

**Construction of Funicular Railway at
Haji Malang Gad, at Ambernath Dist.
Thane,**

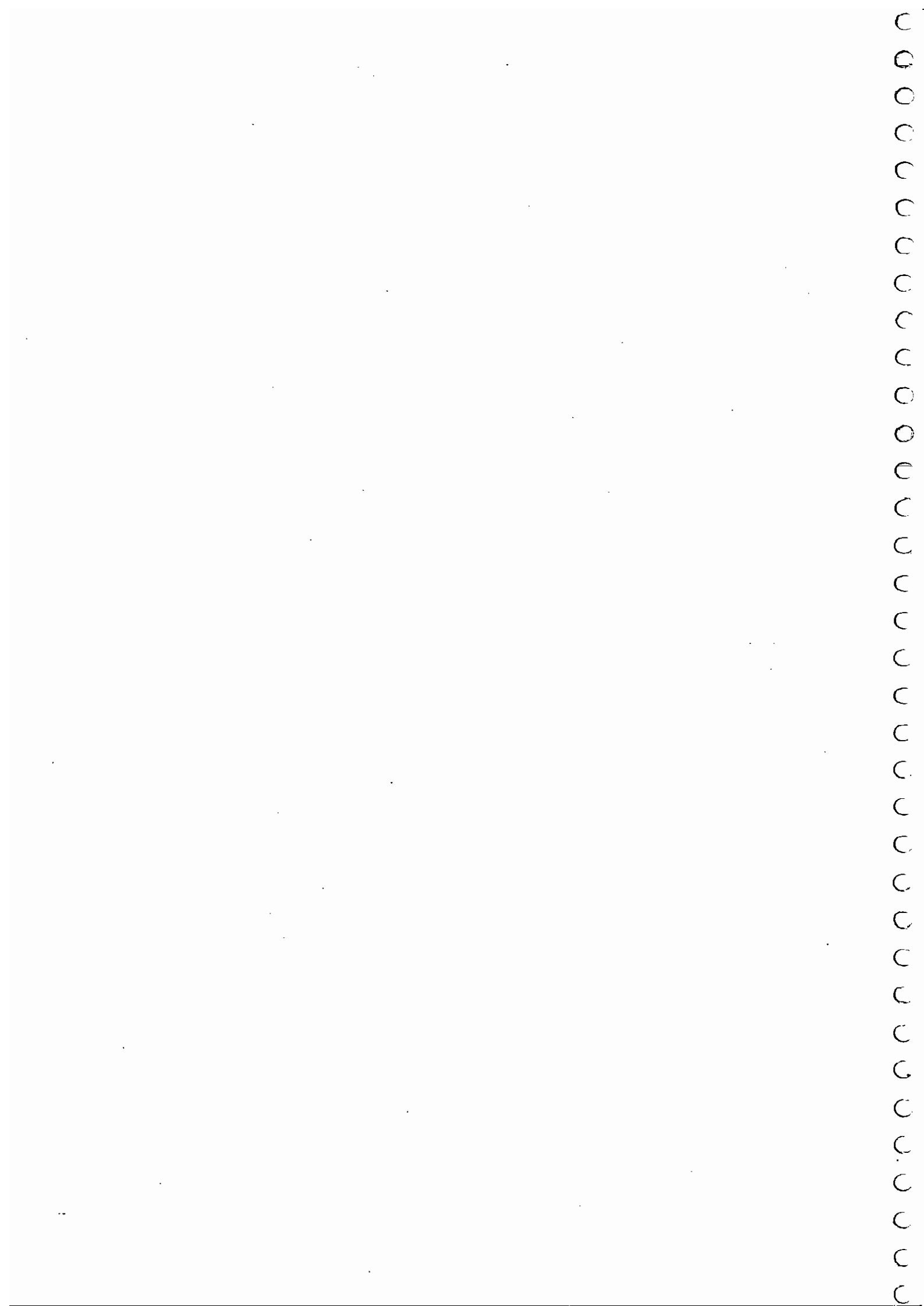
CONCESSION AGREEMENT

Between

GOVERNMENT OF MAHARASHTRA

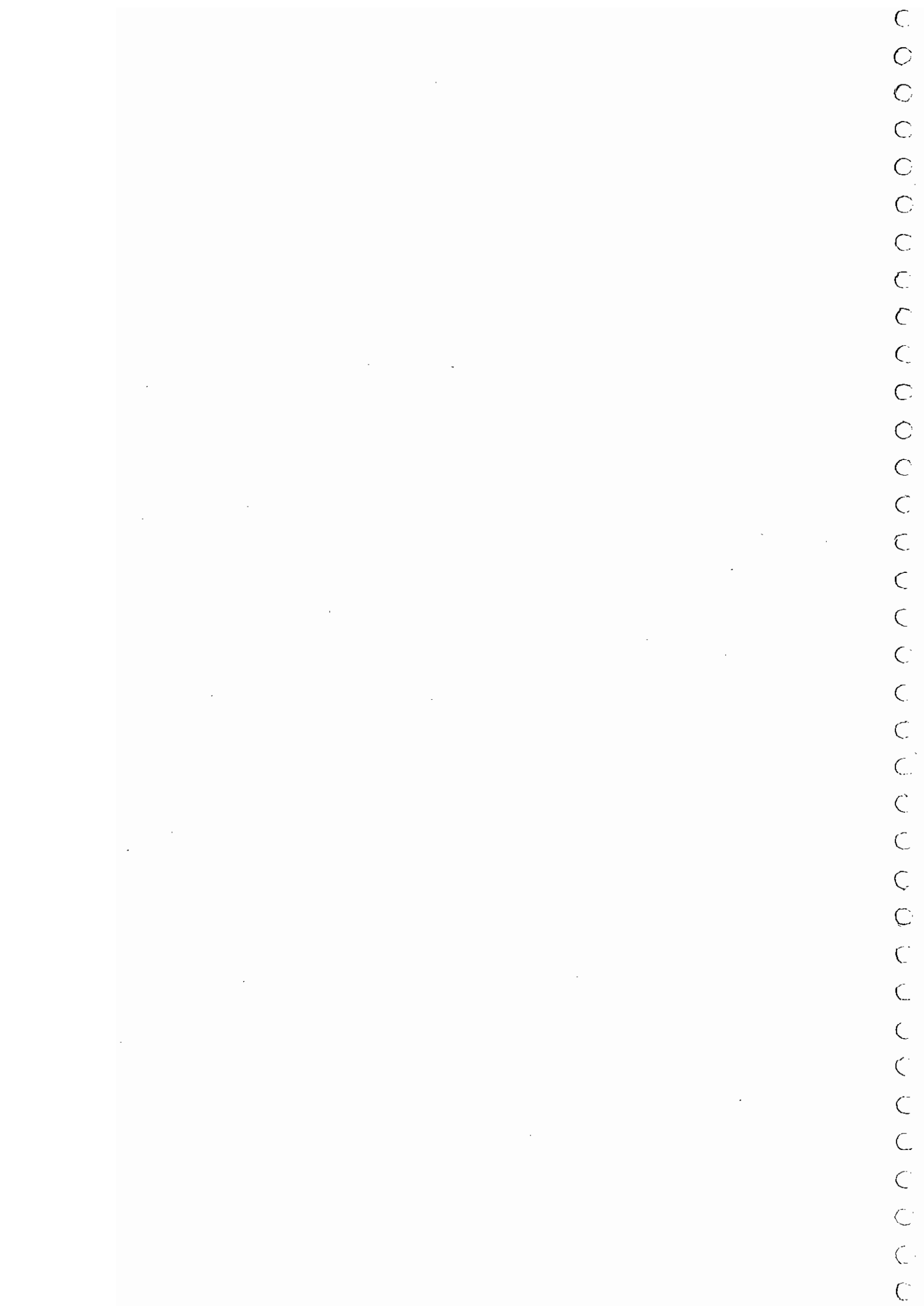
And

M/s. SUPREME SUYOG YASHITA CONSORTIUM



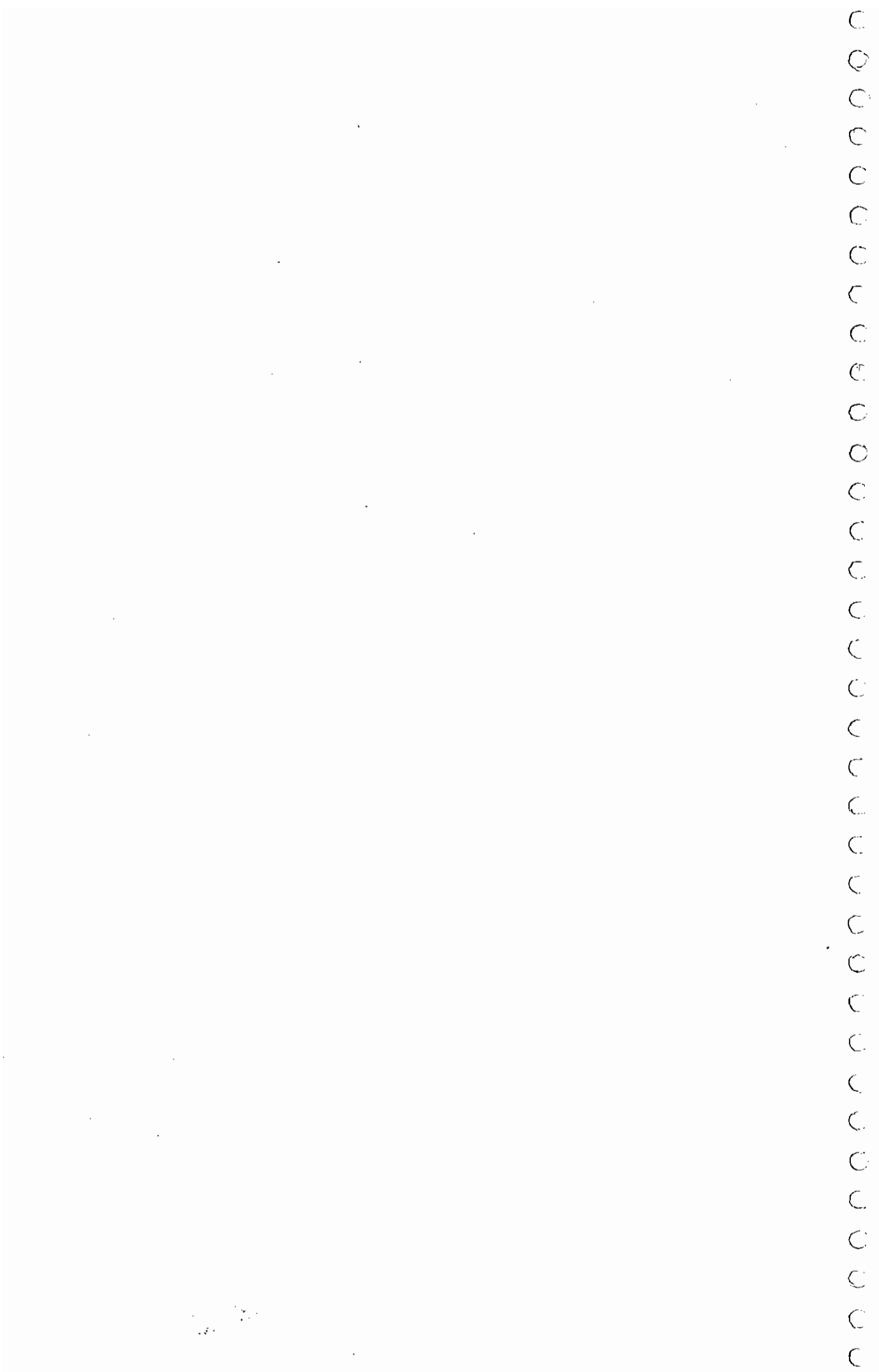
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महाराष्ट्र MAHARASHTRA

Postal Stamp Office, Mumbai
S. V. No. 604

20 AUG 2008

Post Officer

Mr. M. D. Kadam

क्रमांक: ७७० दिनांक: १९८

विक्रीकर आदित्य गणेशजी, भाडुगंवा, मुंबई.

सर्वश्री/मै. १९८

याना सावित्र मुंबई ४०० ७०८ चा

विकला.

मुद्रांक विक्रेता
साक्षी विक्रेता

9 SEP 2008
B.A. LL.B.
HIGHER COURT
Sector-10,
New Mumbai - 400 708

BG 576193



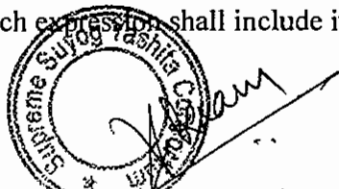
CONCESSION AGREEMENT

THIS CONCESSION AGREEMENT is entered into on this the 9th day of Sep 2008 at Mumbai BETWEEN,

THE GOVERNOR OF MAHARASHTRA in his executive capacity for the Government of Maharashtra, hereinafter referred to as Public Works Department, Government of Maharashtra, hereinafter referred to as the "GOM" (which expression shall include its successors and assigns).

AND

M/s. SUPREME SUYOG YASHITA CONSORTIUM, a company incorporated under the companies Act, 1956, having its registered office at 41, Suyog Industrial Estate, 1st Floor, L. B. S. Marg, Vikhroli (West), Mumbai-400 083 hereinafter referred to as the "Concessionaire" (which expression shall include its permitted successors and assigns).



Executive Engineer,
Thane Construction Division
THANE.

THE UNIVERSITY OF CHICAGO
LIBRARY
1100 EAST 58TH STREET
CHICAGO, ILL. 60637

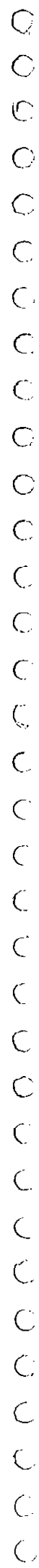
WHEREAS,

- A. The GOM is keen to implement a project envisaging construction, operation and maintenance and handing over of **Construction of Funicular Railway at Haji Malang Gad, at Ambernath Dist. Thane, Maharashtra State (India)** (more particularly described in Schedule 'A' and hereinafter referred to as "the Project") with private sector participation on Build, Operate and Transfer (BOT) basis and has carried out feasibility study for the Project:
- B. The Public Works Department the GOM, (PWD) is responsible for development and maintenance of infrastructure in Maharashtra.
- C. For and on behalf of GOM, Public Works Department invited tenders from eligible persons for implementing the project:
- D. In response to the aforesaid invitation for tenders, GOM received bids from several persons including the Concessionaire / the Consortium for implementing the project:
- E. GOM after evaluating the afore said bids accepted the bid submitted by the Concessionaire the Consortium and issued the Letter of Acceptance No. TCD/Tender/4271 dated: 21/06/2008 (LOA) to the Concessionaire / the Consortium;
- F. The Concessionaire has delivered to the GOM performance security for construction issued by State Bank of India for an amount of Rs. 40.00 lacs (Rs. Forty Lacs only) valid up to 10th September 2010.
- G. In accordance with the requirements of the said tender/bid submitted by the Consortium, the consortium has incorporated the Concessionaire as a Special Purpose Vehicle to implement the project on BOT basis through private participation and the GOM has agreed to grant to the Concessionaire, the Concession (as hereinafter defined) on the terms, conditions and covenants hereinafter set forth in this Agreement.



Executive Engineer

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THANE.



3-10-11

GOVERNMENT OF MAHARASHTRA

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

ARTICLE 1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

"Accounting Year" means the financial year commencing from 1st April of any calendar year and ending on 31st March of the next calendar year.

"Agreement" means this agreement including Schedules 'A' through 'Y' hereto, and any amendments thereto made in accordance with the provisions of this Agreement.

"Applicable Laws" means all laws, promulgated or brought into force and effect by GOM and Government of India including regulations and rules made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of this Agreement.

"Applicable Permits" means all clearances, permits, authorizations, consents and approvals under or pursuant to Applicable Laws, required to be obtained and maintained by the Concessionaire, in order to implement the Project and to provide Project Facility in accordance with this Agreement.

"Arbitration Act" means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof as in force from time to time.

"Bill of Quantities" means bill of quantities set forth in Schedule E.

"Cashflow Projections" means the estimates of cashflows of the Project as set out in Schedule 'G'.

"Change in Law" means the occurrence of any of the following after the date of this Agreement:

- a. The enactment of any new Indian law;
- b. The repeal, modification or re-enactment of any existing Indian law;
- c. The commencement of any Indian law which has not entered into effect until the date of this Agreement;
- d. A change in the interpretation or application of any Indian law by a court of record as compared to such interpretation or application by a court of record prior to the date of this Agreement; or
- e. Any change in the rates of any of the Taxes.



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"COD" means the commercial operations date of the Project which shall be the date on which the Engineer in charge has issued the Provisional completion or the Completion Certificate upon completion of construction of the Project and which shall, subject to the provisions of this Agreement, be not later than as mentioned in contract data.

"Chief Engineer" shall mean the Chief Engineer of Public Works Department, as mentioned in contract data or any other officer of equivalent rank, if so designated by the Government of Maharashtra.

"Commencement Date" means the date on which the work order is issued to Concessionaire.

"Completion Certificate" means the certificate issued by the Engineer in charge pursuant to Article 9.2.(a)

"Concession" shall have the meaning ascribed thereto in Article 2.1.

"Concession Period" means the period as applicable specified in Article 2.2.

"Concessionaire" means M/s. Supreme Suyog Yashita Consortium (As per Volume - II) and shall include its successors and permitted assigns expressly approved by GOM.

"Consortium" means the consortium consisting of i) Supreme Infrastructure India Ltd. ii) Suyog Telematics Pvt. Ltd. iii) Yashita Automotive Engineering Pvt. Ltd. formed / acting pursuant to the Memorandum of Understanding (As per Volume-II) (Schedule 'U') entered into by them, for the purpose of bidding for the Project and in the event of being successful to implement the Project through a special purpose vehicle to be formed and incorporated by them in India.

"Construction Works" means all works and things necessary to achieve commercial operation of the Project in accordance with this Agreement.

"Contractor" means Person with whom the Concessionaire has entered into/ may enter into all or any of the Project Agreements.

"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default.

"Days" are calendar days; months are calendar months.

"Debt Due" means the aggregate of the following sums expressed in Rupees outstanding and payable to the Lenders under the Financing Documents:

- (i) the principal amount of the debt provided by the Lenders under the Financing Documents for financing the Project (the "principal") which is outstanding as on the Termination Date but excluding any part of the principal that had fallen due for repayment one year prior to the Termination Date unless such repayment had been rescheduled with the prior consent of the GOM; and



GOVERNMENT OF MAHARASHTRA

- (ii) all accrued interest, financing fees and charges payable on or in respect of the debt referred to in sub-clause (i) above up to the date preceding the Termination Date but excluding (a) any interest, fees or charges that had fallen due one year prior to the Termination Date, and (b) penal interest or charges payable under the Financing Documents to the Lenders.

"Defect" is any part of the Works not completed in accordance with the condition of Contract.

"Defects Liability Period" is the period named in the Contract Data and calculated from the Completion Date.

"Department" shall mean Public Works Department of the Government of Maharashtra.

"Design Approving Engineer" (DAE) shall mean the Superintending Engineer, Public Works Department, Designs Circle (Bridges), or any other Proof Consultant nominated by the Chief Engineer for scrutiny and approval of the design calculations and structural drawings prepared and submitted by the Concessionaire.

"Dispute" shall have the meaning ascribed thereto in Article 19.1.

"Dispute Resolution Procedure" means the procedure for resolution of Dispute set forth in Article 19.

"Drawings" means all of the drawings, designs, calculations and documents pertaining to the Project as set forth in Schedule 'K' and shall include "as built" drawings of the Project.

"Emergency" means a condition or situation that is likely to endanger the security of the individuals on or about the Project including users thereof or which poses an immediate threat of material damage to any of the Project Assets.

"Employer" is Government of Maharashtra represented through Secretary Public Works Department or his authorised representative as indicated in Contract Data.

"Encumbrance" means any encumbrance such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations and shall include without limitation any designation of loss to payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project, physical encumbrances and encroachments on the Project Site.

"Engineer in charge" shall mean the Executive Engineer, of Public Works Department, as mentioned in contract data or any other officer of equivalent rank, if so designated or any other person nominated by the Chief Engineer from time to time." (Schedule J)

"Equipment" is the Concessionaire's machinery and vehicles brought temporarily to the Site to construct the Works.



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"Equity" means the sum expressed in Rupees representing the equity share capital of the Concessionaire and shall include the funds advanced by any member of the Consortium or by any of its shareholders to the Concessionaire for meeting equity component of the Total Project Cost. Provided, however, that for purposes of computing Termination Payment under this Agreement, Equity shall be reckoned as an amount that is arrived at after excluding from the equity share capital of the Concessionaire the sum by which the capital cost of the Project as stated by the Concessionaire for purposes of claiming Termination Payment exceeded the Total Project Cost unless such excess cost has been incurred with the approval of the Lenders and GOM. Provided further, any equity brought in after COD shall not be considered or taken into account for the purpose of Termination Payment.

"Exempted Passenger" means the dignitaries mentioned below that shall be exempted from payment of toll.

1) President of India 2) Vice President of India 3) Members of Parliament 4) Members of Legislative Assembly 5) Very Important Persons.

"Financing Documents" means the documents executed by the Concessionaire in respect of financial assistance (including refinancing) for the Project to be provided by the Lenders by way of loans, advances, subscription to debentures and other debt instruments and guarantees, risk participation, take-out financing or any other form of credit enhancement and shall include loan agreements, guarantee agreements, subscription agreements, notes and any documents providing security for such financial assistance, and includes amendments or modifications made thereto.

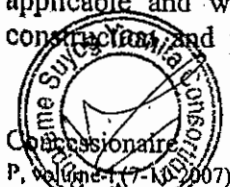
"Financial Close" means the date on which the Financing Documents providing for funding by the Lenders have become effective and the Concessionaire has immediate access to such funding under the Financing Documents.

"Force Majeure Cost" Force Majeure Cost means cost attributable to force majeure events specified in Article 15 and directly related to the project so as to bring the facility to its original state as before occurrence of force majeure event.

"Force Majeure Event" shall have meaning ascribed thereto in Article 15.1.

The "GOM" means the Government of Maharashtra represented through secretary public works department or his authorised representative.

"Good Industry Practice" means those practices, methods, techniques, standards specification, skills, diligence and prudence which are generally and reasonably expected of and accepted internationally from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this Agreement and acting generally in accordance, with Code of Practice for Design, Manufacture, Installation, Operation & maintenance of Funicular Railways, The Government of Hong Kong / EU code (European code) BSEN - 1907, 2005 / Code of practice for Indian railways / PWD / MoRTH Specifications and Standards of Roads, Bridges, Building as would be applicable and would mean good engineering practices in the design, engineering, construction and project management and which would be expected to result in the



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performance of its obligations by the Concessionaire and in the operation and maintenance of the Project in accordance with this Agreement, Applicable Permits, reliability, safety, environment protection, economy and efficiency.

"Government" shall mean the Government of Maharashtra represented through the Secretary Public Works Department or his authorised representative as indicated in the Contract Data.

"Government Agency" means the GOM, or any state government or government department, commission, board, body, bureau, agency, authority, instrumentality, or other judicial or administrative body, central, state, or local, having jurisdiction over the Concessionaire, the Project Assets or any portion thereof, or the performance of all or any of the services or obligations of the Concessionaire under or pursuant to this Agreement.

"Implementation Period" means the period beginning from the Commencement Date and ending on the COD.

"Indirect Political Event" shall have the meaning ascribed thereto in Article 15.3.

"Initial Investment" shall have the meaning ascribed thereto in Schedule 'G'.

"Internal Rate of Return" shall have the meaning ascribed thereto in Schedule 'G'.

"IFB" shall mean Invitation for Bid.

"Lenders" means financial institutions, banks, funds, trusts or trustees of the holders of debentures or other securities their successors and assigns, which provide financial assistance to the Concessionaire under any of the Financing Documents.

"Maintenance Manual" shall have the meaning ascribed to it in Article 9.5.

"Maintenance Programme" shall have the meaning ascribed to it in Article 9.6.

"Material Adverse Effect" means material adverse effect on (a) the ability of the Concessionaire to observe and perform any of its rights and obligations under and in accordance with the provisions of this Agreement and/or (b) the legality, validity, binding nature or enforceability of this Agreement.

"Material Breach" means a breach by either Party of any of its obligations under this Agreement which has/ likely to have a Material Adverse Effect on the Project and which such Party shall have failed to cure within the Cure Period.

"Minimum Maintenance Requirements" means minimum maintenance requirements for the maintenance of the Project as set forth in Schedule 'O'.

"Non Political Event" shall have the meaning ascribed thereto in Article 15.2.



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"O&M" means the operation and maintenance of the Project during Operations Period including but not limited to functions of maintenance, collection and retention of Fees and performance of other services incidental thereto.

"O&M Contract" means the Operation and Maintenance Contract that may be entered into between the Concessionaire and the O&M Contractor for O&M of the Project/Project Facility.

"O&M Contractor" means the person or entity with whom the Concessionaire has entered into for O&M Contract for discharging O&M functions for and on behalf of the Concessionaire.

"O&M Expense" means expenses incurred by or on behalf of the Concessionaire, duly certified by its Statutory Auditors for all regularly scheduled and reasonably anticipated O&M during Operations Period, including, without limitation (a) all cost of salaries and other employee compensation and contract fee payable to the O&M Contractor, if any, (b) cost of materials, supplies, utilities and other services, (c) premium for insurance, (d) all franchisee, excise, property and other similar taxes and all costs and fees incurred in order to obtain and maintain all Applicable Permits necessary for the O&M of the Project/Project Facility at its full design capacity, (e) all repair, replacement and maintenance costs of the Project/Project Facility, and (f) all other expenditures required to be incurred under Applicable Law or under Applicable Permits necessary for the operation and maintenance of the Project according to the Specifications and Standards at its full design capacity.

"O & M Inspection" O & M Inspection means the inspection to be carried out jointly by the Engineer in charge and Concessionaire to determine the condition of project.

"Operations Period" means the period commencing from COD and ending at the expiry of the Concession Period.

"Parties" means the parties to this Agreement collectively and "Party" shall mean either of the Parties to this Agreement individually.

"Performance Security" means the Performance Security for construction or Performance Security for operation and maintenance as applicable in terms of Article 3.

"Person" means any individual, company, corporation, partnership, joint venture, trust, unincorporated organization, government or Government Agency or any other legal entity.

"Political Event" shall have the meaning ascribed thereto in Article 15.4.

"Project" means the project described in Schedule 'A' which the Concessionaire is required to design, engineer, procure, finance, construct, operate, maintain and transfer in accordance with the provisions of this Agreement.

"Project Agreements" means collectively this Agreement, any contract for the design, engineering, procurement and construction of the Project, O&M Contract and any other



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material contract (other than the Financing Documents) entered into or may hereafter be entered into by the Concessionaire in connection with the Project.

"Project Assets" means all physical and other assets relating to and forming part of the Project including but not limited to (i) rights over the Project Site in the form of license, right of way or otherwise, (ii) tangible assets such as civil Works including foundations, embankments, pavements, railway tracks, interchanges, Toll station, equipment for the collection of tolls or relating to regulation of passengers, electrical works for lighting on the Project, telephone and other communication systems and mechanical equipments for the Project, rest areas, railway side amenities, administration and maintenance depots, relief centers, service facilities etc. (iii) Project Facility situated on the Project Site, (iv) the rights of the Concessionaire under any Project Agreements, (v) financial assets, such as security deposits for electricity supply, telephone and other utilities, etc., (vi) insurance proceeds subject to Lenders' rights thereto and (vii) Applicable Permits and authorisations relating to or in respect of the Project.

"Project Completion" shall have the meaning ascribed thereto in Article 9.2.

"Project Completion Schedule" means the progressive Project milestones set forth in Schedule 'D' for the implementation of the Project.

"Project Facility" means collectively the facilities on the Project Site to be constructed, built, installed, erected by the Concessionaire for use of the passenger traffic by implementing the Project and more specifically set out in Schedule 'C'.

"Project Site" means the real estate particulars whereof are set out in Schedule 'B' on which the Project is to be implemented and the Project Facility is to be provided in accordance with this Agreement.

"Provisional Certificate" shall have the meaning ascribed to it in Article 9.3(g) and (f).

"Punch List" shall have the meaning ascribed thereto in Article 9.3(g).

"Rs." or "Rupees" refers to the lawful currency of the Republic of India.

"SBI PLR" means the prime lending rate per annum for loans with 1 (one) year maturity as fixed from time to time by the State Bank of India, and in the absence of such rate, the average of the prime lending rates for loans with 1 (one) year maturity fixed by the State Bank of India and failing that any other arrangement that substitutes such prime lending rate as mutually agreed between the Parties.

"Scheduled Project Completion Date" shall have the meaning set forth in Article 9.2(c).

"Specifications and Standards" means the specifications and standards relating to the quality, capacity and other requirements for the Project as set forth in Schedule 'L' and any modifications thereof, or additions thereto as included in the design and engineering for the Project submitted by the Concessionaire to, and expressly approved by GOM.



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"Sponsors" shall mean (i) ----- (ii) ----- (iii) ----- and (iv) -----
--- (As defined in volume II)

"Statutory Auditors" means a reputed firm of Chartered Accountants duly licensed to practice in India acting as statutory auditors of the Concessionaire.

"Steering Group" means the Steering Group constituted pursuant to Article 7.1.

"Substitution Agreement" means the agreement to be entered into among the Concessionaire, GOM, and the Lenders in the form set forth in Schedule 'T' providing, inter alia, for the substitution of the Concessionaire by another Person subject to and in accordance with the provisions of this Agreement and the Substitution Agreement.

"Superintending Engineer" shall mean the Superintending Engineer, of Public Works Department, to be mentioned in contract data or any other officer of equivalent rank, if so designated by the Chief Engineer.

"Supervision consultant" shall mean the consultant appointed by the Concessionaire with the express approval of the engineer in charge to supervise the work on behalf of concessionaire pursuant to article 6.

"Termination" means termination of this Agreement and the Concession hereunder pursuant to a Termination Notice or otherwise in accordance with the provisions of this Agreement but shall not, unless the context otherwise requires, include the expiry of this Agreement/Concession due to expiry to the Concession Period in the normal course.

"Termination Date" means the date on which the Termination occurs which shall be the date on which Termination Notice has been delivered or deemed to have been delivered by a Party issuing the same to the other Party in accordance with the provisions of this Agreement.

"Termination Notice" means a communication in writing by a Party to the other Party regarding Termination in accordance with the applicable provisions of this Agreement.

"Termination Payment" means the aggregate of the amounts payable by the GOM to the Concessionaire under this Agreement upon Termination including Termination Payment receivable by the Concessionaire pursuant to Article 16.4.

"Tests" means the tests to be carried out as set forth in and in accordance with Schedule 'M' to determine the Project Completion and its certification by the Independent Engineer prior to commencement of commercial operation of the Project.

"Toll Station" means collectively the structures, equipment, system or mechanism and barriers erected or installed for the purpose of regulating the entry/exit of passengers using the Project and for collection of Fee in accordance with the provisions of this Agreement.



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"Total Project Cost" means the lowest of the following:

- (a) The amount as mentioned in contract data.
- (b) Actual capital cost of the Project upon completion of the Project as certified by the Statutory Auditors; on total project cost as set forth in Financing Documents.

"Toll" means the Toll chargeable for passengers using the Project Facility in accordance with the Toll Notification.

"Toll Notification" means the notification as per draft appended hereto as Schedule 'F' to be published by the GOM in the Gazette of the GOM authorizing to levy and collection of the Toll by the Concessionaire in accordance with the provisions of this Agreement.

"Work order" shall mean order to start the work issued to Concessionaire after he has paid the Performance Security and signed the agreement in prescribed form.

"WPI" means the wholesale price index published monthly by the Ministry of Industry, the GOM and shall include any index which substitutes the WPI.



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1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- (a) any reference to a statutory provision shall include such provision as is from time to time modified or re-enacted or consolidated so far as such modification or re-enactment or consolidation applies or is capable of applying to any transactions entered into hereunder;
- (b) references to Indian law shall include the laws, acts, ordinances, rules, regulations, guidelines or by laws which have the force of law in any State or Union Territory forming part of the Union of India;
- (c) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organizations or other entities (whether or not having a separate legal entity);
- (d) The headings are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) Terms and words beginning with capital letters and defined in this Agreement including the Schedules;
- (f) The words "include" and "including" are to be construed without limitation;
- (g) References to "construction" include, unless the context otherwise requires investigation, design, engineering, procurement, delivery, transportation installation, processing, fabrication, testing, commissioning and other activities incidental to the construction;
- (h) Any reference to any period of time shall mean a reference to that according to Indian Standard Time;
- (i) Any reference to day shall mean a reference to a calendar day;
- (j) Any reference to month shall mean a reference to a calendar month;
- (k) The Schedules to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (l) any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference;



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- (m) References to recitals, Articles, sub-articles, clauses, or Schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to recitals, Articles, sub-articles, clauses and Schedules of or to this Agreement;
- (n) any agreement, consent, approval, authorization,, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Engineer in charge shall be valid and effectual only if it is in writing under the hands of duly authorized representative of such Party or the Engineer-in-charge, as the case may be, in this behalf and not otherwise;
- (o) Any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates; and
- (p) the damages payable by either Party to the other of them as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty or liquidated damages;
- (q) unless otherwise expressly provided in this Agreement, any documentation required to be provided or furnished by the Concessionaire to the GOM /Steering Group and/or the Engineer in charge shall be provided free of cost and in three copies and if the GOM/Steering Group and /or the Engineer in charge is required to return any such documentation with their comments and/or approval, they shall be entitled to retain two copies thereof.

Measurements and Arithmetic Conventions

All measurements and calculations shall be in metric system and calculations done to 2 decimal places, with the third digit of 5 or above being rounded up and below 5 being rounded down except in Toll calculation which shall be rounded off to nearest rupee.

1.2.3 In case of ambiguities or discrepancies within this Agreement, the following shall apply:

- (i) between two Articles of this Agreement, the provisions of specific Articles relevant to the issue under consideration shall prevail over those in other Articles;
- (ii) between the Articles and the Schedules, the Articles shall prevail;
- (iii) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- (iv) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail;
- (v) between any value written in numerals and that in words, the latter shall prevail.



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ARTICLE 2

CONCESSION AND PROJECT SITE

2.1 Grant of Concession

- Subject to and in accordance with the terms and conditions set forth in this Agreement, the GOM hereby grants and authorizes the Concessionaire to investigate, study, design, engineer, procure, finance, construct, operate and maintain the Project/Project Facility and to exercise and/or enjoy the rights, powers, privileges, authorisations and entitlements as set forth in this Agreement, including but not limited to the right to levy, demand, collect and appropriate Toll from passengers liable to payment of Toll for using the Project/ Project Facility or any part thereof (collectively "the Concession").

2.2 Concession Period

The Concession hereby granted is for a period as per accepted Bid in Financial Bid Volume III commencing from the Commencement Date (the Concession Period) during which the Concessionaire is authorized to implement the Project and to operate Project Facility in accordance with the provisions hereof. (as per Bidding Data - volume II)

Provided that;

- (a) in the event of the Concession being extended by the GOM beyond the said period in accordance with the provisions of this Agreement, the Concession Period shall include the period/aggregate period by which the Concession is so extended, and
- (b) in the event of Termination, the Concession Period shall mean and be limited to the period commencing from the Commencement Date and ending with the Termination.

2.3 Acceptance of the Concession

The Concessionaire hereby accepts the Concession and agrees and undertakes to implement the Project / provide Project Facility, and to perform/discharge all of its obligations in accordance with the terms and conditions set forth in this Agreement.

2.4 Project Site

- (a) The GOM hereby undertakes to handover to the Concessionaire physical possession of the Project Site as per the schedule mentioned in bid data-volume II free from Encumbrance together with the necessary rights of way / way leaves for the purpose of implementing the Project in accordance with this Agreement.



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The GOM confirms that upon the Project Site being handed over pursuant to the preceding sub-article (a) the Concessionaire shall have the exclusive right to enter upon, occupy and use the Project Site and to make at its costs, charges and expenses such development and improvements in the Project Site as may be necessary or appropriate to implement the Project and to provide Project Facility subject to and in accordance with the provisions of this Agreement.

- (b) Land for the proposed project shall be handed over to the concessionaire as per schedule mentioned in the Bidding data in volume-II.

The concessionaire shall be responsible for maintenance, repairs, safety of passengers for entire stretch handed over to the concessionaire right from the date of work order.

After the concession period is complete the entire facility including land shall be handed over to the Government of Maharashtra. The concessionaire shall be empowered to carry out the activities mentioned in the bid only for the concession period; the right of the Govt. to carry out any other activities not included in this agreement in the same land is reserved by the Government of Maharashtra.

At the time of handing over of land / project before issuing Work Order position of land/project record, photographs, video films shall be kept and document jointly signed by the Engineer in charge and concessionaire.

2.5 Use of the Project Site

The Concessionaire shall not without prior written consent or approval of the GOM use the Project Site for any purpose other than for the purposes of the Project/the Project Facility and purposes incidental thereto as permitted under this Agreement or as may otherwise be approved by the GOM.

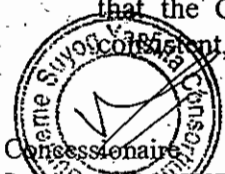
2.6 Information about the Project Site

The information about the Project Site set out in Schedule 'B' is provided by the GOM in good faith and with due regard to the matters for which such information is required by the Concessionaire. The GOM agrees to provide to the Concessionaire, upon a reasonable request, any further information relating to the Project Site, which the GOM may now possess or may hereafter come to possess. Subject to this the GOM makes no representation and gives no warranty to the Concessionaire in respect of the condition of the Project Site.

