Abstract—Since the State Council of China issued the Regulations on the Conservation of Historical Cultural Towns and Villages in 2008, formulation of conservation planning has been carried out in national, provincial and municipal historical and cultural villages for protection needs, which provides a legal basis for inheritance of historical culture and protection of historical resources. Although the quantity and content of the conservation planning are continually increasing, the implementation and application are still ambiguous. To solve the aforementioned problems, this paper explores methods to enhance the implementation of conservation planning from the perspective of planning formulation. Specifically, the technical framework of “overall objectives planning - sub-objectives planning - zoning guidelines - implementation by stages” is proposed to implement the planning objectives in different classifications and stages. Then combined with details of the Qiqiao historical and cultural village conservation planning project in Ningbo, five sub-objectives are set, which are implemented through the village zoning guidelines. At the same time, the key points and specific projects in the near-term, medium-term and long-term work are clarified, and the spatial planning is transformed into the action plan with time scale. The proposed framework and method provide a reference for the implementation and management of the conservation planning of historical and cultural villages in the future.

Keywords—Conservation planning, planning by stages, planning implementation, zoning guidelines.

I. INTRODUCTION

HISTORICAL cultural villages are an important part of urban and rural cultural heritage system. Since the release of the Regulations on the Conservation of Historical Cultural Towns and Villages of China in 2008 [1], national, provincial and municipal historic cultural villages have been making conservation plans out of the need of protection, which provide legal basis for historical cultural inheritance and resources protection. However, although the number and content of the overall conservation planning of historical cultural villages are constantly expanding, the application in the implementation of the planning is still vague. In addition, the unified compilation content and method of the conservation planning are short of operable implementation measures. Therefore, it is difficult to give consideration to both conservation and development of historical cultural villages. In the implementation process, historical features are broken and disorderly development and utilization often occur. Taking the practice of the conservation planning of Qiaqiao village in Ningbo city as an example, this paper explores ways to enhance the implementation of the conservation planning, so as to realize the effective implementation of the planning objectives in the implementation process.

II. PLANNING IMPLEMENTATION FACING CHALLENGES

A. Broad Planning Objectives

Due to the uniqueness and differences of China's historic cultural villages, they are bound to correspond to different planning objectives, thus generating different ways of protection and development. However, the current conservation planning is limited to the physical protection of the existing heritage, and the planning goal is broad, mainly focusing on the slogan goals of protecting cultural resources, making rational use of heritage and improving spatial quality, which lacks of specific qualitative description. In addition, current conservation planning that is accustomed to build the ultimate blueprint planning, lack of consideration of implementation. So conservation planning cannot solve the problems in the implementation process, and the historical space and feature are facing sustained damage from behavior characteristic, resulting in the conservation plan to cope with the decoration of the political task.

B. Miscellaneous Protection Content

The protection content of current conservation planning is divided into the protection of monomer elements and the control of protection range, and relevant protection requirements and control measures are formulated for the corresponding entity object [2]. Keen on heritage protection, it often makes perfect protection contents and strict control measures, and lacks consideration of its own development needs, making it difficult to implement at the beginning. On the other hand, the conservation planning pays too much attention to the protection of monomer elements, which is not considered enough in the aspect of medium guidance and macro control. There are no operational protection measures for the overall environment of the village. The landscape environment that the village depends on, including water system, farmland and vegetation, is inevitably broken. At the same time, the current conservation planning takes the single element as the carrier for protection renovation, while the implementation level takes the location unit as the carrier for concrete design, so the conservation planning lacks transformation process to implementation.

C. Weak Implementation Strategy

The current conservation planning focuses on the protection
of inheritance and historical features, and ignores the process of government administration and construction, villagers' initiative in the protection process and resources that can be utilized in the future, thus reducing the operability in the implementation process of planning. At the same time, the planning objectives are not well implemented at all levels and stages of the conservation planning, and lack a clear and operational project library.

