

## VISION DOCUMENT & DEVELOPMENT GUIDELINES : SABARIMALA MASTER PLAN

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## THE MASTER PLAN

The Master Plan is essentially a road map for future development of the area. It spells out the interventions required and the guidelines and standards for development. Based on the Master Plan, spatial development Plans for each designated area in the Master Plan should be prepared by the implementing agency, which should have details regarding proposed projects in each designated area. Each project should further be prepared in detail using technical expertise such as architecture, civil engineering, amenity and infrastructure development etc. These are to be prepared in the form of Detailed Feasibility Reports and Detailed Project Reports based on which, each project will be implemented. In case of large projects and those expected to have impact on environmental components, mandatory Environmental Impact Assessments need to be carried out during the Detailed Project Report stage.

### For formal implementation of Land-use and Zonal Regulations

As required by all stakeholders, Sabarimala need to be developed as a religious precinct where all pilgrims get equal opportunity for *darshan* and essential facilities and amenities at the same time, safeguarding the pristine environment which is a part of *Swamy Ayyappa's Poongavanam*. For the same, it is required to have a Master Plan which would guide the preparation of "planning schemes" to address specific categories of desirable land uses within the planning area. Planning schemes divide the planning area into different zones in which certain uses are allowed or prohibited. Land owners / occupiers shall be given the opportunity to participate and submit detailed Planning Schemes by Notification of Intent from the relevant authority.

The relevant authority shall make regulations regarding the land uses within the planning areas, including regulations for zoning purposes, classes and uses of buildings to be permitted in particular zones, the maximum and minimum sizes of plots, and minimum proportion of land in any use zone to be devoted to roads and open spaces in comparison with those for building and development. Land transfer and such activities would be as per the existing Forest Conservation Act in the Periyar Tiger Reserve or adjoining forest areas and other valid legislation (e.g. Environmental Protection Act, Town Planning Act etc.) as the case may be in all other areas outside the forest areas.

The regulations a listed herein are derived from the existing standards including the Urban Development Plan Formulation and Implementation Guidelines (UDPFI) and Kerala Building Rules (KBR) and have been consolidated here for ease of use.

This document also outlines the proposed institutional setup for implementing the Master Plan.

## EXECUTIVE SUMMARY

### Land use and zonal regulations: Master Plan for Sabarimala – 2050

The Land Use Zonal Regulations (LUZR) with the Development Controls plays a significant role in the Master Plan. It governs & regulates all developmental activities within the Region for Micro Planning comprising of *Pampa, Sannidhanam, Main Access Routes* and the Proposed Base & Transit camps.

This Master Plan Document – Vision 2050 envisages the necessary co ordination between the different departments of the Government for methodical and sustained provision of essential facilities, conservation and enhancement of key environmental elements in the micro planning region in a planned manner.

The LUZR is an integral part of the Master plan and has to be necessarily read with the Land use zoning maps (LUZM) and interpreted accordingly.

In addition, modules which describe the various component studies and proposals therein (Plans, Programs, Policies & Projects) are attached with this Master Plan document.

Thus essentially this Master Plan is put forth in the following form:

Volume 1: Introduction to the Master Plan for Sabarimala

Volume 2: Master Plan Modules

- Regional Module
- Infrastructure Module
  - *Traffic and Transportation*
  - *Solid Waste Management and Water Supply & Sanitation*
  - *Other Amenities and Services (Accommodation, Commercial, Energy & Fuels, Communications, Police & Fire Fighting services)*
- Landscape Module
- Built Fabric Analysis Module
- Guidelines for Disaster Management

Volume 3: Vision Document (2015, 2050) and Development Guidelines

The Master Plan lists out set of interventions required in the region during the planning period (2006 to 2050) which are provided in the individual modules. A comprehensive list is presented as Annexure 1 and 2 of the Volume 1: Introduction to the Master Plan for Sabarimala.

## 1. INTRODUCTION TO THE LANDUSE&ZONING REGULATIONS

The document lists the general interventions required in the region and the vision on the future of the region with respect to the pilgrimage and its impacts. The Regional Master Plan 2050 document envisages a democratic development for region, with the **vision of providing required facilities for the pilgrims and to mitigate the impacts of pilgrimage in the wider region of influence strengthened to receive and support the influx of pilgrims**. This is progressively attained in Stages, with the implementation of corrective, up-gradation, enhancement measures to reinstate the capabilities of the regional environment to sustain the pilgrimage in the manner the pilgrims and the host community welcomes. For this Staged attainment, an intermediate phase: Perspective 2015 has been formulated. In order to guide such growth, the Master plan uses the regulatory mechanism by land use zoning regulations and land use map for guiding the development and activities, management of various aspects related to the pilgrimage and its enforcement. This document has been the result of series of studies and analysis presented herewith as different Modules of the Master Plan Document. This document should be viewed and studied accompanied by these modules which also contain the interventions / proposals suggested which have been aimed at in Stages for effective implementation.

The purpose of Landuse and Zonal Regulation is to ensure logical development of land, and to protect the health and welfare of the Pilgrims and the natural environment.

- Zoning is essential as a protection against the unrestricted development.
- Zoning is essential to ensure proper development of infrastructure.
- Zoning is essential to restrict and segregate incompatible land uses along with landuse which can if not handled would pose hazards (such as Appam Aravana complex, fuel store, gun powder store etc) along with noise, pollution, commercial traffic, and land use density, thus maintaining a healthy and safe environment.

### 1.1 Master Plan (Perspective:2015 & 2050): Framework and Objectives

The Master plan vision document envisages a compact, balanced and equitable, growth for Sabarimala. In order to guide such growth, the Master plan uses the regulatory mechanism of land use zoning and land use map for development regulation, management and enforcement. Along with this, key proposals comprising both land use and infrastructure are detailed for a Staged implementation.

The Master plan document is a starting step for institutional co-ordination and macro zoning for different functions within the Local planning area and acts as a guiding information to enable the decision making process regarding locational aspects and opportunities for balanced growth and development.

A number of studies have been carried based on which the Master plan (Perspective 2015 & perspective 2050) had been framed and drafted. These also have contributed to the formulation of the objectives based on which the design of the zonal regulations is based.

The following objectives of the Sabarimala development linked to the regulations are:

1. *To safeguard the Environment and to restore the Sanctity of the Place and its natural settings*

The Master Plan 2015-50 will govern macro zoning and protection of land use areas at larger scale while the zoning regulations at an operational level aim to safeguard the forest environment which sustains the religious temperament here.

2. *To Safeguard pilgrims Interest:*

The Master Plan will govern macro zoning and protection of land use areas at larger scale while the zoning regulations at an operational level aimed to safeguard the larger interest of the pilgrims. Conflicting land uses, highly polluting activities and construction in unsafe/fragile environmental areas are to be restricted.

3. *To be Anticipatory and responsive*

The Forest and the settlement areas are under constant change and transformation. The regulations need to be responsive to the changes of activity, intensity, development, etc.

4. *To make realistic regulations*

Coherent regulations which recognize the dynamics of forest, religion, socio cultural & infrastructure needs. The regulation through suitable development control parameters can help match development needs and demands of stakeholders and the area.

5. *To broaden the diversity and be responsive*

Sabarimala's complexity needs to be addressed through diverse zones. The limited landuse zone definitions are broadened by expanding the zone definition and create diverse zones to enable overall growth in manner as envisaged by the Master Plan.

6. *To lend Flexibility*

The mono functional package based land wise proposals are rigid and do not recognize the larger trends in areas/territories. To enable diverse zones with land uses responsive to the ground realities, a zone based on the territory is considered, within which appropriate mixed land use approach is proposed.

The various zones and impact areas that need to be dealt at a larger scale approach have been identified through the use of planning proposals, which are provided with planning guidelines for development through a consultative model between all stakeholders. This document should however be finalized based on detailed consultations with various stakeholder groups.

7. *Operational area Planning*

The proposals of the Master plan are devised in a manner that facilitates implementation. The interventions are phased to help in benchmarking targets and objectives. The model of development envisages the active role of the local community Participation in the public domain.

## 1.2 Spatial Extent of Landuse Zoning Regulations

Detailed Regional Planning Area transcends across the boundaries of *Idukki, Pathanamthitta* and *Kottayam* Districts. However, the interventions suggested for the wider region are broad and confined to provision of essential pilgrim facilities at main halt points. Such provision should be based on the existing Master Plans by designated authority (Town Planning



Department, Government of Kerala (GoK)) if any. In case of areas with no such existing plans, broad guidelines on provision of facilities and amenities mentioned herein under the section on Regional Interventions need to be adhered to. Respective Local bodies with the support of GoK should be entrusted with the task of providing these amenities and facilities as described herein.

The regulation is applicable to the Sabarimala region; specifically for all proposed or existing base camps i.e. Nilakkal, Sathram/Vandiperiyar, Erumely, trek routes, Pampa & Sannidhanam. The Main location Nilakkal, Pampa & Sannidhanam are in the Ranni Perunad Panchayat, Sathram, *Uppupara, Vallakadavu & Vandiperiyar* are in *Vandiperiyar & Kumily* Panchayats and *Erumely* in *Erumely* Panchayat are defined as the Local Planning areas.

The provisions of this document are to be read along with the relevant planning area maps of the Master plan, applicable to the respective areas in the Sabarimala region. The permissible land uses within a zone, the zone delineation and respective regulations for land use and developmental activity shall be in accordance.

The said regulations are subject to changes, if any, with the permission of the GoK. All the necessary /associative details shall be updated in such a case.

### 1.3 Presentation of the Master Plan

The Master Plan 2015 -50 comprises the following documents:

**Volume 1:** Introduction to the Master Plan for Sabarimala

**Volume 2:** Master Plan Modules

- Regional Module
- Infrastructure Module
  - *Traffic & Transportation*
  - *Solid Waste Management, Water Supply And Sanitation*
  - *Other Amenities and Services (Accommodation, Commercial, Energy & Fuels, Communications, Police & Fire Fighting services)*
- Landscape Module
- Built Fabric Analysis Module
- Guidelines for Disaster Management

**Volume 3:** Vision Document (2015, 2050) and Development Guidelines

(Separate modules defining various aspects of the planning region addressing all Planning Areas (*Sannidhanam, Pampa, Nilakkal, Trek routes, Uppupara, Sathram*, etc) are provided and contains the analysis, observations and proposals for each sector. The recommendations and identified projects are part of the proposals which guide the preparation of future plans for implementation). These are supplemented with the following:

a) Master Plan - Concept document

The proposed concept for development has been detailed in the Report on the “The Outline of the Master Plan for Sabarimala”. The detailed master plan has been prepared based on the broad indicative concept which had been previously approved and accepted by all stakeholders.

b) Existing Land use Maps (ELUM)

The existing land use as of 2005 has been captured through detail survey and presented as Existing Land use map (ELUM). Notations followed are in tandem with approved and accepted notations as per the UDPFI guidelines and the KBR on which the guidelines are based. The entire set of maps is presented in the Built Fabric Analysis module in Volume 2.

c) Proposed Landuse and Zoning Maps (PLZM)

Proposed Landuse and Zoning for core area namely, *Pampa*, *Sannidhanam* and trek routes are shown on Maps 1 through 12. Notations followed are in tandem with approved and accepted notations as per the UDPFI and the KBR guidelines.

d) Detailed Schema for Redevelopment / Special Areas

Detailed outline plans to form the basis of implementation of special schemes or redevelopment schemes for specific areas in the core area (*Pampa*, *Sannidhanam* and trek routes) are presented in the Maps attached to this document.

e) List of interventions

The Planning proposals or interventions proposed for the planning period are covered in these reports. List of interventions is also appended as Annexure 1 & 2 of Volume 1: Introduction to the Master Plan for Sabarimala.

#### 1.4 Note on the Regional Planning Area

Immediate Regional Planning Area (Planning Region 1) transcends across the boundaries of *Idukki*, *Pathanamthitta* and *Kottayam* Districts. However, the interventions suggested are broad and confined to provision of essential pilgrim facilities at main halt points. Such provision should be based on the existing Master Plans by designated authority (Town Planning Department, GoK) if any. In case of areas with no such existing plans, broad guidelines on provision of facilities and amenities mentioned herein under the section on Regional Interventions need to be adhered to. Respective Local bodies with the support of GoK should be entrusted with the task of providing these amenities and facilities as described herein, with additional support wherever required.

Planning Sub region or the local planning area comprises of Sabarimala, the base camps and trek routes.

#### 1.5 Categorisation of Land Use Zones

The micro-planning region of Sabarimala is categorized into three major areas for the application of Zonal regulations as follows:

1) Main Area

The main area of *Sannidhanam* has been grouped into six sub-areas for regulations as follows.

- a. Old Temple Complex premises/areas – the core
- b. Redevelopment/Development areas
- c. Residential /Accommodation areas
- d. Mixed Zones
- e. Religious / Pilgrim activity areas
- f. Service/amenity areas

- g. Green areas/forest areas

## 2) Specific Areas

The specific areas in the Master Plan refer to the areas which are not covered by the main area category. They are as follows:

- a. Large Public and Semi Public Infrastructure – Appam Aravana Plant, queue counters, Sadyalayas, etc
- b. Large Queue management structures
- c. Dedicated land uses
- d. Scheme areas
- e. Religious Heritage & Forest biodiversity conservation areas

## 3) Constraint Area

The constraint areas in the Master plan refer to the areas, which have restrictions on the type of development owing to certain specific laws / regulations applicable within the site and around. As these constraint areas are determined by specific acts/legislation, the development controls here follow these requirements.

The following are included within the constraint areas:

- a. Height restriction areas
- b. Right of Way of Right and Right of User
- c. Reserve forest area (This includes Reserve Forest area especially the Periyar Tiger Reserve adjacent to and immediately abutting the main and specific areas)
- d. Hazardous activity zone
- e. Other Environmentally fragile and notified locations
- f. Crossing points of Wild animals

## 1.6 Zonal Boundaries and Interpretation

The exact location and specific regulations applicable for a particular zone is to be verified from the Land Use Zoning Maps.

The zonal boundary is usually a feature such as a road, river, valley, lease area boundary, etc and includes the immediate inner edge of the area. The zone is codified through use of color and symbol such as Temple Zone (TZ), Residential/Accommodation zone (AA), etc as indicated in the legend on the maps.

The symbols shown in the legend represent the areas marked for such purpose and refer to areas which cannot be used for development or construction. In case of uncertainty regarding the boundary or interpretation, it shall be referred to the concerned authority for final decision.

## 1.7 Usage of the Zonal Regulations

The following are the preliminary steps to be taken for ascertaining the zones and applicability of the regulations on any given development.

1. Ascertain the correct location of the site on the Land Use Zoning Map using the correct Reference Points as mentioned.
2. Identify the zone within which the site is located – such as AZ, MZ, TZ, etc on maps

3. Read the relevant zone contents from this report.
4. The permissible landuse categories are given as code –please refer to the legend to the land use map covering codes for relevant land uses (such R1 for residential uses) and permissible ancillary land uses, in the Landuse Maps
5. Where a common table is provided, please read the notes given specific to the table- such as main roads may have special significance as per widths.
6. The plot sizes and relevant standards / Floor Area Ratio (FAR) are provided for each zone.
7. The parking norms are to be followed
8. In case of specific areas, the sanction shall be based on the program content of the development.
9. In case of redevelopments, refer to specific schema for each such area presented herewith and development should be followed as per the same
10. For developments in the constraint areas, the permissions/ No Objection Certificate (NOC) from the concerned authority is to be obtained before applying for sanction. The Permissions and sanction shall be based on decision of the Authority as may be applicable for the case.

## 2. REGULATIONS FOR MAIN AREAS

The main areas and their categories as follows:

- A. Temple Zones
  - i. *Sree Dhrama Sastha Temple complex, Sannidhanam*
  - ii. *Malikappuram temple complex*
  - iii. *Pampa Ganapathy temple Premises*
  - iv. *Sathram Temple premises*
  - v. *Mahadeva & Devi temple premises Nilakkal*
- B. Redevelopment/Development Zones
  - i. *Sannidhanam – NE,NW,SE & SW zones*
  - ii. *Pampa, Manalppuram, Thriveni, Hill top parking area*
  - iii. *Trek routes*
  - iv. *Base camp – Nilakkal, Sathram, Erumeli, Vandiperiyar, etc*
  - v. *Transit camps along trek routes*
  - vi. *Other areas*
- C. Residential/Accommodation Zones
  - i. *Pilgrim accommodation*
    - a) *Permanent*
    - b) *Temporary*
  - ii. *Staff accommodation*
    - c) *Permanent*
    - d) *Temporary*
- D. Mixed Zones
- E. Pilgrim/religious activity zones
  - i. *Pampa, Manalppuram & Thriveni*
  - ii. *Thiruvabharanam trek route*
  - iii. *Pilgrim corridor in Erumeli (petta thullal)*
  - iv. *Marakkoottam*
  - v. *Sharamkuthy*
  - vi. *Bhasmakulam*
  - vii. *Urakkuzhi*
- F. Service/amenity areas
- G. Green areas

Details on the Proposed Landuse and Zoning Plan are provided in Annexure 1.

## 2.1 Temple Zone: Represented by Symbol TZ

### 2.1.1 Definition of the Zone

The old Historic core of Sabarimala mainly comprising of Temple complex areas such as *Sree Dharma Sastha Mahasannidi* (including upper and lower *thirumuttam*), *Malikappuram* temple complex, *Pampa Ganapathy* temple complex, *Nilakkal Mahadeva* and *Devi Temple* area.

Redevelopment/development zones which overlays the base district for the purpose of establishing special use or development regulations for a particular area in addition to the provisions of the underlying base district. In the event of conflict between the base district regulations and the overlay district regulations, the provisions of the overlay district shall apply.

### 2.1.2 Master Plan Strategies

- Reinforce the spiritual role of this pilgrim destination culturally and socially with the help of land use approach based on traditional Temple Planning norms (*Vastusasthra*) and regulated development.
- Ensure preference to religious observances and poojas.
- Restrict highly polluting activities which intrudes with the sanctity of the holy precincts.
- Enhance the provision of pilgrim amenities and circulation.
- Conserve identified temple complexes and their precincts.
- Guide the upgradation of infrastructure, including provision of queuing facilities.

### 2.1.3 General Regulations for Temple Zone

#### 2.1.3.1 Area Regulations

Temples to be developed based on “**Panchaprakara Principles**” with *Balivattom*, *Pradakshinavazhi*, *Vilakkumadam*, *Shreevelippura*, *Puramathil*, as this pattern enables sufficient open areas around the temple for various religious activities and pilgrims circulation. The minimum sizes designated for the temple complex should be 116.10 meter (m) wide and 140.40 m long with a 25 m buffer space around.

#### 2.1.3.2 Permissible land uses

Main Land use category: Religious

Religious activities can cover any or whole of the area if so required.

Ancillary uses: Such administrative purposes which cannot be located away from the area, queuing facilities, prasadam preparation (manufacturing), treasury and ticket counters, utilities (all activities closely associated with religious activity and included in the detail scheme listing)

Ancillary uses are allowed to cover a total built up area of upto 1000 sq. m or 10% of the total built-up area of the zone, to which ever is lower for sanction purpose.

For ancillary uses to be a part and parcel of the total temple complex, they need to be planned in accordance to traditional Vasthu principles which governs temple planning and

in no circumstances should be constructed, unless so specified by the Vastusashtra. The locations, orientation, sizes and shapes also should follow the specifications in the Vastushastra and no deviation what so ever should be permitted.

All structures including bridges (but no bridge or flyovers higher than Sreekovil), queue complexes, Nadapanthal etc for circulation of pilgrims within the Sanctum Santorum, which conform to traditional temple planning norm, are allowed to be constructed in central zone or the outer zone of the temples as ancillary uses, but no such structure or elements are allowed inside the inner most core consisting of Sreekovil, Mandapam, Kodimaram and Ganapathy Kovil in case of Sree Dhrama Sastha Temple or with respect to any temple falling under the preview of Sabarimala Master Plan .

#### *2.1.3.3 Plan and Building Regulations*

The temple layout should be in accordance to Panchaprakaram Layout based on Thanthra Samuchayam. The total and exact extent of temple premises is specified in the detail scheme note. But in general, all constructions and developments have to follow the measurements and proportions as prescribed in the Thanthra Samuchayam. (Refer the temple development scheme for details)

Land development should be strictly rectilinear in pattern with proportions prescribed by Vastushastra and Thanthra Samuchayam.

