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# The South East Asia Community Access Programme (SEACAP) Rural Roads

Monitoring Programme in Lao PDR
(SEACAP 17)

## MONITORING REPORT

***May 2013***

roughton international

This project was funded by the Africa Community Access Programme (AFCAP) which promotes safe and sustainable access to markets, healthcare, education, employment and social and political networks for rural communities in Africa.

Launched in June 2008 and managed by Crown Agents, the five year-long, UK government (DFID) funded project, supports research and knowledge sharing between participating countries to enhance the uptake of low cost, proven solutions for rural access that maximise the use of local resources.

The programme is currently active in Ethiopia, Kenya, Ghana, Malawi, Mozambique, Tanzania, Zambia, South Africa, Democratic Republic of Congo and South Sudan and is developing relationships with a number of other countries and regional organisations across Africa.

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The South East Asia Community Access Programme 17 (SEACAP 17) aimed to identify cost-effective, community orientated approaches for improving year-round access to remote rural areas through a low-cost and local resource based approach in Lao PDR. In 2007, trial pavement sections, constructed from concrete, bituminous seals, stone and gravel, were constructed on seven low volume rural roads (LVRR) near the regional capital of Bokeo Province, Houay Xai.

The roads were monitored after construction in 2007 and once more in 2009, however, after this point no funding was available to continue the monitoring work and there was a risk of valuable knowledge being lost. In 2012, the African Community Access Programme (AFCAP) funded a monitoring visit which took place in October 2012. The objective was to assess performance of these trial sections, after having been trafficked for 5 years, so the information could be used to supplement knowledge being gathered on similar projects in Africa – most notably the AFCAP projects in Bagomoyo and Siha Districts of Tanzania.

This report outlines the main findings from the monitoring process in Lao and makes some recommendations based on these findings, particularly in relation to pavement choice for LVRR, for use on future projects.

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## LIST OF ABBREVIATIONS

| Abbreviation | Description |
|---|---|
| % | Percent |
| ADB | Asian Development Bank |
| ADT | Average Daily Traffic |
| AFCAP | African Community Access Programme |
| CBR | California Bearing Ratio |
| cm | Centimetre |
| DCP | Dynamic Cone Penetrometer |
| $E_0$ | Surface modulus at top of construction (MPa) |
| E1 | Elastic modulus of upper pavement layers (MPa) |
| E2 | Elastic modulus of lower pavement layers (MPa) |
| $E_m$ | Subgrade modulus at top of construction (MPa) |
| EOD | Environmentally Optimised Design |
| GPS | Global Positioning System |
| IRI | International Roughness Index |
| km | Kilometre |
| LRD | Local Road Division |
| LTEC | Lao Transport Engineering Consult |
| LVRR | Low Volume Rural Roads |
| LWD | Light Weight Deflectometer |
| m | Metre |
| $m^2$ | Square metre |
| MC | Medium Cure (bitumen) |
| MDD | Maximum Dry Density |
| MERLIN | **M**achine for **E**valuating **R**oad roughness using **L**ow cost **IN**strumentation |
| mm | Millimetre |
| MPa | Megapascals |
| NEC | Northern Economic Corridor |
| PDR | People's Democratic Republic |
| PRoMMS | Provincial Road Maintenance Management System |
| SEACAP | South East Asia Community Access Programme |
| SID | Spot Improvement Design |
| USD | United States Dollar |
| VOC | Vehicle Operating Cost |
| $\delta_1, \delta_2, \delta_3$ | Deflection values |
| µm | Micrometre |

**Local Resource Solutions to Problematic Rural Road Access in Lao (PDR)**
**SEACAP 17 Rural Access Roads on Route No.3**

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## SEACAP 17 Project Overview

The South East Asia Community Access Programme 17 (SEACAP 17) aimed to identify cost-effective, community orientated approaches for improving year-round access to remote rural areas through a low-cost and local resource based approach in Lao PDR. In 2007, trial pavement sections, constructed from concrete, bituminous seals, stone and gravel, were constructed on seven low volume rural roads (LVRR) near the regional capital of Bokeo Province, Houay Xai.

The roads were monitored after construction in 2007 and once more by an LTEC-OTB survey in 2009, however, after this point no funding was available to continue the monitoring work and there was a risk of valuable knowledge being lost. In 2012, the African Community Access Programme (AFCAP) funded a monitoring visit which took place in October 2012. The objective was to assess the performance of these trial sections, after having been trafficked for 5 years, so the information could be used to supplement knowledge being gathered on similar projects in Africa – most notably the AFCAP projects in Bagomoyo and Siha Districts of Tanzania.

This report outlines the main findings from the monitoring process in Lao and makes some recommendations based on these findings, particularly in relation to pavement choice for LVRR, for use on future projects.

## Monitoring History

To successfully monitor the trial pavements, various data were collected prior to and during construction. Specifically, data were collected on bearing capacity of the road foundations, gradients and alignment, predicted traffic loading and climatic data. Following completion of the demonstration sections in 2007, a set of baseline data was collected by the consultant. A follow up condition survey was carried out in February 2009 by Lao Transport Engineering Consult (LTEC) and OTB Engineering (International) Ltd. LTEC is a local consultancy that assisted the consultant during the construction supervision stage, whilst OTB Engineering (International) Ltd. was involved in other similar SEACAP projects.

