

Annexure-1

NS ITEMS RECOMMENDED TO BE CONTINUED

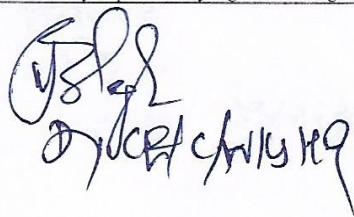

Sr No	Description of Item	Unit	Rate	Remarks
1	Earthwork in filling in embankment, guide bunds around buried type abutments, bridge gaps, trolley refuges, rain bunds if provided, platforms etc with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per specifications and special condition of contract including all leads, lifts, ascents, descents, crossing of nullahs or any other obstructions, spreading in specified thickness in loose conditions by paver, levelling by grader, mechanical compaction of earth filled in embankment with contractors vibro rollers of suitable capacity, type and size to achieve specified density, conducting all specified testings, cost of water T&P consumable material, all dressings of bank to final profile, demarcation and setting outs of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank all handling/re-handling ,taxes, royalty and all labour as a complete job. The work is to be executed as per "Comprehensive Guidelines & Specifications for Railway Formation- Specification No RDSO/2020/GE: IRS0004 Sept 2020" issued by RDSO with all subsequent Modifications/Correction Slips. Cut trees shall be property of railway and to be deposited in the railway godown unless specified otherwise in the special conditions of contract, Note:1)The work within 3.5m from existing track centre shall be done only in traffic block during day/night and rate includes cost of lightening arrangement for night working.	cum	394.5	This Item is Location Specific, due to which rates may vary considerably from site to site . it also includes Royalty cost, which keeps on changing. Hence, this Item is proposed to be Operated as NS Item itself
2	Providing of blanketing layer over finished formation as per "Comprehensive Guidelines & Specifications for Railway Formation- Specification No RDSO/2020/GE: IRS0004 Sept 2020" issued by RDSO with all subsequent Modifications/Correction Slips by supplying materials of approved quality blending/mixing spreading in layers not exceeding specified thickness in loose conditions by paver, leveling by grader compacting by vibro roller of adequate capacity upto required degree of compaction , finishing of correct profile with all lead & lift complete in all respect up to the satisfaction of Railway site engineer. Rate also includes watering requiring all tools, plants machinery, carrying out all required testing of materials, lightening arrangement for night working, if required, labours, all taxes including royalty etc as the case may be . Note:1) as no single naturally available material is generally suitable for blanketing , blending of various material may be required 2) The work within 3.5m from existing track centre shall be done only in traffic block.	cum	595.4	Use of this NS item is proposed to be continued, as USSOR Item doesn't include rate for supply of material.
3	Providing M45 grade concrete for Pre-stressed cement concrete slab/girders/box girder and launching of girder/slab with necessary casting bed, platform , form work, shuttering, centering, scaffolding and supporting system and including cost of transporting, placing, compaction by mechanical vibrator, adding chemical compound, plasticizer/retarder/silica fume, curing of concrete etc. complete including necessary lifting, lowering, sliding, lining, leveling and erecting with all lead & lift as per technical specification with all contractors material, labour, tools & plants equipments etc complete. The rate is inclusive of cost of all materials, fixing of HDPE pipes for future HTS strand, cement for grouting, labour, plants & machinery with all lead and lift etc complete. rates is also inclusive of placing girder at its final position over pier/abutments for which no extra payment will be made . Notes:1) No construction joint in slabs/ girder will be permitted 2) only Reinforcement steel, HT strands will be paid separately. 3)75% payment of this item including reinforcement steel & HTS strand used for each girder will be released after casting and first stage prestressing of girder/slab at casting bed. 4)Balance payment will be released only after launching of girder at its final position and casting of diaphragm of girder. 5) PSC girders shall be casted in casting yard only. No cast in situ of girder will be allowed.	cum	18512	Use of this NS item is proposed to be continued, as USSOR Item for PSC in M45 or above is not available.
4	Precast reinforced cement concrete of design mix M35 from renowned Microprocessor based Automatic Batching Plant for ballast retainer with 20mm graded machine crushed stone aggregate including fabricating required moulds of approved quality and material , staging, scaffolding, cover blocks ,placing, compaction, finishing the surface and curing of concrete, shifting, transportation to site, Launching, slewing, lowering & placing in positions with all leads and lift, temporary arrangement with the help of road crane on substructure of the bridge carefully with all contractors labour, tools & materials, cranes, necessary slings etc, (except reinforcement steel of approved quality) including all taxes, royalty, etc complete as per specifications & direction of engineer-in charge. NOTE: 60% payment will be made after casting & 40% payment will be made after transporting & launching the ballast retainer at bridge site.	cum	9103	Use of this NS item is proposed to be continued ,as: 1)Staging requirement may vary as per site condition. 2)May infringe adjacent running track. 3)Time consuming due to sequential work .

