERS

(to be signed by the Bidder)

CIVIL, ELECTRICAL & PLUMBING WORKS

Equipment and materials specified with brand names have been provided in order to establish a standard of performance and do not necessarily indicate a preference for a particular manufacturer or material.

The names of manufacturers given below are to indicate the level of quality and performance anticipated by the Engineer/ Employer. Other makes may be accepted provided that the quality and performance of such equipment, in the sole opinion of the Engineer, are at least equal to or better than the equipment/ product offered by the recommended manufacturer.

The acceptance of equipment/ materials offered by these manufacturers will be subject to compliance of offeredmodels/materials with the specifications, capacity and/or performance requirements.

Onus lies with the Contractor for establishing the genuineness of any material/product for its make and origin.

S. No.	Item	Manufacturer
(A)	**CIVIL WORKS**	
1	TERMITE PROOFING	i BIFLEX ii TERMCURE iii TERMIDOR iv AGENDA v ULTRA CHEMICAL VI EURO FLEX
2	CEMENT	i MAPLE LEAF ii DG CEMENT iii FOJI iv BESTWAY
3	STEEL	I AMRELI STEEL ii ITTEHAD STEEL iii MUGHAL iv FF STEEL v NAVEENA STEEL vi SHEIKHO STEEL (or of equivalent strength & specifications as approved by Engineer incharge)
4	CONSTRUCTION CHEMICALS / SEALANT	i SIKA PAKISTAN ii BASF iii CORMIX iv ULTRA-CHEMICAL v EURO FLEX

5	ANCHORS FOR CONCRETE (CHEMICAL AND MECHANICAL)	i	HILTI
		ii	SPIT
		iii	SIKA
		iv	FISCHER
6	ALUMINIUM SECTIONS	i	PAK CABLE
		ii	PRIME ALUMINIUM
		iii	CHAWLA ALUMINIUM
		iv	STANDARD

S. No.	Item	Manufacturer
7	ALUMINIUM COMPOSITE PANELS	i ALUCOBOND ii ALUBOND iii CHAWLA ALUMINIUM
8	PAINTS, LACQUER AND VARNISHES & COATINGS	i BERGER ii ICI iii JOTUN iv BRIGHTO
9	FROSTED/ SAFETY FILM	i 3M ii LLUMAR
10	PORCELAIN TILE (Local)	i SHABBIR TILESii ii MASTER iii Time Ceramic iv Nature
11	PORCELAIN TILE (Imported)	i RAK ii NIRO - CRETESOL iii WHITE HORSE iv BENITOZ v TURKISH IMPORTED TILE vi. MALAYSIAN IMPORTED TILE
12	LAMINATED WOODEN TILES	i MARFLEX ii INTERWOOD iii AL-NOOR iv ZRK
13	PVC & ANTI-STATIC TILES	i MARFLEX ii DECORA iii ATS SYNTHETIC
14	CONCRETE TILES, PAVERS, KERB STONES, CONCRETE BLOCKS, TERRAZOTILES	i CONCRETE CONCEPTS i IZHAR iii ENVICRETE
15	FALSE CEILING (MINERAL FIBER & ALUMINIUM	i OWA
16	FALSE CEILING (GYPSUM BOARD)	i ELEPHANT ii UNITED
17	MARBLE / GRANITE	i PIONEER MARBLE ii CAPITAL MARBLE iii HAQEEQ MARBLE iv NASEEM MARBLE v HAJWERI MARBLE

S. No.	Item	Manufacturer
19	PLYWOOD	i ZRK ii FORMITE (BALUCHISTAN LAMINATE) iii BALUCHISTAN PLY
20	DOOR LOCK	i GULLI ii PROTEK DEVICES iii BONCO iv SALIM HARDWARE v ORIGINAL STAR
21	CERAMIC TILES	i MASTER SHABBIR ii CRETESOL iii NATURE iv TIME CERAMIC
22	GLASS (LOCAL)	i TARIQ GLASS ii GUNJ GLASS iii AL-FATEH
23	GLASS (IMPORTED)	i AGC ii SAINT GOBAIN iii GHANI iv PILKINGTON
24	POLYESTERENE & POLYURETHENE	i DIAMOND JUMBOLON ii THERMO FOAM MASTER
25	HARDWARE	I YALE ii KRB iii MANDELLI (SMC) iv AL-ASIF
26	LAMINATIONS / VENEERS / FORMICA	i FOMITE ii AL-NOOR iii SUNLIGHT iv ZRK
27.	EPOXY/VINYL FLAKE EPOXY/ POLYASPARTIC FLOORING	i a.b.e ii Pak/Sika

