

Government of West Bengal
Public Works Department
Works Branch

No. 44-W(C)/1M-24/15

Dated: 13/02/2015

MEMORANDUM

Subject: Mode of requirement of machineries in different types of works.

It has been observed that different tendering inviting authorities are using different yardsticks for machineries and equipments essential for the project considered for evaluation of technical bids of said works, particularly, for estimated cost above Rs. 25.00 Crores and where batch-mix plants are required. Consideration of different yardsticks for machineries and equipments to be used and mode of their ownership as a criteria for technical evaluation in different circles and establishments leads to charges of arbitrariness. To avoid such problems the list of machinery and equipment need to be standardised.

2. Accordingly, based on the recommendations of the Chief Engineers' Committee, a list of standard machineries and equipments for different work value for Roads, Bridges and Buildings has been prescribed. A format of Declaration of the bidders regarding the mode of ownership of machineries and equipments required at the scrutiny of technical bids have also been prescribed. These are enclosed herewith as Annexure - I to IV.

3. The Governor is further pleased to direct that following guidelines regarding machineries and equipments to be used in different types of works should be adhered to by the tendering authorities:

- (i) Plant Machineries and equipments should be owned or arranged through lease hold agreements by the bidders.
- (ii) Conclusive proof of ownership (Tax invoice, way bill, delivery challan) for each plant and machinery in working condition shall have to be submitted.
- (iii) In case of Batch type Mixing Plant, proof of advance payment receipt from the manufacturer should be produced and in case of 25% payment against the total cost of the plant/ machineries have to be made by the bidders.
- (iv) If the machineries have been engaged in other works then name of client along with his contract number and Email address should be furnished in the declaration by the intended tender and the present location (working place) should also be given with tentative date of release of plant & machineries.
- (v) In this connection self declaration (proforma enclosed) shall also have to be submitted along with the tender and it should be declared that statement of fact related to the mode of ownership of machineries are true and it also to be clearly

stated that required specified machineries shall be installed at the working site within 45 days (maximum) from the date of L.O.A./ work order.

4. A list of equipments and instruments for Field Test of building works is also enclosed for being included as desired equipment in NIT of that specific nature of work in Annexure-V.

All concerned should follow the aforesaid guidelines in all future NITs.

By order of the Governor,


14/2/2015

(INDEVAR PANDEY)

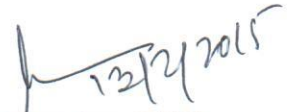
Principal Secretary to the Govt. Of West Bengal
Public Works Department

No. 44/1(6)-W(C)/1M-24/15

Dated: 13/02/2015

Copy forwarded for information and necessary action to:

1. The Principal Secretary, Finance
2. The Principal Accountant General (A&E), West Bengal.
3. The Finance Department, Group-'T'.
4. The Finance (Budget) Department
5. The Financial advisor, P.W.Dept.
6. The Private Secretary to the Hon'ble MIC, PWD
7. PS to the Principal Secretary, PWD


13/2/2015

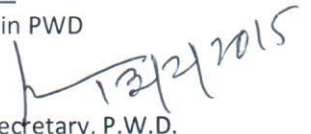
Joint Secretary, P.W.D.

No. 44/1(6)-W(C)/1M-24/15

Dated: 13/02/2015

Copy forwarded for information and necessary action to:

1. The Chief Engineer _____
2. The Superintending Engineer _____
3. The Executive Engineer _____
4. The Executive Engineer, IT Division, PWD. He is requested to upload the order in PWD website,


13/2/2015

Joint Secretary, P.W.D.

