

**PROCEEDINGS OF THE TREE EXPERT COMMITTEE MEETING HELD  
ON 14.10.2020 AT 2:00 PM AT BENGALURU.**

**PRESENT:**

- |    |   |                  |
|----|---|------------------|
| 1. | <b>Shri I B Srivastava, IFS (Rtd).</b>  | <b>CHAIRMAN</b>  |
|    | <b>Dr. Muthu Kumar</b>                  | <b>MEMBER</b>    |
|    | <b>Arunachalam</b>                      |                  |
| 2. | <b>(Scientist-E, Plant Pathologist)</b> |                  |
|    | <b>IWST.</b>                            |                  |
|    | <b>Dr. Nagarajaiah C</b>                | <b>MEMBER</b>    |
|    | <b>(Professor and Head, Dept. of</b>    |                  |
| 3. | <b>Forestry and Environmental</b>       |                  |
|    | <b>Science)</b>                         |                  |
|    | <b>Dr. R Krishna Murthy</b>             | <b>MEMBER</b>    |
|    | <b>(Professor Dept. of Forestry and</b> |                  |
| 4. | <b>Environmental Science)</b>           |                  |
|    | <b>Shri. V.Govindaraju</b>              | <b>MEMBER -</b>  |
|    | <b>(Assistant Conservator of</b>        | <b>SECRETARY</b> |
| 5. | <b>Forests, (BBMP)</b>                  |                  |

Shri V. Govindaraju, Member Secretary, Tree Expert Committee and Assistant Conservator of Forests, BBMP, Bengaluru welcomed the Chairman, and Members of the Committee present in the meeting.

Pursuant to the orders dt 20.08.2020 of Hon'ble High Court of Karnataka to reconstitute the Tree Expert Committee, the Government of Karnataka has re-constituted the Committee of Experts by incorporating the following members:

- (1) Professor and Head, Department of Forestry and Environmental Science and
- (2) Professor, Department of Forestry and Environmental Science, University of Agricultural Sciences, GKVK, Bengaluru. The same was submitted and placed on record by the Hon'ble High Court of Karnataka.

Bearing in mind the directions issued by the Hon'ble High Court and taking into account all the paper and documents with respect to the pending applications pertaining to BMRCL, the re-constituted Committee examined the pending

applications of BMRCL and carried out field visits for on site assessment and to find alternative ways to save the trees which were identified for felling, in different project sites/locations on the dates mentioned against each location: -

Sl.No	Metro Stations/Depot. Location	Date of Inspection
1	UM Kaval Depot.(Reach 4B)	10.09.2020
2	Bennaganahalli Lake Bund (Reach 1A)	15.09.2020
3	Kadugudi Metro Station (Reach 1B)	17.09.2020
4	Whitefield Metro Station (Reach 1B)	
5	Kadugudi Depot.	
6	Kothunur Depot Entry Line (Reach 6 Elevated)	19.09.2020
7	Reach 5 (Package-3)	
8	Govt. I.T.I Ground (Fabrication Yard)	
9	Dairy Circle Metro Station (RT 01 UG)	
10	Lakkasandra Metro Station (RT 01 UG)	23.09.2020
11	M G Road Metro Station (RT 02 UG)	

During the course of these visits, the concerned Chief Engineers / Deputy Chief Engineers of BMRCL have explained with reference to the alignment of Metro works along with the approved alignment, drawing plans etc., and the same has been examined by the Committee.

The Committee thoroughly assessed each existing tree in all the above locations for the possibility of Retention or Transplantation considering the following factors like change in project alignment / shifting of proposed structures, type of trees, health of the tree, age / maturity status of the tree *etc.* in reference to the 20 points Working Procedure and Methodology submitted to the Hon'ble High Court of Karnataka.

Intensive assessment was carried out by the Committee in order to retain the trees on site by understanding the overall project plan vis-à-vis the alignment of Metro line, stations, Depot *etc.* wherever possible, as Retention is the first priority and efficient way to save trees in any infrastructure development project area. Only when retention on site was not feasible, Committee examined as to whether the tree is sufficiently healthy to be translocated. Then if the above two options are not possible then as a last resort, the Tree Expert Committee has decided to recommend for felling of trees.

*[Handwritten signature]*



The Committee has also inspected the proposed sites by BMRCL for translocation of trees both of existing trees locations and at receptors sites (planned for translocation) which are near to the existing trees locations at some places. Details of soil test reports are produced as **Annexure**.

Thereafter meetings were held by the Committee for finalizing the field inspections reports pertaining to various Metro Stations, Viaducts and Depots in jurisdiction of Concerned Tree Officers and further the proceedings were drawn based on the field inspection reports indicating which are the trees to be saved by way of retention, which are the trees to be saved by way of translocation and finally trees to be felled.

All sincere efforts were made to save the trees by means of retention on site as first priority and then translocation as a next step. After due deliberation, the Tree Expert Committee has therefore taken decision and directed the concerned Tree Officers to issue / grant permissions for retention of trees on site, translocation of trees to suitable places and then felling of remaining trees as a last resort to BMRCL besides simultaneously informing them to carry out planting of tall healthy saplings in lieu of felling of trees at the ratio of 1:10 at suitable places. The details of trees permitted for retention, translocation and felling has been listed in the field inspection reports of Tree Expert Committee (Reports enclosed).

The Committee stressed that in respect of tree to be translocated, regular inspection of the process of translocation should be conducted and translocation should be done with close supervision of Forest Staff. Further regular post care management of the trees thus translocated must be undertaken by the Forest Staff of BBMP, Bangalore Urban Division and Project Authorities and it should be ensured that the greenery of Bengaluru city is enhanced through proper maintenance of saplings / trees under all circumstances.



  
Member Secretary and  
Assistant Conservator of Forests, BBMP

**UNIVERSITY OF AGRICULTURAL SCIENCES GKVK, BANGALORE  
DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY**

SS&AC/ 12 /2020-21  
To,

02-09-2020

SHRI SUBRAMANYA GUDGE  
CHIEF ENGINEER (UG-1)  
BANGALORE METRO RAIL CORPORATION LTD.,  
REGD. OFFICE: BMTC COMPLEX, 3<sup>RD</sup> FLOOR, K.H. ROAD  
SHANTINAGAR, BANGALORE- 560 027

Sir,  
Sub: Analytical result of four soil samples .....reg  
Ref: DR/ STA/TT -116/ 2020-21 dt:-27-08-2020

Please find here with the analytical results of four soil samples provided by you (BMRCL/0163/P-2/CE\_UG/ RT-01/2020/3882) for analysis in the Dept. of Soil Science and Agricultural Chemistry, College of Agriculture, GKVK, Bangalore-65

**Soil samples**

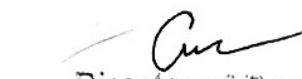
Parameters	17 Diary circle Existing tree location	18 KMF translocation area	19 Lakkasandra existing tree locality	20 NDRI translocation area
pH (1:2.5)	6.79	6.88	5.83	5.02
Electrical conductivity (dS/m)(1: 2.5)	0.50	0.31	0.18	0.14
Organic carbon (%)	0.38	0.46	0.38	0.40
Nitrogen( kg ha <sup>-1</sup> )	315.08	302.11	388.86	315.08
Phosphorus ( kg ha <sup>-1</sup> )	64.28	60.34	12.47	53.27
Potassium( kg ha <sup>-1</sup> )	479.0	274.0	316.50	350.50
Calcium (meq/100 g)	7.5	8.00	4.80	4.00
Magnesium ( meq/100 g)	2.0	2.60	1.00	1.20
Sulphur (ppm)	3.99	4.00	4.77	3.66
Iron (ppm)	4.86	5.00	8.16	10.43
Manganese (ppm)	5.00	4.65	7.04	7.11
Zinc (ppm)	0.54	0.44	0.50	0.52
Copper (ppm)	0.36	0.28	0.46	0.20
Boron (ppm)	-	0.08	-	-

**Inference:** The four soil samples provided for analysis varies from acidic to slightly acidic in nature, low to medium in salt content and organic carbon content and contain high quantities of major nutrients (N,P,K as per standards). Therefore with proper nutrient application and use of amendments soil is suitable for tree shifting.

The result should not be utilized for legal / commercial purposes without prior consent of the Director of Research.