(B) ELECTRICAL WORKS

1	DISTRIBUTION BOARDS AND MAIN AND SUB MAIN PANEL BOARDS AND SUB MAIN PANEL BOARDS	i	JEI
		Ii	ERCON
		ii	PEL
		iv	BILAL SWITCH GEAR
		V	OPAL

S. No.	Item	Manufacturer
2	CABLES AND WIRES	i PAKISTAN CABLES ii NEWAGE CABLES iii COPPER GATE iv FAST CABLE v GM CABLES
3	MCCBS AND MCBS ELCBS	i SCHNEIDER ii ABB iii TERASAIKI
4	Wiring accessories (SWITCHES, SOCKETS)	i SCHNEIDER ii LEGRAND iv PHILIPS iv PAKISTAN CABLES (Switches and sockets)
5	LIGHT FIXTURES	i PHILIPS(SIGNIFY) FUTURE ii TECHNOLOGYSUNLIGHT iii OSAKALight iv BRITLIGHT v Pak Light vi PIERLIGHT
6	DATA NETWORKING SYSTEM (PASSIVE COMPONENTS)	i 3M (Corning) ii SCHNEIDERNORDEN
7	DATA NETWORKING SYSTEM (ACTIVE COMPONENTS)	i CISCO ii H3C iii HUAWEI
8	PVC CONDUITS, PIPES, DUCTS & ACCESSORIES	i SHAVYL ii DADEX iii ADAMJEE DURABUILT iv BETA
9	LIGHTNING PROTECTION	i LOCAL BRAND BEST QUALITY AS APPROVED BY THE ENGINEER
10	LOW VOLTAGE DG SET	i ALLIED ENGINEERING(CATERPILAR) ii S.M.JAFFER (FG WILSON) iii ORIENT ENERGY(CUMINS POWER GENERATION)

S. No.	Item	Manufacturer
11	CABLE TRAY	i JEI ii ERCON iii PEL iv Bilal Switch Gear vi . Usman & Co
12	FANS	I LAHORE FANS ii Royal Fan iii SK FANS GFC Fan
13	FIRE ALARM SYSTEM	I HONEY WELL ii COOPER-MENVIER iii BOSCH
14	UPS	i APC BY SCHNEIDER ii ABB
15	WALK THROUH GATES	i CIEA ii GARRET
16	CCTV	i WISNET ii PELCO iii BOSCH iv Hike Vision v DAHU
17	PUBLIC ADDRESS SYSTEM	I BOSCH Ii TOA
18	ACCESS CONTROL SYSTEM	i VIRDI ii HONEY WELL
19	MAGNETIC DOOR LOCK	i SOCA ii CEASE FIRE ITALIA
20	ELECTRIC VEHICLE CHARGER	i ABB ii SCHNEIDER
21.	AIRCONDITIONERS	i Gree ii Kenwood iii PEL iv Haier

S. No.	Item	Manufacturer
(C)	**PLUMBING WORKS**	
1	SANITARY FIXTURES	i. M/S PORTA ii. M/S Faisal iii. 3 Star iv. ICL (or approved equivalent)
2	SANITARY FITTINGS/ACCESSORIES (GENERAL TOILETS)	i. M/S PORTA ii. M/S ZILVER iii. ICL iv. Faisal (or approved equivalent)
3	SANITARY FITTINGS/ACCESSORIES (PRIVATE TOILETS)	i. M/S GROHEE ii. M/S ROCA iii. ICL iv Faisal (or approved equivalent)
4	GRAB BARS	i. M/S PORTA ii. M/S ROCA iii ICL iv Faisal (or approved equivalent)
5	KITCHEN SINKS	i. M/S RASHAD ii. M/S ATLAS (or approved equivalent)
6	ELECTRIC WATER HEATERS	M/S ARISTON (ITALY) i. (or approved equivalent)
7	ELECTRIC HAND DRIER	M/S SIEMENS i. (or approved equivalent)
8	DRINKING WATER DISPENSER	i. M/S ORIENT ii. M/S HAIER (or approved equivalent)
9	WATER FILTRATION PLANT	i. M/S SO-SAFE ii. M/S N-VIROPAK (or approved equivalent)
10	MS/ GI PIPES	i. M/S INTERNATIONAL INDUSTRIES LTD. ii. M/S BASHIR PIPE INDUSTRIES PVT. LTD. iii. M/S JAMAL PIPE INDUSTRIES PVT. LTD.
11	G.I.PIPE FITTINGS	i. M/S HE CHINA ii. M/S TG CHINA

