Title -: C/O Link road from Ogli to Summa KM 0/0 to 1/510.
Certificate of Muck Dumping

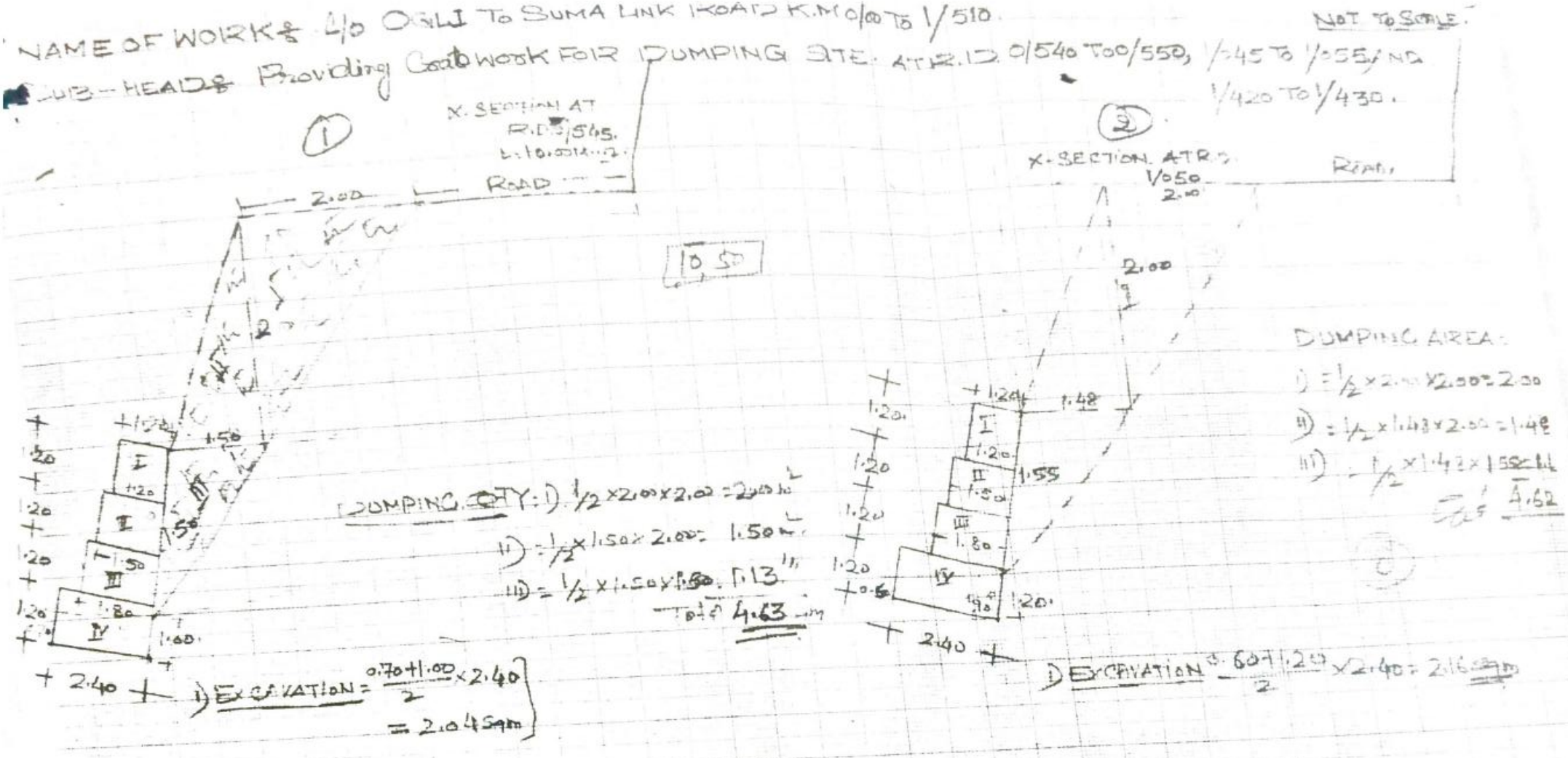
Certified that the muck which generated during **C/O Link road from Ogli to Summa KM 0/0 to 1/510.** will be used in Filling work of proposed road & filling behind the R/Wall & B/Wall. The Extra/ Remaining muck will be used for leveling of site.

Executive Engineer,
Shimla Rural Division
HPPWD, Dhami

NAME OF WORK & L/O OGLI TO SUMA LINK ROAD K.M 0/00 TO 1/510.

SUB-HEAD & Providing Coat work FOR DUMPING SITE. AT R.D 0/540 TO 0/550, 1/45 TO 1/55, NO 1/420 TO 1/430.

NOT TO SCALE.



