

**BOQ for Location - 1(Block A) and Location- 2 (Block B)**

**Name of Work :Construction of Barbed Wire Fencing along with Gates, Watch Towers and other associated civil works for 1x65MW of Solar PV plant of NLC at Neyveli, Tamilnadu.**

S.NO	DESCRIPTION	UNIT	TOTAL BOQ QTY	BOQ 40MW Location-1	BOQ: 25MW Location-2
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.(DSR:2.31)	100sqm	5	2.68	2.32
2	Clearing grass and removal of the rubbish upto a distance of 50 m outside the periphery of the area cleared.(DSR:2.32)	100 SQM	144	77.26	66.74
3	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material:Beyond 30 cm girth upto and including 60 cm girth (DSR:2.33.1)	each	200	107.30	92.70
4	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil(DSR: 2.6.1)	cum	1108.52	594.72	513.80
5	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed as per direction of Engineer-in -charge. Ordinary rock(DSR:2.7.1)	cum	448	240.35	207.65
6	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed as per direction of Engineer-in -charge. Hard rock (Blasting prohibited)(DSR:2.7.3)	cum	50	26.83	23.18
7	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil (DSR:2.26.1)	cum	50	26.83	23.18
8	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. Ordinary or hard rock (DSR:2.26.2)	cum	50	26.83	23.18
9	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m (DSR:2.25)	cum	933.912	501.04	432.87
10	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with : Cement mortar 1:6 (1 cement : 6 coarse sand) (DSR:7.1.1)	cum	100	53.65	46.35
11	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size).(DSR:4.1.6)	cum	477.50	256.18	221.32
12	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) (DSR:4.1.3)	cum	100	53.65	46.35
13	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level Like fencing footing etc : 1:1½:3 (1 Cement: 1½ coarse sand: 3 graded stone aggregate 20 mm nominal size).(DSR:4.1.2)(OR DESIGN MIX AS PER APPROVAL)	cum	945.00	506.99	438.01
14	Providing ,laying and erecting M25 Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works in precast fence posts with wooden plugs or 6mm bar nibs wherever required as per direction of Engineer-incharge, including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), including cost of labour, material and machinery, handling, storing, transporting, all leads, erection without damage, and including making of holes for bolts for fixing etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing. (top 0.5m of fencing shall act as antilimbing device for safety)(goose neck fence post) (cost of reinforcement to be paid separately).(MSR 213 a)	cum	194.4	104.30	90.10

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S.NO	DESCRIPTION	UNIT	TOTAL BOQ QTY	BOQ 40MW Location-1	BOQ: 25MW Location-2
15	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. All works upto plinth level.(DSR:5.33.1)	cum	60	32.19	27.81
16	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. All works above plinth level upto floor V level.(DSR: 5.33.2)	CUM	15	8.05	6.95
17	Centering and shuttering including strutting, propping etc. and removal of form for : Foundations, footings, bases of columns, etc. for mass concrete.(DSR:4.3.1)	sqm	8064.0	4326.34	3737.66
18	Centering and shuttering including strutting, propping etc. and removal of form for :Suspended floors, roofs, landings, balconies and access platform ( DSR:5.9.3)	sqm	82.0	43.99	38.01
19	Steel reinforcement for R.C.C. work including straightening, cutting, bending, binding wire, placing in position and binding all complete upto plinth level. And above plinth Thermo-Mechanically Treated bars.(DSR:5.22.6)	kg	26940	14453.31	12486.69
20	Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge. Supply, fabricating and fixing of mild steel embedments, inserts, clamps, bolts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.(MSR -701 )	MT	7	3.76	3.24
21	Brick work with common burnt clay F.P.S.bricks of class designation 7.5 in superstructure above plinth level up to floor V level including scaffolding etc, in all shapes and sizes in Cement mortar 1:6 (1 cement : 6 coarse sand) (DSR: 6.4.2)	cum	10	5.37	4.64
22	Brick work with common burnt clay F.P.S. bricks of class designation 7.5 in foundation and plinth including scaffolding etc,in:Cement mortar 1:6 (1 cement : 6 coarse sand) DSR: 6.1.2)	cum	20	10.73	9.27
23	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finished with a top layer 6mm thick cement plaster 1:6 (1 cement: 6 fine sand).(DSR:13.11)	sqm	200	107.30	92.70
24	12 mm cement plaster of mix : 1:6 (1 cement: 6 coarse sand)(DSR:13.1.2)	sqm	200	107.30	92.70
25	Distemping with oil bound washable distemper of approved brand and manufacture to give an even shade New work (two or more coats) over and including water thinnable priming coat with cement primer.(DSR:13.41.1)	sqm	360	193.14	166.86
26	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 (sqm).(DSR:13.46.1)	sqm	100	53.65	46.35
27	Supply, Fabrication and erection of Structural steel work any kind of section riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete: For Watch Tower fencing post, grill work, gate, hinges, aldrops, guide track, castor wheel, lock and latch and any similar kind of works etc (DSR: 10.2)	MT	136.0	72.96	63.04
28	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. G.I. pipes (DSR: 10.26.3)	MT	2.0	1.07	0.93