The condition surveys carried out in October 2012 are the third set of condition data collected for the SEACAP trial sections over a period of 5 years. This data will provide information on the short-medium term performance of roads constructed under the Environmentally Optimised Design (EOD) ethos, allowing for a more comprehensive understanding of the deterioration and maintenance required over time.

## Trial Pavements

A total of seven district roads were chosen in the project area. Along these roads, a number of trial sections consisting of different surfacings were constructed. The pavement types consisted of:

- Engineered natural earth;
- NEC gravel pavement;
- Bamboo reinforced concrete;
- Concrete geocells,
- Concrete paving bricks;
- Hand packed stone;
- Mortared stone;
- Single Sand seal;
- Double Otta seal;
- Single Otta with sand cover seal;

## Main Outcomes of the Monitoring Trip

The overall impact of the road construction has been very positive. Local people spoke of better access to local markets, health facilities and schools. The economy in the area has been improved by better access to the villages and to local markets. From a social perspective, the road improvements

have achieved their goal and improved the lives of local residents as well as increasing economic opportunity in the area.

Results from an engineering perspective have also been positive, with the majority of pavements performing very well. The concrete surfaces, such as bamboo reinforced concrete and geocells are in excellent condition, with very little deterioration observed. Similarly the concrete paving bricks have proven to be a very durable surfacing and are still in very good condition after 5 years trafficking. The Otta seals have performed well, however, at this stage they would benefit from some routine maintenance to repair a number of potholes and some edge break. Regardless of some minor defects, overall it is felt that these surfaces has proven themselves to be appropriate options for low volume rural road (LVRR) construction and should be considered for use on future projects.

In the Otta seal and sand seal sections it was found that the CBR of the base material is not as high as it should be, but, the Otta seal sections are performing very well. There is some rutting which could be attributed to the relatively weak base layer, however, it is not causing serious distress at present and the roads have been trafficked for 5 years without maintenance. The same cannot be said of the sand seal, this deterioration is a result of disintegration of a poor quality surfacing, rather than structural defects.

In the time since SEACAP, further work on LVRR design has been done, particularly in Africa under AFCAP. One of the outcomes of this work is that the specification requirements for materials, particularly in the base layer, can be reduced in comparison to those required for general highway construction. In other words, an 80% (soaked) CBR specification for base material is not necessarily required for LVRR construction. Manuals, such as the Ethiopian Pavement Design Manual for LVRR, recognise this fact and specifications for a base layer in a road similar to this one have been reduced to CBR (soaked) of 65%.

The CBR for Otta seal sections will not comply with this reduced specification either, however, the road is still performing well. As a result, a clear recommendation on a suitable reduced CBR value cannot be made on the back of the findings in Lao as the section is performing well despite the CBR values being lower than desirable; however, they do indicate that CBR values in current LVRR specifications are most likely within the correct range. The rutting is higher than desirable; however, this can be avoided by using a material with a higher CBR specification and/or increased compaction (compaction to refusal, rather than at 98% MDD).

The single sand seals performed poorly and in many areas the seal has completely disintegrated. As a result, they are not recommended for use on future LVRRs. They do not provide a durable surface - the consequences of which are poor road condition within a short period of time and/or high maintenance costs. No country can afford excessive road maintenance costs, but this is particularly so in the case of the many countries where LVRRs are prevalent. As a result, it is recommended that practitioners consider more robust surfacing options such as concrete (slabs or geocells), Otta seals or concrete paving bricks rather than single sand seals.

Hand packed stone and mortared stone have performed reasonably well from an engineering perspective. With the exception of some damage at the edges and occasional missing stones, the surfaces are in good condition and still allow year round access. However, the inherent roughness of these surfaces is not satisfactory to local road users (this was also observed in Tanzania) and as a result, they tend to use the shoulders. This has contributed to the damage at the edges of these surfaces. Locals also said that the rough surfaces damaged their vehicles and posed a risk to cyclists, some of whom have fallen from their bicycles. As a result, it is recommended that this surfacing should not be used unless there are no other alternatives available.

The concrete paving blocks provide a durable, hard-wearing and fully functional pavement in Lao. Although they have been an expensive option in this project, the costs are likely to be lower

elsewhere. Concrete paving blocks also provide an aesthetically pleasing surfacing, as well as reduction of dust problems in towns and villages.

The gravel sections lost their wearing courses during the first 5 years after construction and no re-gravelling was carried out. This highlights the high maintenance needs of these pavements particularly in wet areas where annual gravel loss can be expected to be high.

The IRI values calculated during monitoring, particularly between 2009 and 2012, appear to be reducing on some sections, contrary to an expected small increase. It is possible that the current MERLIN formula for calculating IRI may not be appropriate for hand laid surfaces, concrete or segmental block surfaces. Further monitoring would be required to assess this more fully.

In the LWD test results on segmental block and concrete pavements, there were some issues both with the deflections observed and with the moduli that the analysis returned. It is likely that the LWD is not suitable for use on these pavements and should be used on un-sealed and bituminous sections only.