A buffer equal to the one fifth of the total width of the temple complex or 25 m which ever is more, for main shrine and 10m for others, should be provided all around the temple complex.

#### *2.1.3.4 Height Regulations*

No structures (except flag post “kodimaram”) what so ever should be higher than the Sanctum Santorum/Sreekovil at least within the temple zone. To be precise, no building should be higher than the ‘Temple Thazhikkadam’.

### **2.1.4 Specific Regulations for Temple Zones**

#### *2.1.4.1 Sree Dharma Sastha Temple Complex*

- Maximum height that can be conceived for any building or structures within the temple complex or in the immediate vicinity (150m all around) will be governed by the existing height of the Sreekovil. No building what so ever should mask the view of Sreekovil & Kodimaram from any position in Sannidhanam.
- No construction other than the existing buildings is allowed in the central core.
- All existing structures which are not in accordance to the principles specified in Thantra Samuchayam should be relocated or reconstructed
- Additional construction works should not be carried out in the central core, with exception of carrying out of regular / routine maintenance of the structures as per predetermined schedule or as and when required from the perspectives of safety of the structures and safe pilgrim movement & for provision of temporary structures required for religious / pilgrim’s purposes during the season.
- Streets and buildings should orient towards the temple which is the main landmark and should be placed as per the layout suggested by Vastushastra.
- Nadapanthal should come up in outer core Pradakshinapadam of the temple complex

- Entry to the temple complex should be allowed from East and South Nada /Gateway/staircase only and exit from North and West Nada/Gateway/staircase.
- Hard paving should be avoided where ever possible and where provided should be with proper shading to enable pilgrims to walk barefoot during day time. Such hard paving should not be used for more than 30% of the total area devoted for circulation. Hard paving liable to be affected by moss should not be permitted in areas normally hit by rain or water. Soft paving using brick, terracotta, etc in an open jointed form, interspersed with/without grass should be encouraged.
- Minimum of 25 m buffer shape around the temple should be created.

Detailed Redevelopment Scheme for this temple complex is presented in Annexure 2.

#### 2.1.4.2 *Malikappuram Temple Complex*

- Replanning/development of the temple complex should be in accordance to Panchaprakaram based on Thanthra Samuchayam
- Minimum of 10 m buffer space should be created around the temple complex during re-planning.

#### 2.1.4.3 *Pampa Ganapathi temple premises*

- Replanning/development of the Temple complex should be in accordance to Panchaprakaram based on Thanthra Samuchayam
- Minimum of 10 m buffer space should be created around the temple complex on replanning.
- All existing structures which are not in accordance to the principles specified in Thantra Samuchayam should be relocated or reconstructed.
- All the buildings at least within 100m radius of the temple should follow the same orientation that of Ganapathy temple. But the buildings coming up along the Pampa river side can be oriented with respect to the access way and streets here.
- No building in Pampa should be higher that the Ganapathy Sreekovil (in the immediate precinct 200 m radius) or mask the view of the temple from possible points along the Pampa Manalpuram, Hilltop or Thriveni Bridge sides.

#### 2.1.4.4 *Sathram Temple premises*

- Replanning/development of the temple complex should be in accordance to Panchaprakaram based on Thanthra Samuchayam
- Minimum of 10 m buffer space should be created around the temple complex on replanning.

#### 2.1.4.5 *Mahadeva and Devi temple premises at Nilakkal*

- Re-planning/development of the temple complex should be in accordance to Panchaprakaram based on Thanthra Samuchayam.
- Minimum of 10 m buffer space should be created around the temple complex on re-planning.
- Building should be within the 200 m radius of temple and should not be higher that 10m or 2 storeys which ever is less.
- Building within 100m radius of temple should not be more than 5 meters or 1 storey which ever is less.



## 2.2 Base District zones: Represented by Symbol **BD**

### 2.2.1 Definition of the zone

The Sabarimala Master Plan has integrated principles of Redevelopment of Sannidhanam and Pampa into the development goals and policies for Sabarimala in a long-term perspective. Various base zones have been established that allow a mixture of land uses and a gradual transformation of landuses to the prescribed one which may be different or similar to that of present times. In this context Redevelopment zone provides the standards for growth for the designated areas where it overlays the proposed landuses.

This zone comprises of approximately 60 acres in *Sannidhanam* (in between E-W and S-N Axis other than demarcated as temple zone, forest area and buffer zone) and about 20 acres in *Pampa* area comprising of *Pampa Manalppuram*, *Thriveni*, *Cheriyonavattom* and hilltop and is coded as Base District Zone in the map.

In addition, planning for *Nilakkal* also is proposed to be in these lines.

### 2.2.2 Master plan strategies

- Encourage buildings in the defined zone creating a street edge and consistent skyline with enhanced green infill.
- Promote high quality developments on larger parcels
- Use of planning/management techniques and incentives for encouraging activity according to Vastushastra.

### 2.2.3 General Regulations

#### 2.2.3.1 Area and Layout Regulations

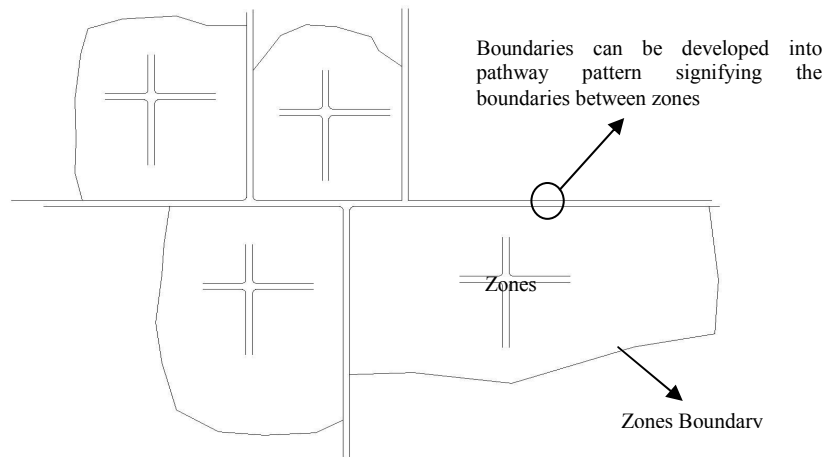
The minimum size of the any new subdivided plot cannot be less than 200sq.m. laid out preferably in a rectangular or square grid, avoiding angular disposition and shapes. Land development should be strictly in rectilinear pattern with proposition prescribed by *Vastushastra*.

#### 2.2.3.2 Permissible land uses

- a) Main land use category:
  - *Accommodation: Primary accommodation zone, Mixed accommodation zone, Unplanned/informal accommodation spaces (viris)*
  - *Green/open area: Open pilgrim activity areas, Gardens, multipurpose open space, water bodies*
  - *Public-semi public: Govt./Semi Govt./Public offices, Cultural, Medical & health, social and religious, utilities and services, waste disposal sites*
  - *Manufacturing : Only Special Prasadam manufacturing zone*
  - *Transportation & communication: Transmission & communication, streets, pathways, Queue complexes*
  - *Forest spaces*
  - *Special areas: Old built-up areas, Heritage & conservation areas, areas of scenic value.*

2.2.3.3 Territory Definition

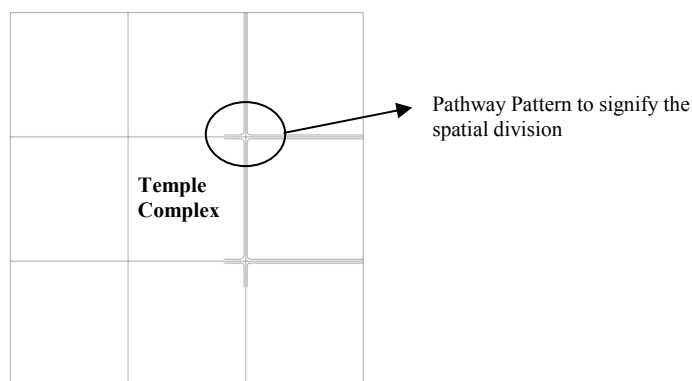
The street network should be used as a means of territorial definition for a zone or zones and will signify its spatial existence as a territorial unit within each zone. The street network will act functionally in assisting the pilgrims to comprehend the relative position of area’s functional elements and ultimately the structure and form of Sabarimala. The street networks that define the territory will physically define the outer space unit, and consequently helps pinpointing the spatial quality of the territory.



Zonal Demarcation

2.2.3.4 Spatial hierarchy

The spatial hierarchy principle of *Vastushastra* which divides a territory into nine spaces each with its spatial quality is proposed to be boldly demarcated by way of street network. The resulting spaces should have land uses and functions which correspond to its spatial quality.

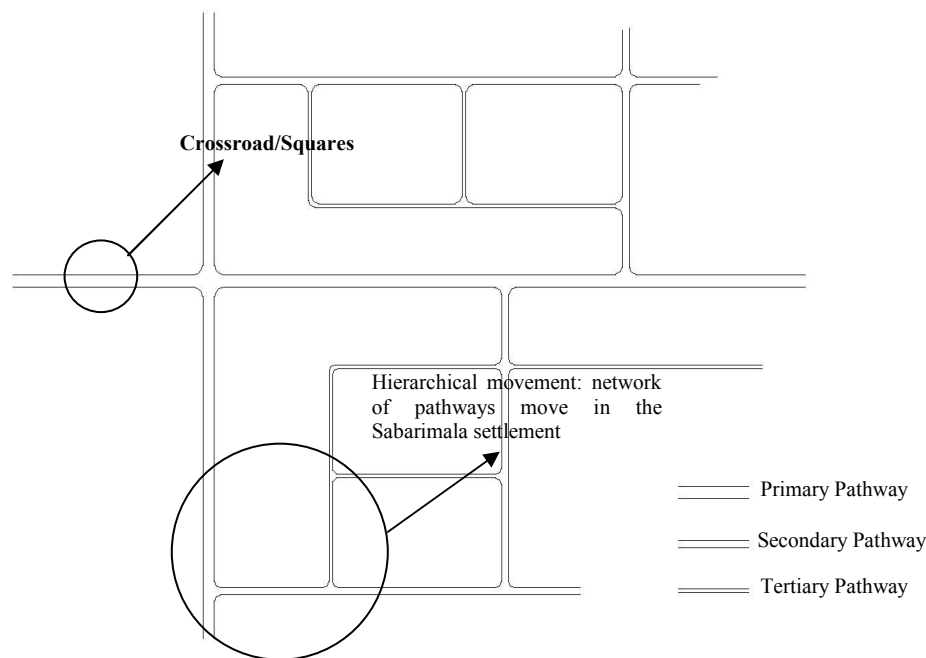


Spatial hierarchy through street network layout

2.2.3.5 Crossroads

The crossroad has a special role in the Hindu’s rituals and ceremonies, for it is the place where all the forces from eight cardinal directions meet and are greeted by human beings. Thus, although not necessarily located in the center of the geographic area of the region, this crossroad is regarded as the navel of territory.

Religious rituals which have a spatial dimension such as settlement purification ceremony which starts from the citizens' house yard, and subsequently move to bigger area of the neighborhood where the people of the immediate community gathers and ends up in the temple ground on the settlement scale. Hence, in the context of local street network system, the ceremony has a progression movement from the local street to the collector or Secondary Street and then the primary one. Such being the case, the designation of this crossroad as the highest order in the local street network system will certainly assist its role as the place to conduct some Hindu rituals and ceremonies and its existence as the center of the area, as well as –functionally speaking—the center of the settlement. Here, such cross roads can be areas where pilgrims gather for their semi-religious functions such as opening Irumudi or conducting *bhajans*.



### The Crossroad

#### 2.2.3.6 Use of space

Primary use of space is religious and the activities which support activities of the pilgrims are secondary. Landuses should be harmoniously mixed to mutually complement various uses. Such mixed use spaces should support religious and pilgrim activities. To support such places, they should be complemented with adequate open spaces, and also human-scale building forms and masses.

#### 2.2.3.7 Traditional-religious activity areas

Within the physical territory of a zone, the temple ground/Pampa *Manalpuram*, *Thriveni*, etc., are the important sites for Sabarimala pilgrimages related rituals; and therefore is the center of all the socio-religious activities. Such areas which simultaneously act as the landmarks and the nodes need careful planning consideration. Primarily, these areas are meant for religious activities and hence other uses must be minimal. Not more than 20% of the space here should be allowed for other uses.

Further, provision of accommodation at these nodes would be purely for pilgrims, priests and essential staff of the establishments which provides pilgrim facilities and/or manage

the area here.

#### 2.2.3.8 Setbacks

The following shall be considered as the building lines, based on the width of the street within this zone.

For 5 m ROW streets: 3.0 m with exception for commercial & amenities where in it can be 1.5 m

For 10m ROW streets: 4.0 m with exception for commercial & amenities where in it can be 2 m

For 20m ROW streets: 5.0 m with exception for commercial & amenities where in it can be 2.5 m

*Note:*

*Sloping roof projections or overhangs of not more than 1m are permissible.*

*In the event of conflict between what proposed in the Base District zone standards and the particular Landuse zone standards, the Base District zone standard will precede and the said development has to conform to this alone.*

#### 2.2.4 Specific Regulations

- a. *Sannidhanam* – North-East, North West, South- East & South-West zones
  1. The main Arterial routes leading upto each nada (*Gopurams*) will have 20m ROW, the collector streets in each zone will have 10m ROW and the local streets will have 5m ROW.
  2. Old existing landuses would be retained as long as alternative provisions are made with respect to the specified zone. But the alternative provision has to be made within the specified time period.
  3. All streets should be pedestrianised with the pedestrian character ensured through steps, surfacing, central statues, congregating spaces etc.
  4. All the utilities should be placed underground in suitable horizontal ducts with manholes at suitable intervals so as to facilitate easy repair and maintenance without much disturbance and resurfacing works.

Proposed landuse map for Sannidhanam is shown on *Map 1*.

- b. *Pampa Manalppuram, Thriveni, Hill parking area*
  1. The building orientation should be such that the shorter length is perpendicular to the existing major street on which it is located.
  2. No building should be constructed within 50m from the banks of Pampa(with exception for small scale construction in the form of kiosks for requirements related to religious purposes and water supply i.e. pump house)
  3. Rows of shading trees are to be planted on both sides in the shoulders of the pathways all along the main street at a minimum interval of 10meters. Trees of Ficus species or any other species suitable to the surrounding evergreen forests and with some religious significance may be permitted.
  4. The minimum width of the footpath should be 3 meters. Additional width of 2m should be provided in shopping areas to allow for activity spillovers.
  5. All constructions should be modular.

6. At no place should the length of a temporary structure or continuous temporary structures be more than 15m.
7. Minimum parking space for service vehicles should be provided. The minimum parking requirement for each car and truck is as follows
  - Car/jeep : 3m x 6m (when individual parking space is required) & 2.5m x 5 m when community/group parking space is required)
  - Truck: 4 x 10 m
  - Ambulance: 3.5 x 7 m
  - Tractor: 3.5 x 7.5 m:
  - Fire Fighting Service Vehicle: 4 x 10 m

Proposed landuse map for Pampa is shown on *Map 5*.

c. *Trek routes*

1. Existing trees along the route are to be maintained. In no circumstance, a tree should be cut unless it is a cause of concern for pilgrim safety.
2. Rows of shade trees are to be planted and maintained on both sides all along the main trek route. These should be planted at a minimum interval of 10 m and with 1.5m setback from the edge. Trees of ficus species or any other species existing in / suitable to the surrounding evergreen forests and with some religious significance may be permitted. Those with wide spreading canopies and branching starting at around 2m to 3m from the base would be preferable.
3. At places where commercial uses are provided, they should be planned in such a way that allowed width of the route is not masked by spilled over activities from such areas. Design/sitting of these units should be carefully carried out so as to segregate spillovers from the main pilgrim trek areas. The width should be increased by 1.5 m in shopping areas to allow for dead width. In case of longer adjoining shopping frontage or double loaded corridors a minimum of 6m should be maintained. In case the single lane 3 meter trek path is insufficient to cater to pilgrim traffic multiples of such lanes with tree median in between should be provided.
4. All the utilities should be placed underground in suitable horizontal ducts with manholes at suitable intervals so as to facilitate easy repair and maintenance without much disturbance and resurfacing works.
5. Continuous concrete paving of the trek route should not be allowed. Concrete paving may be done only at locations where the slope of the ground is more than 1:2 or if the base consists of very soft mud. But in no case should the continuously - concrete paved stretch extend beyond 50m length.
6. No structure what so ever should be constructed on or over the trek route (natural shading should be maintained through out) except specific structures for resting, minimal commercial facilities and for queuing up of pilgrims.

Proposed layout for all landuses along the Pampa-Sannidhanam track routes are shown on *Map 6*.

d. *Base camp* – Nilakkal, Sathram, Erumeli, Vandiperiyar, etc

1. The building orientation should be such that the shorter length should be perpendicular to the existing major street to on which it is located.
2. No building should be constructed within 50m of water bodies ( with exception for requirement related to religious customs and water supply i.e. pump house)
3. Rows of shading tree are to be planted on both side in the shoulders of the pathways/

roads all along the Main Street & secondary streets. Trees should be planted at a minimum interval of 10meters.

4. The minimum width of the footpath should be 3 meters. Additional width of 2m should be provided in shopping areas to allow for activity spillovers.
  5. The minimum ROW for all main road in base camp should be 12meters and 9 m for secondary roads
  6. Minimum parking space for service vehicles should be provided. The minimum parking requirement for each car and truck is as follows
    - Car : 3m x 6m (when individual parking space is required) & 2.5m x 5 m when community/group parking space is required)
    - Truck : 4 x 10 m
    - Tractor: 3.5 x 7.5 m
    - Ambulance: 3.5 x 7m
    - Fire Fighting Service Vehicle: 4 x 10m
  7. All the utilities should be placed underground in suitable horizontal ducts with manholes at suitable intervals so as to facilitate easy repair and maintenance without much disturbance and resurfacing works.
- e. *Transit camps* along trek routes
1. Transit camp to be provided only at an interval of 5 km or 1 hour walking distance which ever is more.
  2. Transit facilities along the route should not hold more than 200sqm in area at a particular location
  3. No artificial lighting should be provided to facilitate pilgrim movement during night
  4. No permanent construction what so ever should be done in these areas
  5. Specifically designated facility areas have to be maintained at these locations and main base areas if located within the forests should not be more that 1 acre in extent.
  6. Clustering of amenities and services need to be done
  7. All layouts should follow the pattern so described here even for temporary structures.
  8. No multistoried temporary structure should be constructed; the maximum height for any given structure should be 3 meters.
  9. Construction should be modular and construction members should be easy to dismantle, store and reassemble for use during the succeeding seasons.
  10. Area not less than 2.5 sq. m to be allocated per person per *virī* . .

A typical layout for the proposed transit camp along the track route is shown on *Map 7*.

f. Other areas

1. All other areas such as main activity areas in local body areas should conform to norms and standards prescribed by Kerala Municipal Building Rules (KMBR) for any construction to be undertaken and should respect any existing Master Plans drawn by competent authority designated for the purpose (Town Planning Department / Development Authority etc).

General calculations for regulations adapted for these areas are presented in the Annexure 3 of this document (based on the UDPFI guidelines).

## 2.3 Residential/Accommodation zones: Represented by symbol AA

### 2.3.1 Definition of the zone

This zone comprises of area in south-East and Eastern portion of *Sannidhanam* & defines as AA in the map.

### 2.3.2 Master Plan Strategies

- To conserve and preserve the land and settings so as to enhance the appearance, character and natural beauty of the area;
- To provide the best suited and preferred accommodation to all pilgrims democratically
- To forge linkages between the stay areas and service / utility areas around so as to ensure the accessibility to facilities
- Use of planning/management techniques and incentives for planning activities and landuses according to traditional principles of Vastu Shastra, moist suited for the religious areas.

### 2.3.3 General Regulations

#### 2.3.3.1 Area and Layout Regulations

The minimum size of the new sub divided plot cannot be less than 200sq.m. Land development should be strictly in rectilinear pattern with proportions prescribed by *Vastushastra*. Every building should have direct access to a public street/ pedestrian way.

Further, no principal building shall be erected within a maximum distance of 7.5m from any other principal building.

The total extent for the zone shall consist of at least 5 hectares of contiguous area primarily located towards South east and eastern sides.

#### 2.3.3.2 Density

The number of dwelling units needed in any Accommodation zone shall be determined by the authorities, but should assure compliance with other regulations. Under no circumstances, however, may the total number of dwelling units permitted exceed the maximum possible by either of the following whichever is less.

