


Proof Check Uttarakhand Landslide Mitigation & Management Center

LEGEND	
1. CONTOUR	
2. ROAD	
3. WALL	
4. TREE	
5. SIGN BOARD	
6. POOL	
7. JACK	
8. OVERBRIDGE	
9. BLADE LINE	
10. R.C.C. WALL	
11. HIGH TENSION POLE	
12. DRAIN WALL	
13. CULVERT	
14. PIERRET WALL	

NOTE: The map is prepared by the Survey of India, Dehra Dun, and is not to be used for any purpose other than the one for which it was prepared.

COORDINATES OF BOUNDARY POINTS	
POINT	COORDINATE
1	277100
2	277200
3	277300
4	277400
5	277500
6	277600
7	277700
8	277800
9	277900
10	278000
11	278100
12	278200
13	278300
14	278400
15	278500
16	278600
17	278700
18	278800
19	278900
20	279000

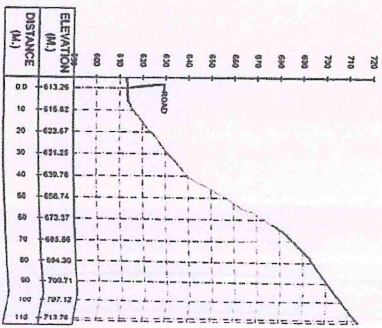
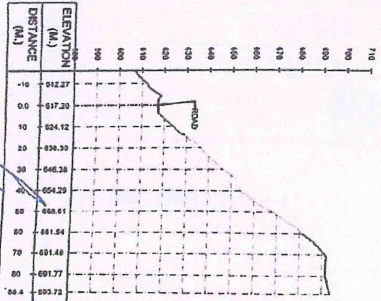
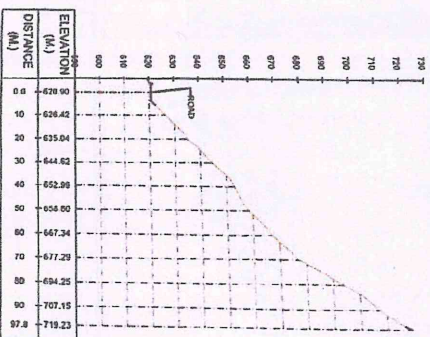
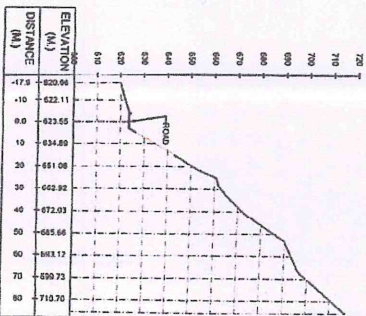
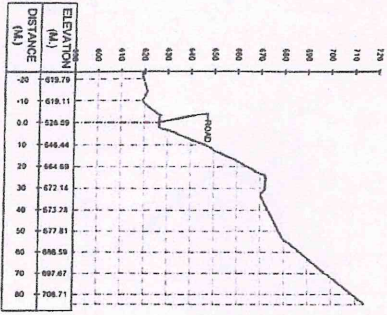
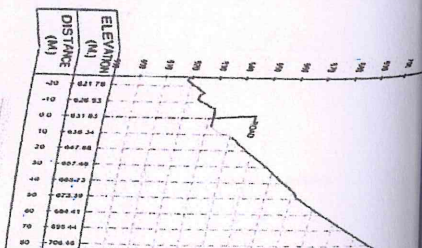
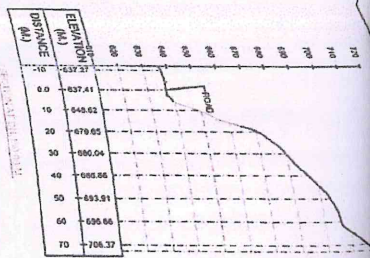
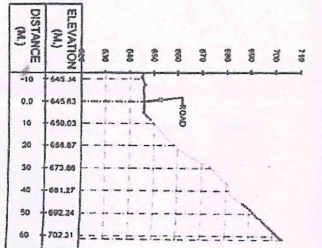
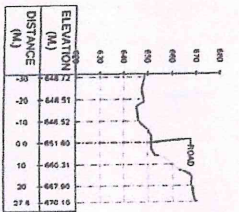
 उत्तराखण्ड प्रदेश साहित्य अकादेमी UTTARAKHAND PRASHAD SAHITYA AKADEMI	
CONSULTANT TO NORTH UTTARAKHAND TOPOGRAPHICAL MAP AT NARENDRA NAGAR, NARENDRA NAGAR ROAD ON SH-77 UTTARAKHAND	
PROJECT NO. 100/2017 DATE OF WORK 10/01/2017 DATE OF REPORT 10/01/2017 NAME OF THE PROJECT NAME OF THE CLIENT	PROJECT NO. 100/2017 DATE OF WORK 10/01/2017 DATE OF REPORT 10/01/2017 NAME OF THE PROJECT NAME OF THE CLIENT

UK PWD

129

सहायक अभियंता
निर्माण कार्य एवं लेट आउट विंग
भारत सरकार

THDCIL



सिवायक शक्तिपरा
निर्माण कार्य को निर्माण
नियंत्रण

Uttrakhand Landslide Mitigation
& Management Center

THDC INDIA LIMITED
CONSULTANCY TO NORTH UTTARAKHAND
CROSS SECTIONAL MAP
AT LOCATION-CH 08 KM
NARENDRA NAGAR RANPOURCHAU ROAD ON SH-77
UTTARAKHAND

DATE: 25.07.2021
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THDC INDIA LIMITED

CONSULTANCY TO NORTH UTTARAKHAND
GEOLOGICAL MAP AT LOCATION - CH. 08 KM NARENDRA NAGAR -
RAINPOKHARI ROAD ON SH - 77 UTTARAKHAND.

PREPARED BY: CHECKED BY: APPROVED BY:

DATE: 25/07/2024

SCALE: 0 10 20 30 40 50m

POINT NO.	EASTING	NORTHING	ELEVATION
01	334250	334250	645.23
02	334250	334250	645.23

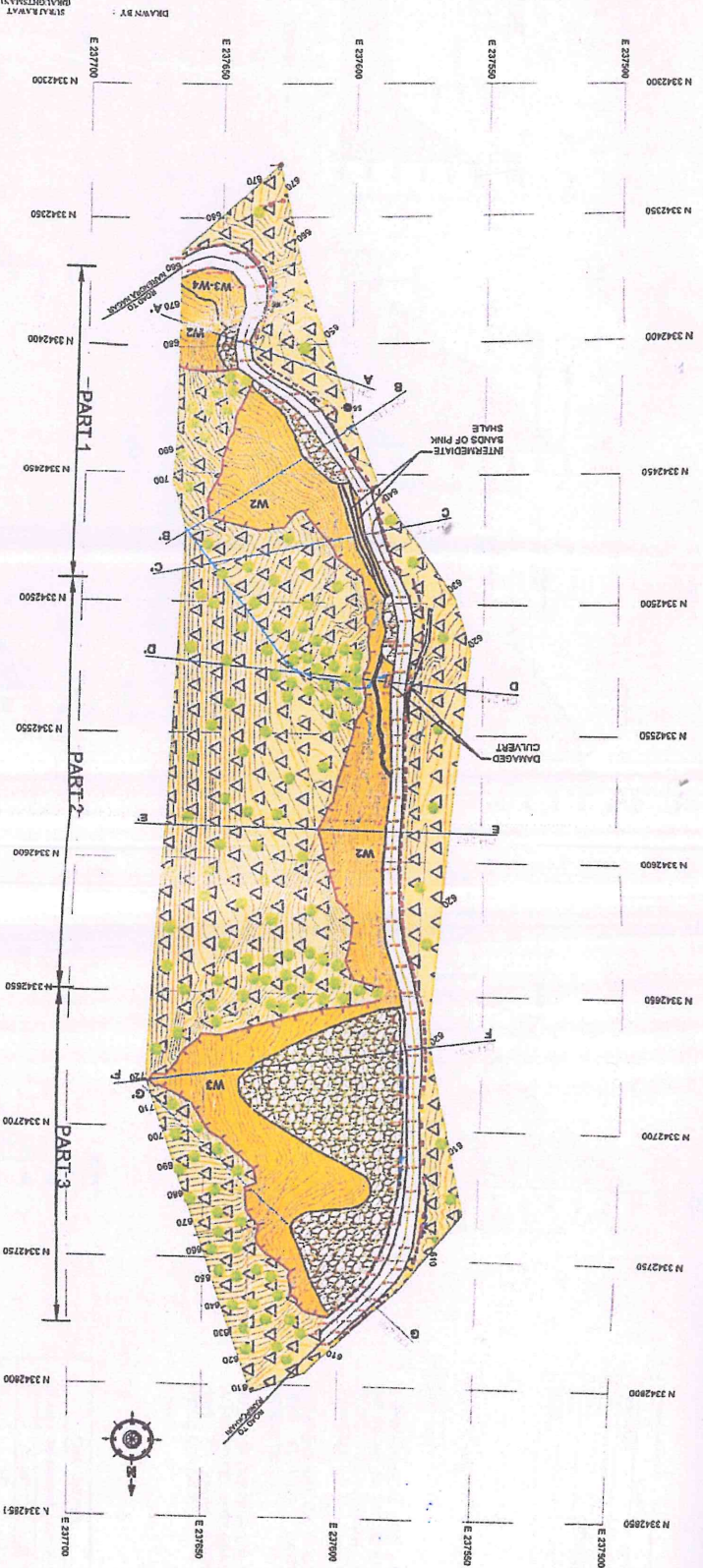
1. TOPOGRAPHICAL MAP OF SLOPE
AT CH. 08 KM IS PROVIDED BY
DESIGN DEPARTMENT VIDE
E-MAIL DATED 25/07/2024.

NOTE:

LEGEND	
1. ROAD	15. SIGN BOARD
2. OVERBURDEN	16. PERPET WALT
3. PHYLLITIC QUARTZITE	17. CULVERT
4. SHALE	18. GABION WALL
5. MUCK	19. HIGH TENSION POLE
6. WEATHERING LINE	20. R.C.C. WALL
7. SLIDE LINE	21. SLIDE LINE
8. TREE	22. TREE
9. WEATHERING LINE	23. WEATHERING LINE
10. MUCK	24. MUCK
11. PHYLLITIC QUARTZITE	25. PHYLLITIC QUARTZITE
12. SHALE	26. SHALE
13. OVERBURDEN	27. OVERBURDEN
14. PHYLLITIC QUARTZITE	28. PHYLLITIC QUARTZITE

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& Management Center

ANNEXURE - 1
PLATE : 1

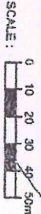


LEGEND	
1. OVERBURDEN	△△△△
2. PAVEMENT	□□□□
3. SHALE	▨▨▨▨
4. MUCK	▩▩▩▩
5. TRACES OF JOINTS	— — — —

NOTE

1. TOPOGRAPHICAL MAP & CROSS SECTIONS OF SLOPE AT CH 08 KM, SUBMITTED BY DESIGN DEPARTMENT WIDE E-MAIL ON 25/07/2024.
2. APPARENT DIP OF DISCONTINUITIES HAVE BEEN PLOTTED. JOINTS SHOWN ARE SCHEMATIC.
3. DEPTH OF OVERBURDEN MAY VARY AS NO SUB-SURFACE EXPLORATION HAS BEEN DONE TO KNOW ROCK-OVERBURDEN/ DEBRIS CONTACT.

JOINT DETAILS		
Joint Set	Dip Amount	Dip Direction
J1	65°	050°
J2	65°	270°
J3	55°	315°
J4	70°	220°



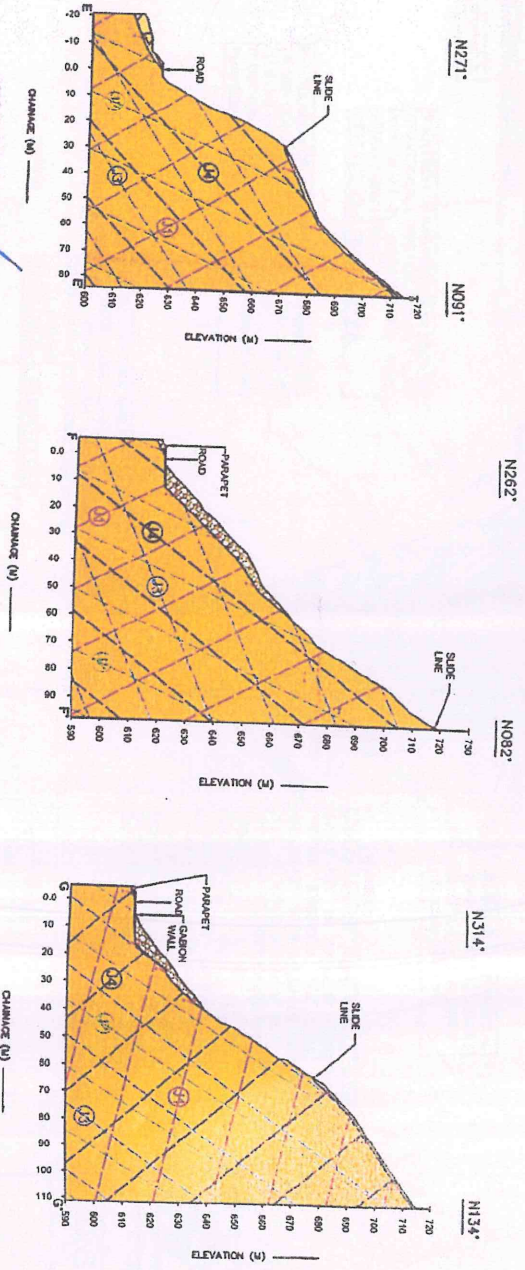
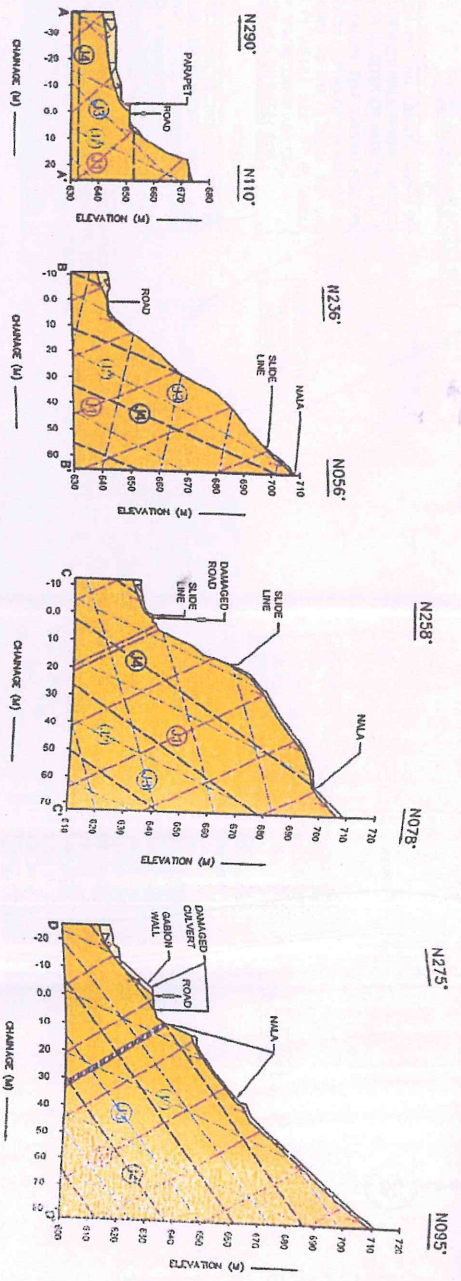
टीएचडीसी इंडिया लिमिटेड
THDC INDIA LIMITED

