

城市道桥与防洪

主管：中华人民共和国住房和城乡建设部

主办：上海市政工程设计研究总院(集团)有限公司



<http://www.roadbridgeflood.com>

2 2014 February 总第178期

中国学术期刊综合评价数据库统计源期刊 中国期刊全文数据库全文收录期刊
“万方数据-数字化期刊群 维普资讯-中文科技期刊数据库”全文收录
《中国核心期刊(精选)数据库》收录 《中文科技期刊数据库》全文收录

图为天津市市政工程设计研究院设计的鄂尔多斯大桥(天驹桥)工程

因为我们专心,所以我们专业!

——《城市道桥与防洪》

● 本期看点

- 城市综合客运枢纽中的交通组织设计
- 大型对外客运交通枢纽关键设施布局初探
- 城市快速路主路与辅路间出入口设计探讨
- 高震区中小跨桥梁下部结构标准化设计方法



中华人民共和国住房和城乡建设部优秀期刊

中华人民共和国住房和城乡建设部优秀期刊

城市道桥与防洪 (月刊)

CHENGSHI DAOQIAO YU FANGHONG

2014年 第2期 (总第178期)

2014年 2月15日出版

1984年创刊

主管: 中华人民共和国住房和城乡建设部

主办: 上海市政工程设计研究总院(集团)有限公司

协办: 全国城市道路与桥梁技术情报网

编辑委员会(第七届)

主任委员: 徐健

副主任委员: 穆祥纯 刘旭锴 靖泽文

委员: (以姓氏笔画为序)

| | | | |
|-----|-----|-----|-----|
| 丁心红 | 马国纲 | 王玉秀 | 王怀清 |
| 王磊 | 卢永成 | 李建民 | 李汾 |
| 李承根 | 李军代 | 刘伟杰 | 朱南松 |
| 朱海鹏 | 杨佩昆 | 陈翰新 | 陈德玖 |
| 童景盛 | 邵玉振 | 张澎涛 | 张鹤 |
| 张子龙 | 杨斌 | 何拥军 | 和坤玲 |
| 周松国 | 周文波 | 贺志宏 | 姜天鹤 |
| 姜健 | 钟强文 | 骆燕妮 | 徐波 |
| 高中俊 | 贾军政 | 隋军 | 龚剑 |
| 蒋乐 | 蒋中贵 | 韩振勇 | 赏锦国 |
| 葛以衡 | | | |

出版: 《城市道桥与防洪》编辑部

总编辑: 骆燕妮

责任编辑: 叶露

编辑: 周盛伟 杨建华

英文校审: 孙宁萍 常红

摄影: 何业兴

地址: 上海市中山北二路901号 邮编: 200092

电话: (021)51298850 传真: (021)51298850

来稿邮箱: cdq@smedi.com

国外发行: 中国国际图书贸易总公司 代号: BM 1859

排版印刷: 上海竞成印务有限公司

地址: 上海市纪念路500号 邮编: 200434

中国标准连续出版物号: CN 31-1602/U

广告许可证号: 3101020080007

目次

2013城市道桥与防洪技术论坛论文精选(二)

- 城市综合客运枢纽中的交通组织设计 刘亚珊, 郭淑霞, 刘璇亦(1)
- 大型对外客运交通枢纽关键设施布局初探 黄平(5)
- 城市客运交通枢纽规划设计的思考——以四惠交通枢纽为例 赵新华, 高翔(9)
- 城市客运交通枢纽分类研究 ... 陈冬栋, 余朝玮, 刘艺(14)
- 城际铁路在城市交通中的定位与适应性研究 唐森, 施辰平(17)

道路交通

- 长距离高架桥下部空间交通改善方法研究——以二环线武昌段为例 车丽彬, 聂立力, 何丹(20)
- 城市快速路主路与辅路间出入口设计探讨 胡章立, 苏龙, 羊明(24)
- 道路铁路并行的交叉口选型与交通组织研究 孙伟, 宋景涛(27)
- 高水位下穿式立交引道方案选型及设计要点探讨 王康(31)
- 地下道路复合式路面病害分析及防治措施研究 王海燕, 姜中波(34)
- 管井降水结合高真空击密法在吹填土路基处理中的应用 王森(37)
- 城市道路旧路路基拓宽改造对策及其技术 ... 黄定江(40)
- 北京京密路(京承高速公路-开放环岛)工程总体设计 马树田(42)
- 太原市骨干路网布局特点及案例分析 耿媛婧(46)
- 巢湖市湖光新区竖向设计研究 王亚斌, 杜建康(51)
- 路拱曲线参数选择对工程量计算影响分析 赵殿武, 朱海鹏(54)
- 市政道路沟槽土方计算的几点看法 ... 汪宏, 刘晓莹(56)
- 彩色沥青路面设计与施工 赵建云(59)

桥梁结构

- 高震区中小跨桥梁下部结构标准化设计方法 ... 唐学军(62)
- 一座组合索塔锚固结构斜拉桥的设计特色 孙月明, 梅勤华, 何长江, 徐海军(64)
- 轨道交通斜拉桥结构仿真分析及优化 张红涛(68)
- 上承式连续梁拱组合体系桥梁设计实例 任文, 王建光, 孔光(70)
- 粘贴钢板和增大截面联合加固在旧桥加固中的应用 何万鹏, 张己存(73)

期刊基本参数: CN 31-1602/U * 1984 * m * A4 * 164 * zh * P * ¥18.00 * 10000 * 51 * 2014-02