Standard list of Plants & Machineries to be used in Road Works

Estimated Value put to tender	Name of Machineries	Minimum Nos of machineries required
<u>45 Lack - 2 Crore</u>	Spot Mix Plant (4 to 6 Ton)	1
	Smooth Wheeled Roller	1
	Bitumen Sprayer	1
	Tar Boiler	2
	Air Compresor	1
<u>2 - 10 Crore</u>	Hot Mix Plant with Electronic Control,Drum Type (40 to 60 MT)	1
	Smooth Wheeled Road Roller	2
	Bitumen Sprayer	1
	Front End Loader	2
	Tandem Roller	1
	Vibratory Rollar	2
	Water Tanker	3
	Paver Finisher (with Electronic Sensor) / Mechanical Paver Finisher	1
	Air Compresor	1
	WMM Plant with Computer Control	1
	Motor Grader	1
	Concrete Mixers with Intregal Weigh Batching Facility	2
	Surface/ screed vibrator	2
	Internal or immersion Vibrator	3
	Tipper Truck	10
	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	
	Survey Equipments	
<u>10 - 25 Crore</u>	Hot Mix Plant with Electronic Control ,Drum Type (Capacity 60 to 90 MT)	1
	Smooth Wheeled Roller	2
	Bitumen Sprayer	1
	Paver Finisher (with Electronic Sensor) / Mechanical Paver Finisher	1
	Front End Loader	2
	Tandem Roller	1
	Vibratory Rollar	2
	Water Tanker	3
	Air Compresor	1
	WMM Plant with Computer Control	1
	Motor Grader	2
	Dozer	1
	Generator	
	Concrete Mixer with Intregal Weigh Batching Facility	2
	Surface/ screed vibrator	3
	Internal or immersion Vibrator	4
	Tipper Truck	10
	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	
	Survey Equipments	
<u>25 - 50 Crore</u>	Hot Mix Plant ,Batch Type(Capacity minimum 120 TPH)	1
	Smooth Wheel Roller	3
	Bitumen Sprayer	1
	Front End Loader	2
	Pneumetic Tyre Roller	1
	Milling Machine	1

Estimated Value put to tender	Name of Machineries	Minimum Nos of machineries required
	Water Tanker	4
	Paver Finisher with Electronic Sensor	1
	Air Compresor	1
	Concrete Mixer with Intregal Weigh Batching Facility	1
	Concrete Batching & Mixing Plant with automatic control ,mimimum capacity 15m ³ / hour	1
	Surface/ screed vibrator	4
	Internal or immersion Vibrator	5
	Tipper Truck	12
	Tandem Roller	1
	Vibratory Rollar	2
	WMM Plant with Computer Control	1
	Motor Grader	3
	Dozer	1
	Generator	
	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	
	Survey Equipments & Total Stations	
<u>50 - 100 Crore</u>	Hot Mix Plant,Batch Type(Capacity minimum 120 TPH)	2
	Smooth Wheel Roller	4
	Bitumen Sprayer	2
	Front End Loader	4
	Pneumatic TYRE Roller	1
	Milling Machine	1
	Water Tanker	5
	Paver Finisher with Electronic Sensor	2
	Air Compresor	1
	Concrete Mixer with Intregal Weigh Batching Facility	2
	Concrete Batching & Mixing Plant with automatic control ,mimimum capacity 15m ³ / hour	1
	Concrete paver capable of paving 7.5m width in one single pass including all accessories. Such as automatic dowel bar insertor, integral viabratory system and electronic sensors ancillary equipment for applying curing compound, joint cutting etc.	1
	Concrete Batching & Mixing Plant with automatic control ,minimum capacity 30 m ³ / hour	1
	Surface/ screed vibrator	6
	Internal or immersion Vibrator	6
	Tipper Truck	15
	Tandem Roller	1
	Vibratory Rollar	3
	WMM Plant with Computer Control	1
	Motor Grader	4
	Dozer	2
	Generator	
	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	
	Survey Equipments & Total Stations	

Estimated Value put to tender	Name of Machineries	Minimum Nos of machineries required
-------------------------------	---------------------	-------------------------------------

Annex-I (3)

Notes :

i) The list of Machineries as shown is indicative. Tender Inviting Authorities may modify it based on site condition & specification of the work and it should be properly recorded with reason.

ii) Initially for Hot Mix Plant both in Batch Type and Drum Type, Paver finisher, Concrete batching and mixing plant, Concrete paver, Motor Grader, Vibratory Roller maximum age of the plants, machineries will be 5 years as on the date of publication of NIT. It may be extended upto 7 years after getting fit certificate from the manufacturer and this certificate should be produced at the time of submission of bid. Maximum age for all other machineries and equipments will be 8 years as on the date of the publication of NIT subject to the condition that all are in running condition.

