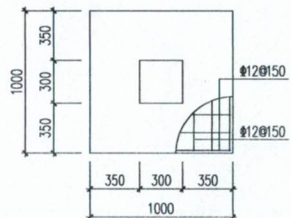
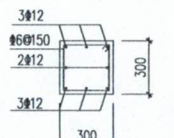


J-1 1:25



J-2 1:25



1-1 1:20

NOTE:

1. Reinforcement: HRB400. Concrete: Lean concrete-C10, Foundation-C25
2. Load-bearing capacity $f_{ak}=80\text{kpa}$. The deep of foundation should be according to soil condition on site, however should touch old soil.
3. Remove top soil & subsoil with not less than 200mm depth, over excavate portion will require to use C20 lean concrete. Excavation with slope gradient 1:2, every 500mm depth excavate with 100mm width step around
4. Deep excavation require shoring or Temporary Earth Retaining System (TERS) to make sure safety and stability of surrounding building
5. Foundation should be inspected by Prospecting Company and designer to make sure all requirements are conformed. Then further step can be followed.

Room-Modules Division				FOUNDATION PLAN			
DESIGNED	YH	2016-12-14	TECHNIQUE	ZZX	2016-12-16	QTY	SCALE
CHECKED	ZZX	2016-12-16	APPROVED	ZZX	2016-12-16	EDITION	PAGE

ELECTRICAL DESIGN AND CONSTRUCTION

Scope:

This design of project is including lighting system, layout of inside lighting & cables and control mode of lighting.

References

► Relative Chinese Specification

- (1) Specification for Low Voltage Electrical Installations
- (2) Specification for Power Distribution System
- (3) Specification for Cables Design of Electric Engineering
- (4) Specification for Low voltage switchgear installation and cable design
- (5) Specification for city night scenery lighting design
- (6) Specification for city load-lighting design

► Design requirements from owner;

Relative Chinese regulations and specification;

Technical requirements and documents from other professional.

Power supply System

- The power of this camp supplied by APR, and decided the location of the connection.
- The voltage of the project is 380/220V.50HZ with three-phase five-wire and Single-phase three-wire
- Radial distribution system applied to make sure power starting and lighting. The terminal voltage should be not less than 5% of Nominal voltage.
- Wiring can be adjusted according to actual situation on site
- Surge Protective devices should be installed into distribution box.

Power distribution

- The location of outside distribution box should be over 300mm high. The Distribution box should be waterproof and anticorrosion and made of imported stainless checked plate with indicator lamp. The actual position of DB can be adjusted according to actual situation on site and (no need to follow the drawings)
- The location of hand shafts can refer to layout of electrical conduit, distance can be controlled between 50m to 100m.

► YJV cables (XLPE insulated and PVC sheathed) will be used. Details refer to drawings of Electrical Distribution System. The location of wiring into Hotgalvanized steel conduits and HDPE conduits is not lower than 0.7m

► FC is laying underground, WC is laying along the wall,

► The connection points of cables should be waterproof by epoxy resin cast coil.

Earthing

► The method of partial earthing is TN-S.

► The earthing pole of PE, beginning lamp, terminal lamp should be set into a same group. Measured resistance (R) should be $\leq 10\Omega$. To make sure Earthing pole connect PE cables very well.

► Earthing protection of distribution box for lighting should be designed by artificial earth device. Metallic conductors should be buried underground. The earthing resistance (R) should be $\leq 4\Omega$

► To balance power supply of Three-phase

► Potential equalization conductor around pool is made of 25*4mm hot galvanized flat bar. Details refer to << equipotential bonding installation>> 02D501-2. Partial Equipotential bonding should be installed in the pool. The installation should be following 02D501-2, LEB terminal box should be installed inside of Isolation transformer box. To make sure Rebar of pool, metallic water piping, lamps under water, submersible pump connect with LEB terminal box very well.

