

JANG MAEK

Engineering

creating a new culture with innovation technology



Global
Top
Engineering



 **JANGMAEK ENGINEERING CO.,LTD**



Contents

Greeting	3
History	4
Quality & Environment Assurance	5
Organization	6
Road & Highway Engineering Services	7
Structural Engineering Services	11
Safety Diagnosis Services	15
Geotechnical & Tunnel Engineering Service	19
Urban / Site Planning & Design	21
Landscape Architecture	26
Transportation Engineering Services	29
Environment Engineering Services	32
Water Resources Engineering Services	35
Waterworks & Sewerage Engineering Services	38
Construction Management & Supervision Services	40
Overseas Projects Services	43
R&D Center	46

Greetings

Jangmaek Engineering, since its founding in 1994, has been doing its utmost to provide the best-possible service to meet the needs and content of customers through taking part in the fields of feasibility studies, planning, designs, and construction supervision and maintenance and management of national overhead facilities.

Being composed of qualified and hand-picked manpower having deep and thorough experience in all the required disciplines for national overhead facilities, the corner stone of human life and industrial activities, our firm provides best-level engineering services over various fields including traffic/transport, urban space and industrial complex development, environment assessment etc. with its second-to-none competitiveness and technological abilities.

By positively coping with continuously-changing home and abroad economic environment, and by sustained managerial and technological innovation, Jangmaek herewith promises to serve our customers to their total satisfaction, once it is given a chance, as we all know that is the only way we could grow into a global engineering consulting firm which could advance to foreign markets including Middle East, Afrca, and Asia.

Wishing for a chance to provide our customers with our state-of-the-art technology and knowhow, we entreat your sustained concern and unspared support from the bottom of our hearts.

CEO **Jin-gi Baik**



Creating
a new culture
with innovation technology

History

Global Top Engineering

- 1994.03.05** Jang maek Engineering Co., Ltd. Founded
- 1998.06.10** Registered as an Engineering Activity Entity (Reg No 10-725)
- 1998.09.11** Located Head Office at 131-3, Yesan-ri, Yesan-eup, Yesan-gun, Chungnam Province
- 2000.09.04** Registered as a Specialized Entity for Safety Diagnosis (Reg No 264)
- 2000.11.09** Registered an Affiliated Research Institute (Reg No 20012880)
- 2002.02.06** Registered as a Public Surveying Entity (Reg No 04-1082)
- 2002.05.30** Registered as a Traffic Impact Assessment Agency (Reg No 158)
- 2002.07.19** Seoul Branch Office Opened
- 2002.09.24** Registered as an Environment Impact Assessment Agency (Reg No Han-156)
- 2002.12.13** Registered as a Construction Supervision Specialty Firm(Reg No 7-Civil-24)
- 2004.11.26** Registered as an International Construction Business Entity (Reg No 236)
- 2007.01.24** Registered as a Disaster Impact Assessment Agency (Reg No Chungnam-05)
- 2008.07.09** Registered as a Disaster Safety Plan Agency (Reg. No 161)
- 2010.03.15** Moved to Anyang Branch Office (9F, Anyang IT Valley, 16-39, LS-ro 91beon-gil, Dohgan gu, Anyang, Gyeonggi Province)
- 2011.01.18** Acquired ISO 9001, ISO 14001 Certificates
- 2012.01.10** Registered as an Electric Power Facility Supervision Agency (Reg No Chungnam-2-88)
- 2014.03.15** Relocation of headoffice(Beotkkot-ro155beon-gil, Yesan-eup, Yesan-gun, Chungcheongnam-do)
- 2014.09.23** Registered as design, supervision of construction technology – General(Chungnam-NO.2-20)
- 2015.09.25** Registered as a facilities maintenance constructor (Reg. No. Chungnam Yesan 2015-29-02)
- 2016.01.21** Registered as an agency to establish disaster safety measures (Reg. No. 161)
- 2017.05.30** Registered as a licensed agency for Public Transportation Investment Evaluation
- 2017.06.14** Registered as a licensed agency for general road traffic safety inspection
- 2017.06.30** Relocation of the head office (475, Angyeon-ro, Seosan-si, Chungcheongnam-do)
- 2018.03.07** Registered as a licensed agency for supervision of electrical facilities (Chungnam 2-134)
- 2018.04.23** Registered as a licensed agency for underground safety impact assessment (Chungnam -9)
- 2018.07.03** Registered as a licensed agency for electrical facilities engineering (Chungnam 2-1-61)
- 2018.07.30** Registered as design service Agency (Power Facility Reg No Chungnam 2-1-16)



Quality & Environment Assurance



KQA
Korea Quality Assurance

Certificate of Approval
Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Quality Management systems

KQA approves that the Quality Management System of the following company is conformed with the certification audit criteria.

Certificate No. : KQA-Q112572
Company : **Jangmaek Engineering Co., Ltd.**
Address : Head office| 131-3, Yesan-ni, Yesan-eup, Yesan-gun, Chungcheongnam-do, Republic of Korea
Branch office| 9F, Anyang IT Valley, 1027, Hogeje 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

The standards for this certificate of conformity is as follows.

Management Systems Standards :
ISO 9001:2008, KS Q ISO 9001:2009, EN ISO 9001:2008

Scope of Registration :
Survey, Design/Development, Services and Supervising of Civil Engineering Field, Plant Engineering Field, Architecture, Natinal Land Development Engineering Field and Incidental Project

Original Approval : 14 January 2011
Validity : 14 January 2011 - 13 January 2014
Date of issue : 14 January 2011

Korea Quality Assurance

* Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the organization.

이 인증서는 한국 품질 보증원(KQA)이 국제공인인증기관인 ISO 9001:2008 인증기준에 따라 발급된 것으로, 인증번호는 KQA-Q112572입니다.

KQA Address : 177-1, Hwangrye-dong, 20F-C, Hwangrye-dong, Seongbuk-gu, Seoul, Korea



KQA
Korea Quality Assurance

Certificate of Approval
Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Environment Management systems

KQA approves that the Environment Management System of the following company is conformed with the certification audit criteria.

Certificate No. : KQA-E11579
Company : **Jangmaek Engineering Co., Ltd.**
Address : Head office| 131-3, Yesan-ni, Yesan-eup, Yesan-gun, Chungcheongnam-do, Republic of Korea
Branch office| 9F, Anyang IT Valley, 1027, Hogeje 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

The standards for this certificate of conformity is as follows.

Management Systems Standards :
ISO 14001:2004 / KS I ISO 14001:2009

Scope of Registration :
Survey, Design/Development, Services and Supervising of Civil Engineering Field, Plant Engineering Field, Architecture, Natinal Land Development Engineering Field and Incidental Project

Original Approval : 14 January 2011
Validity : 14 January 2011 - 13 January 2014
Date of issue : 14 January 2011