All plants, machineries and equipments will be verified by the competent authority before execution of the work.

iii) For dense bituminous macadam and bituminous concrete work only batch type hot mix plant (120 TPH) should be used.

iv) For dense graded Bituminous mix of thickness more than 50 mm. P.T.R. (Pneumatic Tyre Roller) should be used

Standard List of Plants & Machineries to be used in Bridge Works

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
<u>Upto 2 Crore</u>	1	Tilting Drum Mixer 230-280 liters capacity with Hopper	2
	2	Tilting Drum Mixer Materials or Electric operated with a minimum size of 230-280 liters automatic water measuring system and integral weigher (Hydraulic/ Pneumatic type)	Nil
	3	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
	4	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
	5	Concrete Pump with appropriate Capacity	Nil
	6	Dewatering Pump (12 HP Capacity)	Nil
	7	Dewatering Pump (5 HP Capacity)	1
	8	Diesel Pump Centrifugal (60 HP Capacity)	Nil
	9	Grout Pump	1
	10	Submersible Pump (7.5 HP Capacity)	Nil
	11	Compressor with water jeting	Nil
	12	Form vibrator	Nil
	13	Internal or Immersion vibrator	3
	14	Surface /Screed Vibrator	Nil
	15	Hoist (Passenger / materials)	1
	16	Cradle	Nil
	17	Steel Reinforcement Cutting & Bending Machine	2
	18	Welding Machine	Nil
	19	Steel Shuttering materials	300 sq.m.
	20	Frame Scaffold (tube/ fittings, etc)	
	21	Prestressing Equipments	Nil
	22	Floor grinding machine	Nil
	23	Sand Blasting Machine	Nil
	24	Telescopic Steel prop with adjustable span.	Nil
	25	Potable cutter.	1
	26	DMC Piling Rig	Nil
	27	Hydraulic Piling Rig	Nil
	28	Crawler Mounted Crane with grabe	Nil
	29	Tower crane	Nil
	30	Hydraulic Jack	Nil
	31	Soil Excavator Cum Loader	Nil
	32	Soil Compactor	Nil
	33	Transit Mixer	Nil

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
	<u>34</u>	Tipper Truck	Nil
	<u>35</u>	Generator	Nil
	<u>36</u>	Labortory Equipment with testing arrangement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	Nil
	<u>37</u>	Survey equipments (Theodolite, Level instruments and others)	Nil
	<u>38</u>	Total Station survey equipments	Nil
<u>2 to 10 Crore</u>	<u>1</u>	Tilting Drum MixerMaterials or Electric operated with a minimum size of 230-280 liters automatic water measuring system and integral weigher (Hydraulic/ Pneumatic type)	1
	<u>2</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
	<u>3</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
	<u>4</u>	Concrete Pump with appropriate Capacity	1
	<u>5</u>	Dewatering Pump (12 HP Capacity)	Nil
	<u>6</u>	Dewatering Pump (5 HP Capacity)	2
	<u>7</u>	Diesel Pump Centrifugal (60 HP Capacity)	Nil
	<u>8</u>	Grout Pump	1
	<u>9</u>	Submersible Pump (7.5 HP Capacity)	1
	<u>10</u>	Compressor with water jeting	1
	<u>11</u>	Form vibrator	4
	<u>12</u>	Internal or Immersion vibrator	4
	<u>13</u>	Surface /Screed Vibrator	4
	<u>14</u>	Hoist (Passenger / materials)	1
	<u>15</u>	Cradle	1
	<u>16</u>	Steel Reinforcement Cutting & Bending Machine	4
	<u>17</u>	Welding Machine	1
	<u>18</u>	Steel Shuttering materials	400 sq.m.
	<u>19</u>	Frame Scaffold (tube/ fittings, etc)	
	<u>20</u>	Prestressing Equipments	4
	<u>21</u>	Floor grinding machine	Nil
	<u>22</u>	Sand Blasting Machine	1
	<u>23</u>	Telescopic Steel prop with adjustable span.	
	<u>24</u>	Potable cutter.	3
	<u>25</u>	DMC Piling Rig	6
	<u>26</u>	Hydraulic Piling Rig	1
	<u>27</u>	Crawler Mounted Crane with grabe	1
	<u>28</u>	Tower crane	1
	<u>29</u>	Hydraulic Jack	4