12	PPR PIPES & FITTINGS	i. M/S DADEX (POLYDEX) ii. M/S TURK PLAST iii. M/S POPULAR (or approved equivalent)
13	BRONZE/BRASS VALVES	i. M/S KITZ ii. M/S HONEYWELL or approved equivalent

S. No.	Item	Manufacturer
14	FIRE EQUIPMENT/ACCESSORIES	i. M/S SFFECO ii. M/S NAFFCO or approved equivalent
15	UPVC PIPES AND FITTINGS	i. M/S DADEX (NIKASI) ii. M/S Popular POLO BETA TURK PLAST or approved equivalent
16	PUMPING MACHINERY	i. M/S GRUNDFOS. ii. M/S KSB. or approved equivalent
17	CAST IRON MANHOLE COVERS TRAPS ETC	i. M/S JAWS. ii. M/S ALPINE (ATIF GLOBAL). or approved equivalent
18	ELECTRIC+ GAS TWIN GEYSERS	i. M/S CORONA.M/S ii. NASGAS. or approved equivalent
19	HANGERS & SUPPORTS	i. M/S FISCHER. ii. M/S HILTI. iii. M/S SIKLA

INFORMATION TECHNOLOGY UNIVERSITY (ITU) AT BARKI ROAD, LAHORE

|TOPOGRAPHIC REPORT |

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1. EXECUTIVE SUMMARY

Main campus of Information Technology University (ITU) is being established by Government of the Punjab at Barki Road, Lahore. TSM Design Studio are facilitating the planning and designing of project as executing agency. Geotechnical investigation for ITU Campus Barki road was carried out in order to determine geotechnical parameters of subsurface deposits. Scope of field work included excavation of two (02) test pits up to the maximum depth of 5 feet below the existing ground level. In each test pit, standard penetration tests (SPT) were conducted. Soil samples were collected during field investigation. Laboratory testing of these samples has been carried out in the Laboratory. Geotechnical investigations aimed at ascertaining the subsoil information prevailing at the project site (i.e., generalized lithology & geotechnical characteristics of each encountered stratum) and the subsequent design of foundation system.

A comprehensive scope of geotechnical investigations was defined by Project Design Consultants. These investigations comprised drilling of boreholes, excavation of test pits, in-situ testing, laboratory testing, evaluation of sub-surface conditions, and recommendation of foundation system and preparation of geotechnical investigations report.

On the basis of field investigations, laboratory test results, interpretation and structural requirements, feasibility of several foundation options was evaluated. Considering economy and safety, as well as the structural requirements communicated by the Project Design Consultants,

Shallow foundations have been evaluated to support the structural loadings. Structural engineer has been provided the choice to select square/strip and raft foundations based on structural analysis and design.

2. INTRODUCTION

Government of the Punjab well recognizes the potential of growth in Information Technology Sector. To materialize this potential through specialized education, Government of the Punjab intends to establish Information Technology University (ITU) at Barki Road, Lahore. In this regard, TSM Design Studio has been provided with the mandate of executing agency to facilitate planning and design of the project on modern lines. Land covering an area of 184 Acres has been allocated at Barki Road, Lahore for the development of this educational institute from which 27000 Square feet is allocated for the multipurpose building for students. Various structures including boundary wall and academic block shall be constructed in first phase of the project.

Geotechnical investigation is among the several other studies required for the planning and design of such project. Geotechnical Investigations for which scope of work was defined by the Project Design Consultants, aimed at ascertaining the subsoil information prevailing at the project site i.e. generalized lithology, geotechnical characteristics of sub-surface soil layers, and the corresponding design of suitable foundation system.