Forwarded to  
Director of Research

NO. DR/STA/TT-116/2020-21 dtd. 2/9/2020 Yours faithfully  
**COUNTERSIGNED**

  
Director of Research  
University Of Agricultural Sciences  
& G.K.V.K. Bengaluru-560 065

  
Professor and Head  
Professor and Head  
Dept. of Soil Science & Agril. Chemistry  
College of Agriculture, U.A.S., G.K.V.K.,  
Bangalore - 560 065



UNIVERSITY OF AGRICULTURAL SCIENCES, BANGLORE  
DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY  
COLLEGE OF AGRICULTURE, GKVK CAMPUS

Soil and Irrigation Water Parameters Interpretation  
Limits of Nutrients in Soil / ಮಣ್ಣಿನಲ್ಲಿನ ಪೋಷಕಾಂಶಗಳ ಮಿತಿಗಳು

Parameters		<6.5 ಮಳೆ	6.5-8.5 ತಟಸ್ಥ	>8.5 ಕ್ಷಾರ
pH	ರಸಸಾರ			
EC (dS/m)	ವಿದ್ಯುತ್ ವಾಹಕತ್ವ, ಡೆಸಿ, ಸೈಮನ್/ಮೀ	<0.8 ಸಹಜ ಸ್ಥಿತಿ	0.8-1.6	>1.6-2.5 ಹಾನಿಕಾರಕ

Parameters		Low/ಕಡಿಮೆ	Medium/ಮಧ್ಯಮ	High/ಹೆಚ್ಚು
OC(Organic Carbon%)	ಸಾವಯವ ಇಂಗಾಲ (%)	<0.50	0.5 - 0.75	>0.75
Nitrogen (Kg ha <sup>-1</sup> )	ಸಾರಜನಕ (N) ಕೆ.ಜಿ./ಹೆ.	<280	280-560	>560
Phosphorus (Kg ha <sup>-1</sup> )	ರಂಜಕ (P <sub>2</sub> O <sub>5</sub> ) ಕೆ.ಜಿ./ಹೆ.	<22.9	22.9-56.33	>56.33
Potassium (Kg ha <sup>-1</sup> )	ಪೊಟ್ಯಾಶ್ (K <sub>2</sub> O) ಕೆ.ಜಿ./ಹೆ.	<141	141-336	>336
Sulphur (ppm)/mg kg <sup>-1</sup>	ಗಂಧಕ(S) ಪಿ.ಪಿ.ಎಂ	<10	10-20	>20
Iron (ppm)/mg kg <sup>-1</sup>	ಕಬ್ಬಿಣ (Fe) ಪಿ.ಪಿ.ಎಂ	<2.50	2.50-4.50	>4.50
Manganese (ppm)/mg kg <sup>-1</sup>	ಮ್ಯಾಂಗನೀಸ್(Mn) ಪಿ.ಪಿ.ಎಂ	<1.00	1.00-2.00	>2.00
Copper (ppm)/mg kg <sup>-1</sup>	ತಾಮ್ರ(Cu) ಪಿ.ಪಿ.ಎಂ	<0.10	0.10-0.20	>0.20
Zinc (ppm)/mg kg <sup>-1</sup>	ಸತು (Zn) ಪಿ.ಪಿ.ಎಂ	<0.60	0.60-1.00	>1.00
Boron (ppm)/mg kg <sup>-1</sup>	ಬೋರಾನ್ (B) ಪಿ.ಪಿ.ಎಂ	<0.25	0.25-0.50	>0.50

Irrigation Water Quality Parameters/ ನೀರಾವರಿ ನೀರಿನ ಗುಣಮಟ್ಟ ನಿರ್ಯತಾಂಶ

Parameter	Low/ಕಡಿಮೆ	Medium/ಮಧ್ಯಮ	High/ಹೆಚ್ಚು
pH ರಸಸಾರ	<6.5	6.5-7.5	>7.5

Salinity Classes

Parameter	Low/ಕಡಿಮೆ (C <sub>1</sub> )	Medium/ಮಧ್ಯಮ (C <sub>2</sub> )	High/ಹೆಚ್ಚು (C <sub>3</sub> )	Very High/ಅತಿ ಹೆಚ್ಚು (C <sub>4</sub> )
EC(dS/M) ವಿದ್ಯುತ್ ವಾಹಕತ್ವ	<0.25	0.25-0.75	0.75-2.25	>2.25
Chlorides(Cl)(ppm)/ಕ್ಲೋರೈಡ್	<2-5	5-12	12-20	>20

Sodicity Classes

Parameter	Low/ ಕಡಿಮೆ (S <sub>1</sub> )	Medium/ಮಧ್ಯಮ (S <sub>2</sub> )	High/ಹೆಚ್ಚು (S <sub>3</sub> )	Very High/ ಅತಿ ಹೆಚ್ಚು (S <sub>4</sub> )
SAR(Sodium adsorption ratio) ಸೋಡಿಯಂ ಹೊರಹೀರುವಿಕೆ ಅನುಪಾತ	<10	10-18	18-26	>26

Bicarbonate (HCO<sub>3</sub>) Classes

Parameter	Low (RSC <sub>1</sub> ) / ಕಡಿಮೆ	Medium (RSC <sub>2</sub> ) /ಮಧ್ಯಮ	High (RSC <sub>3</sub> ) /ಹೆಚ್ಚು
RSC(Residual Sodium carbonate) ಬಾಕಿರಿಯ ಸೋಡಿಯಂ ಕಾರ್ಬೋನೇಟ್	<1.25	1.25-2.50	>2.50

  
Professor and Head  
Dept. of Soil Science & Agril. Chemistry  
College of Agriculture, U.A.S., G.K.V.K.  
Bangalore - 560 065

Annexure added  
(To TEG Proceedings  
dt 14.10.2020)

UNIVERSITY OF AGRICULTURAL SCIENCES GKVK, BANGALORE  
DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

SS&AC/ /2020-21

20-08-2020

To,  
✓ SHRI SUBRAMANYA GUDGE  
CHIEF ENGINEER (UG-1)  
BANGALORE METRO RAIL CORPORATION LTD.,  
REGD. OFFICE: BMTC COMPLEX, 3<sup>RD</sup> FLOOR, K.H. ROAD  
SHANTINAGAR, BANGALORE- 560 027

Sir,  
Sub: Analytical result of two soil samples .....reg  
Ref: DR/ STA/TT -102/ 2020-21 dt:-18-08-2020

Please find here with the analytical results of two soil samples provided by you (BMRCL/P-2/CE\_UG/RT-02/2020/3292) for analysis in the Dept. of Soil Science and Agricultural Chemistry, College of Agriculture, GKVK, Bangalore-65

Soil samples


Parameters	12 Present location N.E. corner army public school	13 Proposed location Parade ground
pH (1:2.5)	7.20	8.5
Electrical conductivity (dS/m)	0.04	0.19
Organic carbon (%)	0.27	0.28
Nitrogen (kg ha <sup>-1</sup> )	238.3	280.5
Phosphorus (kg ha <sup>-1</sup> )	10.39	12.37
Potassium (kg ha <sup>-1</sup> )	97.5	198.0
Calcium (meq/100 g)	5.00	15.0
Magnesium (meq/100 g)	1.80	5.60
Sulphur (ppm)	4.44	5.59
Iron (ppm)	3.65	1.64
Manganese (ppm)	2.10	2.87
Zinc (ppm)	0.44	0.54
Copper (ppm)	0.28	0.44
Boron (ppm)	0.12	0.08

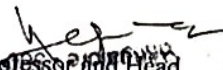
**Inference:** The two soil samples provided for analysis varies from neutral to alkaline in nature, low in salt content and organic carbon content and contain low quantities of major nutrients (N,P,K and all other parameters as per standards). Therefore with proper nutrient application and use of amendments soil is suitable for tree shifting.

The result should not be utilized for legal / commercial purposes without prior consent of the Director of Research.

