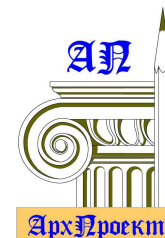


ҶУМҲУРИИ ТОҶИКИСТОН -- REPUBLIC OF TAJIKISTAN

Private Buisnessman Aslam Pochoev



72-2014-RFQ-UNDP-CP-KUL-LITACA-@

PROJECT WORKING DESIGN

*Construction of 5 additional classrooms in secondary school N 49 of
Choilobkamar village, Chubek jamoat, Hamadoni district.*

ALBUM - V

ЭО - Electric illumination and Fire alarm

Kulob - 2014

<u>Statement of working drawings of the main set</u>		
<i>Sheets</i>	<i>Description</i>	<i>note</i>
1	Common data	
2	Lighting plan 1st floor	
3	Specifications	

Denotement	Description	note
	<u>Reference documents</u>	
mn. 4. 407-185	! Installation distribution boards and cabinets	
5. 407-83	! Installation of switches and sockets	
5. 407-101	! Laying lighting networks for a Group	
5. 407-129	! Laying of wires and cables in PVC pipes	
	<u>documents attached</u>	
	Specification of materials and equipments	2 sheets

Pos.	Description	indicator	note
!	Mains voltage, V	380/220	
!	Category reliability of power supply	II	
!	Installed capacity, kW	4,464	
!	Calculation of the current, A	6,78	
!	Coefficient of power, cos	0,9	

Chief engineer of the project

ОБЩИЕ УКАЗАНИЯ

1. RB ed. 2005. "Rules for Electrical Installation"

2. SP 31-03-2007 "educational institutions" Design standards.

The project is designed for voltage 380/220 kV transformer neutral solidly earthed. Lamp voltage of 220 V.

As lighting dashboards taken YAOU type shields.

In general, electric lighting fixtures performed with fluorescent lamps. Lighting control is carried out at the place of switches in corridors and with shields lighting.

Group runs a network of electric wire brand "PPV", hidden under a layer of plaster. On the ceiling, the group performed the same network cable. Backbone network run privodam brand PV PVC pipes for storey risers.

Lighting and Power Panels with protection devices installed on each floor in wall niches. From dashboards powered lighting and electrical appliances. Sockets made with a safety device automatically closes the socket socket when removing the plug. Switches are installed at a height of up to 1.5 m from the floor, the wall outlet does not exceed 1 m.