This report presents information on geotechnical investigations undertaken at the project site and subsequent design of suitable foundation system.

3. DOCUMENT CONTROL SHEET

DOCUMENT CONTROL SHEET		
DOCUMENT		Topographical Report
PROJECT		Information Technology University (ITU) Campus at Barki Road, Lahore
DOC.CODE		MP/EDU-1/23
REVISION		00
AUTHOR	**INITIALS**	N.H
	DATE	15 JANUARY,2023
VERIFIED	**INITIALS**	M.A
	DATE	15 JANUARY,2023
RECIPENT		Ar. IMTISAL (ASSOCIATE ARCHITECT TSM DESIGN STUDIO)
EMPLOYER		**TSM DESIGN STUDIO** DESIGN STUDIO ARCHITECTURE I LANDSCAPE I PLANNING I INTERIOR
CONSULTANT		**Standard Land Surveyors**

4. OBJECTIVES

The geotechnical investigations have been conducted at the site to achieve the following objectives;

- To establish the presence and extents of various lithological units prevailing at the proposed project site.
- To ascertain the presence and location of groundwater from geotechnical viewpoint and to determine its quality from construction perspective. (if encountered)
- To identify/explore the zone(s) of soft or weak soil layer(s) within the project premises.
- To determine the geotechnical design parameters for carrying out the design of suitable foundation system.
- To furnish considerations related to the construction of foundations and other geotechnical structures at project site.

5. SCOPE OF FIELD ACTIVITES

Detailed topographic survey is conducted using contemporary tools and techniques to enable engineers in carrying out detailed engineering design of Project in accordance with the requirements identified. The following initiatives were taken.

- Mobilization of survey team & Placement of Bench Marks
- GPS survey
- RTK (Real-time kinematic) processing of GPS Data
- Data Processing to develop 2D string for design in Eagle Point.

6. MOBILIZATION OF SURVEY TEAM

After reviewing project requirements vis-à-vis topographic survey, Survey teams were deployed to project site on 15th January, 2023 with equipment of GPS and tools of requisite.

7. ADOPTED METHADOLOGY

- All control points and boundaries taken with differential GPS RTK (GNSS) **± 0.5mm** accuracy.
- Data collected from Site with RTK GPS.
- During survey all features were sketched with codes/numbers for the help of drawings.
- Main Bench Mark (B-M_1)
- UTM WGS-84 grid system method at BM-1, which can be verified through Google Earth mapping software.
- Drawing prepared in CAD with help of Eagle Point Software.
- All features are shown layer wise in drawing as per site.
- All control points at prominent places marked with red paint.
- All dimensions, elevations & coordinates are in decimal feet.

8. DETAILED TOPOGRAPHIC SURVEY

The purpose of topographic survey is to collect all topographical (natural and man-made) information of the area of interest to facilitate detailed designing. The topographic survey was carried out by GPS to depict all Natural and Manmade features existing inside the survey corridor. Kolida K9-T & Kolida K20s with built-in Real-time kinematic positioning (RTK capable of electronic Data Collector were used for collecting topographic details.

A GPS surveying instrument is the central component in modern "field-to-flesh" surveying system. A GPS receiver capable of RTK takes in the normal signals from the Global Navigation Satellite Systems along with a correction stream to achieve 0.5mm-1mm positional accuracy.

To synchronize the work of each party a list of features codes was prepared in advance which covers all the anticipated topographic features that could be encountered during the survey work. The final list of feature codes was feed into the Total Station instrument prior to field work to facilitate the surveyors with the facility of on-line coding.

Topographic survey within the survey corridor was conducted and all features and ground details; falling within the survey corridor were recorded. Every care was taken to pick the following details:

- Representative Ground Level.
- Sudden Change of ground elevations.
- Existing roads, tracks, trees, culvert.
- Existing Drainage System (Manholes) Structures
- Existing nullah boundaries, top width and ground features.
- The outer limits of buildings and walls.
- Roads intersecting the project area, their junction details.
- Boundaries of agriculture farms, orchards, graveyards and other land uses.

