

QRs/ TDs OF ARTIFICIAL CLIMBING WALL - Revision

Technical Specification (4 Face Wall)

General:-

The construction/setting up of a Four face Artificial Climbing Wall will assist Forces to train the personnel of CAPF in basic, intermediate and advance training in wall climbing, slithering and rappelling etc.

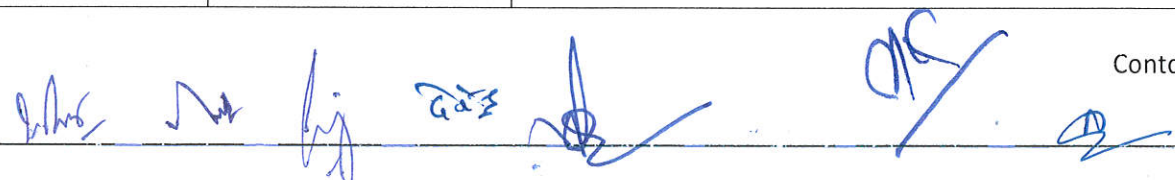
1. As part of construction/setting up of Artificial Climbing Wall, the vendor will submit the following during technical evaluation :-
 - (a) Samples of various constructing materials of Artificial Climbing Wall alongwith their respective OEM certificates.
 - (b) 3D conceptual design drawing and presentation of the proposed structure. Also previously vetted drawings in respect of similar construction done by the bidder will be checked in order to assess the capability.
 - (c) Documentary proof regarding having experience/competency to execute the construction of Artificial Climbing Wall.
2. **Trial/Demonstration (Optional) :-** The vendor may mention the details of any already existing facility with similar specifications for the BOOs to visit and ascertain capability of the vendor.
3. After award of contract the vendor will submit structural, working, and architectural drawings of the proposed structure, duly vetted by Indian Institute of Technology (IIT) / National Institute of Technology (NIT) or an equivalent government institute before the BOOs.

S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
FACE-1 (Tactical Climbing Wall)			
1.	Vertical height of wall	15 Mtr.	This procurement is of "works" nature. (A) At the STEC stage, the BOOs may:- i. Check the 3D conceptual design drawing and 3D presentation of the proposed structure. Previously vetted drawings in respect of similar construction done by the bidder to be checked in order to assess the capability. ii. Obtain an undertaking along with relevant documents and certificates from the participating bidder, stating that all required norms prescribed by International Federation of Sports Climbing (IFSC)/Indian Mountaineering Foundation (IMF) have been incorporated into the proposed design of the structure. iii. Visit the existing facilities of bidders and examine their features, specifications, and drawings to ascertain the competency of the participating bidder (Optional). (B) After award of contract stage:- i. The vendor will submit structural, working, and architectural drawings in respect of conceptual design submitted by him during STEC stage. The drawings should be vetted by Indian Institute of Technology (IIT), National Institute of Technology (NIT), or an equivalent government institute. ii. The detailed BOOs will ensure that all the construction material bought by the vendor is in accordance with the specifications mentioned in the contract. (C) At JRI/CRAC/Handing taking over stage:- The detailed BOOs will physically check and measure all the specifications/ parameters, quantities of items utilised as per the contract.
2.	Width of faces	6.0 Meter	
3.	Number of face of wall	1 Face 6.0 Meter wide with Lead Climbing Panels	
4.	Total climbing surface	Single face minimum 100 Sq. meter including side cover panels	

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(Handwritten signatures and marks are present below the table)

