

General Notes

CONSULTANTS LIABILITIES

1. The consultants limitations / obligation is to provide structural design of safe, sound and stable building.

OWNER / CONTRACTOR

1. Owner is responsible for proper execution of the building through qualified, experienced contractors having proper construction machinery.
2. Owner is responsible to get the work supervised through qualified Engineers.
3. The Contractor Shall Submit Bar Bending Schedule to the Engineer Prior to Steel placement in the Structure.

A) GENERAL NOTES

1. All the drawings should be read and not to be scaled.
2. These notes shall apply to all civil works throughout the project and where in conflict with other specifications and documents, the Engineer shall have the right to insist on the costliest interpretation to which these discrepancies can lead.
3. Refer to the Architectural, Mechanical and Electrical drawings for finishes, cants, curbs, sleeves, inserts, blockouts and all items embedded in concrete works. It is the responsibility of the contractor (Client) to verify these drawings with other trades, and in case of conflict, Engineer's approval prior to execution of work is required.
4. In case certain details are not shown or clear, the construction shall be of similar nature to those which are shown or indicated and in such cases, Engineer's decision will be final and binding.
5. No hole shall be made or pipe shall be placed in concrete after initial setting has started. All pipes shown on drawings as passing through concrete works shall be placed or sleeves placed for their passing prior to concreting.
6. Proper waterstop with shear key must be provided at all construction/contraction joints in concrete elements retaining water.
- Shear key to be provided in all the construction/contraction joints.
7. Proper termite proofing shall be done before PCC work of foundation, and before /during backfilling at retaining walls and flooring.
8. Proper water proofing layer/membrane shall be placed over PCC work of Raft before placing steel, extending to all vertical external faces of Raft, retaining walls and columns.

9. During construction, safety and stability of the structure and all temporary works shall be given prime importance. Utmost care and precaution shall be exercised by the contractor during the work against any mishap or accident.

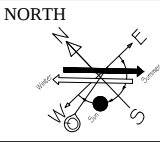
10. All layout, configuration, dimensions and levels shall be verified before proceeding with the work.

B) CONCRETE

1. Structural Concrete for Columns Shall be 5000 Psi or (1:1:2), Foundation (4000 p: and Slabs, Beams, other Structural members shall be 3000 Psi.
2. Cement for all concrete works shall be ASTM C-150 type. (OP Cement)
3. Minimum protection of concrete over reinforcing steel bars, shall be as follows unless otherwise noted on respective drawings.
- | | |
|--------------------|-------------|
| a) Foundation | = 2 inch |
| b) Columns | = 1.5 inch |
| c) Retaining walls | |
| i) earth-side | = 3 inch |
| ii) inside | = 0.75 inch |
| d) Beams | = 1.5 inch |
| e) Slabs | = 0.75 inch |
4. All Structural concrete elements shall have minimum shrinkage and temperature reinforcement, as per ACI Code Requirements.
5. All Structural concrete elements shall be cured with fresh water continuously for at least ten days.
6. All fresh Structural concrete shall be compacted by electro/mechanical vibrator.
7. Design of specified concrete mix shall be submitted by the Contractor and shall be got approved from the Engineer well before concreting of relevant structures alongwith result of test cylinders tested as per ASTM C 39.
8. Test specimens shall be made and cured in accordance with ASTM C 31.
9. Potable water shall be used for concrete and shall be free of organic and other impurities.
10. Concrete test cylinder shall be cured with the same method and under same conditions as those for the concrete work they represent.
11. No concrete shall be poured until its form work and reinforcement has been inspected and approved by the Engineer.

C) REINFORCING STEEL

- All reinforcing steel shall be deformed and shall conform to ASTM A615 Grade 60 Steel with a minimum yield strength of 410 MPa (60,000 psi)
- All bars placement, bends, hooks, offsets etc, shall be in accordance with ACI-318-08 and ACI-315 detailing manual.
- All bar splices except columns shall be minimum 54 times bar diameter.
- (a) Dowel/Splice Length for columns
- | | |
|----------------|-------|
| (a) # 6 Bars | = 45" |
| (b) # 8 Bars | = 60" |
- (b) Overlaps for Top Beam Bars
- | | |
|----------------|---------|
| (a) # 4 Bars | = 27" |
| (b) # 6 Bars | = 40.5" |
- (c) Overlaps for Bottom Beam Bars and all Slab Bars:
- | | |
|----------------|-------|
| (a) # 3 Bars | = 21" |
| (b) # 4 Bars | = 27" |
- In beams and slabs, Top reinforcement should not be spliced at support and bottom reinforcement not at mid span.
- Contrary to the above note, in footings top reinforcement should not be spliced at mid span while bottom reinforcement should not be spliced at support.
- Contractor should make sure that all bars provided in concrete be equal or exceed the areas as calculated based on the number/spacing and diameter of the bars as given on the Drawings.
- Bars in column shall be joggled for laps with starter bars.
- Position of bars in beams shall be adjusted keeping in view the position of vertical bars of the columns.
- Stirrups shall be placed in such a way that their hooks shall be staggered and located in compression face.
- All reinforcing bars shall be held firmly in place before and during the pouring of concrete by means of adequate number of wires and supports to prevent dislocation during the course of construction.
- Centre of dowel length (lap splice) in columns shall be at centre of column for each storey.

CLIENT. GOVERNMENT COLLEGE UNIVERSITY FAISALABAD	PROJECT. ESTABLISHMENT OF CHINIOT CAMPUS GOVERNMENT COLLEGE UNIVERSITY FAISALABAD	NORTH 	DWG. TITLE ACADEMIC BLOCK GENERAL NOTES	DWG. NO S - 00a	CONSULTANTS  DEVELOPMENT CONSULTANCY SERVICES (Pvt.) Ltd. Office 27, 2nd Floor, Executive complex,G-8 Markaz, Islamabad Phone: 051-8736305
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