UNHCR PAKISTAN

GGPS KALKATAK DROSH, CHITRAL
CONSTRUCTION DRAWINGS

FEB., 2022

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED
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E-mail: nespak@cyber.net.pk Website: www.nespak.com.pk
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS

FOOTING SCHEDULE

<table>
<thead>
<tr>
<th>FOOTING MARK</th>
<th>SHORT SIZE (A)</th>
<th>LONG SIZE (B)</th>
<th>THICKNESS (C)</th>
<th>REINFORCEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-1</td>
<td>4'-0&quot;</td>
<td>4'-0&quot;</td>
<td>18&quot;</td>
<td>#4-6&quot;</td>
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<tr>
<td>F-2</td>
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<td>F-3</td>
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NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02G01 & 02G02.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "IT'S" SYSTEM, EXCEPT NOTED OTHERWISE.
4. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF GEO-TECHNICAL INVESTIGATION REPORT.
5. ALL ISOLATED FOOTING SHALL BE PLACED CONCENTRIC WITH THE COLUMNS UNLESS NOTED OTHERWISE.
Framing Plan at EL+0'-0"

Notes:
1. For general notes, refer Drawing No. 4199/323/C/02G01 & 02G02.
2. Read this drawing in conjunction with all the relevant project drawings.
3. All units are in TPS system except noted otherwise.
4. All external plinth beams are 10"x24" except noted otherwise.
5. All internal plinth beams are 10"x18" except noted otherwise.
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS
FRAMING PLAN AT EL+11'-6"

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02001 & 02002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN 'FPS' SYSTEM, EXCEPT NOTED OTHERWISE
4. ALL FLOOR BEAMS ARE 10'-0" EXCEPT NOTED OTHERWISE
5. ALL SLABS ARE 6'-TH, EXCEPT NOTED OTHERWISE

SCALE = 1"=8'

FEB., 2022
UMER LATIF
TALHA AFZAL
AAMIR RASHEED

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD. ISLAMABAD

02G05

UNHCR PAKISTAN
CHITRAL
CONSTRUCTION OF GGPS KALKATAK DROSH
STRUCTURAL LAYOUTS
FRAMING PLAN AT EL+11'-6"

SECTION 1-1

TYP. SECTION OF EXTERNAL
FLOOR BEAMS

TYP. SECTION OF EXTERNAL
FLOOR BEAMS AT WINDOW LOCATION

TYP. SECTION OF EXTERNAL
FLOOR BEAMS AT WALL LOCATION

FRAMING PLAN AT EL+11'-6"

FOR REF. REFER BEAM SCHEDULE
FOR REF. REFER BEAM SCHEDULE
FOR REF. REFER BEAM SCHEDULE
SLAB REINFORCEMENT PLAN AT EL.+11'-6"

SLAB REINFORCEMENT SCHEDULE

<table>
<thead>
<tr>
<th>SLAB MARKS</th>
<th>SLAB THICKNESS</th>
<th>BOTTOM REINFORCEMENT</th>
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<tr>
<td></td>
<td></td>
<td>SHORT BOTTOM</td>
</tr>
<tr>
<td>F1-1</td>
<td>6&quot;</td>
<td>ø2.5&quot;</td>
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<td>F1-3</td>
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NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02021 & 02022.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "FCS" SYSTEM, EXCEPT NOTED OTHERWISE.
4. ALL FLOOR BEAMS ARE 10"x24" EXCEPT NOTED OTHERWISE.
5. ALL SLABS ARE 6"-TH, EXCEPT NOTED OTHERWISE.
6. ALL BINDER BARS SHALL BE #3-12" c/c.