DUMPING QTY: I) $\frac{1}{2} \times 2.00 \times 2.00 = 2.00$ Sqm

II) $= \frac{1}{2} \times 1.50 \times 2.00 = 1.50$ Sqm

III) $= \frac{1}{2} \times 1.50 \times 1.80 = 1.13$ Sqm

Total 4.63 Sqm

I) EXCAVATION $= \frac{0.70 + 1.00}{2} \times 2.40$

$= 2.04$ Sqm

DUMPING AREA:

I) $= \frac{1}{2} \times 2.00 \times 2.00 = 2.00$

II) $= \frac{1}{2} \times 1.48 \times 2.00 = 1.48$

III) $= \frac{1}{2} \times 1.42 \times 1.55$ Sqm

Total 4.62

I) EXCAVATION $= \frac{0.6 + 1.20}{2} \times 2.40 = 2.16$ Sqm

R.D 0/540 to 0/550: I) LAND AREA = L = 10.00 M=2.
W = 10.00 M=2 = 100.00 Sqm.

R.D 1/045 TO 1/055 —do— L = 10.00 M=2.
W = 10.00 M=2 = 100.00 Sqm.

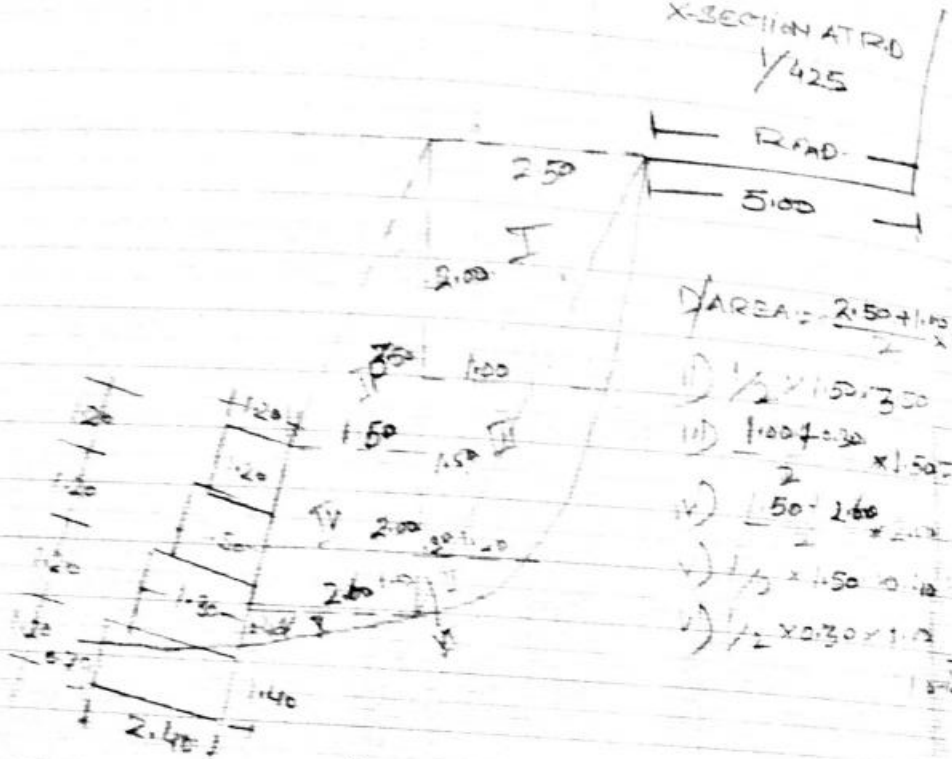
R.D 1/420 TO 1/430 —do— L = 10.00 M=2
W = 10.00 M=2 = 100.00 Sqm.

Total 300.00 Sqm.

Assistant Engineer
B&R Sub. Division
HPPWD Jalog.

Executive Engineer
Shigar Rural Division
HPPWD Dskm

'SUB-HEAD :- Providing Cost of Soil FOR DUMPING SITE AT R.D 1/420 TO 1/430. NOT TO SCALE.



AREA :- $\frac{2.50+1.10}{2} \times 2.00 = 3.50$ "

i) $\frac{1}{2} \times 1.50 \times 3.00 = 2.63$ "

ii) $\frac{1.00+0.30}{2} \times 1.50 = 0.97$ "

iii) $\frac{1.50+2.60}{2} \times 2.00 = 4.10$ "

iv) $\frac{1}{2} \times 1.50 \times 0.40 = 0.30$ "

v) $\frac{1}{2} \times 0.30 \times 1.00 = 0.15$ "

$= 11.65$ "

DUMPING QTY

R.D	X-SEC AREA	MEAN LENTH	QTY
0/240	4.63	—	—
1/050	4.62	4.625	3746.25
1/510	1.65	8.14	3744.40
		Total	7490.65 Cum
		Some QTY Edge wall filling = 5535	

EXCAVATION $\frac{2.70+1.40}{2} \times 2.40 = 252.36$ sqm

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as to proceed further.

Reclamation Plan for Dumping Site in respect of FCA proposal for Construction of link road Ogli Suma km 0/00 to 1/510 under HP Govt. state.

Diversion of 00-86-37 hac. of forest land has been proposed for the Construction of link road Ogli Suma km 0/00 to 1/510. under HP Govt. state.