III. IMPLEMENTATION-ORIENTED DISCUSSION FOR HISTORICAL AND CULTURAL VILLAGES' CONSERVATION PLANNING

A. Objective Decomposition: To Establish Planning Objectives by Classification and Stages

At first, comprehensive consideration should be given to the environmental background, historical and cultural characteristics and current resource conditions of the villages, so as to clarify the development rules and characteristics of the villages. Based on these, the overall planning objectives consistent with the basis and characteristics of the current situation of the village can be obtained. For villages with serious natural decay, the primary goal is to save—excavate its historical and cultural value, conduct a comprehensive record of material entity and non-material culture, rigid control of history and modern elements. For the villages with certain protection basis, the emphasis can be placed on the protection and renovation of core elements. Under the conditions, the protection and renovation of key individual elements can be promoted to cultivate the villagers' awareness of cultural heritage protection and realize the effective utilization of heritage. When the existing remains of the village remain intact, the uniqueness of the original culture, folk custom, traditional skills, lifestyle and other social aspects of the village should be paid attention to, and the sustainable use of intangible cultural heritage and material cultural heritage should be emphasized to realize the comprehensive revival of the traditional village.

On the basis of determining the overall planning objectives according to local conditions, the corresponding planning sub-objective is put forward in different classifications and stages to realize the transformation of planning target from technical description to implementation control. On the one hand, it puts forward clear planning objectives and control requirements for the classification of core spatial elements, including historical protection, style inheritance, culture utilization, function placement, etc. On the other hand, the planning objectives should be divided into long-term and short-term ones, and the protection objectives at all stages will be clarified. The short-term objectives should focus on the treatment of the core contradictions of the current situation, and develop in the right direction towards the long-term goal -- maximizing the historical information when conditions are ripe.

B. Factor Decomposition: Hierarchical Full Coverage Spatial Planning

The protection objects and contents are sorted out, and a protection planning system of three levels, single element group and plot are established. The protection of single elements, renewal of unit groups, and zoning improvement requirements are expressed in the zoning plan to strengthen the control of the conservation planning in different classification and partition.

(1) Single Element—Protection Content

Through a lot of basic research and demonstration, including historical evolution, traditional pattern, street space, traditional style, etc., the value characteristic of the village is extracted. Then, the exact location and status protection of historical buildings, historical environmental elements and other elements are determined. Corresponding protection and control measures for different types of individual elements are formulated.

The key points are: Comprehensive inventory of historical relics: establishing sound records of material and non-material resources of villages; protection and control of single elements: measures to be taken by single elements should be clearly marked, including historical buildings, historical environment elements, historical streets, public spaces, etc.

(2) Group—Renewal Unit

Based on feature recognition, the core structural elements of the village are extracted, and multiple renewal groups are determined. By establishing functions such as display and use, the development of villages could be promoted. According to the characteristics of different group, determine its function orientation, content protection, renovation task and development focus and feasible implementation measures, perfecting the innovation differentiation strategy and improving the planning precision. Then Provide different options for management to develop and utilize.

The key points are: Selection of groups: the important structural elements that constitute the value characteristics of villages. Function orientation of groups: based on agglomeration features of historical resource values of the group, including historical evolution rule, present historical resource, historical heritage accumulation characteristics and so on, its value can be summarized by characteristics and classification [3]. Then spatial agglomeration and value of typical category or class characteristic culture can be cleared. Planning means of groups: mainly according to the group's remaining space characteristics and the status quo, translated groups into various functional areas, determine the basic planning ideas and means of space, and put forward different renewal strategy: protection, renovation and reconstruction. At the same time, it puts forward some requirements and suggestions of the way, layout and intensity of utilization.