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
	<u>30</u>	Soil Excavator Cum Loader	1
	<u>31</u>	Soil Compactor	1
	<u>32</u>	Transit Mixer	2
	<u>33</u>	Tipper Truck	4
	<u>34</u>	Generator	2
	<u>35</u>	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	1 set
	<u>36</u>	Survey equipments (Theodolite, Level instruments and others)	1 set
	<u>37</u>	Total Station survey equipments	1 set
	<u>38</u>	Tilting Drum Mixer 230-280 liters capacity with Hopper	1
<u>10 - 25 Crore</u>	<u>1</u>	Tilting Drum MixerMaterials or Electric operated with a minimum size of 230-280 liters automatic water measuring system and integral weigher (Hydraulic/ Pneumatic type)	2
	<u>2</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
	<u>3</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
	<u>4</u>	Concrete Pump with appropriate Capacity	1
	<u>5</u>	Dewatering Pump (12 HP Capacity)	1
	<u>6</u>	Dewatering Pump (5 HP Capacity)	2
	<u>7</u>	Diesel Pump Centrifugal (60 HP Capacity)	1
	<u>8</u>	Grout Pump	1
	<u>9</u>	Submersible Pump (7.5 HP Capacity)	1
	<u>10</u>	Compressor with water jeting	1
	<u>11</u>	Form vibrator	4
	<u>12</u>	Internal or Immersion vibrator	4
	<u>13</u>	Surface /Screed Vibrator	4
	<u>14</u>	Hoist (Passenger / materials)	1
	<u>15</u>	Cradle	1
	<u>16</u>	Steel Reinforcement Cutting & Bending Machine	4
	<u>17</u>	Welding Machine	1
	<u>18</u>	Steel Shuttering materials	500 sq.m.
	<u>19</u>	Frame Scaffold (tube/ fittings, etc)	
	<u>20</u>	Prestressing Equipments	4
	<u>21</u>	Floor grinding machine	Nil
	<u>22</u>	Sand Blasting Machine	1
	<u>23</u>	Telescopic Steel prop with adjustable span.	
	<u>24</u>	Potable cutter.	3
	<u>25</u>	DMC Piling Rig	6
	<u>26</u>	Hydraulic Piling Rig	2
	<u>27</u>	Crawler Mounted Crane with grabe	3
	<u>28</u>	Tower crane	1
	<u>29</u>	Hydraulic Jack	4
	<u>30</u>	Soil Excavator Cum Loader	1
	<u>31</u>	Soil Compactor	1

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
	<u>32</u>	Transit Mixer	2
	<u>33</u>	Tipper Truck	4
	<u>34</u>	Generator	2
	<u>35</u>	Labortory Equipment with testing arrangement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	1 set
	<u>36</u>	Survey equipments (Theodolite, Level instruments and others)	1set
	<u>37</u>	Total Station survey equipments	1set
<u>25 - 50 Crore</u>	<u>1</u>	Tilting Drum MixerMaterials or Electric operated with a minimum size of 230-280 liters automatic water measuring system and integral weigher (Hydraulic/	1
	<u>2</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	1
	<u>3</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
	<u>4</u>	Concrete Pump with appropriate Capacity	1
	<u>5</u>	Dewatering Pump (12 HP Capacity)	1
	<u>6</u>	Dewatering Pump (5 HP Capacity)	2
	<u>7</u>	Diesel Pump Centrifugal (60 HP Capacity)	1
	<u>8</u>	Grout Pump	1
	<u>9</u>	Submersible Pump (7.5 HP Capacity)	1
	<u>10</u>	Compressor with water jeting	1
	<u>11</u>	Form vibrator	4
	<u>12</u>	Internal or Immersion vibrator	4
	<u>13</u>	Surface /Screed Vibrator	4
	<u>14</u>	Hoist (Passenger / materials)	1
	<u>15</u>	Cradle	1
	<u>16</u>	Steel Reinforcement Cutting & Bending Machine	3
	<u>17</u>	Welding Machine	1
	<u>18</u>	Steel Shuttering materials	800 sq.m.
	<u>19</u>	Frame Scaffold (tube/ fittings, etc)	
	<u>20</u>	Prestressing Equipments	4
	<u>21</u>	Floor grinding machine	Nil
	<u>22</u>	Sand Blasting Machine	1
	<u>23</u>	Telescopic Steel prop with adjustable span.	
	<u>24</u>	Potable cutter.	3
	<u>25</u>	DMC Piling Rig	8
	<u>26</u>	Hydraulic Piling Rig	1
	<u>27</u>	Crawler Mounted Crane with grabe	3
	<u>28</u>	Tower crane	1
	<u>29</u>	Hydraulic Jack	4
	<u>30</u>	Soil Excavator Cum Loader	1
	<u>31</u>	Soil Compactor	1
	<u>32</u>	Transit Mixer	2
	<u>33</u>	Tipper Truck	4
	<u>34</u>	Generator	2
	<u>35</u>	Labortory Equipment with testing arrangement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	1 set

