Annexure- 2.4

Name of the Work- Construction of Tharali kurad motor road (KM-15) to Gumad Lagga Gerud Link Motor Road under PMGSY

Comparison between identified alignments

SI. No.	Variables	A	lignment	No-1		lignmen	t No-2
1	Topography	Mountainous		Mountainous			
2	Length of Road	3.00 km		4.50 km			
3	Bridging requirement No. and Length	Nil		Nil			
4	Geometric						
	(a) Gradients	1:20			1:16		
	(b) Curves, H.P Bends	02 numbers	of H.P. Be	ends	04 numbers	of H.P. E	Bends
5	communication, mule path, ieen Tracks etc.				By mule pat		
6	construction on account of	alignment			work. There a numents or oti es along t		
7	(a) Terrain & Soil Condition.	The terrain is hilly and the soil is a mix of Earth and Boulders, Soft Rock and Hard Rock.			The terrain is hilly and the soil is mix of Earth and Boulders, Soft Ro and Hard Rock.		
	(i) Cliffs and gorges.	(i) None			(i) None		
	(ii) Drainage characteristics of the area including susceptibility to flooding.	characteristics of the area is good and there is no susceptibility to flooding and them flooding.			characterist and there	stics of the area is go is no susceptibility	
	(iii) General elevation of the	(iii) The Ger	neral eleva	tion of the road	(iii) The Ger	neral elev	vation of the ro
	(iii) General elevation of the road indicating maximum and minimum height negotiated by main ascends and descends.	is 1475 m starting poir and the ele	The elent of the rowation at the 1405 m.	evation at the road is 1555 m he end point of Thus the road	(iii) The Ger is 1450 m starting poi and the ele	n. The ent of the vation at 1420 m	elevation at road is 1525 the end point n. Thus the ro
	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and	is 1475 m starting poir and the ele- the road is achieves a f	t of the electric that the representation at the second se	evation at the road is 1555 m he end point of Thus the road	(iii) The Ger is 1450 m starting point and the ele the road is achieves a	n. The ent of the vation at 1420 m	elevation at road is 1525 the end point n. Thus the ro
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	tof the rivation at the 1405 m. rall of 150 rached after	evation at the road is 1555 m he end point of Thus the road m.	(iii) The Ger is 1450 m starting point and the ele the road is achieves a f	n. The ent of the vation at 1420 m fall of 105 tached at	elevation at road is 1525 the end point . Thus the room
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	. The el nt of the r vation at t 1405 m. all of 150 r ached after	evation at the road is 1555 m the end point of Thus the road m. er comprative)	(iii) The Ger is 1450 m starting point and the ele the road is achieves a f	n. The ent of the vation at 1420 m fall of 105 tached at ature Moreon at the control of the cont	road is 1525 the end point in. Thus the ro 5 m. fter comprative
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	. The el nt of the revation at the 1405 m. reall of 150 reached after the tarter Montage data of 1	evation at the road is 1555 m he end point of Thus the road m. er comprative)	(iii) The Ger is 1450 m starting point and the ele the road is achieves a 50 / 100 (At	n. The ent of the vation at 1420 mfall of 105 tached at atture Morg. data of	road is 1525 the end point in. Thus the ro 5 m. fter comprative
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	. The el nt of the revation at the 1405 m. all of 150 reached after the sture Montage data of 1	evation at the road is 1555 m the end point of Thus the road m. er comprative) thly max. & min. 12 years) ture (in OC)	(iii) The Ger is 1450 m starting point and the ele the road is achieves a final 50 / 100 (At	n. The ent of the vation at 1420 mfall of 105 tached at atture Morg. data of	road is 1525 the end point Thus the ro meter comprative onthly max. & meter f 12 years)
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	. The el nt of the revation at the 1405 m. all of 150 reached after the sture Montage data of 1 Temperal Max.	evation at the road is 1555 m the end point of Thus the road m. er comprative) thly max. & min. 12 years) ture (in OC)	(iii) The Ger is 1450 m starting point and the ele the road is achieves a final 50 / 100 (At	n. The ent of the vation at 1420 m fall of 105 tached at ature Morag, data of Tempera	road is 1525 the end point in. Thus the road fer comprative inthly max. & n f 12 years) ature (in °C)
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att	to the electron to the reversion at the 1405 m. It is the second to the	evation at the road is 1555 m the end point of Thus the road m. er comprative) thly max. & min. 12 years) ture (in OC)	(iii) The Ger is 1450 m starting point and the ele the road is achieves a 50 / 100 (At a) Tempera reading (Av. Month	n. The ent of the vation at 1420 m fall of 105 tached at ature Morag, data of Max.	road is 1525 the end point Thus the ro meter comprative nthly max. & n f 12 years) ature (in °C) Min.
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the elec- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month	to the electron at the second after the	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. 12 years) ture (in °C) Min1 7	(iii) The Ger is 1450 m starting point and the ele the road is achieves a starting point and the ele the road is achieves a starting (Av. 100 (At.	n. The ent of the vation at 1420 m fall of 105 tached at tached at Tempera Max.	road is 1525 the end point Thus the ro multiple is the road is 1525 the end point Thus the ro multiple is the road is 1525 the end point Thus the road is the road is 1525 the end point for multiple is 1525 the end point for mu