- The number obtained by dividing the total Zone area by the minimum lot size permitted in the zone existing at the time of the Accommodation Zone being enforced; or
- An average of no more than 40% coverage of the any specified extent of land within the zone. (with exception only for ancillary use where in coverage can be upto 80% but the total extent of this activities only constitute maximum of 10% of this zone)

#### 2.3.3.3 Permissible land uses

- a) Main land use category: Accommodation
- b) Ancillary uses such as commercial, amenity services & religious activity uses
- c) The ancillary uses are allowed upto 30sq.m or 10% of the total built area which ever is less

#### 2.3.3.4 Utility and road requirements

1. There shall be provided within the planned Accommodation Zone, a sanitary sewage disposal system which shall be of sufficient size and design to collect and dispose of all sewage from all present and probable structures (both temporary and permanent) to be constructed within that zone, and shall be otherwise built and maintained in conformity with Standards prescribed by KPCB and / or CPCB.
2. There shall be provided within the Planned Accommodation Zone a storm drainage system which shall be of sufficient size and design as will in the opinion of the Department of Public Works (PWD) and / or Kerala Water Authority (KWA) collect, carry off and dispose off all predictable surface water run-off within that zone and shall be so constructed as to conform with KMBR (Kerala Municipal Building rule).
3. There shall be provided within the Planned Accommodation Zone horizontal carriage ducts with manholes at suitable intervals so as to carry all the utilities underground to facilitate easy repair and maintenance without much disturbance and resurfacing works.
4. There shall be provided within the Planned Accommodation Zone a potable water system which shall be of sufficient size and design to supply potable water to all the structures to be constructed in that zone. There shall be provided a fire hydrant where required by the Fire department, of a type and in a manner prescribed by the regulations of the Fire safety standards and as prescribed in the National Building Codes.
5. The dimensions and construction of roads and alleys areas within the Planned accommodation Zone, whether or not dedicated to the general use shall conform to all regulations been prescribed.

#### 2.3.3.5 Height requirements

The height of any accommodation structure within such zone shall not exceed 10 meters and the height of other structures (associated with ancillary uses) shall not exceed 5 meters.

#### 2.3.3.6 Occupancy per building

No building may accommodate more than 100 persons.

#### 2.3.3.7 Area of accommodation development

The area of accommodation development, including roads and other rights-of-way to directly serve accommodation facility, may not exceed forty percent (40%) of the total land area within the Accommodation Zone.

#### 2.3.3.8 Land conservation requirements

The requirement concerning conservation of land shall be as follows:

- Conservation land mainly in the form of green space provided in a planned accommodation Zone shall equal at least thirty percent (30%) of the total area. Adequate number and specific type of trees shall be planted and cared for in this area. Species selection should be based on those trees found in the nearby forest areas which also have religious importance.

#### 2.3.3.9 Setbacks

- a) The following shall be considered as the building lines, based on the Width of the street within this zone.



- |                 |         |
|-----------------|---------|
| For 5 m street  | : 3.0 m |
| For 10m street  | : 4.0 m |
| For 20 m street | : 5.0 m |
- b) The setbacks for ancillary use are as follows
- |                 |         |
|-----------------|---------|
| For 5 m street  | : 1.5 m |
| For 10m street  | : 2.0 m |
| For 20 m street | : 2.5 m |

### 2.3.3.10 Specific Regulations

#### I) Pilgrim accommodation

##### 1. Permanent

- Pilgrim accommodation at *Sannidhanam* will be only for those who climb with *Irumudi* and want to conduct certain special *poojas* which would necessitate over night stay, for which prior booking has been done. (This provision need to be ascertained in consultation with *Thanthri/Mel Shanti* and religious heads)
- All accommodation created at Nilakkal for pilgrim during season should be only dormitory type (90%). The dormitory type will be that of 5, 10, 20 & 30 accommodation strength types. Double Room with attached facilities should only for 10% of the pilgrims.

##### 2. Temporary

- All temporary structures should be made of stable and structurally safe material only. Wood poles, bamboos, dried leaf sheets; etc which are highly susceptible to fire should be done away with. Sheets which conducts heat and succumbs / fails to fire should be done away with, especially within 100m of the temple.
- No multistoried construction of temporary nature or fire prone semi-permanent is allowed.
- Detailed layout plan and construction plan are to be formulated before the actual construction takes place.
- Temporary structure should not be constructed abutting a permanent building.

#### II) Staff accommodation

##### 1. Permanent

- In *Sannidhanam*, only permanent stay facilities to be provided, no temporary (viri) sort of accommodation should be permitted.
- All accommodation created for additional service staff during season should be only dormitory type.
- All accommodation for resident staff should be room with attached facilities type.

##### 2. Temporary

- All temporary structures should be made of stable and structurally safe material only. Wood poles, bamboos, dried leaf sheets, etc which are highly susceptible to fire should be done away with.
- No multistoried construction of temporary nature is allowed.
- Detail layout plan and construction plan are to be formulated before the actual construction takes place.
- No temporary structure should be constructed abutting a permanent building.
- No strident colours / material should be used for construction.

## 2.4 Mixed Use Zone: Represented by symbol **MZ**

### 2.4.1 Definition of the zone

These zoning and development standards are intended to be implemented at *Sannidhanam* and *Pampa*.

### 2.4.2 Overlay Districts

In addition to the general conditions set forth herein that are applicable to all land classified as Mixed use zone, four overlay districts are also established: Pilgrim activity overlay, commercial activity, services and amenities and public and semi public overlay. The purpose of the overlay districts is to add or amend certain use, development and/or design standards to mixed zone.

### 2.4.3 Master Plan Strategies

The general purposes of the mixed use zone regulation are as follows

- To encourage positive redevelopment that enhances the most precious resource here – the forest & the natural settings
- To preserve and enhance Sabarimala natural system of forest setting
- To upgrade the environmental quality of the developed area in such by ensuring developments which go hand in had with the natural setting, rather than cordoning it off from the host environment.

### 2.4.4 Permitted, Conditional and Prohibited Uses

All uses with respect to four overlay zones are permitted, provided one use do not contradict/mars the existence of the other use. All activities except that of provision of treatment plant facilities along with dump sites are prohibited in these areas. Accommodation is also not permitted in this zone apart from that for staff on duty what is clubbed with offices

The following uses shall be allowed as Permitted Uses:

- Hospitals
- Cultural centres/ assembly halls/ dining halls
- Media centre , Radio, television, microwave and other communication antennas
- Queue complexes
- Commercial establishment –hotels shops etc.
- Administrative offices –office cum accommodation space
- Stores, stockroom
- Distribution counters
- Water supply tanks and pump houses
- Power supply stations
- Pilgrim activity spaces

## 2.4.5 General Development Standards

### 2.4.5.1 Frontage

Commercial uses should not have frontage towards the four main arterial streets and may be developed as inward facing courtyard structures

### 2.4.5.2 Floor area ratio

*Commercial uses:*

For only commercial uses, the Floor Area Ratio (F.A.R.) of all buildings on a lot shall not exceed 1.0. Maximum area for a single plot of commercial use shall not be more than 200 sq. m. Distance between two commercial use clusters shall be a minimum of 100 m

*Note: individual commercial buildings shall not be higher than single floor*

*Mixed-use:*

*For buildings hosting both commercial and residential uses, the F.A.R. of all buildings on a lot shall not exceed 1.5. The following shall also apply:*

- Maximum office floor area: All floor area exceeding a floor area ratio of 0.6 shall be developed for residential uses.
- Minimum accommodation floor area: The commercial component of mixed-use projects shall have a minimum floor area ratio of 0.4.

### 2.4.5.3 Density

The maximum number of building units on a lot shall be one unit for each 200 square meter of lot area, not to exceed thirty-five (35) built units per net acre.

### 2.4.5.4 Minimum lot size, mixed-use projects

No projects containing both office and residential uses shall be permitted on lots with less than 1200 square meter of lot area.

### 2.4.5.5 Building Height

*Commercial uses:* For projects containing only commercial uses, no building or structure shall exceed a height of 10 m.

*Mixed-use:* For projects including both commercial and residential/accommodation uses, no building or structure shall exceed a height of 10ms. With respect to all other uses also maximum permissible height will be 10m. Only structures/ building exempted from these water over head tank & police watch towers which can be constructed to the height if so required.

### 2.4.5.6 Setbacks

a) The following shall be considered as the building lines, based on the Width of the street within this zone.

For 5 m street	: 3.0 m
For 10m street	: 4.0 m
For 20 m street	: 5.0 m

b) The setbacks for ancillary use are as follows

For 5 m street	: 1.5 m
For 10m street	: 2.0 m
For 20 m street	: 2.5 m

## 2.5 Pilgrim/Religious activity Zone: Represented by symbol PA

### 2.5.1 Definition of the zone

The PA Zone is intended to prohibit intensive building development of those areas of the Sabarimala which could be called the “intense loci of pilgrim activity” (present and / or proposed) and where such development would adversely affect the pilgrim usage and natural environment; and to assure permanent open space for the traditionally followed Pilgrim activity areas.

### 2.5.2 Master Plan Strategies

- Encourage minimum built space along pilgrim activity areas.
- Promote high quality developments on larger parcels through enhanced decentralized amenity and service provision for facilitating pilgrim activity.
- Provide natural setting for pilgrim activities.
- Planned pilgrim activity area development is to be applied to sites of significant size where the opportunity exists to provide pre-planned and coordinated Stages of development that will be mutually complementary when assembled together.

### 2.5.3 General Regulations

#### 2.5.3.1 Minimum plot size

The minimum size of the new plot allocated for pilgrim activity should not be less than 2000 sq. m. Land development should be strictly in rectilinear pattern with proportions prescribed by *Vastushastra*.

#### 2.5.3.2 Permissible land uses

- a) Main land use category: Open space/green space/activity space.
- b) Ancillary uses amenities and service: resting places and minimum commercials.
- c) The ancillary uses are allowed up to 500 sq. m or 25% of the total plot area.
- d) No ancillary use category to be provided in independent building, all facilities to be clustered, in a central location where general and service accessibility is provided.

#### 2.5.3.3 Setbacks

The setback so required for any construction within this zone is 3 m from the edge of any pathway or road, while roof overhangs or shades can extend a maximum of 1m from the outer wall.

#### 2.5.3.4 Height requirements

The height of any building structure within such zone shall not exceed 3m while overhangs can dip to 2.5m at its outer most edge.

#### 2.5.3.5 Circulation

The building cluster constructed in this zone should have a good circulation space which should not be less than 6m wide all around with free access from all directions.

#### 2.5.3.6 Land conservation requirements

The area of conservation land mainly in form of green space or open space in a Pilgrim

Activity Zone shall equal at least seventy percent (70%) of the total area.

#### 2.5.4 Specific Regulations

- i. *Pampa Manalppuram & Thriveni*
  - Construction related to only religious requirement is permissible. Other than this, no buildings what so ever should come up in this zone.
  - Area to be well lit with soothing and proper directional lights which would not affect the wildlife.
  - Sufficient locker facilities to be provided for pilgrims so that Pilgrims can abstain from going to the river with the plastic bottles / wastes and other unnecessary accessories.
  - Waste bins to be provided and collection of solid wastes from activities near the river to be enforced at regular required intervals.
  - No bins / other uses which let waste water / leachate into the river to be permitted at a distance of 50m, and if any such required as part of religious activities may be provided with sufficient non-permeable collection and final off site treatment and disposal arrangement.
- ii. *Thiruvabharanam trek route*
  - Minimum 5 meter width of the trek should be maintained.
  - The trek route should be maintained in its natural state only. Paving in any form are not allowed.
  - Protective embankment can be constructed where ever found essential to prevent landslides. This should be using suitable ground bio-engineering techniques.
- iii. *Pilgrim corridor in Erumeli (petta thullal)*
  - Separate and secured walk way of minimum 4 meters should be created between the mosque and the temple.
  - Tree planting should be carried out all along the stretch where there exist intense pilgrim activities.
- iv. *Marakootam*
  - All above specified norms should be followed here too.
  - As this is the starting point from where pilgrim enters the queue complex required open space here should be allocated for the pilgrims to congregate.
  - Trees should not be cut and Natural setting should be maintained.
  - Canopy to be ensured above congregating pilgrims.
- v. *Sharamkuthy*
  - All above specified norms should be followed here too.
- vi. *Bhasmakulam*
  - No buildings and / or construction should come up within 25 meters of this pond.
  - Good buffer space of 5 meters around the pond should be created.
  - Access to the pond should be only from its eastern side.
- vii. *Urakkuzhi*
  - No construction should come up in this area apart from provision of protective railing and embankments.
  - An access way with minimum 5 meter ROW should be maintained with necessary utility provisions, without disturbing the trees and natural features.
  - All utilities & services should be placed underground.
  - Waste dumped within 100 m of this location is prohibited.

## 2.6 Service/Amenity Zone: Represented by symbol SA

### 2.6.1 Definition of the zone

This zone comprises of area in west or south west area & defines as SA in the map.

### 2.6.2 Master plan strategies

- Segregate the service areas from pilgrim activity zone so as to avoid use conflicts.
- Promote high quality developments on larger parcels through the effective provision of such facilities along with ensuring the smooth functioning of such service facilities created.

### 2.6.3 General Regulations

#### 2.6.3.1 Minimum plot size

The size of plot cannot be less than 2 hectare.

#### 2.6.3.2 Permissible land uses

- a) Main land use category: Sanitation
- b) Ancillary uses: Solid Waste Segregation, Recycling, Treatment and Disposal
- c) The ancillary uses are allowed up to 0.5 hectare or 25% of the total plot area.

#### 2.6.3.3 Maximum built-up area

The maximum built up coverage for administration and monitoring purposes permissible here is that of 5%.

#### 2.6.3.4 Height

Maximum height of any built structure in this zone should not be more than 5m. The dump pile in case of solid waste management should not be more than 1.5meter in height.

#### 2.6.3.5 Buffer

A buffer of green space of minimum 15 m depth is required to be provided all around the facility.

#### 2.6.3.6 Land Conservation requirements

The requirement concerning conservation of forest land shall be as follows:

- The area of conservation land mainly in form of green space in the service area shall equal at least forty percent (40%) of the total area.

*Note: This space may however be used for functions connected with such services which can be performed in such spaces (eg: sprinkling treated waste water, drying waste cakes etc).*

- No waste / pollutant from such areas should be allowed to traverse outside the buffer provided.

## 2.7 Green Zone/forest Zone: Represented by Symbol GZ

The system of development-restricted zone (greenbelt zone hereinafter) in Sabarimala is required to stop the development sprawl. It is expected that, by the provision of green zones disorderly and fragmenting expansion of Sannidhanam could be contained and ensured to be in tandem with the natural setting. It would also secure and preserve the natural environment in periphery and aspire to regain the identity of the forest temple

### 2.7.1 Definition and Intent of the zone

This zone comprises of area in periphery of the Sannidhanam settlement. The intent of the Green zone is to preserve in their natural state, all steeply sloped lands forming more or less continuous escarpments, poorly drained, and other lands having unique scenic or locational attributes for the purposes of watershed protection and erosion control, the preservation of existing forest vegetation and soil cover, the preservation of recognized wildlife habitat, the maintenance and improvement of aesthetic amenities and pilgrim access, the protection of life and property from natural disasters or hazards, or any of these, and to preserve such lands and the natural drainage thereof from the indiscriminate cutting of trees, the removal or deposition of topsoil, sand, gravel or rock, or mining or development of any kind, except in accordance with a zoning amendment to accommodate an environmentally acceptable development proposal or an approved sector plan, vicinity outline plan, subdivision plan, building permit, or soil removal permit.

### 2.7.2 General Regulations

All uses permitted in this District shall be subject to the following regulations:

#### 2.7.2.1 Permitted Uses

Subject to all other provisions of zone, limited pilgrim activities could be allowed here mainly for holding or dispersing the crowd during emergencies. But no constructions (temporary or permanent) what so ever will be allowed within this zone

#### 2.7.2.2 Site Regulations

- The minimum buffer area shall be 50 meters or 10% of the width of the settlement, which ever is more, around the Sannidhanam.
- Activities/built area created in the area newly designated under this zone prior to the date of adoption of this master plan, regardless of area or dimensions, may be used for any of the uses for a maximum time limit of 5 years from the date of acceptance of the master plan. This time period provided is to facilitate proper relocation of the existing activities to respective zone as been prescribed. But in no case any addition or expansion of the same would be allowed even during the specified 5 years. Beyond which the structure have to be replaced form the location.

#### 2.7.2.3 Vegetation standards for green zone

Type of vegetation selection should be based on:

- Plant association of the study area.
- Capacity to withstand wide range of adverse factors which can happen due to pilgrimage activity.
- Root system which are adequate to bind the soil together.

- Capacity to improve the soil quality which enhances the natural progressions to meet higher plant associations.
- Time taken by the species to establish themselves.

Basic guidelines for development:

- Percentage of total and relative; Evergreen (100percent) contributed by species such as Ficus sp, Lagerstroemia sp., Mesua sp. and others in consultation with KFD,
- Percent basal<sup>1</sup> and/or foliar<sup>2</sup> live cover : (Basal 30 to 40 / ha)
- Percent ground cover<sup>3</sup> (includes vegetation, fallen leaves, and rock; min 70percent
- Percent bare ground; min 10percent
- Tree and shrub density; total trees: min 3 per 10 sqm
- Species diversity by life forms and individual species: encourage butterflies and related species by providing suitable low storey growth

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<sup>1</sup> **Basal area or cover:** Area of plants at or near the ground surface.

<sup>2</sup> **Foliar cover:** The area of the ground covered by leaves. Canopy cover minus the gaps. (Canopy cover: A vertical projection of the perimeter of a plant canopy to the ground. Ignores small gaps in canopy)

<sup>3</sup> **Ground cover:** Percent of the soil surface covered by some type of protection (litter, rocks, vegetation)



### 3. SPECIFIC REGULATIONS FOR SELECTED AMENITIES / AREAS

The main areas regulations have clear written rules and regulations for project realization, whereas large projects and zones in which consultation is required come under the “specific areas” marked with symbols on the map; these are:

- a. Large Public and Semi Public Infrastructures – *Appam Aravana* Plant, queue counters, *Sadhiyalaya*, etc
- b. Large Queue management structures
- c. Dedicated land uses
- d. Scheme areas
- e. Areas along the pilgrim routes

#### 3.1 Planning Requirements for specific Infrastructure

##### 3.1.1 Large public and Semi Public Infrastructure

Existing planned Public and semi public use developments and proposed developments with large land component above 1.0 acre or as designated on the map through a boundary /symbol are classified into the large public and semi public infrastructures.

- All public and semi public buildings are expected to follow certain common color code and built pattern for ease of recognition.
- Maximum of 2 stories only shall be allowed for these types of buildings. These building should be located along the main arterial streets (ROW- 20m) or the collector streets (ROW-10m) only.

##### 3.1.2 Large Queue Management Structures

- The total area under permanent construction should be minimized. Only service core to be constructed permanent & waiting area to be provided temporary roofing & grill partitions.
- Maximizing service accessibility for pilgrims.
- The circulation pattern would be such that to create one way pilgrim movement only.
- The design should be such that it maximizes natural lighting, ventilation & safety.
- Where ever there are no permanent constructions such as in case of queue cells, ground covering should be with natural materials if necessary, that too open jointed.

#### 3.2 Regulations

- Maximum ground coverage (of only permanent building area) shall not exceed 20 % of the total land area.
- Maximum FAR : 1.00
- 3 % of the area may be allowed for commercial use.
- The maximum height should not be more than 6m.

#### 3.3 Dedicated land uses

The land uses as shown on the proposed land use map represent a specific use to which the area is to be utilized. The regulations for the dedicated land uses are not exhaustive and the sanctioning process involves a consultative co-ordination with the local planning authority and / or specific departments dealing with the aspect. Under the dedicated land uses, the

following are covered:

### 3.3.1 *Public utilities*

They are major existing or planned technical facilities covering power, water, telecommunication, energy, solid waste management sectors such as Land fill sites, Sub stations, transformers, microwave tower, etc which need to comply with both internal technical design standards and interface with the Built system.

**Incinerator:** Establishment of incinerator needs clearance from the designated authority (here, the Kerala State Pollution Control Board (KSPCB)) and submission of the Project presentation to the authority.

**Microwave and Telecom towers:** Tall structures over 15.0 m on roof tops or ground based. Clearance from necessary authorities will be required which may require the submission of the project details to the authorities.

