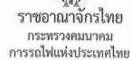


ภาคผนวก ง-3
งานออกแบบทางวิศวกรรม



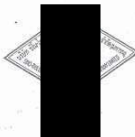
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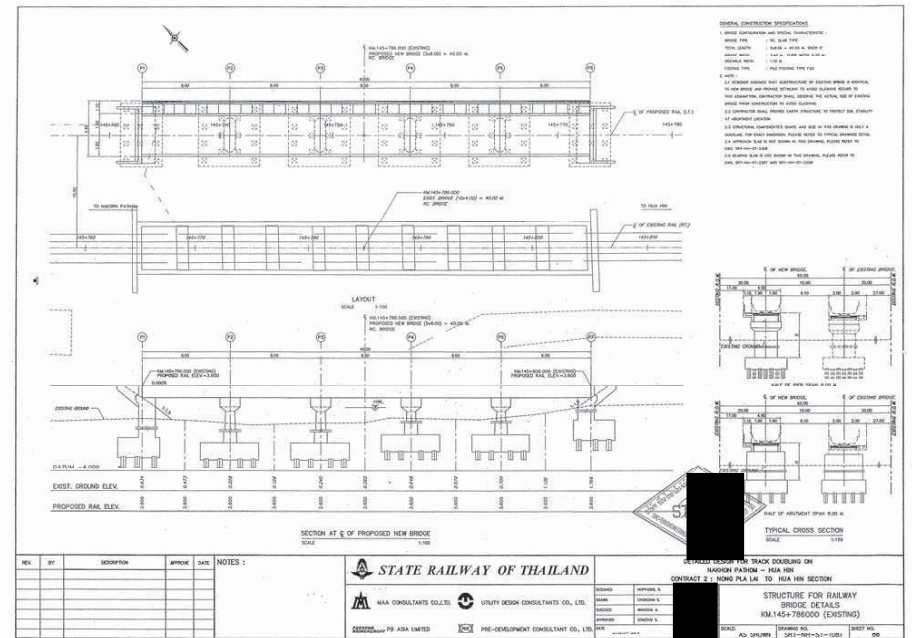
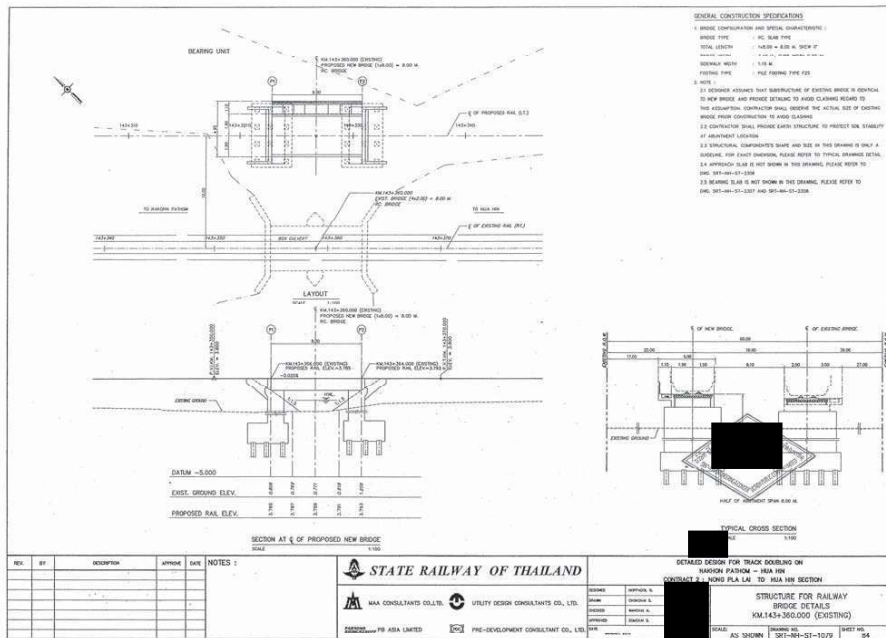
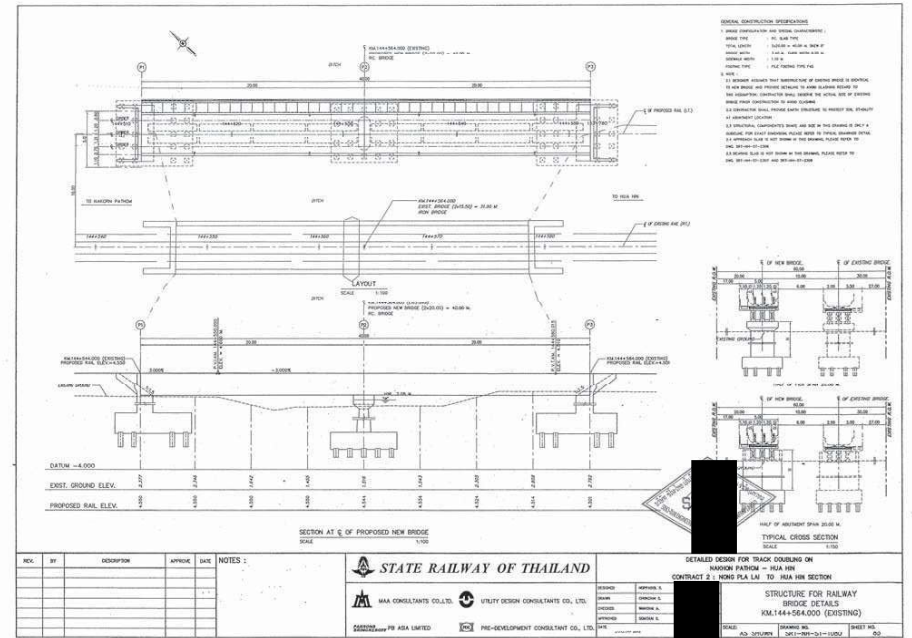
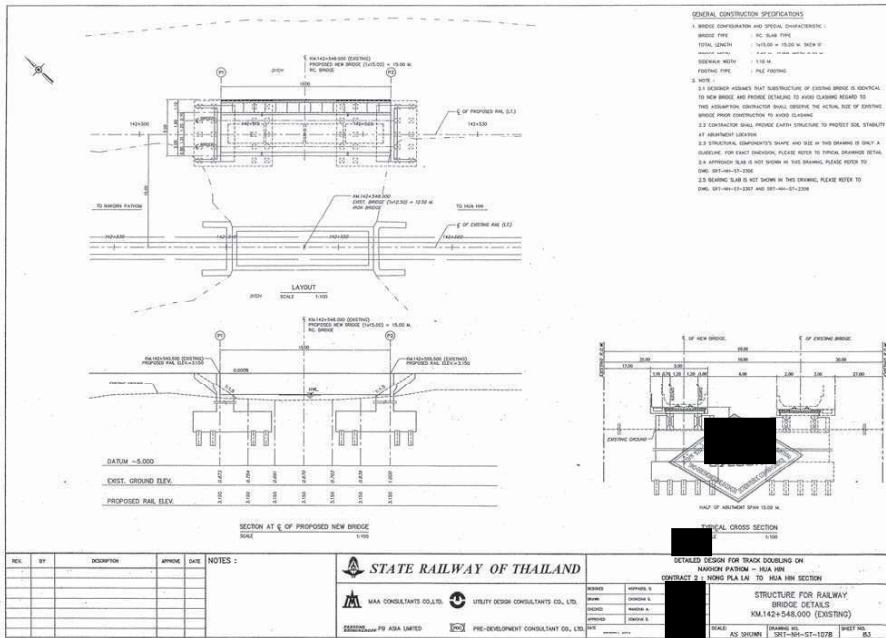
ฉบับที่ 4/7

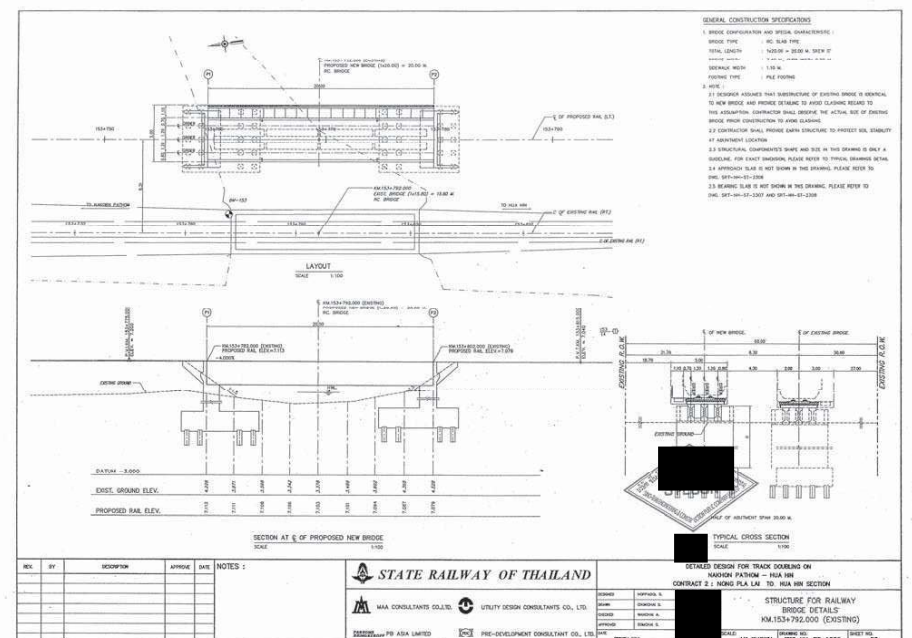
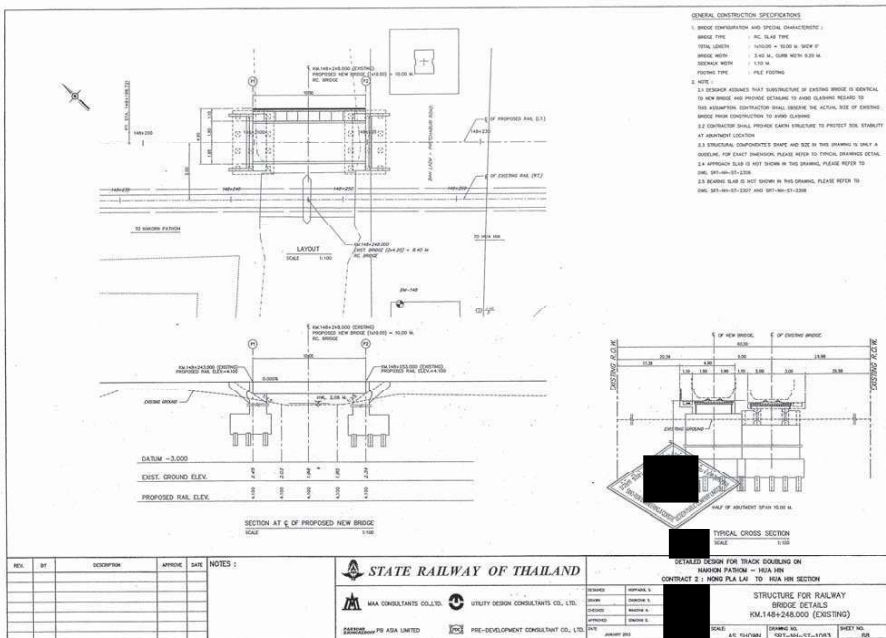
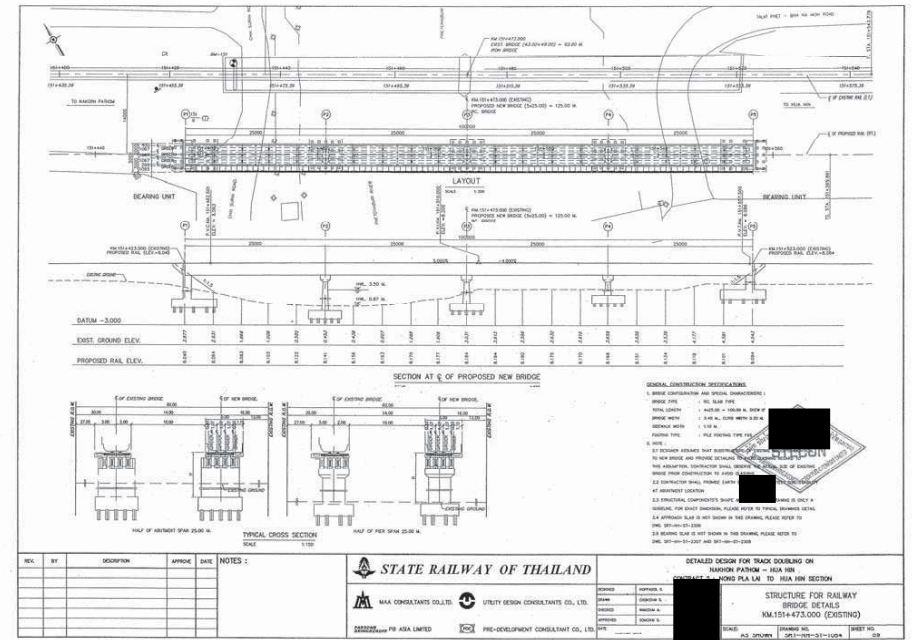
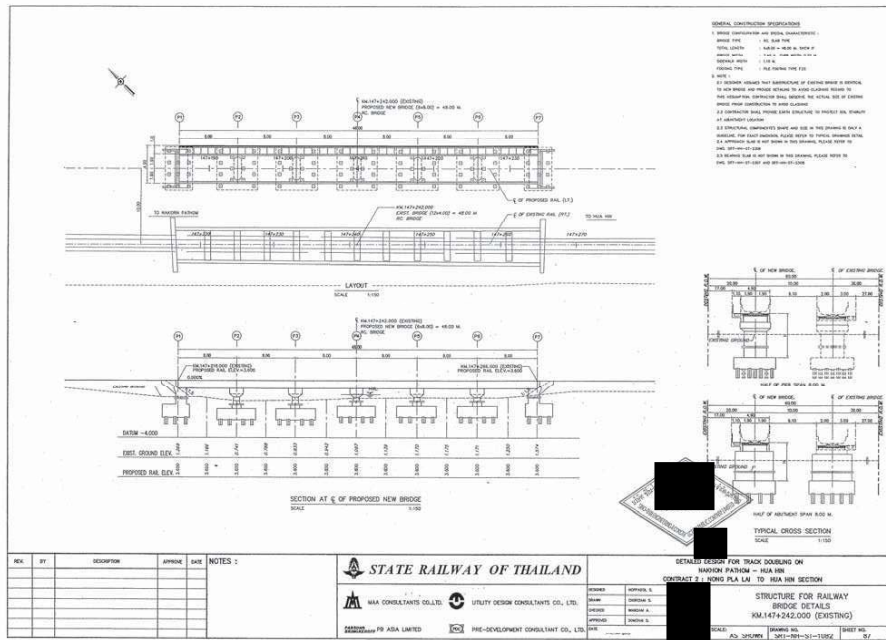
M บริษัท เอ็ม เอ เอ คอนซัลแตนท์ จำกัด

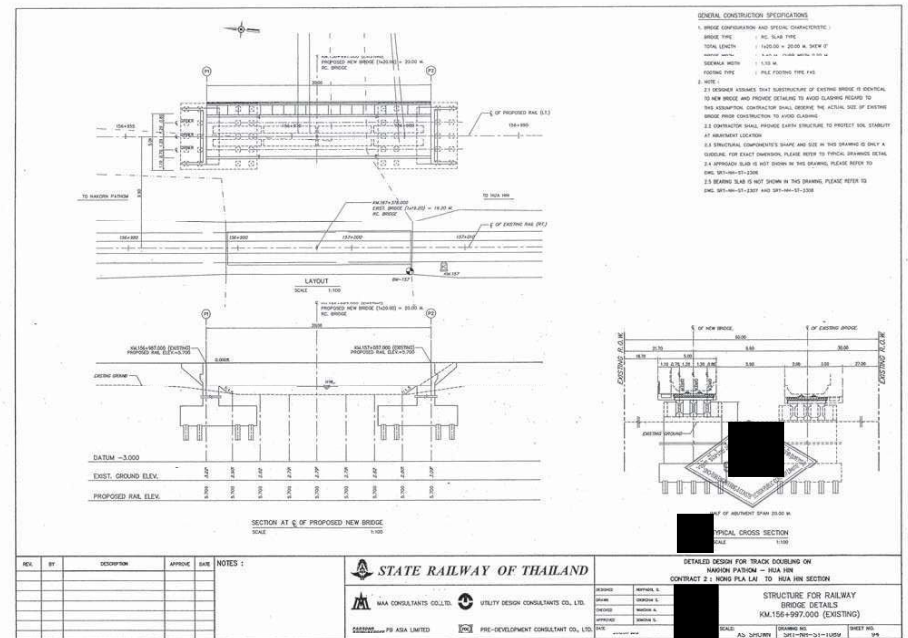
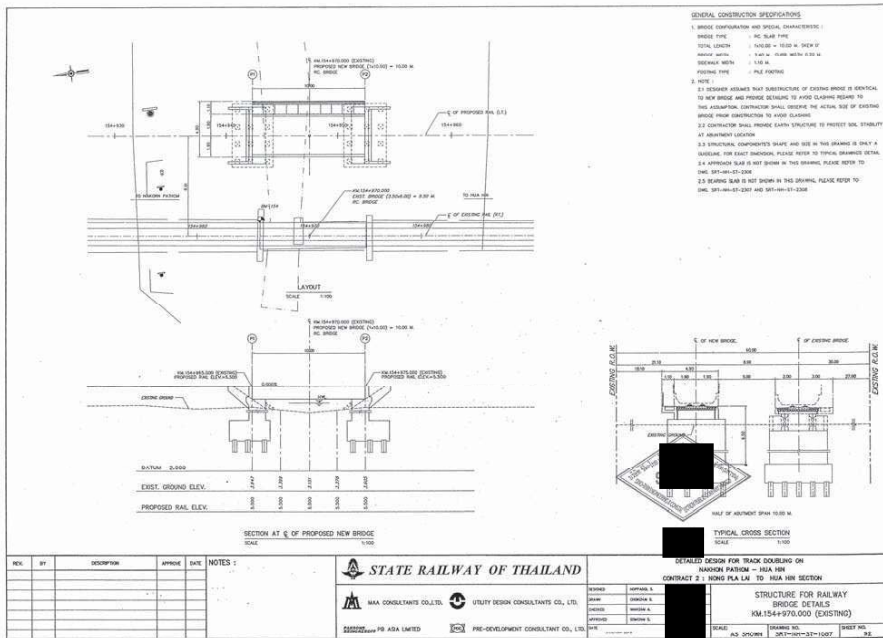
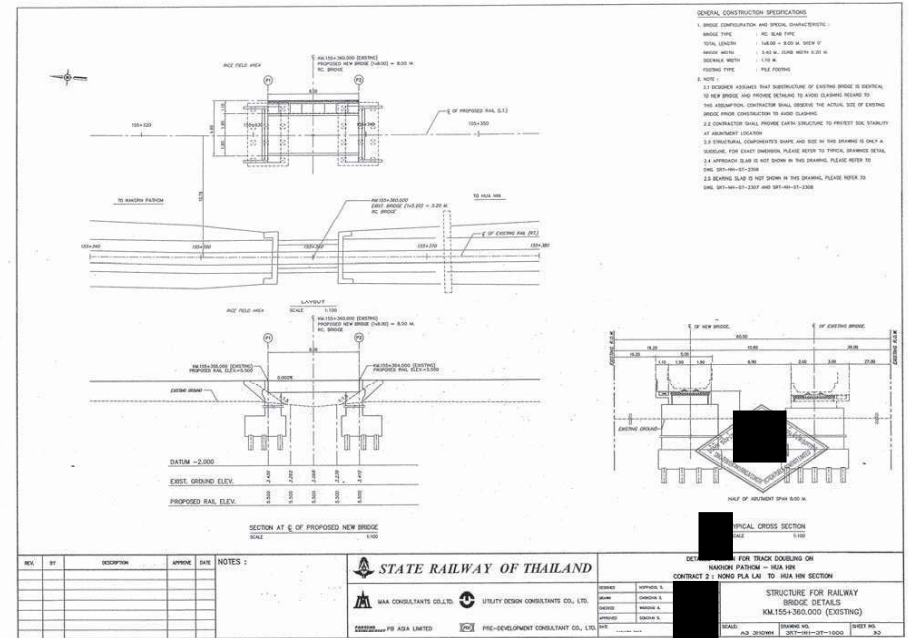
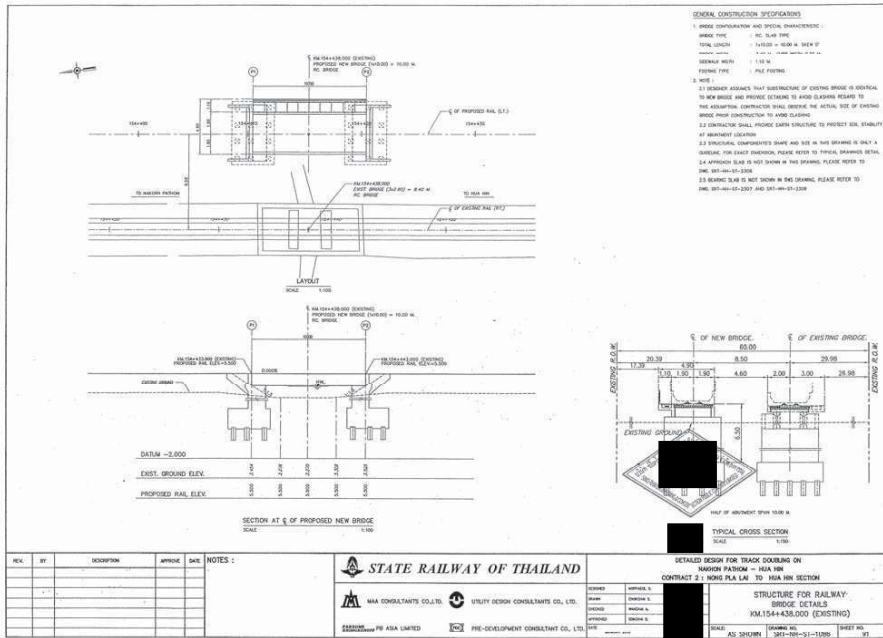
PARSONS
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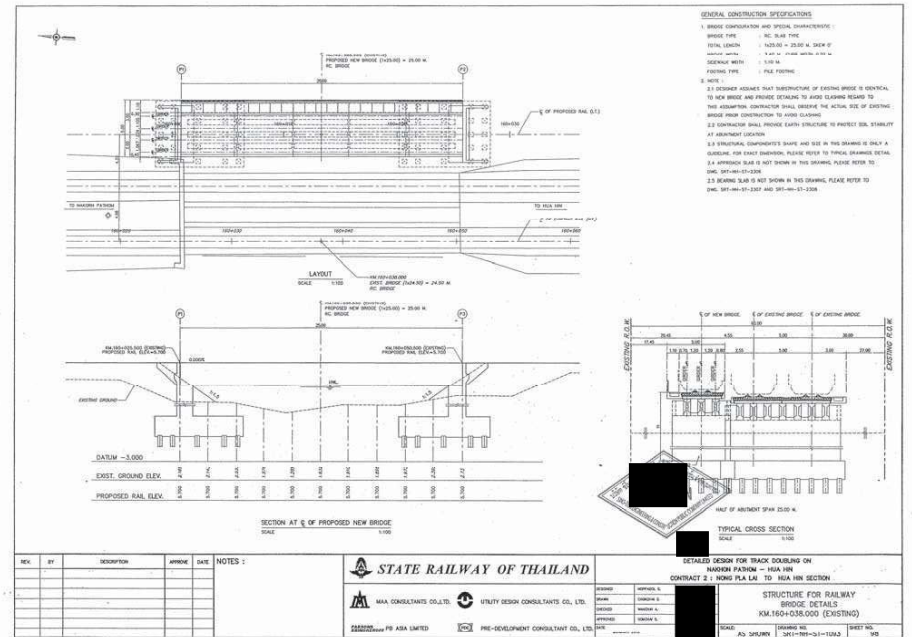
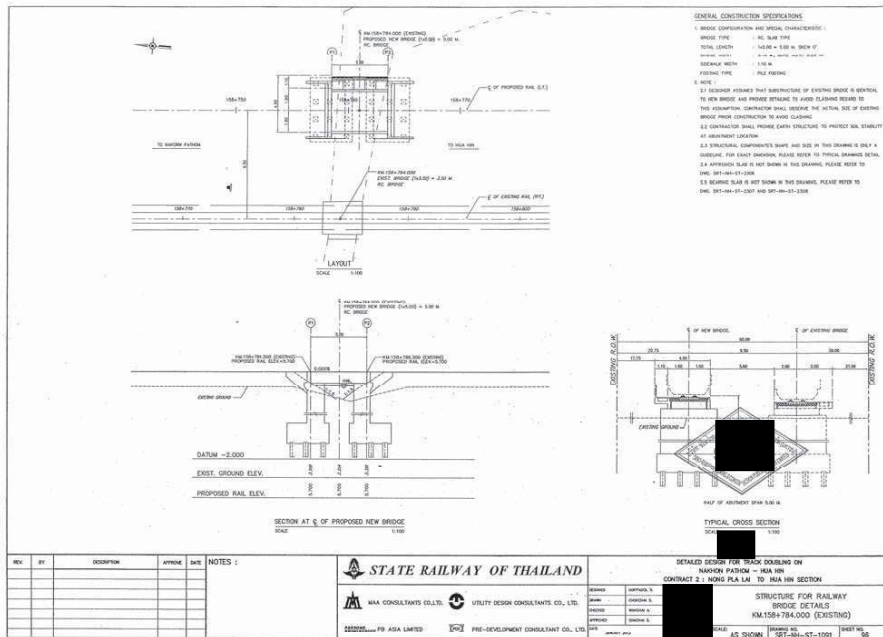
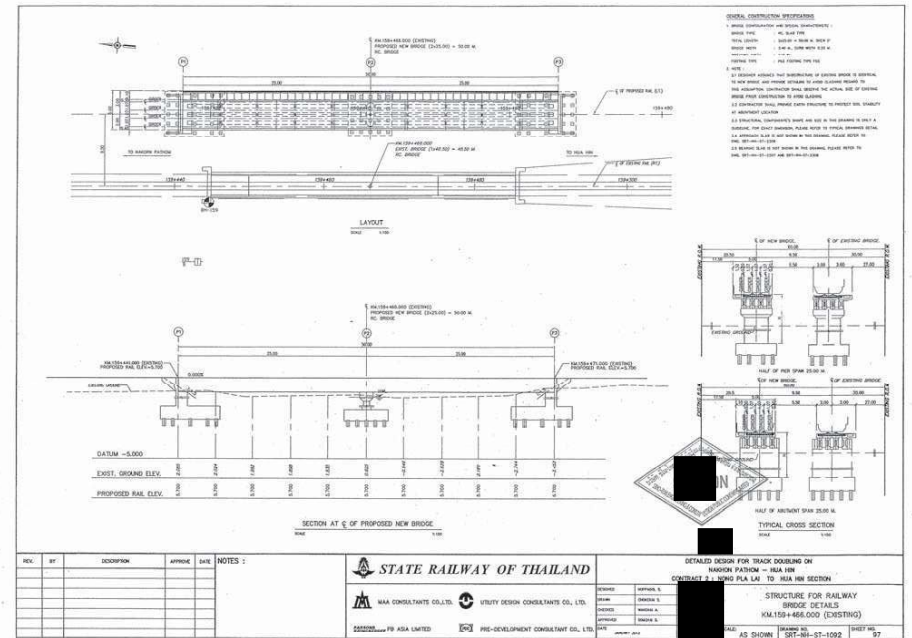
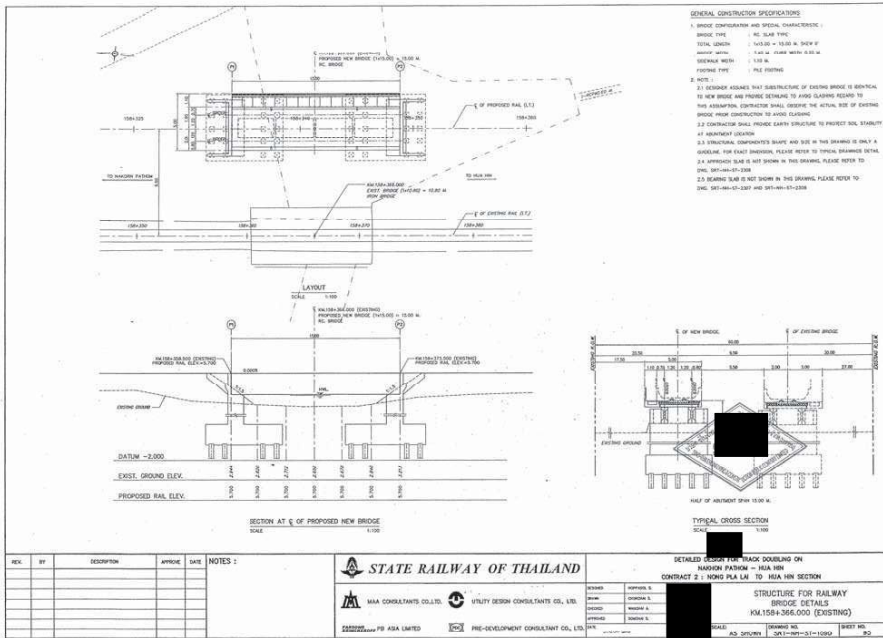
พฤษภาคม 2560

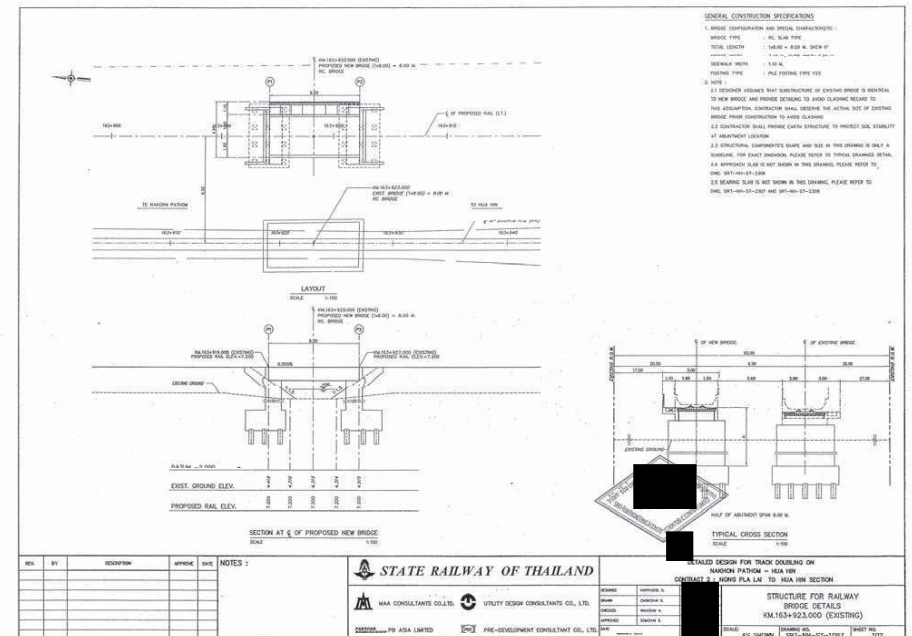
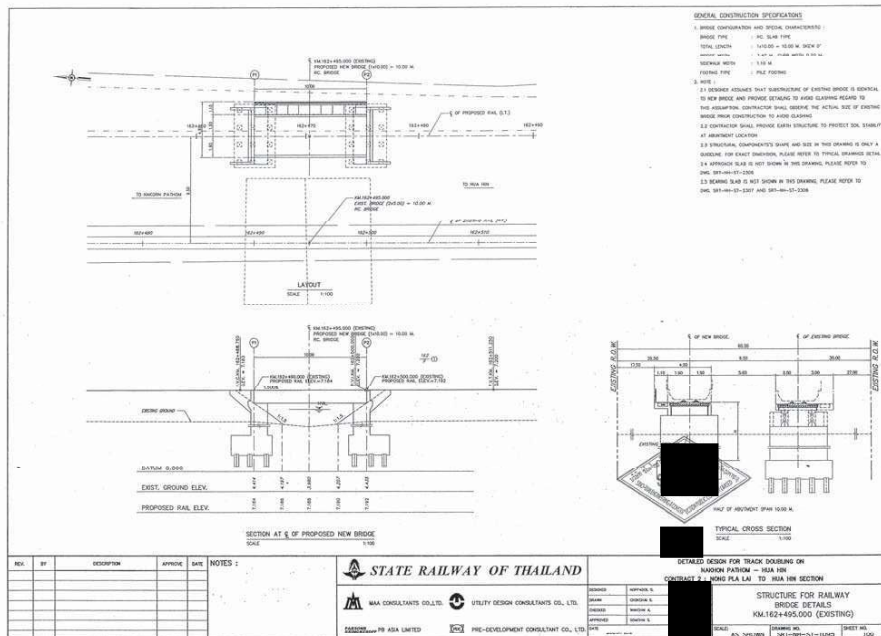
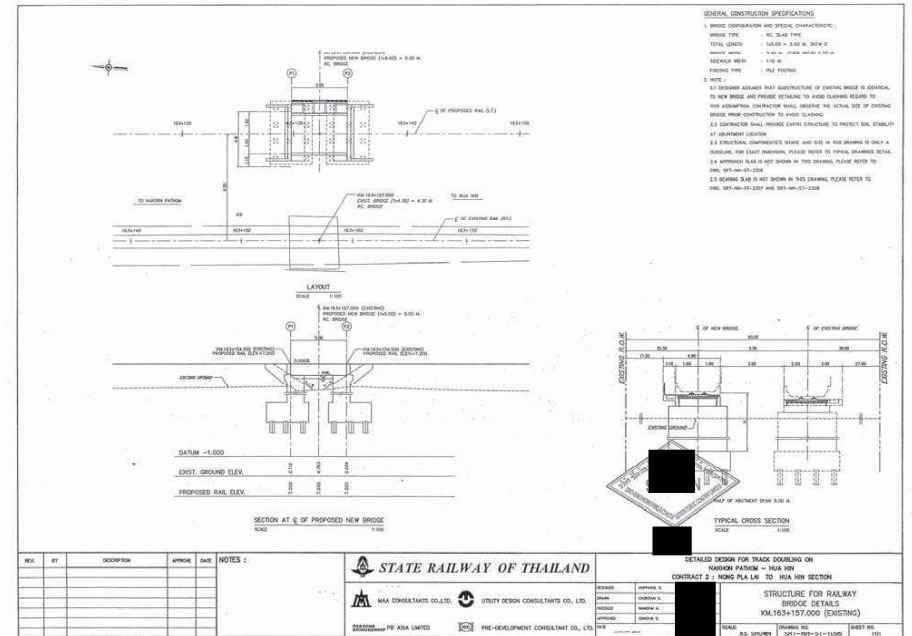
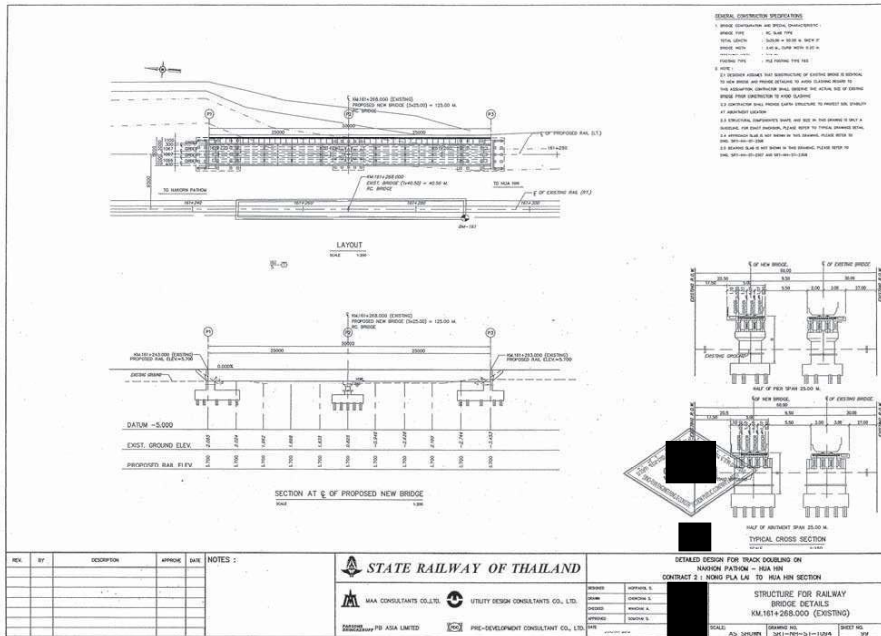
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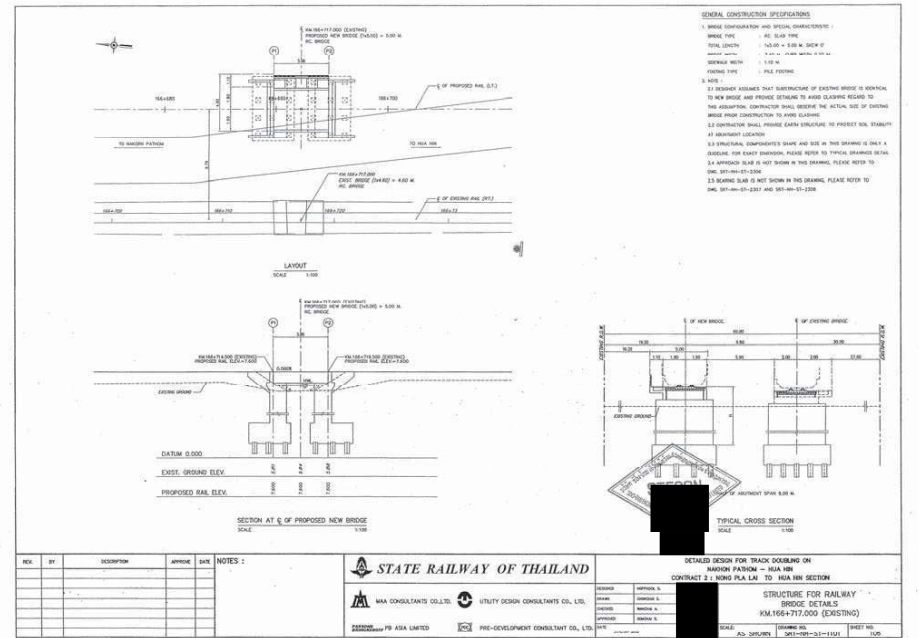
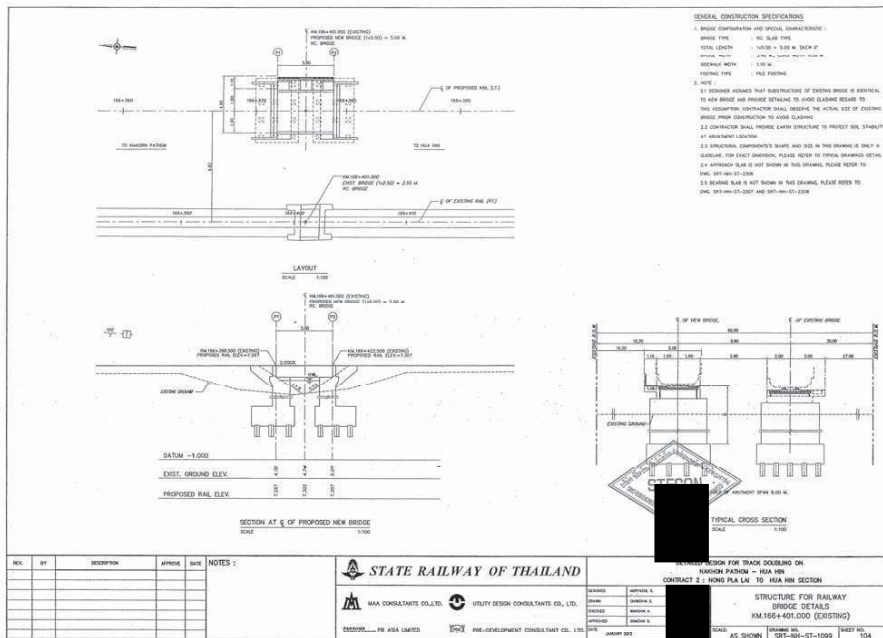
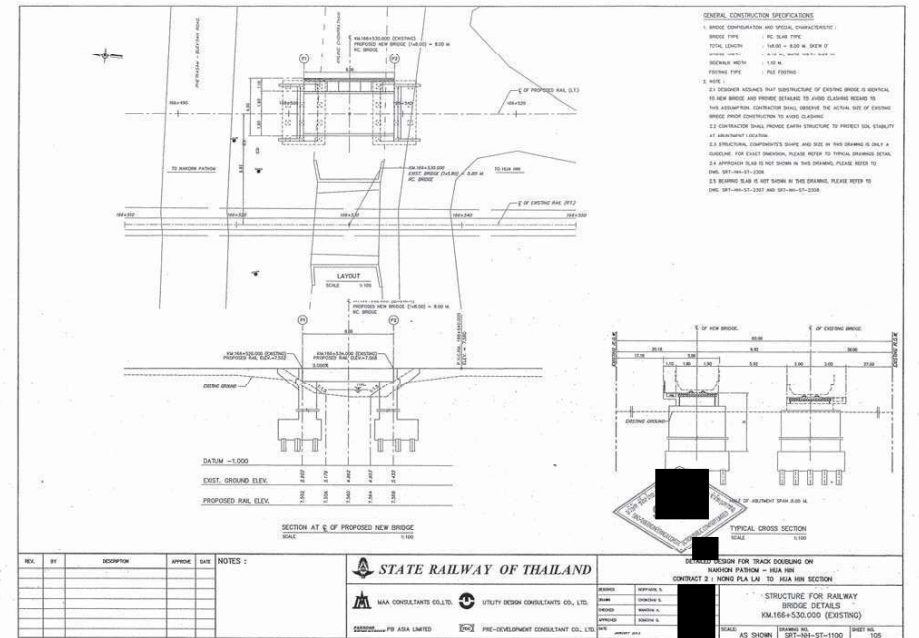
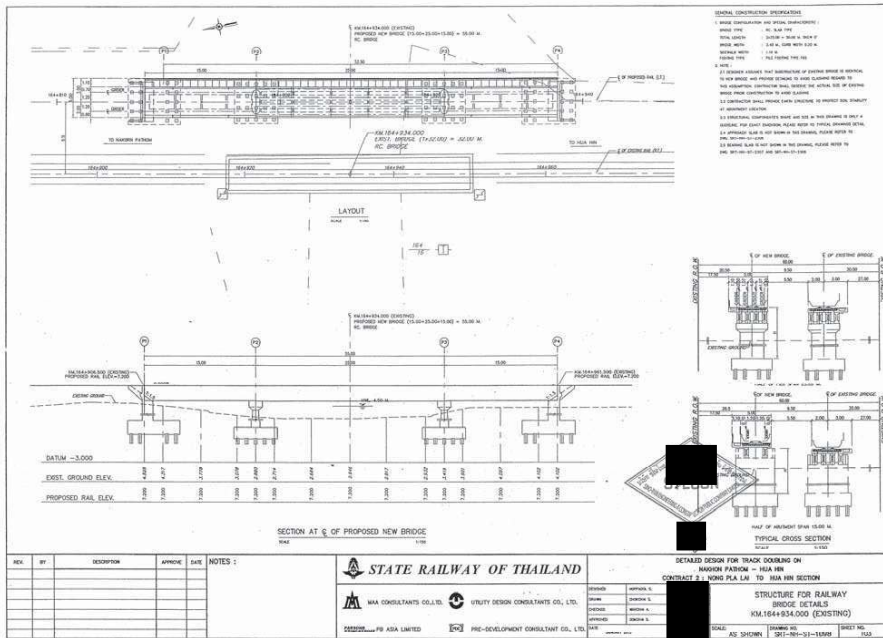


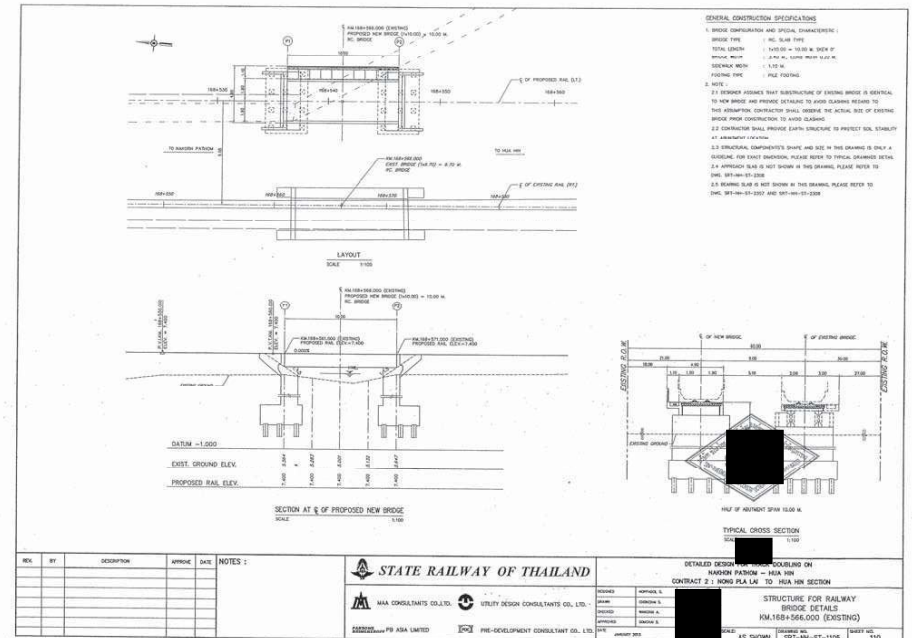
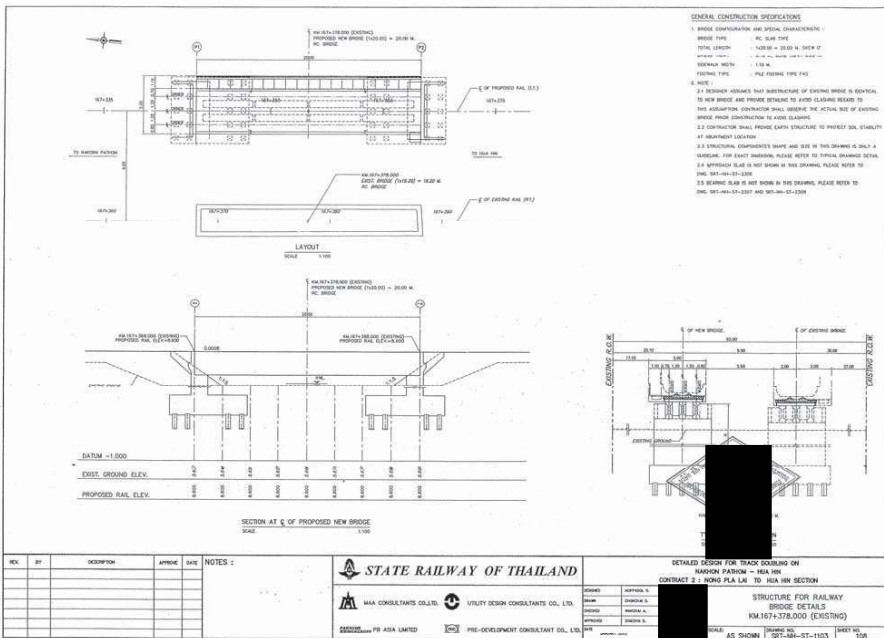
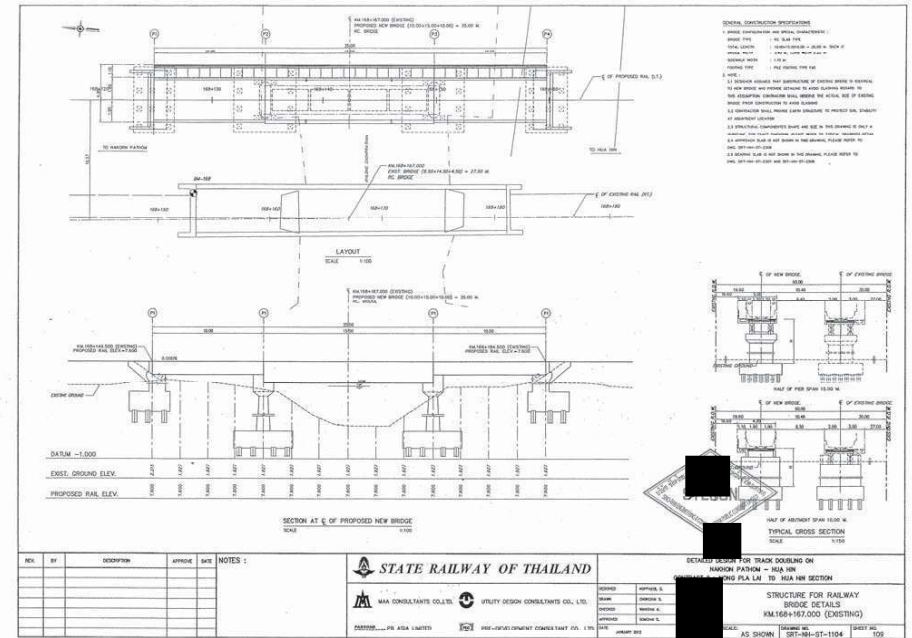
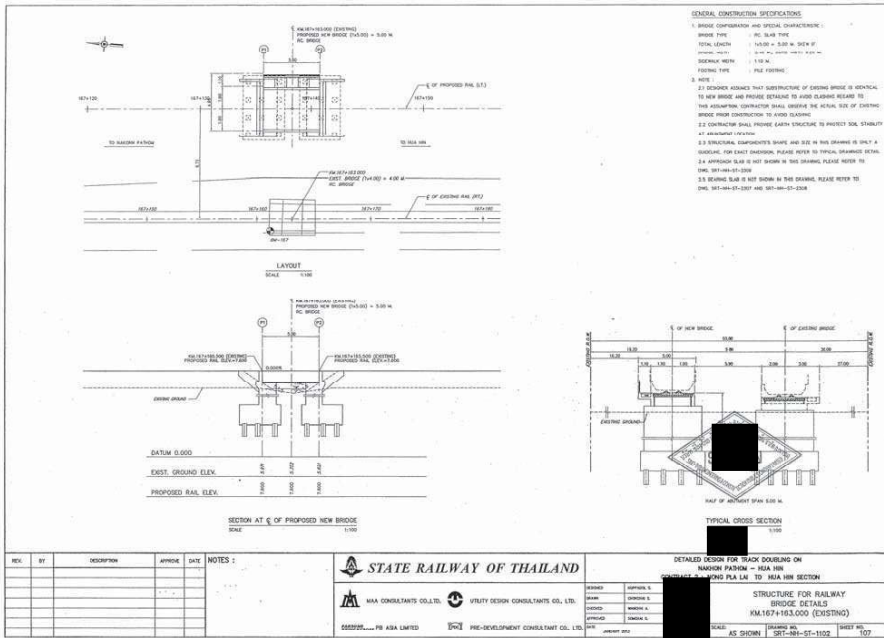


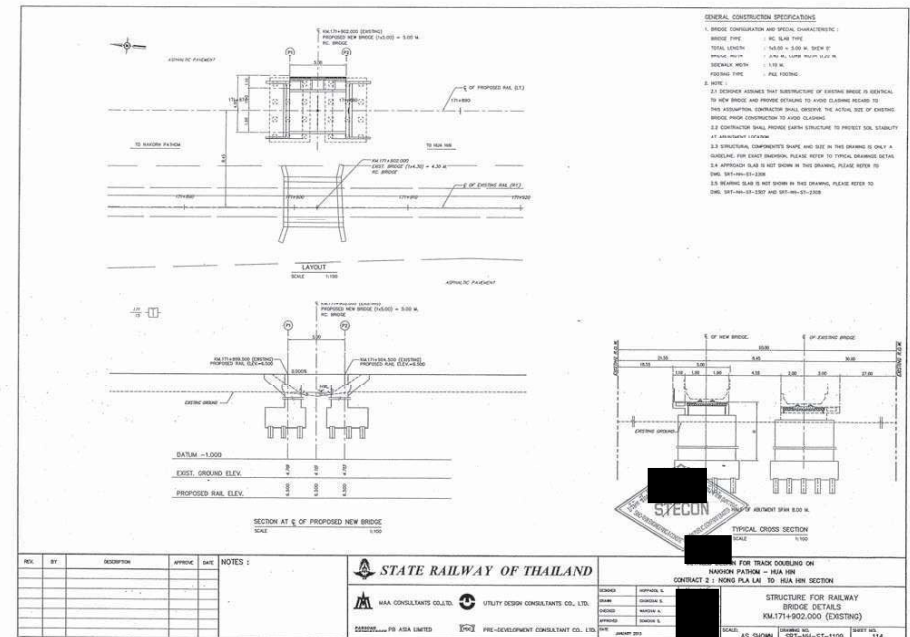
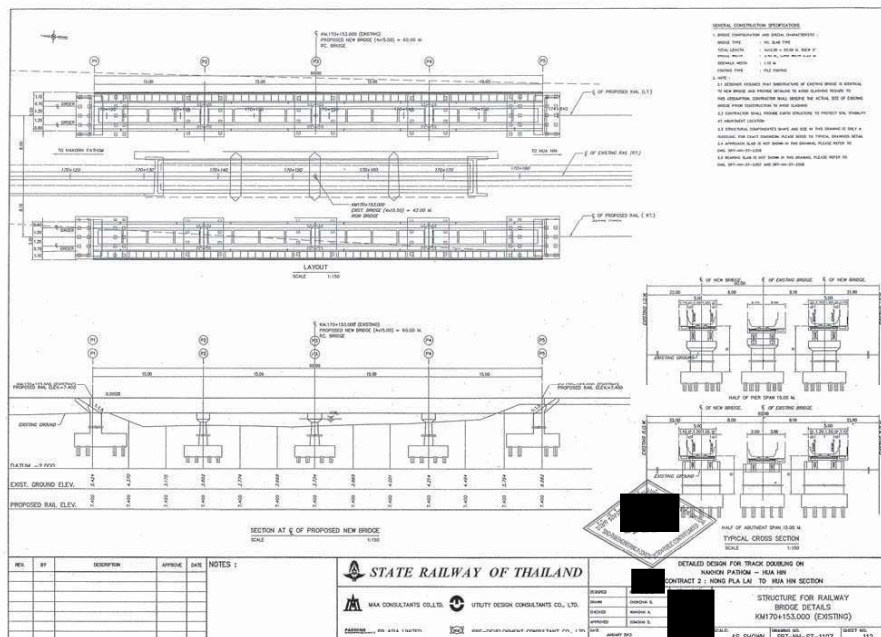
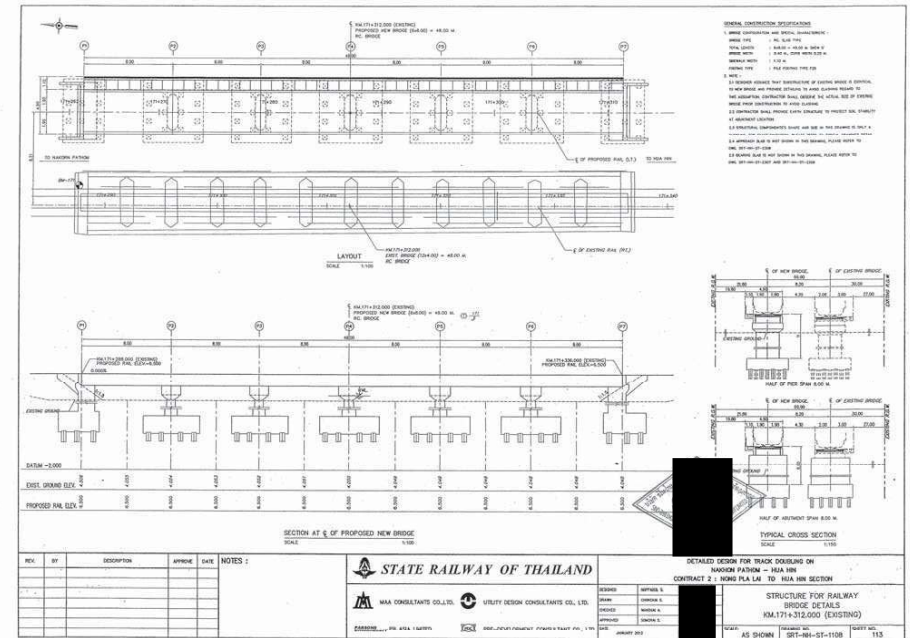
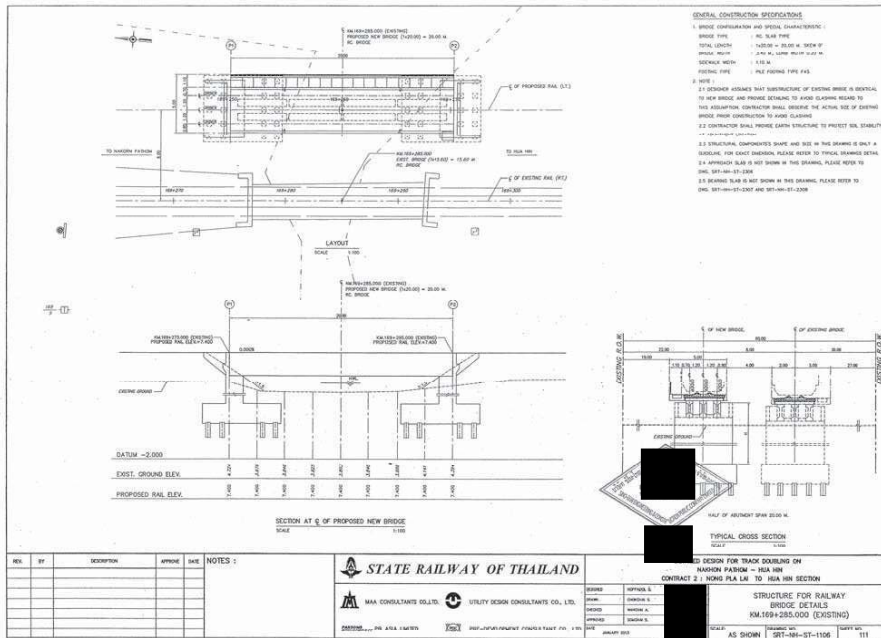


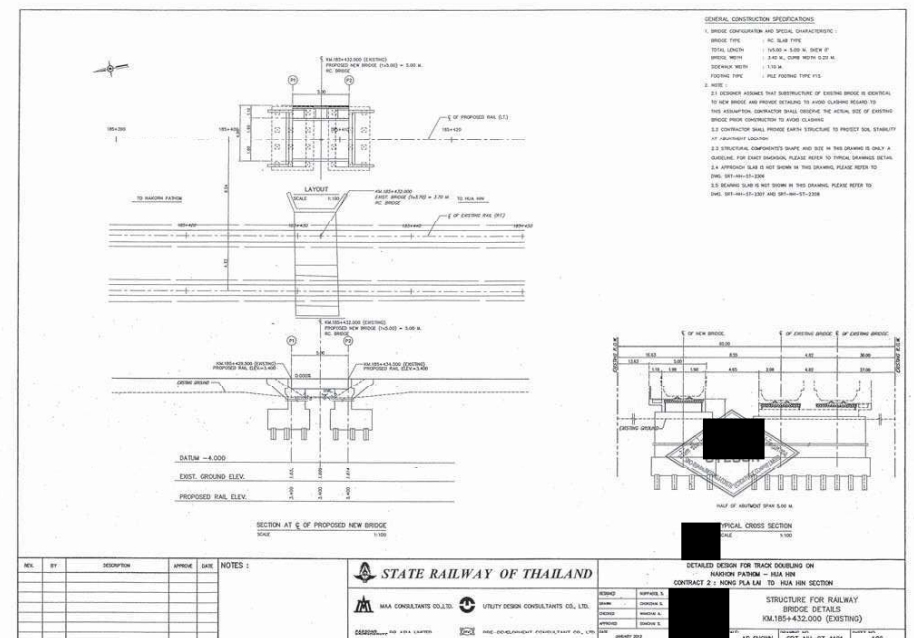
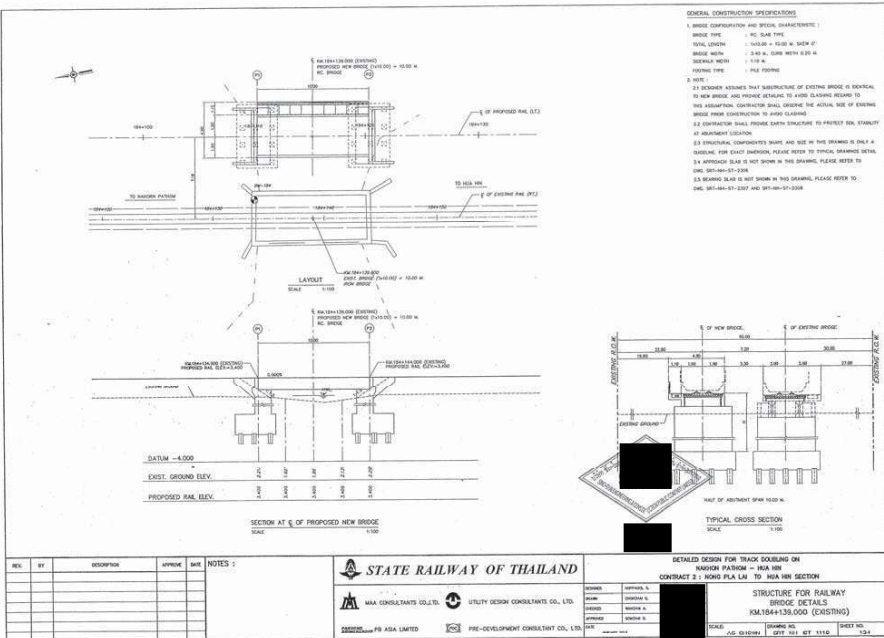
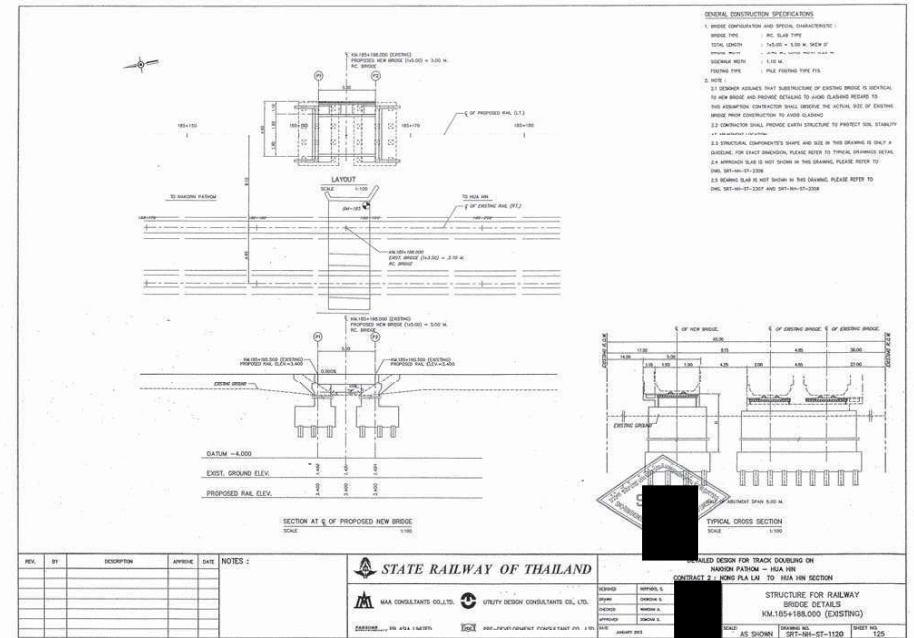
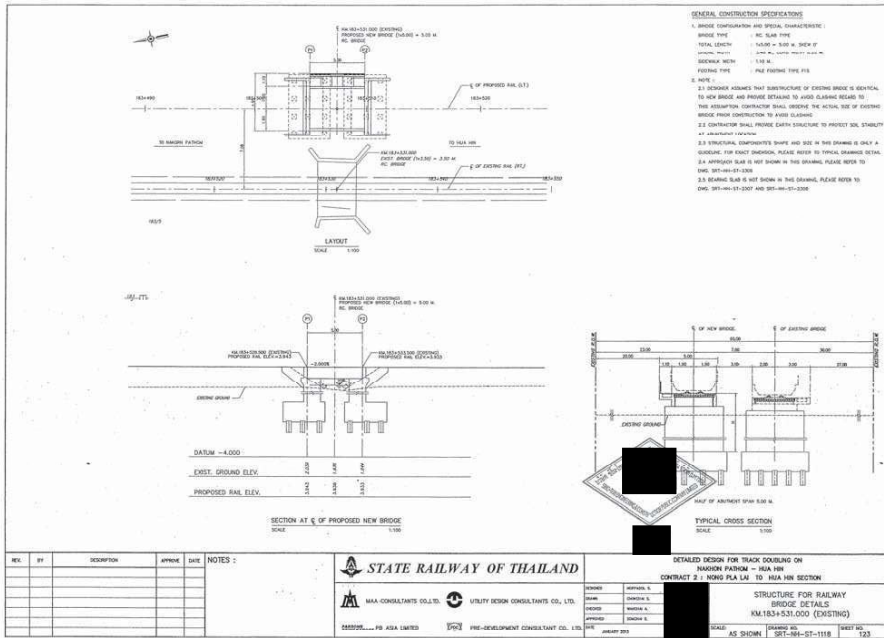


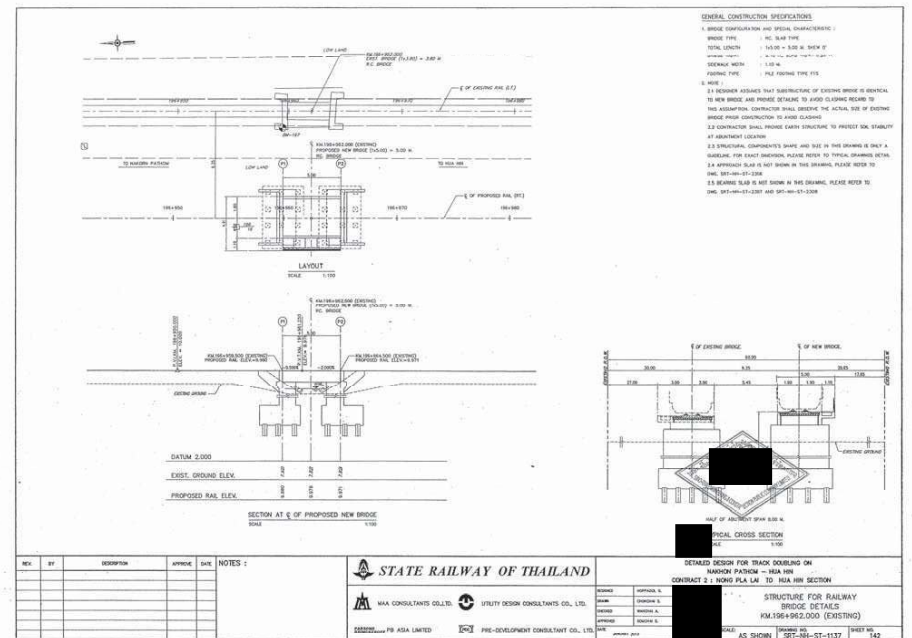
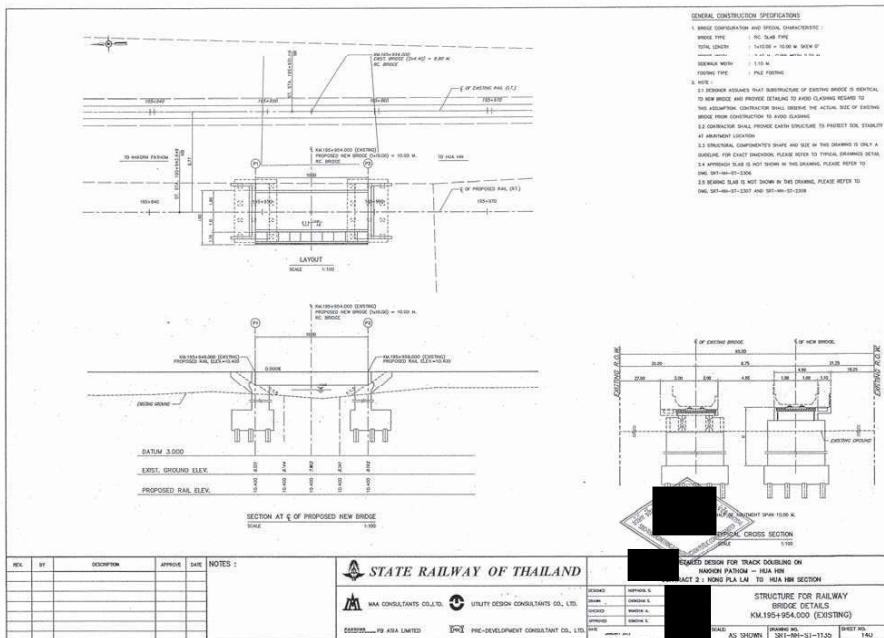
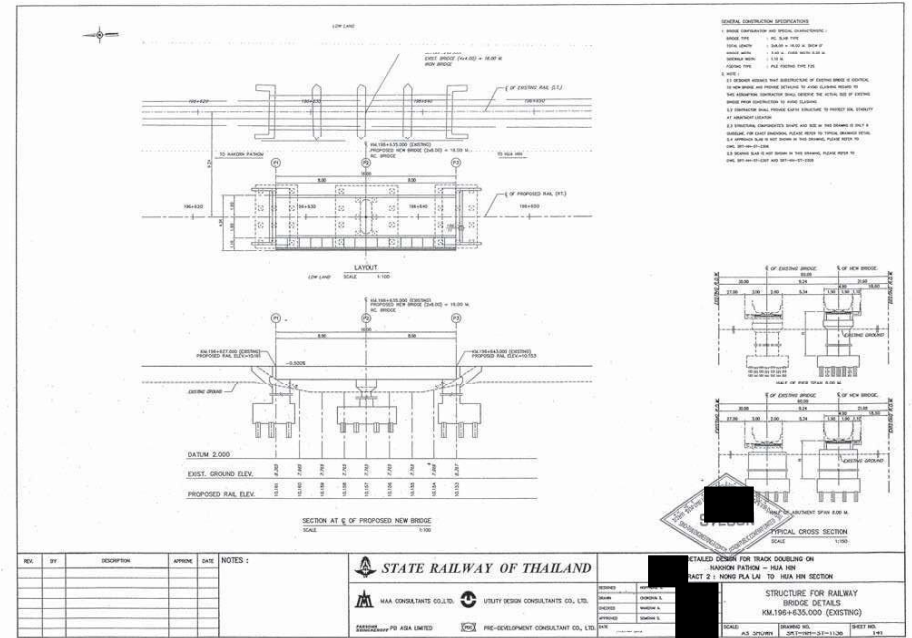
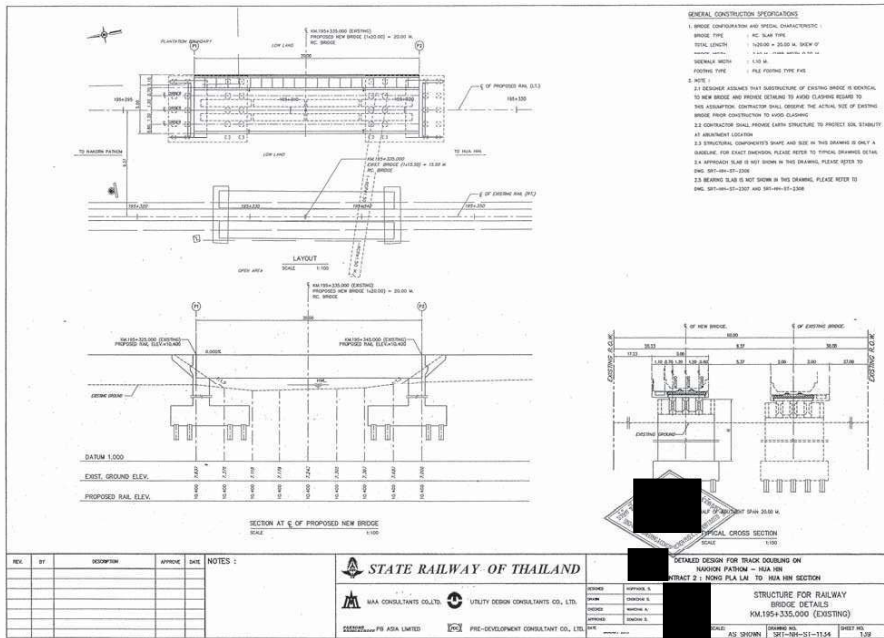


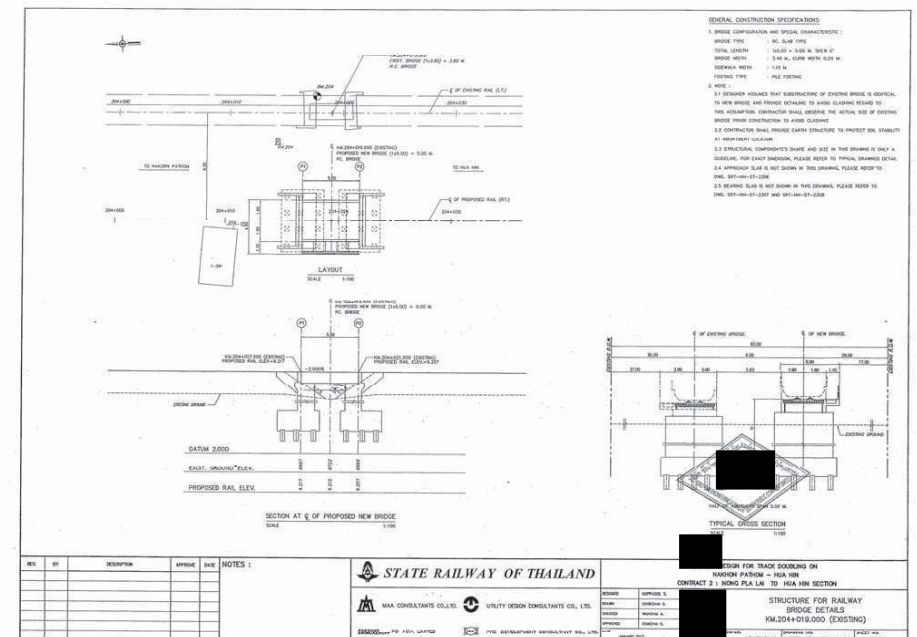
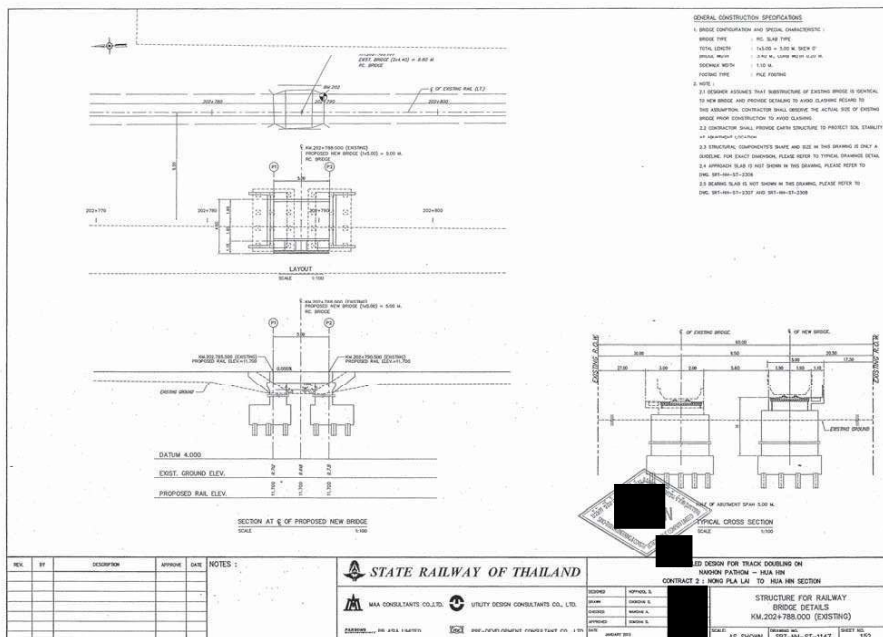
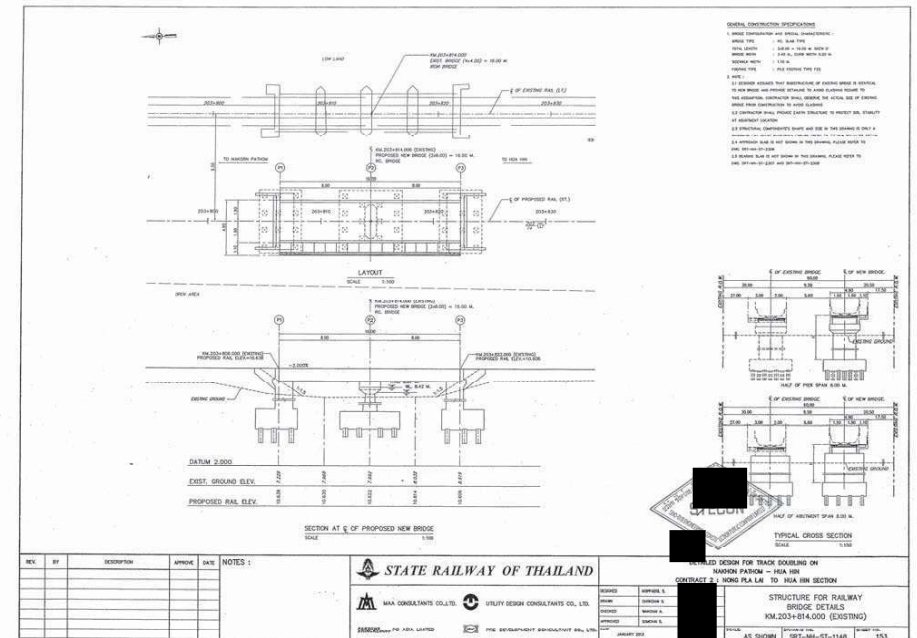
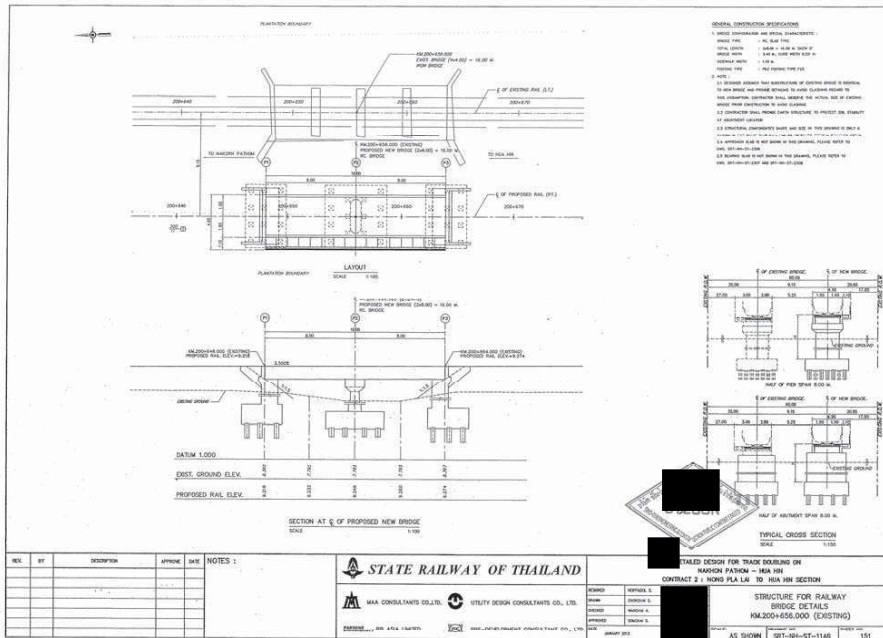