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
	<u>36</u>	Survey equipments (Theodolite, Level instruments and others)	1 set
	<u>37</u>	Total Station survey equipments	1 set
<u>50 - 100 Crore</u>	<u>1</u>	Tilting Drum MixerMaterials or Electric operated with a minimum size of 230-280 liters automatic water measuring system and integral weigher (Hydraulic/ Pneumatic type)	2
	<u>2</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	1
	<u>3</u>	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	1
	<u>4</u>	Concrete Pump with appropriate Capacity	2
	<u>5</u>	Dewatering Pump (12 HP Capacity)	2
	<u>6</u>	Dewatering Pump (5 HP Capacity)	3
	<u>7</u>	Diesel Pump Centrifugal (60 HP Capacity)	1
	<u>8</u>	Grout Pump	1
	<u>9</u>	Submersible Pump (7.5 HP Capacity)	1
	<u>10</u>	Compressor with water jeting	1
	<u>11</u>	Form vibrator	6
	<u>12</u>	Internal or Immersion vibrator	6
	<u>13</u>	Surface /Screed Vibrator	6
	<u>14</u>	Hoist (Passenger / materials)	1
	<u>15</u>	Cradle	1
	<u>16</u>	Steel Reinforcement Cutting & Bending Machine	4
	<u>17</u>	Welding Machine	1
	<u>18</u>	Steel Shuttering materials	1000 sq.m.
	<u>19</u>	Frame Scaffold (tube/ fittings, etc)	
	<u>20</u>	Prestressing Equipments	6
	<u>21</u>	Floor grinding machine	Nil
	<u>22</u>	Sand Blasting Machine	2
	<u>23</u>	Telescopic Steel prop with adjustable span.	
	<u>24</u>	Potable cutter.	4
	<u>25</u>	DMC Piling Rig	10
	<u>26</u>	Hydraulic Piling Rig	2
	<u>27</u>	Crawler Mounted Crane with grabe	4
	<u>28</u>	Tower crane	1
	<u>29</u>	Hydraulic Jack	4
	<u>30</u>	Soil Excavator Cum Loader	1
	<u>31</u>	Soil Compactor	1
	<u>32</u>	Transit Mixer	4
	<u>33</u>	Tipper Truck	5
	<u>34</u>	Generator	3
	<u>35</u>	Labortory Equipment with testing arragement as per sec. 120 of specifications of Roads and Bridge works 5th revision of MORT & H	1 set
	<u>36</u>	Survey equipments (Theodolite, Level instruments and others)	1 set

Annex
-II (6)

Estimated Value put to tender		Name of Machineries	Minimum Nos of machineries required
	<u>37</u>	Total Station survey equipments	1 set
Notes :		i) The list of Machineries as shown is indicative. Tender Inviting Authorities may modify it based on site condition & specification of the work and it should be properly recorded with reason.	
		ii) Initially for Concrete batching and mixing plant , DMC Piling Rig ,Concrete Pump,Prestressing Equipments maximum age of the plants, machineries will be 5 years as on the date of publication of NIT. It may be extended upto 7 years after getting fit certificate from the manufacturer and this certificate should be produced at the time of submission of bid. Maximum age for all other machineries and equipments will be 8 years as on the date of the publication of NIT subject to the condition that all are in running condition. All plants, machineries and equipments will be verified by the competent authority before execution of the work.	