武汉市二环线汉口段桥梁总体方案设计 ... 孙 勇,林克美(76)
张唐铁路(64+64)m T型刚构设计分析 万亚华(80)
凤凰港桥景观平台设计 陶 兴,戴佳阳,徐 俊(84)

防洪排水

陇南地区桥涵小流域设计洪水计算 冯英杰(86)
坡面雨水汇流状态分析及雨水量计算 元绍建,陈娅倩(88)
调整铁甲水库汛限水位的分析 尚尔君,陈长山(90)
关于人工湿地对初期雨水处理的探讨 陈展弘,曹美娟(92)
城市道路检查井病害与处置措施 ... 王茂华,石 海,曹守金(95)
一体化预制泵站在雨水泵站中的应用 任 亮(98)

管理施工

复杂溶洞桥梁桩基逐桩处理措施 李建辉(101)
钢-混凝土组合箱梁预应力体外索施工方法 黄耿洪(104)
轨道交通高架桥跨越既有高速公路时的施工方法比选 · 朱 童(108)
兰州深安黄河大桥工程钢拱桥整体顶推施工技术
..... 顾乾岗,郭兴文(111)
岔河滨河路建设对沟盘水库环境影响的分析
... 孟付明,崔玉宝,张鲁豫,李 玲,杨丽华,张晓强,孟丽静(115)
加强绿色施工管理与企业未来发展的探讨 李 菁(118)
施工企业索赔、签证的现状及相关法律法规 褚春军(120)

科技研究

小客车专用城市地下道路的设计净高研究 张 毅(123)
城市道路平面交叉路口交通组织研究 钱 俊(127)
某堆场工程建设对既有隧道安全影响分析 熊桂开(131)
不同车速条件下路表弯沉的变化规律
..... 代茂华,梁毅超,练象平(134)
基于粘弹性理论橡胶沥青路面力学参数的计算分析 ... 冯 华(137)
成品橡胶沥青AR-SMA13在宁高高速公路中的应用研究
..... 靳 澍(140)
二灰土改良含高富水土层公路路基的数值模拟
..... 牟其海,李 帅,张 爽(143)
岩溶的分形特性与分维数 陶华飞,彭功勋,韦立德(149)
沥青路面下面层施工空隙率对疲劳性能的研究 李 泉(153)

相关专业

城市市政综合管廊安全保障措施 王恒栋(157)
城市地下空间车行系统的射流式纵向通风设计 张红兵(160)
加药气浮技术在苏南地区某市河道水质维护工程中的运用
..... 钟力云(163)

广告索引

封一 天津市市政工程设计研究院
封二 上海申华声学装备有限公司
封三 上海有正工程软件有限公司
封四 上海汇城建筑装饰有限公司
广前1 青岛市润邦化工建材有限公司
广前2 柳州欧维姆机械股份有限公司
广前3 城市道桥与防洪
广前4 北京鸿业科技有限公司

编委成员单位(排列不分前后)

主任编委单位:

上海市市政工程设计研究总院(集团)有限公司

副主任编委单位:

北京市市政工程设计研究总院

天津市市政工程设计研究院

武汉市防汛指挥部

编委单位:

南京市水利规划设计院有限责任公司

中国市政工程西南设计研究总院

同济大学

上海市市政规划设计研究院

广东省建筑设计研究院

广州市市政工程设计研究院

沈阳市市政工程设计研究院

中国市政工程西北设计研究院有限公司

中国市政工程华北设计研究总院

上海市城市建设设计研究总院

武汉市政工程设计研究院有限责任公司

武汉市城市防洪勘测设计院

武汉市水务科学研究院

西安市政设计研究院有限公司

重庆市设计院

重庆市勘测院

林同棧国际工程咨询(中国)有限公司

济南市市政工程设计研究院有限责任公司

成都市市政工程设计研究院

重庆市市政设计研究院

上海建工(集团)总公司

上海城建(集团)公司

上海公路桥梁(集团)有限公司

上海城建市政工程(集团)有限公司

杭州市市政工程集团有限公司

深圳市市政设计研究院有限公司

天津城建集团有限公司

浙江省大成建设(集团)有限公司

杭州市城建设计研究院有限公司

兰州市城市建设设计院

上海浦东路桥建设股份有限公司

上海市政交通设计研究院有限公司

中铁第一勘察设计院(集团)有限公司

上海市市政工程建设发展有限公司

保定市城乡规划设计研究院

Urban Roads, Bridges & Flood Control

(Monthly)

Number 2, 2014(Total Number 178)

CONTENTS

2013 Technical Forum of Urban Roads Bridges & Flood Control (II)

Traffic Organization Design in Urban Comprehensive Passenger Transport Hub

..... Liu Yashan, Guo Shuxia, Liu Xuanyi(1)

Abstract: The article sums up the function of traffic organization design of urban comprehensive passenger transport hub in the master design and its relationship with the building design, and makes clearly the depths and contents of traffic organization design according to the different stage requirements. On this basis, the article further discusses two key problems of how to handle the collocation of external road network in traffic organization design of hub and the traffic organization design of filed. The article puts forward the principle of setting circular road gradation of internal road, and makes up the deficiency of setting the internal road gradation of hub in the current standards. The article analyzes the problems commonly met in the design of passages during the setting of passages, and puts forward the solving mode.