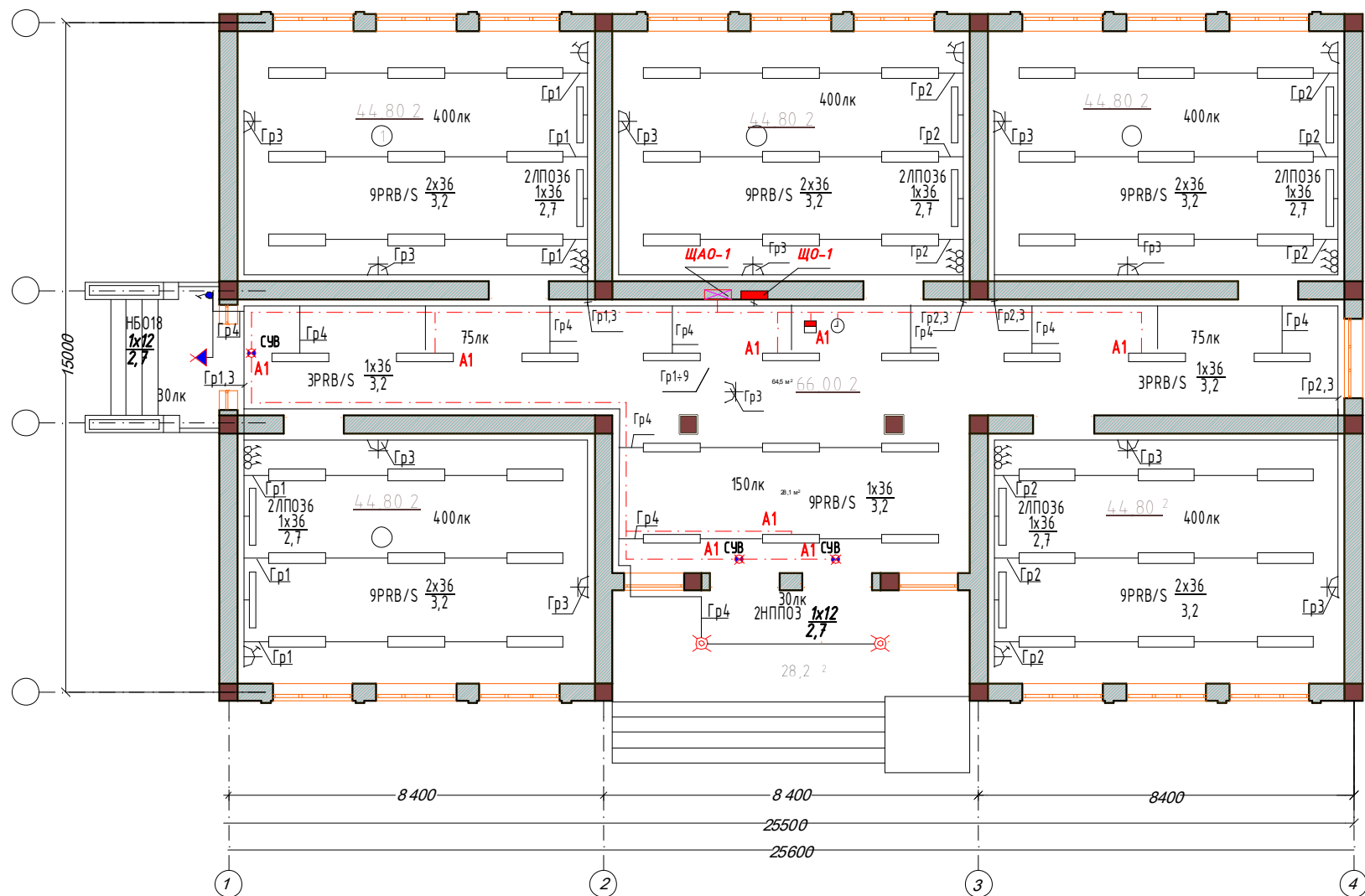
The project includes the following types of coverage: operating and emergency lighting (220 V), emergency lighting stand out from among the workers and managers with the emergency panel installed on the first floor in elktroshitovoy Lighting is carried out in the hallways, lobbies, recreation, and in the lobby.

Metal pipes electrical wiring, as well as cable racks are attached steel strip 40x4 mm to the main ground bus (GZSH made in parliament (in the switchboard) for potential equalization. GZSH joined to the outer steel strip the existing ground.

11

Grounding perform according to the "PUE". All metal dead parts of electrical equipment (frames shields, steel pipes, wiring, etc.) are subject to ground by connecting to the neutral wire network.

						72-2014-RFQ-UNDP-CP-KUL-LITACA-@				L.	
						Construction of 5 additional classrooms in secondary school N 49 of Cholibkamar village, Chubek jamoat, Hamadoni district.					
dim	Q-ty	Page	Nº doc	Signature	Data						
GIP		M. Shamsov				School for 5 clfss-rooms			Page	Stage	Pages
GAP		A. Pochoev							P	1	2
Developed		Jononov A				Specification			Private Buisnessman Aslam Pochoev		
									License XT-23 №0000060		



Data on the group shields with circuit breakers

number of shield	Type	Installed capacity kW	N of automatic switches				The current release, A	
			single-pole		Three-pole		on entering	on the lines
			stirring	reserve	stirring	reserve		
SHO-1	YaOU 8505	3,924	4	2	-	-	63	16,25
SHAO-1	YaOU 8505	0,54	1	5	-	-	63	16,25

						72-2014-RFQ-UNDP-CP-KUL-LITACA-@				ELEM		
						Construction of 5 additional classrooms in secondary school N 49 of Choitobkamar village, Chubek jamoat, Hamadoni district.						
dim.	Q-ty	Page	Nº doc	Signature	Data							
GIP		M. Shamsov				School for 5 clfss-rooms				Page	Stage	Pages
GAP		A. Pochoev								P	1	2
Developed		Jononov A				Electric lighting plan				Private Buissnessman Aslam Pochoev License XT-23 №0000060		

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Согласовано:

Взам. инв. №
Подпись и дата
Инв. № инв.