(3) Zoning - Planning Control Units

The villages are divided into regions, and the sub-goals of the classified planning are further decomposed. Specific control objects and methods are proposed, and planning control requirements are put forward for each subarea by zoning guidelines. The zoning is used as the planning control unit to achieve the overall control in the whole area and ensure the implementation of the planning objectives in different levels.
The key points are: Spatial definition of zoning: it is selected and judged according to the spatial clustering of its historical heritage, including historical spatial connection, distribution of historical and cultural resources, current spatial texture, etc. Planning and control requirements for zoning: on the one hand, it features prominently and reflects the continuation and inheritance of the local context. On the other hand, it is simple and clear, giving clear direction to all parties involved in urban construction and development (government administration departments, developers, local residents, designers, etc.). At the same time, it should not be too rigid and specific, and it needs to retain some flexibility for specific architectural design and implementation management to ensure the future development of multiple composite.

C. Space-Time Planning: Phased Implementation

As the implementation method of conservation planning, the phased implementation planning needs to combine the objective system and space planning effectively, and reasonably arrange the key points and implementation contents of the near, middle and long-term projects. In this way, the planning objective is implemented in spatial and temporal dimensions.

Installment principle:
1. Single element protection: It is mainly determined according to the value features of single elements, preservation status and the connection of relevant planning.
2. Group renewal: The arrangement is mainly based on the historical resource distribution, significance and historical value characteristics of each cluster -- in general, the more complete the historical features, the more significant the impact on the overall pattern, and the more intensive the historical remains are, the higher the priority is given to the implementation. There may be a long construction cycle that spans the near and far two periods, and it can be combined with the single element protection to realize the small incremental renewal development.
3. Zoning renovation: It is a process of controlling damage and providing the greatest degree of historical true information for the future as much as possible. It is a long-term process, spanning two stages in short and long term. Among them, the recent work of conservation should focus on the control of construction behavior to avoid further constructive damage. Along with the economic and social development, the long-term planning focuses more on the regular protection and renovation of historical buildings, renovation of modern buildings and the restoration of village environment.

The timing of planning is not fixed. It is necessary to take the stage of the village into comprehensive consideration, carry out dynamic monitoring and feedback in the process of protection and development, and make corresponding adjustment and transformation.

IV. IMPLEMENTATION-ORIENTED PROJECT FOR QIQIAO HISTORICAL AND CULTURAL VILLAGES’ CONSERVATION PLANNING

Qiqiao village was a land and water junction between Cixi and Zhenhai in ancient times, which is a typical representative of traditional traffic town in Ningbo and a miniature of blood family in rural society. So far, the overall pattern of Qiqiao village, the structure of streets and lanes and the historical courtyard have been well preserved. However, as it is located in the north of Ningbo’s new material science and technology city, the need for urban construction and development is prominent, and the villages are gradually eroded by modern constructive behaviors. The contradiction between the continuation of the rural landscape of Qiqiao village and the renewal of urban construction needs to be solved urgently. The implementation of protection planning is particularly important for Qiqiao village.

A. Establish the Planning Objectives for the Classification and Timescale

Taking into account the regional environment background, historical and cultural resources and existing conditions, the general goal of the planning is to comprehensively protect and develop the ancient village, continue the traditional features, and activate the vitality of the ancient village. On this basis, the short-term and long-term goals are defined. Qiqiao village is located at the edge of the city, so the short-term goal is to solve the core contradiction, excavate and preserve the characteristic values of history, architecture, landscape and intangible cultural heritage, and avoid or slow down the further destruction of modernization. The long-term goal is to give full play to regional advantages, and build an ecological humanistic experience featured functional area dominated by commercial leisure, life service and ancient village tourism by making reasonable use of historical heritage.

By further decomposing the planning objectives, sub-objects such as "functional control, landscape system, street space, architectural style and architectural volume" can be proposed and implemented at all levels of the planning system to ensure the decomposition and realization of the planning objectives. Function control— properly place diversified activities and functions; Landscape system— protect water body, rural and other natural landscape, create multiple and multi-level landscape system; Street and alley space— to protect the features of historical streets and lanes and create walking space of diversified public life; Building style— to protect the features of historical buildings and control the damage of new buildings; Building volume— coordination between building volume and surrounding buildings.

