UNHCR PAKISTAN

N.I.C.U WARD WOMEN TEACHING HOSPITAL

D.I. KHAN

DRAWINGS

FEB., 2022

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

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Clearance Code 4199/321/M/25(22) Doc No. 4199-04 Rev No. 0
ARCHITECTURE DRAWINGS
STRUCTURAL DRAWINGS
1. Notes given on these drawings are applicable to all structural drawings unless otherwise noted. Notes written on any other drawing shall be applicable to that drawing only unless otherwise cross-referenced.

2. System of Units is FPS.

3. All levels marked on the drawings are levels of structural elements. Final levels shall be in accordance with the architectural drawings.

4. The contractor shall be responsible for the safety and security of the structure and all temporary works during construction.

5. The contractor shall provide the engineer with any existing concrete or concrete formwork designs prior to commence the work.

6. The contractor shall coordinate all drawings of all disciplines for all issues, including but not limited to design and location of all openings for ducts, pipes, and pipe stubs, electrical conduits, and other items to be incorporated in concrete or concrete structures. All structural drawings and all drawings shall be reviewed by the engineer prior to start of work.

7. The contractor shall submit the contractor's layout, all dimensions and levels pertaining to existing works before proceeding with the work. The contractor shall adopt adequate and appropriate measures so as not to damage the existing works.

8. The contractor shall exercise utmost care in the execution of the works, to ensure that no accidents or accidents, for which the contractor shall be held responsible against any accidents and any losses thereof, and all repairs and reinstatement are made at the contractor's own cost and time.

9. The contractor shall coordinate schedule of construction with supply and installation of equipment.

10. Providing shall be made for installation of equipment as per manufacturer's recommendations.

11. Any deviations/deviations listed in the design for structural or for any other reasons, shall be obtained from the engineer prior to implementation. Unapproved deviations/ deviations may lead to the decision of the Owner.

12. All materials and workmanship shall conform to specifications of the contract in accordance with any express or implied specification in the contract. All materials and workmanship shall conform to relevant American standards and shall be subject to approval of the engineer.

13. The contractor shall prepare and submit shop drawings and shop drawings schedules for engineer's approval, and obtain his approval before proceeding with the work. The contractor shall be solely responsible for the accuracy of shop drawings and shop drawings schedules. The engineer's approval shall not relieve the contractor from his responsibility.

<table>
<thead>
<tr>
<th>CLASS</th>
<th>MINIMUM CYLINDER STRENGTH AT 28-DAYS (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,750</td>
</tr>
<tr>
<td>B</td>
<td>3,000</td>
</tr>
<tr>
<td>C</td>
<td>2,400</td>
</tr>
<tr>
<td>D</td>
<td>1,500</td>
</tr>
<tr>
<td>E</td>
<td>1,200</td>
</tr>
</tbody>
</table>

14. Concrete cover for reinforcing steel shall be as follows:

- **Structural Member/Element**
  - Minimum Cover (inches)
    - Foundations: 2
    - Columns: 10
    - RCC Retaining Walls: 10
    - Slabs: 3
    - RCC Shells and Domes: 8

15. All reinforcing steel, except 3/16" bars shall be deformed, hot-rolled, deformed bars conforming to ASTM A-615 Grade-40 with specified yield strength not less than 34,000 psi but not more than 40,000 psi, and ratio of ultimate strength to yield strength shall not be less than 1.25.

16. Grade-60 steel bars are represented using stress symbol "6" and Grade-40 steel bars are represented using stress symbol "4". Members required by the Engineer shall be 3/16" as shown.
NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/00/01/001 & 01020.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN IPS SYSTEM, EXCEPT NOTED OTHERWISE.
4. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF GEOFUNDING INVESTIGATION REPORT.
5. ALL ISOLATED FOOTING SHALL BE PLACED CONCURRENT WITH THE COLUMN UNLESS NOTED OTHERWISE.
6. FOR FOUNDATION AND COLUMN REIN. DETAILS REFER DRAWING NO. 4199/323/00/01004.
FOOTING SCHEDULE