CONSULTANCY TO NORTH UTTARAKHAND

GEOLOGICAL SECTIONS AT LOCATION: CH 08 KM NAKHENDRA NAGAR - RAJOURKHANI ROAD ON SH-77 UTTARAKHAND.

PREPARED BY:	CHECKED BY:	REVIEWED BY:	APPROVED BY:
TEJAS MEHTA (DESIGNER)	ANURAG KUMAR (DESIGNER)	SC. JYOTI (DESIGNER)	A. K. SINGH (DESIGNER)
DATE: 24/07/2024	DATE: 24/07/2024	DATE: 24/07/2024	DATE: 24/07/2024

UK PWD

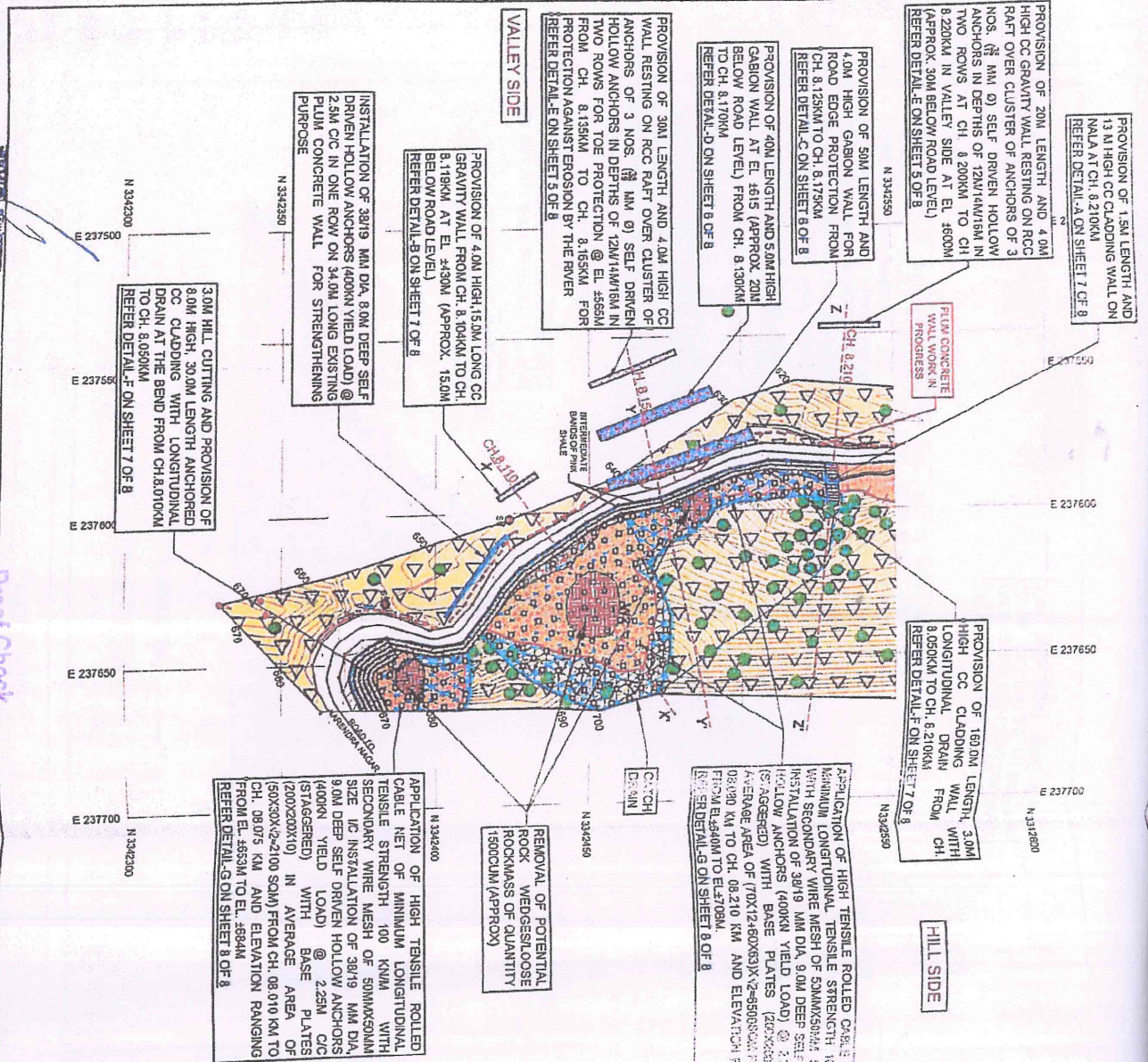


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भारत

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NOTE
1. ALL DIMENSIONS & ELEVATIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

LEGEND	
1. CONTOUR	
2. ROAD	
3. OVERBURDEN	
4. FILL/CLAY QUARTZITE	
5. SHALE	
6. TRUCK	
7. WEATHERING LINE	
8. TREE	
9. SLIDE LINE	
10. R.C.C. WALL	
11. HIGH TENSION POLE	
12. GABION WALL	
13. CULVERT	
14. PERAPET WALL	
15. SIGN BOARD	
16. HIGH TENSION ROLLED CABLE NET	
17. SORA	
18. GABION WALL	
19. CC CLADDING WALL	
20. CC GRAVITY WALL	



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गैरमन
प्रोफ चेक
Uttarakhand Landslide Mitigation 133
& Management Center

<p>PUBLIC WORKS DEPARTMENT GOVERNMENT OF UTTARAKHAND</p>			
<p>PROTECTION/TREATMENT WORKS OF LANDSLIDE ZONE NARENDRA NAGAR TO BANPOKHARI ROAD ON SH-77</p>			
<p>CONSULTANT: टीएचडीसी लिमिटेड THDC INDIA LIMITED</p>			
<p>(KEY PLAN) STABILITY MEASURES LOCATION - CH. 08.00 KM TO CH. 08.20 KM NARENDRA NAGAR - BANPOKHARI ROAD ON SH - 77 UTTARAKHAND.</p>			
DRAWN BY B. SINGH (D. 10/01)	DESIGNED BY K. SINGH (D. 10/01)	CHECKED/SUBMITTED BY A. SINGH (D. 10/01)	APPROVED BY V. SINGH (D. 10/01)
DATE: 10/01/2024		DATE: 10/01/2024	

