

3-3 Photograph of Work Progress

Work Progress on February 26, 2012

<p>PHOTO: 1</p> <p>Location : Section 11</p> <p>DESCRIPTION: General View</p>	 A photograph showing a wide, unpaved dirt road under construction. The road is flanked by earthen embankments. In the background, there are utility poles and a cloudy sky. The terrain appears to be a rural or agricultural area.
<p>PHOTO: 2</p> <p>Location : Section 5</p> <p>DESCRIPTION: General View</p>	 A photograph showing a long, straight dirt road under construction. The road is flanked by earthen embankments. In the background, there are utility poles and a cloudy sky. The terrain appears to be a rural or agricultural area.
<p>PHOTO: 3</p> <p>Location : STA Section 18</p> <p>DESCRIPTION: Slope Excavation work by Excavator 0.6m³</p>	 A photograph showing a yellow CAT excavator working on a slope. The excavator is positioned on a dirt embankment, and its bucket is raised. A person in a white shirt and hard hat is standing near the excavator. The background shows a body of water and a cloudy sky.

<p>PHOTO: 4</p> <p>Location : Section 13</p> <p>DESCRIPTION: Slope Filling work</p>	
<p>PHOTO: 5</p> <p>Location : Mixing yard</p> <p>DESCRIPTION: Mixing of existing soil and lime by Excavator 0.4m³</p>	
<p>PHOTO: 6</p> <p>Location : Mixing yard</p> <p>DESCRIPTION: Simple Dispersive Soil Test in Site The right two samples: existing soil The left two samples: mixing of Lime 1%</p>	

PHOTO: 7

Location :
Section 8

DESCRIPTION:
Compaction Test
Test method for soil density by the sand replacement method



PHOTO: 8

Location :
NR21

DESCRIPTION:
Traffic Controller



Work Progress on March 4, 2012

PHOTO: 1

Location :
From Section20 to Section1

DESCRIPTION:
General View
Excavation is completed



PHOTO: 2

Location :
From Section1 to Section 20

DESCRIPTION:
General View
Filling work for final Layer is
commenced



PHOTO: 3

Location :
STA Section 19

DESCRIPTION:
Bench Cutting work
by Excavator 0.6m3



PHOTO: 4
 Location :
 Section 21
 DESCRIPTION:
 Slope Filling work



PHOTO: 5
 Location :
 Mixing yard
 DESCRIPTION:
 Mixing of existing soil and cement
 by Four (4) Excavators



PHOTO: 6
 Location :
 Mixing yard
 DESCRIPTION:
 Inspection before Mixing



PHOTO: 7
 Location :
 Section 22
 DESCRIPTION:
 Inspection for Compaction Test



PHOTO: 8

Location :
Section 14

DESCRIPTION:

Inspection for Finish of Excavation



3-4 Photograph of Site Observation



Photo-1: Sec. 1-1
Gully erosion of Top Soil



Photo-2: Sec. 1-2
Gully erosion of Top Soil



Photo-3: Sec. 2-1
Gully erosion of Top Soil



Photo-4: Sec. 2-2
Gully erosion of Top Soil



Photo-5: Sec. 2-3
Gully erosion of Top Soil



Photo-6: Sec. 3-1, 2, 3, 4
Gully erosion of Top Soil



Photo-7: Sec. 3-5
Gully erosion of Top Soil



Photo-8: Sec. 4-1, 2
Gully erosion of Top Soil



Photo-9: Sec. 4-3
Gully erosion of Top Soil



Photo-10: Sec. 4-4
Gully erosion of Top Soil



Photo-11: Sec. 5-1, 2
Gully erosion of Top Soil



Photo-12: Sec. 5-3
Gully erosion of Top Soil



Photo-13: Sec. 5-4
Gully erosion of Top Soil



Photo-14: Sec. 6-1
Gully erosion of Top Soil



Photo-15: Sec. 6-2, 3
Gully erosion of Top Soil



Photo-16: Sec. 6-4
Gully erosion of Top Soil



Photo-17: Sec. 7-1, 2
Gully erosion of Top Soil



Photo-18: Sec. 7-3
Gully erosion of Top Soil



Photo-19: Sec. 8-1
Gully erosion of Top Soil



Photo-20: Sec. 8-2
Gully erosion of Top Soil



Photo-21: Sec. 8-3
Gully erosion of Top Soil



Photo-22: Sec. 9-1
Gully erosion of Top Soil



Photo-23: Sec. 9-2
Gully erosion of Top Soil



Photo-24: Sec. 9-3
Gully erosion of Top Soil



Photo-25: Sec. 9-4, 5
Gully erosion of Top Soil



Photo-26: Sec. 10-1, 2
Gully erosion of Top Soil



Photo-27: Sec. 10-3~5
Gully erosion of Top Soil



Photo-28: Sec. 10-DH
Dragon Hole



Photo-29: Sec. 10-DH
Dragon Hole



Photo-30: Sec. 11-1, 2
Gully erosion of Top Soil



Photo-31: Sec. 11-3
Gully erosion of Top Soil



Photo-32: Sec. 11-4, 12-1
Gully erosion of Top Soil



Photo-33: Sec. 12-2
Gully erosion of Top Soil



Photo-34: Sec. 12-3
Gully erosion of Top Soil



Photo-35: Sec. 12-4
Gully erosion of Top Soil



Photo-36: Sec. 13-1
Gully erosion of Top Soil



Photo-37: Sec. 13-2
Gully erosion of Top Soil



Photo-38: Sec. 13-3, DH
Gully erosion of Top Soil and Dragon Hole



Photo-39: Sec. 14-1
Gully erosion of Top Soil



Photo-40: Sec. 14-2
Gully erosion of Top Soil



Photo-41: Sec. 14-3, DH
Gully erosion of Top Soil and Dragon Hole



Photo-42: Sec. 14-4
Gully erosion of Top Soil



Photo-43: Sec. 15-1
Gully erosion of Top Soil



Photo-44: Sec. 15-2, 3
Gully erosion of Top Soil



Photo-45: Sec. 15-4, 16-1
Gully erosion of Top Soil



Photo-46: Sec. 16-2
Gully erosion of Top Soil



Photo-47: Sec. 16-3
Gully erosion of Top Soil



Photo-48: Sec. 17-1
Gully erosion of Top Soil



Photo-49: Sec. 17-2
Gully erosion of Top Soil



Photo-50: Sec. 17-3
Gully erosion of Top Soil



Photo-51: Sec. 18-1
Gully erosion of Top Soil



Photo-52: Sec. 18-2, 3
Gully erosion of Top Soil



Photo-53: Sec. 18-3, 4
Gully erosion of Top Soil



Photo-54: Sec. 18-5
Gully erosion of Top Soil



Photo-55: Sec. 18-6
Gully erosion of Top Soil



Photo-56: Sec. 19-DH
Dragon Hole



Photo-57: Sec. 19-1, 2
Gully erosion of Top Soil



Photo-58: Sec. 19-3
Gully erosion of Top Soil



Photo-59: Sec. 19-4
Gully erosion of Top Soil



Photo-60: Sec. 19-5, 6, 7
Gully erosion of Top Soil



Photo-61: Sec. 20-1
Gully erosion of Top Soil



Photo-62: Sec. 20-2, 3
Gully erosion of Top Soil



Photo-63: Sec. 20-4
Gully erosion of Top Soil and Dragon Hole



Photo-64: Sec. 21-1
Gully erosion of Top Soil



Photo-65: Sec. 21-2
Gully erosion of Top Soil



Photo-66: Sec. 21-3
Gully erosion of Top Soil



Photo-67: Sec. 22-1, 2, 3
Gully erosion of Top Soil



Photo-68: Sec. 22-4
Gully erosion of Top Soil



Photo-69: Sec. 22-5
Gully erosion of Top Soil



Photo-70: Sec. 23-1
Gully erosion of Top Soil



Photo-71: Sec. 23-2
Gully erosion of Top Soil



Photo-72: Sec. 23-3
Gully erosion of Top Soil



Photo-73: Sec. 23-DH
Dragon Hole



Photo-74: Sec. 23-4, 5
Gully erosion of Top Soil



Photo-75: Sec. 24-1
Gully erosion of Top Soil



Photo-76: Sec. 24-2
Gully erosion of Top Soil



Photo-77: Sec. 24-3
Gully erosion of Top Soil



Photo-78: Sec. 24-DH
Dragon Hole

3-5 Technical Specification of Pilot Work

Technical Specifications

TECHNICAL SPECIFICATIONS

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Technical Specifications

-Scope of Work-

The Scope of the Work to be undertaken by the Contractor is to improve the road slope at a section of 120m between Pk. 50+000 and Pk. 55+500 on the NR6 including the following items;-

- Simple Dispersive Soil Test in Laboratory
- Slope Improvement Work

-Time for Completion-

The Contractor shall complete the work within Thirty (30) days from the signing of the Contract.

1. Simple Dispersive Soil Test in laboratory

All arrangements of the place and tools for the tests will be done by the client.

The client will prepare tools such as clear jars, distilled water, scales and etc. for carrying out the test in a laboratory before conducting the test with a cooperation of the MPWT's laboratory.

The contractor shall carry out collecting soils at the site and the test at the MPWT's laboratory in the presence of the client's engineer, who will advise the contractor on the test.

1-1 Collecting soil aggregates

The contractor shall provide a car (A pickup is enough.) for carrying collected soil, and at least 20 containers and 20 plastic bags for the soil.

Dry soil aggregates (crumbs of soil) and mass of soil shall be collected complying with the client's engineer's indication in terms of collecting locations and its amount. Locations where soils are collected shall be recorded by writing and taking pictures.

1-2 Conducting the test

The contractor shall conduct the test with a cooperation from a laboratory and the client's indication. The test's process is mentioned below. Pictures of each specimen shall be taken from starting time for 120 minutes every 10 minutes.

- 1) Place the soil aggregates into a clear jar of distilled water, taking care not to mix or agitate the soil. This is starting time of a test.
- 2) Aggregates will often (but not always) slake (crumble) soon after being placed in the water, however this is not dispersion
- 3) The water around the edges of the soil aggregate in dispersive soils will become cloudy and milky looking (water looks dirty) because of the dispersed clay (See Figure-Sample of Dispersion)
- 4) For a highly dispersive soil dispersion will be obvious after about 10-30 minutes, for a moderately dispersive soil it may take two hours for dispersion to be obvious (See Figure-Sample of Dispersion).

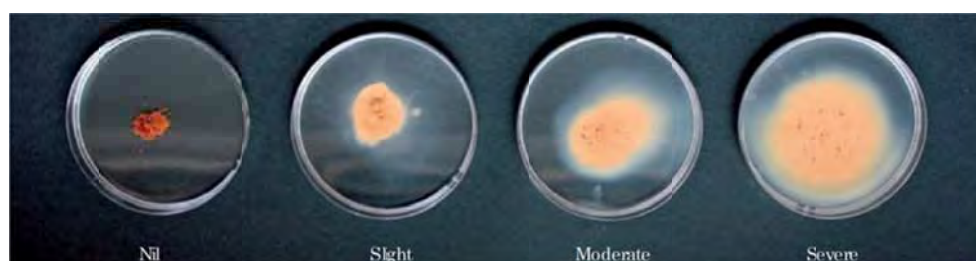


Figure - Sample of Dispersion

1-3 Mixing soil with additive and conducting the test

1-3-1 Mixing soil

Additives : gypsum, lime and cement shall be provided by the contractor.

Soil stabilization in laboratory adding gypsum, lime or cement to collected soil and mixing it shall be conducted.

1-3-2 Conducting the test

The test shall be conducted according to the method described in the clause 1-2

1-4 Reporting

Location which each soil is collected at, date and time of collection , pictures of collection and pictures of test shall be organized in a report.

2. Slope improvement work

After analyzing the results of the simple dispersive soil test, slope improvement works will be conducted.

2-1 Clearing and grubbing

(1) DESCRIPTION

This work shall consist of all clearing and grubbing necessary for the performance of the work covered by the Contract in accordance with these Specifications.

The clearing and grubbing shall consist of clearing the designated areas of all trees, down timber, snags, vegetation, rubbish and objectionable material and shall include grubbing stumps and roots and reusing or disposing of all material resulting from the clearing or grubbing. It shall also include the demolition removal and disposal of structures that obtrude into or encroach upon or obstruct the work, except where provided for otherwise.

(2) GENERAL REQUIREMENTS

(2)-1 Preservation of Property

In order to reduce the risk of erosion no topsoil shall be removed from the areas outside the limits of earthworks. Any topsoil outside these limits, which is inadvertently removed during clearing and grubbing operations or otherwise, shall immediately, be replaced by the Contractor at his own expense.

(3) CONSTRUCTION REQUIREMENTS

(3)-1 Clearing

Clearing shall consist of the removal and disposal of everything above ground level including overhanging branches except those things the Client directs are to be left undisturbed. The material to be cleared shall include but not necessarily be limited to trees, stumps, logs, brush, undergrowth, grass, crops, loose vegetable matter, structures

(other than those structures where removal or clearance is separately specified and measured).

(3)-2 Grubbing

Grubbing shall be carried out on the area of slope improvement. Grubbing shall consist of the removal and disposal of stumps, roots, etc.

(3)-3 Disposal of Cleared Material

Saleable timber shall be neatly stored in an approved accessible place within or near the ROW as directed and shall be trimmed and stacked in accordance with the requirements of the appropriate Government agency.

Large stumps may, with the Client's approval, be disposed of without granulating and composting out of sight of the roadway on private land. In such cases the Contractor will be solely responsible for making the necessary agreements and paying expenses and claims arising from the use of private land.

All fences, buildings, structures, and encumbrances of any character, except those to be removed by others, upon or within the limits of the ROW, shall be removed by the Contractor and carefully placed on the abutting property or otherwise disposed of as directed by the Client. Materials so removed, including any existing drain or culvert pipes which the Consultant may order salvaged, shall be carefully removed and shall be the property of the Government.

The roadway and adjacent areas shall be left with a neat and finished appearance. No accumulation of inflammable material shall remain on or adjacent to the ROW.

2-2 Vegetation with topsoil stripping and replacing

(1) DESCRIPTION

This work shall consist of stripping vegetation with topsoil on the slope and put them on the roadside for the performance of the work covered by the Contract in accordance with these Specifications. The stocked vegetation and topsoil shall be going to be used as topsoil and vegetation on the improved slope surfaces.