Forwarded to  
Director of Research

NO. DR/STA/TT-102/2020-21 dt. 20/8/20  
Yours faithfully  
COUNTERSIGNED

  
Director of Research  
University Of Agricultural Sciences  
GKVK Bangalore-560 065

  
Professor and Head  
Department of Soil Science & Agricultural Chemistry  
University of Agricultural Sciences, GKVK



UNIVERSITY OF AGRICULTURAL SCIENCES, BANGLORE  
DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY  
COLLEGE OF AGRICULTURE, GKVK CAMPUS

Soil and Irrigation Water Parameters Interpretation  
Limits of Nutrients in Soil / ಮಣ್ಣಿನಲ್ಲಿನ ಪೋಷಕಾಂಶಗಳ ಮಿತಿಗಳು

Parameters				
pH	ರಸಪಾಠ	<6.5 ಹಳ	6.5-8.5 ತಟಸ್ಥ	>8.5 ಕ್ಷಾರ
EC (dS/m)	ವಿದ್ಯುತ್ ವಾಹಕತ್ವ, ಡೆಸಿ, ಸೈಮನ್/ಮೀ	<0.8 ಸಹಜ ಸ್ಥಿತಿ	0.8-1.6	>1.6-2.5 ಪಾನೀಕಾರಕ

Parameters		Low/ಕಡಿಮೆ	Medium/ಮಧ್ಯಮ	High/ಹೆಚ್ಚು
OC(Organic Carbon%)	ಸಾವಯವ ಇಂಗಾಲ (%)	<0.50	0.5 - 0.75	>0.75
Nitrogen (Kg ha <sup>-1</sup> )	ಸಾರಜನಕ (N) ಕೆ.ಜಿ./ಹೆ.	<280	280-560	>560
Phosphorus (Kg ha <sup>-1</sup> )	ರಂಜಕ (P <sub>2</sub> O <sub>5</sub> ) ಕೆ.ಜಿ./ಹೆ.	<22.9	22.9-56.33	>56.33
Potassium (Kg ha <sup>-1</sup> )	ಪೊಟ್ಯಾಶ್ (K <sub>2</sub> O) ಕೆ.ಜಿ./ಹೆ.	<141	141-336	>336
Sulphur (ppm)/mg kg <sup>-1</sup>	ಗಂಧಕ(S) ಪಿ.ಪಿ.ಎಂ	<10	10-20	>20
Iron (ppm)/mg kg <sup>-1</sup>	ರಬ್ಬಿಣ (Fe) ಪಿ.ಪಿ.ಎಂ	<2.50	2.50-4.50	>4.50
Manganese (ppm)/mg kg <sup>-1</sup>	ಮ್ಯಾಂಗನೀಸ್(Mn) ಪಿ.ಪಿ.ಎಂ	<1.00	1.00-2.00	>2.00
Copper (ppm)/mg kg <sup>-1</sup>	ತಾಮ್ರ(Cu) ಪಿ.ಪಿ.ಎಂ	<0.10	0.10-0.20	>0.20
Zinc (ppm)/mg kg <sup>-1</sup>	ಸತು (Zn) ಪಿ.ಪಿ.ಎಂ	<0.60	0.60-1.00	>1.00
Boron (ppm)/mg kg <sup>-1</sup>	ಬೋರಾನ್ (B) ಪಿ.ಪಿ.ಎಂ	<0.25	0.25-0.50	>0.50

Irrigation Water Quality Parameters/ ನೀರಾವರಿ ನೀರಿನ ಗುಣಮಟ್ಟ ನಿಯತಾಂಕ

Parameter	Low/ಕಡಿಮೆ	Medium/ಮಧ್ಯಮ	High/ಹೆಚ್ಚು
pH ರಸಪಾಠ	<6.5	6.5-7.5	>7.5

Salinity Classes

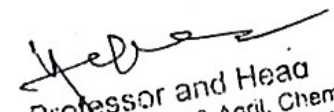
Parameter	Low/ಕಡಿಮೆ (C <sub>1</sub> )	Medium/ಮಧ್ಯಮ (C <sub>2</sub> )	High/ಹೆಚ್ಚು (C <sub>3</sub> )	Very High/ಅತಿ ಹೆಚ್ಚು (C <sub>4</sub> )
EC(dS/M) ವಿದ್ಯುತ್ ವಾಹಕತ್ವ	<0.25	0.25-0.75	0.75-2.25	>2.25
Chlorides(Cl)(ppm)/ಕ್ಲೋರೈಡ್	<2-5	5-12	12-20	>20

Sodicity Classes

Parameter	Low/ ಕಡಿಮೆ (S <sub>1</sub> )	Medium/ಮಧ್ಯಮ (S <sub>2</sub> )	High/ಹೆಚ್ಚು (S <sub>3</sub> )	Very High/ ಅತಿ ಹೆಚ್ಚು (S <sub>4</sub> )
SAR(Sodium adsorption ratio) ಸೋಡಿಯಂ ಹೊರಹೀರುವಿಕೆ ಅನುಪಾತ	<10	10-18	18-26	>26

Bicarbonate (HCO<sub>3</sub>) Classes

Parameter	Low (RSC <sub>1</sub> ) / ಕಡಿಮೆ	Medium (RSC <sub>2</sub> ) / ಮಧ್ಯಮ	High (RSC <sub>3</sub> ) / ಹೆಚ್ಚು
RSC(Residual Sodium carbonate) ಉಳಿಕೆಯ ಸೋಡಿಯಂ ಕಾರ್ಬೋನೇಟ್	<1.25	1.25-2.50	>2.50

  
Professor and Head  
Dept. of Soil Science & Agril. Chemistry  
College of Agriculture, U.A.S., G.K.V.K.  
Bangalore - 560 065

### List of Trees - ITI GROUND

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Committee Remarks
1	1	TUBOBIA ROSEA	0.75	2.00	To be Retained
2	2	MAHAGANI	0.65	3.00	To be Retained
3	3	SILVER OAK	1.00	3.00	To be Retained
4	4	SEEMANTHANGADI	0.65	1.00	To be Retained
5	5	MAHAGANI	0.9	2.5	To be Retained
6	6	SILVER OAK	0.85	4.00	To be Retained
7	7	TUBOBIA ROSEA	1.25	1.00	To be Retained
8	8	ASHOKA	1.25	1.00	To be Felled
9	9	ASHOKA	1.3	1.5	To be Felled
10	10	ASHOKA	1.3	1.5	To be Felled
11	11	ASHOKA	1.2	2.00	To be Felled
12	12	TUBOBIA ROSEA	0.9	1.00	To be Retained
13	13	SPATHODEA	1.3	2.00	To be Retained
14	14	SEEMANTHANGADI	0.80	2.00	To be Retained
15	15	HONGE	0.50	2.50	To be Retained
16	16	HONGE	0.60	3.00	To be Retained
17	17	HONGE	0.70	2.50	To be Retained
18	18	TUBOBIA ROSEA	1.25	3.50	To be Retained
19	19	HONGE	0.35	2.00	To be Retained
20	20	HONGE	0.30	2.00	To be Retained
21	21	RAIN TREE	0.30	3.00	To be Retained
22	22	HONGE	0.50	2.00	To be Retained
23	23	ASHOKA	1.30	3.00	To be Retained
24	24	NEELAGIRI	2.75	5.00	To be Retained
25	25	SILVER OAK	1.65	4.00	To be Retained
26	26	ASHOKA	0.95	3.00	To be Retained
27	27	ASHOKA	1.05	3.00	To be Retained
28	28	NEELAGIRI	2.20	6.00	To be Retained
29	29	SILVER OAK	1.60	5.00	To be Retained
30	30	SILVER OAK	1.35	5.00	To be Retained
31	31	ASHOKA	0.95	3.00	To be Retained
32	32	ASHOKA	0.80	3.00	To be Retained
33	33	ASHOKA	1.10	3.50	To be Retained
34	34	RAIN TREE	3.15	4.00	To be Retained



### List of Trees - ITI GROUND

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Committee Remarks
35	35	RAIN TREE	3.25	4.50	To be Retained
36	36	ASHOKA	1.05	3.50	To be Retained
37	37	NEELAGIRI	3.70	3.50	To be Retained
38	38	ARALI	0.30	2.00	To be Retained
39	39	JAKARANDA	0.55	2.00	To be Retained
40	40	JAKARANDA	0.45	2.50	To be Retained
41	41	HONGE	0.50	2.00	To be Retained
42	42	TUBOBIA ROSEA	0.65	3.50	To be Retained
43	43	HATTI	0.75	3.00	To be Retained
44	44	SPATHODEA	1.30	2.50	To be Retained
45	45	SPATHODEA	1.20	2.50	To be Retained
46	46	SPATHODEA	1.40	2.00	To be Retained
47	47	SPATHODEA	0.95	2.50	To be Retained
48	48	TUBOBIA ROSEA	1.20	3.50	To be Retained
49	49	TUBOBIA ROSEA	1.05	3.50	To be Retained
50	50	SPATHODEA	1.30	3.00	To be Retained
51	51	JAKARANDA	1.10	3.50	To be Retained
52	52	HONGE	0.45	2.50	To be Retained
53	53	HONGE	0.45	2.00	To be Retained
54	54	TUBOBIA ROSEA	0.50	3.00	To be Retained
55	55	HONGE	0.45	2.50	To be Retained
56	56	JAKARANDA	1.00	2.50	To be Retained
57	57	SPATHODEA	1.35	3.50	To be Retained
58	58	SPATHODEA	1.30	3.50	To be Retained
59	59	HONGE	0.55	2.50	To be Retained
60	60	HONGE	0.50	3.00	To be Retained
61	61	RAIN TREE	0.60	4.00	To be Retained
62	62	HONGE	0.35	2.50	To be Retained
63	63	HONGE	0.35	2.00	To be Retained