During the socio-economic survey it was concluded that access to health facilities has improved since the construction of the trial sections, the trial sections have made travel time to distant schools shorter, many of the villages along the roads have experienced local economic improvement, and that impacts of the construction on road safety generally did not seem to be a concern.

# 1.0 INTRODUCTION

## 1.1 Background

The South East Asia Community Access Programme (SEACAP) was the forerunner to the African Community Access Programme (AFCAP), which is now operational in a number of countries across Africa. The SEACAP projects had similar research and knowledge sharing goals as AFCAP, with the focus being on the development of low-cost design solutions for low-volume rural roads.

AFCAP looks to take advantage of data available from past SEACAP projects in order to obtain relevant information relating to the performance of various surfacing options on low volume rural roads. Past SEACAP projects have been conducted in Lao PDR, Vietnam and Cambodia. The project roads constructed under SEACAP 17 were in Houay Xai district in Northern Lao.

The information available from the SEACAP project roads has been highlighted as highly relevant and applicable data to the AFCAP projects that can provide a window into the long term performance of the rural low volume road solutions implemented. The objective of the monitoring is to gather data on the performance of the roads and assess the various trial sections and their suitability for use as pavement options for low volume rural roads in similar environments in the future.

## 1.2 South East Asia Community Access Project (SEACAP) 17 and Northern Economic Corridor Project

The Lao People's Democratic Republic is at the centre of the Mekong region of South East Asia. It has an agrarian economy with more than three-quarters of the population living in rural areas and dependent on agriculture. Around the time of construction of the SEACAP roads, it was estimated by the International Forum for Rural Transport and Development (IFRTD) that some 90% of the poverty in Lao PDR was rural-based and there was a strong correlation between access to basic infrastructure services and the incidence of poverty.

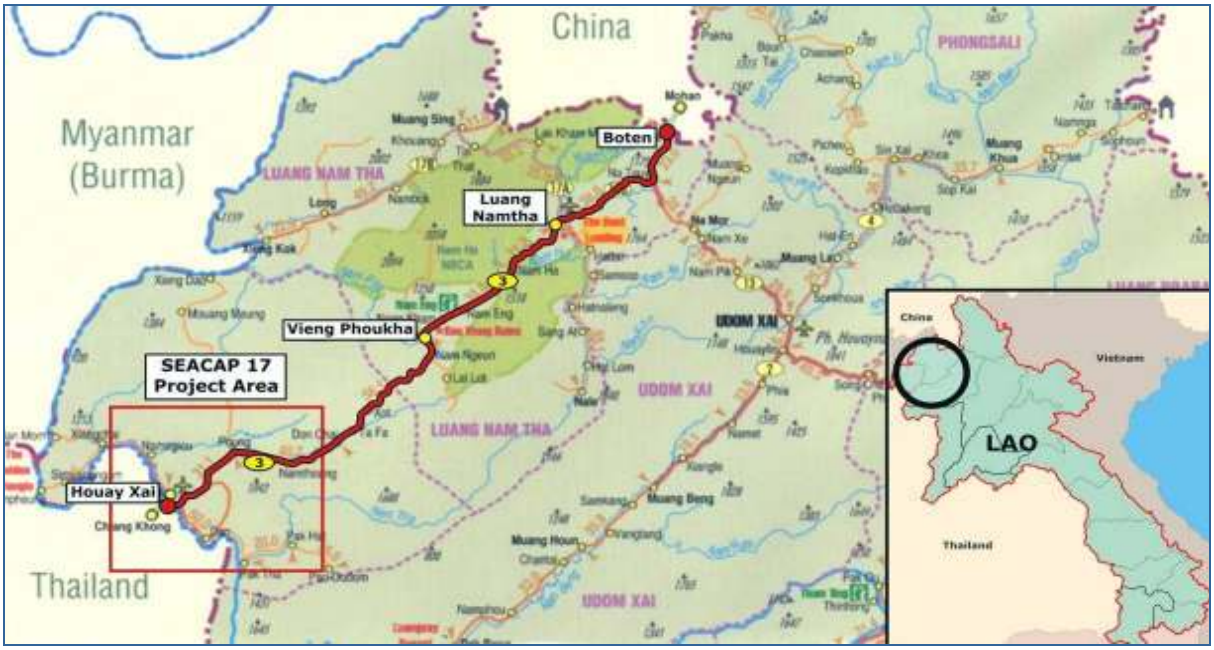
The goal of SEACAP, similar to that of AFCAP, was to support the uptake of low cost, sustainable solutions for rural access. Improving the sustainability and affordability of rural access will lead to improved access to economic opportunities and to health and education services, thereby creating opportunities for pro-poor growth and poverty alleviation. SEACAP 17 aimed at identifying cost-effective methods of improving all-year access to the rural poor through low-cost, local resource based improvement of problematic lengths of road, resulting in effective and sustainable rural access roads in Lao PDR.

The project was implemented in conjunction with the Asian Development Bank (ADB), who funded the Northern Economic Corridor Project (NEC) to carry out research on a group of rural access roads in Houay Xai district of Lao PDR. The project required close collaboration between the Ministry of Public Works and Transport, ADB, SEACAP and the Consultant.