(2) GENERAL REQUIREMENTS

The Contractor shall keep the sites free from standing water during construction, with the provision of temporary drainage facilities, as specified on the drawings or directed by the Client, if the sites so required, at his own expenses.

(3) CONSTRUCTION REQUIREMENTS

Only well growing vegetation shall be stripped with topsoil and stocked on the roadside.

2-3 Slope excavation

(1) DESCRIPTION

This work shall consist of all slope excavation necessary for the performance of the work covered by the Contract in accordance with these Specifications.

The slope excavation shall consist of slope excavation with bench cut and loading the cut soil material.

(2) GENERAL REQUIREMENTS

The cut soil material shall be loaded in dump trucks without any mixture such as vegetation, debris and other material other than the soil itself.

(3) CONSTRUCTION REQUIREMENTS

(3)-1 Bench cut

Bench cut shall be applied to slopes for the slope embankment in order not to have division with road embankment.

(3)-2 Construction equipment

Tire backhoes shall be used for this work on the existing road surface to excavate the soil on the slopes and load it in dump trucks.

(3)-3 Transportation of soil

The dump trucks shall carry the loaded soil to a temporary stock yard to be prepared by the contractor in order to mix the soil and additives. Capacities of load-carrying platforms of dump trucks shall be measured for the mixing.

2-4 Mixing soils with additives

(1) DESCRIPTION

This work shall consist of soil mixing with additives at a soil stock yard and carrying the mixed soil to the road side of its original position for the performance of the work covered by the Contract in accordance with these Specifications.

(2) MATERIAL REQUIREMENTS

The requirements for the soil shall refer to the Sub-Clause 2.3, Slope excavation and the soil shall be approved by the Client. The additives shall conform to the requirements of Portland cement, lime or gypsum.

(3) WORK REQUIREMENTS

Mixings shall be carried out at a stock yard using backhoes. Mixing method shall be instructed by the Client. Each additive content of mix shall be determined as a percentage by weight of soil. The actual each additive content shall be 3.0, 5.0, 7.0 or 9.0%. The following table shows the additive rate for the soil of each section.

Section No.	Additive mixing rate by soil weight											
	Portland Cement				Lime				Gypsum			
	3%	5%	7%	9%	3%	5%	7%	9%	3%	5%	7%	9%
1	○											
2	○											
3		○										
4		○										
5			○									
6			○									
7				○								
8				○								
9					○							
10					○							
11						○						
12						○						
13							○					
14							○					
15								○				
16								○				
17									○			
18									○			
19										○		
20										○		
21											○	
22											○	
23												○
24												○

2-5 Slope embankment

(1) DESCRIPTION

This work shall consist of the construction of embankment and backfill not specified elsewhere by furnishing, placing, compacting and shaping the material for each section which was excavated at the same section and mixed with additives, and to the lines, levels, grades, dimensions, and cross sections same as the original shape of each slope or as required by the Consultant.

(2) MATERIALS

Materials for embankment shall be the soil mixed with additives specified in Sub-Clause 2-4, Mixing soils with additives. Each section of slope shall have each material for embankment as scheduled in the Drawings. The origin of material for each section is the soil excavated at the same location.

(3) CONSTRUCTION REQUIREMENTS

(3)-1 Preparation of Foundation for Embankment

Natural ground (including slopes of existing road) situated less than 1.5 meters below the design surface of the road or side slopes shall, after proper clearing and grubbing or scarifying of existing road surface, be compacted to a depth of 150 mm, measured from original ground. Compression of existing soil which may result from this compaction will not be measured and backfilling of the corresponding volume of earth fill is considered incidental to other items of work and will not be separately paid for.

If unsuitable materials occur in some areas under the embankment or in existing embankments, such materials shall be removed to levels as directed in writing by the Client, the bottom of the excavation shall be compacted, as described above, and the areas backfilled and compacted layer by layer with suitable material.

All compaction shall conform to the requirements in the following Sub-Clause of “Compaction of Embankment” of these Specifications.

Works of compaction for preparation of foundation for embankment and preparation of sub-grade in cut areas will not be measured or paid for but will be considered incidental to the works of constructing embankment.

(3)-2 Placing Embankment

Embankment shall be placed in accordance with the following requirements:

General:

Except as otherwise required all embankments shall be constructed in layers approximately parallel to the finished grade of the road bed. During construction of embankment, a smooth grade having an adequate crown or super-elevation shall be maintained to provide drainage. Embankments shall be constructed to the required grade, and completed embankment shall correspond to the shape of the typical sections shown on the Drawings and to the tolerances specified these Specifications.

Common Embankment:

Common embankments shall be defined as those principally of material other than rock, and shall be constructed of approved material from designated or other approved sources.

Except as specified for embankment in swamps, common embankments shall be constructed in successive layers, for the full width of the cross section and in such lengths as are suited to the compaction and watering methods used. Prior to compaction the layers shall not exceed 200 mm in depth unless permission is granted by the Client.

Placing over swamp ground : Embankment in or over swamps or in water shall be placed as indicated on the Drawings and as required by the Client.

Material placed adjacent to any portion of any structure shall be material free of any appreciable amount of gravel or stone particles more than 100 mm in greatest dimension and of such gradation as to permit thorough compaction.

Preparation:

The surface of the finished road body shall be neat and workmanlike and shall have the required form, super-elevation, levels, grades, and cross section. The surface shall be constructed to sufficient accuracy to permit the construction of subsequent layers of material to the thickness, surface tolerance, and compaction specified.

Where new embankment is to be compacted against existing embankments or in natural ground having a side slope of greater than 1 on 5 or where embankment is built in half-widths, the slopes of the existing ground and old and new embankment shall, after removal of topsoil, be benched in accordance with the Drawings or as instructed by the Client. The material which is excavated to form benches shall either be taken to waste or if suitable used as fill.

All settlement occurring in embankment construction shall be corrected by the Contractor by providing additional layers of embankment or selected material. The Contractor shall be fully responsible for the stability and integrity of the embankment during the Contract.

If a soil failure either occurs or becomes imminent during the construction of the embankment, the Client shall have the authority to suspend all embankment construction in the affected area until corrective measures can be determined and implemented. Any delay in the embankment construction schedule and any other effects caused by implementation of the above Clause shall not constitute grounds on the part of the Contractor for a claim for extension of the Contract and/or financial compensation.

(3)-3 Compaction of Embankments

Embankment shall be compacted in accordance with the following requirements:

Before compaction, each layer shall be processed as required to bring the moisture content uniformly throughout the layer to within plus 1 and minus 2 percent of optimum moisture content as determined in AASHTO T180 or such other moisture content as shall be agreed with the Consultant as a result of compaction trials. The material shall be so worked as to have a uniform moisture content throughout the layer. Full compensation for any additional work involved in wetting or drying embankment material to the required moisture content shall be considered as included in the contract price paid for embankment and no additional compensation will be allowed.

Each layer of material shall be compacted uniformly by use of adequate and appropriate compaction equipment. The compaction shall be done in a longitudinal direction along the embankment and shall generally begin at the outer edges and progress toward the

centre in such a manner that each section received equal effort.

Hauling equipment shall be operated over the full width of each layer in so far as practicable.

Embankment compaction shall be carried out as follows: Embankments shall be constructed in layers of uniform thickness not to exceed 200 mm in thickness after compaction and compacted to the requirements of this section. Each layer of the embankment shall be compacted to the percentage of air void shall be less than 10% and percentage of saturation shall be greater than 85%, respectively.

Embankments shall be maintained to the grade and cross section shown on the Drawings throughout the contract period.

(3)-4 Compaction and Trimming of Slopes

Attention is drawn to the fact that the general compaction requirements shall at any level apply to the full width of the embankment. Slopes to be covered with topsoil and grassing shall have firm surface before topsoil is placed.

In practice it is assumed that the embankment will be constructed slightly wider than the design cross section to enable the slopes to be trimmed on completion to conform with the design cross section, thus ensuring adequate compaction of the slope faces. Where embankments are not constructed to the full width required these shall be benched and reconstructed.

If in the opinion of the Client the embankment slopes do not appear to be suitably compacted, additional compaction shall be provided to the slopes as directed by the Client at no additional cost to the Contractor.

The slopes of cuttings and embankments shall be trimmed by hand or by approved mechanical means to uniform batters as shown on the Drawings or as instructed by the Consultant prior to top soiling and grassing where specified or instructed.

2-6 Top soil and sodding on the slope

(1) DESCRIPTION

This item shall consist of furnishing and laying of live sod on the shoulders, slopes or other locations as designated as shown on the Drawings or as ordered in the field by the Client, all in accordance with this Specification.

(2) MATERIAL REQUIREMENTS

The replaced soil and sod from the original slope surface during the work specified in Sub-clause 2-2 Vegetation with topsoil stripping and replacing, shall be used for this work.

(3) CONSTRUCTION REQUIREMENTS

(3)-1 Preparation of the Earth Bed

The area to be sodded shall be constructed to the required cross- section as shown on the Drawings.

The area to be sodded shall be free from stones, roots or other undesirable foreign materials.

(3)-2 Placing the vegetation with topsoil

After the vegetation and soil are placed by using backhoes on the slope, the vegetation shall be lightly tamped with suitable wooden or metal tampers sufficiently to set or press the vegetation into the slope soil.

(3)-3 Watering

The Contractor shall regularly water and maintain sodded areas in satisfactory condition for the duration of the Contract and until final acceptance of the work by the Client.

3. Bill of Quantities

Item	Unit	Qty.	Unit Price (US\$)	Amount (US\$)
Simple Dispersive Soil Test	L.S.	1		
Road Slope Improvement Work				
Clearing and grubbing	m ²	2,088		
Vegetation with topsoil stripping and replacing	M ³	208.8		
Slope excavation	m ³	1,320		
Mixing soils with additives				
Portland Cement 3% by weight	m ³	110		
Portland Cement 5% by weight	m ³	110		
Portland Cement 7% by weight	m ³	110		
Portland Cement 9% by weight	m ³	110		
Lime 3% by weight	m ³	110		
Lime 5% by weight	m ³	110		
Lime 7% by weight	m ³	110		
Lime 9% by weight	m ³	110		
Gypsum 3% by weight	m ³	110		
Gypsum 5% by weight	m ³	110		
Gypsum 7% by weight	m ³	110		
Gypsum 9% by weight	m ³	110		
Slope embankment	m ³	1,320		
Top soil and sodding on the slope	m ²	2,088		
Total	-	-	-	

Appendix 4 (Task 2)

List of Supplied Equipment to Laboratory

List of supplied Equipment to Laboratory

NO	NAME	Quantity
1	Distillation Apparatus	1 unit
2	High Pressure Triaxial Machine	
2-1	100kN Motorized Compression Machine for both CBR and Unconfined Compression Test	1 unit
2-2	20kN Proving Ring	1 pc
2-3	Dial Gauge 20mm~0.01mm	2 pcs
2-4	Dial Gauge Support	1 pc
2-5	Surcharge Weight	4 pcs
2-6	Penetration Piston	1 pc
2-7	Adaptor Ring	1 pc
3	Multispeed Motorized Compression Device	
3-1	100kN Motorized Compression Machine for Marshall Test	1 unit
3-2	35kN Proving Ring	1 pc
3-3	Flow Meter	1 pc
3-4	Test Head	1 pc
4	Laboratory Motorized Unconfirmed Apparatus	
4-1	Dial Gauge 20mm~0.01mm	2 pcs
4-2	20kN Proving Ring with Spherical Seat	1 pc
4-3	Φ10 x 20 cm Mold	5 pcs
5	Accessories for Mortar Compression	
5-1	50kN Proving Ring	1 pc
5-2	Loading Attachment	1 pc
5-3	Three-gang Mortar Mold	1 pc
5-4	Tamping Rod	1 pc
6	Blain Air permeability Apparatus	
6-1	Blain Air permeability Apparatus	1 unit
6-2	Thermometer (-20~50°C)	1 pc
6-3	Standard Cement	1 set

List of supplied Equipment to Laboratory

7	Soil Analysis Sieve Set	
7-1	Stanless Sieve, 200mm dia. 75mm	2 pcs
7-2	Stanless Sieve, 200mm dia. 53mm	4 pcs
7-3	Stanless Sieve, 200mm dia. 37.5mm	3 pcs
7-4	Stanless Sieve, 200mm dia. 26.5mm	4 pcs
7-5	Stanless Sieve, 200mm dia. 19mm	3 pcs
7-6	Stanless Sieve, 200mm dia. 13.2mm	5 pcs
7-7	Stanless Sieve, 200mm dia. 9.5mm	3 pcs
7-8	Stanless Sieve, 200mm dia. 4.75mm	5 pcs
7-9	Stanless Sieve, 200mm dia. 2.36mm	3 pcs
7-10	Stanless Sieve, 200mm dia. 2mm	3 pcs
7-11	Stanless Sieve, 200mm dia. 1.18mm	3 pcs
7-12	Stanless Sieve, 200mm dia. 0.6mm	3 pcs
7-13	Stanless Sieve, 200mm dia. 0.425mm	3 pcs
7-14	Stanless Sieve, 200mm dia. 0.3mm	3 pcs
7-15	Stanless Sieve, 200mm dia. 0.15mm	3 pcs
7-16	Stanless Sieve, 200mm dia. 0.075mm	8 pcs
7-17	Pan	4 pcs
7-18	Cover	5 pcs
8	Analytical Balance	
8-1	Electronic Analytical Balance (capacity: 210g, readability: 1mg)	1 unit
8-2	Electronic Analytical Balance with Battery (capacity: 12kg, readability: 1g)	3 unit
8-3	Electronic Analytical Balance with Battery (capacity: 31kg, readability: 1g)	1 unit
9	Saybolt Viscosity	
9-1	Automatic Saybolt Viscosimeter	1 unit
9-2	Saybolt Thermometer (ASTM 17C, 19~27°C)	1 pc
9-3	Saybolt Thermometer (ASTM 18C, 34~42°C)	1 pc
9-4	Saybolt Thermometer (ASTM 19C, 49~57°C)	1 pc
9-5	Saybolt Thermometer (ASTM 20C, 57~65°C)	1 pc
9-6	Saybolt Thermometer (ASTM 21C, 79~87°C)	1 pc
9-7	Saybolt Thermometer (ASTM 22C, 95~103°C)	1 pc
10	Marshall Compaction	
10-1	Aspalt Compaction Machine	1 unit
10-2	Filter Paper (Φ100mm)	10 set
10-3	Sample Extruder for Marshall Mold	1 pc
10-4	Marshall Mold	20 pcs
11	Denstiy/ Moisture Gauge	
11-1	Nuclear Moisture Densty Gauge	1 unit
11-2	Sand Density Apparatus	3 unit
12	Compaction Mold (Φ100mm)	2 pcs

Appendix 5 (Task 3)

Database System for Completion Documents

5-1 Document Scanning Manual

5-2 User Manual for Document Management Database

Document Scanning Manual
on
Database System for Completion Documents

March 2012

JICA Project

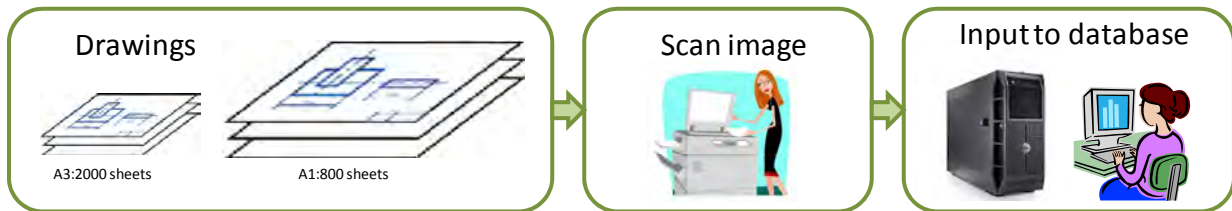
1. Overview

1.1 Objective of operation

To scan paper drawings using scanner and input to existing database system.