Keywords: comprehensive passenger transport hub, traffic design, setting of road network, circular gradation, design of passages

Elementary Discussion on Layout of Key Facilities for Large External Passenger Transport Hub

..... Huang Ping(5)

Abstract: The external transport hub is the interchange of various dynamic and static transport flows, is the interchange point of travelers and is the window of connecting the internal and external transports of city. The hub design whether reasonable or not will directly influence the interchange efficiency of travelers and restraint the external transport relation of city so as to influence the development of this city. From the angle of hub user, the article studies traveling mode and mechanism of hub, and from the angle of transport demand to study the basic method of hub layout design, puts forward the layout design principle, the basic layout mode and the key evaluation index of large external passenger transport hub.

Keywords: external passenger transport, transport hub, transport interchange, hub layout design

Thinking Deeply about Planning Design of Urban Passenger Transport Hub Zhao Xinhua, Gao Xiang (9)

Abstract: According to the study and design of Beijing Sihui Transport Hub, the article analyzes the position selection and function position of transport hub, the scale matching and design characteristics of hub, and the construction requirement of interchange mode. The article sets forth the problems urgently to be solved in the construction of transport hub, i.e. the specification and standard, the determining basis of scale function, the reasonable evaluation system of hub, the commercial value of hub and the environmental influence. The article forecasts the construction prospect of hub.

Keywords: transport hub, planning design, Beijing Sihui

Study on Classification of Urban Passenger Transport Hub Chen Dongdong, Yu Chaowei, Liu Yi (14)

Abstract: At present, it is hard to provide the theoretical basis for the planning, design and construction of hub because of no unified standard to study the classification of urban passenger transport hub. According to the analysis of the traffic function, scale grade, passenger feature, relationship with the surrounding land development and connection transport mode, the multiple-factor hub classification method is determined in order to provide the theoretical basis for more intensively and more efficiently planning and constructing of hub.

Keywords: passenger transport hub, traffic function, scale grade, classification

Study on Position and Adaptability of Intercity Railway in Urban Traffic Tang Miao, Shi Chenping (17)

Abstract: With the continuous development of urbanization in China, the intercity railway more and more becomes the main traffic mode among the cities. The article introduces the rail traffic levels, and sets forth the functional position of intercity railway. The article further discusses the feasibility and the key problems of intercity railway to serve the city traffic, analyzes its facing problems and puts forward the solving countermeasures.

Keywords: intercity railway, urban rail traffic, functional position, management operation

ROADS & COMMUNICATION

Study on Improvement Method of Traffic for Space under Long-distance Viaduct ... Che Libin, Nie Lili, He Dan (20)

Abstract: According to Wuhan City Ring Line II Wuchang Section, the article discusses the utilization practice and influence element of space under viaduct, and analyzes the utilization of the different spaces by using the software VISSIM and the traffic operation state based on the traffic organization scheme, which can be referred and the basis for more reasonably optimizing the space utilization under the long-distance viaduct.

Keywords: elevated expressway, space utilization under viaduct, VISSIM simulation

Discussion on Design of Urban Expressway Entrance-exit between Master Road and Relief Road

..... Hu Zhangli, Su Long, Yang Ming (24)

Abstract: The entrance-exit of urban expressway between master road and relief road is one of important facts which affect its capacity. The reasonable design of entrance-exit has important significance to improve traffic capacity and service level of expressway, and to reduce traffic accident. The paper analyses the traffic characteristic of the entrance-exit, classifies the forms of entrance-exit, and analyses the excellences and defects of forms. Finally, the paper puts forward the standpoints and suggestions to the design of parallel entrance-exit, which can be referred for the design of urban expressway entrance-exit between master road and relief road.

Keywords: urban expressway, master road, relief road, entrance-exit, design

Selection of Intersection Paralleling Road with Railway and Study of Traffic Organization

..... Sun Wei, Song Jingtao (27)

Abstract: The parallel of the road and railway has a serious impact on the intersecting roads with it. According to the selection of intersection of Manan Road and Zhangnan Road (Zhangbo Railway) in Zibo City of Shandong and the study of traffic organization, the scheme is selected to implement the overpass, the short-term assistant road, the mid-term road network and the long-term half-cloverleaf interchange by stages gradually to reduce conflicts, to resolve contradictions and to improve transport efficiency, which can be referred for the design of the similar projects.

Keywords: selection of intersection, traffic organization, implementation by stages

Selection of Underpass Approach at High Water Level and Discussion of Design Gist Wang Kang (31)

Abstract: There are many grade crossings at the intersection of railway and highway in China. The underpass approach is the common treatment scheme of traffic. According to the engineering cases, the article compares the different design schemes, lists the advantages and disadvantages of the different design schemes, and analyzes and sets forth the detail design process of the floating resistance and the approach structure of the projects.

Keywords: underpass approach, high-level underground engineering, design, scheme selection

Analysis on Fault of Compound Pavement of Underground Road and Study on Prevention Measures

..... Wang Haiyan, Lou Zhongbo (34)

Abstract: The article studies the fault of compound pavement of underground road in detail, unifies the fault

type standards of compound pavement of underground road, and analyzes the damage forming mechanism of compound pavement of underground road. Aiming at the common damage type of compound pavement of underground road, the different prevention measures are put forward, which can be referred for improving the maintenance level of compound pavement of underground road.

Keywords: underground road, damage type, compound pavement, mechanism, prevention measures

Application of Tube Well Dewatering Combined with High Vacuum Densification Method in Hydraulic Fill Roadbed Wang Miao (37)

Abstract: The article introduces the principles and effects of two roadbed treatment methods, i.e. tube well dewatering and high vacuum densification. Based on the treatment of hydraulic fill roadbed of wastewater treatment plant for Caofeidian Industrial Zone, the article introduces the application of tube well dewatering combined with high vacuum densification method in treatment of hydraulic fill roadbed, which can provide the reference for the similar projects in this region.