The NEC project aimed to improve the Route No.3 (R3) road from Houay Xai on the Thai border with Lao PDR to Boten on the Chinese border. This created an international north - south corridor linking Thailand and the People's Republic of China (PRC). The location of Route 3 is shown in Figure 1, also shown in this Figure is the SEACAP 17 Project area.

Around 2007, the 228 km long NEC Route 3 was upgraded from a poor quality gravel road, known to become impassable during the wet season, to a combination of Class II and Class III as defined by the Lao PDR design standards. This has resulted in the provision of a 7 m wide paved carriageway with surface dressed shoulders of between 1.5 and 2.5 m wide. This upgrading of R3, to which the project access roads connect, places additional emphasis on the need to upgrade the access roads so that the benefits of the R3 improvement are spread as widely as possible. For this reason a set of 3 contracts were let, each covering a package of access roads, alongside the main contracts for R3 improvement.

### Figure 1: Location of NEC and SEACAP 17 Projects




The approach taken to setting up the project was that trial sections should not be isolated on different parts of a road, but should be assembled together on complete roads as shown in Figure 2. The selected roads were solely in Package 1 of the three construction package format used to construct the access roads along the R3 road. All roads that contain a trial section became a SEACAP Access Road in their entirety. The access roads selected, totalling 28.2 km, are listed in Table 1 and are shown graphically in Figure 2. Also shown in Table 1 is an approximate terrain classification.

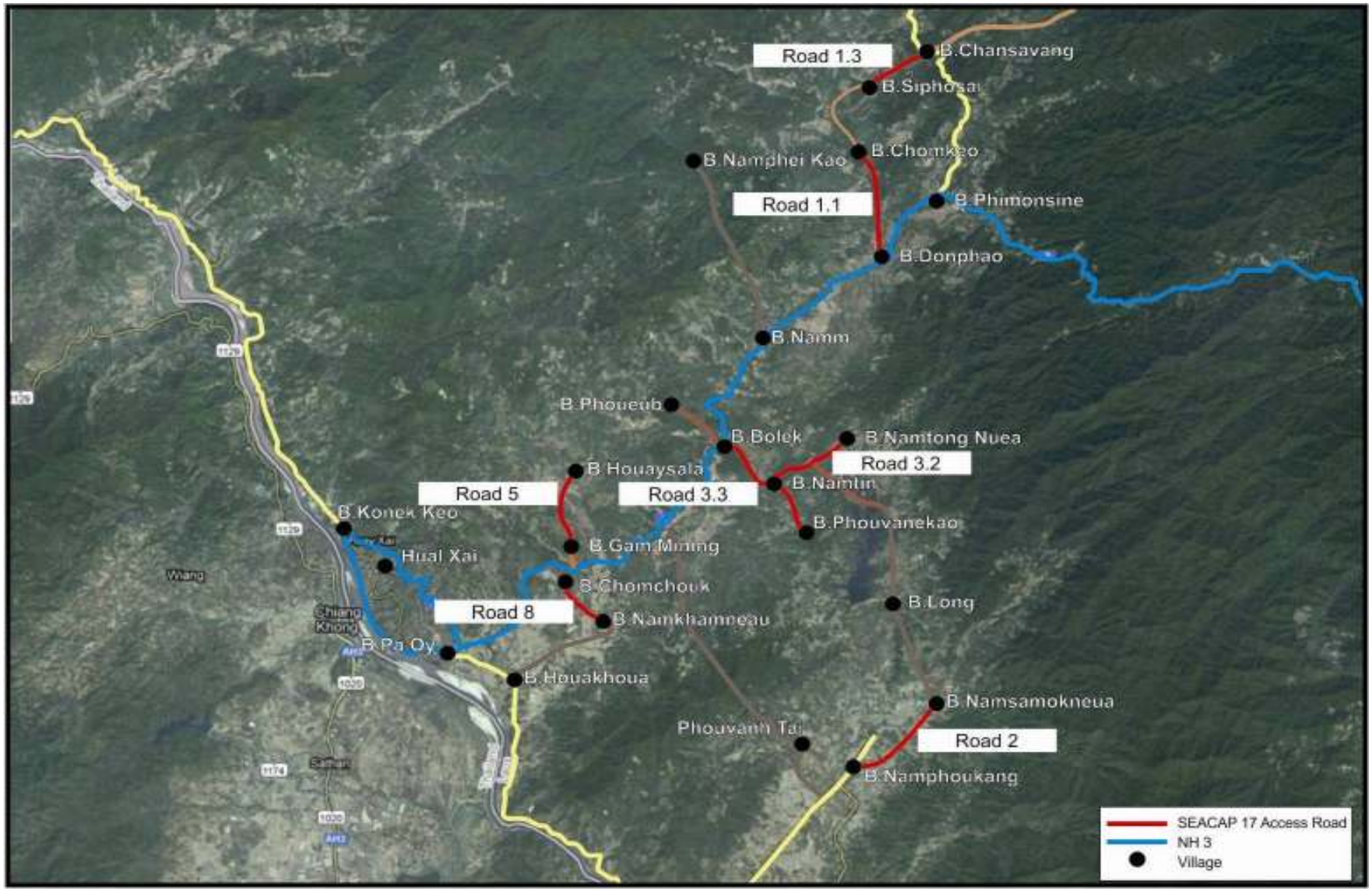
The adopted approach was to replace the standard NEC gravel pavement with SEACAP trial pavements at specific locations along the roads where access becomes limited during the wet season. These critical sections were highlighted and treated with more substantial pavement options than the standard NEC gravel, which is usually applied along the entire length of rural road. This Environmentally Optimised Design (EOD) approach is the same as that which has been applied in Tanzania under the AFCAP project.