1.2 Scope of this manual

This manual is written for operators work at computer room using Database management system network in Ministry of Public Work to scan drawings and input or register image data to existing database system.



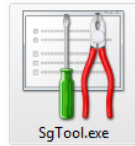
2. Environment

This manual is being written according the condition as below

- 1) Drawings size A1 or A3
- 2) Scanner CANON Image Reader C2550i (Set at computer room)



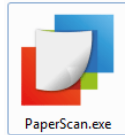
- 3) System Database Management System (Set at computer room)
- 4) Client PC Client PC for operation
- 5) Scanner driver "Network Scan Gear V2.71" already installed
<http://support-sg.canon-asia.com/contents/SG/EN/0100175007.html>



6) Scanning software

"PaperScan 1.4 Free Edition" already installed

<http://www.orpalis.com/products/paperscan/>



7) Image processing software

"GIMP 2.6.11 "

<http://gimp-win.sourceforge.net/stable.html>



****Attention**

This manual is written to using free software as application, and all the applications are installed in assigned client PC.

User can use another application for efficient work like below

Type	Company	Application	Homepage
Scanning	Fuji Xerox	DocuWorks	http://www.fujixerox.co.jp/product/software/promotion/docuworks/
	Nuance	PaperPort	http://www.paperport.com/
Image processing	Adobe	Photoshop	http://www.adobe.com/products/photoshop.html
	Corel	PaintShop Pro	http://www.corel.com/corel/allProducts.jsp

3. Scanning

3.1 Whole Operation

- 1) Prepare scanner.
- 2) Prepare PC.
- 3) Scan A3 size papers
- 4) Scan A1 size papers

3.2 Prepare scanner

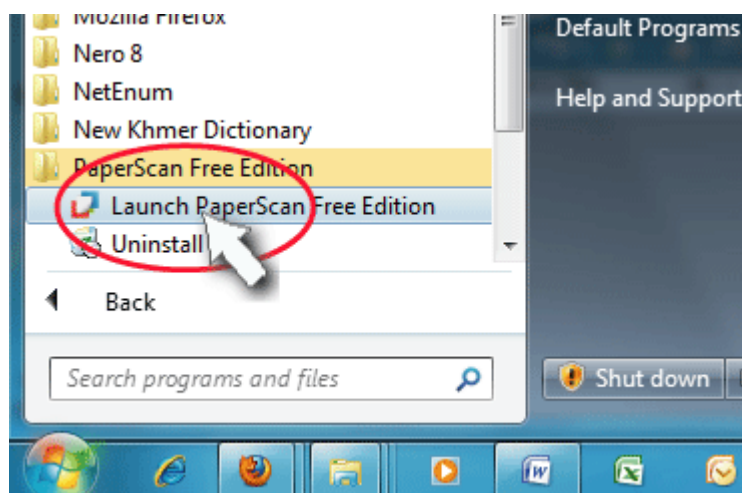
Make scanner to be found as a scanner on network

- 1) Put scanner's power on and select "Scan" tab
- 2) Touch "Online" button

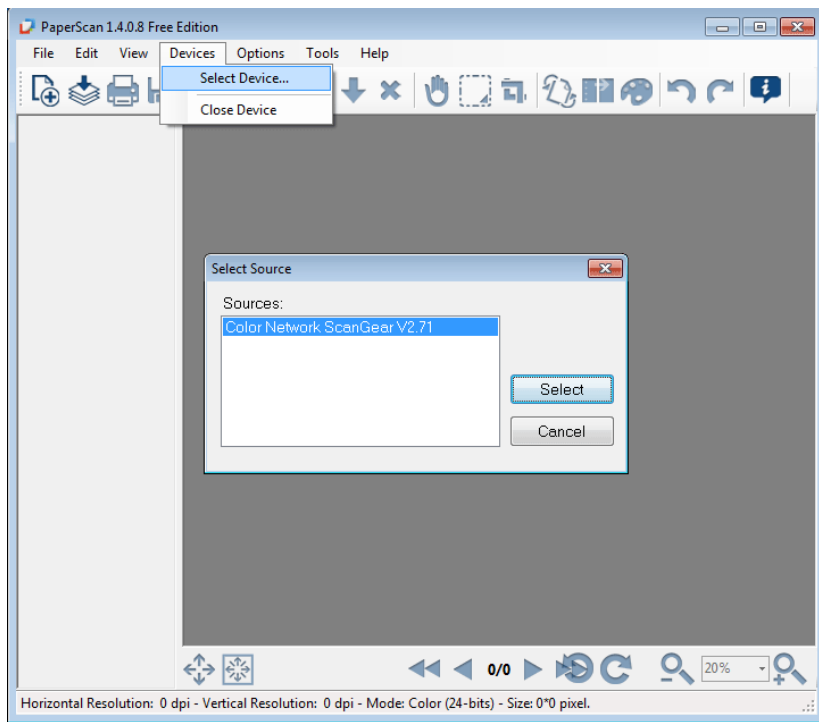


3.3 Prepare PC

- 1) Run "Paper Scan"



- 2) Click "Devices" - "Select Device" menu and select "Color Network ScanGear" as input device



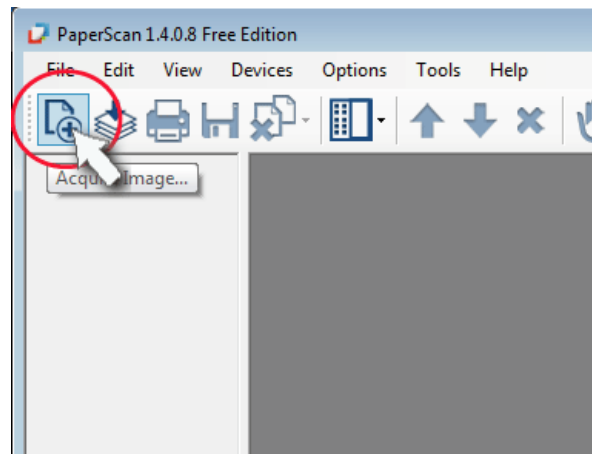
3.4 Scan A3 papers

- 1) Set paper(s)

In case of A3 size paper, set paper into Sheet Feeder on the scanner. More than one sheet can be scanned in same time.

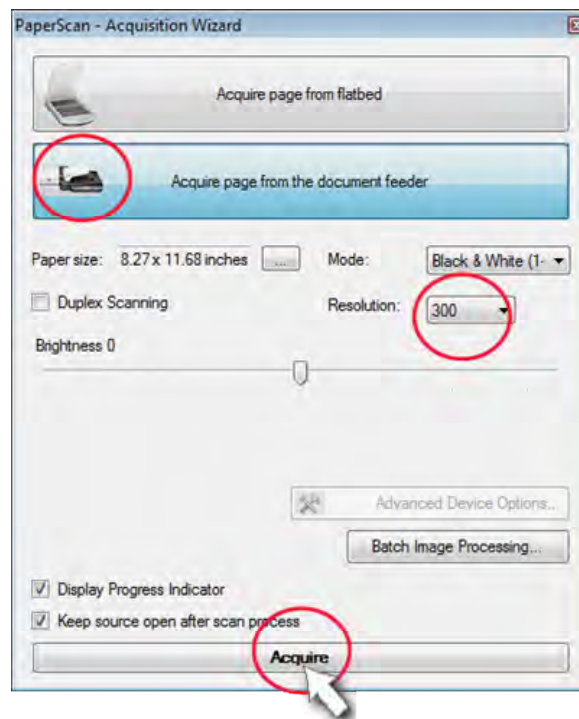


2) Click "Acquire" button



3) Acquire for scanning

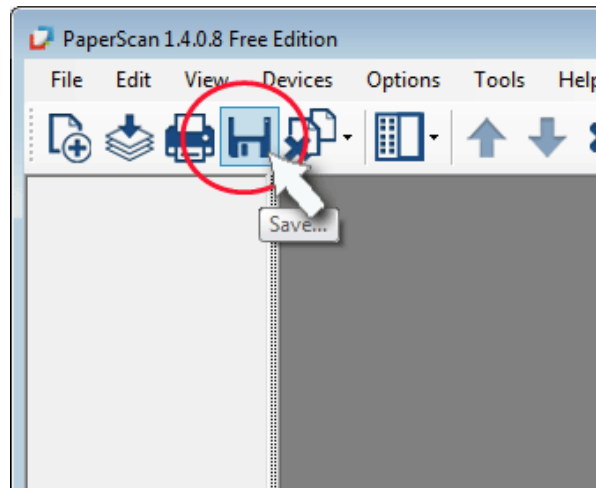
Select "Acquire from the document feeder", "Resolution = 300" and Click "Acquire" button
"Paper size" will be ignored.



4) Scanner will run and paper(s) will be scanned

5) Save image(s)

Click "Save" icon to save image(s)

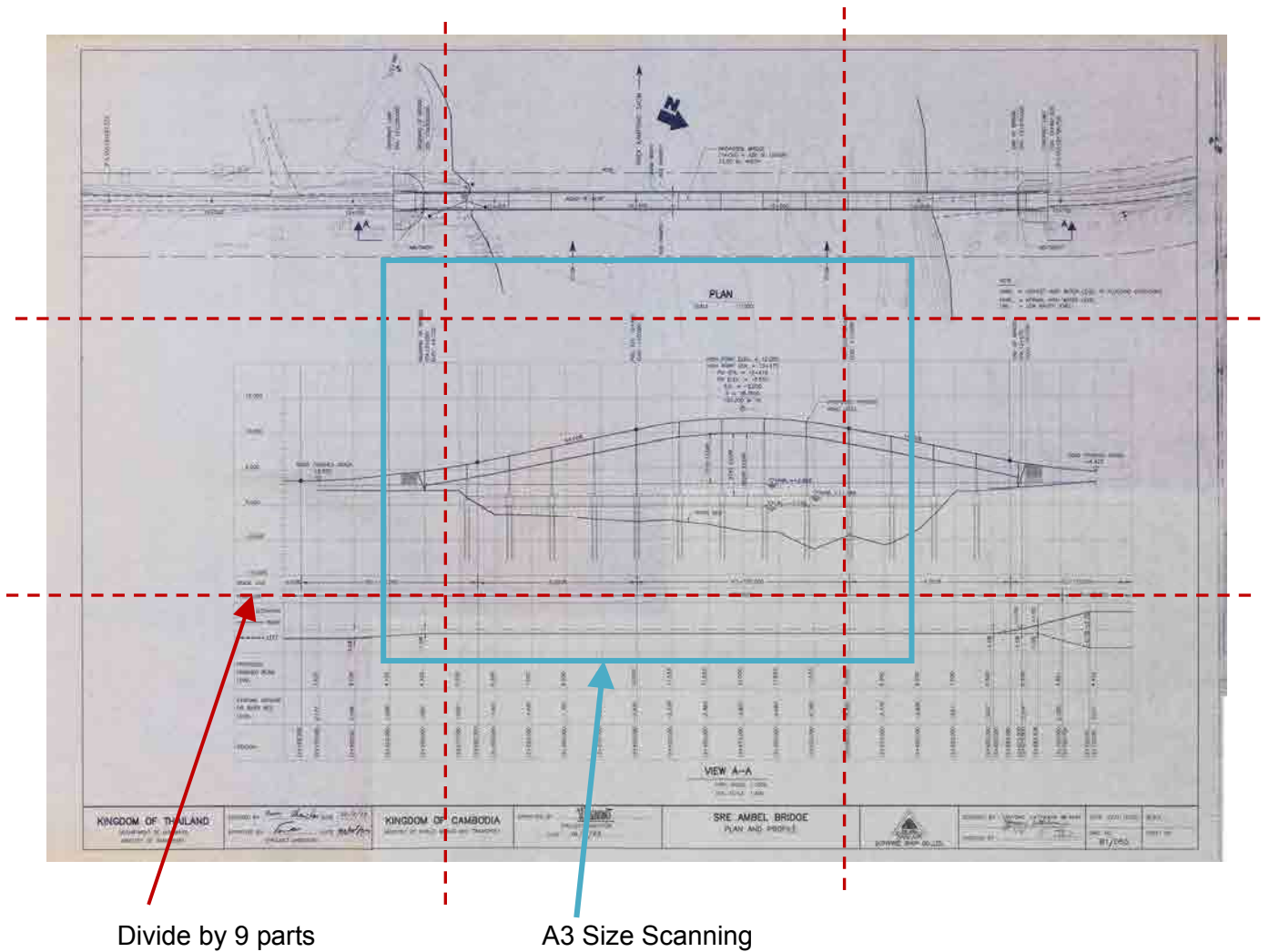


3.5 Scan A1 papers

- * How to scan A1 paper by A3 scanner

Divide A1 paper to several parts with A3 size and scan several times.

However A1 has 4 times size by A3 but for the quality of result A1 size paper have to be divided by 9 parts so this operation will be performed 9 times of each one paper.