Total No. of Trees Enumerated	63 Nos
No. of trees recommended for Retention	59 Nos
No. of trees recommended for Translocation	-
No. of trees recommended for Felling	4 Nos
Total No. of Trees	63 Nos

*Handwritten signature*

*Handwritten signatures and marks*

## List of Trees - ITI GROUND

### Trees Recommended to Retain at Site

Trees Recommended to Retain at Site						
S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
1	1	TUBOBIA ROSEA	0.75	2.00	<i>Tabebuia rosea</i> , also called pink poui, and rosy trumpet tree is a neotropical tree that grows up to 30 m and can reach a diameter at breast height of up to 100 cm.The Spanish name roble de sabana, meaning "savannah oak", is widely used in Costa Rica, probably because it often remains in heavily deforested areas and because of the resemblance of its wood to that of oak trees	With reference to the a directions from the Honorable High Court of Karnataka, to explore for possibilities of saving more trees, the TEC with the guidance of Chairman, discussed with the BMRCL team about the action taken by BMRCL after the advice rendered by TEC. At that time, BMRCL was instructed to explore for the possibilities of retention of more trees on-site by adjustments in the relocation of the building structures proposed at the Fabrication Yard and also to completely enumerate all the trees standing within the Fabrication Yard. In response to the advice rendered by TEC, BMRCL changed few locations of the proposed building structures of the Fabrication Units within the ITI campus and retained 59 trees on-site out of the 63 trees enumerated as included in the revised application submitted.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	7	TUBOBIA ROSEA	1.25	1.00		
3	12	TUBOBIA ROSEA	0.9	1.00		
4	18	TUBOBIA ROSEA	1.25	3.50		
5	42	TUBOBIA ROSEA	0.65	3.50		
6	48	TUBOBIA ROSEA	1.20	3.50		
7	49	TUBOBIA ROSEA	1.05	3.50		
8	54	TUBOBIA ROSEA	0.50	3.00		
9	38	ARALI	0.30	2.00	<i>Ficus religiosa</i> a or sacred fig is a species of fig native to the Indian subcontinent and Indochina that belongs to Moraceae, the fig or mulberry family. It is also known as the bodhi tree, pippala tree, peepul tree, peepal tree or ashwattha tree	
10	23	ASHOKA	1.30	3.00	<i>Polyalthia longifolia</i> , is an Asian small tree species in the family Annonaceae. It is native to southern India and Sri Lanka, but has been widely introduced elsewhere in tropical Asia and Africa.	
11	26	ASHOKA	0.95	3.00		
12	27	ASHOKA	1.05	3.00		
13	31	ASHOKA	0.95	3.00		
14	32	ASHOKA	0.80	3.00		
15	33	ASHOKA	1.10	3.50		
16	36	ASHOKA	1.05	3.50		
17	43	HATTI	0.75	3.00	<i>Ficus racemosa</i> is a species of plant in the family Moraceae. Commonly known as the cluster fig tree, Indian fig tree or goolar (gular) fig, it is native to Australia and tropical Asia. It is unusual in that its figs grow on or close to the tree trunk, termed cauliflory. In India, the tree and its fruit are called gular in the north and atti in the south. The fruits are a favourite staple of the common Indian macaque. It serves as a food plant for the caterpillars of the two-brand crow butterfly ( <i>Euploea sylvester</i> ) of northern Australia	

*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*



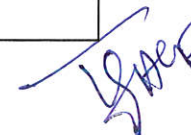
**List of Trees - ITI GROUND**  
**Trees Recommended to Retain at Site**

Trees Recommended to Retain at Site						
S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
18	15	HONGE	0.50	2.50	<i>Pongamia pinnata</i> , also known as Karanja or Indian beech, has been useful in traditional medicine for centuries. The root, stem, leaf, fruit, seed, oil, bark, and flower are used to treat many ailments, ranging from mild colds to tumors. The tree grows in tropical and sub-tropical regions all over the world. This angiosperm grows to be anywhere between 30 and 75 feet tall but the trunk is typically short. The leaves are evergreen and occur in fives, sevens, or nines. Pongam flowers range from white to pink to purple and seeds range from 10 to 15 cm long	
19	16	HONGE	0.60	3.00		
20	17	HONGE	0.70	2.50		
21	19	HONGE	0.35	2.00		
22	20	HONGE	0.30	2.00		
23	22	HONGE	0.50	2.00		
24	41	HONGE	0.50	2.00		
25	52	HONGE	0.45	2.50		
26	53	HONGE	0.45	2.00		
27	55	HONGE	0.45	2.50		
28	59	HONGE	0.55	2.50		
29	60	HONGE	0.50	3.00		
30	62	HONGE	0.35	2.50		
31	63	HONGE	0.35	2.00		
32	39	JAKARANDA	0.55	2.00	<i>Jacaranda</i> is a genus of 49 species of flowering plants in the family Bignoniaceae, native to tropical and subtropical regions of Latin America and the Caribbean. It has been planted widely in Asia especially in Nepal.	
33	40	JAKARANDA	0.45	2.50		
34	51	JAKARANDA	1.10	3.50		
35	56	JAKARANDA	1.00	2.50		
36	2	MAHAGANI	0.65	3.00	<i>Swietenia mahagoni</i> , commonly known as American mahogany, Cuban mahogany, small-leaved mahogany, and West Indian mahogany, is a species of Swietenia native to South Florida in the United States and islands in the Caribbean including the Bahamas, Cuba, Jamaica, and Hispaniola	
37	5	MAHAGANI	0.9	2.5		
38	24	NEELAGIRI	2.75	5.00	Eucalyptus is a genus of over seven hundred species of flowering trees, shrubs or mallees in the myrtle family, Myrtaceae. Along with several other genera in the tribe Eucalypteae, including Corymbia, they are commonly known as eucalypts.	
39	28	NEELAGIRI	2.20	6.00		
40	37	NEELAGIRI	3.70	3.50		





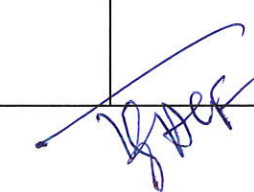






**List of Trees - ITI GROUND**  
**Trees Recommended to Retain at Site**

Trees Recommended to Retain at Site						
S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
41	21	RAIN TREE	0.30	3.00	Rain tree is a wide-canopied tree with a large symmetrical umbrella-shaped crown. It usually reaches a height of 15–25 m (49–82 ft) and a diameter of 30 m (98 ft). The tree has pinkish flowers. Rain trees usually have a short, stout trunk of about 1–2 m (3–6.5 ft) in diameter at breast height (dbh), but the Trunk can attain 2–3 m (6.5–10 ft) dbh in exceptional cases	
42	34	RAIN TREE	3.15	4.00		
43	35	RAIN TREE	3.25	4.50		
44	61	RAIN TREE	0.60	4.00		
45	4	SEEMANTHANGADI	0.65	1.00	<i>Cassia siamia</i> is a leguminous tree in the subfamily Caesalpinioideae. It is commonly known by its local names matura tea tree, avaram or ranawara. The leaves are alternate, stipulate, paripinnate compound, very numerous, closely placed, rachis 8.8-12.5 cm long, narrowly furrowed, slender, pubescent, with an erect linear gland between the leaflets of each pair, leaflets 16-24, very shortly stalked 2-2.5 cm long 1-1.3 cm broad, slightly overlapping, oval oblong, obtuse, at both ends, mucronate, glabrous or minutely downy, dull green, paler beneath, stipules very large, reniform-rotund, produced at base on side of next petiole into a filiform point and persistent.	
46	14	SEEMANTHANGADI	0.80	2.00		
47	3	SILVER OAK	1.00	3.00	<i>Grevillea robusta</i> , commonly known as the southern silky oak, silk oak or silky oak, silver oak or Australian silver oak, is a flowering plant in the family Proteaceae. It is a tree, the largest species in its genus but is not closely related to the true oaks, Quercus	
48	6	SILVER OAK	0.85	4.00		
49	25	SILVER OAK	1.65	4.00		
50	29	SILVER OAK	1.60	5.00		
51	30	SILVER OAK	1.35	5.00		
52	13	SPATHODEA	1.3	2.00	<i>Spathodea campanulata</i> is a monotypic genus in the flowering plant family Bignoniaceae. The single species it contains, Spathodea campanulata, is commonly known as the African tulip tree. The tree grows between 7–25 m tall and is native to tropical dry forests of Africa	
53	44	SPATHODEA	1.30	2.50		
54	45	SPATHODEA	1.20	2.50		
55	46	SPATHODEA	1.40	2.00		
56	47	SPATHODEA	0.95	2.50		
57	50	SPATHODEA	1.30	3.00		
58	57	SPATHODEA	1.35	3.50		
59	58	SPATHODEA	1.30	3.50		