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5	Fabrication of steel girders spans as per the approved drawings for composite construction i.e. (Steel+RCC) of superstructure of the Railway bridge/Road over bridge with contractor's own mild structural steel conforming to IS 2062-1992 with all welding, rivets, nuts, bolts etc with contractors own materials, fabrication, machinery, templates, fixtures, equipments, tools and plants of approved quality ISI mark paint transportation skilled/unskilled labour including all taxes leads, lifts, descent loading unloading crossing one or more Railway track if required etc. complete and as per RDSO specification. The rate is inclusive of transportation of fabricated girder parts to site by contractors own means at his cost. The rate shall also be inclusive of cold straightening of deformed and bend girder parts before their assembly and painting. after fabrication in workshop first primer coat zinc chrome yellow (IS:1-4 latest revision) will be applied to all parts except flooring system. The 2nd primer coat of zinc chrome red oxide IS 2074 and 1st finishing coat of aluminium paint to IS:2339 will be applied on the girder parts before transportation of girder parts to the site with the contractors paint and primer of approved quality. The structural steel to be used should be manufactured by SAIL/RINL/TISCO ONLY. Note of Item No.(1) 1:1 all welds are to be made by approved welder using approved welding procedures 1.2 The rates are deemed to include cost of rivets, drifts bolts & nuts riveting/welding etc. 1.3 any temporary arrangement strengthening of members if required in connection with launching of girders shall be at contractors cost including retsoring it back as per [original standard drawing. 1.4 on completion of work the contractor shall clear all temporary staging and other arrangements, obstruction and restore it to its original position. 1.5 contractors has to ensure proper camber as per drawing irrespective of launching scheme. 1.6 The rates are deemed to include all labour, tools, plats, equipment, machinery, cranes etc. all leads, lifts, fuel electric charges etc. complete for all materials unless specified otherwise. 1.7 All butt welds are to be examined radiographic or any other non destructive methods which are equally effective. All the welds shall also be examined by liquid penetrant flaw detection method as per IS 3658 and IS 37063. 1.8 Detailed launching scheme along with design of formwork and staging should be got done from a reputed design consultant having past experience of similar type of work and to be submitted to the railway for approval and nothing extra will be paid on this account. 1.9 all layers of painting should be separately got approved by Engineer or his authorized representative. 1.10 all structural steel shall conform to grade "B" specification except for rolled sections (angles, channels, I-sections) For rolled section grade "A" steel may be used.	MT	75972	Use of this NS item is proposed to be continued ,as USSOR Item is for without Traffic/Power Block only. Moreover, Item no.211010 doesn't include rate of high capacity cranes needed for launching ROB Girders.
6	Assembling, riveting , bolting by HSFG bolts wherever required with contractors rivet materials, weld materials HSFG bolts, service bolts, erection and launching of steel girder span to Railways approved drawings with other ancillary steel structures fixed to the girder where necessary in proper level and alignments and as per technical specifications section 1900 of MORTH. The rate shall be inclusive of supply, erection and dismantling of staging and scaffolding and other temporary arrangements required for the purpose of assembly erection and launching of girders. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before/ after their assembly. All the girder parts will be given 2nd finishing coat of aluminium paint (IS: 2339 latest revision) after assembling and erection at the site and after touching up the primer and finishing coat if damaged in transit except the flooring system with all contractors labour tools and plants, material paint and primer etc complete as required Note of item no.(2) :1:2 All welds are to be made by approved welder using approved welding procedures. 1.2 the rates are deemed to include cost of rivets, drifts, bolts & nuts riveting/welding etc. 1.3 any temporary arrangement strengthening of members if required in connection with launching of girders shall be at contractors cost including restoring it back as per original standard drawing 1.4 on completion of work the contractor shall clear all temporary staging and other arrangements, obstructions and restore it to its original position and restore it to its original position. 1.5 contractors has to ensure proper camber as per drawing, irrespective of launching scheme. 1.6 The rates are deemed to include al labour tools, plants, equipment, machinery, cranes etc, complete for all materials unless specified otherwise. 1.7 All butt welds are to be examined radiographic or any other non destructive methods which are equally effective. All other welds may be examined by radiographic or any other non destructive methods which are equally effective. All the welds shall also be examined by liquid penetrant flaw detection method or by magnetic particle flaw detection method as per IS 3658 and IS 37063. 1.8 Detailed launching scheme alongwith design of formwork and staging should be got done from a reputed design consultant having past experience of similar type of work and to be submitted to the railway for approval and nothing	MT	23092	Use of this NS item is proposed to be continued In addition to relevant NS Item for Fabrication.