The total length of the road is 1.510 km, out of which 00-76-49 passes through the forest land and 00-04-23 Ha passes through private land. The road will be constructed in cut and fill method. A total quantity of 8678.48 cum of muck will be generated during the construction of this road. Since after excavation of earth there will be some increase in volume of soil which is calculated @60%. After increase in volume 11309.71 Cum muck will have to be disposed off in the identified dumping sites as per reclamation plan & muck management plan.

Thus all the muck generated will be dumped in the designated dumping sites. 3 numbers dumping site have been identified for dumping of muck/ debris to be produced during the construction phase of the project. It is proposed that the dumping site are treated in such a manner that these do not pose any problem to the environment management of the locality. This reclamation plan has been formulated with the following objective:-

(i) To arrest the dumped muck in situ so that it does not find its way to the nearby drainage channels, thus altering the drainage pattern of the area.

(ii) To rehabilitate the dumped area over a period of time so that it merges with the adjoining natural landscape and doses not stand out as a sore point.

(iii) To improve the aesthetic view of the dumping grounds/ dumping site by planting suitable plants and trees species thereby increasing the vegetable cover in the area.

(iv) To stabilize the dumping sites by vegetative and engineering structure.

Implementation

The proposal will be implemented by the user agency itself at its cost as detailed in this plan. The implementation of the plan wills be supervised by the forest department from time to time and the progress will be periodically monitored. In case of default the sanction of diverted land may be revoked with suitable penalty as decided by the Govt. of India.

Strategy

The two pronged approach will be followed for reclamation of the dumping sites. In the fist instance crate walls will be erected around the dumping site so that required capacity for dumping of muck is created at the sites. The detailed drawings of the crate works will be to arrest the dumped muck to the dumping site and not to allow its spillage to the adjoining area eventually to nearby drainage lines. The capacity of the dumping sites has been calculated as detail in the table at page..... And will be enough to hold the muck to be dumped in each of the sites.

In the second phase once the dumping is complete it will be ensured that the dumping site is planted with the grassed, bushes shrubs so that it gives an aesthetic look. This vegetal cover will also help in binding the soil and will prevent its erosion for vegetating the dumping sites suitable local species will be preferred. However, it may be noted that bulk

of the muck to be dumped will be excavated material which will be lacking in essential nutrients and organic matter and hence it will be desirable to increase the4 nutrients status of the top soil to be conducive to tree vegetal growth. For this purpose maturing of the top soil be done if requited the imported soil be bought to replenish the top soil. Intently the grasses and bushes will be planted in the area of improve the soil condition. Once these grasses and bushes will be planted in the area of improve the soil condition. Once these grasses and bushes take hold to the site the trees species will be planted, in the next phase. The tress species to he planted will be mainly Robinia, Lucinea, Albizia, Drek, Amla, Chil, Kail, Deodar,Ban. Grasses like Steria and napier will also propagated. Trees will be planted at the closer spacing so that canopy is closed at the earliest. Hence the spacing will be kept at 1.5x1.5 mtrs. The total area involved in the dumping site is Sqm. Thus in all plants will be planted at the dumping site. Shrubs and bushes will be planted in between these trees. The dumping site will be fenced with barbed wire fencing to prevent the entry of the stray cattle thereby ensuring the protection of the plant from grazing. Also due to inert nature of the soil, plant will be need extra care for pit for easy establishment for the purpose imported soil/ organic manure will be added in each pit for easy establishment of plants. Watering of the plant in dry session will be provided to prevent mortality. The plantation will be further maintained in project cost for seven years when beating up of failure will be done.

The cost estimate of dumping site is enclosed as Annexure R1 at page and the cost of trees will be met form the yearly programme of plantation during rainy season. The plantation work will be started from the year following the completion of dumping site. However erection of the crate walls around the dumping sits will be done prior to actual dumping.

The total of the reclamation Plan is Rs 370587.00

Post reclamation arrangements:

Since the area in question is required by the user agency only for the temporary use of dumping, hence the area will be reverted back to the forest department after implementing the reclamation plan, if so stipulated by Govt. of India. However if at the time of so reverting back the areas of the forest department if and activity as per this reclamation plan is found wanting then the forest department may realized the cost of that activity from the user agency at the prevailing wage rates applicable in forest department and may get the same done departmentally at the project cost.

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Muck Management Plan

1	Total Qty. of Muck being Produce	8678.48 Cum
2	Deduction for useful stone as required under the clause of agreement to be executed by the Contractor and Executive engineer of Project	1609.91 cum
3	Net Balance Quantity of Debris/ Muck. (1-2) A	7068.57 cum
4	Quantity available on site with swell factor @ 60% 1.60xA	11309.71 cum
5	1. Deduction for material/ required for the construction of dumping place in dry masonry wall/edge walls @ 5 % of (B)	565.48 cum
	2.Less for material / muck required for the leveling of the leveling of the proposed road for the construction @ 15% of (B)	1696.46 cum
	2. Less for material/ muck required for the construction of proposed road on the analogy of half cutting & half filling @ 40 % of (B)	4523.58 cum
	Total :- 5 (1) +(2)+(3)	6785.82 cum
6	Net material / muck to be dumping in dumping site (B-C) In Cum	4523.89 Cum

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