### 3.3.2 *Amenities land use*

The Land Use Map reserves land for amenities serving pilgrim purpose. The rules regarding height, FAR, Ground coverage and location with respect to the roads and the boundaries applicable to these amenity land uses are identical to those of the zone in which they are located.

**Special permissions:** In case of special requirements of the amenity in which the existing zoning regulations are not appropriate, permission may be sought from the concerned authority

**Land use change:** In case the designated land has not been put to the desired use within five years from the approval of the Master Plan or work regarding the same has not been initiated, the applicable zonal regulations and land use will be that of the zone in which it is situated.

**Returned Greens:** Land, which has been relinquished as part of the subdivision, will be developed and maintained as forests.

### 3.3.3 *Scheme areas*

For translating the master plan into an operational level plan, Planning schemes are proposed for immediate development areas which need to be preserved and enhanced and for large structures included as immediate interventions.

- a. Statutory Planning Schemes.
- b. Planning schemes.

The schemes are envisaged to be implemented with active participation of stakeholders. The Scheme areas are marked as a perimeter on the land use maps.

### 3.3.4 *Statutory Planning Schemes*

#### 3.3.4.1 *Temple Redevelopment Scheme*

The proposed scheme shall incorporate the Temple complex level developmental activities in accordance to traditional temple planning norms. The scheme shall be

accepted and sanctioned by the stakeholders for implementation. Some of the regulations shall be adapted to make best use of the site to meet the master plan objectives. Such regulations have been worked out in detail and appended herewith. Detailed redevelopment scheme for temple including suggestions on circulation pattern are provided in Annexure 2.

#### 3.3.4.2 Transport and utilities scheme

Areas identified for need of detailed project planning and implementation by the relevant authority includes utilities provisions, trek route widening, protection measures, paving etc. Detailed studies are necessary to be carried out at project development stage in order to implement the proposals. This shall be in consultation with the Authority.

### 3.5 Areas along proposed base camps and transit camps

#### 3.5.1 Development Guidelines for Proposed Base Camps

These would have well developed town ships based on the requirements and would be linked with nearby main transit area.

Sl No:	Base Camps	Population Considered	Type of Facilities required
1	Nilakkal in Ranni Perunad Panchayat along with Pampa as Transit area	Nilakkal: 1,00,000 Pampa: 5,000 (2000 staff and 3000 pilgrims trekking from Erumely)	Nilakkal: Parking, Accommodation (pilgrims and support staff including drivers), Toilets & Bathing, Sewage and Solid Waste Treatment, Water Supply, shuttle services between Nilakkal and Pampa Pampa: Accommodation and support facilities for staff and Pilgrims trekking from Erumely, Parking for service vehicles, Transit facilities for 5000 pilgrims
2	Erumely Panchayat with Town and Peroothodu	Erumely Town: 35,000 Peroothodu: 5000	Erumely: Accommodation and support facilities, parking, traffic regulations, transport services to Nilakkal, replanning the town to accommodate religious activities, Environmental improvement, water supply, ensuring river flows and cleansing capacity Peroothodu: Parking, hotels, shops, water, toilets, viri
3	Sathram in Vandiperiyar Panchayat with Vandiperiyar town and Uppupara as Transit area	Sathram: 10000 Vandiperiyar: 5000 Uppupara: 2000	Sathram: Parking, Accommodation (pilgrims and Staff), Toilets & Bathing, Sewage and Solid Waste Treatment, Water Supply, shuttle services between Sathram and Vandiperiyar Vandiperiyar: Parking, Facilities for support staff including drivers Uppupara: Transit facilities such as toilets, bathe area, viri, hotel, shops for pilgrims; additional facilities : drinking water, toilets for 1,00,000 pilgrims on Makaravilakku day

#### 3.5.2 Development Guidelines for Other Areas

Type of Intervention	Population Considered	Type of Facilities required
Main Camps – Transit Nodes	Transit: 20000 a day	(Sabari Yatra Scheme) Amenity Module would comprise of an info kiosk with computer connectivity of area 5sqm, first aid centre (9sqm), shops of size 6 sqm selling essential commodities, cooking platform of 6 sqm and a hotel / restaurant of size 15 sq. m (with a pantry / kitchen of 9sqm), viri area of 2500 sqm, toilets (20 no:s of area 2 sqm for each), water supply, a well

<b>Type of Intervention</b>	<b>Population Considered</b>	<b>Type of Facilities required</b>
		maintained & planted open to sky / partly covered assembly area (for bhajans, annadanams etc), Water, Sewage, Solid Waste Treatment facilities and parking Total: 0.3 Ha minimum plot area (structure-multistoried) plus parking space
Main Camps: Religious Nodes	Transit: 5000 a day	( <i>Sabari Thavalam Scheme</i> ) Amenity module as above: Total: 0.3 Ha area (one to two storied) and around 1 ha to be arranged for parking
Transit Camps	100 to 500 a day	( <i>Sarana Theeram Scheme</i> ) Amenity Module would comprise of an info kiosk with computer connectivity of area 5sqm, first aid centre (9sqm), a shops of size 6 sqm selling essential commodities, cooking platform of 6 sqm and a hotel / restaurant of size 15 sqm (with a pantry / kitchen of 9sqm), viri area of 150 to 800 sqm (double bunks), toilets (5 no:s of area 2 sqm for each), water supply (micro schemes), Solid waste Managements, sewage disposal Total area: 0.1 ha (single storied) and around 0.1 ha to be arranged in the vicinity for parking
Facility Augmentation	To fill the gaps in infrastructure / facility supply as per specific requirement at Panchayat level	( <i>Sabaripatham Scheme</i> ) Road Improvements, Water Supply, Sanitation, Solid waste Management, First Aid
General Interventions	Locations / main routes identified in each Panchayat	( <i>Pradakshinam Scheme</i> ) <ul style="list-style-type: none"> <li>▪ Routine Road Maintenance &amp; Traffic Control at main junctions</li> <li>▪ Street Lighting, Road Signages &amp; Info boards during Main Pilgrim Seasons</li> <li>▪ Regular Checkup of Food &amp; Water Quality in way side eateries</li> <li>▪ Database on Casualty Facilities &amp; Road Accident Care centers at all Police Stations</li> <li>▪ Alternate road map to skip each Panchayat area in case of emergencies</li> <li>▪ Pilgrim Information Kiosks (<i>Darshana Sahayi</i>) along Main Roads at distance of 10kms from each other</li> </ul>

### 3.6 Constraint Area Zones (Represented by symbol CZ)

The Constraint areas are identified on the map and have restrictions on the development in accordance with specific legislations such as the Forest Conservation Act or as per those declared by the statutory bodies. The constraint areas mentioned in the Master Plan. Zonal regulations are not exhaustive, necessary modifications, additions, alterations and changes are possible.

#### 3.6.1 Right of Way (RoW) and Right of User (RoU) rights

- The Right of Way and the Rights associated with major utilities and services such as Water Pipeline, and High Voltage lines, gas lines and any other utilities which need to be prescribed by respective authorities
- In case of new developments, these shall remain as non buildable areas or reservations and marked for the purpose intended. They may be considered for calculation of open spaces within the schemes in approval of plans and layouts.

### 3.6.2 Periyar Tiger Reserve (PTR)

With respect to provisions in the Forest Act, Environmental Protection Act, and Wildlife Conservation Act, new construction activities are prohibited within protected areas which, in the current context is the PTR region and other surrounding forest areas. Respecting the provisions in this act regarding the developments in the Buffer Zone of the Reserve, green buffer around activity core and regulations on type of constructions are prescribed herewith. Status quo to be maintained in the areas outside the proposed Layout and no activity over spillage is allowable into this area of constraint

Following are the general policy guidelines for the routes falling under this constraint area:

#### ***Pampa – Sannidhanam Trek Route***

- Curtailing the activities which pollute the elements of landscape around and / or negatively affect the sanctity of the trek.
- Allowing only the most essential facilities along the route as required for religious activities and for the visiting pilgrims.
- Spatial planning to effect bringing in landscape continuity or natural ways through the ‘urban’ like development, linking various points in the landscape, rather than cutting them / fragmenting the edges.
- Curtailing further developmental activities except those extremely necessary to provide most essential pilgrim services (water, sanitation, health, information, disaster management including emergency evacuation).
- Completely stopping the activities along the trek routes during off season (shops, construction, repairs, movement of vehicles) except monitoring and rejuvenation of landscape elements.
- Conserving landscape features including trees (no tree cutting is permissible unless it is extremely important and with prior permission of the Forest authorities).
- Rejuvenating the landscape in and around during off and lean seasons.

#### ***Erumely Trek Route***

- Curtailing the activities which pollute / disturb the elements of landscape around and / or negatively affect the sanctity of the trek.
- Scientific planning to allow only the most essential facilities along the route as required for religious activities and for the visiting pilgrims.
- Curtailing further developmental activities except those extremely necessary to provide most essential pilgrim services (water, sanitation, health, information, disaster management including emergency evacuation).
- Activity Monitoring prior to, during and after the peak season and rejuvenation of landscape elements during off and lean seasons.
- Conserving landscape features including trees (no tree cutting is permissible unless it is extremely important and with prior permission of the Forest authorities).
- Creating awareness among the pilgrims regarding the observances to be followed during the trek – traditional/religious aspects as well as environmental conservation.

### ***Uppupara Route***

- Restricted vehicular access to Uppupara for only the day of Makarajyothi and the next day (till 2010 by when the vehicular access to Sathram shall be upgraded) as pilgrims arrive here after darshan from Sannidhanam and return after viewing Makarajyothi..
- No vehicular access to Uppupara except for monitoring, emergency service and goods movement to the stalls here in the long run.
- Improving and maintaining the route to Sathram through plantations so as to encourage trek from Sathram to Sannidhanam.
- Curtailing the activities which pollute / disturb the elements of landscape around and / or negatively affect the sanctity of the trek.
- Scientific planning to allow only the most essential facilities along the route as required for religious activities and for the visiting pilgrims.
- Curtailing further developmental activities except those extremely necessary to provide most essential pilgrim services (water, sanitation, health, information, disaster management including emergency evacuation).
- Activity Monitoring prior to, during and after the peak season and rejuvenation of landscape elements during off and lean seasons.
- Conserving landscape features including trees (no tree cutting is permissible unless it is extremely important and with prior permission of the Forest authorities).
- Creating awareness among the pilgrims regarding the observances to be followed during the trek – traditional/religious aspects as well as environmental conservation.

#### 4. GENERAL REGULATIONS APPLICABLE TO ALL ZONES

##### 4.1 Construction of Buildings

###### 4.1.1 Minimum size of plot

Minimum size of a plot for building shall not be less than 200sq.m

###### 4.1.2 Other Provisions

- a) The maximum permissible floor area includes the area of mezzanine floors also.
- b) No permanent boundary wall or fencing should be provided with exception for manufacturing zones & where ever it required for safety and security purpose.
- c) Running creeper or flowering creeper and tree to be planted all along the street. However species selection should be considerate enough not to bring in invasive species, alien to the region.
- d) Minimum 50% of the total area of the given area (e.g. Sannidhanam, Pampa, and Nilakkal) shall be under green cover. At least 100 trees per hectares have to be planted out of which at least 50% shall be evergreen trees.
- e) Set backs for all buildings other than buildings on residential plots:

S.No.	Plot size (sq.M)	Front (in mts.)	Rear (in mts.)	Side(1) (in Mts.)	Side (2) (in mts.)
1	Up to 400	3.0	1.5	0	0
2	Above 400 to up to 800	3.0	3.0	0	0
3	Above 800 up to 1200	4.5	3.0	3.0	0
4	Above 1200 up to 2000	6.0	3.0	3.0	3.0
5	Above 2000 up to 4000	9.0	6.0	6.0	6.0
6	Above 4000 up to 10000	15.0	6.0	6.0	6.0
7	Above 10,000 up to 20,000	15.0	9.0	9.0	9.0
8	Above 20,000 up to 40,000	20.0	9.0	9.0	9.0
9	Above 40,000 up to 10,00,00	25	9.0	9.0	9.0

Notes:-

- (1) Specific set backs shall be as per zonal plan prepared whenever such a plan has been prepared by the implementing agency.
- (2) In case the permissible coverage is not achieved within setbacks, the setbacks of the preceding category may be followed.

##### Features permitted in the setbacks of the plots

S.No.	Features	Description
1	Decorative Column	Columns purely decorative and not load bearing shall be permitted in the setback if required as part of establishing / retaining a heritage character in the overall layout. Such columns of any material and any number shall be permitted but maximum size of each column shall not exceed 300mmX 300mm.
2	Buttresses:	Buttresses, any number, shall be permitted in setback up to maximum width of 750mm in setback

<b>S.No.</b>	<b>Features</b>	<b>Description</b>
3	Moldings and Cornices, Statues & Murals:	Murals, moldings, Statues and cornices if provided along/ under any projection shall be permitted upto a maximum width 150mm over and above the maximum permissible dimensions of a projection or a canopy.
4	Planters & Sun Control Devices:	Projection in form of planters, cantilevered shades and other sun control devices shall be permitted in setback upto maximum width of 750 mm. Maximum depths of such planters shall not exceed 600mm.
5	Jali:	<i>Jali</i> of any material shall be permitted over projections which are primarily meant to cover certain extremely important wall / roof fittings. Maximum width of such <i>jalis</i> shall not be more than 75mm.
6	Casing / Enclosure To Cover Rain Water Pipe	Casing / enclosure to cover rain water pipe of any material shall be permitted in setback up to depth of maximum 250mm and maximum width of 600 mm may be permitted.
7	Roof Overhangs	Sloping roofs

#### 4.2 Rain water harvesting

Provision for rainwater harvesting is mandatory for all new constructions.

#### 4.3 Water Supply, Sewerage and Drainage

- In case of a plot for accommodations/stay purpose having dwelling units the Travancore Devaswom Board (TDB) or other responsible agency thereof shall be responsible to make lawful arrangements for potable water in the accommodation areas.
- The TDB or other responsible agency shall be responsible to provide drains in all respective zones to be used for rain water/storm water and in case of waste water closed sanitary drains to treatment plant areas, as may be required by the concern Authority.
- The TDB or other responsible agency shall be responsible to provide septic tank/Treatment of sewage with necessary dispersion trenches for disposal of human excreta in all area under its control in Sabarimala.
- The dispersion trenches of the septic tank if provided for a specific building shall be 15 meters away from the boundaries of the building.

#### 4.4 Electrification

- The electric connection for the areas should be directly obtained by the user agency (here, TDB) from the appropriate authority (here, Kerala State Electricity Board (KSEB)) responsible for distribution on such terms and conditions and at own cost as decided by the appropriate authority.
- Underground safe & secured transmission & distribution lines to be provided in all zones especially where high intensity of activity is expected.

#### 4.5 Solid waste Management

Every Building irrespective of use/activity shall maintain a primary storage point preferable along the service access, wherein the segregated biodegradable and non-biodegradable waste are stored separately. The detailed directions in this regard shall be followed as specified in the solid waste management report. The space for collection of garbage, in plots, shall be so conveniently located from where collection and transportation will be undertaken to its final



treatment location.

#### 4.6 Landscaping

Institutional, commercial, organization/ Manufacturing units/ Accommodation shall be required to plant a minimum number of trees in their premises as follows

##### Area under canopy/Tree plantation on plots

<i>Plot size (In Sq.m.)</i>	<i>No. of trees required</i>	<i>Minimum open space to be kept for landscaping</i>
Upto 2000	One tree per 100 sq.m of open space out of which minimum 50% trees are to be category of evergreen trees, having height of 20m or more.	25% of open area. In case of Manufacturing Zone plots no soft landscaping is required.
From 2001 to 12000	One tree per 100 sq.m of open space out of which minimum 50% trees to be in the category of evergreen trees, having height of 30m or more	25% of open area.
More than 12000	One tree per 100 sq.m of open space out of which minimum 50% trees to be in the category of evergreen trees, having height of 40m or more.	50% of open area.

OR

<b>Plot size</b>	<b>Max Area under Canopy</b>
Up to 150	Nil
Above 150 to up to 300	12 sqm (only in side setback)
Above 300 up to 500	25 sq m
Above 500 up to 2000	40 sqm
Above 2000 up to 4000	55sqm
Above 4000 up to 10000	70 sqm
Above 10,000 up to 20,000	85sqm
Above 20,000 up to 40,000	100 sqm
Above 40,000 up to 10,00,00	115 sqm

*Note: Min width/radius of canopy shall be 1.8 m*

- a. In case of plotted developments for group housing for staff or mass housing for pilgrim accommodation, plantations shall be provided in such a way that they form part and parcel of activity areas. No existing trees should be cut. However attempts to remove invasive species are required wherever found.
- b. Following norms shall be followed for street level planting if not specified for any specific zone.
  - i. On all streets wider than 12m, alternate variety of evergreen & ornamental trees shall be planted @ 7.5m c/c.
  - ii. On streets upto 12.0m ornamental trees will be planted @ 5m c/c of single variety in each pocket.
  - iii. Residential plots other than group housing
    - One tree in every plot for plot size 200 sq.m.

- Two trees in every plot for plot size 200 to 400 sq.m.
- Four trees in every plot for plot size 400 to 800 sq.m.
- Six trees every plot for plot size greater than 800 sq.m.

#### **4.7 Style, Colour and Material**

As much as possible, Traditional Kerala architectural style should be recreated. This should essentially be so in the scheme areas. Roofing pattern, relationships between built and un-built open spaces should follow traditional Kerala style.

Colours used should not be offensive. Same colours should be used for utilities and infrastructure provided of same type around the area. As much as possible, earthy and natural colours should be used.

Materials, especially those used for paving should be as much as possible natural materials or earth based materials like stones, terracotta etc with due consideration to the load expected and should be used in an open jointed manner to allow percolation.

## 5. SPECIAL PROVISIONS

### 5.1 Filling / Grading / Excavation of Sand, Soil, or Other Materials

#### 5.1.1 Fill/Grading/Excavation Permits

Excavation or relocation of topsoil, sand or gravel, laterite, mud and/or other material will not be permitted in areas under the jurisdiction of the KFD. A detailed Environmental Impact Assessment will be necessary to be submitted and approved by the KFD and MoEF to receive fill/grading/ excavation permits in the forest area. Sand mining from the river is also prohibited unless permission is granted by the respective local body. The EIA shall be prepared in accordance with the format prescribed by MoEF. This shall be required in all cases where the removal or relocation of sand, gravel, rocks, minerals, rock, mud, laterite, peat, dirt, or materials of any kind will substantially alter the existing ground contour, would change existing drainage patterns or would cause flooding or erosion, or where dynamite or other explosives are used generally or incidentally in said filling/grading/excavation operation, or where such operations affects in any way the natural forest setting. Such fill/grading/excavation permits if allowed shall be strictly on project to project basis and may or may not be subject to review and rehearing on completion of such project.

#### 5.1.2 Exemptions

Operations not exceeding 10m<sup>3</sup> of fill/grading/excavation in any Mixed use or Accommodation Zone are exempted provided all other applicable rules and regulations are complied with and further, provided that the exemptions shall not include impoundment of ponds/water bodies in the Sabarimala, and the diversion of existing drainage patterns. Excavations of materials for purposes of installing building foundations or basements are also exempted provided, however, that such exemption shall apply only to the actual foundation or building floor area and shall not be interpreted to include extensive site grading which would otherwise require a permit under these regulations.

#### 5.1.3 Prohibition

In no case shall any materials consisting of and/or containing contaminated, toxic, or hazardous elements as defined by the KPCB be allowed for fill and/or grading purposes.

#### 5.1.4 Compliance

The Implementing agency of the development works shall assume complete responsibility to comply with all applicable regulations and provisions in the reserve forest area.

#### 5.1.5 Expiration of Permit

Any Fill/Grading/Excavation Permit approved/issued by the competent authority / department shall expire on completion of respective project or the time span so prescribed whichever occurs early. The competent authority / department may specify a limited extension to said expiration upon receipt of a letter of request from the Implementing agency prior to such expiration. Said letter shall provide a bona fide reason(s) why the project cannot be completed in compliance with the above expiration requirements.

### **5.1.6 Application procedure**

Applications for a fill/grading/excavation conditional use permit shall contain the following information:

- Legal description of the land to be filled, graded or excavated. Nature of the proposed fill/grading/excavation operation and plan of intent as to the future use of the area.
- Development plans showing pit or fill/grading locations, proposed elevations, drainage, access routes to be used in hauling to or from the site and daily hours intended for equipment operation on the site.
- Whether dynamite or other explosives will be used either incidentally or generally during the operations.
- Dates for the projected period of filling, grading or excavation, and an approximate completion date of the operation, otherwise state if intended for continuous year-around and/or seasonal use.