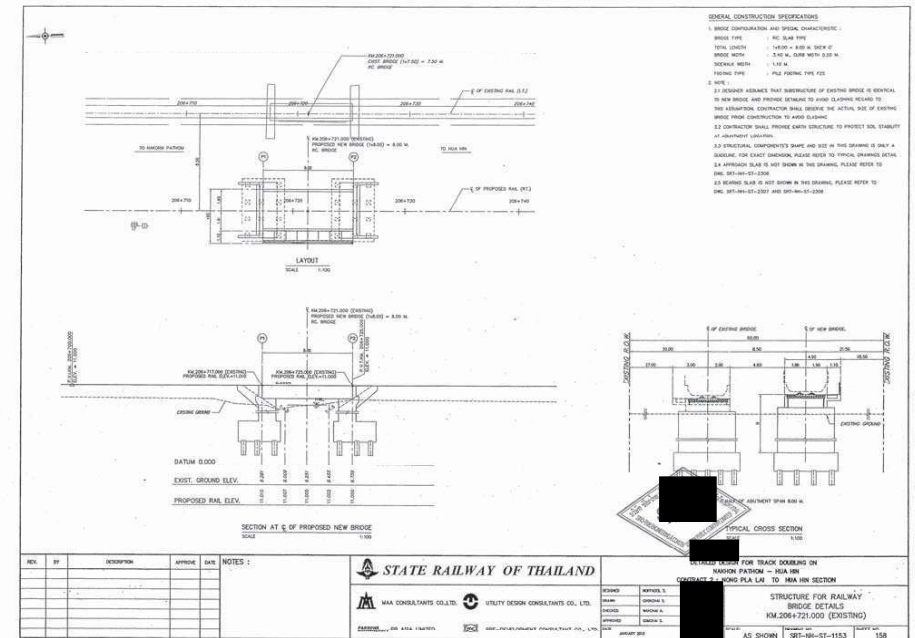
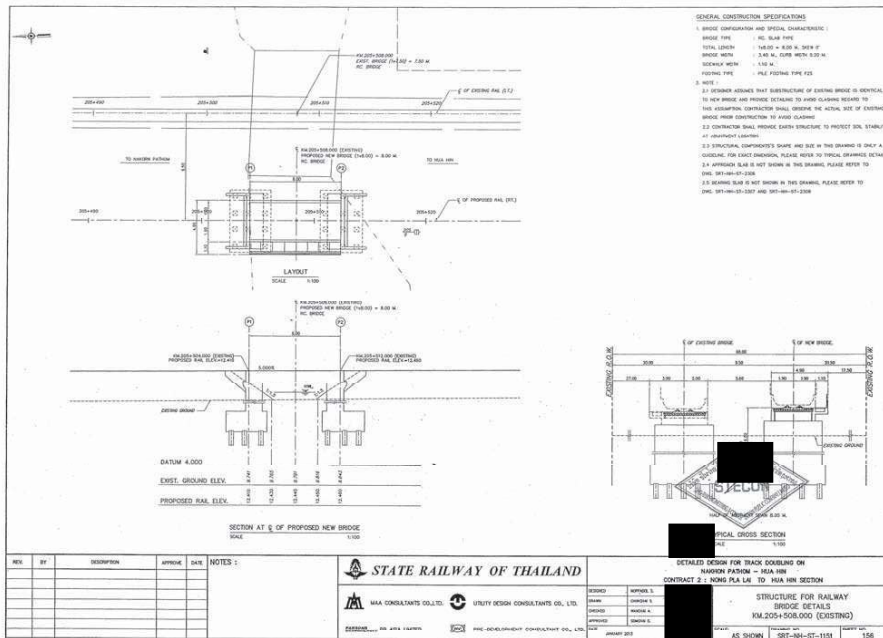
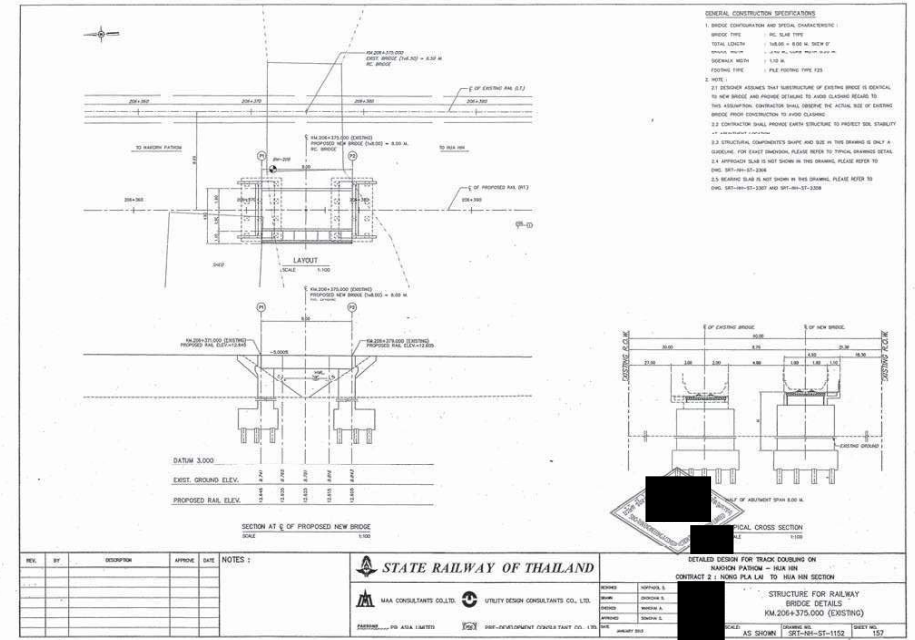
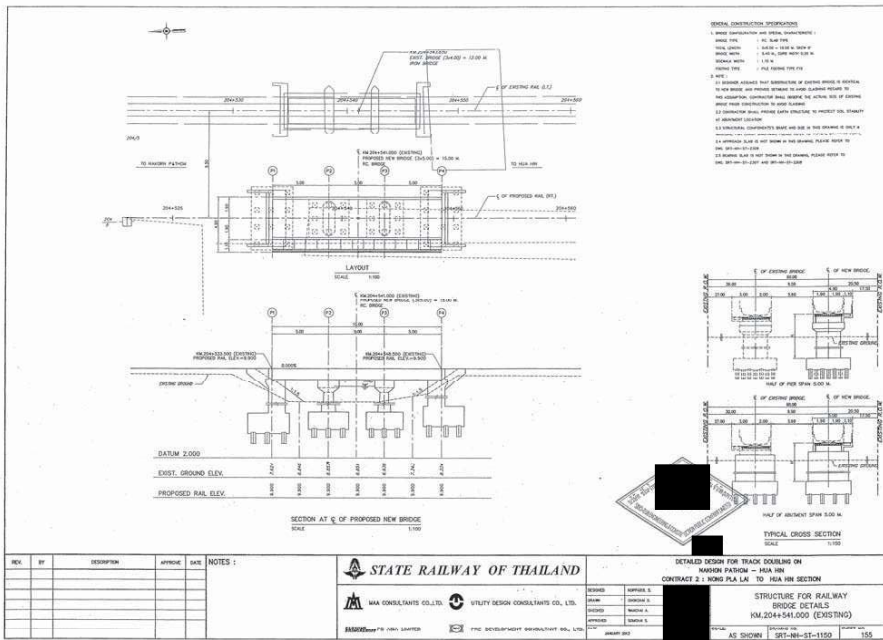


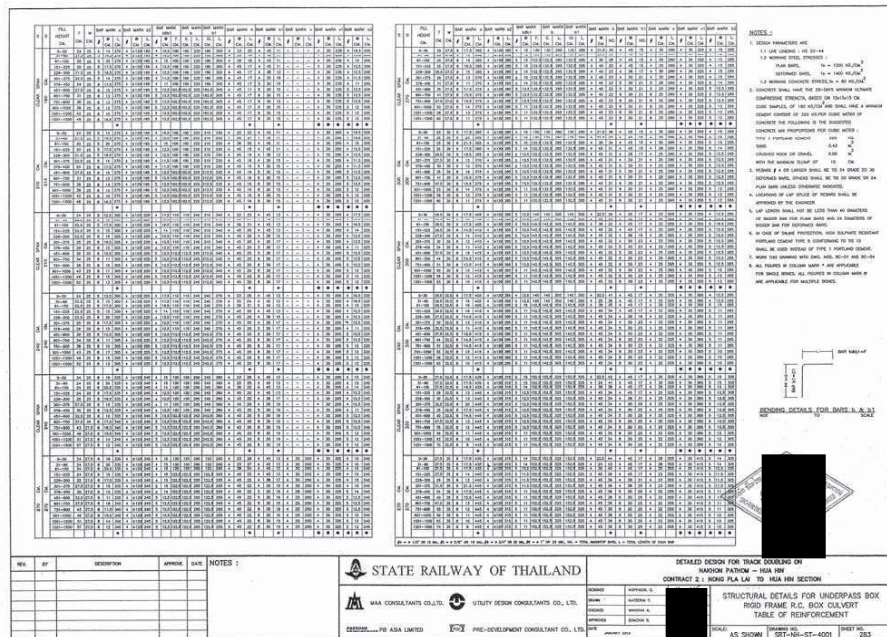
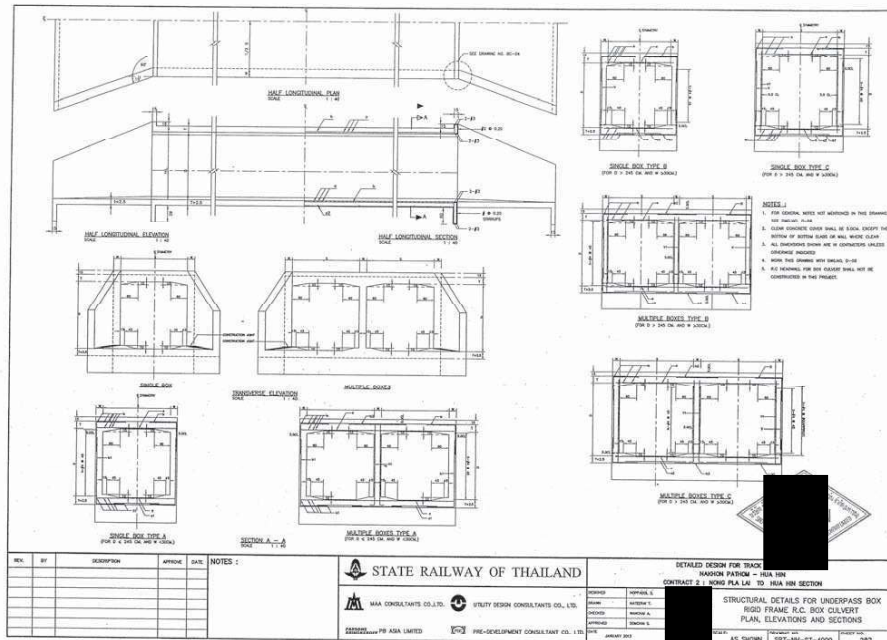














โครงการก่อสร้างรถไฟทางคู่ ช่วงนครปฐม-หัวหิน
สัญญาที่ 2 ช่วงหนองปลาไหล - หัวหิน

เอกสารประกวดราคาจ้างด้วยวิธีการทางอิเล็กทรอนิกส์
เล่ม IV (แบบรูป)
ฉบับที่ 2/7
GEOTECHNICAL DATA AND DRAINAGE WORKS

บริษัท เอ็ม เอ คอนซัลแตนท์ จำกัด
บริษัท พีบี เอเซีย จำกัด

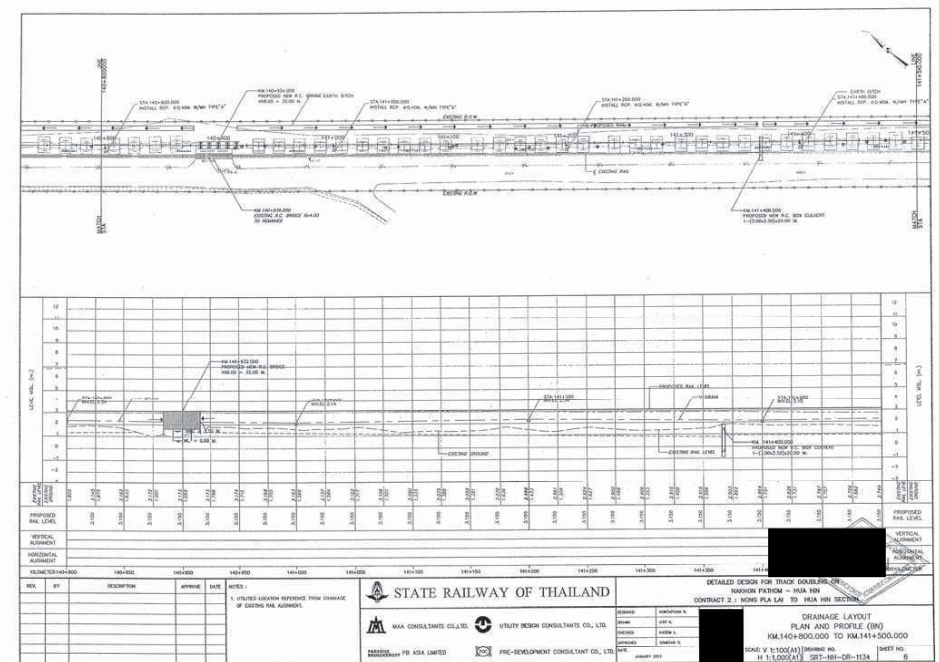
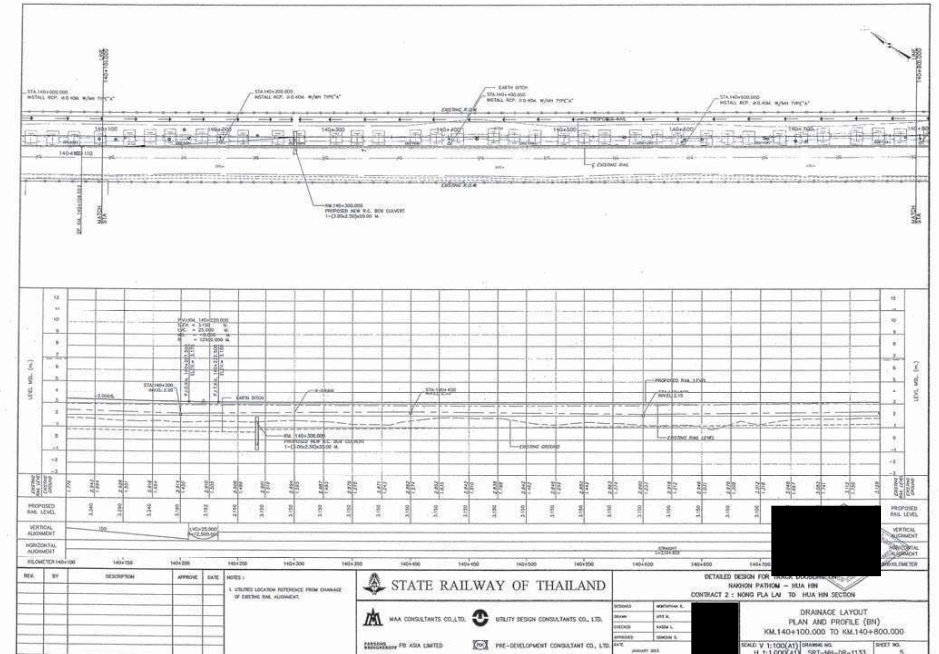
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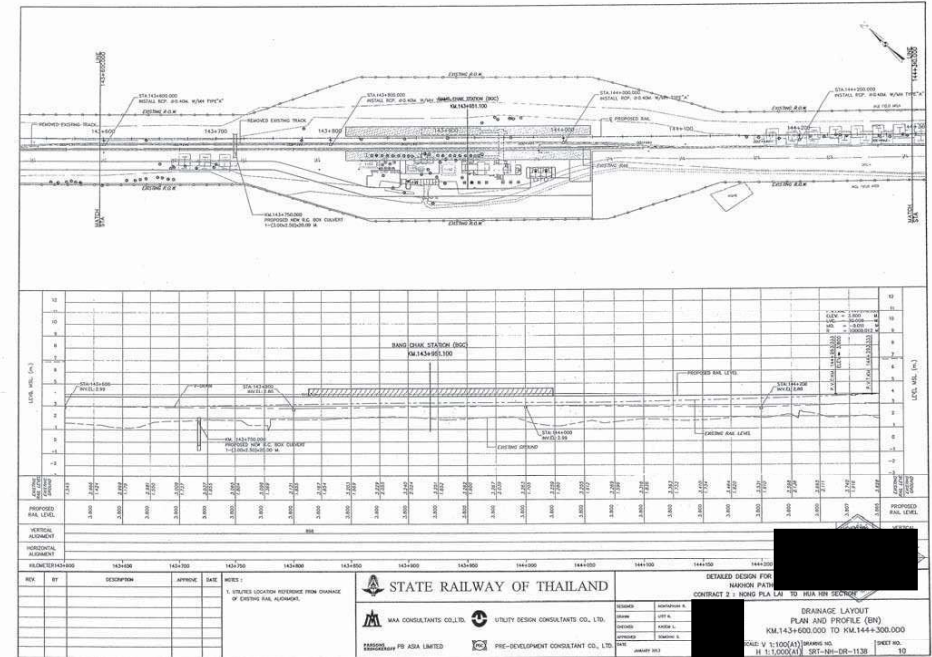
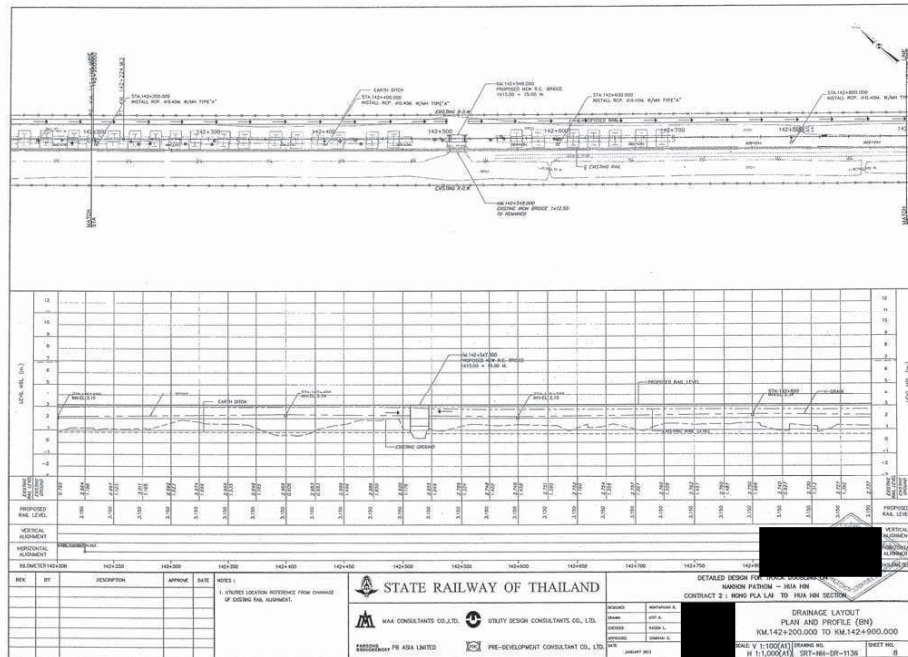
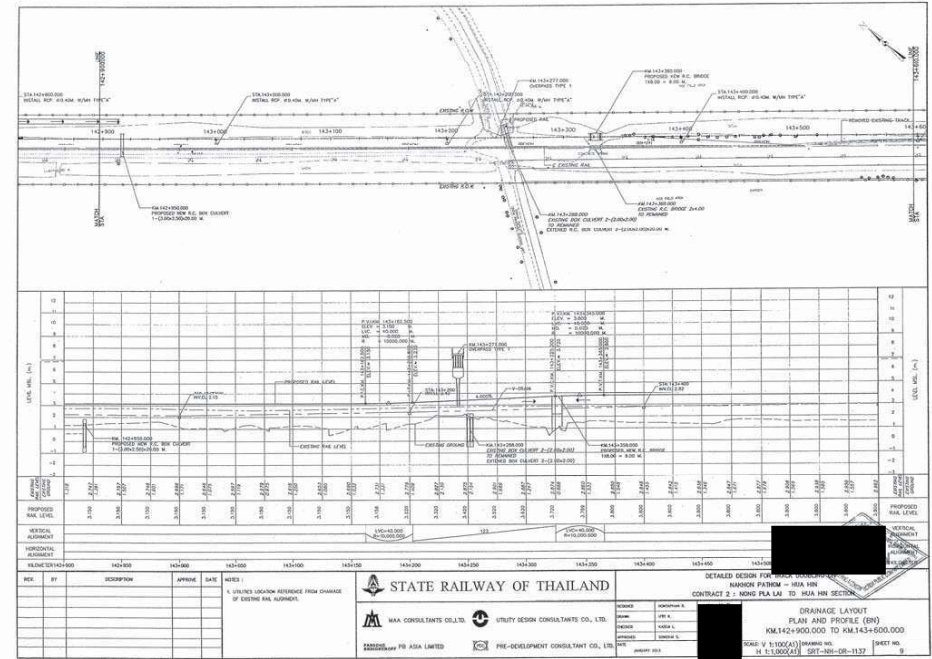
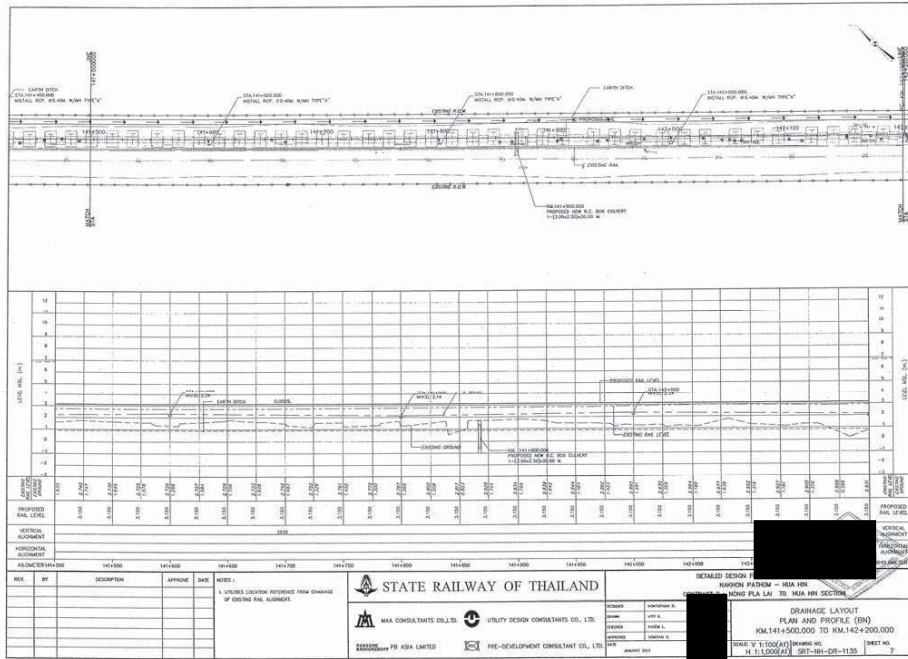


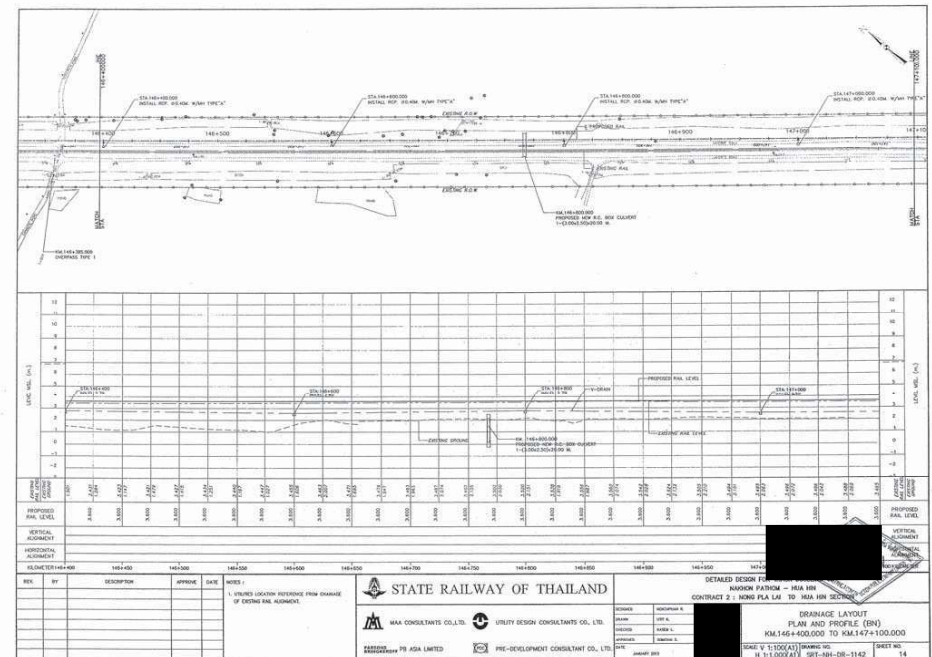
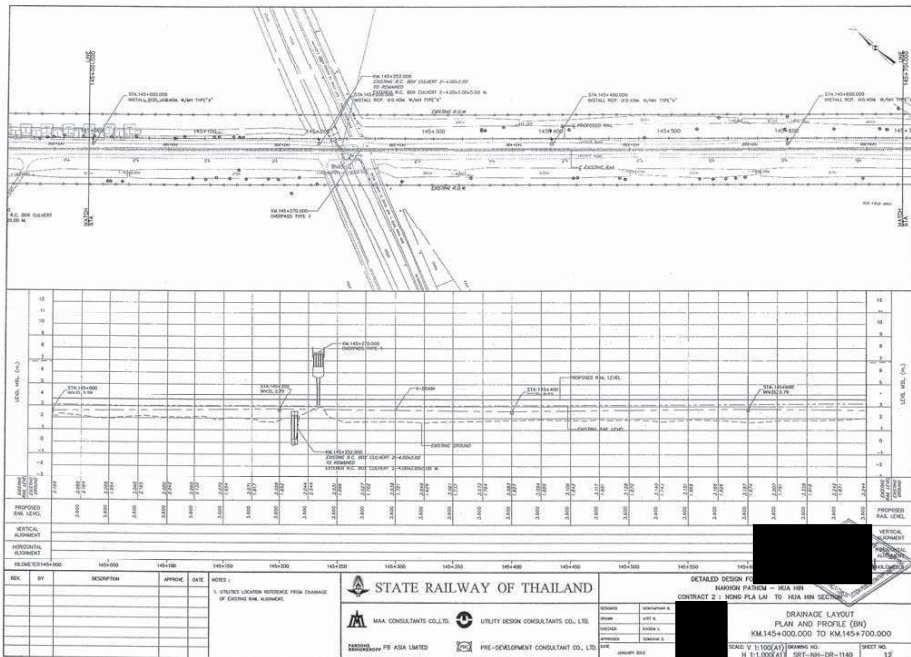
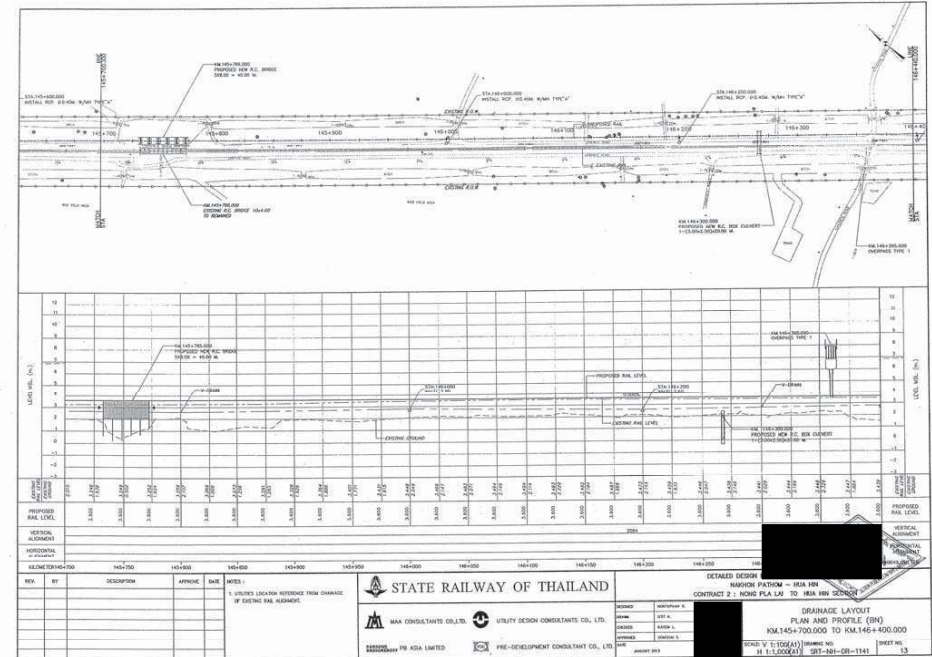
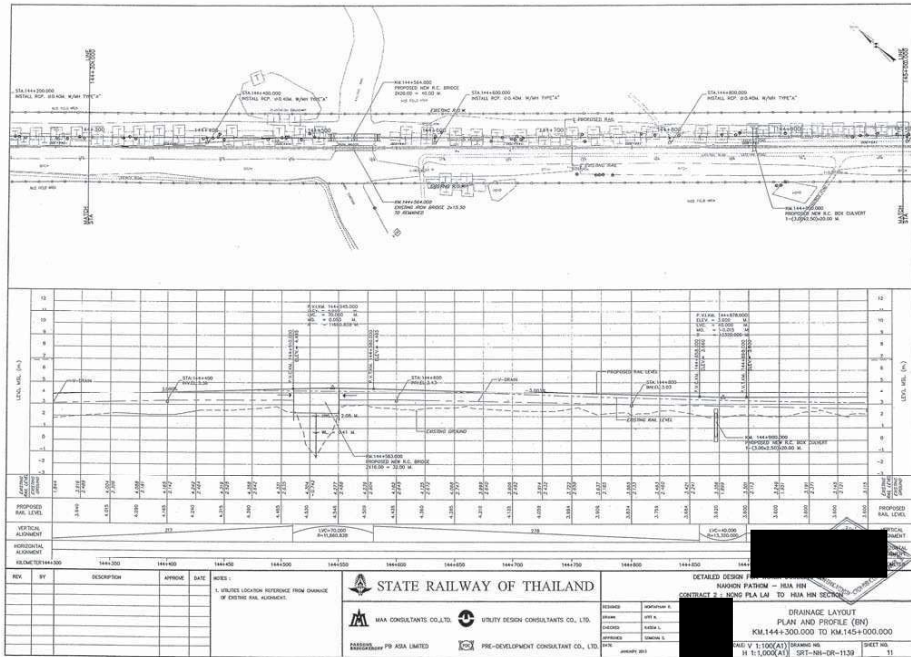
ABBREVIATIONS		SYMBOLS & LEGENDS	
APPROX.	APPROXIMATE	---	DRAINAGE LINE
DWG.	DRAWING	---	PROPOSED RAIL
M.	METER	---	EXISTING TRACK
MAX.	MAXIMUM	□	MANHOLE
MM.	MILLIMETERS	→	FLOW DIRECTION
RCP.	REINFORCED CONCRETE PIPE CULVERT	⊙	DIAMETER
REF.	REFERENCE		
THK.	THICKNESS		
W/	WITH		
CL	CENTER LINE		
INVEL.	INVERSE ELEVATION		

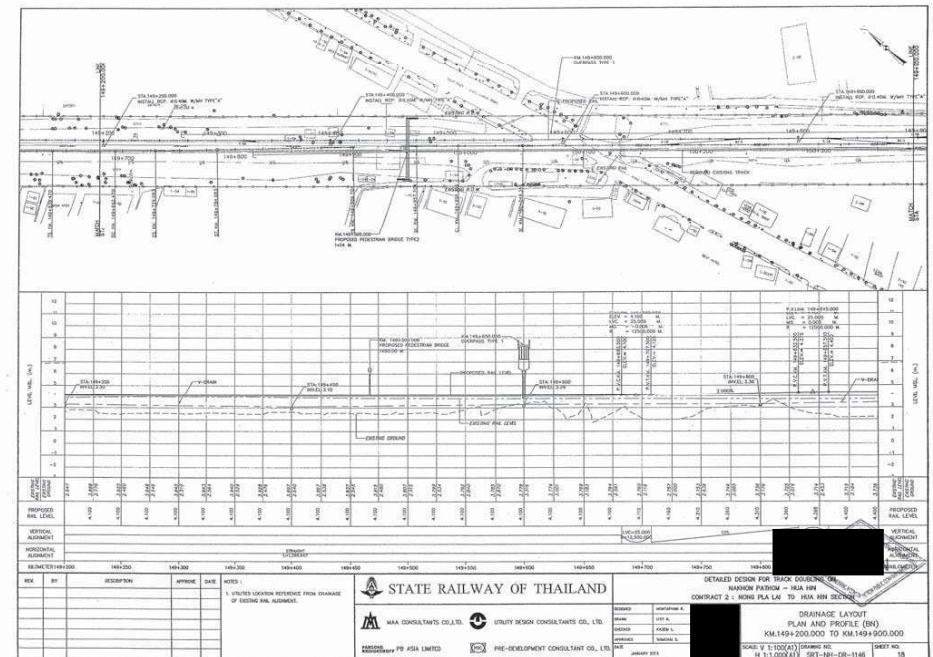
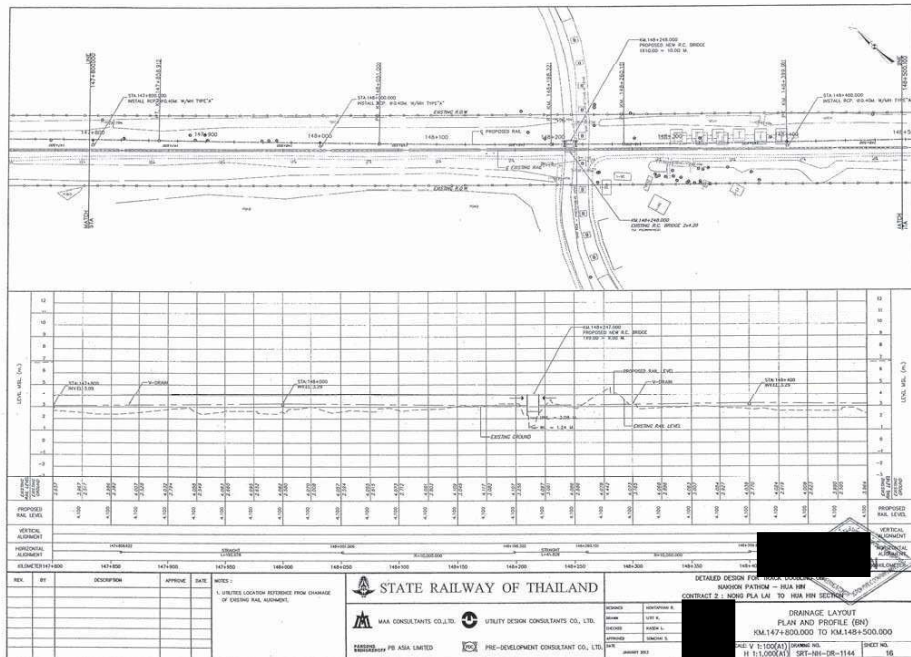
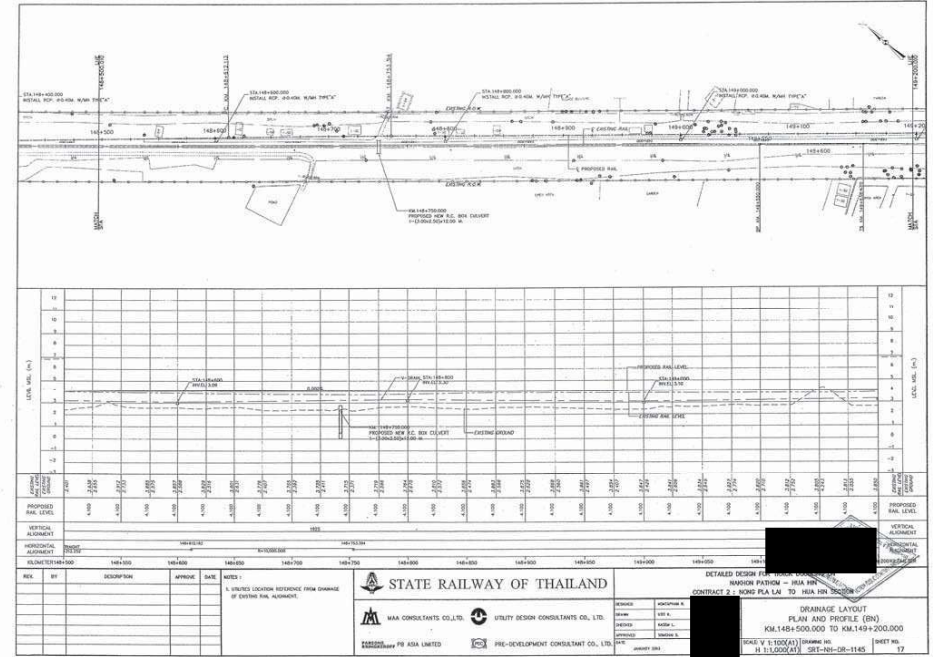
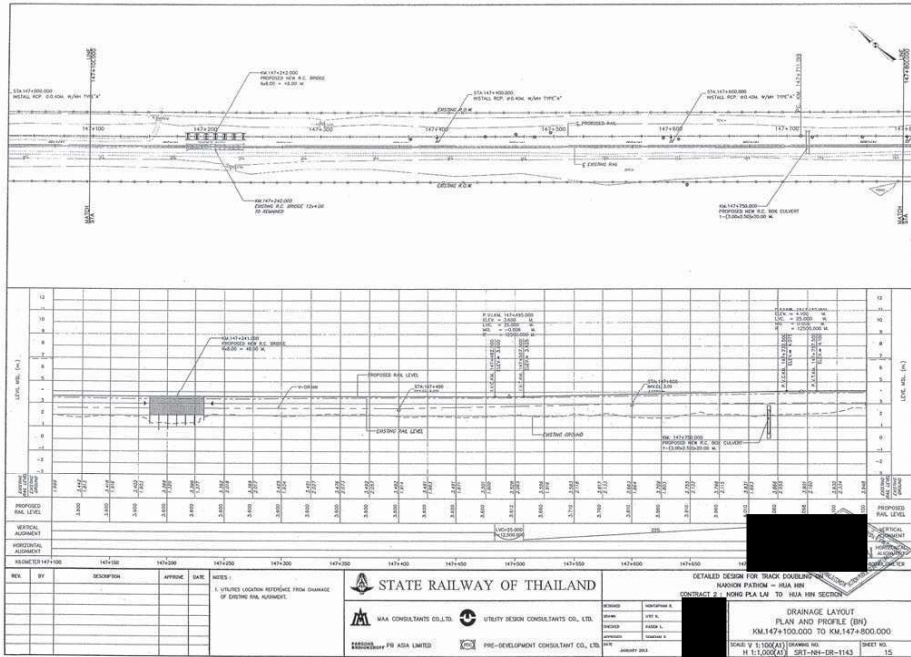
REV.	BY	DESCRIPTION	APPROVE	DATE	NOTES :

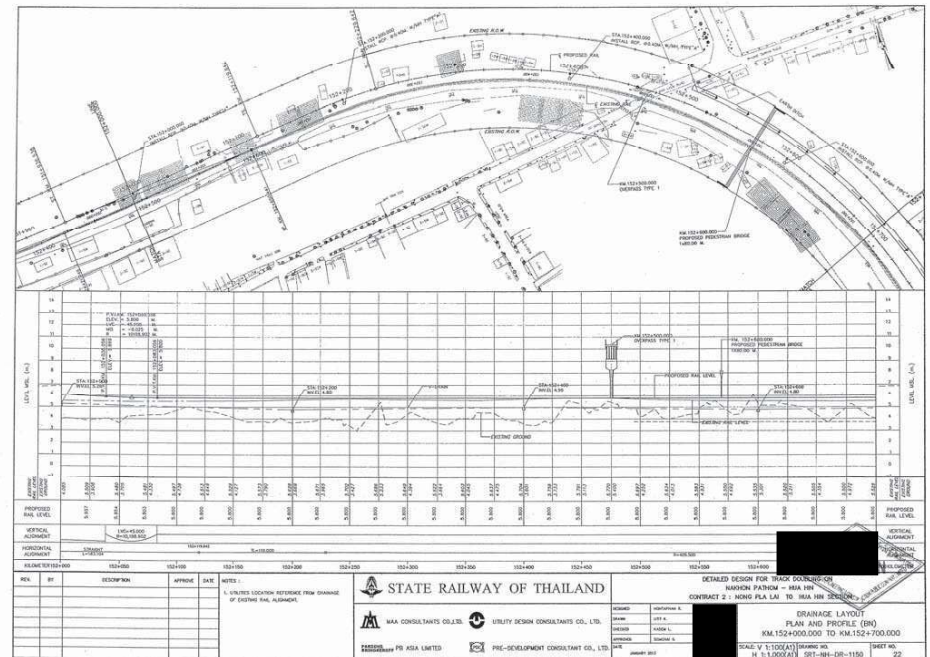
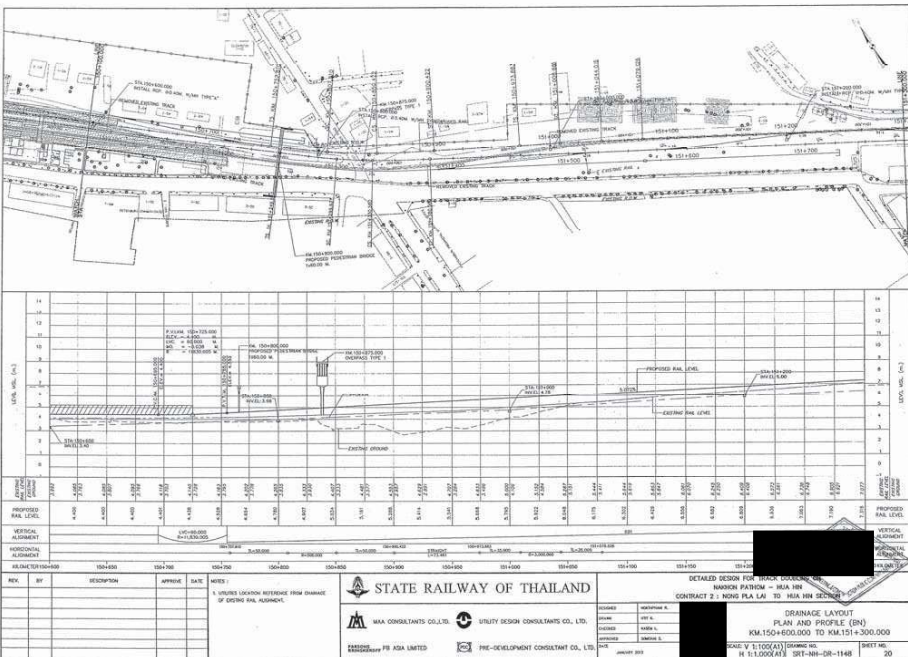
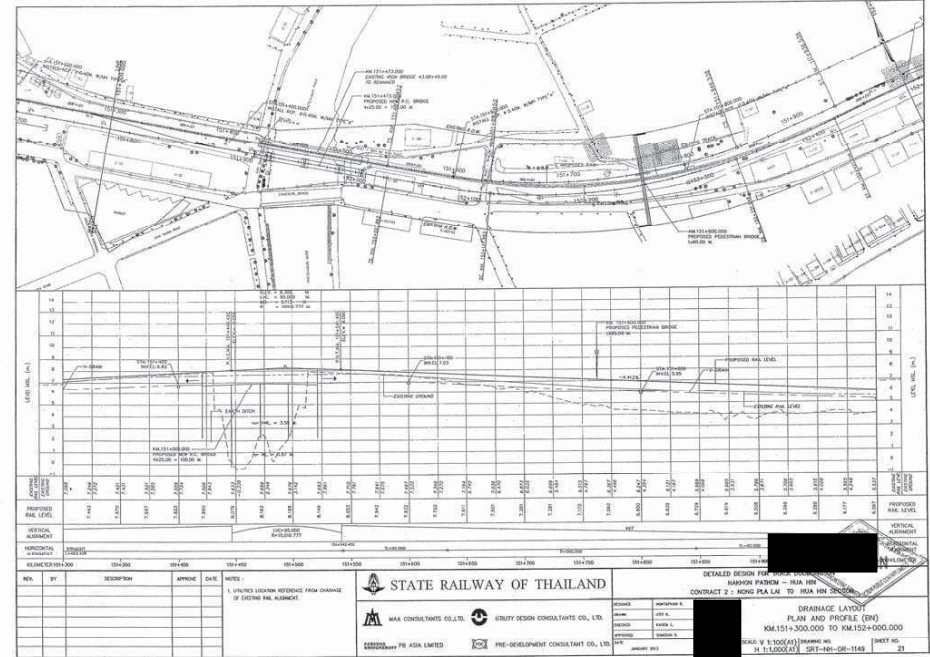
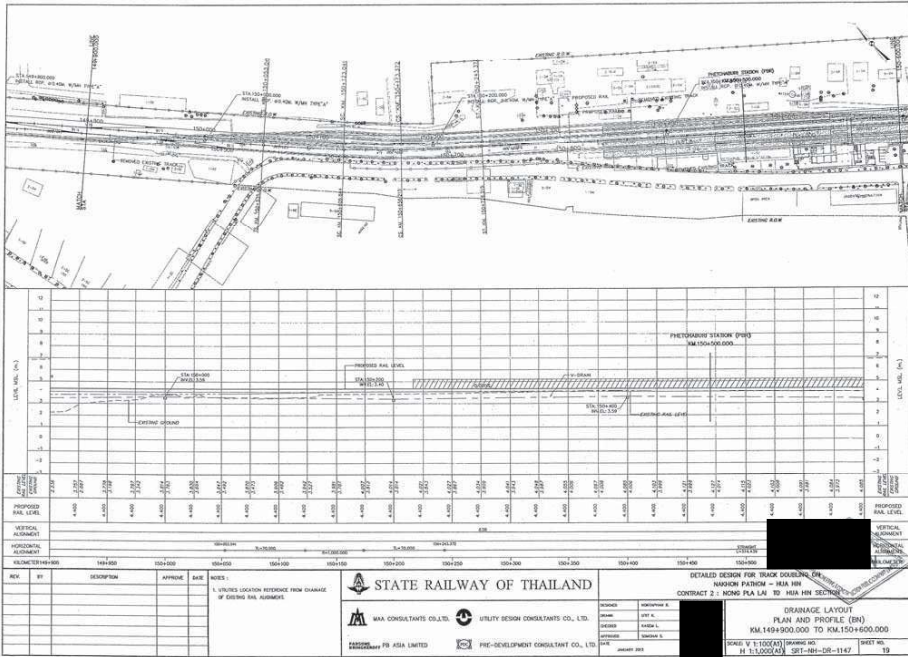
STATE RAILWAY OF THAILAND		DETAILED DESIGN FOR TRACK DOUBLING ON RAILWAY PATRIM - HUA BIN CONTRACT 2 : HONG PLA LAI TO HUA BIN SECTION	
MAA CONSULTANTS CO., LTD.	UTILITY DESIGN CONSULTANTS CO., LTD.	GENERAL NOTES	
PRE-DEVELOPMENT CONSULTANT CO., LTD.	PRE-DEVELOPMENT CONSULTANT CO., LTD.	SCALE:	DRAWING NO. SRT-MH-08-0004
			SHEET NO. 4

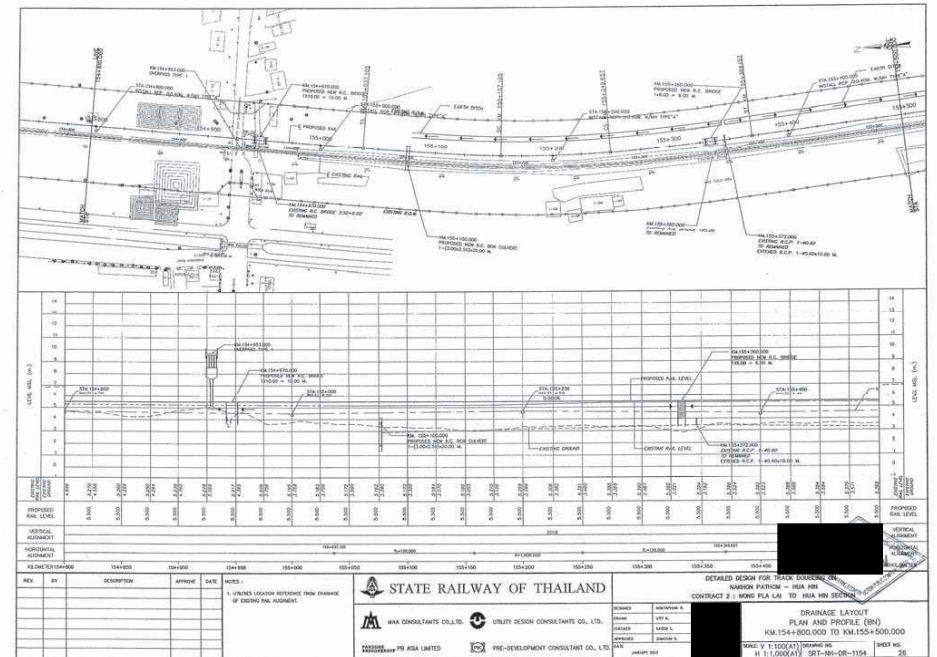
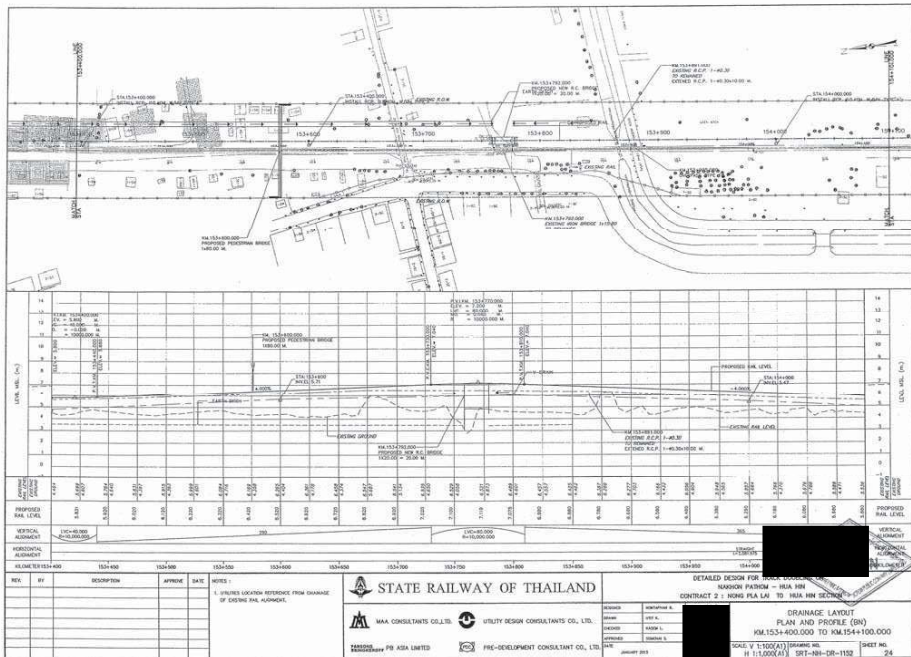
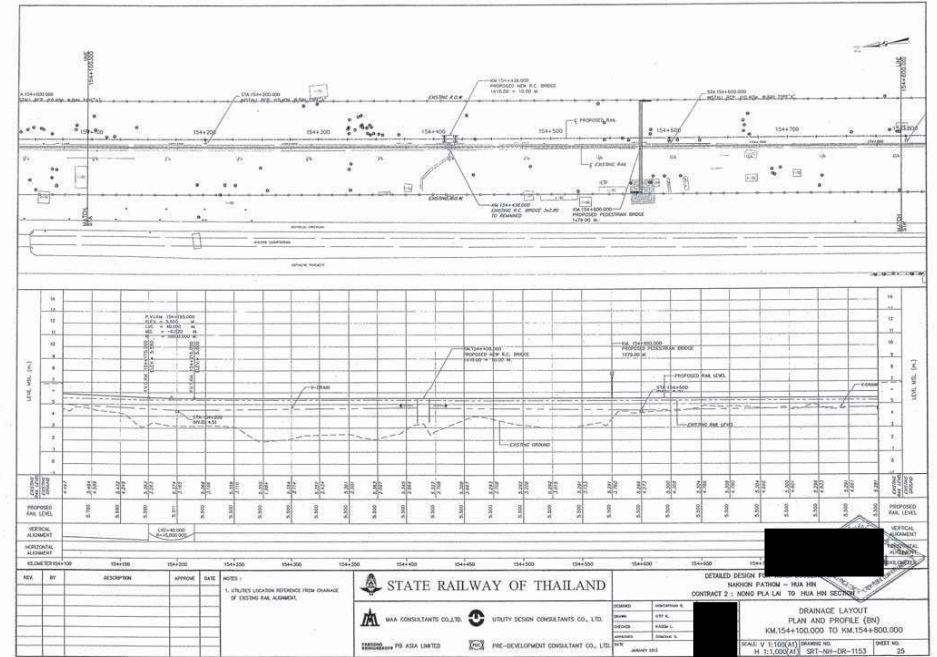
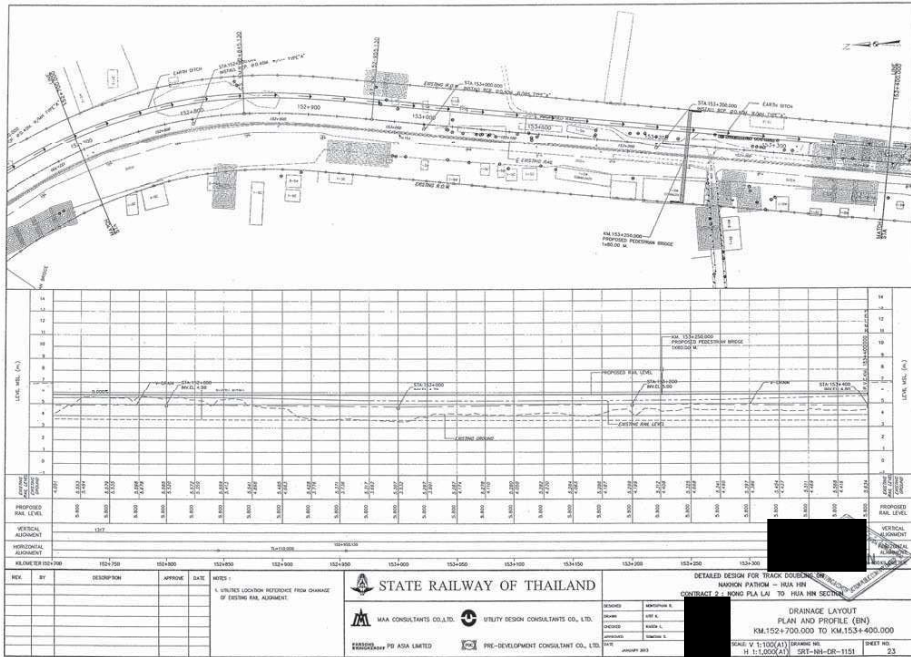


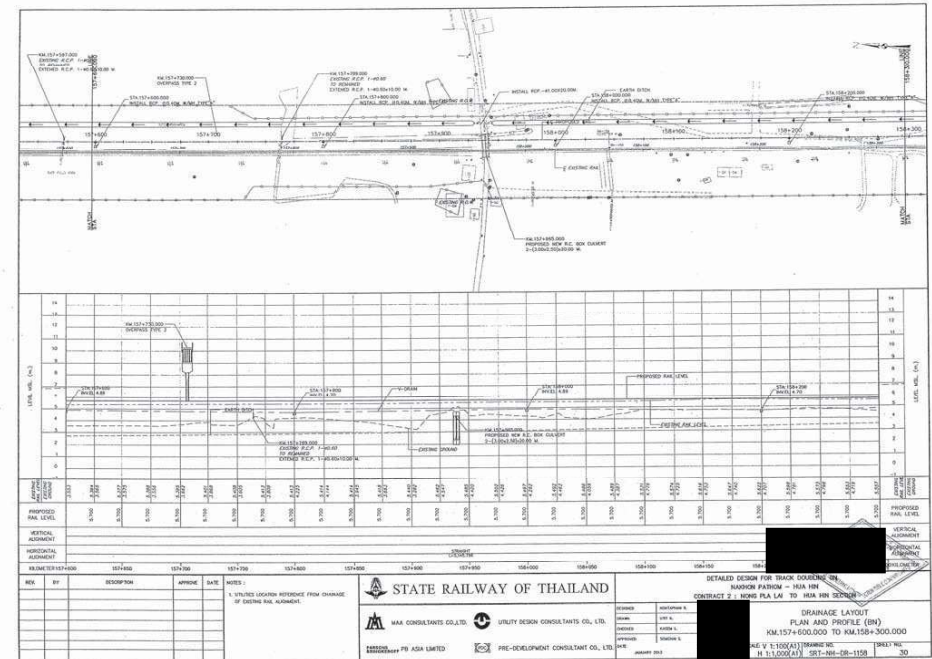
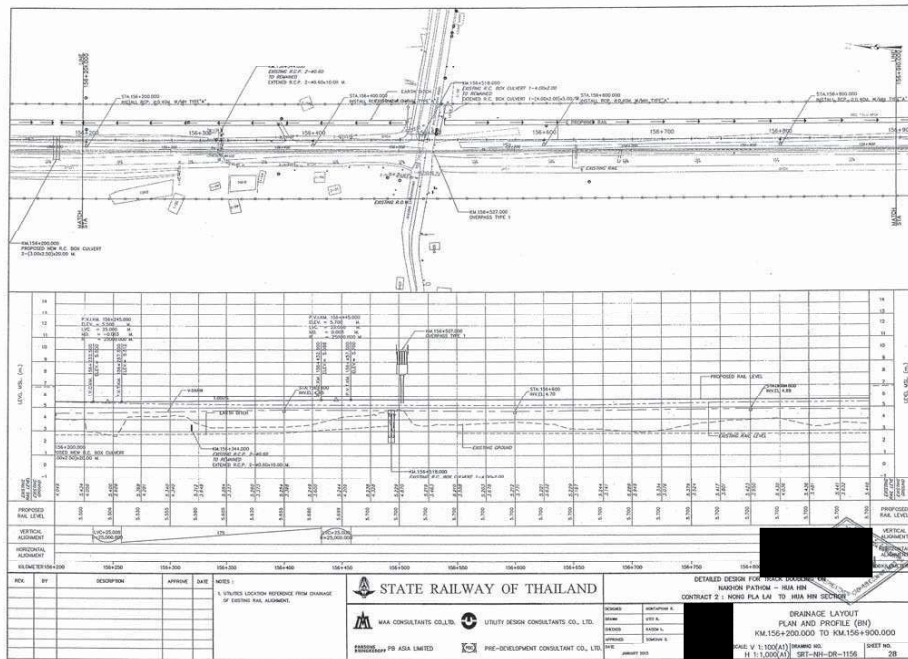
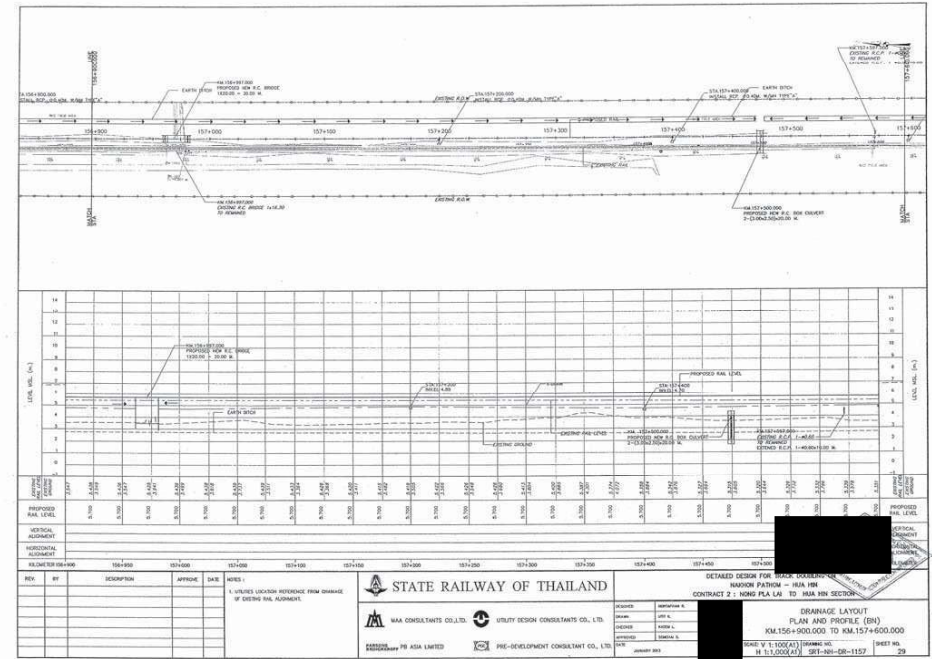
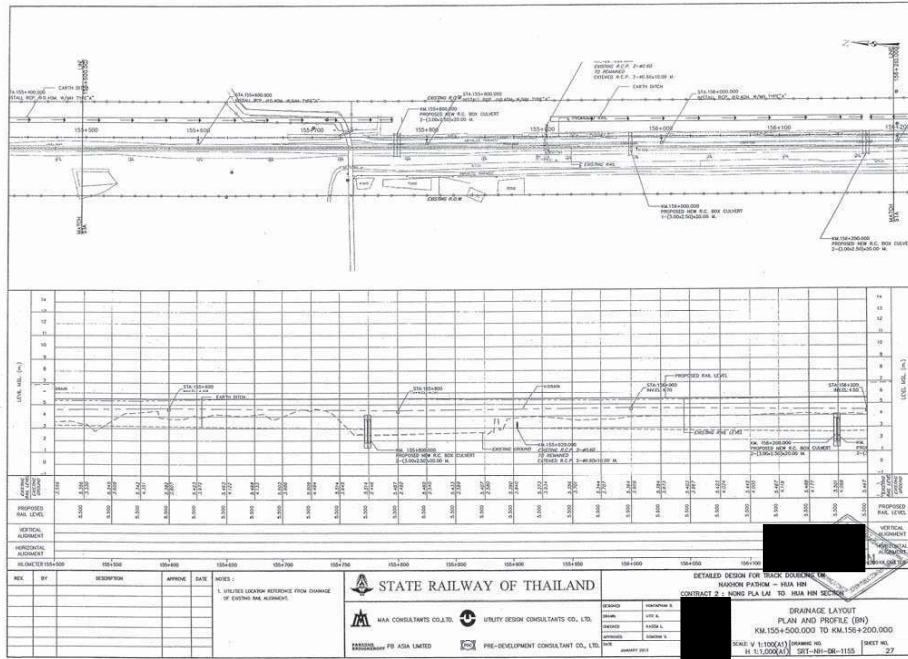


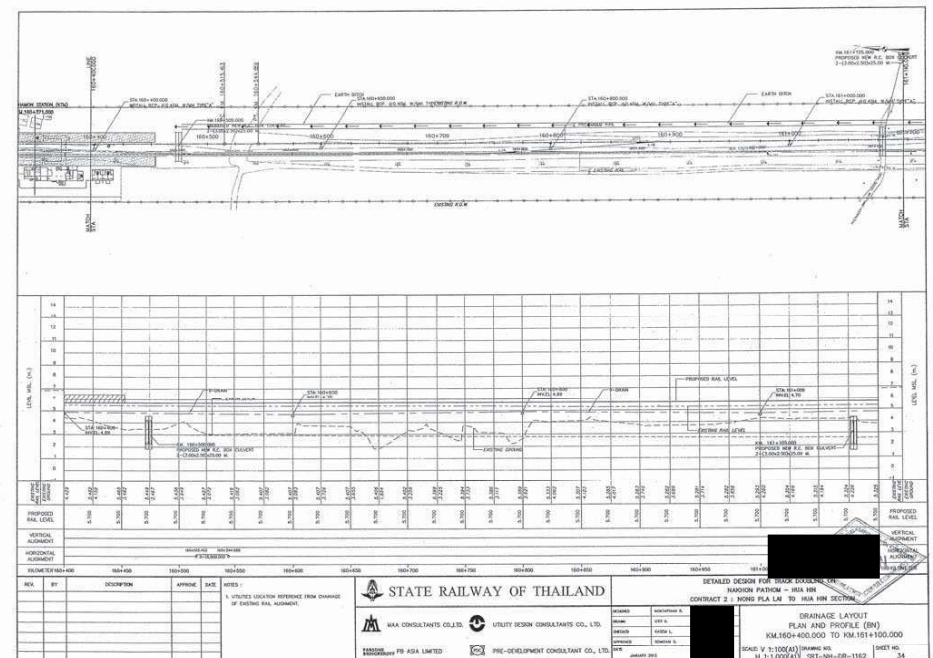
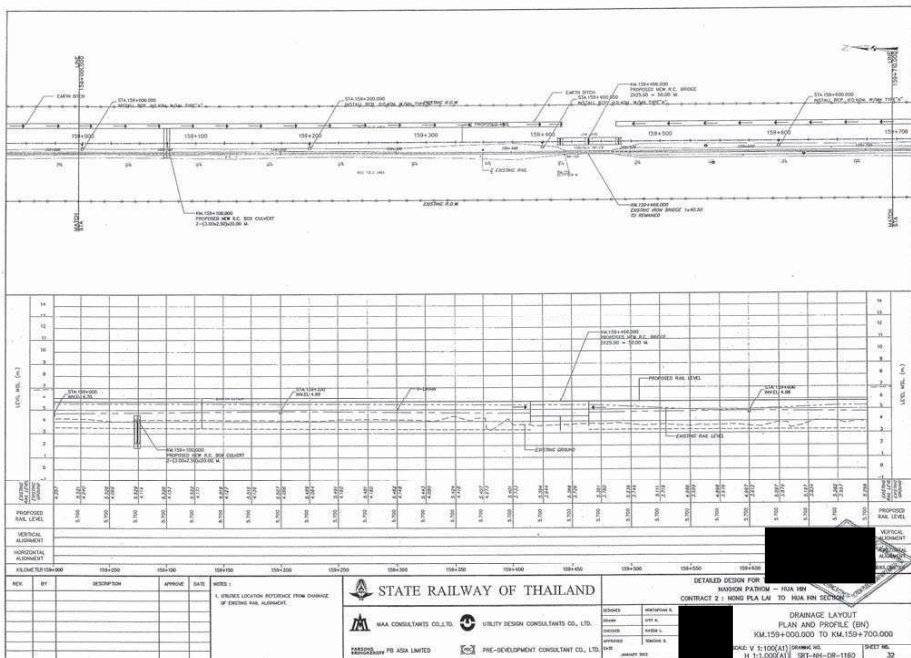
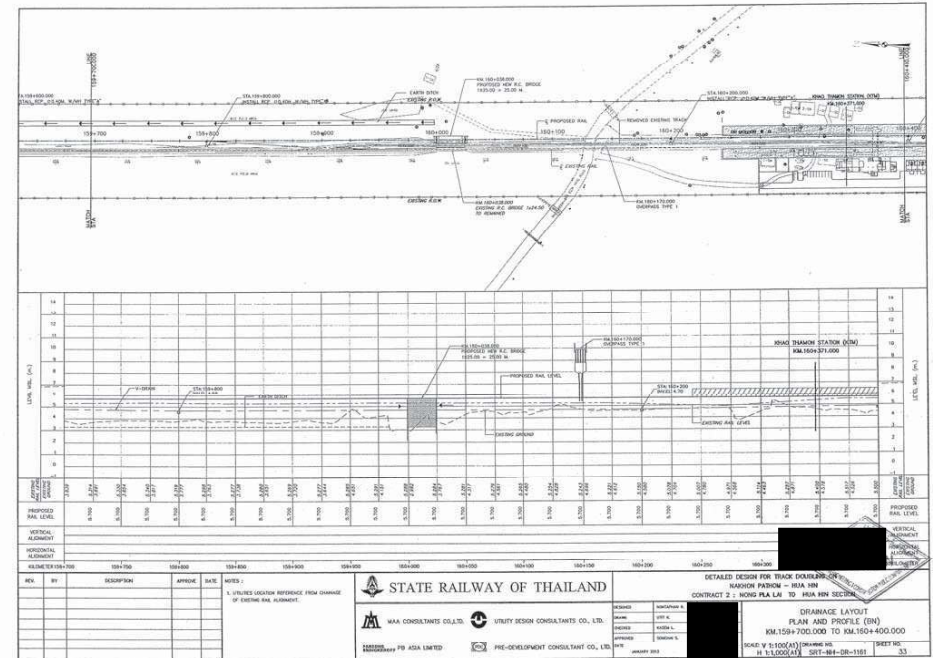
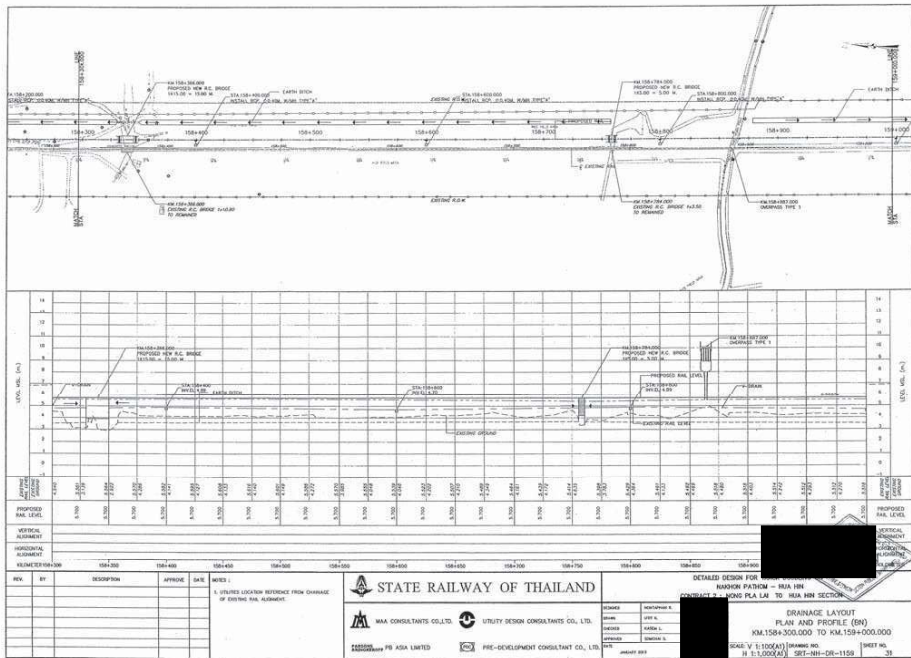