Keywords: tube well dewatering, high vacuum densification, hydraulic fill roadbed, application

Countermeasures and Technology of Widening and Reconstructing Old Roadbed of Urban Road Huang Dingjiang (40)

Abstract: With the continuous promotion of urbanization construction in China, the city areas are continuously extended and more roads are widened everywhere. The poor connection of the old and new roadbeds may result in the faults that the newly widened roadbeds are unstabilized, the pavements are damaged, and the integral property of pavement is degraded. The article analyzes the cause of fault, and introduces the widening countermeasures of old roadbed and the application of treatment technology according to the engineering cases.

Keywords: roadbed widening, main fault, treatment measures

Master Design of Beijing Jingmi Road (Jingcheng Expressway ~ Open Ring Island) Ma Shutian (42)

Abstract: Jingmi Road is one of 16 radioactive expressways in Beijing, is a high-speed passage connecting the downtown area of Beijing with Shunyi, Huairou and Miyun New Towns, and is also the important external traffic security of Beijing Yanqi Lake Ecological Development Demonstration Zone. The article analyzes the functional position of Jingmi Road, and introduces its main technical standards and its master design, which can be referred for the design of the similar projects.

Keywords: master design, function, grade separation

Layout Characteristics and Case Analysis of Taiyuan Urban Trunk Road Network Geng Yuanjing (46)

Abstract: This paper summarizes the layout characteristics of urban trunk road network in Taiyuan, focuses setting forth on the features of the trunk traffic roads in alignment selection, road form, traffic organization at nodes and design of interchanges, and discusses its advantage and disadvantage.

Keywords: Taiyuan, layout of road network, trunk traffic road

Study on Vertical Design of Huguang New Area in Chaohu City Wang Yabin, Du Jiankang (51)

Abstract: According to the vertical design of Huguang New Area in Chaohu City, the article analyzes the problems for attention and the control conditions in the vertical design of urban waterfront low-lying areas in detail, and puts forward the reasonable method and proposal for the optimization of vertical design. The relative experience can be referred for the similar projects.

Keywords: vertical design, waterfront city, flood control and drainage

Analysis on Influence of Selecting Camber Curve Parameter on Calculation of Engineering Quantity Zhao Dianwu, Zhu Haipeng (54)

Abstract: The selection of camber curve parameter not only influences the transverse drainage and driving safety of road, but also influences the calculation of engineering quantity in the design of road. By means of adjusting the camber curve parameter, the article calculates the camber curve, and the analyzing value of field area surrounded by coordinate axis and the calculation value in the secant instead of curve so as to

analyze the influence of selecting various camber curve parameters on the calculation error of engineering quantity.

Keywords: camber curve, secant, calculation of engineering quantity, error rate

Ideas on Calculation of Trench Excavation Soil of Municipal Road Wang Hong, Liu Xiaoying (56)

Abstract: With the expansion and development of city, the engineering construction of municipal road is vigorously developed. The article introduces the calculation method of trench excavation soil of municipal road. Aiming at the calculation methods of trench excavation soil of pipelines in the different positions, the article puts forward the conception of “trench to control altitude traverse”. Accordingly, the article sums up the calculation methods of trench “vertical” and “transverse”.

Keywords: trench excavation soil, soil on top of pipe, trench to control altitude traverse, quota engineering quantities, bill of engineering quantity

Design and Construction of Color Asphalt Pavement Zhao Jianyun (59)

Abstract: The color asphalt pavement is a new pavement technology and gradually arouses the interest and attention of the people. Aiming at the design of color asphalt pavement, the article puts forward the color design, structure design and material design of color asphalt pavement, and focuses analysis on the technical requirements of aggregate and pigment. Aiming at the construction of color asphalt pavement, the article puts forward the key construction technology, and stresses the cleaning of mixing equipment, and the control of mixing time and mixing temperature.

Keywords: road engineering, color asphalt pavement, pigment, design, construction

BRIDGES & STRUCTURES

Standardization Design Method of Substructures for Small-span and Medium-span Bridges in High Earthquake

Region Tang Tang Xuejun (62)

Abstract: The universalization of the small-span and medium-span bridges is more difficult because of many indeterminate factors, i.e. earthquake parameter, terrain and geological condition. According to Lanzhou Nanraocheng Expressway Bridge Project, the article focuses study on the standardization design method of small-span and medium-span bridges in high earthquake region, and drafts two sets of standard substructure drawings suitable for Class II and Class III fields (peak acceleration 0.20g). The greater achievement is obtained in the standardization of substructure.

Keywords: high earthquake region, small-span and medium-span bridges, substructure, standardization design

Design Features of a Composite Cable-Pylon Anchorage Structure of Cable-stayed Bridge

..... Sun Yueming, Mei Qinhu, He Changjiang, Xu Haijun (64)

Abstract: Recently many small-span and medium-span cable-stayed bridges are built aiming at the landscape modeling of urban bridges. The wider deck of urban bridge makes the proportion of space among the span, height and width of this cable-stayed bridge difficult to accord with aesthetic regulations, and also unable to embody the landscape characteristics of cable-stayed bridges. The article introduces how to analyze the relationship of space proportion in the design of a 123m-span single-pylon cable-stayed bridge, and some methods to improve the proportion relationship, which can be referred for the design of the similar cable-stayed bridges. In addition, the article introduces the design characteristics of a new anchorage structure - exposed composite cable-pylon anchorage structure in order to reduce the sectional dimension of pylon.