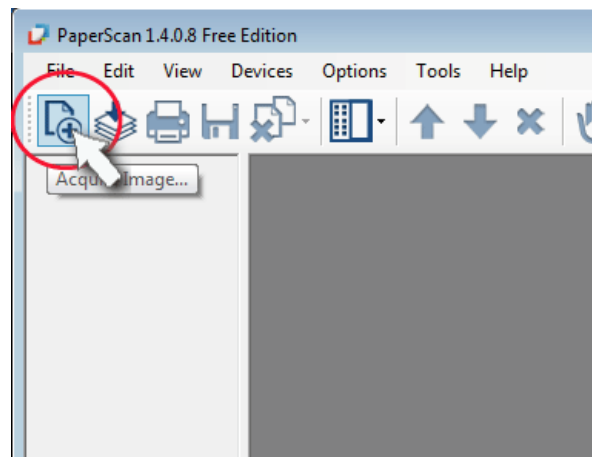


1) Set paper

Set A1 size paper on A3 size scanner aligning each divided part.

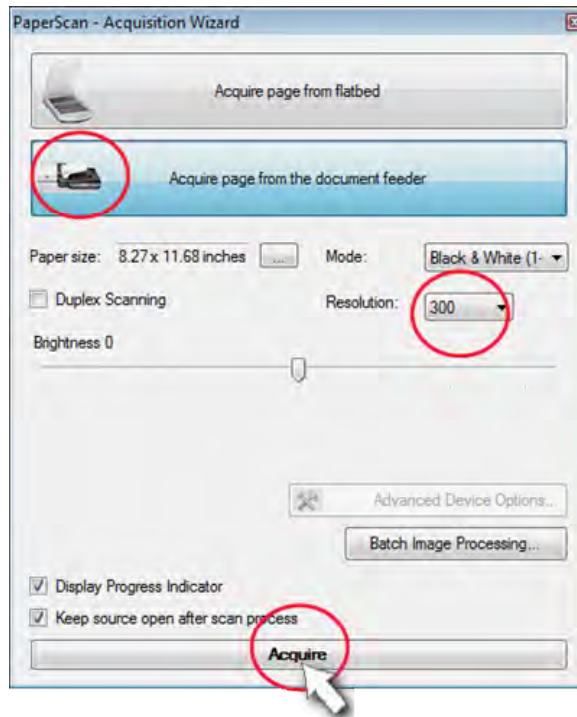


2) Click "Acquire" button



3) Acquire for scanning

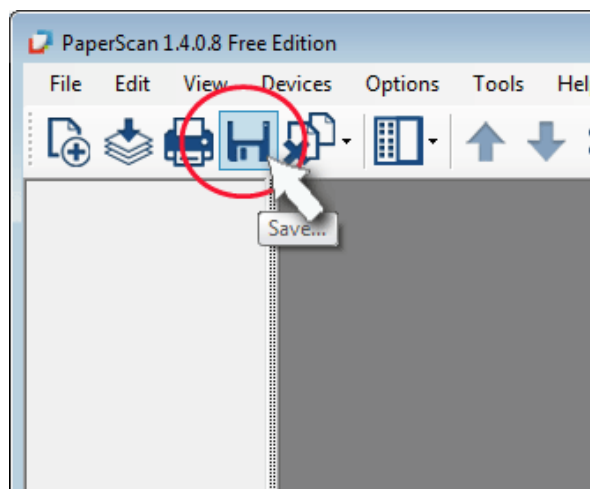
Select "Acquire from the document feeder", "Resolution = 300" and Click "Acquire" button
"Paper size" will be ignored.



4) Scanner will run and paper(s) will scanned

5) Save image(s)

Click "Save" icon to save image(s)



4. Combining A1 size images

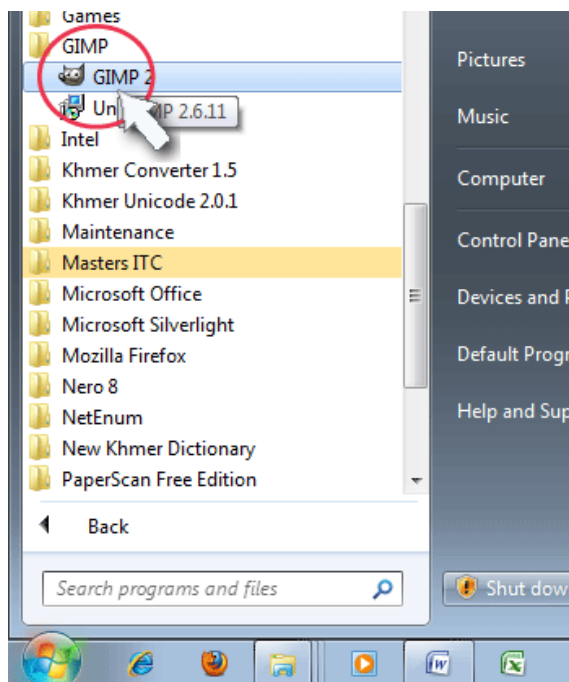
This chapter is written only for A1 size images

4.1 Whole Operation

- 1) Run "GIMP".
- 2) Open 9 images
- 3) Crop images
- 4) Rotate images
- 5) Create new image of A1 size
- 6) Combine images
- 7) Save result image

4.2 Run "GIMP"

Run GIMP from start button.

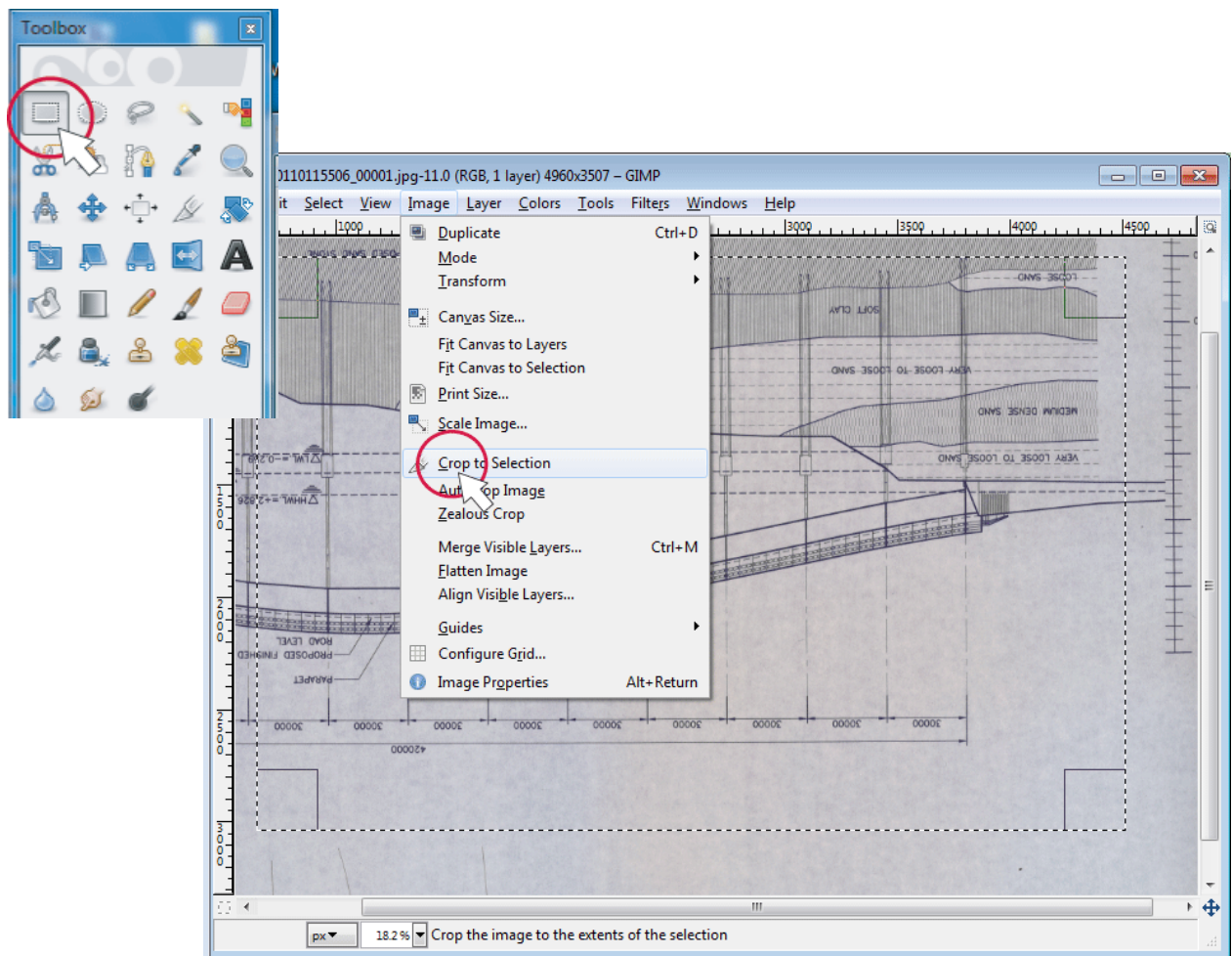


4.3 Open 9 images

Click "File" - "Open" menu and select 9 images these are 9 parts of A1 sheet

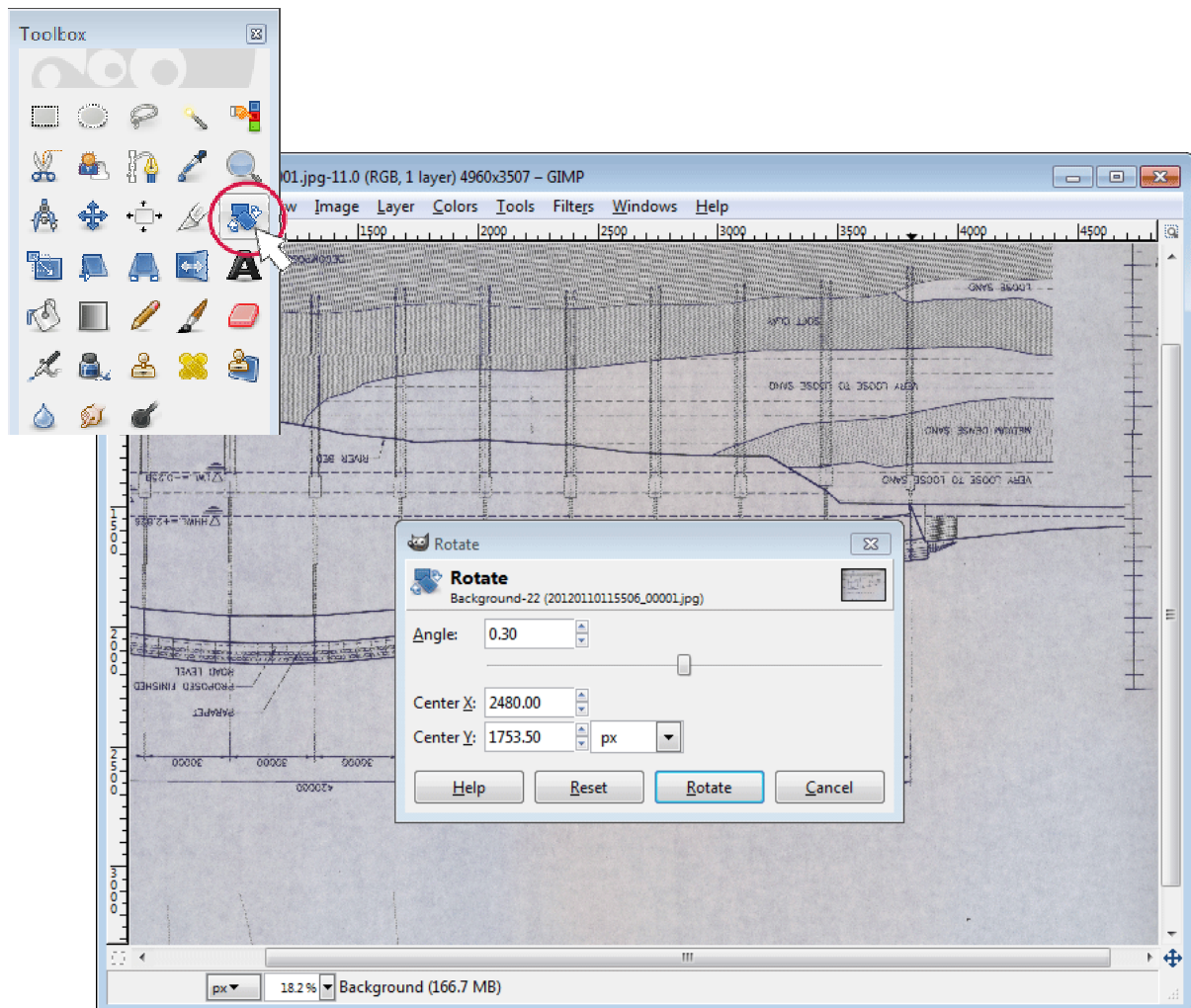
4.4 Crop images

Click "Rectangle Select" button and select area that keeps quality (May be each side of image is warped slightly)