B. Zoning Guidelines to Achieve Sub-Objectives

1. Comprehensive Inventory and Protection of Historical Elements

A comprehensive survey of the characteristic historical elements of Qiqiao includes not only the state of preservation of various historical elements, but also the historical original appearance, function and pattern. Historical data should be
provided as complete as possible for future repair, reconstruction or other display and utilization to achieve the maximum historical authenticity record. For example, as an important symbolic building complex of the Qiqiao village, the planning needs to excavate the general residence’s historical prototype and value. In the process of preliminary research, through historical data research and interviews with his successors, we learned that the general office was originally the residence of Beishanquan, a famous general in the Anti-Japanese War. The buildings have seven main rooms, two lane road, six guest rooms, orchards in the east and gardens in the west, covering an area of 16 acres. The axial space is the family etiquette space, and the two sides are the auxiliary space (kitchen, servant room, guest room). On the basis of detailed records of historical features and current status remains, the requirements for the protection of various elements are clarified.

(2) Selection and Renewal of History Units

Based on the inventory of individual elements, the spatial features of Qiqiao village are defined as "a river, a bridge, a street and a government", which reflects the historical value of the transportation hub commercial town of Qiqiao village. Combined with surrounding buildings, roads and river channels, six renewal units have been determined: the general residence group, Beishizhang's former residence, Haoyitang group, Xiaiyin's residence group, Xingdetang group, characteristic ancient street and water street.

According to the characteristics of historical value and the status remains, the characteristic positioning, planning methods of different units are determined. For example, the general residence group is well preserved and is the landmark building of the village. It is planned to demolish modern buildings and restore the historical pattern. In the future, it will be an important place for sacrifices and cultural activities of the family. Along the water street on both sides of the Gangqiao water, investment attraction and commercial cultural function can be used as catalyst to drive the development of the whole village.

(3) Macroscopic Control and Guidance of Zoning

After nearly a thousand years of development and evolution, Qiqiao village has formed six areas: behind the bridge, Yuanfang, before the bridge, Yingshujia and Xinan bridge. On the basis of the historical pattern, the historical value, legacy status, functional layout and upper planning of the area were comprehensively considered, and the zoning boundaries were appropriately modified or expanded, and seven sub-areas were determined.

Zoning as conservation planning control unit, the five major planning sub-objectives to decompose, puts forward specific control object and method. For example, the sub-objective "protects the features and characteristics of historical buildings, controls the destruction of new buildings to features", proposes specific control objectives and planning means for the combination of building components, decoration, materials, colors and buildings, so as to implement the planning objectives into specific control units.

Considering the applicability of specific control object methods in different fields, the flexibility and pertinence of planning should be improved. For example, due to the location factors of the urban fringe, Qiqiao village needs to put forward rigid requirements on the urban construction behavior, including the ecological green line, building height and development intensity, etc., to ensure the control bottom line of the conservation planning objective and avoid irreparable damage caused by excessive development.

C. Implement the Sub-Objectives in Stages

In the form of a project database, planning can be implemented in phases. Due to the particularity of its location, Qiqiao village focuses on the preservation of the existing heritage and the exploration of historical value to the greatest extent in the near future. It mainly focuses on the status survey, the release of listed protection elements and the rescue of endangered buildings. On this basis, it benefits from the demand of its development and construction, makes rational use of heritage and activates the vitality of ancient villages. Conservation planning provides different modes for its construction behavior, and encourages multi-subject participation [5].

V. Conclusion

On the basis of effective protection of historical and cultural resources, conservation planning has played an indelible role in improving the quality of rural space and adapting to the needs of modern life. However, in the current practice of protection planning for historical and cultural villages, the planning objectives are divorced from the implementation management, which makes it difficult to realize the overall control of protection and development and directly reduces the feasibility of conservation planning.

This paper puts forward the surrounding conservation planning objectives to technical framework, to follow the "planning overall goal - classification in stages sub-objective - zoning guideline - phased implementation" the basic context, through the guideline "partition" and "phased implementation" two main line, and implement the planning goals in spatial and temporal dimensions, which improves the practicability of protection planning of historic and cultural villages from the perspective of planning.

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