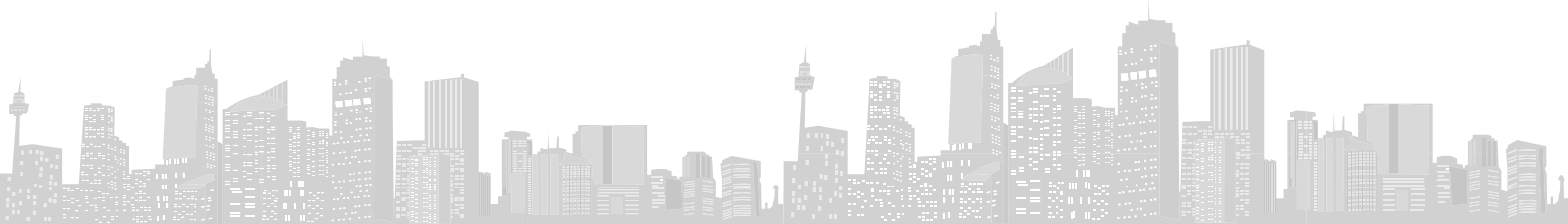
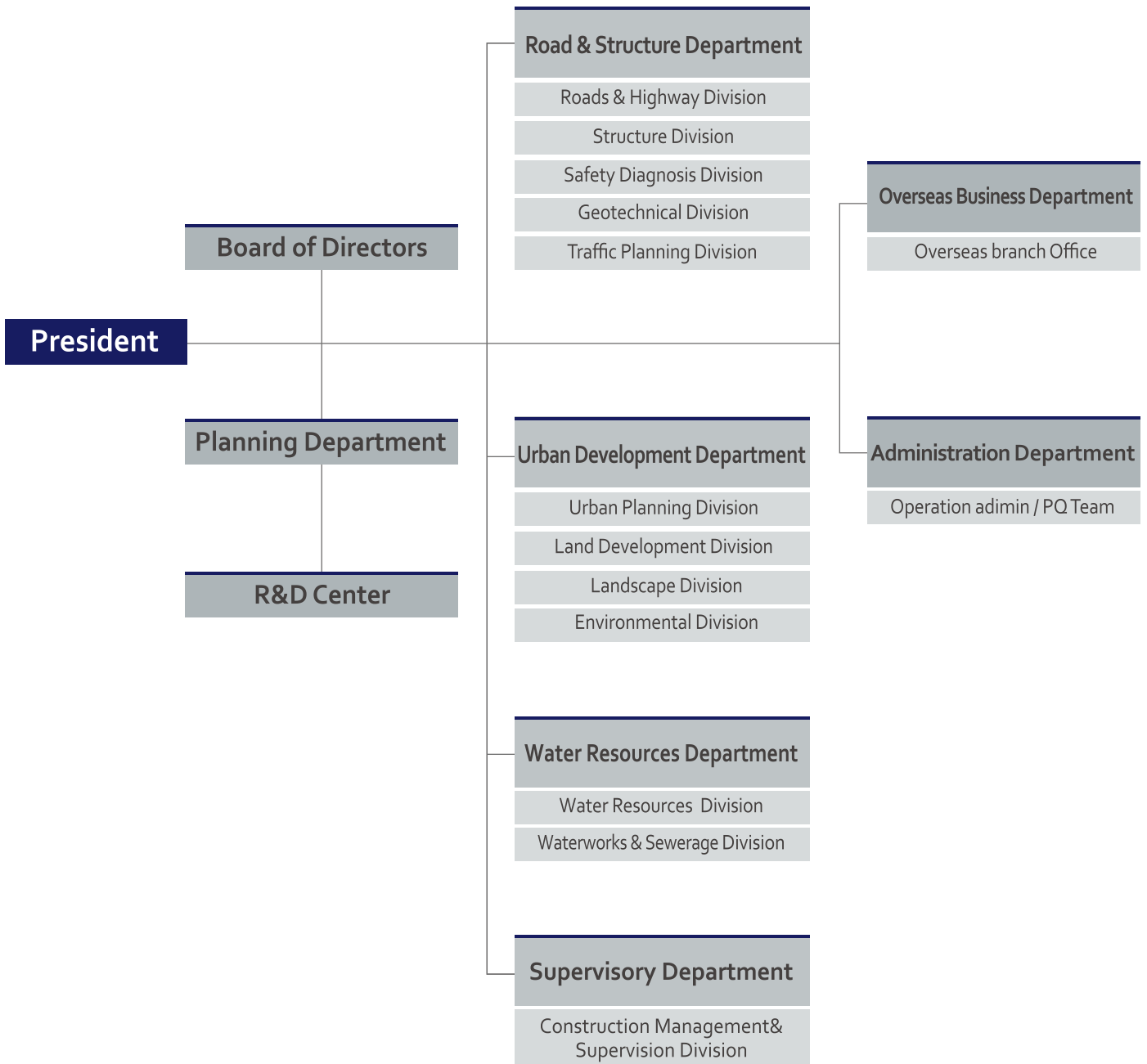
Korea Quality Assurance

* Further clarifications regarding the scope of this certificate and the applicability of ISO 14001:2004 requirements may be obtained by consulting the organization.

이 인증서는 한국 품질 보증원(KQA)이 국제공인인증기관인 ISO 14001:2004 인증기준에 따라 발급된 것으로, 인증번호는 KQA-E11579입니다.

KQA Address : 177-1, Hwangrye-dong, 20F-C, Hwangrye-dong, Seongbuk-gu, Seoul, Korea

Organization





Road & Highway Engineering Services

Business Fields

Feasibility Study / Turnkey & Alternative Design
Preliminary & Detailed Design of Expressway
Road Repair & Maintenance

Road & Highway Engineering Services

Major Projects



Basic design for Chung-Cheong inner(4 lot) expressway construction.

- Client : Daejeon Regional Construction Management Administration
- Location : Chungbuk Chungju City ~ Jecheon City
- Project Details :
 - Design Length : L=15,0km
 - Design Lanes : 4 lanes(20,0m)
 - Design Speed : 80km/hr



Alternative design services for national highway alternative road between Yongdu and Gumga.

- Client : Daejeon Regional Construction Management Administration
- Location : Yongdu-dong, Chungju City, Chungbuk Province
- Project Details :
 - Design Length : L=10,8km
 - Design Lanes : 4 lanes(20,0m)
 - Design Speed : 80km/hr



Alternative design for construction of the coastal access road to Inju industrial complex (Lot1).

- Client : Tae Young Engg & Construction Co., Ltd
- Location : Chungbuk Chungju City ~ Jecheon City
- Project Details :
 - Design Length : L=3,4km
 - Design Lanes : 4 lanes(20,0m)
 - Design Speed : 70km/hr



Basic and detailed design for road construction between Boryeong Buyeo, (National Highway 40 Route)

- Client : Daejeon Regional Construction Management Administration
- Location : Boryeong City, Chungnam Province
- Project Details :
 - Design Length : L=3,94km
 - Design Lanes : 4 lanes(20,0m)
 - Design Speed : 80km/hr

Detailed Design for Guri~Pocheon Expressway(Private Investment) Const Project



- Client : Daewoo Engineering & Construction Co., Ltd.
- Location : Pocheon City, Gyeonggi Province
- Project Details :
 - Design Length : 5,94Km, 4 lanes
 - Interchanges : 3ea
 - Bridges : 15ea
 - Long Span Bridges : 785,7m/3ea
 - Short Span Bridges : 525,7m/12ea



Alternative bid design of road construction Yeonggwang-Haeje

- Client : Daewoo Engineering & Construction Co., Ltd.
- Location : Haejemyeon, Muangun city, Jeollanamdo Province
~Yeomsanmyeon, Yeonggwanggun city
- Project Details :
 - Design Length : L=3,62km
 - Design Lanes : 2 lanes(11,5m)
 - Design Speed : 60km/hr

Road & Highway Engineering Services

Other Projects Performed

Expressway

- Detailed design for Seoul-Pocheon Expressway construction project.
- Detailed design for Seoul-Chuncheon Expressway construction project.
- Detailed design for construction of Gyeryong Rest Area in Honam Line.
- Detailed design alteration for Guri-Pocheon Expressway construction project.
- Basic and detailed design for a military camp relocation works due to Guri-Pocheon Expressway construction project.
- Detailed design of BTO(Build, Transfer, & Operate) for Guri-Pocheon Expressway.
- Detailed design for Namgumi IC ramp extension connected to Seoul-Busan Expressway.
- Detailed design of the Rest Area for Drowsy Drivers in Gwangju, Jeonnam, 2015.
- Detailed design for the expansion of Yeongdong Expressway (Seochang-Ansan) construction project. (Lot:2)

National Highway

- Detailed design of the alternative bypass(Baebang-Tangjeong) for national highway in Asan City.
- Detailed design for the alternative bypass(Palgok-Ansan) for national highway in Asan City.
- Detailed design for Gimhwa Bypass construction project.
- Detailed design for Chungcheong Inner Line Expressway construction project.
- Basic and detailed design for national highway construction between Boryeong and Buyeo,(N0,40)
- Basic and detailed design for crossroad improvement project at Hasin-ri, on National highway No.37.
- Detailed design for Chaeun crossroad and 3 others on national Highway No.23.
- Detailed design for road structure repairing at Sukseong-ri and 5 others.
- Detailed design for Maam bridge and other structure repairing on National Highway No.32.
- Basic and detailed design for Noeun-North Chungju road construction project.
- Basic design for Ulsan Nongso-Gyeongju Oidong national highway construction project.
- Basic and detailed design for Cheongdo-Mirang(Lot2) national highway construction project.
- Basic and detailed design for Danyang - Yeongwol road construction project.
- Detailed design of the alternative bypass(Yongjin-Wua) to national highway in Jeonju city.
- Detailed design for Sandong-ri drainage facility improvement construction on national highway No.23.
- Feasibility study for demolition of Yesan Changso overpass and improvement of road.
- Basic and detailed design for the alternative bypass(Seongyeon-Yeonji) for national highway.