Annex-III			
Standard List of Plants and Machineries to be used in Building works			
Work value	Type of work	Machineries Requirement	Minimum Nos. of machineries required
Up to 2 Crore		1 Tilting Drum mixer 230-280 liter capacity with Hopper	2
		2 Tilting Drum Mixer diesel or Electric operated with a minimum size of 230-280 liters automatic water Measuring system and integral weigher (Hydraulic/ Pneumatic type)	Nil
		3 Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
		4 Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
		5 Concrete Pump with appropriate capacity.	Nil
		6 Dewatering pump (12 HP. capacity).	Nil
		7 Dewatering pump (5 HP. capacity).	1
		8 Disel Pump Cenrtifugal (60 HP Capacity)	Nil
		9 Grout Pump.	1
		10 Submersible Pump (7.5 HP Capacity)	Nil
		11 Compressor with water jeting	Nil
		12 Form vibrator	Nil
		13 Internal or immersion vibrators.	2
		14 Surface /Screed Vibrator	Nil
		15 Hoist (Passenger / materials)	1
		16 Cradle	Nil
		17 Steel reinforcement Cutting & Bending Machine	2
		18 Welding Machine	Nil
		19 Steel shuttering material	300 sq.m.
		20 Frame scaffold (tube / fittings etc)	
		21 Prestressing Equipments	Nil
		22 Floor grinding machine.	1
		23 Sand Blasting Machine	Nil
		24 Telescopic Steel prop with adjustable span.	Nil
		25 Potable cutter.	1
		26 DMC Piling Rig	Nil
		27 Hydraulic Piling Rig	Nil
		28 Crawler Mounted Crane with grabe	Nil
		29 Tower crane	Nil
		30 Hydraulic Jack	Nil

		31	Soil Excavator Cum Loader	Nil
		32	Soil Compactor	Nil
		33	Transit Mixer .	Nil
		34	Tipper Truck	Nil
		35	Generator	Nil
		36	Lab equipment	Nil
		37	Survey equipments (Theodolite, Level instruments and others)	Nil
		38	Total Station survey equipments	Nil
2 Crore to 10 crore		1	Tilting Drum Mixer diesel or Electric operated with a minimum size of 230-280 liters automatic water Measuring system and integral weigher (Hydraulic/ Pneumatic type)	1
		2	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
		3	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
		4	Concrete Pump with appropriate capacity.	1
		5	Dewatering pump (12 HP. capacity).	Nil
		6	Dewatering pump (5 HP. capacity).	1
		7	Disel Pump Cenrtifugal (60 HP Capacity)	Nil
		8	Grout Pump.	1
		9	Submersible Pump (7.5 HP Capacity)	Nil
		10	Compressor with water jeting	Nil
		11	Form vibrator	4
		12	Internal or immersion vibrators.	4
		13	Surface /Screed Vibrator	2
		14	Hoist (Passenger / materials)	1
		15	Cradle	1
		16	Steel reinforcement Cutting & Bending Machine	3
		17	Welding Machine	1
		18	Steel shuttering material	400 sq.m.
		19	Frame scaffold (tube / fittings etc)	
		20	Prestressing Equipments	Nil
		21	Floor grinding machine.	4
		22	Sand Blasting Machine	1
		23	Telescopic Steel prop with adjustable span.	
		24	Potable cutter.	3
		25	DMC Piling Rig	6
		26	Hydraulic Piling Rig	Nil
		27	Crawler Mounted Crane with grabe	Nil
		28	Tower crane	1

		29	Hydraulic Jack	Nil
		30	Soil Excavator Cum Loader	1
		31	Soil Compactor	Nil
		32	Transit Mixer .	2
		33	Tipper Truck	2
		34	Generator	1
		35	Lab equipment (as per annexure with testing arrangement both at field and laboratory)	1 set
		36	Survey equipments (Theodolite, Level instruments and others)	1 set
		37	Total Station survey equipments	1 set
		38	Tilting Drum mixer 230-280 liter capacity with Hopper	1
10 Crore to 25 Crore		1	Tilting Drum Mixer diesel or Electric operated with a minimum size of 230-280 liters automatic water Measuring system and integral weigher (Hydraulic/ Pneumatic type)	2
		2	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	Nil
		3	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
		4	Concrete Pump with appropriate capacity.	1
		5	Dewatering pump (12 HP. capacity).	Nil
		6	Dewatering pump (5 HP. capacity).	1
		7	Disel Pump Cenrtifugal (60 HP Capacity)	Nil
		8	Grout Pump.	1
		9	Submersible Pump (7.5 HP Capacity)	Nil
		10	Compressor with water jeting	Nil
		11	Form vibrator	4
		12	Internal or immersion vibrators.	4
		13	Surface /Screed Vibrator	2
		14	Hoist (Passenger / materials)	1
		15	Cradle	1
		16	Steel reinforcement Cutting & Bending Machine	4
		17	Welding Machine	1
		18	Steel shuttering material	500 sq.m.
		19	Frame scaffold (tube / fittings etc)	
		20	Prestressing Equipments	Nil
		21	Floor grinding machine.	4
		22	Sand Blasting Machine	1
		23	Telescopic Steel prop with adjustable span.	
		24	Potable cutter.	3
		25	DMC Piling Rig	6
		26	Hydraulic Piling Rig	Nil
		27	Crawler Mounted Crane with grabe	Nil
		28	Tower crane	1
		29	Hydraulic Jack	Nil
		30	Soil Excavator Cum Loader	1
		31	Soil Compactor	Nil
		32	Transit Mixer .	2