FOR TENDER PURPOSE ONLY
(SHEET 1 OF 3)
SCALE: 0 10 20 30 40 50m

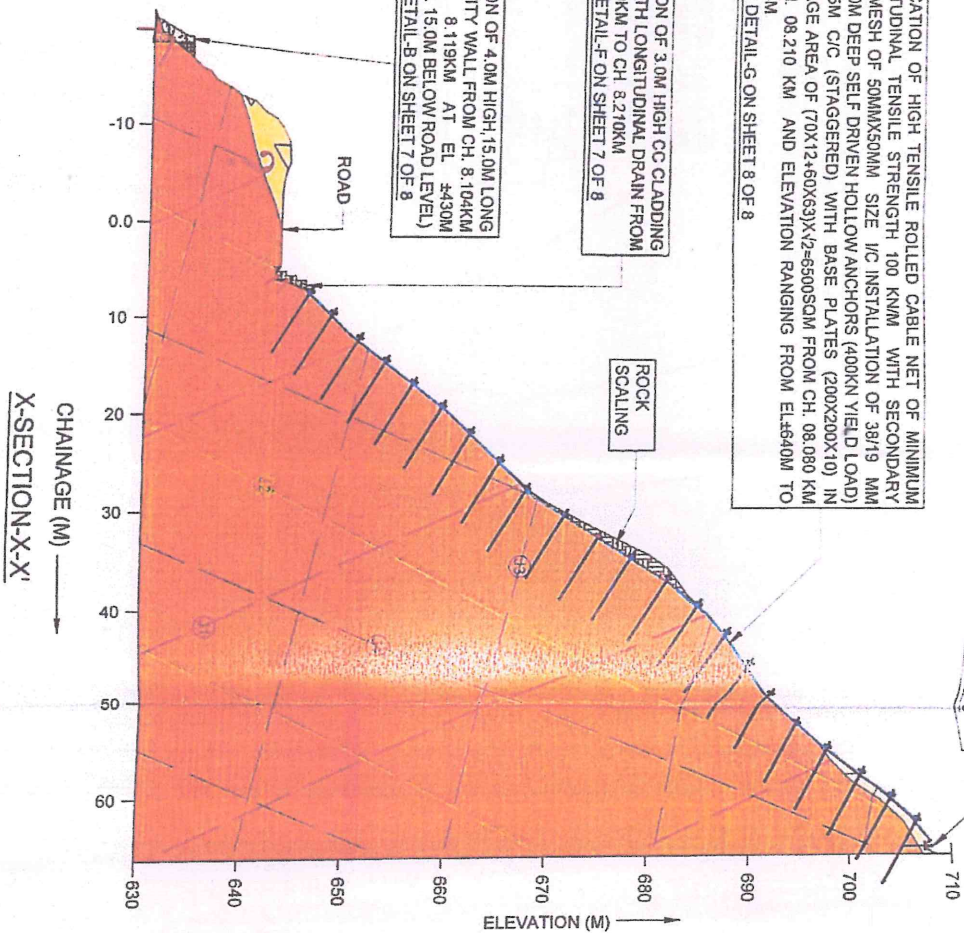
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3.0M DEEP WIRE ROPE ANCHOR @1.5M C/C ON 2.0 M (Minimum) WIDE BENCH WITH CONTOUR DRAIN REFER DETAIL ON SHEET 8 OF 8

APPLICATION OF HIGH TENSILE ROLLED CABLE NET OF MINIMUM LONGITUDINAL TENSILE STRENGTH 100 KNM WITH SECONDARY WIRE MESH OF 50MMX50MM SIZE I/C INSTALLATION OF 38/19 MM DIA, 9.0M DEEP SELF DRIVEN HOLLOW ANCHORS (400KN YIELD LOAD) @ 2.25M C/C (STAGGERED) WITH BASE PLATES (200X200X10) IN AVERAGE AREA OF (70X12+60X63)/2=6500SQM FROM CH. 08.080 KM TO CH. 08.210 KM AND ELEVATION RANGING FROM EL.6940M TO EL.708M REFER DETAIL-G ON SHEET 8 OF 8

PROVISION OF 3.0M HIGH CC CLADDING WALL WITH LONGITUDINAL DRAIN FROM CH. 8.050KM TO CH. 8.210KM REFER DETAIL-F ON SHEET 7 OF 8

PROVISION OF 4.0M HIGH, 15.0M LONG CC GRAVITY WALL FROM CH. 8.104KM TO CH. 8.119KM AT EL. 6430M (APPROX. 15.0M BELOW ROAD LEVEL) REFER DETAIL-B ON SHEET 7 OF 8



LEGEND	
1. OVERBURDEN	
2. PHYLLITIC QUARTZITE	
3. SHALE	
4. MAFIC	
5. TRACES OF JOINTS	
6. HIGH TENSILE ROLLED CABLE NET WITH ANCHORS	
7. CC GRAVITY WALL	
8. CC CLADDING WALL	
9. WIRE ROPE ANCHOR WITH CONTOUR DRAIN	

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Vishnupur-221005
Varanasi-221005

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SHEET 2 OF 3

PUBLIC WORKS DEPARTMENT
GOVERNMENT OF UTTARAKHAND

PROTECTION/TREATMENT WORKS OF LANDSLIDE ZONE
NARENDRA NAGAR TO RANIKHETI ROAD ON SH-77

CONSULTANT:

दीपशिखी इंजीनियरिंग लिमिटेड
HDX INDIA LIMITED

(X-SECTION AT X-X')

STABILITY MEASURES

LOCATION: CH. 8.080 KM TO CH. 8.220 KM

NARENDRA NAGAR - RANIKHETI ROAD ON SH-77 UTTARAKHAND

DESIGNED BY	CHECKED BY	APPROVED BY
30/04/2024	30/04/2024	30/04/2024
30/04/2024	30/04/2024	30/04/2024
30/04/2024	30/04/2024	30/04/2024