S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
5.	Usage	Multipurpose training (beginners, as well as intermediate/advance level climbers)	The BOOs will obtain an undertaking during STEC from the vendor that, parameters mentioned in the QR will be complied with.
6.	Number of climbers	At least 3 climbers simultaneously per face	
7.	Support Structure	Self-Standing M.S. Structure as per IS:800	<p>(A) During STEC stage :-</p> <p>i. The bidder will submit the conceptual 3D design and presentation of proposed MS support structure.</p> <p>ii. The vendor will produce sample (1 Kg or 1 meter length) along with its specifications (Make, grade etc) of each structural component to be used in the proposed structure.</p> <p>iii. Obtain an undertaking from the participating vendor stating that, all steel structure work will be executed according to the specifications mentioned in CPWD Specifications Manual-2019 Vol.1 and II and IS:800-2007 Code.</p> <p>(B) After award of contract stage:- The vendor will submit structural and working drawings in respect of conceptual design of MS support structure submitted by him during STEC stage. The drawings should be vetted by Indian Institute of Technology (IIT), National Institute of Technology (NIT), or an equivalent government institute.</p> <p>(C) At JRI/CRAC/Handing taking over stage:- The detailed BOOs will physically check all the joints, workmanship and measure quantities of steel related items of structure as per the contract.</p>
8.	Surface	Climbing surface of wall EN:12572-2017 certified 3D and 2D polyester resin panel having SAND FINISH on outer face minimum 10 mm thick on flanges and 6mm in the center thickness with provision of fixing external movable holds @ min.4 Nos./Sq. Mtr meant for outdoor use to take loading and reaction force as per Climbing Standard.	<p>During STEC stage:-</p> <p>a. The vendor will produce the sample (1 x 1 feet) along with its EN certificate of wall panel offered product before the BOOs .</p> <p>b. The BOOs will obtain an undertaking from the participating vendor stating that, the wall panel using for proposed structure is in accordance with the parameters mentioned in QRs.</p> <p>c. The BOOs will also check the EN Certificate of the panels submitted by the vendor is in order.</p>



S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
9.	Safety Top Rope Anchor	4 Nos. Fixed Top per face. Anchors security system EN:12572-2017 Certified	During STEC stage:- i. The BOOs will carry out physical check as well as functional test of mentioned parameters of these items i.e. Safety rope anchor, holds, bolts & nuts, lead protection/ anchors loading in an existing facility of the Vendor. Or ii. The vendor will produce one each of these sample items before the BOOs during trial. iii. BOOs will also check the OEM Certificate Submitted by the vender for EN:12572-2017 certification
10.	TUV/UIAA/UL/ EN: 12572-2017 Certified Holds with certificatory	250 Nos. TUV/ UIAA/UL/ EN:12572-2017 Certified Holds.	
11.	Bolts and Nuts	Hot dip galvanized or Zinc plated TUV/UIAA/UL/ IS code certified.	
12.	Lead protection/ anchors loading	Individual Protection Point (IPP) to take loading as per EN 12572-2017.	
13.	Foundation	2.0 Meter depth RCC as per IS 456 :2000. May vary as per soil condition /site condition.	(A) During STEC stage:- i. The Board of Officer will check the Undertaking submitted by the vendor for construction certifying that prescribed construction norms as per the site conditions of the location as well as applicable loads by the structure will be followed. ii. Construction of foundation should be as per specifications mentioned in CPWD Specification Manual-2019 Vol.1 & II and IS 456:2000. Equivalent. (B) After award of contract:- The vendor will submit structural and working drawing of foundation and the same should be vetted by IIT/NIT or an equivalent government institute.
S/ No	Specification	Qualitative Requirement (QR)	Trial Directives

FACE-2 (IFSC Standard Speed Climbing Wall)

1	Vertical height of wall face wise specifications	15 Meter .	Same as trial procedures mentioned against Sl.No.1 to 4 of Face-1 (Tactical Climbing Wall) above.
2.	Width of faces	6 meters	
3.	Number of face of wall	1 Face 6.0 meter wide	
4.	Total Climbing surface	93.0 Sq. meter	