Other Projects Performed

Provincial Road

- Detailed design for rural living environment improvement project,
- Basic and detailed design for Yesan General Industrial Complex access road construction project,
- Feasibility study and detailed design for East–West connection road construction project,
- Feasibility study & preliminary design for road pavement & extension work between Hongsung and Deoksan,
- Detailed design for construction of national highway No.49 (Hwaseo–Hwabuk),
- Basic and detailed for Mt. Gaya Ringroad construction project,
- Detailed and basic design of Hwangdo bridge,
- Basic design for construction of Gyeongjae bridge,
- Detailed design for rural living environment improvement (local living area) project,
- Detailed design for road extension and pavement between Deungchon and Husa,
- Safety review and on–site survey for the powerline duct addition to Hwanggeum Bridge,
- Detailed design for temporary work of Sinmansu bridge,
- Detailed design for Yedang Tourism Complex access road flagstone paving and others,
- Change design for crossroad of Eunsan,
- Detailed design for rural living environment improvement project(lot 3),
- Detailed design for rural living environment improvement project(Nammyeon),
- Detailed design for Youngheung Industrial Environment Urban Facility Complex access road construction project,
- Detailed design for Yeoktap - Juwabang road extension and pavement project,
- Detailed and basic design for access road of the National Defense University,
- Detailed design for Daedeung - Hwaldong road extension and pavement project,
- Detailed design for Deoksan - Emnae-ri road construction project,
- Detailed design for Sapgyo - Singi-ri road construction project,
- Detailed design for Yong-ri - Seokgok road extension and pavement project,
- Detailed design for Deoksan - Bukmun road extension and pavement project,
- Detailed design for Sapkyo Station - Banga road extension and pavement project,
- Detailed and basic design for access road to the Korea National Defense University,
- Detailed design for Cheongyang-gun provincial road maintenance project, 2013,
- Detailed design for Yesan Yesan-ri road construction,
- Detailed and basic design for rural road(Doam-No209) construction,
- Basic plan(alternation) for Boryeong rural road,
- Detailed design for maintenance pavement of Pyeongchon A2 Bridge–Eosong IC Bridge and 4 others on national highway No. 32,
- Detailed design for maintenance pavement of Yeonsan Overbridge repairing and 6 others,
- Detailed design for maintenance pavement of Thansan Bridge repairing and 6 others,
- Detailed design for rural road(Songak-No211, Hanbok line) pavement & extension work,
- Feasibility study for Jochiwon East–West connection road construction project,
- Basic and detailed design for Eumbong Digital General Industrial Complex access road construction project,

Turnkey Design · Alternative Design · Private Investment Project

- Turkey design for Uigok crossroad–Busan Science and Industry Complex road construction project,
- Alternative design for Yangsan–Dongmyeon Road extension project(to 4 lanes),
- Alternative design for Yongdu–Geumga alternative bypass to national highway
- Alternative design for Yeosu–Yangpyeong Expressway(No. 45, Lot 3) construction project,
- Alternative design for Namcheon–Cheongdo1(Gomtijae) national highway project,
- Alternative design for The Fourth Industrial Complex access road extension project,
- Alternative design for Inju District Industrial Complex(lot 1) coastal access road construction project,
- Basic design for solid waste auto–collection facility in the newly relocated Chungnam provincial government town,
- Alternative bid design for Younggwang–Haeje road construction project,
- Detailed design for Icheon–Osan BTO(Build, Transfer, & Operate) Expressway,





Structural Engineering Services

Business Fields

Bridge & Elevated Road Design
Subway Design
Planning & analysis & Design of Structure

Major Projects



Detailed Design for Seoul~Pocheon Expressway (Private Investment) Const Project(Lot 8)

- Client : Daewoo Engineering & Construction Co., Ltd.
- Location : Soheul-eup, Pocheon City ~ Bongyang-dong, Namyangju City
- Project Outlines :
 - Bridge Name : Hoiam 1 gyo
 - Design Length : L= 5,94km
 - Design Lanes : 4 lanes(23,4m)
- Project Details :
 - Superstructure : PSC Girder + PSC Box Bridge(F,C,M)
 - Bridge Width : 25,2m
 - Spanning :
 - PSC Girder 2@45 = 90m
 - PSC Box(F,C,M)70+128+70=268m



Alternative bid design of road construction YeongGwang-Haeje

- Client : Daewoo Engineering & Construction Co., Ltd.
- Location : Haejemyeon Songseokri, Muan ~Yeomsanmyeon Bongnamri, Younggwang, Jeonam Province
- Project Outlines :
 - Bridge Name : Younggwangdaegyo
 - Const Length : L = 3,62Km
 - Design Lanes : 2 lanes(11,5m)
- Project Details :
 - Superstructure : 2 Diamond Main Cable-staying Towers + PSC Box Bridge(F,C,M.)
 - Bridge Width : 12,5m ~ 15,0m
 - Spanning :
 - Main Span - 110 + 250 + 110 = 470m
 - Side Span - 70 + 5@108 + 65 = 675m
 - 65 + 5@108 + 70 = 675m

Structural Engineering Services



- Client : Cheonan City Government
- Location : Dujeong~ Cheonan IC
- Project Outlines :
 - Bridge Name: Cheonhodaegyo
 - Const Length: L= 2,7km
 - Design Lanes : 8 lanes
- Project Details :
 - Superstructure :Single Diagonal – Arch
 - Bridge Width : 34m, 24~39m, 57m
 - Spanning : 55 + 120 + 65 + 55 = 295m



Preliminary design for construction of Gyeongjae bridge

- Client : Seoul Metropolitan Government
- Location : Hwigyeong-dong
~Myeonmok-dong, Seoul
- Project Outlines :
 - Bridge Name: Gyeongjae
 - DesignLength: L= 1,1km, W= 30m
- Project Details :
 - Superstructure : Extradosed (F.S.M.)
 - Spanning : 60 + 105 + 60 = 225m



Alternative design for construction of the coastal access road to Inju Industrial Complex (Lot 1)

- Client : Tae Young Engineering & Construction Co., Ltd.
- Location : Geolaeri, Injumeon, Asan City
- Project Outlines :
 - Bridge Name: Asanho IC Bridge
 - Design Length : 8 lanes, 3,4km
- Project Details :
 - Superstructure Arch Main Tower +Steel Composite Bridge
 - Bridge Width : 10,40m
 - Spanning : 54,7 + 62,2 = 116,9m



Basic & Detailed Design for Hwangdogyo Bridge Construction

- Client : Taeon County Government
- Location : Changgiri~Hwangdori, Anmyeon-eup, Taeon County

- Project Outlines :
 - Design Length : L = 465m
 - Design Lanes: 2 lanes(8,0m)
 - Design Speed = 50km/hr

- Project Details :
 - Bridge Name: Hwangdogyo Bridge
 - Design Length: L = 300m
 - Bridge Width: W = 14,4m
 - Superstructure : Extradosed (F,S,M.)
 - Spanning : 80+ 140 + 80 = 300m

Alternative Tender Design for Expressway between Yeosu~Yangpyeong(No. 45) Const Prj(Lot 3)



- Client : LG Engineering & Construction Col., Ltd.
- Location : Songhakri, Gangsanmyeon ~Asinri, Okcheonmyeon, Yangpyeong
- Project Outlines :
 - Design Length : L = 555m
 - Design Lanes: 4 lanes(23,4m)
- Project Details :
 - Bridge Name : Yangpyeong Bridge
 - Superstructure : PSC Box(F,S,M. + F,C,M.)
 - Bridge Width: W = 24,3m
 - Spanning : FSM - 2@55 +60 = 170m
60 + 50 = 115m
FCM - 55 + 120 + 65 + 55 = 295m

Other Projects Performed

- Design alteration for alternative bypass construction to national highway(Samga-Daechon) and 2 other steel box-girder structures.
- Basic design for Ulsan Nongso-Gyeongju Oidong national highway construction project.
- Basic ad detailed design for Yedang General Industrial Complex Waste Water Treatment Plant installation project.
- Alternative bid design for Yangsan-Dongmyeon road extension project(to 4 lanes).
- Design supervision and Value engineering Project for Sinan-Sangbirayng and 6 others.
- Design Value engineering Project for Seosan Nambu industrial complex access road construction project.
- Design Value engineering Project for Nonsan public sewage disposal plant expansion.
- Design Value engineering Project for Jicheon dangerous area maintenance project.
- Detailed design for access road of Guro-dong CJ plant.



Safety Diagnosis Services

Business Fields

Bridge & Tunnel division
Water facilities division
Port division

Safety inspection of facilities

- Periodic Safety Inspection
- Precision Safety Inspection

Safety inspection of construction work

- Periodic Safety Inspection
- Precision Safety Inspection
- Preliminary Inspection
- Safety Inspection before Recommencing Construction Work
- Pre/Post Safety Inspection
- Damage Assessment

Others

- Durability and Load-bearing Capacity Assessment
- Analysis on Effects of Repair and Reinforcement Work
- Restoration of Drawing

Major Projects



Measurement, Safety Check and Reinforcement Design for Gokdu Tunnel

- Client : Samik Jinheung Const Co., Ltd, and Dongsung Const Co., Ltd.
- Location : Sanseongri, Gongju City~Gwangdeokri, Cheonan City
- Project Outlines : Measurement of the Lineal Lining Cracks and Identification of the Causes
- Project Details :
 - Tunnel Length : 665m, - Width = 9,8m
 - Tunnel Height : 6,7m, - Type = NATM



Precision Safety Diagnosis on Sorae Tunnel and 5 others

- Client : Korea Expressway Corporation
- Location : Daeya-dong, Siheung City, Gyeonggi Province
- Project Outlines : Precision Safety Inspection for Maintenance
- Project Details :
 - Tunnel Length : 150~500m / 421~446m - Width = 19,8m / 14,4m
 - Type : STB, PSCB/NATM - Design Load = DB 24