2.7 Peaceful Possession

The GOM warrants that:

- (a) the Project Site together with the necessary right of way/ way leaves having been acquired through the due process of law belongs to and vested in the GOM, and that the GOM has full powers to hold, dispose of and deal with the same consistently, inter alia, with the provisions of this Agreement;



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- (b) the Concessionaire shall have no obligation / liability as to payment of any compensation whatsoever to or the rehabilitation and resettlement of any Person from whom the Project Site or any part thereof had been acquired and that the same shall be the sole responsibility of the GOM; and
- (c) the Concessionaire shall, subject to complying with the terms and conditions of this Agreement, remain in peaceful possession and enjoyment of the Project Site during the Concession Period. In the event the Concessionaire is obstructed by any Person claiming any right, title or interest in or over the Project Site or any part thereof or in the event of any enforcement action including any attachment, restraint, appointment of receiver or liquidator being initiated by any Person claiming to have any interest in/ charge on the Project Site or any part thereof, the GOM shall, if called upon by the Concessionaire, defend such claims and proceedings and also keep the Concessionaire indemnified against any direct or consequential loss or damages which the Concessionaire may suffer, on account of any such right, title, interest or charge.

2.8 Rights and Title over the Project Site

- (a) The Concessionaire shall have exclusive rights to the use of the Project Site in accordance with the provisions of this Agreement and for this purpose it may regulate the entry and use of the same by third parties.
- (b) The concessionaire shall not part with or create any encumbrance on the whole or any part of the project site save and except as set forth and permitted under this agreement provided however that nothing contained herein shall be constructed or interpreted as restriction on the right of the concessionaire to appoint any contractor for the performance of its obligations hereunder including for operation and maintenance of all or any part of the project / project facility.
- (c) The concessionaire shall not be entitled to any special tax concession or any other concessions as a result of undertaking the proposed project, other than those declared by the GOM or the GOI up to 30 days before the last date of receipt of the bids.



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ARTICLE 3

PERFORMANCE SECURITY

3.1 Performance Security

- (a) Before executing this Concessionaire agreement the Concessionaire has already deposited performance security of Rs. 40.00 lakh, for due and punctual performance of its obligations during the Implementation Period, deliver to the GOM, simultaneously with the execution of this Agreement a bank guarantee from a branch situated in Maharashtra of scheduled / Nationalized bank acceptable to the GOM, in the form set forth in Schedule 'Q', the "Performance Security for construction" for a sum of Rs. Rs. 40.00 lakh. (as per Contract Data in Section VI of volume II)
- (b) The Concessionaire shall for due and punctual performance of obligations during operation period deliver to the GOM on or before the COD, the bank guarantee from a branch situated in Maharashtra of Scheduled, Nationalized bank acceptable to the GOM in form set forth in schedule 'R' the "Performance security for operation and maintenance" for a sum of Rs. 20.00 lakhs. (as per contract data in section VI of volume II) Any defect observed during the concession period should be rectified within 30 days from the date of occurrence.

3.2 Fresh Performance Security

In the event of the encashment of the Performance Security by the GOM pursuant to Encashment Notice issued in accordance with the provisions of Article 16 the Concessionaire shall within 30 (thirty) days of the Encashment Notice furnish to the GOM fresh Performance Security failing which the GOM shall be entitled to terminate this Agreement in accordance with the provisions of Article 16. The provisions set forth in Article 3.1 above shall apply mutatis mutandis to such fresh Performance Security.

3.3 Release of performance security

The performance security shall be released after one year of handing over of the project to GOM on completion of concession period.



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ARTICLE 4

TOLL

4.1 Levy, Collection and appropriation of Toll

- (a) Subject to the provisions of this Agreement, the Concessionaire shall during Operations Period be entitled to levy, demand and collect Toll in accordance with the Toll Notification and to appropriate the same.(as per schedule F)
- (b) The GOM undertakes to publish the Toll Notification as per Schedule 'F' after issue of provisional completion certificate by Engineer in Charge as per Schedule 'N'.
- (c) The concessionaire shall give concession to users as per Toll Notification.
- (d) The Concessionaire shall not levy and collect any Toll until it has received Toll Notification issued by the GOM.
- (e) The Concessionaire shall not collect any Toll in relation to Exempted passengers
- (f) The Concessionaire shall conspicuously display the Toll Rates at the Toll stations and also at a distance about 50 meters ahead of Toll stations on either side of Project Facility.
- (g) The concessionaire shall provide uniform to staff working on toll stations. The colour and type shall be got approved from the Engineer in Charge.
- (h) The concessionaire shall provide waiting hall, first Aid facility, tele communication center, canteen, drinking water and toilet facilities for the passengers near the toll stations.
- (i) The concessionaire shall provide sufficient area lighting near the toll center.

4.2 Revision of Toll

In the event of extension in Concession Period in accordance with provisions of this Agreement, the GOM shall issue revised Toll Notification(s) taking into account increase in Toll rates as Specified in Schedule F.

4.3 Traffic Sampling :-

To ascertain the actual Toll income joint passengers survey will be conducted after completion of 5 years from COD. The joint passengers survey will be conducted twice in a year in the month of March / October of every year for continuous period not less than 7 days and average count will be taken as base.



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To compute yearly toll income the following procedure shall be followed.

Yearly Toll Income = Average passengers count of each category worked out as above [x] prevailing toll rate [x] 365 days [x] 0.85 [Discount factor for coupons / Monthly passes) From actual Toll income worked out as above, 10% will be deducted and there after from the balance toll income. The estimated, Toll income during that year considered in the cash flow submitted with the bid, will be deducted and balance will be shared equally with Authority.



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ARTICLE 5

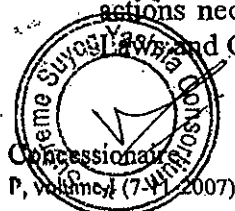
OBLIGATIONS AND UNDERTAKINGS

In addition to and not in derogation or substitution of any of the obligations set out elsewhere in this Agreement, the Parties agree and undertake as under:

General Obligations of the Concessionaire

The Concessionaire shall at its own cost and expense

- i) investigate, study, design, construct, operate and maintain the Project Assets/Project Facility in accordance with the provisions of this Agreement, Good Industry Practice and Applicable Laws;
- (ii) obtain all Applicable Permits in conformity with the Applicable Laws and be in compliance with thereof at all times during the Concession Period; at his own cost.
- (iii) procure and maintain in full force and effect, as necessary, appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used in or incorporated into the Project;
- (iv) ensure and procure that each Project Agreement contains provisions that would entitle the GOM or a nominee of the GOM to step into such agreement at the GOM's discretion, in place and substitution of the Concessionaire in the event of Termination pursuant to the provisions of this Agreement;
- (v) provide all assistance to the Engineer in charge and Steering Group as they may reasonably require for the performance of their duties and services under this Agreement;
- (vi) provide to the Steering Group reports on a regular basis during the Implementation Period and the Operations Period in accordance with the provisions of this Agreement;
- (vii) appoint, supervise, monitor and control the activities of Contractors under their respective Project Agreements as may be necessary;
- (viii) make efforts to maintain harmony and good industrial relations among the personnel employed in connection with the performance of the Concessionaire's obligations under this Agreement;
- (ix) develop, implement and administer a surveillance and safety program for the Project/Project Facility and the users thereof and the Contractors personnel engaged in the provision of any services under any of the Project Agreements including correction of safety violations and deficiencies, and taking of all other actions necessary to provide a safe environment in accordance with Applicable Laws and Good Industry Practice;



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- (x) take all reasonable precautions for the prevention of accidents on or about the Project Site/Project Facility and provide all reasonable assistance and emergency medical aid to accident victims;
- (xi) not to place or create nor to permit any Contractor or other person claiming through or under the Concessionaire to create or place any Encumbrance over all or any part of the Project Assets, or on any rights of the Concessionaire therein, save and except as expressly set forth in this Agreement;
- (xii) make its own arrangements for quarrying and payment of royalty charges, and observe and fulfill the environmental and other requirements under the Applicable Laws and Applicable Permits;
- (xiii) be responsible for safety, soundness and durability of the Project Facility including all structures forming part thereof and their compliance with the Specifications and Standards;
- (xiv) ensure that the Project Site remains free from all encroachments and take all steps necessary to remove encroachments, if any;
- (xv) make payment to Police Department or any the GOM Agency, if required, for provision of such services as are not provided in the normal course or are available only on payment;
- (xvi) operate and maintain the Project at all times during the Operations Period in conformity with this Agreement including but not limited to the Specifications and Standards, the Maintenance Program and Good Industry Practice; and shall pay to the GOM the cost of maintenance and repair works which would be carried out by the GOM in case of failure of the Concessionaire to carryout the maintenance of the project within stipulated time as per Schedule 'O'.
- (xvii) remove promptly according to Good Industry Practice, from the Project Site, all surplus construction machinery and materials, waste materials (including, without limitation, hazardous materials and waste water), rubbish and other debris (including without limitation accident debris) and keep the Project Site in a neat and clean condition and in conformity with the Applicable Laws and Applicable Permits.

5.2 Obligations of the Concessionaire during Implementation Period

- (a) The Concessionaire shall, before commencement of construction of the Project;
 - (i) submit to the Engineer in Charge with due regard to Project Completion Schedule and Scheduled Project Completion Date, its design, engineering and construction time schedule and shall formulate and provide Critical Path Method (CPM)/ Project Evaluation and Review Technique (PERT) charts for the completion of the said activities;



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- (ii) have requisite organization and designate and appoint suitable Supervision Consultant to supervise the Project and to deal with the Engineer in charge/the Steering Group and to be responsible for all necessary exchange of information required pursuant to this Agreement;
- (iii) undertake, do and perform all such acts, deeds and things as may be necessary or required to adhere to the Project Completion Schedule and to achieve Project Completion under and in accordance with this Agreement;
- (iv) construct, provide and maintain a furnished site office accommodation as per approved drawing at the Project Site; and
- (v) provide and maintain an adequately equipped field laboratory as required for the Project Site control on the quality of materials and the Construction Works.
- (b) The Concessionaire shall, at all times, afford access to the Project Site, to the Engineer in charge, the authorised representatives of the GOM, the Engineer in charge and officer of any the GOM Agency having jurisdiction over the Project, including those concerned with safety, security or environmental protection to inspect the Project and to investigate any matter within their authority and upon reasonable notice, the Concessionaire shall provide to such persons reasonable assistance necessary to carry out their respective duties and functions.
- (c) The Concessionaire shall make payments, if any, to concerned authority for
 - (i) for approval of designs,
 - (ii) safety features,
 - (iii) supervision of construction and
 - (iv) maintenance during the Concession Period;
- (d) The Concessionaire shall be responsible for ensuring that any existing utility on, under or above the Project Site is kept in continuous satisfactory use, if necessary, by the use of suitable temporary or permanent diversions.
- (e) The Concessionaire shall bear all costs and charges for special or temporary right of way required by it in connection with access to the Project Site. The Concessionaire shall obtain at its cost such facilities on or outside the Project Site as may be required by it for the purposes of the Project and the performance of its obligations under this Agreement.

5.3 Obligations of the GOM.

The GOM shall:

- (i) hand over the physical possession of Project Site together with necessary right of way/ way leaves to the Concessionaire. (as per bidding data Volume-II)



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- (ii) grant or where appropriate provide necessary assistance to the Concessionaire in securing Applicable Permits; However the GOM does not own any responsibility for the delay which may occur in receiving such permits.
- (iii) grant in a timely manner all such approvals, permissions and authorisations which the Concessionaire may require or is obliged to seek from the GOM in connection with implementation of the Project and the performance of the Concessionaire's obligations under this Agreement;
- (iv) ensure peaceful use of the Project Site by the Concessionaire under and in accordance with the provisions of this Agreement without any let or hindrance from the GOM or persons claiming through or under it;
- (v) upon written request from the Concessionaire, assist the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water, electricity and telecommunication facilities at rates and on terms no less favorable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent facilities / utilities;
- (vi) assist the Concessionaire in obtaining necessary authority to regulate traffic on he Project Site / Project Facility subject to and in accordance with the Applicable Laws;
- (vii) assist the Concessionaire in obtaining police assistance against payment of prescribed costs and charges, if any, for passengers regulation, patrolling and provision of security on the Project Site / Project Facility and implementing this Agreement in accordance with the provisions hereof;
- (viii) observe and comply with all its obligations set forth in this Agreement.
- (ix) assist the concessionaire for shifting of utility and cutting of trees if such utility and tree cause a material adverse effect on the construction or maintenance of project, seek the permissions from various department. The cost of shifting of utility shall be borne by concessionaire. The concessionaire shall carry out the work of utility shifting and tree cutting and will bear the cost to the extent specified in the bid documents.

the GOM shall compensate the additional amount over and above what has been provided in the bid documents to the concessionaire either in the form of extended concession period or in cash as would be decided by Engineer in charge.

- (x) shall carry out the necessary proceeding for the land acquisition and encroachment removal. The cost to the extent as specified in bid documents shall be borne by the concessionaire.

the GOM shall compensate the additional amount over and above what has been specified in the bid documents to concessionaire either in the form of extended concession period or in cash as would be decided by Engineer in charge.



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Section - V
Bidding Data



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SECTION- V

BIDDING DATA

1.0 SCOPE OF BID (ITB):

- 1.1 Sealed offers in the prescribed form are invited by the government from the eligible bidders for the execution of project on build, operate and transfer basis (as defined in these documents and referred to as "the works") as per IFB. The works are detailed as per scope of work in section IV of this volume

2.0 QUALIFICATION CRITERIA (ITB):

Qualification of the prospective bidders shall be done to ensure that the works are opened only for those bidders who shall fulfill qualification criteria mentioned below in all respect.

- 2.1 The bidder should have achieved a minimum annual financial turnover of Rs 1300.00 Lakh in any of the last three years.

(Note :- A weightage of 10 % compounded annually shall be given for equating the financial turnover of the, previous years to the current year).

- 2.2 The bidder should have experienced Key employee / Consultants / Engineer's in funicular design / construction and operation. The Bidder shall submit all requisite documents with the details of such Key employee / Consultants / Engineers along with details of funicular project on which they have relevant experience. The Key employee / Consultants / Engineers shall have experience on any one funicular project for a track length more than 800 meter.

- 2.3 The bidder shall have executed a project costing minimum Rs 1250.00 lakh, during the last three years.

- 2.4 A certificate from the Officer In charge not below the rank of Executive Engineer of the concerned Department about having completed similar nature of work satisfactorily should be furnished.

- 2.5 The net worth of the bidder shall be more than Rs 1060.00 lakh.

- 2.6 The weighted net cash accrual of the bidder shall be more than Rs 530.00 lakh.



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- 2.7 The bidder shall indicate the name of engineering firms having experience of construction of works costing more than Rs 1300.00 lakh during last three years which he will associates with for the purpose of investigations, surveys, designs, preparation of the project. For this he shall produce a valid agreement, complete data about the experience and qualifications of the key personal with the engineering firm.
- 2.8 The bidder shall also submit the following qualification documents.
- Report on the financial standing of the bidder, such as profit and loss account statements and auditor's reports signed by Chartered Accountant for the last five years.
 - Evidence of adequacy of working capital for this contract (access to lines of credit and availability of other financial resources.)
 - Authority to seek references from the bidders bankers.
 - Justification of the bidder for their capability of completing the work as per milestone specified within the stipulated period of completion with the following documents.
 - Proposed Work Plan..
 - Methodology of project construction including event management.
 - Equipment, Planning and Development with broad calculation.
 - Quality control procedure.

3.0 JOINT VENTURES:

For Joint Venture

- Option 1 The lead technical member would be required to have
 - At least 50% of value of work done as specified above (for individual) and
 - Commit to hold minimum equity stake equal to 33% of aggregate share holding of the consortium in the project at all times during concession period.
- And
Lead Financial member would be required to have
 - Minimum financial capability of at least 50% of turnover and net worth criteria as specified above (for individual)
 - Commit to hold minimum equity stake equal to 33% of aggregate share holding of the consortium in the project at all times during the concession period.



Option-2 Lead member would be required to

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- i) Complete minimum of the 50% of value of work done specified above and financial capability of at least 50% of the financial criteria i.e. turnover and net worth specified above (for individual) and to commit to hold minimum equity stake equal to 51% of aggregate of the consortium in the project at all times during the concession period.
- ii) In case of a member of the consortium, who is neither a lead Technical Member nor a lead financial member nor a lead member under either of the above option 2, the member would be required to commit to hold a minimum equity stake equal to 10% of the aggregate shareholding of the consortium in the project at all times during the concession period.

Details of experience and performance of each of the parties to the joint venture on works of similar nature within the last five years, current works in hand and other contractual commitments should be clearly indicated in Schedule W (Proforma 1 to 12) of section III enclosed in volume 1.

Where a consortium is implementing the Project, the Memorandum of understanding entered into them for the purpose of implementing the project shall be appended.

If the contractor has purchased the bidding documents in his own name and subsequently form joint venture with one or two additional companies, the bidding document can be used for submission of bid in the name of joint venture provided the bidder purchasing documents is a "Lead Firm".

Experience and resources of joint venture partners as per work distribution as proposed in joint venture, agreement shall be taken into account in determining the bidder's compliance with the qualifying criteria. The liquidation of joint venture during the contract period shall not be allowed.



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ARTICLE 6

SUPERVISION CONSULTANT

6.1 Appointment of Supervision Consultant

- (a) The Concessionaire shall within 30 days from the date hereof submit to the Chief Engineer a panel consisting of atleast three reputed firms or companies or body corporates or a combination thereof, having necessary expertise for appointment of the Supervision Consultant to undertake, perform, carry out the duties, responsibilities, services and activities set forth in the schedule 'J' of this Agreement.
- (b) The Chief Engineer shall within 30 days from the date of receipt of such panel, appoint the Supervision Consultant from out of such panel, and communicate the same to the Concessionaire. The concessionaire shall carry out all his responsibilities and obligations under the Supervision of supervision consultant. The Supervision Consultant shall assist The Engineer in Charge and ensure Compliance of instructions issued by the Engineer in Charge from time.
- (c) Concessionaire shall deposit the fees of supervision consultant with Engineer in Charge as specified in bidding data volume II.
- (d) In case of failure of payment as mentioned in 6.1 (c) above Engineer in Charge shall have right to pay the fees to the supervision consultant and recover the same from the Performance Security.
- (e) In case of any delay or dispute between Concessionaire and Engineer in Charge pertaining to consultants work, the matter shall be refereed to Superintending Engineer by the Engineer in Charge / Concessionaire. The decision of Superintending Engineer shall be binding upon Concessionaire.

The Supervision Consultant shall submit to the Engineer in charge/Steering Group reports at least once every month or more frequently as the situation may warrant on the progress of implementation of the Project.

6.2 Termination and Fresh Appointment

If the Chief Engineer has reason to believe that the Supervision Consultant is not discharging its duties in a fair, appropriate and diligent manner, the Chief Engineer may terminate the appointment of the Supervision Consultant and appoint another Supervision Consultant in accordance with the preceeding sub - articles (a) and (b) of Article 6.1 above.



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ARTICLE 7

STEERING GROUP

7.1 Constitution

The Chief Engineer shall through an office order, constitute a Steering Group under his Chairmanship comprising of a Superintending Engineer as a member, the supervision consultant as a member and the engineer in charge as a member secretary, within 60 days of Agreement and The Concessionaire or his representative, whenever required shall be called as a special invitee.

7.2 Functions

The Steering Group shall hold meetings at least once every three months to review the progress during the Implementation Period and every six months during the Operations Period. The Steering Group shall carry out such functions and exercise such powers as are prescribed / conferred under this Agreement.



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ARTICLE 8

DRAWINGS

8.1 Preparation of Drawings.

The Concessionaire shall, at its cost, charges and expenses, cause Drawings to be prepared in accordance with the Specification and Standards. The Concessionaire may, for this purpose, adopt with or without any modifications the Drawings, if any, made available by the GOM, provided, notwithstanding such adoption, the Concessionaire shall be solely responsible for the adequacy of the Drawings.

8.2 Review and Approval of Drawings.

- (a) The Concessionaire shall promptly and in such sequence as is consistent with the Project Completion Schedule, submit a copy each of all Drawings to the Engineer in charge and the Steering Group.
- (b) By forwarding the Drawings to the Engineer in Charge pursuant to sub-article (a) above, the Concessionaire represents that it has determined and verified that the design and engineering including field construction criteria related thereto are in conformity with the Specifications and Standards as mentioned in schedule in 'K' and as per scope of work in section IV of Volume-II
- (c) Within 30 (thirty) days of the receipt of the Drawings, the Engineer in charge shall review the same and convey its comments/observations, if any, there on to the Concessionaire with particular reference to the conformity or otherwise with the Specifications and Standards. It is expressly agreed that notwithstanding any review or failure to review by the Engineer in charge or any comments / observations of the Engineer in charge / Steering Group, the GOM shall not be liable for the adequacy of the Drawings and that the Concessionaire shall solely be responsible therefor and shall not be relieved or absolved in any manner whatsoever of its obligations, duties and liabilities as set forth in this Agreement.
- (d) If the comments / observations of the Engineer in charge indicate that the Drawings are not in conformity with the Specifications and Standards, such Drawings shall be revised by the Concessionaire to the extent necessary and resubmitted to the Engineer in charge for further review. The Engineer in charge shall give its observations and comments, if any, within 30 (Thirty) days of the receipt of such revised Drawings. Provided, however, that any observations or comments of the Engineer in charge or failure of the Engineer in charge to give any observations or comments on such revised Drawings shall not relieve or absolve the Concessionaire of its obligation to conform to such Specifications and Standards.
- (e) If the Engineer in charge does not object to the Drawings submitted to it by the Concessionaire within a period stipulated in above sub-article (c) or (d) as applicable, the Concessionaire shall be entitled to proceed with the Project



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- (f) The Concessionaire shall be responsible for delays in Project Completion and consequences thereof caused by reason of any Drawings not being in conformity with the Specifications and Standards and shall not be entitled to seek any relief in this regard from the GOM.
- (g) Within 90 (ninety) days of the COD, the Concessionaire shall furnish three copies of "as built" Drawings duly vetted by the Engineer in charge reflecting the Project as actually designed, engineered and constructed, including without limitation an "as built" survey illustrating the layout of the Project and set back lines, if any, of the buildings and structures forming part of Project Facility.
- (h) In case the concessionaire fails to submit "as built" drawings within specified period amount as mentioned in Contract data volume II shall be withheld.



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ARTICLE 9

PROJECT IMPLEMENTATION AND OPERATIONS

9.1 Monitoring and Supervision during Implementation

- (a) During the Implementation Period, the Concessionaire shall furnish to the Engineer in charge / Steering Group quarterly reports on actual progress of the Construction Works and furnish any other relevant information as may reasonably be required by the Engineer in Charge.
- (b) For the purposes of determining that Construction Works are being undertaken in accordance with Specifications and Standards and Good Industry Practice and for quality assurance, the Concessionaire shall carry out such Tests at such time and frequency and in such manner as may be required by the Engineer in charge or as may be necessary in accordance with Good Industry Practice as per specification in Vol II and Vol IV or in any other volume or document which forms the part of the contract. The Concessionaire shall with due diligence carry out all such Tests in accordance with the instructions and under the supervision of the Engineer in charge. The Concessionaire shall promptly carry out such remedial measures as may be necessary to cure the defects or deficiencies, if any, indicated in such Test results.
- (c) If the Engineer in charge reasonably determines that the rate of progress of the construction of the Project is such that the Project Completion is not feasible on or before the Scheduled Project Completion Date, it shall so notify the Concessionaire. Thereupon, the Concessionaire shall within 15 (fifteen) days thereof notify Engineer in charge about the steps it proposes to take to expedite progress and the period within which it shall achieve COD.
- (d) The Engineer in charge may, by a written notice, require the Concessionaire to suspend forthwith the whole or any part of the Construction Works if in the reasonable opinion of the Engineer in charge such work is being carried on in a manner which threatens the safety of the Construction Works or the users of the Project.
- (e) The Concessionaire shall upon, instructions of the Engineer in charge pursuant to sub-article (d) above suspend the Construction Works or any part thereof as the case may be, for such time and in such manner as may be specified by the Engineer in charge and the costs if any incurred by the GOM during such suspension to properly protect and secure the Construction Works or such part thereof as is necessary in the opinion of the Engineer in charge ("Preservation Costs"), shall be borne by the Concessionaire.
- (f) If the Engineer in charge issues any instructions requiring suspension of Construction Works for any reason other than default or breach of this Agreement by the Concessionaire -



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- (i) the Project Completion Schedule and the Scheduled Project Completion Date shall be extended by the period of suspension, and
- (ii) the Concession Period shall be extended pursuant to and in accordance with sub-article (g) below.
- (g) The Engineer in charge shall add the Preservation Costs if any incurred by the Concessionaire to the Initial Investment in the Cashflow Projections taking into account the resultant loss of revenue due to suspension of Construction Works and determine extension to the Concession Period in order to maintain the Internal Rate of Return. Provided, that the projections for years beyond the Concession Period shall be average of three years immediately preceding the last year of the original Cashflow Projections.

9.2 Project Completion

- (a) The Project shall be deemed to be complete and open to passengers only when the Completion Certificate is issued by the Engineer in charge in accordance with the provisions of Article 9.3. (the "Project Completion") (as per contract data in volume II).
- (b) The Concessionaire guarantees that the Project Completion shall be achieved in accordance with the provisions of this Agreement on a date not later than ----- months from the Commencement Date. ("the Scheduled Project Completion Date") (As per contract data in volume II).
- (c) If the Project Completion is not achieved by the Scheduled Project Completion Date for any reason other than Force Majeure or reasons attributable to the GOM, the Concessionaire shall be liable to pay liquidated damages for delay beyond the Scheduled Project Completion Date, to the extent of Rs. ----- per day for every day of delay. Provided that such liquidated damages do not exceed in aggregate (As per contract data Volume-II) Provided further that nothing contained in this sub-article (d) shall be deemed or construed to authorize any delay in achieving Project Completion.
- (d) If the COD does not occur within 180 days from the Scheduled Project Completion Date, the GOM shall subject to the provisions of this Agreement relating to excuse from performance of the Concessionaire's obligations hereunder, be entitled to Terminate this Agreement in accordance with the provisions of Article 16.2.

9.3 Tests

- (a) At least 60 (Sixty) days prior to the likely completion of the Project, the Concessionaire shall notify the Engineer in Charge of the same and shall give notice to them of its intent to conduct Tests. The Concessionaire shall give the Engineer in Charge at least 10 (ten) days prior notice of the actual date on which it intends to commence the Tests and at least 7 (seven) days prior notice of the commencement date of any subsequent Tests.



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- (b) All Tests shall be conducted in accordance with Schedule 'M' and the Applicable Laws and Applicable Permits. The Engineer in Charge shall have the right to suspend or postpone any Test if it is reasonably anticipated or determined during the course of the Test that the performance of the Project or any part thereof does not meet the Specifications and Standards. The Engineer in Charge may designate a representative with suitable qualifications and experience to witness and observe the Tests.
- (c) The Engineer-in-Charge shall monitor the results of the Tests to determine the compliance of the Project with the Specifications and Standards.
- (d) Concessionaire for the purpose of testing of material shall establish a field laboratory of adequate floor area as approved by the Engineer. The 70% of the total test shall be carried out of field laboratory and 30% of the total test shall be carried out at Government laboratory. The concessionaire shall provide all equipment as per list attached in section VIII of Volume-II
- (e) Material for which the test can not be carried out in Field Laboratory shall be tested at the other Reputed/Authentic Laboratory approved by the Engineer in Charge/ Testing of material shall be in presence of Engineer in Charge or his representative.
- (f) Upon the Engineer-in-Charge determining the Tests to be successful, it shall forthwith issue to the Concessionaire a certificate substantially in the form set forth in Schedule 'N'. (the "Provisional Completion Certificate ")
- (g) The Engineer-in-Charge may at the request of the Concessionaire issue a provisional certificate of completion ("Provisional Completion Certificate") if the Tests are successful and all parts of Project can be legally, safely and reliably opened to commercial operation though certain works or things forming part thereof are not yet complete. In such an event, Provisional Certificate shall have appended there to a list of outstanding items signed jointly by the Engineer in Charge and the Concessionaire ("Punch List"). The Concessionaire shall complete all Punch List items within 60 (Sixty) days of the date of issue of such Provisional Certificate. The total cost of punch list items shall not be more than 2% of project cost upon completion of all Punch List items to the satisfaction of the Engineer-in-Charge, it shall issue the Completion Certificate to the Concessionaire with a copy marked to the GOM In the event of the Concessionaire's failure to complete the Punch List items within the said period of 60 days, the Engineer in charge may, without prejudice to any other rights or remedy available to it under this Agreement, have such items completed at the risk and costs of the Concessionaire. The Concessionaire shall reimburse to the GOM on demand the entire costs incurred by the GOM in completing the Punch List items. If the concessionaire fails to reimburse the entire cost of the works done by the Engineer in charge within 60 days from the date of making such demand the Engineer in charge may by an order suspend the collection of toll and the concessionaire's claim due to loss of revenue will not be admissible.



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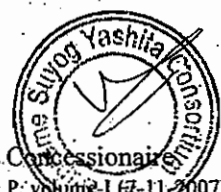
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- (h) If the Engineer-in-Charge certifies that it is unable to issue the Completion Certificate or Provisional Completion Certificate because of events or circumstances which excuse the performance of the Concessionaire's obligations in accordance with this Agreement and as a consequence thereof the Tests could not be held or had to be suspended, the Concessionaire shall re-schedule the Tests and hold the same as soon as reasonably practicable.
- (i) The Concessionaire shall bear all the expenses relating to Tests under this Agreement.

9.4 Operation and Maintenance

The Concessionaire shall operate and maintain the Project / Project Facility by itself, or through a Contractor and if required, modify, repair or otherwise make improvements to the Project/ Project Facility to comply with Specifications and Standards, and other requirements set forth in this Agreement, Good Industry Practice, Applicable Laws and Applicable Permits and manufacturer's guidelines and instructions with respect to Toll station. More specifically, the Concessionaire shall be responsible for:

- (i) ensuring smooth and uninterrupted passengers flow during normal operating conditions;
- (ii) charging, collecting and appropriating Toll in accordance with the Toll Notification and this Agreement;
- (iii) minimizing disruption to passengers in the event of accidents or other incidents affecting the safety and use of the Project / Project Facility by providing a rapid and effective response and for this purpose maintaining liaison with emergency services;
- (iv) undertaking routine maintenance including prompt repairs related to civil, electrical and mechanical works
- (v) undertaking maintenance works in accordance with Maintenance Manual and the Maintenance Programme;
- (vi) preventing with the assistance of concerned law enforcement agencies where necessary, any unauthorized entry to and exit from the Project;
- (vii) preventing with the assistance of the concerned law enforcement agencies where necessary, any encroachments on the Project/Project Site and preserving the right of way of the Project;
- (viii) adherence to the Safety Standards set out in Schedule 'P'.



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9.5 Maintenance Manual

The Concessionaire shall in consultation with the Engineer in Charge evolve not later than 120 (one hundred twenty) days before the Scheduled Project Completion Date, a code for the regular and preventive maintenance (the "Maintenance Manual"), and shall ensure and procure that at all times during the Operations Period, the Project is maintained in a manner that it complies with the code mentioned in schedule 'O'. The Concessionaire shall supply, at least two months before the COD, 10 (ten) copies of the Maintenance Manual to the Engineer in Charge.

9.6 Maintenance Programme

- (a) Not later than forty five (45) days before the beginning of each Accounting Year, the Concessionaire shall provide to the Engineer in Charge its proposed programme of preventive and other scheduled maintenance of the Project subject to the Minimum Maintenance Requirements set forth in Schedule 'O' necessary to maintain the Project at all times in conformity with the code (the "Maintenance Programme"). Such Maintenance Programme shall include but not be limited to the following:
 - (i) intervals and procedures for the carrying out of inspection of all elements of the Project;
 - (ii) criteria to be adopted for deciding maintenance needs;
 - (iii) preventive maintenance schedule;
 - (iv) intervals at which the Concessionaire shall carry out periodic maintenance; and
 - (v) intervals for majeure maintenance and the scope thereof.
- (b) Maintenance shall include replacement of equipment, consumables, horticultural maintenance and repairs to equipment, pavements, structures and other civil, electrical and mechanical works which are part of the Project/Project Facility.
- (c) The Concessionaire shall keep the Project Facility in a clean, tidy and orderly condition free of litter and debris.
- (d) Walkway track shall be maintained by concessionaire regularly in accordance with good industry practice.

9.7 Funicular Rail Breakdown and Accident

- (a) In the case of unsafe conditions, funicular rail breakdowns and accidents, the Concessionaire shall follow the relevant operating procedures, which shall include the setting up of temporary passengers rescue operation and lights as well as the removal of obstruction expeditiously. Such procedures shall be in accordance with Applicable Laws, Applicable Permits and the provisions of this Agreement.



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- (b) The Concessionaire shall ensure that alternative arrangement shall be remedied without delay. The Concessionaire has all responsibility for rescue operations on this project.

9.8 Emergency De-commissioning

- (a) If, in the reasonable opinion of the Concessionaire there exists an Emergency which warrants decommissioning and closure to passengers of whole or any part of the Project / Project Facility, the Concessionaire shall be entitled to de-commission and close the whole or the relevant part of the Project to passengers for so long as such Emergency and the consequences thereof warrant. Provided, however, that such decommissioning will be notified to the Engineer in charge promptly. The Engineer in charge may issue such directions as it may deem appropriate to the Concessionaire for dealing with such Emergency and the Concessionaire shall abide by the same.
- (b) The Concessionaire shall re-commission the Project/Project Facility or the affected part thereof as quickly as practicable after the Emergency leading to its de-commissioning and closure has ceased to exist.
- (c) The Concessionaire shall not close any part/ lane of the Project/Project Facility for undertaking maintenance or repair works except with the prior written approval of the Engineer in Charge. Such approval shall be sought by the Concessionaire through a written request to be made at least 7 (seven) days before the proposed closure of part / lane and shall be accompanied by particulars indicating the nature and extent of repair works and the arrangements made for safe movement of passengers, the length and section required to be closed and the period of closure. The Concessionaire shall also furnish particulars indicating the minimum time required for completing such repair works. Within 5 (five) days of receiving such request, the Engineer in charge shall grant permission with such modifications, as he may deem necessary. Upon receiving such permission, the Concessionaire shall be entitled to close the part / lane in accordance with such permission and re-open it within the period stipulated in such permission.
- (d) Save and except as otherwise expressly provided in this Agreement, if the Project or any part thereof shall suffer any loss or damage during the Concession Period, from any cause whatsoever, the Concessionaire shall, at its cost and expense rectify and remedy such loss or damage in a manner so as to make the Project conform in every respect to the codes, quality and performance as prescribed by this Agreement.
- (e) In the event the Concessionaire does not maintain and / or repair the Project or part thereof up to and in accordance with the codes and / or in accordance with the Maintenance Programme or the Maintenance Manual or the O&M Inspection Report, as the case may be, and shall have failed to commence remedial works within (30) thirty days of notice in this behalf from the Engineer in Charge the Concessionaire, without prejudice to its rights/remedies under this Agreement, including termination, be entitled to undertake to cause the repair and



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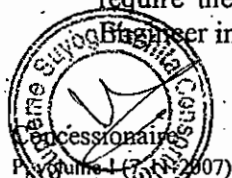
maintenance of the Project from the performance security at the risk and cost of the Concessionaire. If the performance security is inadequate to cover then the Concessionaire shall, reimburse to the GOM within seven days of demand the costs and expenses incurred for undertaking such repairs and maintenance. In any case the performance security shall have to be recouped to the full extent by the concessionaire within 30 days from the date of receipt of such demand from the Engineer in charge. If the concessionaire fails to recoup the performance security or also reimburse the expenditure which cannot be met with from the performance security the Engineer in charge may by an order suspend the collection of toll till the amount is fully realized and the concessionaire's claim due to loss of revenue will not be admissible.

- (f) If the Concessionaire commences any works for curing any defects or deficiencies in the Project, it shall complete such works expeditiously in accordance with Good Industry Practice.
- (g) The Concessionaire shall not be considered in breach of its obligations under this Agreement if any part of the Project is not available to passengers on account of any of the following for the duration thereof:
 - (i) Force Majeure Event;
 - (ii) measures taken to ensure the safe use of the Project except when unsafe conditions on the funicular rail occurred because of failure of the Concessionaire to perform its obligations under this Agreement; or
 - (iii) compliance with a request from the GOM or the directions of any of the GOM Agency the effect of which is to close all or any part of the Project.