		33	Tipper Truck	2
		34	Generator	1
		35	Lab equipment (as per annexure with testing arrangement both at field and laboratory)	1 set
		36	Survey equipments (Theodolite, Level instruments and others)	1 set
		37	Total Station survey equipments	1 set
25 Crore to 50 Crore		1	Tilting Drum Mixer diesel or Electric operated with a minimum size of 230-280 liters automatic water Measuring system and integral weigher (Hydraulic/ Pneumatic type)	1
		2	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	1
		3	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
		4	Concrete Pump with appropriate capacity.	1
		5	Dewatering pump (12 HP. capacity).	Nil
		6	Dewatering pump (5 HP. capacity).	1
		7	Disel Pump Centrifugal (60 HP Capacity)	Nil
		8	Grout Pump.	1
		9	Submersible Pump (7.5 HP Capacity)	Nil
		10	Compressor with water jeting	Nil
		11	Form vibrator	4
		12	Internal or immersion vibrators.	4
		13	Surface /Screed Vibrator	2
		14	Hoist (Passenger / materials)	1
		15	Cradle	1
		16	Steel reinforcement Cutting & Bending Machine	3
		17	Welding Machine	1
		18	Steel shuttering material	800sq. m.
		19	Frame scaffold (tube / fittings etc)	
		20	Prestressing Equipments	Nil
		21	Floor grinding machine.	3
		22	Sand Blasting Machine	1
		23	Telescopic Steel prop with adjustable span.	
		24	Potable cutter.	3
		25	DMC Piling Rig	8
		26	Hydraulic Piling Rig	1
		27	Crawler Mounted Crane with grabe	Nil
		28	Tower crane	Nil
		29	Hydraulic Jack	Nil
		30	Soil Excavator Cum Loader	1
		31	Soil Compactor	Nil
		32	Transit Mixer .	2
		33	Tipper Truck	2
		34	Generator	1

		35	Lab equipment (as per annexure with testing arrangement both at field and laboratory)	1 set
		36	Survey equipments (Theodolite, Level instruments and others)	1 set
		37	Total Station survey equipments	1 set
50 Crore to 100 Crore		1	Tilting Drum Mixer diesel or Electric operated with a minimum size of 230-280 liters automatic water Measuring system and integral weigher (Hydraulic/ Pneumatic type)	2
		2	Concrete Batching & Mixing Plant with Automatic Control (Minimum 15 m ³ / hrs)	2
		3	Concrete Batching & Mixing Plant with Automatic Control (Minimum 30 m ³ / hrs)	Nil
		4	Concrete Pump with appropriate capacity.	2
		5	Dewatering pump (12 HP. capacity).	Nil
		6	Dewatering pump (5 HP. capacity).	2
		7	Disel Pump Cenrtifugal (60 HP Capacity)	Nil
		8	Grout Pump.	1
		9	Submersible Pump (7.5 HP Capacity)	Nil
		10	Compressor with water jeting	Nil
		11	Form vibrator	6
		12	Internal or immersion vibrators.	6
		13	Surface /Screed Vibrator	4
		14	Hoist (Passenger / materials)	1
		15	Cradle	1
		16	Steel reinforcement Cutting & Bending Machine	4
		17	Welding Machine	1
		18	Steel shuttering material	1000 sqm
		19	Frame scaffold (tube / fittings etc)	
		20	Prestressing Equipments	Nil
		21	Floor grinding machine.	4
		22	Sand Blasting Machine	2
		23	Telescopic Steel prop with adjustable span.	
		24	Potable cutter.	4
		25	DMC Piling Rig	10
		26	Hydraulic Piling Rig	2
		27	Crawler Mounted Crane with grabe	Nil
		28	Tower crane	1
		29	Hydraulic Jack	Nil
		30	Soil Excavator Cum Loader	1
		31	Soil Compactor	Nil
		32	Transit Mixer .	4
		33	Tipper Truck	3
		34	Generator	2
		35	Lab equipment (as per annexure with testing arrangement both at field and laboratory)	1 Set
		36	Survey equipments (Theodolite, Level instruments and others)	1 set
		37	Total Station survey equipments	1 set