# **List of Trees - ITI GROUND**


## **Trees recommended for Felling**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
1	8	ASHOKA	1.25	1.00	<i>Polyalthia longifolia</i> , is an Asian small tree species in the family Annonaceae. It is native to southern India and Sri Lanka, but has been widely introduced elsewhere in tropical Asia and Africa.	Felling of these trees was decided as a last resort , as these trees are falling with in the project alignment and were exhibiting various symptomatic parameters which made them un-fit for translocation. Some of the parameters include major wounds on the trunk, debarking, physical damage on the bark and other pest infestation.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	9	ASHOKA	1.3	1.5		
3	10	ASHOKA	1.3	1.5		
4	11	ASHOKA	1.2	2.00		

  
**Prof. C. Nagarajiah**  
 (Member, TEC)

  
**Dr. Muthu Kumar Arunachalam**  
 (Member, TEC)

  
**Prof. R. Krishna Murthy**  
 (Member, TEC)

  
**(Shri. V. Govindaraju)**  
 (Member Secretary and ACF, BBMP)

  
**Shri I.B. Srivastava, IFS (Rtd).**  
**Chairman, TEC**

**List of Trees - Dairy Circle Metro Station**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Committee Remarks
1	Unnumbered	Banni mara	1.3	3	To be Translocated
2	41	Gulmohr	1.25	2	To be Felled
3	14	Honge	1.45	1	To be Felled
4	15	Honge	2	1	To be Felled
5	16	Honge	0.8	1	To be Felled
6	19	Honge	1.15	1	To be Translocated
7	20	Honge	2.2	1	To be Felled
8	1	Jamun	1.8	2	To be Translocated
9	9	Jamun	2	2	To be Translocated
10	10	Jamun	0.9	2	To be Translocated
11	37	Jamun	1.25	3	To be Translocated
12	11	Mango	0.6	1	To be Translocated
13	17	Mango	1.3	2	To be Felled
14	18	Mango	0.85	1	To be Translocated
15	2	Eucalyptus	2.1	3	To be Felled
16	3	Eucalyptus	1.5	3	To be Felled




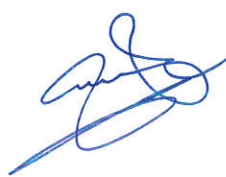
~~Collected~~



**List of Trees - Dairy Circle Metro Station**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Committee Remarks
17	6	Eucalyptus	2.5	4	To be Felled
18	13	Eucalyptus	2	4	To be Felled
19	38	Eucalyptus	3	3	To be Felled
20	4	Neem	0.38	1	To be Translocated
21	5	Neem	0.75	1	To be Translocated
22	7	Neem	0.9	1	To be Translocated
23	21	Neem	0.9	1	To be Translocated
24	8	Peepal	5.5	1	To be Felled
25	35	Peepal	1.5	2	To be Translocated
26	36	Peepal	1.65	2	To be Translocated
27	12	Rain tree	3.5	1	To be Felled
28	39	Sisso	0.7	2	To be Translocated
29	40	Teak	0.4	2	To be Felled

Total No. of Trees Enumerated	29 Nos
No. of trees recommended for Translocation	15 Nos
No. of trees recommended for Felling	14 Nos
Total No. of Trees	29 Nos

*Handwritten signature/initials*

## List of Trees - Dairy Circle Metro Station

### Trees recommended for Translocation

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Reason for Translocation
1	Unnumbered	Banni mara	1.3	3	<i>Prosopis cineraria</i> :is a small tree, ranging in height from 3–5 m (9.8–16.4 ft). Leaves are bipinnate, with seven to fourteen leaflets on each of one to three pinnae. Branches are thorned along the internodes. Flowers are small and creamy-yellow, and followed by seeds in pods. The tree is found in extremely arid conditions, with rainfall as low as 15 cm (5.9 in) annually; but is indicative of the presence of a deep water table. As with some other <i>Prosopis</i> spp., <i>P. cineraria</i> has demonstrated a tolerance of highly alkaline and saline environments.	<p>* In this site the identified trees for translocation are of different species with different girth size and found healthy . Further these trees are recommended for Translocation based on the availability of suitable rootball size after excavation and prevailing condition.The trees are located in the middle of the proposed diversion roads and the land area falling in between the proposed diversion roads will be utilized for the construction of Underground Metro station of BMRCL. Hence retention of trees on-site is not possible and translocation is the only alternative. ( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)</p> <p>* Regarding translocation of trees, the sites identified are in the premises of KMF and NDRI .These sites have been inspected by TEC. Soil analysis reports were also produced for persual of TEC, translocation of trees can be done in these areas. The recommendations as suggested by GKVK and TEC during the course of translocation activity have to be followed by BMRCL</p>
2	19	Honge	1.15	1	<i>Pongamia pinnata</i> , also known as Karanja or Indian beech, has been useful in traditional medicine for centuries. The root, stem, leaf, fruit, seed, oil, bark, and flower are used to treat many ailments, ranging from mild colds to tumors. Pongam, a glabrous tree, is primarily found in forests of India. The tree grows in tropical and sub-tropical regions all over the world.	
3	1	Jamun	1.8	2	<i>Syzygium cumini</i> , commonly known as Malabar plum, Java plum, black plum, or jambolan, is an evergreen tropical tree in the flowering plant family Myrtaceae, and favored for its fruit, timber, and ornamental value. The leaves which have an aroma similar to turpentine, are pinkish when young, changing to a leathery, glossy dark green with a yellow midrib as they mature. The leaves are used as food for livestock, as they have good nutritional value.	
4	9	Jamun	2	2		
5	10	Jamun	0.9	2		
6	37	Jamun	1.25	3		
7	11	Mango	0.6	1	Mango( <i>Mangifera indica</i> ) trees grow to 35–40 m (115–131 ft) tall, with a crown radius of 10 m (33 ft). The trees are long-lived, as some specimens still fruit after 300 years. In deep soil, the taproot descends to a depth of 6 m (20 ft), with profuse, wide-spreading feeder roots and anchor roots penetrating deeply into the soil.	
8	18	Mango	0.85	1		
9	4	Neem	0.38	1	Neem( <i>Azadirachta indica</i> ) is a fast-growing tree that can reach a height of 15–20 metres (49–66 ft), and rarely 35–40 metres (115–131 ft). It is evergreen, but in severe drought it may shed most or nearly all of its leaves. The branches are wide and spreading. The fairly dense crown is roundish and may reach a diameter of 20–25 metres (66–82 ft).	
10	5	Neem	0.75	1		
11	7	Neem	0.9	1		
12	21	Neem	0.9	1		
13	35	Peepal	1.5	2	<i>Ficus religiosa</i> has a very long lifespan, ranging on average between 900 and 1,500 years. In some of its native habitats, it has been reportedly found living for over 3,000 years.	
14	36	Peepal	1.65	2		
15	39	Sisso	0.7	2	<i>Dalbergia. sissoo (Sisso)</i> is a medium to large deciduous tree with a light crown which reproduces by seeds and suckers. It can grow up to a maximum of 25 m (82 ft) in height and 2 to 3 m (6 ft 7 in to 9 ft 10 in) in diameter, but is usually smaller.	