EOD and Spot Improvement Design (SID) are used in combination as a road design tool that considers the variation of the different road environments along the length of the road, and the need to tailor design to the relevant circumstances of each critical section. Based on knowledge of the key factors of geometry, pavement structure, drainage, and slope stability the optimum road construction can be selected and designed.

### Table 1: SEACAP 17 Rural Access Roads

| Road No. | From: | To: | Length (km) | Terrain Classification |
|---|---|---|---|---|
| 1-1 | B.Phimonsine | B.Chomkeo | 2.183 | Hilly |
| 1-3 | B.Chansavang | B.Siphosai | 2.887 | Rolling |
| 2.0 | B Namphoukang | B.Namsamokneua | 5.350 | Flat |
| 3-2 | B.Bolek | B.Namtong Nuea | 6.880 | Rolling |
| 3-3 | B.Namtin | B.Phouvanekao | 2.000 | Rolling |
| 5.0 | B Gam Mining | B.Houaysala | 6.093 | Hilly |
| 8.0 | B.Chomchouk | B.Namkhamneua | 2.770 | Rolling |

## Figure 2: Map of Selected SEACAP Access Roads



## 1.3 Africa Community Access Project (AFCAP) Objectives

The goal of AFCAP is to support the uptake of low cost, sustainable solutions for reliable rural access. Improving the sustainability and affordability of rural access will lead to improved access to economic opportunities and to health and education services, thereby creating opportunities for pro-poor growth and poverty alleviation. The SEACAP 17 project aims were highly similar to those of AFCAP, which is being carried out in seven countries in Africa. These include identifying cost-effective methods of improving all-year access for the rural poor through low-cost, local resource based improvement of problematic lengths of road, resulting in effective and sustainable rural access roads.

The overall goal of AFCAP in rural environments is to investigate and to promote suitable methods of sustainable technology for the construction of low volume roads. Essentially, the programme has questioned the practicalities of gravel surfacing over the long term and sought to develop options and strategies for alternative, more sustainable pavement structures.

The objectives common to both AFCAP and the SEACAP projects include:

- Improve sustainable access to economic and social opportunities for poor rural communities;
- Provide all weather access to district roads using Environmentally Optimised Design;
- Demonstrate alternative pavement surfaces suitable for low volume roads in Tanzania which will dramatically reduce the demand for gravel;
- Identify cost effective, community based construction methods;
- To create a design philosophy/ concept for low volume rural roads;
- Change current design ideology for low volume rural roads, which presently involves extensive re-gravelling works;
- To promote the use of locally sourced construction materials and investigate the use of alternative 'marginal' materials – materials presently considered substandard, but which can actually perform satisfactorily on low volume roads;
- To promote the use of labour based construction methods to provide employment for people in local communities and help maintain the rural road network after construction is completed.

## 1.4 Merging of SEACAP and AFCAP Data

The monitoring data gathered in Lao will provide useful information on how existing roads, which have been constructed using methods similar to those used in Tanzania, are performing over longer time periods under similar low volume traffic loading. Under the AFCAP project in Tanzania, a number of demonstration sites have been constructed using Otta seal, sand seal, concrete and hand packed stone.

These pavement types were also constructed in Lao. It will be beneficial to the Bagamoyo and Siha Project, and the AFCAP programme in general, if this information is not lost. There is a mass of potential information available in Lao, subject to the completion of the monitoring programme. This information should be incorporated in both current and future AFCAP projects, lessons learnt and knowledge should be disseminated amongst other practitioners.

# 2.0 SEACAP TRIAL PAVEMENTS

## 2.1 Constructed Trial Pavements

A number of different surfacing options were trialled during the SEACAP 17 project to investigate the applicability of different materials across the broad spectrum of influencing factors such as geometry, subgrade strength and gradient experienced in Lao. The various trial sections, surfacing options and chainages are given in Table 2.

### *2.1.1 Standard NEC Gravel*

Gravel surfacing is not always the best solution for rural roads in many circumstances. Work undertaken in neighbouring Vietnam[1] showed that although gravel has been the commonly recommended surfacing in recent rural road rehabilitation programmes, there was little available data on its engineering performance and deterioration, and that this knowledge gap required urgent attention.

The subsequent SEACAP 4[2] investigations at a significant number of road sites in Vietnam found serious shortcomings with the use of gravel due to factors relating to material quality, material availability, climate, terrain, drainage provision and maintenance. Overall gravel loss figures indicate that around 58% of the surveyed sites were suffering unsustainable deterioration (i.e. deterioration at a rate where it is not economically justifiable to continue re-gravelling, typically for losses over 20 mm/year), while 28% were losing material at twice the sustainable rate.