Keywords: bridge landscape, bridge modeling, cable-pylon anchorage structure, composite structure

Simulation Analysis and Optimization of Cable-stayed Bridge Structure of Rail Traffic Zhang Hongtao (68)

Abstract: According to the engineering background of a cable-stayed bridge of rail traffic, MIDAS is used to establish the finite element analysis model of cable-stayed bridge. The article introduces the simulation analysis of the inner force and stress in the construction stage and operation stage according to the original

scheme of this bridge, and puts forward the optimization proposal.

Keywords: cable-stayed bridge of rail traffic, simulation analysis, optimization

Design of Deck Continuous Beam Arch Combined System Bridge Ren Wen, Wang Jianguang, Kong Guang (70)

Abstract: Jipo Road Bridge along Xiaoqing River of Jinan City is a three-span 26m + 41m + 26m continuous beam arch combined system bridge. The article introduces the engineering summary and structure design of Jipo Road Bridge, and sums up the structural stress characteristics of deck continuous beam arch combined system bridge, which can be referred for the design of the similar bridges.

Keywords: Jipo Road Bridge, continuous beam arch, artistic, stress characteristic

Application of Joint Reinforcement of Sticking Steel Plate and Enlarging Section in Reinforcement of Old Bridge He Wanpeng, Zhang Jicun (73)

Abstract: At present, the sticking steel plate reinforcement method and enlarging section reinforcement method are two methods commonly used in reinforcement of old bridge. The article introduces the joint reinforcement theory and calculation method of sticking steel plate and enlarging section, and gives the engineering case of joint reinforcement of sticking steel plate at the T-beam horseshoe and enlarging the section of flange slab.

Keywords: bridge, steel reinforced concrete T-beam, sticking steel plate, enlarging section, joint reinforcement

Master Design Scheme of Bridge at Hankou Section of Wuhan Ring Line II Sun Yong, Lin Kemei (76)

Abstract: The article introduces the master scheme design, bridge structure design and partial key technologies of Wuhan Ring Line II Hankou Section Bridge Project. Aiming at the construction conditions of the built urban roads, the article puts forward the appropriate master design scheme of bridge and the treatment measures of substructure foundation. The related design practice has the reference significance for the design of the similar municipal bridges.

Keywords: bridge engineering, master design scheme, substructure

Analysis on Design of 64 m+64 m T-type Rigid Framework for Zhangjiakou ~ Tangshan Railway Wan Yahua (80)

Abstract: Based on the T-type rigid framework for the newly built Zhangjiakou - Tangshan Railway Project, this paper introduces the structural characteristics and design idea of the 64 m+64 m T-type rigid framework, and focuses analysis on the bridge advantages of T-type rigid framework, the layout of steel beam tendon, the local effect of spherical hinge by swing construction, the turning center calculation of curved T-type rigid framework in detail. The conclusion can be referred for the design of the similar projects.

Keywords: railway, T-type rigid framework, design

Design of Landscape Platform of Fenghuang Port Bridge Tao Xing, Dai Jiayang, Xu Jun (84)

Abstract: The article introduces the design of a steel structural landscape platform. The landscape platform includes the main beam of steel structure, cable, pylon and substructure. The main beam is the radius 110-m curve of steel box beam having the risk of inner bearing separation of the general curve steel box beam. At the same time, in order to avoid the influence of too large cable sag on the landscape, five pairs of cable are installed in the inner side of curve to apply the tension, and more to increase the risks of bearing separation and overturn. The pressure and the pulling of bearing spacing as far as possibly can treat the risks.

Keywords: landscape platform, for pedestrian, steel box beam, cable-stayed bridge

FLOOD CONTROL & DRAINAGE

Calculation of Design Flood in Small Watershed of Bridge and Culvert in Longnan Area Feng Yingjie (86)

Abstract: The flood in small watershed has the characteristics of quick runoff, high peak, difficult to predict and serious destructive effect. There is no accurate calculation method of design flood in small watershed of urban areas in China. The calculation of design flood in small watershed of urban area usually applies the

normative reasoning formula or the experience formulas of city construction departments for approximate calculation. There are a certain errors. Combining with the proper features of city and comparing the rainstorm reasoning method, the runoff formation method and the experience method of the city construction department, the paper determines the design flood of small watershed in an urban area of Longnan. It is more reasonable to calculate the flood flow within 30Km² watershed according to the runoff formation method.

Keywords: urban area, small watershed, design flood, runoff formation

Analysis of Overland Flow State of Rainwater and Calculation of Rainwater Flow Yuan Shaojian, Chen Yaqian (88)

Abstract: The article analyzes the overland flow state of road and the water flow state at curb stone similarly with open channel able to know the velocity variation along the overland and favorable to more accurately calculate the largest flow at each position on the overland so as to construct more appropriate rainwater collecting wells.

Keywords: overland flow, flow of open channel, Manning formula, rainstorm intensity formula

Analysis on Adjustment of Flood Control Level in Tiejia Reservoir Shang Erjun, Chen Changshan (90)

Abstract: According to the engineering practices, the article introduces the adjustment principle of improving the flood control benefit and the achievements, and analyzes the selection of flood control level. The relative experience can be referred for the similar projects.

Keywords: design flood, flood control level, flood control benefit

Discussion of Artificial Wetland to Treat Initial Rainwater Chen Zhanhong, Cao Meijuan (92)

Abstract: Taking Chengde City Huishuiwan Community as an example and aiming at the water quality requirements of Wulie River, the article studies and discusses the utilization of the artificial wetland technology to treat the initial rainwater. The relative experience can be referred for the similar projects.