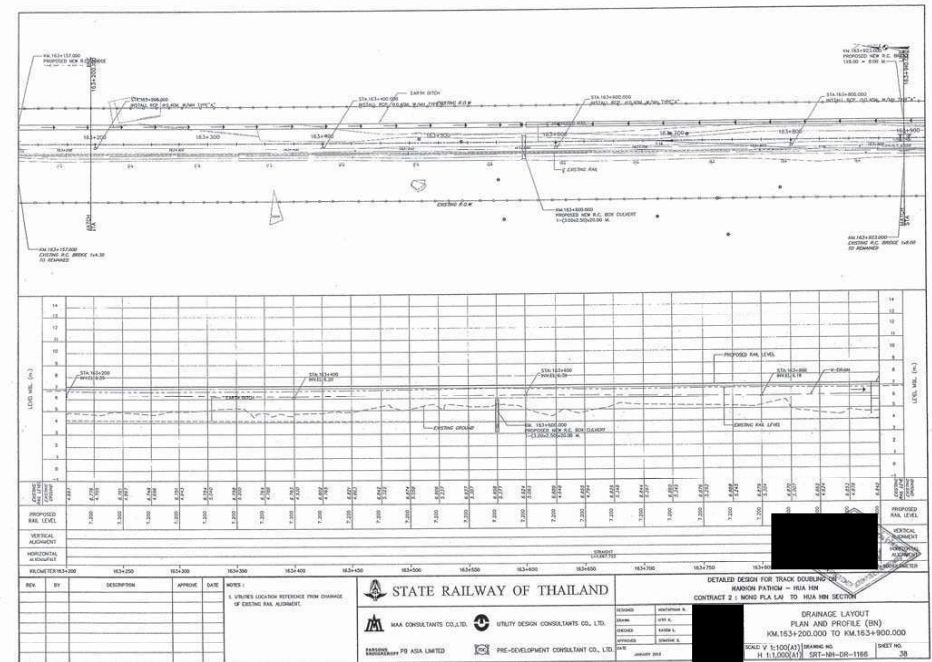
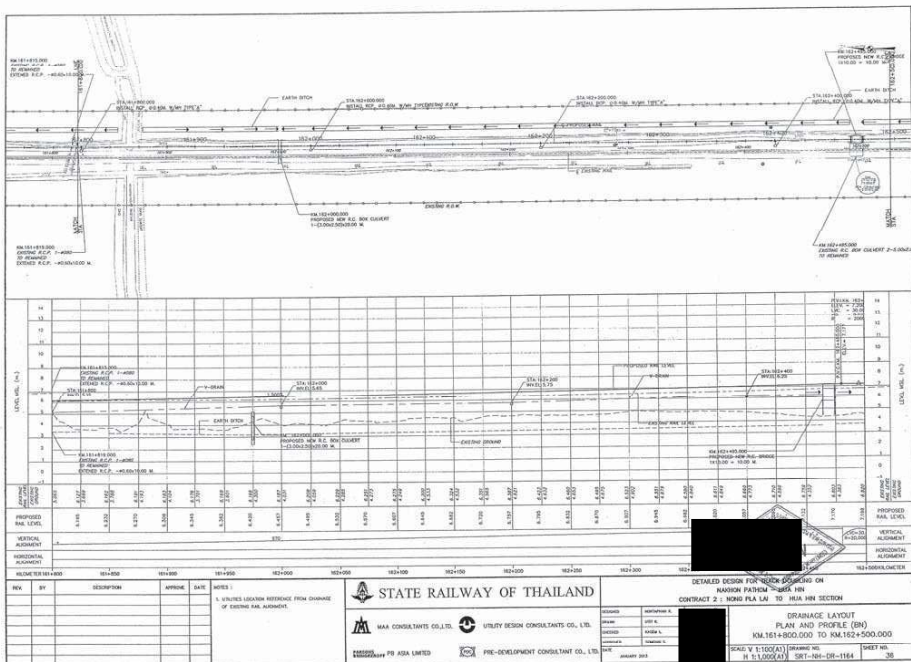
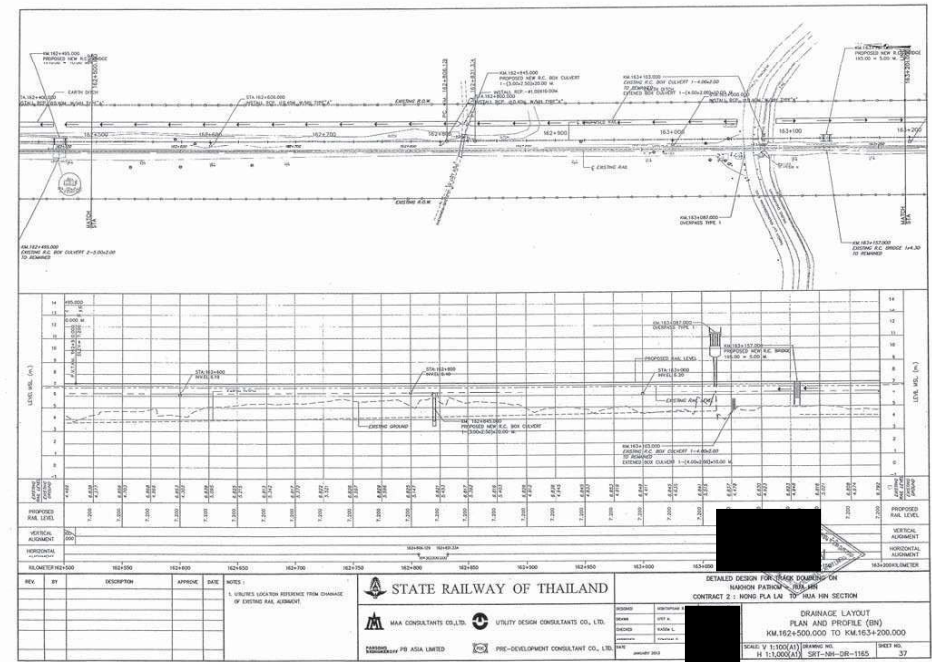
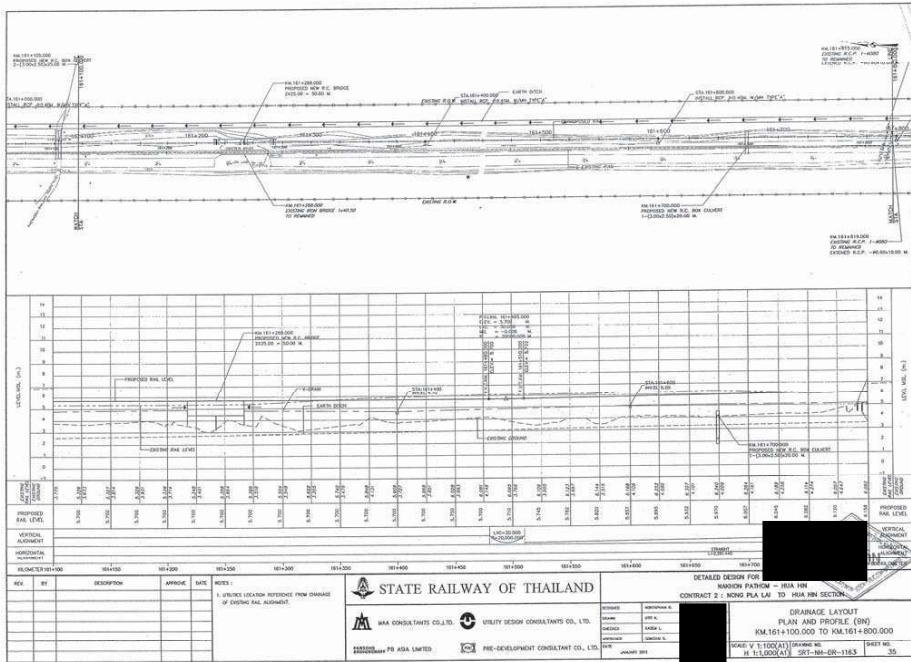


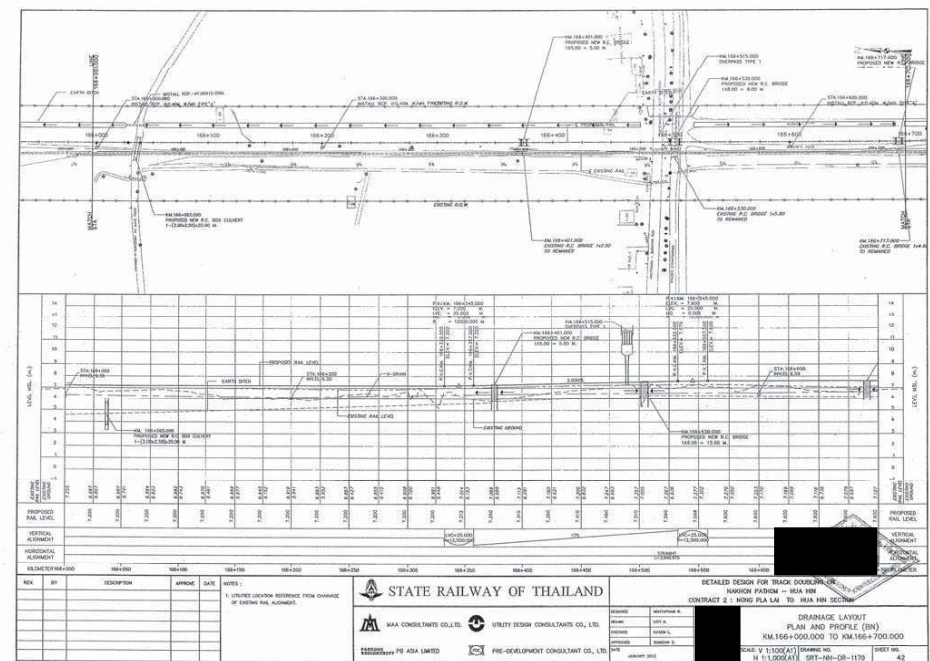
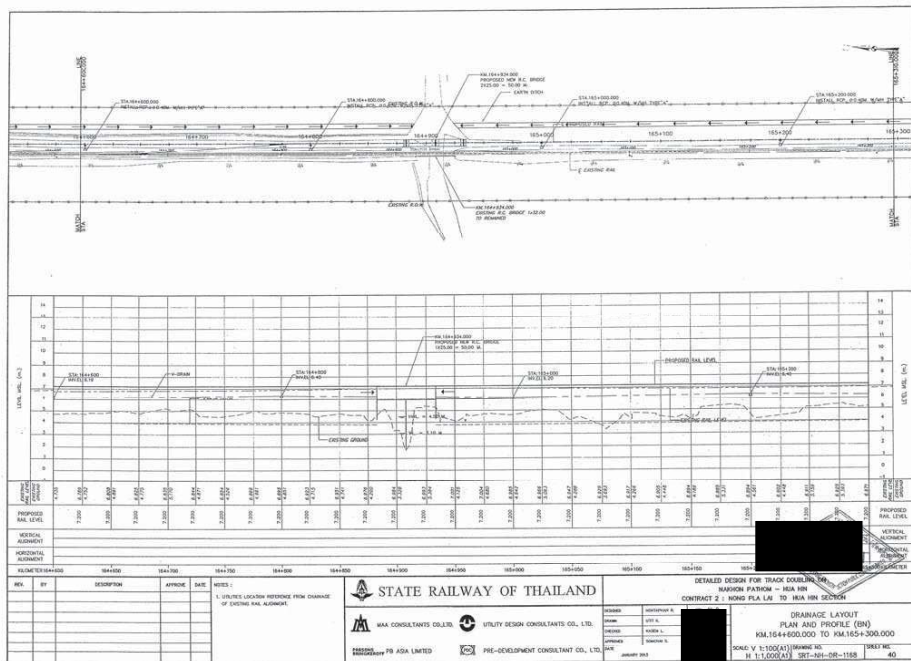
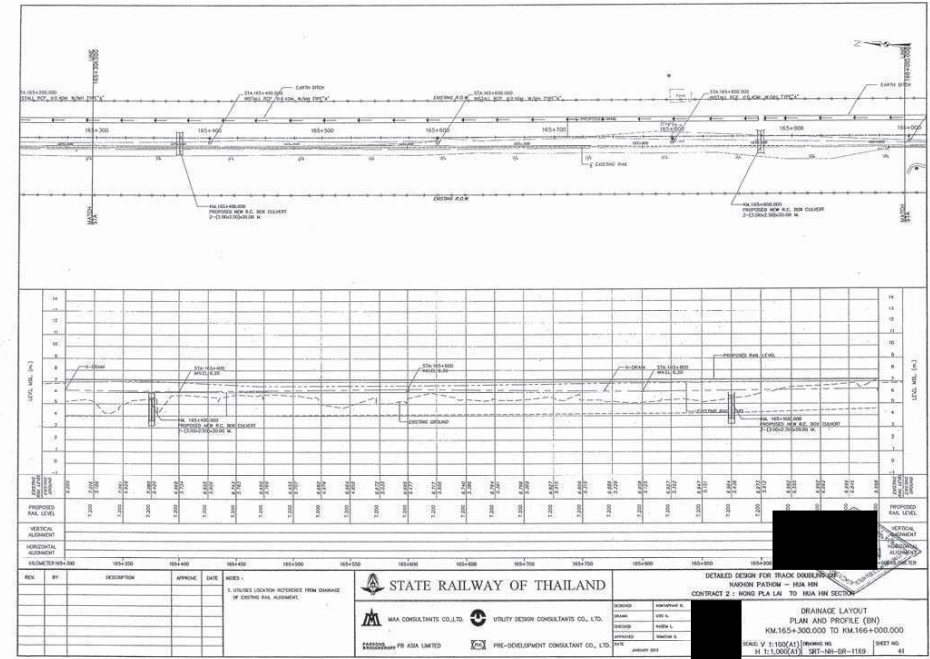
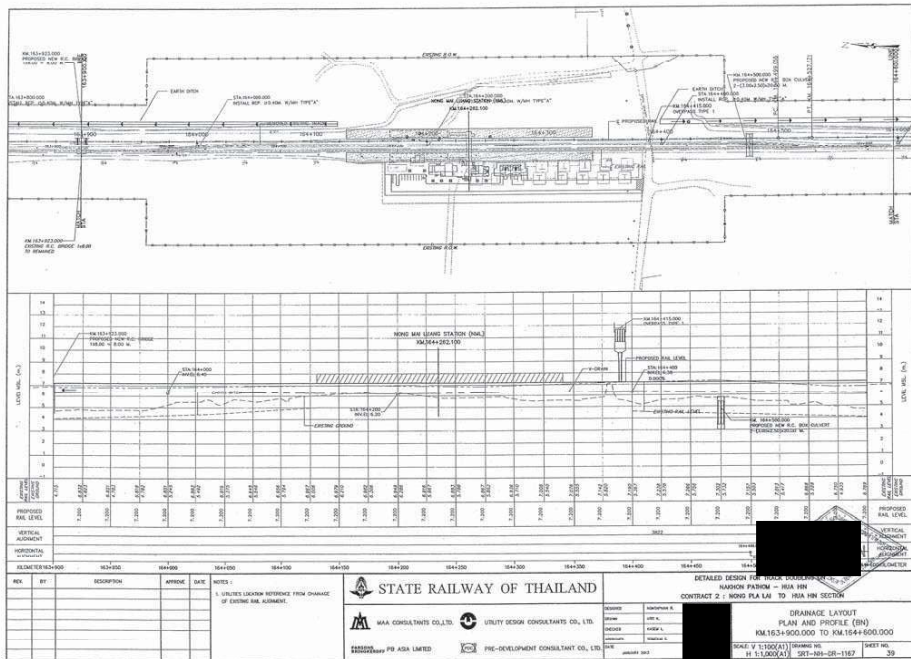


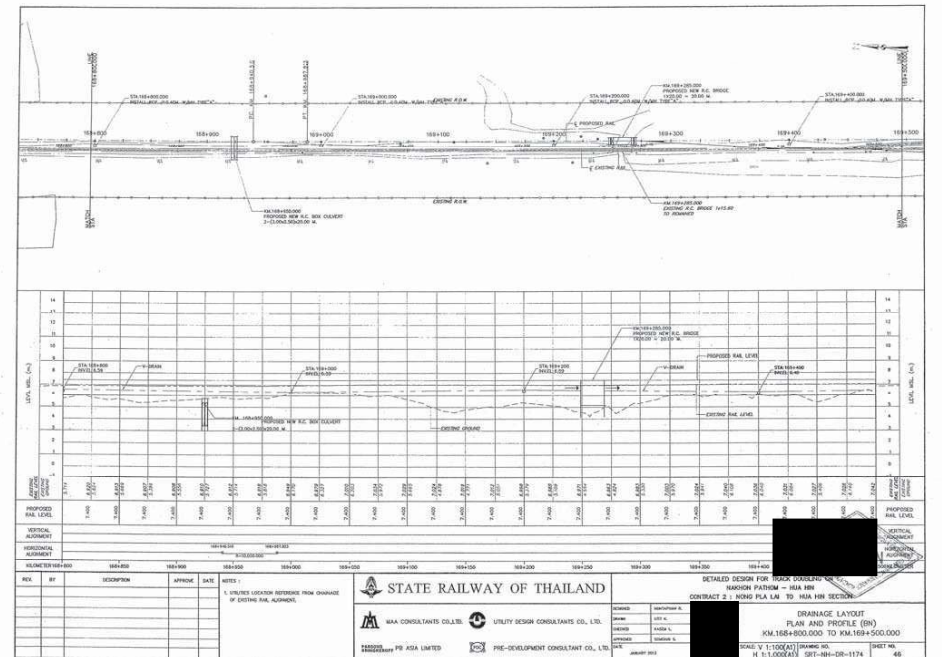
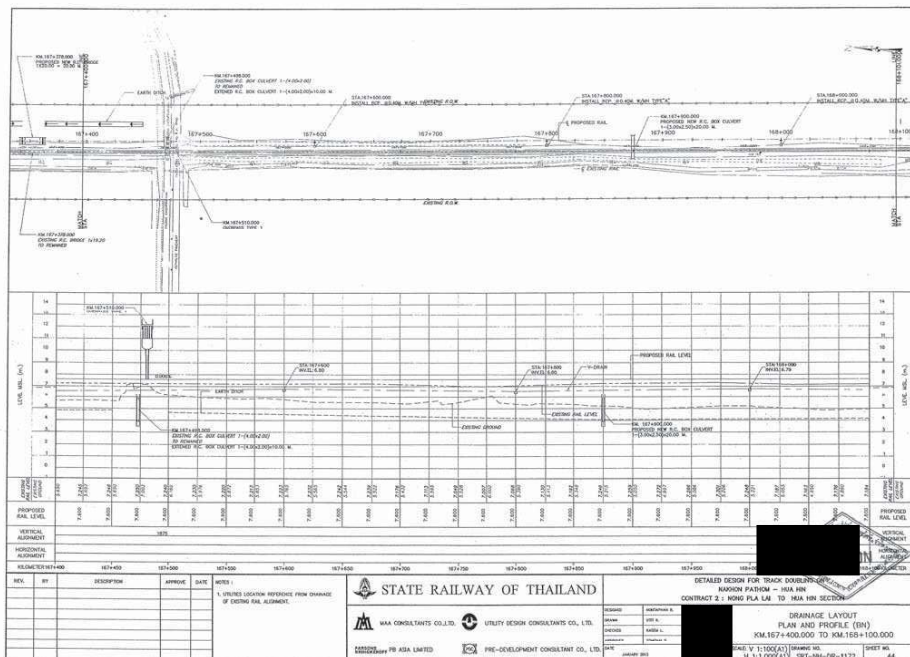
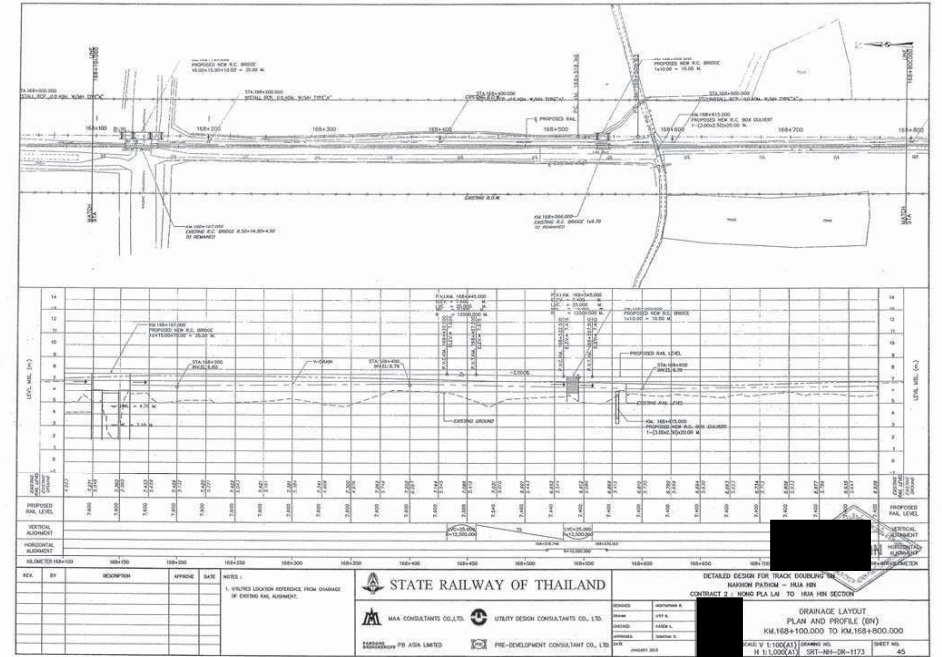
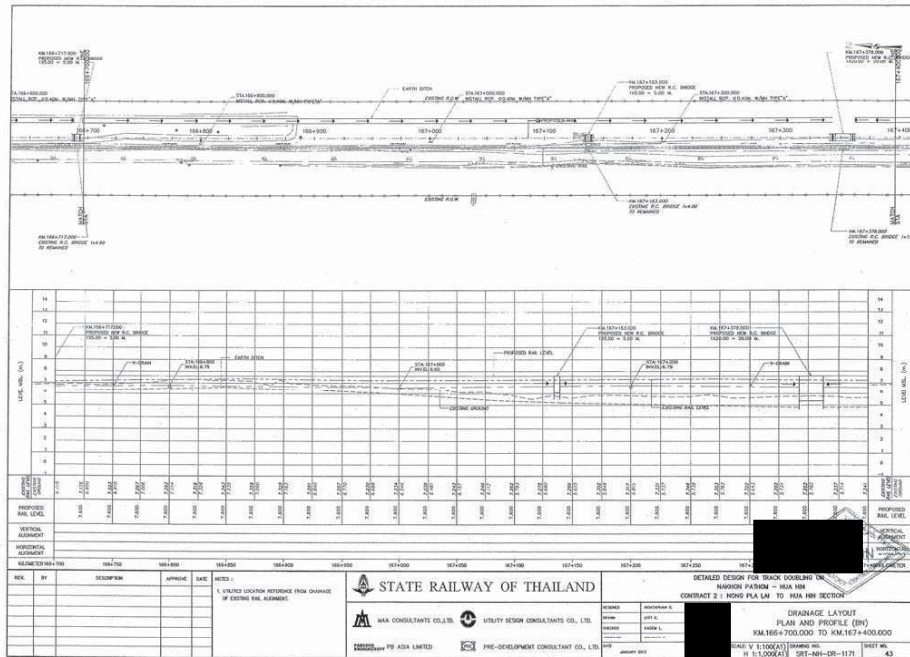


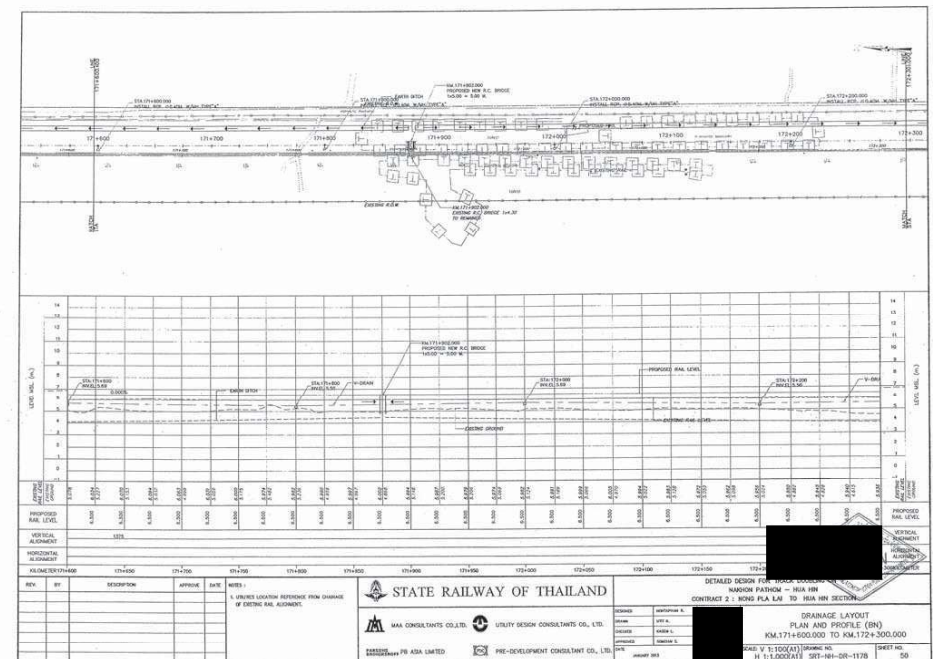
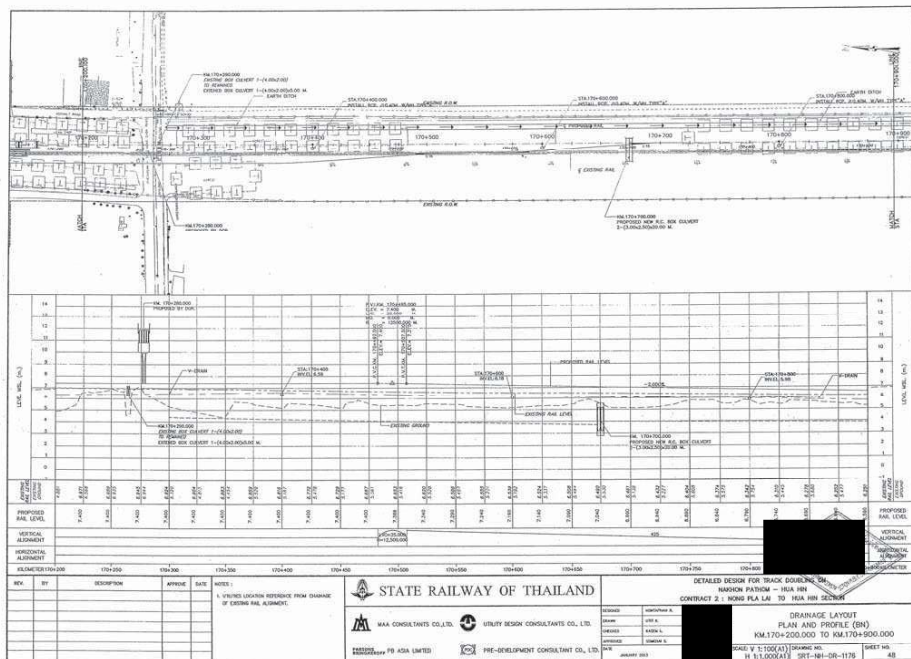
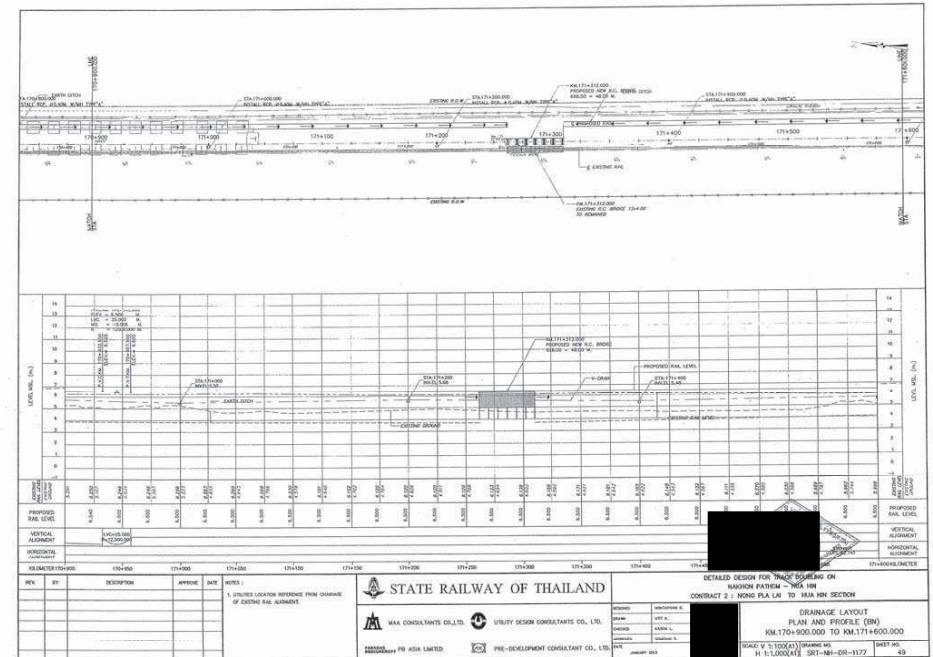
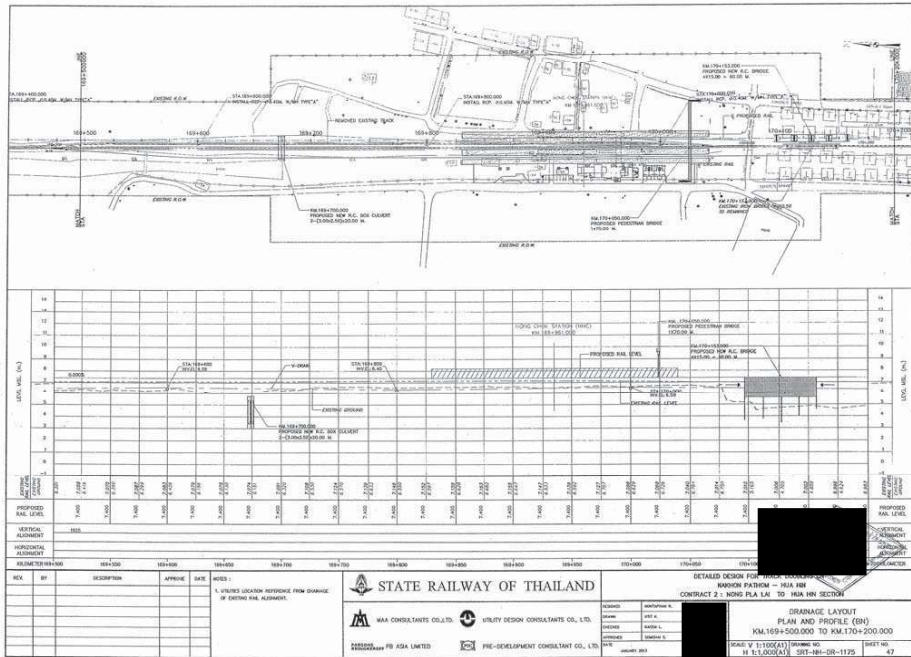


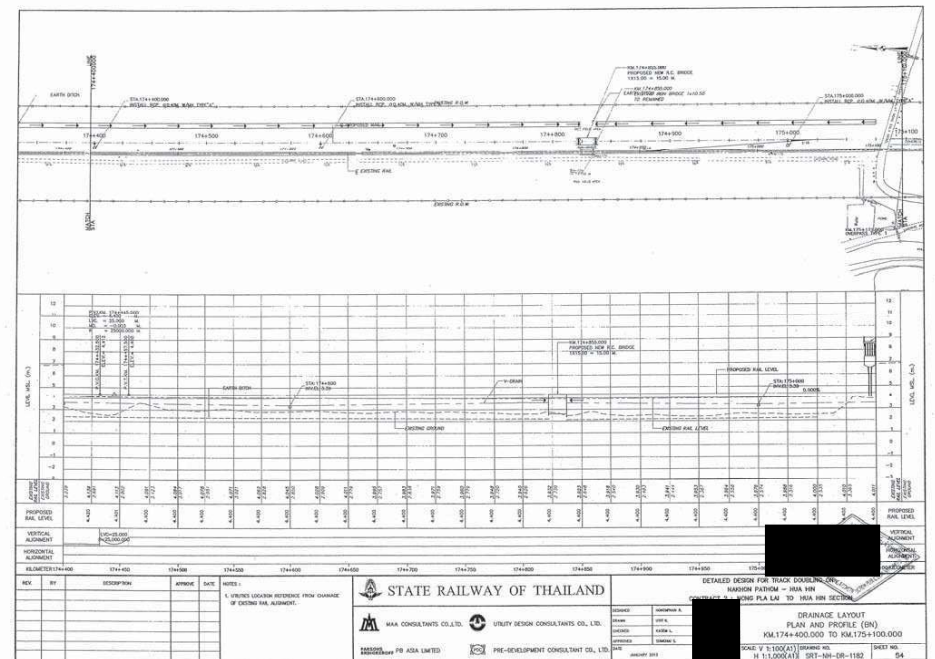
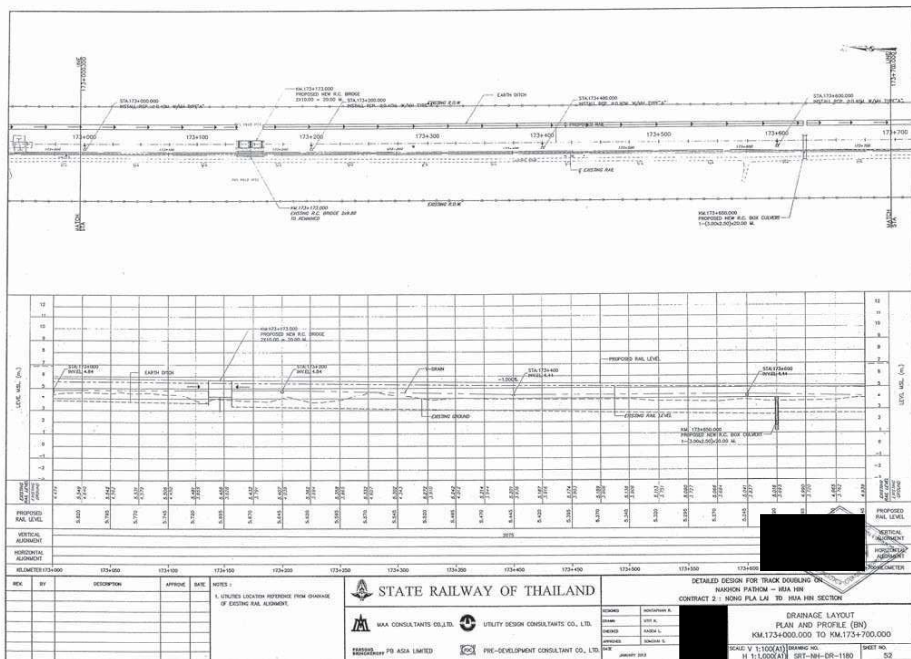
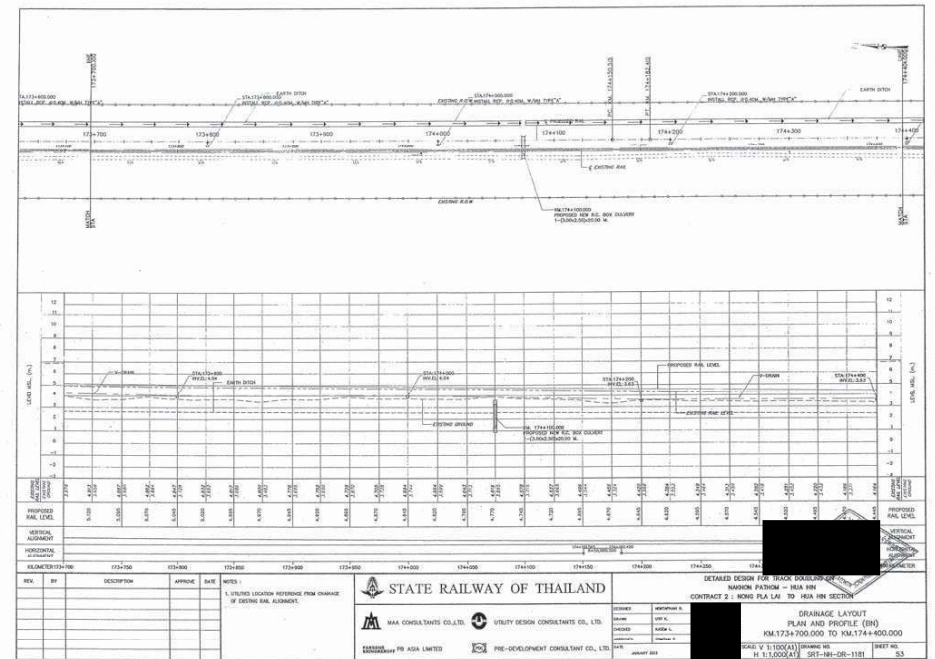
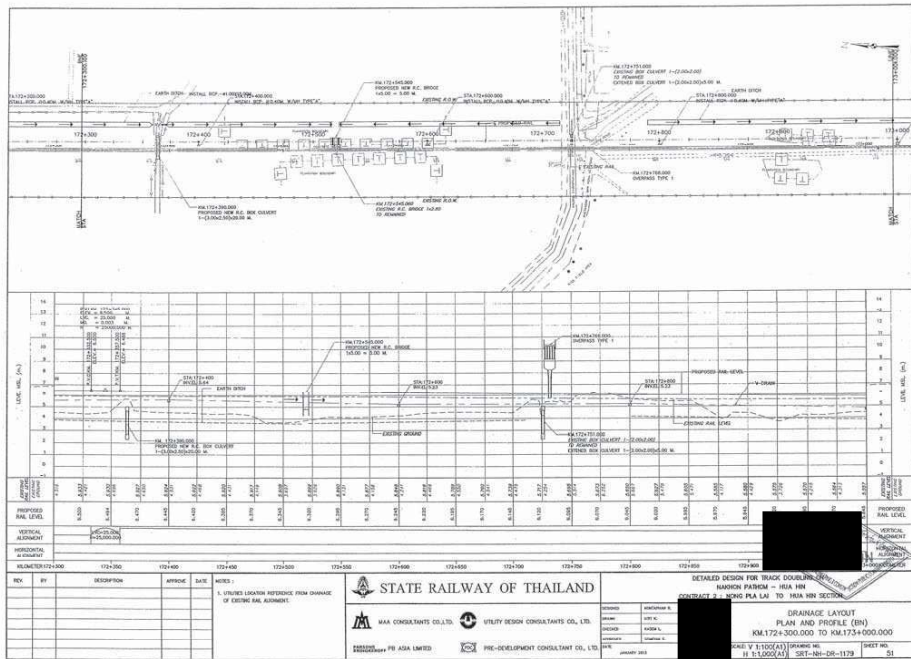


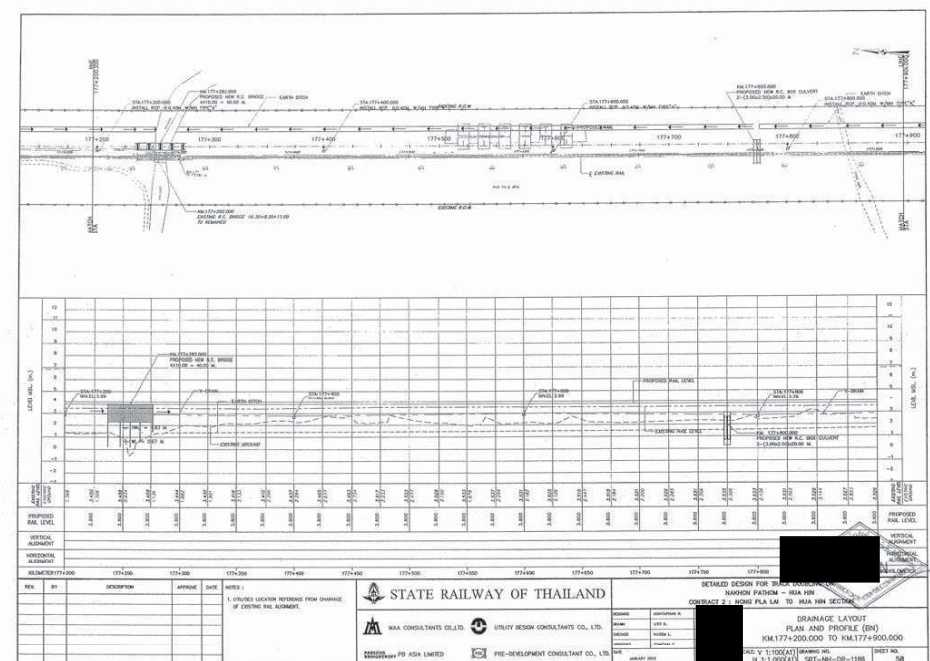
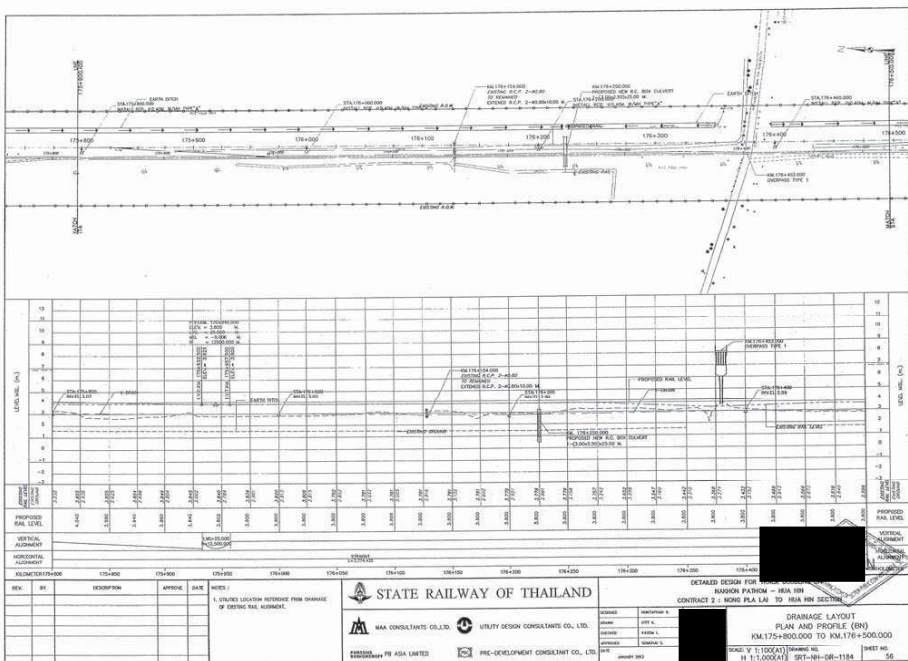
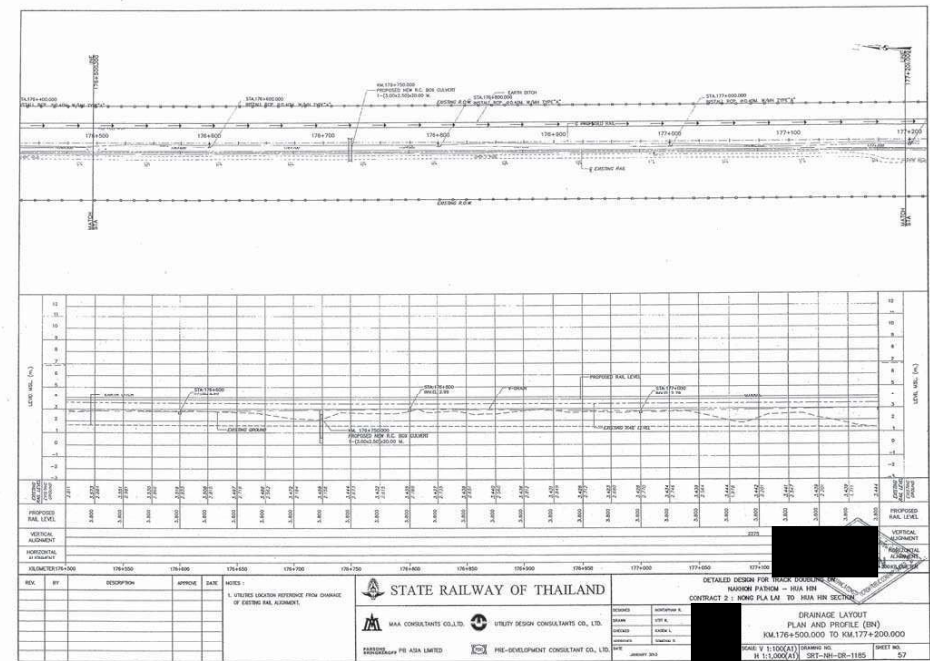
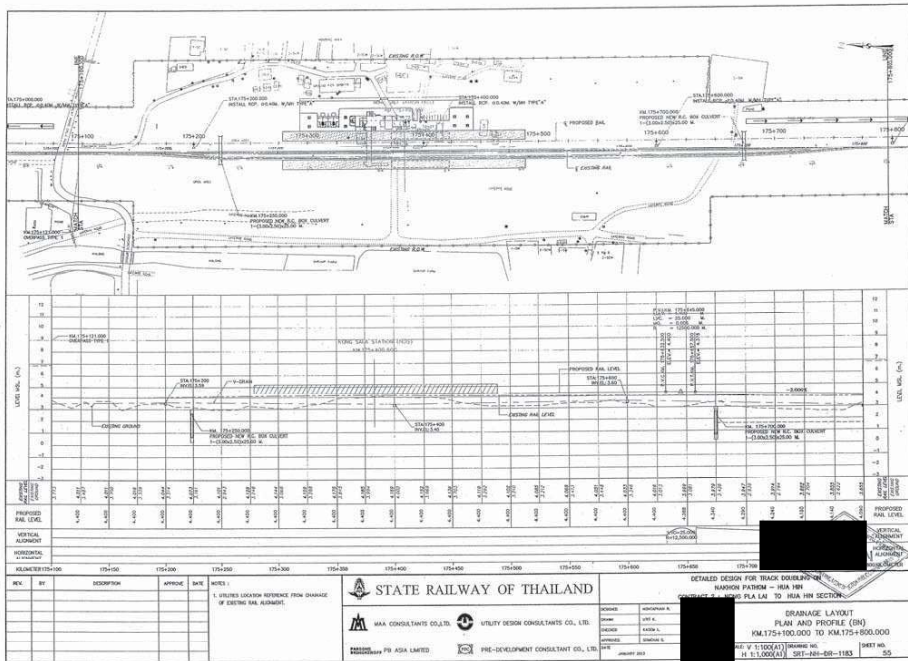


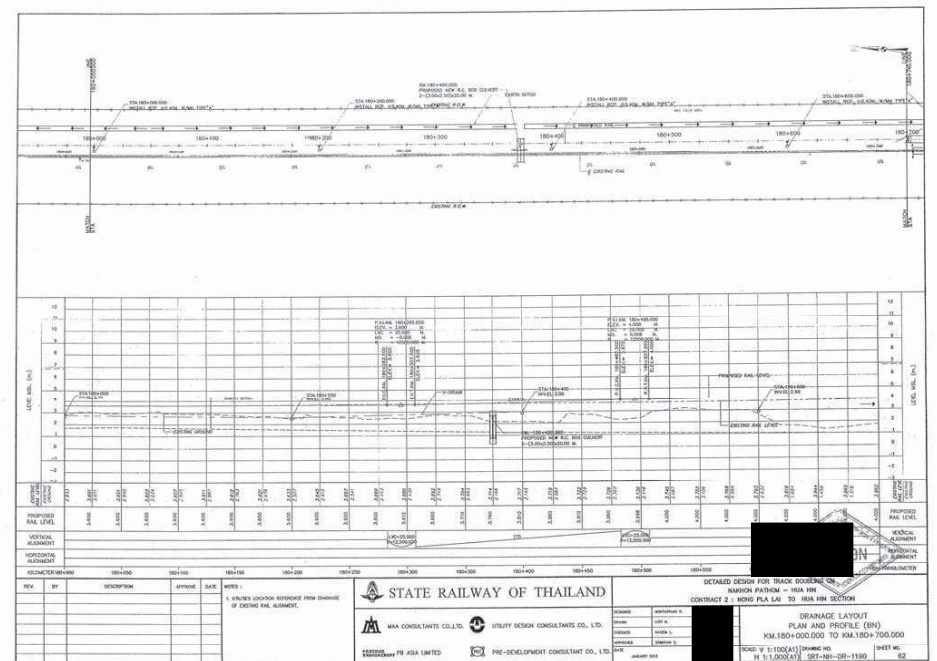
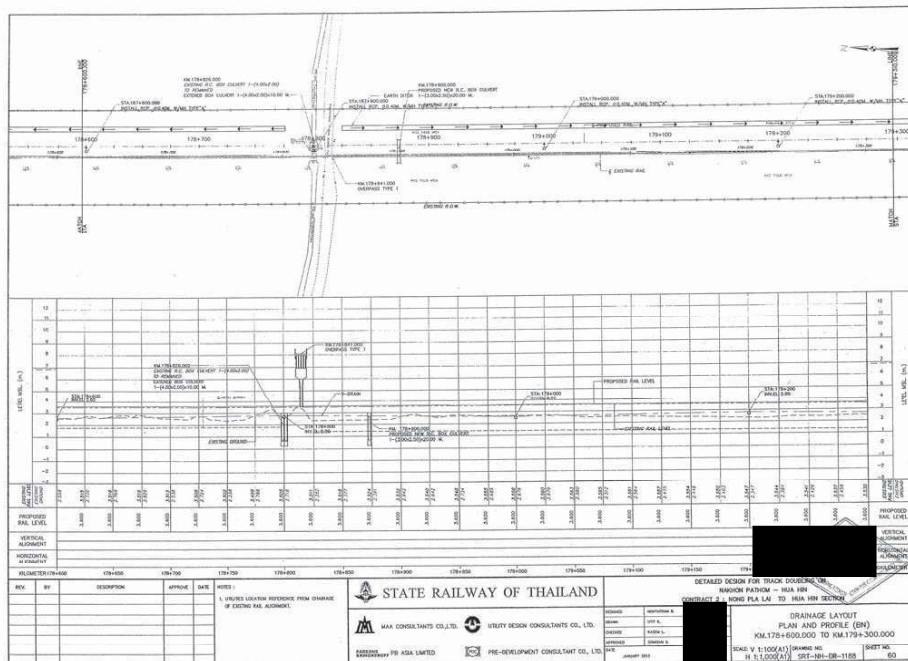
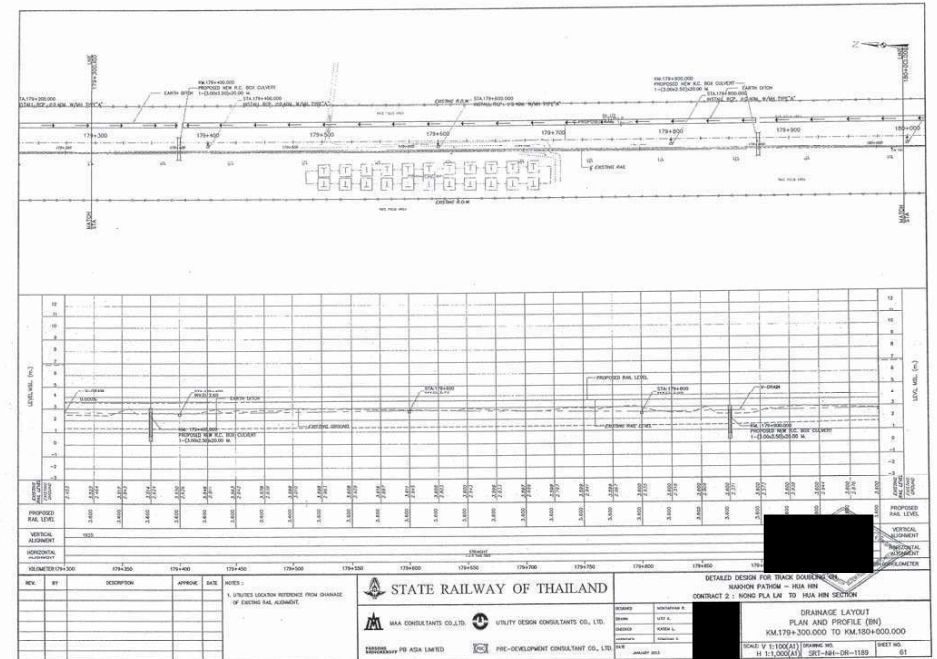
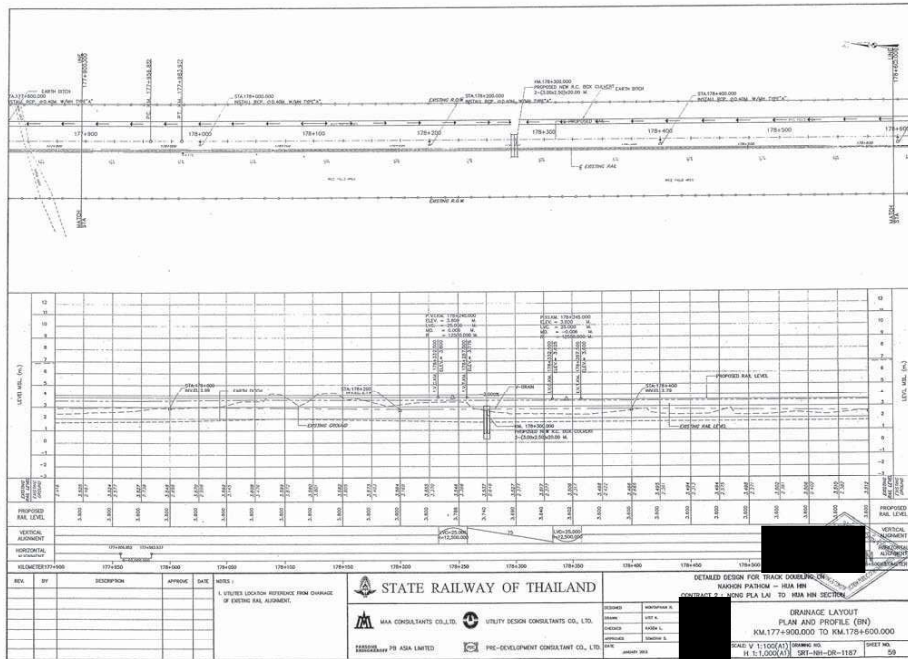


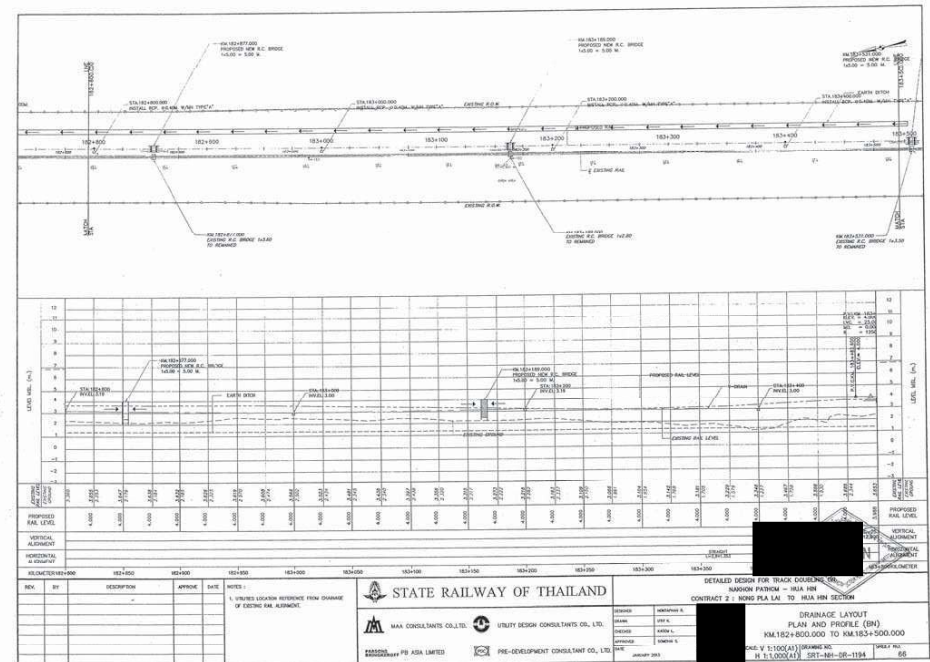
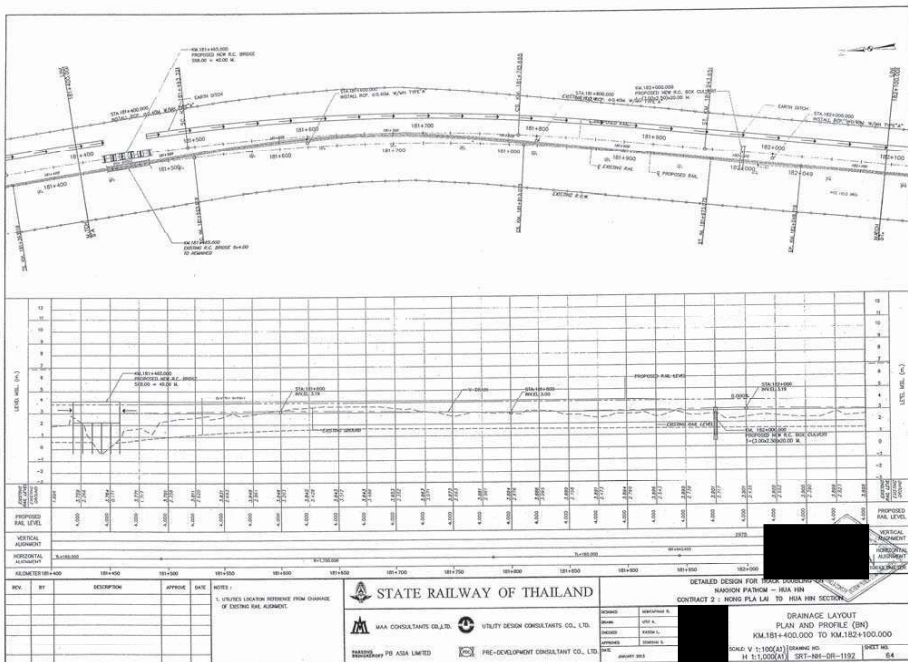
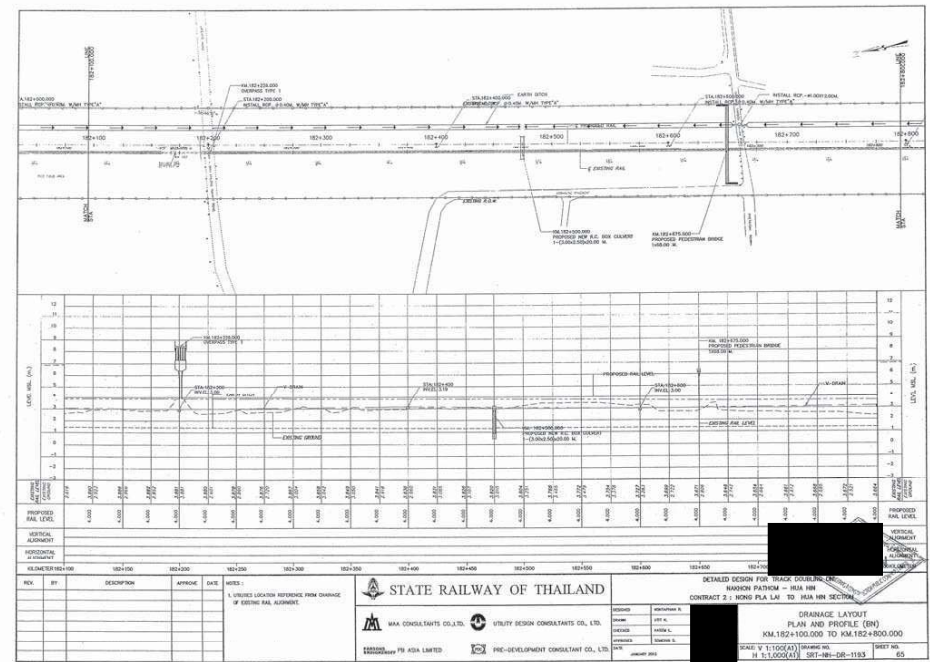
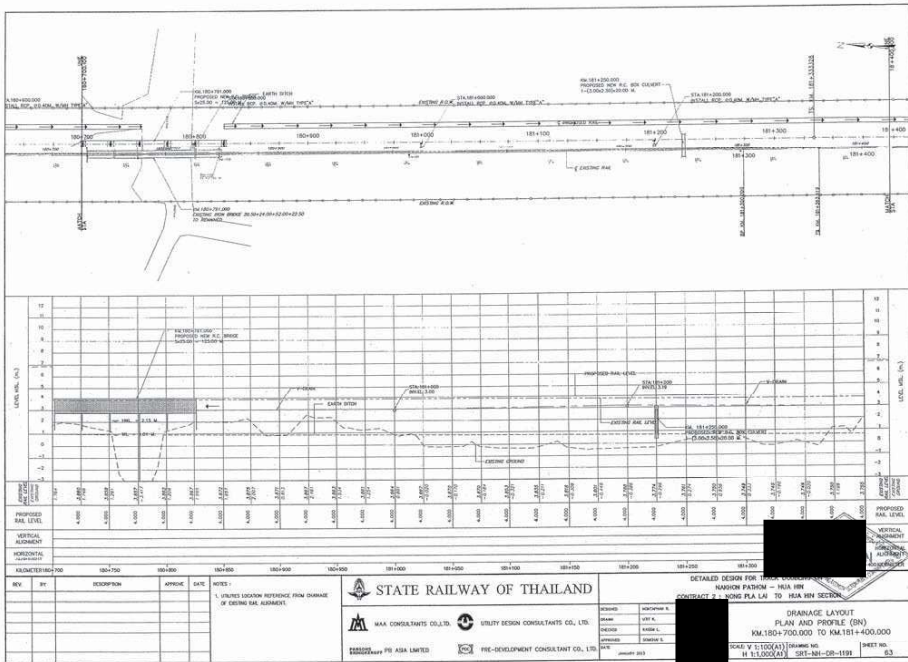


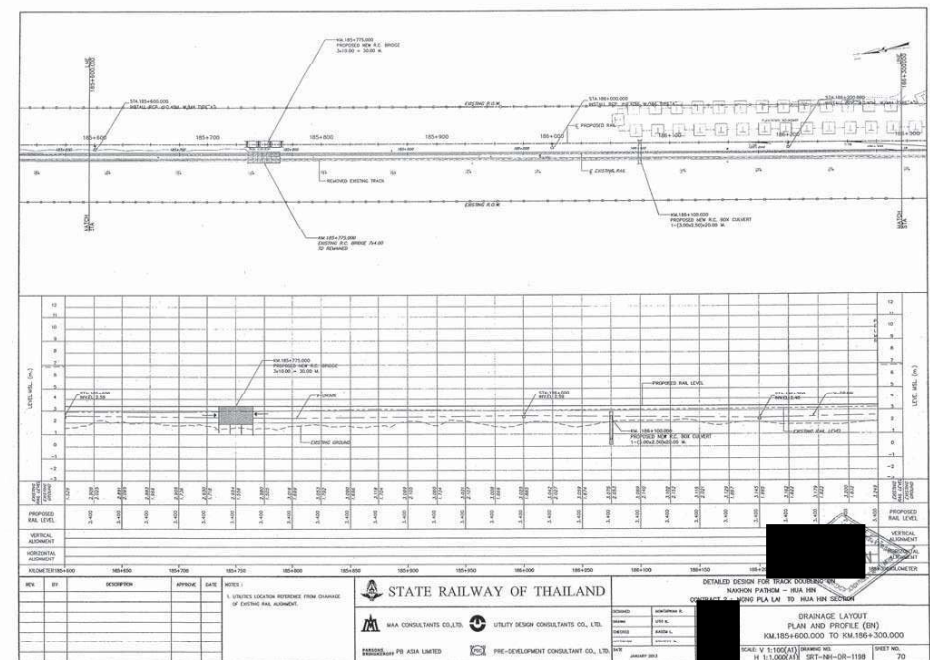
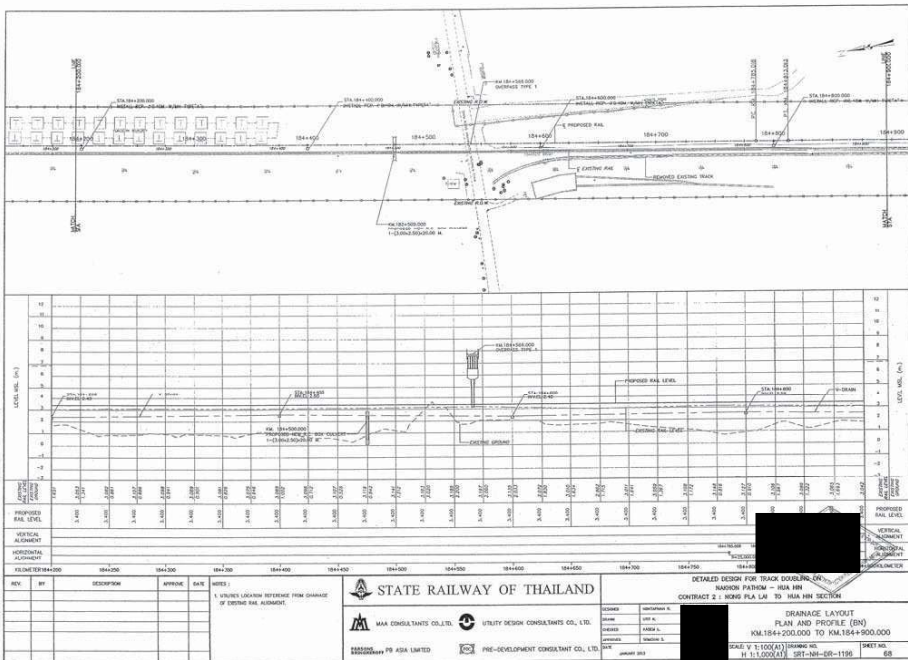
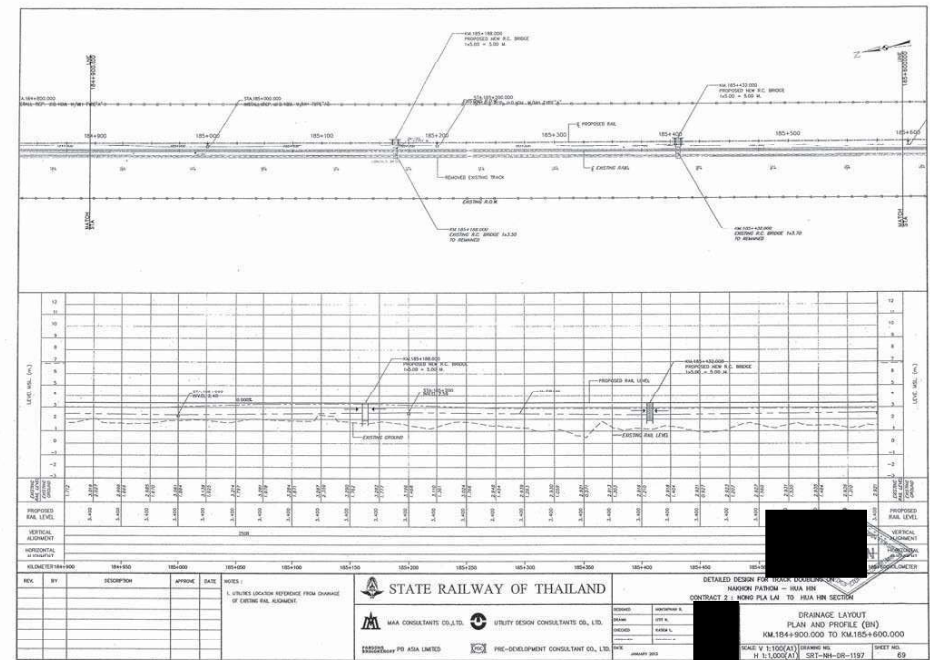
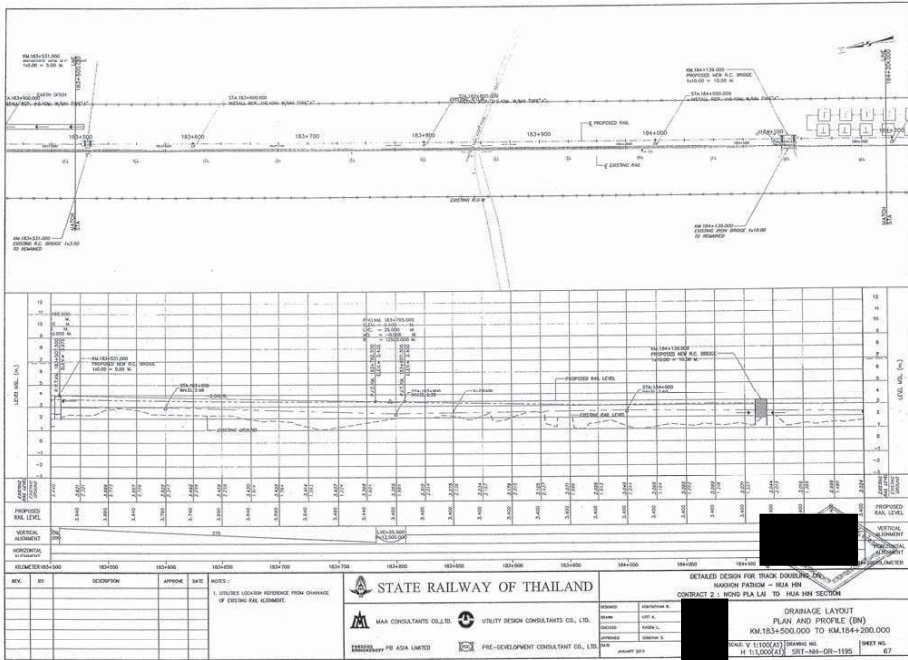


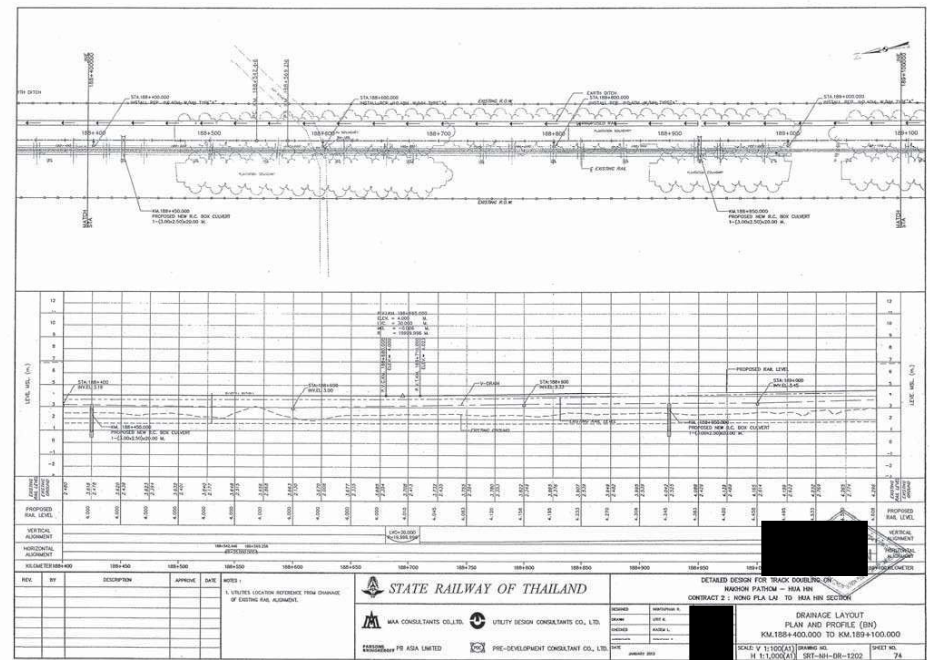
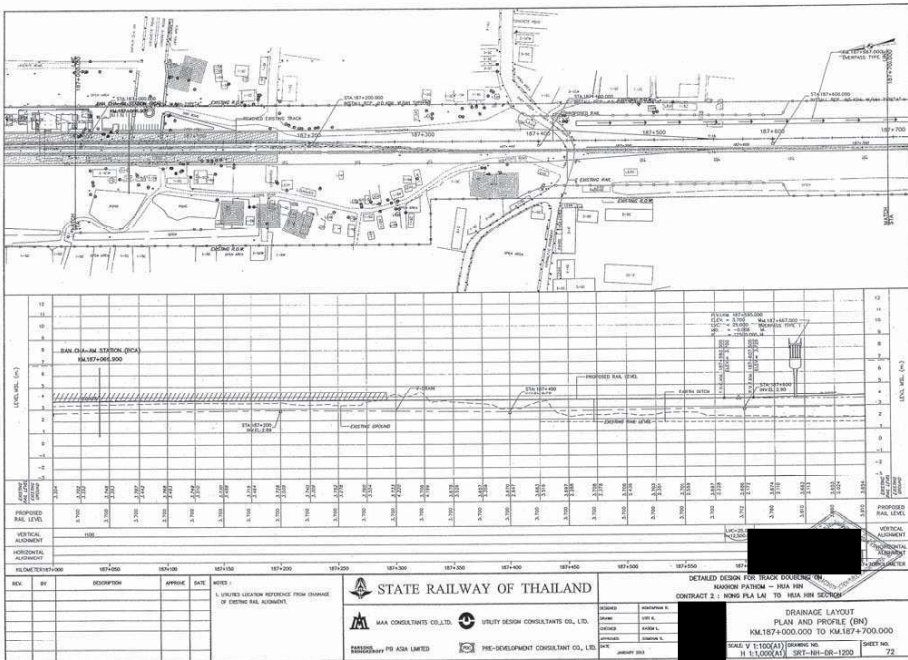
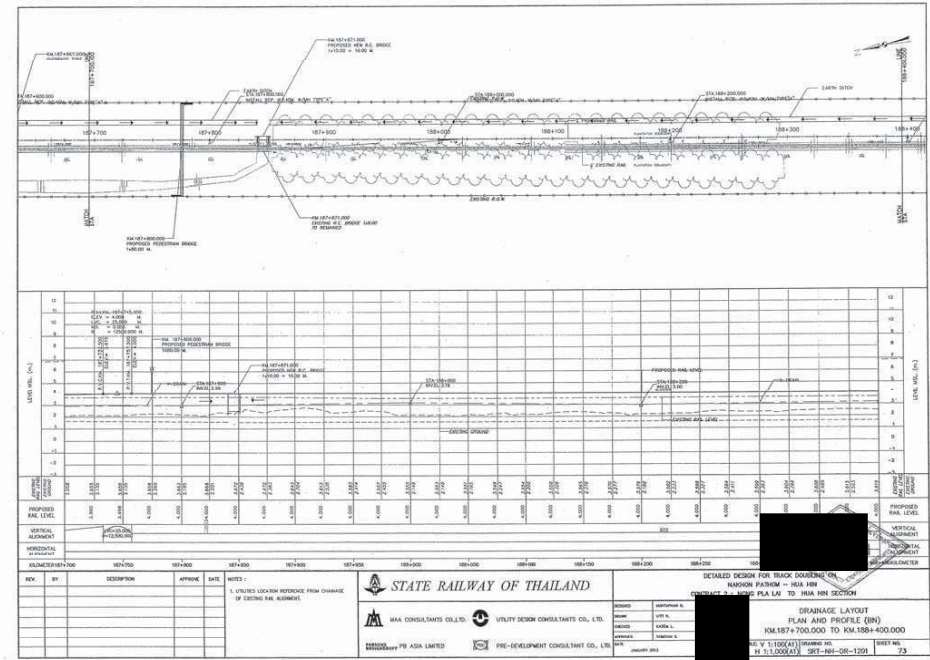
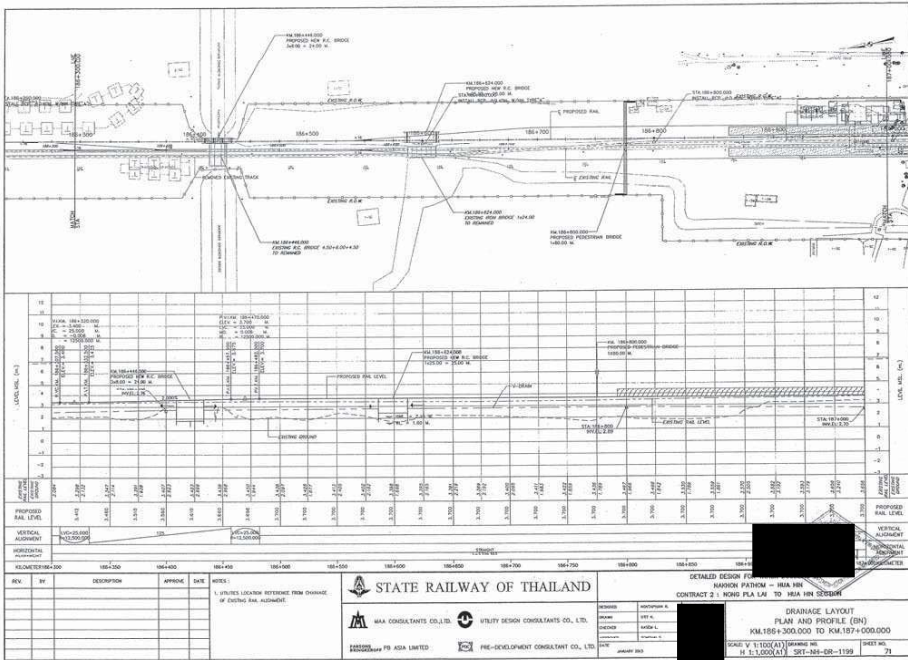