Notwithstanding the above, the Concessionaire shall keep all unaffected parts of the Project open to passengers and use provided they can be safely operated and kept open to passengers

9.9 Monitoring and Supervision during Operations

- (a) The Concessionaire shall undertake periodic inspection of the Project in accordance with the Maintenance Manual, the Maintenance Programme, Codes and this Agreement and shall submit reports of such inspection ("Maintenance Reports") to the Engineer in charge and the Engineer in charge.
- (b) The Engineer-in-charge shall undertake periodic (at least once every calendar quarter but once every week during monsoon) inspection of the Project jointly with the Concessionaire to determine the condition of the Project including its compliance or otherwise with the Maintenance Manual, the Maintenance Programme, code and this Agreement and make out a report of such inspection (the "O&M Inspection Report") and forward it to the Concessionaire. The O&M Inspection Report shall set forth defects and deficiencies, if any, and may also require the Concessionaire to undertake such tests as may be specified by the Engineer in charge for the purpose of determining that the Project is at all times in



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conformity with the code The Concessionaire shall within 30 (thirty) days of the receipt of the O&M Inspection Report from the Engineer in charge remedy the defects and deficiencies and undertake such tests, if any, set forth therein, without any delay and furnish compliance thereto and/or results thereof to the Engineer in Charge along with a report (O&M Inspection Compliance Report). Such inspection or submission of O&M Inspection Compliance Report by the Concessionaire shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever. Where the remedying of such defects or deficiencies and/or undertaking such tests is likely to take more than 30 (thirty) days in accordance with Good Industry Practice, the Concessionaire shall undertake the works in accordance with such practice and submit progress reports of such works every fortnight and finally the O&M Inspection Compliance Report.



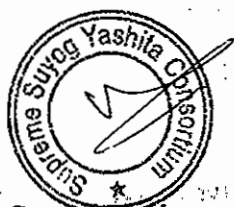
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Section - VI

Contract Data



Concessionaire

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SECTION- VI

CONTRACT DATA

Sr. No.	Article No./ Clause No. (of Volume I)		
1.	1.0	: The Employer is Government of Maharashtra (INDIA)	
2.	1.0	: Government is Government of Maharashtra (INDIA)	
3.	1.0	: Address of Chief Engineer	: Office of the Chief Engineer, Mumbai (PW) Region, 25 Marzban Road, Fort Mumbai-32
		Telephone No.	: +9122 22071594
		Fax No.	: +9122 22074700
		E-mail ID	: cemuin@mahapwd.com
4.	1.0	: Address of Superintending Engineer	: Office of the Superintending Engineer, Thane (PW) Circle, Station Road, Thane (West)
		Telephone No.	: +912225363241
		Fax No.	: +912225361127
		E-mail ID	: sethn@mahapwd.com
5.	1.0	: Address of Executive Engineer / Engineer-in-charge	: Office of the Executive Engineer, Thane Construction Division, Station Road, Thane (West)
		Telephone No.	: +912225361393
		Fax No.	: +912225361127
		E-mail ID	: eethc@mahapwd.com eetcdn@vsnl.com
6.	1.0	: Project Cost	: Rs.4591 lakhs
7.	3.1 (a)	: Performance Security for construction	: Rs.40.00 lakhs
8.	3.1(b)	: Performance Security for operation and maintenance	: Rs.20.00 lakhs
9.	8.2(g)	: Date by which As Built Drawings must be submitted	: 30 Days after the issue of the completion of the section of the work as the case may be.



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Concessionaire to submit the programme for the works from the date of work order : 7 Days

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Sr. No.	Article No./ Clause No. (of Volume I)		
11.	18.3	: Defect Liability period Civil works: Electrical/Mechanical works:	: Complete concession period
12.	6.1(c)(d)	: Fees of Supervision Consultant / Project management consultant	: RITES Ltd., Gurgaon Haryana. 8.00% of construction cost as per form 1 of Volume III
13	11.1(a)(b)	Service charges	: 12.50%
14.	Schedule I	: Fees for Design Approving Engineer/ Proof consultant.	: 1.00% of construction cost as per form I of Volume III
15.	9.2(c)	: Liquidated damages for delay beyond the scheduled project completion	: Rs.25000.00 for every day of delay limited to 10% of the project cost.
16.	10.4.1	: Subsidy to be provided by the Government.	: Nil
17.		Time limit for completion of project	: 24 calendar month



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ARTICLE 10

FINANCING ARRANGEMENT

10.1 Financing Arrangement

For projects where no government subsidy is proposed.

- (a) The Concessionaire shall at its cost, expenses and risk make such financing arrangement as would be necessary to finance the Project and to meet its obligations under this Agreement in a timely manner.
- (b) In the event of the Concessionaire employing the funds borrowed from the Lenders to finance the Project, the provisions relating to Lenders including those relating to Financial Close and Substitution Agreement shall apply.

10.2 Amendments to Financing Documents

For the avoidance of doubt the Parties agree that no amendment made to the Financing Documents without express consent of the GOM shall have the effect of enlarging in any manner, the obligation of the GOM in respect of Termination Payment under this Agreement.

10.3 Foreign exchange

Foreign Exchange will not be furnished by the GOM for this project. The concessionaire shall have to make his own arrangements in this regard. In case any Foreign Exchange is required for importing specialized equipments for construction or maintenance of a project, a letter of recommendation for release of Foreign Exchange may be given by the Government (without any guarantee for sanction by the Government of India).

10.4 For projects with Government Subsidy

No subsidy / grant shall be granted by GOM to concessionaire against this project



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ARTICLE 11

SUPERVISION CHARGES

11.1 Supervision Charges

- (a) All works under or in course of execution / or executed in pursuance of this Agreement shall at all times be open to the inspection and supervision by the Engineer-in-charge and authorised representatives of the GOM. The Concessionaire shall at all the times during the usual working hours and at all other times at which reasonable notice of the intention of the GOM to visit the work shall have been given to the Concessionaire, have a responsible agent / representative present at the Project for that purpose.
- (b) The Concessionaire shall pay supervision charges if any towards supervision contemplated by the preceding sub-article (a). The supervision charges may be paid in equal annual installments over the original Concession Period with the first installment being paid on the Commencement Date and every subsequent installment on the date of respective anniversary of the Commencement Date by way of a cheque / demand draft(s) to be drawn in favour of Engineer In charge as per contract data Volume II.



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ARTICLE 12

INSURANCES

12.1 Insurance during the Implementation Period

The Concessionaire shall, at its cost and expense, purchase and maintain during the Implementation Period such insurance as are necessary, including but not limited to the following:

- (a) Bidders all risk insurance;
- (b) Comprehensive third party liability insurance including injury or death to personnel or of Persons who may enter the Project Site;
- (c) Workmen's compensation insurance;
- (d) any other insurance that may be necessary to protect the Concessionaire, its employees and its assets (against loss, damage or destruction at replacement value) including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (d).

12.2 Insurance during the Operations Period

The Concessionaire shall, at its cost and expense, purchase and maintain during the Operations Period insurance to cover against:

- (a) loss, damage or destruction of the Project Facility, at replacement value;
- (b) the Concessionaire's general liability arising out of the Concession;
- (c) liability to third parties; and
- (d) any other insurance that may be necessary to protect the Concessionaire and its employees, including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (c).

12.3 Insurance Companies

The Concessionaire shall insure all insurable assets comprised in the Project Assets and/or the Project Facility through Government of Maharashtra, Director of Insurance on Indian insurance companies and if so permitted by the GOM, through foreign insurance companies, to the extent that insurances are necessary to be effected through them.



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12.4 Evidence of Insurance Cover

The Concessionaire shall, from time to time, provide to the GOM copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by the Concessionaire in accordance with this Agreement.

12.5 Application of Insurance Proceeds

Subject to the provisions of the Financing Documents, all moneys received under insurance policies shall be promptly applied by the Concessionaire towards repair or renovation or restoration or substitution of the Project Facility or any part thereof, which may have been damaged or destroyed. The Concessionaire for the insurance of Concessionaire part may designate the Lenders as the loss payees under the insurance policies/assign the insurance policies in their favour as security for the financial assistance. The Concessionaire shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project Facility or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.

12.6 Validity of the Insurance Cover

The Concessionaire shall pay the premium payable on such insurance policy(ies) so as to keep the policy(ies) in force and valid throughout the Concession Period and furnish copies of the same to the GOM. Each insurance policy shall provide that the same shall not be cancelled or terminated unless 10 Days' clear notice of cancellation is provided to the GOM in writing. If at any time the Concessionaire fails to purchase and maintain in full force and effect any and all of the insurances required under this Agreement, the GOM may at its option purchase and maintain such insurance and all sums incurred by the GOM therefore shall be reimbursed by the Concessionaire forthwith on demand, failing which the same shall be recovered by the GOM (by exercising right of set off or otherwise) from performance security and Concessionaire shall recoup the performance security to its full amount within 15 days otherwise it will be treated as default.



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ARTICLE 13

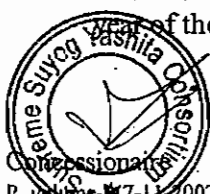
CHANGE OF SCOPE

13.1 Change of Scope

The GOM may, notwithstanding anything to the contrary contained in this Agreement, require provision of such addition / deletion to the works and services on or about the Project which are beyond the scope of the Project as contemplated by this Agreement ("Change of Scope"), Provided such changes do not require expenditure exceeding 10% project cost and do not adversely affect the Scheduled Project Completion Date. All such changes shall be made by the GOM by an order (the "Change of Scope Order") issued in accordance with the procedure set forth in Article 13.2.

13.2 Procedure for Change of Scope

- (a) The GOM shall whenever it desires provision of addition/deletion of works and services referred to in Article 13.1 above, issue to the Concessionaire a notice of Change of Scope (the "Change of Scope Notice") through the Engineer in charge.
- (b) Upon receipt of Change of Scope Notice, the Concessionaire shall, within a period of 15 (fifteen) days, provide to the Engineer in charge, such information as is necessary and reasonable together with preliminary documentation in support of the following:
 - (i) the impact which the Change of Scope is likely to have on the Project Completion Schedule if the work is required to be carried out before COD, and
 - (ii) the cost to the Concessionaire of complying with such Change of Scope Notice on account of increases in quantities of items of work mentioned in the Bill of Quantities at the rate mentioned therein. In case the Bill of Quantities does not carry certain items of work required under the Change of Scope, the Concessionaire shall carryout such items of work at the rate of prevalent DSR + 15%. If there are no rates available in the DSR then the concessionaire shall provide the analysis of rates for carrying out the items, which are not covered by the DSR. The superintending Engineer will scrutinize and approve the rates. The decision of the superintending Engineer shall be final and binding on the concessionaire.
- (c) The Engineer-in-charge shall review the information provided by the Concessionaire, assess the change in quantities of items of work, determine the additional cost to the Concessionaire as a result of such Change of Scope, add such additional cost to Initial Investment in the Cashflow Projections and determine the extension, if any, to the Concession Period in order to maintain the Internal Rate of Return. Provided, that the projections for years beyond the Concession Period shall be average of three years immediately preceding the last year of the original Cashflow Projections.



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Engineer-in-Charge

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- (d) The G.O. shall issue the Change of Scope Order within a period of 15 (fifteen) days from the date of recommendation made by the Engineer in Charge in accordance with the preceding sub-article (c) above.
- (e) The Change of Scope Order shall be effective and binding upon receipt thereof by the Concessionaire. Notwithstanding a Dispute regarding cost and time for implementation of such order, the Concessionaire shall proceed with the performance of such order promptly following receipt thereof. Any Dispute regarding the extension in the Concession Period recommended by the Engineer in charge shall be resolved in accordance with the Dispute Resolution Procedure.
- (f) All claims by the Concessionaire pursuant to this Article 13.2 shall be supported by such documentation as is reasonably sufficient for the Engineer in charge to determine the accuracy thereof, including invoices from Contractors and certification of such claims by the Statutory Auditors.



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ARTICLE 14

CAPACITY AUGMENTATION AND ADDITIONAL FACILITY

14.1 Capacity Augmentation of the Project

- (a) The GOM may following a detailed traffic study conducted by it, at any time after COD decide to augment/increase the capacity of the Project (Capacity Augmentation) with a view to provide the desired level of service to the users of the Project Facility.
- (b) The GOM shall invite proposals from eligible Persons for Capacity Augmentation. The Concessionaire shall have option to submit its proposal for Capacity Augmentation.
- (c) The bid document for Capacity Augmentation shall specify a Termination Payment to be made to the Concessionaire in case the Concessionaire chooses not to submit its proposal or fails or declines to match the preferred offer as mentioned in sub-article (e) below.
- (d) In case the Concessionaire, after participating in the bidding procedure, fails to give the lowest offer, the Concessionaire shall be given the first right of refusal to match the preferred offer. If the Concessionaire matches the preferred offer the Parties shall enter into a suitable agreement supplemental to this Agreement to give effect to the changes in scope of the Project, Concession Period and all other necessary and consequential changes. In such an event the Concessionaire shall pay to the bidder who had made the lowest offer sum of 0.1% of the estimated project cost of capacity augmentation subject to maximum of Rs.10 Lakhs towards bidding costs incurred by such bidder.
- (e) In case the Concessionaire (i) chooses not to submit its proposal for Capacity Augmentation or (ii) is not the preferred bidder and also fails or declines to match the preferred offer, the GOM shall be entitled to terminate this Agreement upon payment to the Concessionaire of the Termination Payment.
- (f) The Termination Payment referred to in the preceding sub-articles (c) and (e) above shall be the amount equivalent to the amount of Termination Payment set out in Article 16.2(b).

14.2 Additional Facility

The GOM does not bind itself to carry out the work of any other facilities / road / bridges near any or all sections of the project at any time during the concession period of the facility. The Concessionaire shall permit access to such facility / works without any claim for damages, compensation, time delay, etc.



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ARTICLE 15

FORCE MAJEURE

15.1 Force Majeure Event

As used in this Agreement, a Force Majeure Event shall mean occurrence in Maharashtra of any or all of Non Political Event, Indirect Political Event and/or Political Event as defined in Article 15.2, 15.3 and 15.4 respectively which prevent the Party claiming Force Majeure (the "Affected Party") from performing its obligations under this Agreement and which act or event (i) is beyond the reasonable control and not arising out of the fault of the Affected Party, (ii) the Affected Party has been unable to overcome such act or event by the exercise of due diligence and reasonable efforts, skill and care, and (iii) has a Material Adverse Effect on the Project.

15.2 Non Political Event.

For purposes of Article 15.1 hereinabove, Non-Political Event shall mean one or more of the following acts or events:

- (i) acts of God or events beyond the reasonable control of the Affected Party which could not reasonably have been expected to occur, exceptionally adverse weather conditions, lightning, earthquake, cyclone, flood, volcanic eruption or fire (to the extent originating from a source external to the Project Site or beyond design specifications for the Construction Works)
- (ii) radioactive contamination or ionizing radiation;
- (iii) strikes or boycotts (other than those involving the Concessionaire, Contractors or their respective employees/representatives or attributable to any act or omission of any of them) interrupting supplies and services to the Project for a period exceeding 7 (seven) days in an Accounting Year, and not being an Indirect Political Event set forth in Article 15.3;
- (iv) any judgement or order of any court of competent jurisdiction or statutory authority in India made against the Concessionaire in any proceedings for reasons other than failure of the Concessionaire to comply with any Applicable Law or Applicable Permits or on account of breach thereof, or of any contract, or enforcement of this Agreement or exercise of any of its rights under this Agreement by the GOM;

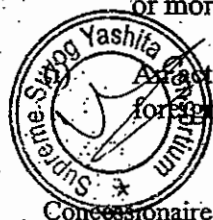
15.3 Indirect Political Event

For purposes of Article 15.1 hereinabove, Indirect Political Event shall mean one or more of the following acts or events :

Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, Executive Engineer.

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civil commotion, or politically motivated sabotage which prevents collection of Toll by the Concessionaire for a period exceeding a continuous period of 7 (seven) days in an Accounting Year;

- (ii) Industry wide or state wide or India wide strikes or industrial action which prevent collection of Toll by the Concessionaire for a period exceeding a continuous period of 7(seven) days in an Accounting Year; or
- (iii) Any public agitation which prevents collection of Toll by the Concessionaire for a period exceeding a continuous period of 7 (seven) days in an Accounting Year.

15.4 Political Event

For purposes of Article 15.1 hereinabove, Political Event shall mean one or more of the following acts or events by or on account of the GOM or any other Government Agency:

- (i) Change in Law, only when provisions of Article 17 cannot be applied;
- (ii) Expropriation or compulsory acquisition by any the GOM Agency of any Project Assets or rights of the Concessionaire or of the Contractors; or

15.5 Effect of Force Majeure Event.

Upon occurrence of any Force Majeure Event, the following shall apply:

- (a) There shall be no Termination of this Agreement except as provided in Article 15.7 hereinafter;
- (b) Where the Force Majeure Event occurs before COD, the dates set forth in the Project Completion Schedule, and the Concession Period shall be extended by the period for which such Force Majeure Event shall subsist;
- (c) Where a Force Majeure Event occurs after COD, the Concessionaire shall continue to make all reasonable efforts to operate the Project and/or to collect Toll, but if it is unable or prevented from doing so, the Concession Period shall, having due regard to the extent of the impact thereof as determined by the Engineer in charge, be extended by the period for which collection of Toll remains affected on account thereof; and
- (d) Costs arising out of or concerning such Force Majeure Event shall be borne in accordance with the provisions of the Article 15.6 hereinafter.

15.6 Allocation of costs during subsistence of Force Majeure

Subject to the provisions of Article 15.5 hereinabove, upon occurrence of a Force Majeure Event, the costs arising out of such event shall be allocated as follows:



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- (a) When the Force Majeure Event is a Non Political Event, the Parties shall bear their respective costs and neither Party shall be required to pay to the other Party any costs arising out of any such Force Majeure Event;
- (b) Where the Force Majeure Event is an Indirect Political Event, the costs attributable to such Force Majeure Event and directly relating to the Project (the "Force Majeure Costs") shall be borne by the Concessionaire to the extent of the Insurance Cover, and to the extent Force Majeure Costs as duly certified by the Statutory Auditors exceed the Insurance Cover, one half of the same shall be considered by GOM and concessionaire period shall be extended to that extent.
- (c) Where the Force Majeure Event is a Political Event, the Force Majeure Costs to the extent actually incurred and certified by the statutory Auditors of Concessionaire shall be reimbursed by the GOM to the Concessionaire within 180 days from the date of receipt of Concessionaire's claim therefor; and alternatively the concessionaire period will be extended to that extent.
- (d) The GOM may at its option reimburse the Force Majeure Costs to the Concessionaire in cash or compensate the Concessionaire for such costs by appropriate extension of the Concession Period, which extension shall also be given effect within the period of 180 days specified in preceding sub-article (b) or (c) as the case may be.

For avoidance of doubt, Force Majeure Costs shall not include loss of Toll revenues or any debt repayment obligations but shall include interest payments on such debt, O&M Expenses and all other costs directly attributable to the Force Majeure Event.

15.7 Termination.

If a Force Majeure Event continues or is in the reasonable judgement of the Parties is likely to continue beyond a period 120 days, the Parties may mutually decide to terminate this Agreement or continue this Agreement on mutually agreed revised terms. If the Parties are unable to reach an agreement in this regard, the Affected Party shall after the expiry of the said period of 120 days, be entitled to terminate this Agreement by issuing Termination Notice.

15.8 Termination Payment for Force Majeure Events

Upon Termination of this Agreement pursuant to Article 15.7 hereinabove, Termination Payment to the Concessionaire shall be made in accordance with the following:

- (a) If the Termination is on account of a Non Political Event, the Concessionaire shall be entitled to receive from the GOM by way of Termination Payment an amount equal to 90% of the Debt Due less pending insurance claims, if any. Provided that in the event such insurance claims or any part thereof are not admitted and paid, the Concessionaire shall be entitled to receive from the GOM an amount equal to 90% of amount of such claims not admitted.



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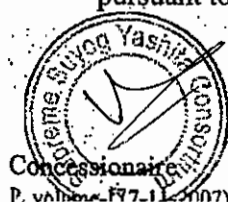
- (b) If the Termination is on account of an Indirect Political Event, the Concessionaire shall be entitled to receive from the GOM by way of Termination Payment an amount equal to:
- (i) If the total Debt Due, less pending Insurance claims, if any. Provided, however, that if any of such insurance claims are not admitted and paid, the Concessionaire shall be entitled to receive from the GOM further sum equal to 80%(eighty percent) of such claims not admitted, plus.
- (ii) 110% (one hundred ten percent) of the Equity subscribed in cash and actually spent on the Project if such Termination occurs at any time during three years commencing from the Commencement Date and for each successive year thereafter, such amount shall be adjusted every year to fully reflect the changes in WPI during such year, and the adjusted amount so arrived shall be reduced every year by 7.5%(seven and half percent) per annum.
- © If the Termination of this Agreement is on account of a Political Event, the Concessionaire shall be entitled to receive from the GOM by way of Termination Payment an amount equal to:
- (i) If the total Debt Due, plus
- (ii) 120% (one hundred twenty percent) of the Equity subscribed in cash and actually spent on the Project if such Termination occurs at any time during three years commencing from the Commencement Date and for each successive year thereafter, such amount shall be adjusted every year to fully reflect the changes in WPI during such year, and the adjusted amount so arrived at shall be reduced by 7.5% (seven and half percent) per annum.

15.9 Dispute Resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure, provided in Article 19 of this contract however that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

15.10 Liability for other losses, damages etc.

Save and except as expressly provided in this Article 15, neither Party hereto shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant to this Article 15.



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15.11 Duty to Report

The Affected Party shall discharge the following obligations in relation to reporting the occurrence of a Force Majeure Event to the other Party:

- (a) The Affected Party shall not claim any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party in writing of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event within 7 (seven) days after the Affected Party knew, or ought reasonably to have known, of its occurrence and the probable material affect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.
- (b) Any notice pursuant to this Article 15.11 shall include full particulars of:
 - (i) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 15 with evidence in support thereof;
 - (ii) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
 - (iii) the measures which the Affected Party is taking, or proposes to take, to alleviate the impact of such Force Majeure Event; and
 - (iv) any other information relevant to the Affected Party's claim.
- (c) For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) written reports containing information as required by this Article 15.11 and such other information as the other Party may reasonably request the Affected Party to provide.

15.12 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event provided that.

- (a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- (b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- (c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party written notice to that effect and shall promptly resume performance of its obligations hereunder.



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ARTICLE 16

EVENTS OF DEFAULT AND TERMINATION

16.1 Event of Default

Event of Default means the Concessionaire Event of Default or the GOM Event of Default or both as the context may admit or require.

a) Concessionaire Event of Default

Any of the following events shall constitute an event of default by the Concessionaire ("Concessionaire Event of Default") unless such event has occurred as a result of the GOM Event of Default or a Force Majeure Event;

- (1) The Concessionaire fails to commence the Construction Works within 30 days from the Commencement Date.
- (2) The Concessionaire fails to achieve COD within 180 days from the Scheduled Project Completion Date.
- (3) Any representation made or warranties given by the Concessionaire under this Agreement is found to be false or misleading.
- (4) The Concessionaire creates any Encumbrance on the Project Site / Project Facility in favour of any Person save and except as otherwise expressly permitted under Article 21.1.
- (5) The aggregate shareholding of the members of the Consortium / Sponsors falls below the minimum prescribed under Article 20.1 (xi).
- (6) The transfer, pursuant to law of either (a) the rights and/or obligations of the Concessionaire under any of the Project Agreements, or (b) all or material part of the Concessionaire except where such transfer in the reasonable opinion of the GOM does not affect the ability of the Concessionaire to perform, and the Concessionaire has the financial and technical capability to perform, its material obligations under the Project Agreements.
- (7) A resolution is passed by the shareholders of the Concessionaire for the voluntary winding up of the Concessionaire.
- (8) Any petition for winding up of the Concessionaire is admitted by a court of competent jurisdiction or the Concessionaire is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the property, assets and undertaking of the Concessionaire are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Concessionaire under this Agreement and the Project Agreements, and provided that:



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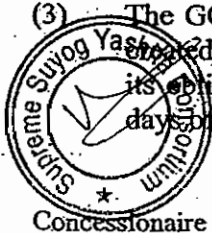
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- (i) the amalgamated or reconstructed entity has the technical capability and operating experience necessary for the performance of its obligations under this Agreement and the Project Agreements;
- (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and the Project Agreements and has a credit worthiness at least as good as that of the Concessionaire as at Commencement Date; and
- (iii) each of the Project Agreements remains in full force and effect.
- (9) A default has occurred under any of the Financing Documents and any of the Lenders has recalled its financial assistance and demanded payment of the amounts outstanding under the Financing Documents or any of them as applicable.
- (10) The Concessionaire suspends or abandons the operations of the Project without the prior consent of the GOM, provided that the Concessionaire shall be deemed not to have suspended/ abandoned operation if such suspension/ abandonment was as a result of Force Majeure Event and is only for the period such Force Majeure is continuing, or (ii).
- (11) The Concessionaire repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement.
- (12) The Concessionaire suffers an attachment being levied on any of its assets causing a Material Adverse Affect on the Project and such attachment continues for a period exceeding 45 days.
- (13) The Concessionaire has delayed any payment that has fallen due under this Agreement and if such delay exceeds 90(ninety) days.
- (14) The Concessionaire is otherwise in Material Breach of this Agreement.

(b) The GOM Event of Default.

The following events shall constitute events of default by the GOM (each a "GOM Event of Default"), unless any such the GOM Event of Default has occurred as a result of Concessionaire Event of Default or due to a Force Majeure Event:

- (1) The GOM is in breach of this Agreement and has failed to cure such breach within 90 (ninety) days of receipt of notice in that behalf from the Concessionaire;
- (2) The GOM repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement.
- (3) The GOM or any the GOM Agency has by an act of commission or omission created circumstances that have a Material Adverse Effect on the performance of its obligations by the Concessionaire and has failed to cure the same within 60 days of notice thereof by the Concessionaire.



Concessionaire
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- (4) The GOM has delayed payment of any amount that has fallen due in terms of this Agreement beyond 90 (ninety) days.
- (5) Any representation made or warranties given by the GOM under this Agreement is found to be false or misleading.

16.2 Termination due to Event of Default

(a) Termination for Concessionaire Event of Default

- (1) Without prejudice to any other right or remedy which the GOM may have in respect thereof under this Agreement, upon the occurrence of a Concessionaire Event of Default, the GOM shall, subject to the provisions of the Substitution Agreement, be entitled to terminate this Agreement by issuing a Termination Notice to the Concessionaire, provided that before issuing the Termination Notice, the GOM shall by a notice in writing inform the Concessionaire of its intention to issue the Termination Notice (the "Preliminary Notice"). In case the underlying breach/default is not cured within a period of 60(sixty) days from the date of the Preliminary Notice (Cure Period) the GOM shall be entitled, to terminate this Agreement by issuing the Termination Notice. Provided further; that
 - (a) if the default is not cured within 30(thirty) days of the Preliminary Notice, the GOM shall be entitled to encase the Performance Security with a notice to the Concessionaire (Encashment Notice),
 - (b) if the default is not cured within 30(thirty) days of the Encashment Notice and a fresh Performance Security is not furnished within the same period in accordance with Article 3.2, the GOM shall subject to the provisions of the Substitution Agreement be entitled to issue the Termination Notice.
- (2) The following shall apply in respect of cure of any of the defaults and/or breaches of this Agreement:
 - (i) The Cure Period provided in this Agreement shall not relieve the Concessionaire from liability for damages caused by its breach or default;
 - (ii) The Cure Period shall not in any way be extended by any period of suspension under this Agreement;
 - (iii) If the cure of any breach by the Concessionaire requires any reasonable action by Concessionaire that must be approved by the GOM or the Government Agency hereunder the applicable cure period shall be extended by the period taken by the GOM or the Government Agency to accord the required approval.
- (3) Upon Termination by the GOM on account of occurrence of a Concessionaire Event of Default during the Operations Period, the GOM shall pay to the Concessionaire by way of Termination Payment an amount equal to 90% of the Due actually spent on the project less pending insurance claims, if any.



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Provided, however, that in the event of such insurance claims or any part thereof are not admitted and paid, the Concessionaire shall be entitled to receive from the GOM further sum equal to 80%(eighty percent) of amount of such claims not admitted.

(b) **Termination for the GOM Events of Default**

- (1) The Concessionaire may, upon the occurrence and continuation of any of the GOM Event of Default terminates this Agreement by issuing Termination Notice to the GOM.
- (2) Upon Termination of this Agreement by the Concessionaire due to a GOM Event of Default, the Concessionaire shall be entitled to receive from the GOM, by way of Termination Payment a sum equal to:
 - (i) The total Debt Due, plus
 - (ii) 120% (one hundred twenty percent) of the Equity subscribed in cash and actually spent on the Project if such Termination occurs at any time during three years commencing from the Commencement Date and for each successive year thereafter, such amount shall be adjusted every year to fully reflect the changes in WPI during such year and the adjusted amount so arrived at shall be reduced by 7.5% (seven and half percent) per annum.

16.3. Rights of the GOM on Termination

Upon Termination of this Agreement for any reason whatsoever, the GOM shall have the power and authority to

- (i) Take possession and control of Project Assets forthwith;
- (ii) Prohibit the Concessionaire and any person claiming through or under the Concessionaire from entering upon the Project Assets/dealing with or any part thereof;
- (iii) Step in and succeed upon election by the GOM without the necessity of any further action by the Concessionaire, to the interests of the Concessionaire under such of the Project Agreements as the GOM may in its discretion deem appropriate with effect from the date of communication of such election to the counter party to the relative Project Agreements. Provided any sums claimed by such counter party as being due and owing for work and services performed or accruing on account of any act, omission or event prior to such date of election shall and shall always constitute debt between the Concessionaire and such counter party and the GOM shall in no way or manner be liable or responsible for such sums. The Concessionaire shall ensure that the Project Agreements contain provisions necessary to give effect to the provision of this Article 16.3.



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16.4 Termination Payments

The Termination Payment pursuant to Article 15 or 16 as the case may be, shall be payable to the Concessionaire by the GOM within ninety days of demand being made by the Concessionaire with the necessary particulars duly certified by the Statutory Auditors. If the GOM fails to pay Termination Payment in full within the said period of 120 days, the amount remaining unpaid shall be paid along with interest @ SBI PLR plus two percent from the Termination Date till payment.

16.5 Mode of Payment

Notwithstanding any instructions to the contrary issued or any dispute raised by the Concessionaire, the Termination Payment, and all other payments that would become payable by the GOM under any of the provisions of this Agreement shall, so long as the Debt Due is remaining outstanding, be made only by way of credit directly to a bank account designated therefor by the Lenders and advised to the GOM and the Concessionaire in writing. Any payment so made shall to the extent of such payment constitute a valid discharge to the GOM of its obligations towards the Concessionaire with regard to the Termination Payment and payment of any other monies due hereunder.

Notwithstanding anything to the contrary contained in this Agreement, any Termination pursuant to the provisions of this Agreement shall be without prejudice to accrued rights of either Party including its right to claim and recover money damages and other rights and remedies which it may have in law or contract. All rights and obligations of either Party under this Agreement, including without limitation Termination Payment, shall survive the Termination of this Agreement to the extent such survival is necessary for giving effect to such rights and obligations.



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ARTICLE 17

CHANGE IN LAW

17.1 Change in Law

If as a result of Change in Law, the Concessionaire suffers an increase in costs or reduction in net after tax return or other financial burden, the aggregate financial effect of which in any Accounting year, the Concessionaire may notify the same to the Engineer in charge and propose amendments to this Agreement so as to put the Concessionaire in the same financial position as it would have occupied had there been no such Change in Law resulting in such cost increase, reduction in return or other financial burden as aforesaid.

17.2 Extension of Concession Period

The Engineer in charge shall upon being notified by the Concessionaire of the Change in Law and the proposed amendments to this Agreement, assess the change in the financial position as a result of such Change of Law and determine the extension to the Concession Period so as to put the Concessionaire in the same financial position as it would have occupied had there been no such Change in Law and recommend the same to the GOM. The GOM shall, within 60 days of receipt of such recommendation, decide the extension to the concession period extend the Concession Period by such period.



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ARTICLE 18

HANDOVER AND DEFECT LIABILITY PERIOD

18.1 Handing Over of the Project Assets

Upon the expiry of the Concession by efflux of time and in the normal course, the Concessionaire shall at the end of the Concession Period, hand over vacant and peaceful possession of the Project Assets including Project Site / Facility at no cost to the GOM.

18.2 Joint Inspection and Removal of Deficiency

The handing over process shall be initiated at least 12 months before the actual date of expiry of the Concession Period by a joint inspection by the Engineer in charge and the Concessionaire. Engineer in charge shall, within 15 days of such inspection prepare and furnish to the Concessionaire a list of works/jobs/ additions/ alterations, if any, to be carried out to bring the Project to the prescribed level of service condition at least two months prior to the date of expiry of the Concession Period. In case the Concessionaire fails to carry out the above works, within the stipulated time period the GOM shall be at liberty to have these works executed by any other Person at the risk and cost of the Concessionaire and any cost incurred by the GOM in this regard shall be reimbursed by the Concessionaire to the GOM within 7 days of receipt of demand. For this purpose, the GOM shall without prejudice to any other right/remedy available to it, under this Agreement, have the right to appropriate the Performance Security and/or to set off any amounts due, if any, and payable by the GOM to the Concessionaire to the extent required/ available and to recover deficit amount, if any, from the Concessionaire.

18.3 Defect liability period

Defect liability period for this project work shall be as per contract data volume II.



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ARTICLE 19

DISPUTE RESOLUTION

19.1 Amicable Resolution

- (a) Save where expressly stated otherwise in this Agreement, any dispute, difference or controversy of whatever nature howsoever arising under, out of or in relation to this Agreement including incompleteness of the Project between the Parties and so notified in writing by either Party to the other (the "Dispute") in the first instance shall be attempted to be resolved amicably by the Engineer in charge and failing resolution of the same in accordance with the procedure set forth in sub-article (b) below.
- (b) Either Party may require the Dispute to be referred to the Chief Engineer. The Chief Engineer shall give his decision within 30 days. In case the Concessionaire is not satisfied with the decision of the Chief Engineer the Concessionaire may request in writing to the Secretary Public works, Department, Government of Maharashtra. Upon such reference, the two parties shall meet at the earliest mutual convenience and in any event within 60 days of such reference to discuss and attempt to amicably resolve the Dispute. If the Dispute is not amicably settled within 60 (Sixty) days of such meeting between the two, either Party may refer the Dispute to Conciliation and Arbitration in accordance with the provisions of Article 19.2 and 19.3 below.

19.2 Conciliation

- a) Disputes between the parties shall first be submitted to Conciliation. The procedure outlined in the Arbitration and Conciliation Act, 1996 shall be followed.
- b) For the appointment of Conciliator the Government of Maharashtra shall propose 3 names of the Conciliator out of which the Concessionaire will select one name. The procedure to be followed for conciliation shall be as follow.
- c) The party initiating conciliation shall send to the other party a written invitation to conciliate. Conciliation proceedings shall commence when the other party accepts in writing the invitation to conciliate. If the other party rejects the invitation, or does not reply within thirty days from the date of invitation, there will be no Conciliation Proceedings.
- d) There shall be one Conciliator, unless the parties agree that there shall be two or three Conciliators; where there is more than one Conciliator, they ought, as a general rule, to act jointly.
- e) When it appears to the Conciliator that there exists an element of a settlement, which may be acceptable to the parties, he shall submit them to parties for their observation. He may reformulate the terms of a possible settlement in the light of their observation.



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- f) If the parties reach agreement of the dispute, they may draw up and sign a written settlement agreement. They may request the Conciliator to draw up or assist them in drawing up the settlement agreement.
- g) If settlement agreement shall have the same status and effect as if it is an arbitral award on agreed terms on the substance of the dispute rendered by an arbitral tribunal under section 30 of the Act.
- h) If a settlement does not appear possible, the Conciliator, after consultation with the parties, will give a written declaration that further efforts at Conciliation are no longer justified and the Conciliation Proceedings are terminated.
- i) The fee payable to the Conciliator shall be borne equally by both the parties.

19.3 Arbitration

a) Arbitrators

- i) Any Dispute, which is not resolved amicably through conciliation as provided in Article 19.1 and 19.2, shall be finally settled by arbitration under the Arbitration and Conciliation Act, 1996. The arbitration shall be by a panel of three arbitrators, one to be appointed by each Party and the third to be appointed by the two arbitrators appointed by the Parties. A Party requiring arbitration shall appoint an arbitrator in writing, inform the other Party about such appointment and call upon the other Party to appoint its arbitrator. If the other Party fails to appoint its arbitrator, the Party appointing arbitrator shall take steps in accordance with Arbitration and Conciliation Act, 1996.
- ii) The person to be appointed as an arbitrator shall not be below the rank of chief Engineer / Rtd. Chief Engineer.

b) Place of Arbitration

The place of arbitration shall be Regional Headquarter of Concerned Chief Engineer Public works Department but by agreement of the Parties, the arbitration hearings, if required, can be held elsewhere from time to time.

c) English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and rulings shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.

d) Procedure

The procedure to be followed within the arbitration, including appointment of arbitrator / arbitral tribunal, the rules of evidence which are to apply shall be in accordance with the Arbitration and Conciliation Act, 1996.