*ASR*

*Colley*

*[Signature]*

*GAES*



### List of Trees - Dairy Circle Metro Station

#### Trees Recommended for felling

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
1	41	Gulmohar	1.25	2	<i>Delonix regia</i> is endemic to the Madagascar's dry deciduous forests, but has been introduced into tropical and sub-tropical regions worldwide. In the wild it is endangered, but it is widely cultivated elsewhere and is regarded as naturalised in many of the locations where it is grow	Felling of these trees was decided as a last resort , as these trees are falling within the project alignment and were exhibiting various symptomatic parameters which render them un-fit for translocation. The various parameters include major wounds on the trunk, debarking, physical damage on the bark, scar due to fire and other pest infestation.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	14	Honge	1.45	1	<i>Pongamia pinnata</i> , also known as Karanja or Indian beech, has been useful in traditional medicine for centuries. The root, stem, leaf, fruit, seed, oil, bark, and flower are used to treat many ailments, ranging from mild colds to tumors. Pongam, a glabrous tree, is primarily found in forests of India. The tree grows in tropical and sub-tropical regions all over the world. This angiosperm grows to be anywhere between 30 and 75 feet tall.	
3	15	Honge	2	1		
4	16	Honge	0.8	1		
5	20	Honge	2.2	1		
6	17	Mango	1.3	2	Mango( <i>Mangifera indica</i> ) trees grow to 35–40 m (115–131 ft) tall, with a crown radius of 10 m (33 ft). The trees are long-lived, as some specimens still fruit after 300 years. In deep soil, the taproot descends to a depth of 6 m (20 ft), with profuse, wide-spreading feeder roots and anchor roots penetrating deeply into the soil. The leaves are evergreen, alternate, simple, 15–35 cm (5.9–13.8 in) long, and 6–16 cm (2.4–6.3 in) broad; when the leaves are young they are orange-pink, rapidly changing to a dark, glossy red, then dark green as they mature	
7	2	Eucalyptus	2.1	3	Most species of Eucalyptus are native to Australia, and every state and territory has representative species. About three-quarters of Australian forests are eucalypt forests. Wildfire is a feature of the Australian landscape and many eucalypt species are adapted to fire, and resprout after fire or have seeds which survive fire.A few species are native to islands north of Australia and a smaller number are only found outside the continent. Eucalypts have been grown in plantations in many other countries because they are fast growing and have valuable timber, or can be used for pulpwood, for honey production or essential oils. In some countries, however, they have been removed because they are highly flammable.	
8	3	Eucalyptus	1.5	3		
9	6	Eucalyptus	2.5	4		
10	13	Eucalyptus	2	4		
11	38	Eucalyptus	3	3		
12	8	Peepal	5.5	1	<i>Ficus religiosa</i> is a large dry season-deciduous or semi-evergreen tree up to 30 metres (98 ft) tall and with a trunk diameter of up to 3 metres (9.8 ft). The leaves are cordate in shape with a distinctive extended drip tip; they are 10–17 centimetres (3.9–6.7 in) long and 8–12 centimetres (3.1–4.7 in) broad, with a 6–10 centimetres (2.4–3.9 in) petiole. The fruits are small figs 1–1.5 centimetres (0.39–0.59 in) in diameter, green ripening to purple.	
13	12	Rain tree	3.5	1	<i>Samanea saman</i> (Rain tree) is a wide-canopied tree with a large symmetrical umbrella-shaped crown. It usually reaches a height of 15–25 m (49–82 ft) and a diameter of 30 m (98 ft). The tree has pinkish flowers with white and red stamens, set on heads with around 12–25 flowers per head. These heads may number in the thousands, covering the whole tree. He measured the circumference of the parasol-shaped crown at 576 ft (about 180.8 m, its diameter was around 190 ft (about 59.6 m), on a trunk at 9 ft (about 2.8 m) in diameter and reaching just 60 ft (nearly 19 m) in height.	
14	40	Teak	0.4	2	<i>Tectona grandis</i> (Teak) is a tropical hardwood tree species in the family Lamiaceae. It is a large, deciduous tree that occurs in mixed hardwood forests. <i>Tectona grandis</i> has small, fragrant white flowers arranged in dense clusters at the end of the branches.	

Prof. C.Nagarajalah  
(Member, TEC)

Dr.Muthu Kumar Arunachalam  
(Member, TEC)

Prof. R. Krishna Murthy  
(Member, TEC)

Shri. V. Govindaraju  
(Member Secretary and ACF, BBMP)

Shri I.B. Srivastava, IFS (Rtd).  
Chairman, TEC

**List of Trees - Lakkasandra Metro Station**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Committee Remarks
1	22	Rain Tree	2.05	1.5	To be Translocated
2	23	Spathodea	0.9	1	To be Translocated
3	24	Banyan tree	0.85	2	To be Translocated
4	25	Peepal	4.5	2	To be Translocated
5	26	Jamun	1.35	2	To be Translocated
6	27	Rain Tree	3.75	1	To be Felled
7	28	Fig	3	1	To be Translocated
8	29	Peepal	5.5	2	To be Felled
9	30	Buruga Tree	2.1	5	To be Felled
10	31	Mango tree	0.9	3	To be Translocated
11	32	Jack Fruit	0.45	2	To be Felled
12	33	Peepal	3	2	To be Translocated
13	34	Jamun	2.8	3	To be Felled

Total No. of Trees Enumerated	13 Nos
No. of trees recommended for Retention	-
No. of trees recommended for Translocation	8 Nos
No. of trees recommended for Felling	5 Nos
Total No. of Trees	13 Nos

Collected


*[Signature]*

*[Signature]*

*[Signature]*

*[Signature]*



List of Trees - Lakkasandra Metro Station						
Trees recommended for Translocation						
S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
1	24	Banyan tree	0.85	2	<i>F. benghalensi</i> s is a large, evergreen to deciduous tree, up to 20 (-25) m tall, with wide leafy crown and branches spreading up to 100 m or more with pillar-like prop roots and accessory trunks. Trunk massive, fluted, bark grey, smooth, young softly white puberulous. F. benghalensis grows from low altitudes to 600 metres principally in monsoon and rain forests.	<p>* In this site the identified trees for <b>translocation</b> are of different species with different girth size and found healthy . Further these trees are recommended for <b>translocation</b> based on the availability of suitable rootball size after excavation and prevailing conditions.The trees are located in the middle of the proposed diversion roads and the land area falling in between the proposed diversion roads will be utilized for the construction of Underground Metro station of BMRCL. Hence retention of trees on-site is not possible and translocation is the only alternative. ( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)</p> <p>* Regarding translocation of trees, the sites identified are in the premises of KMF and NDRI.These sites have been inspected by TEC . Soil analysis reports were also produced for persual of TEC, translocation of trees can be done in these areas. The recommendations as suggested by GKVK and TEC during the course of translocation activity have to be followed by BMRCL</p> 
2	28	Fig	3	1	<i>Ficus racemosa</i> is a deciduous tree, to 30 m high; bole Buttressed; bark 8-10 mm thick, surface reddish-brown or Yellowish-brown smooth, coarsely flaky, fibrous; blaze Creamy pink; latex milky; young shoots and twigs finely White hairy, soon glabrous; branchlets 1.5-3 mm thick, Puberulous.	
3	26	Jamun	1.35	2	<i>Syzygium cumin</i> i, commonly known as Malabar plum, Java plum, black plum, or jambolan, is an evergreen tropical tree in the flowering plant family Myrtaceae, and favored for its fruit, timber, and ornamental value. The leaves which have an aroma similar to turpentine. The leaves are used as food for livestock, as they have good nutritional value.	
4	25	Peepal	4.5	2	<i>Ficus religiosa</i> is a large dry season-deciduous or semi-evergreen tree up to 30 metres (98 ft) tall and with a trunk diameter of up to 3 metres (9.8 ft). The leaves are cordate in shape with a distinctive extended drip tip. F. religiosa has a very long lifespan, ranging on average between 900 and 1,500 years. In some of its native habitats, it has been reportedly found living for over 3,000 years. Ficusreligiosa suitably grows at altitudes ranging from 10 metres (33 ft) up to 1,520 metres (4,990 ft). Due to the climatic conditions which are prevalent throughout different heat zones, it can grow at latitudes ranging from 30°N to 5°S	
5	33	Peepal	3	2		
6	22	Rain Tree	2.05	1.5	Rain tree is a wide-canopied tree with a large symmetrical umbrella-shaped crown. It usually reaches a height of 15–25 m (49–82 ft) and a diameter of 30 m (98 ft). The tree has pinkish flowers. Rain trees usually have a short, stout trunk of about 1–2 m (3–6.5 ft) in diameter at breast height (dbh), but the Trunk can attain 2–3 m (6.5–10 ft) dbh in exceptional cases	
7	23	Spathodea	0.9	1	<i>Spathodea campanulata</i> , is commonly known as the African tulip tree,fountain tree, pichkari or Nandi flame. The tree grows between 7–25 m (23–82 ft) tall and is native to tropical dry forests of Africa. It has been nominated as among 100 of the "World's Worst" invaders. This tree is planted extensively as an ornamental tree throughout the tropics and is much appreciated for its very showy reddish-orange or crimson (rarely yellow), campanulate flowers.	
8	31	Mango tree	0.9	3	Mango trees grow to 35–40 m (115–131 ft) tall, with a crown radius of 10 m (33 ft). The trees are long-lived, as some specimens still fruit after 300 years. In deep soil, the taproot descends to a depth of 6 m (20 ft), with profuse, wide-spreading feeder roots and anchor roots penetrating deeply into the soil. The fruits may be somewhat round, oval, or kidney-shaped, ranging from 5–25 centimetres (2–10 in) in length and from 140 grams (5 oz) to 2 kilograms (5 lb) in weight per individual fruit.	