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S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
5.	Usage	Multipurpose training (beginners, as well as intermediate/ advance level climbers)	Same as trial procedures mentioned against Sl. No.5 and 6 of Face-1 (Tactical Climbing Wall) above.
6.	Number of climbers	2 Climbers simultaneously.	
7.	Support Structure	Self-Standing M.S. Structure as per IS:800	Same as trial procedures mentioned against Sl. No.7 of Face-1 (Tactical Climbing Wall) above.
8.	Surface	Climbing surface of wall EN: 12572-2017 certified 2D FRP (fiber reinforced plastic) panels with top and bottom layer of chopped and woven roving fiber glass and resin and a polyvinyl chloride core and shape with minimum 18mm thickness. Panels shall have provision of insert holes @ minimum 110 no's per panels for fixing holds The panels should be able to withstand climbers weight, weather proof for outdoor use and meet norms as per EN12572:2017 STANDARDS.	Same as trial procedures mentioned against Sl. No.8 of Face-1 (Tactical Climbing Wall) above.
9.	Safety Top Rope Anchor	2 Nos. Fixed Top Anchors security system EN: 12572-2017 Certified	Same as trial procedures mentioned against Sl. No.9 to 12 of Face-1 (Tactical Climbing Wall) above.
10.	Speed Holds	IFSC certified speed Climbing Holds. 40 Nos. Hand Holds 22 Nos. Foot Holds TUV/ UIAA/ UL / EN: 12572-2017 Certified Holds.	
11.	Bolts and Nuts	Hot dip galvanized or Zinc plated . TUV/UIAA/UL/IS Code Certified	
12.	Lead protection/ anchors loading	Individual Protection Point (IPP) to take loading as per EN 12572-2017	
13.	Foundation	2.0 Meter depth RCC as per IS 456 :2000. May vary as per soil condition /site condition.	Same as trial procedures mentioned against Sl.No.13 of Face-1 (Tactical Climbing Wall) above.

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S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
<u>FACE-3 (Rappelling Climbing Wall)</u>			
1.	Vertical height of wall face wise specifications	15 Meter.	Same as trial procedures mentioned against Sl.No.1 to 4 of Face-1(Tactical Climbing Wall) above.
2.	Width of faces	3 meters	
3.	Number of face of wall	1 Face 3.0 meter wide	
4.	Total Climbing surface	Minimum 50.0 Sq. Meter including side cover Panels	
5.	Usage	Multipurpose training (beginners, as well as intermediate/advance level climbers).	Same as trial procedures mentioned against Sl. No.5 and 6 of Face-1 (Tactical Climbing Wall) above.
6.	Number of climbers	1 Climber.	
7.	Support Structure	Self-Standing M.S. Structure as per IS:800	Same as trial procedures mentioned against Sl. No.7 of Face-1 (Tactical Climbing Wall) above.
8.	Surface	Climbing surface of wall EN:12572-2017 certified 3D and 2D polyester resin panel having SAND FINISH on outer face minimum 10mm thick on flanges and 6mm in the center thickness with provision of fixing external movable holds @ min.4 Nos./ Sq.Mtr meant for outdoor use to take loading and reaction force as per Climbing Standard.	Same as trial procedures mentioned against Sl. No.8 of Face-1 (Tactical Climbing Wall) above.
9.	Safety Top Rope Anchor	1 Nos. Fixed Top Anchors security system EN: 12572-2017 Certified	Same as trial procedures mentioned against Sl. No.9 to 11 of Face-1 (Tactical Climbing Wall) above.
10.	Bolts and Nuts	Hot dip galvanized or Zinc plated. TUV/UIAA/UL/ IS Code Certified	
11.	Lead protection/ anchors loading	Individual Protection Point (IPP) to take loading as per EN 12572-2017	
12	Foundation	2.0 Meter depth RCC as per IS 456 :2000. May vary as per soil condition /site condition.	Same as trial procedures mentioned against Sl. No.13 of Face-1 (Tactical Climbing Wall) above.