7	Providing Reinforced earth structure including excavation for foundations concrete in M15 and, cement concrete grooved seating in the foundation for facing elements in (facia material) and its placement, assembling, joining with facing elements and laying of the reinforcing element as per clause 3103, fixing friction ties and anchor pins etc. as per approved design and drawing, providing media of minimum 300mm width or more behind wall with perforated drainage pipe of required diameter longitudinal and transverse direction as directed back filling with filling approved granular material of 1500mm width to be provided.	Sqm	8587.2	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
8	Earthwork for reinforced Earth retaining walls with approved contractors earth in approaches of ROB as per MORT & H specifications section 3103, including excavation, loading & unloading, transportation within 25Km, lead spreading, watering and compacting earth in layers not more than 300mm for static power roller to achieve optimum moisture content and getting 98% of maximum dry density (MDD), as per heavy compaction test or modified proctor compaction test with all contractors materials, labours tools and as directed by Engineer-in-charge under all conditions and at all locations. Note -In case of vibratory roller, layer of 600mm thickness in loose state may be permitted by engineer-in-charge.	cum	485.7	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.

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9	Sand blasting and metalising the bridge components with aluminium wire as per IRS B1 including applying one coat of primer as per IS :104 and one coat of aluminium paint of IS-2329 during blasting the surface should be thoroughly cleaned & roughened by compressed air with suitable abrasive material & gratifule of blisting shall confirm to IS :9554. Before spraying the surface shall be made free from grease scale , dust, moisture or other foreign materials . The spraying shall be carried out as per IS:6568. The chemical composition of aluminium to be sprayed shall be 99.5%aluminium confirming to IS:2590. The surface of the sprayed coating shall be of uniform texture and free from lumps coarse areas and lossely adherent particles. The nominated thickness of the spread metalising shall be 150 micron. All paints and aluminium wire to be tested from acceptance laboratory with contractors cost. The DFT of the paint is to be checked at site with digital elecometer at the cost of the contractor, rate includes cost of primer, aluminium paint, tools and plants & machineries etc to be complete work as direction and satisfaction of engineer in charges. the work has to be carried out in accordance with IRS B1.	Sqm	1360.63	To be included with relevant NS item related to fabrication.
10	Providing cofferdam made up of steel sheet piles or similar for foundations complete as per technical specification with contractor's labour, material, tools and plants etc complete. The height will be decided as per site conditions and to be approved by engineer incharge . Note: Please refer clause no. 54 to 57 of Additional Condition of contract Part-II under section C on page no 113 & 114 of tender document.	m2	8500	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
11	Providing, Driving/ boring and casting bored cast in-situ Reinforced cement Concrete pile (As per IS:2911 OF 1997) OF 1200 MM dia in M-40 grade Design Mix Cement Concrete produced from micro processor control automatic concrete batching and mixing plant using MAS of 20 mm machine crushed graded stone aggregate in all type, soft rock, hard rock boulder etc. to the required depth as decided by the Engineer-in-charge including chiselling in rock and socketing in hard rock , bailing out water, flushing, placing of concrete with tremmie pipe, Chipping off of pile to to remove laitance concrete above cut off level with all contractor's material, labour , tools, plants with all lead and lift etc. complete as per specifications; Rate is inclusive of weigh-batching mixing, of ingredients mechanical mixing, placing compaction with tremmi pipe, disposal of excavated materials outside railway premises or as per direction of Engineer-in-charge, levelling of ground , etc complete as per direction of Engineer-in-charge. Note:- 1. Boring for piles shall be done for rotatory drilling machine only. 2. Extra payment for chiselling in hard rock in addition to boring of piles, if chiselling is resorted to in hard rock, will be made under relevant item No.36/192091 of Part-I of schedule-A of quantities. 3. Mild steel liner and reinforcement steel will be paid under relevant item. 4. Payment for pile made from pile cap bottom to founding level only i.e no empty boring will be paid. 5. Boring by bailer and chisel method will not be allowed. 6 Minimum	Metre	15,100	Use of this NS item is proposed to be continued as relevant USSOR Item is for M-35 only (Item no.192070).