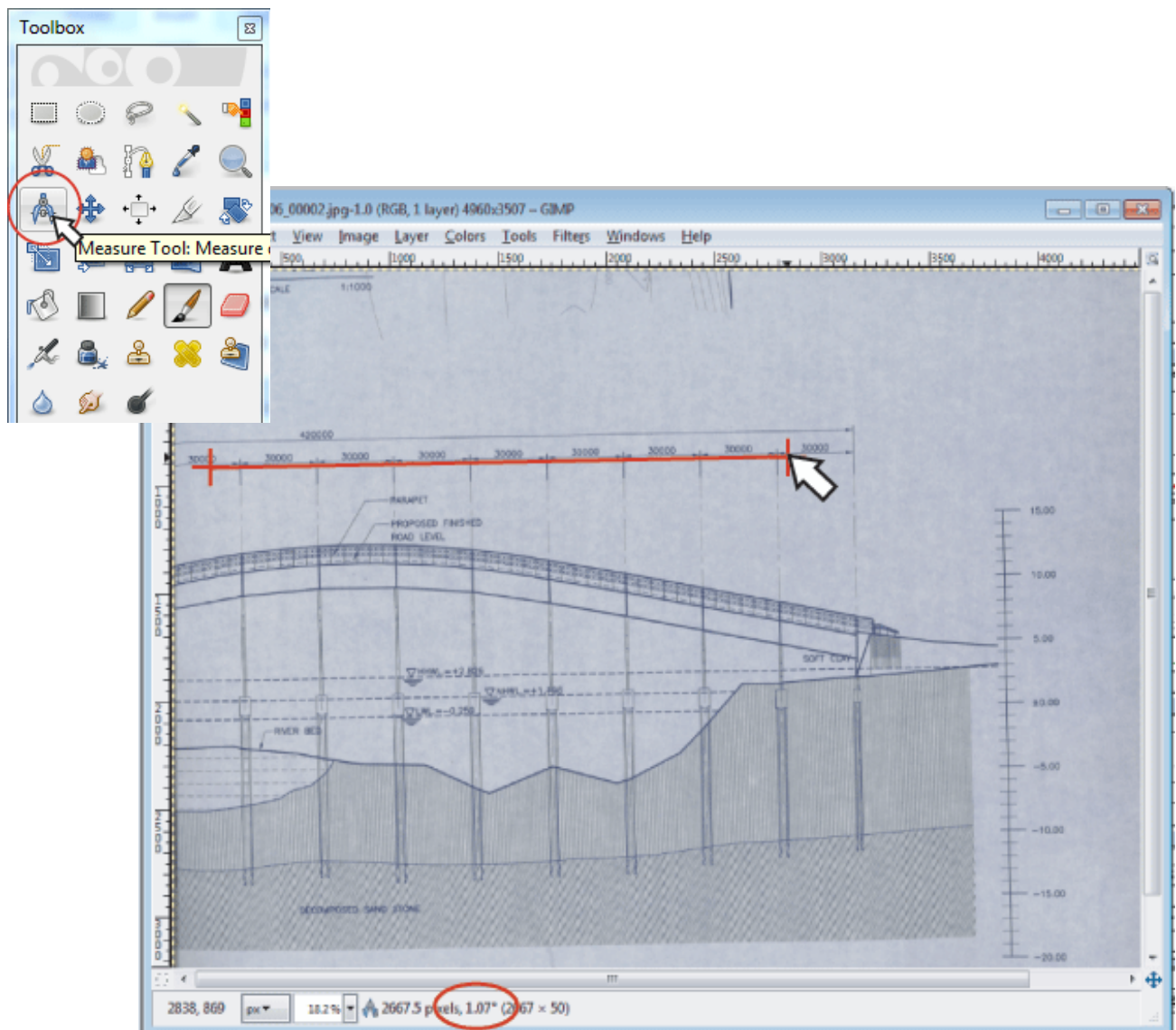
4.5 Rotate images

Click "Rotate tool" button and input "angle" by number for correct slope.



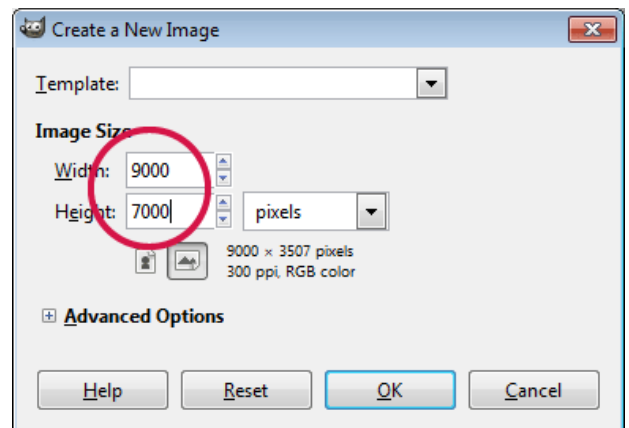
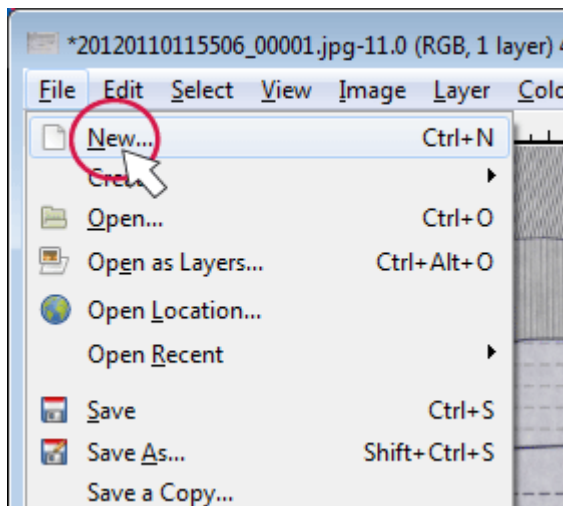
4.5.1 Attention

Using "Measure Tool" it will be able to measure the slope of image easily.



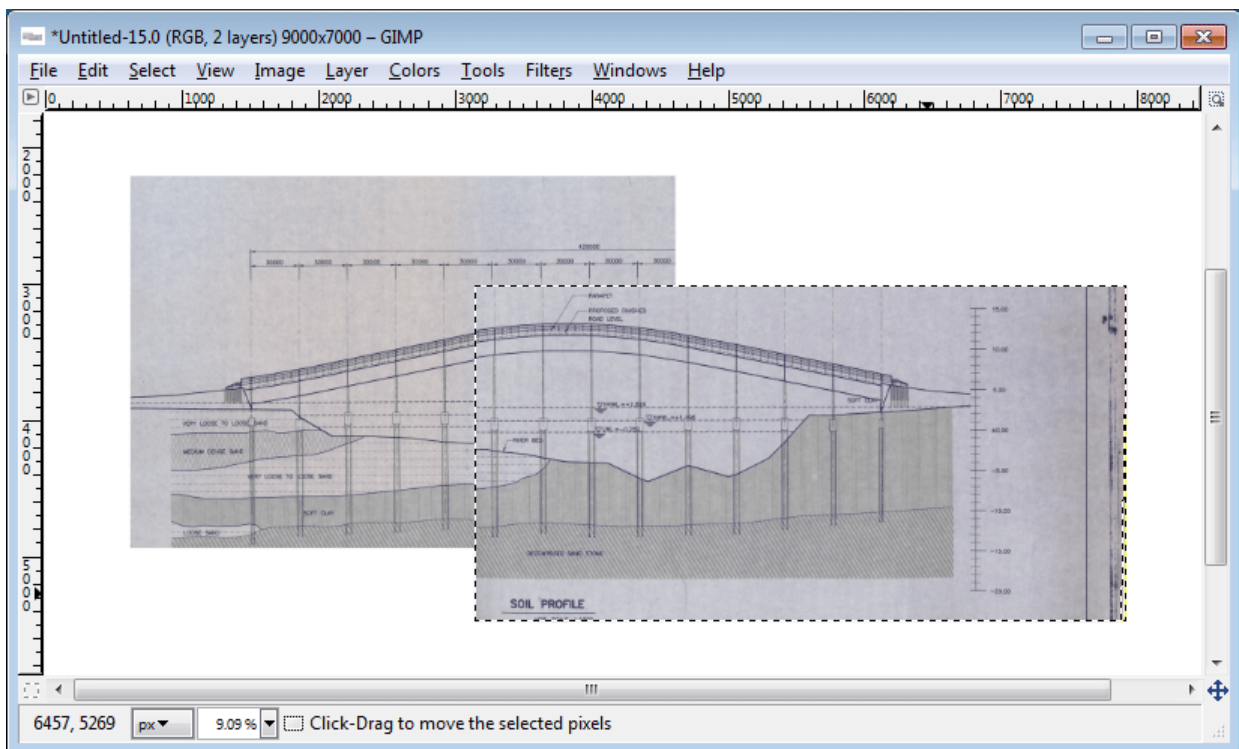
4.6 Create new image of A1 size

- 1) Click "File" - "New" menu and input parameters.
- 2) Width = 9000 Height =7000



4.7 Combine images

- 1) Paste 9 images on created image using "Copy and Paste".
- 2) Adjust images each other by aligning these lines or other shapes



4.7.1 Attention Be careful when combine image
Especially keep the letter in drawing be able to read clearly

Example 1 Good



Example 2 Bad



4.8 Save result image
Save new created image as result.

5. Preparing for database

5.1 Group files and put number

Group all files in order of drawing groups and make folder for groups. And put group number to all groups. Group numbers need to begin from next to last project number in database.

[Example]

<p>Folders</p> <ul style="list-style-type: none"> - 0015_ADB_PREYVENG_Enhancement of National Road No.XX folder - 0016_JPN_KANDAL_Neak Luang Bridge
--

[Folder Name Format]

0015	_	ADB	_	PREYVENG	_	Enhancement of National Road No.XX
*Prj		*A		*B		*Name

***Prj Project Number**

***A Fund Source**

Code

GVT	Government and Year of Approval
ADB	Asian Development Bank
WB	World Bank
USA	United States of America
JPN	JAPAN
CHA	CHINA
KRA	KOREA
TH	Thailand
VT	Vietnam
OT	Others

***B Provinces and Capitals**

Code

01	Banteay Meanchey
02	Battambang
03	Kampong Cham
04	Kampong Chhnang
05	Kampong Speu
06	Kampong Thom
07	Kampot
08	Kandal
09	Koh Kong
10	Kratié
11	Mondulkiri
12	Phnom Penh
13	Preah Vihear
14	Prey Veng
15	Pursat
16	Ratanakiri
17	Siem Reap
18	Krong Preah Sihanouk
19	Stung Treng
20	Svay Rieng
21	Takéo
22	Oddar Meanchey
23	Kep
24	Pailin

***Name Project Name**

5.2 Rename drawing files

Rename all drawing files to database format.

[Example]

Files

- RDB_04_0001_06_0001.jpg
- RDB_04_0001_06_0002.jpg
- RDB_04_0001_06_0003.jpg
- RDB_04_0001_06_0004.jpg
-

[File Name Format]

RDB _ 04 _ 0001 _ 06 _ 0001 .jpg

*C *D *Prj *E *File *Ext

*C **Subject**

Code

OFD	Official Documents
RDB	Road and Bridges
RWY	Railway
APT	Airport
WTW	Waterway
LDT	Land Transportation
IMT	Inland and Maritime Transport
ITC	Information Technology
ADM	Administration Documents

*D **Type of Document**

Code

01	Laws and Regulations
02	Prakas
03	Policy Papers
04	Project
05	Specifications Standards
06	Guidelines
07	Technical Documents
08	Others

*Prj **Project Number**

***E Documents Detail (for Project)**

Code

01	Study Reports
02	Detail Design
03	Tender /Bidding of Contract documents
04	Completion Report
05	Drawing(Tendering)
06	Drawing(As Built)
07	Others

***File File Number**

6. Input to database system

6.1 Whole Operation

- 1) Login.
- 2) Make new project.
- 3) Make new detail
- 4) Register images

6.2 Login

- 1) Open browser (i.e. Internet Explorer)
- 2) Type URL to browsers URL window as below

http://192.168.1.2/admin

"User Login page" will appear


- 3) Input User ID and Password then click "login"

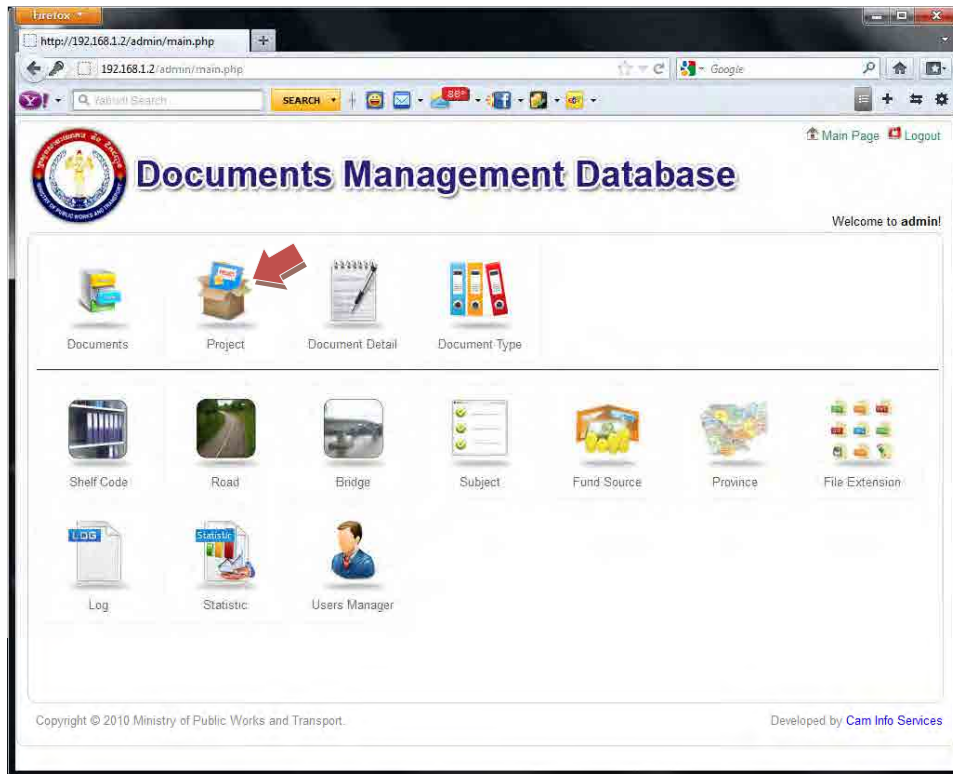
User ID : admin


Password : admin

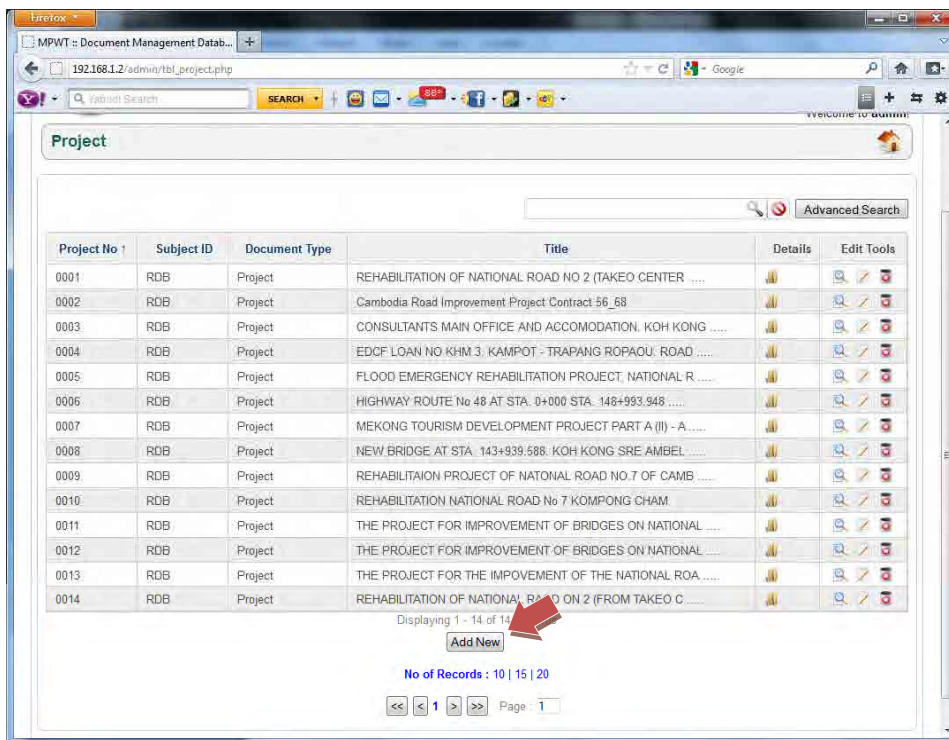


6.3 Make new project

1) In main page click "Project" icon (see ) then "Project list page" will appear.