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S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
FACE-4 (Lead Climbing Wall)			
1.	Vertical height of wall	15 Meter	Same as trial procedures mentioned against Sl. No.1 to 4 of Face-1 (Tactical Climbing Wall) above.
2.	Width of faces	3.0 Meter	
3.	Number of face of wall	1 Face 3.0 Meter wide with Lead Climbing Panels	
4.	Total climbing surface	Minimum 50.0 Sq. meter including side cover Panels	
5.	Usage	Multipurpose training (beginners, as well as intermediate/advance level climbers)	Same as trial procedures mentioned against Sl. No.5 and 6 of Face-1 (Tactical Climbing Wall) above.
6.	Number of climbers Support	At 1 climber simultaneously per face	
7.	Structure	Self-Standing M.S. Structure as per IS:800	Same as trial procedures mentioned against Sl. No.7 of Face-1 (Tactical Climbing Wall) above.
8.	Surface	Climbing surface of wall EN:12572-2017 certified 2D polyester resin panel having SAND FINISH on outer face minimum 10mm thick on flanges and 6mm in the centre thickness with provision of fixing external movable holds @ min.4 Nos./Sq.Mtr meant for outdoor use to take loading and reaction force as per Climbing Standard.	Same as trial procedures mentioned against Sl. No.8 of Face-1 (Tactical Climbing Wall) above.
9.	Safety Top Rope Anchor	2 Nos. Fixed Top per face. Anchors security system EN:12572-2017 Certified	Same as trial procedures mentioned against Sl. No.9 to 12 of Face-1 (Tactical Climbing Wall) above.
10	TUV/UIAA/UL/ EN:12572-2017 Certified Holds with certificatory	125 No.s. TUV/ UIAA/ UL/ EN:12572-2017 Certified Holds.	
11	Bolts and Nuts	Hot dip galvanized or Zinc plated. TUV/UIAA/UL/ IS Code Certified	
12	Lead protection/ anchors loading	Individual Protection Point (IPP) to take loading as per EN 12572-2017.	
13	Foundation	2.0 Meter depth RCC as per IS 456:2000. May vary as per soil condition /site condition.	
			As per trial procedures mentioned against "Foundation" of Face-1 (Tactical Climbing Wall) above.

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S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
Miscellaneous			
14	<p>List of Equipment/Accessories :-</p> <p>Prospective bidder should provide and fix:</p> <p>(a) SS Belay anchor point – 8 nos. (b) Climbing holds (Imported) – 250 nos. (with nut-bolt) (c) Speed climbing holds (20 Hand Holds + 11 Feet Holds) – 2 set (d) Dynamic climbing rope of 10.1 mm – 400 meter. (e) Sports climbing seat harness – 15 nos. (f) D-shaped screw carabineer – 25 nos. (g) Steel Quick Draw – 30 Nos. (h) Belay device – 10 nos. (i) GRIGRI – 4 nos. (j) Mittens – 20 Pair (k) Allen Keys – 5 Nos. (l) Auto belay system - 02 pair (m) Timing Device - 01 pair</p> <p>Note: The above equipment/accessories must be CE, EN/UIAA/ UL/ IFSC certified. Any additional tools/ accessories required for the project may be quoted by the vendor.</p>		<p>1. The BOOs will carry out physical check of these items in an existing facility of the Vendor during trial.</p> <p style="text-align: center;">Or</p> <p>The Vendor will produce one each of these sample items before the BOOs during trial.</p> <p>2. The BOOs will also check the product certification i.e. EN/UIAA/ IFSC etc. during STEC period.</p>
15	<p>Design & performance Criteria:-</p>	<p>Walls shall withstand the effects of gravity loads, wind loads (130 km/hr wind load) and live loads determined according to ASCE/SE17. (NIT/IIT Vetted)</p> <p>Walls shall withstand the effects of earthquake motions as per ASCE/SE 17. (NIT/ IIT vetted)</p> <p>Walls to allow for thermal movements from ambient and surface temperature changes for temperature change of 40 deg. C to 100 deg. C, material surfaces.</p>	<p>(A) During STEC stage :-</p> <p>i. The bidder will submit the conceptual 3D design and presentation of proposed structure.</p> <p>ii. The vendor will also submit an undertaking stating that, all the civil work will be executed according to the specifications mentioned in CPWD Specifications Manual-2019 Vol.1 and II and relevant IS</p> <p>iii. The vendor/firm will submit OEM certificate with regard to performance of surface material and allied accessories as per QRs.</p> <p>(B) After award of contract:-</p> <p>1. The Vendor will submit the structural drawing of the proposed structure and it should be vetted by the concerned structural Engineering Department of Govt. Institute like NIT/IIT or equivalent.</p> <p>2. The drawings should contains shape/size/weight of structural members of structure.</p>