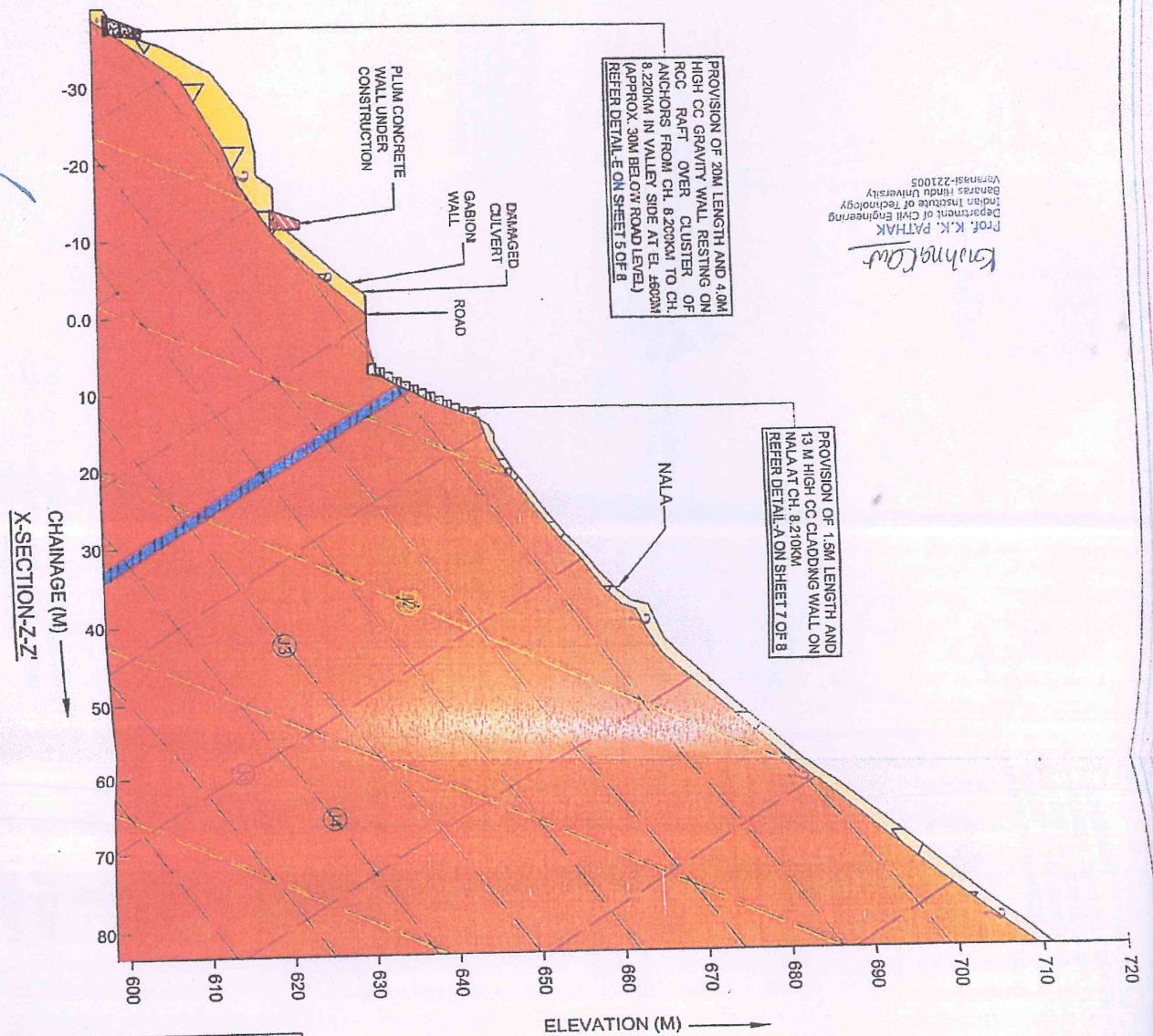
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महेन्द्रगढ़
Uttarakhand Landslide Mitigation
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PROVISION OF 20M LENGTH AND 4.0M HIGH CC GRAVITY WALL RESTING ON RCC RAFT OVER CLUSTER OF ANCHORS FROM CH. 8.200KM TO CH. 8.220KM IN VALLEY SIDE AT EL. 4600M (APPROX. 30M BELOW ROAD LEVEL). REFER DETAIL A ON SHEET 5 OF 8

PROVISION OF 1.5M LENGTH AND 13 M HIGH CC CLADDING WALL ON MALA AT CH. 8.210KM REFER DETAIL A ON SHEET 7 OF 8



LEGEND	
1	OVERBURDEN
2	PHYLLITIC QUARTZITE
3	SHALE
4	MUCK
5	TRACES OF JOINTS
6	CC CLADDING WALL
7	CC GRAVITY WALL

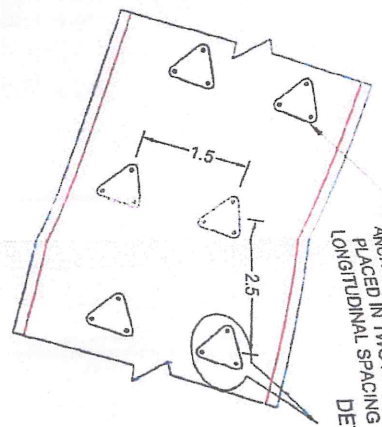
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<p>PUBLIC WORKS DEPARTMENT GOVERNMENT OF UTTARAKHAND</p>			
<p>PROTECTION/TREATMENT WORKS OF LANDSLIDE ZONE NARENDRA NAGAR TO RANPOKHAR ROAD ON SH-77</p>			
<p>CONSULTANT: THDC INDIA LIMITED</p>			
<p>(X SECTION Z-Z) STABILITY MEASURES LOCATION - CH. 08.00 KM TO CH. 08.220 KM NARENDRA NAGAR - RANPOKHAR ROAD ON SH - 77 UTTARAKHAND.</p>			
<p>DRAWN BY REVIEW DATE</p>	<p>DESIGNED BY CHECKED BY DATE</p>	<p>APPROVED BY DATE</p>	<p>SCALE SHEET NO.</p>

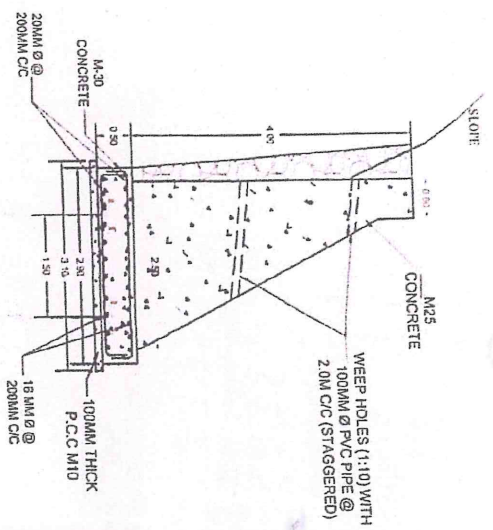
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NOTES.

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. EXCAVATION FOR FOUNDATION SHALL BE DONE IN 6-8M LONG STRETCHES ONLY & REINFORCEMENT SHALL BE COMPLETED BEFORE START OF NEW PATCH.
3. ORDINARY PORTLAND CEMENT CONFORMING TO IS 8112 CAPABLE OF ACHIEVING THE REQUIRED DESIGN CONCRETE STRENGTH SHALL ONLY BE USED.
4. CONCRETE USED SHALL BE OF GRADES AS SPECIFIED BELOW CONFORMING TO IS 456 (LATEST)
 - M25
 - M30
5. RCC RAFT
6. LEVELLING COURSE
 - M10
7. REINFORCEMENT SHALL COMPRISE OF FE 500D GRADE DEFORMED BARS CONFORMING TO IS 1786.
8. PROPERLY BRACED STEEL PLATES SHALL BE USED AS SHUTTERING.
9. SELF DRIVEN HOLLOW SOIL ROCK ANCHORS 38MM (Ø 19MM) HAVING YIELD LOAD OF 400KN SHALL BE USED. LAPS AND ANCHORAGE LENGTH SHALL BE AS PER IS 456 (LATEST).
10. LAPS SHALL BE STAGGERED.
11. FOUNDATION SURFACE UPON WHICH CC WALL IS TO BE PLACED SHALL BE APPROVED BY GEOLOGIST/ENGINEER-IN-CHARGE PRIOR TO START OF WORK.