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e) **Enforcement of Award**

Any decision or award resulting from arbitration shall be final and binding upon both the Parties and Subject to the provisions of Arbitration Act, 1996.

f) **Fees and Expenses**

The fees and expenses of the arbitrators and all other expenses of the arbitration shall be initially borne and paid by respective Parties subject to determination by the arbitrators. The arbitrators may provide in the arbitral award for the reimbursement to the prevailing party of its costs and expenses in bringing or defending the arbitration claim, including legal fees and expenses incurred by Party.

g) **Performance during Arbitration**

Pending the submission of and/or decision on a Dispute, difference or claim or until the arbitral award is published, the Parties shall continue to perform all of their obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

h) **The rate of interest in the award shall not be more than "SBI-PLR".**

i) **The Arbitrator/s shall declare award within one year from the date of reference of disputes to the Arbitrator/s.**



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ARTICLE 20

REPRESENTATIONS AND WARRANTIES, DISCLAIMER

20.1 Representations and Warranties of the Concessionaire

The Concessionaire represents and warrants to the GOM that:

- (i) it is duly organized, validly existing and in good standing under the laws of India;
- (ii) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (iii) it has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery and performance of this Agreement;
- (iv) it has the financial standing and capacity to undertake the Project;
- (v) this Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (vi) it is subject to civil and commercial laws of Maharashtra / India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof;
- (vii) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of the Concessionaire's Memorandum and Articles of Association or any member of the Consortium or any Applicable Laws or any covenant, agreement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (viii) there are no actions, suits, proceedings, or investigations pending or, to the Concessionaire's knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi judicial or other authority, the outcome of which may result in the breach of or constitute a default of the Concessionaire under this Agreement or which individually or in the aggregate may result in any Material Adverse Effect;
- (ix) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any the GOM Agency which may result in any material adverse effect or impairment of the Concessionaire's ability to perform its obligations and duties under this Agreement;
- (x) it has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other Civil or criminal liabilities which in the aggregate have or may have Material Adverse Effect;



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- (xi) the aggregate equity share holding of the members of Consortium/Sponsors in the issued and paid up equity share capital of the Concessionaire shall not be less than
(a) 51% (fifty one per cent) until expiry of 3 (three) years following COD, and
(b) 26% (twenty six per cent) during the remaining Operations Period;
- (xii) each member of Consortium was and is duly organized and existing under the laws of the jurisdiction of its incorporation and has full power and authority to consent to and has validly consented to and requested the GOM to enter into this Agreement with the Concessionaire and has agreed to and unconditionally accepted the terms and conditions set forth in this Agreement;
- (xiii) subject to receipt by the Concessionaire from the GOM of the Termination Payment and any other amount due under any of the provisions of this Agreement, in the manner and to the extent provided for under the applicable provisions of this Agreement all rights and interests of the Concessionaire in and to the Project Assets shall pass to and vest in the GOM on the Termination Date free and clear of all Encumbrances without any further act or deed on the part of the Concessionaire or the GOM;
- (xiv) no representation or warranty by the Concessionaire contained herein or in any other document furnished by it to the GOM or to any the GOM Agency in relation to Applicable Permits contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading; and
- (xv) no sums, in cash or kind, have been paid or will be paid, by or on behalf of the Concessionaire, to any person by way of fees, commission or otherwise for securing the Concession or entering into of this Agreement or for influencing or attempting to influence any officer or employee of the GOM in connection therewith.

20.2 Disclaimer

- (a) Without prejudice to any express provision contained in this Agreement, the Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has after a complete and careful examination made an independent evaluation of the passengers volumes, concerned code Project Site and all the information provided by the GOM, and has determined to the Concessionaire's satisfaction the nature and extent of such difficulties, risks and hazards as are likely to arise or may be faced by the Concessionaire in the course of performance of its obligations hereunder.
- (b) The Concessionaire further acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in (a) above and hereby confirms that the GOM shall not be liable for the same in any manner whatsoever to the Concessionaire.



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20.3 Representations and Warranties of the GOM

The GOM represents and warrants to the Concessionaire that:

- (i) The GOM has full power and authority to grant the Concession;
- (ii) The GOM has taken all necessary action to authorize the execution, delivery and performance of this Agreement;
- (iii) This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof.



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GOVERNMENT OF MAHARASHTRA

ARTICLE 21

MISCELLANEOUS

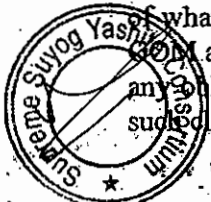
21.1 Assignment and Charges

- (a) Subject to sub-articles (b) and (c) here in below, this Agreement shall not be assigned by the Concessionaire save and except with prior consent in writing of the GOM, which consent the GOM shall be entitled to decline without assigning any reason whatsoever.
- (b) Subject to sub-article (c) here in below, the Concessionaire shall not create nor permit to subsist any Encumbrance over or otherwise transfer or dispose of all or any of its rights and benefits under this Agreement or any Project Agreement to which Concessionaire is a party except with prior consent in writing of the GOM, which consent the GOM shall be entitled to decline without assigning any reason whatsoever.
- © Restraint set forth in sub-articles (a) and (b) above shall not apply to:
 - (i) Liens / encumbrances arising by operation of law (or by an agreement evidencing the same) in the ordinary course of business of the Project;
 - (ii) Mortgages / pledges / hypothecation of goods / assets other than Project Site, as security for indebtedness, in favor of the Lenders and working capital providers for the Project;
 - (iii) Assignment of Concessionaire's rights, title and interest under this Agreement to or in favor of the Lenders pursuant to and in accordance with the Substitution Agreement as security for their financial assistance.
 - (d) Upon occurrence of the Concessionaire Event of Default the Lenders shall have the right of substitution as provided in the Substitution Agreement.

21.2 Liability and Indemnity

(a) General Indemnity

- (i) The Concessionaire shall indemnify, defend and hold the GOM harmless against any and all proceedings, actions and, third party claims arising out of a breach by Concessionaire of any of its obligations under this Agreement except to the extent that any such claim has arisen due to the GOM Event of Default).
- (ii) The GOM will, indemnify, defend and hold harmless the Concessionaire against any and all proceedings, actions, third party claims for loss, damage and expense of whatever kind and nature arising out of defect in title and/or the rights of the GOM and / or arising of a breach by the GOM, its officers, servants and agents of any obligations of the GOM under this Agreement except to the extent that any such claim has arisen due to Concessionaire Event of Default.

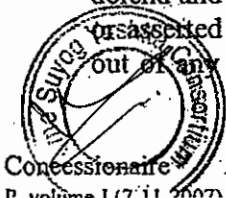


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- (b) Without limiting the generality of this Article 21.2 the Concessionaire shall fully indemnify, save harmless and defend the GOM including its officers servants, agents and subsidiaries from and against any and all loss and damages arising out of or with respect to (a) failure of the Concessionaire to comply with Applicable Laws and Applicable Permits, (b) payments of taxes relating to the Concessionaire's Contractors, suppliers and representatives income or other taxes required to be paid by the Concessionaire without reimbursement hereunder, or (c) non-payment of amounts due as a result of materials or services furnished to the Concessionaire or any of its Contractors which are payable by the Concessionaire or any of its Contractors.
- (c) Without limiting the generality of the provisions of this Article 21.2, the Concessionaire shall fully indemnify, save harmless and defend the GOM from and against any and all damages which the GOM may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Concessionaire or by the Concessionaire's Contractors in performing the Concessionaire's obligations or in any way incorporated in or related to the Project. If in any such suit, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Concessionaire shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of the injunction or restraint order. If, in any such suit claim or proceedings, the Project, or any part, thereof or comprised therein is held to constitute an infringement and its use is permanently injected, the Concessionaire shall promptly make every reasonable effort to secure for the GOM a license, at no cost to the GOM, authorizing continued use of the infringe work. If the Concessionaire is unable to secure such license within a reasonable time, the Concessionaire shall, at its own expense and without impairing the concerned code either replace the affected work, or part, or process thereof with non-infringing work or parts or process, or modify the same so that it becomes non-infringing.
- (d) In the event that either Party receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under this Article 21.2 (the 'Indemnified Party') it shall notify the other Party ("Indemnifying Party") within 14 (fourteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim it may conduct the proceedings in the name of the Indemnified Party subject to the Indemnified Party being secured against any costs involved to its reasonable satisfaction.
- (e) Defense of Claims
- (i) The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder and their



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reasonable costs and expenses shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the person indemnified in respect of loss to the full extent provided by this Article 21.2, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding liabilities, payments and obligations at its expense and through counsel of its choice provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnified Party unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure, the loss to be indemnified hereunder to the extent so compromised or settled.

- (ii) If the Indemnifying Party has exercised its rights under Article 21.2(d) above, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the indemnifying Party (which consent shall not be unreasonably withheld or delayed).
- (iii) If the Indemnifying Party exercises its rights under Article 21.2(d) above, then the Indemnified Party shall nevertheless have the right to employ its own counsel and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party, when and as incurred, unless:
 - (1) the employment of counsel by such party has been authorized in writing by the Indemnifying Party; or
 - (2) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defense of such action; or
 - (3) the indemnifying Party shall not in fact have employed independent counsel reasonably satisfactory to the Indemnified Party to assume the defense of such action and shall have been so notified by the Indemnified Party; or
 - (4) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either :
 - (a) that there may be specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
 - (b) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement, provided that if sub-articles (2), (3) or (4) of Article 21.2(e)(ii) shall be applicable, counsel for the Indemnified Party shall have the right to direct the defense of such claim, action, suit or proceeding on behalf of the Indemnified Party and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.



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21.3 Governing Law and Jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India and the Courts in Maharashtra shall have jurisdiction over all matters arising out of or relating to this Agreement.

21.4 Waiver

- (a) Waiver by either Party of any default by the other Party in the observance and performance of any provision of or obligations or under this Agreement:
 - (i) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions or obligations under this Agreement;
 - (ii) shall not be effective unless it is in writing and executed by a duly authorised representative of such Party; and
 - (iii) shall not affect the validity or enforceability of this Agreement in any manner.
- (b) Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

21.5 Survival

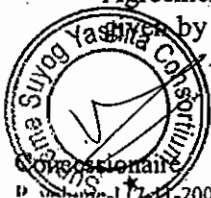
Termination of this Agreement (a) shall not relieve the Concessionaire or the GOM of any obligations hereunder which expressly or by implication survives Termination hereof, and (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

21.6 Amendments

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the Agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless agreed to by all the Parties hereto and evidenced in writing.

21.7 Notices

Unless otherwise stated, notices to be given under this Agreement including but not limited to a notice of waiver of any term, breach of any term of this Agreement and termination of this Agreement, shall be in writing and shall be given by hand delivery, recognized international courier, mail, telex or facsimile



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transmission and delivered or transmitted to the Parties at their respective addresses set forth below:

If to the Government of Maharashtra, Public Works Department.

The Executive Engineer.
Thane Construction Division, Station Road,
Thane (West), Maharashtra (INDIA)
Pin 400 601,
Phone + 9122 – 25361393
Fax + 9122 – 25361127

If to the Concessionaire

The Managing Director,
M/s. Supreme Suyog Yashita Consortium,
41, Suyog Industrial Estate,
1st Floor, L.B. S. Marg,
Vikhroli (West), Mumbai - 400 083
(As per Contract Data)

Or such address, telefax number, or facsimile number as may be duly notified by the respective Parties from time to time, and shall be deemed to have been made or delivered (i) in the case of any communication made by letter, when delivered by hand, by recognized international courier or by mail (registered, return receipt requested) at that address and (ii) in the case of any communication made by telefax or facsimile, when transmitted properly addressed to such telex number or facsimile number.

21.8 Severability

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be effected in any manner, and the parties will negotiate in good faith with a view to agreeing upon one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable. Provided failure to agree upon any such provisions shall not be subject to dispute resolution under this Agreement or otherwise.

21.8 No Partnership

Nothing contained in this agreement shall be construed or interpreted as constituting a partnership between the Parties. Neither Party shall have any authority to bind the other in any manner whatsoever.



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21.10 Language

All notices required to be given under this Agreement and all communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

21.11 Exclusion of Implied Warranties etc.

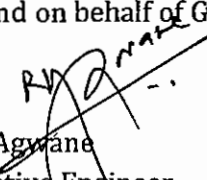
This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by any Party not contained in a binding legal agreement executed by the Parties.

21.12 Counterparts

This Agreement may be executed in two counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

IN WITNESS WHEREOF THE, PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

For and on behalf of Governor of Maharashtra by


R. K. Agwane
Executive Engineer
Thane Construction Division,
Thane.

For and on behalf of CONCESSIONAIRE by:

In the presence of.

1)

2)

Atamash know.

*Alc offer
supreme info. 11th.*

09/09/08

(As per bidding data volume II)



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Thane Construction Division
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GOVERNMENT OF MAHARASHTRA

SECTION III

SCHEDULES



Disposal No. 17-11-2007

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SCHEDULE A

Scope of work

(As per information furnished in scope of work section IV of Volume-II)



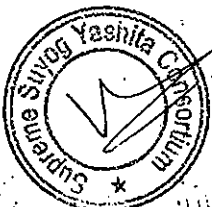
Concessionaire

P. volume-I (7-11-2007)

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Section - IV
Scope of Work



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Scope of work

<p>1</p> <p>Name of Projects.</p>	<p>Construction of Funicular Railway at Hajimalng Gad Taluka Ambernath, Dist. Thane. Maharashtra (India)</p> <p><u>Scope of Project</u></p> <p>1) <u>System</u>- Double Reversible Funicular railway with two passengers cars and attached goods trolley circulating on a single rail track with a pass loop (80 meter) at the centre of the track. Along track the haul rope shall be supported by isolated sheaves.</p> <p>2) <u>Lower Terminal</u> - This is to be constructed as a RCC frame structure / steel structure enclosed in concrete with IS grade as per IS 456-2000 with modern architectural view with boarding and alighting arrangement. The terminal shall have the facilities such as AC waiting hall, booking office, canteen, toilet block, pooja material and entertainment shops, car parking arrangement (for 300 motor cars), Garden etc.</p> <p>3) <u>Upper Terminal</u> - This is to be constructed as RCC frame structure / steel structure enclosed in concrete with IS grade as per IS 456-2000 with modern architectural view to passengers Boarding and alighting arrangement. The terminal shall have the passenger's facilities such as AC waiting hall, booking office, canteen, toilet block, View gallery, Garden etc.</p> <p>4) <u>Drive House</u>- At upper terminal proposed room shall be situated behind the car bay offering good view of the track.</p> <p>5) <u>Safety and supervisory control system</u> -</p> <ol style="list-style-type: none"> Four independent braking, Three independent over speed detection system, Two independent communication channels, Supervisory systems, Emergency stop provisions, Error detection systems <p>6) <u>Preliminary survey and Design</u> - Preliminary survey and design to be carried out by the bidder. Data supplied by the Department is indicative. No extra payment will be made nor any claims will be entertained.</p> <p>7) This project involves 5.21 Hectare of forest land. The Department is not responsible for acquiring and providing forestland. However as Executive Engineer, Construction Division, Thane have started the procedure for acquisition of forestland; successful concessionaire shall deposit an amount of Rs. 30.00 lakhs for the necessary expenses with the Executive Engineer, Construction Division, Thane within one month from the date of work order. The cost of Rs. 30.00 lakhs is provisional and may be more or less; accordingly concession period</p>
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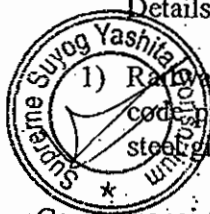
GOVERNMENT OF MAHARASHTRA

	<p>shall be modified based on the project cost given in form 2 and cash flow given in form 6 of volume III.</p> <p>8) This project involves 1.20 Hectare of private land. The Department is not responsible for acquiring and providing private land. However as Executive Engineer, Construction Division, Thane have started the procedure for acquisition of private land; successful concessionaire shall deposit an amount of Rs. 25.00 lakhs for the necessary expenses with the Executive Engineer, Construction Division, Thane within one month from the date of work order. The cost of Rs. 25.00 lakhs is provisional and may be more or less, depending upon final award given by District Land Acquisition Officer and accordingly concession period shall be modified based on the project cost given in form 2 and cash flow given in form 6 of volume III.</p> <p>After final compensation is paid to the landowners and the Department takes the possession of land, the said land will be the property of PWD. The concessionaire has to approach Tahsildar-Ambarnath and Taluka Inspector of Land Records-Ambarnath for making necessary changes / corrections in the village record i.e. transfer of land and necessary corrections in form no 8A etc.</p> <p>9) The concessionaire shall apply for and obtain all applicable permits related to environmental matters, Eco sensitive zone clearance that may be necessary or required for the project under any applicable laws. However as Executive Engineer, Construction Division, Thane have started the procedure for obtaining environmental clearance; successful concessionaire shall deposit an amount of Rs. 30.00 lakhs with the Executive Engineer, Construction Division, Thane for necessary expenses within one month from the date of work order. The cost of Rs. 30.00 lakhs is provisional and may be more or less and if it is changed then the concession period will be modified based on the project cost given in form 2 and cash flow given in form 6 of volume III.</p> <p>10) <u>Maintenance of project</u> - Operation and Maintenance of project during concession period will be the responsibility of bidder. Guidelines in volume IV shall be followed for operation and maintenance.</p>
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Items to be done during construction / erection of railway system

Funicular railway trolley shall run on railway tracks pulled by high tensile wire rope system. Railway tracks shall rest on M-30 grade RCC girder / MS girder. Girders shall rest on M 30 grade RCC columns / MS column supports. Columns shall be constructed / erected from hard rock base and 3.00 to 5.00 meter up from the ground level.

Details of these items are briefly described below.



Concessionaire
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1) Railway tracks:- Railway tracks shall confirm the Indian railway code and Hong-Cong code practice. It shall strictly be laid on reinforced cement concrete / MS / Structural steel girders of sufficient load carrying capacity.

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Thane Construction Division

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- 2) Horizontal girders:- Horizontal girders are to be provided to give strong and rigid support to railway tracks and service walkway to be provided for routine maintenance work. Horizontal girders may either be constructed by M-30 grade reinforced cement concrete work or by structural steel work. All these works shall strictly be carried out as per PWD standard specifications and appropriate code of practice referred worldwide.
- 3) Vertical columns:- Vertical columns are to be provided to give end support to horizontal girders so as to transfer load coming on horizontal girders to hard strata. Vertical columns shall be constructed in such a fashion that horizontal girders rested on it shall not move / slide / vibrate from its predetermined locations. Suitable stoppers / supports / guide wall provision shall be made on the top of the column cap only. Columns shall be constructed maximum at 10.00 meters interval. Column height shall suitably be within 3.00 meters to 5.00 meters so as to maintain the correct profile required for railway tracks. (Railway tracks laid on existing ground surface is generally not allowed. If local site condition is such that railway tracks can be laid on ground surface then preventive measures shall strictly be carried out to prevent track and system from land slide or rocks fall.) M-30 grade concrete shall strictly be used if vertical columns are to be constructed in reinforced cement concrete. Factory made fresh structural steel shall be used if vertical columns are to be constructed in structural steel work. Necessary rigid protection work shall be constructed around the columns at ground level so as to protect it from probable thrust from landslide / rock fall.
- 4) Service walkway:- Service walkway (preferably by steps) shall be provided along the railway track for routine inspections work of railway system. It should be constructed throughout the track length. Construction material shall either be reinforced concrete or structure steel work. The passengers except in case of emergencies shall not use Service walkway.
- 5) Wire fencing:- Barbed wire fencing with 7 row cross wire bracing of height 2.10 meters shall be erected on both side of railway track and Lower station, Upper station to safeguard the local human / animal interruption. Wire fencing shall be well maintained during concession period. PWD standard specifications shall be followed while constructing these items.
- 6) Rock fall protection work:- Rock fall protection work shall be erected on side of railway track where required to safeguard the track and the trolley system. Rock fall protection work shall be well maintained during concession period. Konkan railway standard specifications shall be followed while constructing these items.
- 7) Street lighting work:- Suitable lighting arrangement shall be developed along the railway tracks between lower station and upper station. During MSEB power failure, it shall be kept powered by DG sets. PWD electric standards and specifications shall be followed during execution.
- 8) Arboriculture:- Funicular railway system is to be operated mainly for pilgrims and secondly for tourism development. Viewing this aspect, land to be used for activation of this funicular railway system shall be well landscaped and arboriculture as per the instructions of Engineer In charge. The detailed plans shall be furnished to Engineer-in charge for scrutiny and get sanctioned from competent authority.

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P, volume-II (7-11-2007)

Engineer in Charge

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GOVERNMENT OF MAHARASHTRA

SCHEDULE- B

PROJECT SITE

(As per information furnished in scope of work section IV of Volume-II)



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GOVERNMENT OF MAHARASHTRA

PROJECT SITE
(Refer Schedule-B of Volume-I)

Location	Haji Malang gad
Village	Malangwadi
Tahsil	Ambarnath
District	Thane
State	Maharashtra (India)

Nearest Railway station	Kalyan on Central Railway
Nearest Airport	Sahara airport at Santacruz

State transport facility is available from Kalyan city to Malangwadi village. Private vehicles can also be getting available near Kalyan railway station.



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GOVERNMENT OF MAHARASHTRA

SCHEDULE- C

PROJECT FACILITY

(As per information furnished in scope of work section IV of Volume-II)



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GOVERNMENT OF MAHARASHTRA

PROJECT FACILITY (Refer Schedule-C of Volume-I)

Project Facility shall mean and include approaches, queue area, and waiting hall, canteen, parking, Shops, garden to be constructed under the project.

The project facilities as defined in the following paragraphs are indicative but not limited to the following only and the bidder shall carry out all the items of work for the successful completion and commissioning of the railway system:

- ii) Fabrication, supply of all plants, materials, safety arrangement, standby DG sets and maintenance facilities according to the specifications and design of the funicular system.
- ii) Execution of all Civil Engineering works including terminal buildings and the slope protection work.
- iii) Distribution arrangement of power, lighting, yard lighting, line lighting, ventilation, Public Address System etc. for operation, efficient and safe functioning of the passenger funicular railway system and its related buildings.
- iv) Supply of standby DG sets (in both the terminals) of requisite capacity as approved by Engineer/Engineer-in-charge to meet above requirement with suitable change over arrangement from grid.
- v) Provide internal and external electrification including fixtures and lamps and ventilation system for Lower and Upper Terminal stations and related buildings. Necessary fire extinguishers as per local regulations need to be provided in the terminal buildings.
- vi) All spare parts for trouble-free operation of the Funicular Railway system including DG Set and any other recommended spares. The replenishment of required spares, tools and tackles, oil, greases, safety equipment etc. during the concession period shall be provided by the entrepreneur.
- vii) The upper terminal station shall be constructed by Ground + Two story building. Space available at ground floor will be utilized for railway system. First floor may be reserved for office work / canteen facilities from concessionaire and second floor may be kept reserved for development of art gallery, museum or site seeing utilities. Detailed drawing is attached in section IV of volume-IV.



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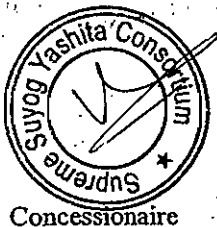
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GOVERNMENT OF MAHARASHTRA

SCHEDULE D

PROJECT COMPLETION SCHEDULE

(As per information furnished in scope of work section IV of Volume-II)



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GOVERNMENT OF MAHARASHTRA

PROJECT COMPLETION SCHEDULE

(Refer Schedule-D of Volume-I)

The Entrepreneur shall duly execute and complete the project as provided in section III of volume II as submitted along with his Bid letter and as finally accepted by Government. As the time is the essence of contract no further extension of the time will be granted for the completion of the project on any account whatsoever but the entrepreneur shall be entitled for compensation in certain special circumstances beyond his control as provided article 15 of section II of volume I.

Project is to be completed within 24 calendar months.



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P, volume-II (7-11-2007)

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GOVERNMENT OF MAHARASHTRA

Schedule - E

Form -1

Bill of Quantities

Sr.		Description of work	Quantity	Units	Rate/	Total
No.					Unit	(lakhs)
1		Support Structure for Trolley System	150	No	2.75 Lakh/ No.	412.50
		(upto rails)				
	i	Columns supports to Rail Tracks,				
		Foundations and footings, columns,				
		Columns protection				
	ii	Girders (300*20for loop)	320	No	1.20 Lakh/No	384.00
	iii	Rails, and rail related items	1254 m	metre	14000/m	175.00
2		Trolley System				
	i	Other syperstructure and walkway	1174	metre	14000/m	164.00
	ii	Machine room	50	sqm	13000/sqm	6.50
	iii	Electrification including transformer,	1 set	set	110 Lakh/set	110.00
		cable track and walkway illumination,				
		control pannel, battery backup with				
		inverter, AC drive, etc.				
	iv	Diesel Generating Set-315 K V A	1	No	45.00 Lakh/No	45.00
	v	Instrumentation and Electronic equipment				
		(signaling equipment, wireless	1	set	35.00 Lakh/No	35.00
		Communication set, data telemetry unit				
		with 4 antennae)				
	vi	a) Passanger Trolleys	4	No	100 Lakh/No	400.00
		b) 2 sets emergency rail clamp brakes /	8	No	10.00 Lakh/No	80.00
		trolly. Total 8 sets				
	vii	Goods Trolley with Fail safe brake and	1	No	10.00 Lakh/No	10.00
		coupling (8 T capacity)				
	viii	Traction Equipment including motor, Bull	1	Unit	150 Lakh/Unit	150.00
		wheel, Gear Box, Hydraulic Caliper				
		Brakes, etc.				
	ix	Rope and Sheaves	1	set	50.00 Lakh/set	50.00
	x	End buffers and hudraulics	1	set	9.00 / set	9.00
3		Erection and Commissioning of			44.55	44.55
		Machanical/Electrical/Electronic				
		components (iii to x) 5 % (889.00)				



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GOVERNMENT OF MAHARASHTRA

Sr. No.	Description of work	Quantity	Units	Rate/Unit	Total (lakhs)
4	Public Movement areas				
i	Lower station including booking office	4000 sqm	sqm	10875 /sqm	435.00
	waiting hall, restaurant, shops and toilet, including water supply and electrification.				
ii	Upper station including booking office	3240 sqm	sqm	16666 / sqm	540.00
	waiting hall, restaurant, shops and toilet, including water supply and electrification.				
ii	PWD site office and Police chowky			included	
	SUB TOTAL				3050.00
	water supply and sanitary				200.00
5	Retaining Wall				50.00
i	Rock fall protection				200.00
ii	Barbed wire fencing				40.00
	SUB TOTAL				490.00
6	Allied facilities				
i	Parking lot and yard leveling	5000	sqm	700/sqm	35.00
ii	Rest house			included	
iii	Pathway and premises development between parking and lower station	4000	sqm	1000/sqm	40.00
iv	Garden Development and landscaping at lower and upper station	1	No	25.00	25.00
	SUB TOTAL				100.00
7	Ancillary works				
i	Minor bridge between road and lower station	1	No.	25.00/No	25.00
ii	Office shed for construction period	1	No	20.00/No	20.00
iii	Vehicles and office equipment at site	1	No	10.00	10.00
	SUB TOTAL				55.00
8	Spares part equipment.				15.00
	(A+B+C+D+E)			3710 Lakhs	
	VAT 4 %			148.00	
	Service Tax 4.08 %			153.00	
				4011.00	Lakhs



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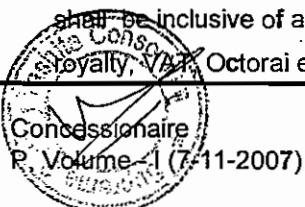
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GOVERNMENT OF MAHARASHTRA

Schedule - E**Form - 2****Details of the total Project Cost**

Sr. No.	Description	Estimated Cost	
		In figure (in lakh)	In words
1	Construction Cost (As per form I)	4011	
2	Data collection and preliminary survey.	15.00	
3	Preliminary and Pre-Operative Expenses		
	A) Studied and survey like technical/legal/financial	10.00	
	B) Stamp Duty and other property charges	40.11	
	1+2+3A+3B	4076	
	Insurance 1 %	40.76	
	Sub Total (3A to 3B)	4116	
4	Preliminary Expenses		
	A) Infrastructure development expenses	included	
	B) Land acquisition cost		
	i) For private land	25.00	
	ii) For forest land	30.00	
	C) Environment clearance charges	30.00	
	D) Getting NOC from requisite Dept	10.00	
	E) Proof consultancy charges	40.00	
	F) PMC charges for RITES (Inclusive of service tax)	320.00	
	G) Arboriculture	20.00	
	Sub Total (4A to 4 G)	475.00	
5	Cost of any other items if required to complete the work in all respect, concessionaire shall quote the cost.	4591 Lakhs	Rupees four thousand five hundred ninety one lakhs (Fourty five point ninety one croe)

Note : Total Project Cost shall mean the cost required for construction of the funicular railway and necessary infrastructure including survey, investigation, studies, design and construction, reconstruction, improvement, strengthening and repairs, including its maintenance other temporary works, Arboriculture, landscaping, fulfilling and maintaining enviornmental require-ments, toll collection arrangements and all other works connected with the same and it shall be inclusive of all taxes, reasonable retuns, interest, etc. The project shall include Royalty, VAT, Octroi etc. including all taxes.



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GOVERNMENT OF MAHARASHTRA

Schedule - E**Form No. 3****FINANCIAL DETAILS OF THE PROPOSAL**

Name of Work :-

Construction of Funicular Railway System at Haji Malang Gad at Ambarnath, Dist. Thane, Maharashtra State (India).

1	Total Project cost of work (In figure and in words) as per Form 2	Rs.	4,591.0	Lakh
	In Words : Rupees Forty Five Crore Ninety One lakh Only			
2a)	Assumed rate of Interest on Debt.		13.00%	
b)	Rate of Interest on Equity (If Any)			
3	Estimated Construction Period		2.0	Year
4	Estimated Yearly Maintenance Cost		91.82	Lakhs
5	Concession Period offered by the Concessionaire			
	In Figure : Years . . . Months . . . Days.			
	In Words :			
6	Estimated Cost of Management and Overheads etc. per Year.		91.82	Lakhs
7	Estimated Cost of Renewals and Special Repairs etc. at Specified intervals.		91.82	Lakhs
8	Assumed Debt. / Equity Ratio		3 : 1	
9	Any other Details			

Note 1) The costs shall be based on price level at the time of submission of bids.

2) Break up of this cost shall be given in form no. 2.



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Statement Showing Estimated Yearly Toll Collection
(Refer Schedule 'E' of Volume - I)

Name of Work :

Construction of Funicular Railway System at Haji Malang Gad at Ambamath, Dist. Thane, Maharashtra State (India).

Sr.No.	Passengers category	Average Daily passengers	
		Nos.	Kg.
1	Class A Passengers, 10 and Fro	2376	
2	Class B Passengers, 10 and Fro	475	
3	Quarterly pass holders	158	
4	Freight	2138	
TOTAL		3009	2138

Passengers / Freight / Rent growth :- 5%

No of Years	YEAR	Toll Rate in Rs.				Passengers per day				Toll income per day				Income from other sources like parking, shop rents, advertisement etc.	Total Toll income per year (col. 11+12+13+14+15)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Class A Passengers		Class B Passengers		Quarterly pass holders		Freight	Class A Passengers		Class B Passengers		Quarterly pass holders			Freight																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		To and Fro	3	To and Fro	4	To and Fro	5		To and Fro	6	To and Fro	7	To and Fro				8	To and Fro	9	To and Fro	10	To and Fro	11	To and Fro	12	To and Fro	13	To and Fro	14	To and Fro	15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Note : 1 Trolley Operation Days are Considered as 300 in One Year.

2 Free Pass Passengers are considered as 5%

Note :- Class A Passengers age group 12 to 75 Years

Class B Passengers age group 3 to 12 years, beyond 75 years and physically handicapped persons

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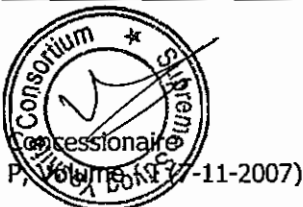
Engineer - in - Charge

GOVERNMENT OF MAHARASHTRA

Schedule - E**Form 5****STATEMENT OF EXPECTED EXPENDITURE DURING THE CONCESSION PERIOD. (YEARWISE)****Name of Work :-****Construction of Funicular Railway System at Haji Malang Gad at Ambarnath, Dist. Thane, Maharashtra State (India).**

Year	Item	Expenditure Rs. In Lakhs
2008	Project Construction. 9 Months	1687.19
2009	Project Construction.	2530.79
2010	Project Construction. 3 Months + M.& R.& Op. Cost	986.64
2011	M. & R. + Operating Cost	271.84
2012	M. & R. + Operating Cost	285.43
2013	M. & R. + Operating Cost + Rope Change Cost	391.98
2014	M. & R. + Operating Cost	314.68
2015	M. & R. + Operating Cost	330.42
2016	M. & R. + Operating Cost	346.94
2017	M. & R. + Operating Cost + Rope Change Cost	476.46
2018	M. & R. + Operating Cost	382.50
2019	M. & R. + Operating Cost	401.63
2020	M. & R. + Operating Cost	421.71
2021	M. & R. + Operating Cost + Rope Change Cost	579.14
2022	M. & R. + Operating Cost	464.93
2023	M. & R. + Operating Cost	488.18
2024	M. & R. + Operating Cost	512.59
2025	M. & R. + Operating Cost + Rope Change Cost	703.95
2026	M. & R. + Operating Cost	565.13
2027	M. & R. + Operating Cost	593.38
2028	M. & R. + Operating Cost	623.05
2029	M. & R. + Operating Cost + Rope Change Cost	855.65
2030	M. & R. + Operating Cost	686.92
2031	M. & R. + Operating Cost	721.26
2032	M. & R. + Operating Cost + Rope Change Cost	990.53
	Total Expected Expenditure	16612.90

All the figures under expenditure are at the current costs for respective years.



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GOVERNMENT OF MAHARASHTRA

Sample Form

SCHEDULE - F

TOLL NOTIFICATIONS

Form of Standard Notification:

NOTIFICATION



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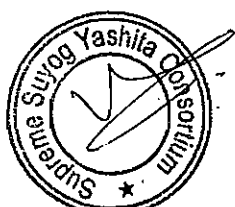
GOVERNMENT OF MAHARASHTRA

Toll Rates (in Rupees)

YEAR	Class A passengers (To and Fro)	Class B passengers (To and Fro)	Quarterly pass holder	freight (per kg)
	Toll rate	Toll Rate	Toll Rate	Toll Rate
1 Jan 2008 To 31 Dec 2009	60.00	30.00	600.00	1.00
1 Jan 2010 To 31 Dec 2011	70.00	35.00	650.00	1.00
1 Jan 2012 To 31 Dec 2013	80.00	40.00	700.00	2.00
1 Jan 2014 To 31 Dec 2015	90.00	45.00	750.00	2.00
1 Jan 2016 To 31 Dec 2017	100.00	50.00	800.00	3.00
1 Jan 2018 To 31 Dec 2019	110.00	55.00	850.00	3.00
1 Jan 2020 To 31 Dec 2021	120.00	60.00	900.00	4.00
1 Jan 2022 To 31 Dec 2023	130.00	65.00	950.00	4.00
1 Jan 2024 To 31 Dec 2025	140.00	70.00	1000.00	5.00
1 Jan 2026 To 31 Dec 2027	150.00	75.00	1050.00	5.00
1 Jan 2028 To 31 Dec 2029	160.00	80.00	1100.00	6.00
1 Jan 2030 To 31 Dec 2031	170.00	85.00	1150.00	6.00

Note:-

1	Class A passengers of age group 12 to 75 Years shall have to pay full fare.
2	Class B passengers of age group 3 to 12 years, beyond 75 years and walking disability persons shall have to pay half fare.
3	Passengers of age group below 3 years do not require ticket
4	Each passenger can carry maximum permissible 5.00 kg household luggage along with him / her while traveling in funicular car and luggage more than 5.00 kg can be transported in luggage trolley with charge as per freight rates shown in toll rates.
5	Quarterly concession pass with photo identity will be issued for passengers residing and doing business at Hajimalang gad..
6	The dignitaries mentioned below are exempted from payment of toll. 1) President of India 2) Vice President of India 3) Members of Parliament 4) Members of Legislative Assembly 5) Very Important Persons.



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APPROVED CASHFLOW BY G.O.M.

