



यूजेवीएन लिमिटेड

(उत्तराखण्ड सरकार का उपक्रम)

UJVN Limited

(A Govt. of Uttarakhand Enterprise)

कार्यालय अधिशासी अभियन्ता (जानपद - लजविप), तामाधार, नानासेम, मुनस्यारी, जिला-पिथौरागढ़-262554 दूरभाष: 05961-222073, फैक्स: 05961-222073
Office of the Executive Engineer (Civil - SHP), Tamadhar, Nanaseem, Munsyari, Distt-Pithoragarh-262554 Tel.: 05961-222073, Fax: 05961-222073, E-mail- suringad2@gmail.com
CIN: U40101UR2001SGC025866

No.:14/UJVNL/03/Director Projects/EE(C-Munsyari)/L-1

Date:18/01/2022

Divisional Forest Officer,
Pithoragarh, Forest Division,
Pithoragarh.

Subject: Regarding transfer of 9.397 hac forest land for construction of Tankul 12 MW Small hydro Project at tehsil Dharchula of district Pithoragarh in the name of UJVN Limited (FP/UK/HYD/42080/2019).

Sir,

Kindly refer agenda item no. 02 under minutes of meeting of 63rd Regional Empowered Committee held on 29th December, 2021 vide which committee recommended the proposal to Govt. of India, MoEF & CC, New Delhi for approval subject to fulfillment of following condition :-

S.No.	Observation/Condition	Reply
1.	The project proponent will provide detailed technical reasons for taking swell factor 16 % and if there is need to revise the swell factor, a revised muck dumping plan should be submitted along with additional requirement of area, if any. The revised dumping plan will be circulated among the members for their recommendations and consent.	Muck to be used locally during construction (148865.53 + 17500 = 166365.53). About 95 % muck out of 166365.53 cum will be used for concrete & filling works at various structures. Swell factor of excavated rock is above 40 % but when excavated rock is converted into gravels ranging from 20 mm to 40 mm swell factor of crushed stones considerably reduces to below 15 %. For concrete works, excavated boulders will be converted in to aggregates having size from 20 mm to 40 mm by manual means. Swell factor for crushed stone is estimated around 15 %. Material proportion of aggregates to be used for concrete works is based on weight instead of volume, therefore, swell factor doesn't impact the quantity of gravels (crushed aggregates) to be used locally for concrete works. For concrete works vibrators are used for compaction of concrete. Use of vibrators will further reduce

R. Singh
18/1/2022
अधिशासी अभियन्ता
यूजेवीएन लिमिटेड
मुनस्यारी (पिथौरागढ़)

		<p>the voids from 8 to 10 %.</p> <p>Filling works in the project area and muck disposal at designated site will be done with 20 % compaction using mechanical means. In all the muck dumping sites, the muck brought in dumpers shall be dumped and manually spread behind the crates and roller compacted in such a manner that rock mass is properly stacked behind the crates with minimum of voids.</p> <p>In view of above said facts, swell factor has been taken as 16%.</p>
--	--	---

Enclosures: As above.

R. Singh
18/1/2022

(Rishi Singh)
Executive Engineer
अधिशाली अभियन्ता
यूजेवीएन लिमिटेड
मुनस्यारी (पिथौरागढ़)

The following table lists swell factors for various engineering materials:-

Material	Swell (%)
Clay	
Dry	40
Wet	40
Clay and gravel	
Dry	40
Wet	40
Coal, anthracite	35
Coal, bituminous	35
Earth, loam	
Dry	25
Wet	25
Gravel	
Dry	12
Wet	12
Gypsum	74
Hardpan	50
Limestone	67
Rock, well blasted	65
Sand	
Dry	12
Wet	12
Sandstone	54
Shale and soft rock	65
Slate	65
Traprock	65

R. Singh
18/1/2022
अधिकासी अभियन्ता
यूजेवीएन लिमिटेड
मुनस्यारी (पिथौरागढ़)