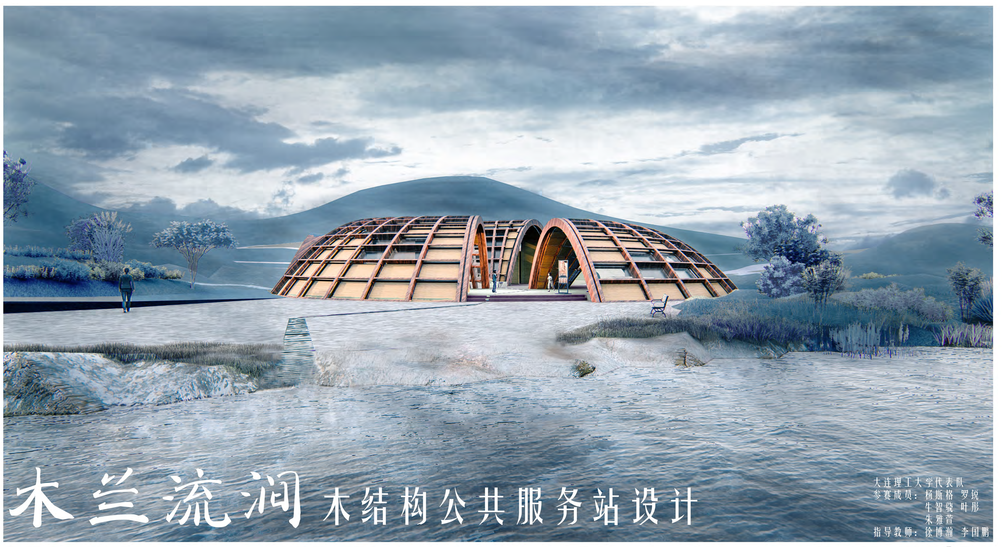

木兰流涧 木结构公共服务站设计

大连理工大学代表队
参赛成员：杨施裕 罗民
牛智俊 叶彤
朱雅音
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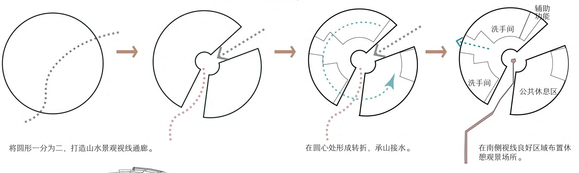
“木兰流涧”，借木之精华塑兰之神韵，夫水为涧呈自然之色。为使建筑形体尽量贴近自然，提取远山和兰花两者意象。34根高矮不一的木拱向外伸发射状，环绕成圆，似兰花由地里生长，开放。同时，建筑轮廓的灵动曲线与远山合为一体，完美的融合与自然之中。