Keywords: initial rainwater, Wulie River, artificial wetland

Fault of Manhole in Urban Road and Its Disposal Measures Wang Maohua, Shi Hai, Cao Shoujin (95)

Abstract: The most urban roads are not constructed with the non-motored vehicle lanes, and the widths of sidewalks and greenbelts are limited because of terrain, topography, land and history in the area of Qingdao City, which result in that the manholes of municipal pipelines have to be constructed on carriageways and the fault problems of manholes in municipal roads are more prominent. According to the manhole construction engineering practices in recent years, a set of more successful manhole fault disposal measures is felt about and the compilation of the local *Technical Guidelines and General Drawing Album* is completed in Qingdao City. The successful experience can be referred for solving the similar problems in the other cities.

Keywords: urban road, manhole, fault, steel fiber concrete, well loop, disposal measures

Application of Prefabricated Integrated Pumping Station in Rainwater Pumping Station Ren Liang (98)

Abstract: The article introduces the constitution, the advantages and the local applications of prefabricated integrated pumping station. According to a rainwater pumping station in the area of Bohai Sea, the article sets forth the idea of combined design for the prefabricated integrated pumping station in a small-scale rainwater pumping station. The design idea reveals its characteristics of short construction period, small occupied area and easy concordance with surrounding environment, but the overall scale of pumping station is limited by the size of single pump well.

Keywords: prefabricated integrated pumping station, rainwater pumping station, grill well, prefabricated pump well

MANAGEMENT & CONSTRUCTION

Treatment Measures of Bridge Pile Foundation in Complex Karst Cave Li Jianhui (101)

Abstract: In the construction of bridge pile foundation, there are complex geological conditions of multilayer boulder or karst cave and beaded karst cave. Combined with the engineering cases and engineering geology,

the article sets forth the construction scheme and construction technology of cast-in-site pile for bridge pile foundation under the condition of karst geology in detail, and further discusses the incidents easily caused in the construction and the treatment technologies of the different thick karst caves.

Keywords: expressway, complex karst cave, viaduct, construction of pile foundation

External Pre-stressed Cable Construction Method of Steel-Concrete Constituted Box Beam ... Huang Genghong (104)

Abstract: The article introduces the basic constitution and the advantages of the external pre-stressed steel cable system of steel-concrete constituted box beam, sets forth the construction characteristics and suitable range of external pre-stressed steel cable, introduces 11 important steps of its construction technology in detail, analyzes the social benefit and economical benefit of this construction method, and takes the engineering practices as the examples.

Keywords: steel-concrete constituted box beam, pre-stressing, external cable, bridge

Comparison and Selection of Construction Methods for Rail Traffic Viaduct Spanning Existing Expressway

..... Zhu Tong (108)

Abstract: Based on the construction of Shanghai Rail Traffic Line No.16 Project, the article briefly describes the construction technological characteristics of swing method, and focuses comparison on the “form traveler method” and “swing method” separately used in the construction periods of rail traffic viaduct spanning the existing expressways, and the relative economical analysis.

Keywords: rail traffic, viaduct, swing method, form traveler method, construction period

Integral Incremental Launching Construction Technology of Steel Arch Bridge in Lanzhou Shenan Yellow River

Bridge Project Gu Qiangang, Guo Xingwen (111)

Abstract: According to the incremental launching construction of steel arch bridge in Lanzhou Shenan Yellow River Bridge Project, the article introduces the technological characteristics of walking incremental launching and its temporary structural measures, and analyzes the gist of the multi-point walking integral incremental launching construction technology of steel arch bridge, which can be referred for the construction of the similar bridges.

Keywords: steel arch bridge, walking type, integral incremental launching, synchronism

Analysis on Influence of Cha River Binhe Road Construction on Reservoir Environment of Goupan River

..... Meng Fuming, Cui Yubao, Zhang Luyu, Li Ling, Yang Lihua, Zhang Xiaoqiang, Meng Lijing (115)

Abstract: According to the practical condition of road construction to pass the drinking water sources of reservoir, the article briefly analyzes the main influence factors of reservoir in the road construction and operation stages on the environment, and puts forward the relative protective countermeasures.

Keywords: road construction, water sources, environment influence, analysis, countermeasures

Further Discussion on Strengthening Green Construction Management and Future Development of Enterprise ...

..... Li Jing (118)

Abstract: With the popularization and application of green construction in engineering construction, more and more attention from various circles of society. According to the problems commonly existing in the green construction of the present construction fields, the article sets forth the importance of enterprise to strengthen the green construction management for the enterprise development. The relative experience can be referred for the similar projects.

Keywords: green construction, enterprise, management

Present Situation of Claim and Visa of Construction Enterprise, Related Laws and Regulations

..... Chu Chunjun (120)

Abstract: The unreasonable administrative intervention, local protectionism and trade monopoly will make the difficulty greatly increased in the claim and visa of construction enterprise. The article sums up how to utilize the existing laws, regulations, norms and standard contracts to argue on the basis of reason in order to

improve the success rate of claim and visa.

Keywords: claim, visa, laws and regulations, clause, evidence, economical benefit

STUDY ON SCIENCE & TECHNOLOGY

Study on Design Clearance of Urban Underground Road Reserved for Cars Zhang Yi (123)

Abstract: In order to suit the characteristics of urban underground road reserved for cars, its design clearance is reasonably determined. According to the wide investigation and study, the article analyzes the size data of cars in China. Based on the engineering cases at home and abroad, the article determines the design clearance standard of urban underground road reserved for cars, and validates the influence of top on driving sight distance. The study result shows that 3.2 m can be the minimum design clearance of underground road reserved for cars, which can satisfy the traffic of cars and the normal emergency rescue vehicles. The study and application of this design index are significant for decreasing the construction scale of underground road and economizing the engineering construction cost.