(REER SCHEDULE G OF VOLUME-I)

CONSTRUCTION OF FU: JULAR RAILWAY SYSTEM AT HAJMALANG GAD AT AMBARNATH DIST. THANE MAHARASTRA STATE (INDIA)

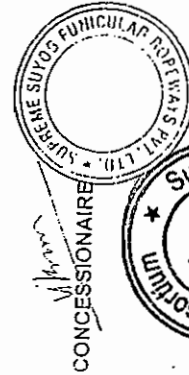
ject cost 4591.00 Lakhs
 of Repairs and Maintenance 2% 91.82 Lakhs
 of Rope Change 1.50 % 68.87 Lakhs
 grating Cost 2.00 % 91.82 Lakhs

5 Rate of Interest 13 %
 6 Rate Of Infection 5.00 %
 7 Annual Inspection Charges 25 Lakh
 8 Construction period 24 months

IN THE INFINITAY	4	5	6	7	8	9	10	11	12	SERVICE TAX	Interest	rate of Interest	total Expenditure	outstanding am	NET INCOME	IRR	NPV	YEAR
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
9	1.05	0	1606.85	1687.193	0	0	0	0	0	0	109.6675	13	1796.86	1796.86	-1687.19	#NUM!	-1519.89	0.75
12	1.10	0	2295.5	2530.789	0	0	0	0	0	0	398.0931	13	2928.8818	4725.7418	-2530.79	#NUM!	-1983.5	1.75
3	1.16	0	688.65	797.1985	0	0	0	0	0	0	666.1643	13	1463.3628	6189.1046	-797.198	#NUM!	-603.428	2
9	1.16	471.48	0	0	79.72	0	50	25	154.72	57.52	773.9374	13	986.17796	6703.8028	259.2394	#NUM!	176.7687	2.75
12	1.22	659.25	0	0	111.608	0	70	27.18	208.788	80.50	828.6041	13	1117.8938	7161.8464	370.5603	#NUM!	219.8325	3.75
12	1.28	796	0	0	114.9562	0	75	29.0826	219.0388	97.11	879.3	13	1195.4509	7561.2972	479.8492	#NUM!	247.6661	4.75
12	1.34	835.63	0	0	118.4049	92.286	80	31.12	321.8093	101.95	928.6527	13	1352.41	8078.0761	411.8738	#NUM!	184.9502	5.75
12	1.41	982.5	0	0	121.9571	0	85	33.30	240.2537	119.87	986.2874	13	1346.4061	8441.9822	622.3813	#NUM!	243.1609	6.75
12	1.48	1031.53	0	0	125.6158	0	90	35.63	251.2432	125.85	1030.408	13	1407.4981	8817.9504	654.4401	#NUM!	236.0825	7.75
12	1.55	1208.25	0	0	129.3843	0	95	38.12	262.5056	147.41	1087.797	13	1477.7094	9087.4098	798.3379	-5.47%	236.0825	8.75
12	1.63	1268.44	0	0	133.2658	112.174	100	40.79	286.2296	154.75	1098.915	13	1639.894	9458.8038	727.4607	-2.28%	187.161	9.75
12	1.71	1459.59	0	0	137.2638	0	105	43.65	285.9089	178.07	1134.779	13	1598.7578	9598.0316	995.6111	0.84%	222.856	10.75
12	1.80	1532.42	0	0	141.3817	0	110	46.70	298.082	186.96	1148.137	13	1633.174	9698.7856	1047.383	3.16%	203.9712	11.75
12	1.89	1761.11	0	0	145.6231	0	115	49.97	310.5924	214.86	1146.37	13	1671.8178	9809.4935	1235.662	5.16%	209.3592	12.75
12	1.98	1848.75	0	0	149.9918	136.368	120	53.47	326.7014	255.74	1108.523	13	1814.4599	9575.2034	1163.356	6.56%	171.4879	13.75
12	2.08	2096.2	0	0	159.1263	0	125	57.21	336.7014	255.74	1108.523	13	1668.1722	8648.5068	1581.812	7.92%	192.8542	14.75
12	2.18	2200.63	0	0	163.9001	0	130	61.21	350.3409	268.48	1050.354	13	1700.9613	9179.9046	1503.762	9.01%	176.4955	15.75
12	2.29	2495.42	0	0	168.8171	165.732	140	65.50	364.3997	304.44	992.1036	13	1630.9445	7784.0314	1826.579	9.97%	177.3152	16.75
12	2.41	2619.81	0	0	173.8815	0	145	74.99	393.8721	358.56	702.0797	13	1705.8869	6370.1083	1755.56	10.69%	148.2695	17.75
12	2.53	2938.99	0	0	179.0981	0	150	80.24	409.3379	376.46	499.5571	13	1454.5096	5385.6269	2186.561	11.38%	160.667	18.75
12	2.65	3085.76	0	0	184.471	0	155	85.86	425.3276	422.69	240.8731	13	1285.3577	3585.2246	2299.959	11.96%	147.0328	19.75
12	2.78	3464.71	0	0	190.0051	201.448	160	91.87	443.3197	443.80	-79.2279	13	1098.8953	1209.4099	2616.686	12.48%	145.5374	20.75
12	2.93	3637.71	0	0	195.7053	0	165	98.30	459.0025	493.94	-447.819	13	1007.8925	-1420.4076	2550.59	12.88%	123.4219	21.75
12	3.07	4048.71	0	0	201.5765	0	170	105.18	476.7545	495.71	-909.424	13	505.126	-4963.9916	3095.765	13.27%	130.3312	22.75
12	3.23	4063.16	0	0	207.6238	233.201	170	112.54	673.3652	368.24	-1361.53	13	63.035694	-8964.1159	3090.7	13.59%	113.2051	23.75
12	3.39	3018.36	0	0	5015.18	0	120	112.54	673.3652	368.24	-1361.53	13	35222.611	-12302.399	1976.755	13.75%	65.95478	24.42
										5798.051								

IN PERIOD 24 YEARS 5 MONTHS. (FOR 14.94 % IRR)

12302.399



ENGINEER IN CHARGE
 Executive Engineer
 Thane Construction Division
 THANE.

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Executive Engineer
 Thane Construction Division
 THANE

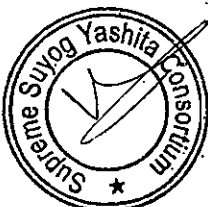
GOVERNMENT OF MAHARASHTRA

SCHEDULE - H

ENVIRONMENTAL CLEARANCES

(Refer Para 8 of additional conditions in Volume IV)

- 1.1 This project involves 5.21 Hectare of forestland. The concessionaire shall apply for and obtain all applicable permits related to environmental matters, Eco sensitive zone clearance that may be necessary or required for the project under any applicable laws. However as the procedure for obtaining environmental clearance has been started by Executive Engineer, Construction Division, Thane, successful concessionaire shall deposit an amount of Rs. 30.00 lakhs with the Executive Engineer, Construction Division, Thane for necessary expenses within one month from the date of work order. The cost of Rs. 30.00 lakhs is provisional and may be more or less and if it is changed then the concession period will be modified based on the project cost given in form 2 and cash flow given in form 6 of volume III.
- 1.2 In case environment clearance is not received, the expenditure incurred for obtaining environment clearance and acquisition of private as well as forestland will not be refunded. The successful concessionaire has to bear the cost of the environment clearance and cost of private as well as forestland acquisition at his own risk and cost.



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GOVERNMENT OF MAHARASHTRA

SCHEDULE - I

DESIGN APPROVING ENGINEER

PROCEDURE FOR CHECKING DETAILED CALCULATIONS AND WORKING DRAWINGS

1. The design approving engineer shall mean the Superintending Engineer, Design Circle (Bridges) Kokan Bhavan, Navi Mumbai. The charges of Design approving Engineer are to be bore by the concessionaire. The concessionaire shall deposit the fee of Design Approving Engineer as prescribed in contract data section VI in volume II with Engineer in charge.
2. a) The proof consultant shall mean a consulting firm / company / individual, to be appointed by Chief Engineer, Mumbai (P.W.) Region, Mumbai in consultation with Superintending Engineer, Design Circle (Bridge) Kokan Bhavan, Navi Mumbai. The duties of proof consultant shall be scrutiny of design in details prepared by RCC designer / Design consultant of the concessionaire, as per the detailed design criteria (given in schedule K annexure B of volume I) and get approval to it from Design Approving Engineer.

b) The Engineer in charge shall within a week of issue of work order communicate to the concessionaire the panel consisting of at least three reputed firms / companies or corporate bodies or a combination thereof as proof consultant (For carrying out the duties, responsibilities, service and necessary activities)

The concessionaire shall select the proof consulting firm of his choice and communicate the same to Engineer – in – charge within a weeks period, from receiving communication from Engineer in charge.

c) The Chief Engineer shall within a weeks period from the date of receipt of communication received from Engineer in charge about the choice of proof consultant from the concessionaire appoint the proof consultant and communicate the same to the concessionaire

d) Concessionaire shall deposit the fess of proof consultant with Engineer in charge as will be specified in contract data section VI of volume II
3. Within one month of the receipt of work order, the Concessionaire shall submit a program of submission of designs. The program of submission of designs of various components should be consistent with the program of work prepared by the Concessionaire and approved by the Department.
4. The RCC designer / Design Consultant of the concessionaire shall have the latest official version of the software being used for design and the same shall be made available for scrutiny of design to proof Consultant and Design approving Engineer if demanded.



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5. Detailed design calculations and working drawings of all the component parts of the project shall be submitted well in advance of the execution, in accordance with the above program. Two sets of such design calculations and Three sets of drawings accompanied by complete information and sufficient data shall be submitted to the Proof Consultant for checking the design calculations. The designs and drawings for various component parts shall be submitted progressively.

If computer is used for design or analysis, the Concessionaire shall submit with design, the detailed description of method of analysis with explanatory notes and manually done sample calculations for adequate number of typical cases & soft copy. The computer program as submitted will be further tested by comparison with solutions of worked, examples.

6. Drawings and designs shall be in metric units. Calculations shall be neat and clear and supplemented by full explanatory notes and sketches wherever required. The drawings of initial submissions and final approval shall be stenciled and in 420 mm x 297 mm size only. It is entirely the responsibility of the Concessionaire to submit the design in good time to enable the Proof Consultant to approve them in time. No claims shall be granted on account of late approval to the design and consequent delay in the execution. Schedule of reinforcement and rate of reinforcement Per Cum of Concrete quantity (and also percentage with respect to gross cross sectional area of the component) should also be shown on each drawings.
7. Nine sets of approved working drawings along with one soft copy in the form of Compact Disk and four sets of approved design calculations shall then be supplied by the Concessionaire which will be formally authenticated by the Proof Consultant. The drawings and design calculations so authenticated shall be got approved from the Design approved approving Engineer. (Five copies of drawings and one set of design calculations for field officers, one set to be returned to the Concessionaire and three to be retained by the Proof Consultant) These drawings shall be submitted in plastic folders for each set and calculations in plastic files and bag.
8. After completion of each stage of work, three sets of record plans based on the work as actually executed on site, shall be supplied by the Concessionaire, to the Engineer in charge.
9. Approval to drawings and designs and design calculations by the Proof Consultant shall not in any way relive the Concessionaire of his responsibility for the correctness, soundness and structural stability and safety of the structure.
10. The approved drawings and the design calculations shall be the property of the Department.
11. The Concessionaire's RCC designer or Design Consultant shall attend all the design review meetings conducted by Proof Consultant from time to time.



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SCHEDULE - J

SUPERVISION CONSULTANT

TERMS OF REFERENCE

1. OBJECTIVES

The Supervision Consultant shall be required to:

- (i) Act on behalf of the Engineer in Charge and the Concessionaire to review and monitor all activities associated with construction, operation and maintenance to ensure compliance with provisions of the Concession Agreement.
- (ii) Visit, inspect, and report to Engineer in Charge on various aspects of the project and carry out all such activities as are provided in the Concession Agreement. Without prejudice to this, the scope of services of the Supervision Consultant shall be as specified in Para 2 to 4.

2. SCOPE OF SERVICES

- (i) Review the Project Report prepared by the Concessionaire.
- (ii) Review the Implementation Schedule submitted by the Concessionaire.
- (iii) Review the adequacy of the geo-technical studies, sub-soil investigations, hydrological investigation topographical survey and electrical / mechanical feasibility, if any, carried out by the Concessionaire.
- (iv) Review the environmental management plan for the Project during Implementation Period and Operations Period.
- (v) Review the proposed quality assurance and quality control procedures during the Implementation Period and Operations Period.
- (vi) Review the safety measures proposed during Implementation Period and Operations Period.
- (vii) Monitor quality assurance and quality control during Implementation period.
- (viii) Review the material testing results, workability of the project and other special tests of materials and/or completed works, and/or order removal and substitution of substandard materials and/or works as required.
- (ix) Ensure that the construction work is carried out in accordance with the concerned codes and Good Industry Practice.



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- (x) Maintain the photographic record of the hidden measurements, installations etc. in the form of compact disc and hard copies in duplicate as per the instructions of the Engineer in charge.
- (xi) Identify delays in completion and recommend to the Engineer in Charge/ Concessionaire the remedial measures to expedite the progress.
- (xii) Review "As Built" drawings for each component of the works prepared by the Concessionaire.
- (xiii) Supervise and monitor various Completion Tests as provided in the Concession Agreement.
- (xiv) Recommend the Provisional Completion Certificate or the Completion Certificate, as the case may be.
- (xv) Review the Maintenance Manual prepared by the Concessionaire.
- (xvi) Design a Management Information System (MIS) for monitoring of the Project by the GOM.

3. REPORTING REQUIREMENTS

The Supervision Consultant shall prepare and submit to the Engineer in Charge three copies and to the Concessionaire two copies of the monthly report during the construction of the project and the quarterly report during the operations period.

4. PERIOD OF SERVICES

The period of services shall be the Implementation Period.

5. AUTHORISED REPRESENTATIVE

In absence of appointment of supervision consultant on the project all the matters to be dealt by the supervision consultant will stand to be dealt by the Engineer in charge or his authorized representative.



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SCHEDULE - K

ANNEXURE-A

DRAWINGS

LIST OF DRAWINGS TO BE SUBMITTED BY CONCESSIONAIRE SHOULD INCLUDE BUT NOT LIMITED TO:

- a) Drawings of horizontal alignment, vertical profile and cross-sections.
- b) Drawings of interchanges, major intersections and grade separators.
- c) General arrangement drawings of toll station layout, toll collection system and funicular railway system near toll station.
- d) Drawings of Control Center.
- e) Detailed Drawings of a funicular railway tracks with midway cross over arrangement.
- f) Drawings of typical details of slope protection measures.
- g) Conceptual drawing of landscaping and horticulture.
- h) Conceptual drawing of Street Lighting including Area lighting at Toll station.
- i) Preliminary drawings of general arrangement of cross drainage works.
- j) Drawing showing General Arrangement of lower and upper terminal with administrative building and amenities to be provided at toll stations

Drawings attached in the section IV of volume IV are indicative and for guidance only. However the concessionaire shall prepare his own drawings based on design criteria at schedule K annexure B and working drawings shall be got approved from the Engineer in charge. No extra payment or any claim will be entertained for variation in drawings.



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SCHEDULE - K

ANNEXURE-B

DESIGN CRITERIA

Design criteria of to be referred for Funicular Railway System

1. Technical Specifications in section I of volume IV
2. Additional Specifications in section II of volume IV
3. Additional Conditions in section III of volume IV

Design criteria for Structural Designs of Buildings

1. GENERAL REQUIREMENTS:

The Design shall generally fulfill the following requirements:

- (i) It shall ensure soundness of design and strength and durability of the structure, basing designs on requirement of adequate strength and satisfactory serviceability.
- (ii) It shall ensure speedy and easy construction, and lead to appreciable economy.
- (iii) It shall be accompanied by preliminary but detailed drawings and detailed description of work and specification of materials and item. If called upon, concessionaire shall furnish any additional information.
- (iv) At the time of detail designs, the Developer shall not normally deviate from the basic scheme proposed by him for the purpose of tender.
- (v) It shall maintain the aesthetics as per the Architect's Plans and Architectural beauty as a whole.
- (vi) It shall evolve good engineering designs based on the latest state of the Art Technology.
- (vii) The designs shall be of a high professional standard and shall be complete and shall cover all the structural members.
- (viii) The necessary certificate of structural stability shall be obtained on completion from competent authority for total lease period, before issue of completion certificate by the Engineer-in-charge.



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2. RESTRICTIONS ON TYPE OF STRUCTURES:

The following types of structural arrangements shall not be permitted:

- (i) Structures, which require material for which foreign exchange is required.
- (ii) Structures which require floating columns.
- (iii) Cantilevers of Span more than 3 meters.
- (iv) Structural configuration with soft storey /weak storey.
- (v) Configuration inducing large torsion in Horizontal / Vertical planes.

3. REQUIREMENTS AND DATA

- i) The designs of building, Number of storeys and other details shall be based on Architect's drawings and shall satisfy prevailing by laws of Local Municipal Authority.
- ii) If there is any vertical expansion in future, the design shall cater for that expansion.
- iii) If there is any horizontal expansion planned in future, provision for the same shall be made by way of providing expansion joints, combined footings, etc. or other provisions required for the same. Foundation near such joints also shall be designed accordingly; taking this factor into account.
- iv) The parameters as mentioned below, which will affect the designs, shall be considered; while carrying out the designs.

- (a) Location of building : Non coastal
(Coastal/Non Coastal)
- (b) Exposure to environments : Severe (IS 456 P 18)
as defined in I.S.:456-2000
- (c) Seismic Zones for which the design : Zone III
are to be prepared. (This shall be
as per seismic zone map published
by the Govt. of Maharashtra
- (d) Seismic co-efficient to be adopted : (As applicable in 'c' above)
for static method of analysis as per (0.04 (basic seismic coefficient)
I.S.:1893-2002. (IS 1893 P 17)
- (e) Importance factor as : 1.50 (IS 1893 P 19)
defined in I.S.:1893-2002



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- (f) Type of foundation proposed : Open foundation
[Depending upon the height of the building and S. B. C. of founding strata.]
- (g) Presence of sulphate, chloride and other harmful chemicals in the sub-soil as per test results and measures proposed to obviate their effects. : --
- (h) Bearing capacity of founding strata : As per actual site condition
- (i) Depth of founding strata : Av. 2.50 meters (rock strata)
below finished ground level.
- (j) Soil Type: (β) a coefficient depending upon the soil foundation system : --
- (k) Values of K1, K2, K3 factors required to calculate design wind speed as per I.S.875-1987 (Part-3) : As per IS 875-1987 (part 3)
- (l) Type of Anti corrosive treatment : CRRI / CPCC

4. OBLIGATORY PROVISIONS

4.1 Because of the possibility of reversal of shears in beams, due to the earthquake forces shear reinforcement shall be provided in the form of vertical stirrups only as they will be effective both for upward and downward shear. Closely spaced stirrups are preferable.

4.2 Design of Structural Components shall confirm to the Criteria laid down in the latest editions of the following IS Codes of Practice and Standard specifications published up to the last date of receipt of tender form subject to the departures stipulated.

(A)	IS:456-2000 (Fourth Revision)	: Indian Standard code of Practice for plain and Reinforced Concrete. (Fourth Revision)
(B)	IS:800-1984	: Indian Standard code of Practice for use of structural steel in General Building construction.



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(C)	IS:875-1987 (All parts)	Indian Standard code of Practice for structural safety of Building: Loading standards.
(D)	IS:1080-1985	Indian Standard code of Practice for design and construction of shallow foundation in soils (other than raft, ring and shell)
(E)	IS:2950-1981	Indian Standard code of Practice for design and construction of Raft foundation.
(F)	IS:1893-2002	Criteria for Earthquake resistant design of structure
(G)	IS:4326-1993	Indian Standard code of Practice for Earthquake resistant design and construction of buildings.
(H)	IS:1904-1986	Indian Standard code of Practice for structural safety of Building: Shallow foundation.
(I)	IS:3370-1965 (All parts)	Code of practice for concrete structures for storage of liquids (All parts)
(J)	IS:3414-1968	Indian standard for Designs and Installation of joints in buildings.
(K)	IS:2911- Part I- 1979 Part II & III- 1980 Par IV - 1985	Code of practice for Designs and construction of pile foundation (All parts)
(L)	IS:13920-1993 [Reaffirmed 1998 edition 1,2 (2002-03)]	Code of practice for ductile detailing of reinforced concrete structures subjected to seismic force.
(M)	IS:1642-1989	Code of practice for Fire safety of Buildings (General)
(N)	IS:1643-1988	Code of practice for Fire safety of Buildings (General): Exposure Hazards.
(O)	IS:1644-1988	Code of practice for fire safety of buildings. (General): Exit Requirements and personal Hazards.
	IS: 1786 - 1985	High strength Deformed steel bars admires for concrete reinforcement. (third revision)



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(Q)	IS:432 - 1982 (Part I)	Mild steel and medium tensile steel bars and hard drawn steel wire for concrete reinforcement.
(R)	IS:13620 - 1993	Fusion bonded epoxy coated reinforcing bars.
(S)	CECRI Guidelines for CPCC Anti-corrosive treatment.	

For special provisions, like shells, folded plates, prestressed concrete, precast elements etc., relevant I.S. Codes shall be followed. For aspects which are not covered by these codes or any other I.S. Codes available, relevant A.C.I./ British Standard Codes may be referred to. As for the stipulations which are not dealt with in any of these codes, the decision of the Engineer in charge concerned shall be final and binding.

4.3. The Designer should also take into consideration the recommendations made in the following I.S.I. publications. (Latest editions)

- (a) SP: 16 : Designs aids for reinforced concrete to I.S. 456-2000.
- (b) SP: 24 : Explanatory Hand-Book on I.S.456-2000
(Code of practice for plain & reinforced concrete).
- (c) SP: 34 (S & T) : Hand-Book on Concrete Reinforcement
and Detailing.
- (d) SP: 22 : Explanatory Hand-Book on code of
Earthquake Engineering.
- (e) SP: 7 : National Building code of India.

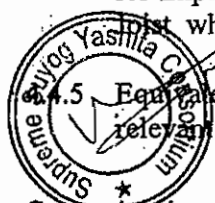
4.4 In addition to the above, the following design requirements shall also be satisfied:

4.4.1 Loading to be considered for designs for different parts of the structure shall be as per I.S.875 or as specified.

4.4.2 Load of B.B. coba for sanitary blocks shall be 2000 Kg/m³.

4.4.3 Lift machine room floor slabs shall be designed for live load of 1000 Kg/m². of floor area or as specified.

4.4.4 Lift load shall be as per relevant I. S. Codes and shall be increased by 100% for impact while designing lift machine room floor beams supporting R. S. which will be affected by the impact.



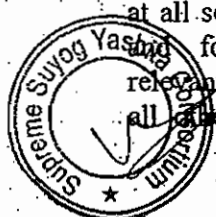
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- 4.4.6 Loading for the Electrical Installations (e.g. AC Ducting, exhaust etc.) shall be got confirmed from the Superintending Engineer (Electrical, P.W. Department)
- 4.4.7 Ductility provisions specified in I.S.:4326-1993 and IS 13920-1993 shall be adopted in designs and detailing.
- 4.4.8 False ceiling shall be designed for a load of 150 Kg/m² and suitable loading shall be adopted for catwalks, interior decoration etc. with advance approval from the Design Approving Engineer.
- 4.4.9 Any other loads which may be required to be considered in designs due to special type or nature of structure/any other reason/constructional method to be adopted, shall be got approved in advance from the Design Approving Engineer.
- 4.4.10 Structural layout of building and tentative sizes of structural members of each floor based on the Architectural drawings shall be submitted to the Chief Architect to the Govt. of Maharashtra and Design Approving Engineer.
- 4.4.11 Approval to the R. C. C. layouts / Framing plans likely sizes of Columns & Beams, Format of Schedule, Format & detailing of sample calculations, Design Basis Criteria, Method and sequence of construction shall be obtained, from the Design Approving Engineer before proceeding with analysis and detailed designs.
- 4.4.12 Columns, beams, slabs shall be numbered properly to avoid confusion during checking and scrutiny of designs and later on in execution.
- 4.4.13 Sizes of beams shall be so fixed as to satisfy the deflection criteria given in I.S.456-2000. The beams shall also be designed as deep beams/slender beams, etc., as the case may be.
- 4.4.14 Where obligatory sizes are needed for beams, columns, etc., as necessitated by Architectural/constructional requirements, they shall be provided accordingly.
- 4.4.15 The distribution of horizontal forces over different frames in both directions shall be made by any rational method as will be approved by the Design Approving Engineer.
- 4.4.16 The analysis shall be carried out to obtain values of bending moments, shear forces, torsion moments, axial forces; etc. at various points for all the structural members. Structure and structural members shall be designed to have at all sections, strength at least equal to the structural effects of design loads and forces that occur during construction and use as determined by the relevant method of designs, structure and all structural members shall also meet all other requirements of the all relevant codes.

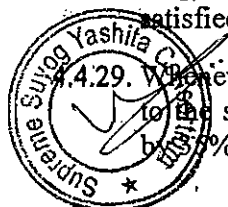


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- 4.4.17 The analysis shall be carried out separately for Dead loads, Live loads, Seismic loads and Wind loads etc. All the structural components shall be designed for the worst combination of the above loads, as per relevant code provisions.
- 4.4.18 Nodal / Dynamic analysis shall be done for horizontal forces for buildings, if required as per relevant I.S. codes.
- 4.4.19 The Designer, intending to use In house computer programs for the analysis of structure may do so provided he solves adequate number of frames in the structure manually by any of the recognized methods and proves the correctness of his program to demonstrate that manual solutions and computer solutions tally.
- 4.4.20 Columns shall, as far as, possible be tied in both directions preferably at the same level.
- 4.4.21 The column shall be designed for Bi-axial bending due to dead load, live load, seismic load and wind load etc.- with the appropriate load combination as given in I.S. 456-1978. The beams also shall be designed for the appropriate combination of loads.
- 4.4.22 The R.C.C. detailing in general may be done as per SP: 34 & IS: 13920. The Designer shall give sketches of reinforcement detailing in case of critical and complicated and important components.
- 4.4.23 The sequence of depropping of beams shall be given in the beam schedules wherever it is required especially where cantilevers, grid slabs, and beams of considerably long spans are involved.
- 4.4.24 Reinforcement for cantilevers shall be properly anchored. The cantilevers shall also be provided with adequate counter-weight to safe guard against overturning. The factor of safety against overturning shall not be less than 2.0.
- 4.4.25 Cantilever chajjahs and slabs shall be anchored preferably in an internal slab wherever possible instead of anchoring in beams in which case beams shall be designed for torsion. Detailed drawings showing torsion stirrups, etc., shall be given whenever cantilever slabs are anchored in beams.
- 4.4.26 The terrace slabs, in addition to normal live load shall also be designed for load of water-proofing treatment consisting of B.B. Coba of 112 mm thickness or as specified.
- 4.4.27 If there is going to be future vertical expansion, the top slabs to be constructed in first phase shall be checked for terrace loading also.
- 4.4.28 Requirements for fire resisting structures as per relevant I.S. codes shall be satisfied.
- 4.4.29 Whenever Fusion Bonded Epoxy coating type anticorrosive treatment is given to the steel reinforcement, the development length required shall be increased by 50% for development of sufficient bond strength.



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4.5 Open Footings:

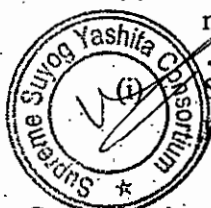
- (i) The footing generally shall have minimum projection of 30 cms beyond column face.
- (ii) Minimum diameter of reinforcement in footing shall be 10 mm.

4.6 Pile foundation:

- (i) Minimum diameter of circular piles shall be 400 mm in case of end bearing & friction piles.
- (ii) Minimum 3 Nos. of piles shall be provided for each column and each pile-cap shall be tied in both directions by beams at pile-cap level.
- (iii) All the exposed surfaces of the pile caps likely to the chemical attack should be provided with a coat of coal tar, chlorinated rubber, epoxy or polyurethane material as per the instructions of Executive Engineer.
- (iv) Relevant I.S. Codes will be applicable for this work. In case of any discrepancy, sound engineering practice shall be followed.
- (v) The pile caps in general shall be located above high tide level to avoid chemical attack and deterioration of exposed concrete surfaces.

4.7 Basement and Raft :- (If provided)

- (a) Bottom slabs of basement shall be designed to resist the upward soil pressure and up-lift pressure due to sub-soil water.
- (b) Side walls shall be designed to resist lateral load due to earth pressure and vertical loads and water pressure from the structure above.
- (c) Raft also shall be checked for flotation.
- (d) The mix of concrete shall be as per I.S. Code of Practice in contaminated subsoil water.
- (e) The basement shall be leak-proof and suitable water-proofing treatment shall be given up to 30 cm. above the highest ground water level.
- (f) Expansive soil shall be removed minimum up to 2.5 m. from ground level or 60 cm. below raft level whichever is more and surrounding area of walls for a distance of 45 cm. and shall be replaced by granular soil.
- (g) Raft top shall be suitably treated with floor finish so that the raft which is a structural member should not be subjected to wear.
- (h) Bedding concrete 10 cm. thick shall be provided above the granular material before laying raft.



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Suitable drainage arrangement for storm and sub-soil water shall be proposed and considered in designs.

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5. **CLARIFICATIONS:**

Any clarification about Designs Criteria, if required, may be obtained in advance From Design Approving Engineer.

6. **BORING DATA AND SOIL AT SITE :**

The Developer shall make his own assessment regarding Safe Baring Capacity, depth of foundation and other relevant soil characteristics, dewatering during execution, if any, before submission of offer.

7. **EXPANSION JOINTS :**

Expansion joints of waterproof type shall be adequately designed to suit the structure proposed by the Developer. Relevant I.S. Codes shall prevail.

8. **ANTICORROSIVE TREATMENT TO REINFORCEMENT :**

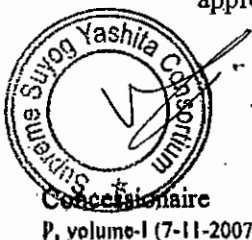
Fusion Bonded Treatment shall be followed, in coastal area and in area with adverse climatic conditions.

9. **DOCUMENTATION AND INSTRUMENTATION :**

- i) All final drawings and Microfilms of all approved drawings and "as built" drawings and calculations shall be supplied by the developer free of cost for the whole project.
- ii) Three video film cassettes / VCD of 180 minutes duration each of the project covering the different phase of construction from start to finish shall be supplied by the Developer free of cost for the whole project.
- iii) A "Quality Assurance Manual" covering designs and drawings, mix-designs, materials, testing, soil and rock properties, statistical Quality Control etc. shall be prepared by the Developer free of cost well before starting the work and get it approved from Engineer-in-charge within 60 days from the date of work order.

10. **PROCEDURE FOR SCRUTINY OF DETAILED CALCULATIONS AND WORKING DRAWINGS AND THEIR APPROVAL.**

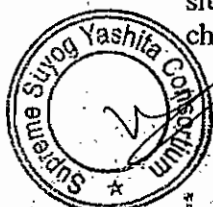
- (i) Within one month of the receipt of work order, the consultant shall submit a programme of submission of designs. The programme of submission of designs of various components should be consistent with the programme of work prepared by the Contractor/Designer and approved by the Design Approving Engineer.



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- (ii) Detailed design calculations and working drawings of all the component parts of the building shall be submitted well in advance of execution, in accordance with the above programme. Two sets of such design calculations and three sets of drawings accompanied by complete information and sufficient data shall be submitted to the Design Approving Engineer for checking the design calculations. The design and drawings for various component parts shall be submitted progressively. If computer is used for design and/or analysis; the Designer shall submit with design, the detailed description of method of analysis with explanatory notes. Manually done sample calculations for adequate number of typical cases shall be submitted; if programmes developed in house are used for designs. The computer programme as submitted will be further tested by comparison with solutions of worked examples. The Designer should submit along with his design, a note giving design approach and construction scheme conforming to the basic requirements which should be approved by the authorities while awarding the work so as to avoid the possibility of major changes being required in the design at a later date.
- (iii) Drawings and designs shall be in metric units only. Calculations shall be neat and clean and supplemented by full explanatory notes and sketches wherever required. The drawings of initial submission and for final approval shall be stenciled and in A-1 size only. If during the scrutiny of detailed design calculations and working drawings, any changes there in which are found necessary in the opinion of the Design Approving Engineer shall be incorporated without altering the lump sum quotations. It is entirely the responsibility of the Designer to submit the designs in good time to enable the Design Approving Engineer, to approve them in time. No claims shall be granted on account of late approval to the design and consequently delay in the execution. Schedule of reinforcement and rate of reinforcement per cum of concrete quantity (and also percentage with respect to gross cross sectional area of the component) should also be shown on each drawing.
- (iv) Nine sets of approved working drawings and four sets of approved design calculations shall then be supplied by the contractor which will be formally authenticated by the Design Approving Engineer. (five copies of drawings and one set of design calculations for field officers, one set to be returned to the contractor and three to be retained by the Engineer in Charge. These drawings shall be submitted in approved plastic folders and calculations in plastic files.
- (v) After completion of each stage of work, three sets of record plans and one set of reproducing tracing films based on the work as actually executed on site shall be supplied by the consultant to the territorial Engineer-in-charge.



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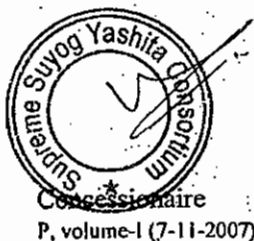
- (vi) Approval to drawings and design calculations by Design Approving Engineer shall not in any way relieve the Designer of his responsibility for the correctness, soundness and structural stability and safety of the structure.
- vii) The approved drawings and the design calculations of the building shall be the property of the GOM.
- (viii) The Designer shall attend all the design review meetings conducted by State P.W.D. from time to time without any extra cost and shall also remain present as and when required during the checking of designs.

11. **DISPUTES:**

In case of disputes arising between the Designer and the Superintending Engineer, Designs Circle (Buildings) the matter, shall be referred to the Chief Engineer. The decision of the Chief Engineer shall final and binding on the Designer.

12. For design of Building and Infrastructure facility to be constructed by the Developer in leased land / built up area, relevant rules and regulations of local Municipal Authority shall be binding and approval to the same shall be conveyed to the Engineer in charge from time to time.

13. In case of building if future expansion is proposed, structural safety of existing structures shall be verified by condition survey with all possible tests, including NDT (Non Destructive Testing) and the results shall be got approved from the Engineer in charge. This data shall be got approved from the Engineer in Charge and then shall be used for design purpose.



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SCHEDULE - L

LIST OF SPECIFICATIONS AND STANDARDS / CODES

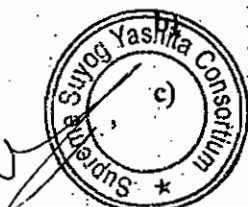
References

Sr, No.	TITLE	CODE NO.
1	Code of Practice For EU Code BSEN-1907:2005	
2	Code of Practice For Design, Manufacture, Installation, Operation & Maintenance of Funicular Railways	
3	Swiss Ordinance and Regulations for Cable Transport; Installations on Federal Concession, 1963 Edition	
4	Swiss Funicular Railway Ordinance, 1991 Edition	
5	British Standard BS 2763: 1982. Specification for round carbon steel wire for wire ropes.	
6	Kemp's Engineering Handbook	
7	British Standard BS 3810: Part 1 to 9. Glossary of Terms used in Material Handling.	
8	British Standard BS 5266-1: 1999. Emergency Lighting. Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment.	
9	Aerial Ropeways and Funicular Railways. Z. Schneigert	
10	British Standard CP 3 (Chapter V - Loading). Basic Data for the Design of Buildings.	
11	Laws of Hong Kong Buildings Ordinance (Cap. 123), Building (Construction) Regulations (Cap. 123 Sub. Leg.), and Code of Practice (Wind Effects).	
12	British Standard BS 302-5: 1987. Specification for ropes for haulage purposes.	
13	British Standard BS 6651: 1999 Code of practice for protection of structures against lightning.	
14	Code of Practice for the Electricity (Wiring) Regulations (1997 Edition).	
15	Laws of Hong Kong. Fire Services Ordinance (Cap. 95), Fire Services (Installation and Equipment) Regulations (Cap. 95 Sub. Leg.), and Code of Practice for Minimum Fire Service Installations and Equipment, and Inspection and Testing of Installations and Equipment issued by Fire Services Department.	
16	Code of Practice For Indian Railways	
17	Code of Practice For Fire Fighting Department	
18	IS code 456 2000 edition for all concrete works.	

Note: a) Recent or modified Amendments if any shall be considered.

If any code / Standard is not mentioned / wrongly mentioned, then refer to the latest list / Correct list of code / standards.

In addition to these specification / codes mentioned above, any other relevant specifications and standards shall also be applied.



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Sample form

SCHEDULE- M

TESTS

Construction Material Testing and it's frequency

Sr. No.	Material	Frequency
1	SAND Water Absorption and Specific Gravity Fineness Modulus Silt Content Bulkage	Test per for each source One Test for each day work One Test for each day work 1- Test for each day work
2	BRICKS Water Absorption Comp reisive Strength Effloresce	For each 50000 Nos. brick's Above three test are to be carried out
3	FLOORING TILES Flexural Strength Water Absorption Abrasion	For 2000 Nos. of Tiles. Above three test are to be carried out
4	MANGLORE TILES Water Absorption Breaking Load	1 test - 6 Tiles per 50000 Nos. 1 test - 6 Tiles per 50000 Nos.
5	GLAZED TILES 1) Water Absorption	1 Test 6 Tiles per 2000 Tiles
6	CONCRETE MIX DESIGN Compressive strength C.C. Cubes for Qty. Qty upto 5 m3 6-15 m3 16-30 m3 31-50 m3 quantity above 51 m3	Grade of concrete per year per source 1 Set (3 No's) 2 Set (3 No's) 3 Set (3 No's) 4 Set (3 No's) 4+1 additional set per 50 m3
7	MURUM/ SOIL FOR EARTH WORK Optimum Dry Density C.B.R. Liquid and Plastic Limit/ Plasticity Index Field Density 100% P.D. Field Moisture Content	2 Test per 3000 m3 1 Test per 3000 m3 1 Test per 3000 m3 1 Test per 1000 sqm 1 Test per 250 m3

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8	WOOD Moisture Content Density	1 Test per Source 1 Test per Source
9 Concrete		
Strength of concrete	IS: 516	Two cubes and two beams per 150cum or part thereof (one for 7 days and other for 28 days strength) or minimum 6 cubes and 6 beams per day's work whichever is more.
Core strength on hardened concrete	IS: 516	As per requirement of the Engineer
Workability of fresh concrete – Slump Test	IS: 1199	One test per dumper load and both batching plant site and paving site initially when work starts. Subsequently sampling may be done from alternate dumper.
Thickness determination		From the level data of concrete pavement surface and sub-base at grid points of 5/6.25m x 3.5 m.
Thickness measurements for trial length		3 cores per trial length.
Verification of level of string line in the case of slip from paving and steel forms in the case of fixed form paving		String line or steel forms shall be checked for level at an interval of 5.0m or 6.25m. The level tolerance allowed shall be + - 2mm. These shall be got approved 1-2 hours before the commencement of the concreting activity.
Density		3 density holes for each 2000 sqm. For pat thereof laid each day.
10 Cement		
Physical and chemical Tests	IS: 269 IS: 455 IS: 1489 IS: 8112 IS: 12269 IS: 12230	Once for each source of supply and occasionally when called for in case of long / improper storage. Besides the Contractor also will submit daily test data on cement released by the manufacturer.