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S/ No	Specification	Qualitative Requirement (QR)	Trial Directives
16	Training & risk management	Manufacturers shall have a minimum of 03 years of experience working in the design and manufacturing of climbing wall.	Past performance/experience certificate to be produced before the board of officers in conformity of experience.
		The manufacturer shall provide risk management procedures in the form of a procedures manual designed specifically for the facility.	The vendor/ firm will produce manual as required.
		The manufacturer shall provide onsite training for the Owner's personnel on risk management operations and maintenance.	The vendor/firm will arrange training of 20 Master trainers for 2 weeks. 8 Hours per day. An undertaking in this regard will provide the vendor during STEC.
		All training shall be managed by personnel holding certifications from Climbing Wall association (CWA)/ IMF	The vendor will submit an undertaking in this regard before the BOOs during STEC.
17	Shed	Platform for Artificial Climbing Wall (04 Face) should have the provision of a Shed.	During post construction, the detailed BOOs will physically check and measure all the specifications/ parameters, quantities of items utilised as per the contract.
18	Service Life	The service Life of the Product shall be minimum 25 Years.	The BOOs should obtain an Undertaking Certificate in this regard from the Vendor during STEC.
19	Warranty	Warranty period of the product shall be 03 years from the date of completion of installation, commissioning & testing of goods at consignee location.	The OEM warranty /undertaking Certificate should be submitted by the Vendor during JRI
20	Post installation warranty and maintenance	Post installation comprehensive warranty of at least 05 years. However, CMC/AMC to be decided by the user Department.	Firm to provide undertaking for the following before the BOOs during STEC:- i. Uninterrupted product support for minimum 10 years. ii. Maximum time to repair shall not exceed 15 days from the date of intimation by any communication means to make the product functional during the guarantee period.



21. Landing Area around the climbing structure

S/No	Items	Dimensions
1	Height of perimeter wall	2 ft 4 inch
2	Length	21.8 Mtr
3	Breadth	21.8 Mtr

Gymnastic Landing Mats optional for additional safety to avoid injuries.


Photographs attached are symbolic and may vary with the customization/ requirements of individual organization.

Note :-

Different configurations have been worked out keeping in view the general requirements. However, the artificial climbing wall may be customized i.e. **different height, width, type and number of faces**, depending on following:-

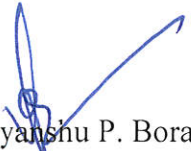
- 1) Organizational specific combat requirements.
- 2) Institutions training capacity and requirements.
- 3) Infrastructure for training to participate in Wall climbing competitions.



V.K. Singh, DIG
CRPF Member


Anil Kumar Lal, 2-I/C
Member (BSF)

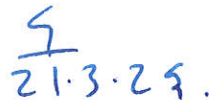

Amit J, DC
Member (CISF)



Devender Singh, DC
Member(SSB)



Capt. Priyanshu P. Borah
Member (NSG)


Dhani Ram, AC
Member (ITBP)