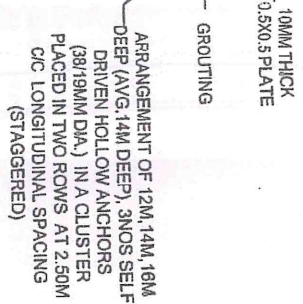


ARRANGEMENT OF 12M, 14M, 16M DEEP (AVG. 14M DEEP), 3NOS SELF DRIVEN HOLLOW ANCHORS (38/19MM DIA.) IN A CLUSTER PLACED IN TWO ROWS AT 2.50M C/C LONGITUDINAL SPACING (STAGGERED)
DETAIL-1



TYPICAL ARRANGEMENT OF CLUSTER OF SELF DRIVEN HOLLOW ROCK ANCHORS PLACED 2.50M C/C (STAGGERED) IN TWO ROWS

ARRANGEMENT OF 12M, 14M, 16M DEEP (AVG. 14M DEEP), 3NOS SELF DRIVEN HOLLOW ANCHORS (38/19MM DIA.) IN A CLUSTER PLACED IN TWO ROWS AT 2.50M C/C LONGITUDINAL SPACING (STAGGERED)



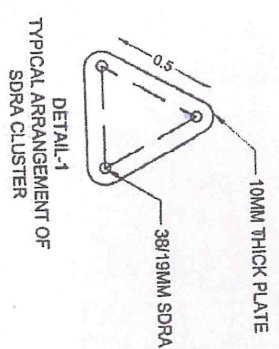
ARRANGEMENT OF 12M, 14M, 16M DEEP (AVG. 14M DEEP), 3NOS SELF DRIVEN HOLLOW ANCHORS (38/19MM DIA.) IN A CLUSTER PLACED IN TWO ROWS AT 2.50M C/C LONGITUDINAL SPACING (STAGGERED)

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(SHEET 5 OF 8)



TYPICAL ARRANGEMENT OF SDRA CLUSTER

SECTIONAL ELEVATION OF SDRA CLUSTER WITH 500X500X10 PLATE

DETAIL-E: TYPICAL DETAILS OF 4.0M HIGH CONCRETE GRAVITY WALL OVER A RAFT ON BUNDLED ANCHORS

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Management Center

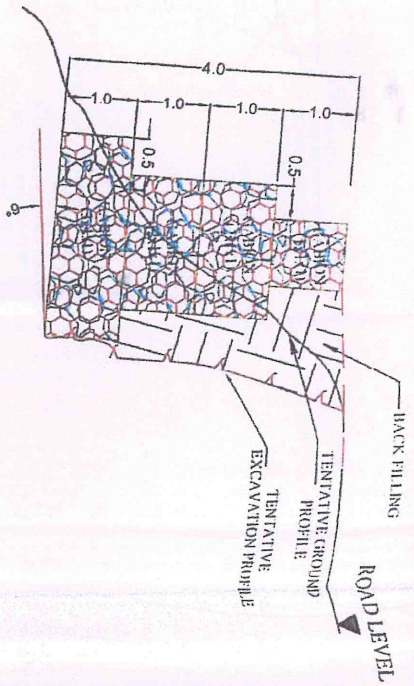
<p>PUBLIC WORKS DEPARTMENT GOVERNMENT OF UTTARAKHAND</p>			
<p>PROTECTION / TREATMENT WORKS OF LANDSLIDE ZONE NARENDRA NAGAR TO RAJMOHAN ROAD ON SH-77 UTTARAKHAND.</p>			
<p>CONSULTANT: THOC INDIA LIMITED</p>			
<p>(DETAIL-3) STABILITY MEASURES NARENDRA NAGAR - RAJMOHAN ROAD ON SH-77 UTTARAKHAND.</p>			
DESIGNED BY	CHECKED & REVISION BY	APPROVED BY	
 NARENDRA NAGAR (DESIGNER)	 NARENDRA NAGAR (CHECKER)	 NARENDRA NAGAR (APPROVER)	 NARENDRA NAGAR (APPROVER)
DATE	DATE	DATE	DATE
10-05-2023	10-05-2023	10-05-2023	10-05-2023

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नियंत्रण

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TYPICAL DETAIL OF 4.0 M HIGH
GABION WALL
DETAIL C



TYPICAL DETAIL OF 5.0 M HIGH
GABION WALL
DETAIL D

INSTALLATION OF 38/19 MM Ø,
8.0M DEEP SELF-DRIVEN
HOLLOW ANCHORS (400KN
YIELD LOAD) @ 2.5M SPACING
(STAGGERED)

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& Management Center

1. ALL DIMENSIONS & ELEVATIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED
2. GABIONS SHALL BE ASSEMBLED CONNECTED TOGETHER AND FILLED AS DESCRIBED HEREIN
3. FOUNDATION SURFACES UPON WHICH GABIONS ARE TO BE PLACED SHALL BE REASONABLY SMOOTH AND EVEN. ANY EXCESSIVE HIGH SPOTS OR PROTRUSIONS SHALL BE REMOVED. GABIONS SHALL BE PLACED FROM A TRENCH AT LEAST 200MM DEEP
4. GABIONS SHALL BE SECURED IN POSITION BY TIEING TO ADJACENT GABIONS. INTERNAL GALVANIZED WIRE TENSION RODS SHALL BE PROVIDED TO REDUCE DISTORTION OF THE CAGES
5. AFTER SEVERAL GABIONS HAVE BEEN PLACED IN POSITION ADJACENT TO ONE ANOTHER AND CHECKED FOR THE ALIGNMENT, THEY SHALL BE SECURELY TIED TOGETHER MANUALLY AT THEIR CORNERS OVER FRAGMENTS AS SPECIFIED PLACED BY HAND WITH CORNERS OVER 300MM. A PLEASANT APPEARANCE BY AND TO WHOLE VIEWS AND ENSURE A PLEASANT APPEARANCE. ALONG THE EXPOSED FACES THE 300MM LEVER, THE FINAL STONE LAYER ALLOWING BY NOT MORE THAN 100MM TO BE VISIBLE. ONCE THE CAGE LID SHALL BE PLACED IN POSITION AND SECURELY TIED ALL ALONG THE PERIMETER OF EDGES OF GABIONS AND DIAPHRAGMS

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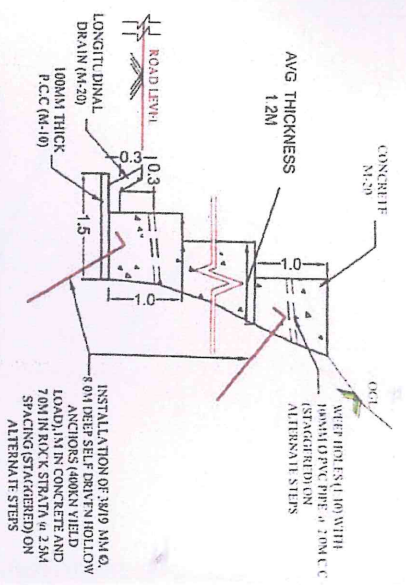
(SHEET 6 OF 8)

PUBLIC WORKS DEPARTMENT
GOVERNMENT OF UTTARAKHAND
PROTECTION / TREATMENT WORKS OF LANDSLIDE ZONE
NARENDRA NAGAR TO RAIPUR ROAD ON SH-77