### **5.1.7 Safety Precautions**

If, during the fill/grading/ excavation work, it becomes necessary for the implementing institutions responsible as per permit issuance terms to create a condition of grade or drainage not in the interest of health or safety, it shall become the responsibility of implementing agency to immediately correct the dangerous situation created, as well as fence such area from the general public/Pilgrim during the period of danger.

No water or other waste shall be allowed to run off from any pit or depression into any stream, lake or pond so as to pollute the same.

Operations shall be limited to reasonable hours that will not interfere with the health, safety or welfare of Pilgrims and the local communities and the premises and activities shall be designed and operated so as not to create a nuisance.

When explosives are used and the permittee so authorized, all necessary precautions and care shall be taken so as not to endanger life and/or damage and destroy property.

All explosives shall be stored in a reasonably secure and safe place or places, and all such storage places shall be clearly marked "Dangerous - Explosives" and shall have appropriate warning symbols.

The method of storing and handling explosives and highly inflammable materials shall conform to current standards applicable to the State of Kerala.

A log of the time and day and personnel familiar with the work shall be kept of all blasting and a copy of said log shall be made available to the competent authority / department (here, the Department of Forests).

Following the completion of the fill/grading/excavation operation, the person responsible for said operation shall restore the land to a usable and safe condition by means approved at the time of issuance of the conditional use permit.

The applicant shall certify at the time of permit issuance that, at the completion of the project, all excavation shall rest at development lines and slopes from development lines shall be at a maximum slope of 3:1, all embankments shall be at development lines, and back slopes shall be at a maximum slope of 3:1. Stipulated slopes may be subject to change upon the recommendation of the concerned Engineer if such change prescribed by him would provide a better stable and gradual slope which would protect the neighboring ground from slumping. Similarly permit from the Fire Department and Chief of Explosive Department will be required for storage of diesel, LPG and other explosives on the site. It will be the responsibility of the owner of the site to obtain such permit. All under and above ground storage tanks will be periodically tested and certified by the regulatory authority.

## 5.2 Special Provision: Solid Waste Dump Yards

### 5.2.1 Purpose

The purpose of this Section is to provide standards for the location and control of Solid waste disposal facility. Adequate protection of the Pilgrim health, safety, and welfare requires that these uses be regulated and controlled.

### 5.2.2 Requirements

These standards shall be held to be the minimum requirements for Solid waste Dump yards. If the requirements of the zoning district in which a Solid waste Dump yard is located impose greater restrictions than those of this Section, the requirements of the zoning district in which the Solid waste Dump yard is located shall be controlling.

- i. Minimum Lot Area - Half (0.5) acre.
- ii. Minimum Lot Width – Fifty (50) Meters
- iii. Minimum Lot Depth - One hundred (100) Meters
- iv. Fences

A 100% opaque fence shall be constructed to completely enclose the Solid waste Dump yard. The fence shall be painted one color and kept in good repair. It shall be the responsibility of the operator as well as that of user agency (here, TDB) to maintain the fence. The KSPCB, on making inspection of such fencing, may order special repair to be made in order that the good appearance and safety of the fence may be maintained.

Front Yard Fence Height - Minimum height of 1.8 meters or 6 feet. However, when such front yard is fronting some important pilgrim activity area then, such fence height shall be a minimum of eight 2.4 meters or 8 feet.

Side Yard Fence Height - Minimum height of 1.8 meters or 6 feet.

- v. Setbacks from Property Lines  
Solid waste Dump yards shall be buffered from adjoining properties by a separation of open space/green space which shall have a minimum depth of fifteen (15) Meters.

Minimum Fence Setback:

Front and corner yard - fifteen (15) Meters.  
 Rear yard - fifteen (15) Meters.  
 Side yard - fifteen (15) Meters.

If a building is proposed to be located outside the fence, the following building setbacks shall be observed:

Front and corner yard - fifteen (15) Meters  
 Rear yard - fifteen (15) Meters.  
 Side yard fifteen (15) Meters.

- vi. Storage/dumping of Solid waste Materials  
 All storage shall be within the fenced area.  
 At no time shall any items be piled higher than the fence.
- vii. Accommodation area/pilgrim activity area shall not be located within Solid waste Dump yards.  
 Accommodation area/pilgrim activity area on the same site shall be separated from Solid waste Dump yard operations by a minimum of fifteen (15) Meters.
- viii. A conditional use permit for a Solid waste Dump in any other zones except such zones that specifically allow a Solid waste Dump as a conditional use shall not be allowed.

### **5.3 Special Provision: Firewood Storage.**

#### **5.3.1 Purpose**

The use of renewable resources including wood is increasing at Sabarimala. In order to protect public health and safety, wood piles must be erected, located, and maintained in a safe and orderly fashion.

#### **5.3.2 Scope**

This Section applies to the storage of wood in Any Zone Districts and other legally platted areas except for the exemptions noted below. This Section shall apply to any wood or wood product usually used or intended to be used as firewood at Sabarimala or any accessory structure.

#### **5.3.3 Conditions of Storage**

Firewood shall be stored in the following fashion:

- In neat and secure stacks.
- The height of a wood pile over three feet high shall be no more than twice its width. The maximum height allowed is 1.8meters.
- Wood shall be stored in a manner and location to minimize possible problems of rat or other pest infestation.
- No wood shall be stored within the required minimum area of setback from a street right-of-way or within 1.5 meters of a side lot line. In no case shall wood be stored within a street right-of-way.

- No wood shall be stored in a front yard or yard that is commonly considered the front yard.
- The maximum amount of wood that may be stored at one time is 1.2x1.2x 2.4 cubic Meter. The area covered by the stored wood shall be included in lot coverage requirements.

#### **5.3.4 Exemptions**

Wood storage under the following circumstances shall be exempt from the conditions outlined above:

- Wood is stored or kept in a covered structure impervious to the elements.
- Temporary storage of logs for maximum one day's usage outside of the required areas of setback from property lines and street is allowed for the purpose of cutting and splitting logs to a size usable in the Hotel or pilgrims wood burning device.

#### **5.3.5 Existing Wood Piles**

Any wood pile in existence as of the effective date of this Document which does not comply with the provisions of this Section must be removed or placed in compliance with this Section's provisions within one year after written notice to comply by the authorities. Such notice shall be in writing and shall be served upon the user either in person or by mail.

### **5.4 Special Provision: Signage**

#### **5.4.1 Purpose**

The purpose of this Section is to provide standards to ensure the signage integration with the architecture design and to avoid the Visual pollution or vista degradation of the place which is considered one of the most sacred religious centers in south India. Advertisements, advertising structures and other signage's are an important element of the built environment of Sabarimala. There is an urgent need to introduce provisions that are intended to protect the significant characteristics of buildings, place, builtscapes, vistas, landscape and the built skyline. These provisions which are intended to encourage well designed and well positioned signs which contribute to the vitality and legibility of Sabarimala and which respect the amenity, religious conviction & safety of Pilgrims and pedestrians. As well as providing objectives and provisions for signs generally, where it required to differentiate and assess whether a sign is an Identification Sign or a Commercial Advertising Sign.

This provision will also provides controls for special situations, such as signs on Heritage/Religious Items, in Special Areas Signage Precincts, and in Conservation Areas, and specific precincts and allows for the development of precinct based Signage Strategies. A precinct based Signage Strategy may also be prepared as an area specific Development Control Plan. In considering innovative design proposals for signs not envisaged by these provisions or where there are issues of interpretation, the consent authority will consider the design excellence of the proposed sign and the degree to which it meets the objectives of this report.

### 5.4.2 General Requirements

Except as otherwise provided by this Section, signs, where permitted, shall comply with the following requirements:

Signs are to be designed and located to:

- be visually interesting and exhibit a high level of design quality;
- be integrated with the architecture and structure of the supporting building;
- allow the main facades of buildings between the first floor and parapet to be uncluttered and generally free of signage;
- achieve a high degree of compatibility with the architectural design of the supporting building having regard to its composition, fenestration, materials, finishes and colours, and ensure that architectural features of the building are not obscured;
- consider existing signs on a building, site or adjoining vicinity to ensure that any new sign does not give rise to visual and/or physical clutter;
- have regard to the view of the sign and any supporting structure, cabling and conduit from all angles, including visibility from the path level and nearby higher buildings and against the skyline;
- have only a minimal projection from a building;
- not contain additional advertising promoting products or services other than the approved use of the premises or site (for example the logos or brands of products such as soft drinks, brewers, photographic film, etc) irrespective of whether that product or service is sold or available on the site; and
- Not be supported from, hung from or placed on other signs.
- The scale and location of a sign shall be compatible with the building to which it is affixed and take into consideration nearby buildings, pathway and existing signs. In most cases, appropriate dimensions can be achieved by restricting signs to grid locations or panels to ensure the architectural elements (set by the lines of awnings, windows, doors and parapet lines etc) remain the dominant feature of the facade.
- Signs painted on or applied on the roof of a building are not to be permitted.
- In considering applications for new signs the consent authority must have regard to:
  - the number of existing signs on the site and in its vicinity;
  - whether that signage is consistent with the provisions of the development plan;
  - whether the cumulative impact gives rise to visual clutter;
  - the need for the minimization of excessive lighting which acts as an advertising device, both on and behind shop fronts, so as to prevent obtrusive impacts upon the streetscape;
  - in considering innovative design proposals for signs not envisaged by these provisions or where there are issues of interpretation, the consent authority will have regard to the design excellence of the sign and its compliance with all the objectives of this section;
  - whether the signage relates to an approved use; and
  - The existing and desired future character of the area.

Wall signs between first floor and the parapet of the building are not permitted if the building also has a building name sign on the same elevation. In all other cases signs are to:

- be compatible with the design of the building and the streetscape and are not to cover architectural features and not extend above the building parapet or eaves;
- occupy only a minor proportion of the building elevation;
- project only to a minor extent from the building elevation; and
- Be limited to one sign per elevation.



- Painted wall signs may be permitted on otherwise blank side elevations of existing buildings if in the opinion of the consent authority the sign improves that elevation of the building and the sign is not commercial advertising.
- Non-projecting wall signs on the ground level (usually known as hamper signs) are to:
  - be located preferably above the public entrance to a shop/premises and any adjacent window;
  - not be located on frontages without a public entry;
  - be limited to one sign per frontage of the shop/premises;
  - be not more than 0.6 meters high, 1 m<sup>2</sup> in area and relate to the proportion of any shop front window/opening and door framing;
  - project a maximum of 150 millimeters from the shop front face/opening to the outside edge of the sign; and
- Horizontally oriented signs are preferred consistent with the doorway proportions.
- Other signs at ground level are generally not to be permitted including signs on window glass, whether internal or external. A wall plate may be located next to the entrance door.

Free standing Identification Signs are discouraged in Sabarimala. It is preferable to have signs fixed to buildings. Any free standing sign is to be:

- Not higher than 1.20m (4 feet) above the ground and have a maximum area of 1m<sup>2</sup> per face and not more than two faces;
- integrated into the landscape design;
- present only information related to the use of the building or the site such as a directory of pilgrims and not be a Commercial Advertising Sign; and
- Limited to one sign per street frontage or with a minimum spacing of 250m in case of trek routes.
- Significant trees and vegetation shall not be removed to accommodate signage. Free standing signs, where permitted, shall include as part of a development plan which include a landscape plan, showing all landscaping on site.
- Loose or moveable freestanding signs, including "A frame" and "Sandwich board" signs are not permitted in areas of intense pilgrim activity or within 10m of such activity.
- Menu boards/price board or stands are not permitted on Pathways which include all signage as being stable and so located, they may hinder pedestrian circulation.
- Signs promoting businesses located on people or carried by people are considered a public nuisance
- Signs of a minor nature, including location/place signs, directional signs, general pilgrim information signs and way finding signs, constructed for or by the TDB do not require consent but needed to strictly comply with the guidelines.
- The maximum number of Identification Signs generally permitted on a building elevation, – a maximum of two signs (but no more than one sign per elevation) near the roof or parapet and one at or near the building's major entry;
- Commercial Advertising Signs are to be generally discouraged and should not be permitted at all in Sannidhanam and along trek route.
- Temporary signs and sign structures are subject to the same design and locational provisions as permanent signs. However, special consideration may be given to the signs associated with special events of a community, religious or cultural nature.
- A temporary sign is generally permissible for a period of up to 60 days (season period only) (however this needs endorsement from the TDB, Forest & the local administration) and renewals of or extensions to the period not to be generally be permitted.

### 5.4.3 *Illumination and Animation*

- Excessive or special illumination schemes expressly designed for the purpose of promoting the business, activity or product, both on and within buildings (including windows and doorways) and sites, are not to be permitted.
- Illuminated and animated signs are not to detract from the architecture of the supporting building during daylight if provided.
- Where the illumination of signs signage are is likely to have an adverse impact on religious buildings or historic precinct they are not be permitted mainly in Sannidhanam.
- In some instances, a strict clampdown may be imposed on the operation of illuminated and animated signs where continuous illumination may impact adversely on the wild life, amenity or comfort of pilgrims or other visitor or have other adverse environmental effects.

Illumination (including cabling) of signs is to be:

- concealed; or
- integral with the sign; or
- Provided by means of carefully designed and located remote or spot lighting.
- The ability to adjust the light intensity of illuminated signs is required to be installed where the consent authority (Forest Dept.) considers necessary.
- Up lighting of signs is not to be permitted. Any external lighting of signs is to be downward pointing and focused directly on the sign and is to prevent or minimize the escape of light beyond the sign.
- Animated signs are to be discouraged and generally not permitted in the Sannidhanam, along trek route or Pampa. Such signs include including mechanical moving signs, 'moving' LED signs, video/television screens, projected laser advertising and other flashing, intermittently illuminated or sequenced lighting signs.
- Illuminated signs/ or any other advertisement sign will have a period of consent for 2 months only (season only).

### 5.4.4 *Signs for certain uses*

Signs for commercial establishment, restricted premises and any other related activities premises must:

- not interfere with the amenity of the locality;
- not exceed 450mm in height and 900mm in width, or be of an equivalent area;
- No more than one sign should be erected, displayed or exhibited to public view in the window, or on the building, or in, outside, or directly above an access way to the commercial establishment or restricted premises
- Free standing signs should be avoided where ever possible. Where it becomes an absolute necessity it should be so designed to blend in with the natural landscape.
- Signs are to be maintained to a high standard and to Authorities satisfaction. A maintenance plan may be required to be submitted for approval prior to commencement of construction indicating the proposed methods of cleaning, & replacement, a detailed maintenance schedule to ensure ongoing upkeep of the sign.

#### 5.4.5 *Signs and road safety*

Signs are regarded as prejudicial to the safety of the traveling pilgrim if they:

- obscure or interfere with road traffic signs and signals or with the view of a road hazard, oncoming vehicles, or any other vehicle or person, or an obstruction which should be visible to drivers or other road users;
- give instructions to traffic by use of the word ‘stop’ or other directions, which could be confused with traffic signs;
- are of such a design or arrangement that any variable messages or intensity of lighting impair drivers' vision or distract drivers' attention; and
- Are situated at locations where the demands on drivers' concentration due to road conditions are high such as at major intersections or merging and diverging lanes.
- When a suitable location for a sign has been identified, the actual positioning of the sign needs careful consideration. The following criteria apply:
  - The lateral clearance from the sign to the curb is to be not less than 0.6 meters. This can be reduced to 0.45 meters only if the footway width is less than 3.6 meters and the road camber is not excessive; and
  - The minimum headroom for passage of vehicles on a public road is generally 5.4 meters with 5.0 meters being the absolute design minimum.

#### 5.4.6 *Signage and Advertising Structures*

In considering structures which are located in the pilgrim domain and encompass signage and advertising structures the consent authority must have regard to:

- The appropriate location of any structure so as not to intrude onto or obstruct accessible paths of travel;
- Clear Unobstructed sightlines to structures that are well lit and colour contrasted, where appropriate, to assist people with vision impairments, and the discouragement of signs on poles which may be problematic for users of canes;
- The use of hazard warnings such as tactile indicators to indicate possible dangers for people with vision impairments;
- The general safety of pedestrians; and
- Any cumulative impacts or visual clutter created by the proposed signage and structures.

#### 5.4.7 *Signs in Religious Precinct*

Religious structures and signs with religious value in Sabarimala have special significance. The design and location of signs on or near such structures must be carefully considered to achieve a very high degree of compatibility with the religious significance of the building or landscape so as not to detract from that significance. In some cases, the Religious significance of a structure may not allow for any signage or only limited signage opportunities.

All signs on Religious structures are to be:

- consistent in design to the architectural form of the building to which it is attached;
- of a high standard of materials, construction and graphics; and
- Appropriately located on the Heritage Item and of a compatible design and style with appropriate lettering.

- Existing signs on building generally and on Religious Structures may have Religious value and if this is demonstrated should be retained where appropriate and possible to do so, preferably in their original location.
- The installation of any sign on a Religious Structure is to be carried out in a reversible manner without damage to the significant fabric.
- Should not pose danger of any sort to the people who visits the area

### 5.5 Special Provision: Pilgrim Campground Facility (*Viri* Areas)

In the *Sabarimala* planning region following may be permitted as a conditional use:

- a) Campgrounds solely intended for the pilgrims trekking down through the forest and using tents subject to the requirement that along with the application for conditional use permit the concerned authority shall submit to the competent authority a site plan conforming to the following design standards and a statement agreeing to the performance and maintenance of applicable standards and conditions.
- b) All temporary structures shall observe front yard setbacks – from the trek route/ pathway /streets/road, by 1.5 Meters. Side yard setbacks, 1.5 meters for principal structure, 1 meter for accessory structure; rear yard setback, 3 meters. All temporary Building height requirements shall not be more than 3 meters. No lodging, camping, buildings or associated activities shall be allowed within 100 meters of adjacent religious locations/pilgrim activity space
- c) The Camp facilities should be clustered and restricted to one or few permitted areas only. A sprawl should be strictly controlled. Maximum lot area shall be 1 acre. Maximum lot width shall be 100 meter and depth 40 meters and should be allowed in an area if the location would not require cutting / pruning of trees or extensive removal of ground cover. Lot area and width requirements shall be strictly observed as it is the intent not to locate such facilities in high/densely Forest vegetated areas.
  - Total area for commercial amenities at each location should not exceed 200sqm. Area for viris at each location should not exceed 1500 sqm
  - Each viri should not accommodate more than 100 persons and open space between two viris should be at least 3m
  - Viris of temporary materials shall not be of more than single bunk arrangement. An area of at least 2.5 sq m to be provided per person in a viri.
- d) Campground facilities as stated herein shall meet "Compliance Standards for fire and structural safety " or updated applicable standards as enforced/stipulated by the District administration. Said facilities shall be subject to applicable local, State and central regulatory authorities and all permit requirements.
- e) Site plan shall include the following: area location and dimensions of all temporary buildings, facilities and amenities. All campsites with dimensions shall be delineated. No Pavement or buffer screen shall be installed as part of the initial construction. Areas proposed to be filled in or otherwise altered or vegetation cleared shall be delineated on the site plan. Natural topography and vegetation shall be maintained as much as possible. The site plan shall be drawn-to-scale and shall be completed in a neat legible manner. A professionally designed site plan is preferred and may be required by the Concerned

authority in such cases but not limited to when there are doubts regarding impact of such activities which may alter natural drainage patterns, forest vegetation etc are there.

- f) Combined facilities shall comply with all norms and regulations as specified by the respective departments. Any change or expansion that would change said use or increased capacity shall comply with all updated applicable standards and shall require a new conditional use permit if listed as a conditional use.
- g) Lighting and Signage. Lighting shall not be directed upon the nearby forest area or cause the flare in the sky. Signage shall comply with the specific provisions in the concerned section.