2) Click "Add New" button (see ) .

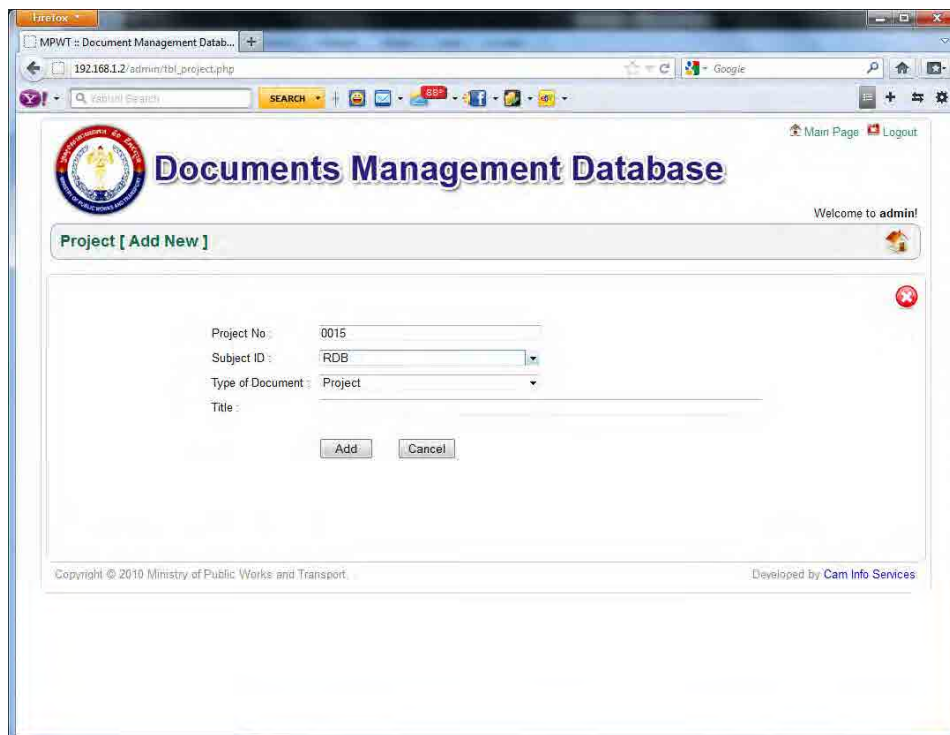


3) Input data.

Input data to "Add New" page

Project No. :	Can't change
Subject ID :	Select by drawing
Type of Document :	"Project"
Title :	Input by drawing

then click "Add"



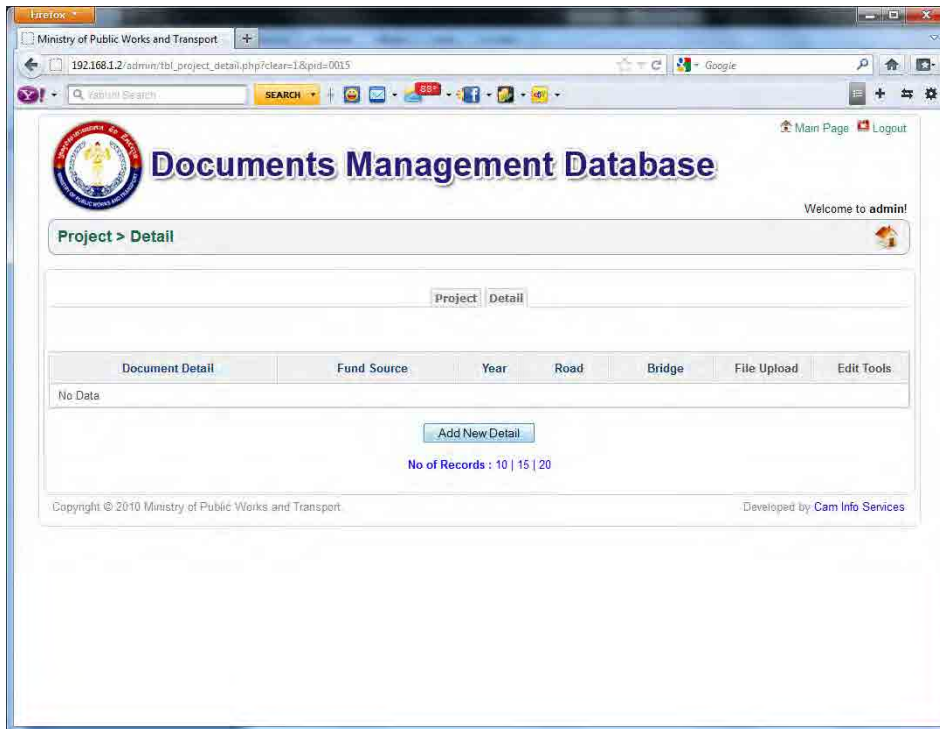
The screenshot shows a web browser window displaying the 'Documents Management Database' interface. The page title is 'Documents Management Database' and the user is logged in as 'admin!'. The main content area is titled 'Project [Add New]' and contains a form with the following fields:

- Project No.: 0015
- Subject ID: RDB
- Type of Document: Project
- Title: (empty)

Below the form are 'Add' and 'Cancel' buttons. The footer of the page includes the copyright notice '© Copyright © 2010 Ministry of Public Works and Transport' and the developer information 'Developed by Cam Info Services'.

6.4 Make new detail

- 1) In "Project Detail" page click "Add New Detail" button



2) in "Detail" input information and click "Add New" button

Document Detail :	"Drawing As Built"
Fund Source :	Select by drawing
Completed Year :	Input by drawing
Road :	Input by drawing
Bridge :	Input by drawing
Province :	Input by drawing
Hard Copy :	Always CHECK
Shelf Code :	001-Shelf
Soft Copy :	Always CHECK
Reference code :	Blanc
Document code :	Blanc
Abstract :	Input by drawing

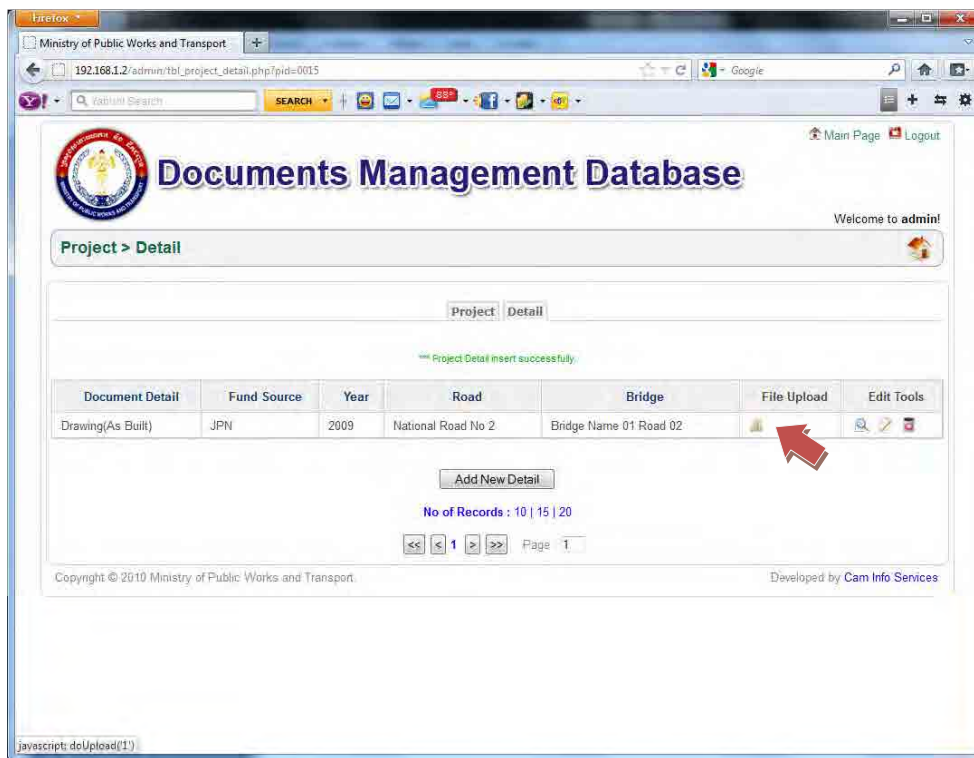
The screenshot shows a web browser window displaying a form titled "Project Detail". The form contains the following fields and values:

- Document Detail : Drawing(As Built)
- Fund Source : JAPAN
- Completed Year : 2009 Month : Mar
- Road : National Road No 2
- Bridge : Bridge Name 01 Road 02
- Province : Kampong Cham
- Hard Copy : Yes
- Shelf Code : 001-Shelf
- Soft Copy : Yes
- Reference code :
- Document code :
- Abstract :



At the bottom of the form, there are two buttons: "Add New" and "Cancel". The footer of the page includes "Copyright © 2010 Ministry of Public Works and Transport." and "Developed by Cam Info Services".

6.5 Register images

1) In "Detail" page click "File Upload" icon (see ).

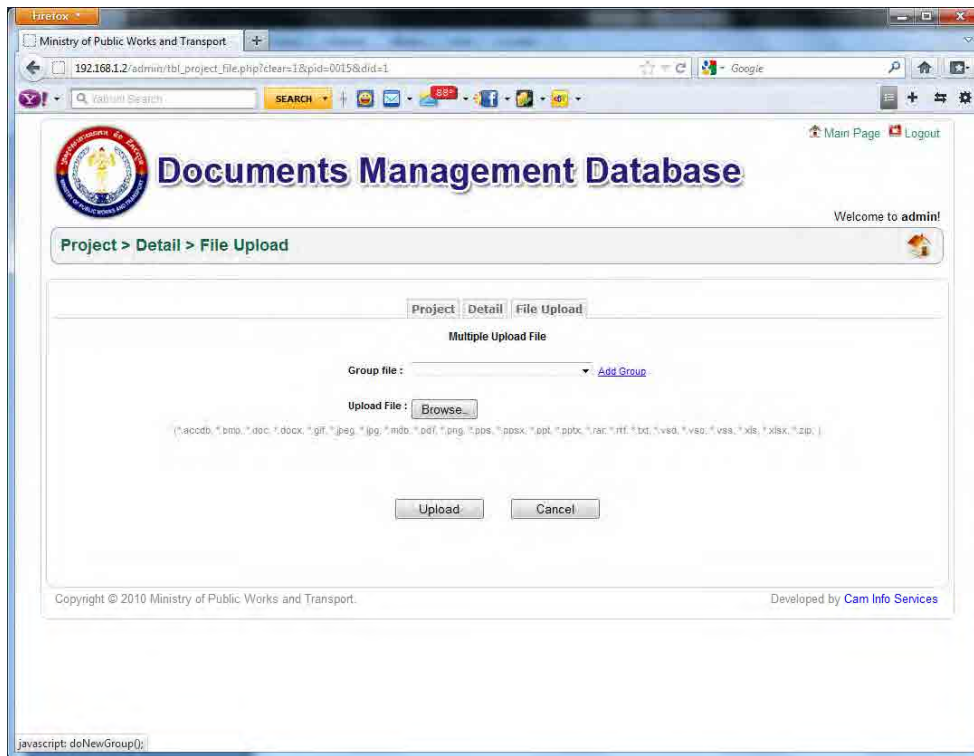


The screenshot shows a web browser window displaying the 'Documents Management Database' interface. The page title is 'Documents Management Database' and the user is logged in as 'admin!'. The page shows a 'Project > Detail' view with a table of document details. A red arrow points to the 'File Upload' icon in the table's action column.

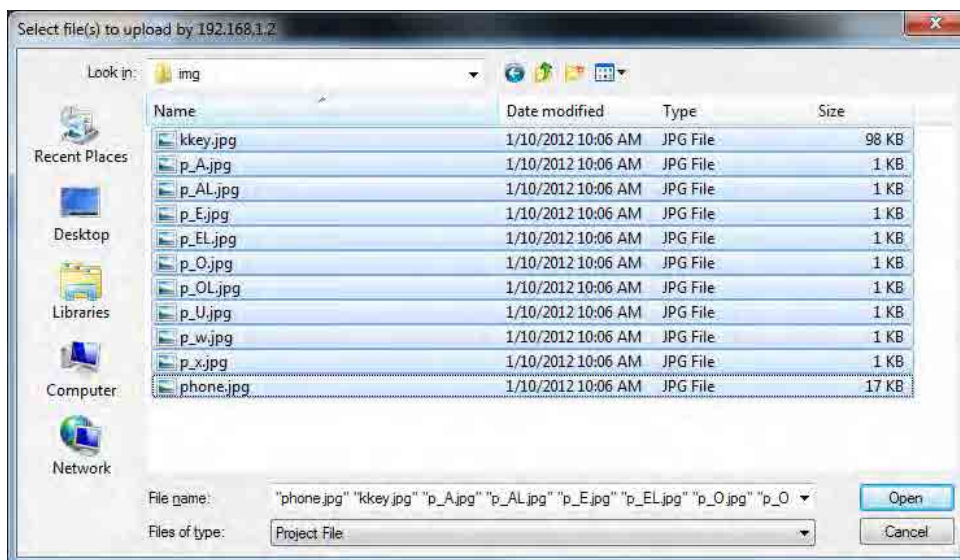
Document Detail	Fund Source	Year	Road	Bridge	File Upload	Edit Tools
Drawing(As Built)	JPN	2009	National Road No 2	Bridge Name 01 Road 02		

Copyright © 2010 Ministry of Public Works and Transport. Developed by Cam Info Services

- 2) In "File Upload" page click "Add Group" link then add Group .
- 3) Then click "Browse" button.