<table>
<thead>
<tr>
<th>FOOTING MARK</th>
<th>SIZE</th>
<th>REINFORCEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-1</td>
<td>4'-0&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>F-2</td>
<td>5'-0&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>F-3</td>
<td>5'-0&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>F-4</td>
<td>6'-0&quot;</td>
<td>10&quot;</td>
</tr>
</tbody>
</table>

PLAN OF ISOLATED FOOTING

SECTION OF ISOLATED FOOTING (TYP) (SEC 1-1)

COLUMNS SCHEDULE

<table>
<thead>
<tr>
<th>ELEV. MARK</th>
<th>C-1</th>
<th>C-2</th>
<th>C-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FROM EL 26'-0&quot; TO EL 41'-4.8&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FROM TOP OF FOOTING TO EL 45'-0&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>2x8x3-4&quot;</td>
<td>2x8x3-4&quot;</td>
<td>2x8x3-4&quot;</td>
</tr>
<tr>
<td>T2</td>
<td>2x8x4-9&quot;</td>
<td>2x8x4-9&quot;</td>
<td>2x8x4-9&quot;</td>
</tr>
<tr>
<td>T3</td>
<td>2x8x4-9&quot;</td>
<td>2x8x4-9&quot;</td>
<td>2x8x4-9&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4169/323/RE/00/01/06 & 01003.
2. READ THIS Dwg. IN CONJUNCTION WITH ALL RELEVANT PROJECT Dwg.
3. ALL UNITS ARE IN F.P.S. EXCEPT NOTED OTHERWISE.
4. FOR FINAL ELEVATIONS, REFER RESPECTIVE FRAME PLAN IN ADDITION TO COLUMN SCHEDULE.
5. FOR COLUMN MARK AND LAYOUT REFER, RESPECTIVE DRAWING.
6. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF GEOTECHNICAL INVESTIGATION REPORT.
7. ALL ISOLATED FOOTING SHALL BE PLACED CONCENTRIC WITH THE COLUMNS UNLESS NOTED OTHERWISE.
FARMING PLAN AT EL. +12'-6"

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4/98/325/0101002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN IPS SYSTEM, EXCEPT NOTED OTHERWISE.
4. ALL ROOF BEAMS ARE 3'-24" EXCEPT NOTED OTHERWISE.
5. ALL SLABS ARE 2'-0" THICK, EXCEPT NOTED OTHERWISE.

TYP. SECTION OF EXTERNAL FLOOR BEAMS

FOR SLAB REINFORCE SEE PLAN

FOR REINFORCE REFER BEAM SCHEDULE

FOR SLAB REINFORCE SEE PLAN
## Roof Beam Schedule

<table>
<thead>
<tr>
<th>Beam</th>
<th>Size (in)</th>
<th>Type</th>
<th>Longitudinal Reinforcement</th>
<th>Stirrups</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>9&quot;x12&quot;</td>
<td>II</td>
<td>3-#6, 2-#4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>9&quot;x12&quot;</td>
<td>II</td>
<td>3-#6, 2-#4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B3</td>
<td>9&quot;x12&quot;</td>
<td>I</td>
<td>2-#6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B4</td>
<td>9&quot;x12&quot;</td>
<td>II</td>
<td>3-#6, 2-#4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B5</td>
<td>9&quot;x12&quot;</td>
<td>II</td>
<td>3-#6, 2-#4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. For general notes, refer drawings No. 408/353/4/0201 & 4002.
2. Refer to drawings in conjunction with all the relevant project drawings.
3. All dimensions are in "inh" unless noted otherwise.
4. For support condition refer framing plan.
5. First stirrup shall be placed at 7" from the face of support.
6. y = 36 and at lap location.
7. See typical plan for different widths of beams.
8. See typical elevation 2 for depth of beams.
9. See typical elevation for lap location.
10. Bar size "y" shall be provided in second layer unless noted otherwise.
11. The location of laps shown in typ. 1, if shown, is indicated only it may be eliminated.
12. Laps (if required) shall be provided at location shown on the typical elevation using maximum available length.
13. For top beam, at common continuous end of two spans, the greater of the two spans shall be provided.