During topographic survey, all existing features, such as roads, tracks, railway lines, houses, huts, graves, trees, underground (if markers are visible) and overhead utilities, water courses, drains, top and bottom levels of cliff, etc. and all other features present within the survey strip area were picked. Spot levels at regular interval were observed to depict the relief of the area. The instrument, Total Station or GPS, was setup on a control point and its coordinates were fed into recorder. After stationing, the surveyors started taking details of ground by using the feature code database, which had already been saved in the hard drive of data collector.

9. LABORATORY WORKS

Performance of Laboratory Testing on selected soil and water samples for determination of following parameters;

- Soil classification,
- Index properties of sub soils,
- Strength characteristics of sub soils,
- Chemical characteristics of soil and water samples.

10. REPORTING

Preparation of a comprehensive Geotechnical Investigations Report to summarize the findings of geotechnical investigations together with presenting comments relating to design and construction of the proposed works covering the followings;

- Project outline along with summary of executed field and laboratory works.
- Boring & test pit logs and summarized test result tables
- Topography, Geology and Seismicity of the proposed project site
- X-Sectional profile of soil layers,
- Development of soil model for analysis and subsequent design
- Geotechnical interpretation for determination of geotechnical design parameters
- Engineering analysis and recommendation for suitable foundation(s) to be used for the proposed structures
- Soil improvement method (if required)
- Geotechnical considerations related to the construction aspects

11. GROUNDWATER OBSERVATIONS

After completion of drilling, each borehole was cleaned by circulating water through it and then bailing out water from the borehole. Observations regarding the depth of groundwater table were then recorded 24 hours after cleaning the borehole. The observed Depth of water table was logged in respective borehole log.

12. EXISTING STUCTURES ON SITE

There are two main man-made structures that exist on site. One is a security room and the other one is a cemetery that is more than 15 to 20 years old.

Fig. graveyard on site

Fig. Guard room on site

13. NATURAL FEATURES OF THE SITE

An operational water channel along one side of the project site is located. Water channel alongside the site can be shown in the figure 5.8 and 5.9.

Fig. Water channel on site

Fig. Water channel view from the site

14. PLANTATION OF THE SITE

Site is rich in greenery and natural plantations. There are many types of local trees naturally grown on the site due to the presence of water channel which actually define the presence of natural environment and local species on site.

Fig. Acacia Nilotica (Kiker)

Fig. Indian Rosewood (Tali)

Fig. ficus religiosa (people)

Fig.. Bodhi tree

15. SEISMICITY OF THE AREA

The project site lies in Zone 2A as per "Seismic Provisions-2007" of Building Code of Pakistan (BCP: SP, 2007). Keeping in view the seism tectonic set up of the project area and the degree of importance of the structures of the proposed project, it is recommended that the structures should be designed to withstand horizontal peak ground acceleration (PGA) of 0.08 g – 0.16 g. This PGA has 10 % probability of exceeding in 50 years.

16. SEISMICITY SOIL PROFILE CHARACTERIZATION

The seismic profile of the sub soils present at the site has been characterized by using the guidelines provided in "Seismic Provisions-2007" of Building Code of Pakistan (BCP: SP,2007). Chapter 4, of this code describes the procedure for determining Soil Profile types SA through SF. According to the analysis results, Soil profile "SD" is recommended to be used for this site.

17. GROUNDWATER TABLE

Groundwater was encountered in all the boreholes drilled during these investigations.

- The observed depth of groundwater ranged between 14.0 to 14.5 m below EGL.
- The observations were made during the month of September 2017.
- Variation in the depth of groundwater table may be expected in rainy/summer season.

18. FOUNDATION DESIGN

Based on the field investigations and the subsequent laboratory testing, subsurface strata at the project site has been established and the corresponding design of foundations has been carried out. Keeping in view the nature of structures to be constructed at the project site, shallow Foundations have been evaluated. Shallow foundations in the form of square/strip or raft footings may be provided considering they satisfy the structural requirements. Keeping in view the close vicinity of Gate House and Academic Block structures, soil model has been considered for the foundation design of both structures.

19. SURVEY CONTROL DATA (BENCH MARKS)

Table shows the bench marks for the data collection on the site.

BENCH MARK LIST

PT. No.	Northing	Easting	Height	Code
85	11439935.63	1472365.423	711.866	BM-1NEW
95	11439330.05	1472980.73	711.673	BM-2NEW
96	11439355.11	1472957.076	711.593	BM-OLD
97	11439903.76	1472352.63	712.257	BM-OLD

20. TOPOGRAPHIC DRAWING

Figure shows the Topographic drawing for the data collection on the site.