Statement of working drawings of the main set				
Sheet	Description		note	
1	!	Common data		
2		Block diagram of networking fire alarm sound and light alarm		
3	!	Fire alarm plan 1st floor		
4				
Reference Statement and accompanying documents				
Denotement	Description		note	
MQS TJ 31-03-2007	Reference documents			
VSN 60-89	Communication devices, alarm systems and building management equipment residential and public buildings. Design standards.			
NPD-88-2001	Fire extinguishing installations and alarms. Standards and design rules			
	Documents attached			
SE; FS	Specfication of materials and equipments			
The main parameters of the project				
		Description	Maes. unit	Q-ty
1	!	The device receiving and controlling fire-protection "Granit-2"!	un.	1
2	!	Number of planned fire zones	un.	2
3	!	Number of reserve fire zones	un.	-
4	!	Sounder (Mayak-12)	un.	2
5	!	Strobes (display "Exit")	un.	3

General instructions

To build a system of fire alarm as the alarm control unit provides Mounting PPKOP "Granit-2", equipped with redundant power and installed in koridor.

The following types of detectors are taken in the project:

- Smoke optoelectronic detectors SP-212-3SU fire heat detector-3SU IPR;
- Manual fire alarm IPR-3SU that are installed on the escape routes at 1.5 m from the floor.

According to BNP 104 - 2003 in the project provided the second type of the fire warning system: zvukovoy- "Mayak-12-h", svetovye- svetoukazateli "Exit", which are installed on the escape routes in places that provide sufficient audibility and visibility of the signal.

Plumes of smoke, security and manual fire alarms made with cable brand KSPEV-2x0,5.

Connect light and sound signaling devices produced wire SHVVP 2x0,75.

Mounting network is executed in steel pipe Ø20mm.

All wires cables covered under plaster

Power for the PPKOP "Granit-2" is performed by the guaranteed power supply cable 3x1.5 PVA-in cable channels and Corrugated. Blok for thr Uninterruptible power supply is provided to prevent failure of the system during emergency shutdown of the main power supply.

The project was developed in accordance with the applicable rules and provide for measures to ensure the explosive and fire safety at exploitation facilities.

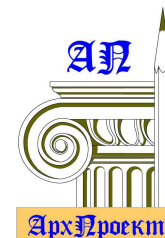
Chief engineer of the project Shamsov M

						72-2014-RFQ-UNDP-CP-KUL-LITACA-@				FA.	
						Construction of 5 additional classrooms in secondary school N 49 of Choilobkamar village, Chubek jamoat, Hamadoni district.					
dim	Q-ty	Page	Nº doc	Signature	Data						
GP		M. Shamsov				Fire alarm.			Page	Stage	Pages
GAP		A. Pochoev							P	1	4
Developed		Jononov A				Common data			Private Buisnessman Aslam Pochoev		
									License XT-23 №0000060		

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ҶУМҲУРИИ ТОҶИКИСТОН -- REPUBLIC OF TAJIKISTAN

Private Buisnessman Aslam Pochoev



72-2014-RFQ-UNDP-CP-KUL-LITACA-@

PROJECT WORKING DESIGN

*Construction of 5 additional classrooms in secondary school N 49 of
Choilobkamar village, Chubek jamoat, Hamadoni district.*