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S.NO	DESCRIPTION	UNIT	TOTAL BOQ QTY	BOQ 40MW Location-1	BOQ: 25MW Location-2
29	Supplying and fixing turn buckles and straining bolts for barbed wire fencing.(DSR:16.16)	each set	50.0	26.83	23.18
30	Fencing with R.C.C. post placed at required distance, embedded in cement concrete blocks, every 5th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire weighing 9.38 kg per 100metres (minimum), between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar nibs fixed while casting the post (cost of R.C.C. posts, struts, earth work and concrete to be paid for separately) :- Payment to be made per metre cost of totallength of barbed wire used. With G.I. barbed wire(DSR:16.17.1)	RM	136800.0	73393.20	63406.80
31	Precoated Zinc Aluminium Steel sheet roofing / Cladding:  The base metal of the roofing shall be Cold Rolled Steel Sheet conforming to IS:513.It shall be zinc aluminium coated by Hot-dip process as per AS:1397 / IS:277. The bottom unexposed surface shall then be coated with alkyd backer of minimum 5 microns over a 5 micron coat of primer. Top exposed surface shall have primer of minimum 5 microns followed by SMP / Super Polyester top coat of minimum 20 microns of specified colour.The profiles shall have a depth of not less than 28 mm at a pitch of 195 to 255mm (with intermediate ribs). Overall total coated thickness shall be minimum 0.55mm having base metal thickness of 0.50mm. Minimum weight (supply width) shall be 5.00 Kg/ SqM. All roofing accessories like ridge, flashing, north light curves etc. shall be fabricated out of the approved pre-coated sheet as per drawing. Metallic self drilling self tapping fasteners for fixing shall be corrosion proof meeting performance standard as per AS : 3566, Class-III having neoprene washers. Sealants shall be neutral cure type and cold setting variety. All complete as per customer specifications.	sqm	332.8	178.55	154.25
32	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation.(MSR 1507)	sqm	166.4	89.27	77.13
34	Providing and fixing <b>single or double steel door shutters</b> with <b>45mm thk flush design shutter</b> comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete (MSR 904)	SQM	24.0	12.88	11.12
35	Providing and fixing <b>pressed steel frames</b> fabricated from <b>16 gauge M.S sheet</b> mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.(MSR 912)	Kg	6.4	3.43	2.97
36	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type :Over head hydraulic door closures(MSR 911 a)	each	8.0	4.29	3.71

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S.NO	DESCRIPTION	UNIT	TOTAL BOQ QTY	BOQ 40MW Location-1	BOQ: 25MW Location-2
37	Providing and fixing <b>anodised aluminium work</b> of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure.(MSR 909)	kg	240.0	128.76	111.24
38	Providing, fixing and fitting of <b>glazing of first grade class</b> in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete. 4 mm thick glass (MSR 915a)	SQM	34.6	18.54	16.02
39	Providing and laying <b>vitrified ceramic tiles of polished variety</b> of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following <u>7mm thick tiles In flooring (MSR 1416 a)</u>	SQM	32.0	17.17	14.83
40	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work.(DSR:13.61.1)	SQM	60.312	32.36	27.95
<b>TOTAL AMOUNT (Rs.)</b>					

**Scope:**

**Fencing , watch tower**

Total fencing distane = 7.12 km	53.65
for 40 MW = 3.82 km	46.35
for 25 MW = 3.3 km	
Watch Towers 8 Nos. (Location-1: 4 nos and location-2: 4nos)	