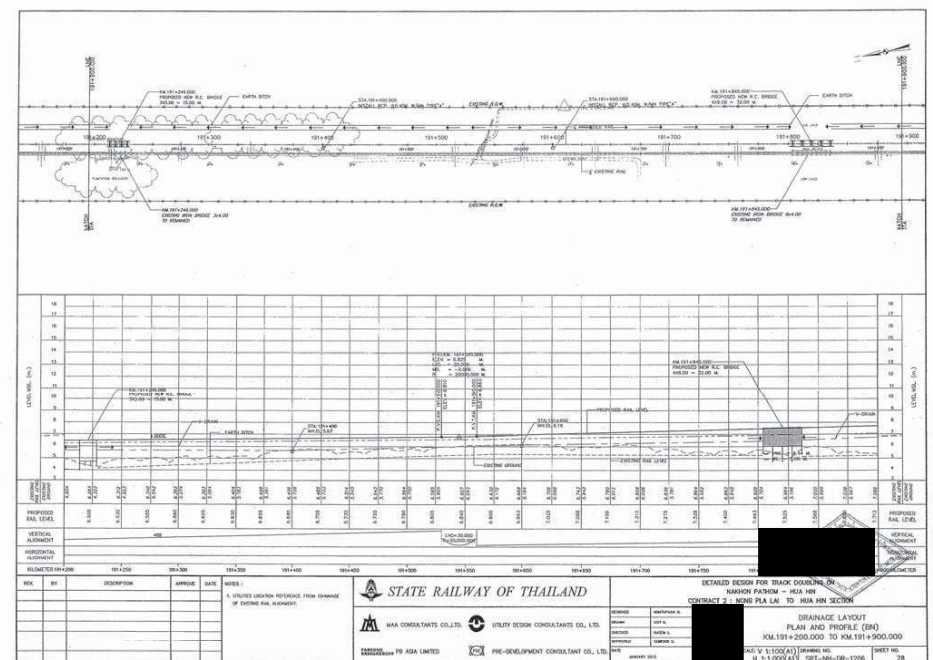
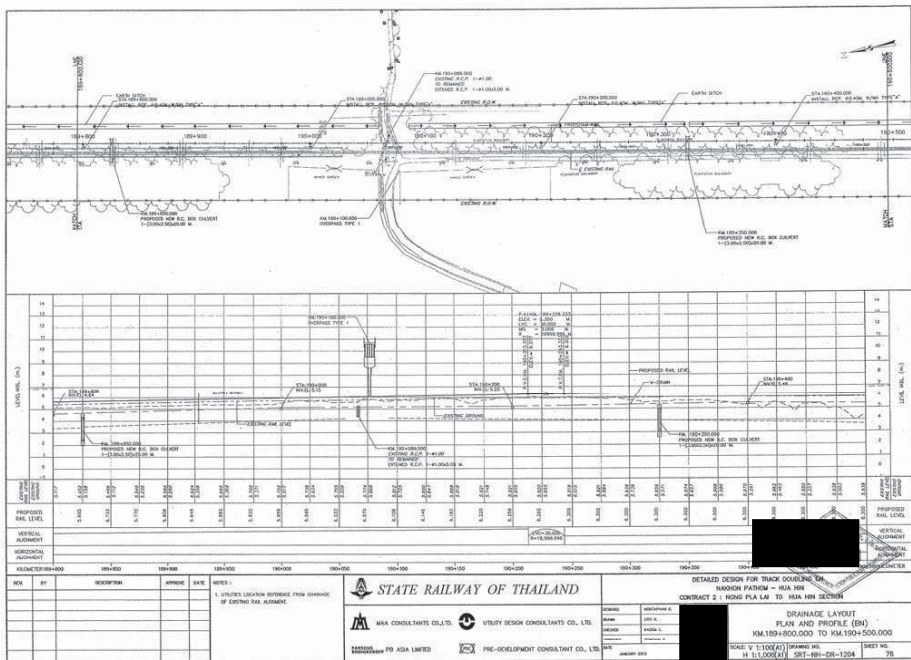
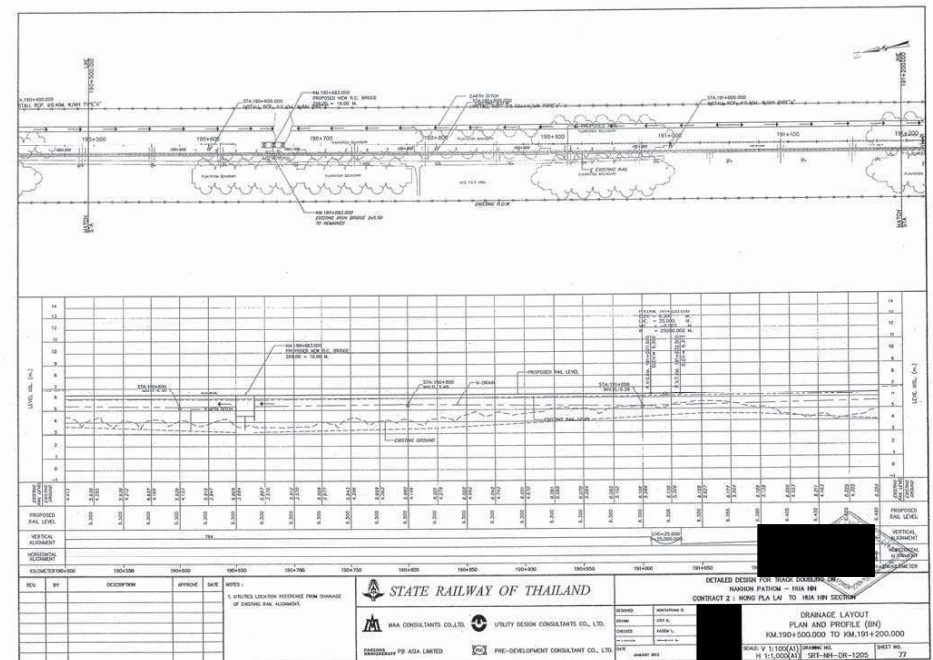
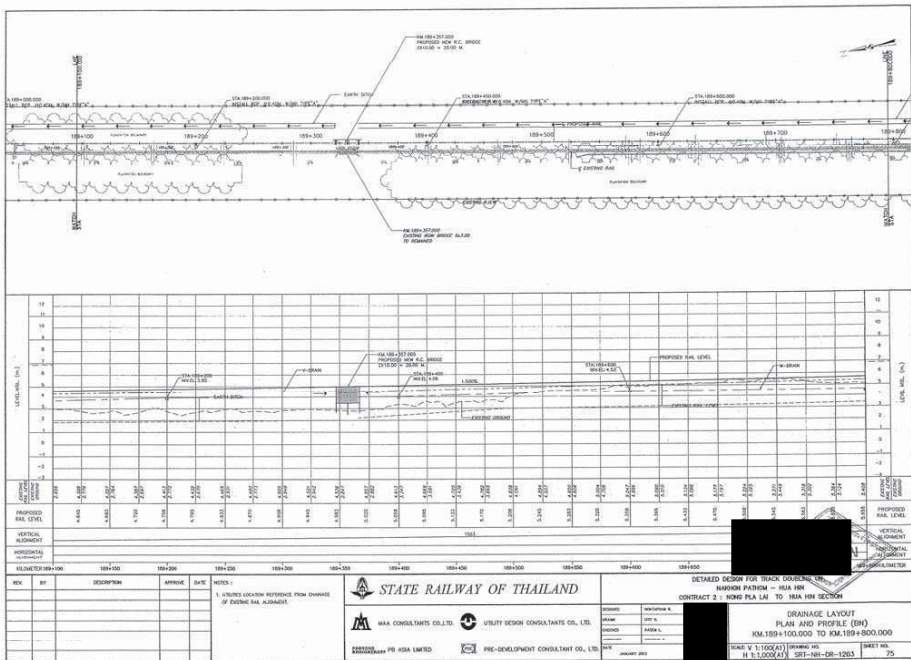


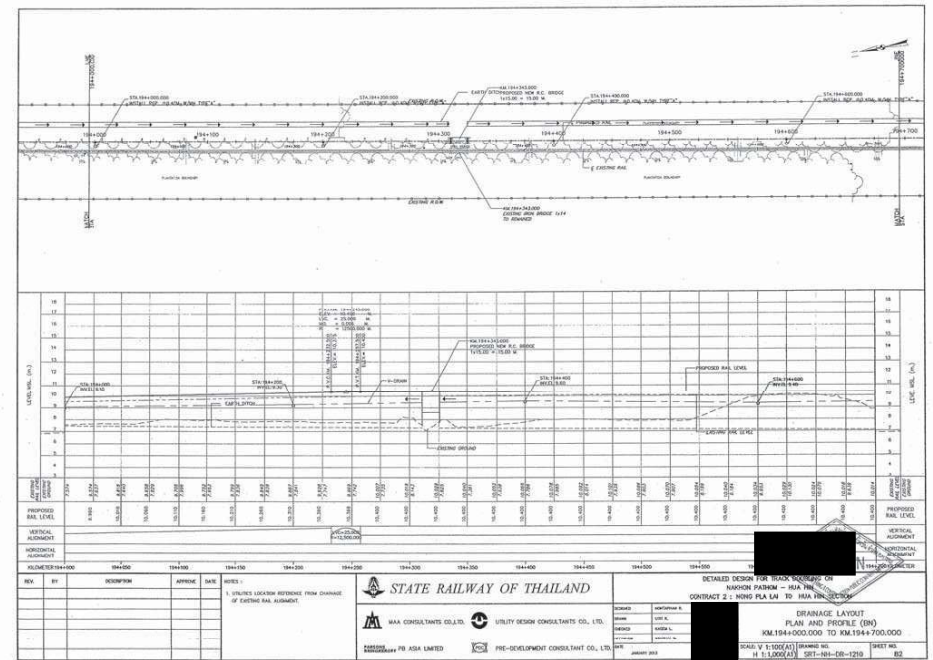
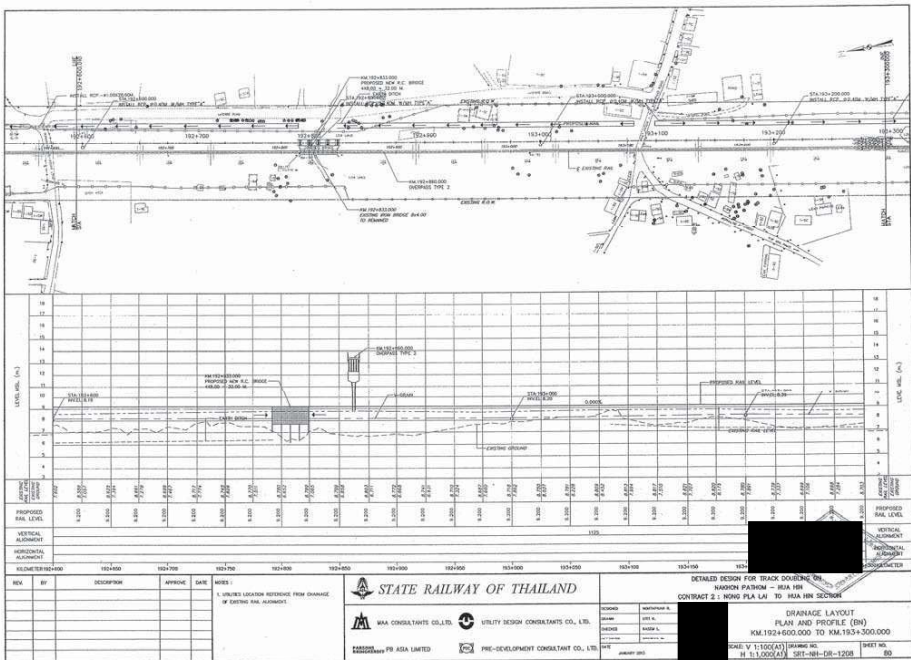
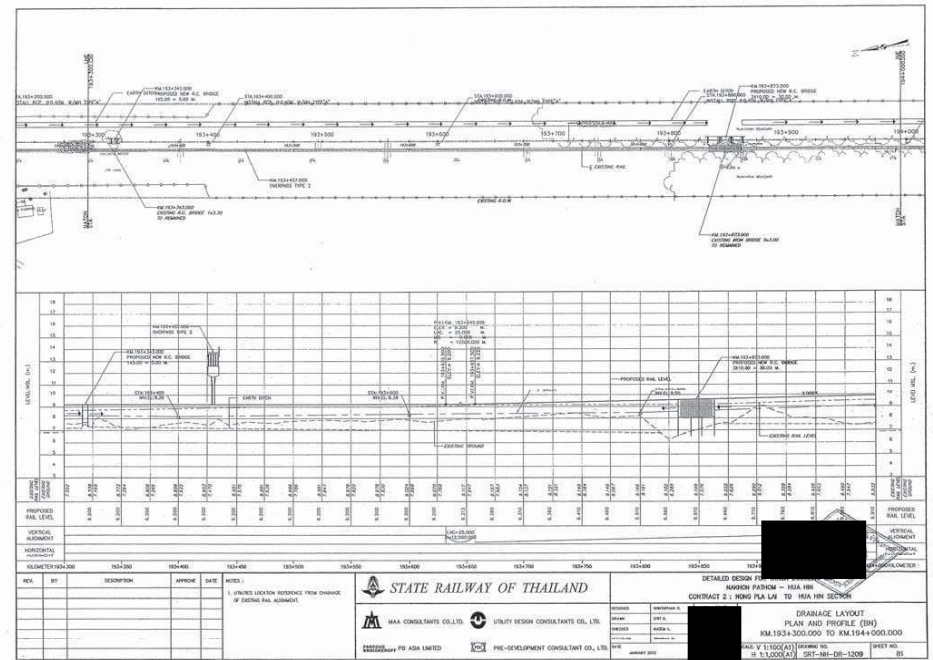
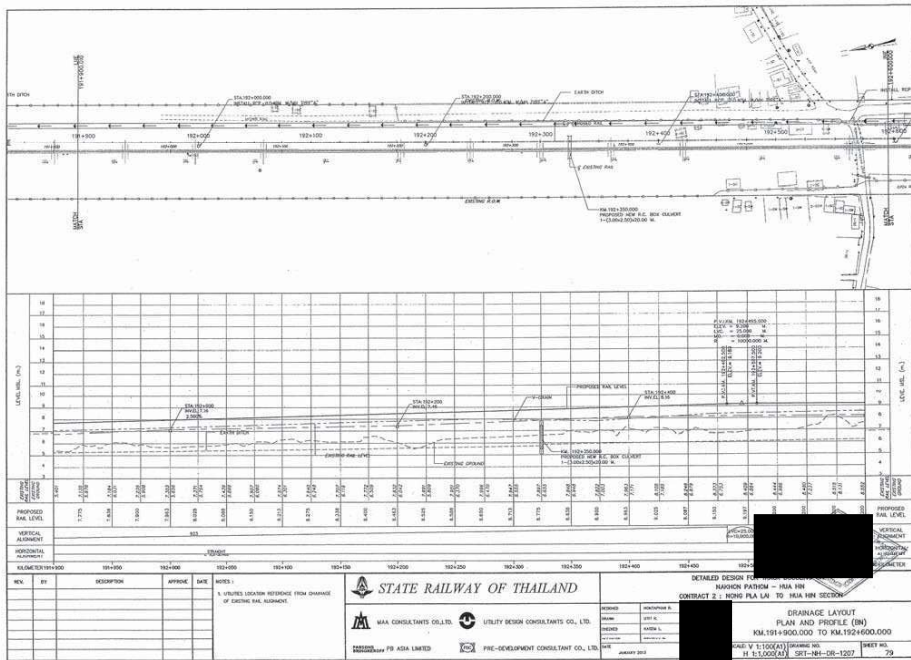


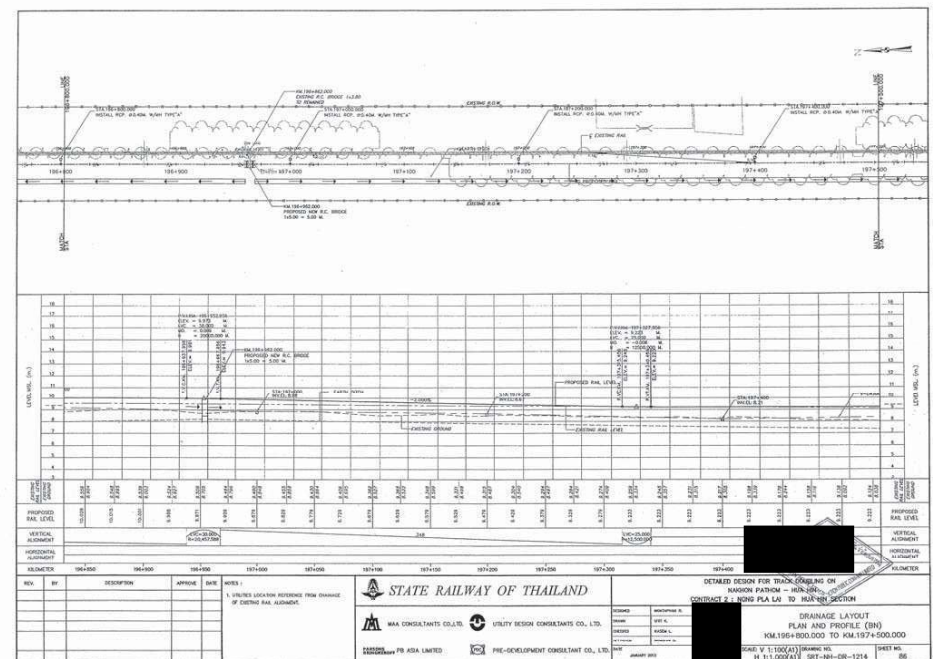
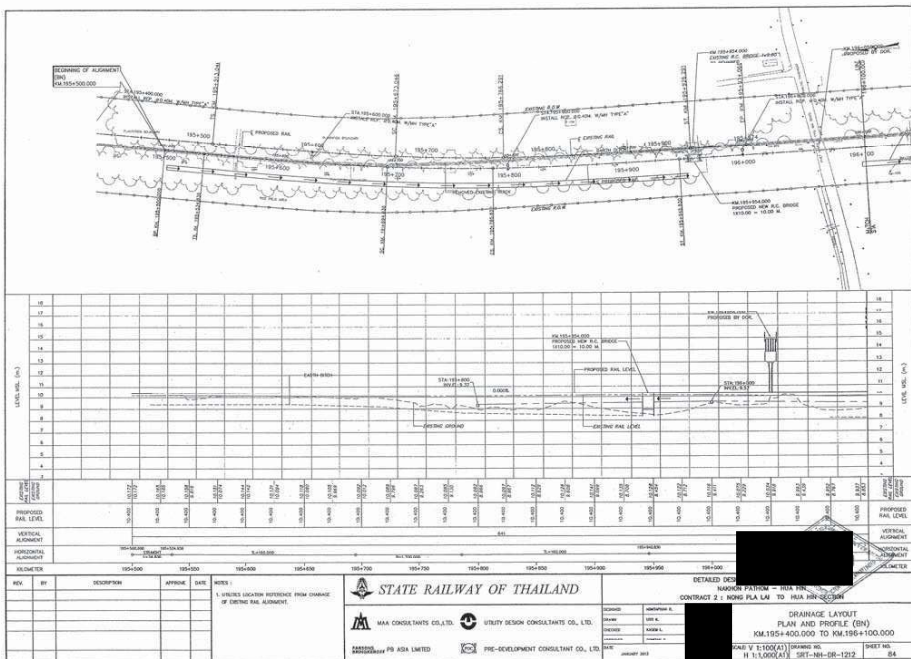
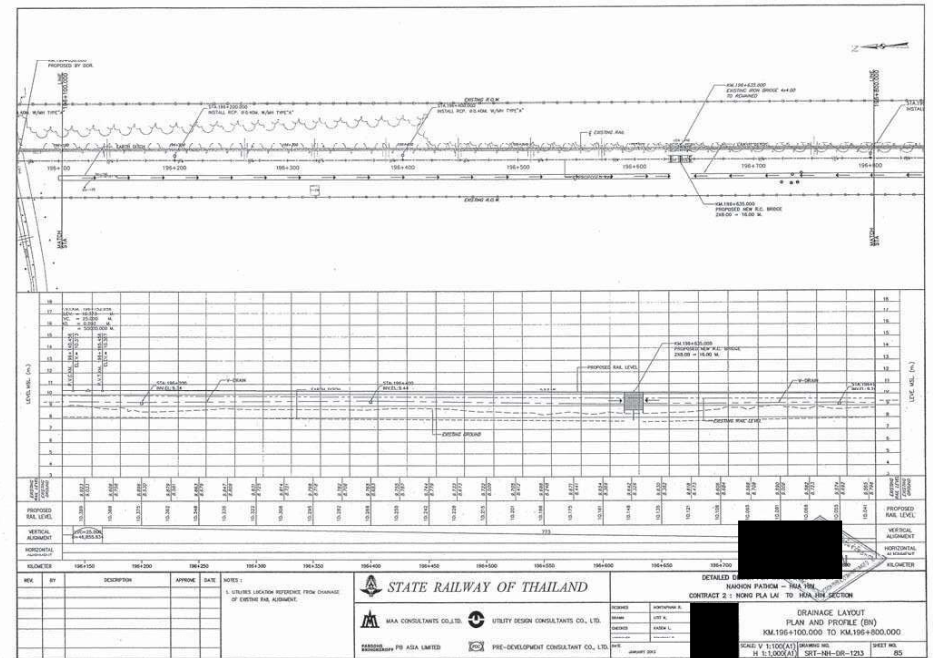
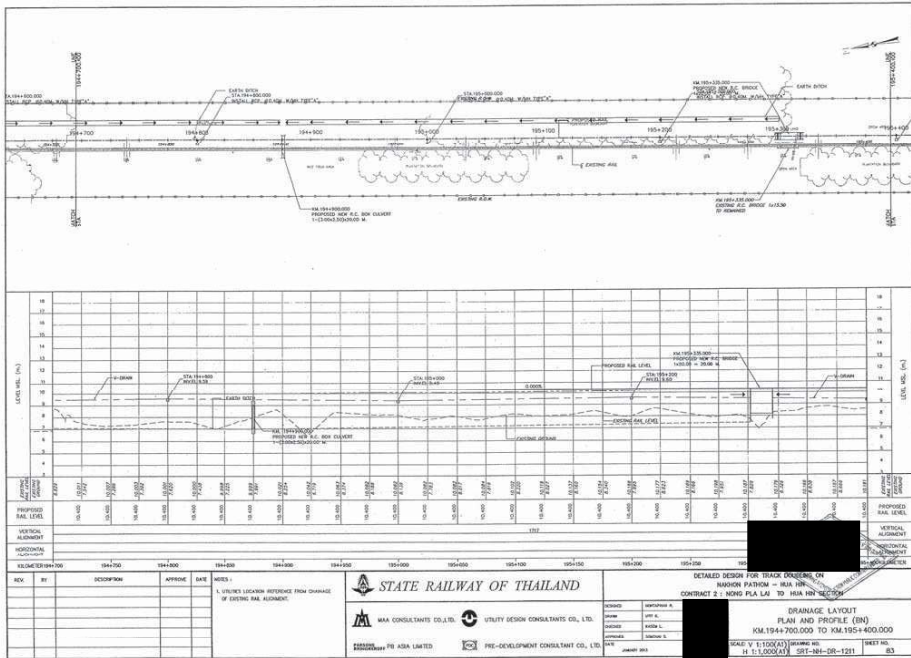


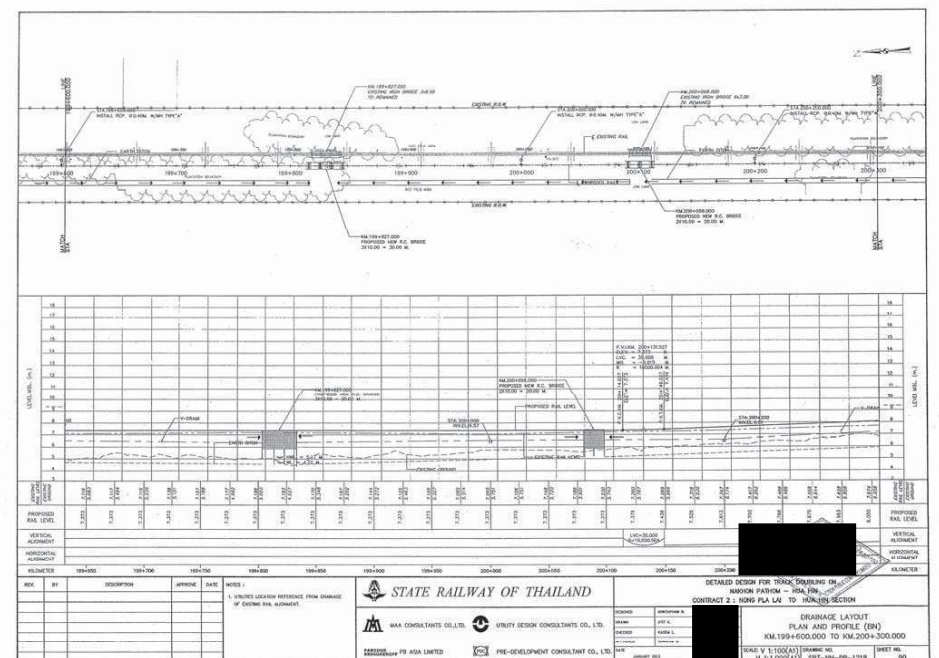
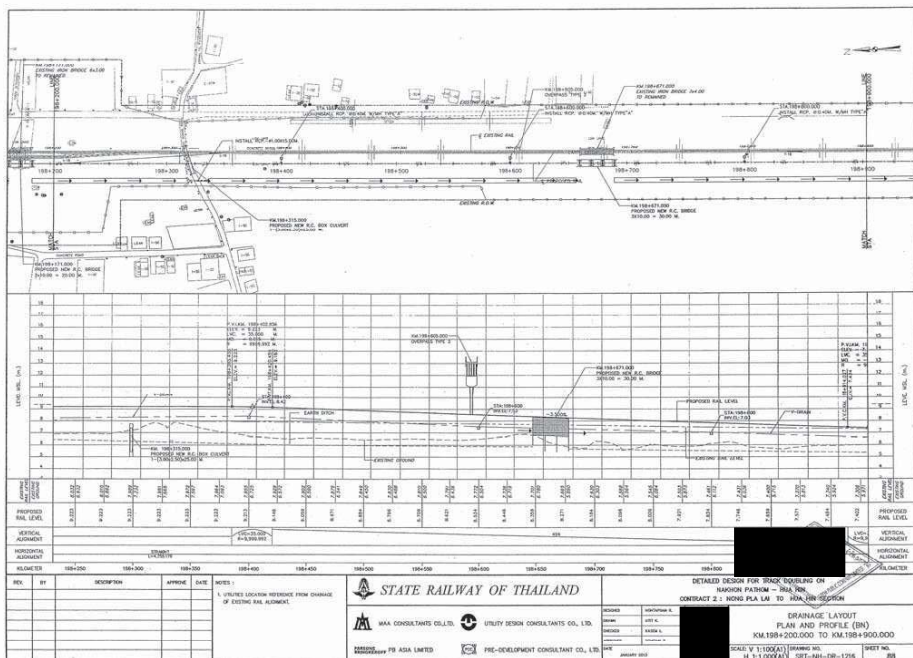
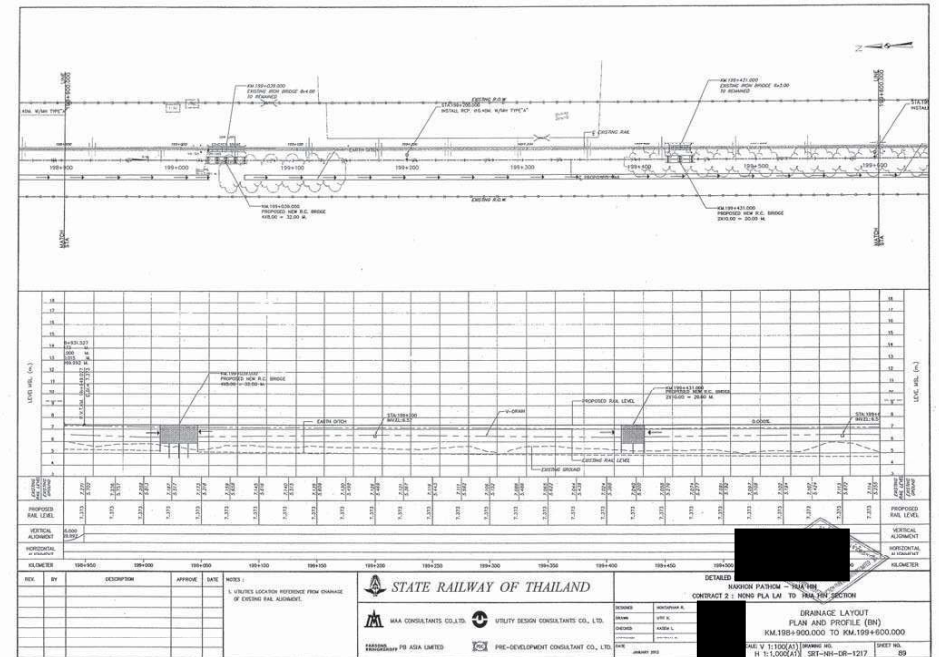
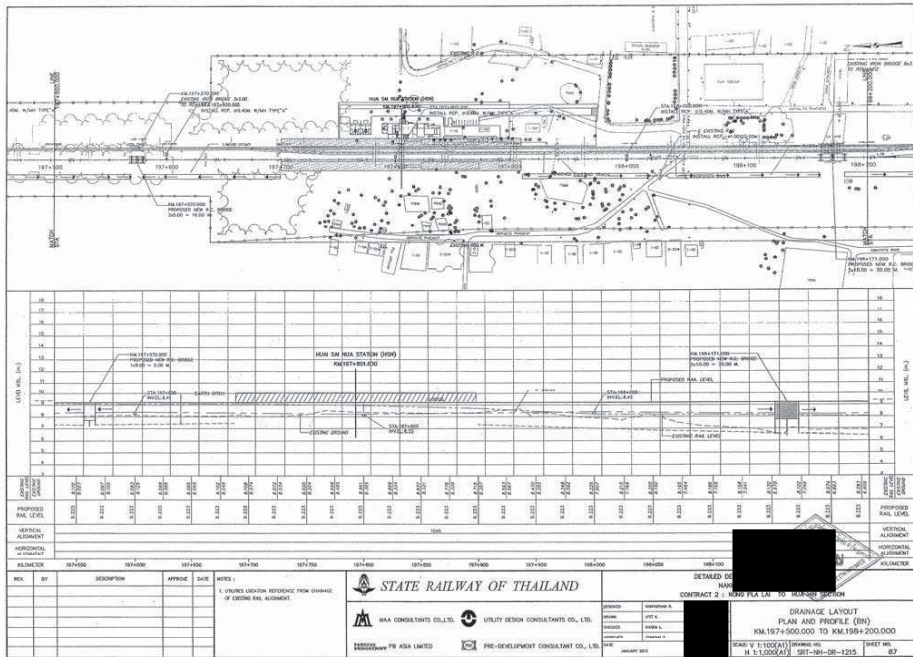


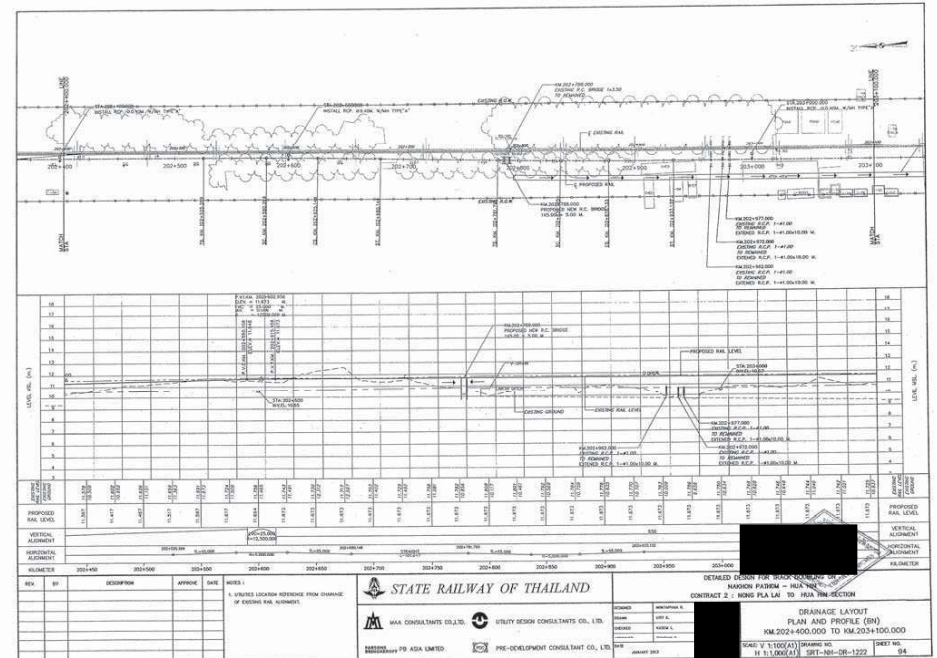
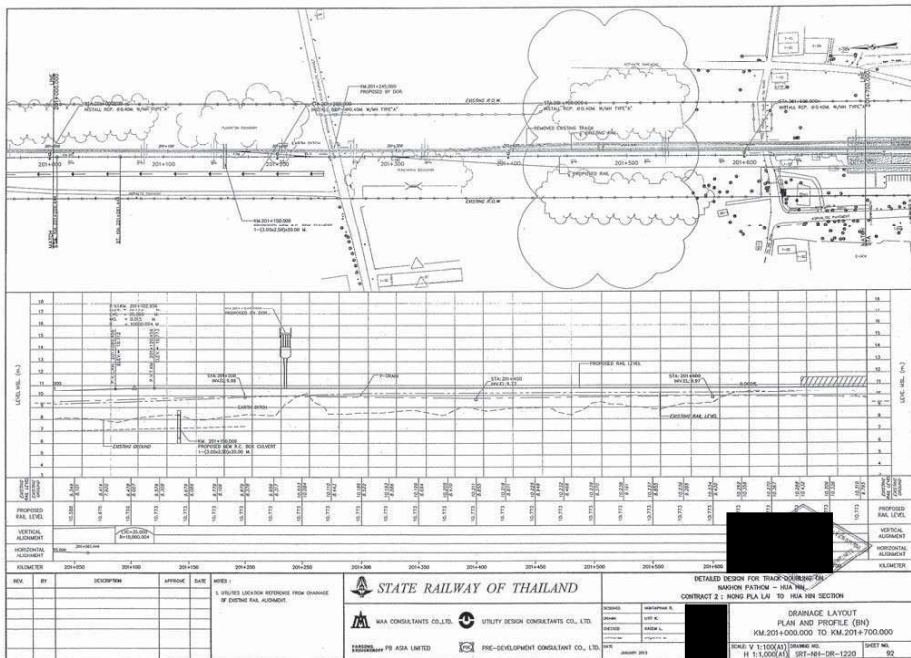
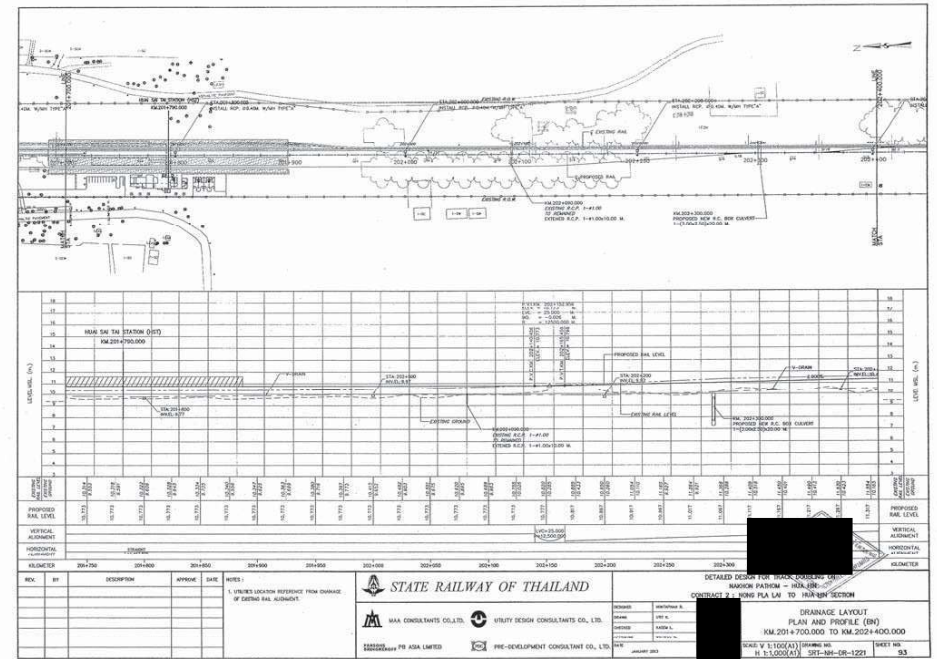
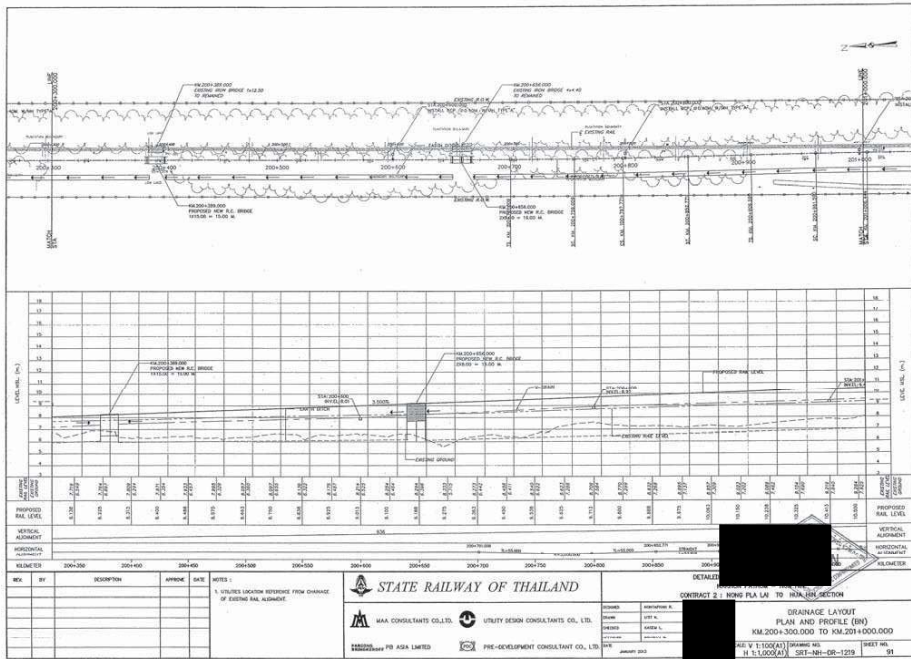


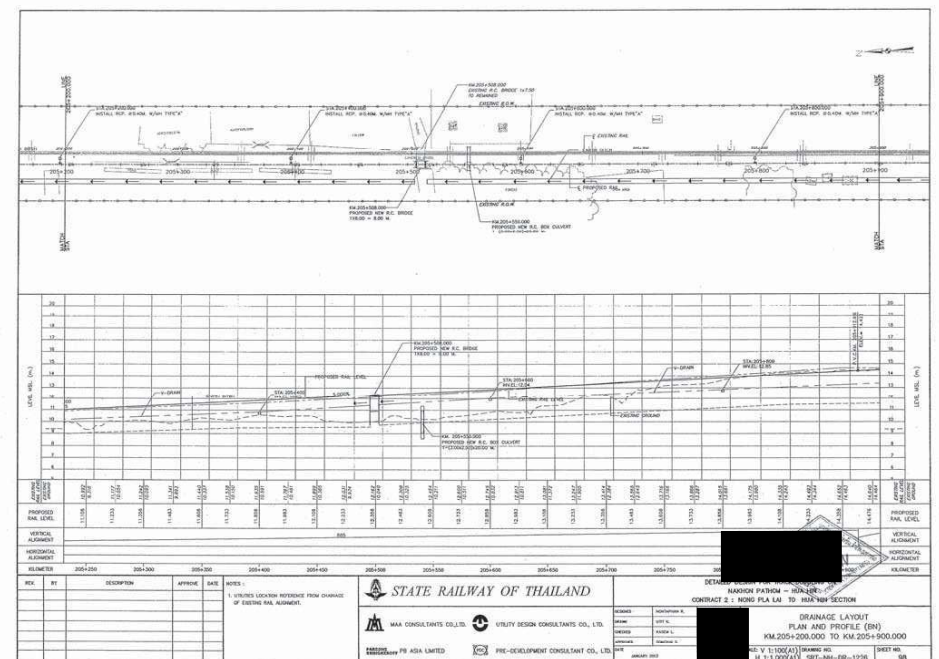
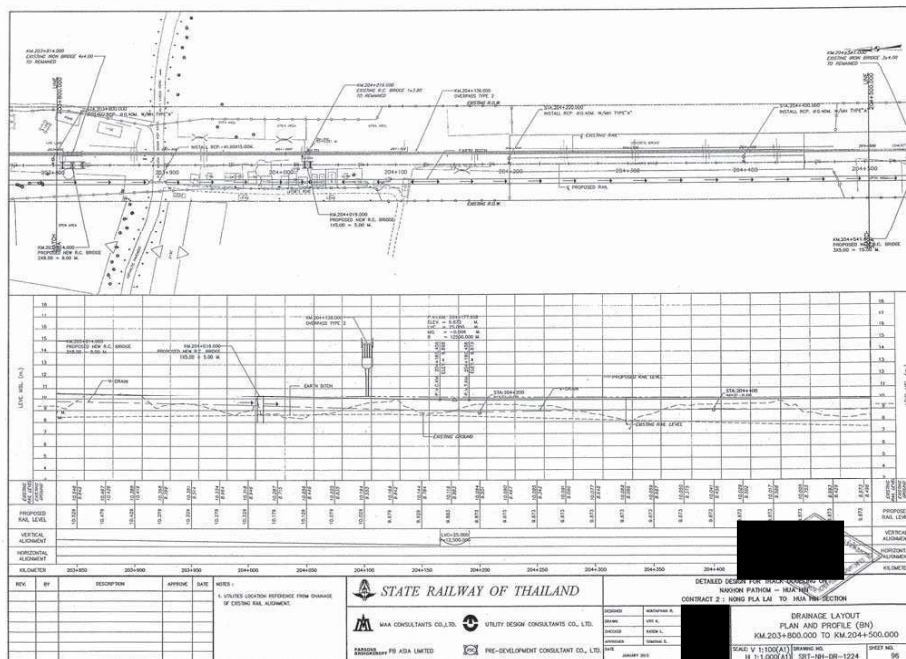
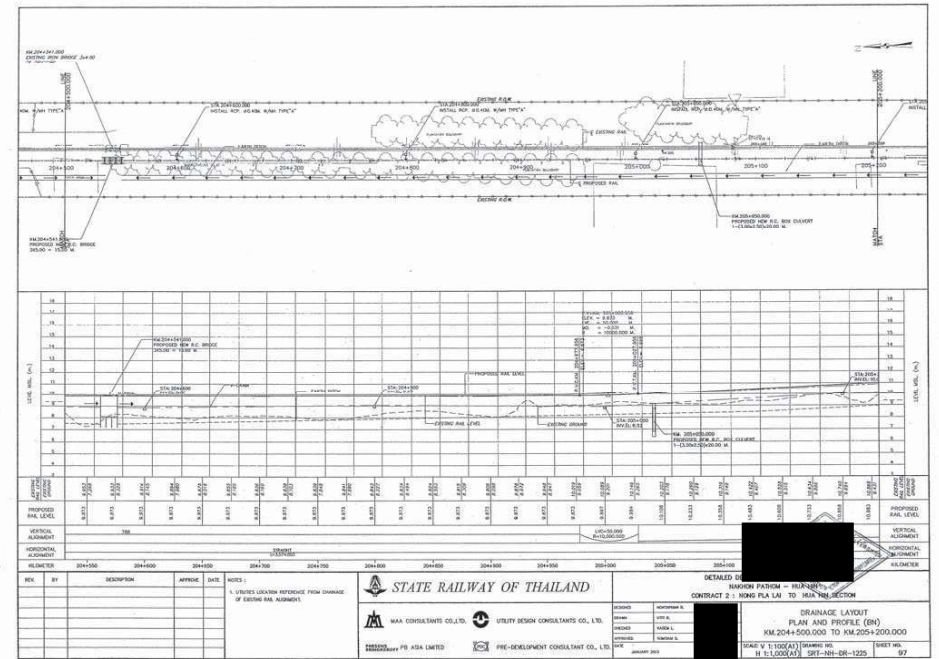
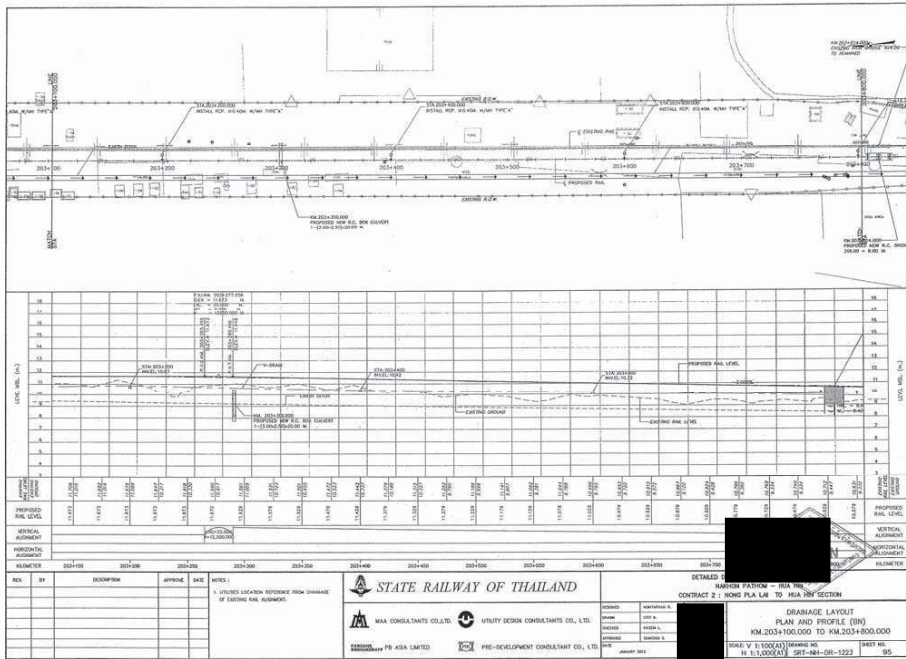


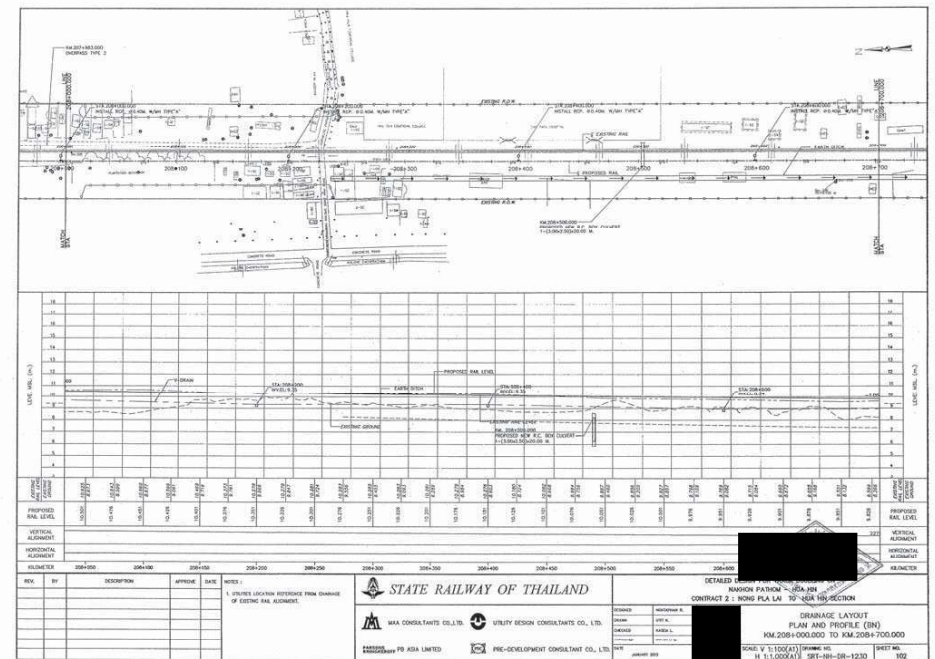
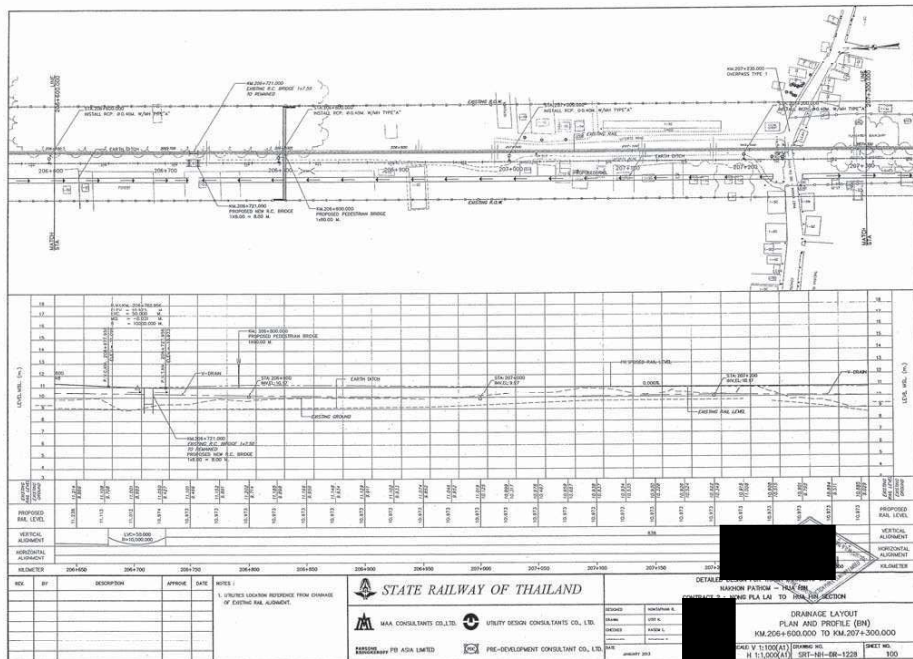
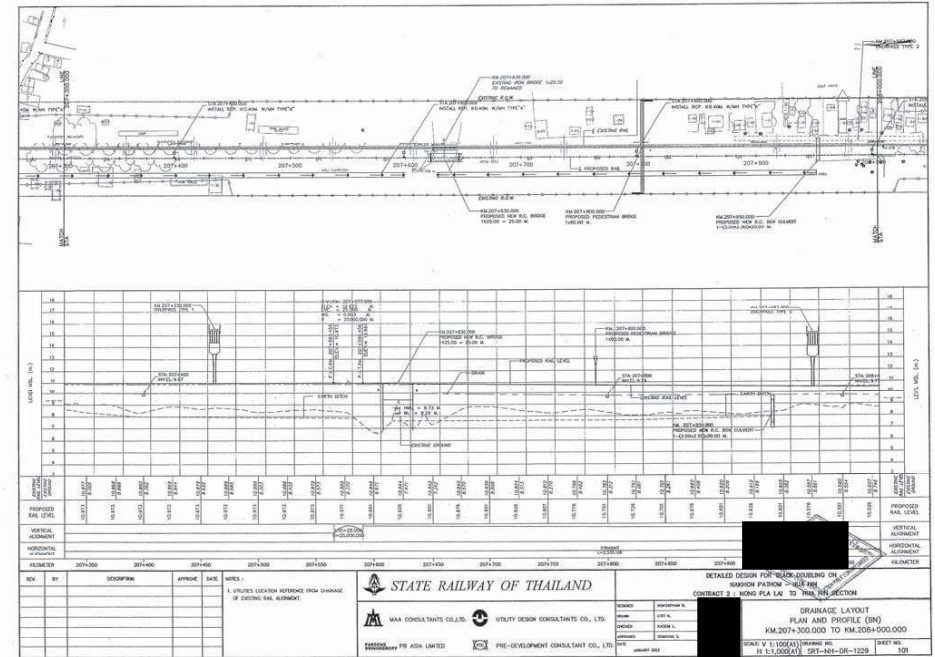
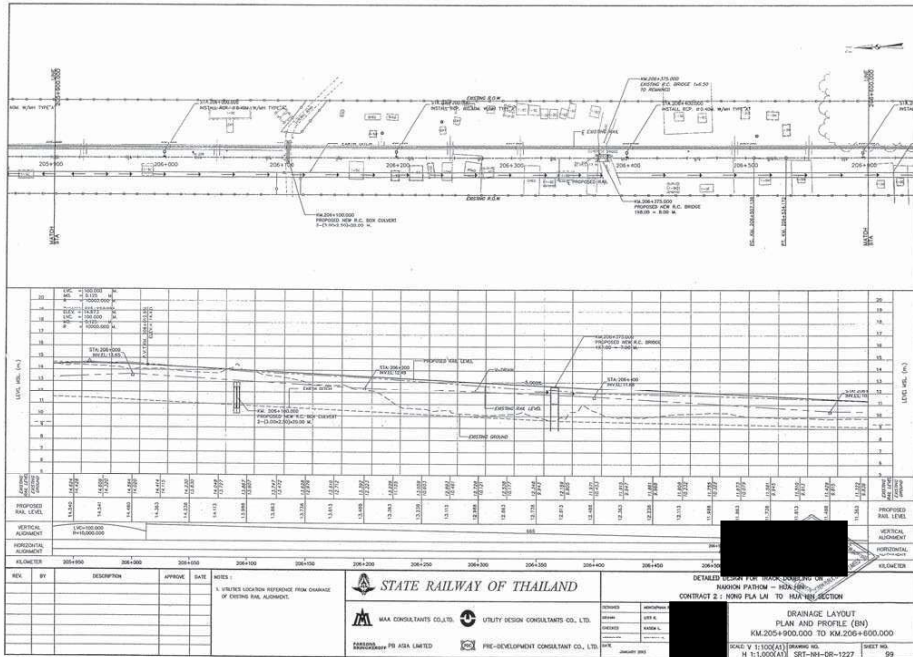


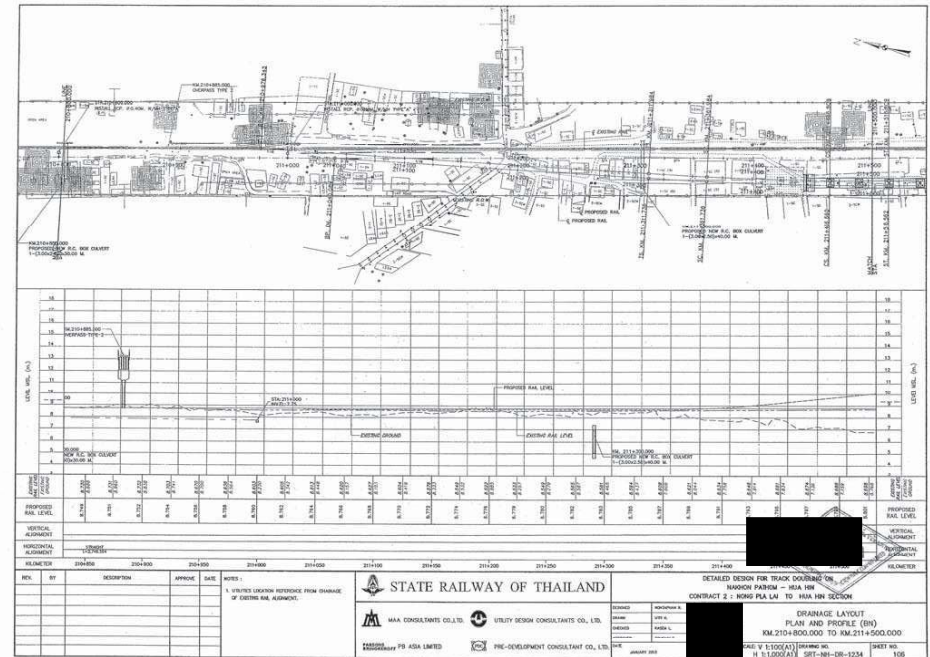
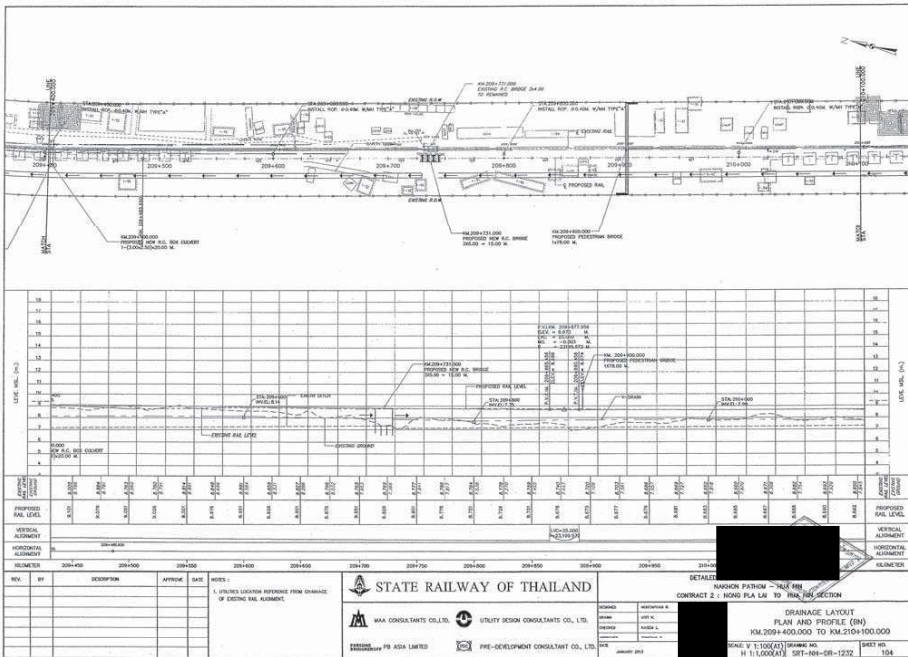
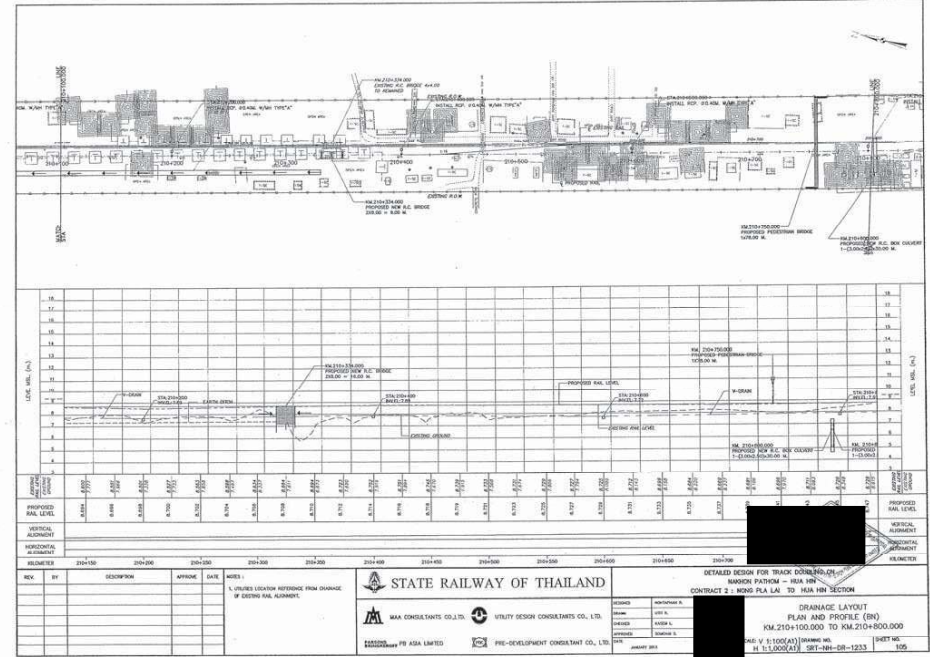
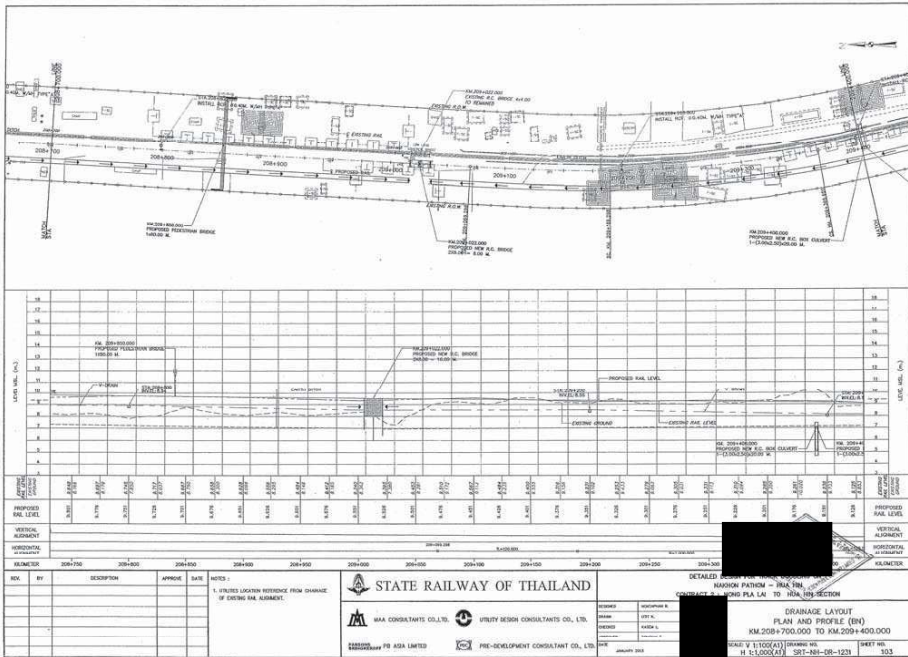


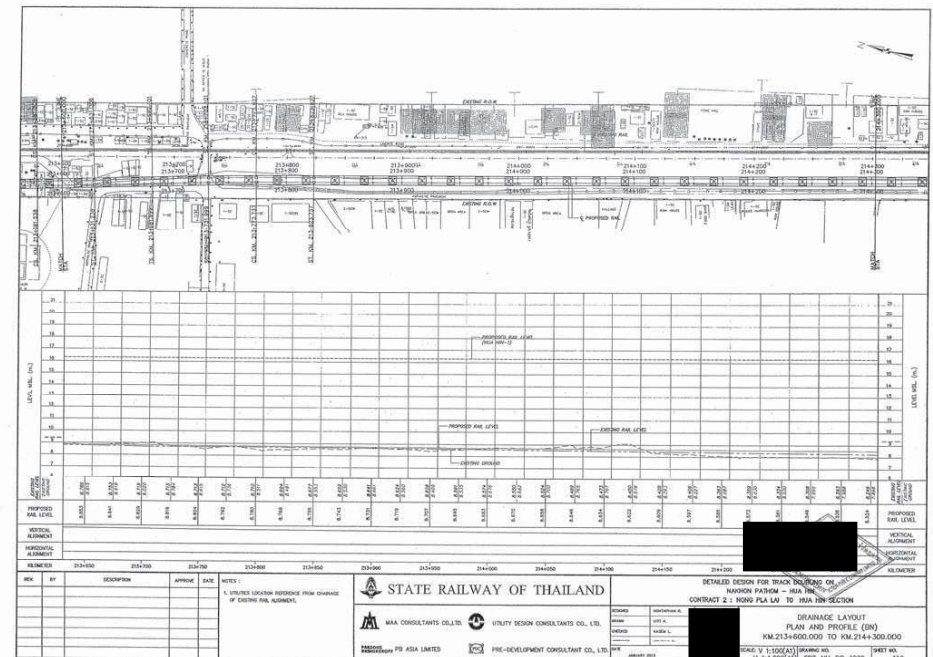
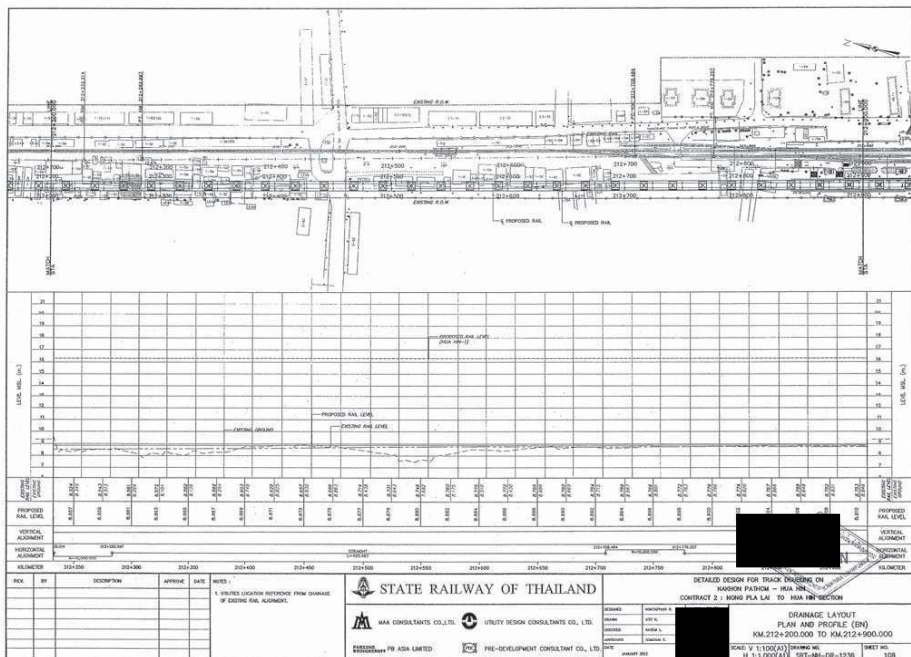
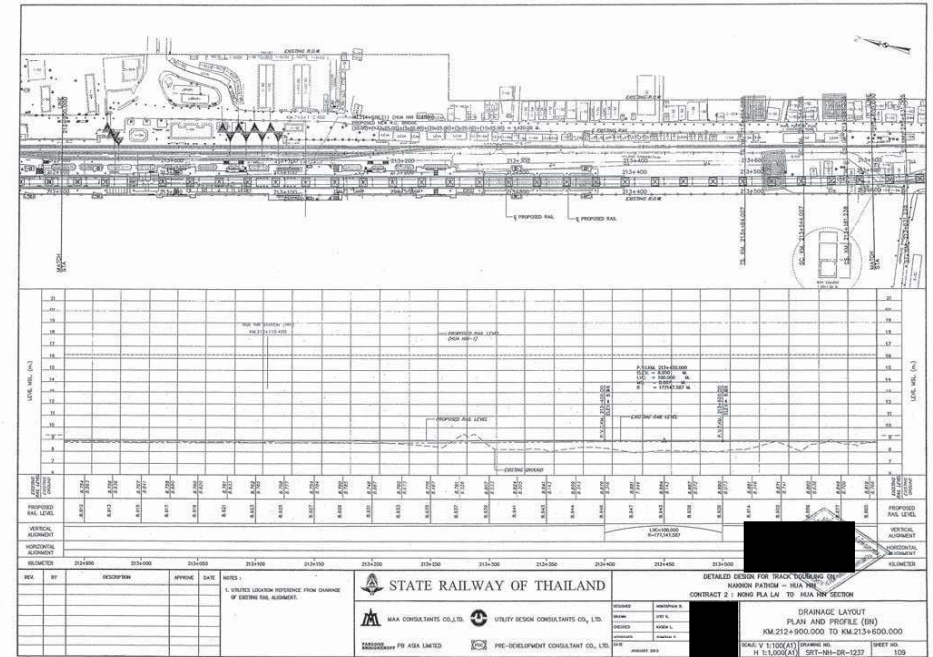
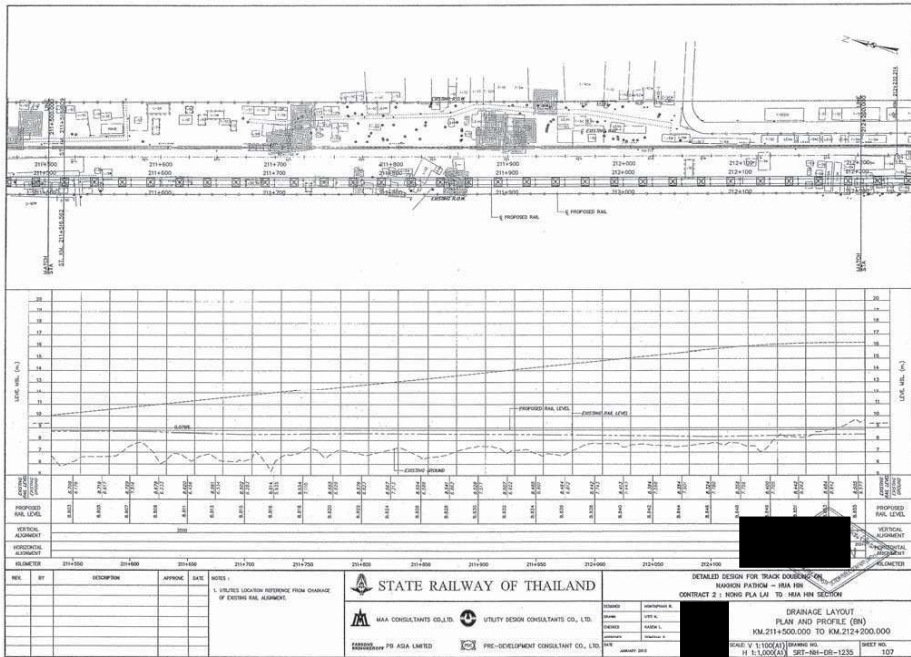


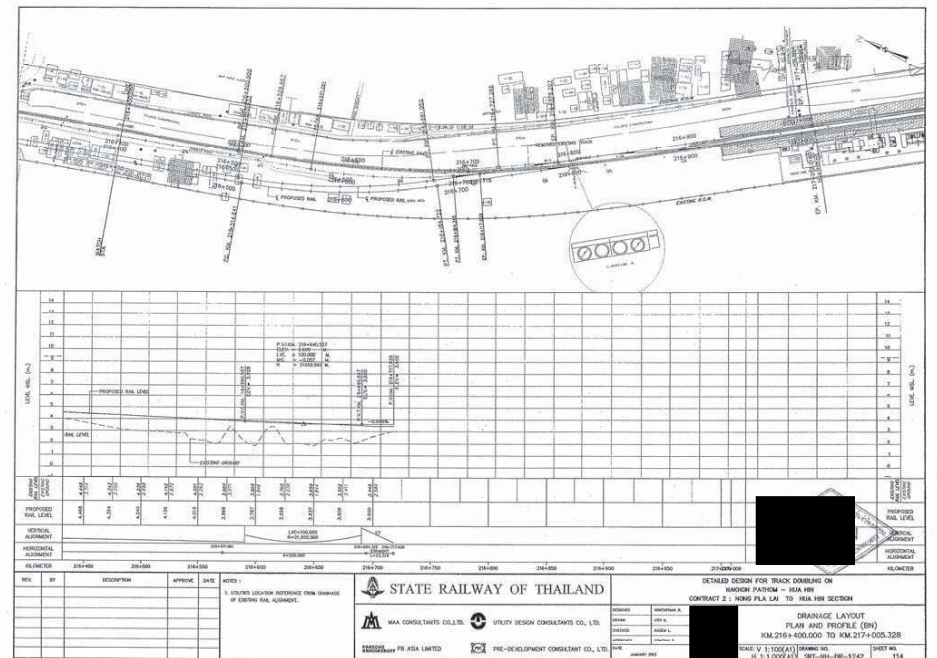
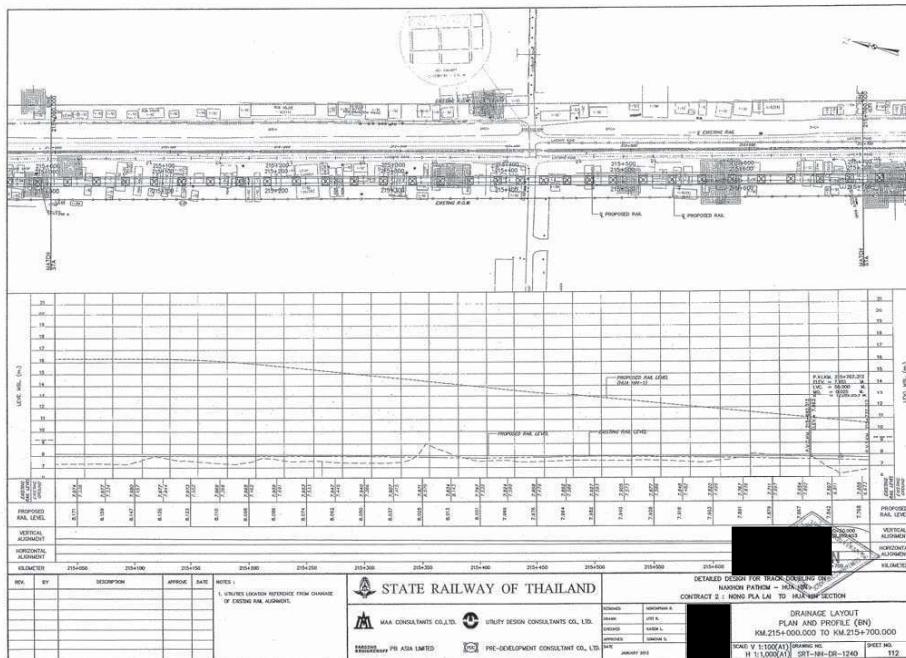
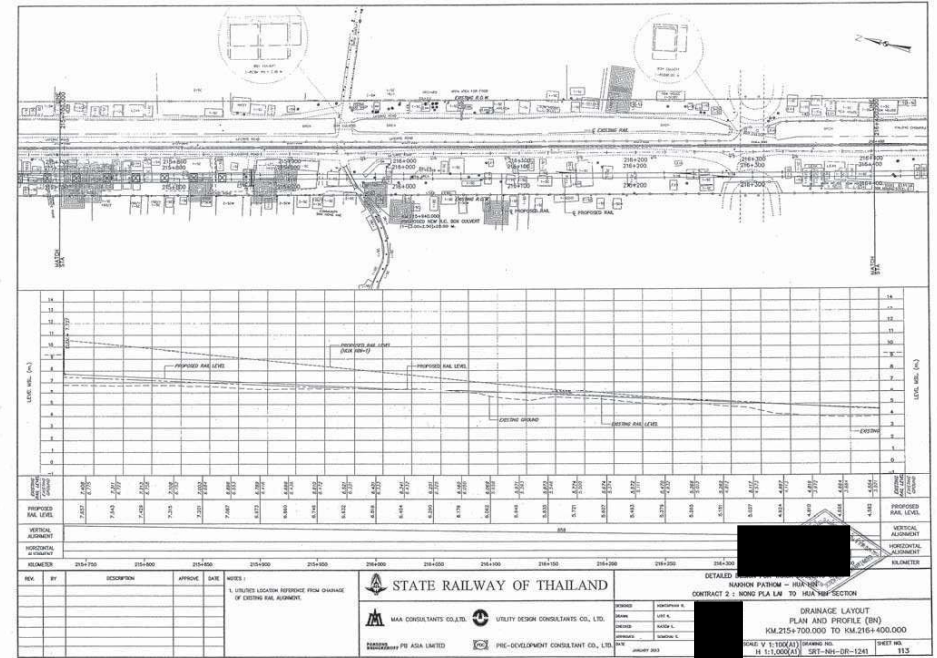
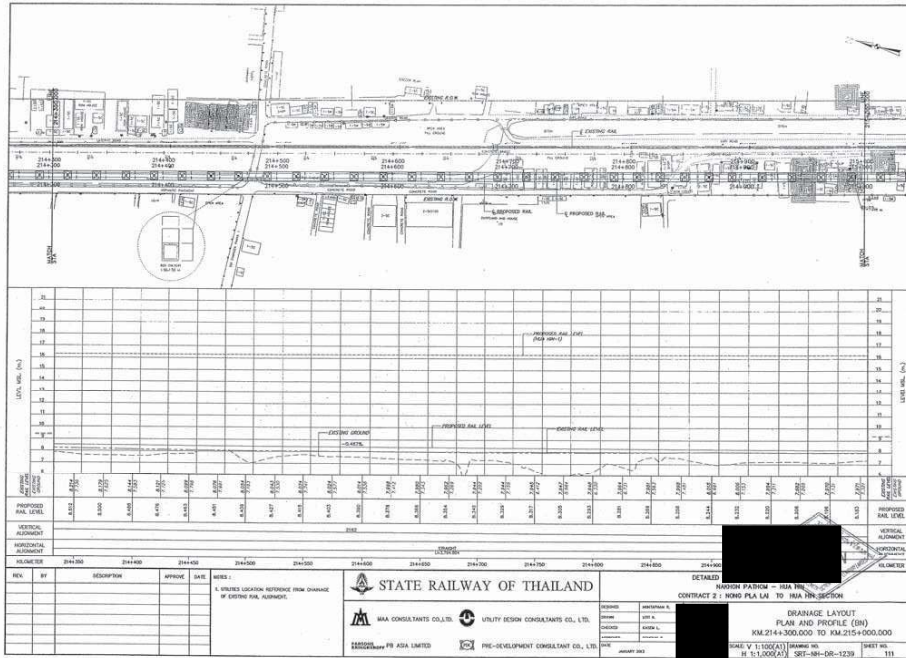


