| | HIMACHAL PRA | DESH POWER TRANSMISSION CORPORATION LIMITED | | |
|------------|-----------------------------|---|---|--|
| | (A State Govt. undertaking) | | | |
| HPPTCI | Corporate office | : Himfed Bhawan, Panjari, Shimla-171005(H.P.) | | |
| | Number (CIN) | : U40101HP2008SGC030950 | | |
| | GST No. | : 02AACCH1548M1ZP | | |
| in rick | Website address | : www.hpptcl.com | | |
| NI INT | Telephone/Fax | : 0177-2831283, 2831284 | | |
| No. HPPTCL | | | - | |

No. HPPTCL/PIU-Kala-Amb/FCA-AKTL/2022-23 1224

Dated: - 14/02/2023

Certificate Regarding Muck Management Plan

The towers are located in Hilly Terrain. The tower foundation and its related revetment works are planned based on the topographical and techno-economical requirements so that minimum cutting/excavation & revetment works are required and cutting/excavated quantity of earth are fully utilized within the tower bench.

In the case of "Construction of 132 kV MCT line on 220 kV towers from 220/132/33 kV Substation Andheri to tower no. 20/21 of existing 132 kV Jamta-Kalaamb transmission line", the quantity of the cutting/excavated & filling is worked out as per the design drawings and site-specific requirements wherein total 176.35 cum (or 4.3 cum per Tower) (which is only 0.75 % of the total excavated quantity) becomes surplus after filling. (Details enclosed at **Annex-'A'**)

It is further mentioned that the geological strata of the site are generally comprises of soil and boulders of different sizes. Generally excavated material contains 20-40% of usable boulders/stones which are used for revetment work. After excavation, the boulder extracted from the site are stacked and used for the construction of revetments works. So in the instant case, 7064 cum (or 30%) excavated earth shall be in the shape of usable stone which would be used for revetment work. As such the estimated surplus earth shall be fully consumed within the tower site.

However, even if any minor earth material becomes surplus same is used and spread on the overall tower bench as a levelling course with proper compaction.

Senio PIU Kala-Amb, HPPTCL. Distt. Sirmaur (HP)