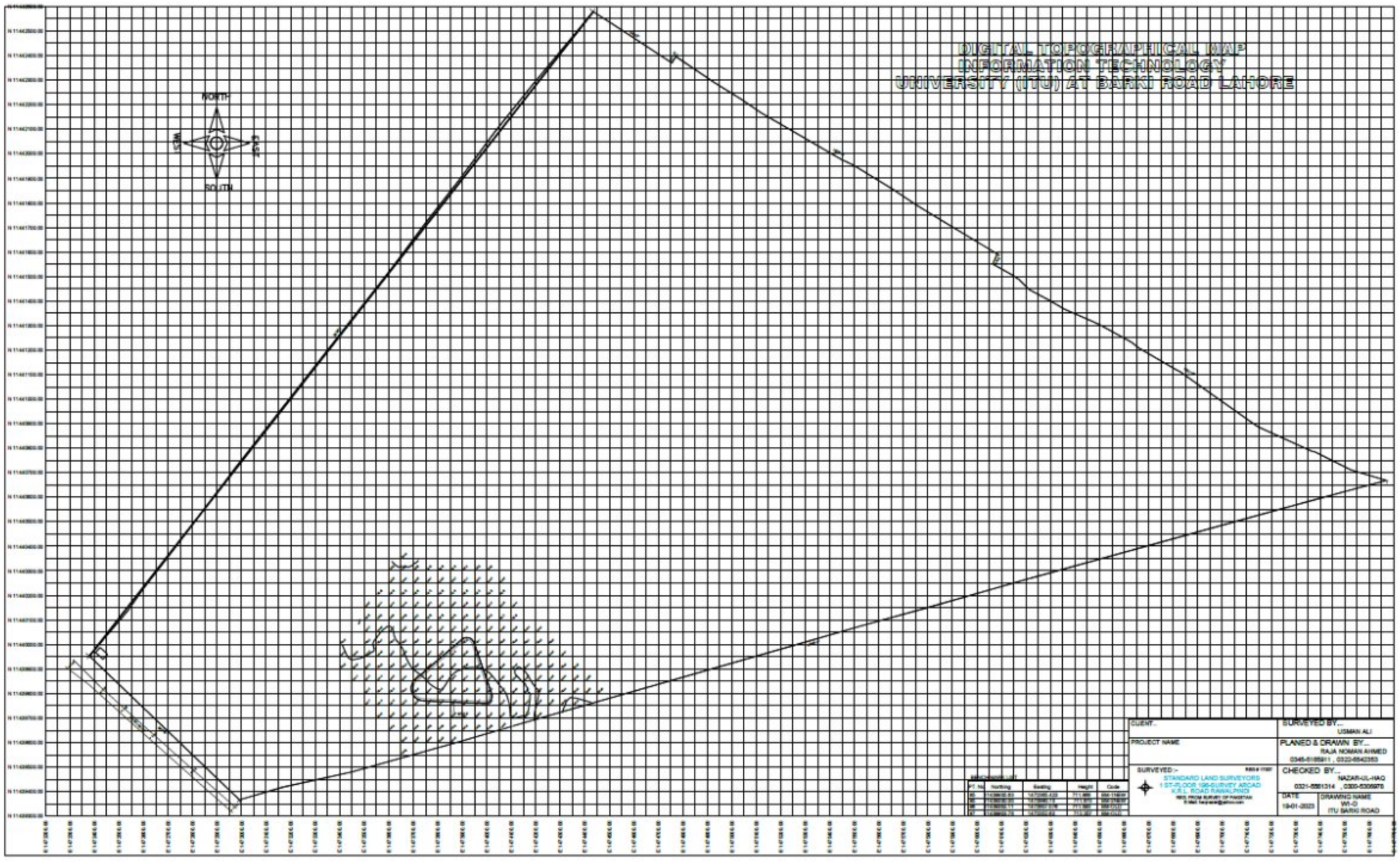

Fig. topographic drawing

21. SITE IMAGES

*Fig.*Survey in the process

Fig. site area

Fig. site boundary

Fig. Canal at site

Fig land at site area