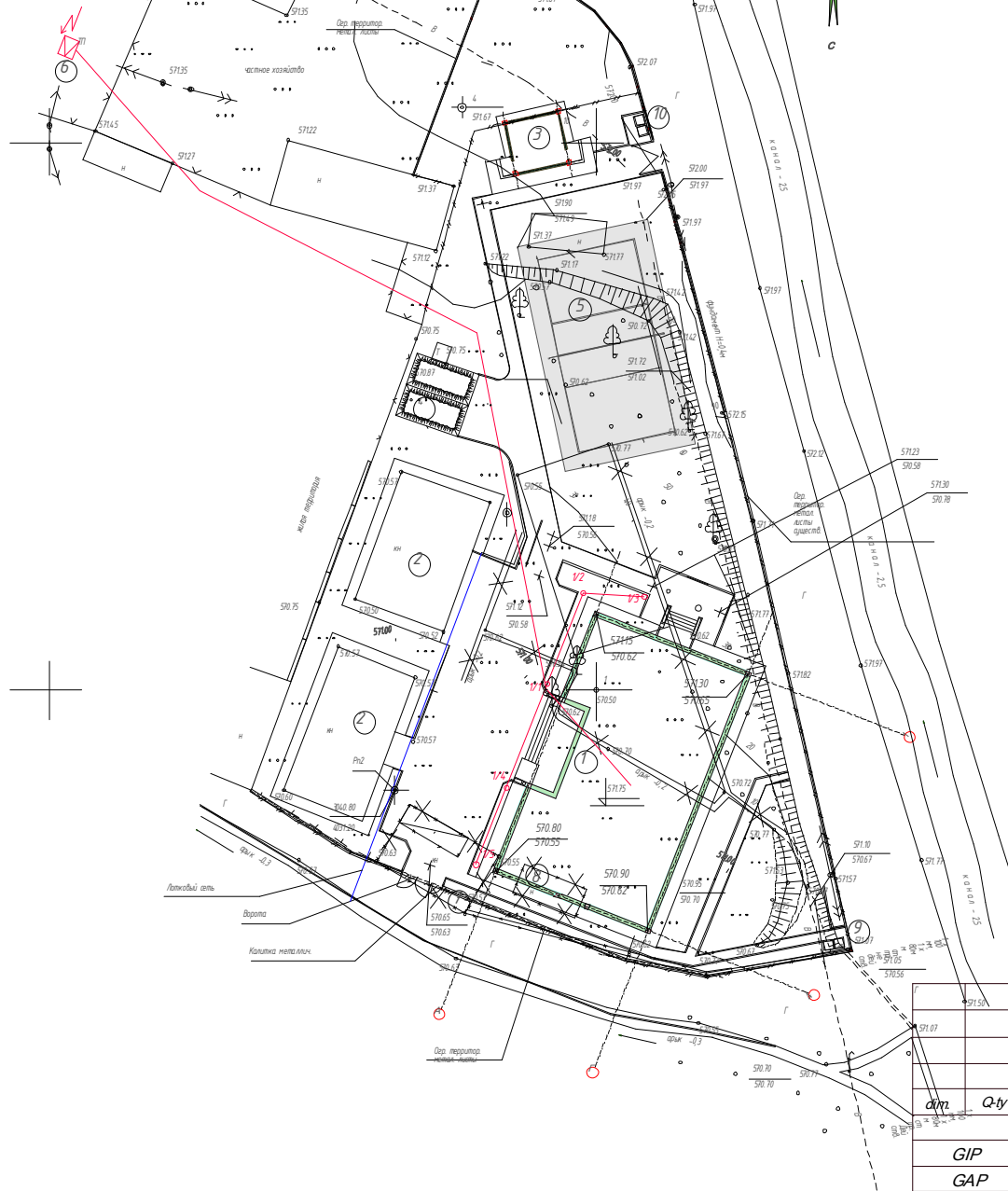
ALBUM

НЭС - external electrical networks

Kulob - 2014

<div>Statement of working drawings of the main set</div>															
sheet		Description				note									
1		Common data													
2		Intra-network 0.4 kV. Design scheme of cable networks													
3		Specifications													
<div>Reference Statement and accompanying documents</div>															
Denotement		Description				note									
		Reference documents													
mn. 4. 407-185		Rules for the Construction of electric installations													
5. 407-83		Cabling voltage up to 35 kV transchee													
5. 407-101															
5. 407-129		Documents attached													
		Equipment Specifications and materialls													
						2 sheets									
<div>The main parameters of the project</div>															
Description		indicator		note											
! Mains voltage, W		380/220													
! Category reliability of power supply		II													
! Estimated power, kW		4,464													
! Calculation of the current, A		6,78													
! Coefficient of power		0,92													
<div>COMMON NOTES</div>															
Electrical networks 10 and 0.4 kW for working project "Construction of 5 additional classrooms in school number 49 Choylobkamar village, Jamoat Chubek, Hamadoni" performed according to															
a) TC-technical conditions															
b) General Plan															
2. Projected network of 0.4 kW from existing transformer substation to the PR-N#1 perform cable brand APVVng-4x6 in the ground at a depth of 0.7 m from the ground surface to the pastels of loose soil. From the building exterior lighting cable brand APVVng-4x4 in the ground at a depth of 0.7 m from the surface to the pastels of loose soil.															
3. From the boiler room of the building to perform cable brand APVVng-4x4 in the ground at a depth of 0.7 m from the surface to the pastels of loose soil.															
3. At the intersection of cable lines other cables, they must be separated by a layer of soil thickness not less than 0.5 m.															
4. At the intersection of cable exits for motor vehicles in the yard cable ducts and heating pipes, electrical wiring must be done in the asbestos cement pipes D = 100mm.															
5. When laying cables in the greenery of the distance from the cable to the trunks of trees should be at least 2 meters, with bushes allowed umenschit to 0.75 m.															