### **5.6 Special Provision: Additional Standards Applicable to all zones and uses**

- The classification of roads conforms to PWD classifications and terminology. Classifications of roads or sections of roads are subject to change from time to time as the result of changes in traffic patterns. The classification system applicable to this Document is given in the traffic and transportation section.
- The minimum lot width, lot area, and setback requirements established herein shall be maintained for the placement of all structures. Greater lot area per unit may be required if necessary to provide for proper sewage disposal. Any addition attached to a dwelling, or primary structure, shall comply with all minimum setback requirements of the zone district for a dwelling, or primary structure. Any structure in any zone district may have an extended roof line which encroaches upon the minimum side and rear yard setbacks, provided such encroachment shall not extend more than one (1) meter into the required setback distance.
- In no case of subdivision shall any lot or parcel be created which does not meet the requirements of the District in which the land lies.
- Each lot on which a structure is to be erected, altered in the exterior dimensions, or moved, shall have frontage on and access to an improved public road/pathway, except as follows:
  - Such lots to be used for a seasonal requirement only and may have alternate means of access, which shall be either a secured road/pathways through the forest (permission for forest required).
- For any use, whether permitted or conditional, where an Environmental Assessment, Environmental Assessment Worksheet, or Environmental Impact Statement is required and where the any agency is designated as the lead agency the proposer shall be required to supply all information requested to complete said documents.
- Solid waste collection stations and public utility structures necessary for the distribution of local utilities, such as small distribution and repeater stations and other equipment buildings which are normally uninhabited, shall be permitted in all zone districts on lots as small as 1/2 acre provided:
  - That all setbacks normally required for principal structures in the zone district can be met.
  - That there be created on the lot for parking space for accommodation of service/collection/tractor vehicles.
- Temporary construction of up to 2 months in duration may be allowed under a conditional use permit as an accessory use to forestry or other temporary permitted land uses in any zoning district.

## **5.7 Special Provision: Non-Conforming Lots, Land Uses, and Structures.**

### **5.7.1 Intent**

1. Within the districts established by this Document or amendments that may later be adopted, there exist lots, structures and uses of land and structures which were lawful before this Document was passed or amended, but which would be prohibited under the terms of this Document or future amendment.
2. It is the intent of this Document to permit these non-conformities to continue until they are removed, but not to encourage their survival. Such uses are declared by this Document to be incompatible with permitted or conditional uses in the districts involved. It is further the intent of this Document that non-conformities shall not be enlarged upon, expanded or extended, or to be used as grounds for adding other structures or uses prohibited elsewhere in the same district.
3. A non-conforming use of a structure, a non-conforming use of land, or a non-conforming use of a structure and land shall not be extended or enlarged after the effective date of this Document by attachment of additional signs to a building, or the placement of additional signs or display devices on the land outside the building, or by the addition of other uses, if such additions are of a nature which would be prohibited generally in the district involved.
4. To avoid undue hardship, nothing in this Document shall be deemed to require a change in the plans, construction, or designated use of any building on which the actual construction was lawfully begun prior to the effective date of this Document and upon which actual building construction has been diligently carried on. Actual construction is hereby defined to include the placing of construction materials in permanent position and fastened in a permanent manner and, elimination and removal of an existing structure in connection with such structure, provided that actual construction work shall be diligently carried on until the completion of the building involved.

### **5.7.2 Non-Conforming Uses of Land**

Where, at the effective date of this Document, lawful use of land exists that is no longer permissible under the terms of this Document as enacted or amended, such use may be continued, so long as it remains otherwise lawful, subject to the following provisions:

1. No such non-conforming use shall be enlarged or increased, nor extended to occupy a greater area of land than was occupied at the effective date of this Section.
2. No such non-conforming use shall be moved in whole or part to any other portion of the lot or parcel occupied by such use after the effective date of this Section.
3. If any such non-conforming use of land ceases for any reason for a period of more than one year, any subsequent use of such land shall conform to the regulations specified by this Document for the district in which such land is located.

### **5.7.3 Non-Conforming Structures**

If a lawful use of a structure, or of structure and premises in combination, exists at the effective date of this Section that would not be allowed in the district under the terms of this

Document, the lawful use may be continued so long as it remains otherwise lawful, subject to the following provisions:

1. No such structure may be enlarged, extended, converted, reconstructed or structurally altered unless the use of the structure is changed to one permitted within the district in which the building is located. The non-conforming use shall not thereafter be resumed.
2. Should such structure be destroyed by any means to an extent of more than fifty percent (50%), it shall not be reconstructed except in conformity with the provisions of this Document. An exception may be considered in order to use existing slabs for reconstruction, or to rehabilitate a damaged structure when insurance will cover such rehabilitation, but not total replacement costs, subject to approval of a variance by the concern authority.
3. Should such structure be moved for any reason for any distance whatsoever, it shall thereafter conform to the regulations for the district in which it is moved.
4. When a non-conforming use of a structure, or structure and premises in combination, is discontinued or abandoned for six (6) consecutive months or for eighteen (18) months during any three-year period, the structure, or structure and premises in combination, shall not thereafter be used except in conformance with the regulations of the district in which it is located.
5. When a non-conforming use status is applied to a structure and premises in combination, removal or destruction of the structure shall eliminate the non-conforming status of the land.
6. Notwithstanding any provision of this Subdivision to the contrary, any principal or accessory structure, existing on the effective date of this provision, and which is non-conforming only by reason of placement on a lot of insufficient size, and which would otherwise be permitted in the zoning district, shall for the purpose of administration of this Document, be considered a conforming use. Such principal or accessory structure may be altered, expanded, renovated or improved provided that it does not exceed the dimensional requirements of the zoning district as to lot area, lot coverage and building line setbacks unless these requirements are modified by the concern authority

#### **5.7.4 Repairs and Maintenance**

1. On any building devoted in whole or in part to any non-conforming use, work may be done in any period of twelve (12) consecutive months on ordinary repairs, or on repair or replacement of non-bearing walls, fixtures, wiring or plumbing, to an extent wherein cubical space content of the building as it existed at the time of the effective date of this Document shall not be increased.
2. Nothing in this Document shall be construed so as to prevent the restoring of a non-conforming structure to a safe condition when said structure is declared to be hazardous or unsafe by concern Officials. Such restoration shall not extend the non-conforming structure in any manner, except as reasonably required to eliminate the hazardous or unsafe.

## 6. PROPOSED INSTITUTIONAL SET UP FOR IMPLEMENTATION OF THE MASTER PLAN

As per the existing Town Planning Legislations and UDPFI guidelines formulated by Government of India (GoI), the Master Plan provides the goals, policies, strategies and guidelines for the long term development of an area. It is the plan which the authorities can use for identifying and allocating the resources including the land required for development in a phased manner. It would not detail out the development plans or subsequent detailing to realize any project. After the master plan is prepared, the projects mentioned therein are realized through the following process:

- Development Plans to be prepared for each area covered in the master plan. This should be conceived within the frame work of the Master Plan and cover five year periods with comprehensive proposals
- Annual plan conceived within the Development plan detailing the projects to be implemented in one year duration
- Projects and schemes conceived within the approved development plan covering Detailed Project Reports (DPRs) and working details, including estimates and costing, source of finance and detailed Environmental / Social Impact Assessment studies (if required).

### 6.1 Existing Institutional Setup

#### 6.1.1 Temple Administration

The TDB, an autonomous body constituted under the *Travancore Cochin Hindu Religious Institutions Act XV<sup>th</sup>* of 1950, is entrusted with the task of administering more than 1200 temples including Sabarimala in the erstwhile princely state of Travancore of the erstwhile State of Kerala, earlier administered by the ruler of Travancore prior to the integration of the Princely States of Travancore and Cochin.

According to the Act, following are the rights and privileges enjoyed by TDB in Sabarimala

- The right to conduct of daily worship and ceremonies and festivals according to its usage.
- The right to carry out the works which may be required for proper administration of the temple
- The right to manage its own affairs in matters of religion and to own immovable property

The Constitution of the Board was based on the covenant entered into by the Maharaja of Travancore in May 1949 and concurred and guaranteed by the GoI. The Board comprises of President and two Members. The President and a Member are nominated by the Hindu members of the Council of Ministers and the other Member from the Hindu Members of State legislature. The term of the board members is for a period of four years. The board has the power of control, direction, and supervision over the incorporated and unincorporated Devaswoms and Hindu Religious Endowments in the area under its jurisdiction. It has the complete control over the act and proceedings of all officers and servants of TDB.

It has a secretariat headed by a Secretary, who is responsible for convening the meetings of the board on such date as may be required in consultation with the President. The Board carries out the administration of Sabarimala temple complex and another around 1200 temples in Kerala through Devaswom Commissioner, the Chief Executive. The Commissioner is assisted by Assistant Commissioner of Devaswom groups. The major departments which



function under the Chief Executive are Works, Accounts, Law, Vigilance, Culture, and Planning & Survey. The Works department is responsible for development activities – both construction and maintenance. The Chief Engineer (General) is responsible for Sabarimala development. He is assisted by an Executive Engineer exclusively for developmental and maintenance works at Sabarimala, Pampa and Nilakkal.

### 6.1.2 Administrative Complexity

The place of pilgrimage like Sabarimala has at minimum, very larger regional audience, which draws its pilgrims beyond their daily perimeters of immediate surroundings or immediate region of circulation, and therefore participates in creating the identity of a space. Hence, today, the very name of Sabarimala opens on the representation of wider cultural territories largely spilling over the geographical and administrative limits of Kerala.

The Sabarimala *per se* is important not only for its sacred geography but also for the low altitude ever-green ecosystem that falls within the PTR which is an area 'declared as 'Protected Area', Wild Life Sanctuary'. In this perspective, strict restriction and controls are imposed on all non-forest activities within its limits to ensure the wellbeing of the endangered tiger species. It aims to bring about the overall improvement of the wildlife and ecological sustainability, the tiger being at the apex of ecological pyramid.

Lack of prior planning and managerial ad-hocism in implementation of developmental works by TDB here has led to a chaotic developmental situation which could be referred to as an unorganized 'sprawl' with accumulated waste strewn around creating widespread contamination in the region through the forests and rivers which traverses the region.

The various provisions in the Kerala Forest Act of 1961, Wildlife of Act 1972, Environmental Protection Act and Wildlife Conservation Act of 1980 have been violated mainly in connection with land-use. Ever since the promulgation of Kerala Forest Act of 1961, Wildlife & Forest Act 1972, and Wildlife Conservation Act of 1980 there has been considerable control on the utilization of forest land for non-forest activities. In the absence of a Master Plan and long term perspective on the type of development to be promoted here, development works are carried out in an ad hoc manner through a policy of the *eleventh hour adjustments* for crisis management. This has resulted in uncontained development of the temple precinct where, the ever increasing pilgrim requirements and commercial considerations have gained precedence over environmental considerations as well as religious sentiments. Also such last minute facility provision compromises on the quality and quantity required. Despite violation of all the environmental regulations, the GoK and the KFD are unable to object due to the media sensitivity of all activities related to the pilgrimage. In case of any opposition from any quarters, public is alarmed and sensitivity is raised by the TDB and the media that "such opposition is aimed at curbing the provision of facilities to the pilgrims". In this context, it is to be remembered that such facilities which are arranged during the eleventh hour serves only a fraction of pilgrims (mostly belonging to the privileged classes) and have considerable negative externalities on the environment and the region in toto. It should be remembered that proper long-term planning could render better services and facilities to all the pilgrims, irrespective of their affordability. This ideal situation is mostly warded off through such last minute preparations and media outcry and finally, majority of the pilgrims suffer without access to facilities and services.

In the administrative context the Enclave can be described in following three different ways:

- i. Sabarimala Temple, Pampa and Nilakkal under the jurisdiction of the TDB;
- ii. Sabarimala temple area and premises falling within the PTR Part of Pampa and Nilakkal under Reserve Forest; and
- iii. The entire area under the Ranni-Perunad Panchayat

The administrative complexity arises because of overlap in the exercise of authorities such as the KFD, the Panchayat and the TDB. The whole area is legally controlled by the KFD which is the owner of the land, but virtually managed by the TDB who is in-charge of temple administration. The Panchayat has little role in the management of the Sabarimala Region and remains a passive recipient of License Fees. Contrary to the usual procedure it receives no Building Taxes due to the stay order of the High Court, for there is no settlement as per the Settlement Register. Though the pilgrimage has its repercussions on the health of the people in the surrounds, and though the Panchayat is legally responsible for and is interested in assuring this, they remain as passive onlookers. Of these three agencies, in effect, it is the programmes of the TDB which get materialized more within the Sabarimala region, which till date lacks planning and environmental safeguards. Further, Sabarimala region calls for activities of various Government departments such as KSEB, KWA, Fire Service, Police, Health, PWD, Telecom, Excise, and KSPCB and Pathanamthitta District Administration. A number of NGOs are also involved in the temple and pilgrim service related activities and environmental activities. All these agencies discharge their functions almost independently except for a maximum of three or four co-ordination meetings organized at ministerial levels just before the commencement of peak pilgrim season to review the progress of works. Lack of coordination and planning leads to the prime objectives namely, the provision of basic facilities to pilgrims and the protection the fragile ecology remaining almost un-attended.

#### 6.1.2.1 Institutional Responsibility Matrix

The construction, operation and maintenance of all infrastructure assets are handled by a large number of organizations, at both the local level as well as the state level. Effective co-ordination among and delegation of authorities and responsibilities with a proper schedule of activities is critical for asset creation and maintenance. As of now, TDB and KFD have only an operational relation with all the agencies with no control or influence over the outcome of their activities.

Annexure 4 provides a matrix on institutional responsibilities in facility planning, provision and management which explains the various institutions involved in planning and design, construction, operation and maintenance of assets. Many agencies are involved for execution of capital works and operation and maintenance of assets. There is no proper co-ordination, and clear cut demarcation of responsibilities, leading to conflicts, duplication of efforts and neglect of certain critical areas of service delivery.

The result is poor quality of services and non-judicious usage of resources including land, without any control. The stakeholders having major role in implementation are Kerala Water Authority, Public Works Department (Roads), Irrigation Department. PWD Buildings and KSEB are also involved. Health, Police, KSRTC, Fire, District Administration are mainly in operational roles, while KFD, and PCB are in the regulatory roles. All these Departments report to their respective Ministries in the state. However, co-ordination is limited to few high-level meetings immediately before the season. Many

stakeholders complain that lack of proper long term planning results in under provision of utilities and services; both quality and quantity wise.

### **6.1.3 Newly Constituted Institutional Setup for Master Plan Development and Implementation of Immediate Interventions**

The overall regulatory responsibility of the region which witnesses massive pilgrim influx and associated activities in a fragile environment rests with the Ministry of Environment and Forests (MoEF), GoI. Hence the implementation of Master Plan would require coordination between the departments, overseeing and monitoring the projects / activities at a higher level. With this in view, GoK constituted two committees in 2005 to co-ordinate the activities related to implementation of Master Plan for Sabarimala, and other activities under its ambit.

An Apex Level Steering Committee is in place for Master Plan Approval and developing Guidelines for implementation. The Apex Level Steering Committee consists of Chief Secretary (Chairman), President TDB, Principle Secretary (Finance), Principle Secretary (Devaswom), and MoEF representative as a special invitee.

A Working Level Committee has been constituted to coordinate monitor the preparation of Master Plan and the implementation of immediate interventions The Working Level Committee consists of Principle Secretary Revenue (Devaswom) (Chairman), TDB, Department of Forest, GoK and IL&FS Ecosmart Ltd, entrusted with the task of preparation of the Master Plan. In addition, special invitees are included when required. These include Police Department, District Collector, KSPCB and other State Government officials.

The functioning of the Committees has facilitated the preparation of Master Plan and implementation of the immediate interventions coordinating various departments.

## **6.2 Proposed Institutional Mechanism for Implementation of Projects**

### **6.2.1 Institutional Objectives**

The following objectives have been identified for the formalization of an institutional setup for effective implementation and compliance of all recommendations in the Master Plan in conformity to defined guidelines for Comprehensive Development of Sabarimala:

- i. Ensure full participation of all key stake holders and meaningful coordination in planning and time bound implementation of Projects and Programmes covered under the Master Plan.
- ii. Reduce interdepartmental conflicts
- iii. Ensure compliance of all known norms and standards and timely interventions of regulatory bodies.
- iv. Delegate duties and responsibilities to the all concerned departments with respect to implementation of Master Plan
- v. Develop suitable action plan for implementation of related activities like Pampa Action Plan.

The institutional set up which has been effective since 2005 is to hold the overall responsibility for implementation.

### 6.2.2 Meetings of the Apex Committee

The Apex Committee which has been constituted under the Chairmanship of the Chief Secretary would oversee the functioning of the institutions, to ascertain the progress of various development initiatives at Sabarimala and to take decision regarding all major project and policy matters pertaining to Sabarimala. This is important as multiple agencies are involved for execution of capital works and operation and maintenance of assets. This committee would constitute head's of department/institutions/agencies namely,

1. Chief Secretary (State) [Chairman]
2. Secretary (Devaswom) [Convener]
3. Representative of MoEF, GoI nominated by Secy. MoEF [Special Invitee]
4. Secretary (Health) [Member]
5. Secretary (KSEB) [Member]
6. Secretary (PWD) [Member]
7. Secretary (KWA) [Member]
8. Chairman (KSPCB) [Member]
9. Secretary (Forest & Wildlife) [Member]
10. Managing Director (KSRTC) [Member]
11. Chief Conservator of Forests (Wildlife) [Member]
12. DGP (Kerala Police) [Member]
13. Local MP & MLA (of the constituency in which Sabarimala is located) [Member]
14. President TDB [Member]
15. District Collector (District Administration) [Member]
16. Chief Town Planner [Member]
17. District Panchayat President [Member]

The major functions of the Apex Level Committee would be:

- i. Policy and Action Plan formulation for Sabarimala Project implementation
- ii. Approval of Development Plans and should cover Nilakkal Development Plan, Pampa and Sannidhanam Re-development Plan, Sathram Development Plan, Erumely Development Plan
- iii. Approval of Annual Plans conceived within the frame work of the above Development Plan
- iv. Scrutinizing and recommending action on all major projects which may need EIA and approval of the Central Government/MoEF/Wildlife Board/Honorable Supreme Court
- v. Resolve the differences/issues which cannot be resolved at Working Committee Level
- vi. Monitoring the progress of Developmental Works at Sabarimala

The Apex Level Committee should ideally meet once in six months (first meeting can be held in the month of February and the second in the month of September).

### 6.2.3 Meetings of the Working Committee

The implementation of Projects and programmes covered under the Master Plan would require inter-agency/department cooperation for joint programming, planning and in some cases joint implementation. The Working Committee constituted in 2005 would be the Inter Departmental Working Group (IDWG) which works under the Apex Level Committee and would be responsible for scrutiny and approval of projects and programs conceived under the Annual Plan approved by the Apex Level Committee. It will also decide the ToRs and norms for developing projects, modalities and procedures for out-sourcing, if found necessary. The Committee would gather advice of the expert agencies on matters requiring Technical /Planning /Environmental inputs. The Committee would monitor the implementation regularly. Any deviations from the Master Plan guidelines need to be brought to the notice of the Apex Level Committee for consideration before implementation.

It should be ensured that members of Health, Police, Fire & Rescue Departments, KSPCB, PWD, KSRTC, KSEB, KWA (also the nodal agency for Pampa Action Plan), Water Resources, Forests, TDB, Local bodies, District Administration Pathanamthitta, Kottayam and Idukki, Town and Country Planning Department, and other associated agencies are members of this Committee.

Roles & Responsibilities of the Presiding Officer, Principle Secretary (Devaswom) is summarized below:

- i. Convening Working Committee Meetings
- ii. Project Orientation Activities
- iii. Inter departmental Coordination
- iv. Review and Monitoring of the Scheme/project
- v. Policy Decisions on expansion of the scheme/project

It should be noted that all details with respect to each individual project proposal associated with Sabarimala development has to be sent to all stakeholders for their scrutiny and comments before convening of the working committee meeting. Working committee will work towards achieving consensus on projects and programmes. All projects coming within the forest jurisdiction should follow prescribed formats by Forest/MoEF and should be submitted in the specified formats only. The committee should meet once in two months and should conduct site visits at least once in six months to review the implementation.

It is noteworthy that ever since its formation, the working committee had met more than 10 times to co-ordinate various field level departments and consultants and to provide required directions for finalizing the Master Plan and for implementing immediate interventions prior to 2005-06 and 2006-07 peak pilgrim seasons.

#### **6.2.4 Mechanism for Project Implementation**

As per Town and Country Planning legislation, the Government has the power to take charge of any area which has its repercussions on the safety and health of the people in the region and see to it that the area is replanned and activities are regulated to ensure proper development and control of pollution.