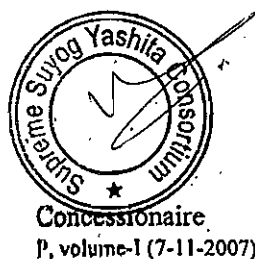


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11 Coarse aggregates		
Gradation	IS: 2386 (Part -I)	One test for every days work of each fraction of coarse aggregate, initially: may be relaxed later at the discretion of the Engineer.
Deleterious Constituents	IS: 2386 (Part-II)	One test for every day's work of each fraction of coarse aggregate, initially: may be relaxed later at the discretion of the Engineer.
Water Absorption	IS: 2386 (Part III)	Regularly as required subject to a minimum of one test a day for coarse aggregate and two tests a day for fine aggregates. This data shall be used for correcting the water demand of the mix on daily basis.
Los Angeles Abrasion value or aggregate impact value	IS: 2386 (Part - IV)	Once for each source of supply and subsequently on monthly basis.
Soundness	IS: 2386 (Part -V)	Before approving the aggregates and every month subsequently.
Alkali Aggregate reactivity	IS: 2386 (Part - VII)	Before approving the aggregates and every month subsequently.
Flakiness and Elongation Index		1 Test per Source
12 Water		
Chemical Test like PH value of Water, Chloride and Sulphate content	IS: 456	Once for approval of source of supply and subsequently.



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13 Steel		
Characteristic strength for S 240 grade Mild Steel Bar	IS: 432 (Part -I)	As per requirement of the Engineer. 240 Mpa.
Characteristic strength for S 415 grade HYSD Bars	IS: 1786	As per requirement of the Engineer 415 Mpa.
Cold bend test		As per requirement of the Engineer
Ultimate tensile strength		As per requirement of the Engineer
Percentage Elongation		As per requirement of the Engineer
Diameter of bar		As per requirement of the Engineer
Weight of bar per running meter		As per requirement of the Engineer

Note: Out of total test to be carried out as mentioned above minimum 30% of the test are to be carried out from Regional Laboratory, Vigilance and Quality Control Circle, of the Department.



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Sample form

SCHEDULE- N

COMPLETION CERTIFICATE

A) "Provisional Completion Certificate"

(To be issued by concerned Engineer-in-Charge and countersigned by SE)

This is to certify that the work of "Construction of Funicular Railway System at Haji Malang Gad at Ambarnath, Dist. Thane, Maharashtra State (India)" is nearly completed by M/s "-----" and all parts of the project can be legally, safely and reliably opened for commercial operation.

This provisional completion certificate is issued as per clause No. ----- of the contract and the toll can be levied from Dt -----

No. -----

The Executive Engineer.
Thane Construction Division, Station Road,
Thane (West), Maharashtra (INDIA)
Pin 400 601,
Phone +9122-25361393
Fax +9122-25361127

Countersigned

The Superintending Engineer.
Thane P.W. Circle, Station Road,
Thane (West), Maharashtra (INDIA)
Pin 400 601,
Phone +9122-25363241
Fax +9122-25361127



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Sample Form

B) "Completion Certificate"

(To be issued by concerned Engineer-in-Charge within 60 days
after issue of provisional completion certificate)

This is to certify that the work of "Construction of Funicular Railway
System at Haji Malang Gad at Ambarnath, Dist. Thane, Maharashtra State
(India)" is completed in all respects as per the terms, conditions & scope of work as
stipulated in contract No.-----by "M/s.-----"
-----"

The date of completion of work in all respect is -----

No.-----

The Executive Engineer.
Thane Construction Division, Station Road,
Thane (West), Maharashtra (INDIA)
Pin 400 601,
Phone +9122-25361393
Fax +9122-25361127

Countersigned

The Superintending Engineer.
Thane P.W. Circle, Station Road,
Thane (West), Maharashtra (INDIA)
Pin 400 601,
Phone +9122-25363241
Fax +9122-25361127



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SCHEDULE- O

MINIMUM MAINTENANCE REQUIREMENTS

(Technical Specifications in section I of volume IV shall be referred
for operation and maintenance of Funicular Railway System)



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II Operation and Maintenance

1 Scope

- 1.1 This section of the Code of Practice is intended to give guidelines on the operation and maintenance aspects of the funicular railways.
- 1.2 It is not the intention of this section to prohibit the adoption of innovative and improved operation and maintenance practices. However, all such practices should be supported by proven field applications.
- 1.3 The Engineer In Charge will make revision to this section from time to time to suit the technological development in the field of funicular railways.

2 Test Trip and Daily Tests

- 2.1 Before commencement of daily operation, and after stoppage of the funicular railway due to inclement weather conditions such as typhoon, a test trip without passenger shall be carried out. The following conditions must be observed:-
 - (i) the laying of the rope and the running of the rope in rollers; and
 - (ii) the clearance of trees and obstacles from the track.
- 2.2 The daily tests shall comprise at least the following:-
 - (i) the functioning of the safety circuit and monitoring circuit;
 - (ii) the indicated current readings and the signals of remote monitoring Installations;
 - (iii) the functioning of intercommunication system;
 - (iv) the accessibility of all emergency stop button or switch;
 - (v) the functioning of door monitoring system;
 - (vi) the laying of rope in rollers and sheaves;
 - (vii) the condition of the brake;
 - (viii) the condition of the hydraulic system and main drive;
 - (ix) the functioning of load measuring equipment, if installed; and
 - (x) the functioning of the public address system.

3 Weekly Inspection of Haulage Rope

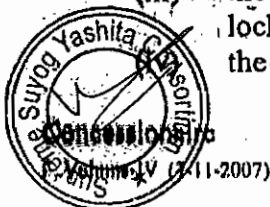
- 3.1 The visual inspection of the haulage rope shall be carried out weekly at maximum inspection speed of 2.5 m/s, or with testing apparatus.

4 Monthly Inspection and Testing

4.1 Monthly Inspection

The monthly inspection shall cover at least inspection on:-

- (i) the wear of grooves of the sheaves, rollers, and brake shoes;
- (ii) the pressure accumulators of the hydraulic or pneumatic system;
- (iii) the conditions of vehicles, including the car coupling, rope fastening, door locks and emergency door release; and
- the condition of the track brakes of the vehicle.



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4.2 Monthly testing--

The monthly testing shall at least include testing on:-

- (i) the service and the emergency brakes;
- (ii) the arrival monitors in both directions;
- (iii) the rope monitoring circuits under short circuit, earthing or interruption conditions; and
- (iv) the entry deceleration circuit.

5 Quarterly Inspection and Testing

5.1 The quarterly inspection and testing shall cover at least:-

- (i) testing of the slack rope switch;
- (ii) inspection of the conditions of track bed, viaducts, bridges, cuttings, embankments, cross drainage and station works.

6 Annual Survey

6.1 The annual survey, which shall be performed by an approved surveyor, shall cover at least the following items:-

- (i) the normal operating data and general condition of the installation;
- (ii) checking of main gearbox for lubrication and measurement of backlash;
- (iii) checking of main haulage drum shaft and output shaft for clearance;
- (iv) checking of haulage drum and deflection sheaves for surface cracks or defects;
- (v) checking of overload protection for motors and generator;
- (vi) checking of hydraulic circuit for correct pressure settings and testing of their function;
- (vii) checking and testing of safety devices installed at terminal including the vehicle position indicators and over-travel limit switches;
- (viii) checking and testing of electrical safety circuit;
- (ix) checking of rope monitoring circuit;
- (x) checking of arrival monitors and the associated control circuit;
- (xi) checking of over speed protection at 10%, 15% and 25% over speed;
- (xii) checking of electrical installation at the intermediate stations and along the route;
- (xiii) checking of lightning protection at terminals;
- (xiv) testing of service brake and emergency brake in control room;
- (xv) testing of service brake and emergency brake upon activation in vehicle with one vehicle fully loaded, another empty, traveling at rated speed, in both directions of travel. Record the braking distance and time;
- (xvi) checking and testing of the track brakes installed in both vehicles with the tested vehicle fully loaded, another empty, traveling at reduced speed at the steepest slope of the track. Record the braking distance and time for each vehicle;
- (xvii) checking of haulage ropes by taking measurement of the diameter of some sections of the rope, visual inspection of the condition of the rope, and taking the defectograph reading of the rope;

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- (xviii) checking of vehicle for corrosion, deformation or damages;
- (xix) checking of tightness of bolts and rivets in vehicle;
- (xx) checking the condition of the track and its structure such as bridges, for looseness of bolts, corrosion, and deformation;
- (xxi) checking of rollers along the track for wear and misalignment;
- (xxii) checking the stability of slope, embankment and protective walls along the track;
- (xxiii) checking of force bearing components in stations and machine room; and
- (xxiv) recommendations to improve the safety standard of the installation.



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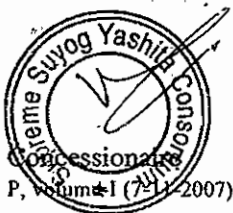
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SCHEDULE - P

SAFETY STANDARDS

(Technical Specifications in section I of volume IV shall be referred
for safety standards of Funicular Railway System)



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SECTION-I

TECHNICAL SPECIFICATIONS



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TECHNICAL SPECIFICATIONS

Name of the project:- Construction of Funicular Railway System at Haji Malang
Gad at Ambarnath, Dist. Thane, Maharashtra State (India)

TECHNICAL SPECIFICATIONS

A HONG KONG CODE

Contents

I Design, Manufacture and Installation

- 1 Scope
- 2 General Design
- 3 Strength of Material
- 4 Traveling Speed
- 5 Rollers, Sheaves and Drums
- 6 Rope Requirements
- 7 Splicing and Rope Terminations
- 8 Rope Replacement
- 9 Drive
- 10 Brakes
- 11 Safety Devices and Control Circuit
- 12 Remote Monitoring System
- 13 Communication
- 14 Vehicle
- 15 Track
- 16 End Buffers
- 17 Stations

II Operation and Maintenance

- 1 Scope
- 2 Test Trip and Daily Tests
- 3 Weekly Inspection of Haulage Rope
- 4 Monthly Inspection and Testing
- 5 Quarterly Inspection and Testing
- 6 Annual Survey



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Design, Manufacture and Installation

Scope

Definition

"Funicular Railway" means any engineering system for the transport of passengers or goods on slope in carriers or vehicles running along the track which may lie on the ground or to be supported by fixed structure as per site conditions and drawn by a rope at one end, together with any machinery, equipment or plant connected therewith. (N.B. this Code of Practice will not deal with aerial ropeways or inclined lifts, which are governed by other relevant Ordinances).

1.2 Limitations

This Section of the Code of Practice is intended to give guidelines on the design, manufacture and installation of funicular railways but nothing herein contained shall replace the provisions of any standard in force in the Hong Kong. The Engineer In Charge will make revision to this section from time to time to suit the technological development in the field of funicular railways.

1.3 Planning

When planning the location and route of a funicular railway the following factors must be carefully considered.

(a) Amenity Value

Any passenger-carrying funicular railway intended for use by the general public shall be so located that adequate facilities for inter-connecting public transport are available at the terminals.

(b) Route

A funicular railway shall be routed so that its effect on the environment is minimal; this involves consideration of noise pollution, unsightly construction and any detrimental visual impact on the local environment. In the design of the routing of a funicular railway, due regard shall be given to existing hazards such as vegetation, roads, bridges, electric power lines, streams, buildings and slope stability. An environmental impact assessment shall be carried out to address this subject in accordance with any other legislative requirement in force in India.

A geo technical assessment of the proposed route should be carried out, based on which a site investigation programme should be designed and implemented. The design of foundations for the rail and roller shall be in accordance with the requirements of the Geotechnical Manual for Slopes and shall be submitted for approval to the appropriate authority.

Government Office / Department as required by statute or any project design brief. Adequate consultation on various details of the project shall be conducted with relevant organizations and the local community.



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(c) **Emergency Access**

Adequate access to lower stations by emergency vehicles as may be required by the Fire Fighting Department (abbreviated to "FFD") shall be provided. A rescue plan shall also be drawn up in consultation with Chief fire brigade officer, Kalyan Dombivali Municipal Corporation.

(d) **Submission of Plans**

Any company or organization wishing to install a funicular railway shall submit to the Engineer In Charge the designs, specifications, plans and calculations relating to the railways, together with such other information as may be required by the Engineer In Charge.

2 General Design

2.1 Every part of a funicular railway installation and its associated equipment shall be designed with consideration given to the safety of the passengers; the general public and operating staff, and shall be designed in compliance with this Code of Practice.

2.2 Because of the high probability of any structure in India being subject to the effect of severe winds and very heavy rainfall, the design of any exposed equipment and the selection of any materials used in the construction of a funicular railway shall give due regard to these factors. Wind may act in any direction, including upward direction. As a general rule the pressure of the wind P_w N/m^2 on funicular railway and all exposed equipment may be calculated by the following empirical formula:- $P_w = V_w^2 / 1.6$ N/m^2 where V_w is the maximum expected wind velocity in m/s in the vicinity of the line. The above empirical formula may be adjusted proportionately by any variation in temperature or density of the air from the nominal condition of $15^\circ C$ and 1.25 kg/m^3 . However, even without any adjustment, this value is considered appropriate as a first approximation. The vehicle shall be designed to sustain a minimum wind load of 250 N/m^2 in operation.

2.3 The earthquake loading shall be assumed to be equivalent to a ground horizontal force of 0.08 times the total weight of the building, structure or rail.

2.4 Prior to the construction of a funicular railway the manufacturer shall furnish a full set of engineering drawings, together with the design calculations to the Engineer In Charge. During construction and testing, submission of test certificates, reports from the manufacturers and the commissioning team shall also be required.

2.5 In addition to Section 2.4, a general layout of scale $1:1000$ showing the plan (to scale) and any topographical features is required. Accompanying this, a written description indicating the size and capacity of the installation, the operational philosophy together with an assessment of the likely usage is required to assist in determining if inter-connecting public transport will need to be arranged.

2.6 It is necessary to ensure that on a funicular railway the rope will be required to keep its normal position by the rope guidance devices and supports under any condition of operational speed or load and, in addition, under the influence of any external factor such as wind effects.

2.7 The sheave guides etc., shall be designed to accommodate any side thrusts, if applicable.

Trestles, station buildings, rope anchorages, foundations and other civil engineering structures shall be according to the relevant codes and standards of the Indian



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Standard Institution except that no increment in the allowable working stresses shall be permitted for inclusion of wind load in the analysis. The external forces taken as a basis for the calculation of the supports and their foundation shall also consist of the dead weight of the supports, the rope pressure, the weight of the fully loaded carriers. The promoter of every funicular railway system shall ensure that trestles, station buildings, rope anchorages and other civil engineering structures have a minimum factor of safety of 4 on the breaking stress factor after taking in to consideration the stresses caused by all the aforesaid forces.

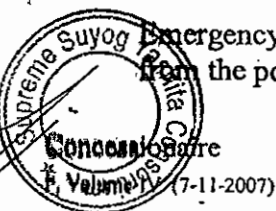
3 Strength of Material

- 3.1 Standards for material strength such as yield stress, tensile strength, safety factor for general applications, etc. shall be determined in accordance with the recommendation of established national / international standards or codes for funicular railway systems or similar applications.

4 Traveling Speed

- 4.1 The operating speed of a system shall be designed having regard to:-
- (i) the safe and steady operation of the vehicle;
 - (ii) the operational capability of the braking systems;
 - (iii) the condition of the track;
 - (iv) static and dynamic forces on the vehicle; and
 - (v) comfort of the ride.
- 4.2 Normally, operating speeds of up to 3.5m/s are permitted. However, in view of technological advancement, operating speeds of up to 10m/s are permitted, provided that:-
- (i) all effects of the higher speed have been taken into account;
 - (ii) the track is not accessible to the general public;
 - (iii) the operating speed is continuously adjustable over the whole length of travel;
 - (iv) the whole track, except for cross-over, is straight or the radius of any curve (in m) is at least $6 \times V^2$ where V is the operating speed in m/s; and
 - (v) the vehicle is equipped with suitable type of suspension.
- 4.3 The maximum operating speed may be exceeded under test conditions, without passengers, for the purpose of inspecting the over speed safety devices. Competent and responsible staff shall carry out the test and under no circumstances the carrying out of the test should prejudice safety.
- 4.4 For operating speed exceeding 6 m/s, the haulage rope shall be guided and guarded properly and prevented from coming into contact with adjacent surfaces / objects.
- 4.5 When the vehicle is powered by emergency supply, the operating speed shall be suitably reduced to prevent overloading the emergency supply system. The emergency supply must be, however, able to drive the vehicles to reach either terminal station from any location within one hour.

Emergency supply system could be an emergency generator or a standby supply from the power company.



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5 Rollers, Sheaves and Drums

- 5.1 The diameter of lined sheaves and drums for haulage rope shall be at least as follows (measured in terms of nominal rope diameters):-

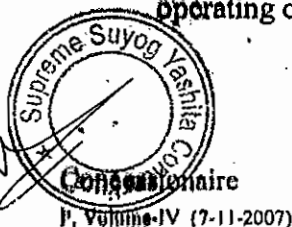
Diameter of	As multiples of rope diameter	As multiples of outer wire diameter
Sheaves, haulage, drum	80	800
Fastening drums	4	---

For unlined sheaves and drums, the values given above shall be increased by at least 25%.

- 5.2 The maximum allowable deflection shall be 10% for lined rollers, and 7.5% for unlined rollers.
- 5.3 The distance between successive rollers shall be designed such that even when it oscillates, the haulage rope shall not come into contact with the sleepers on the track.

6 Rope Requirements

- 6.1 Before the commencement of operation, and to provide a datum for comparison with the inspection of ropes during operation, it is recommended that the new ropes shall be examined by means of an electromagnetic testing instrument (defectograph), or by any other non-destructive testing system that can locate defects in the wires.
- 6.2 Lubricant shall be supplied to the wires at the manufacturing stage and any fiber core shall be similarly impregnated. In operation, the rope shall be lubricated at recommended intervals. In both cases, the lubricants (preferably the same) shall be compatible with each other as well as having no corrosive action on any part of haulage system with which it may have contact, especially rubber liners on sheave and drive wheels.
- 6.3 The ropes are generally of the steel wire stranded type. A safety factor of 8 must be used with respect to the maximum axial load of the rope compared to the calculated breaking load; but in such a case allowance for the line friction (resistance of the line rollers) shall be taken into account when determining the maximum axial load. (see Section 9.8)
- 6.4 For telephone and signaling cables the safety factor shall be at least 3.3 times the maximum designed axial stress. Cables used for telephone and signaling purposes shall not come into contact with the haulage ropes under the worst possible operating conditions.



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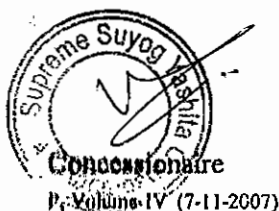
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6.5 Testing and Certification of Ropes

- 6.5.1 The testing and acceptance (or rejection) of ropes shall be fully documented in accordance with British Standard BS 302: Part 5: 1987 or other equivalent international standards. The British Standard may not cover specifically stranded ropes for funicular railways, but the procedures laid out therein are considered suitable for this application and shall be adopted.
- 6.5.2 After the testing and acceptance of a rope the purchaser shall obtain a certificate from the manufacturer as to the detailed specifications of the rope and the constituent wires with regard to their strength, size and dimensional stability. In addition, the Engineer In Charge may require independent inspection.

7 Splicing and Rope Terminations

- 7.1 Splicing of the haulage rope is not permitted.
- 7.2 The haulage rope fastening to the vehicle shall be easily accessible for inspection and adjustment.
- 7.3 Reel-type fastening to vehicle shall have a safety factor of 4 as measured against the greatest traction force in the rope. Other types of fastening shall be designed for the breaking load of the rope.
- 7.4 The fixing of the ropes onto the haulage drum shall be carried out using a system of blocking with wedges, or using at least two clamps or any other system of equivalent design from the safety point of view. These attachments shall be easily accessible for inspection and tightening. If the size of the drum permits, the rope shall first pass through a hole in the drum barrel or flange and be secured on the inside of the barrel or on the outside of the flange. The termination shall be able to resist at least 80% of the breaking load of the rope.
- 7.5 If end sockets are to be used, they must be fitted with care. For this purpose only firms who specialize in this technique and can prove their experience, both as regards the making of the sockets and the choice of correct materials shall be employed, unless the funicular railway company has its own qualified personnel who have proper experience in this work. During service the rope ends shall be easily accessible for inspection.
- 7.6 The sockets shall be fitted with a white metal that may be applied at a temperature below that of any critical temperature, which will alter the metallurgical or mechanical properties of the wire.
- 7.7 The wires in the cap shall be spread to evenly distribute the load and arranged that no bending moment be applied to the rope as it leaves the socket.
- 7.8 On installation of an end socket a transverse reference mark shall be made so that any displacement can be readily detected visually.
- 7.9 The end socket shall have strength at least that of the parent rope. It shall be protected from the ingress of water or any other substance that may be corrosive or affect the integrity of the fixing.



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8 Rope Replacement

8.1 A rope on a funicular railway shall be replaced in the event of wear, corrosion and broken or damaged wires. The followings are situations requiring rope replacement:-

- (a) There is a reduction of 25% in effective bearing cross sectional area within a rope length equal to 40 times rope diameter;
- (b) If within a rope length equal to twice of the rope diameter, more than half of the crown wires (or an equivalent cross section) in one and the same strand are broken; or
- (c) The condition of the rope or its performance leaves any doubt as to its integrity and safety in operation.

8.2 For the purpose of calculation of reduction in effective bearing cross sectional area in Section 8.1 above, the followings are relevant -

- (a) If the reduction of cross sectional area is the result of broken wires, the sum of the cross sectional areas of all the broken wires within the relevant length shall constitute the total amount of reduction;
- (b) If there are several breaks in one and the same wire within the relevant length, only one wire's cross sectional area has to be taken into account; and
- (c) Loose wires and wires having strand deformation shall be considered as broken.

9 Drive

9.1 The main drive shall be able to operate under any loading condition from rest to any selected speed within the design range. As far as practicable the speed selected shall be suitably controlled and be constant with variation limited to $\pm 5\%$ of the selected value.

9.2 The maximum designed speed shall be governed to produce an indication at $\pm 5\%$ with power trip off at $+10\%$. Lower values may be used if desired.

9.3 The starting of the motor shall be smooth and without jerking regardless of the load. Starting acceleration shall be adjusted according to the track characteristics, and passenger comfort considerations.

9.4 For funicular railways with traveling speed exceeding 4 m/s, the speed control shall be continuously variable.

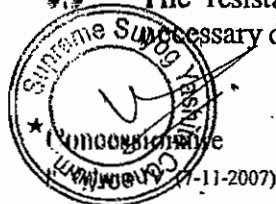
9.5 Flat belts and chains shall not be used for the main drive.

9.6 It shall be possible for the motor to drive the rope at 0.3m/s or at such a speed so as to allow the entire length of the rope to be inspected.

9.7 For the purpose of calculating the necessary drive output of the motor and the rope tension, the weight of a person shall be taken as 75 kg.

9.8 The running resistance of lined rollers shall be taken as at least 3% and of unlined rollers as at least 1% of the load exerted on each roller when the rollers are provided with anti-friction bearings.

9.9 The resistance of rope sheaves shall be taken into account in calculating the necessary drive output.



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Brakes

- 10.1 When the vehicle is to stop in a normal manner, the deceleration shall be achieved by means of an electrical brake at, as far as practicable, a constant deceleration sufficient to slow down the vehicle. In this respect, a deceleration value of at least 0.2 m/s^2 shall be achieved. The deceleration shall be monitored by the deceleration monitoring circuit.
- 10.2 The main drive shall be provided with a service brake and an emergency brake, each capable of independently stopping the vehicle. Both brakes shall be operable in both directions of travel. Normally the two brakes shall not come into operation simultaneously.
- 10.3 The service brake, with deceleration control, shall be set to achieve a retardation of 0.6 m/s^2 . After normal stopping of the vehicle, the full braking power of the service brake shall be brought into action. When the vehicle stops, the power supply to the driving motor shall be turned off. If self-retardation due to gravity exceeds 0.6 m/s^2 then the brake shall remain ineffective until the system stops and then they shall act at full power. The emergency brake, without deceleration control, shall be set to achieve a retardation of at least 0.6 m/s^2 in the most adverse line conditions for full downhill load/empty uphill load and a maximum of 1.5 m/s^2 in the most adverse line conditions for full uphill load/empty downhill load. In all cases, the emergency brake, when applied at any point during the normal deceleration phase during entry to station, must be capable of stopping the vehicles before the buffers at the terminal stations, irrespective of the load.
- 10.4 With an electrical main drive motor, the service brake shall operate automatically as soon as:
- (a) The speed controller is brought into neutral position, if speed controller is installed;
 - (b) The electrical braking is almost completed;
 - (c) The supply power is lost, interrupted or the voltage falls below a permissible level, or in the case of three-phase circuits, the supply fails in any one phase;
 - (d) The power demand rises above a permissible level;
 - (e) The maximum permissible running speed is exceeded by 10%; or
 - (f) When exceeding the normal limit positions of the carriers in the stations.
 - (g) Any of the safety devices listed in Part II operates.
- 10.5 The service brake shall be designed that it can be operated from the vehicle. If necessary, the operation of the service brake shall be load dependent. The braking power of the service brake during normal braking shall be controlled as to develop a deceleration from 0.3 m/s^2 to the maximum value stated in Section 10.3 above.
- 10.6 The service brake and emergency brake must operate directly upon the driving wheel or a brake rim attached thereto. The braking force shall be applied in two positions on the wheel or the rim diametrically opposite. For funicular railways with a traveling speed of less than 3 m/s , one of the brakes may operate on the transmission gear, on condition that adequate heat dissipation arrangement is to be provided.
- 10.7 For funicular railways with traveling speed exceeding 3 m/s the speed sensor for the emergency brake and its automatic application shall be effected directly from the driving wheel.



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The emergency brake shall be able to be brought into action by hand at the control console either mechanically or electrically. Emergency stop switch or push button to stop the vehicle shall be provided at the following locations:-

- (a) control console in the control room;
- (b) on the platforms;
- (c) control panel in the vehicle;
- (d) in the machine room; and
- (e) in the passenger compartments if the vehicle is not attended.
- (f) in the vehicle inspection pit.

For items (b), (e) or (f), either the emergency brake, or the service brake, should be applied to stop the vehicle

10.9 The emergency brake shall come into operation automatically under the following conditions:-

- (a) when the maximum permissible running speed is exceeded by 15-20%;
- (b) when the vehicle overshoots its normal stopping position at the driving station;
- (c) when the service brake fails; or
- (d) when the pressure in the hydraulic or pneumatic circuit for holding open the brake drops below the specified level.

10.10 In the event of over speed, the emergency brake shall operate automatically in both directions of travel and shall be fail-safe, i.e. not dependent upon the power derived from mains supply or batteries. The braking force of the emergency brakes shall be produced by weights or compression spring. The over speed governor shall have an accuracy of $\pm 5\%$. Automatic resetting of governor shall not be allowed.

10.11 When the emergency brake is applied, the electrical supply to the drive motor shall be tripped-off. When the emergency brake is controlled (held open) hydraulically or pneumatically, the hydraulic or air pressure shall be completely released immediately. To avoid excessive deceleration, the operation of the emergency brake may be delayed.

10.12 The braking force of all brakes shall be easily adjustable. When the brakes are held open hydraulically or pneumatically, the corresponding pressure shall be capable of being monitored.

10.13 The components of the brakes shall be designed with a minimum factor of safety of 3.5 as measured against the tensile yield strength.

10.14 Due considerations shall be given to the temperature rises when calculating the dimensions and efficiency of the brakes.

11 Safety Devices and Control Circuit

11.1 The control room shall be located in the driving terminal and shall be so orientated as to afford the best possible view of the line. The approaching of vehicle and the boarding and alighting of passengers shall be clearly visible in front of the control console inside the control room. However, the use of CCTV will be accepted as an alternative.

11.2 All control and safety circuits / devices shall be monitored and annunciated by means of indicator lights or audible alarms. All instruments and devices required for monitoring of the operation shall be housed and made easily accessible in the control room.



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- 11.3 All instruments and lamps shall be clearly labeled, as to their functions, in both English and Marathi. Signal lamps shall be clearly visible when lit. When necessary, the signal lamp can be accompanied by audible signal.
- 11.4 To safeguard the failure of the control system at the vehicles, a manual control system shall be provided at the control room, which makes it possible to run the vehicle at a maximum speed of 2 m/s.
- 11.5 Starting up of the vehicle shall only be possible when:-
(a) the corresponding start command has been initiated from both vehicles;
(b) "Door Closed" signal(s) from both vehicles; or
(c) the corresponding "Start" command from the control console at the control room.
- 11.6 Any intended reversal of the direction of travel shall be possible only after the vehicles are brought to a complete standstill / stop.
- 11.7 Vehicle position indicator to show the vehicle position in meter and with the indication derived from the signal of a counting device at a deflection sheave of the haulage rope or main haulage drum (in case of winch drive) shall be provided. The position of all stations and crossing points shall also be shown. When two vehicle position indicators are provided at different locations, their indication shall be synchronized. The vehicle position indicator shall be capable of automatically corrected so that it is set to the starting positions when the vehicles are in the termini.
- 11.8 In particular, the followings shall be monitored with indication displayed at the control room:-
(a) the status of drive, i.e. by main drive or auxiliary drive. Interlocks shall be provided that both drives shall not operate simultaneously;
(b) the position of the brakes;
(c) the condition of wear of the brake shoes.
- 11.9 The funicular railway shall be provided with end switches and buffers. The end switches shall bring about automatic stopping and impose change of direction of travel.
- 11.10 The speed of the vehicle shall be reduced gradually to the comfort of the passengers before entry to the terminal station. An entry deceleration circuit shall effect the reduction in speed.
- 11.11 For funicular railways which may be remotely controlled, two independent arrival monitoring systems shall be provided.
- 11.12 The arrival monitor shall activate the safety circuit to slow down or stop the vehicle if the speed of the vehicle has not been reduced to the permissible 0.7 m/s or less on its approach to the end switches.
- 11.13 Upon actuation of the arrival monitoring circuit, the vehicle must be brought to a complete halt in front of the buffers by the emergency brake.
- 11.14 The speed-sensing device for at least one of the arrival monitors shall be driven directly by the driving drum or deflection sheave. The output signal from the speed-sensing device shall be continuously monitored.
- 11.15 Additional safety device shall be provided after the end switches that will actuate the emergency brake.
- 11.16 For funicular railways with a speed of travel less than 2 m/s, a speed dependent arrival control is not required.



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- 11.17 For manually controlled railways, the approach of the vehicle to the terminus shall be indicated by an audible signal in the control room.
- 11.18 Automatic stopping must occur as soon as any breakdown occurs in the safety or control circuits. No re-start shall be possible until the fault is cleared. The operation of any safety circuit shall be clearly annunciated in the control room giving information as to the type and location of the fault.
- 11.19 Emergency stop buttons provided at locations under Section 10.8 of Technical Specifications in Volume IV shall be distinguished by colour and label.
- 11.20 Bridging Circuits
- (i) If a fault is occasioned by a breakdown or malfunction of the control circuitry it may be permissible, under certain circumstances, to by-pass that part of the circuit component with a bridging circuit. Any such devices should be correctly engineered and their functions clearly described in the design documentation. Their use, however, will be restricted to responsible staff and under no circumstances must their use prejudice safety.
 - (ii) The bridging circuit shall only be made possible by a key switch.
 - (iii) The traveling speed shall not exceed 2 m/s during bridging of the control circuitry.

12 Remote Monitoring System

- 12.1 If the traveling speed is greater than 5 m/s, a monitoring circuit shall monitor the haulage rope.
- 12.2 Trackside and overhead signal cables which carry information relating to the railway safety shall be monitored by a monitoring circuit.
- 12.3 Stoppage of the funicular railway shall be initiated whenever the monitoring circuits are interrupted, short circuited with other monitoring circuit, or earthed.
- 12.4 Voltages up to 50 volts are allowed in the monitoring circuits between circuit and earth, and between circuit and circuit.
- 12.5 The vehicle shall be brought to stop by a monitoring circuit when the earthing resistance of the haulage rope drops below 500 ohms.
- 12.6 The activation of vehicle stop as mentioned in Section 12.5 above may be delayed for at most 0.5 second to allow for accidental or temporary interruption, earthing or atmosphere effect.
- 12.7 The monitoring circuits shall have an impedance of not less than 20,000 ohms at a testing voltage of 500 volts.

13 Communication

- 13.1 For manually controlled funicular railways with relatively straight and short track, one set of signaling equipment shall be sufficient.
- 13.2 A communication system between the driver in the driver cabin of the vehicle and the duty technician in the control room shall be provided. The communication or signaling equipment shall continue to work in the event of mains supply failure, application of any brakes, tripping of end switches or actuation of safety circuits.

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- 13.3 If permanently applied current collectors are used for passing signals and instructions, those contact points or shoes shall be checked regularly for interruptions.
- 13.4 The vehicle shall be provided with a public address system that is audible at any point inside the vehicle. Annunciation informing passengers on action to be taken in the event of the vehicle coming to a halt between normal stopping places shall be given through the system. For vehicle without attendant, an intercommunication system between the passenger and the control room shall be provided.

14 Vehicle

- 14.1 The design calculation of the structure and load bearing components of the vehicle shall take into account all anticipated static and dynamic forces that will be encountered in operation including:-

- (i) vehicle own weight plus payload;
- (ii) wind effect during operation;
- (iii) impact force due to passenger loading and unloading;
- (iv) braking force of service and emergency brake; and
- (v) vehicle colliding buffers.

- 14.2 All components of the structure of the vehicle shall be easily accessible for inspection and maintenance. All internal and external surfaces shall be protected against corrosion.

- 14.3 The enclosure of the vehicle shall have the following provisions to ensure maximum safety to the passengers:

- (a) Vehicle shall be provided with body panel up to 0.4 m above the seating surface or 1.1 m above the floor surface for cabin with standing passengers. Sharp edges and abrupt protrusion inside the vehicle and near the door openings shall be avoided. Body panel material may be metal or fiberglass.
- (b) Enclosed vehicles shall be adequately ventilated by means of operable windows or mechanical ventilators. Windows shall be of non-splintering materials e.g. safety glass or synthetic plastic material;
- (c) Doors shall be so secured that they can be opened only by a purposed action. For power-operated doors, the closing force shall not exceed 150 N. The edges of the doors shall be buffered with a soft material. In case of power failure, the doors shall be kept locked and shall be capable of being opened by hand from both inside or outside of the vehicle with the aid of a key. Only responsible persons shall keep keys of this type;
- (d) For vehicles which are unattended, all door opening mechanisms should be operated from the outside and shall not be able to be opened from inside;
- (e) Folding doors shall be opened only into the vehicle. Doors that open outwards shall be secured by locking devices and can only be opened from the outside;
- (f) The funicular railway shall not be operated for carrying passengers with the vehicle doors in the opening position;
- (g) An emergency exit door, not on the same side as the normal exit door, shall be provided to give an adequate means of exit from the vehicle direct to the track in case of vehicle / system breakdown;



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- (h) A separate compartment at both ends of the vehicle shall be provided for the driver.
- (i) Explosives shall not be carried in any carrier.
- 14.4 The maximum permitted number of persons and the live load in kg to be carried by each vehicle shall be conspicuously displayed in all vehicles.
- 14.5 The passenger carrying capacity shall be calculated as follows:-
- (a) For seated passengers:
Seat width : 0.4 m
Seating pitch : 0.7 m
- (b) For standing passengers:
Floor area of 0.25 square meter for each standing passenger.
- (c) Standing passengers are allowed provided that at no time during the whole journey the slope of the floor allocated for standing passengers exceeds an angle of 15° to the true horizontal.
- 14.6 Vehicles that allow standing passengers shall be provided with adequate handrails etc. Unattended vehicles shall be equipped with a device that indicates that there is an overload. This should be interlocked with the starting mechanism.
- 14.7 The vehicle shall be provided with an independent track braking system capable of stopping and holding indefinitely the vehicle at any location on the track and shall be actuated automatically when:-
- (a) failure of haulage rope;
- (b) excessive slack in haulage rope, that is when the traction force of the rope is less than 3 kN; or
- (c) vehicle exceeding its maximum permissible speed by 30 %.
- 14.8 All vehicle parts shall be connected together electrically and shall be earthed. Only low voltage electrical appliances shall be used in the vehicle.
- 14.9 If the vehicle has two compartments, they shall be connected by a double fastening, each having a minimum factor of safety of 6. Each compartment shall also be provided with an emergency track brake of its own.
- 14.10 The track brake shall be capable of operation, by the vehicle attendant, from the control console in the vehicle. All components of the track brake shall have a factor of safety of at least 2 against the tensile yield strength.
- 14.11 The direction of travel and speed may be controlled from the vehicle. The instructions to proceed shall be made subordinate to instructions to stop and to instructions to reduce speed.
- 14.12 Vehicles shall be fitted with interior lighting and headlamps, and shall be earthed. Flooring shall be of non-slippery material.
- 14.13 Vehicles shall be numbered or colored for identification.
- 14.14 All switches, controllers, meters and lamps on the control console in the vehicles shall be clearly labeled, in English and Marathi, as to their functions.