Care must be taken when considering these figures as any gravel road is affected by a range of parameters. For example a gravel road in mountainous terrain may have steep gradients, but it is unlikely that the steep gradients extend for the length of the entire road. Therefore, while the gravel surface may not be suitable for those steep sections, it may be perfectly suitable for the remaining sections of the road. It is often the case that existing standard design methods do not provide for additional improvement to the steep sections of the road, leading to access being broken in the wet season. The entire road is then believed to be impassable; however, in fact only a short section is impassable. The consultant's suggested concentration of effort and funds on the problematic lengths is termed the 'spot improvement design philosophy' and as such this was the philosophy applied in the construction of the trial sections under the SEACAP 17 project.

### *2.1.2 Bamboo Reinforced Concrete*

The construction method is the same as ordinary steel mesh reinforced concrete pavements with the exception that a bamboo mesh replaces the steel mesh and the specified 28 day strengths ranged from 9-25 N/mm$^2$ in different sections. The slabs were 3.5 m wide (the carriageway width) with a length of 5 m. No dowels were used between the slabs. The specification recommends that the bamboo, which comprises strips cut from large bamboo stems, shall have a minimum thickness of 5 mm, have a minimum age of 4 growing years and be dried for a season.

Subsequent to the work carried out under this project, an investigation has been undertaken to establish the contribution that the bamboo makes to the overall strength of the pavement.

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[1] ***Rural Road Surfacing Research***, *SEACAP 1, Final Report, Ministry of Transport Vietnam, December 2006.*

[2] ***Rural Road Gravel Assessment Programme***, *SEACAP 4, Final Report, Ministry of Transport Vietnam, July 2005.*

### Table 2: List of SEACAP Trial Sections

| Access Road | | | | | | Trial Section Pavement Type | | Length | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | From | To | Start (km) | End (km) | Length (km) | | | Start (km) | End (km) | Length (m) |
| 1-1 | B. Phimonsine | B. Chomkeo | 0.000 | 2.183 | 2.183 | Control Section | NEC Standard Gravel | 0.500 | 0.700 | 200 |
| 1-3 | B. Chansavang | B. Siphhosai | 0.600 | 3.487 | 2.887 | Control Section | NEC Standard Gravel | 1.220 | 1.420 | 200 |
| 2 | B. Namphoukang | B. Namsamokneua | 0.000 | 5.350 | 5.350 | Control Section | NEC Standard Gravel | 0.400 | 0.600 | 200 |
| | | | | | | Pavement Trial | Hand Packed Stone | 0.600 | 1.080 | 480 |
| | | | | | | Training Section | Hand Packed Stone | 1.080 | 1.100 | 20 |
| 3-2 | B. Bolek | B. Namtong Nuea | 0.000 | 6.680 | 6.680 | Training Section | Single Otta Seal | 0.020 | 0.120 | 100 |
| | | | | | | Pavement Trial | Single Otta Seal | 0.120 | 0.320 | 200 |
| | | | | | | Pavement Trial | Single Otta Seal w/ Sand Seal | 0.320 | 0.520 | 200 |
| | | | | | | Training Section | Eng' Nat. Surface | 0.520 | 0.620 | 100 |
| | | | | | | Pavement Trial | Eng' Nat. Surface | 0.620 | 0.920 | 300 |
| | | | | | | Training Section | Mortared Stone | 0.920 | 1.020 | 100 |
| | | | | | | Pavement Trial | Mortared Stone | 1.020 | 1.520 | 500 |
| | | | | | | Control Section | NEC Standard Gravel | 1.520 | 1.720 | 200 |
| 3-3 | B. Namtim | B. Phouvanekao | 0.000 | 2.000 | 2.000 | Control Section | NEC Standard Gravel | 1.600 | 1.800 | 200 |
| 5 | B. Gam Mining | B. Houaysala | 0.000 | 6.093 | 6.093 | Training Section | Concrete Paving Blocks | 0.900 | 0.920 | 20 |
| | | | | | | Pavement Trial | Concrete Paving Blocks | 0.920 | 1.400 | 480 |
| | | | | | | Pavement Trial | Bamboo Concrete | 1.950 | 2.325 | 375 |
| | | | | | | Pavement Trial | Bamboo Concrete | 2.325 | 2.500 | 175 |
| | | | | | | Training Section | Bamboo Concrete | 2.500 | 2.525 | 25 |
| | | | | | | Pavement Trial | Geocells | 2.750 | 2.950 | 200 |
| | | | | | | Pavement Trial | Geocells | 2.950 | 3.050 | 100 |
| | | | | | | Pavement Trial | Geocells | 3.050 | 3.125 | 75 |

| Access Road | | | | | | Trial Section Pavement Type | | Length | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | From | To | Start (km) | End (km) | Length (km) | | | Start (km) | End (km) | Length (m) |
| | | | | | | Training Section | Geocells | 3.125 | 3.150 | 25 |
| | | | | | | Control Section | Standard NEC Gravel | 3.150 | 3.350 | 200 |
| 8 | B. Chomchouk | B. Namkhamneua | 0.000 | 2.770 | 2.770 | Training Section | Sand Seal | 1.500 | 1.630 | 130 |
| | | | | | | Causeway | | 1.635 | 1.670 | 35 |
| | | | | | | Pavement Trial | Sand Seal | 1.670 | 2.200 | 530 |
| | | | | | | Control Section | NEC Standard Gravel | 2.200 | 2.400 | 200 |
| | | | | **Total** | **28.164** | | | | **Total** | **5.500** |

