

Geo-design for Sustainable Development Research on the Rural Construction in Chongqing, China

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Lotus village in Chongqing

ANNING



Chongqing







- Geographic information technology
- Collection, data integration of mass data
- Investigation, analysis, assessment, scheme, and supervision
- **Precision, digitalization, visualization**



mining, and

ANNING **Geo-design for the sustainable development** 地理设计支撑可持续发展 COPL



Platform



ANNUAL MONITORING OF SPATIAL ELEMENTS



Change of forest crown closure in 2010-2015

Change of river system in 2010-2015



Change of construction land in 2010-2015



MONITORING ON DEMAND











Balance between the Construction and Ecological Protection 建设与生态保护平衡

RURAL LAND PLANNIG



Superposition of important spatial elements

Prime farmland Crown density>0.6 Slope>25° Catchment area Distinctive landscape



Rural land planning in balance between construction and ecological protection



RURAL ECOSCAPE AND CONSTRUCTION PATTERN PLANNING







SITE SELECTION OF CENTRALIZED RESIDENTIAL AREAS



Scientific Evaluation of Construction Activity 建设活动科学性评估 COPL

SUSTAINABILITY ESTIMATION OF ROAD CONSTRUCTION



Plan A



Cutting volume: Plan B < Plan A, 13% Filling volume : Plan B < Plan A, 11% Net volume: Plan B < Plan A, 4%

- More economical

Along the mountain terrain

Less ecological destruction

ANNING **Scientific Evaluation of Construction Activity** 建设活动科学性评估 CQPL

OPTIMIZING OF CENTRALIZED RESIDENTIAL AREAS



Wind velocity estimation in the windward slope for different building patterns



Wind velocity estimation for centralized residential areas



FOR FOREST ECOLOGICAL SYSTEM





The areas of masson pine forest (Biodiversity restoration)

The purpose effects of restoration scheme



FOR ECOLOGICAL DEGENERATION REGIONS



Ecological degeneration regions

Effects after ecological restoration



RURAL DEVELOPING SPACE PLANNING



Based on the temporal and spatial varieties of rural history and culture





- Building the big data platform in the direction of sustainable development applications.
- Improving the application framework and toolset based on the concept of sustainable development.



Diagrammatic sketch of application framework