UNHCR PAKISTAN
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS
SLAB REINFORCEMENT PLAN AT EL.+11'-6"

SCALE = 1"=8'
FRAMING PLAN AT EL +23'-0"
& BASE PLATE LAYOUT PLAN

3"x3"x1/4" TRUSS BOTTOM
CHORD WELDED ALL AROUND TO UPPER BASE PLATE

10"x10"x1/8"THICK
MS LOWER BASEPLATE
8"x8"x1/2"THICK
MS UPPER BASEPLATE
5/8" A307 J-BOLT
FILET WELD USING E-70 ELECTRODE

1/2" SLOT ON EACH SIDE IN UPPER BASE PLATE

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02001 & 02002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "FPS" SYSTEM, EXCEPT NOTED OTHERWISE.
4. ALL ROOF BEAMS ARE 10"x24", EXCEPT NOTED OTHERWISE.

CONSTRUCTION OF GGPS KALOYAT DROSH
CHITRAL
STRUCTURAL LAYOUTS
& BASE PLATE LAYOUT PLAN & DETAILS

UNHCR PAKISTAN
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD. ISLAMABAD

DRAWING NO. 4199/323/C/02007

DATE: FEB., 2022
SCALE = 1"=8'
# Elevation Details

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<td>FROM</td>
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<td>TO</td>
<td>EL+23'-0&quot;</td>
</tr>
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<td>B-#5</td>
<td>1'0&quot;</td>
</tr>
<tr>
<td>12-#5</td>
<td>1'4&quot;</td>
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<table>
<thead>
<tr>
<th>MARK</th>
<th>C-2</th>
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<tbody>
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<td>TO</td>
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<td>1'0&quot;</td>
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<tr>
<td>12-#5</td>
<td>1'4&quot;</td>
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## Column Schedule

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<thead>
<tr>
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<td>2#3-4&quot;</td>
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<tr>
<td>T3</td>
<td>2#3-3&quot;</td>
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## Remarks

- CLASS (B:F:W)

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**NOTES:**

1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02001 & 02002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN 'IPS' SYSTEM, EXCEPT NOTED OTHERWISE.
4. FOR FINAL COLUMN ELEVATION, SEE RESPECTIVE FRAMING PLANS.
MATERIAL SPECIFICATIONS OF STEEL WORKS

1. ALL FABRICATION, ERECTION AND QUALITY CONTROL IS TO BE DONE IN ACCORDANCE WITH THE LATEST ASTM SPECIFICATIONS.

2. STRUCTURAL STEEL SHALL BE ASTM A-36 STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-36 OR EQUIVALENT.

3. ALL WELDING SHALL BE FILLET WELDING CONFORMING TO THE REQUIREMENTS OF AMERICAN WELDING SOCIETY AWS, SPECIFICATIONS. THE WELD STRENGTH SHALL BE OF GRADE E-70 HAVING YIELD STRENGTH AT LEAST 70,000 PSI.

4. ALL BOLTS SHALL BE MECHANICAL ANCHORS CONFORMING TO AEC STANDARD.

5. MINIMUM EDGE DISTANCE FROM THE CENTER OF BOLT = 2" UNLESS OTHERWISE SPECIFIED.

6. STANDARD HOLE DIA. = BOLT DIA. + 1/16"

7. ALL STEEL SHALL BE GIVEN ONE SHOP COAT OF RED LEAD OXIDE PRIMER AND FIELD TOUCHUP EXCEPT FOR SURFACES TO BE EMBEDDED IN CONCRETE OR CONTACT SURFACES OF FRICTION BOLTED CONNECTIONS.

NOTES
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/0201 & 0202.
2. READ THE DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN ‘FPS’ SYSTEM, EXCEPT NOTED OTHERWISE.
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS
ELEVATION OF TRUSS T-1 & J-1

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/CG/0201 & 0202.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "FPS" SYSTEM, EXCEPT NOTED OTHERWISE.
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS
ELEVATION OF TRUSS T-2 & J-2

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02001 & 02002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "FPS" SYSTEM, EXCEPT NOTED OTHERWISE.