- 4) In "File select" dialog select upload image, then click "Open" button.



- 5) Check the file selected is uploaded.

End

USER MANUAL

for

Document Management Database

Contents

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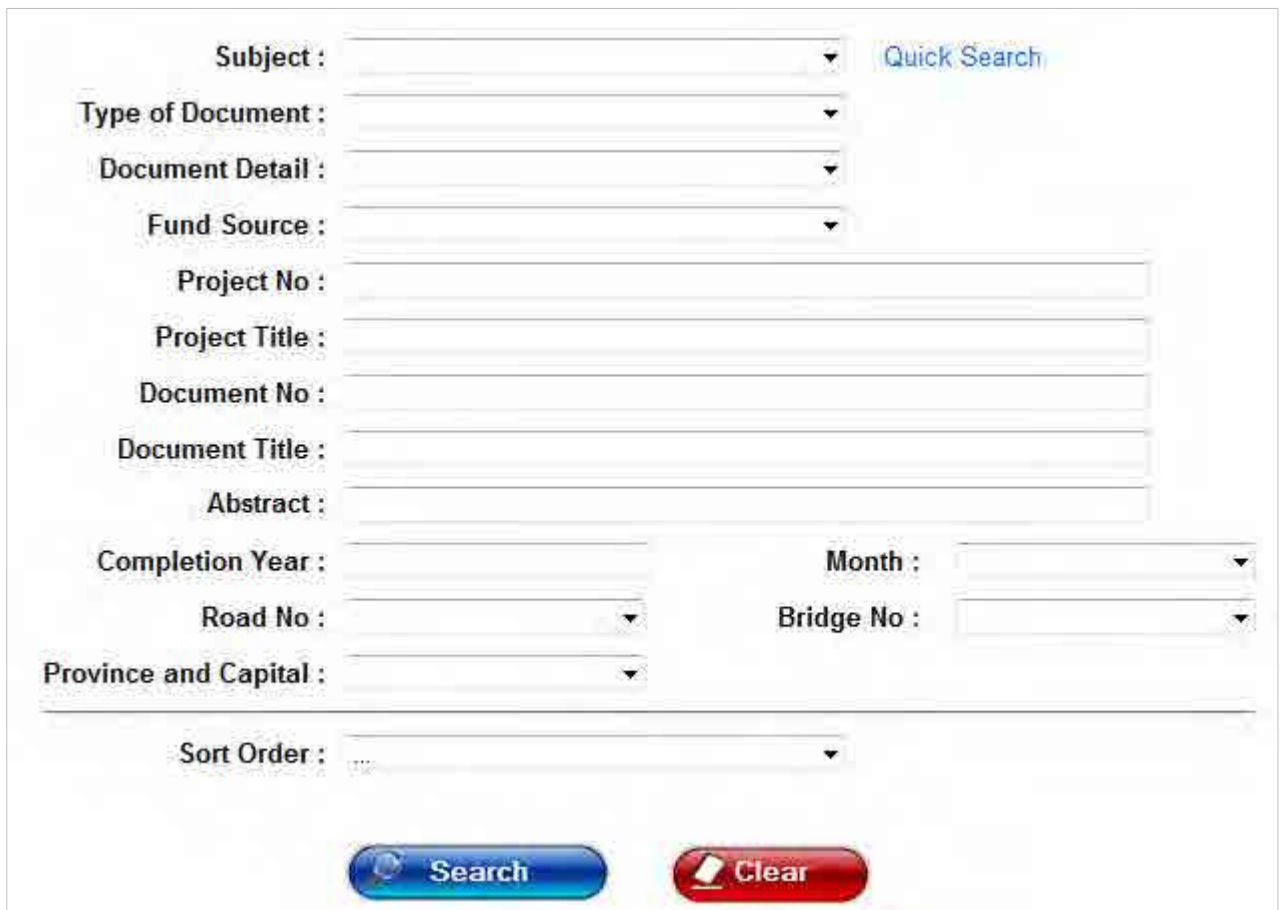
I. CATALOG SEARCH



The screenshot shows the 'Documents Management Database' search page. At the top left is the logo of the Ministry of Public Works and Transport. The main title 'Documents Management Database' is in a large, bold, blue font. Below the title, there is a search interface with a 'Search by:' label and two radio buttons: 'Project' (selected) and 'Document'. A large text input field is positioned below these options. To the right of the input field is a blue link labeled 'Advance Search'. Below the input field are two buttons: a blue 'Search' button and a red 'Clear' button. At the bottom left, there is a copyright notice: 'Copyright © 2010 Ministry of Public Works and Transport.' At the bottom right, it says 'Developed by Cam Info Services.'

- Select Search by **Project** or **Document**
- Type keyword
- click **Search** button or press Enter key.

You can also use advanced search operators by clicking on **Advance Search** link



The screenshot shows the advanced search interface. It features several dropdown menus and text input fields. The fields are labeled: 'Subject', 'Type of Document', 'Document Detail', 'Fund Source', 'Project No', 'Project Title', 'Document No', 'Document Title', 'Abstract', 'Completion Year', 'Month', 'Road No', 'Bridge No', and 'Province and Capital'. A blue link labeled 'Quick Search' is located to the right of the 'Subject' dropdown. At the bottom, there is a 'Sort Order' dropdown menu and two buttons: a blue 'Search' button and a red 'Clear' button.

- Select **Subject**
- Input some of conditions
- Click **Search** button

1. Search Result

No	Subject of bibliography
1	Title : REHABILITATION OF NATIONAL ROAD NO 2 (TAKEO CENTER TO CAMBODIA VIETNAM ; Road and Bridges, Drawing(As Built)
2	Title : EDCF LOAN NO KHM 3. KAMPOT - TRAPANG ROPAOU. ROAD REHABILITATION PROJ ; Road and Bridges, Drawing(As Built)
3	Title : FLOOD EMERGENCY REHABILITATION PROJECT. NATIONAL ROAD COMPONENT. IDA ; Road and Bridges, Drawing(As Built)
4	Title : MEKONG TOURISM DEVELOPMENT PROJECT PART A (II) - ACCESS ROADS IMPROVEM ; Road and Bridges, Drawing(As Built)
5	Title : REHABILITAION PROJECT OF NATONAL ROAD NO.7 OF CAMBODIA FROM KRATIE TO ; Road and Bridges, Drawing(As Built)
6	Title : REHABILITATION NATIONAL ROAD No 7 KOMPONG CHAM ; Road and Bridges, Drawing(As Built)

2. Selected Detail

- Select **Title** of projects or documents dialog above

Detail information show

Detail Information

Subject:

Type of Document:

Documents Detail: (for the Project)

Title:

Road No: **Bridge :**

Completion Year: **Completion Date:**

Province and Capital:

Data File Name:

Hard Copy: Yes
Soft Copy: Yes

Reference No.:
Document code:
Shelf code:

- Select **Data File Name** link

3. Download Files

No	Subject	Image Link
1	001_AS-BUILT DRAWIING	OFD 02 0001 1.jpg
2	002_PR_79_01	OFD 02 0001 2.jpg
3	003_PR_79_02	OFD 02 0001 3.jpg
4	004_PR_79_02	OFD 02 0001 4.jpg
5	005_CR_079_01	OFD 02 0001 5.jpg
6	006_CR_079_02	OFD 02 0001 6.jpg
7	007_CR_079_03	OFD 02 0001 7.jpg
8	008_CR_079_04	OFD 02 0001 8.jpg

- Click on file link to download

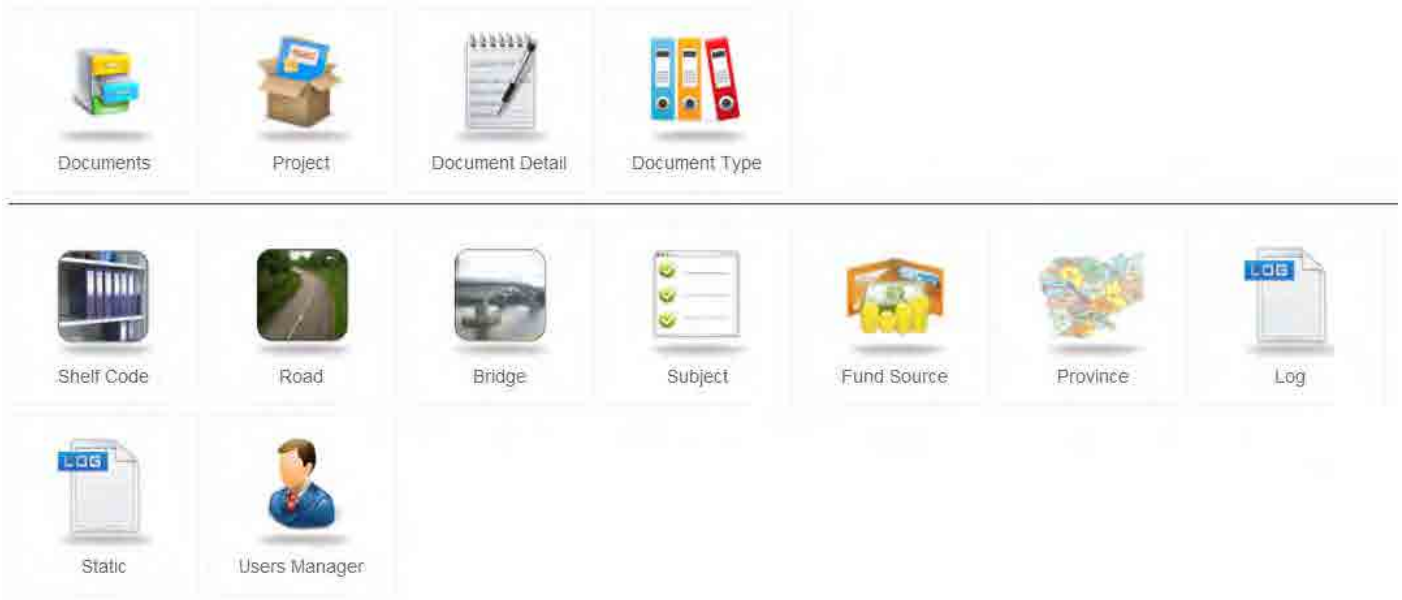
II . ADMINISTRATOR

1. Log In



- Type **Username**
- Type **Password**
- **Login**

* Administrator Control Panel



- Upload Documents
- Upload Projects
- Manage Document Detail
- Manage Document Type
- Manage Shelf Code
- Manage Road
- Manage Bridge
- Manage Subject
- Manage Source of fund
- Manage Province
- Action Log
- Static
- Manage Users

2. Upload Documents

- Select **Documents** link from Control Panel

Subject No ↑	Subject ID	Document Type	Title	File Link	Edit Tools
0001	OFD	Prakas	Prakas General		
002	OFD	Prakas	Prakas 2010 02		
003	OFD	Laws and Regulations			

Displaying 1 - 3 of 3 Records

Add New

2.1. Add New Document

- Click **Add New** button

Subject No :

Subject ID :

Type of Document :

Title :

Year : Month :

Hard Copy : Yes

Shelf Code :

Soft Copy : Yes

Reference code :

Document code :

Abstract :

- Input **Subject Number**
- Select **Subject ID**
- Input necessary fields
- Click **Add**

2.2. Edit Document

- Click **Edit Icon**  on the row to edit

Subject No : 004

Subject ID : OFD

Type of Document : Prakas

Title : Prakas 004

Year : 2010 Month : Jan

Hard Copy : Yes

Shelf Code : SC0001 Shelf Photo :

Soft Copy : Yes

Reference code : R02004

Document code : D02004

Abstract :
Prakas other

- Click **Update** button

2.3. Delete Document

- Click **Delete Icon**  on the row to delete
- Confirm **Yes**

2.4. Open Document Uploaded File

- Click **Open File Icon**  on the row to open file panel

No	Description	File Name	Edit Tools
1	Prakas Page 1	OFD_02_004_1.docx	 
2	Prakas Page 2	OFD_02_004_2.txt	 
3	Prakas Page 2	OFD_02_004_3.xlsx	 

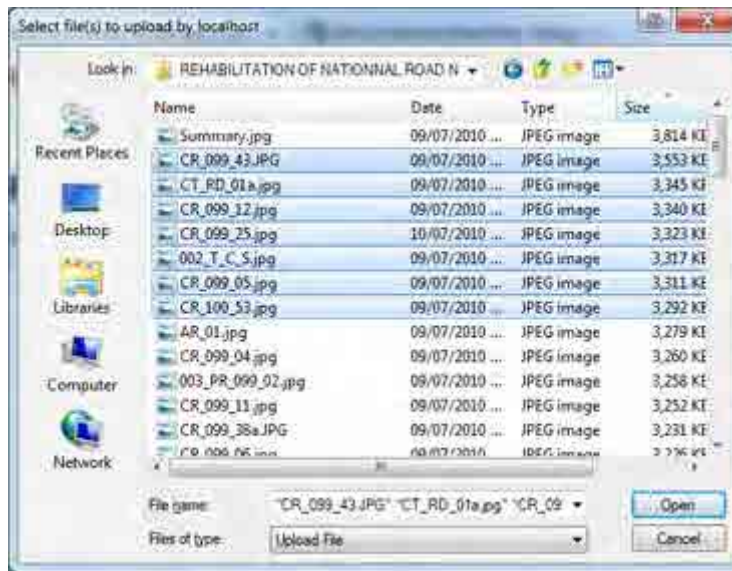
1-3 of 3 Records

2.4.1. Upload New File

- Click **Upload New File**



- Click **Browse** to select file



- Select files for upload and click **Open** button



- Click **Upload** button

2.4.2. Change File

- Click **Edit Icon**  on the row to change

Document **File Upload**


File Upload [Edit]

File : OFD_02_0001_1.jpg

Description : 001_AS-BUILT DRAWIING












- Click **Browse** to Select New File
- Click **Update**

2.4.3. Delete File

- Click **Delete Icon**  on the row to delete
- Confirm **Yes**

3. Upload Projects

- Select **Project Link** from Control Panel

Project No	Subject ID	Document Type	Title	Details	
P001	RDB	04	THE FEASIBILITY STUDY ON THE IMPROVEMENT OF NATIONAL ROAD N ...		  
P002	RDB	04	GREATER MEKONG SUBREGION Phnom Penh to Ho Chi Minh City High ...		  
P003	MT	04	REHABILITATION OF NR2 PROJECT FROM TAKEO CENTER TO CAMBODIA ...		  