Precision Safety Diagnosis on Geryong Tunnel and 12 others

- Client : Nonsan National Highway Management Office
- Location : Se-dong, Yuseong-gu, Daejeon Metropolitan City
- Project Outlines : Precision Safety Inspection for Maintenance
- Project Details :
 - Tunnel Lengths : 445~2,600m - Width : 9,2~10,5m
 - Tunnel Height : 6,7~7,5m - Type : NATM



Periodical and Initial Safety Inspection on the Vehicle Underpass of the Newtown in Chungnam Province

- Client : Chinhung Enterprise Co., Ltd.
- Location : Hongbukmyeon, Hongseongun ~Sapgyoep, Yesangun, Chungnam Prov.
- Project Outlines : Precision Safety Inspection for Securing Safety of the Structure and its initial values
- Project Details :
 - Length : 1,275m (Box 930m, U-Type 345m)
 - Width : 20,9m
 - Overburden depth: 12,0m - Design Load: DB 24

Precision Safety Diagnosis on Jeokmum Bridge and 16 others

- Client : Korea Expressway Corporation
- Location : Samgoi-dong, Daejeon MC and areas of Gumsangun and Mujugun
- Project Outlines : Precision Safety Inspection for Maintenance
- Project Details :
 - Bridge Lengths : 145.0~1,000.0m / 720m
 - Width : 9.0~12.0m / 10.8m
 - Type : STB, PSCB, PSCI / NATM
 - Design Load : DB 24



Precision Safety Diagnosis on Anseongcheon Bridge and 20 others on NH 21

- Client : Yesan Natinal Highway Management Office
- Location : Areas in Yesan, Asan, Cheonan in Chungnam Province
- Project Outlines : Precision Safety Inspection for Maintenance
- Project Details :
 - Lengths : 53.1~551.0m / 680.0~728.0m
 - Width : 10.0~28.9m / 9.8m
 - Type : STB, PSCB, PSCI, SPI / NATM
 - Design Load : DB 24



Precision Safety Diagnosis on Cheongbyeok Bridge on NH 32

- Client : Nonsan Natinal Highway Management Office
- Location : Jangamri, Janggimeon, Gongju City, Chungnam Province
- Project Outlines : Precision Safety Inspection for Maintenance
- Project Details :
 - Bridge Length : 700m
 - Bridge Width : 19.5m
 - Superstructure : STB
 - Design Load : DB 24



Other Projects Performed

- Precision safety inspection on Achasan distribution reservoir and 4 others,
- Precision safety inspection for road facility performance improvement on heavy vehicle lanes,
- Precision safety inspection on river bank facilities (Sluice, embankment, rainwater pumping station etc).
- Precision safety inspection for Daesung reservoir,
- Preliminary safety inspection for Satae pedestrian overpass and 4 others (National highway No,19),
- Precision safety inspection on Gochon Water Treatment Plant,
- Precision safety inspection of Anmyeon Bridge on National highway No. 77,
- Safety inspection on the neighboring passage culvert to added water supply piping work,
- Precision safety inspection for Baekje bridge(National haghway No,4),
- Precision safety inspection on the transporting route for heavy Cheongyang power substation equipment,
- Precision safety inspection on Deokji Bridge,
- Precision safety inspection for Sorae Tunnel and 6 others,
- Precision safety inspection for Gyeryoung Tunnel and 13 others, (National highway No,40)
- Precision safety inspection for Gyeryoung City booster station,
- Precision safety inspection on Waryong Bridge,
- Survey and inspection of the retaining walls in Chubu, Geumsan, on NH No. 17,
- Precision safety inspection for Chungcheongnamdo–New city underpass,
- Precision safety inspection for Ansung cheon Bridge and 21 others, (National highway No,1)
- Precision safety inspection for Jeokmoon Bridge and 17 others,
- Precision safety inspection of Cheongbyeok Bridge on National Highway No. 32,
- Precision safety inspection of Jangam Bridge on National Highway No. 32,
- Precision safety inspection for Charyeong bridge(National highway No,23),
- Precision safety inspection on Pyeongsan reservoir and 23 others,
- Precision inspection on Mokju Bridge and 19 others(National Road No,21),
- Precision safety inspection on 2 bridges including Namlee Overbridge (National road No,36),
- Precision inspection on Dongseo Elevated Bridge and 11 others,
- Precision safety inspection on Samcheon & Banweol Elevated Bridge (Railroad Kumjung–Ansan Lane),
- Precision inspection on Yongsoo 3 Bridge and 12 others(National road No,1),
- Precision inspection on Choongui Grand Bridge and 3 others,
- Precision safety inspection on Cheongseong Bridge(National road No,29),
- Precision inspection for Seongam Grand Bridge and 10 others (National road No,32),
- Precision inspection on Buyeo Grand Bridge and 4 others(National road No,4),
- Precision inspection on Cheongseong Bridge vulnerable facility and 2 others
- Precision inspection on 2 bridges including Deokji Grand Bridge
- Precision inspection on Jujeong 1 Bridge and 5 others(National Road No,4),
- Precision inspection for Songdeok 3 Bridge and 5 others(National Road No,1),
- Prior–defects–liability–period–expiry precision inspection on bridges within Jeonbuk headquarters jurisdiction(National Highway No,20),
- Precision safety inspection on Daelim Elevated Bridge for the first half If 2014 (Railroad section Kumgang–Cheongcheon, Daegu lane),
- Precision Safty Diagnosis on Dongseo Bridge and 5 others,
- Precision Inspection on Yuseong JCT2 Bridge and 54 others on Daejeon–Dangjin in express highway, 2015,
- Precision Inspection on Sojeong Bridge and 4 others on national highway line 1,
- Precision Inspection on Bongsaeung Bridge and 3 others on national highway line 32,
- Precision Inspection on Jeongneungcheon Bridge,
- Precision Safty Diagnosis on Borame Bridge and another,
- Precision Safty Diagnosis on Yanggok Bridge and 5 others on Jungbu highway,
- Precision Inspection on Structure on Dongdaegu–Ulsan express highway, 2015,





Geotechnical & Tunnel Engineering Services

Business Fields

Design Investigation / Management of Construction and Process
Management of Quality and Safety
Work Management

Major Project

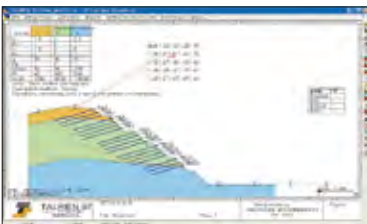


Access road extension alternative design to the 4th industrial complex

- Client : Cheonan City Government
- Location : Cheonan IC~The 4th Industrial Complex, Cheonan City
- Project Outlines :
 - Habitual traffic combustion easing at Cheonan IC area
 - Connection with KTX platform
 - Distribution cost saving for the Industrial Complex
 - Functioning as outer ring road
- Project Details :
 - Project Length : L=2,7km
 - Design Lane Numbers : 8 Lanes
 - Open-cut Tunnel : 70,0m
 - NATM : 280,0 m
 - Tunnel access type : Cut cylinder type
 - Ventilation Method : Natural circulation
 - Appurtenant Facility : Escape exit for pedestrians

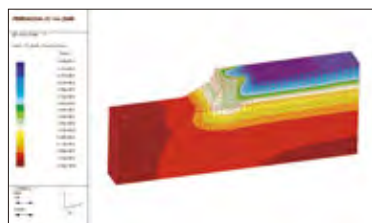
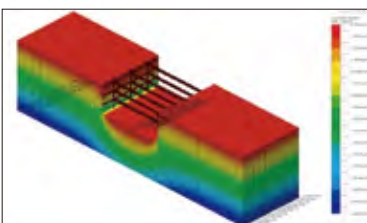
Other Projects Performed

- Alternative design of Dujeong Tunnel for the 4th Local Industrial Complex access road extension project,
- Design of Boae tunnel on the road between Uigok intersection and the Busan Science Industrial Complex,
- Design of Yonghyeon Tunnel on Mt. Gaya Beltway construction project,



Design of slope and analysis of driven steel pile

- Alternative design services of construction between Yeosu and Yangpyeong.
- Seoul - Chunchun express private investment facilities service(1st construction)
- Asan bypass road(Baebang - Tangjung) construction planning and design



Design of temporary facilities / Study on abutment lateral displacement

- Detail design of Yesan bypass road (Yesan - Daesul) construction
- Ansan bypass road (Palgok - Ansan) construction planning and design



Urban / Site Planning & Design

Business Fields

Urban Master Planning / Urban Management Program
Urban Development / Industrial Complex Development
Parks Planning / Tourism Complex Development
District Planning / Urban Facilities Planning and Urban Development
Feasibility Study and Analysis / Housing Development

Major Projects



Site survey and design for Yesan Geumbit Village Development Project(public golf club 27 holes)