| Nam | e of Work | Construction of 132 kV MCT line from 220/1 | 32/33 kV HPPTCL Sub-stati | on Andheri at Kala Am |
|------|--------------|--|---------------------------|-----------------------|
| | | T-20-21 of existing 132 kV Jamta - Kalaamb | TL in Distt. Sirmaur (HP) | |
| | | Tower wise detail of Earth Cutt | ing and Filling | |
| . No | Tower Detail | Description | Cutting (Cum) | Filling (Cum) |
| | | Bench cutting/ filling + Breast wall cutting | 270.82 | 37.8 |
| 1 | | Excavation of tower foundation | 474.21 | |
| | T-1 | Backfilling behind retaining walls | | 181.94 |
| | | Filling of tower pits after concreting. | | 396 |
| | | Sub total-1 | 745.03 | 615.735 |
| | | Bench cutting/ filling + Breast wall cutting | 16.56 | 53.38 |
| | | Excavation of tower foundation | 474.21 | 55.56 |
| 2 | T-2 | Backfilling behind retaining walls | 474.21 | 124.01 |
| | . – | Filling of tower pits after concreting. | | 134.91 396 |
| | | Sub total-2 | 490.77 | |
| | | Bench cutting/ filling + Breast wall cutting | | 584.29 |
| | | Excavation of tower foundation | 52.47 | 44.84 |
| 3 | Т-3 | Backfilling behind retaining walls | 474.21 | 460 50 |
| 5 | 1-5 | Filling of tower pits after concreting. | | 160.59 |
| | | Sub total-3 | 526.68 | <u> </u> |
| | | Bench cutting/ filling + Breast wall cutting | | |
| | | Excavation of tower foundation | 54.135 474.21 | 30.24 |
| 4 | T-4 | Backfilling behind retaining walls | 474.21 | 182.18 |
| - | | Filling of tower pits after concreting. | | 396 |
| | 4 | Sub total-4 | 528.345 | 608.418 |
| | | Bench cutting/ filling + Breast wall cutting | 32.472 | 20.16 |
| | | Excavation of tower foundation | 474.21 | 20.10 |
| 5 | T-5 | Backfilling behind retaining walls | | 266.13 |
| | | Filling of tower pits after concreting. | | 396 |
| | | Sub total-5 | 506.682 | 682.288 |
| | | Bench cutting/ filling + Breast wall cutting | 53.838 | 11.79 |
| 4 | | Excavation of tower foundation | 474.21 | |
| 6 | Т-6 | Backfilling behind retaining walls | | 37.75 |
| | | Filling of tower pits after concreting. | | 396 |
| | | Sub total-6 | 528.048 | 445.54 |
| | | Bench cutting/ filling + Breast wall cutting | 4.68 | 29.826 |
| 7 | T-7 | Excavation of tower foundation Backfilling behind retaining walls | 474.21 | 74.05 |
| l ' | 1-7 | Filling of tower pits after concreting. | | 74.95 396 |
| | | Sub total-7 | 478.89 | 500.776 |
| | | Bench cutting/ filling + Breast wall cutting | | 47.53 |
| | | Excavation of tower foundation | 474.21 | 77720 |
| 8 | Т-8 | Backfilling behind retaining walls | | 65.52 · |
| | 2 | Filling of tower pits after concreting. | | 396 |
| - | т» * | Sub total-8 | 474.21 | 509.045 |
| | | Bench cutting/ filling + Breast wall cutting | 139.455 | 5.85 |
| | | Excavation of tower foundation | 474.21 | |
| 9 | T-9 | Backfilling behind retaining walls | | 242.58 |
| ×. | | Filling of tower pits after concreting. | | 396 |
| | • | Sub total-9 | 613.67 | 644.43 |
| | | Bench cutting/ filling + Breast wall cutting | 120.068 | |
| | Т-10 | Excavation of tower foundation | 474.21 | |
| 10 | | Backfilling behind retaining walls | | 136.48 |
| | | Filling of tower pits after concreting. | 504.30 | 396 |
| | | Sub total-10 | 594.28 | 532.48 |
| | · · · · | Bench cutting/ filling + Breast wall cutting | 21.708 | 21.096 |
| | T-11 | Excavation of tower foundation | 474.21 | 75.50 |
| 11 | | Backfilling behind retaining walls | | 75.50 |
| | | Filling of tower pits after concreting. | | 396 |