12	Providing, casting and fixing Mixed concrete of M-25 grade for casting of Pre-cast RCC members like footpath slabs, Coping of bridges, Bridge Tablets, Bridge Plaque , etc with 20 mm graded machine crushed stone aggregate , weigh-batching, mechanical mixing, placing compaction, finishing the surface and curing of concrete etc. with all special type of shuttering, transportation fixing, staging , scaffolding complete with contractors tools, plants, labours and materials of approved quality including all lead and lift etc. complete as per specifications & direction of Engineer-in-charge. (Maximum Cement Content-350 kg & Maximum water / cement ratio-0.45) Note:- 1. Only reinforcement steel will be paid under relevant items. 2. Rate is inclusive of casting in yard, curing, transporting and placing in position with all contractor's labour with all lead & lift . 3. Rate is also inclusive of multiple handling before final placing & fixing of member. 4. Measurement for payment of this item will be based on dimension of precast member. 5. Payment of this item will be released only after fixing of precast member at its final position.	m3	7460	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
13	Providing protective coating to expose concrete face of bridge as per CECRI , karaikud-integrated 4 coat system having 1st coat of micaeous iron oxide under coat , second coat polyimide primer , third coat of polyimide finish coat and last coat of aliphatic acylic polyurthane finish coat (Bergertahne or similar paint) as per detailed specification attached	m2	327	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
14	Providing and fixing shoring for protection of Railway embankment with steel sheet piles / steel plates , channels , I Section, bolts and nuts with all lead & lift including excavation, concreting, dewatering if any required for shoring including strutting and removing the shoring when not required. Note : 1) This item will be operated only for protection of existing embankment of railway track while excavation for foundation of bridges in this section . 2) Contractor shall provide detailed drawing of shoring supported with detailed design calculation and erection scheme for approval of Railway Engineer. 3) The mode of measurement for this item is weight of structural steel used for shoring. The weight of structural member shall be restricted to size of member provided at site whichever is less. 4) After completion of work released material of shoring will be the property of the contractor. Execution of this is solely on discretions of Engineer -in-charge . His decision is final and binding. 5) Erection and dismantling of shoring within 6.00 m of existing track shall be done only in sanctioned traffic block.			Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
15	Providing G.L/M.S sheet barricading at suitable distance around work spot to surround the work spot for protection with contractors labour, material like GI/MS sheet , duly painted (on both sides) MS angles, MS bolts, & nuts and all material as per sketch no. SK/1203/06. Contractor will erect barricading before start of work and take away all material at the end of work with clearing railways area.	Sqm	310.22	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.

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16	Providing design mixed Reinforced Cement Concrete of M-40 grade in deck slab, ballast wall on deck slab, kerb wall/ Crash barrier on deck slab, dirt wall, diaphragms of PSC girders, trolley refuge, etc. for all height to be cast with Maximum aggregate size of 20mm crushed graded stone aggregate and sand of approved quality including all lead & lift, weighbatching, mechanical mixing, compaction, curing including using all types of form work, shuttering, centering, scaffolding etc. complete with all contractors labour, cement, material, construction chemicals such as plasticizer, retarder etc, 25 mm dia PVC rigid pipe for drain spout, plants & machineries with all lead & lift complete as per technical specifications. (Minimum cement content 430 kg per cum & Maximum W/C ratio 0.4)	Cum	10,081	Not available in USSOR for deckslab, to be contd.