- Client : Golden Town Development Co., Ltd.
- Location : Yesaneup, Yesan County, Chungnam Province
- Project Outlines :
 - Area : 996,701m²
- Project Details : Urban area management planning, TIA, pre-disaster impact assessment, land use plan analysis, surveys on cultural assets, soils, underground water, topo-survey and bridge design etc



Urban planning for ex-San Gwa University site development

- Client : Yesan County Government
- Location : Yesanri, Yesan County, Chungnam Province
- Project Outlines :
 - Area : 135,970m²
- Project Details : Project details : Urban area management planning(including district unit planning), land and right survey, topographical survey, basic and detailed design, soil survey, pre-disaster impact study ect,

Urban / Site Planning & Design

Basic and detailed design for Yedang General Industrial Complex Development, Yesan



- Client : Daeyang Construction Co., Ltd.
- Location : Godeokmyeon, Yesan County, Chungnam Province
- Project Outlines :
 - Area : 995,627m²
- Project Details : EOI for investment, industrial complex planning, basic and detailed design, soil investigation, cultural assets survey, topo-survey, and EIA, TIA, DIA, energy use plan etc

Basic and Detailed Design for Baebang Weolcheon Region Urban Development Project

- Client : Asan City Government
- Location : Baebangeup, Asan City, Chungnam Province
- Project Outlines :
 - Area : 451,788m²
- Project Details : Topographical survey, basic planning, pre-disaster impact study, energy use plan, soil survey, basic and detailed design, replotting plan etc



Feasibility Study and Basic Design for West-region High-tech Industry Complex Development

- Client : Asan City Government
- Location : Shinchangmyeon/Seonjangmyeon area, Asan City, Chungnam Province
- Project Outlines :
 - Area : 8,264,500m²
- Project Details : Feasibility study, basic development plan, pre-disaster impact study



Urban / Site Planning & Design



Site planning for Eumbong Digital Industry Complex

- Client : Hana Micron Co., Ltd.
- Location : Wonnamri, Eumbogmyeon, Asan City, Chungnam Province
- Project Outlines :
 - Area : 344,435m²
- Project Details : Industrial complex planning, basic and detailed design, soil investigation, cultural assets survey, topo survey, pre-disaster impact study, traffic impact assessment, energy use plan

Letter of Intent for investment and disposal planning for Daesan 4 General Industrial Complex



- Client : Daewoo Engineering and Construction Co., Ltd.
- Location : Daesaneup, Seosan City, Chungnam Province

- Project Outlines :
- Area : 1,164,721m²

- Project Details : Situation analysis, development scheming, planning by disciplines, project execution planning

Detailed and basic design for an urban type industrial complex in Seosan.



- Client : Daewoo Engineering and Construction Co., Ltd.
- Location : Jang-dong and Onam-dong area, Seosan City, Chungnam Province
- Project Outlines :
- Area : 878,347m²
- Project Details : industrial complex planning, basic and detailed design, surveys on soil, cultural assets, topography, impact studies on pre-disaster, traffic, energy use plan, and feasibility study

Other Projects Performed

- District plan for Asan/Shinchang area.
- District plan for Yesan/Balyeon area.
- District plan and residential environment improvement plan for Daejeon–Daedong.
- Basic design for Gilsan Industrial Complex.
- Designation as and planning of development promotion district for Gumsan area.
- Development plan and landscape plan for the vicinity of Gokgyo–river.
- Basic plan and detailed design for urban development project in Baebang /Wolcheon area.
- Alteration design for Humanvill Apartment construction project in Eupnae district of Dangjin.
- Alteration plan for LIG Kunyoung apartment construction in Dangjin.
- Basic plan and detailed design for ecological restoration project of the covered Oncheon river.
- Preparation of intent of investment for Seosan Urban–type Industrial Complex Development project.
- Development alteration plan for Goesan–gun development promotion district.
- Basic plan alteration on wastewater treatment plant for KCC Seosan industrial complex development project.
- Basic and detailed design for Yesan/Jeunggok specialized agro–industrial complex pumping station construction and pipeline installation project.
- Survey and design for Yesan Geumbit Village Development (27 hole public golf club) project.
- Improvement plan and detailed design for Buchang/Haechang area residential environment improvement project.
- Class 1 district–unit planning for Chaewun–ri/Daedeung Da:Sup apartment project.
- Feasibility study and basic planning for the Urban Type Industrial Complex in Seobu zone.
- Establishment of basic plan about an industrial complex in Gwanjak district, Yesan.
- Feasibility study and development plan and district designation on Yesan 1 Industrial Complex Development Project.
- Master plan and detailed design for Asan/Yeomchi Industrial Complex development project.
- Basic and detailed design for Yesan Yedang Industrial Complex development project.
- Basic and detailed planning for Inju/Mildu area urban development project.
- Alteration of Yesan master and managerial plan, and aerial photogrammetrical digital mapping.
- Class 1 district–unit urban planning for Onyangoncheon Station/Songak IC.
- Feasibility study for an urban industrial complex in Seosan.
- Industrial site planning of Seosan urban–type industrial complex development project.
- Basic plan for wastewater treatment plant in Yedang industrial complex.
- Detailed design for water supply network expansion in Buncheon foot–and–mouth disease reclaimed area.
- Master plan alteration and feasibility study for the urban development of Geryong City.
- Master plan for urban and residential environment improvement of Cheonan City in 2020.
- Detailed design for Suwan 1 area pedestrian environment development project.
- Detailed design for Gaya–9–valley green way development project in Yesan–gun.
- Basic and detailed design for Yeomchi village fostering–supporting project.
- Letter of intent for investment and disposal planning preparation for Daesan 4 General Industrial Complex.
- Site planning for Eumbong Digital Industry Complex.
- Basic and detailed design for Yedang General Industrial Complex Development, Yesan.
- Urban planning and detail design for ex–San Gwa university relocation site development.
- Urban facilities determination consultancy in planned urban area (the Eupsung reservoir vicinity).
- Development promotion district designation and development planning for Yesan County.
- Present condition study and the feasibility studies for unexecuted urban infrastructures in Seosan City.
- Survey and design consultancy for Yecheon 2 district site development, Seosan.
- Urban managerial plan determination(alteration) consultancy (residential district–unit planning in Sehan university vicinity).
- Urban facility rearrangement managerial plan for Yesan County.
- Urban facility rearrangement managerial plan for Taean County.
- Deoksan Spring Tourist Resort Development Plan alteration consultancy.
- Sapgyoho Tourist Resort Development Plan alteration consultancy.
- Feasibility study for Hwanghae Free Economic Zone Development Project (Ex–Jigok District).
- Detailed design for Baekma River Region Comprehensive Renewal Phase II Project.
- Basic planning consultancy for an agricultural theme park in Taean County.
- Feasibility study for Oncheon District Urban Renewal Project in Asan City.
- Urban managerial plan determination(alteration) consultancy (urban facility:school) for Yesan County.
- Feasibility study and development plan for the idle site of Seoul Ring Road tollgate.
- Detailed design for urban development project of Yeokjae Bangjuk district in Hongsung.
- Basic design for Sunjin General Industrial Complex Development in Boryeong.
- Basic design for Asan General Industrial Complex Development.
- Designation and detailed design for Inju General Industrial Complex Development in Asan.
- Urban facility rearrangement managerial plan for Asan City.
- Urban facility rearrangement managerial plan for Chungyang County.
- Establishment of basic plan about Master plan in Taean County.
- Survey and design for Urban development of Buksu district in Asan.





Landscape Architecture

Business Fields

Park-related business / Survey and design service / Feasibility study
Park development planning / Basic and Detailed Design / Tourist resort planning
Golf club development project / Parks in housing complex
Construction of unit landscape business Building-related landscape projects
Recreation park development projects



Master plan for Sapkyo Neighborhood Park Development

- Client : Yesan-gun
- Location : Sin-ga-ri, Sapgyo-eup, Yesan-gun, Chungcheongnam-do, Korea
- Project Outlines :
 - Area : 23,000m² (5,68ac)
- Project Details : Park development planning (Development Circumstance Analysis, Basic Plot, Basic Plan, Project Plan)

Development plan for Dokgot Neighborhood Park and 2 other parks

- Client : Seosan City
- Location :
 - Dokgot Neighborhood Park : 91, Dokgot-ri, Daesan-eup, Seosan City, Chungcheongnam-do, Korea
 - Seongnim Neighborhood Park : 758-1, Seongnim-dong, Seosan City, Chungcheongnam-do, Korea
 - Gobuk no.2 Neighborhood Park : 625-4 Gagu-ri, Gobuk-myeon, Seosan City, Chungcheongnam-do, Korea
- Project Outlines :
 - Area : 349,900m² / 35,000m² / 23,791m² (86.46ac/8.65ac/5.88ac) each
- Project Details : Park development planning, prior-disaster impact review, traffic effect review





Gwangju central park private investment construction project

- Client : Jungheung Co, Ltd
- Location : Pungamdong seogu Gwanju Metropolitan City
- Project Outlines :
 - Area : 1,275,000m²
- Project Details :
 - Park Development
 - Housing site Development