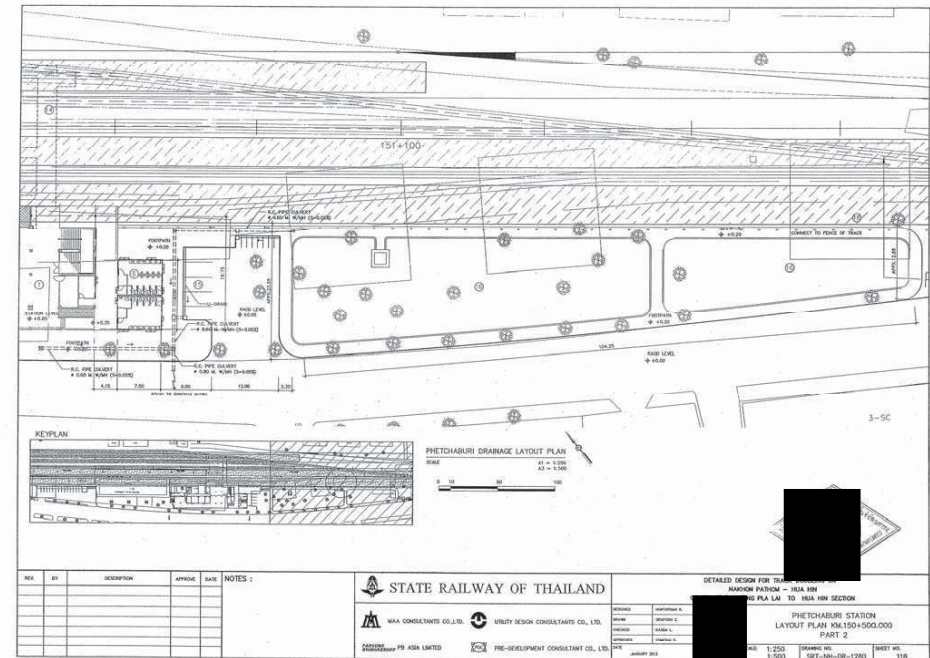
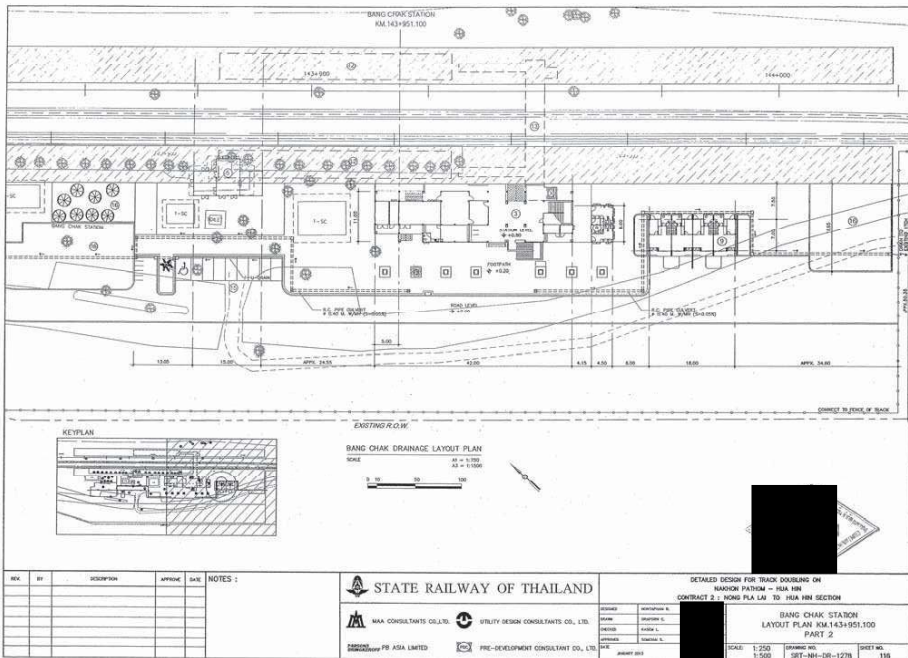
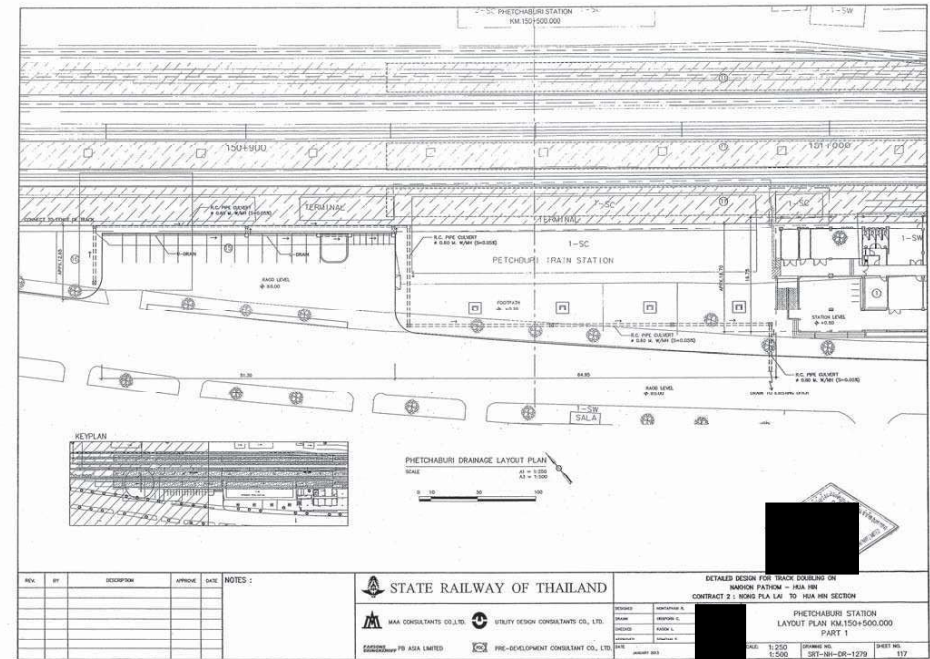
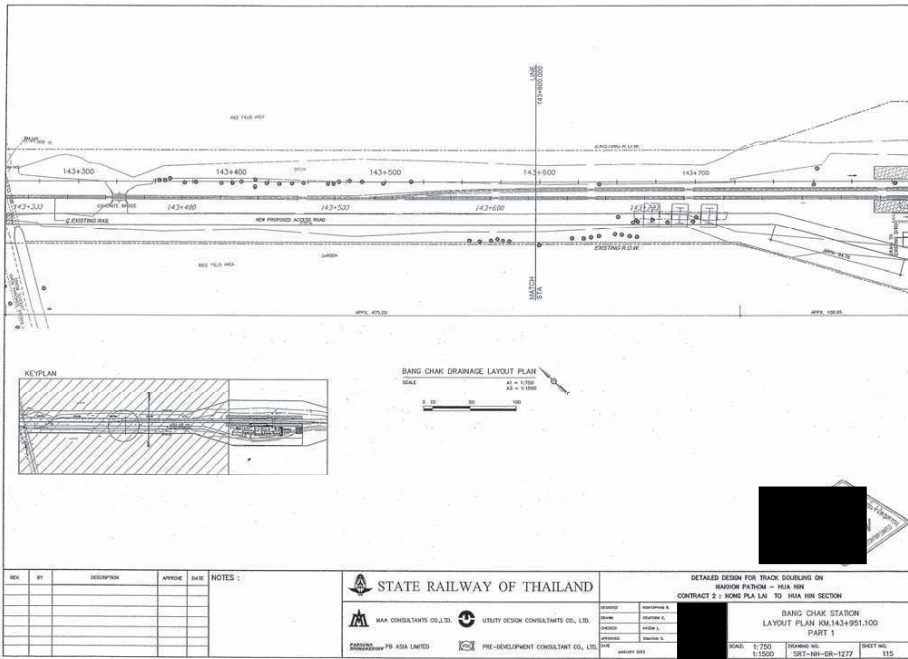


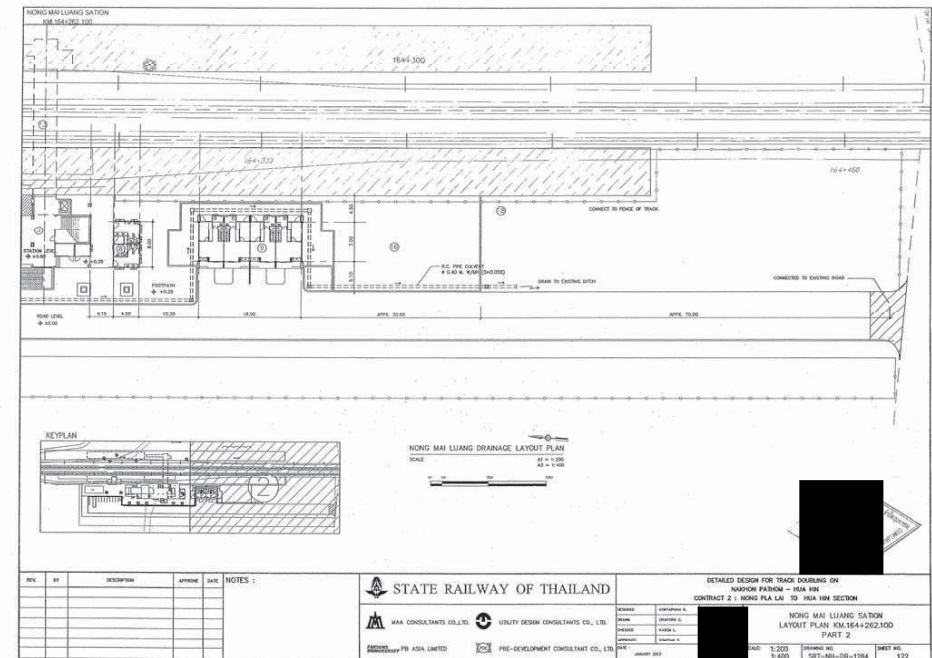
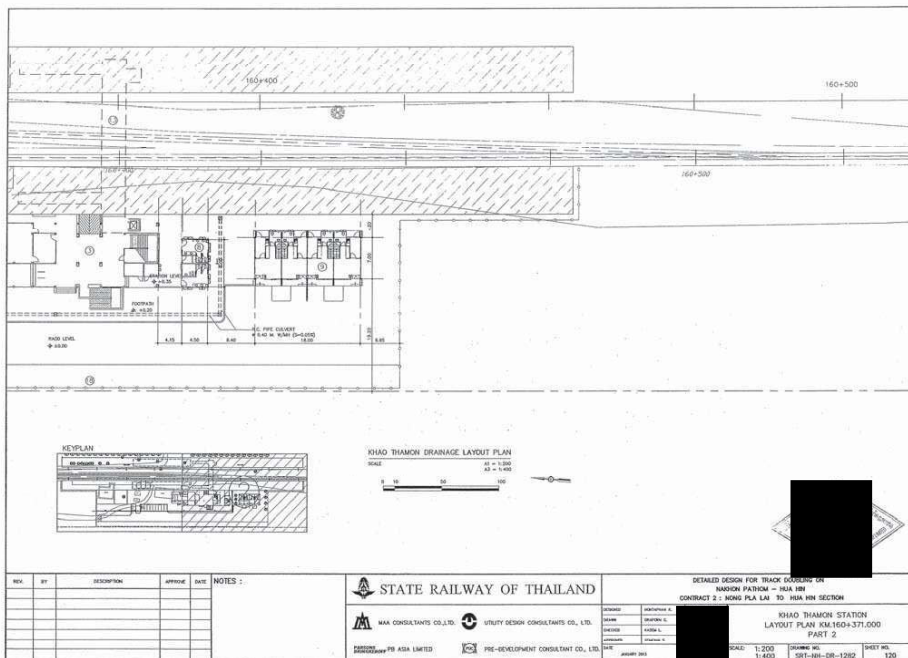
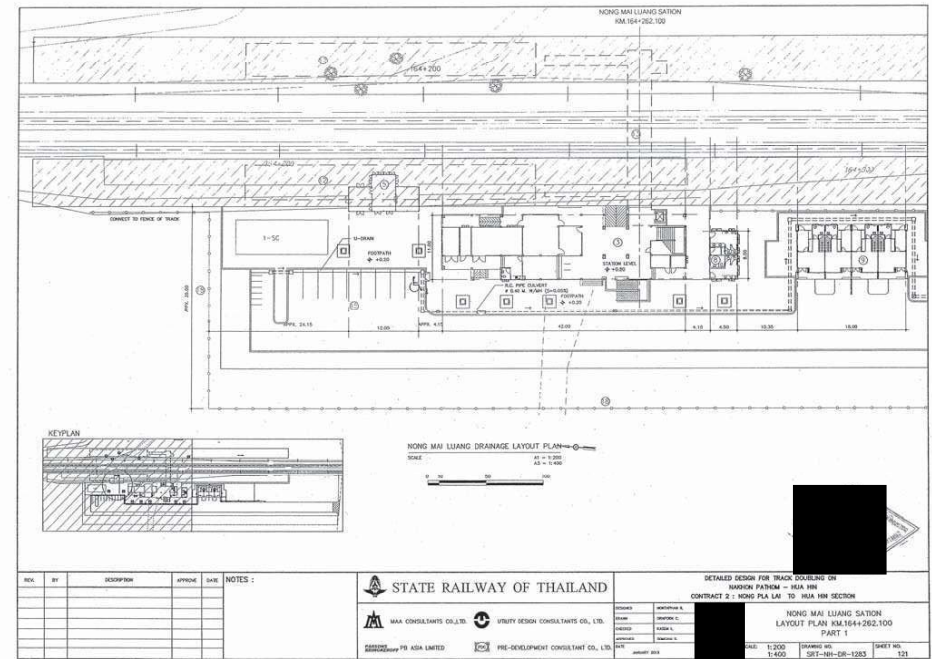
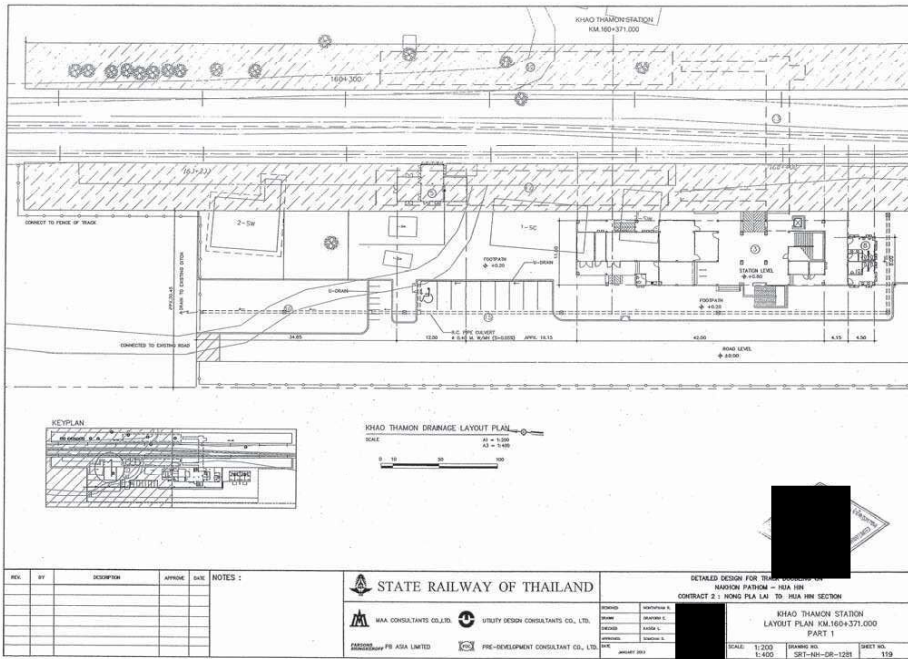


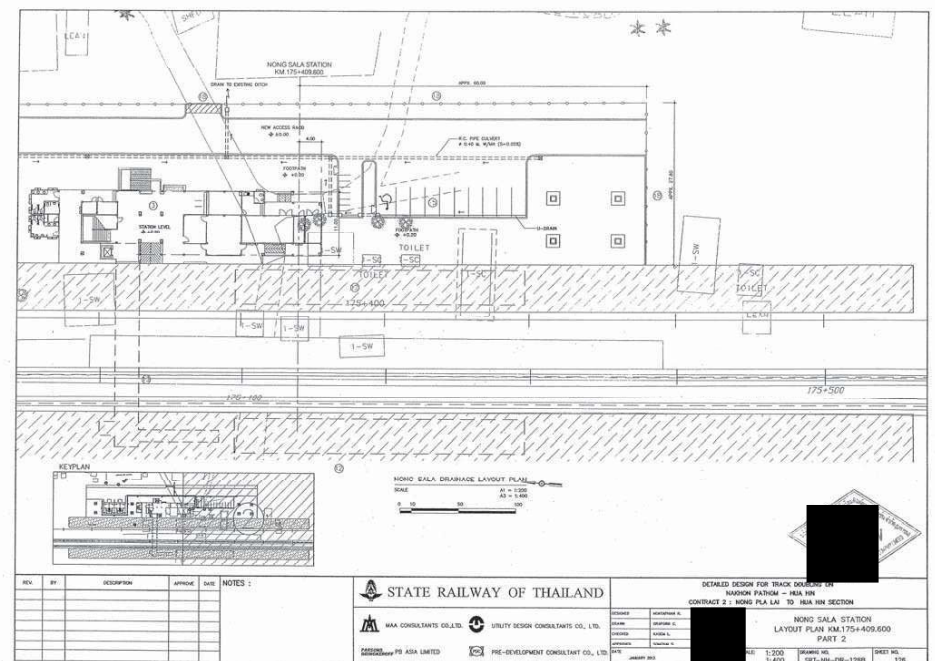
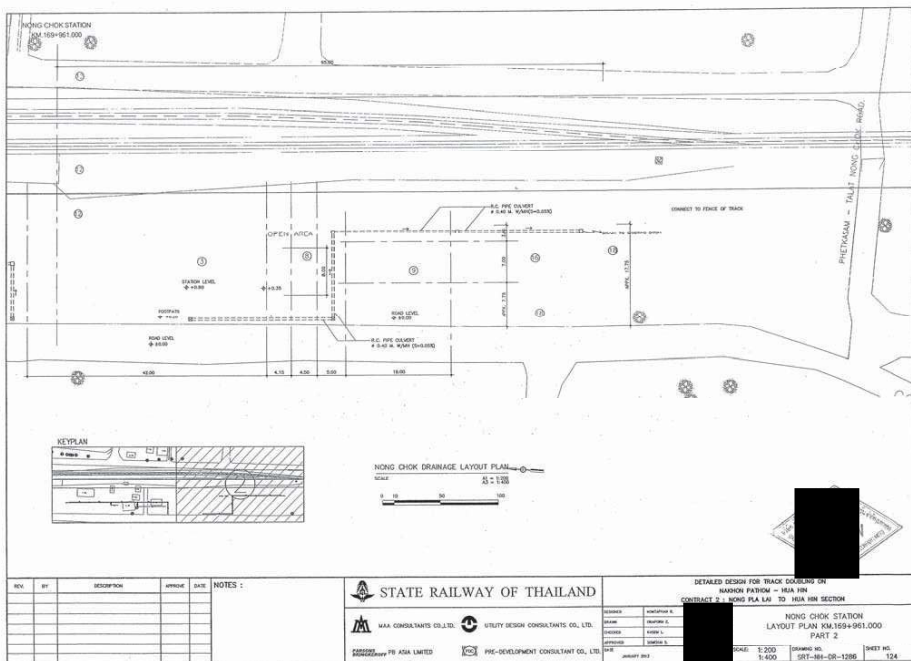
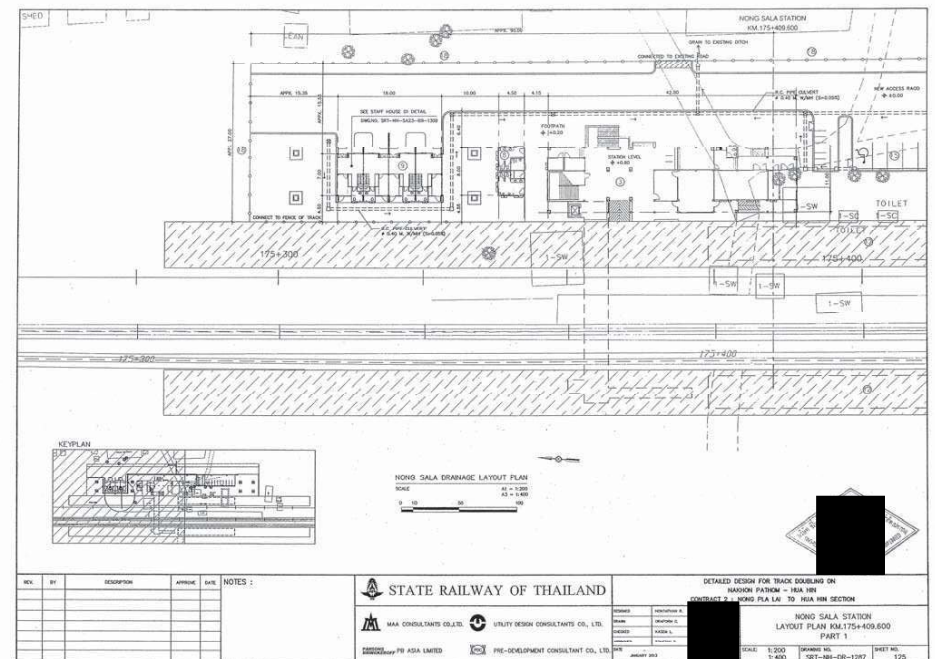
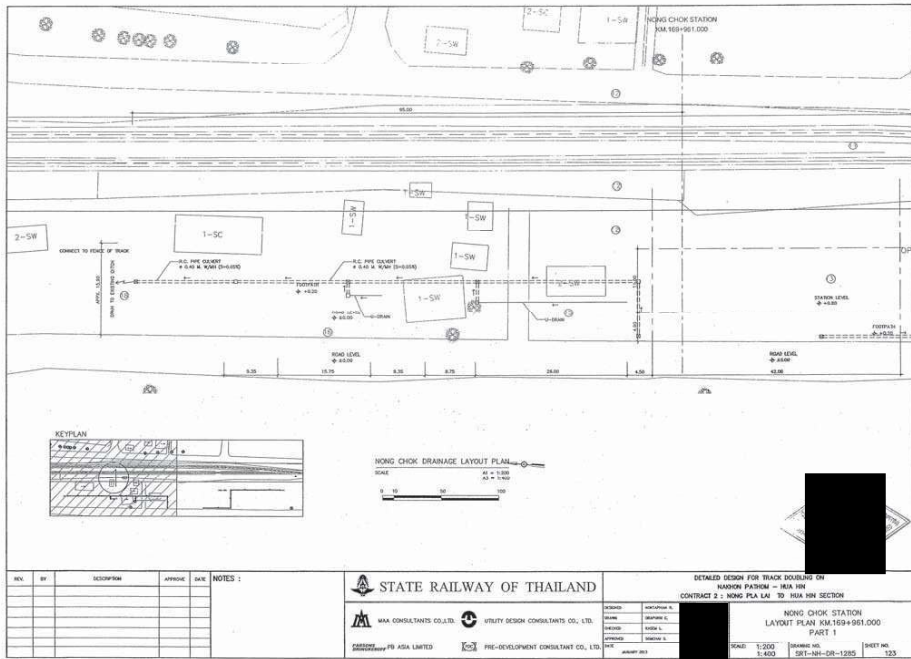


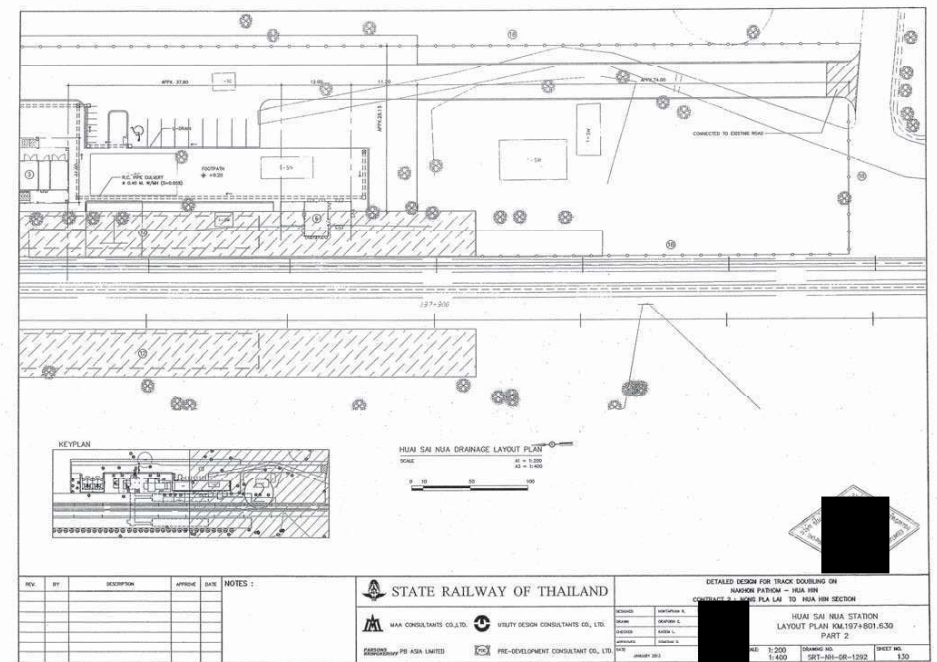
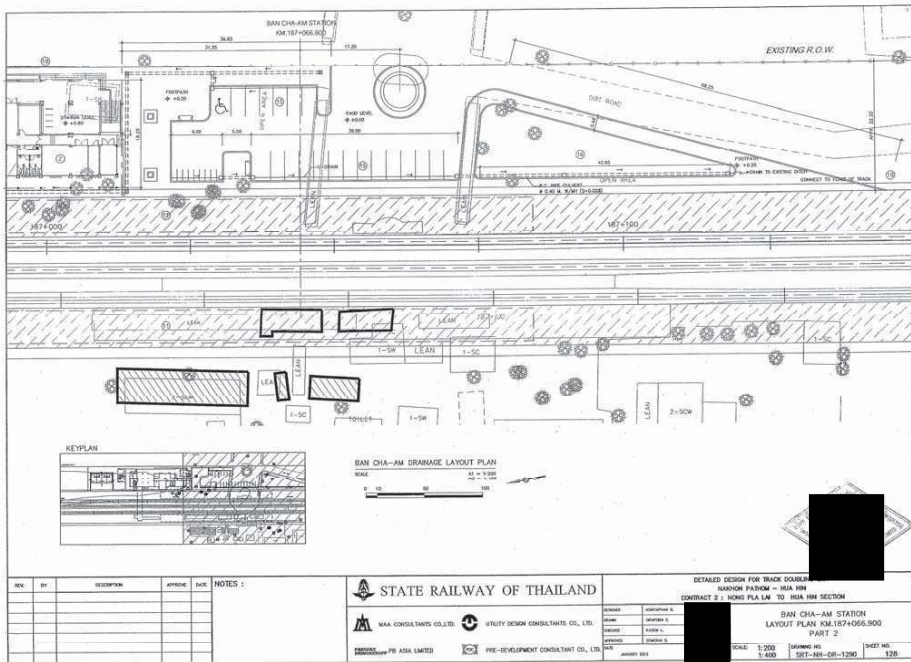
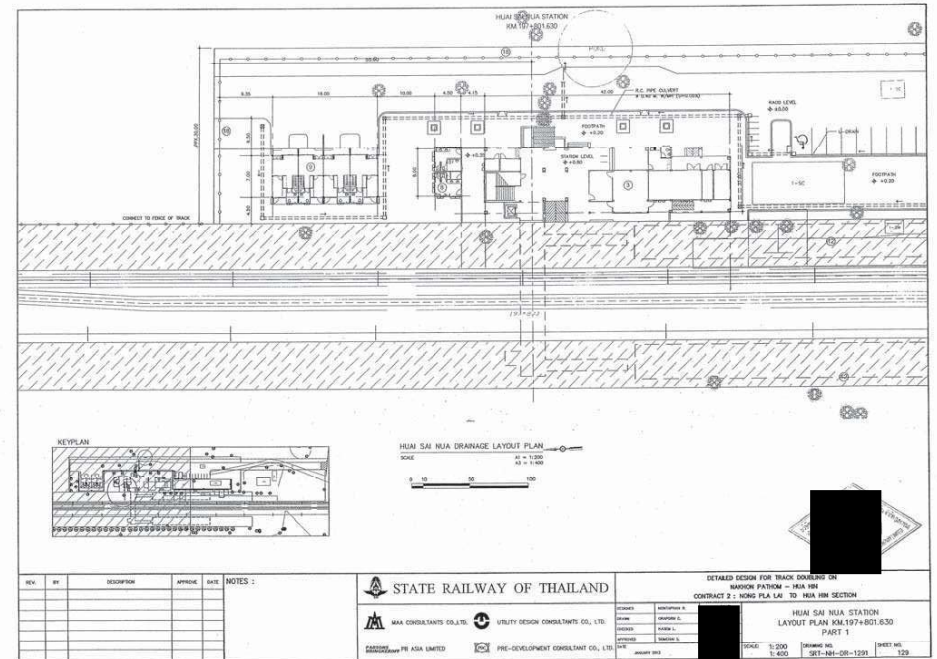
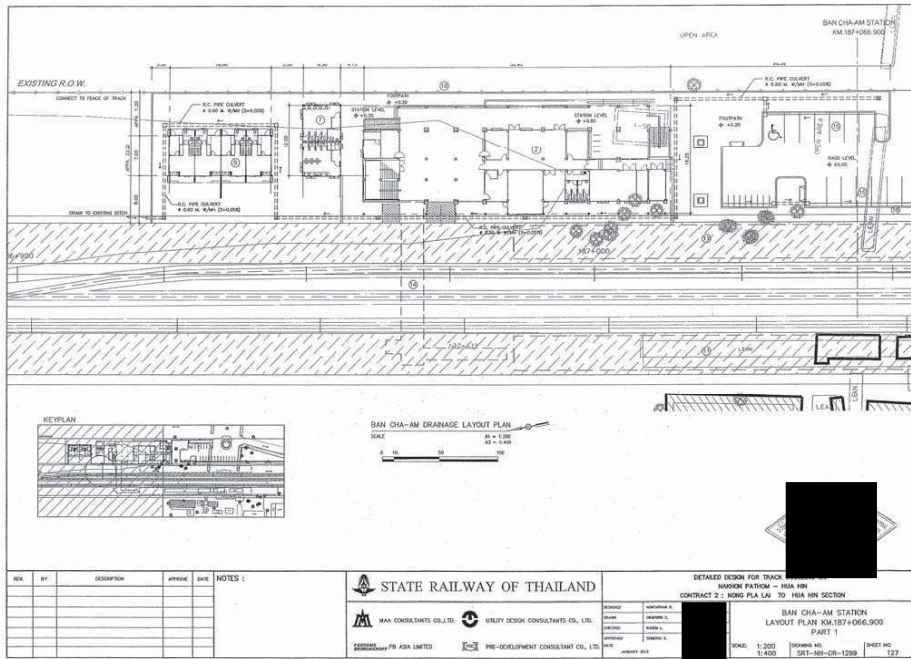


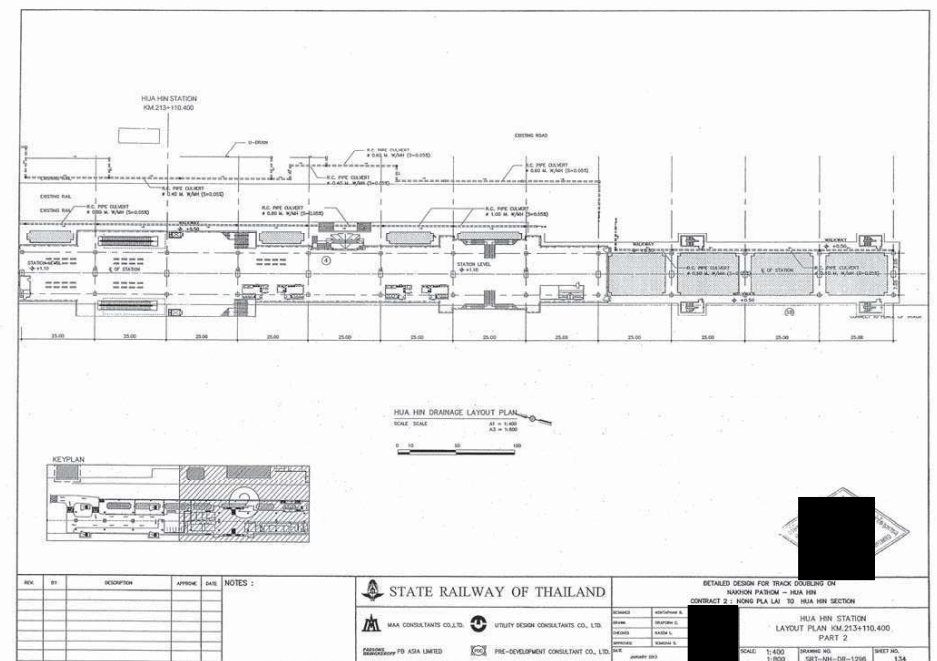
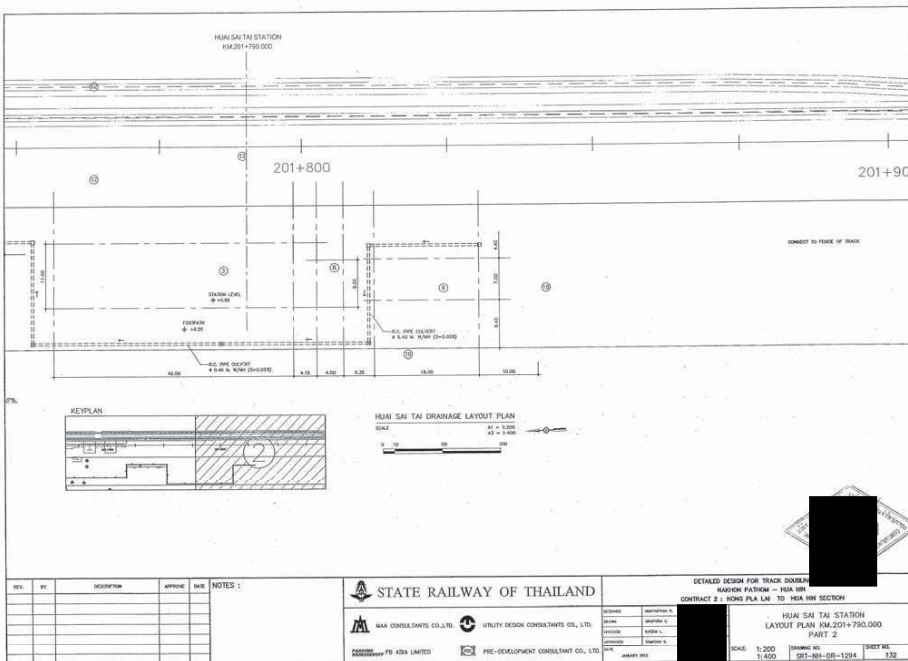
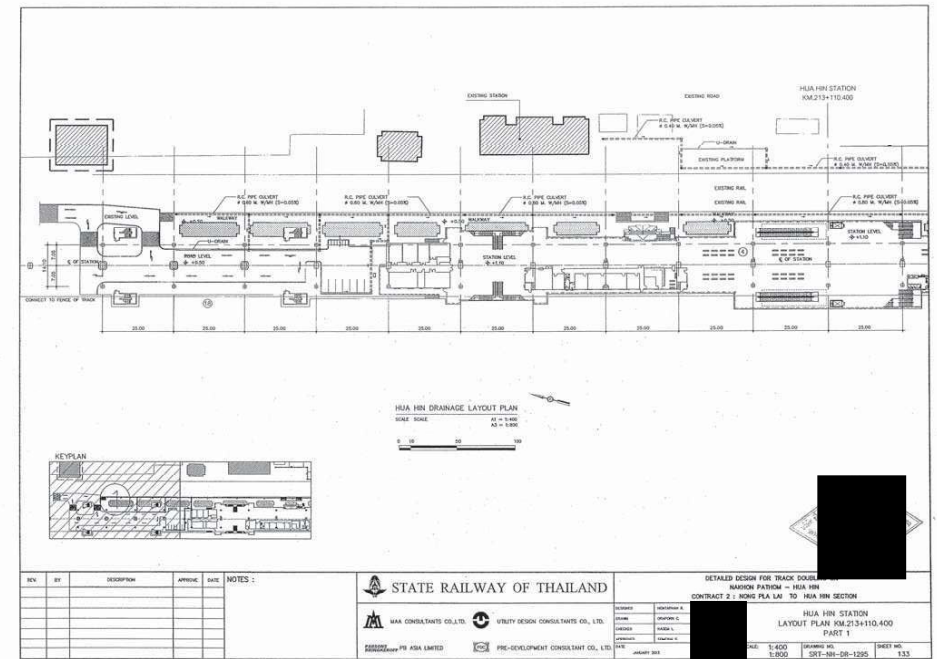
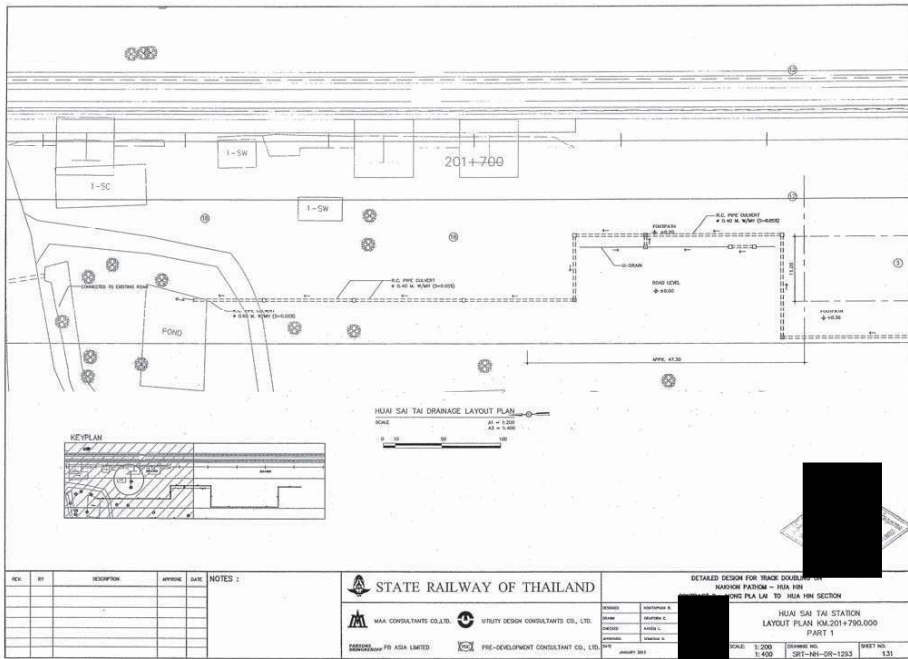


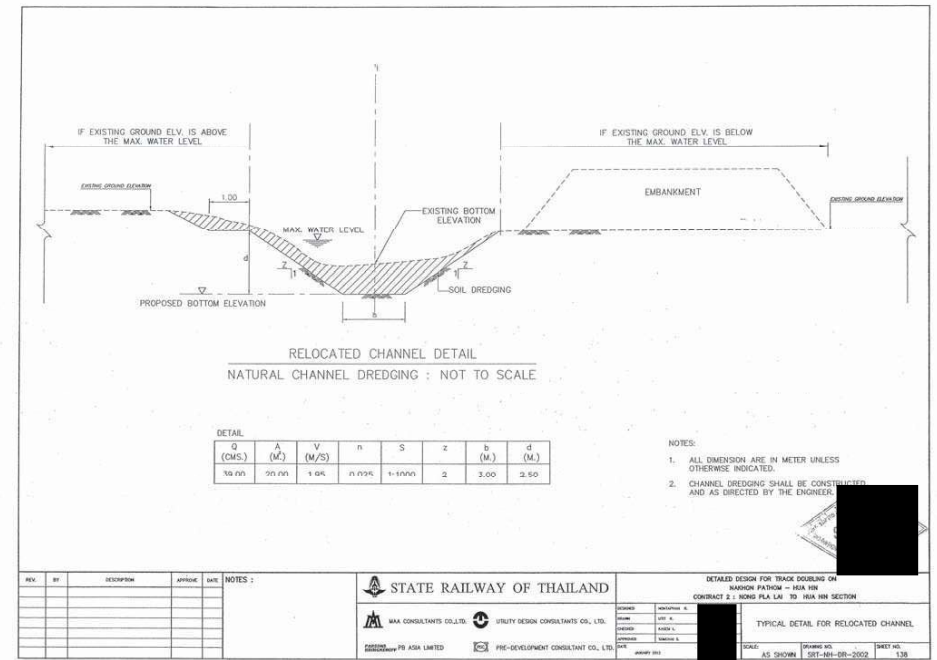
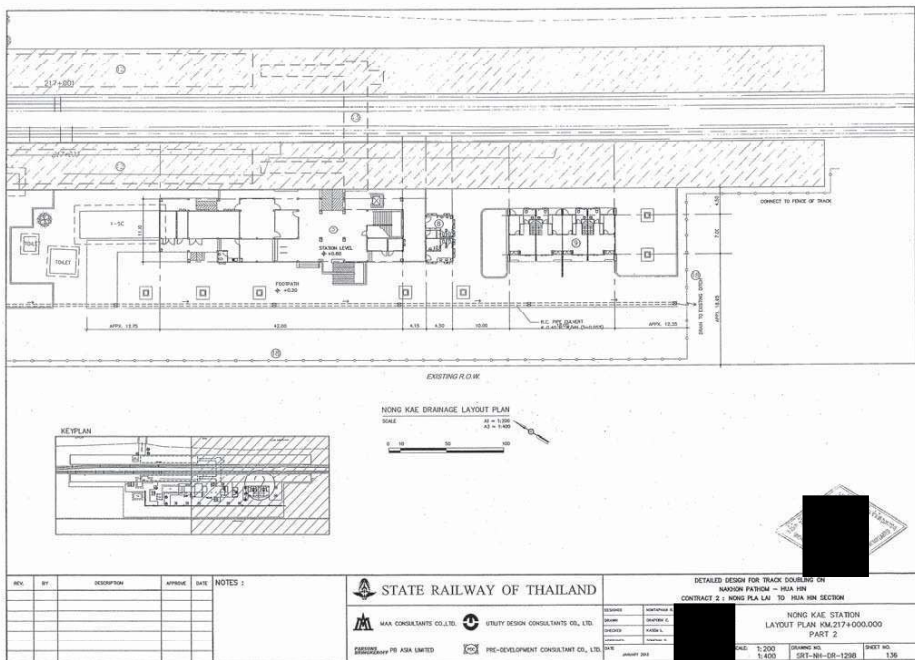
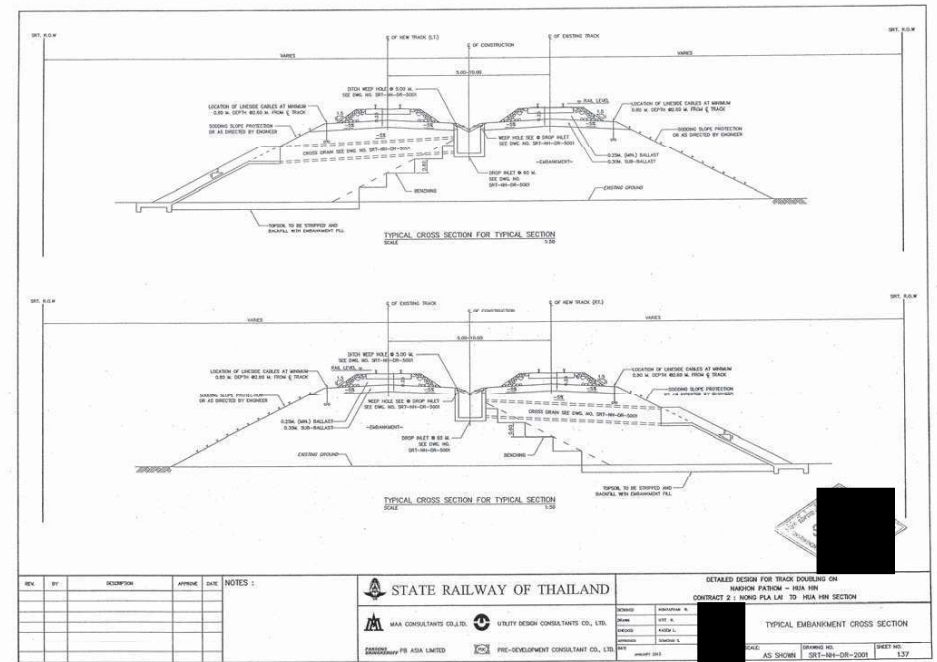
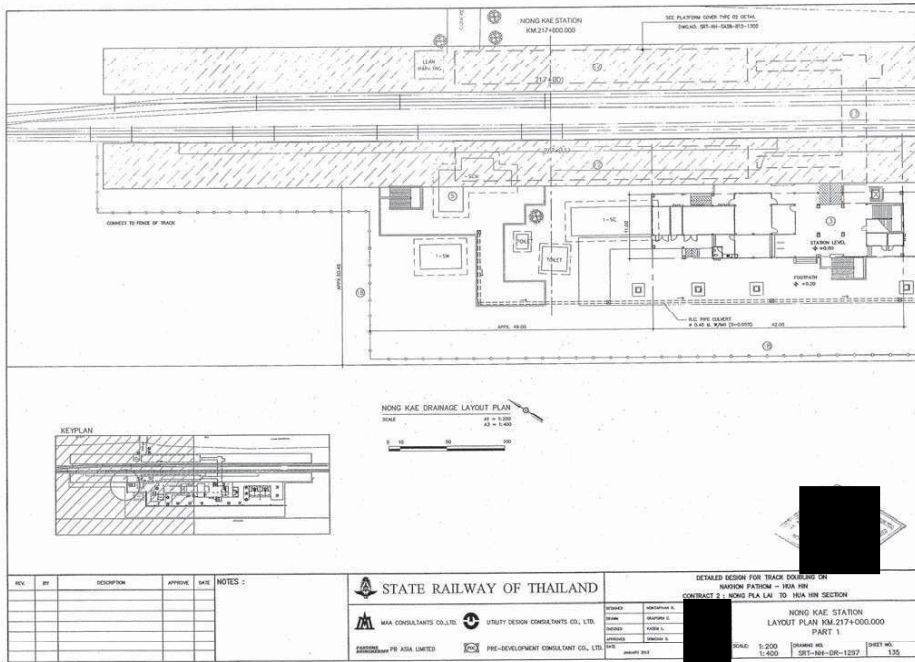


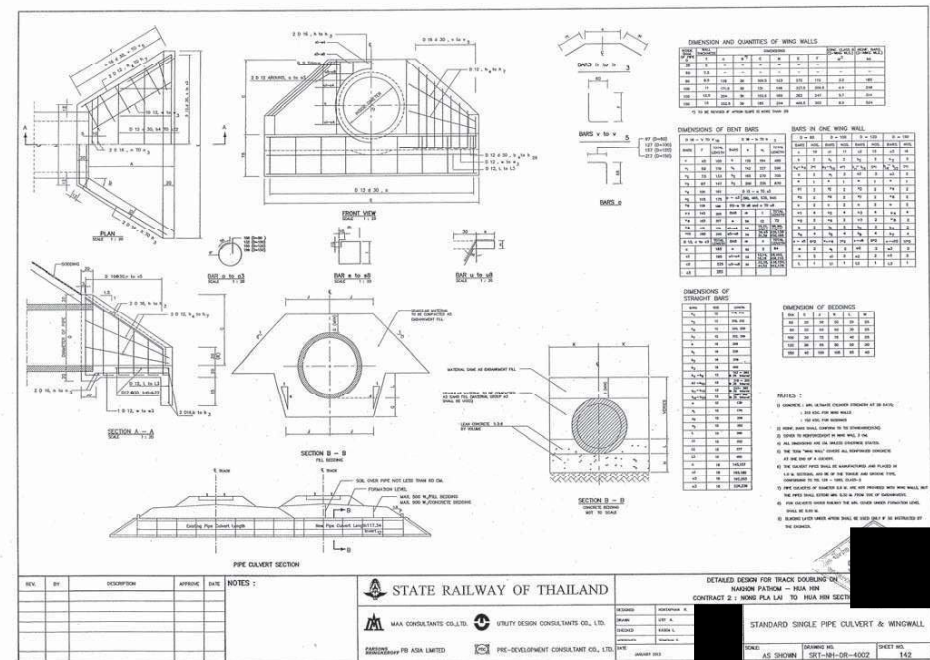
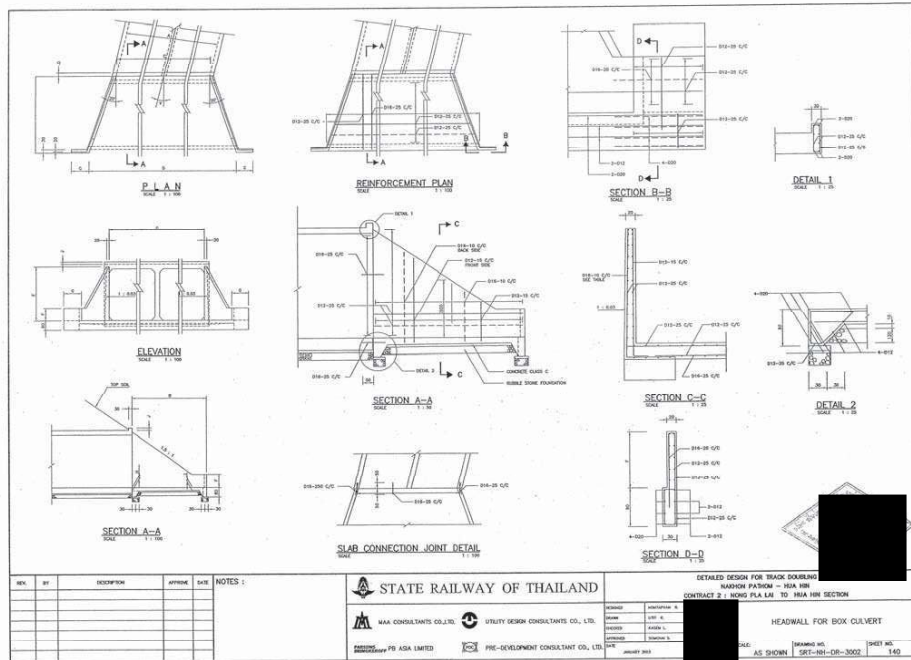
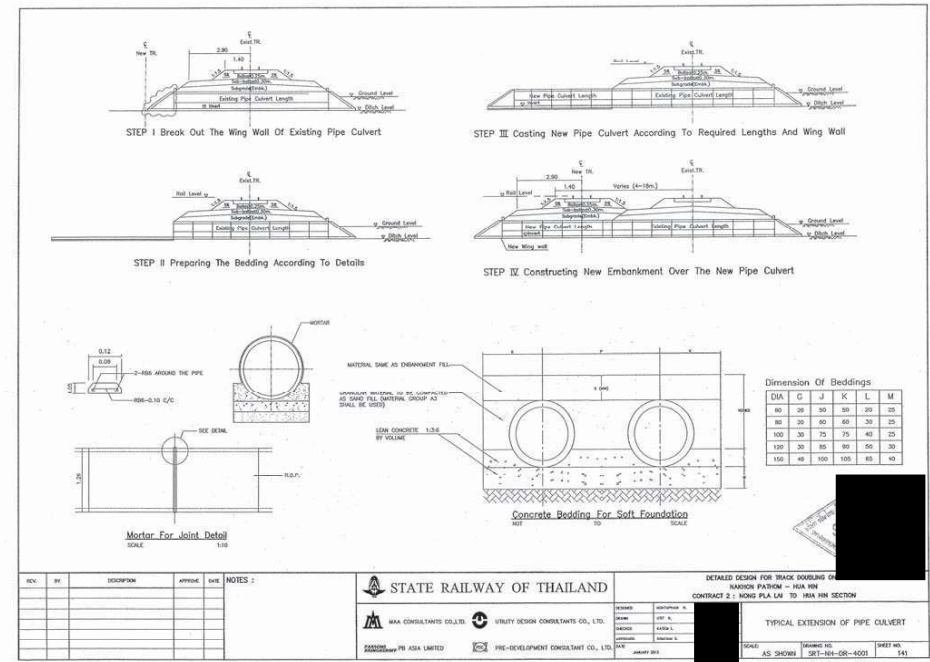
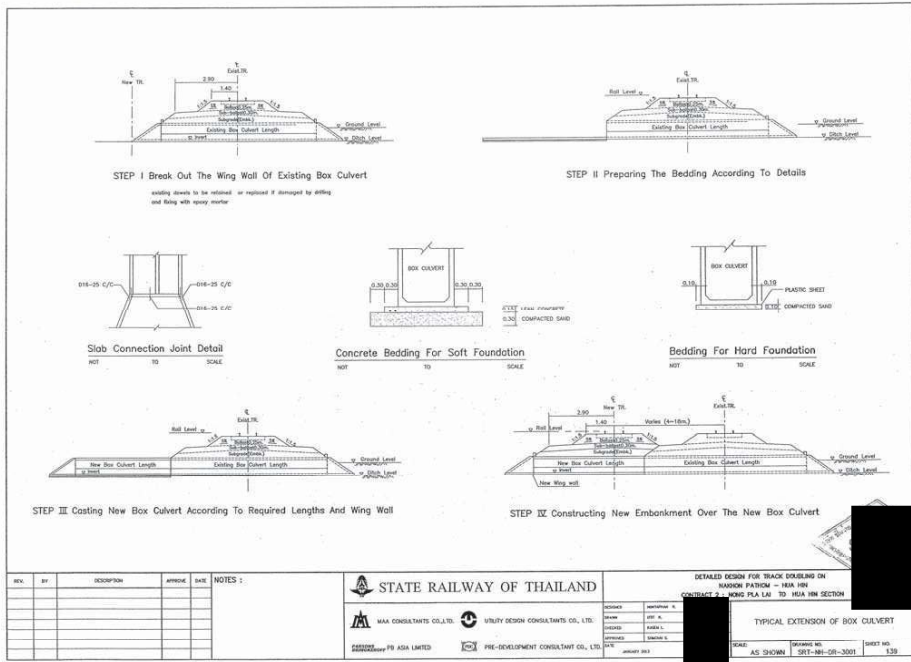


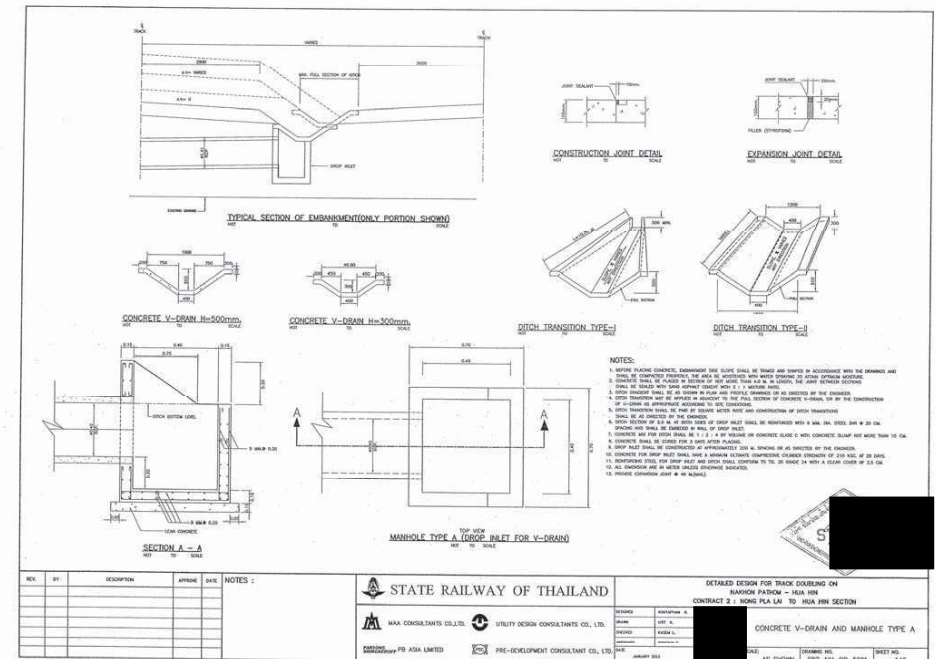
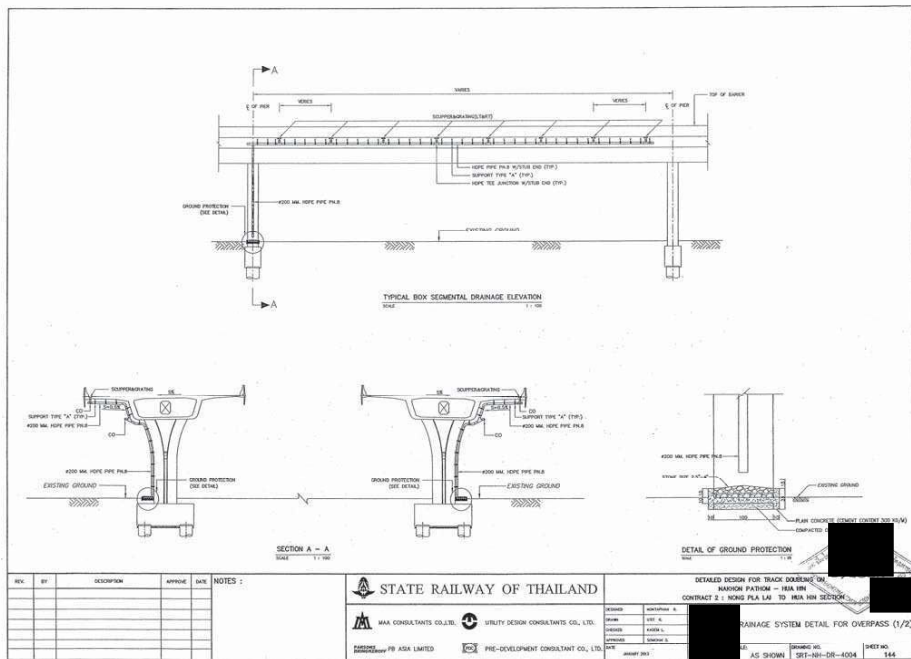
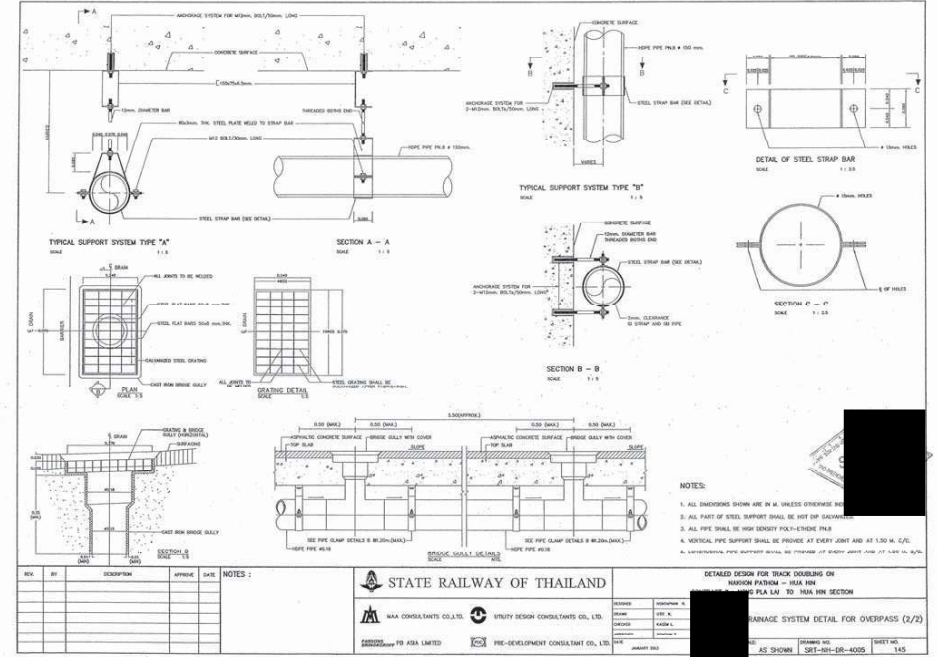
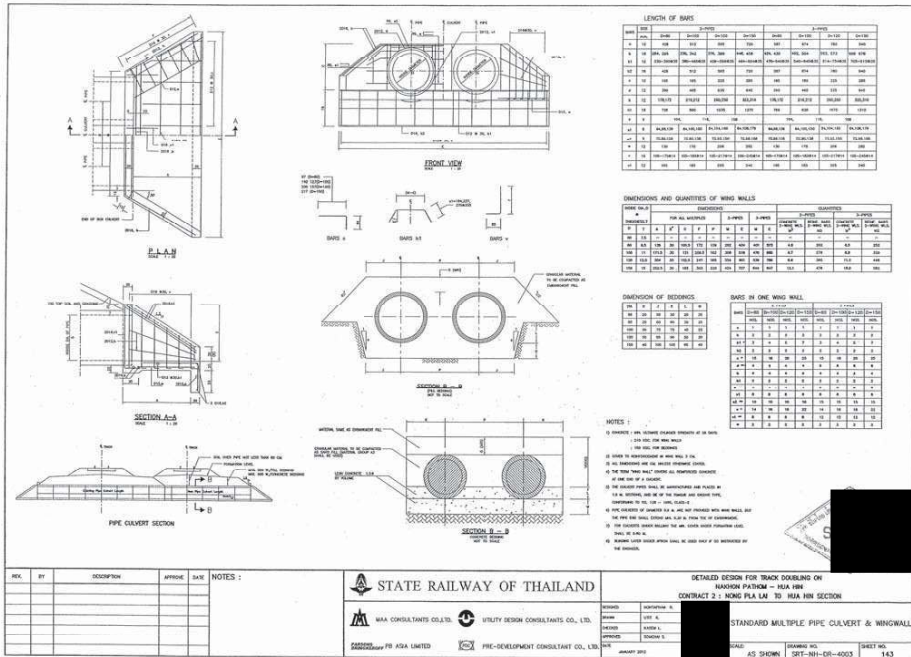












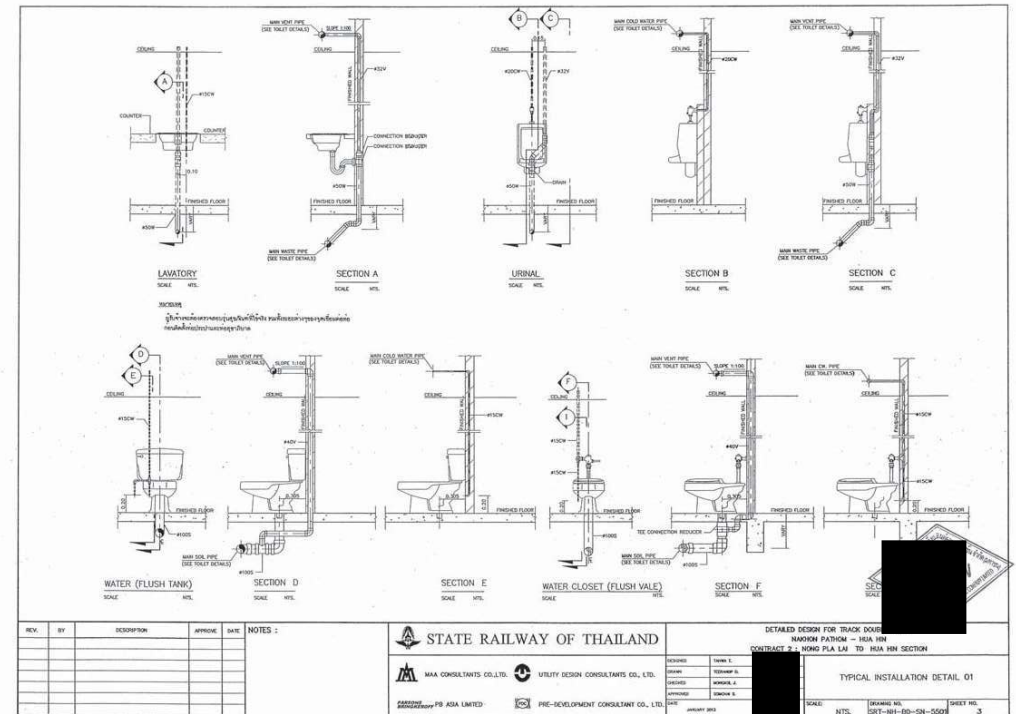


โครงการก่อสร้างรถไฟฟ้า ช่วงนครปฐม-หัวหิน
สัญญาที่ 2 ช่วงหนองปลาไหล - หัวหิน

เอกสารประกวดราคาจ้างด้วยวิธีการทางอิเล็กทรอนิกส์
เล่ม IV (แบบรูป)
ฉบับที่ 6.4/7
STATION AND FACILITIES BUILDING (4/4)
ELECTRICAL, MECHANICAL AND SANITARY WORK

บริษัท เอ็ม เอ คอนซัลแตนท์ จำกัด
บริษัท พีบี เอเซีย จำกัด

พฤษภาคม 2560



SYMBOLS AND ABBREVIATIONS

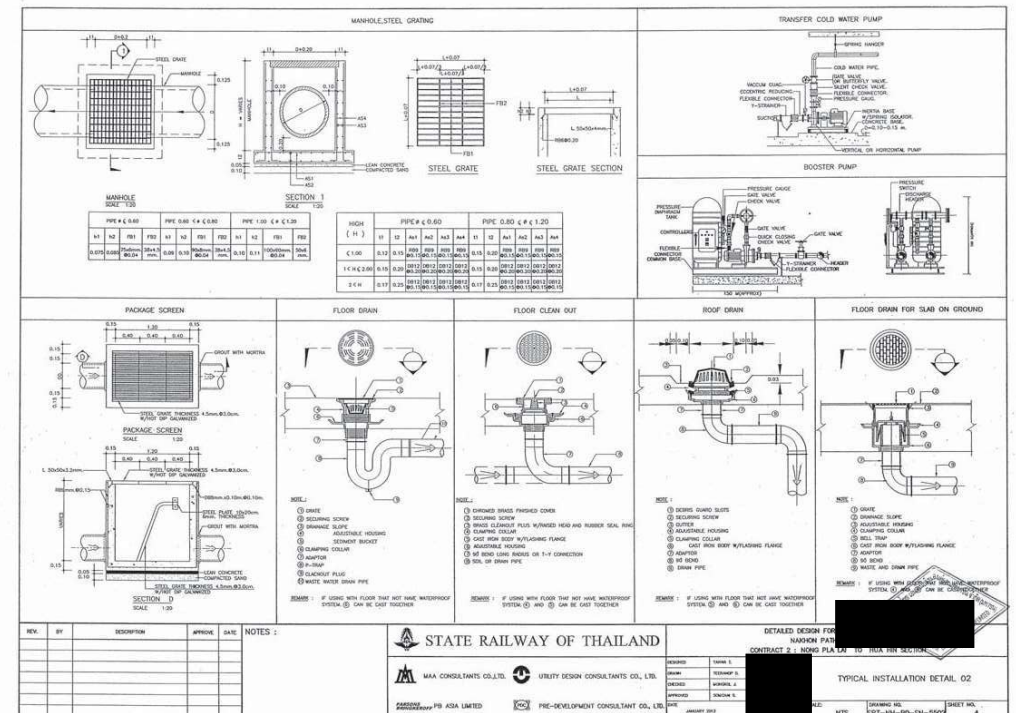
SYMBOLS	
---	SOIL PIPE
---	WASTE PIPE
---	VENT PIPE
---	COLD WATER PIPE
---	PIPE
---	GATE VALVE
---	MODULATING FLAP VALVE
---	IS & Y GATE VALVE
---	PRESSURE REDUCING VALVE
---	PRESSURE RELIEF VALVE
---	CHECK VALVE
---	SPRING CHECK VALVE
---	SPRING LOOSE CHECK VALVE
---	ALARM CHECK VALVE
---	MODULATING BUTTERFLY VALVE
---	BUTTERFLY VALVE
---	BALL VALVE
---	STRAINER
---	FLEXIBLE CONNECTION
---	RUBBER HOSE
---	BALL COCK
---	HOSE BIB
---	PRESSURE GAUGE REVERSIBLE VALVE
---	FOOT VALVE
---	FIRE EXTINGUISHER AND DRY CHEMICAL PIPE

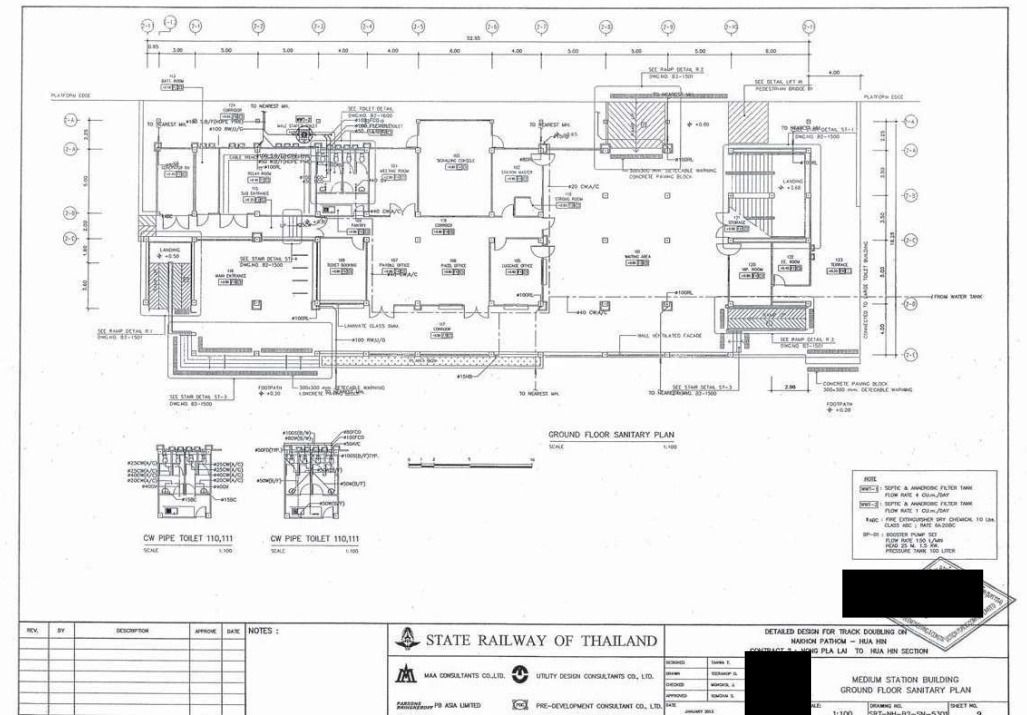
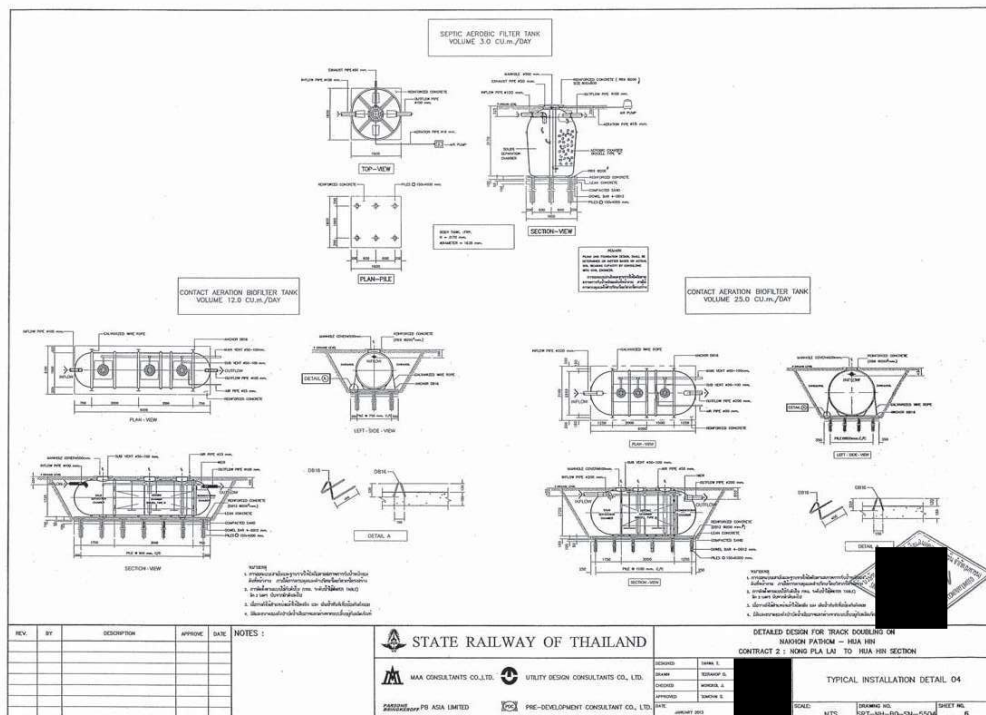
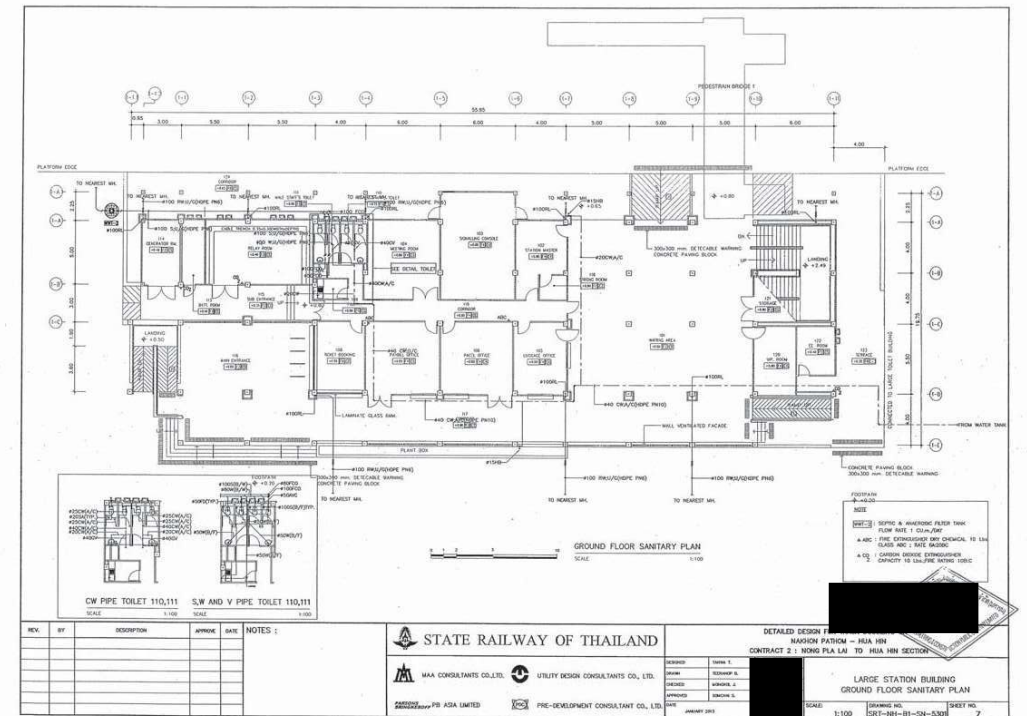
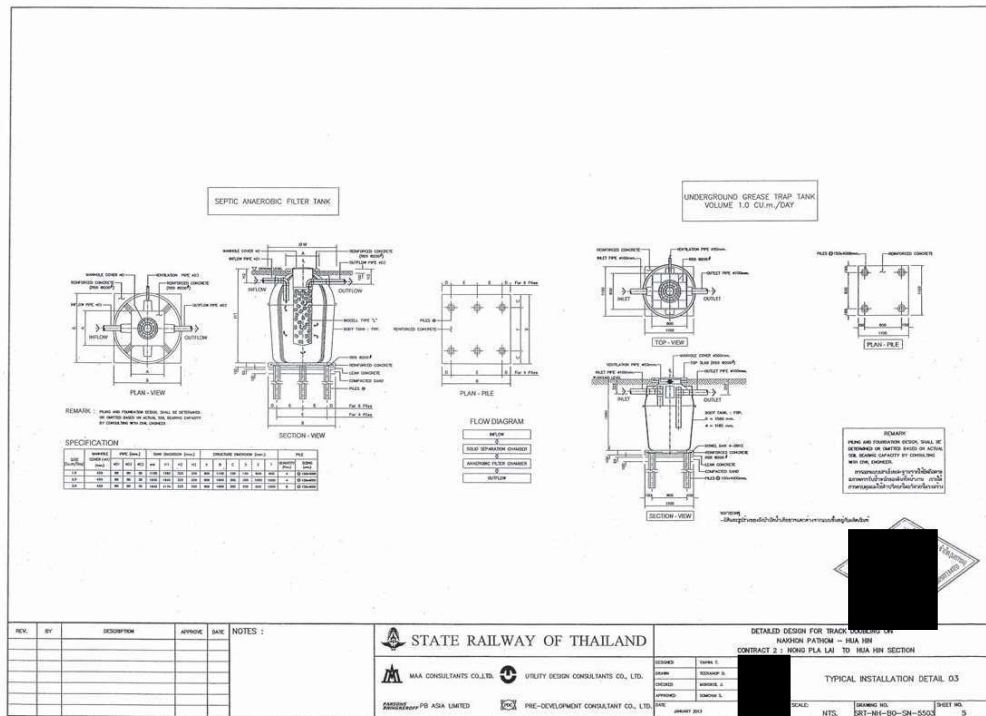
SYMBOLS	
---	PUMP
---	WATER METER
---	FLANGED LEVEL SWITCH
---	FLOOR DRAIN
---	ROOF DRAIN
---	FLOOR CLEAN OUT
---	CLEAN OUT PLUG
---	VENT THROUGH ROOF
---	WEEK UP
---	WEEK DOWN
---	WEEK UP OR DOWN
---	WEEK THROUGH ROOF
---	COLD WATER DOWN FEED
---	COLD WATER UP FEED
---	CALCULATED STEEL PIPE
---	POLYETHYLENE PIPE
---	HIGH DENSITY POLYETHYLENE PIPE
---	COLD WATER PIPE
---	GATE VALVE
---	PRESSURE REDUCING VALVE
---	BALL VALVE
---	STRAINER
---	FLEXIBLE CONNECTION