Unless the GoK decides otherwise, TDB will be the key agency to implement the projects covered in the Master Plan. But in its present institutional capacity TDB would not be able to

carry out this responsibility. The development of projects and their timely implementation would be a challenging job and requires an exclusive and dedicated team. For the time bound implementation along with effective monitoring it is suggested to formulate a **Master Plan Implementation Unit (MPIU)** within TDB, with a separate Chief Engineer (CE), especially responsible for Sabarimala Development alone. CE would be assisted by a Planning Department for formulation of Development Plans and Annual Plans. The implementation assistance would be rendered by Two Executive Engineers (Civil) and One Executive Engineer (Environmental). A panel of experts having expertise in Architecture and Planning, Sewerage and Wastewater, Environmental Engineering and Planning, Solid Waste Management, Vastu, Disaster Management (Crowd Control, Health) will be constituted to assist and support the MPIU. The expert group need not be constituted from the permanent employees and can be drawn from research institutes and other professional agencies. Figure 1 presents the proposed Master Plan Implementation Unit.

Thus, TDB could be developed as a key agency to implement the projects and schemes covered under the Master Plan at Sabarimala, Pampa and Nilakkal. It will also have responsibility in developing Sathram and implementing part of the activities proposed at Erumely with support from Local Bodies.

It will be necessary to conduct EIA for all major Projects and Programmes and to get the same scrutinized and approved by the MoEF.

TDB would also be required to augment its in-house strength by procuring consultancy support for developing major Development Plans like Development Plan of Nilakkal, Re-development of Sannidhanam and Pampa, development of Queue complexes, STP schemes and on - and off-site water supply schemes prepared.

KWA which is the nodal agency for coordinating Pampa Action Plan, would be another key stakeholder which would be vested with the responsibility of augmenting Water Supply schemes and developing long term off-site scheme for Sabarimala, Nilakkal, Erumely, Vandiperiyar, Erumely-Pampa traditional route via Azhutha and other associated areas.

The Local bodies namely, Ranni Perunad, Erumely and Vandiperiyar have key roles in developing and implementing components like Solid Waste Management, Sanitation in their jurisdiction.

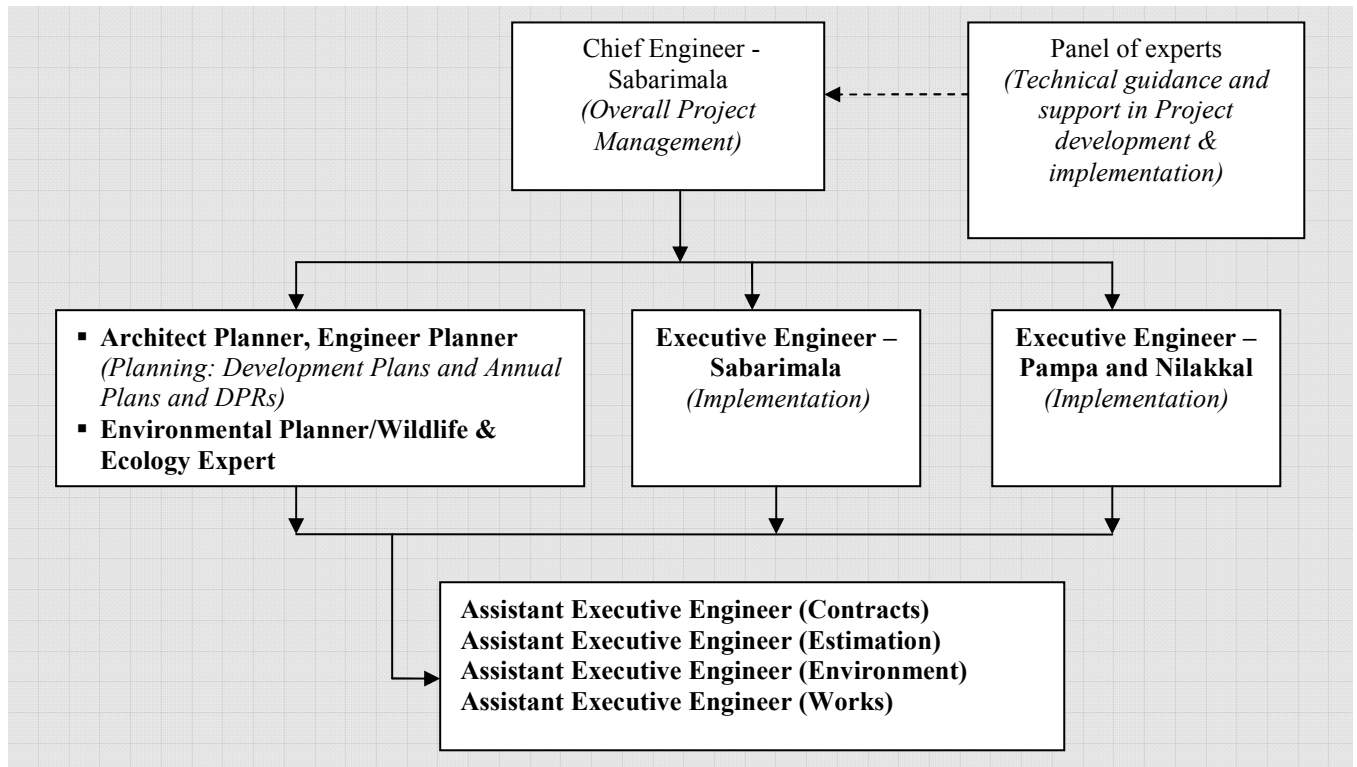
TDB would require a dedicated team for time-bound implementation of development proposals and coordination and guidance from all concerned agencies. Until GoI and GoK decide on creating required set up for implementation of Master Plan proposals, the system proposed here would continue.

The roles and responsibilities of the MPIU with respect to project implementation are as follows:

- Works pertaining to the Preparation of Development Plans, Annual Plans and Projects and programmes falling in Pampa, Sannidhanam, trekking route, Sathram, Nilakkal and construction and maintenance (both permanent & temporary) which falls within the leased area are the responsibility of Master Plan Implementation Unit. As the Layouts will cover the programmes related to Water supply, Power, River Protection, Roads,

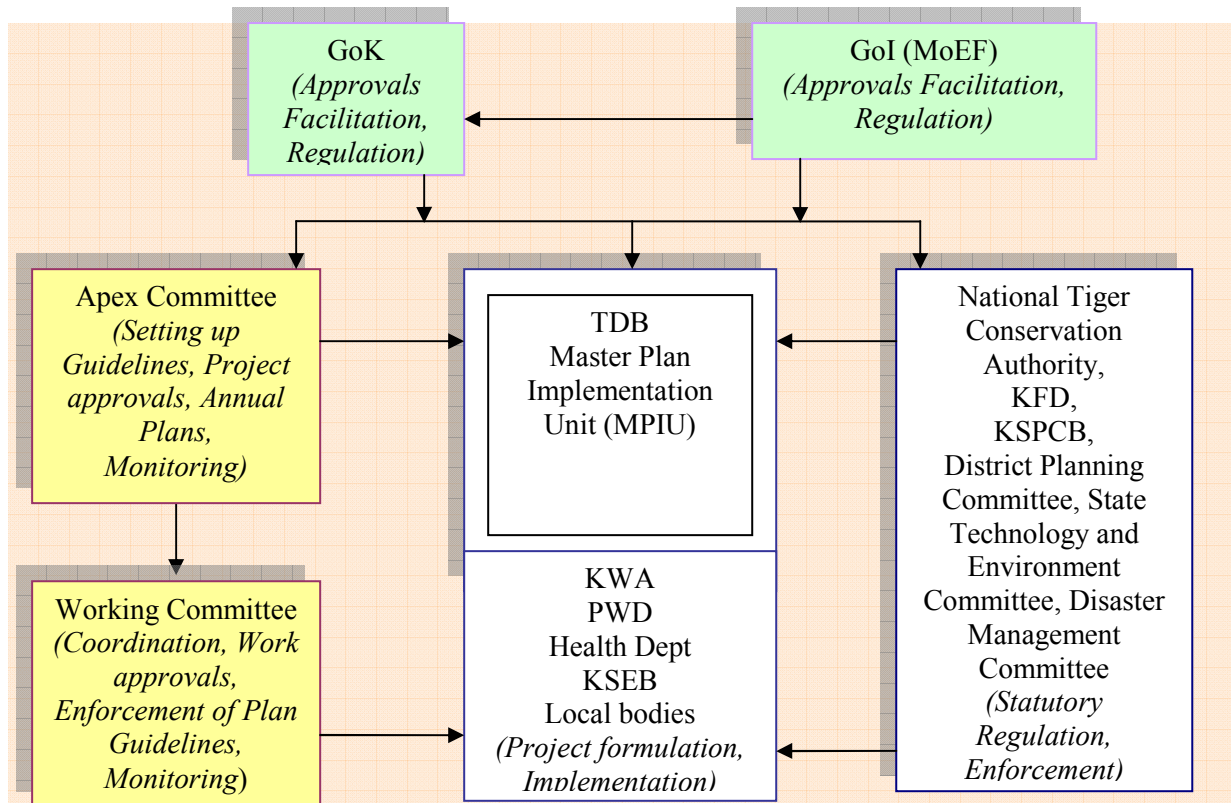
Security Systems, Communication Infrastructure, etc., these projects would be developed and implemented by respective Departments. MPIU would be responsible for developing the ToRs for preparing conducting EIA, Development Plans and DPRs. This should be carried out in consultation with the expert panel and approval of the Working Level Committee is to be obtained prior to initiation of implementation. MPIU would submit the proposals to the respective authorities for statutory clearance prior to implementation.

The other agencies involved in developing projects and programmes covered under the Master Plan including Pampa Action programmes falling in the Master Plan area would follow similar procedure.



**Figure 1 : Proposed Master Plan Implementation Unit**

The suggested organization set up for the implementation of the Master Plan is presented below in **Figure 2**.



**Figure 2 : Proposed Institutional Set Up for Implementation of the Master Plan**



## ANNEXURES

### Annexure 1: Proposed Landuse and Zoning Plan

This section describes the proposed spatial development of *Sannidhanam* area. This section need to be read along with the maps attached: (Maps 1 through 7). The plan so prescribed has to be followed to make possible the implementation of the development foreseen in the Master Plan so as to provide better pilgrimage experience, better identification as a religious precinct and better relation with the natural settings.

#### 1) Concept for Development

The proposed Concept Plan (the report on the Outline of the Master Plan for *Sabarimala*), has been accepted and agreed by all stakeholders. The concept plan for the development of *Sabarimala* emphasise on decongesting *Sannidhanam* by shifting out non essential activities out of *Sannidhanam*. Such activities include accommodation, commercial areas at *Sannidhanam* and parking, major accommodation activities and unregulated commercial activities at *Pampa*.

Along side, many new projects intended to provide essential pilgrim facilities and better management has been conceived at *Sabarimala*. It is proposed that when the new and improved facilities are added, the old facilities will have to be abandoned. More over as a result shifting out of various activities/uses such as pilgrim accommodation, commercial and other non-essential uses, which spread across commendable extent in the existing layout, existing building/structures associated with these activities would become an additional liability which are required to be re-planned in a Staged manner, thereby opening up more open space for pilgrim movement and religious activities.

In short, redevelopment of *Sabarimala* is aimed at removing unnecessary landuses and buildings from *Sabarimala* and providing those facilities which are at utmost required to support the pilgrimage and the associated religious activities, there by restricting the sprawl and its negative impact on the fragile forest setting which form the crux of the *Sabarimala*.

For such a religious precinct, basic principles to be adhered to are those of traditional *Vasthusasthra*, the ancient text which lays of guidelines for development on the basis of set elements of the nature. These principles are adhered to in almost all the religious precincts in Kerala. Basic guidelines prescribed by *Vasthusasthra* are presented in the Annexure 2.

At *Sabarimala*, many of the buildings, including those in closest proximity to the sanctum sanctorum are against the principles of *Vasthusashtra* and completely unacceptable in a religious precinct. Pilgrim perception survey also confirms the non-acceptability of the pilgrims to the existing built and circulation situation at *Sabarimala*.

In the proposed plan, it is proposed that certain buildings and activities need to be removed from the area, certain others are to be added and certain areas are to be preserved.

The basic considerations for proposed re-construction of structures at *Sannidhanam* area

- Structures which have become redundant due to coming up of new facility/ activity shift considering the safety aspects
- Dilapidated structures

- Structure which grossly violate traditional temple planning norm/ religious convictions.
- Areas which are unsafe for use

The re-construction plan has been staged concurrent to the new development proposed. The Stages so formulated are under immediate plan and long term or fixed period plans.

## **2) Immediate Plan/ Immediate Stage (2006-2010)**

It has been envisaged in the concept plan that for pilgrim management and safety the immediate requirement at *Sannidhanam* would be to built queue complexes and a new Appam Aravana complex. Hence, in the immediate Stage *Appam Aravana* complex and queue complex are proposed to be constructed at *Sannidhanam*. It is expect that this will materialize in the following three year period.

*Appam Aravana Complex:* With coming up of the new *Appam aravana* complex the existing complex abutting the *Mahasannidhi* can be done away with, which will assure some 'breathing space' in the core area. As the new *Appam Aravana* complex also plans shifting of *prasadam* counters, it will help in removing the additional crowding here which will enhance the pilgrim circulation in and around the temple precinct. According to *Vastusastra*, and traditional temple architecture, *prasadam* should be made in any of the outer *prakarams* of the temple and hence, it is against the interests of the pilgrims to shift it out of temple area. *Vasthu* also prescribes that the new complex can come up either in N-W or N-E zone. Which ever be the location, it will necessitate removal of some of the temporary, semi permanent structures and even permanent structure here to make space for the new development.

In this plan the specific location shown for new complex is in N-W zone towards the rear side of *Malikapuram* temple where in as of today, many *viri* sheds, donor houses and toilet blocks are located. These structures need to be cleared to make way for the new construction. Permanent buildings proposed to be removed may be modified and used for any purpose associated with the *Appam Aravana* Complex, if so found suitable.

*Queue complex:* It has been proposed in the master plan to shift pilgrim accommodation apart from what is minimum essential, out of *Sannidhanam*. Pilgrims would not be allowed to stay overnight in *Sannidhanam* (except for very few who may need to stay over for special *poojas*). The religious rituals and the time schedule of temple activities will necessitate some sort of lodging facility for the pilgrims were they can wait for their turn to have *darshan*. In this perspective the queue complex has been conceived where in all facilities for the pilgrim to take rest & wait for his turn would be provided. With the coming up of Queue complex all the temporary pilgrim accommodation provided now in the *Sannidhanam* can be completely removed.

In addition, all other immediate interventions at *Sannidhanam*, *Pampa* and along the trek route from *Sannidhanam* to *Pampa*, as proposed in Appendix IV of the Outline of the Master Plan for Sabarimala shall be implemented during this Stage.

Remodeling of *Pampa* can start during this Stage with the preparation of a detailed development plan especially for areas such a *Thriveni* and *Manalppuram* as most of the suggestions are easily executable and require removal of mostly temporary structures. No further construction activities are proposed here except for redeveloping the area and

remodeling the temple precincts during this Stage.

### 3) *Stage 2010-2015*

Redevelopment of Temple complex: Developing the temple complex will require considerable time as the re-development activities have to take care of the pilgrim seasons and patterns. Redevelopment of temple as per *Vastushastra* will require conserving the temple as it is and reconstruction of other buildings within 60m radius of the temple - which provides accommodation, commercial / office uses.

### 4) *Stage 2015-2020*

Redevelopment of *Malikappuram* Temple complex: Redevelopment of *Malikappuram* temple area as per *Vastushastra* will require conserving the temple as it is and reconstruction of other buildings within 10 to 40m radius of the temple precinct - which provides accommodation, commercial / office uses.

### 5) *Stage 2020-2025*

Formation of Buffer space: Providing a buffer space around the temple complex is essential to regulate pilgrim circulation as well as check new development coming up abutting temple complex. More with such space will increase the safety aspect by reducing the probability of any hazard and enhance the provision and accessibility of services to pilgrims. For the Formation of this existing uses here need to be shifted & re-planned.

### 6) *Stage 2025 -2050*

Restructuring the whole settlement at *Sannidhanam*: As per the *Vasthu* recommendations the settlement is required to be replanned in total so as to develop *Sannidhanam* as a model temple settlement which not only respect the tradition but also gives due importance to the nature and its settings. One of the main requirement as per *vasthu* is that the settlement be in rectilinear or square format. Ensuring this would also pave way for actual demarcation of activity zone around which a buffer may be developed and maintained. This would mean redefining the boundaries of *Sannidhanam* area. In the proposed layout, it has been recommended to assimilate necessary adjoining areas to regularize the boundaries in return for the irregular sprawl area which has developed towards the trek routes in such a way that the extent of final area available for use at *Sannidhanam* remains as it is, though certain other areas are assimilated and certain irregular areas are handed over back to be preserved as forests. This prevents sprawl and promote edge control. Restructuring within the area should start with ascertaining the development limit and drafting out of main street patterns at *Sannidhanam*. Such restructuring activities are expected to span to period from 2015 to 2050.

## Annexure 2: Temple Complex Redevelopment Scheme

### 1) Introduction

As part of Master Plan for *Sabarimala*, it has been proposed to initiate the works to restore and upgrade the visual image of *Sabarimala* temple in addition to making space for pilgrim circulation around the temple and providing facilities and amenities to cater to the present context and requirements.

### 2) Title

This Scheme may be referred to as the *Temple Complex Redevelopment Scheme*.

### 3) Redevelopment area

This Scheme applies to the *Mahasannidhi* of *Sree Dharma Shasta* Temple at *Sabarimala* (including upper *thirumuttam* and lower *thirumuttam*) and an extent of 100 m around it (with *Sreekovil* as the focal point / fulcrum).

### 4) Need for the Scheme

Evaluation of the existing built character and layout of the temple complex has brought it to the fore that in and around *Mahasannidhi* many new structures have been constructed in complete violation of even the basic norm of *Vastushastra* which traditionally governs the planning in Kerala, especially in case of temple precincts. Structures that have been later added around Sanctum Sanctorum include the *Appam Aravana* complex (developed through private participation), treasury building, flyover etc which have totally masked the imagibility of the place. Some of the prominent elements of discord are discussed below

- The flyover constructed for circulation of the pilgrims at *Mahasannidhi* dominates above the Sanctum Sanctorum. This forces pilgrims to circumambulate above the deity at a proximal radius of the Sanctum Sanctorum.
- Other structures built abutting *Mahasannidhi* such as *Appam Aravana* complex, treasury / office building, guesthouses etc., are also in against the traditional principles as :
  - The constructions are inclined and not parallel to the walls of the *Sreekovil* walls
  - The height of these structures masks the *Sreekovil* and its *Thazhikakudam*.
  - These are constructed inside the Inner core of the Sanctum
- Later additions to the *Mahasannidhi* area are not in conformity to any known standards of temple planning
- Many activities/land-uses around immediate precinct of the temple are uncontextual.
- There exists no fixed or defined orientation pattern at Sannidhanam.
- Most of the patterns and directions of circulation are contrary to the pattern/practice with respect to Hindu customs as well as *Vastushastra*.

### 5) Specific scheme objectives

The specific objectives of this Scheme are:

- to remodel developments in such a way that they respects and builds on the existing natural settings of the Sabarimala;
- to ensure resolution of Pilgrim traffic and circulation issues so as to provide an acceptable pattern;
- to protect and uphold the cultural/religious heritage significance within the redevelopment area;
- to encourage the relocation of inappropriate uses and activities;

- To create a visually attractive area with appropriately scaled streetscapes and other elements, providing a diverse but unified builtscapes characterised by high quality design based on our traditional practices, and at the same time respecting the natural settings.

#### **6) Development Requirements of the Religious Precinct**

The Sanctum Sanctorum and few religious structures around are in tandem with the traditional principles. But this adherence is limited to this area, whereas surrounding areas of this temple which was later provided with flag staff, gold coverings etc do not fall in line with the traditional principles.

In case of Kerala temples, it is required that the concept for developing / redeveloping the temple complex should be strictly according to formats such as the 'Panchaprakaram format' prescribed in *Thanthra Samuchayam*.

#### **7) The Proposal**

Temple to be developed as the one with "Pancha Prakarams" with *Balivattom, Pradakshinavazhi, Vilakkumadam, Sheevelippura and Puramathil (Maps 3 and 4)*.