ELEVATION OF TRUSS T-2

ELEVATION OF TRUSS J-2

TYPICAL CONNECTION DETAIL OF CGI SHEET
AND PURLINS AT CROWN LOCATION
CONSTRUCTION OF GGPS KALKATAK DROSH
STRUCTURAL LAYOUTS
FOUNDATION, COLUMN & PLINTH BEAM
LAYOUT PLAN AND DETAILS

FOOTING SCHEDULE

<table>
<thead>
<tr>
<th>FOOTING MARK</th>
<th>SHORT SIZE</th>
<th>LONG SIDE (H)</th>
<th>THICKNESS (C)</th>
<th>SHORT BOTTOM</th>
<th>LONG BOTTOM</th>
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<tr>
<td>F-1</td>
<td>4'-0&quot;</td>
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<td>16&quot;</td>
<td>#4-6&quot;</td>
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NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02002 & 02003.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "FT" SYSTEM, EXCEPT NOTED OTHERWISE.
4. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF GEO-TECHNICAL INVESTIGATION REPORT.
5. ALL ISOLATED FOOTING SHALL BE PLACED CONCENTRIC TO THE COLUMNS UNLESS NOTED OTHERWISE.
6. ALL EXTERNAL PLINTH BEAMS ARE 10"x24" EXCEPT NOTED OTHERWISE.
7. ALL INTERNAL PLINTH BEAMS ARE 8"x8" EXCEPT NOTED OTHERWISE.
FRAMING PLAN AT EL +9'-0"
& BASE PLATE LAYOUT PLAN

TYP. SECTION OF ROOF BEAMS

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02001 & 02002.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN 'FMS' SYSTEM, EXCEPT NOTED OTHERWISE.
4. ALL ROOF BEAMS ARE 10"x24" EXCEPT NOTED OTHERWISE.

SCALE = 1"=8'

CONSTRUCTION OF GGPS KALKATAK DROSH
UNHCR PAKISTAN
CHITRAL
STRUCTURAL LAYOUTS
FRAMING PLAN AT EL +23'-0"
& BASE PLATE LAYOUT PLAN & DETAILS

UNHCR PAKISTAN
CONSTRUCTION OF GGPS KALKATAK DROSH
CHITRAL
STRUCTURAL LAYOUTS
FRAMING PLAN AT EL +23'-0"
& BASE PLATE LAYOUT PLAN & DETAILS

FOR BEAM REFER BEAM SCHEDULE
E-70 ELECTRODE

10"x10"x1/8"THICK
MS LOWER BASEPLATE

8"x8"x1/2"THICK
MS UPPER BASEPLATE

5/8" A307 J-BOLT

8"TH SOLID BLOCK MASONRY

5/8" A307 J-BOLT

Fillet weld using E-70 Electrode

TRUSS BOTTOM
CHORD WELD ALL AROUND TO UPPER BASE PLATE

6MM THICK CONTINUOUS

BP-01
DETAIL - A

BP-02
DETAIL - B
TRUSS BOTTOM CHORD LAYOUT PLAN

TOP CHORD/PURLIN LAYOUT PLAN

DETAIL "A"

DETAIL "B"
(TOP CONNECTION OF PURLINS WITH TOP CHORD)

SECTION X-X

(TECHNICAL DETAILS AND DIMENSIONS)

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/0201 & 0202.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN ‘FPS’ SYSTEM, EXCEPT NOTED OTHERWISE.

TRUSS BOTTOM CHORD LAYOUT PLAN

TOP CHORD/PURLIN LAYOUT PLAN

DETAIL "A"

DETAIL "B"
(TOP CONNECTION OF PURLINS WITH TOP CHORD)

SECTION X-X

(TECHNICAL DETAILS AND DIMENSIONS)

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/0201 & 0202.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN ‘FPS’ SYSTEM, EXCEPT NOTED OTHERWISE.
ELEVATION OF TRUSS T-1

MEMBER MARK | MEMBER SIZE
--- | ---
L | 2½"x2½"x⅛"x⅛"
PURLIN C | C5x6.7
SAG ROD | 3/4" DIAM BARS

NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/233/C/0001 & 0002.
2. READ THE DRAWING IN CONJUNCTION WITH ALL THE RELEVANT PROJECT DRAWINGS.
3. ALL UNITS ARE IN "IPS" SYSTEM, EXCEPT NOTED OTHERWISE.