Others

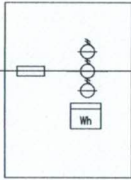
- Other specification unmentioned should follow relative national regulations and specifications.
- All relative products including electrical devices, materials should have Production license and qualified certifications. The certifications of electrical products should be certified by National electrotechnical commission.
- The construction will be affected by environment. Therefore, the location of lamps can be adjusted according to actual situation on site and negotiated by both of parties.
- In order to ensure lighting performance, main lamps should be tested on site to make sure main optical parameter conform to design requirement.
- All devices made by steel and exposed earthing should be treated by red-lead once and ready mix paint twice for rust protection

[Redacted]				TITLE: ELECTRICAL CONSTRUCTION				[Redacted]			
[Redacted]				[Redacted]				PROJECT:			
Room-Modules Division											
DESIGNED	YH	2010-12-17	TECHNIQUE				QTY	SCALE	EDITION	PAGE	
CHECKED	ZZX	2010-12-19	APPROVED	ZZX	2010-12-31				A1		

ZHYN22-0.6/1KV-495A+150.5250JFC

Supply voltage: 380/220V

P₀= 166 kW
K_x= 1.00
Cosφ= 0.90
P_{js}= 166 kW
I_{js}= 280 A



- Note:
- This system grounded by TN-S system;
 - Sub circuit breaking current with leakage protection device is I_{Δn}=30mA,0.1S;
 - Main circuit breaking current with leakage protection device I_{Δn}=100mA,0.2S.

L1~3 CM1-160M/4300

160A

L1~3

CM1-63M/4300-25A

L1~3

CM1-63M/4300-25A

L1~3

CM1-63M/4300-25A

L1~3

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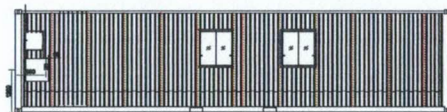
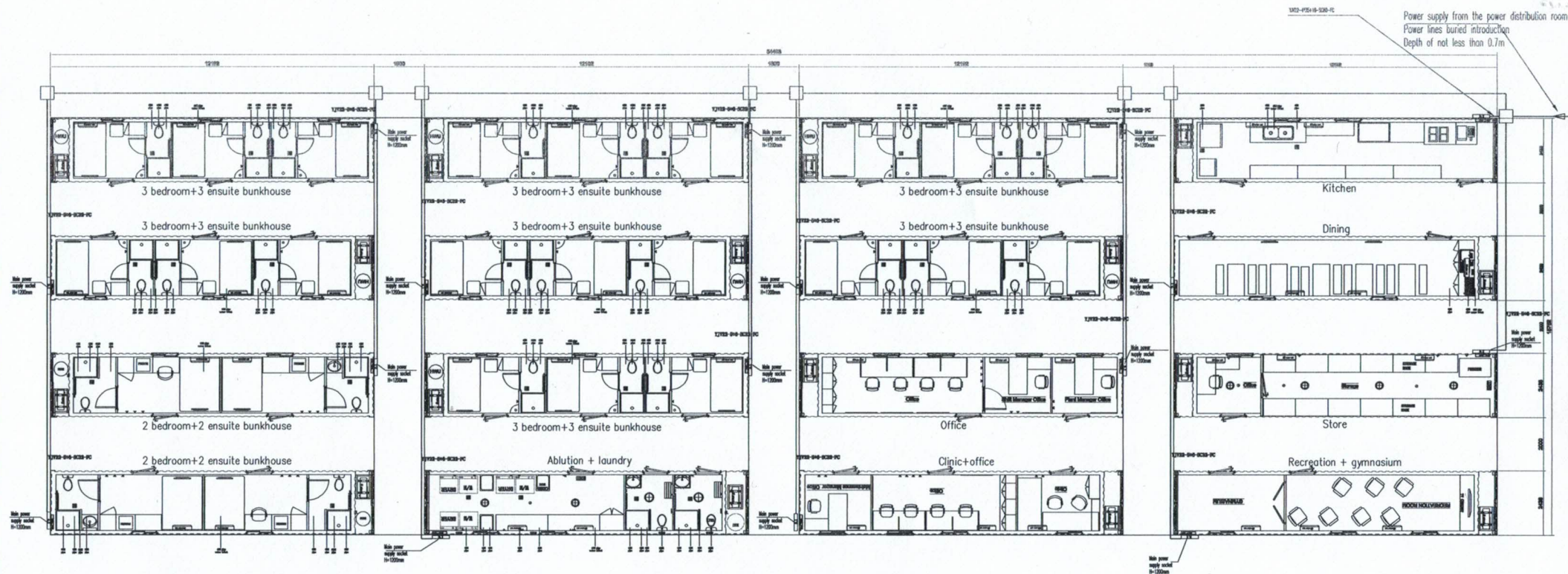
L1~3