Basic plan and detailed design for ecological restoration project of the covered Oncheon river



- Client : Asan City
- Location : Oncheon-dong Ilwon, Asan City, Chungnam Province

- Project Outlines : Onyang Tourist Hotel~Gokgyo Stream (L= 1.7Km=1,057mile)
- Project Details : Land and Right Survey, Topographical Survey, Detailed Design, Soil Survey, and Prior-Disaster Impact Assessment ect,



Basic and detailed design for Gobuk second neighborhood park development project



District Plan for Dokgot neighborhood parks and 2 others



District Plan for Seoklim neighborhood parks

Other Projects Performed

- Feasibility study for the changed plan of Mt. Daedun Park Development,
- Alteration of Mt. Chilgap Park Development Plan,
- Survey and design for Yesan Geumbit Village Development (27hole public golf field) Project,
- Master plan and detailed design for Asan/Yeomchi Industrial Complex Development Project,
- Basic and detailed design for Yesan Yedang Industrial Complex Development Project,
- Detailed design for “Happy Life Park” Development Project in 2011,
- Determination service for urban planning facilities(road network etc.) in a planned urbanized area(around the Eopseong Reservoir),
- Survey and design for Yecheon District 2 Development Project in Seosan,
- Alteration of Deoksan Spa Tourist Site Development Plan,
- Alteration for Lake Sapgyo Tourist Site Development Plan,
- Master plan for Taeon Farming-theme Park Development,
- Master plan for Sapkyo Neighborhood Park Development,
- Urban development project for ex-San Gwa University site development,
- Basic plan and detailed design for ecological restoration project of the covered Oncheon river,
- Development plan for Dokgot Neighborhood Park and 2 other parks,
- Basic and detailed design for the Development of the Second Gobuk Neighborhood Park and 2 others,
- Master plan and detailed design for AGAIN Yugu regional Creative & Ideas project,
- Feasibility study for Ecological observations and facilities of Deoksan provincaill park,
- Landscape design for expressway between Gimhae and Cheolma, No.60,



Transportation Engineering Services

Business Fields

Total Transportation Planning and Metro Transportation Planning
Feasibility study and Basic, Detailed Design
Transportation System Management(TSM)
General Traffic solution
Study and Analysis of Traffic improvement
and Transportation Impact Assessment

Major Projects



Traffic impact assessment and its improvement planning for altered detailed execution plan of Asan Seonmoon University construction project

- Client : Asan Seonmoon Academic Foundation
- Location : Galsanri, Tangjeongmyeon, Asan City, Chungnam Province
- Project Outlines : Traffic Impact Assessment
 - Area : 816,765m²
- Project Details : Traffic and environmental survey and analysis, future traffic demand projection, problems and their solutions, execution plan of the solutions



Traffic impact assessment for the living environment improvement of Daejeon Daesin Area 2.

- Client : Donggu Ward Office, Daejeon Metropolitan City
- Location : Donggu Ward area, Daejeon Metropolitan City
- Project Outlines : Traffic Impact Assessment
 - Area : 112,780m²
- Project Details : Traffic and environmental survey and analysis, future traffic demand projection, problems and their solutions, execution plan of the solutions

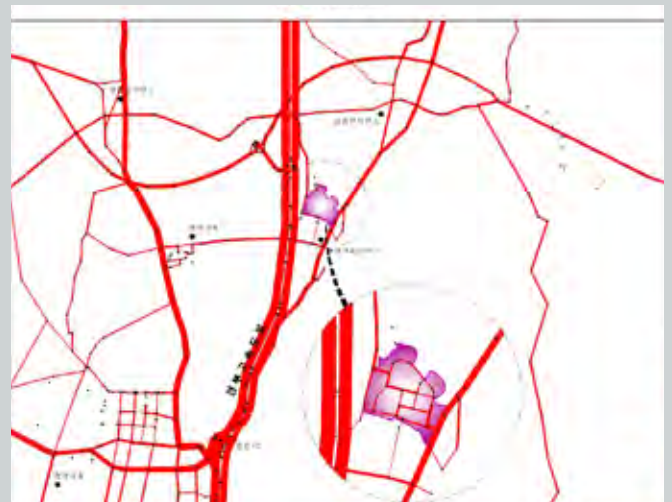
Traffic impact assessment/improvement measures for housing development in Wunjeong Area, Paju

- Client : Paju City Government and Korea LH Corporation
- Location : Gyohaeup, Paju City, Gyeonggi Province
- Project Outlines : Traffic Impact Assessment
 - Area : 9,549,390m²
- Project Details : Traffic and environmental survey and analysis, future traffic demand projection, problems and their solutions, execution plan of the solutions



Traffic impact assessment/improvement measures for the Urban Development Project in north Cheonan City

- Client : Cheonan City Government
- Location : Seonggeoeup, Cheonan City, Chungnam Province
- Project Outlines : Traffic Impact Assessment
 - Area : 777,265m²
- Project Details : Traffic and environmental survey and analysis, future traffic demand projection, problems and their solutions, execution plan of the solutions



Other Projects Performed

- Traffic impact analysis/service improvement measure working-out based on Police Investigation Research Institute relocation.
- Traffic impact assessment for Daecheon Beach Tourism Development Project.
- Traffic impact analysis/service improvement measure working-out for Songsan Industrial Complex access road construction project.
- Traffic impact assessment for Hongseong Crematorium Modernization project.
- Traffic impact assessment for housing redevelopment and improvement project in Bongmyeong 2 Zone, Cheonan City.
- Feasibility study for Seosan Distribution Complex designation.
- Feasibility study for Namdang Harbour bypass.
- Basic design for facility and equipment reinforcement project for Jeonju Traffic Information Center.
- Traffic impact assessment for Mt. Gaya Beltway construction project.
- Traffic impact analysis and service improvement measure working-out for Iksan/Jangsin district.
- Determining service on designating small-scale fishing ports as county-level plan facilities.
- Traffic impact analysis and its improvement planning for altered detailed execution plan of Asan Seonmoon University construction project.
- Traffic impact analysis for Deoksan spa tourist resort project.
- Environmental impact assessment and traffic impact analysis for Jochiwon Northwestern Area Urban Development Strategy.
- Urban traffic development master plan and medium-term plan for Asan City.
- Basic plan(alternation) for Boryeong rural road.
- Traffic impact analysis/service improvement measure working-out for Seosan Yecheon 2 zone Urban Development project.



Transportation Engineering Services



Environment Engineering Services

Business Fields

Environmental Impact Assessment
Post-EIS(environmental impact statements)
Prior Environmental Review
Environmental Management
Environmental Consulting Services

Major Projects

Preliminary EIA for the First Class Region unit plan between Onyangoncheon Station and Songak Interchange



- Client : Taeon County Government
- Location : Anmyeoneup, Taeon County, Chungnam Province
- Project Details :
 - Project Area : 약100,000m² (99,300m²)
 - Environmental situation survey, environmental effect forecast and its assuagement plan, comprehensive analysis and conclusion

Prior environmental impact assessment for the construction project of Hwangdo bridge



- Client : Taeon County Government
- Location : Anmyeoneup, Taeon County, Chungnam Province
- Project Outlines : Benefit improvement for tourists and the residents, and the improved tourism and industrial transportation
- Project Details :
 - Project length L= 1,300m
 - Earthwork : 1,000m
 - Bridge length L= 300(Extradosed)
 - Design speed : 50 km/hr

Environmental Impact Assessment for the Detailed Design of Yesan Yedang General Industrial Complex Development Project



- Client : Daeyang Engineering and Construction Co., Ltd.
- Location : Godeokmyeon, Yesan County, Chungnam Province
- Project Details :
 - Area : 995,627m²

Post-EIS (Environmental Impact Statements) for the construction project of Gujora port

- Client : Ministry of Oceans and Fisheries
- Location : Gurjorari, Ilwunmeon, Geoje City, Gyeongnam Province
- Project Details :
 - Breakwater : 230m
 - Eco-friendly revetment : 395m
 - Multi-function comprehensive port
 - Jetty, floating pier, eco-friendly facilities