**Special Note:**
The lap locations shown are indicative only; they may be eliminated altogether or adjusted while preparing bar bending schedule with strict adherence to these lap locations in all spans.
TYP. SLAB REINFORCEMENT CURTAILMENT PLAN

TOP SLAB REINF. PLAN AT EL.+12'-6"

<table>
<thead>
<tr>
<th>SLAB NAMS</th>
<th>SLAB THICKNESS</th>
<th>SHORT BOTTOM</th>
<th>LONG BOTTOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>S+1</td>
<td>5&quot;</td>
<td>#3-8&quot;</td>
<td>#3-8&quot;</td>
</tr>
<tr>
<td>S+2</td>
<td>5&quot;</td>
<td>#3-8&quot;</td>
<td>#3-8&quot;</td>
</tr>
<tr>
<td>S+3</td>
<td>5&quot;</td>
<td>#3-8&quot;</td>
<td>#3-8&quot;</td>
</tr>
<tr>
<td>S+4</td>
<td>5&quot;</td>
<td>#3-8&quot;</td>
<td>#3-8&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4189/323/01/01007 & 01008.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "IPS" SYSTEM, EXCEPT NOTED OTHERWISE.
4. ALL SLABS ARE 5"-THICK, EXCEPT NOTED OTHERWISE.
5. ALL BINDER BARS SHALL BE #2-12"-2/3.

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1. FOR GENERAL NOTES, REFER DRAWING NO. 419/333/80/21001 & 01032.
2. READ THIS DRAWING IN CONJUNCTION WITH THE RELEVANT PLUMBING AND OTHER SERVICES DRAWINGS.
3. ALL STRUCTURAL CONCRETE SHALL BE CLASS "C" HAVING MINIMUM 28-DAYS CUBE STRENGTH OF 2,400.00 psi.
4. LEAN CONCRETE SHALL BE TYP. "E" TYPE HAVING MINIMUM 28-DAYS CUBE STRENGTH OF 1200 psi.
5. ALL REINFORCING BARS SHALL BE GRADE-40 DEFORMED STEEL HAVING MINIMUM YIELD STRENGTH OF 40,000 psi. CONFIRMING TO ASTM A615.
6. CLEAR COVER TO REINFORCEMENT SHALL BE AS UNDER:
   BOTTOM SLAB = 1 1/2" (ALL FACES)
   TOP SLAB = 3/4" (ALL FACES)
   WALLS = 1/8" (BOTH FACES)
7. BACKFILLING AGAINST THE WALLS SHALL NOT BE DONE UNTIL TOP SLAB IS CAST AND CURED.
8. ALL THE STRUCTURAL SURFACES AGAINST WHICH EARTH IS TO BE FILLED SHALL BE COATED WITH TWO (02) COATS OF HOT BITUMEN AS PER SPECIFICATIONS.
NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/BDD/01001 & 01002.
2. READ THIS DRAWING IN CONJUNCTION WITH THE RELEVANT PLUMBING AND OTHER SERVICES DRAWINGS;
3. ALL STRUCTURAL CONCRETE SHALL BE CLASS "C" HAVING MINIMUM 28-DAYS CUBE STRENGTH OF 2,400 psi, CONFORMING TO ASTM A450;
4. ALL REINFORCING BARS SHALL BE GRADE-40 DEFORMED STEEL HAVING MINIMUM YIELD STRENGTH OF 40,000 psi, CONFORMING TO ASTM A615;
5. CLEAR COVER TO REINFORCEMENT SHALL BE AS UNDER:
   SLAB = 3/4" (ALL FACES)
   BEAMS = 1/2"
ELECTRICAL DRAWINGS
NOTE: ONLY WIRING WILL BE DONE FOR THE BED HEAD PANELS/UNITS FOR THE FUTURE PROVISIONS