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15 Track

- 15.1 The track, including rails, switches, sleepers, foundation and any bridges, shall be so designed, constructed and maintained to absorb any forces from the vehicles under the most adverse conditions of loading and during emergency braking, without undue deflection or permanent deformation.
- 15.2 After every application of the vehicle track brakes, experienced technical personnel in details shall inspect the track, in particular the 50 meters length on either side of the point of application of the track brakes.
- 15.3 The track shall be kept clear at all times of debris, soil and rocks, so allowing free passage of the vehicles and causing no impediment to the natural drainage along the track.
- 15.4 The track shall be laid in the straightest possible manner and with the most even angle of inclination possible.
- 15.5 Lateral curve radii shall be as large as possible. They shall be at least $6V^2$ in meter, where V is the speed of vehicle in m/s, and shall not be less than 100 meters.
- 15.6 Means shall be provided to keep the haulage rope in touch with the rollers at all times even where the track has a concave profile.
- 15.7 The track shall be protected from unauthorized access as far as practicable.
- 15.8 A walkway shall be provided along the whole length of the track. Where this is not practical, proper means of emergency evacuation from the vehicles shall always be provided.
- 15.9 At the ends of the track, inspection pits shall preferably be provided in which work can be carried out by maintenance staff in an upright position. In order to protect the safety of staff working in the pit, the following safety installation shall be provided:
- (i) an emergency stop switch inside the pit to stop the vehicle through the activation of the emergency brake or the service brake; or
 - (ii) a master switch within the control panel of the vehicle which will be locked off during the maintenance work and the key is to be kept by staff working at the pit.

16 End Buffers

- 16.1 The distance between the buffer and the normal stopping position of the vehicle shall be at least equal to the braking distance with the application of the emergency brake.
- 16.2 The capacity of the buffers shall be designed to be capable of absorbing the kinetic energy of the vehicle under loaded condition. The permissible 0.7 m/s or less, as mentioned in Section 11.12 of Technical Specifications in Volume IV, shall be used for calculating the kinetic energy as well as the braking distance mentioned in Section 16.1 above.



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17 Stations

- 17.1 The drive and control equipment shall be housed in purposely designed plant rooms. One terminal station shall include a workshop and storerooms. The building structures and facilities shall be constructed with reference to the India Specifications and Standards. The design of the terminal buildings shall take account of all the imposed forces, including rope tensions and an earthquake loading as indicated in Section 2.3 of Technical Specifications in Volume IV, lightning protection shall be in accordance with BS 6651: 1999 and India Standard and Specification for electrical work.
- 17.2 The layout and disposition of the stations shall be such that the access and exit points are clear, even at times of maximum passenger flow. The circulation of passengers is, as far as possible, unhindered. Sufficient covered space shall be provided, under average passenger flow conditions, for waiting passengers.
- 17.3 The width of the station embarking platforms shall be at least one meter wider than that of the vehicle body. However, if the station is manned with staff for controlling the passengers, and with additional waiting area, the width of the embarking platform can be suitably reduced. When passenger flow is low at intermediate stations, the width of those platforms shall be at least 1.2 m.
- 17.4 The clearance between the edge of the platform and the door opening of the vehicle shall preferably not exceed 50 mm.
- 17.5 Passengers shall not have access to any area housing machinery or operational equipment and shall be given access only to the boarding and alighting areas.
- 17.6 Notices to the passengers shall be posted in conspicuous positions and shall be written in both Marathi and English. Pictograms are allowed. Entry and exit points in a station shall be clearly illustrated.
- 17.7 Adequate lighting either natural or artificial, shall be provided for public areas, machine room, and control room and maintenance areas. Emergency lighting shall be available from a secure supply. Such supply should conform to the Code of Practice for Minimum Fire Fighting Installations and Equipment and Inspection and Testing of Installations and Equipment issued by Fire Fighting Department.
- 17.8 Upon receipt of building plans, Chief fire brigade officer Kalyan Dombivali Municipal Corporation, Kalyan of Fire Services will be responsible for formulating requirements / recommendations for the intended use of such terminal stations. In addition, proper management of terminal stations with specific reference to good housekeeping, effective control of passengers, unobstructed entrances / exits, etc. are essential for prevention of fire. Any such requirement of the Chief fire brigade officer Kalyan Dombivali Municipal Corporation, Kalyan of Fire Services shall be complied with.

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Additional Brief specification

General

1 Concessionaire and his servants etc. to provide facilities to Engineer In Charge and safety evolution committee

The concessionaire, his servants, agents or any person acting on his behalf shall provide to all members of safety evolution committee, Engineer In Charge and officers appointed on this works reasonable facilities for the exercise of the powers and performance of the duties and functions conferred and imposed on them.

Inspection of funicular railway system

2. Inspection of Funicular railway system before opening.

- a. Funicular railway system shall not be opened for any kind of traffic until GOM by an order, sanctions the opening there of for that purpose. Such sanction will be given for conditions for the safe and efficient working of the funicular railway system based on the reports of safety evaluation committee and inspection reports of Superintending Engineer (Mechanical) and Superintending Engineer (Electrical) as mentioned below. Before issuing completion certificate, Superintending Engineer (Mechanical) and Superintending Engineer (Electrical) shall make;

a careful inspection of the funicular railway system and appurtenances; satisfying themselves about the moving and fixed dimensions and other prescribed conditions have been complied with; that the funicular railway system is sufficiently equipped for the traffic for which it is intended and in their opinion, the system is fit for the public traffic without danger either to the persons, animals or goods carried thereon, or to the persons employed thereon, or to the general public.

- b. Provisions of sub section 3.1 shall extend to any alteration or reconstruction materially affecting the structural character of any work to which the provisions of sub section 3.1 apply or are extended by this sub section.

Working of Funicular railway system for public traffic

3 Reporting of accidents.

When any of the following accidents occur in the course of working of funicular railway system for public traffic, namely –

- a) Any accidents attended with loss of human life or with grievous hurt as defined in the Indian Penal Code, or with serious injury to property;



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b) Any accidents of a description usually attended with loss of human life or with such grievous hurt as aforesaid or with serious injury to property;

c) Any accidents of any other description such as

- i) Derailment of a trolley;
- ii) Displacement of trolley ropes;
- iii) Damage to components of civil works etc.;
- iv) Sinking other permanent objects.

The concessionaire shall, without unnecessary delay, send notice of the accidents to GOM and to the Engineer In Charge to the commissioner of police and elsewhere to the magistrate of the district and to the officer in charge of the police station within the local limits of such accidents occurred.

Accidents of the description specified in clause (a) above shall be jointly enquired into by concessionaire, Engineer in charge, Police officer, the Magistrate within jurisdiction the accident has occurred and a report shall be submitted to GOM

On occurrence of an accident the concessionaire shall at his expenses-

- a) Immediately inform the nearest Medical Officer who shall render medical aid to the injured persons;
- b) Arrange for first aid and other necessary facilities to such persons till they are removed to their homes or handed over to the care of their relatives or friends.

The concessionaire shall bear the compensation if any to be paid under any law for loss of human life or for bodily injuries. He shall also bear the expenditure to be incurred for repair of property damaged. No extra payment for such expenses incurred by the concessionaire will be paid by the GOM nor any claim will be entertained for these expenses.

4 Power to close and reopen funicular railway system

1) If, after inspecting funicular railway system opened to public traffic, Engineer In Charge is of opinion that the funicular railway system or any specified part thereof cannot be used without danger to the public, or is no longer in a fit state for the carriage of any specified class of traffic, he shall state that opinion, together with the ground therefore, to the GOM.

2) The GOM, after such further inquiry, if any, as it may think fit, may thereupon order that, for reasons, to be set forth in the order, the funicular railway system or the part thereof so specified, be closed to all traffic or to any specified class of traffic; provided that, in any case of extreme urgency, the Engineer In Charge may order suspension of the working of the funicular railway system or any part thereof which they consider necessary pending the orders of the GOM on the case.

3) When funicular railway system or any part thereof has been closed to any traffic under clause 5(2) above, it shall not be reopened to such traffic, until it has been inspected and it's reopening sanctioned. No extra payment will be made nor any claim will be entertained for the closure of funicular railway system under this clause.



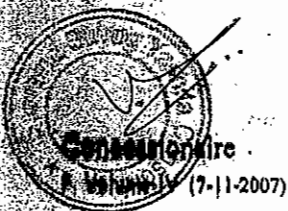
Executive Engineer,
Rane Construction Division
Engineer-in-Charge
THANE
23/11

GOVERNMENT OF MAHARASHTRA

C INDIAN RAILWAY SPECIFICATIONS

CONTENTS

1. Specification for supplies and manufacture of rails.
2. Specification for turnouts, points and crossings.



Executive Engineer;
Thane Construction Division
THANE.
Engineer-in-Charge
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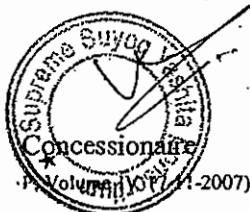
GOVERNMENT OF MAHARASHTRA

1 Specification for supplies and manufacture of rails.

1.1 SCOPE

This specification covers the manufacture and supply of Rails for standard gauge track works.

- 1.2 UIC-60 kg rails shall be used, conforming to UIC Code 860 O
- 1.3 The technical specifications, steel composition, manufacturing methods and testing procedures for the new rails shall comply with UIC Code 860 O.
- 1.4 The UIC 60 rails shall normally be made of wear resistant, naturally hard steel corresponding to the UIC grade A.
- 1.5 On sections with heavy axle loads, sharp curves and heavy braking, higher quality steel may be specified for the rails, e.g. UIC graded C.
- 1.6 The Engineer in Charge shall determine the quality of steel for other rail sections.
- 1.7 The rails shall normally be delivered in lengths of not less than 30 meters.
- 1.8 Rails to be used for continuously welded track shall be delivered with no bolt holes in the ends.
- 1.9 Great care must be taken in the handling and loading / unloading of rails so as to avoid sharp bends, cracks or other damage.
- 1.10 Two screw C clamps with double nuts shall be used to fasten a pair of fishplates at the rail joints. The clamps shall be designed for a tightening tension of 15 tons per clamp.
- 1.11 Base plates for UIC-60 rails shall be made of rolled steel profiles in accordance with UIC code 864-7. The plates shall be 160X370 mm and have four 26 mm diameter holes for coach screws.
- 1.12. For specifications covering Conditions of Manufacture, Conditions of Acceptance and General Conditions, UIC Code 860 O is recommended



Executive Engineer,
Thane Construction Division
THANE
Engineer-in-Charge
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GOVERNMENT OF MAHARASHTRA

2. Specification for turnouts, points and crossings.

2.1 SCOPE

This specification covers the manufacture and supply of Turnouts, Points And Crossings

2.2 Turnouts for main tracks shall be made from UIC-60 rail section.

1.11 The following standard types of turnouts, as well as tandem turnouts, double slips etc., derived from the standard turnout types, shall be used for new lines and stations:

Crossing Angle	Radius of Curve m	Produced from Rail Sections
1:7	140	U-50
1:7	190	U-50
1:9	190	UIC-60
1:9	300	UIC-60, U-50
1:14	760	UIC-60
1:18.5	1200	UIC-60

2.4 The rails in turnouts shall be inclined inwards at 1: 20.

2.5 All turnouts shall have spring switch tongues.

2.6 For turnouts in tracks with dense traffic and heavy axle loads, the crossings and the wing rails should preferably be made of high manganese steel according to UIC code 866.

2.7 The fastenings used in turnouts shall be of a type similar to the German K-fastening with ribbed base plates, rail clips, T-screws and coach screws. Suitable resilient pads shall be inserted beneath the rail and base plates.

2.8 Turnouts installed in CWR tracks should be welded to form an integrated part of the CWR system. Insulated joints shall be glued joints of a type, which can withstand the forces in the welded track.

2.9 An identification plate of sheet metal should be fixed to major parts of the turnouts such as switches, crossings and check rails. The plates should show the name of the factory, the year of the manufacture and the necessary information for identification of the part.

2.10 All turnouts shall be given an anti corrosion treatment at the factory before being shipped. Details regarding the extent and quality of this treatment are to be specified when ordering.



The requirements regarding materials and manufacture of switch and crossing work in Manganese steel castings will be governed by UIC Code 866 O.

Executive Engineer, Engineer-in-Charge
Thane Construction Division
THANE.

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GOVERNMENT OF MAHARASHTRA

D Lower Station and Upper Station

Brief Specifications

1. Structure : RCC / Steel Framed Structure with appropriate foundations as per Soil Condition as per Seismic zone wherever necessary as per geological and Climatic Condition.
2. Walls
 - a. External : 23 cm thick Brick Masonry in cement mortar
 - b. Internal : 15 cm thick Brick block Masonry in cement mortar
3. Plaster
 - a. External : Sand face cements plaster for columns and walls of basement and Synthetic Plaster for all external exposed faces.
 - b. Internal : Cement plaster with POP finish except basement.
4. Damp Proof Course : 5 cm thick cement concrete at plinth level wherever required.
5. Internal road : Interlocking pavement blocks of approved pattern & texture.
6. Flooring
 - Waiting Hall / Passages : Marbonite flooring of approved shade.
 - Stair case Trades : Vitrified tiles / Ceramic Tiles of approved sample.
 - Risers : Polished Kotah stone with rounded nosing
 - Polished Kotah stone
7. Dado and skirting
 - a. All Bathroom, WC Dado : Ceramic Tiles upto door top level.
 - b. Skirting : 10 cm same as flooring
8. Staircase : R.C.C. Structure with MS Railing with teak wood hand rail as per details
9. Doors : Rooms: TW framed / TW Panel
Toilet: Fully paneled door with marine play and veneer on both side
10. Windows : Anodized aluminum sliding window with Marble / Granite stone boxing with MS / Aluminum grill.



Engineer-in-Charge
Executive Engineer,
Thane Construction Division
THANE

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GOVERNMENT OF MAHARASHTRA

11. Painting : a. External : Waterproof cement paint of approved shade and quality
b. Internal : Oil Bond Distemper of approved quality and shade
c. Wood work and steel work : Synthetic enamel of paint approved shade and quality
12. Roofing : RCC Slab
13. Water proofing : Brick bat coba.
15. Electricity : Open Conduit wiring with PVC Casement. Electrical layout and fitting to be got approved from Engineer In Charge
16. Plumbing and Sanitation : European / Orrisa type WC Pan, Wash Hand Basin with stainless steel bottle trap of approved shade and quality, GI heavy duty concealed pipe fitting.
17. Fixtures and fastenings : Brass Oxidized / Aluminum Samples to be got approved from the Engineer In Charge
18. Water Tank : RCC overhead water storage tank of required capacity.
19. Platform and Sink : Granite Top, Kadappa shelves, Granite facia and aluminum powder coating shutter with stainless steel sink.
20. Anti termite treatment : Anti termite treatment shall be given at puintn level as per requirement.
21. False ceiling : Aluminum frame work and POP false ceiling.
24. Architectural treatment : As directed by Engineer In Charge



Executive Engineer,
Thane Construction Division
THANE.

Engineer-in-Charge

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BANK OF INDIA
Trade Finance CPC
Trade Finance CPC 1st Floor SYNERGY
Indra Kurla Complex Mumbai

TEL NO:022-67514124
FAX NO:022-67514125
SWIFT NO:SBININBB582
PIN CODE:400 051

THE GOVERNOR OF MAHARASHTRA
MUMBAI.

12/09/2008

DEAR SIRs,

GUARANTEE NO :0505008BG0003446
AMOUNT OF GUARANTEE :INR40,00,000.00
GUARANTEE COVER FROM :12/09/2008 TO 10/09/2010
LAST DATE FOR LODGEMENT OF CLAIM:10/09/2010

THIS DEED OF GUARANTEE IS EXECUTED BY THE STATE BANK OF INDIA,
CONSTITUTED UNDER THE STATE BANK OF INDIA ACT, 1955 HAVING THE CENTRAL OFFICE
AT NARIMAN POINT, MUMBAI AND AMONGST OTHER PLACES. A BRANCH AT
Trade Finance CPC HEREIN AFTER REFERRED TO AS 'THE BANK'). IN
FAVOUR OF THE GOVERNOR OF MAHARASHTRA
(HEREIN AFTER REFERRED TO AS 'BENEFICIARY') FOR AN AMOUNT NOT EXCEEDING
40,00,000.00.
forty lakh only

AT THE REQUEST OF SUPREME INFRASTRUCTURE INDIA LTD
AND THE GUARANTEE SHALL REMAIN IN FULL FORCE UPTO 10/09/2010
AND CANNOT BE INVOKED OTHERWISE THAN BY WRITTEN DEMAND OR CLAIM UNDER THIS
GUARANTEE SERVED ON THE BANK ON OR BEFORE THE 10/09/2010

SUBJECT TO AS AFORESAID

NOTWITHSTANDING ANYTHING CONTAINED HEREIN ABOVE, OUR LIABILITY UNDER THIS
GUARANTEE IS RESTRICTED TO
40,00,000.00.
forty lakh only

OUR GUARANTEE SHALL REMAIN IN FORCE UNTIL 10/09/2010. UNLESS A DEMAND OR
CLAIM UNDER THE GUARANTEE IS MADE ON OUR BANK IN WRITING ON OR BEFORE
10/09/2010 ALL YOURS RIGHTS UNDER THE SAID GUARANTEE BE FORFEITED AND WE SHALL
BE RELIEVED AND DISCHARGED FROM ALL LIABILITIES THEREUNDER

AUTHORISED SIGNATORY

AUTHORISED SIGNATORY



Executive Engineer,
Thane Construction Division
THANE.

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E BANK OF INDIA
Trade Finance CPC
Trade Finance CPC 1st Floor SYNERGY
Andra Kurla Complex Mumbai

TEL NO:022-67514122
FAX NO:022-67514125
SWIFT NO:SBININBB582
PIN CODE:400 051

12/09/2008

To

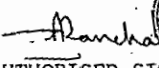
THE GOVERNOR OF MAHARASHTRA
MUMBAI.

DEAR SIR(S),

GUARANTEE NUMBER : 0505008BG0003446
DATE OF ISSUE : 12/09/2008
GUARANTEE AMOUNT : INR 40,00,000.00
DATE OF EXPIRY : 10/09/2010
DATE OF CLAIM : 10/09/2010
APPLICANT NAME : SUPREME INFRASTRUCTURE INDIA LTD

We confirm having Issued / Extended the captioned Bank Guarantee in your favour on behalf of our above named Constituent and the same signed by the officers of the Bank.

YOURS FAITHFULLY


AUTHORISED SIGNATORY



Executive Engineer,
Thane Construction Division
THANE.

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THIS DEED OF GUARANTEE executed on this the 12 day of SEP 2008 by State Bank of India having its Head/Registered office at Trade Finance Cpc, Bandra Kurla Complex, Mumbai - 400 051 hereinafter referred to as "the Guarantor" which expression shall unless it be repugnant to the subject or context thereto include successors and assigns:

In favour of

The Governor of Maharashtra in his executive capacity for the GOM, represented by the Public Works Department, the GOM hereinafter called the "GOM" (Which expression shall include successors and assigns)



0505008BG0003446



H.D.F.C. Bank, Legal
Department, Kamala Mills Compound,
Lower Parel, Mumbai-400013
D.SIST/IV/C.R. 1011003/2004/2042

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SEP 09 2008
MAHARASHTRA
STAMP DUTY

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Executive Engineer,
Thane Construction Division
THANE

WHEREAS

- A. By the Concession Agreement dated 09.09.2008 entered into between the GOM And M/s Supreme Suyog Yashita Consortium, office at 8, Bhawani Service Industrial Estate, Opp. IIT Main Gate, Powai, Mumbai 400 076 hereinafter called "the consortium ("The Concession Agreement") the consortium has been granted the concession to implement the execution of the project, construction of Funicular Railway System at Haji Malang Gad, at Ambernath District Thane, Maharashtra State (India) envisaging construction, operation and maintenance of 24 years 5 months on build, operate and transfer basis.
- B In terms of Article 3.1 (a) of the Concession Agreement, the consortium is required to furnish to the GOM, an unconditional, and irrevocable Bank Gurantee for an amount of Rs. 40,00,000/- (Rupees Fourty Lacs Only) as security for due and punctual performance / discharge of its obligations under the Concession agreement during the Implementation Period, substantially in the format annexed as Schedule "Q" to the Concession Agreement.
- C. At the request of the consortium, the Gurantor has agreed to provide gurantee, being These presents guaranteeing the due and punctual performance/discharge by the consortium of its obligations under the Concession Agreement during the Implementation Period.

NOW THEREFORE THIS DEED WITNESSETH AS FOLLOWS :

1. Capitalised terms used herein but not defined shall have the meaning assigned to them respectively in the Concession Agreement.



[Signature]

0505008BG0003446



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Executive Engineer.
Thane Construction Division
THANE.

2. The Guarantor hereby guarantees the due and punctual performance by the consortium of all its obligations under the Concession Agreement during the Implementation Period.
3. The Guarantor Shall, without demur, pay to the GOM Sums not exceeding in aggregate Rs. 40,00,000/- (Rupees Forty Lacs Only) within five (5) days of receipt of a written Demand therefore from the GOM stating that the consortium has failed to meet its performance obligations under the Concession Agreement during the Implementation Period. The Guarantor shall have no obligation to go into the veracity of any demand so made by the GOM and shall pay the amount specified in the demand notwithstanding any direction to the contrary given or any dispute whatsoever raised by the consortium or any other person.
4. In order to give effect to this Guarantee the GOM shall be entitled to treat the Guarantor as the principal debtor. The obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Concession Agreement or other documents or by the extension of time for performance granted to the consortium or postponement /non exercise/ delayed exercise of any concessionaire and the Guarantor shall not be relieved from its obligations under this Guarantee on account of any such variation, extension, postponement, non exercise, delayed exercise of any of its rights by the GOM or any change in the constitution of Guarantor or any indulgence shown by the GOM provided nothing contained herein shall enlarge the Guarantor's obligation hereunder or any other conditions or circumstances under which in law, a surety would be discharged.
5. This Guarantee shall be irrevocable and shall remain in full force and effect until discharge by the Guarantor of all its obligations hereunder.
6. This Guarantee shall not be affected by any change in the constitution or winding up of the consortium /the Guarantor or any absorption, merger or amalgamation of the consortium / the Guarantor with any other person.
7. The Guarantor has power to issue this guarantee and discharge the obligations contemplated herein, and the undersigned is duly authorized to execute this Guarantee pursuant to the power granted by State Bank of India.



0505008BG0003446.

Executive Engineer,
Thane Construction Division
THANE.



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"Notwithstanding anything contained hereabove our liability under this gurantee is restricted to Rs. 40,00,000/- (Fourty Lacs Only) and this gurantee is valid upto 10/09/2010 and we shall be released and discharged from all liabilities hereunder unless a written claim for payment under this gurantee is lodged on or before the date of expiry of the gurantee i.e. 10/09/2010 irrespective of whether or not the original gurantee is returned to us "

[Handwritten signature]

IN WITNESS WHEREOF THE GURANTOR HAS SET ITS HANDS HEREUNTO ON THE DAYS, MONTH AND YEAR FIRST HEAREIN ABOVE WRITTEN

SIGNED AND DELIVERED BY STATE BANK OF INDIA, TRADE FINANCE CPC, BANDRA KURLA COMPLEX, MUMBAI - 400 051

0505008BG0003446

By the hand of Shri



तर्फ / कृते भारतीय स्टेट बैंक
STATE BANK OF INDIA

Its----- and authorised official.

[Handwritten signature]

Trade...

Dated day of

12 SEP 2008

अशोक रा. पांचाल
ASHOK R. PANCHAL
P - 006236

तर्फ / कृते भारतीय स्टेट बैंक
STATE BANK OF INDIA

[Handwritten signature]

P. M. ANKOLEKAR
A-2658



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Executive Engineer.
Thane Construction Division
THANE.

GOVERNMENT OF MAHARASHTRA

Sample Form

SCHEDULE- R

PROFORMA OF BANK GUARANTEE - II
(FOR OPERATIONS AND MAINTENANCE PERIOD)

(To be issued by a Branch located in Maharashtra of a Nationalised/ Scheduled Bank)

THIS DEED OF GUARANTEE executed on this the ----- day of --- at ---- by -----
----- (Name of the Bank) having its Head/ Registered office at
----- hereinafter referred to as "the
Guarantor" which expression shall unless it be repugnant to the subject or context
thereof include its successors and assigns;

In favour of

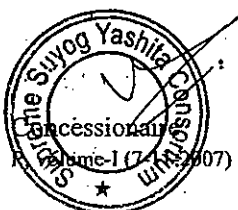
The Governor of Maharashtra in his executive capacity for the GOM, represented by
the Public Works Department GOM, hereinafter called "GOM" (which expression
shall include its successors and assigns);

WHEREAS

- A. By the Concession Agreement dated ----- entered into between the
GOM and M/s. XXXX Limited, a company incorporated under the Companies
Act, 1956 having its registered office at ----- hereinafter called
"the Company", ("the Concession Agreement") the Company has been granted
the Concession to implement the project envisaging construction, operation and
maintenance of ----- on build, operate and transfer basis.
- B. In terms of Article 3.1(b) of the Concession Agreement, the Company is
required to furnish to the GOM, an unconditional and irrevocable bank
guarantee for an amount of Rs.----- (Rupees ----- only) as
security for due and punctual performance/discharge of its obligation under the
Concession Agreement during the Operations Period substantially in the format
annexed as Schedule 'R' to the Concession Agreement.
- C. At the request of the Company, the Guarantor has agreed to provide guarantee,
being these presents guaranteeing the due and punctual performance/discharge
by the Company of its obligations under the Concession Agreement during the
- D. Operations Period.

NOW THEREFORE THIS DEED WITNESSETH AS FOLLOWS :

1. Capitalised terms used herein but not defined shall have the meaning assigned
to them respectively in the Concession Agreement.



Executive Engineer,
Thane Construction Division
THANE.

Engineer-in-Charge

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GOVERNMENT OF MAHARASHTRA

2. The Guarantor hereby guarantees the due and punctual performance by the Company of all its obligations under the Concession Agreement during the Operations Period.
3. The Guarantor shall, without demur, pay to the GOM sums not exceeding in aggregate Rs.----- (Rupees ----- only), within five (5) days of receipt of a written demand therefor from the GOM stating that the Company has failed to meet its performance obligations under the Concession Agreement during the Operations Period. The Guarantor shall have no obligation to go into the veracity of any demand made by the GOM and shall pay the amounts specified in the demand notwithstanding any direction to the contrary given or any dispute whatsoever raised by the Company or any other Person.
4. In order to give effect to this Guarantee the GOM shall be entitled to treat the Guarantor as the principal debtor. The obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Concession Agreement or other documents or by the extension of time for performance granted to the Company or postponement/non exercise/ delayed exercise of any of its rights by the GOM or any indulgence shown by the GOM to the Concessionaire and the Guarantor shall not be relieved from its obligations under this Guarantee on account of any such variation, extension, postponement, non exercise, delayed exercise of any of its rights by the GOM or any change in the constitution of Guarantor or any indulgence shown by the GOM provided nothing contained herein shall enlarge the Guarantor's obligation hereunder, or any other conditions or circumstances under which in law, a surety would be discharged.
5. This Guarantee shall be irrevocable and shall remain in full force and effect until discharged by the Guarantor of all its obligations hereunder.
6. This Guarantee shall not be affected by any change in the constitution or winding up of the Company/the Guarantor or any absorption, merger or amalgamation of the Company/the Guarantor with any other Person.
7. The Guarantor has power to issue this guarantee and discharge the obligations contemplated herein, and the undersigned is duly authorised to execute this Guarantee pursuant to the power granted under _____.

IN WITNESS WHEREOF THE GUARANTOR HAS SET ITS HANDS HEREUNTO ON THE DAY, MONTH AND YEAR FIRST HEREINABOVE WRITTEN.

SIGNED AND DELIVERED by ----- Bank by the
hand of Shri -----
its ----- and authorised official.



Concessionaire
P, volume-1 (7-11-2007)

Executive Engineer,
Thane Construction Division
THANE.

Engineer-in-Charge

GOVERNMENT OF MAHARASHTRA

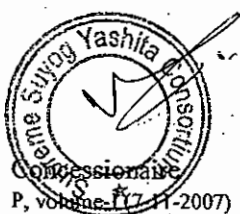
Sample Form

SCHEDULE- S

PROFORM FOR AGGEMENT WITH MINISTRY OF RAILWAYS

(If applicable only)

N.A.

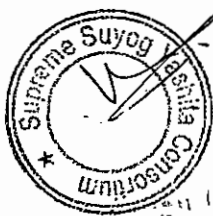


Executive Engineer,
Thane Construction Division
THANE.

Engineer-in-Charge

No need of **SUBSTITUTION AGREEMENT** at present as

In house finance arrangements as per Financial Closure letter
number: SSYC / BOT/2007-2008/1 dated: 29/06/2008



Executive Engineer,
Thane Construction Division
THANE.

SUPREME SUYOG YASHITA CONSORTIUM

41, Suyog Industrial Estate 1st Floor,

L.B.S. Marg, Vikhroli (West), Mumbai-400083

का. अ.

उप का. अ.

प्र. लि.

व.वि.ले.अ(१) SSC / BOT / 2007-08 / 1

शाखा

आवक क्र.

दिनांक

Executive Engineer,

Thane Construction Division,

Thane: - 400 601.

Date: 29/06/2008

Dear Sir,

Sub: Construction of Funicular Railway at Haji Malang Gad, at Ambarnath Dist. Thane.

Ref: i) Dy. Secretary P.W. Department Mantralaya Mumbai's Marathi letter no. खा.स-२००८/

प्र. क्र.२९/ रस्ते-९/ दिनांक :- १९/०६/२००८.

ii) Superintending Engineer, Thane (P.W.) Circle, Thane Marathi letter no. T.C./G-41/

Tender /413 dated 21/6/2008.

iii) TCD / Tender / 4271 Dated: 21/6/2008.

At the outset we sincerely express our heartfelt thanks for issuing us an acceptance letter in respect of the above work as reflected in above cited letter under reference (iii).

Drawing your kind attention to the stipulations of the contract, the procedure of entering into a Concession Agreement, finalizing the Financial Closure, issuance of Work Order, etc need to be followed.

In the first spell, having received the letter of acceptance, we do mention, sufficient financial arrangements shall be arranged in house, that is with the financial resources available with the



Executive Engineer 157
Thane Construction Division
THANE.

company. In other words, at this juncture, we need not have to be dependent on any financial institutions, other than our own resources to complete of the **Financial Closure**.

However we shall be enclosing the names of any future financial closure institutions as and when incorporated for completing in the process.

Hence, it is respectfully requested from our end it shall be treated that the Financial Closure is over.

We hopefully believe, our request is considered favourably and a **Work Order** is issued on priority please.

Thanking You,

Faithfully Yours,

For Supreme Suyog Yashita Consortium

(Authorised Signatory)



Executive Engineer,
Thane Construction Division
THANE

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GOVERNMENT OF MAHARASHTRA

Sample Form

SCHEDULE- T

SUBSTITUTION AGREEMENT

THIS SUBSTITUTION AGREEMENT is entered into on this the ----- day of -----
----- (Month) ---- (Year) at -----.

AMONGST,

The Governor of Maharashtra acting in his executive capacity for the Government of Maharashtra represented by the Public Works Department GOM, hereinafter referred to as "GOM" (which expression shall unless repugnant to the context of meaning thereof include its successors and assigns);

M/s. XXXX Limited, a company incorporated under the provisions of the Companies Act, 1956 and having its Registered Office at ----- hereinafter referred to as "the Concessionaire" (which expression shall unless repugnant to the context or meaning thereof include its successors and assigns), AND

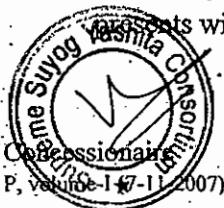
YYYY (Financial Institution/ Bank) having its Registered Office/Head Office at -----
----- hereinafter referred to as "the Lender".

OR

ZZZZ (Financial Institution/Bank) having its Registered Office/Head Office at -----
----- acting for and on behalf of the Lenders listed in Schedule I hereto (hereinafter referred as "the Lender's Representative").

WHEREAS,

- A. The GOM is keen to implement a project envisaging construction, operation and maintenance of ----- (more particularly described in Schedule 'A' and hereinafter referred to as "the Project") with private sector participation on Build, Operate and Transfer (BOT) basis;
- B. By the Concession Agreement dated ----- entered into between the GOM and the Concessionaire (hereinafter referred to as "the Concession Agreement") the Concessionaire has been granted the Concession to implement the Project on BOT basis;
- C. With a view to facilitate financing of the Project by the Concessionaire, in pursuance of Article ----- of the Concession Agreement, the GOM and the Concessionaire have agreed to enter into Substitution Agreement being these
- consents with the Lender/s/Lenders' Representative.



Executive Engineer,
Thane Construction Division
Thane
Engineer-in-Charge

GOVERNMENT OF MAHARASHTRA

- D. As a condition to making any disbursement pursuant to the Financing Documents, the Lender(s) has/ have required that the Substitution Agreement being these presents be entered into, and the GOM and the Concessaionaire have agreed to the same.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH AS FOLLOWS

ARTICLE 1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereafter respectively assigned to them:

"Agreement" means this agreement and includes any amendment or modification made to this agreement in accordance with the provisions hereof.

"Financial Assistance" means the financial assistance setforth in Schedule I hereto, agreed to be provided by the Lender(s) to the Concessionaire for financing the the Project.

"Lender(s)" means the financial institutions/banks whose name(s) and addresses are set out in Schedule I hereto.

"Residual Concession Period" means the period which shall be be aggregate remainder of the Concession Period as the Suspension Period.

"Selectee" means a Person proposed by the Lender/Lender's Representative pursuant to this Agreement and approved by GOM for substituting the Concessionaire for the residual Concession Period, in accordance with the provisions of this Agreement.

"Suspension Period" means the period commencing from the expiry of the Cure Period specified in the Preliminary Notice and ending on the date on which all formalities connected with substitution of the Concessionaire by the Selectee including handing over of Project Site/Project Facility, in accordance with this Agreement are completed and the substitution has become effective.

- 1.2 Capitalised terms used in this Agreement but not defined shall have the meaning assigned to them respectively in the Concession Agreement.



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ARTICLE 2

SUBSTITUTION OF THE CONCESSIONAIRE BY THE SELECTEE

2.1 Lenders right to Substitute

The GOM and the Concessionaire hereby irrevocably agree that upon occurrence of an Concessionaire Event of Default, the Lender(s) shall, without prejudice to any other rights or remedies available to them under law/Financing Documents and without being required to exercise or exhaust such rights or remedies, have the right to seek substitution of the Concessionaire by Selectee for the residual Concession under the Concession Agreement in accordance with the provisions of this Agreement. Provided upon substitution the Selectee shall be entitled to the extension of the remainder of the Concession Period by the Suspension Period.

2.2 Preliminary Notice of Termination

The GOM shall as soon as possible but in any case not later than 45 days of its knowledge of the occurrence of the Concessionaire Event of Default issue Preliminary Notice of Termination to the Concessionaire in terms of Article 16.2(a) of the Concession Agreement, with a copy thereof simultaneously to the Lenders. Provided if the Concessionaire Event of Default is the one set out in Article 16.1(a)(9) of the Concession Agreement, the GOM shall not be obliged to issue Preliminary Termination Notice until receipt by the GOM of the recall notice issued by the Lender(s) to the Concessionaire

2.3 Suspension of Concession and Takeover of the Project Facility

The Concessionaire irrevocably agrees that if the Cure Period specified in the Preliminary Notice of Termination lapses without the Concessionaire Event of Default having been cured, the Concession shall effective from the expiry of such Cure Period stand suspended without any further notice or other act of the GOM being required, and that the GOM shall have the right to enter upon and takeover the Project Site/Project Facility and to take all such steps as are necessary for the continued operation and maintenance of the Project Facility, levy, collection and appropriation of Toll subject to servicing the Debt Due as per the Financing Documents, and the substitution of the Concessionaire by the Selectee in accordance with this Agreement. The Concessionaire hereby irrevocably consents to the takeover of the Project Facility/ Project Site by the GOM forthwith upon suspension becoming effective.

2.4 Substitution Notice

The GOM and the Concessionaire hereby irrevocably agree that in the event of the Concessionaire's failure to cure the Event of Default specified in the Preliminary Notice of Termination. The Lender/Lender's Representative may, within 30 (thirty) days of the expiry of the Cure Period specified therein notify the GOM and the Concessionaire about the intention of the Lender(s) to seek substitution of the Concessionaire by the Selectee for the Residual Concession (the "Substitution Notice").



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2.5 Criteria for selection of the Selectee.

The Lender/ Lenders' Representative shall in addition to any other criteria that it may deem fit and necessary, apply the following criteria in the selection of the Selectee:

- (i) the Selectee shall possess the network, experience, technical capability and managerial ability to perform and discharge all the residual duties, obligations and liabilities of the Concessionaire in respect of the Concession, under the Concession Agreement;
- (ii) the Selectee shall have the capability and shall unconditionally consent to assume the liability for the payment and discharge of dues, if any, of the Concessionaire to the GOM under and in accordance with the Concession Agreements and also payment of Debt Due to the Lender(s) upon terms and conditions as agreed to between the Selectee and the Lenders.