Major recommendations in this perspective are the following:

- The platform approached by 18 steps, where Sanctum Sanctorum is situated should be a 'Peedom' of perfect rectangular shape as originally existed.
- All the buildings abutting the temple complex including the fly over bridge should be removed and the temple complex structure should be reconstructed to conform to *Panchaprakaram* design.
- Existing elements in violation of traditional norms prescribed by *Thanthra Samuchayam* which governs the temple planning in Kerala are
- Flyover in close proximity of *SreeKovil* is at a higher elevation than that of the Sanctum Santorum.
- Various non-confirming landuses as per traditional principles are located within various zones preceding the *Sreekovil* area in the upper *thirumuttam*.
- The *Mahasannidhi* area represent trapezoidal shape as a whole though ideally, the temple complex should have a rectilinear layout pattern
- All buildings in and around the temple complex should maintain the geometric orientation of the *Sreekovil*. (Alignment should be strictly along the north -south or east - west axes, as prescribed in *Thanthra Samuchayam*)
- Building height should be restricted to a maximum of 2 storeys. No structure should be higher than that of *Sreekovil* at least within 15meters radius area around the temple.
- Nadapanthal should come up inside the outer core of the temple complex ( refer the Plan)
- No building should be higher than the 'Temple *Thazhikkudam*'
- A buffer space of 25 m radius is to be created around the temple complex
- On all cardinal points gateways/*gopuram* are to be erected in alignment to the outer wall of the temple complex, to mark the points of entry and exist.
- The main entry to the upper *thirumuttam* can be from east (i.e the *Padinettampadi*) or through the south entry stairs and the exit through the west or north stairs only.
- A platform at par level (no building of structure to go above this level) or the upper *thirumuttam* need to be constructed around to help pilgrim circulation.
- Proposed layout plan and Section is provided in Maps, based on which the layout plan for associated / supporting areas at Sannidhanam has to be prepared.

### 8) Development Approval

The designated boundary for this redevelopment area is within the leased area. This is a proposed scheme for redevelopment and need to be discussed and finalized in consultation with various stakeholders including the Temple Authorities, GoK, KFD, and various experts on temple architecture, religious organizations and pilgrim groups in order to develop a consensus on the proposed layout activities before commencement of any work in this respect. In case any existing element listed in this plan falls within the heritage / conservation act, the authorities must submit necessary sanction documents and detailed plans to the respective authorities and get necessary sanctions.

### 9) Construction Operations and Scheduling

Proposed redevelopment would result in increase in activities which will generate some noise and dust emissions and vibration for a short period that has the potential to affect the amenity of wildlife and inconveniences to the pilgrims. Suitable methods need to be finalised in consultation with the Department of Forests and other environmental experts as required. Detailed action plan need to be prepared before commencement of activities prescribed herein.

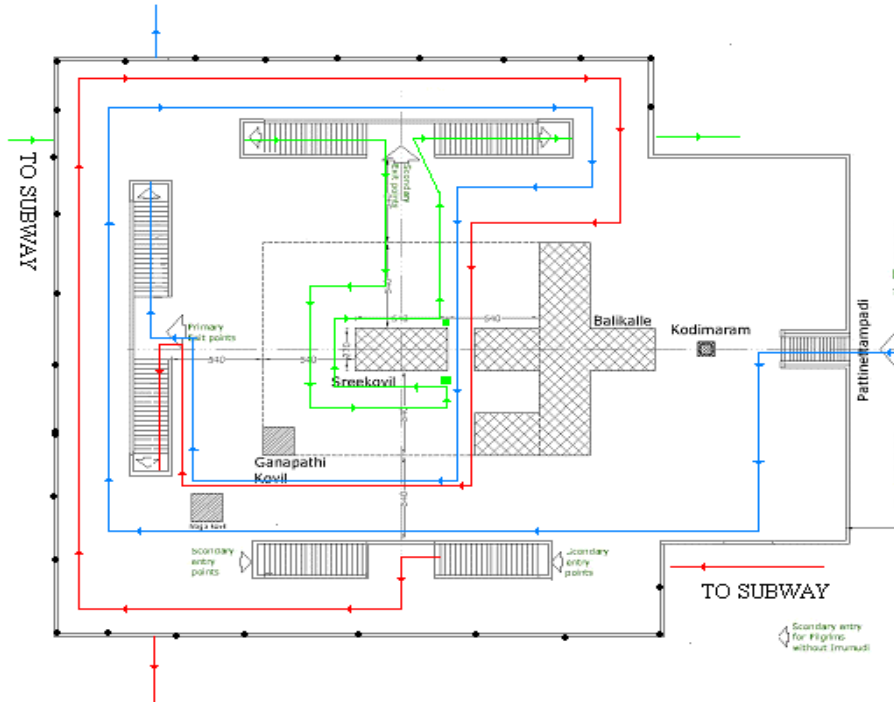
The construction operation is expected to be staged out to be completed by 2015 so as to minimize the discomfort to the fauna and flora as well as to the pilgrimage. The activity chart and phasing of the proposed operations with respect to this redevelopment scheme would be as outlined below:

<i>S.No</i>	<i>Construction activities</i>	<i>Redevelopment activities</i>	<i>Time period</i>	<i>Remarks</i>
1	Appam Aravana complex & construction of new stairs from all three side for access to <i>thirumuttam</i> (north, south and west)	Existing <i>Appam Aravana</i> complex to be removed after completion of the new complex before the start of the 2008-09 season (including all associated structures here)	2006-2008	Refer redevelopment plan & detailed layout plan
2	Restructuring of upper Thirumuttam Construction of new administrative block with treasury and all associated activities required.	The existing administrative offices building, counters 7 treasury building abutting the Mahasannidhi	2009-2010	Refer redevelopment plan & detailed layout plan
3	Construction of platform around the Mahasannidhi (except on east side)	Fly over and the existing Neyyabhishekam queue complex, dormitory and bank building to the west	2011	Refer redevelopment plan & detailed layout plan
4	Formation of outer temple complex wall & Nadapanthal	The area occupied by of stores & the Vellanivedyam preparation / distribution building (activities shifted to new complex)	2012 -2013	Refer redevelopment plan & detailed layout plan
5	Formation of buffer space	In the area used by Nadapanthal, part of Shopping Complex in Malikappuram area, Maramath complex & guest houses.	2013-2015	Refer redevelopment plan & detailed layout plan

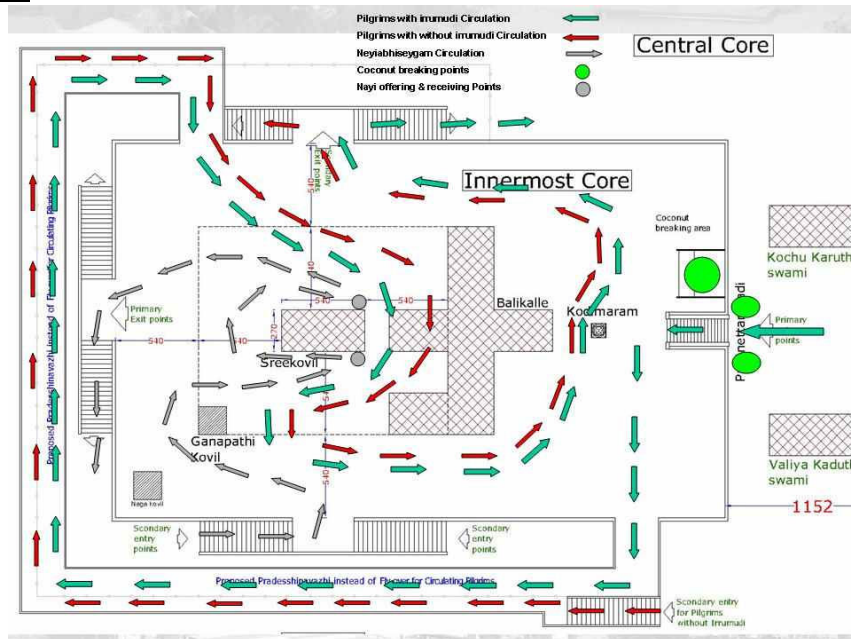
After the completion of this scheme, similar detailed scheme needs to be taken up for Malikappuram temple at Sannidhanam and further activities to be carried out as per the proposed landuse / layout

plans. Possible options for circulation such as those below need to be worked out with support of Vasthu Experts.

**Option 1.**



**Option 2.**



**10) General guidelines as per Vasthusasthra**

Temples to be developed as the one with “Pancha Prakarams” with Valivattom, Pradakshinavazhi, Vilakkumadam, Sheevelippura, Puramathil

- The platform approached by 18 steps, where Sanctum Sanctorum is situated should be a ‘Pedom’ of perfect rectangular shape.
- All buildings in and round temple complex should maintain the geometric orientation of the Sreekovil. (alignment should be strictly along the north -south or east –west axis)

- Building height should be restricted to maximum of 2 storeys. No structure should be higher than that of Sreekovil at least in the defined areas. No building should be higher than the ‘Temple Thazhikkadam’
- Appam Aravana complex can come up in North East or North western zones.
- No waste dump or sewage treatment plant (solid –waste, sewerage, etc related activities) should be located in South west and north east zones.
- Official buildings should mainly come up in North or north east zone
- Residential buildings should only come towards the east or south east zone, according to Thanthra Samuchayam
- Store should come up in north zone
- Hospital should come up in north western zone (Vayu Kon)
- Nadapanthal should come up inside the outer core of the temple complex ( refer the Plan)
- Water related activities including its storage & treatment should come up in north east zone. Underground water tanks should be planned in the North and the Northeast directions. Overhead tank should be on the West side. Tanks on the North or the East zones are also permissible. But, underground or ground level water should never be stored in the West or the Southwest directions.
- Ground terrain should have gradual slopes towards the North and the East directions where ever possible.
- A bore-well or a constructed well for a water source should be located in the North or the Northeast directions. Ponds also should be in North East.
- During future development land should be divided into equal rectangular plots, preferably with breadth to length ratio of 1: 1.618. The longer side should be oriented along the North-South axis, while the shorter side along the East-West direction. Or length should not be equal to 1.75 to 2 times the width
- Trees should be planted in the South and West directions. Planting of trees in the North and East directions should be avoided.
- Toilets should be located in the South and the Western zone
- No Street should have width more than one forth of the total widths of Temple complex. Streets should be parallel or perpendicular to each other so as to create rectilinear pattern
- Electrical power points should be located in the Southeast corner
- Roofs, if provided, should have slopes towards the East, the Northeast, and the North directions. Roofs slanting towards the South and the West directions are not advisable.
- Even viris should be aligned parallel to the Sreekovil walls

*Preferable Directions for Each Landuse as per Vaasthu*

<b>Landuse</b>	<b>First location preference</b>	<b>Second location preference</b>	<b>Location to be avoided</b>
Accommodation	East	South East	North & North West
Commercial	North East	Or with Accommodation	
Hospital	North West		
Offices	North	North East	
Counters	South East		
Godown / Store / Sadyalayam	North		
Waste Management / STP			South-West or North-East
Water Tanks, Purification Plants	North east		
Fire related	North East, North West, South-East		



**Annexure 3: Calculations on Amenity Provisions for Base Districts – UDPFI**

Mathematical techniques for formulation of spatial standards

	<i>(UDPFI Medium town)</i>	<i>R (distance in meters)</i>	<i>Coefficient</i>	<i>P (population)</i>	<i>N (net density/hectare)</i>	<i>z (landuse %)</i>
Locational aspects of amenities (R=56 P/NZ)	Commercials	280.00	56	100000	4000	5
	Residential /Accommodation	35.00	56	100000	4000	40
	Manufacturing	116.67	56	100000	4000	12
	Public semi public	100.00	56	100000	4000	14
	Transport & Communication	100.00	56	100000	4000	14
	Open space	93.33	56	100000	4000	15

Impact of Physical Parameters upon space \standards

Space standards for shopping facilities (E = $(1000/A)*(M/(F*100)) = (1000/A)*(M/(C*S*100))$ (per 1000 population)	Location	E (space required for shopping) (hectare/1000)	A = Population to support 1 shop	M= Built up area per shop	F=Floor area ration	C (Coverage in %)	S=No of storey
	Sannidhanam	0.001500	600	9	100	50	2
	Pampa	0.001500	600	9	100	50	2
	Trek route	0.001500	600	9	100	50	2
	Nilakkal	0.003000	300	9	100	50	2

<i>Shop space requirement (area)</i>	<i>Hectare</i>	<i>Built space requirement (m2)</i>
<i>Sannidhanam</i>	0.15	3000
<i>Pampa</i>	0.15	6000
<i>Trek route</i>	0.15	3000
<i>Nilakkal</i>	0.30	6000

Space standards for health Buildings

Space standards for health building E = $\{(1000*Q*A)/(100*100)\} * \{M/(F*100)\} = \{M/(C*S*100)\} * \{(1000*Q*A)/(100*100)\}$	E(site area) hectares	A (% of population using)	M= gross built up area in sq m per patient	F =Floor area ratio	C= Coverage in %	No of storey	Q=Population at risk (%)
Sabarimala	0.625	5	25	1	50	3	5

## Coverage, FAR and related standards

<b>Cluster centre convenience shopping</b>	Maximum Ground coverage	40	%		
	Maximum FAR	60.00	%		
	Maximum Height	15.00	m		
	In hills	6.00	m		
<b>Group Housing</b>	Minimum size of the plot	2250	sq.m		
	In hills	5000	sq.m		
	Coverage	35	%		
	FAR	35			
	Maximum Height	15	m	for 4000 sq.m plot & 26 for plots above this	
	In Hill	15	m	in all plots	
	Dwelling units	50 -125 DUs/Hectare	Nos		
<b>Public semi public</b>	<b>General</b>				
	Maximum Ground coverage	25	%		
	Maximum FAR	100			
	Maximum Height	26	m		
	In Hill	15	m		
	<b>Govt Offices</b>				
	Maximum Ground coverage	25	%		
	Maximum FAR (hills)	100			
	Maximum Height	37	m		
	in Hill	15	m		
	<b>Residential</b>	25% of total area			
	Developed at a density of	400 pph			
	Land reserved @ 9.2m / person				
	Parks and Open space	0.15			
	<b>Religious premises</b>	Maximum Ground coverage	33	%	
		Maximum FAR (hills)	67		
Maximum Height		11	m	excluding minarets, shikharas & domes	
<b>Industrial</b>	Plot	2000	Sq.M		
	Maximum Ground coverage	30	%		
	Maximum FAR (hills)	100			
	Maximum Height (hill)	15m			

## Annexure 4: Existing Institutional Responsibility

Table 1 : Institutional Responsibility Matrix

Aspects	Regulation & Monitoring		Planning and Design		Construction		Operation and Maintenance			
	Actual Responsibility	Agency now in Control	Quality of service	Actual Responsibility	Agency now in Control	Actual Responsibility	Agency now in Control	Actual Responsibility	Agency now in Control	Quality of service
Land Use/Master Plan	Forest, Town and Country Planning Department & Ranni Perunad Panchayat	KFD to the purview of fulfilling their responsibilities as per existing Acts. No other department has any say	Good as far as regulation is concerned. Master Plan being prepared under the aegis of MoEF & GoK. Many earlier master plans prepared by GoK not yet implemented! Lack of monitoring and regulation by other depts. Has resulted in chaos	Local Body, Town & Country Planning department, TDB	TDB	Extremely poor. No planning or proper design. No consideration for wildlife / environment	PWD / GoK, TDB	GoK, TDB	TDB	Extremely poor. Last minute maintenance
Building Byelaws	Town and Country Planning Department & Ranni Perunad Panchayat	TDB	No byelaws. Development as perceived by TDB	Town and Country Planning Department & Ranni Perunad Panchayat TDB, KFD	TDB	No planning or design. No consideration to environment or actual pilgrim needs. Facilities serve only few affordable pilgrims. No consideration of temple architecture	GoK, TDB, KFD	GoK, TDB, KFD	TDB	Poor (last minute maintenance)
Water Supply	KWA	KWA	Average	KWA, TDB	KWA, TDB	Poor. No long term planning. Power dependent, Lack of standby mechanisms	KWA, TDB	KWA, TDB	KWA, TDB	Average
Sanitation & Sewerage	KSPCB	TDB, KSPCB	Poor. Less toilets	TDB, Dist Admn	TDB	Poor. Poor temporary & permanent toilets	TDB, Dist Admn	TDB, District Admn	TDB	Poor
Solid Waste	KSPCB,	TDB, KSPCB	Poor	TDB, Forest.,	TDB,	Poor	TDB,	TDB,	TDB,	Poor

Aspects	Regulation & Monitoring		Planning and Design		Construction		Operation and Maintenance			
	Actual Responsibility	Agency now in Control	Quality of service	Actual Responsibility	Agency now in Control	Actual Responsibility	Quality of service	Actual Responsibility	Agency now in Control	Quality of service
Disposal	Local Body			Local body	District Admn	Forest, Local bodies	Forest, Local bodies	Forest, Local bodies	District Admn	
Roads/Bridges/flyovers/Roads/Multilevel Parking	GoK	GoK	Average	PWD,TDB	TDB	PWD, TDB	No Planning	PWD, TDB	PWD, TDB	PWD, TDB
Traffic Control and Management System	RTO/GoK Police	Police	Good	Police	Police	Police	Good	Police	Police	Police
Sabarimala Public Transportation	KSRTC (GoK)	KSRTC	Good	KSRTC	KSRTC	KSRTC	Good	KSRTC	KSRTC	KSRTC
River Protection	Water resources/Irrigation Department, TDB	Water resources/Irrigation Department, TDB	Poor	Water resources/Irrigation Department, TDB	Water resources/Irrigation Department, TDB	Water resources/Irrigation Department, TDB	Poor	Water resources/Irrigation Department, TDB	Water resources/Irrigation Department, TDB	Poor
Power & Lighting	KSEB(GoK), Forest	KSEB(GoK), Forest	Average	KSEB	KSEB(GoK), TDB, Forest	KSEB	Average	KSEB	KSEB(GoK), TDB, Forest	Average
Area Improvement & beautification	TDB, GoK	No	Poor	TDB	No	TDB	Poor	TDB	No	Poor
Air, water and noise pollution control	KSPCB	TDB, KSPCB	Poor	KSPCB	TDB, KSPCB	KSPCB	Poor	KSPCB	TDB, KSPCB	Poor
Communications	BSNL/GoK, Forests, Police	BSNL, TDB	Poor	BSNL & Private Operators	BSNL, TDB	BSNL & Private Operators	Poor	BSNL & Private Operator	BSNL, TDB	Poor
Heritage	ASI /	No	Poor	ASI /	No	ASI /	Poor	ASI /	No	Poor

Aspects	Regulation & Monitoring		Planning and Design		Construction		Operation and Maintenance				
	Actual Responsibility	Agency now in Control	Quality of service	Actual Responsibility	Agency now in Control	Actual Responsibility	Agency now in Control	Quality of service	Actual Responsibility	Agency now in Control	Quality of service
Building Conservation	INTACH / GoK	INTACH / GoK	Average	Police / Fire force	Police / Fire force, TDB	Police / Fire force, TDB	Police / Fire force, TDB	Average	INTACH / GoK	Police / Fire force, TDB	Average
Safety And security including fire services	Police / Fire force	Police / Fire force, TDB	Average	Police / Fire force	Police, TDB	Police, TDB	Police, TDB	Average	Police / Fire force, TDB	Police, TDB	Average
Law & Order	Police, GoK	Police, GoK	Average	Police	Police, GoK	Police	Police, GoK	Average	Police, GoK	Police, GoK	Average
Crowd Management	Police	Police	Average	Police	Police, TDB	Police	Police, TDB	Poor.	Police, TDB	Police, TDB	Poor, No effective control mechanism
Housing/Accommodation	GoK	Nil	Poor	GoK, TDB	TDB, NGO, private parties (Donor)	GoK, TDB, NGO, Forest & private parties (Donors)	TDB, NGO, Forest & private parties (Donors)	Poor	GoK, TDB, NGO, Forest & private parties (Donors)	TDB, NGO, private parties (Donors)	Poor
Commercial activities	GoK, (KFD), High Court of Kerala	TDB, KFD, GoK	Poor	GoK, (KFD), High Court of Kerala	TDB	TDB, KFD	TDB, Private, NGO	Poor	TDB, KFD	Private on Lease, EDC	Poor
Health Care	GoK Health department	TDB, GoK Health department	Average	GoK Health department, TDB	GoK Health department, TDB, NGOs	GoK Health department, TDB	GoK Health department, TDB, NGOs	Average	GoK Health department, TDB, NGOs	GoK Health department, TDB, NGOs	Average
Disaster Management	TDB, GoK (Police)	TDB, GoK (Police)	Poor	TDB, GoK (Police)	TDB, GoK (Police)	TDB, GoK (Police)	TDB, GoK (Police)	Poor	TDB, GoK (Police)	TDB, GoK (Police)	Poor