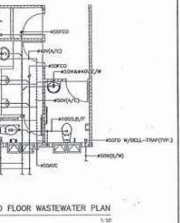
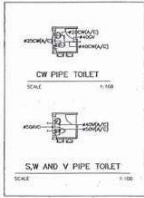
ABBREVIATIONS	
SH	RUBBER HOSE
SC	BALL COCK
SB	HOSE BIB
P	PUMP
AV	AUTOMATIC AIR VENT
SA	SHOCK ABSORBER
FD	FLOOR DRAIN
RD	ROOF DRAIN
FBO	FLOOR CLEAN OUT
CS	CLEAN OUT PLUG
VR	VENT THROUGH ROOF
CRWF	COLD WATER DOWN FEED
CRUF	COLD WATER UP FEED
QSP	CALCULATED STEEL PIPE
PVC	POLYETHYLENE PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
CW	COLD WATER PIPE
GV	GATE VALVE
PRV	PRESSURE REDUCING VALVE
SV	STRAINER
FC	FLEXIBLE CONNECTION

PIPE MATERIALS	
CODE	MATERIALS
CR	PIPE
SAF	PIPE
AV	PIPE
PL	PIPE
S	PIPE
F	PIPE
CR(OUT DOOR) PIPE	100% PVC
STEEL DRAIN PIPE	SEE DRAWING

FIXTURE UNIT & PIPE CONNECTION	
SANITARY FIXTURE	PIPE
WATER CLOSET (TANK)	1 1/2" (40)
WATER CLOSET (FLUSH)	1" (25)
URINAL (GLASS PRIVATE)	1 1/2" (40)
URINAL (GLASS PUBLIC)	1 1/2" (40)
LAVATORY	1 1/2" (40)
SHOWER (TALL TYPE)	1 1/2" (40)
SHOWER (TALL TYPE)	1 1/2" (40)
JANITOR SINK	1 1/2" (40)
FLOOR DRAIN	2" (50)
HOSE BIB	1 1/2" (40)
BATH TUB	1 1/2" (40)







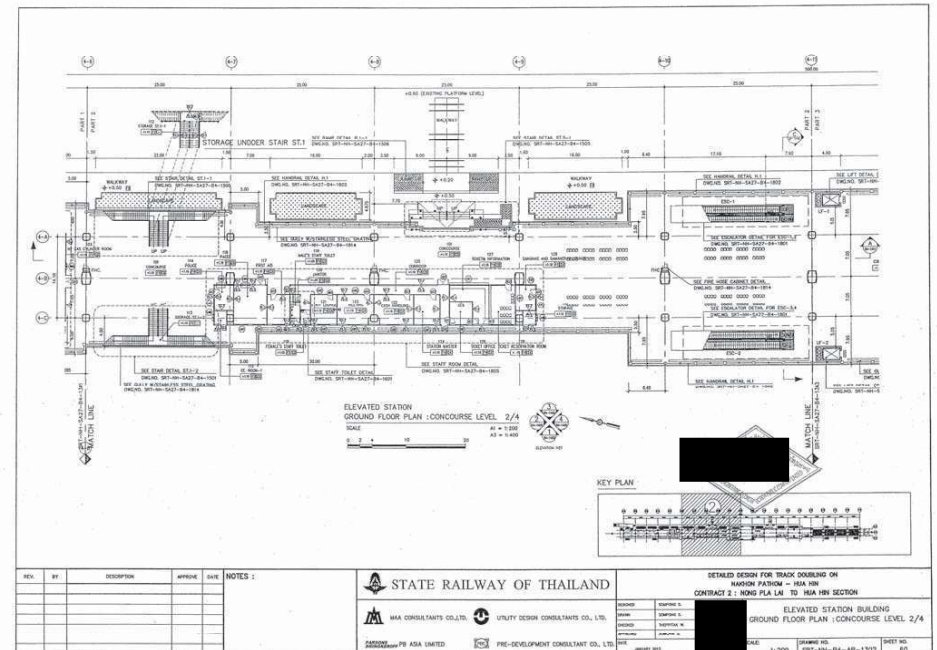
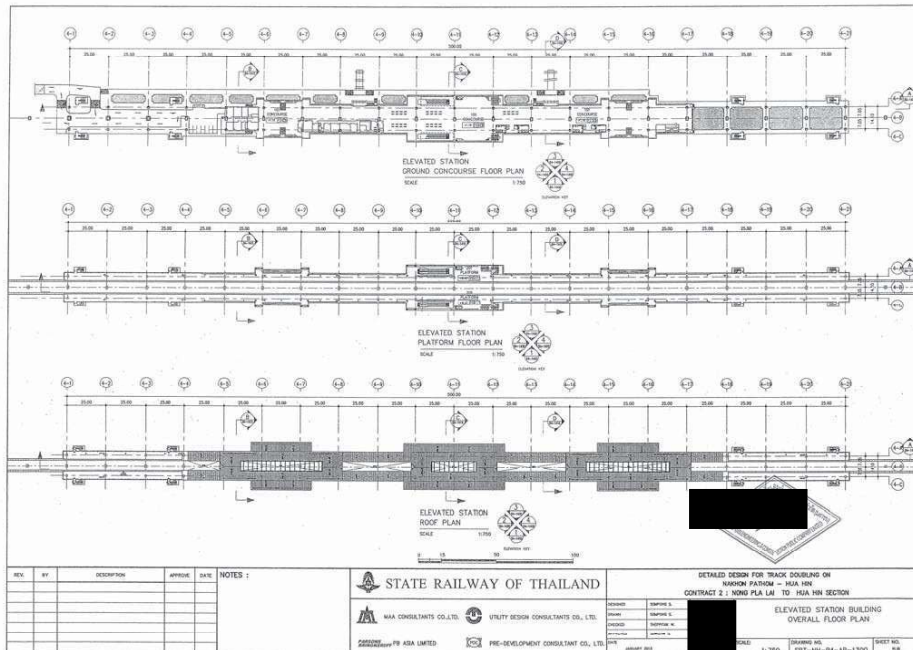
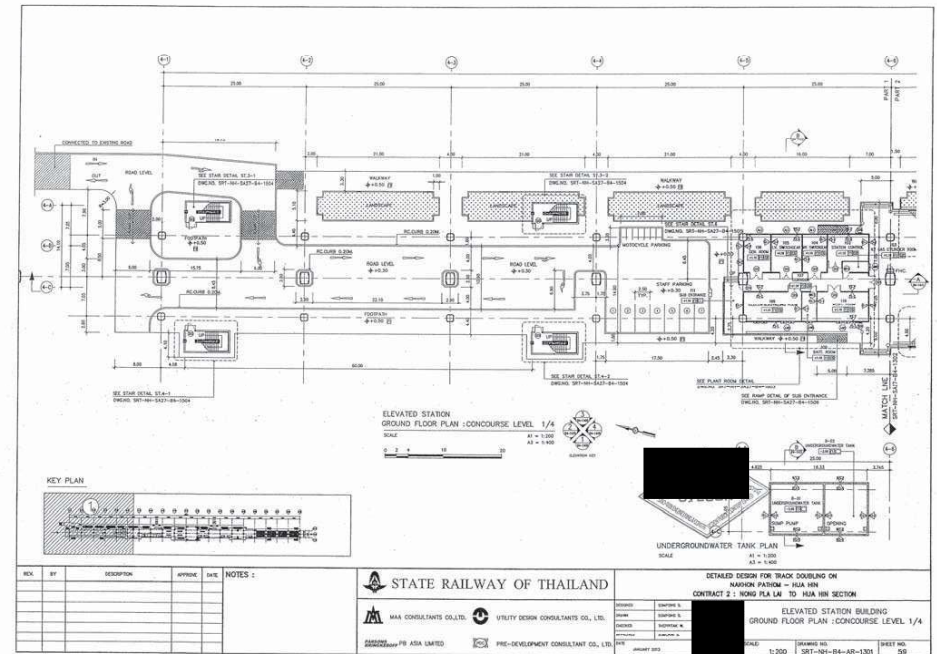


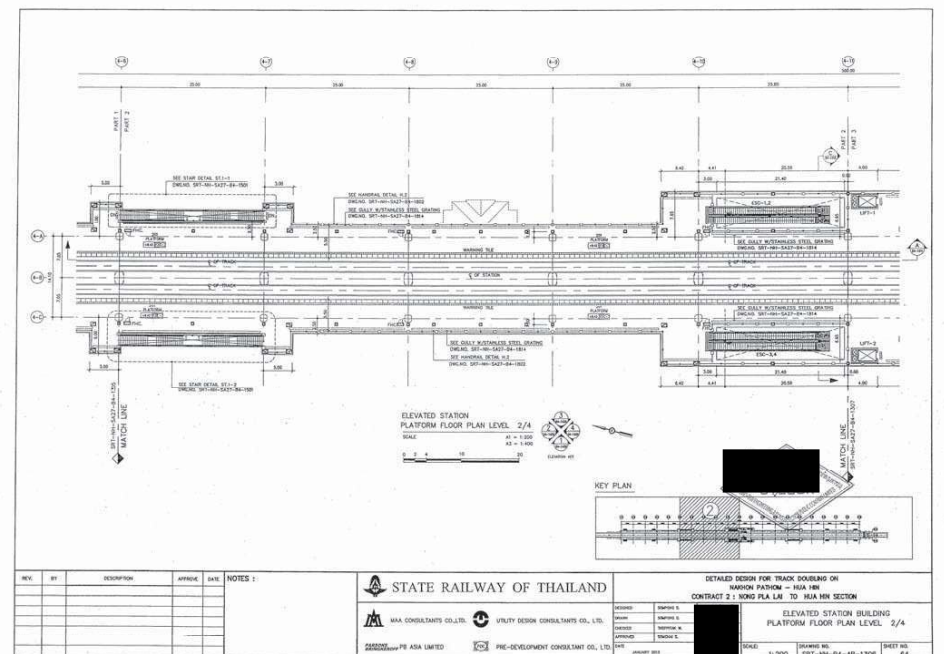
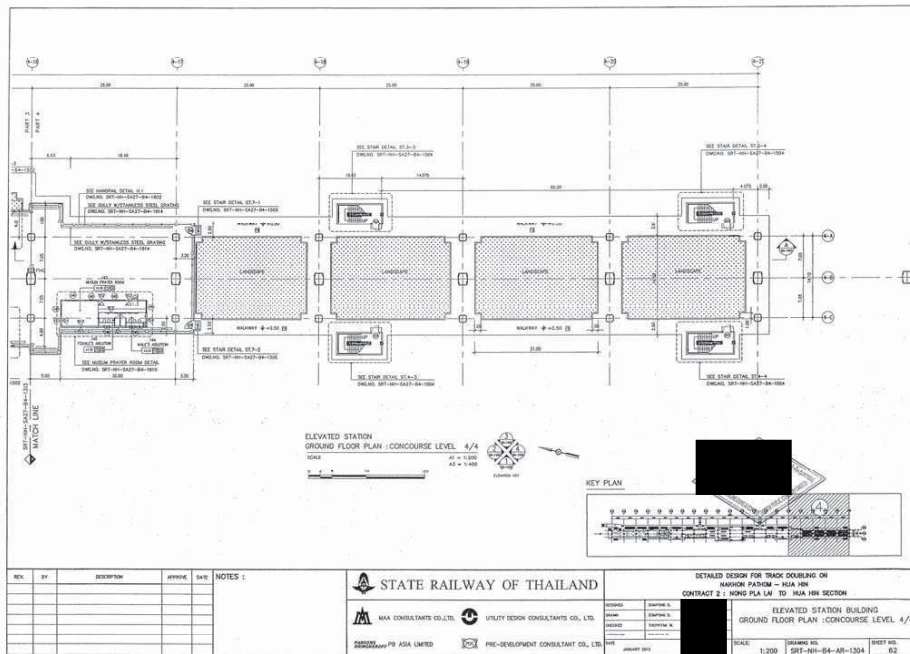
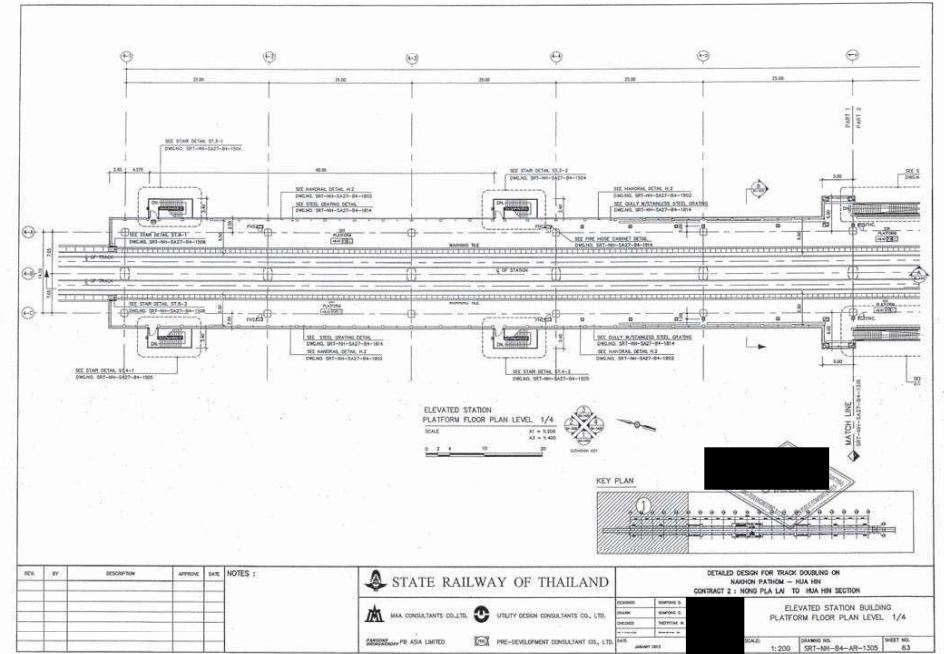
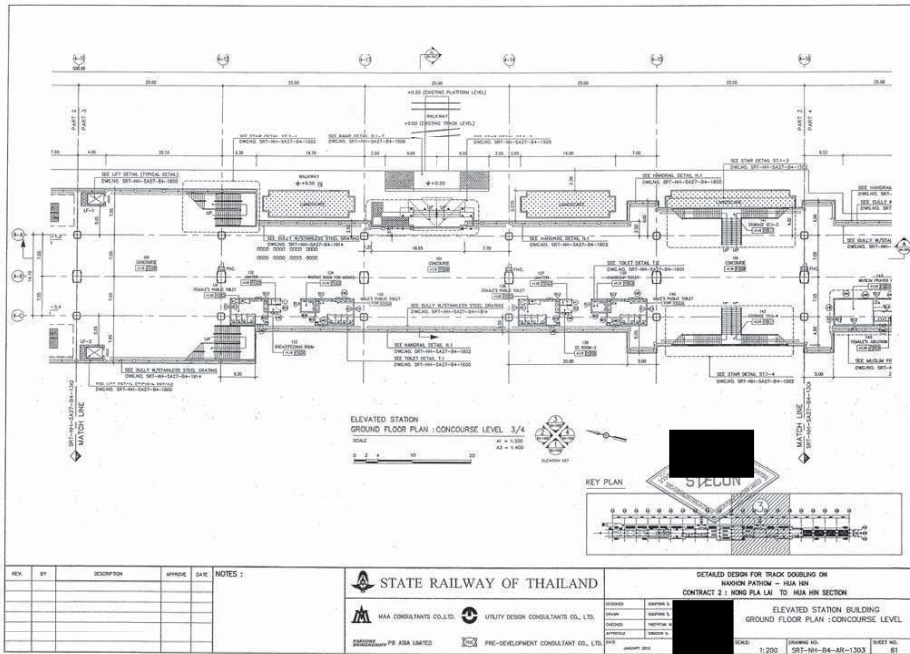
โครงการก่อสร้างรถไฟทางคู่ ช่วงนครปฐม-หัวหิน
สัญญาที่ 2 ช่วงหนองปลาไหล - หัวหิน

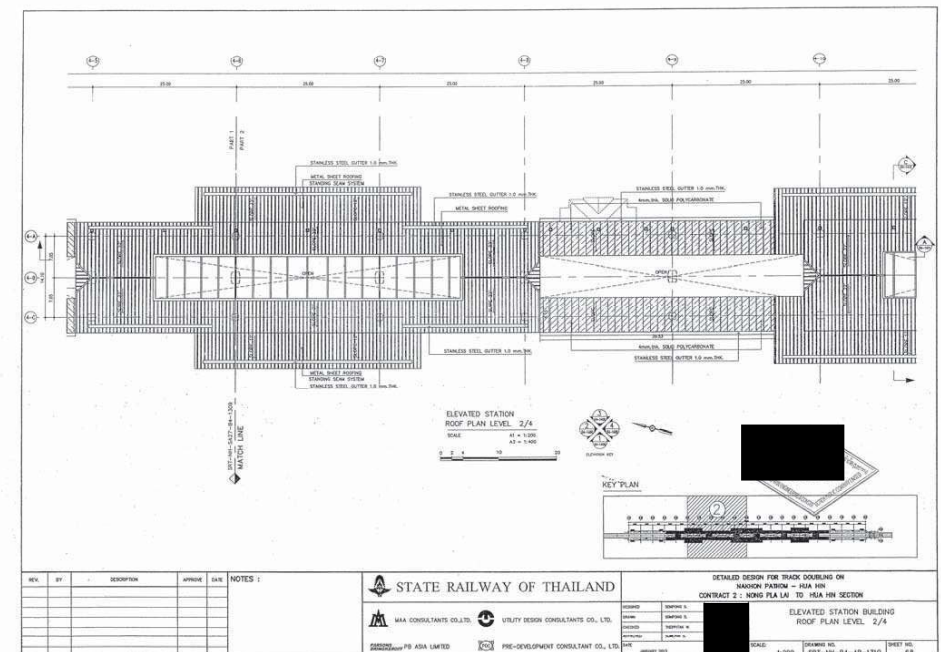
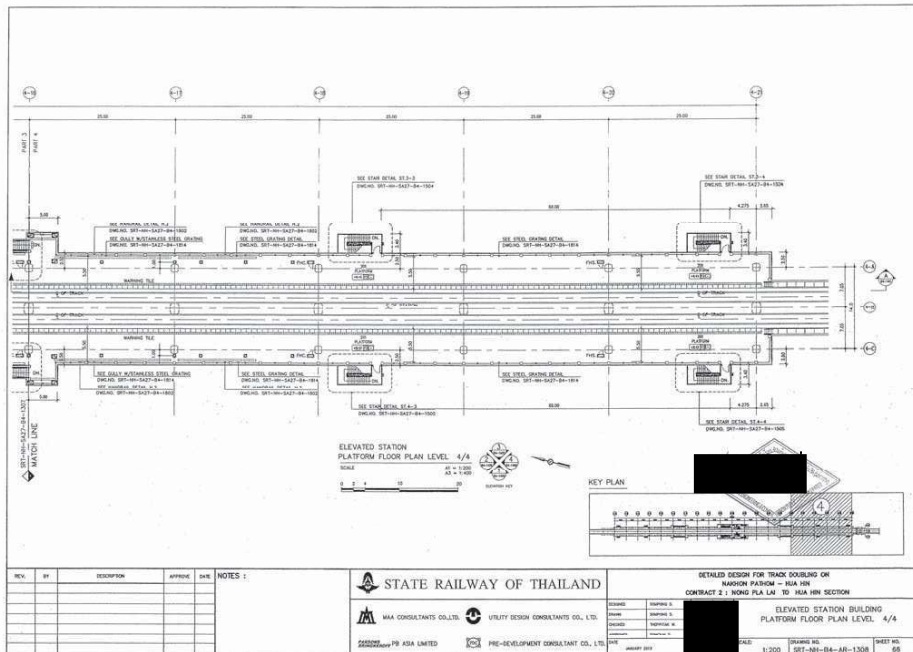
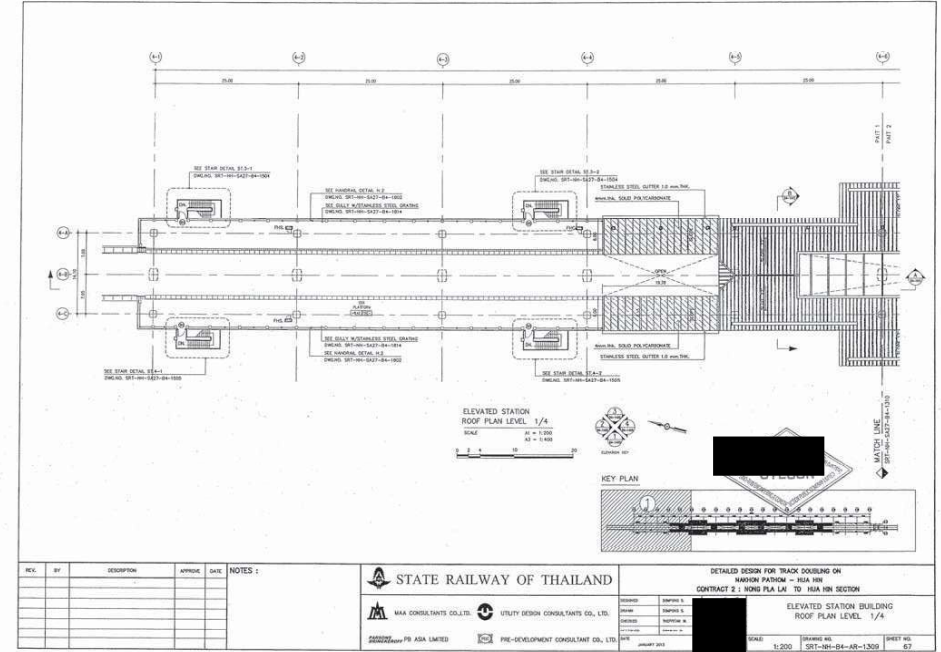
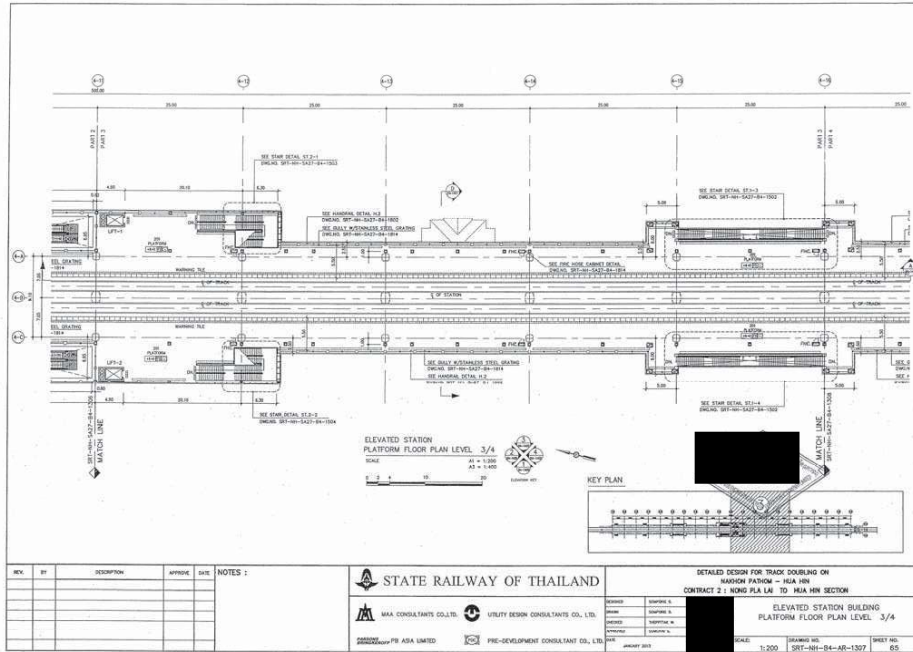
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เล่ม IV (แบบรูป)
ฉบับที่ 6.2/7
STATION AND FACILITIES BUILDING (2/4)
ARCHITECTURAL WORK

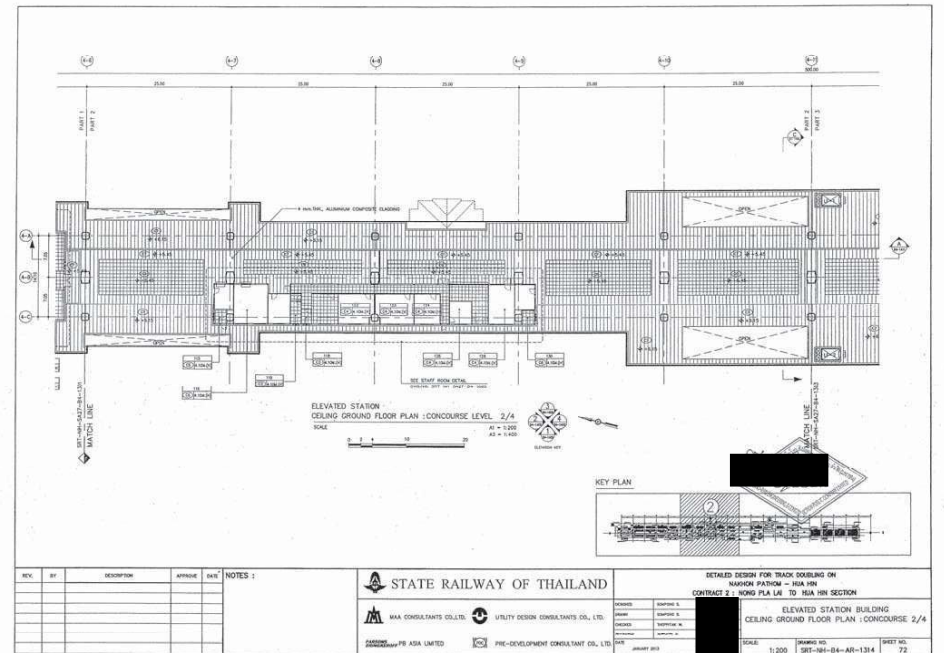
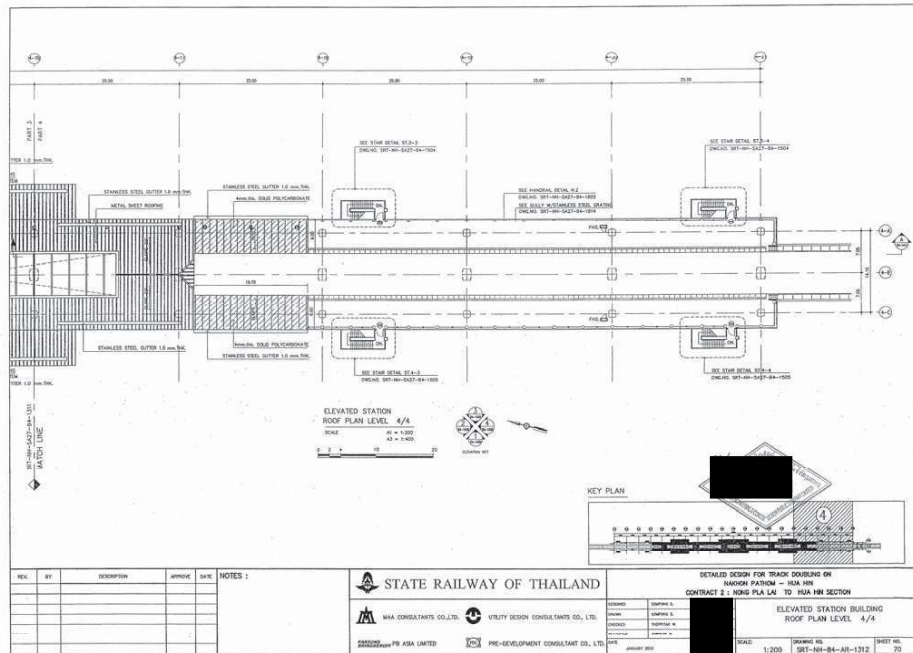
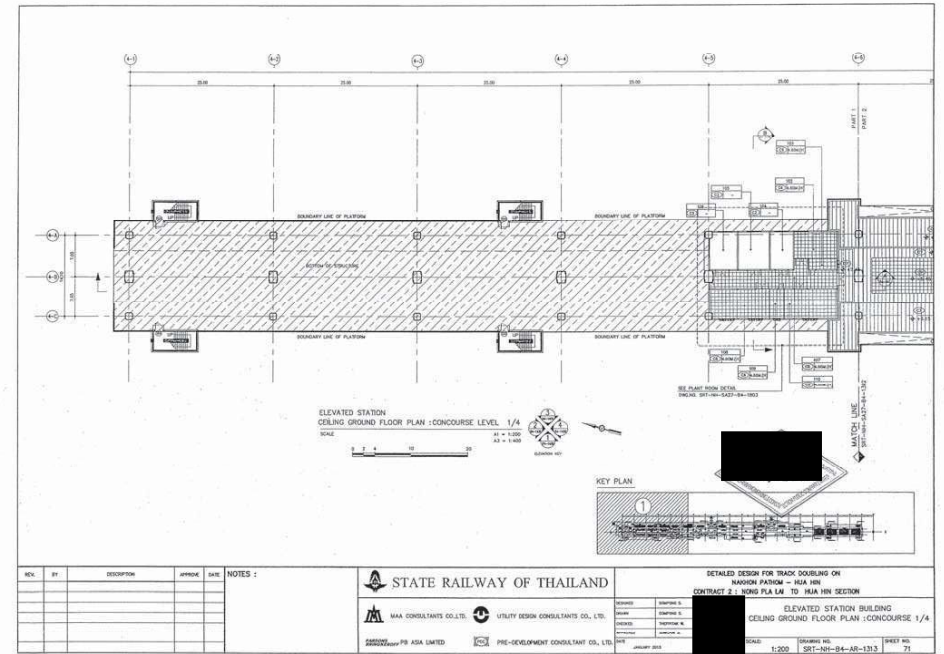
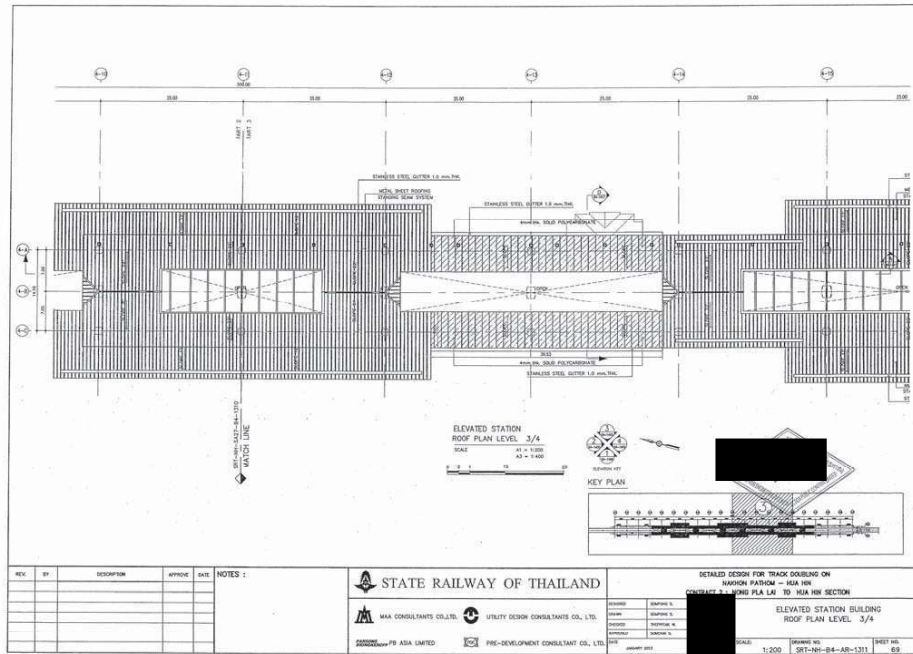
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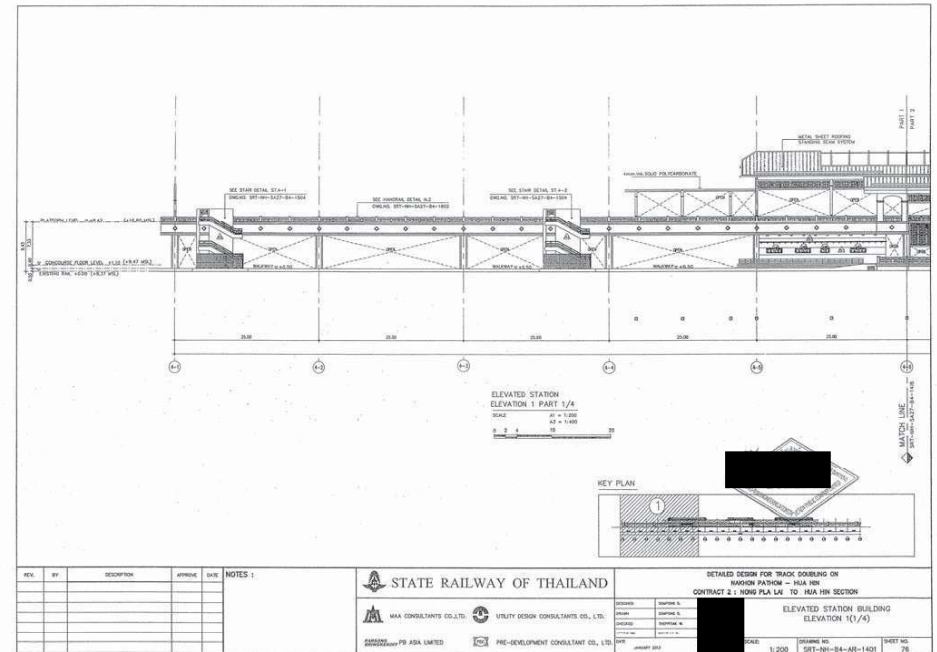
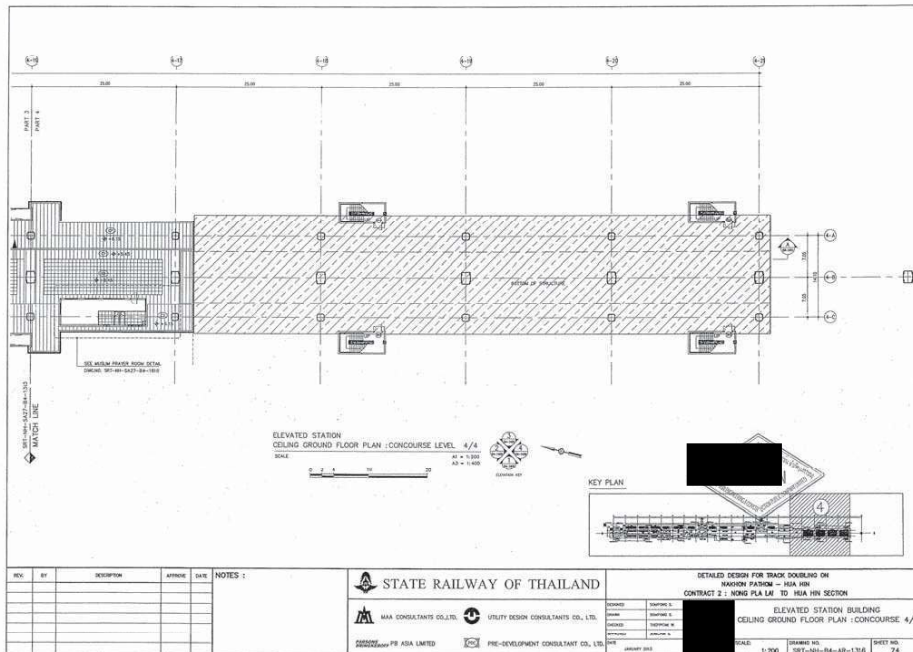
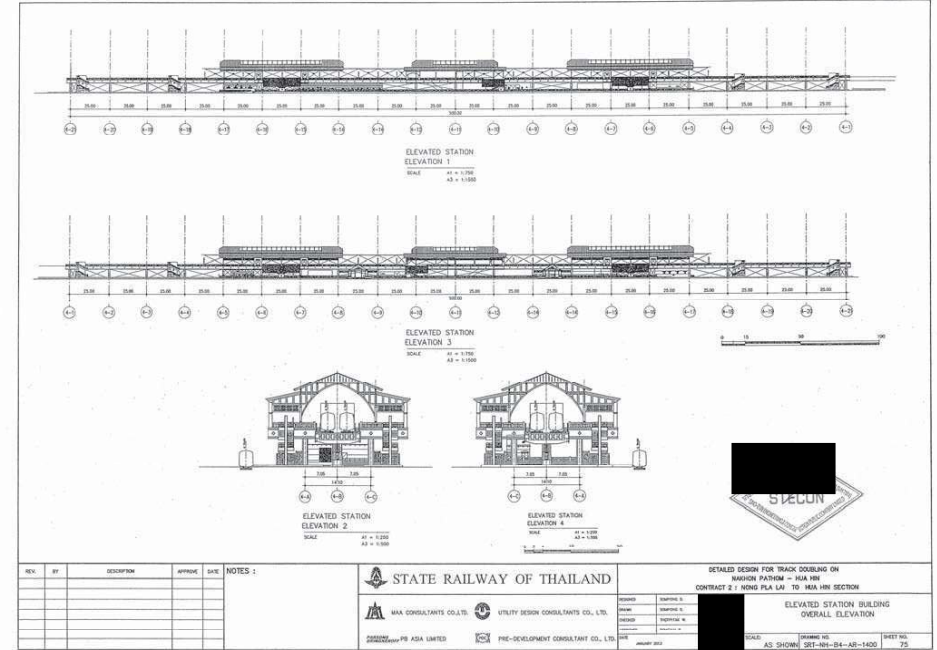
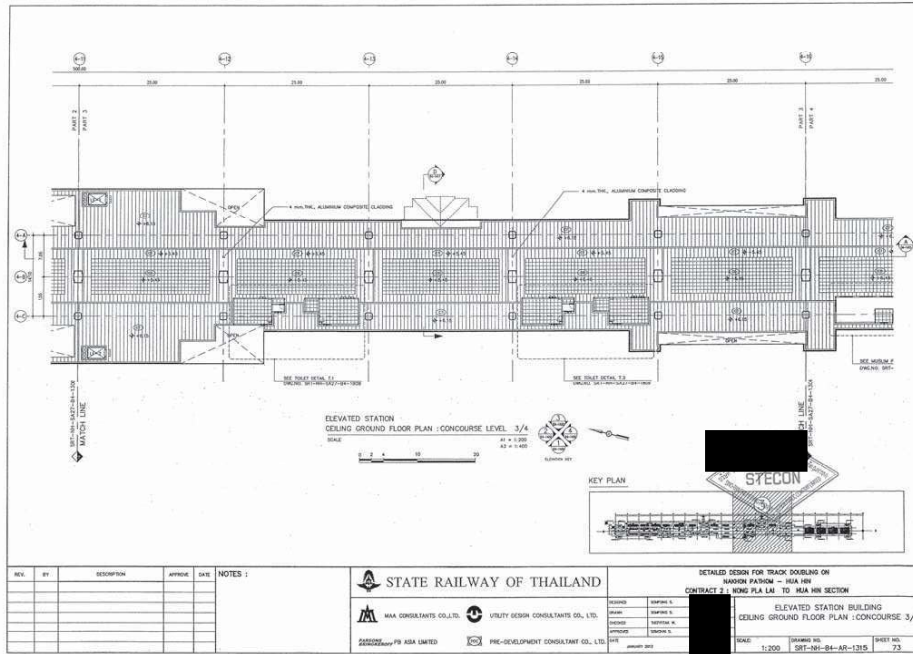
พฤษภาคม 2560

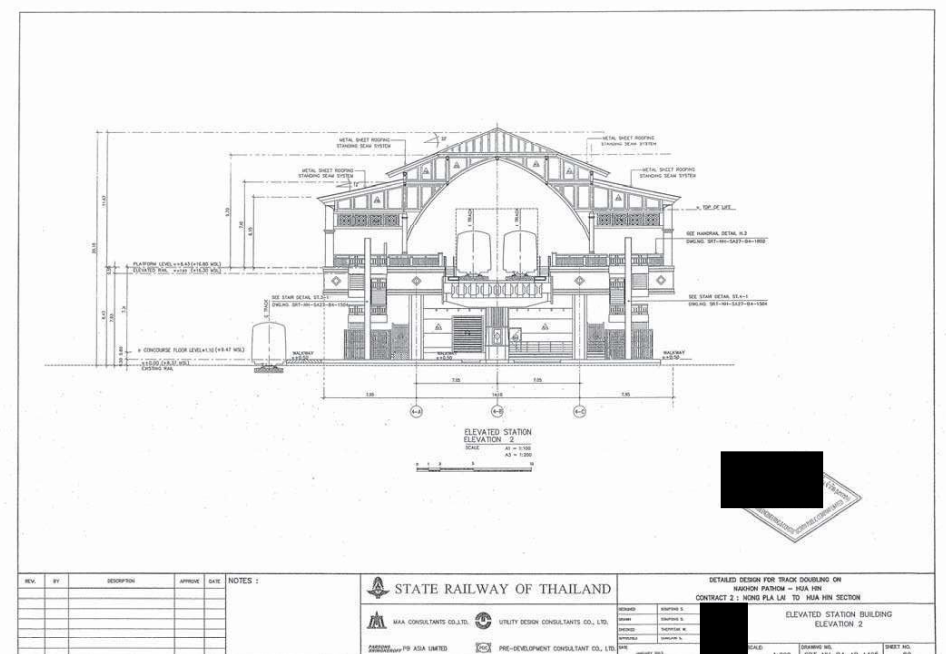
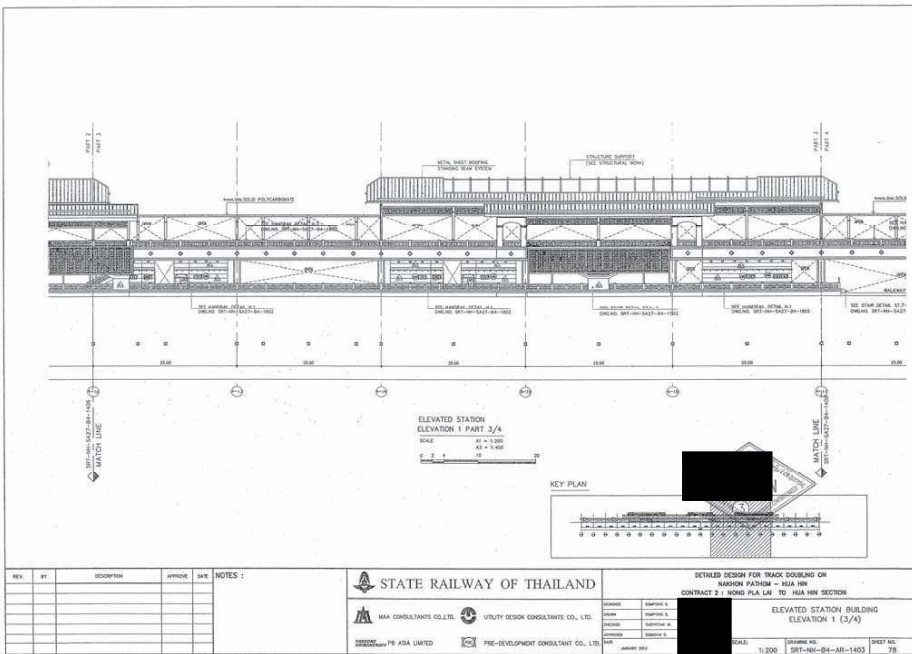
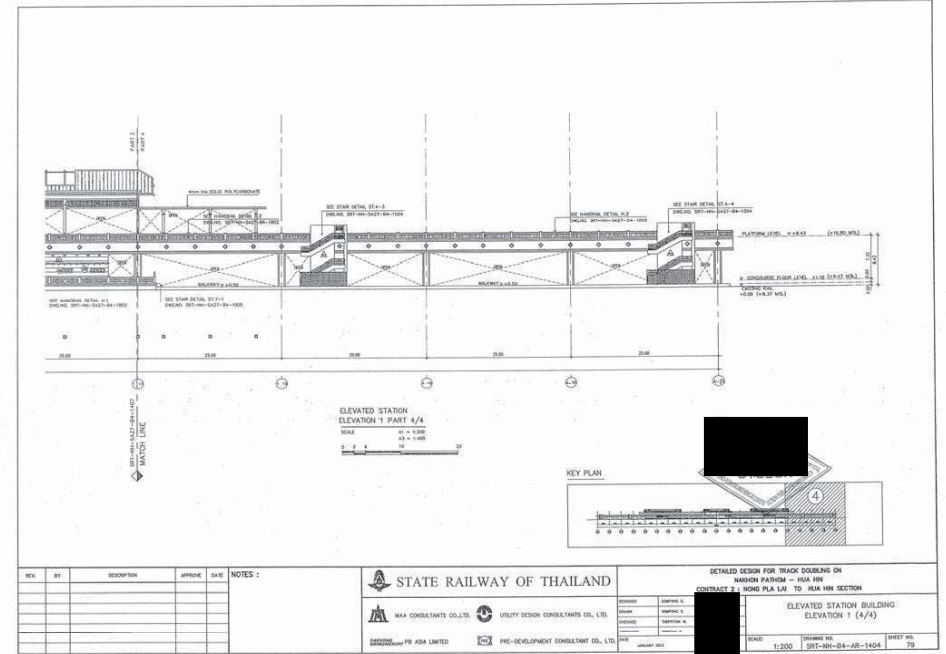
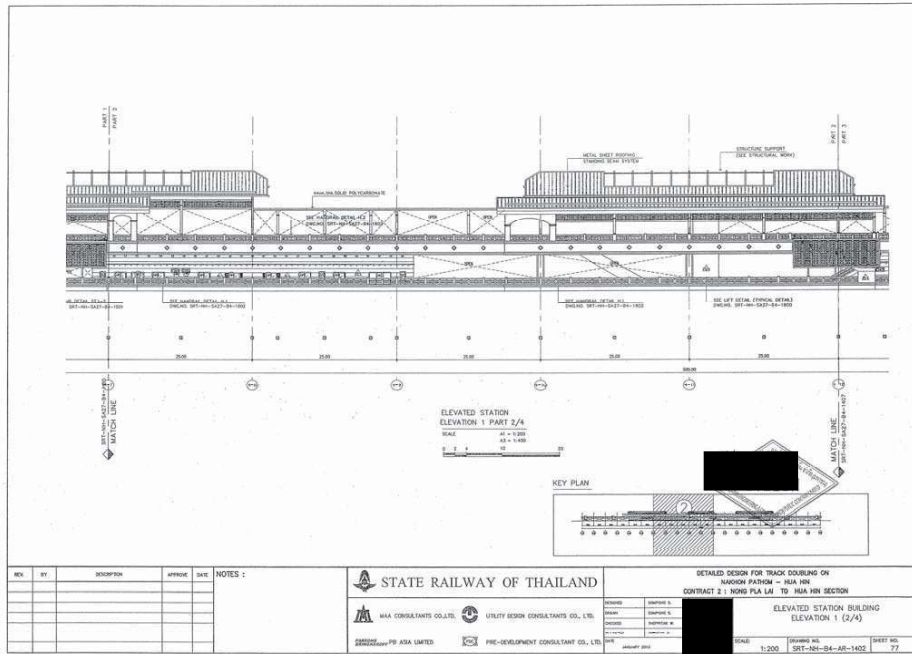


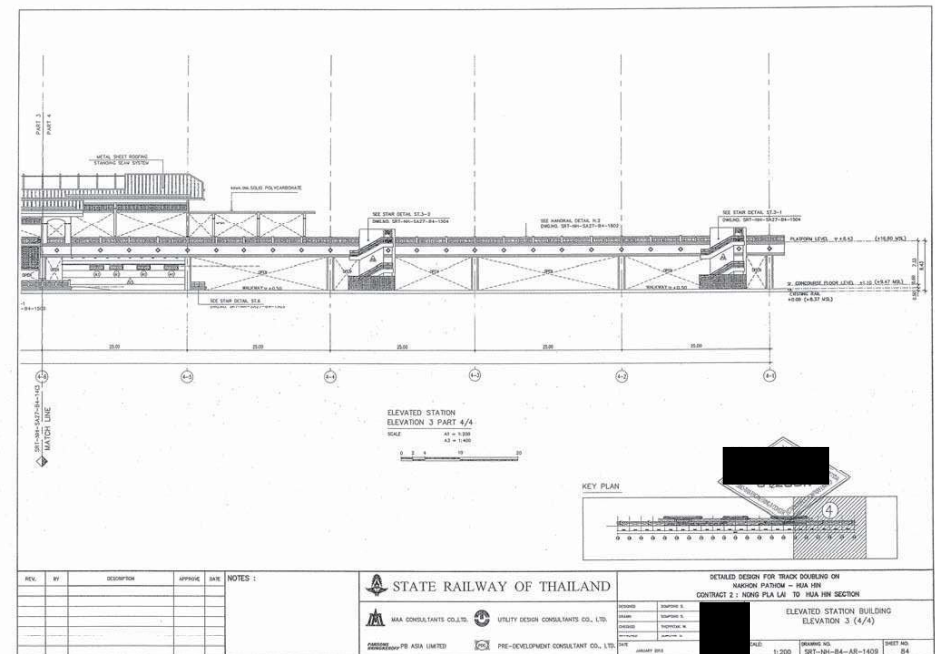
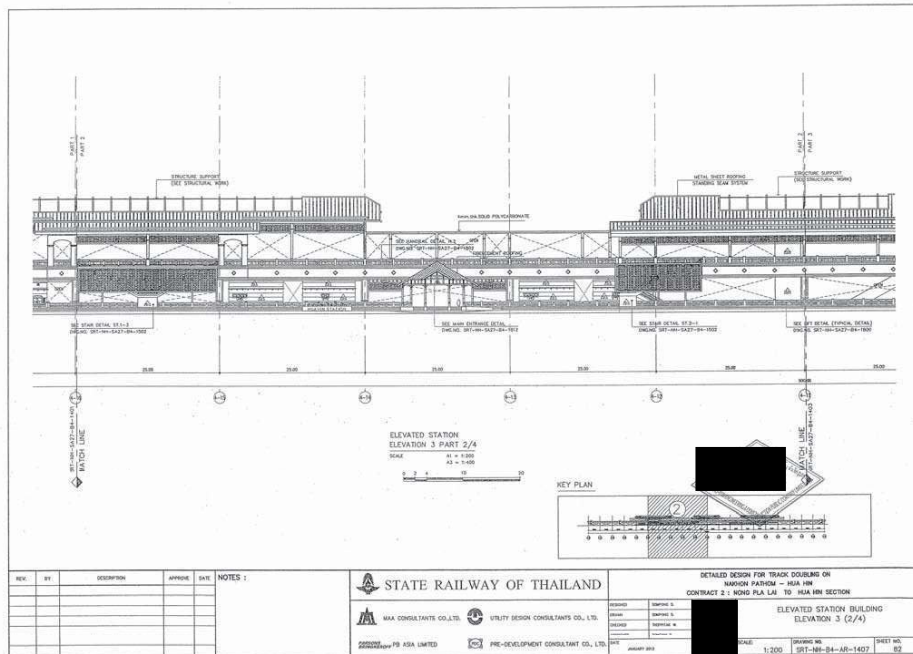
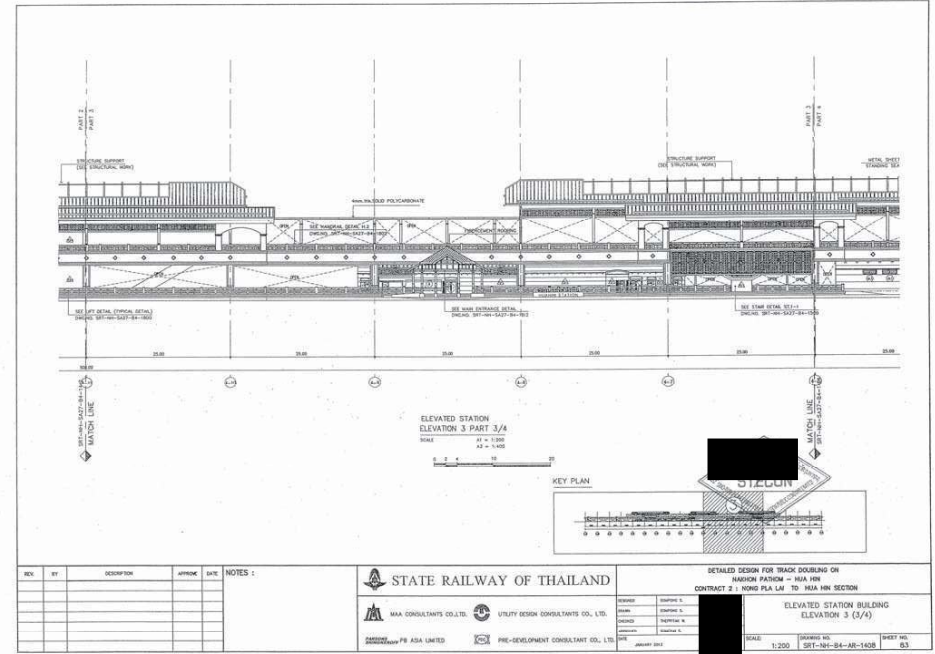
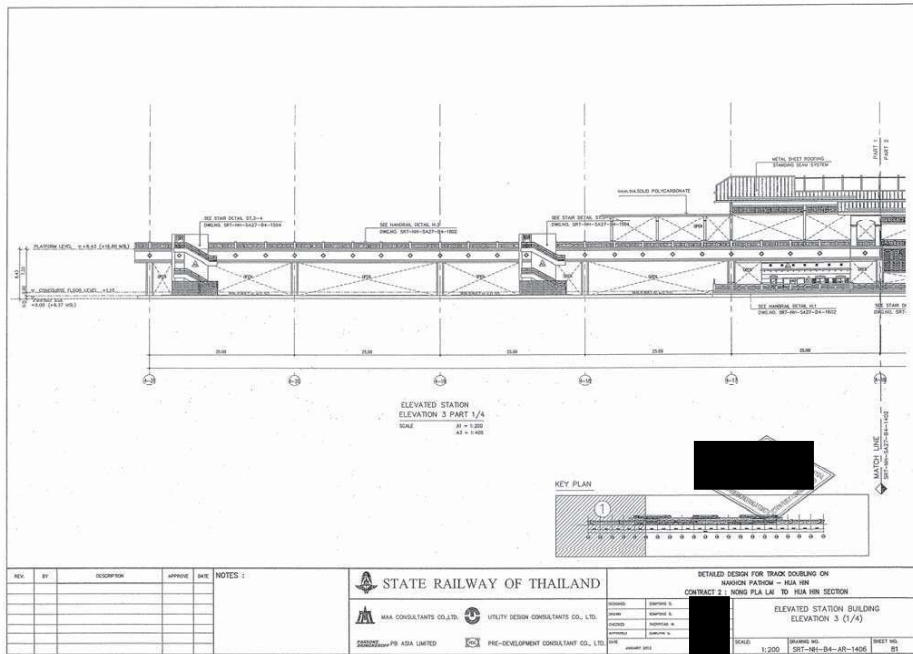


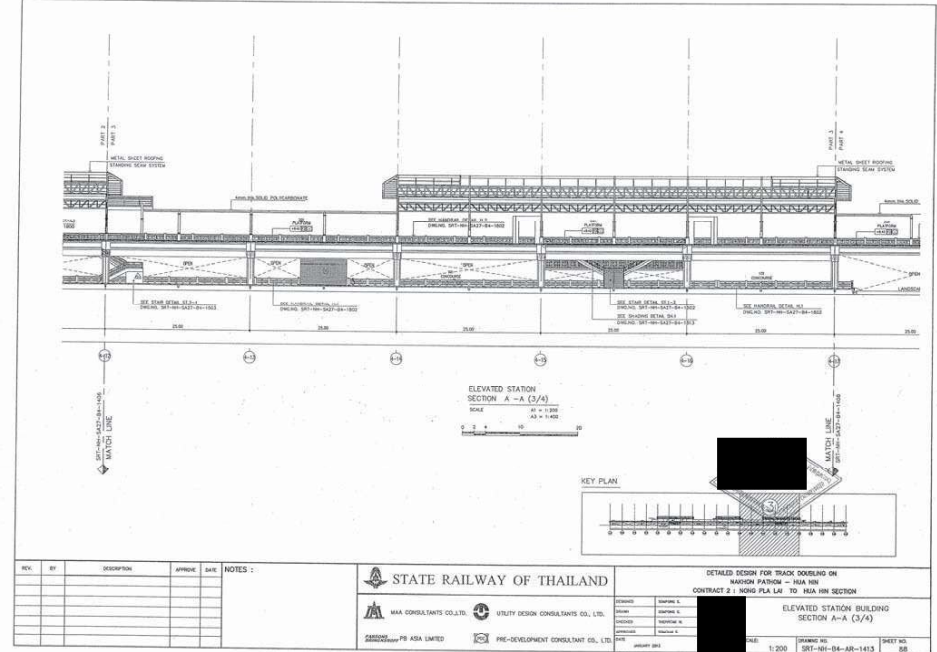
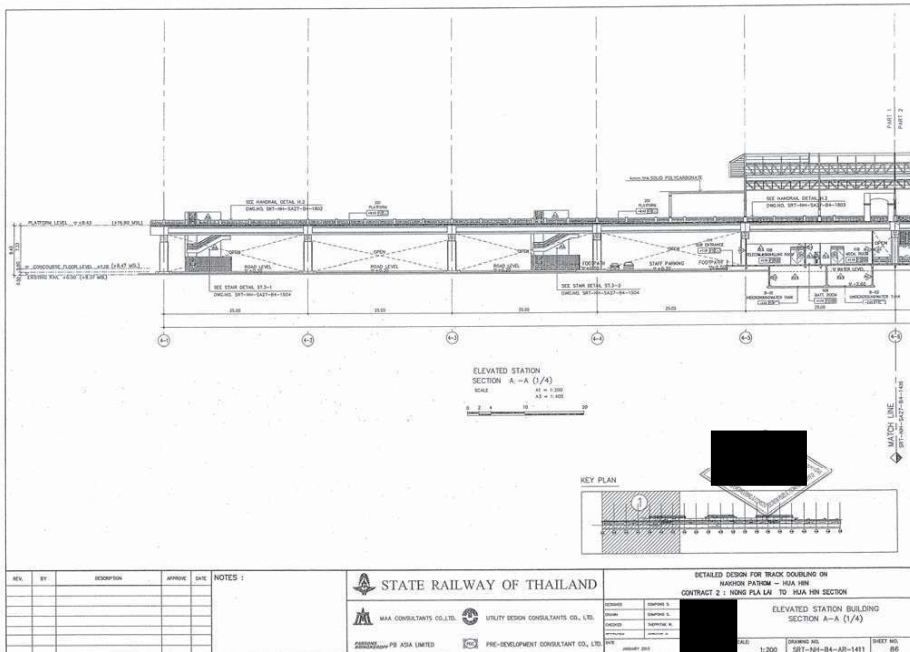
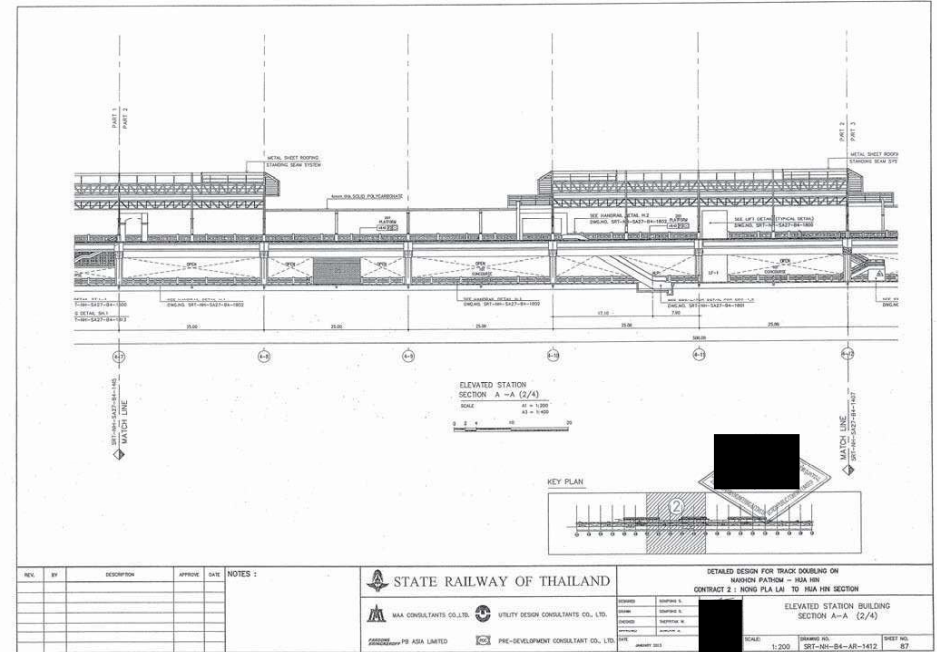
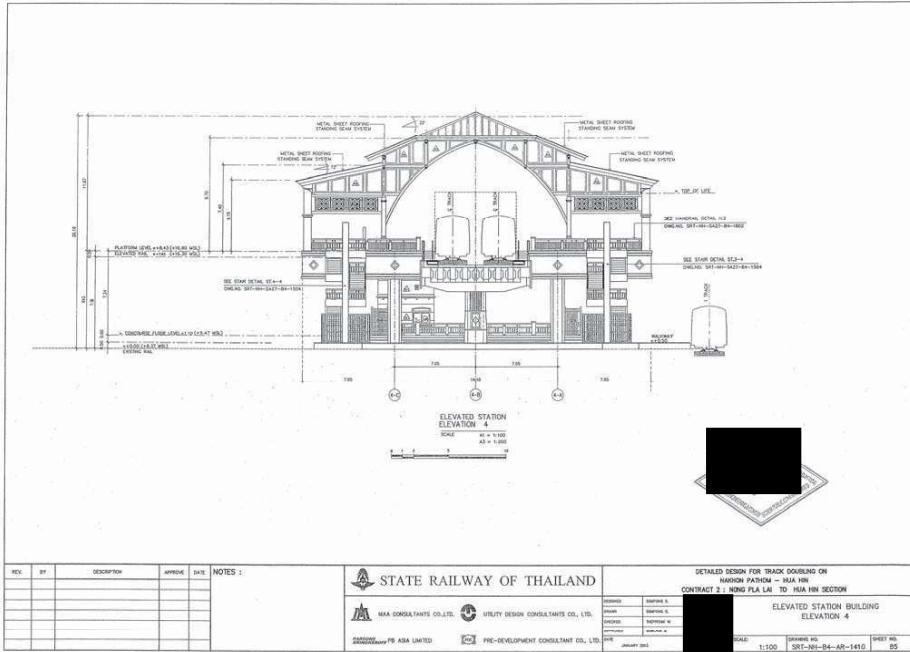


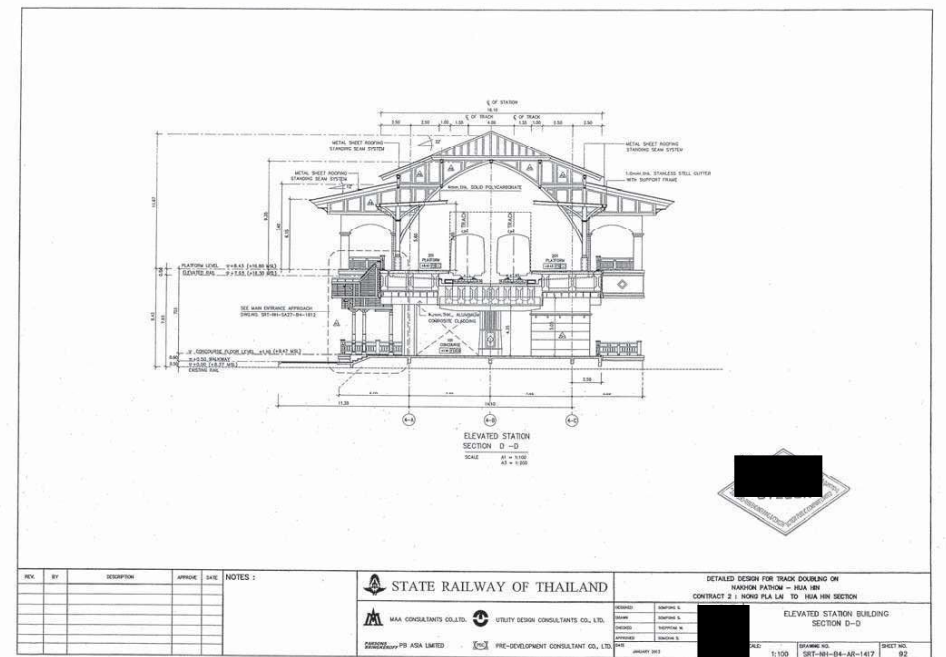
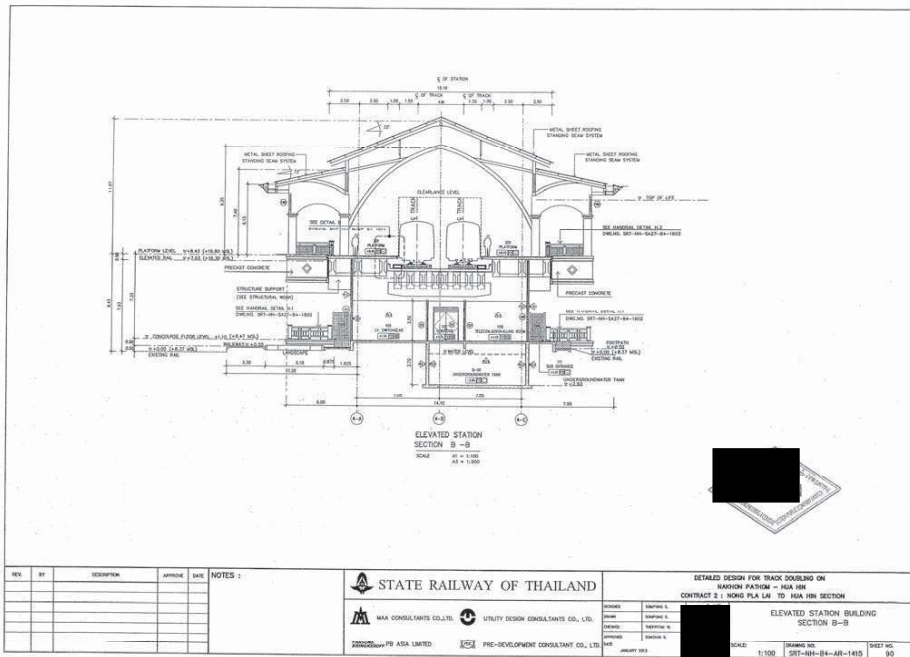
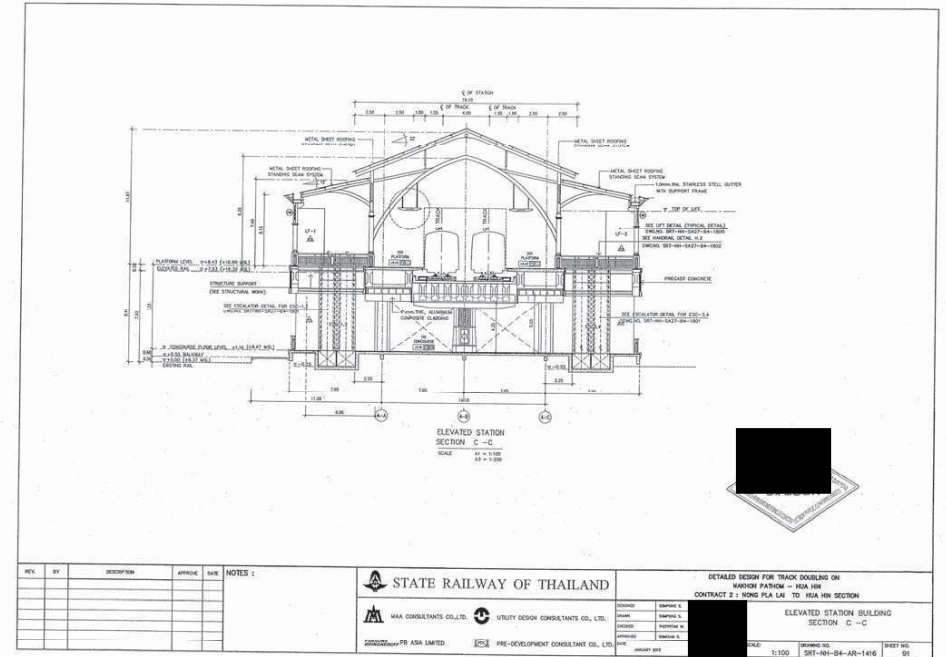
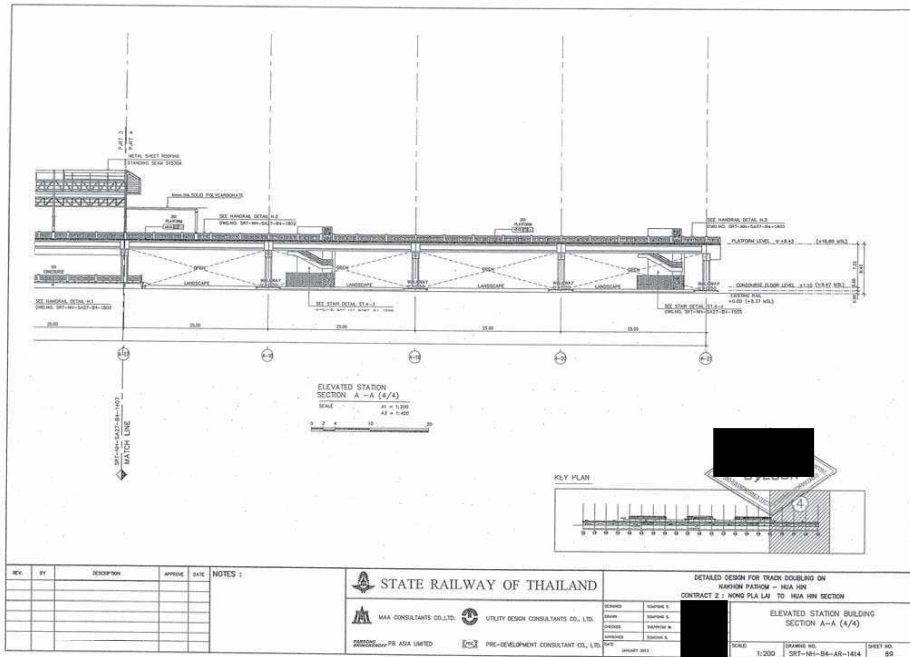


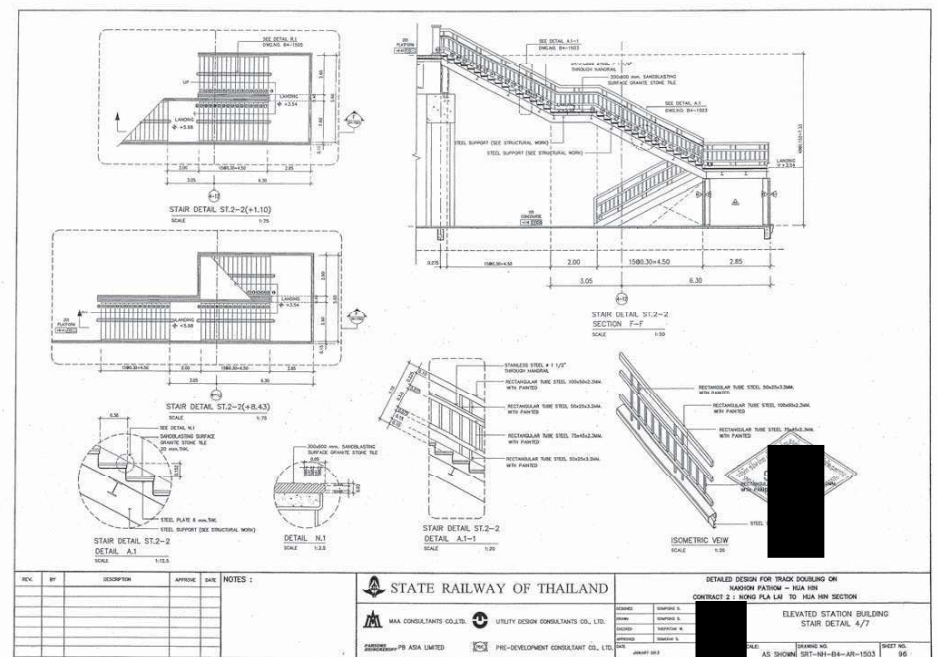
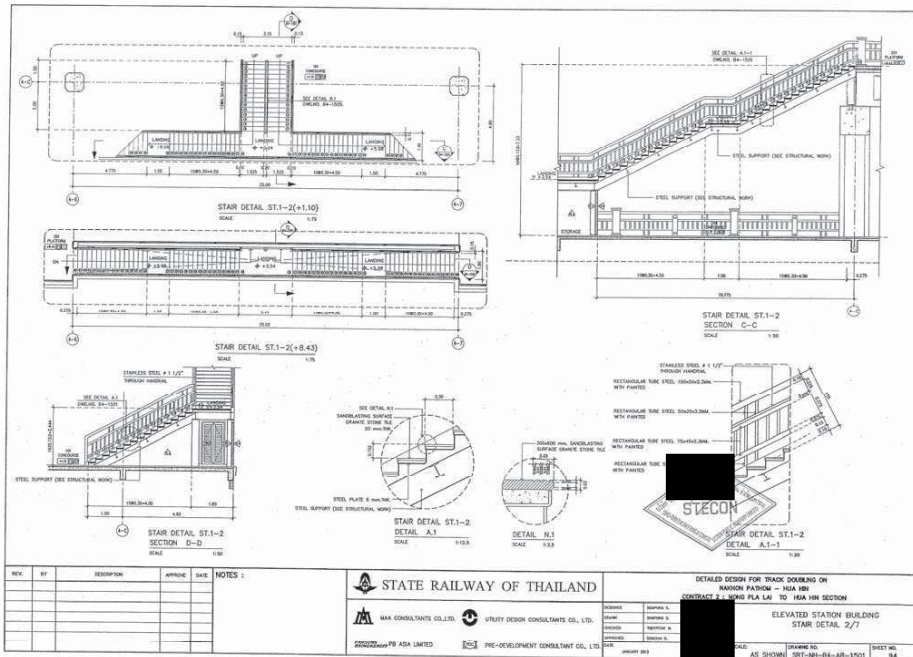
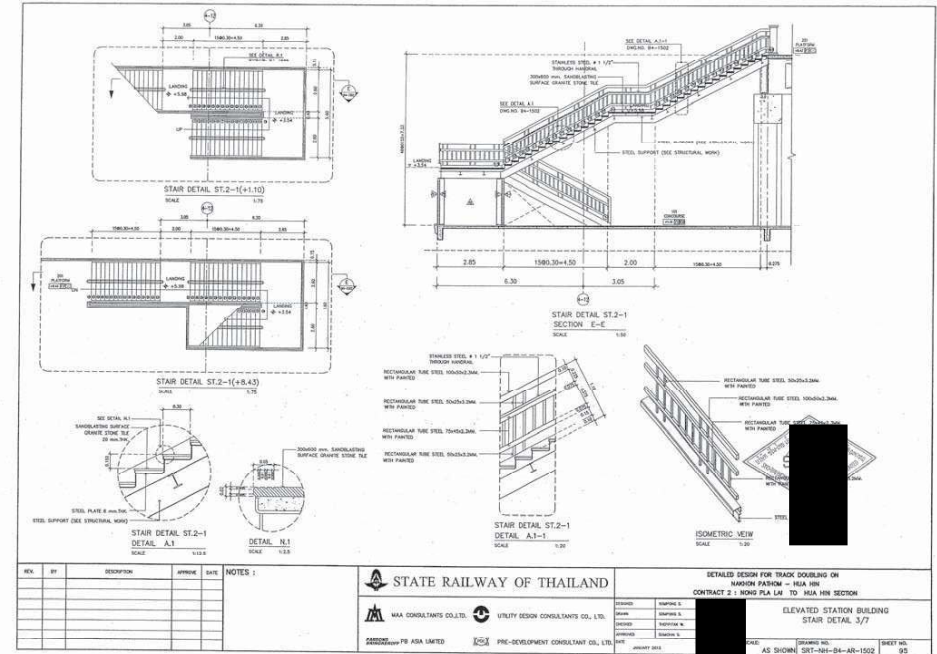
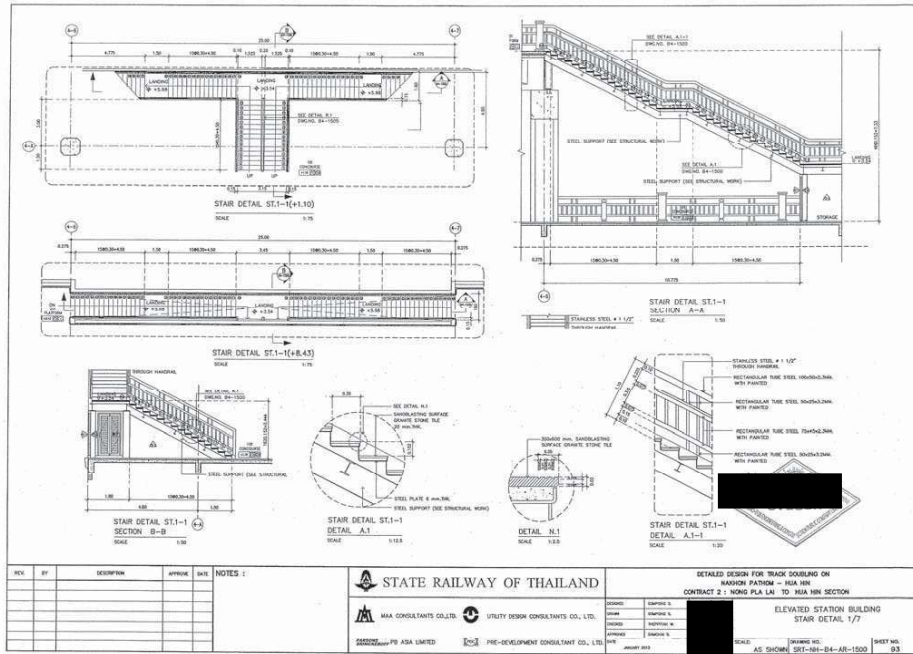