CM1-63M/4300-25A

L1~3

CM1-63M/4300-25A

L1~3



Main power supply socket location



Main power supply socket location



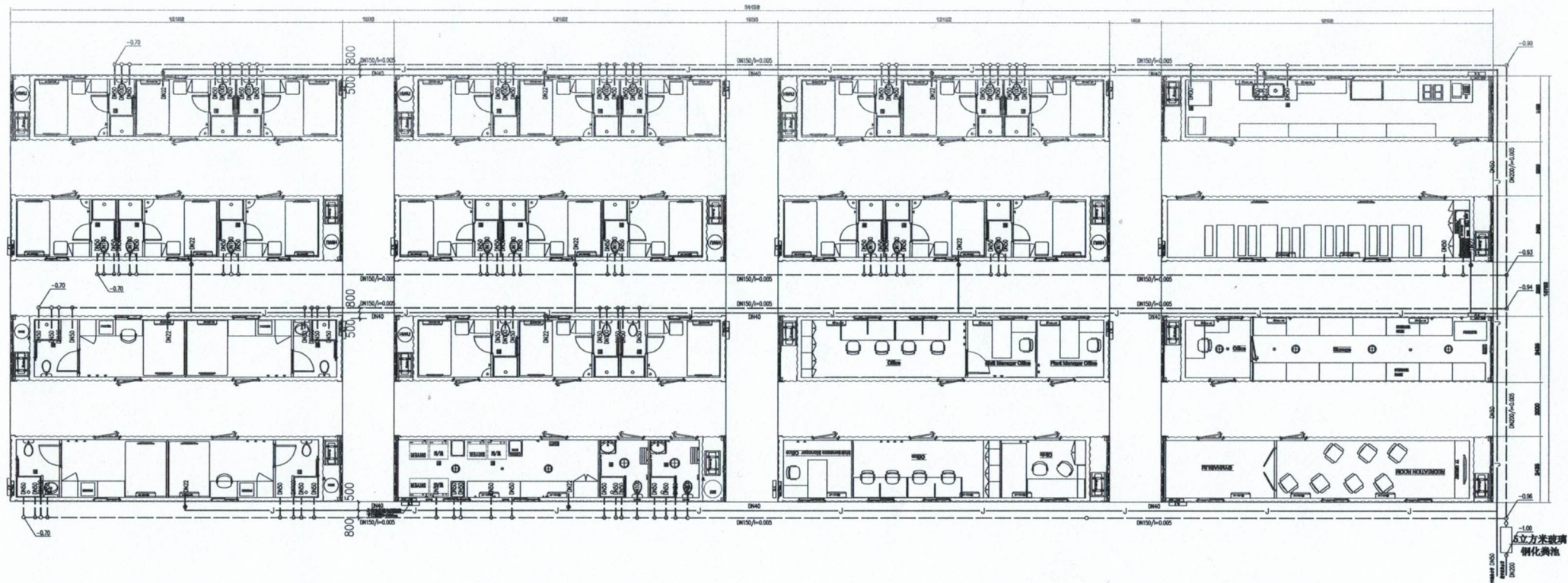
Drain pipe & water inlet location

No.	Name	legend	specifications	Q'ty
1	Hand Shaft	□	800*800*1000	8
2	Outside power plug & socket	□	240V~415V/32A, 3P+N+E, IP67	16
3	Electrical cable		YJV22-0.6/1.0KV-4*35+16	
4	Electrical cable		YJV22-0.6/1.0KV-5*6	
5	Electrical cable		2*[YJV22-0.6/1kV, 4*95+50]	
6	Hot galvanized steel conduit		SC150, SC50, SC32	
7	Hot galvanized flat bar		-40*4	

Note:

- Label instruction on steel conduits of single line drawing and Layout drawings
 - SC-Hot galvanized steel conduits
- Voltage
 - Normal: 3 380V-220V
 - Lighting: 1 220V
- Earth cables for protection: 0.6KV PVC insulated cables (BV) Unless otherwise specified
- Lower voltage cables: withstand voltage 1KV
- All brackets, bolts, distribution boxes and other hardware are made with stainless steel.