	Hot dip zinc galvanising of specified thickness of a structural members of steel including cleaning, pickling, rinsing, flushing, drying, testing, etc. Complete as per provision of IS-2629-1985 (Reaffirmed 2010) Recommended practices for Hot Dip Galvanising Iron and Steel and IS 4759-1996(Reaffirmed 2010)-Hot Dip zinc coating on a structural steel and other laaid products- specifications to the complete satisfaction of Engineer-in-charge. The rate shall include all tax			
17	Heavy structural member like Girders, columns, etc. Comprising of Rolled steel joist, channels, plate section, etc.	M2	1,584	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
18	Light structural members like gussets, bracing angles, roofing elemets comprising of trusses, purlins, etc.	MT	19,800	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
19	Design providing and casting in situ RCC 200mm diameter micro pile including boring by rotary or any other method and inserting liner in boring as per site requirement as decided by engineer incharge in all soil boldes, rock etc. (2m embedded in hard as decided by engineer incharge as per site condition) & providing with M35 Cement Concrete with tremie or other suitable method as approved by engineer incharge, rate include dewatering etc. if required (reinforcement & liner will be paid separately under items)	RMT	2,919.24	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
20	Suppling high strenth deformed stainless steel bars Rainforcement confirming to IS 16651-2017 for RCC work including straighteign cutting, hooking, bending, binding and plaing in position for reinforcement including all lead lift, T&P labour,taxes etc complete	kg	132.01	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
21	Extra for launching of assembled steel plate girders under the traffic block as per railway approved launching drg and technical specification section 1900 of MORTH	MT	25863.88	Item available as 211031 in USSOR, but no rate is mentioned
22	Supplying of HSFG bolts of grade 10.9 conforming IS 3757	kg	250.79	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
23	Supply of Direct Tension Indicator washer 22mm dai of grade 10.9 conforming to IS 6649. Rate includes cost of all material, GST etc.	each	42.19	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
24	Providing sacrificial shuttering for deck slab made up of galvanised cold Roled Cold Annealed (CRCA) steel of 310 MPA Grade with all contractor's material ,Labour,erection fixing, welding etc.complete with all lead and lift and all safety precautions.Rate is inclusive of structural design of sacrificial shuttering by the contractors at their own cost.	MT	79170.8	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
25	Providing design mixed M-50 grade of cement concrete ,with Maximum aggregate size (MAS) of 20mm graded stone aggregates for precast Prestressed Concrete Girders / Slabs(casting in yard) & launching of girder with all contractors labour, material, tools and plants including all lead and lift etc. complete as per technical specification. Note :- (i) Rate shall be inclusive of using RMC from approved microprocessor controlled automatic batching plant and transportation to site using rotating transit mixture as per the instruction of Engineer in charge, including all lead and lifts till the point of placement of concrete. (Minimum cement content 440 kg per cum & Maximum W/C ratio 0.4) . (ii) Rate shall be inclusive of using equipment like placer boom/concrete pump/ crane bucket method for pouring/placing of concrete in its final position, with all contractors labours, tools, plants, machinery, consumables, etc complete. The rate of the item is also inclusive of the following:- 1. Providing HDPE pipes for future HTS strand if any. 2. Platform, formwork, shuttering , centering, scaffolding and supporting system for concreting 3. Mixing,vibrating, compaction and curing of the concrete 4. Chemical compound such as super plasticizer, retarder, silica fumes etc. 5. Necessary transportation, handling, lifting, lowering, sliding, aligning, levelling erecting and launching of Girders to its final position from casting yard. 6. Embedding of arrangement for fixing of bearings, if any. 7. Cost of all materials,cement, labour, plants & machinery etc. complete. 8. All lead and lifts.	Cum	17787	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.
26	Cutting in hard rock by diamond cutter for making box outside profile for pushing precast RCC box segments , in existing embankment portion including all machineries, tools ,plants ,diesel , labour ,dewatering ,loading ,unloading and removal of rock pieces from site upto 300m.	Cum	5828	Use of this NS item is proposed to be continued ,as No relevant USSOR Item is available.

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27	Providing, fabricating, fixing in position to exact design profiles and pre-stressing of H.T. steel cables of all classification made from high tensile, Low Relaxation strands conforming to IS: 14268 -1995 in Pre-stressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, including supplying and fixing in position anchorages of approved quality and make conforming to BS:4447, covering with rich epoxy mortar pad of all anchorages, recesses after stressing and anchoring of cables, including supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter and thickness, placing, bending, routing, fixing, grouting of cable ducts with cement grout after stressing etc. including all lead and lift with contractor's own materials, cement, labours, taxes, equipments, machineries for pre-stressing etc. complete as per drawings, specifications and direction of Engineer. NOTE: 1. Only design cut lengths of the cable will be measured for payment against this item. No payment will be paid for wastage of cable. 2. Cost of anchorages, guide tubes, sheathing, bearing plates etc and grouting etc will not be paid separately. The rate is inclusive of the same. 3. No extra payment will be made for dummy cable ducts sheathing, bearing plates and grouting etc.	MT	170532	Use of this NS item is proposed to be continued, as No relevant USSOR Item is available.