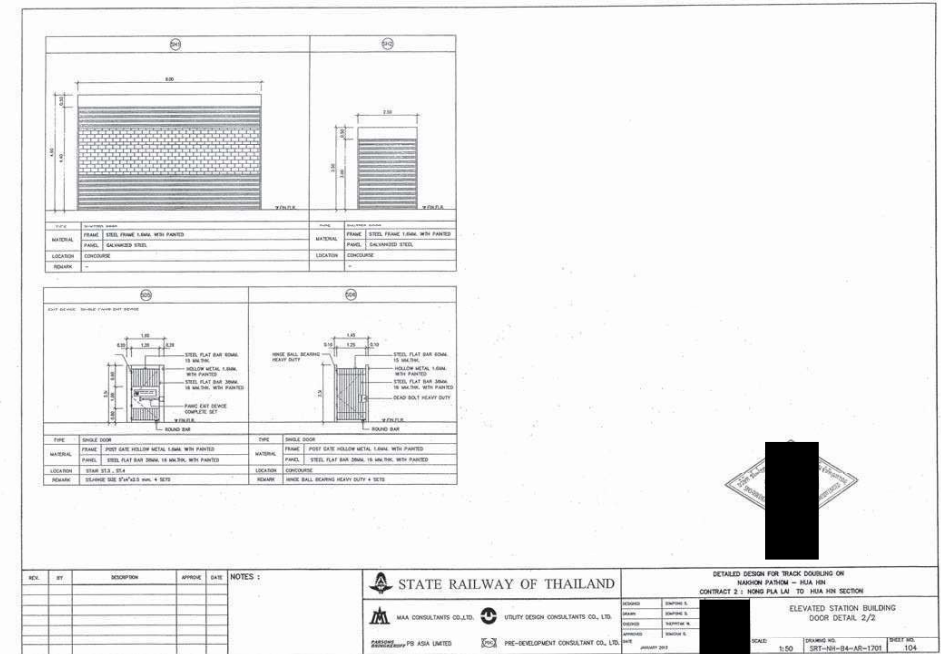
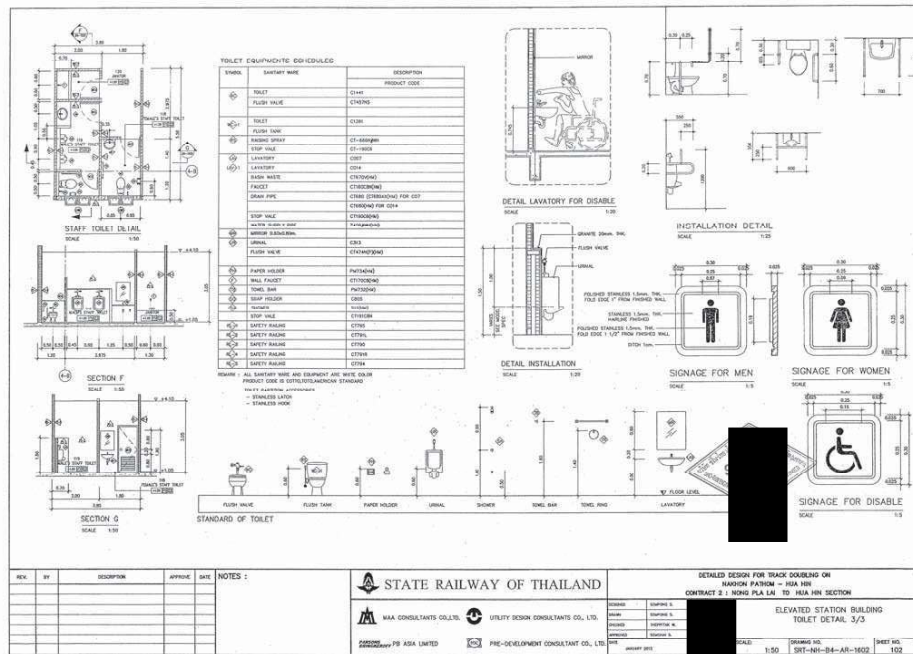
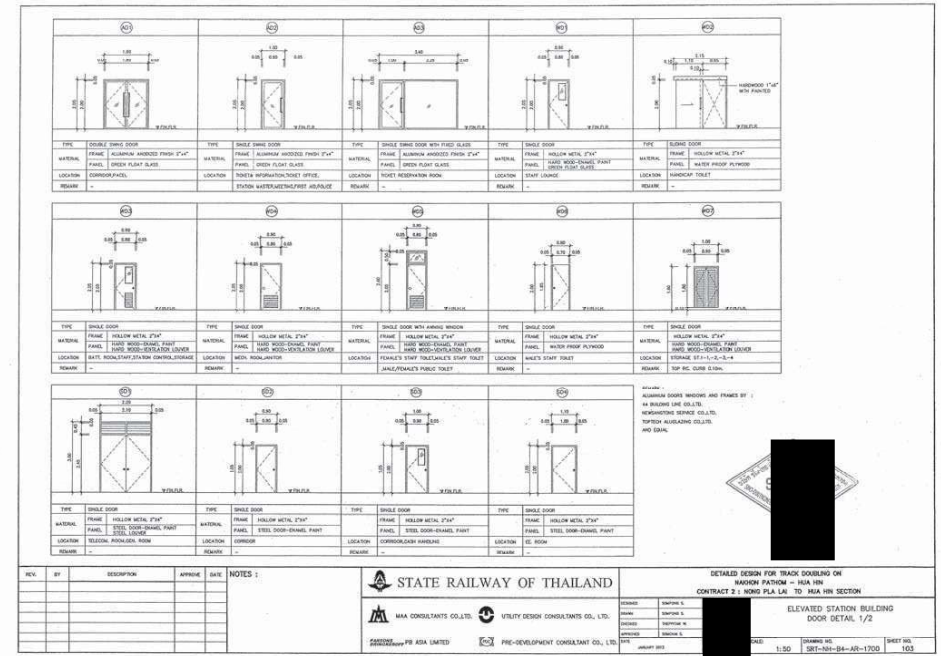
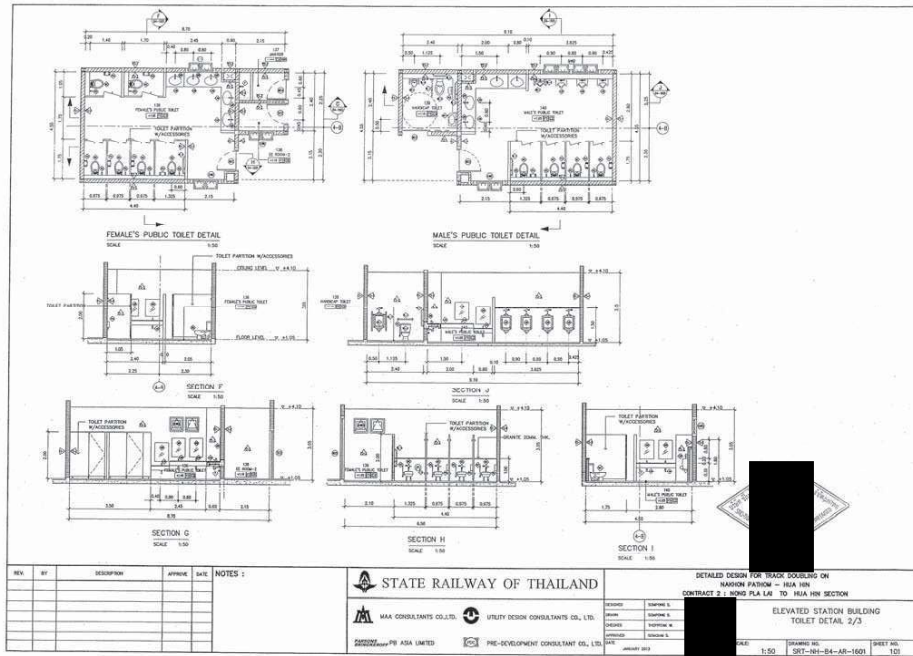


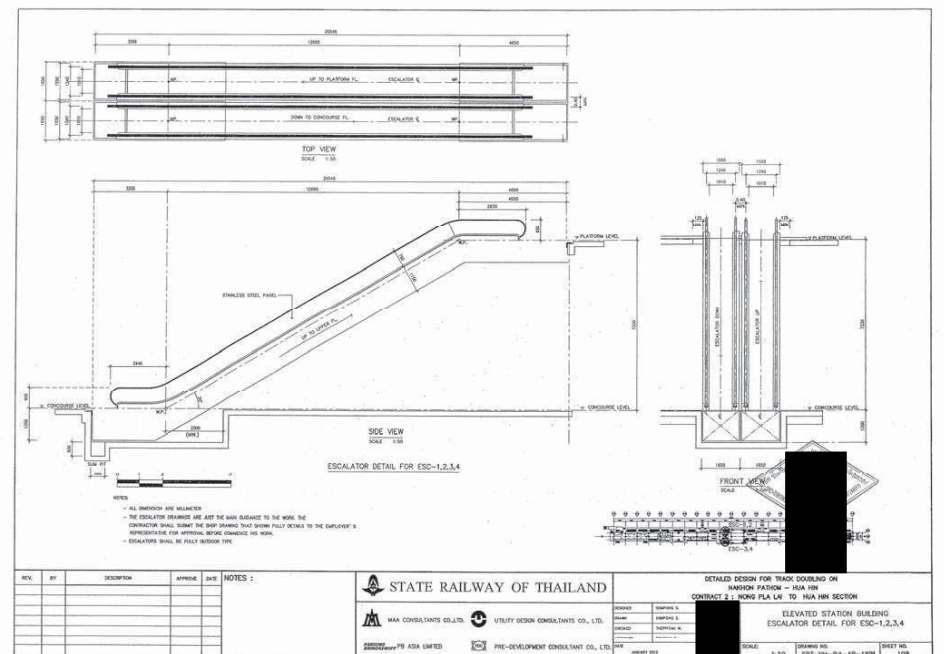
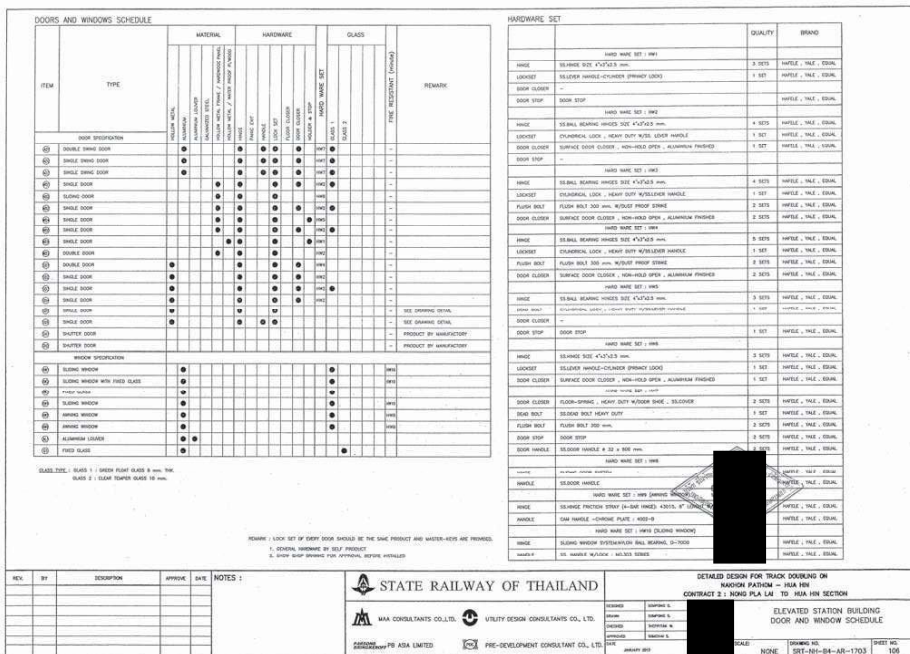
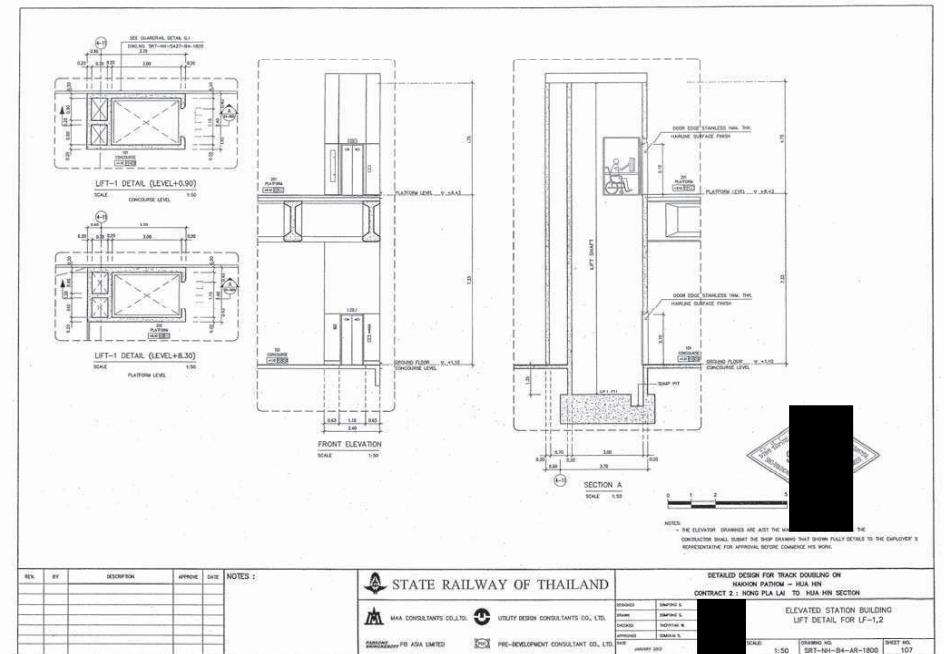
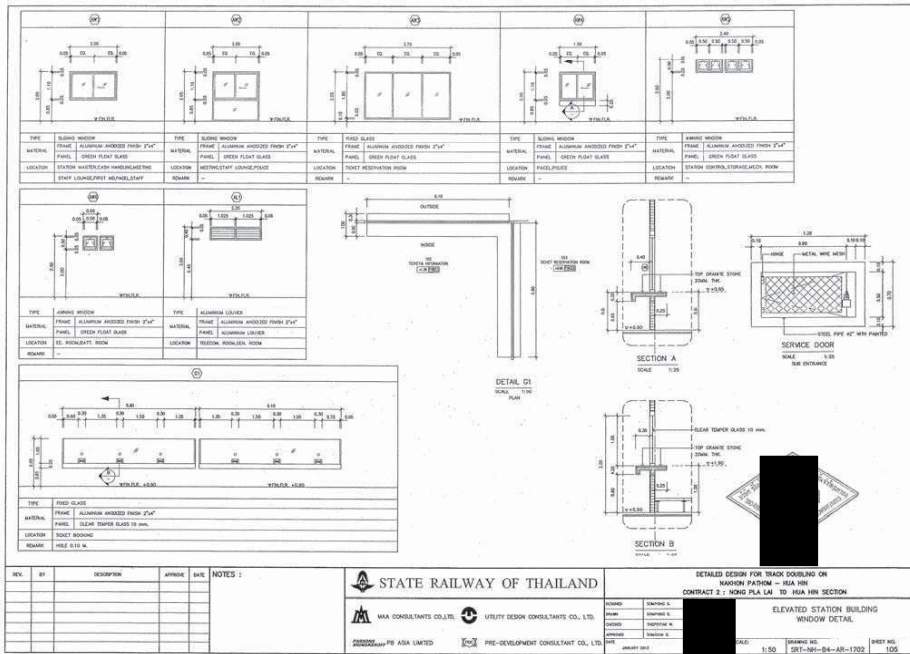


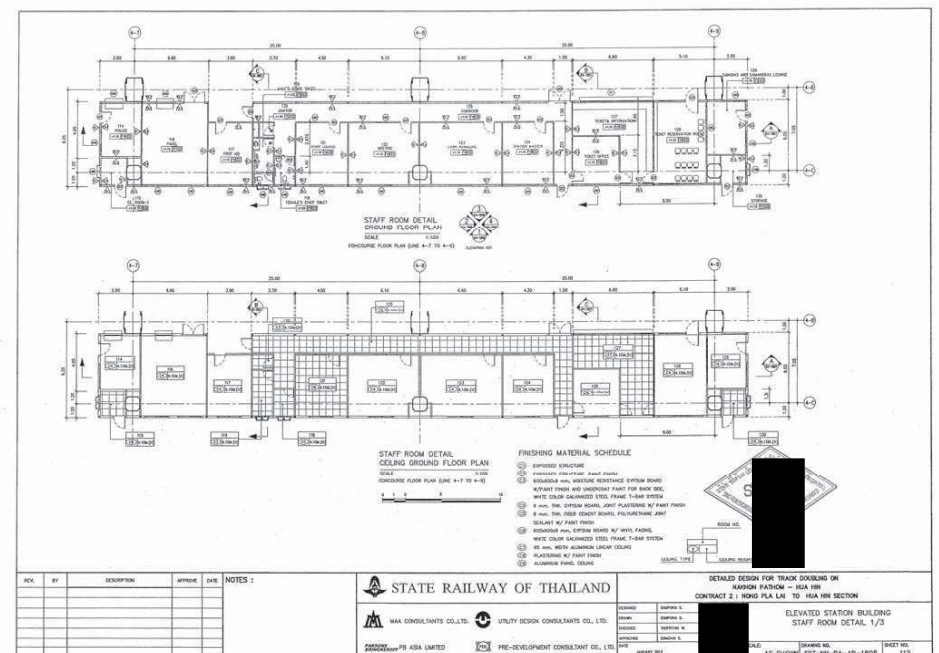
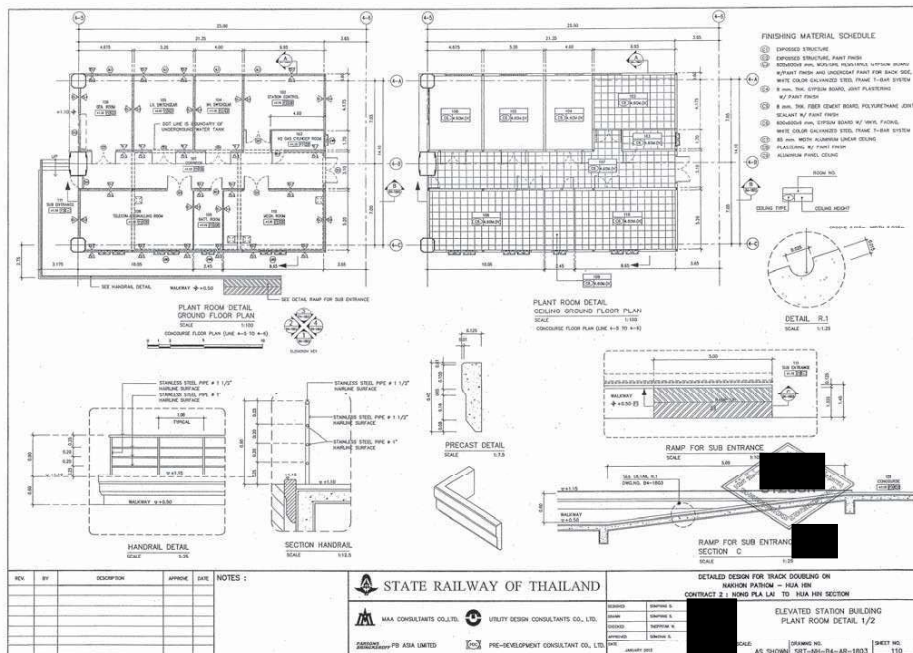
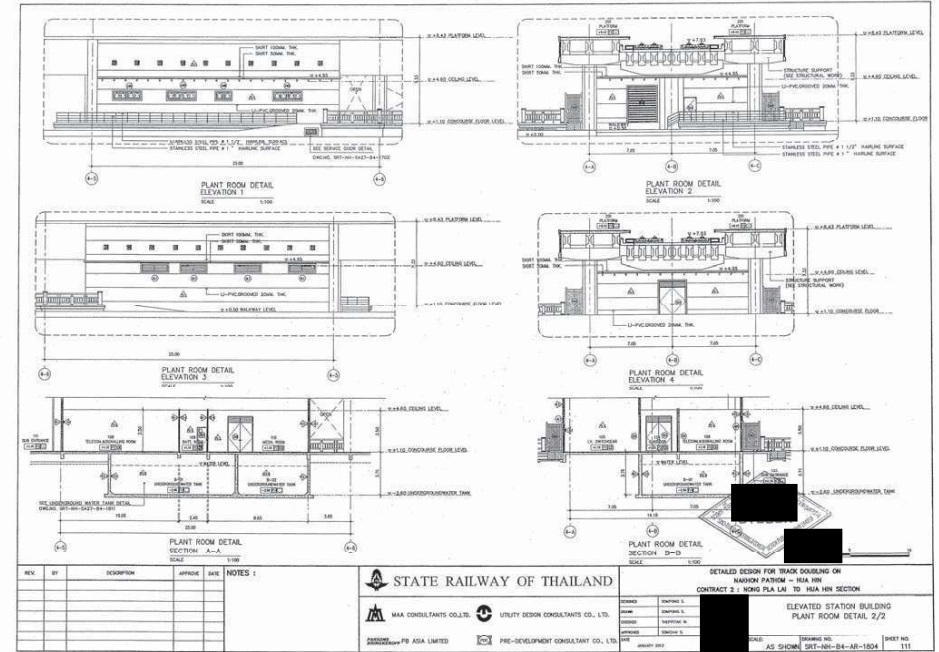
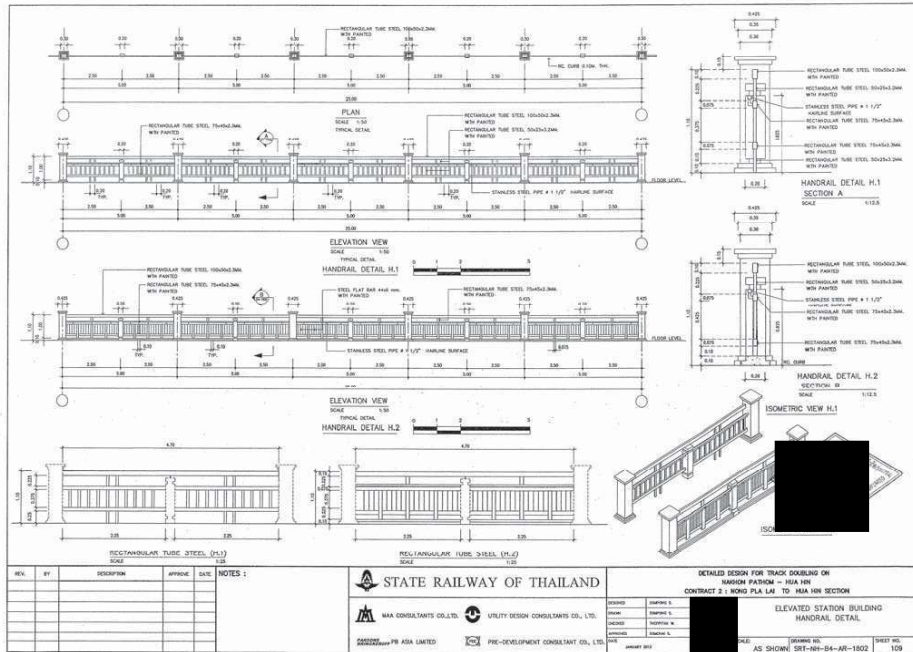


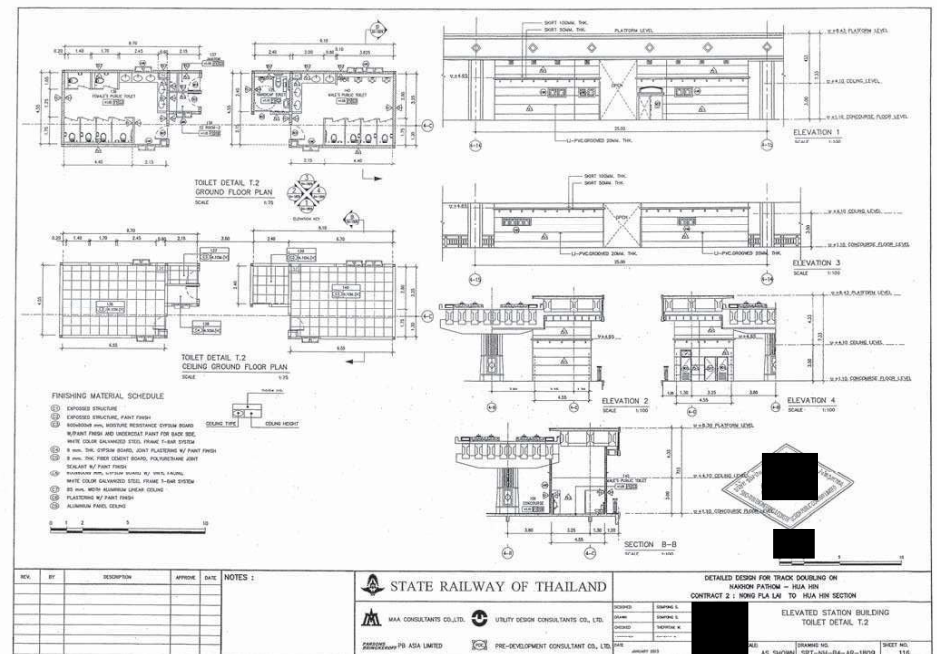
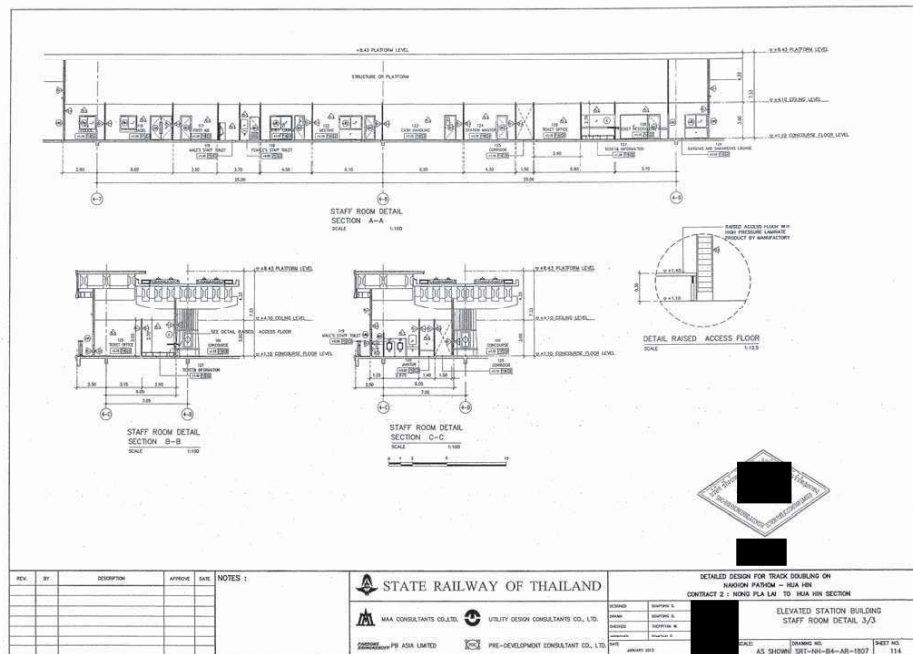
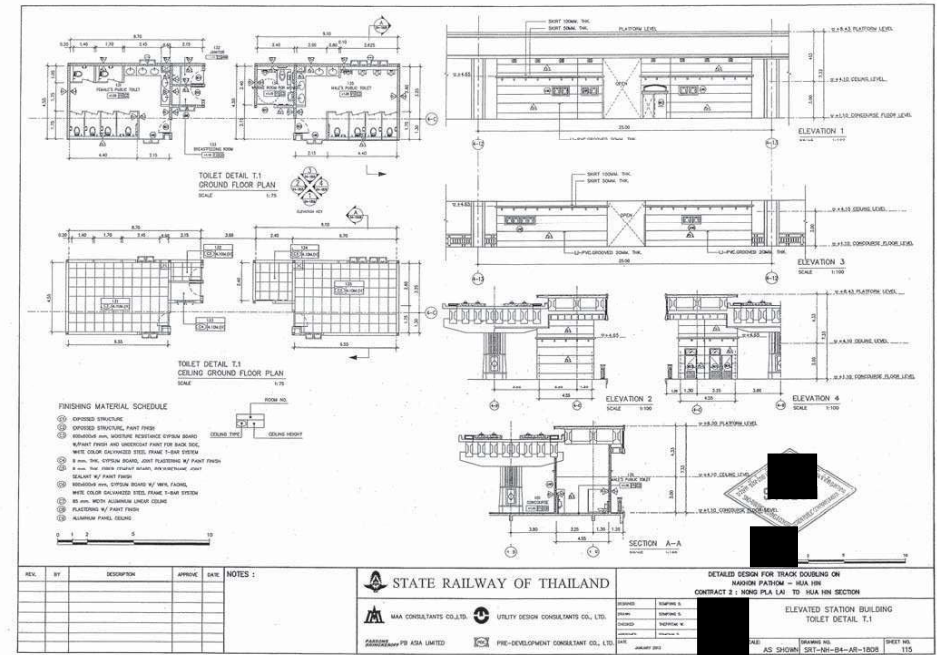
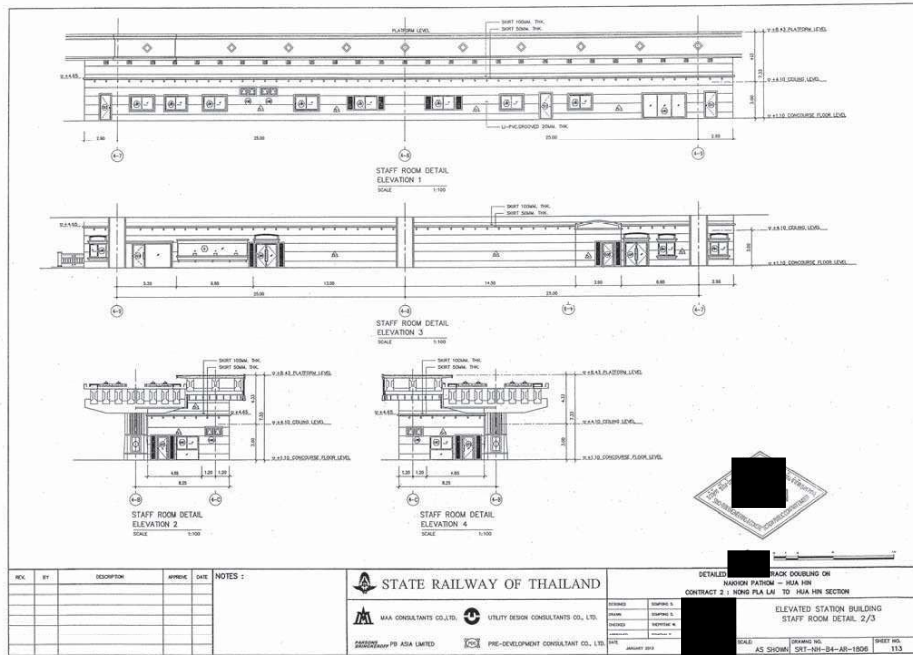


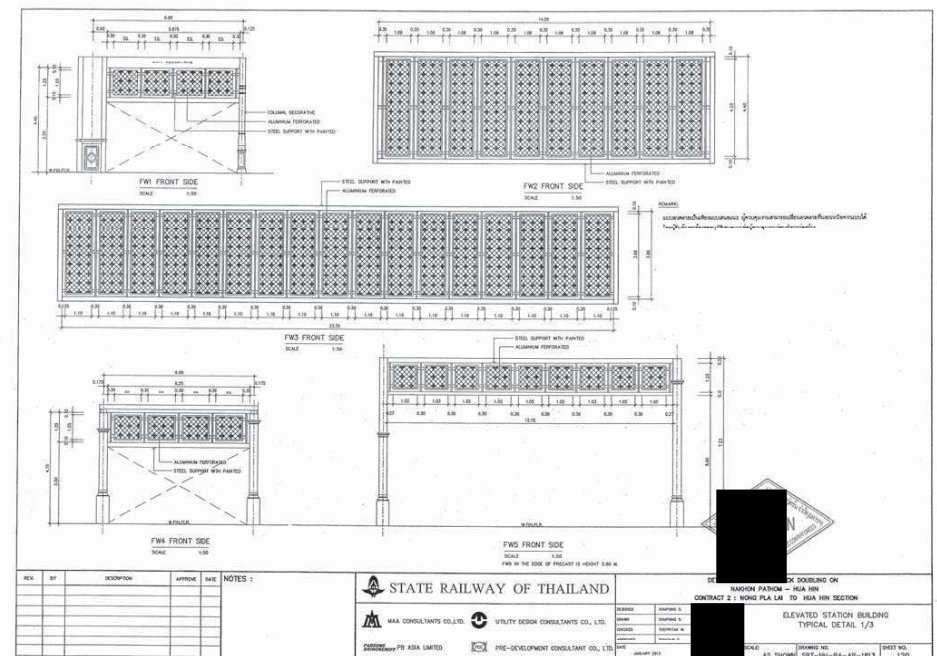
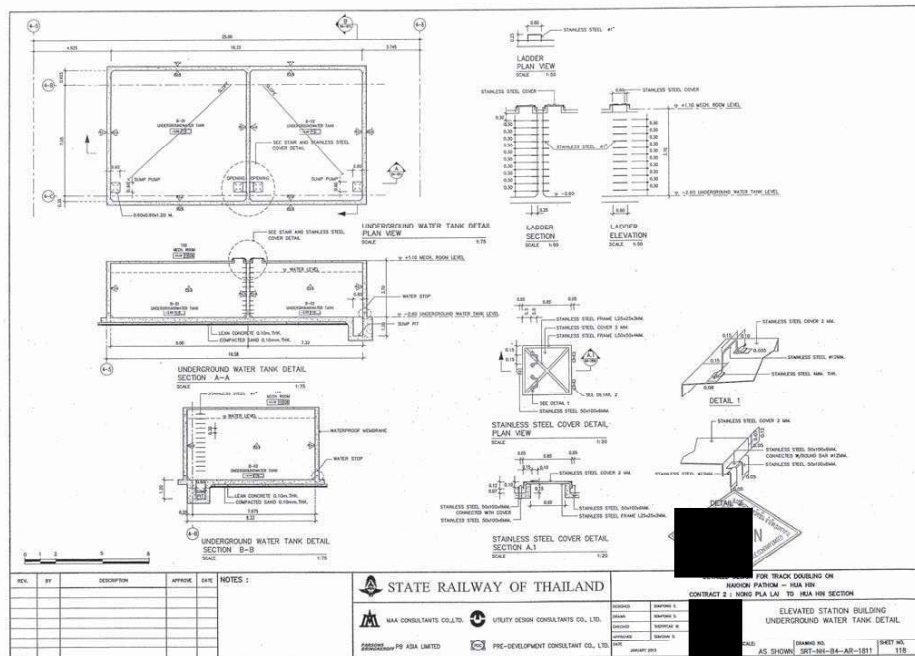
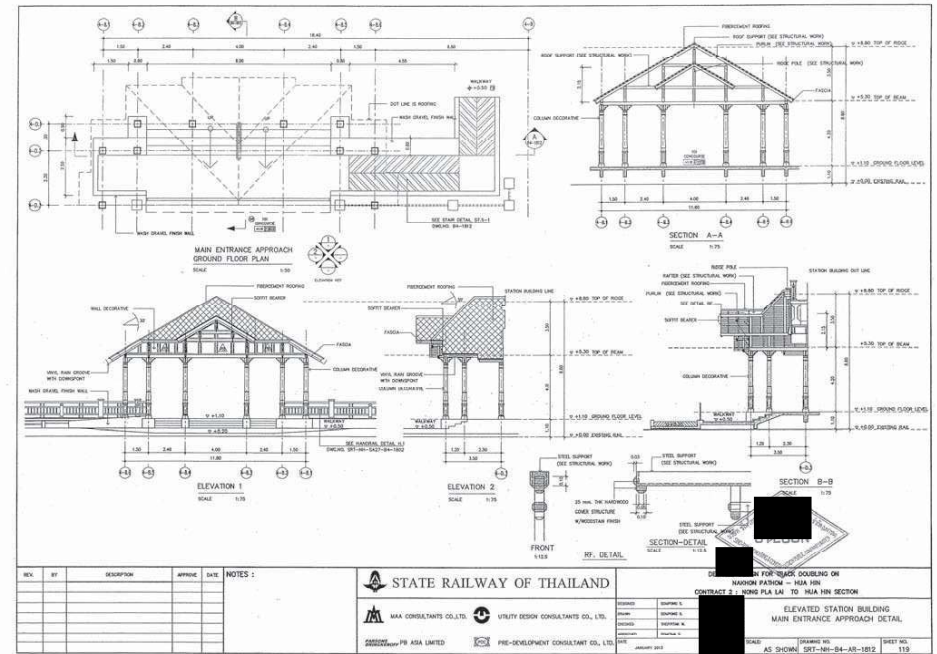
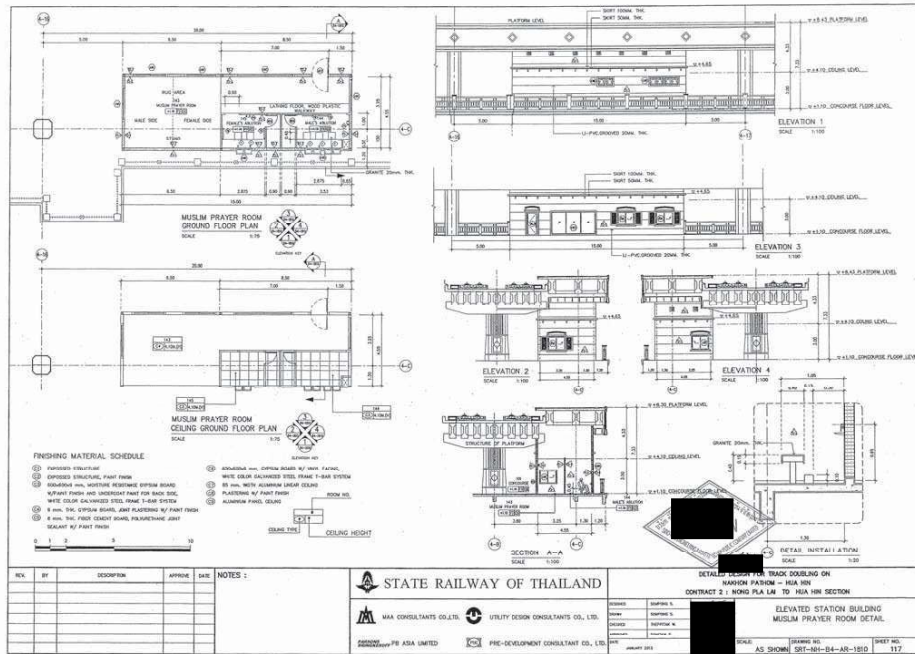


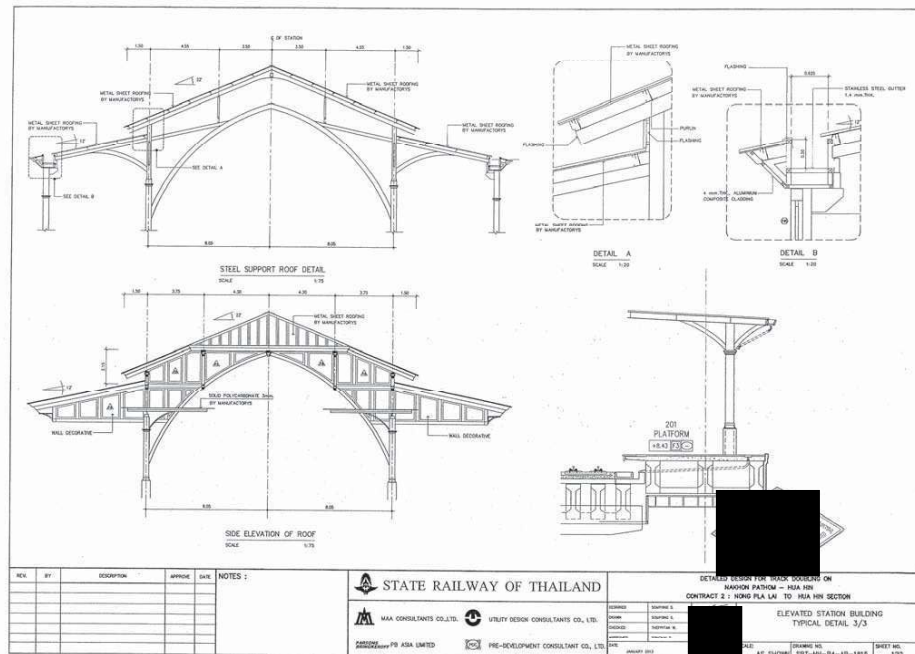
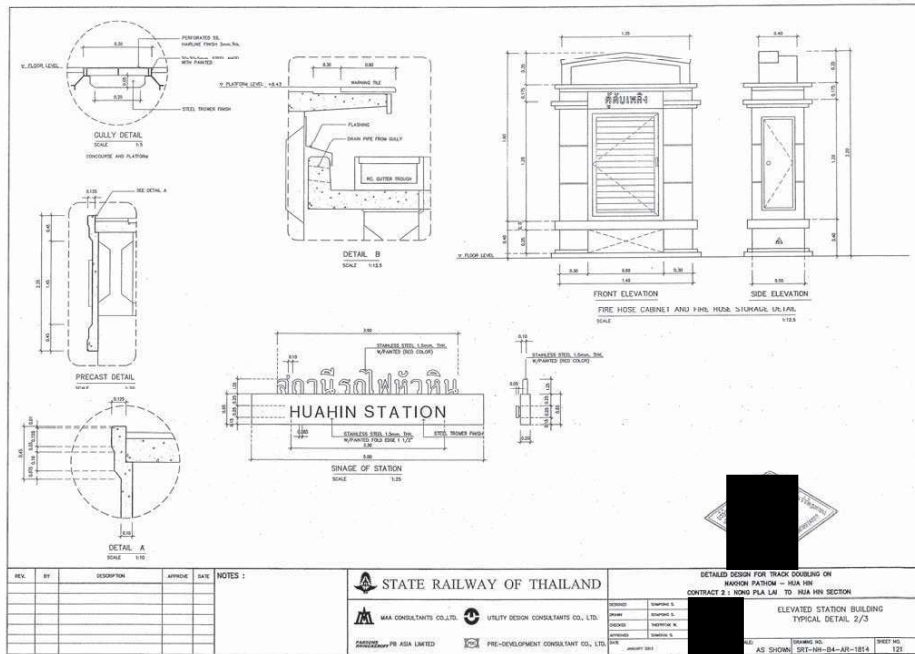












ภาคผนวก ง-4

คู่มือความปลอดภัย อาชีวอนามัย
และสภาพแวดล้อมในการทำงาน



โครงการก่อสร้างรถไฟทางคู่สายใต้ ช่วงนครปฐม - ชุมพร
สัญญาที่ 6 งานติดตั้งระบบอาณัติสัญญาณและโทรคมนาคม (SC6)

ฝ่ายควบคุมงาน :

CSCS6: Construction Supervision Consultant South Line Contract 6



ฝ่ายก่อสร้าง : The Consortium of CRSC Research and Design Institute
Group Co., Ltd. and CRSC International Company Limited



เอกสารขอความเห็นชอบและอนุมัติ (Request for Approval)

เรื่อง : Safety and Health Plan (Revised 3) เลขที่ : CRSC-CSCS6-ST7-SH-SUB-0028-Rev.3 Code :
วันที่ : 20/01/2564
Internal Code : CRSC-SRT-ST7-MP-0018
เรียน : ผู้จัดการโครงการด้านอาณัติสัญญาณและโทรคมนาคม (CSCS6)
เอกสารนำเสนอ : เอกสารตามแบบ Safety and Health Plan (Revised 3) จำนวน 52 แผ่น/ชุด

เพื่อขออนุมัติใช้งาน

ซึ่งเป็นไปตามรายละเอียดข้อกำหนด : สัญญาจ้างโครงการจัดหาและติดตั้งระบบอาณัติสัญญาณ
และโทรคมนาคม

บันทึก :

(Mr. Wang Xiance)
รักษาการแทนผู้จัดการโครงการ (CRSC)

(CSCS) ลำดับที่รับ : 6R.0469.
วันที่รับ : 21 ส.ค. 2564
เวลา : 10.50

เรียน : วิศวกร/ผู้เชี่ยวชาญ (CSCS6)

PMC

Position	Act.	Com.	Inf.
DPM 1			
DPM 2			
ผชช. ด้านวางแผนงาน (SH)			
ผชช. ปฏิบัติการเดินรถ (RP)			
ผชช. เอกสารสัญญา (CA)			
ผชช. ด้านสิ่งแวดล้อม (ENV)			
ผชช. ประชาสัมพันธ์ (PR)			
ผู้ประสานงานโครงการ1(CO1)			
ผู้ประสานงานโครงการ2(CO2)			
อื่นๆ (OT)			

CSCS งานโยธา

Position	Act.	Com.	Inf.
วศ. สำรวจ (SV)			
วศ. ธรณีเทคนิค (Geo)			
วศ. โยธา (CW)			
วศ. โครงสร้าง (ST)			
วศ. สะพาน (BR)			
วศ. ระบายน้ำ (DN)			
วศ. ไฟฟ้า (EE)			
วศ. เครื่องกล (ME)			
สถาปนิก (AR)			
อื่นๆ (OT)			

CSCS งานราง/อื่นๆ

Position	Act.	Com.	Inf.
ผชช. ทางรถไฟ (TW)			
วศ. ทางรถไฟ (TWE)			
วศ. วัสดุ/ทดสอบวัสดุ(MAT)			
วศ. คุณภาพ (QC)			
ผชช. ความปลอดภัย (SF)			
ผชช. ประมาณราคา (QS)			
ผชช. อาณัติสัญญาณ (SN)			
วศ. อาณัติสัญญาณ (SNE)			
วศ. ด้านโทรคมนาคม (COM)			
อื่นๆ (OT)			

Note: Act. = Action (ผู้รับผิดชอบ)

Com. = Comment (ผู้ให้แสดงความคิดเห็น)

Inf. = Information (แจ้งให้ทราบ)

วันที่ : 22 ส.ค. 2564

บันทึก :

ผู้จัดการโครงการ/รองผู้จัดการโครงการด้านอาณัติสัญญาณและโทรคมนาคม (CSCS6)

สำเนาเรียน : PD,PE (CT,CO,ST) (SRT)

☐ เพื่อโปรดทราบ ☐ เพื่อโปรดสั่งการ

☐ เพื่อโปรดพิจารณาอนุมัติ

เรียน : ผู้จัดการโครงการ/รองผู้จัดการโครงการด้านอาณัติสัญญาณและโทรคมนาคม (CSCS6)

ผลการพิจารณา ☒ อนุมัติ ☒ อนุมัติตามบันทึก ☐ แก้ไขเพิ่มเติม ☐ ไม่อนุมัติตามบันทึก

บันทึก :

(นายธีรพันธ์ บุญประดิษฐ์)
ผู้เชี่ยวชาญ/ วิศวกร (CSCS6)

วันที่ : 1/2/64

Outgoing

เรียน : ผู้จัดการโครงการ (CSCS6)

เลขที่ออก : CSCS6/CRSC/ST7/SH/SUB/0450 Code :

เพื่อ ☒ อนุมัติ ☐ อนุมัติตามบันทึก ☐ แก้ไขเพิ่มเติม ☐ ไม่อนุมัติตามบันทึก

บันทึก :

()
ผู้จัดการโครงการ/รองผู้จัดการโครงการด้านอาณัติสัญญาณและโทรคมนาคม (CSCS6)

วันที่ : 2 ก.พ. 2564

สำเนาเรียน : ☐ The Engineer ☐ PD ☐ DPD (SRTS) ☐ PE (SRTS) ☐ CSCS ☐ CW,TW,SW,SN,SNE,COM (CSCS) ☐ อื่นๆ.....

650610

เรียน ผอ. ตามความปลอดภัย
(ตาม ธรรมนูญ)

โปรดทราบเอกสาร Safety and
Health Plan (Revised 3) ที่พิมพ์เสร็จแล้ว
มาใหม่ว่าได้แก้ไขเรียบร้อยแล้ว
เพื่อทราบและดำเนินการต่อไป


นายสมศักดิ์ วงศ์กำชัย
รองผู้จัดการโครงการ
โครงการก่อสร้างระบบทางคู่สายใต้
26 ส.ค. 2561

นายสมศักดิ์ วงศ์กำชัย
รองผู้จัดการโครงการ
โครงการก่อสร้างระบบทางคู่สายใต้

SUBMITTAL FORM

Contract SC6

Submittal No.						Date:
CRSC	CSCS6	ST7	Department	Type	No.	Rev.
			SH	SUB	0028	3

Purpose for ☐ Review ☒ Approval ☐ Information ☐ Record

Title : Safety and Health Plan (Revised 3)

To: ผู้จัดการโครงการด้านอาณัติสัญญาและโทรคมนาคม (CSCS6)

Discipline :

CC: The Engineer, PD, (SRT)

Spec. Section/Clause :

Sub-Contractor/Supplier :

Ref :

[illegible]

Originator :



CONSTRUCTION SUPERVISION CONSULTANT SOUTH LINE
CONTRACT 6



THE CONSORTIUM OF CRSC RESEARCH AND DESIGN INSTITUTE GROUP CO., LTD.
AND CRSC INTERNATIONAL COMPANY LIMITED



STATE RAILWAY OF THAILAND

**SIGNALLING AND TELECOMMUNICATIONS DOUBLE TRACK
RAILWAY PROJECT**

NAKHON PATHOM – CHUMPHON

SAFETY AND HEALTH PLAN

Document Number: CRSC-CSCS6-ST7-SH-SUB-0028

Revision: 3

Date	20-January-2021		
	Name	Position	Signature
Prepared	Mr. Nutthawut Ronsuek	Safety Manager	
Verified	Ms. Chayanee Lounlek	Document Control	
Approved	Mr. Wang Xiance	Acting Project Manager	
ICE	TBA		

(Total 52 pages)

Revision History

Revision	Date of Release	Description of Changes
Rev. 0.1	2020-06-13	First Draft
Rev. 0	2020-06-19	Submit for Approval
Rev. 1.1	2020-09-16	Safety re- written for Detail
Rev. 1	2020-09-16	Submit for Approval
Rev. 2.1	2020-12-22	Proper Purpose and Scope SRT Safety Operation Rules, For Operation Railway during Construction Provide more Details in In Thai Standards. Provide more Details in Risk Assessments. Attach any Accident Reports. Technical in English.
Rev. 2	2020-12-23	Submit for Approval
Rev.3.1	2021-01-15	4.7.3.2 Work Train Signals Add green flag and green light, Picture 7- All Clear Hand Signal Add green flag and green light, Picture 8- Move Forward Hand Signal Add green flag and green light, Picture 8- Move Away Hand Signal 4.21.1 HSE Training Principles Referent: Must follow according to Royal' Commitments (Section16) The Act for Occupational Safety, Health and Environment B.E. 2554 (2011)
Rev. 3	2021-01-20	Submit for Approval

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1 INTRODUCTION

The purpose of the Safety and Health Plan (SHP) as Employer's Requirements in General Safety 7.7 of the Contract, is to allocate responsibilities and obligations, and define the processes that will be followed by CRSC in the Safety Management of all activities performed by CRSC on the Project Site.

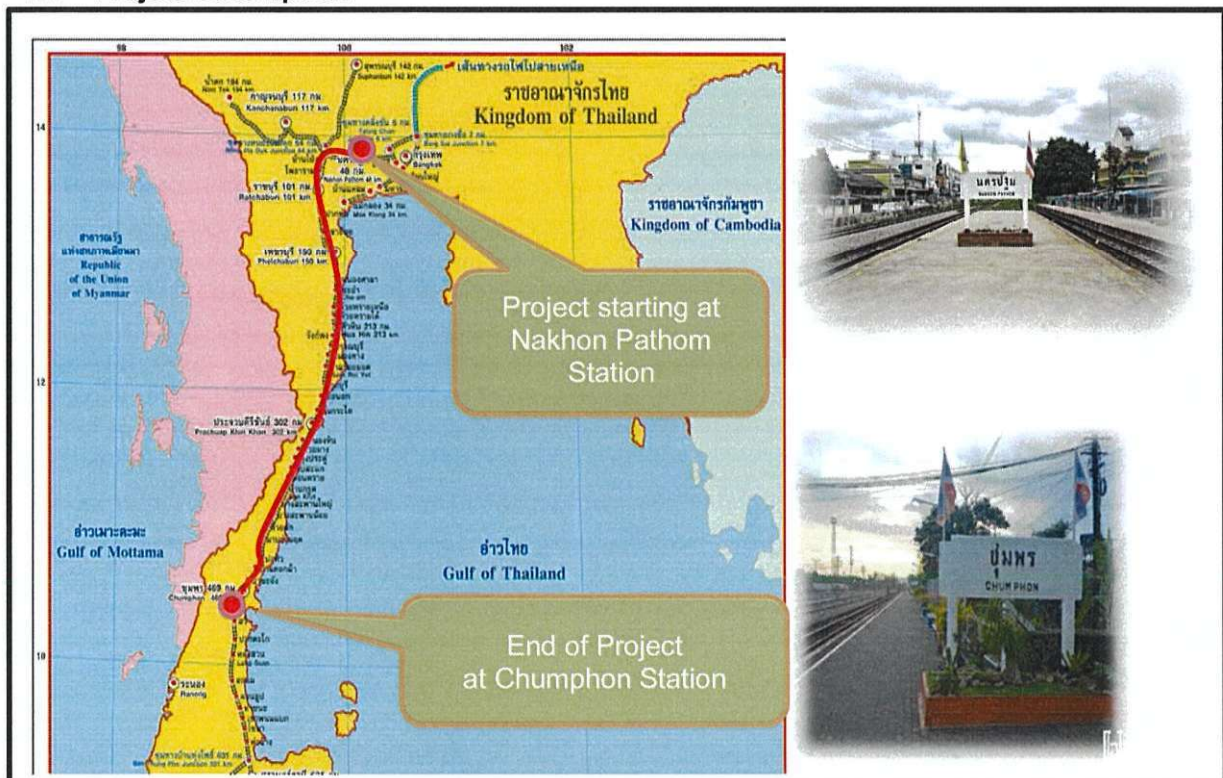
The SHP outlines and defines the overarching Policy, Organization and Arrangements regarding safety management of all activities performed by CRSC on the Site.

The SHP will be brought to the attention of all persons and organizations involved with Project Site activities and a controlled copy given to SRT/CSCS and all CRSC Subcontractors.

The SHP is a living document which is subject to a policy of continual improvement. It will be reviewed and, if necessary, updated every six months, to reflect changes in current environment health and safety management legislation, guidance and best installation, testing & commissioning practices.

Any suggestion to improve CRSC SHP and the CRSC Safety Management System shall be suggested to the HSE Manager.

1.1 Project Description



Picture 1 – Project Location Map

1.2 Purpose and Scope

The purpose and scope of the SHP is to define the Policy, Organization and Arrangements regarding Health & Safety Management for CRSC Site work operations on the Signalling and Telecommunication Double Track Railway Project.

1.3 Application

Signalling and Telecommunication Double Track Railway Project Offices, Site Works Areas and all Project Site work activity until Revenue Service.

1.4 Abbreviations

Refer to Section 3.2 Roles and Responsibilities.

1.5 References

- The Labor Protection Act B.E.2541 (1998) amended by Labour Protection Act Nos. 2 and 3 B.E. 2551 (2008) and No. 4 B.E. 2553 (2010).
- Public Health Act of B.E. 2535 (1992).
- The Act for Occupational Safety, Health and Environment B.E. 2554 (2011).
- The Pollution Prevention and Mitigation Policy accordance with the Policy and Perspective Plan for Enhancement and Conservation of the National Environmental Quality B.E. 22540 – 2559 (1997 – 2016).
- Tender Documents Volume IIIA EMPLOYER'S REQUIREMENTS

1.6 Definitions and Abbreviations

Table 1 – Reference Documents

Term	Definitions and Abbreviations
SRT	State Railway of Thailand
CRSC	The Consortium of CRSC Research and Design Institute Group Co., Ltd. and CRSC International Company Limited
CSCS	Construction Supervision Consultant South Line Contract
Accident	An undesirable event that results in harm to people, damage to property or loss of process/production
Authorized Person	A person who is Competent, appointed by CRSC in writing and who is authorised to attach and remove a Lockout Device and/or a Tag out Devices.
SHP	Safety and Health Plan
Emergency	Unforeseen or unplanned event which has life threatening or extreme loss implication and requires immediate attention.
Hazard	Occurrence or circumstance that is a potential source of harm, physical injury or damage to health of people or damage to property or the environment.
HSE	Health & Safety, Security and Environment
JSA (Job Safety Analysis)	Job Safety Analysis, a process of systematically evaluating the safety risks associated with Work, and eliminating or reducing the risks or hazards in order to protect workers from injury or illness the environment and property.
Occupational Illness or Disease	Illness or disease contracted from and in the course of work activity such as legionellosis, leptospirosis, occupational dermatitis, occupational asthma, tetanus, etc.
Permit to Work	A written clearance for work to commence, detailing the work to be carried out and the specific risk controls to be applied.
Risk	The combination of the likelihood of an occurrence of hazardous event and the severity of loss due to that event

Term	Definitions and Abbreviations
Unsafe Condition	An unsafe condition, that could result in accident loss, e.g. a working platform over 2m height without guardrails, an unearthed (grounded) temporary electrical circuit, an inadequately lighted work area, etc.
Unsafe Act	An unsafe practice that could result in accident loss, e.g. grinding without using eye protection, not wearing a hard hat in a construction area, putting bare wires in to an electrical socket, etc.
Work Train	Any type of rail-based vehicles used for construction, installation or maintenance purpose. This includes road-rail vehicles whilst on the tracks and self-propelled locomotives.
PPE	Personal Protective Equipment

2 CRSC HEALTH & SAFETY POLICY STATE-MENT

2.1 Health & Safety Environmental Management Policy

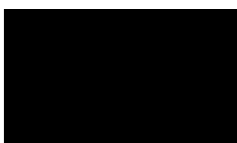
CRSC International Company Limited is a leader in the Signaling and Telecommunications for the world-class standards rail transportation industry. Along with sustainable growth, the company is committed to operating in safety, Occupational health and environment for maximum efficiency. With awareness of corporate social responsibility and stakeholders, the company has set safety policies Occupational health, safety and environment as follows:

1. Company is committed to comply with the law on occupational health, safety and environment to be the same standard as customers and various departments.
2. Company is committed to provide a safe working environment and not harmful to health for prevent work that causes injury and illness to health.
3. Company is committed to manage occupational health and safety risks in order to prevent, reduce and eliminate risks from the process which will cause injury and illness to employees, business partners, contractors and visitors or to work within the company including the company's assets.
4. Company is committed to promote employees and personals working under the organization jointly protect the environment and prevent pollution from the company's activities including effective control of environmental issues and risks.
5. Company has provided a consultation system including participation in decision-making of workers or workers' representatives in occupational health and safety.
6. Company has sufficient and appropriate communication and support of resources. The company commit to develop human resources to have knowledge and create awareness about occupational health, Safety and environment for all employees are involved in the implementation of the management system.

7. Company is committed to raising awareness of occupational health, safety and environment for management director, employees and contractors to lead to serious action and continuous improvement in occupational health, safety and environment management systems.

8. Company has set the objectives and targets on occupational health, safety and environment In accordance with the policy and has a policy review regularly including disclosing to related parties and the public.

Announced on September 1st 2020

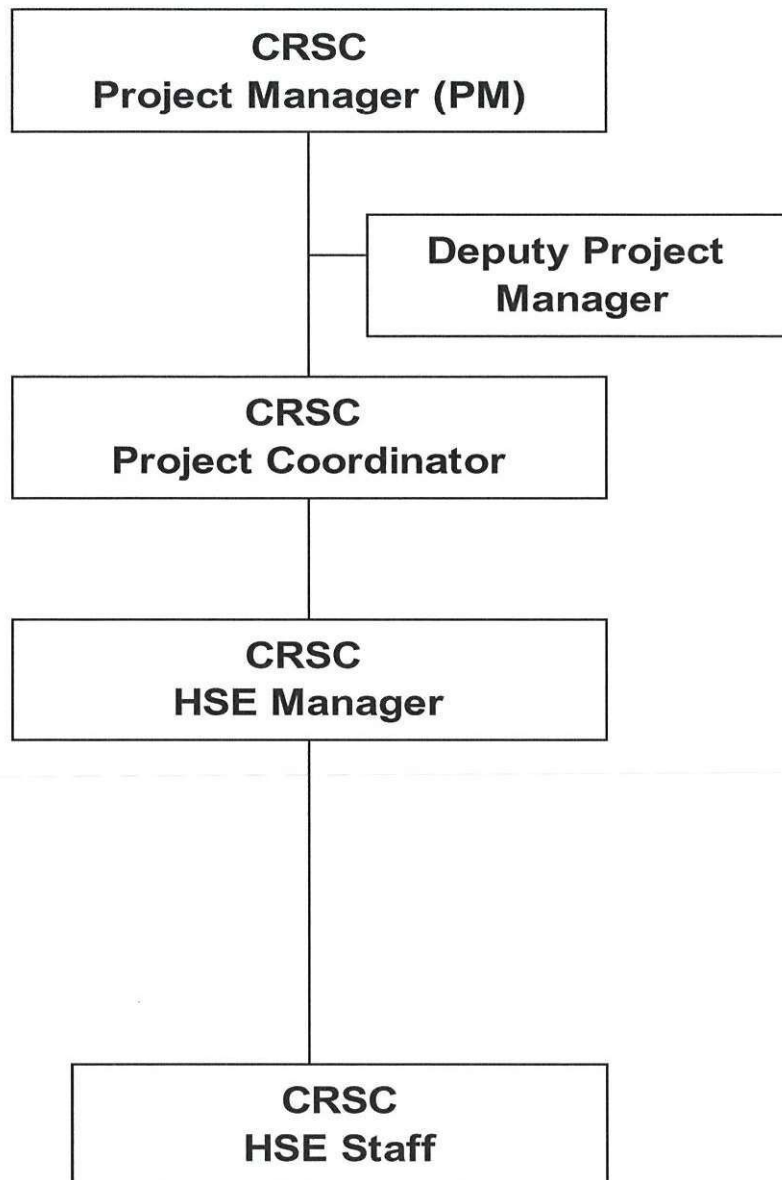


(Mr.Wang Xiance)

Deputy Project Manager (CRSC)

3 HEALTH AND SAFETY ENVIRONMENTAL MANAGEMENT ORGANIZATION

3.1 HSE Organization Chart



Picture 2 – HSE Organization Chart

3.2 Roles and Responsibilities

3.2.1 CRSC Project Manager and Deputy Project Manager

- Determine the Health & Safety Management Policy and Environmental & Sustainability Management Policy.
- Be responsible to ensure that all project activities are performed in conformity with the SHP and Health & Safety Management Policy, and that the whole CRSC Project Management Team assumes and fulfils their responsibility, so as to meet or exceed the Project safety requirements
- Monitor CRSC safety performance and establish the course of action in order to ensure that the objectives are met and a continual improvement is achieved.
- Regularly check CRSC's safety performance with CRSC HSE Manager, and establish the course of action in order to ensure that the environmental objectives are met and a continual improvement is made.
- Be authorized to give instructions and apply disciplinary measures and sanctions to all employees and subcontractors of CRSC's in the event these violate the provisions of the present SHP.

3.2.2 CRSC Project Coordinator

- Lead the coordination of all CRSC activities at the site including coordination regarding the work of other contractors and third parties. He shall be in overalls charge of the implementation aspects of all HSE matters at the site during the performance of any Installation, Testing and Commissioning activities.
- Be responsible for the observance of the relevant safety requirements and for the effective implementation of the CRSC SHP.
- As maximum responsible for all delivery activities on the site, the Project Coordinator shall be also authorized to give instructions and apply disciplinary measures and sanctions to all employees and subcontractors of CRSC's in the event these violate the provisions of the present SHP.

3.2.3 CRSC HSE Manager (Safety officer at Managerial Level)

- Promote the Project Health Safety and Environmental Management Policy and prepare, regularly review and administer the SHP.
- Ensure that the SHP and the Safety Management system comply with the legal requirement of Thailand and best industry practice.
- Manage all aspects of Health and Safety Environmental Management issues and matters on the CRSC Project.
- Provide effective leadership and motivation regarding Project Health and Safety, Environmental Management.
- Provide Health and Safety and Environment information and advice to Project Management.
- Supervise and train the Safety Officer(s) regarding Health and Safety, Environment matters, etc.
- Issue written admonitions (warning) to any employees of CRSC Members or their sub-subcontractors which are in a clear offence of the SHP objectives, as described in this SHP.
- Ensure that all accident/ incident reports, HSE statistics, HSE records and directories, are maintained.
- Analyze and support all analyses on all work-related injuries, diseases, incidents and dangerous events as well as appropriate reporting to the employer.

3.2.4 CRSC HSE Staff (Safety Officers at Professional Level).

- Report to CRSC HSE Manager
- Continuously visit project areas to inspect processes and procedures and ensure good health and safety and environmental protection practices.
- Investigate accidents and complaints and determining if there has been a breach of HSE requirements.
- Ensure workers are provided with suitable protective equipment, such as eye goggles, ear protectors or appropriate types of gloves and clothing, and are correctly using them.
- Keep up to date with new legislation and health and safety standards.
- Provide specialist advice and information on health and safety to project team and advice on changes required.
- Write reports on results of inspections and investigations and completing detailed paper-work.

3.2.5 Management and Supervisors

- Ensure that all Project work activity is carried out in compliance with the CRSC Safety and Health Plan.
- Take prompt action when notified of any health and safety issues.
- Set a good personal example regarding health and safety.
- Ensure that all personnel attend Safety Induction Training before working on the Project Site.
- Make health and safety and the wellbeing of personnel under their supervision a priority.
- Suggest ways of eliminating hazards and controlling risk.
- Ensure that any accident is reported in compliance with Clause 4.1 Accident Management below.

3.2.6 Signalling and Telecommunication Double Track Railway Project Personnel

- Work in a safe manner
- Use Project Standard Personal Protective Equipment (PPE) all times when accessing any Site Works Areas.
- Report to the Site Management before entering the Site.
- Report Unsafe conditions and Unsafe acts.
- Work in accordance with the CRSC Safety and Health Plan.
- Attend the required Safety Induction Training before working on or accessing the Project Site.
- Immediately report to their supervisor any accident.

3.2.7 Subcontractors

- Work in a safe manner.
- Comply with the legal requirement of Thailand
- Strictly comply with the requirements of the CRSC Safety and Health Plan.
- Appoint a Safety Officer who shall be a suitably qualified and experienced to supervise and monitor Site Health and Safety.
- Ensure that all personnel, including visitors, are issued with and use appropriate personal protective equipment (PPE).
- Make sure that all personnel receive Safety Induction Training before going onto the Site.

- Ensure that all personnel who are to work on the Site are properly trained and competent.
- Inspect all plant and equipment to be used on the Site, ensure that it has been serviced in accordance with legal requirements and the manufacturer's or supplier's instructions and that required certification is available.
- Provide details to CRSC of any hazardous substances to be brought onto Site.
- Inform CRSC immediately of any accident loss and investigate all Reportable Accidents or any accident if directed to do so by CRSC.
- Comply with all instructions regarding Health & Safety, Security and Environment Management given by CRSC.

3.2.8 Safety Committee

- Meet at least once each month.
- Be suitably qualified.
- Promote and monitor the implementation of the CRSC Health & Safety Policy Statement and Environmental Policy and, the CRSC Safety and Health Plan.
- Review Accident Data and Accident Investigation Reports and propose preventative and corrective measures.
- Monitor work practices and suggest improvements.
- Be aware of current Health and Safety and Environmental legislation.

3.2.9 Visitors

- Report to the Site Management before entering the site.
- Obey all health & safety, security and environmental rules, instructions, signs and regulation.
- Use the required personal protective equipment (PPE).
- Not take photographs, including video photographs, unless given permission in writing to do so from CRSC Management.
- Not touch interfere with any plant and equipment or materials.
- Not talk or distract persons working on the site.
- Access Site locations entirely at their own risk.
- Report any accidents or occurrences to Site Management.

4 HEALTH AND SAFETY, ENVIRONMENTAL MANAGEMENT

4.1 Accident Management

4.1.1 Accident Classification

Accidents at work involving Signalling and Telecommunication Double Track Railway Project Personnel and property, and/or members of the public, must be formally reported in order that they can be investigated and the appropriate remedial actions can be taken to control risk and prevent any re-occurrences. Additionally, there is a statutory obligation to report certain categories of accidents to the Occupational Safety and Health Bureau of the Department of Labour Protection and Welfare.

Accidents at work that require reporting and recording fall into two distinct classifications: First Aid Accidents and Reportable Accidents. First Aid Accidents are injury accidents arising out of, or in connection with work which are relatively minor and require only first-aid treatment and re-cording at the local first-aid facilities. Reportable Accidents are accidents arising out of, or in connection with work that result in more severe injury and/or loss or, potentially more severe injury and/or loss and are categorized as:

- **Fatality Accident:** any work-related injury accident, including illness, which results in loss of human life.
- **Major Injury Accident:** fractures except to fingers, thumbs or toes; amputations; dislocation of the shoulder, hip, knee or spine; loss of sight or a penetrating eye injury; loss of consciousness due to electric shock or lack of oxygen; Hospitalization.
- **Loss Time Injury Accident:** injury accidents that result in a person being absent from their work, or from their normal work activity, for three days or more, not counting the day of the accident.
- **Electric Shock Accident:** any electric shock to personnel.
- **Hospitalization:** a person being detained in a hospital or clinic due to an injury accident, including Occupational Illness or Disease, for 24 hours or more.
- **Occupational Illness or Disease:** illness or disease contracted from and in the course of work activity such as legionellosis, leptospirosis, occupational dermatitis, occupational asthma, tetanus, etc.
- **Accident involving Member of the Public:** any accident involving any member of the public.
- **Dangerous Occurrence:** collapse of a scaffold over 2m high; failure or overturning of a crane or other lifting appliance; explosion; contact of plant and equipment with overhead or underground power lines; collapse of form-works, work train derailment, etc.
- **Property Damage Accident:** damage to property on or off site.
- **Utility Damage Accident:** damage to any public utility, e.g. water main, underground electrical cable, overhead power lines, overhead telephone cables, etc.
- **Site Vehicle Accident:** any accident involving a Site vehicle.
- **Fire:** any fire on Site or any fire caused by CRSC all project work activity.
- **Significant Near Miss Accident:** an accident resulting in minor or no loss effect, that in slightly different circumstances could have caused, harm to people, damage or loss of property, adverse environmental impact.
- **Security Incident:** incident of theft, vandalism, break-in, violence, etc.
- **Environmental Mishap:** mishap resulting in actual or potential environmental damage.
- **Accidents or incidents likely to result in substantial loss or adverse publicity**

4.1.2 Accident Recording, Reporting and Investigation

- All first aid injury accidents will be recorded using a First Aid/Medical Aid Report Form (form CRSC-SF-HSE-02, see
- Appendix 2: First Aid/Medical Aid Report), and all such records kept available for examination for at least twenty-four-months.
- All Reportable Accidents shall be reported to CRSC management/supervision immediately and an Accident Report Form CRSC-SF- HSE -03 (Ref. Appendix 3) completed within twelve (12) hours. Completed Accident Report Forms will be kept available for examination for at least twenty-four (24) months. SRT/CSCS will be notified of any Reportable Accident immediately by the quickest possible means, e.g. telephone and an Accident Report for-warded within 24 hours.
- All Reportable Accidents and all accidents considered significant or as directed by SRT/CSCS, shall be the subject of a thorough and comprehensive accident investigation and an Accident Investigation Report Form CRSC-SF- HSE -04 (Ref. Appendix 4) will be completed within five (5) days. All completed Accident Investigation Report Forms will be kept available for examination for at least twenty-four-months. CRSC will forward to SRT/CSCS all Accident Investigation Reports within seven (7) days following a Reportable Accident,
- The scene of Reportable Accidents will not be disturbed until SRT/CSCS gives permission to do so.
- No employees of CRSC or of any of their subcontractors will communicate with the media or, any other outside body regarding any accident loss occurring on any CRSC Project Work Site, with the exception of authorized Government of Thailand personnel, e.g. the police, an Occupational Safety and Health Inspector of the Department of Labor Protection and welfare, etc.

4.1.3 First Aid/ Emergency Medical Aid

- First Aid/Emergency Medical Aid treatment will be given on the Project Site by nominated and trained first aiders.
- In case of an accident or illness requiring medical treatment additional to first aid, the injured person will be brought to a hospital.
- A suitable vehicle will be kept on Site at all times when persons are working to remove any injured person to hospital if necessary.
- First aid/Emergency Medical aid will be provided in compliance with Ministerial Regulation Provision of Welfare at a Place of Business B.E. 2548 (A.D. 2005).

4.1.4 Accident Data and Statistical Measurement

Accident Data and subsequent Statistical Measurement will be compiled and recorded as follows.

Man-hours worked for the month, for the year.

Manpower (average) for each month.

A Fatality Accident Frequency Rate per 1M man-hours for the month, for the year, i.e.

$$\frac{\text{Number of fatal accident} \times 1,000,000}{\text{man-hours}}$$

A Major Injury Frequency Rate per 1M man-hours for the month, for the year, i.e.

$$\frac{\text{Number of major injury accident} \times 1,000,000}{\text{man-hours}}$$

A Lost Time Injury Accident per 1M man-hours for the month, for the year, i.e.

$$\frac{\text{Number of lost time injury} \times 1,000,000}{\text{man-hours}}$$

A Lost Time Incident Rate per 100K average number employed for each year (January through December)

$$\frac{\text{Total number of lost time injuries} \times 100,000}{\text{average manpower}}$$

Additionally, the numbers of Reportable Accidents will be recorded for the month, for the year, and since project inception.

Hours Worked without a Loss Time Injury Accident will be calculated each month.

4.2 Drugs and Alcohol

- No drugs, excepting drugs prescribed by a physician for a medical condition, or any alcoholic beverages whatsoever are permitted to be brought on to CRSC Project Site. Persons taking prescribed drugs for a medical condition which may affect their performance should inform their respective managers or supervisors.
- Any personnel found in possession of illicit drugs or any alcoholic beverages (must be none) will be removed from the Project permanently.
- Personnel found in possession of illegal drugs will be reported to the Royal Thai Police.

4.3 HSE Inspections/Audits

HSE Surveys/Audits shall be carried out in accordance with a rolling program approved by SRT/CSCS.

CRSC Site Safety Inspection will be conducted at least every 7 days. The results will be recorded on form CRSC-SF-HSE-06 - Ref. Appendix 6: Site Safety Inspection Report and the completed inspection report from kept available for examination for at least six months.

CRSC Management Supervision will ensure that any corrective actions identified during HSE Surveys/Audits and Site Safety Inspections are rectified as specified.

CRSC will attend joint HSE Audits/Survey as required.