ARTICLE 3

MODALITY FOR SUBSTITUTION

3.1 Modalities for Substitution.

The following modalities shall be followed for substitution of the Concessionaire by the Selectee pursuant to this Agreement:

- (i) The Lender(s)/Lenders' Representative shall be entitled, within a period of 12 (one hundred twenty) days from the date of delivery of the Substitution Notice pursuant to the preceding Article 2.2 to invite or procure offers either through private negotiations or public auction or process of tender or otherwise from the eligible Persons, for the substitution of the Concessionaire by the Selectee and propose to the GOM for its approval the Selectee (the "Proposal"). The Proposal of the Lender/Lender's Representative shall contain the particulars and information in respect of the Selectee, the terms of Substitution, particulars of the Debt Due and such data and information as would be necessary and relevant for the GOM to decide as to the acceptability of the Selectee. The Lender/Lender's Representative shall provide to the GOM such additional information and clarification in respect of any data, particulars or information contained in the Proposal, as the GOM may promptly and reasonably require.
- (ii) The Proposal shall be accompanied by an unconditional undertaking of the Selectee to the effect that it shall upon acceptance by the GOM of the Proposal observe, comply with, perform and fulfill the residual terms, conditions and covenants of the Concession Agreement as if the Selectee had been the Concessionaire under the Concession Agreement and to assume, discharge and pay the Debt Due on the terms and conditions agreed to by the Selectee with the Lender(s). The Selectee shall also undertake to enter into such documents and

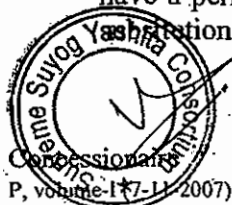


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writings with the GOM and the Lender(s) as may be necessary or required to give effect to the substitution of the Concessionaire by the Selectee.

- (iii) The GOM shall convey to the Lender/ Lenders' Representative its acceptance or otherwise of the Selectee within 30(thirty) days of (a) the date of receipt of the Proposal by the GOM, or (b) the date of receipt of the additional information and clarifications in respect of any data, particulars or information comprised in the Proposal, provided by the Lender/Lender's Representative to the GOM, whichever is later.
- (iv) At any time prior to the acceptance of the Selectee by the GOM pursuant to this Agreement, the GOM may require the Lender/Lenders' Representative to satisfy it as to the eligibility of the Selectee and the decision of the GOM as to acceptance or rejection of any Selectee (which shall be reasonable), shall be final, conclusive and binding on the Lender(s), the Selectee and the Concessionaire. In the event that the GOM fails to communicate its acceptance or otherwise or the objections if any it has to the acceptance of the Proposal/ the Selectee within a period of 30 days prescribed in preceding sub-article (iii), the GOM shall be deemed to have accepted the Proposal/ the Selectee
- (v) The rejection of the Selectee if made by the GOM shall be reasoned and be made after hearing the Lender/Lenders' Representative. Following the rejection of the Proposal, the Lender/Lenders' Representative shall have the right to submit a fresh Proposal, proposing another Selectee, within 30 days of receipt of communication regarding rejection of the Selectee previously proposed. The provisions of preceding sub-article (iii) and (iv) shall apply mutatis mutandis to such fresh Proposal.
- (vi) If the GOM accepts the Proposal/fresh Proposal, the GOM shall take all necessary steps to substitute the Concessionaire by the Selectee by amendment of the Concession Agreement or by execution of fresh agreement or such other writing as may be required or necessary to give effect to the substitution of the Concessionaire by the Selectee for the Residual Concession Period.
- (vii) The substitution of the Concessionaire by the Selectee shall be deemed to be complete upon the Selectee executing all necessary documents and writings with or in favour of the GOM and the Lender(s) so as to give full effect to the terms and conditions of substitution subject to which the Selectee has been accepted by the Lender(s) and the GOM and upon the delivery by the GOM of the Project Assets to the Selectee. Upon the substitution becoming effective pursuant to this sub-article all the rights of the Concessionaire under the Concession Agreement shall cease to exist. Provided nothing contained in this sub-article shall prejudice any pending/subsisting claims of the Concessionaire against the GOM or any claim of the GOM against the Concessionaire and the Selectee shall incur no liability or consequence on account of any previous breach/default and shall subject to the terms and conditions of the substitution, have a period of 90 days to cure any breach/default subsisting on the date of substitution and required to be cured.



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- (viii) The decision of the Lenders and the GOM in the selection of the Selectee shall be final and binding on the Concessionaire and shall be deemed to have been made with the concurrence of the Concessionaire. The Concessionaire hereby expressly waives all rights to object to or challenge such selection of the Selectee on any ground whatsoever.

3.2 Termination and Termination Payment.

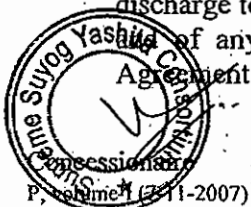
- (i) Where the Lender/Lenders' Representative (on behalf of all the Lenders) communicates in writing that (i) the Lender/ Lender's Representative does not intend to seek substitution of the Concessionaire, or (ii) that the Lender/Lenders' Representative has not been able to find suitable Selectee or (iii) that the GOM has declined to accept the Selectee proposed by the Lender/Lenders' Representative, the GOM shall proceed to terminate the Concession and to make Termination Payment, in accordance with the provisions of the Concession Agreement.
- (ii) Notwithstanding anything contained herein above, the GOM shall not upon Termination of the Concession Agreement, be required to take over, the Debt Due save and except to the extent of Termination Payment due and payable under the Concession Agreement. In such an event the the GOM's obligation shall be limited to assumption of such liabilities and payments of Debt Due as the GOM has agreed to bear under the Concession Agreement.
- (iii) Nothing contained in these presents shall mean or be interpreted as provision of any guarantee or surety by the GOM and it is expressly agreed that the GOM has not provided any surety, guarantee or counter guarantee whether directly or indirectly for the recovery of amounts advanced by the Lenders to the Concessionaire.

ARTICLE 4

MODE OF TERMINATION PAYMENTS

4.1 Mode of Payment

- (i) The GOM and Concessionaire hereby irrevocably agree, and confirm, that so long as the Debt Due is outstanding the Termination Payment and any other amounts due and payable by the GOM to the Concessionaire under any of the provisions of the Concession Agreement shall be paid only by way of credit directly to a bank account designated therefor by the Lender(s)/Lenders' Representative and advised to the GOM and the Concessionaire in writing. The Lender(s) shall be entitled to receive and appropriate the same without any further reference to or consent of the Concessionaire towards the satisfaction of the Debt Due, subject to payment by the Lender(s) of the surplus amount if any remaining after satisfaction of the Debt Due, to the Concessionaire. Any payment so made shall to the extent of such payment constitute a valid discharge to the GOM of its obligations with regard to the Termination Payment of any other monies due to the Concessionaire under the Concession Agreement.



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GOVERNMENT OF MAHARASHTRA

- (ii) For the purpose of giving full effect to the provisions contained in the preceding sub-article (i), the Lender(s)/the Lender's Representative shall be entitled to make a demand for payment of the Termination Payment if the Concessionaire has failed to make such demand as required under Article 16.4 of the Concession Agreement within 15 days from the Termination Date under intimation to the Lender(s)/Lender's Representative.
- iii) The Concessionaire hereby irrevocably appoints and constitutes the Lender(s)/Lenders' Representative as its agent to make such demand for Termination Payment. Any demand made by the Lender(s)/Lenders' Representative pursuant to the power and authority conferred hereby shall for the purpose of the Article 16.4 of the Concession Agreement be deemed to be a demand for Termination Payment made by the Concessionaire.

ARTICLE 5

GENERAL

5.1 General

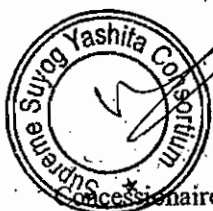
- (i) The Parties hereto expressly represent and warrant that they are duly empowered to sign and execute this Agreement and the Lenders Representative is duly and fully authorised by each of the Lenders to enter into this Agreement on their behalf.
- (ii) Notices under this Agreement shall be sent to the Addresses first hereinabove mentioned. Any change in the address of any Party shall be duly notified by a Registered post acknowledgement due and delivered to the other parties.
- (iii) The expressions the "GOM", the "Concessionaire", the "Lender" and the "Lenders' Representative" herein used shall unless there be anything repugnant to the subject or context include the respective successors, legal representatives, administrators and permitted assigns.
- (iv) This Agreement shall not be affected by reorganisation of any Lender, the Concessionaire or the GOM and the successor in interest of the Lender or the GOM shall have the benefit of this Agreement.
- (v) Any dispute, difference or claim arising out of or in connection with or in relation to this Agreement which is not resolved amicably shall be decided finally by arbitration as per the provisions of the Arbitration and Conciliation Act, 196. The arbitrators shall issue a reasoned award. The venue of such arbitration shall be Regional Headquarter of Chief Engineer, public works Department. The Award shall be final and binding on the Parties. The Parties agree and undertake to carry out the award of the arbitrators (the "Award") without delay.



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- (vi) This Agreement and rights and obligations of the Parties shall remain in full force and effect pending the Award in any arbitration proceeding hereunder. The Courts in Maharashtra alone shall have jurisdiction over all matters arising out of or relating to the arbitration agreement contained herein or proceedings arising out of or relating to the arbitration proceedings thereunder.
- (vii) The consultation, recommendation or approval of the Lenders' Representative under this Agreement shall always be taken as consultation, recommendation or approval of every concerned Lender and each such Lender shall be bound by the same.
- (viii) This Agreement shall be in addition to and shall not be in derogation of the terms of the Financing Documents.
- (ix) It shall not be necessary for the Lender(s) or the Lenders' Representative to enforce or exhaust any other remedy available to them before invoking the provisions of this Agreement.
- (x) No amendment, variation or modification to this Agreement shall be valid and effectual unless made in writing and executed by the duly authorised representatives of all the Parties hereto.
- (xi) All stamp duties or other imposts and charges as are applicable on this Agreement or on amendment of the Concession Agreement or execution of fresh Concession Agreement for the purpose of substitution as aforesaid shall be borne by and be to the account of the Concessionaire. In the event of the Lenders making such payment for the time being, it shall be deemed to be a part of the Debt Dues.
- (xii) The Parties hereby expressly agree that for the purpose of giving full and proper effect to this Agreement, the Concession Agreement and this Agreement shall be read together and construed harmoniously. The terms of this Agreement shall prevail in the event of any inconsistency with the Concession Agreement.



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SCHEDULE I

PARTICULARS OF FINANCIAL ASSISTANCE.

Name and Address of the Lender	Nature and Amount of Financing Assistance

IN WITNESS WHEREOF THE PARTIES HERETO HAVE SET THEIR HANDS
HEREUNTO ON THE DAY, MONTH AND YEAR HEREINABOVE MENTIONED.

SIGNED AND DELIVERED ON BEHALF OF
-----LIMITED

BY : _____

Name :

Title :

SIGNED AND DELIVERED ON BEHALF OF
Government of Maharashtra

BY : _____

Name :

Title :

SIGNED AND DELIVERED ON BEHALF OF
----- ON BEHALF OF THE
LENDERS SET FORTH IN SCHEDULE I

BY : _____

Name :



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Sample Form

SCHEDULE- U

MEMORANDUM OF UNDERSTANDING

Where the Project is being implemented by a Consortium, the Memorandum of Understanding entered into them for the purpose of implementing the Project shall be appended. (In Memorandum of understanding, section XIII of Volume - II)

Memorandum of understanding shall be done with RITES (Representative of Engineer-In-Charge)



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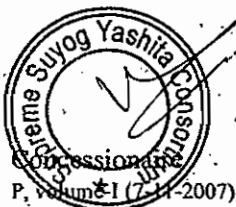
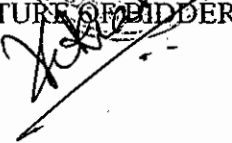
Sample Form

SCHEDULE - V

DECLARATION OF THE BIDDER.

I / we hereby declare that I / we have made myself / ourselves thoroughly conversant with the local conditions regarding all materials and labour of which I / we have based on my / our rates for this bid. The Specification and leads on this work have been carefully studied and understood before submitting this bid. I / We undertake to use only the best materials approved by Engineer in charge or his duly authorized representative during execution of the work and to abide by the decision.

SIGNATURE OF BIDDER

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Engineer-in-Charge

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SCHEDULE - W

As per **Bidding Data**

Details of experience and performance of Joint Ventures /
Consortium



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GOVERNMENT OF MAHARASHTRA

Sample Form

SCHEDULE - W

DETAILS OF EXPERIENCE AND PERFORMANCE OF
JOINT VENTURES / CONSORTIUM

Details of bidder - Proforma 1

General Information

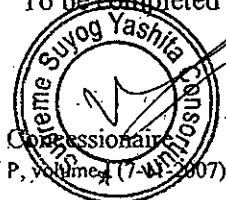
All individual firms and each partner of a joint venture shall complete the information in this form. Nationality information to be provided for all owners or applicants who are partnerships or individually owned firms.

Where the bidder proposes to use named subcontractors for critical components of the works; Or for work contents in excess of 10 percent of the value of the whole works, the following information should also be supplied for the specialist subcontractor(s).

1	Name of Firm	
2	Head Office Address:	
3	Telephone	Contact
4	Fax	Telex
5	Place of Incorporation / registration	Year of Incorporation / registration

Nationality of Owners		
	Name	Nationality
1		
2		
3		
4		
5		

To be completed by all owners of partnerships or individually - owned firms



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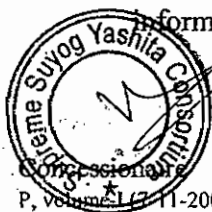
Sample Form

SCHEDULE - W

Details of bidder - Proforma 2

Structure and Organization

1. The bidder is
 - a. An individual
 - b. A proprietary firm
 - c. A firm in partnership
 - d. A limited Company or Corporation
 - e. A group of firms / joint venture (if yes, give complete information in respect of each partner)
2. Attach the Organization Chart showing the structure of the organization, including the names of the Directors and position of Officers.
3. Number of years of experience
 - a. As a Prime Contractor / Firm (contractor / firm shouldering major responsibility)
 - i. In own country
 - ii. Other countries (specify country)
 - b. In a Joint Venture
 - i. In own country
 - ii. Other countries (specify country)
 - c. As sub contractor (specify main contractor)
 - i. In own country
 - ii. Other countries (specify country)
4. Name and address of any associates the applicant has in India who is knowledgeable in the procedures of customs, immigration, taxes and other information necessary to do the work.



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5. For how many years your organization has been in business of similar work under its present name? What are your fields of operation? And if since when?
6. Where you ever required suspending construction for a period of more than six months continuously after you started? if so, give the name of project and reasons for not completing work)
7. Have you ever left the work awarded to you incomplete? (If so, give name of project and reasons for not completing work).
8. In which fields of civil / mechanical / electrical engineering construction do you claim specialization and interest?
9. Give details of your experience in modern technology for manufacture and quality control.
10. Give details of your experience in construction of same type project.
11. Give details of your experience in Infrastructure Development.
12. Give details of your soil and material testing laboratory, if any.
13. Give details of your experience in executing BOT projects.



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Sample Form

SCHEDULE - W

General Experience Record-Proforma 3

Name of bidder or Partner of a Joint Venture/member of consortium

All individual firms and all partners of a joint venture shall complete the information in this form. The information supplied should be the annual turnover of the Applicant (or each member of a joint venture), in terms of the amounts billed to clients for each year for work in progress or completed at the end of the period reported.

Use a separate sheet for each partner of a joint venture/member of consortium.

Bidders are requested not to enclose testimonials, certificates, and publicity material with their applications; they will not be taken into account in the evaluation of qualifications.

The bidders should provide the experience details of the projects undertaken by it only. Project experience of the applicant's parent company or its Subsidiary who are not members of the consortium will not be considered.

Annual turnover data (Construction works only)		
Sr. No.	Year	Turnover in Rs. Crores
1.		
2.		
3.		
4.		
5.		



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Joint Ventures Summary		
Name of all partners of a Joint Venture/member of consortium.		
1.	Lead Partner	
2	Partner	
3	Partner	

Total value of annual construction turnover, in terms of work billed to client at the end of the period reported:

Annual Turnover data (Construction works only)							
	Partner	Name.	Year 1	Year 2	Year 3	Year 4	Year 5
1	Lead Partner						
2	Partner						
3	Partner						
	TOTAL						

Indicate responsibility in respect of planning, construction equipment and execution of the work of the lead firm of joint venture and of each of the joint venture partners.

Name and address of Bankers to the Joint Venture:

Details regarding financial responsibility and participation (percentage share in the total) of each firm in the Joint Venture. Attach a Memorandum of Understanding for the Proposed Agreement of Joint Venture, which should lay down responsibility regarding work and financial arrangements in respect of each of the firms in the Joint Venture.



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Sample Form

SCHEDULE - W

Particular Experience Record -Proforma 4

Name of Applicant or Partner of a Joint Venture

On a separate page, using the format complying the bidding data in volume II, each bidder or partner of a joint venture is requested to list all contracts of a value equivalent or more, of a similar nature and complexity to the contract for which the bidder wishes to qualify, undertaken during the last five years. The value should be based in Indian Rupees, at the date of substantial completion, or for current contracts at the time of award. The information is to be summarized, using accompanying proforma, for each contract completed or under execution. Information of BOT projects of similar nature and magnitude should be specifically mentioned.

Where the bidder proposes to use named subcontractors for critical components of the works or for work contents in excess of 10 percent of the value of the whole works, the information should also be supplied for each specialist subcontractor.



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Sample Form

SCHEDULE - W

Details of Contracts of Similar Nature and Complexity-Proforma 5

Name of bidder or Partner of a Joint Venture

Use a separate sheet for each contract.

1	Number of Contract
	Name of contract
	Country
2	Name of Employer
3	Employer's address
4	Nature of works and special features relevant to the contract
5	Contract role (check one) -----Sole ----- Subcontractor ----- Partner in a joint venture
6	Value of the total contract (in specified currencies at completion, or at date of award for current contracts) Currency (In Rs.)
7	Date of Award
8	Date of Completion
9	Contract Duration (Years and months) -----years ----- months
10	Specified requirements Give details of annual production record in respect of major items involved in the work and year to verify fulfillment of eligibility for this work.
11	Name and professional qualification of Bidders Engineer in charge of the work.
12.	Were there any penalties/ fines/ stop- notice/ compensation/ liquidated damages imposed? (Yes or No). If yes, give amount and explanation.



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Sample Form

SCHEDULE - W

Summary Sheet: Current Contract Commitments / Works in Progress-

Proforma 6

Name of bidder or Partner of a Joint Venture

Bidders and each partner to an application should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received or for contracts approaching completion, but for which an unqualified, full completion certificate is yet to be issued.

	Name of Contract	Name of Client	Figures in Rs. Crores			
			Contract Value	Stipulated date of completion	Value of outstanding work	Estimated date of completion
1						
2						
3						
4						
5						
6						



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Sample Form

SCHEDULE - W

Personnel Capabilities- Proforma 7

Name of bidder

For specific positions essential to contract implementation, bidders should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied in separate sheets using one Form for each candidate.

1	Title of Position
	Name of Prime Candidate
	Name of Alternate candidate
2	Title of Position
	Name of Prime candidate
	Name of Alternate candidate
3	Title of Position
	Name of Prime candidate
	Name of Alternate candidate
4	Title of Position
	Name of Prime candidate
	Name of Alternate candidate



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Sample Form

SCHEDULE - W

Candidate Summary- Proforma 8

Name of bidder

Position		CandidatePrimeAlternate
Candidate Information	1. Name of Candidate	2. Date of Birth
	3. Professional Qualifications	
Present Employment	4. Name of Employer	
	Address of Employer	
	Telephone	Contact (manager/personnel officer)
	Fax	Telex
	CCD title of candidate	Years with present employer

Summarize professional experience over the last 2 years. In reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

From	To	Company Project / Position / Relevant technical and Management experience



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Sample Form

SCHEDULE - W

Equipment Capabilities- Proforma 9

Name of Bidder

The bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for each and all item of equipment necessary for efficient execution of this project. A separate form shall be prepared for each item of equipment, or for alternative equipment proposed by the bidder.

Item of machinery	
Machinery information	
1. Name of manufacturer	
2. Model and power rating	
3. Capacity	
4. Year of manufacture	
Current Status	
5. Current location	
6. Details of current commitments	
Source	
7. Indicate source of the equipment	
Owned	
Rented	
Leased	
Specially manufactured	
Omit the following information for equipment owned by the applicant or partner	
Owner	
8. Name of Owner	
9. Address of Owner	
Telephone	Contact name and title
Fax	Telex
Agreements	
Details of rental / lease / manufacture agreements specific to the project.	



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GOVERNMENT OF MAHARASHTRA

Sample Form

SCHEDULE - W

Financial Capability- Proforma 10

Name of bidder or partner of a joint venture

Bidders including each partner of a joint venture should provide financial information to demonstrate that they meet the requirements stated in the eligibility criteria and information required for pre-qualification. Each bidder or partner of a joint venture must fill in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Banker	
Name of Banker	
Address of Banker	
Telephone	Contact name and title
Fax	Telex



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Sample Form

SCHEDULE - W

AVERMENTS AND AUTHORISATIONS – Proforma 12

(To be given separately by each partner of Joint Venture / Consortium)

I, undersigned, do hereby certify that all the statement made in the preceding schedules and in the required attachment are true and correct.

I/We the undersigned do hereby certify we are not associated directly or indirectly with consultants for this project or any other entity that has prepared the design, specification or other document for this project.

I /We, the undersigned, do hereby certify, that we are not associated directly or indirectly with Consultant / Engineers proposed for this project.

The undersigned hereby authorise (s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Government of Maharashtra to verify this statement or regarding my (our) competence and general reputation.

The undersigned understands and agrees to furnish any such information at the request of Government of Maharashtra.

.....
(Signed by an Authorised Signatory of the Firm)

.....
(Title of Signatory)

.....
(Name of firm and Seal)



✓
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Thane Construction Division
THANE

Engineer-in-Charge

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SCHEDULE - X

GUIDELINES FOR PREPARATION OF
OPERATION AND MAINTENANCE MANUAL

1.0 General

Following Minimum Provisions shall be considered for preparation of Maintenance Manual.

- a. The Concessionaire shall comply with the O&M Requirements set out in this Schedule. In doing so, the Concessionaire shall ensure that the Project Facilities are maintained to the concerned codes as set out in the Design Requirements and Detailed Project Report and shall also meet the other requirements, if any, set out in the Agreement.
- b. During the Implementation Period, the Concessionaire shall take appropriate measures to operate and maintain the existing project facilities and ensure that the same remains open for uninterrupted, smooth and safe passengers flow at all times.
- c. In the design, planning and implementation of all works and functions associated with the operation and maintenance of the Project Facilities, the Concessionaire shall take all such actions and do all such things (including without limitation, organising itself, adopting measures and standards, executing procedures including inspection procedures, if any, agents and employees) in such manner, as will :
 - (i) Ensure the safety of personnel deployed on and users of the Project Facilities or part thereof;
 - (ii) Keep the Project Facilities free from undue deterioration and wear;
 - (iii) Permit unimpaired performance of statutory duties and functions of any party in relation to the Project;
- d. During the Concession Period, the Concessionaire shall ensure that :
 - (i) The Project Facilities are kept free from undue deterioration and undue wear;
 - (ii) Applicable and adequate safety measures are taken;
 - (iii) Minimum delay is caused to users of the Project Facilities;
 - (iv) Adverse effects on the environment and to the owners and occupiers of property and/or land in the vicinity of the Project Facilities, due to any of its actions, is minimized;



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- (v) Any situation which has arisen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and its adverse effects controlled / minimized;
- (vi) Disturbance or damage or destruction to property of third party by operations of the Project Facilities is controlled/minimized;
- (vii) Members of the public are treated with due courtesy and consideration by its employees / agents;
- (viii) Users are provided with adequate information and forewarned of any event or any other matter affecting the Project Facilities to enable them to control/minimize any adverse consequences by such event or matter;
- (ix) A complaint register to record grievances of any member of the public in relation to the operations and maintenance of the Project/Project Facilities is duly maintained;
- (x) Passenger data and data relating to the operation and maintenance of the Project Facilities are collected;
- (xi) All materials used in the maintenance, repair and replacement of any of the Project Facilities shall meet the Design Requirements/ standards prescribed in the DPR.
- (xii) The personnel assigned by the Concessionaire have the requisite qualifications and experience and are given the training necessary to enable the Concessionaire meet the O & M Requirements.

2.0 Operation and Maintenance Manual and O & M Plans

- a. Prior to the commencement of any construction activity, the Concessionaire, in consultation with the Engineer in Charge, shall finalize the O&M Plan - Implementation Period.
- b. As provided in this Schedule, prior to making application for the Completion certificate for the Project the Concessionaire shall finalize in consultation with the Engineer in Charge.
 - (i) the O&M Manual
 - (ii) the O&M Plan for the first year of operations.
- c. Six weeks prior to the anniversary of COD each year, the Concessionaire shall prepare an annual O&M Plan for the next year of operations.



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3.0 Maintenance Requirements

3.1 Maintenance Standards

3.1.1 During Implementation Period,

3.1.2. During Operations Period,

3.2 Maintenance Activities

3.2.1 Routine Maintenance

3.2.2 Periodic Maintenance -

3.2.3 Emergency Maintenance

- a. The Emergency Response Protocol ("ERP") shall be developed by the Concessionaire in consultation with the local police, hospital / ambulance services, fire departments and other authorities / support personnel and the Engineer in Charge. This shall be a part of the O&M Manual developed by the Concessionaire.
- b. The ERP shall set out steps to be taken and measures to be adopted by the Concessionaire in responding to dealing with Emergency including those situations related to railway accidents involving personal injuries or fatalities, property damage and force majeure as follows:
 - (i) In the event of an Emergency, the Concessionaire shall immediately carry out an inspection of the area affected by the Emergency. Where Emergency has necessitated closure of the Project Facilities or part thereof, the Concessionaire shall promptly carry out any repair works necessary to restore the Project Facilities to safe condition and in any event shall carry out such works before the affected area of the Project Facilities is re-opened to traffic.
 - (ii) The Concessionaire shall ensure that sufficient staff, plant, equipment and materials, including without limitation medical assistance are available to respond to Emergency within reasonable period at all times during the Concession Period.



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The Concessionaire shall employ appropriate personnel as 'Duty Officers' and shall ensure that a Duty Officer is on duty at all times to

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respond to Emergency. A schedule of the telephone numbers of the Duty Officers shall be provided to Engineer in Charge and the police so that contact can be made with a Duty Officer at any time. The Concessionaire shall ensure that Duty Officers are empowered to mobilise the necessary staff, plant, equipment and materials in response to information or instruction from Engineer in Charge, police or other emergency services in the event of Emergency. Procedures for liaison between Duty Officers and the police and other emergency services shall be developed as part of the ERP.

c. In case of Emergency, the Concessionaire shall

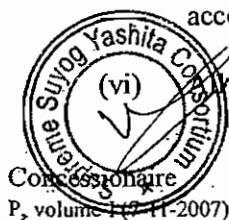
- (i) carry out such emergency maintenance and repairs as may be required to repair the damages, if any, in consultation with the Engineer in Charge and where required under the supervision of the police in order to ensure that the Project Facilities are returned to normal operating standards as quickly as possible.
- (ii) Take all necessary measures to minimise pollution in accordance with the procedure specified in the O&M Plan/ Environmental Management Plan where liquid or soluble material spillage is involved.

3.2.4 Other Maintenance Works

a. Illumination: The Concessionaire shall maintain all Illumination installations and related hardware in accordance with relevant clauses of IS: 144 (Part I-V) 181. The maintenance will normally involve cleaning of luminaries, replacement of burnt out luminaries, damaged illumination poles or brackets and repairs to transformers. Detailed maintenance procedure for the same shall be prepared in consultation with the Engineer in Charge. In case of any breakdown, illumination shall be restored within 24 hours. The following standards shall broadly apply:

- (i) Illumination shall be maintained at the designed level throughout the Concession Period.
- (ii) All faults shall be repaired instantly and lighting restored and missing and damaged items shall be replaced instantly.
- (iii) Cleaning shall be done at regular intervals as specified in the O&M Manual to ensure that lighting is not below the specified standard.
- (iv) All installations shall be safeguarded against weathering and ageing effect by repainting and other preventive measures.
- (v) The servicing of stand-by power generations units shall be carried out in accordance with the manufacturer's instructions.

- (vi) Electricity charges shall be borne by the Concessionaire.



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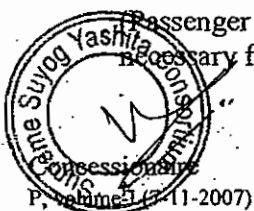
b. Landscaping

- (i) Maintenance of railway landscape shall include attending to repairs to elements of the landscape connected services as and when necessary, and replacement of irreparable items of work.
- (ii) Trees shall be maintained as per guide lines in SP:21-179 and no indiscriminate felling of trees shall be resorted. The felling of trees shall be undertaken in consultation with the Engineer in Charge and after obtaining permission of competent authorities, as applicable.
- (iii) While borrowing earth from railside land for maintenance it shall be ensured that no earth is removed from around roots of trees.
- (iv) Maintenance operations include numbering and maintaining a register of all roadside trees within the ROW.
- (v) The routine maintenance such as trimming and shaping shall also cover those hedges and trees within the ROW, which affect the performance of the Project.
 - ♦ Cutting or clearance to safeguard the visibility at intersections, railway curves bends, accesses and signs shall be carried out in such a way as to avoid permanent damage to hedges and trees. Hedges and trees overhanging railways shall be trimmed to provide minimum headroom of 5.5 meters at all times.
 - ♦ Turfing within the ROW shall be mowed as to achieve a visual pattern in harmony with adjacent areas. Mowing shall be done when the height of cut reaches 150 mm.
 - ♦ The O&M Manual shall include a maintenance and management plan for trees, shrubs, turfing and hedges to sustain their development in a manner pleasing in appearance.

4.0 Safety and Passengers Management Operations

4.1 Safety

- a. The Concessionaire shall implement a Safety Management Programme in line with relevant codes. This shall form a part of the O&M Manual.
- b. The Concessionaire shall nominate a passengers safety and control officer (Passenger Safety Officer) who shall be responsible for all arrangements necessary for passenger safety and control including the provision and operation.



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during emergency. The Passenger Safety Officer shall be available on call on a 24 hours' basis.

- c. In case of Emergency, the Concessionaire shall take prompt and effective steps to minimise the adverse effects to road users and shall act as requested or as directed by the Police and take all such safety precautions and measures to minimise the risk of personal injury.

4.2 Passenger Traffic Management

4.2.1 General

Passenger Traffic Management shall be undertaken during scheduled and unscheduled construction work and maintenance activities and also during any Emergency. Passenger Traffic Management during Emergency shall be undertaken in consultation with the Engineer in Charge. The extent of the traffic management shall be assessed as per the site conditions.

5.0 Inspections & Frequency

The Concessionaire shall plan inspection programme for the Project Facilities for its smooth operations as per the provisions made in Specifications and Standards in Hong Kong code in volume IV as follows:

- 5.1 Test Trip and Daily Tests
- 5.2 Weekly Inspection of Haulage Rope
- 5.3 Monthly Inspection and Testing
- 5.4 Quarterly Inspection and Testing
- 5.5 Annual Survey.

6.0 Reporting Requirements

The reporting and information that generally need to be provided by the Concessionaire are given below. The Requirements given below are indicative of the type of information to be provided. The format of such reports, recording requirements, software standards and number of copies required would be finalized in consultation with the Engineer in Charge. All reports and records shall be in the English language.



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6.1 Inspection Reports and Remedial Measures

The periodicity of inspections for maintenance activities by the Concessionaire shall be set out in the Maintenance Manual and regular reports on the same shall be sent to the Engineer in Charge. Where required, the Concessionaire shall carry out any maintenance, repair or rehabilitation works found necessary as a result of such inspections.

6.2 Quarterly O & M Report

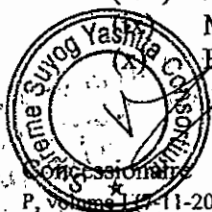
During the Concession Period, the Concessionaire shall provide to the Engineer in Charge a quarterly report (Quarterly O&M Report) that shall contain the following minimum information:

- (i) Inspections undertaken by the Concessionaire during the respective quarter of the year and action taken/ proposed thereafter;
- (ii) Details of all reports submitted to the Engineer in Charge during the quarter of the year
- (iii) O & M inspection compliance report
- (iv) Maintenance activities undertaken during the quarter ended,
- (v) Details of any Emergency and action taken

The format of the O&M Report would be finalized in consultation with the Superintending Engineer.

7.0 Maintenance Manual

- a. The Maintenance Manual prepared by the Concessionaire in consultation with the Engineer in Charge shall set out the operations and maintenance standards and details of the operations and maintenance activities to be undertaken during the Concession Period, so that the Project Facilities shall at all times conform to the Design Requirements/ specifications set out in the DPR.
- b. The Maintenance Manual should have separate sections for operations and maintenance.
- c. The Manual should include without limitation the following aspects:
 - (i) Organisation structure with responsibilities of key personnel;
 - (ii) Passenger Traffic Management Plan including the Corridor Control Plan;
 - (iii) Safety Management Programme including the Emergency Response Protocol;
 - (iv) Inspection Procedures;
 - (v) Maintenance Intervention Levels;
 - (vi) Asset Management Project Deliverables and Tolerance Criteria;
 - (vii) Environment Management Plan;
 - (viii) Maintenance Programme;Management information system;
Report Formats.



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8.0 Miscellaneous

a. Inventory

- (i) The Concessionaire shall maintain an inventory of all items comprised in the Project Facilities (the "Inventory"), in a format to be developed in consultation with the Engineer in Charge.
- (ii) Throughout the Concession Period the Concessionaire shall keep the Inventory updated to take account of works carried out on and other changes made to the Project Facilities.
- (iii) The Concessionaire shall submit a copy of the Inventory to the Engineer in Charge within thirty (30) days of receipt of a request for the same.

b. Equipment belonging to third parties

The Concessionaire shall be responsible for the installation, operation, maintenance and removal of any equipment belonging to third parties.

9.0 Enforcement Methodology

The conditions and provisions mentioned in article 9.0 and Schedule-O and Schedule-P of Volume I in this agreement shall be applicable. In case of failure or non responsiveness of the Concessionaire the Engineer in Charge shall be at liberty to take any or all steps / measures mentioned in article 9.0 and Schedule-O and Schedule-P of Volume I or elsewhere mentioned in the agreement. The facilities to be provided for maintenance are to be set out with descriptions/specifications as per Volume II.



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Date.	21.6.2008		
To.	Office of the Executive Engineer, Thane Construction Division, Thane, Station Road, Thane - 400 601.		
M.	www.mahapwd.com	Fax-(022)-25361127	email - eethc@mahapwd.com
Account	No.TCD/Tender/	Ph. No. 25361393	Date:- 21/6/2008
To,	4241		
✓	The Director, Superem Suyog - Yashita Consortium, 41, Suyog Industrial Estate, 1 st Floor, L.B.S. Marg, Vikroli-(W) Mumbai - 400 083.		

- Subject - Letter of acceptance for Construction of Funicular Railway at Haji Malang Gad, at Ambarnath District Thane, Maharashtra State (India).
- Reference - 1) Dy. Secretary P.W. Department Mantralaya Mumbai's Marathi letter No. खास-२००८/प्र.क्र.२९/रस्ते-९ दि. १९/६/०८.
2) Superintending Engineer, Thane (P.W.) Circle, Thane Marathi letter No.T.C./G-41/Tender/413 dated 21/06/2008.

Dear Sirs,

Your bid for the above mentioned project has been accepted by the Govt. of Maharashtra vide above referred letter No.1 for Rs. 45.91 Crore and 14.94% I.R.R. for the period of 24 years and 5 months (Including construction period of 24 months).

Necessary further action is required at your end within time limit as mentioned accepted tender conditions (Volume I to IV) by the Govt. of Maharashtra.

Yours faithfully,

[Signature]
Executive Engineer,
Thane Construction Division,
Thane.

Copy submitted to the Chief Engineer, Mumbai (P.W.) Region, Mumbai for favour of information please.

Copy submitted to the Superintending Engineer, Thane (P.W.) Circle, Thane for favour of information please.

Copy to the Deputy Engineer, Ulhasnagar (P.W.) Sub Division, Ulhasnagar for Information.

[Signature]
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Summaries actual assets and liabilities in the previous five years. Based upon known commitments, summarize projected assets and liabilities in the next one year.

	Financial information in Rupees	Actual: Previous five years					Projected: Next one year
		1	2	3	4	5	6
1	Total Assets						
2	Current Assets						
3	Total Liabilities						
4	Current Liabilities						
5	Profit before Tax						
6	Profit after Tax						

Specify proposed sources of financing to meet the cash flow demands of the Project, net of Current commitments.

Source of Financing	Amount

Attach audited financial statements for the last five years (for the individual or each partner of a joint venture)

Firms owned by individuals, and partnerships, may submit their sheets certified by a registered Chartered Accountant, and supported by copies of tax returns.



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Sample Form

Litigation History- Proforma 11

Bidders including each partner of a joint venture should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution. A separate sheet should be used for each partner of a joint venture.

[illegible]

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