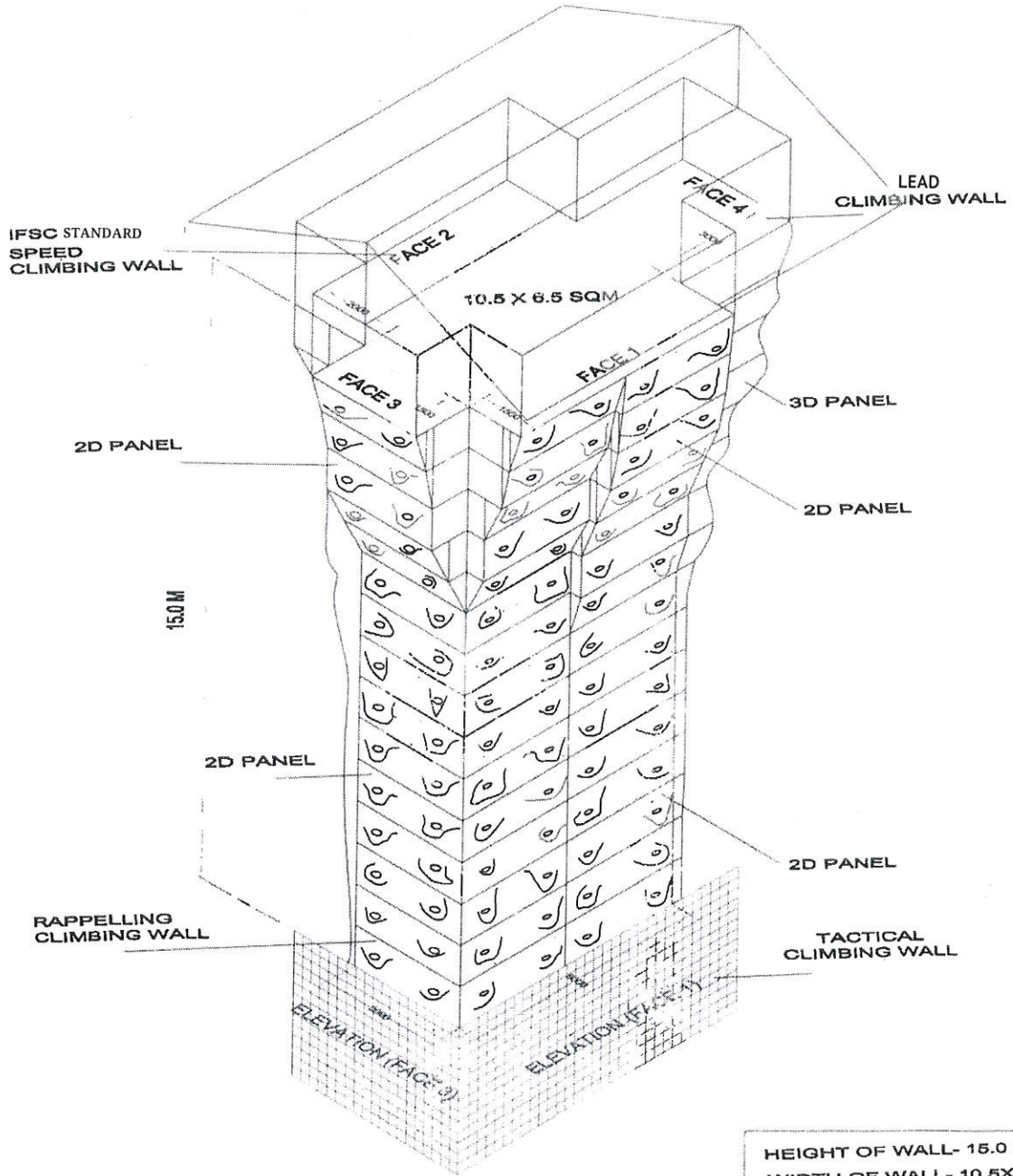

Nitin Khandelwal, AC(Engr)
Co-opted Member, CRPF


21.3.23.
Deepak Kumar, IPS
ADG(Trg), Dte, CRPF
(Chairman/P.O)


Approved / NOT approved


G. P. Singh, IPS
DG, CRPF

**SCHEMATIC DIAGRAM OF
ARTIFICIAL ROCK CLIMBING WALL**



HEIGHT OF WALL- 15.0 M
 WIDTH OF WALL- 10.5X6.5
 SQM ON TOP
 WIDTH OF WALL- 6.0X3.0
 SQM ON BOTTOM
 DEPTH OF BASE- 2.0 M

CK
 V.K. Singh, DIG
 CRPF Member

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 Anant J. DC
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DS
 Devender Singh, DC
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 Dhani Rani, AC
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 Nitin Khazdelwal, AC(Engr)
 Co-opted Member, CRPF

S
 21-3-25
 Deepak Kumar, IPS
 ADG(Trg), Dte, CRPF
 (Chairman P.O)