Displaying 1 - 3 of 3 Records

Page #: 1

3.1. Add New Project

- Click **Add New** button

Project No :

Subject ID :

Type of Document :

Title :

- Input **Project Number**
- Select **Subject ID**
- Select **Type of Document**
- Input **Title**
- Click **Add** button

3.2. Edit Project

- Click **Edit Icon** 


Project No :	P001
Subject ID :	RDB
Type of Document :	04 Project
Title :	THE FEASIBILITY STUDY ON THE IMPROVEMENT OF NATIONAL ROAD No.1(P)
<input type="button" value="Update"/> <input type="button" value="Cancel"/>	










- Click **Update** button

3.3. Delete Project

- Click **Delete Icon**  on the row to delete
- Confirm **Yes**

3.4. Open Project Details

- Click **Open Details Icon**  on the row to open Project Details

Document Detail	Fund Source	Year	Road	Bridge	File Upload	Edit Tools
Drawing(As Built)	ADB	2011	National Road No 5	Bridge 11 Road 05		 
Drawing(As Built)	ADB	2011	National Road No 5			 
Study Reports	ADB	2010	National Road No 5			 

3.4.1. Add New Project Detail

- Click **Add New Detail**

The screenshot shows a software window titled "Project Detail". The window contains the following fields and controls:

- Document Detail**: A dropdown menu.
- Fund Source**: A dropdown menu.
- Completed Year**: A text input field, followed by **Month**: a dropdown menu.
- Road**: A dropdown menu.
- Bridge**: A dropdown menu.
- Province**: A dropdown menu.
- Hard Copy**: A checkbox followed by the text "Yes".
- Shelf Code**: A dropdown menu.
- Soft Copy**: A checkbox followed by the text "Yes".
- Reference code**: A text input field.
- Document code**: A text input field.
- Abstract**: A large text area for entering text.

At the bottom of the window, there are two buttons: "Add New" and "Cancel".

- Select **Document Detail**
- Select **Fund Source**
- Complete necessary fields
- Click button **Add**

3.4.2. Edit Project Detail

- Click **Edit Icon** 

Project Detail

Document Detail :

Fund Source :

Completed Year : Month :

Road :

Bridge :

Province :

Hard Copy : Yes

Shelf Code :

Soft Copy : Yes


Reference code :

Document code :

Abstract :

- Click **Update** button

3.4.3. Delete Project Detail

- Click **Delete Icon** 
- Confirm **Yes**

3.4.4. Open Project Uploaded File

- Click **Open File Icon**  on the row to open file panel

Serial No	Description	File Link	
001	001_AS-BUILT DRAWING	RDB_04_P0001_06_0001.jpg	 
002	002_PR_79_01	RDB_04_0001_06_0002.txt	 
003	003_PR_79_02	RDB_04_P0001_06_0003.jpg	 
004	004_PR_79_02	RDB_04_P0001_06_0004.jpg	 
005	005_CR_079_01	RDB_04_P0001_06_0005.jpg	 

Upload New File

No of Records : 10 | 15 | 20

<< < 1 1 > >>

(a) Upload New File

- Click **Upload New File**

Multiple Upload File

Group file : Add Group

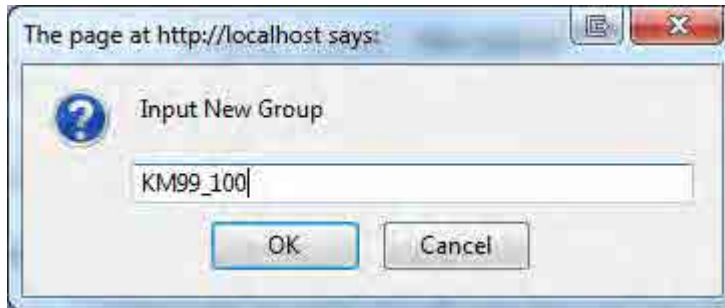
Upload File :

(*.gif,*.jpg,*.jpeg,*.png,*.bmp,*.txt,*.pdf,*.doc,*.docx,*.xls,*.xlsx,*.zip,*.rar)

Upload

Cancel

- Operator can add Group for file by click **Add Group**



- Type group name and click **OK** button

Multiple Upload File

Group file : KM99_100 Add Group

Upload File :

(*.gif,*.jpg,*.jpeg,*.png,*.bmp,*.txt,*.pdf,*.doc,*.docx,*.xls,*.xlsx,*.zip,*.rar)

Upload

Cancel

- Click **Browse** to select file
- Click **Upload** button

(b) Change File

- Click **Edit Icon**  on the row to change

Project Detail **File Upload**

File Upload [Edit]


File :

Description :

Group file :

- Click **Browse** to Select New File
- Modify **Description**
- Select **Group files** for change group
- Click **Update**

(c) Delete File

- Click **Delete Icon** 
- Confirm **Yes**

4. Document Details Manager

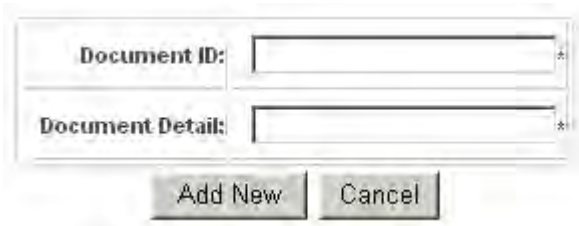
- Select **Document Detail Icon** from Control Panel

Document ID	Document Detail	Edit Tools
01	Study Reports	  
02	Detail Design	  
03	Tender /Bidding of Contract documents	  
04	Completion Report	  
05	Drawing(Tendering)	  
06	Drawing(As Built)	  
07	Others	  

Displaying 1-7 of 7 Records

4.1. Add New Document Detail

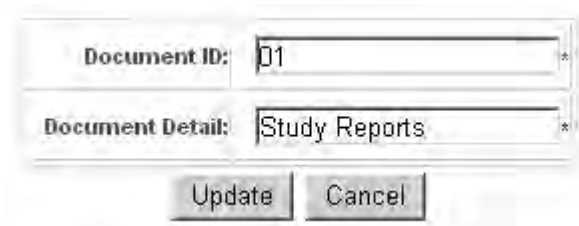
- Click **Add New**



- Input **Document ID**
- Input **Document Detail**
- Click **Add New**


4.2. Edit Document Detail

- Click **Edit Icon** 



- Click **Update**








4.3. Delete Document Detail

- Click **Delete Icon** 
- Confirm **Yes**

5. Document Type Manager

- Select **Document Type Icon** from Control Panel



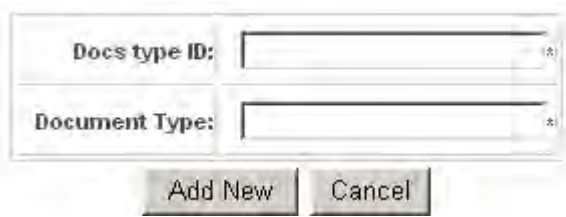
Docs type ID	Document Type	Edit Tools
.01	Laws and Regulations	  
.02	Prakas	  
.03	Policy Papers	  
.04	Project	  
.05	Specifications Standards	  
.06	Guidelines	  
.07	Technical Documents	  
.08	Others	  

Displaying 1 - 8 of 8 Records

Add New

5.1. Add New Document Type

- Click **Add New**



- Input **Document Type ID**
- Input **Document Type**
- Click **Add New**


5.2. Edit Document Type

- Click **Edit Icon** 



- Click **Update**













5.3. Delete Document Type

- Click **Delete Icon** 
- Confirm **Yes**

6. Province Manager

- Select **Province Icon** from Control Panel



Province ID	Province Name	Edit Tools
1	Banteay Meanchey	 
2	Battambang	 
3	Kampong Cham	 
4	Kampong Chhnang	 
5	Kampong Speu	 
6	Kampong Thom	 
7	Kampot	 
8	Kandal	 
9	Koh Kong	 
10	Kratie (KRATTE)	 

6.1. Edit Province Name

- Click **Edit Icon** 



Province Name:

- Click **Update**

7. Road Manager

- Select **Road Icon** from Control Panel



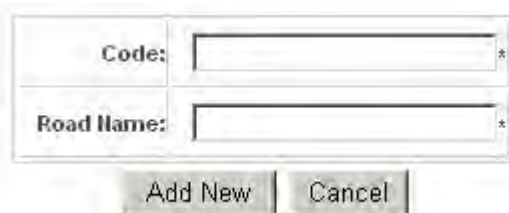
Advanced Search

<u>Code</u> ↑	<u>Road Name</u>	Edit Tools
.01	National Road No 1	 
.02	National Road No 2	 
.03	National Road No 3	 
.04	National Road No 4	 
.05	National Road No 5	 

Displaying 1 - 15 of 52 Records

7.1. Add New Road

- Click **Add New**



Code:

Road Name:

- Input **Code**

- Input **Road Name**

- Click **Add New**

7.2. Edit Road

- Click **Edit Icon** 




Code:

Road Name:

- Click **Update**

7.3. Delete Road

- Click **Delete Icon** 
- Confirm **Yes**

8. Bridge Manager

- Select **Bridge Icon** from Control Panel

Advanced Search  

Bridge Code	Bridge Name	Road Name	Edit Tools
B001R01	Bridge Name 01 Road 01	National Road No 1	  
B001R02	Bridge Name 01 Road 02	National Road No 2	  
B002R01	Bridge Name 02 Road 01	National Road No 1	  
B002R02	Bridge Name 02 Road 02	National Road No 2	  
B003R02	Bridge Name 03 Road 02	National Road No 2	  
R003B01	Bridge Name 03 Road 01	National Road No 1	  

Displaying 1 - 6 of 6 Records

8.1. Add New Bridge

- Click **Add New**

Code:

Bridge Name:

- Input **Code**
- Input **Bridge Name**
- Click **Add New**

8.2. Edit Bridge


- Click **Edit Icon** 

Code:

Bridge Name:

- Click **Update**

8.3. Delete Bridge

- Click **Delete Icon** 
- Confirm **Yes**

9. Subject Manager

- Select **Subject Icon** from Control Panel

  Advanced Search

<u>Subject ID</u> ↑	<u>Subject Name</u>	Edit Tools
ADM	Administration Documents	  
APT	Airport	  
IMT	Inland and Maritime Transport	  
ITC	Information Technology	  
LDT	Land Transportation	  

. Displaying 1 - 15 of 52 Records

9.1. Add New Subject

- Click **Add New**

Subject ID: *

Subject Name: *

- Input **Subject ID**

- Input **Subject Name**

- Click **Add New**

9.2. Edit Subject

- Click **Edit Icon** 

Subject ID: *

Subject Name: *

- Click **Update**



9.3. Delete Subject














- Click **Delete Icon** 

- Confirm **Yes**

10. Fund Source Manager

- Select **Fund Source Icon** from Control Panel

  **Advanced Search**

ID ↑	Fund Source	Edit Tools
ADB	Asian Development Bank	  
CHA	CHINA	  
GVT	Government and Year of Approval	  
JPN	JAPAN	  
KRA	KOREA	  

Displaying 1 - 15 of 52 Records

Add New

10.1. Add New Fund Source

- Click **Add New**

ID :

Fund Source :

Add New **Cancel**

- Input **ID**

- Input **Fund Source**

- Click **Add New**

10.2. Edit Fund Source

- Click **Edit Icon** 

ID :

Fund Source :

Update **Cancel**

- Click **Update**

10.3. Delete Fund Source

- Click **Delete Icon** 

- Confirm **Yes**

11. Users Manager

- Select **User Icon** from Control Panel

  [Advanced Search](#)

ID ↑	Full Name	Username	User Level	Modified Date	Edit Tools
1	Men Socheat	admin	Administrator	2010-10-21 21:18:30	  
2	editor	editor	Editor	2010-10-21 21:18:33	  
3	user	user		0000-00-00 00:00:00	  

Displaying 1 - 15 of 52 Records

[Add New](#)

11.1. Add New User

- Click **Add New**

Full Name:	<input type="text"/>	*
Username:	<input type="text"/>	*
Password:	<input type="password"/>	*
User Level:	<input type="text"/>	*

[Add New](#) [Cancel](#)

- Input **Full Name**
- Input **Username**
- Input **Password**
- Input **User Level**
- Click **Add New**

11.2. Edit User


- Click **Edit Icon** 

Full Name:	<input type="text" value="Men Socheat"/>	*
Username:	<input type="text" value="admin"/>	*
Password:	<input type="password"/>	*
User Level:	<input type="text" value="Administrator"/>	*

[Update](#) [Cancel](#)







- Click **Update**

11.3. Delete User

- Click **Delete Icon** 
- Confirm **Yes**

12. Shelf Code

- Select **Shelf Code Icon** from Control Panel

Shelf Code ↑	Shelf Photo	Edit Tools
SC0001	1.jpg	 
SC0002	bbb	 
SC0003	3.jpg	 

Displaying 1 - 5 of 5 Records

12.1. Add New shelf code

- Click **Add New**

Shelf Code :

Shelf Photo :

- Type **Shelf Code**
- Click **Browse to select Image**
- Click **Add New**

12.2. Edit Shelf code


- Click **Edit Icon** 

Shelf Code :

Shelf Photo : [4](#)

- Click **Browse** to select new Image
- Click **Update**

12.3. Delete Shelf code

- Click **Delete Icon** 
- Confirm **Yes**

13. Action Log

- Select **Log Icon** from Control Panel
- Action Log Show

Filter: All Search

No	Date Time	User	Action
1	2010-10-25 18:18:16	Men Socheat	Modified Road : 01
2	2010-10-25 18:18:08	Men Socheat	Modified Document Type : Laws and Regulations
3	2010-10-25 18:18:01	Men Socheat	Modified Document Detail : Study Reports
4	2010-10-25 18:12:37	Men Socheat	Modified Bridge : B003R02
5	2010-10-25 18:11:25	Men Socheat	Modified Bridge : R003B01
6	2010-10-25 10:09:33	Men Socheat	Modified Province : Banteay Meanchey
7	2010-10-25 09:59:12	Men Socheat	Modified Fund Source : Asian Development Bank
8	2010-10-25 09:56:40	Men Socheat	Modified Subject : Administration Documents
9	2010-10-25 09:54:46	Men Socheat	Added New Bridge : B002R02
10	2010-10-25 09:50:23	Men Socheat	Modified Shelf Code : s0004

No of Records : 10 | 15 | 20

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