Colley

44

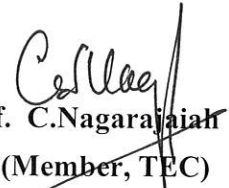
12/05/25





**List of Trees - Lakkasandra Metro Station**


**Trees Recommended for felling**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Species Characteristics	Committee Remarks
1	30	Buruga Tree	2.1	5	<i>Bombax ceiba</i> grows to an average of 20 meters, with old trees up to 60 meters in wet tropical regions. The trunk and limb bear numerous conical spines particularly when young but get eroded when older	Felling of these trees was decided as a last resort . These trees identified for felling fall in the middle of the project area. Therefore cannot be retained on site. Translocation is also ruled-out along with retention because the trees were categorized under one or the other parameters like silviculturally matured, diseased or damaged, without availability of root ball size, introduced or softwood species with least ecological importance in reference to point no.s 14, 15 and 19 of methodology of TEC .( These recommendations are in reference to the 20 point working procedure or methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	32	Jack Fruit	0.45	2	<i>Artocarpus heterophyllus</i> grows as an evergreen tree that has a relatively short trunk with a dense treetop. It easily reaches heights of 10 to 20 m (33 to 66 feet) and trunk diameters of 30 to 80 cm (12 to 31 inches). It sometimes forms buttress roots. The leaves are alternate and spirally arranged. They are gummy and thick and are divided into a petiole and a leaf blade. The fruits grow on a long and thick stem on the trunk. An average fruit consists of 27% edible seed coat, 15% edible seeds, 20% white pulp (undeveloped perianth, rags) and bark and 10% core.	
3	34	Jamun	2.8	3	<i>Syzygium cumini</i> , commonly known as Malabar plum, Java plum, black plum, or jambolan, is an evergreen tropical tree in the flowering plant family Myrtaceae, and favored for its fruit, timber, and ornamental value. The leaves which have an aroma similar to turpentine. The leaves are used as food for livestock, as they have good nutritional value.	
4	29	Peepal	5.5	2	<i>Ficus religiosa</i> is a large dry season-deciduous or semi-evergreen tree up to 30 metres (98 ft) tall and with a trunk diameter of up to 3 metres (9.8 ft). The leaves are cordate in shape with a distinctive extended drip tip. F. religiosa has a very long lifespan, ranging on average between 900 and 1,500 years. In some of its native habitats, it has been reportedly found living for over 3,000 years. Ficus religiosa suitably grows at altitudes ranging from 10 metres (33 ft) up to 1,520 metres (4,990 ft). Due to the climatic conditions which are prevalent throughout different heat zones, it can grow at latitudes ranging from 30°N to 5°S	
5	27	Rain Tree	3.75	1	Rain tree is a wide-canopied tree with a large symmetrical umbrella-shaped crown. It usually reaches a height of 15–25 m (49–82 ft) and a diameter of 30 m (98 ft). The tree has pinkish flowers. Rain trees usually have a short, stout trunk of about 1–2 m (3–6.5 ft) in diameter at breast height (dbh), but the Trunk can attain 2–3 m (6.5–10 ft) dbh in exceptional cases	

  
Prof. C.Nagarajiah  
(Member, TEC)

  
Dr.Muthu Kumar Arunachalam  
(Member, TEC)

  
Prof. R. Krishna Murthy  
(Member, TEC)

  
( Shri. V. Govindaraju )  
(Member Secretary and ACF, BBMP)

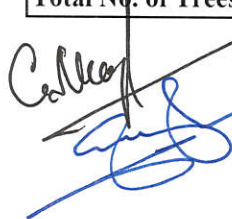

Shri I.B. Srivastava, IFS (Rtd).  
Chairman, TEC



### List of Trees - M G Road Metro Station

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Location	Committee Remarks
1	73	Gulmohar	1.90	2.00	North East entry(Army Public School footpath)	To be Felled
2	74	Honge	1.30	3.00		To be Translocated
3	75	Peltophoram	1.40	2.50		To be Felled
4	76	Honge	1.30	2.00		To be Felled
5	77	Sampige	0.90	2.00		To be Translocated
6	78	Mahagani	1.40	3.50		To be Translocated
7	79	Mahagani	1.00	4.00	North West Entry(Parade Ground Foot)	To be Translocated
8	80	Mahagani	1.60	2.50		To be Translocated
9	81	Basavanapada	0.55	3.00		To be Translocated
Total Trees			9 Nos			

Total No. of Trees Enumerated	9 Nos
No. of trees recommended for Retention	-
No. of trees recommended for Translocation	6 Nos
No. of trees recommended for Felling	3 Nos
Total No. of Trees	9 Nos




**List of Trees - M G Road Metro Station**

**Trees recommended for Translocation**

S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Location	Species Characteristics	Committee Remarks
1	74	Honge	1.30	3.00	North East entry(Army Public School footpath)	<i>Pongamia pinnata</i> , also known as Karanja or Indian beech, has been useful in traditional medicine for centuries. The root, stem, leaf, fruit, seed, oil, bark, and flower are used to treat many ailments, ranging from mild colds to tumors. Pongam, a glabrous tree, is primarily found in forests of India. The tree grows in tropical and sub-tropical regions all over the world.	* The trees are located in the area where the entry and approach ways to the proposed MG Metro underground station are to be constructed. Therefore retention is not possible.TEC did thorough examination of each tree from ecological perspective and health conditions of the trees including status of the bark, collar region of the branches, basal region of the trunk, anthropogenic interferences within tree protection zone and overall appearance of the tree for any pathological symptoms. The trees were recommended for translocation after assessing the overall health status and location of the trees for the possibility of having a good size of root-ball at the time of excavation.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)  * Regarding translocation of trees, the site identified is in the premises Manekshaw Parade Ground.These sites have been inspected by TEC . Soil analysis reports were also produced for persual of TEC, translocation of trees can be done in these areas. The recommendations as suggested by GKVK and TEC during the course of translocation activity have to be followed by BMRCL
2	77	Sampige	0.90	2.00		<i>Magnolia champaca</i> , known in English as champak, is a large evergreen tree in the family Magnoliaceae. It was previously classified as Michelia champaca. It is known for its fragrant flowers, and its timber used in woodworking.	
3	78	Mahogany	1.40	3.50		<i>Swietenia mahagoni</i> , commonly known as American mahogany, Cuban mahogany, small-leaved mahogany, and West Indian mahogany, is a species of Swietenia native to South Florida in the United States and islands in the Caribbean including the Bahamas, Cuba, Jamaica, and Hispaniola	
4	81	Basavanapada	0.55	3.00	North West Entry(Parade Ground Foot)	<i>Bauhinia racemosa</i> , this tree is a rare medicinal species of flowering shrub with religious significance. It is a small crooked tree with drooping branches that grows 3–5 metres tall and flowers between February and May. It is native to tropical Southeast Asia	
5	79	Mahogany	1.00	4.00		<i>Swietenia mahagoni</i> , commonly known as American mahogany, Cuban mahogany, small-leaved mahogany, and West Indian mahogany, is a species of Swietenia native to South Florida in the United States and islands in the Caribbean including the Bahamas, Cuba, Jamaica, and Hispaniola	
6	80	Mahogany	1.60	2.50			

*[Handwritten signature]*


*[Handwritten signatures and initials]*




M G Road Metro Station							
Trees Recommended for felling							
S.No.	Tree No.	Name Of Tree /Species	Girth in mtr	Height in mtr	Location	Species Characteristics	Committee Remarks
1	73	Gulmohar	1.90	2.00	North East entry(Army Public School footpath)	<i>Delonix regia</i> is a species of flowering plant in the bean family Fabaceae, subfamily Caesalpinioideae native to Madagascar. In many tropical parts of the world it is grown as an ornamental tree and in English it is given the name royal poinciana, flamboyant, flame of the forest, or flame tree. Branches arising from midculm nodes upward, occasionally also at lower nodes, several to many at each node with primary branch dominant.	Felling of these trees was decided as a last resort . These trees identified for felling fall in the middle of the project area, therefore cannot be retained at site. Translocation was also ruled out along with retention because the trees could be categorized under one or the other parameters like silviculturally matured, diseased or damaged, without availability suitable root ball size, introduced or softwood species with least ecological importance in reference to point no.s 14, 15 and 19 of methodology of TEC .( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	75	Pelto phorum	1.40	2.50		<i>Peltophorum pterocarpum</i> is a species of Peltophorum, native to tropical southeastern Asia and a popular ornamental tree grown around the world.It is a deciduous tree growing to 15–25 m (rarely up to 50 m) tall, with a trunk diameter of up to 1 m belonging to Family Leguminosae and sub-family Caesalpinieaceae.The fruit is a pod 5–10 cm long and 2.5 cm broad, red at first, ripening black, and containing one to four seeds. Trees begin to flower after about four years	
3	76	Honge	1.30	2.00		<i>Pongamia pinnata</i> , also known as Karanja or Indian beech, has been useful in traditional medicine for centuries. The root, stem, leaf, fruit, seed, oil, bark, and flowers are used to treat many ailments, ranging from mild colds to tumors. Pongam, a glabrous tree, is primarily found in forests of India. The tree grows in tropical and sub-tropical regions all over the world.	