It was concluded that while this form of construction is quite common in South East Asia, the bamboo does not contribute to the structural integrity of the pavement and in fact may have a detrimental effect[3], therefore bamboo as reinforcement is not recommended for concrete roads.

In consequence, the bamboo reinforced pavement should be treated as an unreinforced concrete pavement without the use of any steel, and should be monitored as such.

### 2.1.3 Geocells

This entails the use of plastic cells as a sacrificial formwork into which concrete is poured and compacted lightly by hand. The specified concrete strengths ranged from 9 N/mm$^2$ to 25 N/mm$^2$ after 28 days. Rather than a concrete or rigid pavement, this construction should be considered more as a flexible block paving surface where the blocks are cast in-situ. The thicknesses trialled varied from the thickness of a paving brick (75 mm) to the thickness of the concrete slabs (150 mm).

### 2.1.4 Mortared Stone

These pavements are constructed using stone sourced from a quarry. Rectangular dressed blocks of stone are produced and are placed close to one another. For protection, the void between the stones is then filled with a cement mortar similar to grouted stone riprap.

### 2.1.5 Hand Packed Stone

This is similar to the mortared stone, with the exception that the voids are filled with sand or crusher dust mixed with smaller chips. The fine material is watered and brushed into the voids while the pavement is compacted with a light roller.

### 2.1.6 Concrete Paving Blocks

This option utilises precast concrete blocks of 200 mm x 100 mm, which are placed on the prepared sub-base layer. This simple pavement construction results in an aesthetically pleasing flexible pavement.

The joints between the blocks are filled with sand or crusher dust - it has also been suggested that the joints can be sealed with mortar or bitumen.

### 2.1.7 Single Sand Seal

This type of pavement comprises a crushed rock base of 150 mm primed with MC-70 bitumen at a rate 0.85 l/m$^2$. The sand seal was successfully constructed by the contractor using MC-3000 bitumen applied at a rate 0.80 l/m$^2$, followed by a sand cover applied at a rate 0.012 m$^3$/m$^2$, and finally rolled with a 12 t steel wheel roller.

### 2.1.8 Single Otta Seal (with Sand Seal)

This pavement comprises a crushed rock base of 150 mm primed with MC-70 bitumen at a rate 0.85 l/m$^2$. The Otta seal was successfully constructed by the contractor using MC-3000 bitumen applied at a rate 1.6-1.8 l/m$^2$, followed by a sand cover applied at a rate 0.015 m$^3$/m$^2$, and finally rolled with a 12 t steel wheel roller. While the use a pneumatic tyred roller is recommended so that the aggregate is kneaded into the surface, the steel wheeled roller was allowed due to availability.

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[3] ***Bamboo Reinforced Concrete Pavements****, J Rolt (TRL Limited), Technical Paper No 1, SEACAP 19. Development of Local Resource Based Standards., South East Asia Community Access Programme Development of Local Resource Based Standards, Royal Government of Cambodia, February 2008.*

The sand cover was constructed with an overlying sand seal, using MC-3000 bitumen applied at a rate 0.80 l/m², followed by sand applied at a rate 0.012 m³/m², and finally rolled with a 12 t steel wheel roller.

### 2.1.9 Double Otta Seal

This pavement comprised a crushed rock base of 150 mm primed with MC-70 bitumen at a rate 0.85 l/m². The Otta seal was successfully constructed quickly by the contractor using a MC-3000 bitumen applied at a rate 1.6-1.8 l/m² followed by a sand cover applied at a rate 0.015 m³/m² and rolled with a 12 t steel wheel roller. The second Otta seal was a repeat of the first.

### 2.1.10 Engineered Natural Surface

These pavements are earth surfaces but comprise shaped and compacted existing in-situ soil material to form a carriageway with a cross fall of about 5%, so that rainwater is dispersed into the side drainage in order to ensure that rain water flows away from the road. In general the in-situ soil should have a bearing strength of CBR≥15%.

# 3.0 PAVEMENT COSTS

## 3.1 General

Pavement costs were prepared as part of the project Construction Report in 2007. These costs have been replicated below to give an indication of the relative cost of each pavement type. This provides a useful indicator when attempting to recommend suitable pavement types, as inevitably, cost plays an important part in the selection of the appropriate solution for any road construction project.

## 3.2 Construction Costs

The construction costs for each of the trial pavement types are based on the area constructed and the Contractor's unit rates, as shown in Table 3.