Keywords: urban underground road, reserved for cars, design clearance, design standard

Study on Traffic Organization at Grade Intersection of Urban Road Qian Jun (127)

Abstract: The article analyzes the type, distribution and control method of collide point at grade intersection of urban road, sets forth the action and objective of traffic channelization at intersection, illustrates the meaning of intersection signal control, and briefly puts forward the optimization measures of traffic organization at grade intersection including the determination of signal phase, and the channelization design of right turn lane and left turn lane.

Keywords: urban road, grade intersection, traffic organization, signal control, channelization design

Analysis on Influence of a Yard Engineering Construction on Safety of Existing Tunnel Xiong Guikai (131)

Abstract: The finite element software is used to analyze the displacements and stresses of an existing tunnel in three working conditions of before the yard construction, after filed leveling and in operation, and to evaluate the safety of the tunnel structure. The analysis results show that if the construction is strictly accordance with the relevant specification requirements and the yard load doesn't exceed the design allowable value in operation, the influences of construction and operation are smaller on the tunnel and wall rock structure, and the tunnel and wall rock structure are safe.

Keywords: tunnel engineering, yard construction, numerical analysis, placement, stress, structural safety

Variation Law of Road Surface Deflection in Different Speed Conditions

..... Dai Maohua, Liang Yichao, Lian Xiangping (134)

Abstract: In order to verify the variation law of road surfacing deflection in different speed conditions and based on the real engineering, the 3-dimensional finite element highway model is established, the dynamic vehicle load model is developed by the dynamic material parameters, and the road surface deflection is calculated by the multi-vehicle speed condition. The result shows that the time-varying curve of road surface deflection is divided into two stages of compression and stretching. The peak value of road surface deflection is increased to exceed 5% when the vehicle speed is from 40 km/h to 100km/h. The dynamic calculation result shows that the service life of pavement fatigue is reduced in high speed. The impact action between tyre and pavement is the main cause to increase the road surface deflection.

Keywords: vehicle speed, road surface deflection, dynamic, variation law

Calculation and Analysis of Mechanical Parameters of Rubber Modified Asphalt Pavement Based on Viscoelasticity Theory Feng Hua (137)

Abstract: Asphalt mixture is a kind of thermorheologically simple material. The diseases of asphalt pavement, such as cracking, rutting and fatigue failure, are related to viscoelasticity of asphalt mixture. Therefore, it is particularly important to determine the viscoelastic parameters of asphalt mixture for carrying out the study of asphalt mixture and asphalt pavement. According to the rubber asphalt pavement AR-AC13, the experiment and the theoretical calculation can determine the viscoelastic parameters of rubber asphalt

pavement, and establish the constitutive model, which can provide the basis for further mechanics study of rubber asphalt pavement.

Keywords: rubber modified asphalt, dynamic modulus of resilience, viscoelastic theory

Study on Application of Rubber Asphalt Product AR-SMA13 in Nanjing ~ Gaochun Expressway ... Jin Shu (140)

Abstract: The rubber asphalt product is a rubber powder made of waste tyre able to be fully and effectively used, and is an efficient method decreasing the “black” environmental pollution with the obvious social benefit. The laboratory result of mixture properties shows that the rubber asphalt product AR-SMA13 has the good properties of high temperature and water stabilization. Its low temperature property is better than the traditional SBS modified asphalt and SMA13. In addition, AR-SMA13 has the obvious advantage in the aspect of economical benefit.

Keywords: rubber asphalt product, SMA13, mixture property, social benefit

Numerical Simulation for Modifying Highway Roadbed Contenting High Rich-water Soil Layer by Lime Flyash ...

..... Mu Qihai, Li Shuai, Zhang Shuang (143)

Abstract: Because of the many advantages of using the lime and flyash as the stuffing to modify the soil, the lime-flyash method is important method to modify the soil quality. Aiming at the hydrogeology of high rich-water soil layer in the highway DK116+100 of Guangxi, making use of the multiphysics coupled analysis software Comsol Multiphysics, based on the Biot’s consolidation theory and taking into account the effects on porosity with deformation of soil skeleton, a two-dimensional seepage-stress coupled model is established describing process of ground dynamic deformation refined due to working together by fluid pressure and car load. By contrasting the numerical simulation between the modified roadbed by lime-flyash method and the general roadbed, the results indicate that pavement settlement of modified roadbed by lime-flyash obviously decreases in contrast to the general roadbed without the treatment, the water pressure of soil layer increases slowly, the tensile stress zone near the bottom of embankment in sand bed and the pavement taking vehicles decreases, and the compressive stress zone near slope toe of embankment also observably decreases.

Keywords: lime-flyash, high rich-water soil layer, pavement settlement, highway roadbed, numerical simulation

Study on Fractal Characteristics and Fractal Dimension of Karst Tao Huafei, Peng Gongxun, Wei Lide (149)

Abstract: Based on further analysis of fractal law of the Menger Sponge and taking Menger Sponge as basic model, the article discusses the fractal law of karst development, and sets forth the determination process and method of karst fractal dimension by the karst survey data of several projects in a karst limestone area of Guangzhou.