场地选址在浙江绍兴兰亭国家森林公园流觞涧畔，环境优美静谧，四周群山环抱，对场地呈半包围姿态。场地坡度平缓，视野开阔。

由盛开的花瓣提炼出向外延展的外部形态

由起伏的山脉提炼出建筑立面高低变化的曲线。

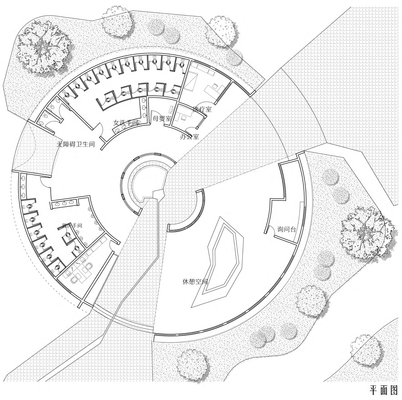
形成以拱为截面与结构，带有高低变化的环



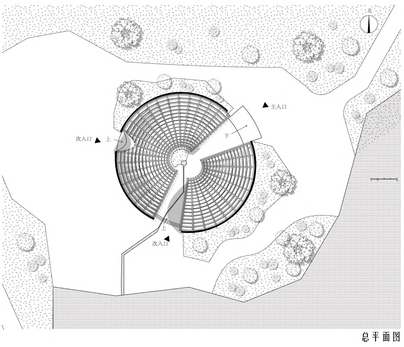
将圆形一分为二，打造山水景观视线通廊。

在圆心处形成转折，承山接水。

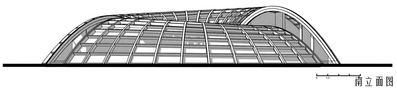
在南侧视线良好区域布置休憩观景场所。



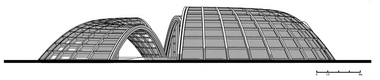
平面图



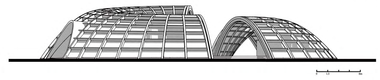
总平面图



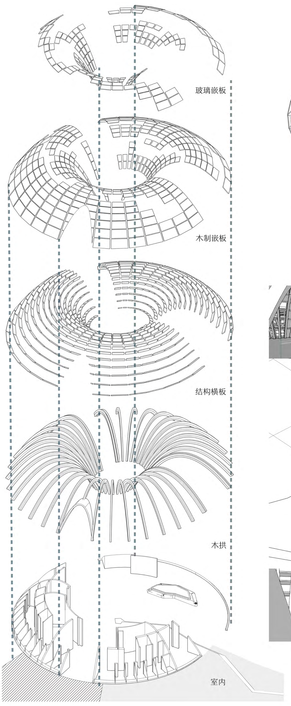
南立面图

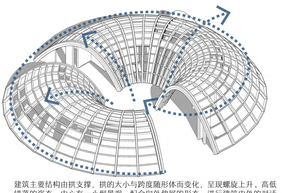


东立面图

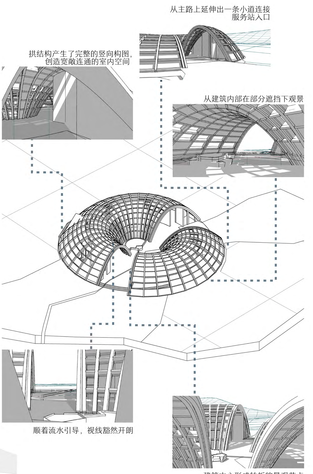


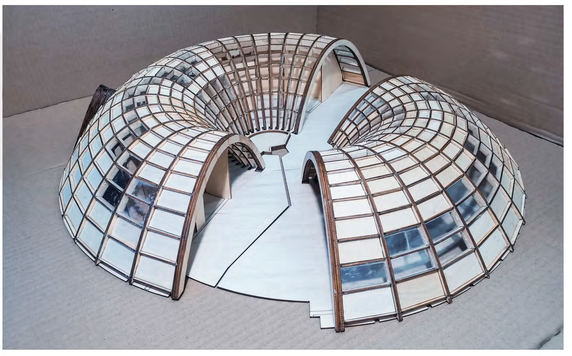
西立面图

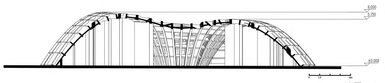




建筑主要结构由拱支撑，拱的大小与跨度随形体而变化，呈现螺旋上升、高低错落的姿态。中心有一小型景观，配合向外伸展的形态，进行建筑内外的对话。

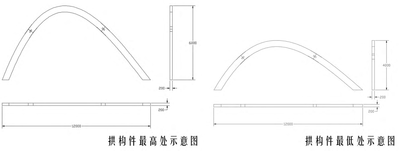




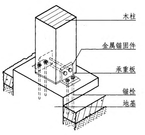


剖面1-1

剖面2-2

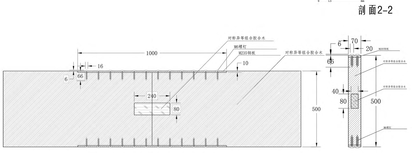


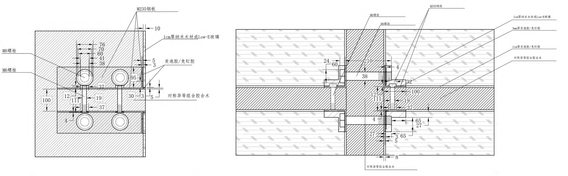
拱构件最高处示意图　　拱构件最低处示意图

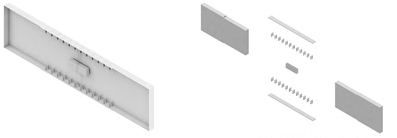


主要结构构件为34根拱，拱曲线函数为H/655.1（x^3-36x^2+288x），其中，H为每根拱的高度。此处中仅画出最高处与最低处两个典型拱构件。

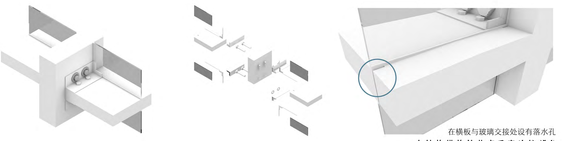
本图为胶合木柱与基础的连接构造，采用14J924木结构建筑图集





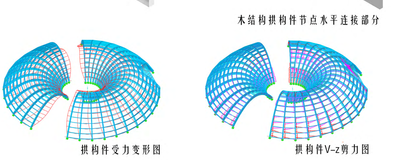


木结构拱构件节点水平连接部分

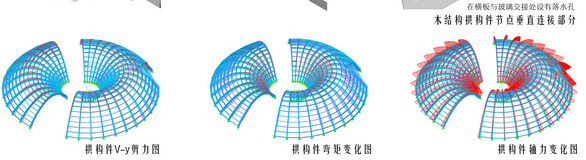


在横板与玻璃交接处设有落水孔

木结构拱构件节点垂直连接部分



拱构件受力变形图　　拱构件V-z剪力图



拱构件V-y剪力图　　拱构件弯矩变化图　　拱构件轴力变化图