4.4 HSE Meetings

- CRSC will attend the Monthly HSE Management Meetings with HSE Manager
- CRSC and their subcontractors will meet on a monthly basis, to discuss HSE issues and proposed changes to improve the Safety Management System.

4.5 Electrical Safety

4.5.1 Electrical Safety Principles (per IEC 60634)

Definitions to be used as follows;

- De-Energized: electrical apparatus has been isolated and earthed.
- Energized: electrical equipment is turned on.
- Energy: electrical, mechanical, hydraulic, pneumatic, chemical and thermal energy.
- Energy Isolation Device: a mechanical device that physically prevents the transmission or release of Energy including but not limited to the following: a manually operated electrical circuit breaker, a disconnect switch, Disconnected wiring, a slip gate, a blind, a line valve, a block, Chocks, a disconnect piping.

- Isolated: disconnection and separation of the electrical apparatus from every source of energy.
- Lockout: placement of the Lockout Device on the Energy Isolation Device of an item of plant or equipment to prevent any accidental or unexpected energized or start up.
- Tagout: the posting of a Tagout Device on the Energy Isolating Device of an item of plant or equipment to prevent any accidental or unexpected energized or start up.
- Tagout Device: A Project standardized mishap preventing tag, the wording on which will be in both Thai and English, that is capable of being securely attached to an Energy Isolation Device and which forbids the operation of the Energy Isolation Device and identifies the Authorized Person who has control of the Lockout/Tagout.

All electrical equipment shall be considered 'ENERGISED' at all times and consequently dangerous to human life.

Safety signage shall be used to identify and warn of electrical apparatus hazards including operating restrictions.

CRSC is responsible for the management of the 22kV and 380V AC Power Supply until the start of the Trial Runs, at which time the responsibility shall be transferred to the Concessionaire.

Switching of the 22kV and 380V AC Power Supply shall only be undertaken by HSE Competency Training Personnel in Electrical engineer.

Power supply energization/de-energization requirements shall be managed as part of the Work planning and coordination process.

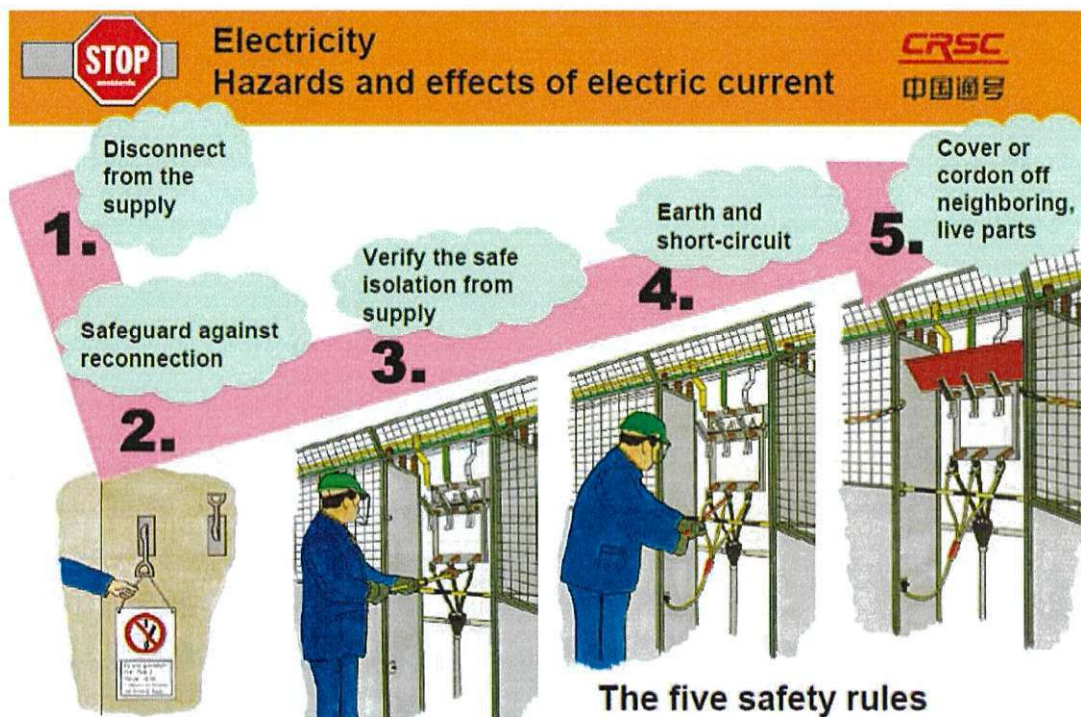
Traction Power shall remain de-energized and locked out at the source to prevent accidental energization at all times when not required for testing and commissioning activities or Trial Runs.

Power supply switching shall be recorded by the Competent Personnel operating the apparatus.

4.5.2 Five Safety Rules for Working with Electricity

When Work (including the equipment for such Work) will or has the potential to come into contact with energized electrical equipment the following FIVE SAFETY RULES must be adhered to:

- 1) ISOLATE: ensure that the energized electrical equipment is Isolated from the power source;
- 2) LOCK OUT/TAG OUT: The isolated electrical equipment must be secured against unintended and automatic energization using a lock out and tag out system;
- 3) TEST: Once all required sources of energy have been isolated, the electrical equipment must be tested to verify that it has been Isolated using an approved voltage-testing device;
- 4) DE-ENERGISE: The Isolated electrical equipment must be de-energized by connection to earth. Only a section between two Earthing devices can be considered to be electrically safe;
- 5) PROTECT: Any adjacent energized electrical equipment must be protected against touch voltage.



Picture 3 – Five Safety Rules Instruction

4.5.3 Lock Out/Tag Out

This item is subject to a separate procedure, Electrical Risk Analysis, Power Off/On Coordination, and Lockout/Tagout Procedure during Construction.

4.5.4 Site Temporary Power

- Electrical plant and equipment will be examined and inspected by an appointed competent electrician before being put into service, after being repaired and at intervals not exceeding three-months.
- Electrical outlet units containing exposed conductors will be locked shut and only accessed by an appointed competent electrician.
- Plugs and sockets and cable couplers, if planned for outdoor usage, will be splash proof or weatherproof design conforming to BS EN 60309 or a compatible standard and IP 44 or IP 67.
- Site temporary electrical distribution systems will be effectively earthed/grounded the impedance of which will be no higher than 5 Ohms.
- Earth/ground system of all site temporary electrical distribution systems will be tested every six-month and the tests recorded and kept for available examination.
- Site electrical equipment including hand-tools, portable lighting, welding machines, generators, etc. will be effectively earthed. Welding machines and generators will be earthed in accordance with the manufacture and/or supplier instructions.
- A non-adjustable 30mA residual current device (RCD) conforming to British Standard 4293 or a compatible standard, shall be installed in all electrical circuits providing electrical power to portable lighting and hand-held power tools. RCDs will be tested periodically.
- RCDs should, if possible be fitted to individual circuits to reduce the possibly of unwanted tripping.
- Portable lighting units should have a plug fitted to the electrical supply cable at a distance of no more than 2m from the lighting unit.

- Portable lighting units should be disconnected from the electrical power supply before being moved.
- Any circuit breaker in any electrical circuit will be of a lower rating than the electrical cable to which it is connected.
- Joins in electrical distribution cables will be avoided when practicable and will only be made with proper cable coupling equipment by an appointed competent electrician.
- All electrical distribution cables and extension cables shall have a separated protective (earth) conductor.
- The earth wire in electrical distribution cables will be either green or green/yellow striped.
- Electrical distribution cables will, if practicable, be suspended off the ground, will not be permitted to lie in water and cables that carry a voltage above 220v will be armored.
- Warning signs in both Thai and English shall be displayed in all locations where any electrical hazard exists.
- Reduced voltage supply and equipment will be considered for any work in confined and/or damp locations.
- Site temporary electrical distribution systems shall be subject to a Planned Preventive Maintenance Routine.

4.6 Emergency Preparedness

4.6.1 Injury Accidents

- First Aid/Emergency Medical Aid treatment will be given on the Project Site by nominated and trained first aiders.
- In case of an accident or illness requiring medical treatment additional to first aid, the injured person will be brought to a hospital.

See also 4.1 Accident Management.

4.6.2 Fire

- Minor cases of fire will be extinguished with portable fire extinguishers or other means if it is safe to do so: personnel will not put themselves at risk.
- In case of a fire that cannot be easily extinguished and an assessment indicates that it has a significant fire spread potential or other major risk, the Fire Brigade will be summoned on instruction from a Manager or Supervisor.

4.6.3 Emergency Occurrence

In case of an Emergency Occurrence the following action will be taken:

- A Senior Manager will take charge of the Emergency Occurrence.
- The appropriate emergency services will be summoned, e.g. the Police, Fire Brigade, Ambulance Service.
- SRT/CSCS will be informed of any Emergency Occurrence immediately.

If an evacuation is necessary the following additional action will be taken:

- A Manager or Supervisor will give the instruction to evacuate.
- Site personnel will immediately report to the designated Evacuation Assembly Point.
- A Senior Manager or Supervisor will take charge of the evacuation.
- No personnel will re-enter the areas unless instructed by Manager or supervisor.

4.6.4 Evaluation Assembly Point

- Evacuation Assembly Points will be signed and made know to all personnel.
- If it is unsafe to report to an Evacuation Assembly Points personnel will be directed to an alternative location by a Manager or Supervisor.

4.6.5 Emergency Services

- If the Emergency Services are summoned a Manager or Supervisor will nominate a person to meet them at the entrance and explain the nature and location of the emergency, the status and location of any injured personnel, and any areas of particular hazard and the means of access.

4.6.6 Emergency Preparedness Training and Induction

- Emergency preparedness training will be included in all Health and Safety Induction training
- Visitors to the Project Site will be made aware of emergency preparedness arrangements.

4.7 Working in The Track Area

4.7.1 Working Adjacent to SRT Operational Tracks

4.7.1.1 General Requirements

If your Work will or has the potential to encroach to within 2.5 metres of the center line of any SRT operational track you as Work Party Supervisor must:

- 1) Have planned your Work and received your SRT Approval Tracking Number and approved PTW in accordance with the Work Planning and Permit to Work Procedures [4];
- 2) Have a copy of the SRT SOUTHERN LINE or SRT NORTHERN LINE timetable (available from www.railway.co.th) relevant to the line where your Worksite is located;
- 3) Have Lookout Personnel deployed at least 100 metres each side of the Worksite and any other location as required to lookout for SRT trains equipped with:
 - a) RED Flags if working during daylight hours and RED lights if working at night or during hours of poor visibility;
 - b) Whistles to warn Work party members of the approaching trains.
- 4) Adhere to any instructions issued by SRT at all times:
 - a) As part of the approval process and issued to you on your PTW at all times; and/or
 - b) As instructed by any SRT personnel on site.
- 5) Immediately cease all Work and remove all equipment and personnel beyond 2.5 meters from the track centerline when warned by the Lookout of an approaching train;
- 6) Confirm with the Lookout personnel when all equipment and personnel beyond 2.5meters from the track centerline and in a position of safety.



DO NOT

Carryout Work within 2.5 metres of the centreline of any SRT operational railway track unless you have the required SRT.



STOP THE WORK IMMEDIATELY

Cease all Work and remove all equipment and personnel beyond 2.5 meters from the track centreline when warned by the Lookout of an approaching train.

4.7.1.2 Lookout Personnel Duties

In accordance with the instructions of the supervisors if you are appointed as Lookout for a Work party you must:

- 1) Have a copy of the SRT SOUTHERN LINE or SRT NORTHERN LINE timetable (available from www.railway.co.th) relevant to the line where your Worksite is located;
- 2) Have RED Flags if working during daylight hours and RED lights if working at night or during hours of poor visibility;
- 3) A Whistle to warn Work party members of the approaching trains;
- 4) An understanding with the supervisors on the methods of warning to be given on the approach of a train;
- 5) Keep a constant lookout for trains on any track in any direction and be prepared to issue the train approaching warning to the Work party members.

On the approach of a train you must:

- 1) Immediately warn the Work party members by blowing the whistle;
- 2) Display a STOP signal in accordance with Picture 4 to the driver of the train until the supervisors removes all personnel tools and equipment beyond 2.5 meters of the track centre line; and
- 3) Remove the STOP signal once the supervisors confirms with you that all personnel tools and equipment have been moved to a position of safety beyond 2.5 meters of the track centre line.



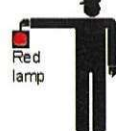


LOOKOUTS ALWAYS

Keep a constant lookout for trains on any track in any direction and be prepared to issue the train approaching warning to the Work party members.

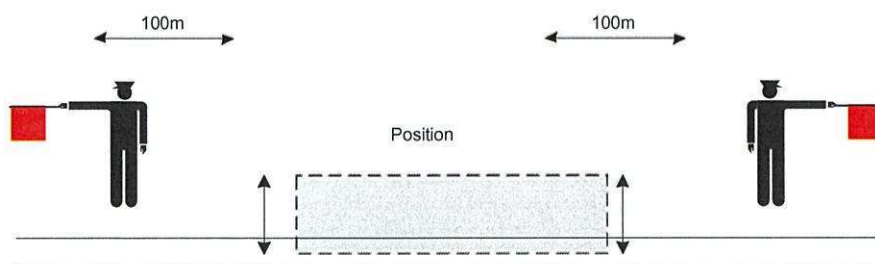
4.7.1.3 Worksite Lookout Personnel Placement and Hand Signals

Picture 4 presents the method of displaying a STOP signal to SRT trains - Both hands held diagonally above the head or red flag or light held out steadily at shoulder height:

By day (hand)	By day (flag)	By night	Reason for use
	 Red flag	 Red lamp	To signal STOP to a Work Train or Train

Picture 4 – Stop Hand Signal

Picture 5 presents the positioning requirement for Lookout personnel at the Worksite.



Picture 5 – Lookout Requirements

4.7.1.4 Warning Markers

Suitable warning markers are to be positioned at the Worksite to ensure that all personnel are aware of the 2.5 meter position of safety limit.



REMEMBER

Move to a position of safety beyond 2.5 metres of the track centreline immediately when instructed to do so.

4.7.2 Working in Track areas

4.7.2.1 General

If you are working in the SRT track area you must:

- 1) Remain beyond 1m from the cables unless the FIVE SAFETY RULES have been applied;
- 2) Not step, sit or stand on any rails, turnouts or moving components;
- 3) Expect the movement of turnouts and work trains at any time, on any track, in any direction;
- 4) Watch and listen for Work Trains frequently to ensure you have sufficient warning of approaching Work trains to enable you to reach a position of safety before a Work Train arrives;
- 5) React immediately to any warning signals and warn others working in the vicinity;
- 6) Cross tracks only when it is safe to do so;
- 7) Keep clear of all moving equipment whether it is under power, in motion or idling unless you are the operator of such equipment.

4.7.3 Work Trains

4.7.3.1 Work Trains and Worksites




When a Work Train approaches and sounds its warning device the Supervisors must:

- 1) Display a STOP signal to the Work Train Driver in accordance with 4.7.3.2;
- 2) Ensure that the route over which the Work train is to travel is safe and clear of all equipment and personnel; and
 - a. Display a PROCEED WITH CAUTION signal in accordance with 4.7.3.2 to the Work Train Driver only if the route over which the Work train is to travel is safe and clear of all equipment and personnel.

4.7.3.2 Work Train Signals




The following hand signals will be used:

- 1) STOP - Both hands held diagonally above the head or red flag or light held out steadily at shoulder height:

By day (hand)	By day (flag)	By night	Reason for use
	 Red flag	 Red lamp	To signal STOP to a Work Train or Train




Picture 6 – Stop Hand Signal

- 2) PROCEED WITH CAUTION - One hand, green flag or light held steadily diagonally above the head:

By day (hand)	By day (flag)	By night	Reason for use
	 Green Flag	 Green Light	To signal PROCEED WITH CAUTION for a Work train or train to proceed.


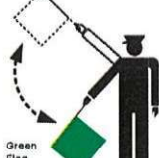

Picture 7 – All Clear Hand Signal

- 3) MOVE FORWARD - One hand, green flag or light moved right to left across the body:

By day (hand)	By day (flag)	By night	Reason for use
	 Green Flag	 Green Light	To signal a Work Train or Train to move forward (shunting)

Picture 8 – Move Forward Hand Signal

- 4) MOVE AWAY - One hand, green flag or light moved up and down at the side of the body:

By day (hand)	By day (flag)	By night	Reason for use
	 Green Flag	 Green Light	To signal a Work Train or train to move away (shunting)

Picture 9 – Move Away Hand Signal



STOP THE WORK TRAIN IMMEDIATELY

If any signal or instruction is given that is not clearly understood.

4.8 Fire Safety

Smoking is not permitted in Site areas including office and canteens except in designated smoking areas.

Open fires are not permitted anywhere on the Project Site.

Sufficient numbers of the appropriate type of fire extinguishers shall be installed the Project Site work areas especially at any areas of hot work or high fire risks. The Project general standard is 4.5 kg dry chemical stored pressure portable fire extinguishers. Other fire extinguishers will be provided determined by risk.

All hot work shall be subject to a Hot Work Permit to Work system.

4.9 Hand Safety

The competent personnel electrical engineer must supervise:

Keep hands clear when handling material, hooking up slings, pushing hand trucks, working on saws and machinery.

Always place an isolation tag and lock-out device/mechanism when repairing or adjusting machinery/equipment.

Never reach into moving machinery to repair, oil or adjust it.

Avoid gloves in close proximity to revolving machinery where a risk of being caught exists.

Wear suitable gloves when handling rough, sharp or hot objects and around strong acids/alkaline or toxic solutions.

Inspect materials for slivers, jagged edges, burrs, rough or slippery surfaces.

When handling materials and equipment, hands should be kept away from pinch points, especially when setting down materials.

Wipe off greasy, wet, slippery, dirty objects before handling.

Keep hands free of oil and grease.

4.10 Hazardous Substances

If any hazardous substance or material is to be brought on to Site the person responsible for the substance must provide a Material Safety Data Sheet (MSDS). which gives information on the precautions to be taken when using or storing the substance.

The information should include the health effects if the substance:

- Is swallowed.
- Contact is made with the eye.
- Contact is made with the skin.
- Is inhaled.

Together with the procedures to counter any such health effects and additionally:

- Precautions for use, e.g. required personal protective equipment (PPE) such as respiratory protection, eye protection, hand protection, etc. and any necessary warning sign.
- Fire or explosion hazards.
- Environmental protection, e.g. management of spills, releases, etc.
- Safe storage information.

Containers used for transporting and storing hazardous substance must be labelled with the appropriate information and hazard pictogram, e.g.

Persons who will use hazardous Hazard Symbols substance must be properly trained and instructed in its safe use prior to commencement.

Areas for storing hazardous materials will be labelled with the adequate pictograms, as follows, with Thai translations in addition to the English wording:



Picture 10 – GHS Pictograms

4.11 Health and Hygiene

CRSC will take all necessary action to safeguard the health of their personnel and other personnel involved with Project work.

CRSC employees will be encouraged to make known any health problems they have that may endanger themselves or others whilst at work.

4.12 Ladders

Be regularly inspected and damaged and substandard ladders will be removed from service.

Extend above any landing platform or landing place at least 1 m.

Be pitched at 75°, i.e. at 1:4 horizontally to vertical angle, except vertical ladders.

Be secured preferably at the head or, if this is not practicable, at the foot at all times when in use to prevent slipping.

4.13 Lighting and Illumination

Adequate access lighting will be provided at all general work areas to a minimum of 50 lux depending on prevailing conditions. Task lighting will be provided at a minimum of 200 lux.

4.14 Noise at Work

Measures will be taken to reduce noise at work to as low levels as reasonably practicable. If personnel on Site have to raise their voices to carry out a normal conversation at 2m it is an indication that immediate measure must be taken to reduce noise.

Noise exposure at work will not exceed 87 dB(A) or an instantaneous peak sound pressure of 140 dB(A). These are maximum exposure action levels and noise should, if reasonably practicable, be kept below such levels. Regular noise monitoring during Installation and Testing & Commissioning equipment will be conducted with an appropriate Sound Level Meter conforming to Class 2 of BS

EN 61672-1 that can as a minimum measure an Equivalent Continuous Sound Pressure level (LA_{eq}) and a C-Weighted Peak Sound Pressure (LC_{Peak}).

- Using quieter equipment or a different, quieter process;
- Engineering/technical controls to reduce, at source, the noise produced by a machine or process;
- Using screens, barriers, enclosures and absorbent materials to reduce the noise on its path to the people exposed;
- Improved working techniques to reduce noise levels;
- Limiting the time people spend in noisy areas;
- Proper and regular maintenance of machinery and equipment that takes account of noise.

If noise at work levels cannot be reduced below the specified action levels the appropriate personal protective equipment (PPE) must be issued to Site personnel in the exposure zone, e.g. hearing protection such as earplugs or ear defenders, whose degree of protection must be adequate for the noise level at the task.

4.15 Personal Protective Equipment (PPE)

Project standard minimum PPE is:

- Safety Helmet (Hard Hat)
- Hi-Vi Vest
- Stout shoes or boots (preferably, safety footwear)

Additional PPE will be issued and worn as determined by risk assessment, such as:

- Eye protection, e.g. safety glasses, goggles and visors, when job involves risk of eye injuries;
- Fall protection equipment e.g. safety harness, when working at height so requires;
- Hearing protection, e.g. earplugs and ear defenders/ acoustic earmuffs, when work involves high levels of noise;
- Industrial gloves, when job involves risk of hand injuries;
- Respiratory protection, when air quality in confined areas so requires.
- Etc.

A sufficient stock of all above PPE shall be held and made available by CRSC and their Subcontractors. All PPE shall conform to Thai or to British/European Standards. Failure to use required PPE will result in disciplinary action.

Note: when justified by risk assessment, PPE requirements may be relaxed at the discretion of the Site Management, for example, hardhats might not need to be worn when inside a building if there is no risk of head injury from falling or flying material and objects, safety footwear might not be required inside finished buildings if no risk of foot injury exists, etc.

Project standard minimum dress code is: shirt with sleeves covering the upper arms and long trousers. Vests and shorts are not acceptable. Persons wearing sandals, flip-flops or barefoot, will not be allowed to enter the Site.

Note that this dressing code is established on the Project and also applies to visits and inspections.

4.16 Plant and Equipment

Plant and equipment will be inspected before entering any Site Works Area by the Supervisor using Plant & Equipment Inspection Checklist form CRSC-SF-HSE-09 - Ref. Appendix 9 and Colour Coding Inspection Stickers - Ref. Appendix 10.

4.16.1 Motor Vehicles

All motor vehicles used shall be registered and maintained in a road-worthy condition as required under the Statutory Requirements. All motor vehicle drivers shall have a current suitable vehicle license and shall comply with all local rules.

Regular inspections (emissions, etc.) shall be conducted, as defined more specifically in the subsections Environmental Management Plan and 4.14 Noise at Work of the CRSC SHP.

4.16.2 Lifting Operations

All lifting operations must be properly planned by Competent Personnel, properly supervised and carried out in a safe manner. Subcontractors of CRSC providing a crane or a lifting appliance shall obtain all necessary permits (municipal, road etc.) at its own expense, submitting plans, temporary traffic management plans, etc., and posting necessary signage, flagmen, and any other resources and means to render the lifting operation safe.

Crane operators must be over eighteen years of age, be competent and have proof of training. Trained and competent Crane Supervisors, Crane Riggers and Crane Signalmen must be present at all times cranes are operating.

Cranes must have the safe working load displayed, have current certification, i.e. Por. Jor. 1 static cranes and Por. Jor. 2 mobile cranes, have Safe Load Indicators (Rated Capacity Indicators) if the lifting capacity is in excess of one tone and Load Radius Indicators if the jip can operate at different radii. Additionally, cranes will have Rated Capacity Limiters.

Thai crane certification for Por. Jor. 1 static cranes as follow;

Safe Working Load below 3 tons; A Por. Jor.1 authorized within the previous 12 months;

Safe Working Load 4-50 tons; A Por. Jor.1 authorized within the previous 6 months;

Safe Working Load above 50 tons; A Por. Jor.1 authorized within the previous 3 months;

Thai crane certification for Por. Jor. 2. mobile cranes as follow;

Safe Working Load below 3 tons; A Por. Jor.2 authorized within the previous 6 months;

Safe Working Load above 3 tons; A Por. Jor.2 authorized within the previous 3 months;

Lifting gear must be in good condition, free from defects, stored properly and have current certificates of examination.

4.17 Scaffolding

- Be erected, dismantled and altered only by competent persons.
- Be inspected by a competent person following installation and before first use, at interval of no more than seven days thereafter and following any circumstances liable to jeopardize the safety of the installation, e.g. high winds, violent rain storms, etc. Inspection shall be done using the Scaffold Inspection Checklist form CRSC-SF-HSE-11 - Ref. Appendix 13.
- Meet the working requirements and be capable of carrying the necessary load.
- Be erected with material that is in good repair and undamaged.
- Be erected on a firm base.
- Have standards fixed in line in the vertical plane.
- Have ledgers fixed in line in the horizontal plane.

- Have transoms correctly spaced to give adequate support to working platforms.
- Have joints staggered both horizontally and vertically excepting system scaffolds.
- Be adequately braced.
- Be adequately tied the structure or, be supported with rakers in order to ensure stability when necessary.
- Have adequate working platforms with safe access provided. Wooden boards of working platforms should not be less than 20 mm thick.
- Have overhangs of working platforms limited to more than 4 times the thickness of the platforms unless the platforms are adequately secured. Overhangs should not be less than 50 mm.
- Be provided with guardrails fixed at between 0.9 m and 1.1 m above the working platform if persons working there can fall 2 m or more.
- Have toe boards set at least 150 mm above working platforms if there is a danger of materials falling.
- Have vertical nets or sheeting provided to prevent the fall of materials, at the discretion of the Site Management.
- System scaffold will be erected accordance with the manufacture's instruction.
- Not be overloaded in any circumstance.
- Have Scaffold Incomplete – Do Not Use signs displayed in both English and Thai on all scaffolds that are partly dismantled or, in any other way incomplete.

Additionally, tower scaffolds will:

- Have brakes fitted to the wheels of mobile towers.
- Not exceed the maximum height of 12 m or less inside buildings and 8 m or less outside building and have a least base dimension of 1.2 m.
- Mobile tower scaffolds must not be moved whilst persons remain on the working platform.

4.18 Safety Signage

Safety Signs will be posted as appropriate and necessary, e.g. Prohibition, Warning, Mandatory, Safe Condition and Fire. All safety signs will be in Thai and English and additional languages if necessary, for reading by the work force.



Picture 11 – Safety Signage

4.19 Smoking Area Requirements

Smoking is not permitted in Site areas including offices and canteens except in designated smoking areas. Designated smoking areas will:

Be clearly identified;

Be free from fire hazard;

Be located outside the buildings or offices;

Be equipped with fire safety equipment, e.g., fire extinguishers, and sand buckets or other receptacles for the safe disposal of smoker's materials.

4.20 Tools

4.20.1 Hand Tools

The Site Supervisors will ensure the following:

All tools must be regularly inspected and maintained.;

Inspect hammers, picks and shovels for cracked or splintered handles;

Mushroom heads on chisels, drifts, must be ground off immediately;

Wipe off greasy, wet, slippery, dirty tools before handling;

Avoid oily or greasy hands;

Keep hands free of oil and grease;

Do not leave tools on walkways, stairways or especially at elevated places;

Ensure cutting edges are kept sharp;

Ensure all tools are properly and safely stored.

4.20.2 Electrical Hand Tools

Electrical hand tools will be examined before used by the user.

Only authorized persons will repair electrical hand tools.

Defective electric hand tools must be reported to a Supervisor immediately and taken out of service and appropriately labeled "Defective – Do Not Use".

Electrical hand-tools will be double insulated.

Electrical hand tools will have power triggers, which default to the off position i.e. a dead man's switch.

Electrical distribution cables supplying power to electrical hand tools will, if practicable, be suspended off the ground and will not be allowed to lie in water.

A non-adjustable 30mA residual current device (RCD) conforming to British Standard 4293 or equivalent standard shall be installed in all electrical circuits providing electrical power to electrical hand tools.

4.20.3 Manual Handling

Manual handling covers a wide range of activities including lifting, pushing, pulling, grasping, throwing and carrying. The Site Supervisor/Safety Officer will ensure that manual handling likely to be a risk to health and safety be examined and assessed in conjunction with employees who are required to carry out the manual handling. Prior to lifting an object, the following assessment must be made:

- Assess the Load: The weight of objects must be within the capacity of the operator to handle safely.

- Assess the Nature of the Load: Is the load compact, stable, easy to grip and can it be held close to the body?
- Assess the Workplace: Working conditions should be safe and comfortable with adequate space to perform job/task.
- Teamwork Irregular shaped or heavy objects may require additional help.
- Mechanical Aid: Assess whether the job / task can be performed by a mechanical aid.

The following manual lifting techniques will be adhered to:

- Lift with your legs, not your back.
- Bend the knees - keeping the back straight and your head up.
- Take a firm hold on the load with the palms of your hands - not just the fingers.
- Keep your feet balanced.
- Lift gradually by straightening legs.
- Carry the load close to your body.
- Refrain from twisting when lifting. To change directions turn your feet, not your trunk.
- When lowering, maintain same grip whilst keeping back straight, legs bent and replace load.

The maximum loads that are permitted to be lifted by one person are; Males 55 kg Females 25 kg. Higher loads will require load sharing or the usage of handling tools...

4.21 Training and HSE Competency Management

This item is subject to Training and HSE Competency Management Procedure.

4.21.1 HSE Training Principles

The purpose of CRSC HSE Competency Training is to provide an assessment of the participants understanding of these risks and protection measures through a comprehensive training program prior to being deemed a Competent Person.

HSE competency training aims to prove a participant's competence to act and work in compliance with SHP in CRSC Work Areas In addition, it must ensure ongoing evaluation of competence and behavior that strives to continually reduce risk, thus improving the safe, secure and environmentally friendly undertaking of CRSC activities in general.

Referent: Must follow according to Royal' Commitments (Section16) The Act for Occupational Safety, Health and Environment B.E. 2554 (2011)

The principles of CRSC HSE Competency Training are:

All personnel to work on Site will be trained to a minimum level of safe working;

If you're not trained, you will not be able to do it;

All statements of intent are backed by auditable proof.

Legislative trainings will be regularly performed and maintained i.e. Basic Fire-fighting and Emergency Evacuation will be conducted on yearly basis.

4.21.2 HSE Competency Training

All personnel carrying out Work or inspections in CRSC Work Areas shall have achieved HSE Competency Training and be issued with a HSE Competency Identification card bearing the Competent Persons photo, name and company, be uniquely numbered commensurate with the

level of competency achieved. Competency is valid for one year from the month of issue, using Safety Induction Form CRSC-SF-EHS-05 - Ref. Appendix 5: Health and Safety Induction Training Attendance Record.

Attendance at a refresher course after six months will be required to re-validate and update competency.

CRSC HSE Manager shall maintain all training records and may withdraw the competency of any Competent Personnel for any breach of CRSC HSE Policy, Plans, Rules and Instructions.

4.21.3 HSE Training Delivery and Examination

CRSC HSE Manager shall develop the training schedule and arrange for the implementation of training courses and notification to CRSC personnel and the re-quired instructions for applying for CRSC HSE Competency Training.

CRSC Members and their subcontractors may propose equivalent competency training as the one imparted by CRSC, whose sufficiency CRSC HSE Manager will evaluate and decide the issuance of the proper competency qualification as described here-under.

Participants will be required undertake an examination at the completion of CRSC HSE Competency Training to validate their understanding of the training content. Participants must achieve a pass mark of 90%.

4.22 Welfare Facilities

Adequate welfare facilities, e.g. first aid/emergency medical aid, toilets, washing facilities, eating areas, etc. will be provided and sufficient cool potable water for drinking will be available at all Site and Works Areas.

4.23 Working at Height

Fall protection will be provided at places of work at 2m high and above. The default fall protection will be guard rails set at between 0.9 m and 1.1m above the working platform.

If guard rail fall protection cannot be installed other fall protection will be provided, e.g. fall arrest equipment such as full safety harness with double shock absorbing lanyard fixed to a suitable anchor point above the user's head, fall restraint equipment such as a full body harness and anchor line fixed to a suitable anchor point, etc...

4.24 Risk Assessment, Method Statement and Permits to Work

4.24.1 Risk Assessment

Specific and comprehensive risk assessment, identifying hazard and the associated risks together with the necessary actions to control such risks, will be proceeded using Risk Assessment form CRSC-SF-EHS-01 - Ref. Appendix 1 – for all major, significant and unusual work operations or, if required by CRSC or SRT/CSCS.

Risk assessment will be submitted to SRT/CSCS for information.

The risk controls identified by risk assessment will be included in all relevant Method Statements.

Method Statements will be reviewed and revised as necessary and particularly if there are any significant changes in work procedures, etc., risk assessment and any revisions shall be submitted to CRSC.

4.24.2 Method Statements

A written Safety Method Statement is required for all work operations that are inherently hazardous and/ or complex or, if required by CRSC or SRT/CSCS

Method Statements should include:

- A brief introduction;
- The start date and duration;
- The purpose and scope;
- References;
- Management and supervision details;
- Manpower numbers;
- Plant and equipment to be used;
- Materials to be used and/or stored;
- Access arrangements;
- The sequence and method of the work;
- Inspection, test procedures and check lists;
- Supporting documentation (which may be by reference to other documents);
- Health & safety arrangements, if applicable;
- Permits (municipal, etc.) where applicable
- Document distribution;

4.24.3 Permit to Work

This item is subject to-5 Permit to Work Procedure.

A permit to work is required for the following categories of work activity:

- Confined Space
- Excavation Work (permit to dig)
- Hot Work
- Lifting Work
- Close Proximity to Power Lines / Telecommunication Lines

Note: any Work in SRT Operational Areas, will be subject to SRT rules and regulations.

Definitions as follows Work Daily Request Form;

- Confined space: is a workplace that has restricted access and egress and an inadequate supply of ventilation, e.g. manholes, pipes, ducts, etc. according to Thai Ministerial Regulation on the Prescribing of standard for Administration and Management of Occupational Safety, Health and Work Environment in Confined Space B.E. 2547 (2004).
- Excavation works (Permit to dig): Any excavation work that is carried out in or near a shaft or trench with an excavated depth of greater than 1.2m.
- Hot Work: any work that involves burning, welding, using fire- or spark-producing tools, or that produces a source of ignition. Welding and cutting operations are common to drilling and servicing operations.

- Lifting Work: any work involves machine or component that can rise, lower or suspend a load, apply tension to a rope, or apply pressure between two points. It includes any winch, gin wheel or hoist.
- Close proximity to Overhead Power lines / Overhead Telecommunication lines: any plant, machinery, equipment or persons are working in close proximity to the Overhead Power Lines / Overhead Telecommunication Lines, and could have any contact with the latter.

Permit to Work form Ref: Work Daily Request Form.

4.25 Access & Egress/Working Places

- Safe access and egress will be provided and maintained to and from all work areas and locations at all times. Access to unsafe areas will be effectively prevented.
- Adequate additional ventilation will be provided at all places at which persons are required to access or work if natural ventilation is inadequate. Special attention must be given to ventilation at work areas located underground, e.g. tunnels.
- Noise levels will be reduced to the lowest levels practicable and persons will not be exposed to noise above 85dB(A) unless suitable ear protection is provided and worn.
- Adequate task and access lighting will be provided at all times and especially in the dark hours.
- Openings in floors, access ways, etc. and all edges will be suitable protected to afford safe access and egress.
- Working places over 2 m high will be provided with guardrails set at between 0.9 m and 1.1 m above working platforms (approximately 1 m) and if there is a danger of materials falling, toe-boards set at least 150 mm above working platforms. There should not be any unprotected gaps of more than 470 mm in the vertical plane of the fall protection arrangements.
- Safety harness will only be used at working places over 2 m high if guardrail protection cannot be provided. The default fall protection is guardrails.

4.26 Control of Third Parties

- All third parties involved with or impacted by, work operations, e.g. members of the public, visitors, guests, etc. will be informed of the hazards and risks present and the precautions necessary to avoid accident loss.
- All visitors to the Site will be informed of any hazards in the areas they are to visit and of the existing Emergency Preparedness Procedures. Visitors will be accompanied by a member of the Site Team at all times.

4.27 Planning, Control and Monitoring

- All work activities will be properly planned, controlled and monitored. Hazards and risks will be identified at the earliest practicable time and the necessary controls put into place.

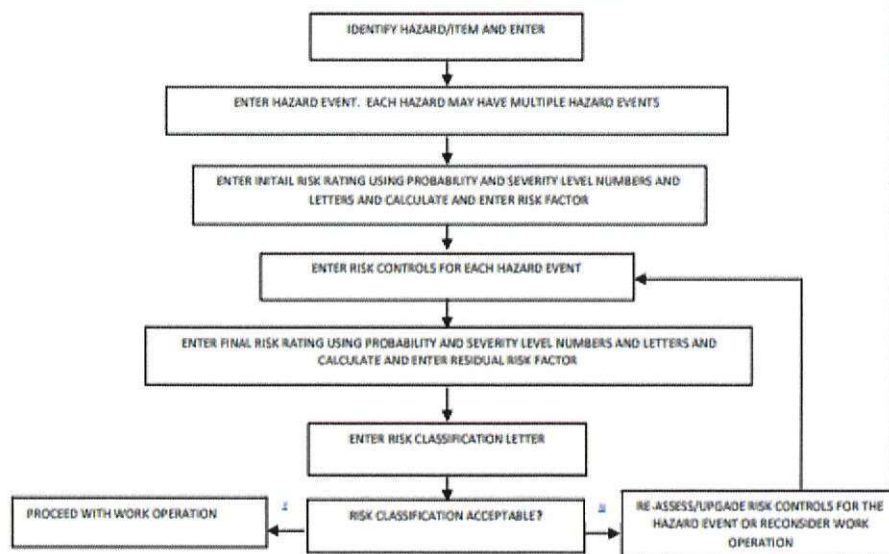
4.28 Reporting Unsafe Act and Unsafe Conditions and Near Miss Occurrences

- All Unsafe practices and Unsafe Near Miss Occurrences should be reported to a manager or supervisor as soon as possible and recorded using Unsafe Act/Unsafe Conditions and Near Miss Occurrences Report Forms CRSC-SF-HSE-12 – Ref. Appendix 14.

Appendix 1 – Risk Assessment

ASSESSOR'S NAME:			POSITION:			DATE:		PAGE: OF			
LOCATION:		WORK OPERATION:			COMPANY/ORGANISATION:						
#	HAZARD / ITEM	#	HAZARD EVENTS	INITIAL RISK RATING		RISK FACTOR	RISK CONTROLS / MITIGATION	FINAL RISK RATING		RESIDUAL RISK FACTOR	RISK CLASSIFICATION
				PROBABILITY x SEVERITY				PROBABILITY x SEVERITY			

RISK ASSESSMENT FLOW CHART PROCEDURE



RISK FACTOR MATRIX						
Severity	Probability					
		1	2	3	4	5
	a	1a	2a	3a	4a	5a
	b	1b	2b	3b	4b	5b
	c	1c	2c	3c	4c	5c
	d	1d	2d	3d	4d	5d

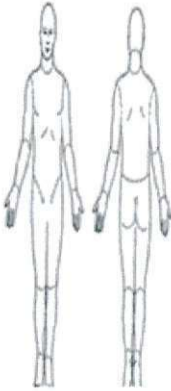
RISK CLASSIFICATION									
1a	2a	3a	4a	5a	1b	2b	3b	4b	
5a	5b	1c	2c	1d					
3c	4c	5c	2d	3d	4d	5d			
							A	Unacceptable	
							B	Acceptable with close monitoring	
							C	Acceptable	

PROBABILITY CATEGORIES		
Category	Level	Probability
Frequent	1	Likely to occur frequently during the work.
Probable	2	Will occur several times duration the work.
Occasional	3	Likely to occur some time during the work.
Remote	4	Unlikely but possibly will to occur during the work.
Improbable	5	So unlikely it can be assumed occurrence may not be experienced durin the work.

SEVERITY CATEGORIES		
Category	Level	SEVERITY
Catastrophic	a	Death, severe damage, serious production delay, severe environmental damage.
Critical	b	Severe injury, severe occupational illness, major damage, major production delay, major environmental damage.
Marginal	c	Minor injury, minor occupational illness, minor damage, slight production delay, minor environmental damage.
Negligible	d	Insignificant injury or illness, insignificant damage, insignificant production delay, insignificant environmental damage.

Appendix 2 – First Aid/Medical Aid Report

CRSC-SF-HSE-02

รายงานการรักษารายการ First Aid/Medical Aid Report																															
สถานที่ Location:		เวลา Time:	วันที่ Date:																												
ชื่อ Name:		วันเกิด Date of birth		เพศ Sex:																											
				ช/ม หญิง/F																											
ที่อยู่ Address:																															
เบอร์โทร Telephone Number																															
การประเมินและการเฝ้าสังเกตของผู้ป่วย PATIENT ASSESSMENT & OBSERVATIONS																															
<p>ตำแหน่งการบาดเจ็บในส่วนต่างๆของร่างกาย</p> <p>Insert apparent ailment letter on appropriate body part</p>  <p> A รอยขีดข่วน ABRASIONS B เน่าโคม่า BURN C บวมแดง CONTUSION D สดุดี DISCOLOURATION F การหัก FRACTURE H ระบาย HEMORRAGE L การฉีกขาด LACERATION P ปวด PAIN S บวม SWELLING </p>		ระดับการรู้สึกตัว Level Of Consciousness <table border="1"> <thead> <tr> <th>เวลา (Time)</th> <th>รู้สึกตัว/Fully Conscious</th> <th>ง่วงซึม/ Confused Drowsy</th> <th>ไม่รู้สึกตัว /Un-Conscious</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table>			เวลา (Time)	รู้สึกตัว/Fully Conscious	ง่วงซึม/ Confused Drowsy	ไม่รู้สึกตัว /Un-Conscious																							
เวลา (Time)	รู้สึกตัว/Fully Conscious	ง่วงซึม/ Confused Drowsy	ไม่รู้สึกตัว /Un-Conscious																												
		สัญญาณชีพ VITAL SIGNS <table border="1"> <thead> <tr> <th rowspan="2">เวลา (Time)</th> <th rowspan="2">ชีพจร Pulse</th> <th rowspan="2">การหายใจ Respiration</th> <th colspan="2">ม่านตา/PUPILS</th> </tr> <tr> <th>ซ้าย L</th> <th>ขวา R</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>			เวลา (Time)	ชีพจร Pulse	การหายใจ Respiration	ม่านตา/PUPILS		ซ้าย L	ขวา R																				
เวลา (Time)	ชีพจร Pulse	การหายใจ Respiration	ม่านตา/PUPILS																												
			ซ้าย L	ขวา R																											
อาการ / สัญญาณ / Symptom / Signs		การปฐมพยาบาลเบื้องต้น/First Aid Given																													
		<input type="checkbox"/> ให้ออกซิเจน Oxygen Given																													
		<input type="checkbox"/> ให้ความช่วยเหลือหัวใจ Defibrillation Given																													
การสังเกตทั่วไป/General Observation		การส่งต่อผู้ป่วยดูแลทางการแพทย์/Referral For Medical Care																													
		<input type="checkbox"/> โดยรถพยาบาล Hospital By Ambulance																													
		<input type="checkbox"/> โดยรถส่วนตัว Hospital By Car																													
		<input type="checkbox"/> ด้วยตนเอง Own, Personal																													
		<input type="checkbox"/> ผู้ป่วยไม่ประสงค์ / ไม่ประสงค์จะรับการปฐมพยาบาลเมื่อได้รับการเสนอ Casualty /Refused/ Declined To Receive Any First Aid When Offered																													
ชื่อและลายเซ็นของผู้ปฐมพยาบาล/Attending First Aiders Name & Signature																															
ชื่อName:		ลายเซ็น Signature																													
เบอร์โทรศัพท์Telephone Number:																															

Appendix 3 – Accident Report

รายงานอุบัติเหตุ ACCIDENT REPORT	CRSC-SF-HSE-03 Ref #:
1: ประเภทของอุบัติเหตุ Type of Accident : อุบัติเหตุจากการบาดเจ็บ Injury Accident / ทรัพย์สินเสียหาย Property Damage / การโจรกรรม Theft / ความเสียหายจากสาธารณูปโภค Utility Damage / ใกล้พลาด Near Miss / ไฟไหม้ Fire / ยานพาหนะ Vehicle / อื่นๆ Other	
2: วันที่เกิดอุบัติเหตุ Date of Accident : เวลาเกิดอุบัติเหตุ Time of Accident:	
บริษัท Company: พื้นที่ทำงาน Site: สถานที่ Location:	
3: ชื่อผู้ประสบเหตุ Name of Injured Person: Sex M / F:	
บริษัท Company :	
สัญชาติ Nationality: อายุ Age: ลักษณะงาน / อาชีพ Job Description / Occupation:	
ที่อยู่ Address :	
อธิบายการบาดเจ็บ Description of Injury :	
ได้รับการปฐมพยาบาล First Aid Given? ใช่ Yes / ไม่ No* เข้าโรงพยาบาล Hospitalized? ใช่ Yes / ไม่ No*	
วันที่ป่วย Estimated Days Sick: วันที่เข้าโรงพยาบาล Estimated Days Hospitalized:	
4 : คำอธิบายอุบัติเหตุ Description of Accident :	
5 : ผู้พบเห็น Witness :	
6: เบอร์โทรฉุกเฉิน Emergency Called / สถานีดับเพลิง Fire / สถานีตำรวจ Police รถพยาบาล Ambulance / การประปา Water / การไฟฟ้า Electricity / องค์การโทรศัพท์ Telephone อื่นๆ Other:	
7: ประมาณการขาดทุนบาท Estimated Loss Bt:	
8: ข้อมูลเพิ่มเติม (ใช้ด้านหลังเพื่อดำเนินการต่อ) Additional Information (use reverse side to continue):	
9 : ผู้สอบสวน Completed By : วันที่ Date :	
ลายเซ็น Signature: ตำแหน่ง Position:	
สำหรับใช้โดยแผนกความปลอดภัย CRSC เท่านั้น For use by CRSC Safety Department only.	

Ref #:

Description of Accident : (use for sketch, to attached any photographs or, to continue):

คำอธิบายอุบัติเหตุ: (ใช้สำหรับร่างภาพแนบรูปถ่ายหรือเพื่อดำเนินการต่อ):

รายงานการสอบสวนอุบัติเหตุ

Accident Investigation Report

CRSC-SF-HSE-04

4 :

ชนิด Type	ตัวกระทำ Agent
<input type="checkbox"/> Moving machinery, or material being machined การเคลื่อนย้ายเครื่องจักรหรือวัสดุที่กำลังกลึง	<input type="checkbox"/> Machinery / equipment for lifting and conveying เครื่องจักร / อุปกรณ์ในการยกและลำเลียง
<input type="checkbox"/> Struck by moving (including flying or falling) object หล่นโดยวัตถุที่เคลื่อนที่ (รวมถึงการบินหรือตก)	<input type="checkbox"/> Portable power or hand tools เครื่องมือไฟฟ้าหรือเครื่องมือช่าง
<input type="checkbox"/> Struck by moving vehicle หล่นทางโดยการเคลื่อนย้ายยานพาหนะ	<input type="checkbox"/> Any vehicle or associated equipment / Machinery ยานพาหนะหรืออุปกรณ์ที่เกี่ยวข้อง / เครื่องจักร
<input type="checkbox"/> Struck against something fixed or stationary กระทบกับบางสิ่งที่ยึดหรือหยุดนิ่ง	<input type="checkbox"/> Other machinery / plant เครื่องจักร / โรงงานอื่น ๆ
<input type="checkbox"/> Injury whilst handling, lifting or carrying การบาดเจ็บขณะยกหรือแบก	<input type="checkbox"/> Process plant, pipework or bulk storage โรงงานแปรรูปงานท่อหรือที่เป็นสินค้าจำนวนมาก
<input type="checkbox"/> Slip, trip or fall on the same level หกล้มบนพื้นหรือตกจากระดับเดียวกัน	<input type="checkbox"/> Any material, substance or product being handled used or stored วัสดุสารหรือผลิตภัณฑ์ใด ๆ ที่ถูกจัดการ ใช้หรือเก็บไว้
<input type="checkbox"/> Fall from a height ตกจากที่สูง (Distance person fall _____ m.) (คนระยะตก _____ ม.)	<input type="checkbox"/> Gas, vapour, dust fume, or oxygen deficient Atmosphere ก๊าซไอควันฝุ่นหรืออากาศออกซิเจน บรรยากาศ
<input type="checkbox"/> Trapped by something collapsing or overturning ติดกับสิ่งที่ยุบหรือพลิกคว่ำ	<input type="checkbox"/> Pathogen or infected material เชื้อโรคหรือวัสดุที่ติดเชื้อ
<input type="checkbox"/> Drowning or Asphyxiation จมน้ำหรือ การหายใจไม่ออก	<input type="checkbox"/> Live animal สัตว์มีชีวิต
<input type="checkbox"/> Exposure to or contact with a harmful substance การสัมผัสหรือสัมผัสกับสารที่เป็นอันตราย	<input type="checkbox"/> Movable container or package of any kind ภาชนะหรือหีบห่อที่เคลื่อนย้ายได้ทุกชนิด
<input type="checkbox"/> Exposure to fire การสัมผัสกับไฟ	<input type="checkbox"/> Floor, ground, stairs, or any working surface พื้นพื้นบันไดหรือพื้นผิวการทำงานใด ๆ
<input type="checkbox"/> Exposure to an explosion การสัมผัสกับการระเบิด	<input type="checkbox"/> Building, engineer structure, or excavation / underground working อาคารโครงสร้างวิศวกรรมหรือการขุด / งานใต้ดิน
<input type="checkbox"/> Contact with electricity or an electrical discharge สัมผัสกับไฟฟ้าหรือแหล่งจ่ายไฟฟ้า	<input type="checkbox"/> Ladder or scaffolding บันไดหรือโครงร่าง
<input type="checkbox"/> Change in pressure เปลี่ยนแรงดัน	<input type="checkbox"/> Construction formwork, shuttering and false work แบบหล่อก่อสร้างงานเทคอนกรีตและงานเสริม
<input type="checkbox"/> Injured by an animal บาดเจ็บจากสัตว์	<input type="checkbox"/> Electricity supply cable, wiring, apparatus or Equipment สายไฟสายไฟฟ้าอุปกรณ์หรือ อุปกรณ์
<input type="checkbox"/> Other kinds of accident (specify): _____ อุบัติเหตุประเภทอื่น ๆ	<input type="checkbox"/> Any other agent (specify): _____ ตัวกระทำอื่น ๆ

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5 : อันตราย / ความเสี่ยง Hazard / Risk (การประเมินความสูญเสียที่อาจเกิดขึ้นหากไม่มีการดำเนินการแก้ไข) (evaluation of loss potential if corrective action not taken)

ศักยภาพในการสูญเสียความรุนแรง / Loss Severity Potential : หนัก Major / รุนแรง Serious / เล็กน้อย Minor*

ความน่าจะเป็นของการเกิดขึ้น / Probability of Occurrence : บ่อย Frequent / บางครั้ง Occasional / ไม่บ่อย Seldom*

6 : สาเหตุที่เกิด Immediate Cause - การกระทำที่ไม่ปลอดภัยและ / หรือสภาวะที่ไม่ปลอดภัยที่เกิดขึ้นหรืออาจเกิดขึ้นได้ทำให้เกิดอุบัติเหตุ /
What Unsafe action and / or Unsafe conditions caused or could have caused the accident.

การกระทำที่ไม่ปลอดภัย Unsafe Action	สภาวะที่ไม่ปลอดภัย Unsafe Conditions
<input type="checkbox"/> Operating equipment without authority ใช้อุปกรณ์โดยไม่ได้รับอนุญาต	<input type="checkbox"/> Inadequate supervision การกำกับดูแลไม่เพียงพอ
<input type="checkbox"/> Failure to warn ไม่มีการเตือน	<input type="checkbox"/> Inadequate guards or barriers แนวป้องกันหรือสิ่งกีดขวางไม่เพียงพอ
<input type="checkbox"/> Failure to secure การรักษาสถานที่ความปลอดภัยที่ไม่เหมาะสม	<input type="checkbox"/> Inadequate or improper protective equipment อุปกรณ์ป้องกันไม่เพียงพอหรือไม่เหมาะสม
<input type="checkbox"/> Operating at improper speed ทำงานด้วยความเร็วไม่เหมาะสม	<input type="checkbox"/> Defective tools, equipment or materials เครื่องมืออุปกรณ์หรือวัสดุที่มีข้อบกพร่อง
<input type="checkbox"/> Making safety devices inoperable ทำให้อุปกรณ์ความปลอดภัยไม่สามารถใช้งานได้	<input type="checkbox"/> Congestion or restricted action ความแออัดหรือการกระทำที่จำกัด
<input type="checkbox"/> Removing safety devices การถอดอุปกรณ์นิรภัย	<input type="checkbox"/> Inadequate warning system ระบบเตือนไม่เพียงพอ
<input type="checkbox"/> Using defective equipment การใช้อุปกรณ์ที่มีข้อบกพร่อง	<input type="checkbox"/> Fire and explosion hazards อันตรายจากไฟไหม้และการระเบิด
<input type="checkbox"/> Using equipment improperly ใช้อุปกรณ์ที่ไม่เหมาะสม	<input type="checkbox"/> Poor housekeeping การดูแลรักษาความสะอาดไม่ดี
<input type="checkbox"/> Failing to use personal protective equipment properly ใช้อุปกรณ์ป้องกันส่วนบุคคลไม่ถูกต้อง	<input type="checkbox"/> Hazardous environmental conditions: gases, dusts, smokes, fumes, vapours สภาวะแวดล้อมที่เป็นอันตราย: ก๊าซ, ฝุ่น, ควัน, ไอระเหย
<input type="checkbox"/> Improper loading การบรรจุหีบห่อไม่เหมาะสม	<input type="checkbox"/> Noise exposures การสัมผัสเสียงรบกวน
<input type="checkbox"/> Improper placement ตำแหน่งที่ไม่เหมาะสม	<input type="checkbox"/> Radiation exposures การรับรังสี
<input type="checkbox"/> Improper lifting การยกที่ไม่เหมาะสม	<input type="checkbox"/> High or low temperature exposures การรับอุณหภูมิสูงหรือต่ำ
<input type="checkbox"/> Improper position for task ตำแหน่งที่ไม่เหมาะสมสำหรับงาน	<input type="checkbox"/> Inadequate or excess illumination แสงสว่างไม่เพียงพอหรือมากเกินไป
<input type="checkbox"/> Servicing equipment in operation ความเคลื่อนไหวในการบริการอุปกรณ์ในการปฏิบัติงาน	<input type="checkbox"/> Inadequate ventilation การระบายอากาศไม่เพียงพอ
<input type="checkbox"/> Horseplay พฤติกรรมที่ไม่ควรแสดงออก	<input type="checkbox"/> Other (specify): _____ อื่น ๆ (ระบุ): _____
<input type="checkbox"/> Under influence of alcohol and / or other drugs อยู่ภายใต้อิทธิพลของแอลกอฮอล์และ / หรือยาอื่น ๆ	
<input type="checkbox"/> Other (specify): _____ อื่น ๆ (ระบุ): _____	

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7 : การวิเคราะห์สาเหตุ (ระบุสาเหตุพื้นฐานและความล้มเหลวในการปฏิบัติตามมาตรฐานที่เพียงพอหากมี) Cause Analysis (specify basic cause and failure to comply with adequate standard if applicable):

8 : ดำเนินการแก้ไขหรือดำเนินการเพื่อป้องกันไม่ให้เกิดซ้ำ: Remedial actions taken or to be taken to prevent a re-occurrence:

9 : สอบสวน Completed By : วันที่ Date :

ลายเซ็น Signature: ตำแหน่ง Position:

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[illegible]

ASK-Remember it is better to be safe than sorry!
ปลอดภัยไว้ก่อน ดีกว่าต้องมาเศร้าโศกเสียใจในภายหลัง

Appendix 6 – Site Safety Inspection Report

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รายงานการตรวจสอบความปลอดภัย SITE SAFETY INSPECTION REPORT

- | | | |
|--|---|---|
| 1. นักรื้อ Scaffolding / สถานที่ทำงาน Working Places | 9. ไฟฟ้า Electricity | 17. ป้ายเตือนต่างๆ / Signs |
| 2. บันได / Ladders | 10. แนวป้องกัน Guards / แนวกัน Fencing | 18. ความปลอดภัยสาธารณะ / Public Safety |
| 3. การรื้อถอน / Demolition | 11. บรรยากาศเป็นพิษ / Atmosphere | 19. ความเป็นระเบียบและการทำความสะอาด Site Tidiness and Housekeeping |
| 4. การขุด Excavations / กำแพงดิน Earthworks | 12. อุปกรณ์ป้องกันส่วนบุคคล / PPE | 20. การเตรียมความพร้อมในการฉุกเฉิน / Emergency Preparedness |
| 5. งานยกอุปกรณ์ Lifting Appliances / อุปกรณ์ Gears | 13. การระวังไฟ Fire Precautions / การป้องกัน Prevention | 21. การเตรียมความพร้อมในการฉุกเฉิน / Inspection Certificates |
| 6. โรงงาน Plant / เครื่องจักร Machinery | 14. อันตรายต่อสุขภาพ / Health Hazard | 22. แผนความปลอดภัย / Safety Plan |
| 7. เครื่องมือพกพา / Portable Tools | 15. การรักษาความปลอดภัย / Security | 23. การจัดการสิ่งแวดล้อม / Environment Management |
| 8. การขนส่ง Transport / ยานพาหนะ Vehicles | 16. การปฐมพยาบาล First Aid /สวัสดิการ Welfare | 24. อื่น ๆ / Other |

สถานที่ Site _____ วันที่ ตรวจสอบ Date of Inspection _____

ลำดับ No.	การสังเกต / การกระทำ Observation / Action	วันที่แก้ไขจนกว่าจะดำเนินการ Date Corrective Action Will Be Taken

ผู้จัดการ / Site Manager _____ วันที่ / Date _____

เจ้าหน้าที่ / Safety Officer _____ วันที่ / Date _____

ควรเก็บสำเนาที่สมบูรณ์ของแบบฟอร์มนี้ไว้ที่ไซต์เพื่อตรวจสอบเป็นระยะเวลาอย่างน้อยหกเดือน A completed copy of this form should be kept on site for at least six months.

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Monthly Site Safety Report (รายงานความปลอดภัยในการทำงานประจำเดือน)		
For Month: _____ <small>สำหรับเดือน</small>		
Safety Induction: การปฐมนิเทศเกี่ยวกับความปลอดภัยสำหรับพนักงานใหม่		
Number of Consortium employees on Site: _____ <small>จำนวนพนักงานที่มีอยู่ในหน่วยงาน</small>		
Number of Sub-Contractors on Site : _____ <small>จำนวนพนักงานผู้รับเหมาที่มีอยู่ในหน่วยงาน</small>		
All employees completed Consortium Safety Induction: <input type="checkbox"/> Yes (ใช่) <input type="checkbox"/> No (ไม่ใช่) <small>พนักงานทุกคนได้รับการปฐมนิเทศ/อบรมความปลอดภัยเบื้องต้นก่อนเริ่มปฏิบัติงาน</small>		
All Sub-Contractor employees completed Consortium Safety Induction: <input type="checkbox"/> Yes (ใช่) <input type="checkbox"/> No (ไม่ใช่) <small>พนักงานของบริษัทผู้รับเหมารายอื่นที่ได้รับการปฐมนิเทศ/อบรมความปลอดภัยแล้ว</small>		
Injuries / Occupational Diseases, Incidents & Accidents <small>การบาดเจ็บ/โรคจากการทำงาน, อุบัติเหตุที่เกิดขึ้น</small>		
Number of Lost Time occurrence : _____ Number of man days lost: _____ <small>จำนวนครั้งที่เกิดอุบัติเหตุถึงขั้นหยุดงาน จำนวนวันที่สูญเสียไป (วัน)</small>		
Incident / Accident Report completed: _____ <small>มีการเขียนรายงานเกี่ยวกับอุบัติการณ์/อุบัติเหตุที่เกิดขึ้นเรียบร้อยแล้วหรือไม่</small>		
Incident / Accident Investigation completed : _____ <small>มีการสอบสวนหาสาเหตุของอุบัติการณ์/อุบัติเหตุที่เกิดขึ้นหรือไม่</small>		
Number of No Lost Time occurrences : <small>จำนวนครั้งที่เกิดอุบัติเหตุไม่ถึงขั้นหยุดงาน</small>		
Incident / Accident Report completed: <input type="checkbox"/> Yes (ใช่) <input type="checkbox"/> No (ไม่ใช่) <small>มีการเขียนรายงานเกี่ยวกับอุบัติการณ์/อุบัติเหตุที่เกิดขึ้นเรียบร้อยแล้วหรือไม่</small>		
Incident / Accident Investigation completed: <input type="checkbox"/> Yes (ใช่) <input type="checkbox"/> No (ไม่ใช่) <small>มีการสอบสวนหาสาเหตุของอุบัติการณ์/อุบัติเหตุที่เกิดขึ้นหรือไม่</small>		
Other unusual occurrences (near misses, commuting injuries, illnesses, etc.) <small>สภาพเหตุการณ์ผิดปกติที่เกิดขึ้น (เช่น เกือบเป็นอุบัติเหตุ, การบาดเจ็บ / การเจ็บป่วย ที่ไม่คาดหมาย หรือการบาดเจ็บระหว่างการเดินทาง)</small>		
Brief description: _____ <small>เหตุการณ์โดยสังเขป</small>		
Comments / Recommendations <small>ความคิดเห็น/คำแนะนำ</small>		
Signature / Date: _____ And / or _____ <small>ลายเซ็น / วันที่ Project Manager, Installation/ Commissioning/EHS Safety Officer</small>		
<small>ผู้จัดการโครงการติดตั้ง/ทดสอบระบบ/ ผู้อำนวยการศูนย์ความปลอดภัย ซึ่งรับผิดชอบ เจ้าหน้าที่ความปลอดภัย</small>		

Appendix 8 – Permit to Work

PERMIT TO WORK		CRSC-SF-HSE-08
PERMIT REQUIRED FOR :* <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="text-align: center;"><input type="checkbox"/> General</div> <div style="text-align: center;"><input type="checkbox"/> Confined Spaces</div> <div style="text-align: center;"><input type="checkbox"/> Hot Work</div> <div style="text-align: center;"><input type="checkbox"/> Excavation Work</div> <div style="text-align: center;"><input type="checkbox"/> Lifting Work</div> <div style="text-align: center;"><input type="checkbox"/> Close Proximity to Power Lines</div> <div style="text-align: center;"><input type="checkbox"/> Close Proximity to Telecommunication Lines</div> </div>		
PART 1 Site : _____ Specific Location : _____ Permit No. : _____ Date : _____ Validity Period Time (maximum time - 7 days) : from _____ to _____ hr. on _____ to _____ dates		
Details of work to be carried out :		
Number of workforce: _____ Persons(attach name list)		
Risk controls to be applied in case of confined space :		
Atmosphere monitoring for :* <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="text-align: center;"><input type="checkbox"/> O₂ (19.5-23.5%)</div> <div style="text-align: center;"><input type="checkbox"/> CH₄ (air-5%LEL/0.25 volume)</div> <div style="text-align: center;"><input type="checkbox"/> CO (50 ppm)</div> <div style="text-align: center;"><input type="checkbox"/> H₂S (10 ppm)</div> <div style="text-align: center;"><input type="checkbox"/> NO₂ (3 ppm)</div> <div style="text-align: center;"><input type="checkbox"/> Other _____</div> </div>		
Authorization : I certify that location specified detailed above has been inspected and all the precautions detailed have been taken. Subject to the said precautions being taken, the work detailed can proceed. <div style="text-align: right; margin-top: 10px;"> _____ (Signature) </div>		
Date : _____ Time : _____ Hours <div style="text-align: right; margin-top: 10px;"> _____ (Print Name) </div>		
Receipt : I certify that I have read and understand this permit and I will ensure that the precautions detailed in PART ONE are taken. <div style="text-align: right; margin-top: 10px;"> _____ (Signature) </div>		
Date : _____ Time : _____ Hours <div style="text-align: right; margin-top: 10px;"> _____ (Print Name) </div>		
Clearance : The work detailed in PART ONE has been / not been completed and all equipment and personnel have been withdrawn from the area. <div style="text-align: right; margin-top: 10px;"> _____ (Signature) </div>		
Date : _____ Time : _____ Hours <div style="text-align: right; margin-top: 10px;"> _____ (Print Name) </div>		
* Tick box as applicabel.		

Appendix 9 – Plant & Equipment Inspection Checklist

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รายการตรวจสอบแผนงานและอุปกรณ์ Plant & Equipment Inspection Checklist

พื้นที่ทำงาน Site Works Area: วันที่ตรวจสอบ Date of inspection:

ชื่อผู้ตรวจสอบ Name of Inspector: ตำแหน่ง Position:

คำเตือน - ตรวจสอบและอุปกรณ์รอบ ๆ ทุกครั้งก่อนที่จะย้าย WARNING - ALWAYS CHECK AROUND PLANT AND EQUIPMENT BEFORE MOVING

ลำดับ No.	รายการ ITEM	สถานะ STATUS			แสดงความผิดปกติ COMMENT
		✓	✗	N/A	
1	มีใบรับรองที่ได้ใช้ * (เช่นรถเครน ปจ. 1 ทาวเวอร์เครนและรถเครน ปจ. 2 ตัว < 3T 6 เดือน > 3 ครั้ง 3 เดือน)* Are required Certificates available? (e.g. Cranes: For-Jor 1 Tower Cranes & For-Jor 2 Mobile Cranes < 3T 6 month > 3T 3 Month*)				
2	เครนมีตัวบ่งชี้ที่ปลอดภัยโดยอัตโนมัติซึ่งมีการโหลดเกินหรือไม่ น้ำหนักบรรทุกที่ปลอดภัยที่โหลดและไปแสดงสัญญาณเมื่อแสดงหรือไม่? Does the crane have an automatic safe load indicator, a load radius indicator, a safe load weight charts posted, and hand signals poster displayed?				
3	ไฟสัญญาณเตือนและมาตรวัด ฯลฯ ทั้งหมดทำงานหรือไม่ การทดสอบดินลงพื้นหรือไม่ Are all lights, warning devices and gauges, etc. working? Earth/grounding OK?				
4	ท่อและข้อต่อไฮดรอลิกอยู่ในสภาพดีและไม่มีการรั่วซึมหรือไม่? เช็ควาล์วติดดีหรือไม่? Are hydraulic hoses and connections in good order and leak free? Check valves installed?				
5	ลมยางมีสภาพดีหรือไม่? น็อตล้อยึด Are tyres inflated and in good condition? Wheel nuts secured?				
6	การทำงานของเบรก, การควบคุมพวงมาลัย, ที่ปิดน้ำมัน, คันโยก, บังโคลนลงหรือไม่? Is the operation of brakes, steering controls, wipers, levers, buckets OK?				
7	มีการติดตั้งแนวกันและป้ายนิรภัยหรือไม่? ติดตั้งถังดับเพลิงและประเภทที่ถูกต้องหรือไม่? Are guards and safety signs fitted and in place? Fire extinguisher fitted and of the correct type?				
8	ตะขอ, นัต, โซ่, ราง, ลวดอยู่ในสภาพดีหรือไม่? หมุดเข็ม? Are hooks, sheaves, chains, tracks, slings in good condition? Pins in place?				
9	ห้องโดยสารของอุปกรณ์: มีการติดตั้งเข็มขัดนิรภัยและอยู่ในสภาพดีหรือไม่? ฟังก์ชันปุ่มฉุกเฉินหรือไม่? กระจกบังลมติดแน่นและใสหรือไม่? ฟังก์ชันรอบด้าน? ใช้ได้หรือไม่? กระจกมองหลังติดแน่นหรือไม่? Operator's Cabin: Are seatbelt installed and in good condition? Are seat functions OK? Are windscreen fitted and clear? Is all round visibility OK? Are rear view mirrors fitted?				

*Administration and Management of Occupational Safety, Health and Work Environment in Machine Crane and Boiler Regulation 2352

Note: An X in the STATUS column require an entry in the COMMENT column.



ลายเซ็น Signature:



วันที่ Date:



A Completed copy of this form should be kept available for examination for at least six-months.



ควรเก็บสำเนาที่สมบูรณ์ของแบบฟอร์มนี้ไว้สำหรับการตรวจสอบเป็นเวลาอย่างน้อยหกเดือน

Appendix 10 – Sticker and Colour Coding Inspection

 	
Signalling and Telecommunication Double Track Railway Project NAKHON PATHOM – CHUMPHON	
อุปกรณ์	
Equip.....	
รหัส	
S/N.....	
ตรวจวันที่	หมดอายุ
Ins.Date.....	Exp.....
ตรวจโดย	วันที่
Ins.By.....	Date.....

 	
Signalling and Telecommunication Double Track Railway Project NAKHON PATHOM – CHUMPHON	
อุปกรณ์	
Equip.....	
รหัส	
S/N.....	
ตรวจวันที่	หมดอายุ
Ins.Date.....	Exp.....
ตรวจโดย	วันที่
Ins.By.....	Date.....

 	
Signalling and Telecommunication Double Track Railway Project NAKHON PATHOM – CHUMPHON	
อุปกรณ์	
Equip.....	
รหัส	
S/N.....	
ตรวจวันที่	หมดอายุ
Ins.Date.....	Exp.....
ตรวจโดย	วันที่
Ins.By.....	Date.....

 	
Signalling and Telecommunication Double Track Railway Project NAKHON PATHOM – CHUMPHON	
อุปกรณ์	
Equip.....	
รหัส	
S/N.....	
ตรวจวันที่	หมดอายุ
Ins.Date.....	Exp.....
ตรวจโดย	วันที่
Ins.By.....	Date.....

Period ระยะเวลา	Colour of sticker สีสติ๊กเกอร์
January – March มกราคม-มีนาคม	Blue น้ำเงิน
April – June เมษายน-มิถุนายน	Green เขียว
July – September กรกฎาคม-กันยายน	Yellow เหลือง
October – December ตุลาคม-ธันวาคม	Orange ส้ม

Appendix 11 – Project Standard Tagout Tag

<div><p>อันตราย DANGER</p></div>	<div></div>
<p>ห้ามเดินเครื่อง DO NOT OPERATE</p>	<p>ห้ามปลดป้ายนี้ออก Do Not Remove This Tag</p>
<p>บริษัท : _____ COMPANY ชื่อ-สกุล : _____ NAME ตำแหน่ง : _____ POSITION เซ็นชื่อ : _____ SIGNED วันที่ : _____ DATE</p>	<p>หมายเหตุ Remark _____ _____ _____</p>
<p>พลิกดูอีกด้าน See Other Side</p>	<p>พลิกดูอีกด้าน See Other Side</p>

CRSC-SF-HSE-10

[illegible]

Appendix 13 – Scaffold Inspection Checklist

CRSC-SF-HSE-11

รายการตรวจสอบการตรวจสอบนั่งร้าน Scaffold Inspection Checklist

พื้นที่ทำงาน Site Works Area: วันที่ตรวจสอบ Date of Inspection:

ชื่อผู้ตรวจสอบ Name of Inspector: ตำแหน่ง Position:

#	ITEM	STATUS			COMMENT
		✓	✗	N/A	
1	มีการสร้างนั่งร้านบนพื้นดินที่มั่นคงพร้อมแผ่นฐานและแผ่นพื้นหรือไม่? Are scaffold erected on firm ground with base plates and sole boards?				
2	ส่วนประกอบทั้งหมดอยู่ในสภาพที่ใช้งานได้หรือไม่? Are all components in a serviceable condition?				
3	มาตรฐานในแนวตั้งและแนวตั้งมีการเสียบทั้งแนวนอนและแนวตั้งหรือไม่? (หมายเหตุ: ต้องใช้หมุดร่วมเพื่อเข้ารวมมาตรฐานไม่เคยใช้ปลอกคล้อง) Are standards in line and vertical, joints staggered both horizontally and vertically? (Note: Joint pins must be used to join standards never sleeve couplers.)				
4	แพลตฟอร์มที่ใช้งานได้นั้นเพียงพอและปลอดภัยโดยมีราวกันยึดที่ระหว่าง 0.9 ม. ถึง 1.1 ม. และบอร์ดปลายเท้าบนงานสูงที่ 2 ม. ขึ้นไปหรือไม่? Are working platforms adequate and secure with guardrails, fixed at between 0.9m and 1.1m and toe-boards on platforms at 2m or above?				
5	มีการเข้าถึงที่ปลอดภัยเช่น บันไดที่เหมาะสมยึดไว้ที่หัวและอยู่ในสภาพดีที่สูงขึ้น 1 เมตรเหนืองานหรือไม่? Is safe access provided, e.g. proper ladders secured at the head and in good condition rising 1m above landing platforms?				
6	การคำนวณการวัดและคราดเพียงพอหรือไม่? ความสัมพันธ์ในสถานที่และน้ำหนัก? Is bracing, out-riggers and rakes adequate? Ties in place and satisfactory?				
7	ความสูงสูงสุดของโครงนั่งร้านถูกต้องหรือไม่ภายในอาคาร 12 เมตรและภายนอกอาคาร 8 เมตรและขนาดฐานต่ำสุด 1.2 เมตรหรือไม่? Is the maximum height of tower scaffolds correct i.e. 12m inside buildings and 8m outside building and is the least base dimension 1.2m?				
8	เบรกดัดตั้งกับล้อของนั่งร้านเคลื่อนที่และทำงานได้ดีหรือไม่? Are brakes fitted to the wheels of mobile scaffolds and working properly?				
9	มีการแจ้งเตือนนั่งร้านไม่สมบูรณ์ทั้งภาษาไทยและภาษาอังกฤษบนโครงนั่งร้านหรือไม่สมบูรณ์ทั้งหมดหรือไม่? Are SCAFFOLD INCOMPLETE notices displayed, in both Thai and English, on all incomplete scaffolds?				

หมายเหตุ: X ในข้อ 4 ต้องการรายการในคอมเมนต์ COMMENT Note: An X in the STATUS column require an entry in the COMMENT column.

ลายเซ็น Signature: วันที่ Date:

Copy:

A Completed copy of this form should be kept available for examination for at least six-months.

การเก็บสำเนาที่สมบูรณ์ของแบบฟอร์มนี้ไว้สำหรับตรวจสอบเป็นเวลาอย่างน้อยหกเดือน

CRSC-SF-HSE-12

Unsafe Act / Unsafe Conditions and Near Miss Occurrence Report

ชื่อ Name	เบอร์โทร Telephone
อีเมล Email:	
สถานที่ ของการกระทำที่ไม่ปลอดภัย และ สภาพการที่ไม่ปลอดภัย และ เหตุการณ์เกือบเกิดอุบัติเหตุ Location of Unsafe Act / Unsafe Conditions and Near Miss Occurrence:	
วัน Date เวลา Time	
อธิบาย ของการกระทำที่ไม่ปลอดภัย และ สภาพการที่ไม่ปลอดภัย และ เหตุการณ์เกือบเกิดอุบัติเหตุ Description of Unsafe Act / Unsafe Conditions and Near Miss Occurrence:	
คำจำกัดความ Definitions Unsafe Act: การกระทำที่ไม่ปลอดภัยซึ่งอาจทำให้เกิดอุบัติเหตุ เช่น บกโดยไม่ใช้อุปกรณ์ป้องกันดวงตาไม่สวมหมวกแข็งในพื้นที่ก่อสร้างใส่สายไฟเปลือยเข้าไปในเต้ารับไฟฟ้า ฯลฯ on unsafe act that could result in accident loss, e.g. grinding without using eye protection, not wearing a hard hat in a construction area, putting bare wires into an electrical socket, etc.	
Unsafe Conditions: สภาพที่ไม่ปลอดภัย: สภาพที่ไม่ปลอดภัยซึ่งอาจส่งผลให้เกิดอุบัติเหตุ เช่น แพลตฟอร์มการทำงานที่มีความสูงมากกว่า 2 เมตรโดยไม่มีราวกัน, วงจรไฟฟ้าชั่วคราวที่ขลุบ (ต่อสายดิน), พื้นทำงานที่มีแสงสว่างไม่เพียงพอ ฯลฯ on unsafe condition, that could result accident loss, e.g. a working platform over 2m height without guardrails, an unearthed (grounded) temporary electrical circuit, an inadequately lighted work area, etc.	
Near Miss Occurrence: เป็นอุบัติเหตุที่ไม่ส่งผลให้เกิดการบาดเจ็บหรือความเสียหาย แต่อาจเกิดขึ้นภายใต้สถานการณ์ที่แตกต่างเล็กน้อย is an accident that results in no injury or damage but under slightly different circumstances could have.	