Note:

i) i) The list of Machineries as shown is indicative. Tender Inviting Authorities may modify it based on site condition & specification of the work and it should be properly recorded with reason.

ii) Initially for Concrete batching and mixing plant, DMC Piling Rig, Concrete Pump maximum age of the plants, machineries will be 5 years as on the date of publication of NIT. It may be extended upto 7 years after getting fit certificate from the manufacturer and this certificate should be produced at the time of submission of bid. Maximum age for all other machineries and equipments will be 8 years as on the date of the publication of NIT subject to the condition that all are in running condition.

All plants, machineries and equipments will be verified by the competent authority before execution of the work.

DECLARATION

- I, the undersigned, declare that all the statements made in the attached documents in respect of mode of ownership of machineries are true and correct.
- Certified that required specified machineries for the works under this NIT will be installed at the working site within 45 days (maximum) from the date of LOA / work Order.
- The undersigned also hereby certifies that neither our firm _____ nor any constituent firm had been debarred to participate in tender by Public Works Department during the last 5(five) years prior to the date of this NIT.
- The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Department.
- Certified that I have applied in the Tender in the capacity of individual / as a partner of a firm and I have not applied severally for the same job.
- Certified that I have applied in the tender in the capacity of individual / as a partner of a firm and I have applied to the works under this NIT restricted to maximum one no. works, if more than one work in the same NIT.
- Certified that I have access to or have available liquid assets (aggregate of working capital, cash-in-hand, uncommitted Bank Guarantees) and/or credit facilities not less than 10% of the estimated cost put to tender. In this respect, I have attached necessary documents with this application.
- I, the under-signed do certify that all the statements made in the attached documents are true and correct. If any declaration submitted is found / ascertain to be incorrect / fabricated / misrepresented / fraudulent etc. accordingly tender will be liable to be cancelled / terminated immediately & I / my firm / company shall also be liable to prosecuted under section 197, 199 & 200 of Indian Penal Code, 1860 along with section- 71 & section -73 of Indian Information & Technology act 2008 & any other applicable law for the time being in force in addition to forfeiture of Earnest Money / Security Deposit.

Signed by an authorised officer of the firm

Title of the officer

Name of the firm with seal

Date _____

List of Equipment for Testing Laboratory

A. For Building Works

1. Balances

- I. 7Kg. to 10 Kg capacity, semi - self indicating type - accuracy 10 gm.
 - II. 500 gm. Capacity. Semi-self indicating type - accuracy 1 gm.
 - III. Pan balance-5 Kg. capacity - accuracy 10 gms.
2. Ovens – electrically operated, thermostatically controlled upto 110°C - sensitivity 1°C.
3. Sieves: as per IS 460-1962.
- I. I.S. sieves - 450mm internal dia, of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.
 - II. I.S. sieves – 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.18 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns, with lid and pan.
4. Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.
5. Equipment for slump test – slump cone, steel plate, tamping rod, steel scale, scoop.
6. Dial gauges, 25 mm travel – 0.01 mm/ division least count – 2nos.
7. 100 tonnes compression testing machine, electrical- cum manually operated.
8. Graduated measuring cylinders 200 ml capacity – 3 Nos.
9. Enamel trays (for efflorescence test for bricks).
- I. 300 mm × 250 mm – 2 nos.
 - II. Circular Plates of 250 mm dia - 4 nos.
10. Cube Mould 12 nos.
11. Compression testing machine
12. Others as per requirement.

Field Testing Instruments

- 1. Steel tapes -3 m
- 2. Vernier calipers
- 3. Micrometer screw 25 mm gauge
- 4. A good quality plumb bob
- 5. Spirit level, Minimum 30 cms long with 3 bubbles for horizontal vertical
- 6. Wire gauge (Circular type) disc
- 7. Foot rule
- 8. Long nylon thread
- 9. Rebound hammer for testing concrete
- 10. Dynamic penetrometer
- 11. Magnifying glass
- 12. Screw driver 30 cms long
- 13. Ball pin hammer, 100 gms
- 14. Plastic bags for taking samples
- 15. Moisture meter for timber
- 16. Earth resistance tests (for Electrical Divisions)
- 17. Meggar (for Electrical Divisions)
- 18. Others as per requirement.