Other Projects Performed



- Post-EIS(Environmental Impact Statements) for construction of Gonghyeunjin Port,
- Post-EIS(Environmental Impact Statements) for Baekje Historical Reproduction Complex Development project,
- Post-EIS for Anmyeondo Tourism Area Development project,
- Prior-EIS for basic plan of the Simokcheon River improvement project,
- Post-EIS(Environmental Impact Statements) for construction of the beltway in Gaya mountain,
- Environmental impact assessment for National Road No.49 construction project,
- Environmental impact assessment for construction of the alternative bypass of the national highway in Asan-si,
- Environmental impact assessment for Cheorwon Gimhwa bypass construction,
- Post-EIS(Environmental Impact Statements) for Pyeongchang-Jeongseon(Lot3) road construction and 2 others,
- Prior-EIS(Environmental Impact Statements) for extension and pavement of provincial road No.7(Jeongamjito),
- Environmental impact assessment for the construction of Yesan General Industrial Complex access road,
- Environmental impact assessment based on altered managerial plan of Taeon County(Harbour-Fishing port),
- Environmental impact assessment for local fishing ports (Ganwoldo, Bangpo, Hagampo),
- Environmental impact assessment for designation as and planning of development promotion district for Yesan County,
- Environmental impact assessment and pre-disaster impact study for village creek improvement construction, 2013,
- Environmental impact assessment for master plan alteration of Deoksan Spa Tourist Resort Development,
- Environmental impact assessment and traffic impact analysis/service improvement measure working-out for urban development project of northwestern Jochiwon City,
- Post-EIA(Environmental Impact Assessment) for Choobu Agro-industrial Complex Development Project,
- Environmental impact assessment for the reformulated master plan of Doma River,
- Environmental impact assessment for construction of Daeryeonsa access road (Daeheung No.205),
- Environmental impact assessment for determination of Hongseong County managerial plan(mini-park),
- Environmental impact assessment for a military camp relocation work due to Guri-Pocheon Expressway Construction Project,
- Environmental impact assessment and strategy formulation for the Hwasancheon local river improvement project,



Water Resources Engineering Services

Business Fields

Design for River and Channel
Basic and Comprehensive Plan for the River Purification
Detailed design for River Improvement
Preliminary Design for the Purification Works of River Environment
Design for River Facilities / Assessment for Effects against Disaster
River Information Management and Implementation
Irrigation and Drainage Project
Prevention of Damages Caused by Flooding and Countermeasures for Flooding
Preliminary & Detailed Design of Multi-purpose Dam

Basic plan and Detailed design for the stream channel improvement project(Dredge) of sappgyo river.



- Client : Yesan County Government
- Location : Sappgyoeup, Yesan County, Chungam Province
- Project Outlines : Planning for measures to improve the River Sappgyo to be an alive, eco-friendly river
- Project Details :
 - River training : L=9.95km
 - One natural type cross-beam for reservoir, culverts and box bridges
 - Other appurtenant facilities : Embankment, bikeroad, landscaping etc



Detailed design for the Ecological stream restoration of Gokgyo river.

- Client : Asan City Government, Chungnam Provnicce
- Location : Baekamri, Asan City, Chungnam Province
- Project Outlines : Eco-friendly river making through amiable environment improvement
- Project Details : Gokgyo River training and river course improvement L=2.83km
 - Drainage outlet, water channel, culvert, movable crossbeam for reservoir etc
 - Other facilities : Embankment, bike road, landscape etc

Water Resources



Ecological restoration projects, and basic and detailed for river of creek covered by lid to Oncheon river.

- Client : Asan City Government
- Location : Oncheon-dong, Asan City, Chungnam Province
- Project Outlines : River training planning for ecological restoration of River Oncheon's covered area
- Project Details : River training L=1.7km
 - Small bridge : 8 numbers
 - Others: Slope stabilization, drainage, pavement, water supply ad sewage, landscape



Detailed design for the improvement project of a frequent flood-damaged area around Cheonan river.

- Client : Chungcheongnamdo Province
- Location : Shinbu-dong, Cheonan City
- Project Outlines : Lasting restoration measure planning and eco-friendly river training
- Project Details : River training L=3,675km
 - Bank slope : 45m
 - Other structures



Other Projects Performed

- Detailed design for Suam River improvement project.
- Detailed design for Daeryul River improvement project.
- Detailed design for Yesan River pollution prevention construction project.
- Detailed design for polluted Yesan River improvement project.
- Detailed design for Sakseong River improvement project.
- Detailed design for rural household water supply facility expansion project.
- Prior EIS and detailed design for natural type river purification project.
- Detailed design for Donghyang-myeon gym-fitness facility installation project.
- Basic design and management cadastre preparation for Oiam River and 2 others.
- Disaster impact assessment for heightening the dykes of reservoir in Yongyeon zone.
- Detailed design for Eunsan River flood-damaged facility repair project.
- Master plan for improvement works of Giyang river and making the river register.
- Basic planning and river facility management ledger preparation for the Obong River.
- Detailed design for Sojukgol marsh area flood-damaged facility repairing project.
- Feasibility study for rainfall-storage-facility installation site selection.
- Detailed design for agricultural water quality improvement project in Hongyang District.
- Detailed design for eco-river development of the Yonggul River.
- Detailed design for frequent flood-damaged area improvement project around the Cheonan River.
- Detailed design for Jukgok River improvement project.
- Detailed design for the habitually-flooded area improvement project around Byeongcheon River.
- Detailed design for Yongseong natural-disaster-vulnerable area improvement project.
- Detailed design for Jangpyeong habitually-flooding area improvement project.
- Basic and detailed design for structure-covered Oncheon River ecological restoration project.
- Detailed design for Gagong creek restoration and improvement project.
- Detailed design for Dundang River channel improvement project.
- Disaster impact assessment for pavement expansion Moui-Line.
- Detailed design for typhoon-stricken small river facility restoration project in 2010.
- Detailed design for Eunsan River habitually-flood-stricken area improvement project.
- Detailed design for river maintenance project, 2011 (Hyangcheon River and 3 others).
- Detailed design for small river maintenance, 2012.
- Basic plan and detailed design for the Eco-river Restoration Project of Yugu River.
- Master plan of small river maintenance.
- Detailed design for the Moolgeonae River Maintenance Project, 2012.
- Detailed design for Daekyo Hwaji District Rainfall-Storage-Facilities Installation Project.
- Detailed design for maintenance of small-scale irrigation structure project, 2014.
- Detailed design for Sinpyeong District River Environment Maintenance Project.
- Detailed design for Geum River downstream River Maintenance Project (Daedongje Dike and 3 others).
- Detailed design for maintenance project of the area in danger of natural calamity in Dunri district, 2015.
- Detailed design for Gamjeol small river and another improvement project.
- Detailed design for maintenance project of small stream in Ohchuri.
- Detailed design for Gwangsi district pumping station and water pipe improvement project, 2015.

Water Resources





Waterworks & Sewerage Engineering Services

Business Fields

Basic Plan for Water supply / Master Planning for Water Supply system
Feasibility Study, Water Demand Forecast and System Management
Basic & detailed Design Works of Water Supply System
Water Supply System(Water Intake Facilities, Water Purification Plant
Distributing Reservoir and Piping System) / Sewerage System
Master Planning for Sewerage System
and Feasibility Study for Enhancement of Combined Sewer Networks
Basic & Detailed Design Works of Sewerage System
Sewage Treatment Plant and Enhancement of Sewer Networks
Other Design Works Related to Sewerage / Drainage Pumping System

Major Projects



Detailed Design for Eoyeon & Hansan Wastewater Treatment Plant construction

- Client : Pyeongtaek City Government
- Location : Cheobukmyeon, Pyeongtaek City, Gyeonggi-do Province
- Project Details :
 - Facility Capability Q=5,500 cubic meters/day
 - Treatment method : B3 method
 - Discharge river : Jinwi River

Other Projects Performed

- Preliminary and detailed design for advanced treatment facility of the second Gunsan water purification plant.
- Feasibility study and preliminary design for effluent treatment facilities of the existing water treatment plant, Gwangju Metropolitan City.
- Preliminary design for the low-lying area flood prevention measures in Soha-dong.
- Sewer pipe networks mapping and preliminary and detailed design for wastewater/rainwater pipe misconnection prevention project of Namyangju City.
- Preliminary and detailed design for Buyeogugyo and Hongsang water distribution pumping station installation project.
- Preliminary and detailed design for rural area water supply development project (Seo-myeon, Nam-myeon).
- Preliminary design for Geumsan-gun sewer network improvement BTL project.
- Preliminary design for Wanju-gun sewer network improvement BTL project.
- Master plan for Yesan sewerage system improvement and preliminary and detailed design for Deoksan sewage treatment plant extension project.
- Preliminary and detailed design for advanced facilities of Yesan terminal sewage treatment plant.
- Water supply master plan and water demand management planning for Yesan-gun.
- Preliminary and detailed design for industrial water supply facility installation project of Jeonui Industrial Complex-2.
- Detailed design for water supply network expansion in food-and-mouth disease carcass reclaimed area (Geosan district).
- Preliminary and detailed design for rural household water development project in Jeonui-myeon District.
- Preliminary and detailed design for wastewater treatment plant installation project Ungok Agro-industrial Complex in Cheongyang County.
- Master plan of water resource recycling for Taeon County.
- Master plan (alteration) for Yesan sewerage system improvement and water resource recycling plan.
- Water supply master plan and water demand management planning for Sejong Metropolitan Autonomous City.
- Detailed design for Changsori (lot2) sewage improvement project.
- Master plan (alteration) for Hongseong County Sewage Improvement Project.
- Preliminary and detailed design for Geumnam-myeon Sewer Pipe Network Improvement Project.
- Detailed design for the construction of rural area water supply (Sisanri), 2014.
- Detailed design for local water supply project, 2014.
- Water Supply master plan and water demand management planning for Yesan County
- Preliminary and detailed design for installation of public sewage system in Janggung town.
- Preliminary and detailed design for building of water supply pipe network block system in Boryeong.
- Basic design for the facilities of sewage and wastewater treatment in Seosan.