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| -1- | 08/05/2 |

| Alter and | an the second second | Bench cutting/ filling + Breast wall cutting | 474.04 | 84.978 |
|--|---|--|---|--|
| Milli | | Excavation of tower foundation | 474.21 | 195.32 |
| T-12 | T-12 | Backfilling behind retaining walls | Maria and a second s | 396 |
| 12 | · 12月1日 | Filling of tower pits after concreting. | | 676.298 |
| Contra la contra | Sub total-12 | 474.21 | 11.7 | |
| | the state of the second | Bench cutting/ filling + Breast wall cutting | 174.662 | 11 11 11 11 11 11 11 11 11 11 11 11 11 |
| | 명하는 것 같아. | Excavation of tower foundation | 474.21 | 150.96 |
| 13 T-13 | T-13 | Backfilling behind retaining walls | | 396 |
| | | Filling of tower pits after concreting. | | 558.66 |
| | | Sub total-13 | 648.87 | 17776 24 |
| | WHERE AND A CONTRACT | Bench cutting/ filling + Breast wall cutting | 32.652 | 48.951 |
| | 2012 BEERS | Excavation of tower foundation | 474.21 | (144) (144) (144) |
| 4 | T-14 | Backfilling behind retaining walls | $f_{ab} = \int_{0}^{0} e^{i \phi t} dt = \int_{0}^{0} $ | 140.22 |
| | | Filling of tower pits after concreting. | | 396 |
| | | Sub total-14 | 506.86 | 585.171 |
| 11. | MARK PAR DELLE | Bench cutting/ filling + Breast wall cutting | 227.42 | 2.79 |
| | 的行任于行为 | Excavation of tower foundation | 474.21 | |
| 5.25 | T-15 | Backfilling behind retaining walls | a grant of the | 144.30 |
| | | Filling of tower pits after concreting. | | 396 |
| 1.1 | | Sub total-15 | 701.63 | 543.09 |
| 111 | The second second | Bench cutting/ filling + Breast wall cutting | 278.77 | 16.83 |
| 12.11 | | Excavation of tower foundation | 474.21 | 143 A. 183 |
| | T-16 | Backfilling behind retaining walls | : 11년 (A. 1997년 1월) - 11년 19월 19일 | 226.38 |
| | | Filling of tower pits after concreting. | | 396 |
| 1.1 | | Sub total-16 | 752.98 | 639.205 |
| 144 Y 4 | | Bench cutting/ filling + Breast wall cutting | 190.18 | 68.76 |
| | | Excavation of tower foundation | 474.21 | |
| 12 | T-17 | Backfilling behind retaining walls | | 214.40 |
| 1: 10 | 지수가 아이지? | Filling of tower pits after concreting. | | 396 |
| 18 | 방법 같은 별소한 | Sub total-17 | 664.39 | 679.16 |
| 144.5 | nega de la delación de Reconstruction | Bench cutting/ filling + Breast wall cutting | 304 | State of the second |
| | a second second | Excavation of tower foundation | 474.21 | |
| -t | T-18 | Backfilling behind retaining walls | | 123.60 |
| | () 1-10 | Filling of tower pits after concreting. | a state to a second state of the | 396 |
| 50 | | Sub total-18 | 778.21 | 519.6 |
| Y Star 1 | a Contractoria de la contractoria d Contractoria de la contractoria de l | Bench cutting/ filling + Breast wall cutting | 0.68 | 23.967 |
| | | Excavation of tower foundation | 474.21 | |
| | T-19 | Backfilling behind retaining walls | The second second second | 91.75 |
| | | Filling of tower pits after concreting. | | 396.00 |
| | | Sub total-19 | 474.89 | 511.717 |
| | 1997 - | Bench cutting/ filling + Breast wall cutting | 29.502 | 8.73 |
| - | | Excavation of tower foundation | 474.21 | 0.75 |
| 199 | T 20 | Backfilling behind retaining walls | 4/4.21 Phil | 100.00 |
| | T-20 | Filling of tower pits after concreting. | | |
| 11 | | Sub total-20 | 503.71 | 396 |
| 2. 318. | | | | 504.73 |
| 1. 12 | | Bench cutting/ filling + Breast wall cutting Excavation of tower foundation | 206.54 | 33.047 |
| 開 | T 24 | | 474.21 | |
| 14 | T-21 | Backfilling behind retaining walls | | 257.43 |
| 14 | | Filling of tower pits after concreting. | | 396 |
| A V | The second s | Sub total-21 | 680.75 | 686.472 |
| A. | | Bench cutting/ filling + Breast wall cutting | 10.728 | 40.188 |
| and share | | Excavation of tower foundation | 474.21 | |
| | T-22 | Backfilling behind retaining walls | | 112.74 |
| Free | | Filling of tower pits after concreting. | | 396 |
| 1000 | A CONTRACTOR OF | Sub total-22 | 484.94 | 548.928 |
| 100 | N. M. | Bench cutting/ filling + Breast wall cutting | 21.118 | 35.64 |
| | | Excavation of tower foundation | 474.21 | |
| 1. | T-23 | Backfilling behind retaining walls | N'inkys. | 62.04 |
| 199 | 的第三人称 | Filling of tower pits after concreting. | and the state of the | 396 |
| 1 | 1941년 가지 ARAS 안전 | Sub total-23 | 495.33 | 493.68 |
| Sec. | | Bench cutting/ filling + Breast wall cutting | 8.765 | 112.47 |
| | 지수요 그는 상태 | Excavation of tower foundation | 474.21 | |
| 500 | T-24 | Backfilling behind retaining walls | | 165.87 |
| | Roden - Ph | Filling of tower pits after concreting. | The state of the s | 396 |
| | Sub total-24 | | and the second se | |