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the elec- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March	to the electron at the second after the	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. 12 years) ture (in °C) Min1 7 13	(iii) The Ger is 1450 m starting point and the ele the road is achieves a starting (Av. Month January Feb. March	n. The ent of the vation at 1420 m fall of 105 tached at tached at Tempera Max.	road is 1525 the end point Thus the ro m. fter comprative nthly max. & nf 12 years) ature (in °C) Min. -1 7
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March April	to the electron at the second after the	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. 12 years) ture (in °C) Min1 7 13	(iii) The Ger is 1450 m starting point and the ele the road is achieves a 50 / 100 (At	n. The ent of the vation at 1420 m fall of 105 tached at tached at Tempera Max.	road is 1525 the end point Thus the ro multiple in the road is 1525 the end point Thus the ro multiple in the road is 1525 m. Iter comprative Inthly max. & no multiple in the road is 12 years) ature (in the road is 1525 Min. -1 7 13
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March April May	tree electron at the second at the second after the second at the second	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. (2 years) ture (in °C) Min. (-1) 7 13 18 20	(iii) The Ger is 1450 m starting point and the elethe road is achieves a starting for the road is achieves a starting (Av. Month January Feb. March April May	n. The ent of the vation at 1420 m fall of 105 tached at tached at 1420 m fall of 105 tached at 1420 m fall of 1520 m fall of 152	road is 1525 the end point Thus the ro multiple is meaning to the end point Thus the ro multiple is meaning to the end point Thus the ro multiple is meaning to the end point Thus the ro multiple is meaning to the end point Thus the ro multiple is meaning to the end point Thus the end point Thus the end point Thus the ro multiple is meaning to the end point Thus the end po
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March April	to the electron at the second after the	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. 12 years) ture (in °C) Min1 7 13	(iii) The Ger is 1450 m starting point and the elethe road is achieves a starting for the road is achieves a starting for the road is achieves a starting (Av. Month January Feb. March April	n. The ent of the vation at 1420 m fall of 105 tached at tached at 1420 m fall of 105 tached at 1420 m	road is 1525 the end point Thus the ro multiple is more in the room is 1525 the end point Thus the ro multiple is
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March April May June July	ture Mont g. data of 1 Temperal Max. 18 22 27 33 35 32	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. (2 years) ture (in °C) Min. (1) (1) (1) (1) (1) (1) (1) (1	(iii) The Ger is 1450 m starting point and the elethe road is achieves a starting for the road is achieves a starting (Av. Month January Feb. March April May June July	n. The ent of the vation at 1420 m fall of 105 tached at tached at 18 Tempera Max. 18 22 27 33 35 32	elevation at road is 1525 the end point. Thus the rosm. fter comprative of the road is 1525 the end point. Thus the rosm. fter comprative of the road is 12 years) ature (in °C) Min. -1 7 13 18 20 21
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8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the ele- the road is achieves a f 50 / 100 (Att (a) Tempera reading (Avg Month January Feb. March April May June July	ture Mont of the or vation at the sture Mont of the or vation at the sture Mont of the or vation at the sture Mont of the or vation of the or	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. (2 years) ture (in °C) Min. (-1) 7 13 18 20 21 21	(iii) The Ger is 1450 m starting point and the elethe road is achieves a few starting point and the elethe road is achieves a few starting (Av. Month January Feb. March April May June July August	n. The ent of the vation at 1420 m fall of 105 tached at ature Morg. data of Max. 18 22 27 33 35 32 31	elevation at road is 1525 the end point in. Thus the road is 1525 the end point in. Thus the road is m. Ifter comprative in in it is in i
8	road indicating maximum and minimum height negotiated by main ascends and descends. (iv) Variations extant and types. Climate Condition: (a) Temperature Monthly max.	is 1475 m starting poir and the election the road is achieves a f 50 / 100 (Att (a) Temperareading (Avg Month January Feb. March April May June July August September	The electron at the second of the reversion at the second of the reversion at the second of the seco	evation at the road is 1555 m he end point of Thus the road m. er comprative) hly max. & min. 12 years) ture (in °C) Min1 7 13 18 20 21 21 21 23 21	(iii) The Ger is 1450 m starting point and the ele the road is achieves a starting point and the ele the road is achieves a starting (Av. Month Sanuary Feb. March April May June July August September	n. The ent of the vation at 1420 m fall of 105 tached at ature Morg. data of Tempera Max. 18 22 27 33 35 32 31 30 30	elevation at road is 1525 the end point. Thus the road is 1525 the end point. Thus the road is m. Iter comprative in the road is m. Iter compr