MATERIAL SPECIFICATIONS OF STEEL WORKS
1. ALL FABRICATION, ERECTION AND QUALITY CONTROL IS TO BE DONE IN ACCORDANCE WITH THE LATEST ASTM SPECIFICATIONS.
2. STRUCTURAL STEEL SHALL BE ASTM A-36 STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-36 OR EQUIVALENT.
3. ALL WELDING SHALL BE FILLET WELDING CONFORMING TO THE REQUIREMENTS OF AMERICAN WELDING SOCIETY AWS SPECIFICATIONS. THE WELD STRENGTH SHALL BE OF GRADE E-70 HAVING YIELD STRENGTH AT LEAST 70,000 PSI.
4. ALL BOLTS SHALL BE MECHANICAL ANCHORS CONFORMING TO AISC STANDARD.
5. MINIMUM EDGE DISTANCE FROM THE CENTER OF BOLT = 2" UNLESS OTHERWISE SPECIFIED.
6. STANDARD HOLE DIA. = BOLT DIA. + 1/16".
7. ALL STEEL SHALL BE GIVEN ONE SHOP COAT OF RED LEAD OXIDE PRIMER AND FIELD TOUCHUP EXCEPT FOR SURFACES TO BE EMBEDDED IN CONCRETE OR CONTACT SURFACES OF FRICTION BOLTED CONNECTIONS.

TRUSS BOTTOM & TOP CHORD,PURLIN & SAG ROD PLAN

DETAIL 'A'

TYPICAL CONNECTION DETAIL OF CGI SHEET AND PURLINS AT CROWN LOCATION
NOTES:
1. FOR GENERAL NOTES, REFER DRAWING NO. 4199/323/C/02G01 & 02G02.
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.
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, CONFORMING TO ASTM A615.
6. CLEAR COVER TO REINFORCEMENT SHALL BE AS UNDER:
   - BOTTOM SLAB = 1½" (ALL FACES)
   - TOP SLAB = 3½" (ALL FACES)
   - WALLS = 1½" (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/C/02G01 & 02G02.
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. 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 1/2"
<table>
<thead>
<tr>
<th>SYMBOLS AND DESCRIPTIONS</th>
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<tbody>
<tr>
<td><strong>ELECTRICAL WORKS</strong></td>
</tr>
<tr>
<td><strong>LIGHTING FIXTURES</strong></td>
</tr>
<tr>
<td><strong>COMMUNICATIONS SYSTEMS</strong></td>
</tr>
<tr>
<td><strong>GENERAL NOTES</strong></td>
</tr>
</tbody>
</table>

### ELECTRICAL SYSTEMS

- Panel: [Details]
- Lighting: [Details]
- Communications: [Details]

### GENERAL NOTES

1. Panel (A) must be used for all electrical components.
2. All lighting fixtures should be installed according to the layout provided.
3. Communications systems require separate wiring from the electrical system.
4. Standard panel sizes are 30x30cm and must be installed according to this specification.

### PLATE TYPE EARTH ELECTRODE

- [Diagram]
- [Detailed Description]
DB-GF

16 SWG SHEET STEEL, POWDER PAINTED, RECESSED IN WALL

V.S.S

0-500 VAC

32 AMPS
DP MCB
RC=10KA

In = 20 AMPS, isc = 10KA

220VAC P & E COPPER BUS BARS 50 HZ, 10KA

3x2/2A

'R'

10 AMPS
SP MCB
RC=10KA

10 AMPS
SP MCB
RC=10KA

09x10A SP MCB

06x10A SP MCB

2 CORE 6 Sqmm PVC
+1 CORE 6Sqmm PVC ECC