Keywords: Fractal of Menger Sponge, karst development, fractal dimension

Study of Construction Void Ratio of Asphalt Pavement Layer on Fatigue Properties Li Quan (153)

Abstract: There are many studies of void ratio and fatigue properties now. But the most are for the design period of mixing ratio to study the influence of the different void ratios on the fatigue properties, and there are few studies of the different void ratios caused by the construction compression on the fatigue properties after the design of mixing ratio. In order to analyze the influence of construction void ratio on the fatigue properties, the article carries out the study based on the void ratio of layer construction on the fatigue properties. The result shows that the influence of void ratio caused by the variety of construction quality on the fatigue properties conforms to the objective law, and the improvement of compression can enhance the fatigue resistance of layer.

Keywords: fatigue properties, construction void ratio, asphalt mixture, laye

THE RELATIVE SPECIALITIES

Security Measures of Urban Municipal Engineering Tunnel Wang Hengdong (157)

Abstract: The urban municipal engineering tunnel project is the important lifeline project of a city. The article puts forward the security measures of urban municipal engineering tunnel from the angles of structural

safety, flooding control, fire prevention and anti-artificial damage of engineering tunnel structure.

Keywords: engineering tunnel, security, measures

Design of Jetting Longitudinal Ventilation of Urban Underground Space Transportation System

..... Zhang Hongbing (160)

Abstract: This paper sets forth the jetting longitudinal ventilation mode of urban underground space transportation system, and focuses description on the calculation method of air volume comprehensively determined according to the factors of safety, sanitation, comfort and simultaneously considering the fire, ventilation and etc. Based on the pressure balance equation and the jetting ventilation unit flow model, the composite design of jet fan is given. And finally, the calculation of ventilation of transportation system selects and determines the type and number of fan, which can be referred for the calculation of air volume of the similar projects.

Keywords: underground space, ventilation mode, heat pressure, critical velocity

Application of Dosing Floatation Technology in River Water Quality Maintenance Project of a City in South of Jiangsu Area

..... Zhong Liyun (163)

Abstract: This article analyzes and evaluates various kinds of technologies for current water quality maintenance of urban waters at home and abroad. And combined with the present situation and treatment objective of water quality of an urban river, the dosing floatation technology is determined to use for the maintenance of the water quality of urban rivers. The practices show that this method used for treating the eutrophication rich in algae can efficiently remove the algae, reduce the N and P contented in the waters, and can make the surface water of the original Class V or bad Class V reach the standard Class IV, and satisfy the functional requirements of the water of landscape and entertainment.

Keywords: eutrophication, dosing floatation technology, water quality maintenance of urban waters

.....

Excellent Journal of the Ministry of Housing and Urban-Rural Development of PRC

Urban Roads, Bridges & Flood Control

Monthly

Number 2, 2014 (Total Number 178)

Publication on February 15th, 2014

<http://www.roadbridgeflood.com>

Start publication in 1984 Scope of issue: Issue at home and abroad

Department responsible for the work: the Construction Ministry in PRC

Sponsor: Shanghai Municipal Engineering Design & Research Institute

Editor & issue: Editorial department of "Urban Roads, Bridges & Flood Control"

Editor-in-chief: Luo Yanni

Address: No.901 Zhongshan Bei Er Road, Shanghai

P.C.: 200092

Tel.: (021)51298850

Fax: (021)51298850

E-mail: cdq@smedi.com

ISSN 1009-7716

CN 31-1602/U

Domestic price: 18 yuan RMB

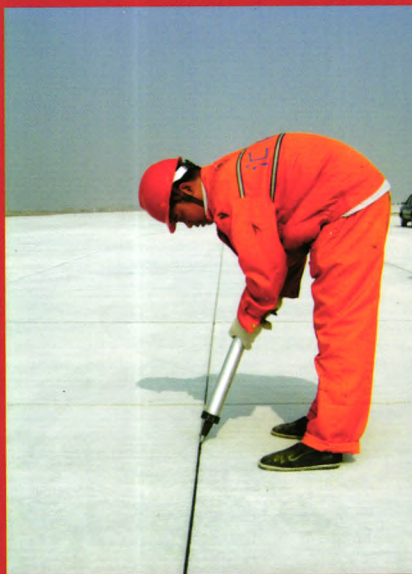
**Journal of Municipal Engineering Branch of China Society of Civil Engineering
and Municipal Design Branch of China Society of Prospecting Design**



混凝土用抗裂增强工程纤维



桥面粘结防水涂料的喷涂



机场混凝土路面灌缝



基面的抛丸处理



润扬大桥桥面防水工程

上海汇城建筑装饰有限公司成立于1995年，是以道路和机场嵌缝、桥面防水等为主营业务的专业工程公司。自2000年起和中化建公司苏州防水研究所合作生产和施工桥面防水工程，采用AWP-2000桥面粘结防水涂料先后承接施工了润扬大桥、北京北六环、广东京珠北高速、揭普高速、福建厦门环岛路、福宁高速、漳龙高速、苏州东南环立交、西安高架快速干道、湖北孝襄高速、汉宜高速、襄十高速、襄荆高速、荆东高速、江西乐温高速、昌金高速、四川达渝高速、宜水高速、申苏浙皖高速、南京赛虹桥立交、云南昆石高速公路等桥面防水工程。年桥面防水材料的生产 and 施工能力超过300万m²，业务范围覆盖全国27个省份，并且公司作为施工单位参编起草了现行的建材行业国家标准《道桥用防水涂料》(JC/T975-2005)。

防水高手 灌缝巧匠

——上海汇城可能就是您寻觅的好帮手！

地址：上海市平凉路1550弄金凤大厦1号楼503室 邮编：200090
电话：021-65731743、65731997、35120467、65190987 传真：021-65199183

ISSN 1009-7716 国外发行代号：BM1859
CN31-1602/U

定价：18.00元