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Assistant Engineer RWD PMGSY Karanprayag-1

Executive Engineer
Rural Works Department
P.M.G.S.Y.
Division Karangrayan

SI. No.	Variables		Alignment No-1	Alignment No-2		
	(b) Rainfall data average	(b) Rainfall	data average annual peak	(b) Rainfall data average annual peak		
		intensities n	nonthly distribution	intensities monthly distribution		
	extent available) .	Month	Average Rainfall Data (in mm)	Month	Average Rainfall Data (imm)	
		January	74	January	74	
		Feb.	76	Feb.	76	
		March	77	March	77	
		April	36	April	36	
		May	48	May	48	
		June	140	June	140	
		July	322	July	322	
		August	271	August	271	
		September	150	September	150	
		October	66	October	66	
		November	12	November	12	
		December	33	December		
	annual peak intensities monthly distribution (to the extent available) .	December and January upto 15 cm in depth on an average.		depth on an average.		
	(d) Wind direction and velocities.	affect are p general pr strong to m tendency fo	pronounced and when the revailing winds not too ask these effect, there is a or diurnal reversal of winds,	(d) Owing to the nature of terrain local affect are pronounced and when the general prevailing winds not to astrong to mask these effect, there is tendency for diurnal reversal of winds, the flow being anabatic during the day and katabatic at night, the latter being of considerable force.		
	(e) Fog Condition.	and katabat of considera	tic at night, the latter being able force.			
	(e) i og condition.	conditions in the area. However, during the month of December and January, slight foggy conditions prevail during night, with clear sky in the day.		conditions in the area. However, during the month of December as January, slight foggy condition prevail during night, with clear sky the day.		
	(f) Exposure to sun.	throughout	the year.	(f) The site is exposed to su throughout the year.		
	(g) Unusual weather condition like cloud burst etc.	weather co	is no record of unusual ndition like cloud burst in ere the site is located.	(g) There is no record of unusure weather condition like cloud burst the area where the site is located.		
9	Facilities resources.					
9	(a) Landing ground.	(a) None		(a) None		
	(b) Dropping Zone.	(b) None		(b) None		
	(c) Food stuffs.		Adrak, Mirch, Lehsoon, nun, Aloo etc.	(c) Haldi, Adrak, Mirch, Lehsoor Dhan, Ghehun, Aloo etc.		
	(d) Labour local availability and need for import.	(d) Local construction		(d) Local construction		