28	Supplying, spreading and levelling coarsed grained sand with D60/D10 (Uniformity Coefficient). Preferably more than 3 & fines passing 75 micron sieve not more than 5%, in layers of 30 cms. Below Embankment with contractor's materials / machineries and labour as per the instructions and approval of the Engineer - in- charge at site. Note:- 1) Creek sand or crushed sand satisfying the above required specification will also be permitted for this item. 2) The work within 3.50 m from existing track centre shall be done only in traffic block, during day/night only. 3) The rate is inclusive of lighting arrangement during night working.	m3	974.46	similar item is not available in USSOR, hence this item is required to be retained.
29	Providing prefabricated vertical PVC drainage system (baind drain) (100 mm dia) with all contractors material, tools and plants, equipments, labour etc. complete with all lead and lift as per RDSO report No. GE-R-68 (Prefabricated Vertical PVC drainage system for construction of embankment on compressible, soft soil) and as directed by Engineer-In-Charge. NOTE : (1) Railways decision on spacing and pattern of vertical PVC will be final and binding on the contractor. (2) Contractor shall take approval to the make of the prefabricated vertical PVC drain system from the Engineer-In-Charge of the work before placing order. (3) Contractor shall submit detailed methodology for the provision of prefabricated PVC vertical drainage system for approval of Engineer-In-Charge. (4) The work within 3.5 meter from existing track centre shall be done only in traffic block, during day/night only. (5) The rate is inclusive of lighting arrangement required during night working. (6) The rate is inclusive of submitting design for spacing of PVC baind drain duly proof checked by IIT Mumbai.	m	42.83	similar item is not available in USSOR, hence this item is required to be retained.
30	Providing & laying spreading & compacting specified graded crushed stone in granular subbase course (drainage layer) including premixing mechanical mixer laying uniform layer of 75 mm (compacted thickness each) with mortar grader/paver finisher on prepared murrum surface & compacting with 10 ton vibratory tandem roller to achieve density of 98% of Modified Proctor Density including all material, labour, machinery, all lifts & lead etc. complete and as directed by Engineer incharge as per MORTH specification.	M3	2862.77	similar item is not available in USSOR, hence this item is required to be retained.
31	Providing & laying spreading & compacting specified graded crushed stone aggregate to wet macadam in layer of 75 mm thick compacted including premixing the material with water to OMC in mechanical mixers (pug mill) carriage of mix material by tipper to site laying with paver finisher on prepared granular subbases & compacting with vibratory tandem roller (10 tonne) to achieve density of 8% of Modified Proctor Density including all material, labour, machinery, all lifts & lead etc. complete and as directed by Engineer- in charge as per Morth specification.	M3	3327.29	similar item is not available in USSOR, hence this item is required to be retained.
32	Providing and laying dry lean concrete (Grade M-10) base including providing coarse and fine aggregate, (blending of material and crushed sand to the specified gradation 43 grade cement, including approved admixer, mixing of concrete as per approved mixed design using mechanical, batch mix plant of appropriate capacity, transporting and laying with self propelled paver with electronic sensor devise and compacting with vibratory roller of minimum 8 to 10 Mt. static weight to give desire compacted density and average compressive strength of 10 MPA at 7 days and curing with liquid curing compound and sprinkling water and covering with moist hessian cloth or 5540.24 cum with OPC ponding of construction joint including all material labour, machinery with all lead and lift etc complete as specified and directed by the engineer incharge (Ready mix concrete only) (cement content 150 kg/cum)	Cum	6365.18	similar item is not available in USSOR, hence this item is required to be retained.
33	Providing laying pavement quality of M40 grade obtained from approved RMC plant including providing 125 micron thick impermeable plastic sheet membrane over the surface to be covered, coarse and fine of specified, graded using minimum cement content of 350 kg/cum, of with OPC 43 grade cement, concrete aggregate concrete approved mechanical batch mix plant of appropriate capacity as per design mix to the specified workability, transporting the mix with transit mixer and laying curing approved resin based aluminised admixtures, mixing with reflective curing covering with moist hessian or ponding and sprinkling of water for a minimum period of 14 days and including and providing and fixing MS dowels MS ties bars cutting of grooves and filling the same with approved polysulfide sealant and sealing all types of joints and finishing to the desired surface compound including texture all material labour, machinery with all leads, lifts etc. complete as directed by Engineer- In charge (without using slip form paver). The Rate also includes cost for mixing polypropylene fibres 300e^3 multi dimensional graded fibrillated 100% virgin as per ASTM C1116 III type 4.1.3 std. at the rate of 125 gms per bag of	Cum	12421.00	similar item is not available in USSOR, hence this item is required to be retained.

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