  
Prof. C.Nagarajan  
(Member, TEC)

  
Dr.Muthu Kumar Arunachalam  
(Member, TEC)

  
Prof. R. Krishna Murthy  
(Member, TEC)

  
(Shri. V. Govindaraju )  
(Member Secretary and ACF, BBMP)

  
Shri I.B. Srivastava, IFS (Rtd).  
Chairman, TEC

**List of trees -R5-P3 16TH MAIN BTM LAYOUT & KUVEMPU NAGAR BUS STAND**  
**BTM Layout Area**

Sl.no	Tree No.	Name of Tree/Species	Girth in mtr	Height in mtr	Remarks
<b>LHS</b>					
1	T1	Rain Tree	1.20	4.00	To be Retained
2	T2	Dalichindra	1.30	4.00	To be Retained
3	T3	Gulmohar	2.20	3.00	To be Felled
4	T4	Gulmohur	2.80	3.00	To be Felled
5	T5	Spathodia	1.20	3.00	To be Retained
6	T6	Sihi Hunsae	1.00	4.00	To be Felled
7	T7	Peltophorum	1.50	3.00	To be Felled
8	T8	Peltophorum	4.00	3.00	To be Felled
9	T9	Bottle Brush	0.80	2.50	To be Felled
10	T10	Bottle Brush	0.80	3.00	To be Felled

<b>RHS</b>					
11	T1	Gulmohar	1.80	2.00	To be Felled
12	T2	Gulmohar	2.00	4.00	To be Felled
13	T3	Gulmohar	1.50	5.00	To be Felled
14	T4	Gulmohar	2.20	3.00	To be Felled
15	T5	Gulmohar	3.00	3.00	To be Felled
16	T6	Peltophorum	1.50	3.50	To be Felled

Total No. of Trees Enumerated	16 Nos
No. of trees recommended for Retention	3 Nos
No. of trees recommended for Translocation	—
No. of trees recommended for Felling	13 Nos
Total No. of Trees	16Nos.

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*



R5-P3 16TH MAIN BTM LAYOUT & KUVEMPU NAGAR BUS STAND

Trees Recommended to Retain at Site

Sl.No	Tree No.	Name of Tree/Species	Girth in mtr	Height in mtr(Approx)	Species Charecteristics	Committee Remarks
1	1	Rain Tree (LHS)	1.2	4	Rain tree is a wide-canopied tree with a large symmetrical umbrella-shaped crown. It usually reaches a height of 15–25 m (49–82 ft) and a diameter of 30 m (98 ft). The tree has pinkish flowers with white and red stamens, set on heads with around 12–25 flowers per head. These heads may number in the thousands, covering the whole tree. He measured the circumference of the parasol-shaped crown at 576 ft (about 180.8 m, its diameter was around 190 ft (about 59.6 m), on a trunk at 9 ft (about 2.8 m) in diameter and reaching just 60 ft (nearly 19 m) in height.	These trees are falling close to the boundary and will not hinder the BMRCL project activities.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	2	Dalichindra (LHS)	1.3	4	<i>Dolichandra unguis-cati</i> has semipersistent foliage. Stems are woody and can reach 20 metres (66 ft). Thin and small aerial roots are used for climbing. Leaves are dark green, opposite and bifoliate. Leaflets have a length of 3 to 4 cm (1.2 to 1.6 in). The plant produces flowers during the wet season. Flowers are yellow, have a diameter of 4 to 5 cm (1.6 to 2.0 in) and can grow alone or in groups of two or three. Long primary roots extend beneath the soil surface, producing large tubers 40–50 cm (16–20 in) long. Fruits are brown flattened capsules from 25 to 95 cm (9.8 to 37.4 in) long. Each capsule contains 100 to 200 seeds.	
3	5	Spathodia (LHS)	1.2	3	<i>Spathodea campanulata</i> , is commonly known as the African tulip tree, fountain tree, pichkari or Nandi flame. The tree grows between 7–25 m (23–82 ft) tall and is native to tropical dry forests of Africa. It has been nominated as among 100 of the "World's Worst" invaders. This tree is planted extensively as an ornamental tree throughout the tropics and is much appreciated for its very showy reddish-orange or crimson (rarely yellow), campanulate flowers.	

*GA*

*Cell*

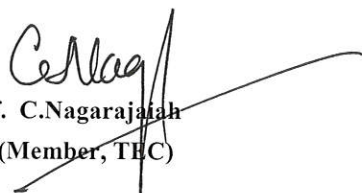
*Q*


*GA*

R5-P3 16TH MAIN BTM LAYOUT & KUVEMPU NAGAR BUS STAND

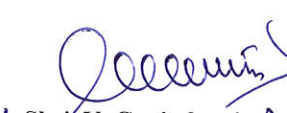
Trees Recommended for felling

Sl.No	Tree No.	Name of Tree/Species	Girth in mtr	Height in mtr(Approx)	Species Charecteristics	Committee Remarks
LHS						
1	3	Gulmohar	2.20	3.00	<i>Delonix regia</i> is a species of flowering plant in the bean family Fabaceae, subfamily Caesalpinioideae native to Madagascar. In many tropical parts of the world it is grown as an ornamental tree and in English it is given the name royal poinciana, flamboyant, flame of the forest, or flame tree. Branches arising from midculm nodes upward, occasionally also at lower nodes, several to many at each node with primary branch dominant.	Some of these trees in this site do not have sufficient space to excavate good size of root-ball because these trees are located in between the flood carrier channel and cement concrete structure. Hence these trees don't fit for transplantation .Felling of these trees was decided as a last resort , as these trees are falling within the project alignment and were exhibiting various symptomatic parameters which render them un-fit for translocation. The various parameters include major wounds on the trunk, debarking, physical damage on the bark, scar due to fire and other pest infestation.( These recommendations are in reference to the 20 point working procedure and methodology submitted by TEC to the Hon'ble High Court of Karnataka)
2	4	Gulmohar	2.80	3.00		
3	6	Sihi Hunsae	1.00	4.00		
4	7	Peltophorum	1.50	3.00	It is a deciduous tree growing to 15–25 m (rarely up to 50 m) tall, with a trunk diameter of up to 1 m belonging to Family Leguminosae and sub-family Caesalpiniaaceaea. Trees begin to flower after about four years.	
5	8	Peltophorum	4.80	3.00		
6	9	Bottle Brush	0.80	2.50	Bottle brush plants (Callistemon spp.) get their name from the spikes of flowers that bloom at the ends of the stems, bearing a strong resemblance to a bottle brush. Grow them as shrubs or small trees that grow up to 15 feet.	
7	10	Bottle Brush	0.80	3.00		
RHS						
8	1	Gulmohur	1.8	2	<i>Delonix regia</i> is a species of flowering plant in the bean family Fabaceae, subfamily Caesalpinioideae native to Madagascar. In many tropical parts of the world it is grown as an ornamental tree and in English it is given the name royal poinciana, flamboyant, flame of the forest, or flame tree. Branches arising from midculm nodes upward, occasionally also at lower nodes, several to many at each node with primary branch dominant.	
9	2	Gulmohur	2	4		
10	3	Gulmohur	1.5	5		
11	4	Gulmohur	2.2	3		
12	5	Gulmohur	3	3		
13	6	Peltophorum	1.5	3.5	It is a deciduous tree growing to 15–25 m (rarely up to 50 m) tall, with a trunk diameter of up to 1 m belonging to Family Leguminosae and sub-family Caesalpiniaaceaea. Trees begin to flower after about four years.	

  
Prof. C. Nagarajiah  
(Member, TEC)

  
Dr. Muthu Kumar Arunachalam  
(Member, TEC)

  
Prof. R. Krishna Murthy  
(Member, TEC)  
  
Shri I.B. Srivastava, IFS (Rtd).  
Chairman, TEC

  
(Shri V. Govindaraju)  
(Member Secretary and ACF, BBMP)