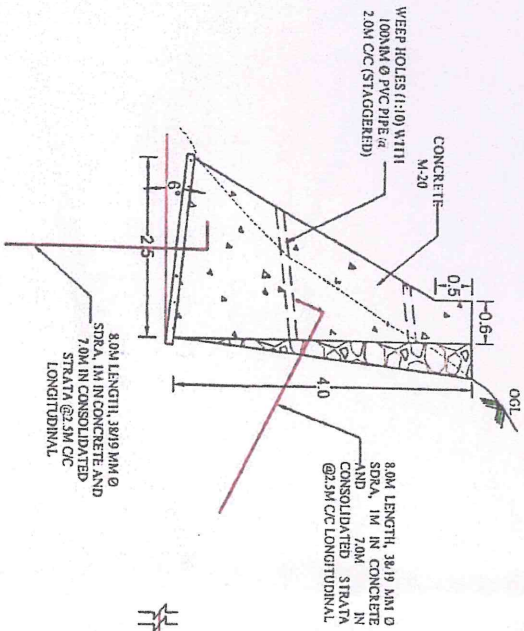
CONSULTANT:
Jharkhand Landslide Mitigation & Management Center
HDC INDIA LIMITED

(DETAIL: C & D) STABILITY VERIFICATION LOCATION: CH. 08.00 KATTOCH 08.20 KM NARENDRA NAGAR - RAIPUR ROAD ON SH-77 UTTARAKHAND			
DESIGNED BY	DESIGNED BY	CHECKED BY	APPROVED BY
DR. K.K. PATHAK	DR. K.K. PATHAK	DR. K.K. PATHAK	DR. K.K. PATHAK
DATE: 10/01/2024	DATE: 10/01/2024	DATE: 10/01/2024	DATE: 10/01/2024
SCALE: 1:50	SCALE: 1:50	SCALE: 1:50	SCALE: 1:50

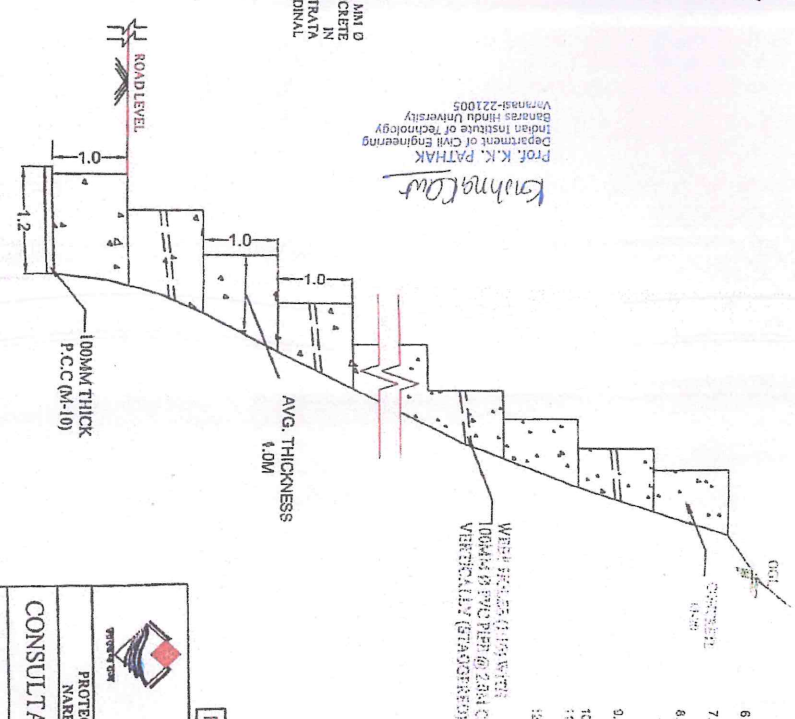
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TYPICAL DETAILS OF 3.0M/8.0M HIGH CC CLADDING WALL
DETAIL-F



TYPICAL DETAILS OF 4.0M HIGH CEMENT CONCRETE GRAVITY WALL
DETAIL-B



TYPICAL DETAILS OF 13M HIGH CC CLADDING WALL
DETAIL-A

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Banarus Hindu University
Varanasi-221005

E.K.
for the Govt.
of Uttarakhand

NOTES:-

1. ALL DIMENSIONS & ELEVATIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED
2. EXCAVATION FOR FOUNDATION SHALL BE DONE IN 0.5M LONG STRIPS ONLY & TREATMENT SHALL BE COMPLETED BEFORE START OF NEW WORK
3. HIGH STRENGTH ORIENTED STEEL RIBS SHALL BE USED CONFORMING TO IS : 1112 CONFINED OF ACHIEVING THE REQUIRED DESIGN CONCRETE STRENGTH SHALL ONLY BE USED
4. THE MINIMUM CEMENT CONCRETE AND WATER CEMENT RATIO IN THE CONCRETE SHALL BE 1:1.5 & 0.45 RESPECTIVELY
5. CONCRETE USED SHALL BE OF GRADES AS SPECIFIED BELOW CONFORMING TO IS : 456
6. CC CLADDING
7. REINFORCEMENT SHALL COMPOSE OF FE 250D GRADE DEFORMED BARS COMPARTMENTS TO BE 175
8. PROPERLY BRACED STEEL PLATES SHALL BE USED AS SHUTTERING
9. SELF DRIVEN HOLLOW SOLE ROCK ANCHORS 30MM (Ø) 100MM (L) HAVING FIELD LOAD OF 40KN SHALL BE INSERTED TO MAX. 8M DEEP IN INTO COMPATIBLE ROCK MASS
10. LAPS AND ANCHORAGE LENGTH SHALL BE AS PER IS 456 (PART 1)
11. CONCRETE SURFACE SHOULD BE ROUGHED AND CLEAN BEFORE POURING THE CONCRETE/FRESH CONCRETE
12. FOUNDATION SURFACE UPON WHICH CC CLADDING IS TO BE PLACED SHALL BE APPROVED BY GEOLOGIST/ENGINEER-IN-CHARGE PRIOR TO START OF WORK

FOR TENDER PURPOSE ONLY (SHEET 7 OF 8)



PUBLIC WORKS DEPARTMENT
GOVERNMENT OF UTTARAKHAND

PROTECTION/TREATMENT WORKS OF LANDSLIDE ZONE
NARENDRA NAGAR TO RANPOKHARI ROAD ON SH-77 UTTARAKHAND

CONSULTANT:

टीयसीसी इंजिनियरिंग लिमिटेड
THDC INDIA LIMITED

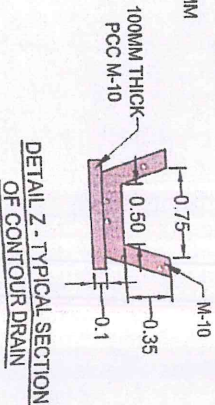
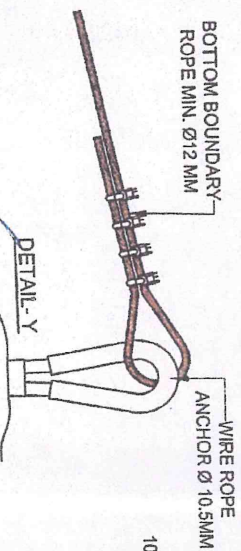
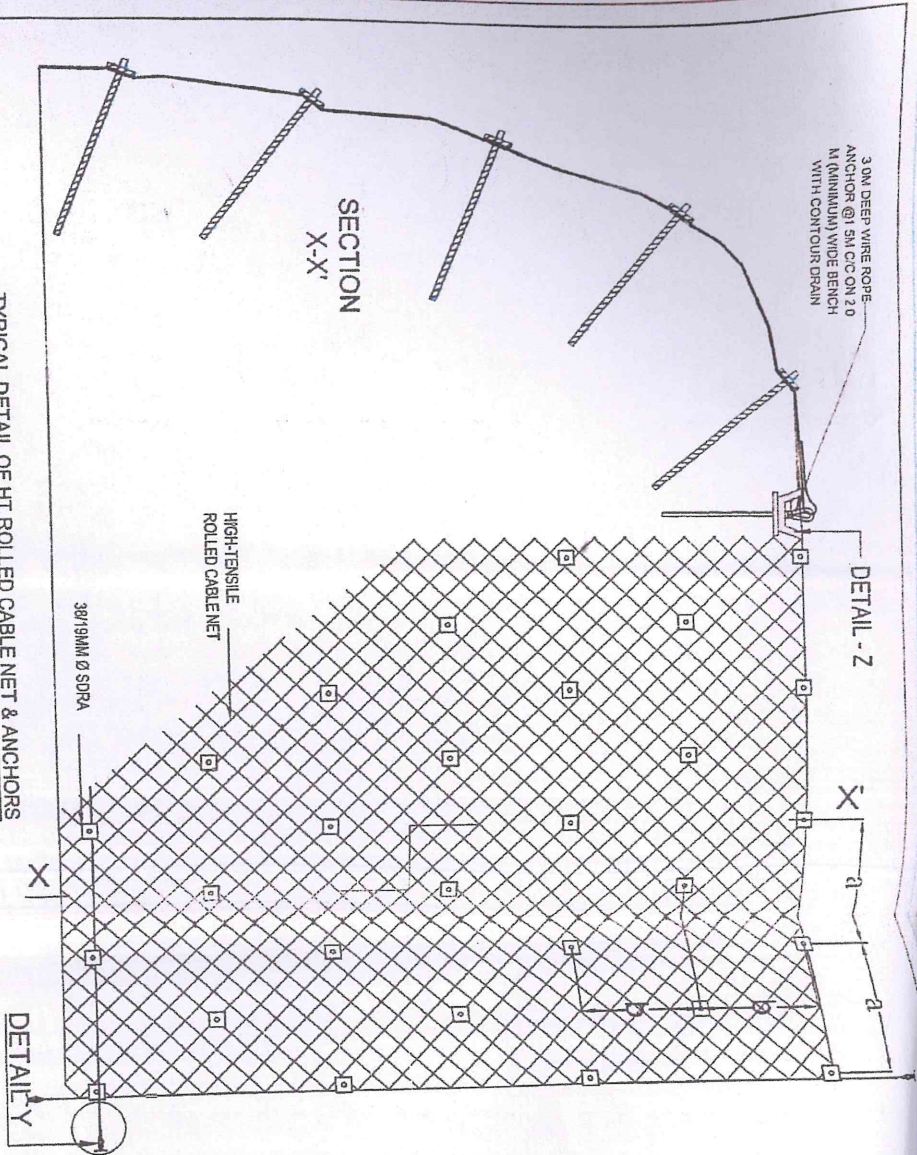
(DETAILS A, B & F)

STABILITY MEASURES

LOCATION - CH. 08.00 KM TO CH. 08.20 KM
NARENDRA NAGAR - RANPOKHARI ROAD ON SH-77 UTTARAKHAND

DESIGNED BY	CHECKED/SUPERINTENDED BY	APPROVED BY
30/04/2023	30/04/2023	30/04/2023
30/04/2023	30/04/2023	30/04/2023
30/04/2023	30/04/2023	30/04/2023

IND. NO. THDC/INDIA/2023/01/01/100 TO 123/2023/01/01/100



TYPICAL DETAIL OF HT ROLLED CABLE NET & ANCHORS

Proof Check

Uttarakhand Landslide Mitigation & Management Center

THDCIL

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मंत्रालय

1. THE GENERAL REQUIREMENTS OF THE SYSTEM SHALL BE AS BELOW, HOWEVER, MENTIONED BELOW ARE THE MINIMUM VALUES.
2. THE HIGH-TENSILE ROLLED CABLE NETS SHOULD INCLUDE THE SECONDARY MESH.
3. FOR THE INSTALLATION OF HIGH-TENSILE ROLLED CABLE NETS STANDARD SUPPORT ROPES, SEAMING ROPES AND SHACKLES SHOULD BE USED. FOR THE HORIZONTAL CONNECTION STANDARD SHACKLES OR LACES SHALL BE USED.
4. DESIGN SPECIFICATION OF SYSTEM
 - a. TENSILE STRENGTH OF HT ROLLED CABLE NET - 100 KN/M
 - b. PUNCTURING RESISTANCE OF HT ROLLED CABLE NET - 200 KN
 - c. APERTURE NOT MORE THAN 300 MM IN ONE DIRECTION
 - d. DIA OF CABLE OF HT ROLLED CABLE NET - 8 MM
 - e. BREAKING LOAD OF CABLE OF HT ROLLED CABLE NET - 40.7 KN
 - f. TENSILE STRENGTH OF WIRE OF THE CABLE - 1770 N/50 MM
 - g. COMPOUND FOR CORROSION PROTECTION - 35% ZN AND 5% AL CLASS B OR ZINC COATING CLASS A AS PER IS/ISO-17746-2016.
 - h. AVERAGE LENGTH OF THE 38/19MM DIA. 40 CR SDRA - 9.0 M/8.7M GROUTED + 0.3M ABOVE SLOPE SURFACE
 - i. DRILL BIT SIZE - 76 MM
 - j. GRID PATTERN - STAGGERED
 - k. SPACING OF ANCHORS, I.e. (P) = 2.25M (AVG) (DEPENDENT ON THE SLOPE ANGLE PROFILE, STRATA AT SITE)
 - l. SIZE OF BASE PLATE - 200MM X 200MM X 10MM (MINIMUM)
 - m. GROUTING MATERIAL - CEMENT GROUT
 - n. SIZE OF SECONDARY MESH - 50MM X 50MM, COMPRISING OF 2.7MM DIA GI WIRE
 - o. YIELD STRENGTH OF SECONDARY MESH - 400-550 N/MM² AND CORROSION PROTECTION ZINC COATING OF 240 G/M²

FOR TENDER PURPOSE ONLY (SHEET 3 OF 3)

<p>PUBLIC WORKS DEPARTMENT GOVERNMENT OF UTTARAKHAND</p>			
<p>PROTECTION / TREATMENT WORKS OF LANDSLIDE ZONE NARENDRA NAGAR TO RANPOKHAL ROAD ON SH-77</p>			
<p>CONSULTANT: HRC INDIA LIMITED</p>			
<p>(DETAIL: J) STABILITY MEASURES LOCATION - CH. 1600 KAY TO CH. 0220 KM NARENDRA NAGAR - RANPOKHAL ROAD ON SH-77, UTTARAKHAND</p>			
DESIGNED BY	CHECKED/REVIEWED BY	APPROVED BY	DATE
DRANK BY	DATE	DATE	DATE
DATE	DATE	DATE	DATE

UK PWD