Room-Modules Division				TITLE: ELECTRICAL PLAN		PROJECT: 25 MAN CAMP	
DESIGNED	HYJ	2018-12-19	TECHNIQUE	QTY	SCALE	EDITION	PAGE
CHECKED	YH	2018-12-22	APPROVED	ZZK	2018-12-31	A1	



SPECIFICATION FOR OUTSIDE PLUMBING AND DRAINAGE

General:

- Land area: 856m², Camp area: 455m²

Plumbing:

- Pressure: Water Pressure 20.15MPa
- Conduit: The material of pipes is quality PP-R, thermal connection, pressure rating is 1.0MPa
- These: 150mm thick sands will be layered under plastic pipes, concrete supports for connections of Elbows and bends should be set up;
- The ditch of conduits cannot be dug to touch the soil of foundation. If touched, cannot be filled by soil. The bottom shall not be affected by water immersion or cold.
- Not backfill by greater than 500 mm stones, bricks and other sandy, any mine, Humus soil, frozen soil, etc. within 500 mm of the top of conduits.
- Backfill: compactness of backfilling cannot over 95% under the road and over 90% if under the un-road.
- Pressure test of conduit: 1.5 times of operating pressure and no less than 0.6MPa

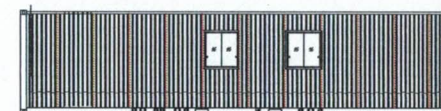
Drainage:

- The material of drainage pipes is HDPE double-wall corrugated pipe, socket connection, the strength of crimp ring 280N/m², all pipes should be flush connected on the top
- The ditch for pipes cannot be dug to foundation of soil. If touched, cannot be filled by soil. The bottom shall not be affected by water immersion or cold.
- Before construction, should confirm the design of connection location must be confirmed to government's requirements. If the distance from top of pipe to the foundation of road is less than 70mm, reinforcement treatment should be done as the drawings.
- Sewage shaft is made of plastic, the diameter of connection pipe is less than or equal to DN315, the size of shaft is DN315. Fall prevention net should be set into Service Shaft.
- The service shaft without protective cover base and inner cover used in the un-road area (such as green space) should be made of DN315 UPVC. The service shaft with protective cover base and inner cover used in road area should be made of ductile iron. "Sewage" should be labeled on the outside cover plate. Conduits and service shafts should be connected by elastic sealing rubber ring. The service shaft should have water grooves base.

Pressure:

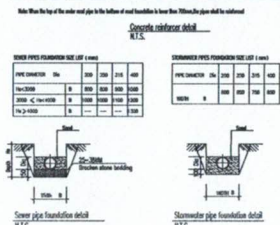
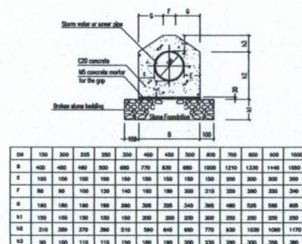
Closed water pressure test for drainage: the level of water should be over 2meters to the top of upstream pip. when the water reach the checkpoint and less than 2meters, the test water level can be reach to the wastewater.

The timing of test is no less than 30 mins.



WATER INLET AND DRAINAGE OUTLET

No.	Name	specifications
1	Water pipe	DN 50
2	Water pipe	DN 40
3	Drain pipe	DN 200
4	Drain pipe	DN 150



				TITLE: PLUMBING & DRAINAGE PLAN											
Room-Modules Division								PROJECT: 25 MAN CAMP							
DESIGNED	YH	2016-12-20	TECHNICAL	ZZX	2016-12-22	QTY	SCALE	EDITION	PAGE						
CHECKED	ZZX	2016-12-22	APPROVED	ZZX	2016-12-31										