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| 1. 30 17 | Next | Bench cutting/ filling + Breast wall cutting | 471.203 | 22.653 |
|--|---------------------------------------|--|---|------------------------------|
| 12. | Sec. 1 | Bench Cutting/ Ining + Dieast wait Cutting | 474.21 | 100.00 |
| | Martin | Excavation of tower foundation | and the state of the | 136.62 |
| 5 | T-25 | Backfilling behind retaining walls | | 396 |
| | | Filling of tower pits after concreting. | 945.41 | 555.273 |
| | ALC: NO | Sub total-25 | 385.388 | 59.616 |
| 主要比 | | Bench cutting/ filling + Breast wall cutting | 474.21 | |
| | | Excavation of tower foundation | | 217.35 |
| 26 | T-26 | Backfilling behind retaining walls | | 396 |
| | | Filling of tower pits after concreting. | 859.60 | 672.966 |
| A Start | | Sub total-26 | 81.442 | 23.605 |
| 11/10/2 20 | | Bench cutting/ filling + Breast wall cutting | 474.21 | 14 |
| | | Excavation of tower foundation | 4/ 1/22 | 117.50 |
| 27 | T-27 | Backfilling behind retaining walls | n and an and a strength of the | 396 |
| AND A | | Filling of tower pits after concreting. | 555.65 | 537.105 |
| "你你了 | | Sub total-27 | 263.786 | 88.252 |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | State South | Bench cutting/ filling + Breast wall cutting | 474.21 | |
| 0 | | Excavation of tower foundation | 4/4.21 | 290.08 |
| 28 | T-28 | Backfilling behind retaining walls | | 396 |
| 14 | | Filling of tower pits after concreting. | 738.00 | 774.332 |
| 1.1. <u>-</u> 32 | | Sub total-28 | | 47.952 |
| 2,51 | Party and Shares | Bench cutting/ filling + Breast wall cutting | 408.261 | |
| | | Excavation of tower foundation | 474.21 | 279.92 - |
| 29 | T-29 | Backfilling behind retaining walls | | 396 |
| | 유민이가 같아. | Filling of tower pits after concreting. | 003.47 | 723.872 |
| | | Sub total-29 | 882.47 | 8.244 |
| services & | d galage . | Bench cutting/ filling + Breast wall cutting | 10.95 | 0.2-14 |
| h digital P | | Excavation of tower foundation | 474.21 | 168.75 |
| 30 | T-30 | Backfilling behind retaining walls | | 396 |
| 21 1 1 | A Stranger | Filling of tower pits after concreting. | Mars. Alter and a | 572.994 |
| A States | | Sub total-30 | 485.16 | |
| State State of the | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Bench cutting/ filling + Breast wall cutting | 4.407 | 31.5 |
| 12.200 | | Excavation of tower foundation | 474.21 | 446.00 |
| 31 | T-31 | Backfilling behind retaining walls | | 146.96 |
| (MIRE! | | Filling of tower pits after concreting. | a tollerense in | 396 |
| S. Mar | 費利的生化 | Sub total-31 | 478.62 | 574.46 |
| 10 44 OF | STRANSFEL IN | Bench cutting/ filling + Breast wall cutting | 6.201 | 46.044 |
| | | Excavation of tower foundation | 474.21 | |
| 32 | T-32 | Backfilling behind retaining walls | General Contraction in the second | 172.14 |
| | | Filling of tower pits after concreting. | 推ったいない | 396 |
| | | Sub total-32 | 480.41 | 614.184 |
| 3.5.9 | 140 M P & 180 | Bench cutting/ filling + Breast wall cutting | 18.72 | 35.784 |
| 1.12 | A STREET WAY | Excavation of tower foundation | 474.21 | |
| 33 | T-33 | Backfilling behind retaining walls | Tadawa hawan a shi an ta | 128.25 |
| States and a state of the state | States 198 | Filling of tower pits after concreting. | | 396 |
| Ista Land | | Sub total-33 | 492.93 | 560.034 |
| a states in | | Bench cutting/ filling + Breast wall cutting | 2.16 | 35.226 |
| | | Excavation of tower foundation | 474.21 | 的目的目的目的的问题。 |
| 34 | T-34 | Backfilling behind retaining walls | · · · · · · · · · · · · · · · · · · · | 207.00 |
| | | Filling of tower pits after concreting. | all and the second s | 396 |
| 1.1.1 | | Sub total-34 | 476.37 | 638.226 |
| 1942 1942 | | Bench cutting/ filling + Breast wall cutting | 0.054 | 12.051 |
| | | Excavation of tower foundation | 474.21 | |
| 35 | T-35 | Backfilling behind retaining walls | · Partis and Aller · | 207.00 |
| | The state of the | Filling of tower pits after concreting. | | 396 |
| 翻。当时, | and the state | Sub total-35 | 474.26 | 615.051 |
| | (1) (1) (1) | Bench cutting/ filling + Breast wall cutting | 23.143 | 1.58 |
| | T-36 | Excavation of tower foundation | 474.21 | and the second second second |
| 36 | | Backfilling behind retaining walls | a start and a start of the | 22.50 |
| | | Filling of tower pits after concreting. | | 396 |
| | | Sub total-36 | 497.35 | 420.08 |
| | | Bench cutting/ filling + Breast wall cutting | 25.184 | 4.055 |
| 14.12 | | Excavation of tower foundation | 474.21 | |
| 37 | T-37 | Backfilling behind retaining walls | N. N. MARKA | 0.00 |
| | Non-service | Filling of tower pits after concreting. | - And | 396 |
| | 1 (197 M. 199 M. | Sub total-37 | 499.39 | 400.055 |