Construction Management & Supervision Services

Business Fields

Design Investigation
Management of Construction and Process
Management of Quality and Safety
Work Management

Major Projects



Supervision consultancy for the Gum River (at Jangam) improvement project

- Client : Chungnam Provincial Government
- Location : Jangammyeon, Buyeo County, Chungnam Province
- Project Outlines : A multi-purpose project for improving living standards of Gongju City citizens by protecting water resources of the Geum River and restoring ecological system of Baekje cultural region
- Project Details :
 - Stream channel L=7,43km
 - Levee L=3,7km
 - River L=1,76km
 - Bike road L=5,62km



Construction Supervision for Seosan sewage sludge recycling project

- Client : Seosan City Government
- Location : Jigokmyeon, Seosan City, Chungnam Province
- Project Outlines : Stabilized disposal sewage sludge generated from sewage treatment process
- Project Details :
 - Chwipyeong of capacity $Q=180\text{m}^3$ /day
Pipeline L=2,383m
 - Hwacheon of capacity $Q=230\text{m}^3$ /day
Pipeline L=4,460m

Construction Management & Supervision Services



Construction Supervision for sewage treatment plant of new city in Chungnam

- Client : Chungnam Provincial Gov. and Korea LH Corporation
- Location : Sapgyoep, Yesan County, Chungnam Province
- Project Outlines : Sewage treatment plant construction by introducing high technology advanced method
- Project Details :
 - Treatment capacity $Q = 44,000$ cubi meters/day
 - Reused water $Q = 33,000$ cubi meters/day



Construction Supervision for advanced sewage treatment plant expansion project of Deaksan and Yesan

- Client : Yesan sewage office
- Location : Yesaneup, Yesan County, Chungnam Province
- Project Outlines : In order for water quality improvement, urban life environment improvement and public hygiene improvement, urban beautification, and water use maximization
- Project Details :
 - Sewage treatment plant in Yesan $Q = 11,000$ cubic meters/day
 - Sewage treatment plant in Deaksan $Q = 3,800$ cubic meters/day

Other Projects Performed

- Construction supervision for Hwangdo bridge,
- Construction supervision for regional rural water supply facilities of Nampo and Joosanmyen,
- Construction supervision for Yesan General Industrial Complex wastewater treatment plant installation project,
- Construction supervision for tourist road construction in Ganwol Island,
- Construction supervision for dry field-based consolidation project in Gangdang District,
- Construction supervision for drainage improvement project in Gojeong District,
- Construction supervision for Namyang District rural household water development project,
- Construction supervision for ecological restoration of covered part of the Oncheon River,
- Construction supervision for the access road construction of Yesan Industrial Complex,
- Construction supervision for eco-friendly river making project of the Hwasan and Deoksan Rivers,
- Construction supervision for eco-friendly river making project of the Nonsan River,
- Construction supervision for the first Gyeryong Agro-industrial Complex development project,
- Construction supervision for National Highway No.6 construction (Jang Pyung-Gan Pyung1) in Pyeongchang County,
- Construction supervision for access road construction of Bitgreen Industrial Complex,
- Construction supervision for Kwangsi-myeon Office Area Comprehensive Improvement Project,
- Construction supervision for livestock excretions disposal public facility installation project,
- Construction supervision for National highway No.42 construction between Saemal and Wonju,
- Construction supervision for access road construction of Asan Techno second industrial park,
- Construction supervision for Taishan 3 General Industrial Complex Development Project,
- Construction supervision for Ganggyeongcheon Mangseong District River Environmental Improvement Project,





Overseas Projects Services

Business Fields

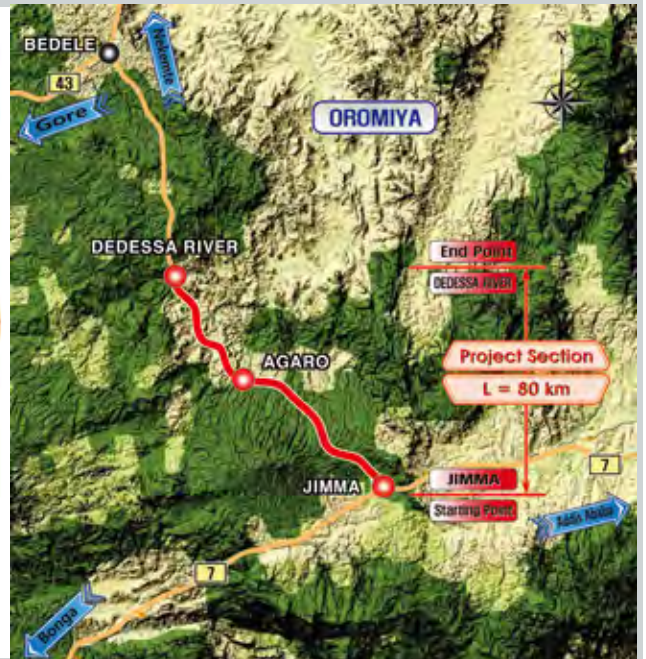
Feasibility Studies/Preliminary and/or Detailed Designs/
Construction Supervision Services for Projects funded either by
Official Development Assistance(ODA) such as EDCF or KOICA etc.
or, International financial institutions such as WB, ADB, AFDB etc.

Overseas Projects Services

Feasibility Study for Jumma–Agaro–Dedessa River Road Rehabilitation Project



- Client : International Contractors Association of Korea
- Location : Jimma~Agaro~Dedessa River, Ethiopia
- Project Details :
 - Design Length : L=80km
 - Design Lanes : 2 lanes(10.0m)
 - Design Speed : 50~85km/hr



Design and Build of Modjo–Hawassa Highway Project(Lot II :Meki–Zeway)



- Client : Ethiopian Roads Authority
- Location : Meki~Zeway, Ethiopia
- Project Details :
 - Design Length : L=37km
 - Design Lanes : 4 lanes(31.6m)
 - Design Speed : 100~120km/hr



Feasibility Study for Mieso~Dire Dawa Road Upgrading Project

- Client : International Contractors Association of Korea
- Location : Mieso~Dire Dawa, Ethiopia
- Project Details
 - Design Length : L=160km
 - Design Lanes : 2lanes(10.0m)
 - Design Speed : 100km/hr

Overseas Projects Services

Feasibility Study for Korem–Sekota Road Upgrading Project

- Client : International Contractors Association of Korea
- Location : Amhara ~ Tigray, Ethiopia
- Project Details :
 - Design Length : L=100km
 - Design Lanes : 2 lanes(9,0m)
 - Design Speed : 50~70km/hr



Design and Build of Modjo–Hawassa Highway Project ; Lot3: Batu(Zeway)–ArsiNegele Section

- Client : Ethiopian Roads Authority
- Location : Batu(Zeway)–ArsiNegele, Ethiopia
- Project Details
 - Design Length : L=57,1km
 - Design Lanes : 4 lanes(31,60m)
 - Design Speed : 100~120km/hr

Design and Build of Gore–Masha–Tepi Road upgrading Project(Preparing for bidding)



- Client : Ethiopian Roads Authority
- Location : Oromia ~ SNNPR, Ethiopia
- Project Details :
 - Design Length : L=140km
 - Design Lanes : 2 lanes(7,7~18,7m)
 - Design Speed : 50~85km/hr

R&D Center

Major Studies Performed

year	Project Title
2009 ~ 2011	<ul style="list-style-type: none"> - A study on nonlinear property of silty and sandy soil - A review on structural stability of damaged PSC Beam (L=30m) - A study on slope stability in housing complex - A study on PSC Beam depth reduction measures (L=30.0m)
2012 ~ 2015	<ul style="list-style-type: none"> - Feasibility study for Seosan Terminal - Development of integrated infrastructure safety control and design program for the Municipality Special Act - A study on economic analysis techniques of urban area development project - A study on precast culvert joint improvement measures - Analysis on pedestrian accident characteristics - X-crossing type Sabangdaem

Project participated

- Research Institute : Gangneung-Wonju National University Industry Academy cooperation Group
- Project Title : Advanced technological development of flood control design for water attacking point to prevent the flood damage of roads around mountain and river
- Advanced technological development in preventing system of river flow impingement & debris flow for prevention of damages caused by torrential rains in riverside roads in mountainous area

Patent and Utility model

- Patent : 8 cases including the guardrail for road
- Utility model: 8 cases including the system to fix and support waterproofing sheet



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Total Engineering Company

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