6. Coverage of the territory of the proposed facility to perform the type of lamp lamps park type Bugatti, Park 5007 Art / A															
7. Management of outdoor lighting performed from the building.															
8. All electrical work carried out according to PUE, PTE and PTB															
<div>The project was developed in accordance with the applicable rules and provide for measures to ensure the explosive and fire safety at exploitation facilities.</div>															
<div>Chief engineer of the project</div>															
<div>Shamsov M</div>															
<div>72-2014-RFQ-UNDP-CP-KUL-LITACA-@30.</div>															
<div>Construction of 5 additional classrooms in secondary school N 49 of Choylobkamar village, Chubek jamoat, Hamadoni district.</div>															
dim.		Q-ty		Page		N# doc.		Signature		Data					
GP		M. Shamsov													
GAP		A. Pochoev													
Developed		Jamonov A													
School for 5 clfss-rooms										Page		Stage		Pages	
										WD		1		2	
Common data										Private Buisnessman Aslam Pochoev License XT-23 №0000060					

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Explication of the buidins and structures

Nº	Description	Maes. unit	Q-ty	Remarks
1	Designed school for 5 classes	M ²	405,00	
2	Existing school buildings for 2 and 3 classes	M ²		existing
3	Toilet for 6 holes	M ²	49,84	
4	Fire reservoirs 2 x W-50m3	M ²	36,0	
5	The sport area	M ²	255,00	
6	Transformer substation	M ²		existing
7	Existing wooden structures	M ²		under the dismantling
8	Existing wooden structure	M ²		dismantling
9	Container garbage area	M ²	3,41	
10	Container garbage area	M ²	5,60	

Rated scheme of electric cable network 0.4

Source of power	Current of built or line unfiling, A	Lines No.	Voltage, kV	Rated capacity, kW	COSφ	Rated current, A	Type and section of cable	Length, m	Voltage losses, %	Designation of feeding point	Description of feeding point
TS 160 kW		1	0.4	4.464	0.92	6.78	APvVng-1 kW-4x6	100	1.4	VA-25	Design Building
		10	1.1	0.22	0.2	0.217	APvVng-3x4	48	0.2		External lighting
		16	1	1.716	0.92	2.463	APvVng-4x4	40	0.2	PR	

						72-2014-RFQ-UNDP-CP-KUL-LITACA-@	EEN					
						Construction of 5 additional classrooms in secondary school N 49 of Choilobkamar village, Chubek jamoat, Hamadoni district.						
dm		Q-ty	Page	№ doc.	Signature	Data	General Plan			Stage	Page	Pages
GIP		M. Shamsov				WD				2		
GAP		A. Pochoev										
Developed		Jononov A					Common data			Private Buisnessman Aslam Pochoev License XT-23 №0000060		