| | | Il sutting | 8.887 | 69.615 |
|----------------|-----------------------|--|---|---|
| 38 | | Bench cutting/ filling + Breast wall cutting | 474.21 | |
| | | Excavation of tower foundation | NAME AND ADDRESS OF | 82.37 |
| | T-38 | Backfilling behind retaining walls | CAN DO NOT | 396 |
| | | Filling of tower pits after concreting. | 483.10 | 547.983 |
| | | Sub total-38 | 32.717 | 1.836 |
| 1.1.5 | AND COMPANY | Bench cutting/ filling + Breast wall cutting | in the second | and the state of the second |
| 1. | | Excavation of tower foundation | 474.21 | 0.00 |
| 39 | T-39 | Backfilling behind retaining walls | in the case | 396 |
| 39 | Section 2. All the | Filling of tower pits after concreting. | 1 | 397.836 |
| 6.13 | | Sub total-39 | 506.93 | THE REPORT OF |
| 1. 3. | ANA DALLAR AND A | Bench cutting/ filling + Breast wall cutting | 86.13 | 33.52 |
| 1.1 | | Excavation of tower foundation | 474.21 | |
| 1.7% | T-40 | Backfilling behind retaining walls | n | 72.64 |
| 40 | 1-40 | Filling of tower pits after concreting. | and share when it | 396 |
| | | Sub total-40 | 560.34 | 502.16 |
| (a. 1967 av 19 | S. Carline | Bench cutting/ filling + Breast wall cutting | 27.018 | 32.436 |
| 1.5 | - Alexandre Maria | Excavation of tower foundation | 474.21 | the second s |
| 41 | | | du thuise i have | 0.00 |
| | T-41 | Backfilling behind retaining walls | | 396 |
| | | Filling of tower pits after concreting. | 501.23 | 428.436 |
| | | Sub total-41 | | 23373.13 |
| 1. | Grand Total (1 to 41) | | 23549.48 | 176.35 |
| 1.1.1.1.1. | Net Surplus Ea | rth to be Disposed off | | 176.35 |

NOTES:-

아파 같은 아파 가지?

1) NET SURPLUS EARTH TO BE DISPOSED OFF = 176.35 cum approx. i.e., 4.3 cum/ per. tower.

2) At most of tower locations, out of total earth filling as computed above, 20 to 40 % of stone/ boulders other than soil likely to be found during excavation which will be used in revetment work and as a filter media behind the revetment wall.

3) Since earth filling is a combination of soil and stone/ boulders , but practically earth/ soil is required to be borrowed from other locations for maintaining the tower benches with earth filling.

4) In exceptional cass, if stone/ boulders not found during cutting and excavation then plinth/ height of retaining walls to be increased for consuming surplus earth

Hence, there will be no surplus earth/ Soil for disposing off at each tower location.

Dowsho

Junior Engineer (C) O/o DGM & Head Trans Design HPPTCL Anu, Hamirpur (H.P.)

Assistant Engineer O/o DGM & Head Trans Design HPPTCL Anu, Hamirpur(H.P)

Sr. Manager O/o DGM & Head Trans Design HPPTCLAnu Hamirpur (H.P)

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