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Assistant Engineer RWD PMGSY Karanprayag-1

Executive Engine or Rural Works Department P.M.G.S.Y. Division-Karanprayag



SI. No.	Variables	Alignment No-1	Alignment No-2		
	(e) Construction material (Timber, Bamboo, Sand, Stone, Shingle etc. extent of	(e) Stone required for the construction work shall be made available locally as it shall be obtained from hill side cutting. However, sand required for the construction work shall be procured from the approved quarry with a distance of 30 km.	construction work shall be made available locally as it shall be obtained from hill side cutting However, sand required for the		
10		Value of the land required for the construction of the road in this alignment is as under Private land, 0.720 hectare @ Rs.	construction of the road in this alignment is as under Private land,1.080 hectare @ Rs		
		26,50,000= Rs. 1,908,000.00 -Reserve Forest Land, 1.825 hectare @ Rs. 9,35,000= Rs. 17,06,375.00 Thus total value of land = Rs. 3,614,375.00	@ Rs. 9,35,000= Rs. 1,767,150.00		
11	Approximate Const. Cost.	Rs.200.00 lacs	Rs.325.00 lacs		
12	Access point indicating possibility of induction of equipment.	Access point available for induction of			
13		12 months	12 months		
14	Strategic Consideration.	Deployment of skilled manpower and efficient equipment / machinery shall be made for completion of the project.	efficient equipment / machinery sha		
15	Important villages, towns and markets centers to be connected.	The road shall provide connectivity to Village- Gummad lagga gerud with a population of 345 numbers	The road shall provide connectivity to Village- Gummad Lagga Gerud with a population of 345 numbers		
16	Recreational potential.	Nil	Nil		
17	Economic Factors:				
	(a) Population served by the alignment.		(a) 345 numbers		
	(b) Agricultures and economic potential of the area.	(b) Transportation of the cultivated crops by mechanical means (i.e., through road) shall enhance the economical condition of the people residing in this area. Potential of the development of animal husbandry.	crops by mechanical means (i.e. through road) shall enhance the economical condition of the people		
18	Other major development projects being taken up electric projects etc.		None		
19	(i) Misc. Such as camping sites	(i) Camping sites to be located along the alignment of the road.	(i) Camping sites to be located along the alignment of the road.		

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Abrictant Engineer PMGSY Karanprayag-1

Executive Engine or Rural Worlds Department P.M.G.S.Y. Division-Ikaranprayan



SI. No.	Variables	Alignment No-1	Alignment No-2		
	(ii) Law and other problem	(ii) There is no significant law and order problem in the area and the local administration takes care of such matters.	order problem in the area and the		
	(iii) Royalty	(iii) Royalty is paid to the Revenue Department.	(iii) Royalty is paid to the Revenue Department.		
	(iv) Availability of contractors for collection and carriage of construction material		(iv) Available		
	(v) Working period available for construction of work.	(v) 09 months in a year	(v) 09 months in a year		
20	Total No. of trees to be removed.	262 numbers	425 numbers		
21	Average Density of forest cover .	(Dense Forest)	(Dense Forest)		
22	Total No. of Merits	12	8		
23	Total No. of Demerits	02	06		

RECOMMENDATIONS:

Alignment no. -1 is Recommended for approval being more economical, useful & technically feasible.

Assistant Engineer RWD PMGSY Karanprayag-1 Executive Engineer PEMED PMGSY Karanprayag-1

वन क्षेत्राधिकारी मध्य बिण्डर दन क्षेत्र, थराडी बदीनाम तन प्रभाग मोकेश्वर D.F.O.

उप की संरक्षक वदीनाथ वर प्रभाग गोवेश्वर