Transportation Engineering Laboratory (TEL)

Department of Civil Engineering (CED)

UNIVERSITY OF ENGINEERING & TECHNOLOGY (UET)

LAHORE – 54890 (PAKISTAN)

Phone: 092-42-9929202 Cable: UNIVENGTECH Fax: 092-42-9922566

Ref.---------- Date:----------

Mr. Nadeem Ahmad
Resident Engineer,
NESPAK, Lahore.

Subject: **Testing of Material Samples** (Coarse and Fine Aggregates)
Tender No. P&S/25.01/5655 – Storm Water Drainage System from Sham Nagar to River Ravi (Package-II)

Dear Sir,

It is with reference to your letter No. 3882/11/NA/01/481 dated 28-06-2025.

Please find below the results for the tests conducted on the aggregate samples provided to this laboratory on 17-07-2025 through your representative.

Coarse Aggregate

1. **Sieve Analysis (ASTM C-136)**

Sieve Size	1”	¾”	½”	3/8”	#4
%age Passing	100	48.17	0.22	0	0

2. **Specific Gravity & Water Absorption (ASTM C-127)**

Specific Gravity (oven dried condition)	2.84
Specific Gravity (saturated surface dry condition)	2.85
Apparent Specific Gravity	2.86
Water Absorption (%)	0.30

3. **Sodium Sulphate Soundness (ASTM C-88)**

Sieve Size	Weight of Fraction Before Test. (gm)	Weight of Fraction After Test. (gm)	Percentage Passing Designated Sieve After Test.	Weighted Percentage Loss.
$1/2" + 3/8"$	1004.9	995.8	0.91	0.44
	Total = 0.44%			

4. **Los Angeles Abrasion Value Test (ASTM C-131/535)**

Grading Used	**Los Angeles Abrasion Value (%)**
B	15.06

5. **Flakiness & Elongation Index (BS 812: Part 105)**

Sieve Size		Individual Flakiness Index (%)	Weighted Flakiness Index (%)	Individual Elongation Index (%)	Weighted Elongation Index (%)
Passing (in.)	Retained (in.)				
1	$^3/_4$	4.13	2.14	9.97	5.17
$^3/_4$	$^1/_2$	4.03	1.93	7.15	3.43
$^1/_2$	$^3/_8$	0	0	100	0.22
		Flakiness Index = 4.07%		**Elongation Index = 8.82%**	

Fine Aggregate (Harrow Sand)

1. **Sieve Analysis (ASTM C-136)**

Sieve Size	½"	3/8"	#4	#8	#16	#30	#50	#100	#200
%age Passing	100	98.96	95.41	90.66	80.49	63.97	27.87	5.85	1.74

2. **Percentage of Fines (ASTM D-1140) *Wet Sieving***

Silt and Clay (%)	1.85

3. **Fineness Modulus (ASTM C-142)**

Fineness Modulus (%)	2.37

4. **Specific Gravity & Water Absorption (ASTM C-128)**

Specific Gravity (OD)	2.67
Specific Gravity (SSD)	2.69
Apparent Specific Gravity	2.73
Water Absorption (%)	0.80

5. **Organic Impurities (ASTM C-40)**

Organic Impurities	Nil

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

Note:
1. This test report is based solely on the particular sample(s) supplied by the client and should not be reproduced in parts.
2. Sampling has not been performed by Transportation Engineering Laboratory (TEL), UET and TEL-UET does not accept the responsibility that the sample(s) supplied is/are truly representative sample(s) of any batch or stock or entire project.
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Ref.---------- Date:----------

Mr. Awais Akram
Resident Engineer,
NESPAK, Lahore.

Subject: **Testing of Water Bound Macadam Material** (Source: Sargodha)
Rehabilitation and Improvement of Roads/Streets by Provision of Carpet/PCC/Tuff Tiles in PP-163, NA-127, Lahore (Group-III)

Dear Sir,

It is with reference to your letter No. 3772/103/NA-127/PP-163/G-II/AA/04/01 dated 10-09-2025. Please find below the results for the tests conducted on the aggregate sample provided to this laboratory through your representative.

1. **Sieve Analysis (ASTM C-136)**

Sieve Size	3”	2 ½”	2”	1 ½”	1”	¾”	½”	3/8”	#4
%age Passing	100	79.42	12.92	0.15	0	0	0	0	0

2. **Los Angeles Abrasion Value Test (ASTM C-131/535)**

Grading Used	**Los Angeles Abrasion Value (%)**
1	19.43

If you have further query, please do not hesitate to contact the undersigned.

Best Regards,

Director
Transportation Engineering Laboratory

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