**Table 3: Costs of Trial Pavements**

| Pavement Description | Length (m) | Cost (USD) | Cost/m² (USD) |
|---|---|---|---|
| 1 Hand Packed Stone | 500 | 11,073 | 6.33 |
| 2 Mortared Stone | 600 | 13,288 | 6.33 |
| 3 Sand Seal | 625 | 13,720 | 6.27 |
| 4 Single Otta Seal and Sand Cover | 300 | 8,070 | 8.07 |
| 5 Double Otta Seal | 200 | 6,370 | 9.10 |
| 6 Bamboo Reinforced Concrete | | | |
| 125mm | 375 | 19,978 | 15.22 |
| 150mm | 200 | 12,417 | 17.74 |
| 7 Concrete Paving Block | 500 | 51,793 | 29.60 |
| 8 Geocell Concrete Pavement | | | |
| 75mm | 200 | 13,180 | 18.83 |
| 100mm | 100 | 8,212 | 23.46 |
| 150mm | 100 | 11,457 | 32.73 |
| 9 Engineered Natural Surface | 400 | nil | |
| **Total** | **4,100** | **169,560** | |
| NEC Standard Gravel Control | 1,400 | 11,891 | 2.43 |

July 2008: USD 1 = LAK 8,835

In each case the cost per square metre is the cost of the designated pavement construction above the prepared subgrade. On this basis the cost of Engineered Natural Surface is nil since this is, effectively, the prepared subgrade in an area where the in situ material is of a high enough quality to act as the road pavement/surface.

Examination of the construction costs for each pavement type indicates two obvious irregularities:

- The cost of a 150 mm Geocell concrete pavement is almost double that of a 150 mm Reinforced Bamboo concrete pavement although the cost of 150 mm Geocell form material is only USD 6/m², against which must be set the cost of providing the bamboo reinforcement and the edge formwork required for the Bamboo Reinforced pavement; and,
- The cost of plain Concrete Block paving is also remarkably high, particularly when compared with the costs of Hand Packed or Mortared Stone pavement (USD 6.328/m²). Even allowing

for the cost of concrete it would appear that concrete block paving, which is simpler to lay than the stone pavements, should have cost no more than USD 14/m² (LAK 125,000/m²) at the very most.

As the sections were constructed by a single contractor under a single contract, there are no comparative prices available to allow refinement of these rates by reference to other commercial sources. However, for the purpose of any further analysis the cost of concrete block paving will be considered as USD 14/m².

The unit costs of all the trial sections are substantially higher than for a gravel pavement; the unit cost of a 200 mm layer of good quality gravel is USD 2.43/m², at the rate provided by the contractor on the project.

Because these trial sections were superimposed onto an existing road project there was no opportunity to investigate in detail the possibility of making savings in earthworks costs through the use of more extreme alignments, which would be possible due to the greater durability of the trial sections. However, a cutting at the start of Road 3-2, which was undertaken as a part of the original project design in order to reduce a steep gradient, clearly illustrates the possibility for savings of this nature.

## 3.3 Whole Life Costs

### *3.3.1 Whole Life Costs*

The use of community labour for routine maintenance confuses the issue of whole life costs, since it comprises a substantial maintenance resource that is cost-free from the Government's budgetary viewpoint. However, the bulk of routine maintenance (vegetation control, drainage maintenance, etc.) is common to all roads, regardless of pavement type, and need not be considered in any comparison of pavement types. All that is required is to assess the maintenance requirements of the various pavement types including both regular detail surface maintenance and heavy or periodic maintenance.

An initial estimate of whole life costs has been prepared and is presented in Table 4. This estimate is made using the assumptions tabulated below.

- Gravel pavement (Flat): Grade twice yearly; replace 25 mm of gravel each year.
- Gravel Pavement (Hilly): Grade thrice yearly; replace 35 mm of gravel each year.
- Engineered Natural Surface: As for gravel pavements
- Bamboo RC: Routine maintenance to repair cracked corners on slabs or other issues. This equates to 1% of construction cost for 150 mm pavement and 1.5% on 125 mm pavement. No periodic maintenance needs (i.e. no reseals).
- Geocells: Routine maintenance to repair cracks or failed areas. This equates to 1% of construction cost for 150 mm pavement, 1.25% on 100 mm pavements and 1.5% on 75 mm pavements. No periodic maintenance needs (i.e. no reseals).
- Mortared Stone: Routine maintenance to replace missing stones and replace any failed areas. Equates to 2% of construction costs annually. No periodic maintenance needs (i.e. no reseals).

- Hand Packed Stone: Routine maintenance to replace missing stones and replace any failed areas. Equates to 3% of construction costs annually – slightly higher than mortared stone due to the less robust surface. No periodic maintenance needs (i.e. no reseals).
- Concrete Paving Blocks: Routine maintenance to replace missing blocks and replace any failed areas. Equates to 1% of construction costs annually. No periodic maintenance needs (i.e. no reseals).
- Sand Seal: Routine maintenance to patch potholes and seal cracks annually, equating to 0.5% of the construction cost. A reseal is required every 2 years (Periodic Maintenance), consisting of a new sand seal over the whole section, equating to 20% of the construction cost.
- Single Otta Seal with Sand Seal: Routine maintenance to patch potholes and seal cracks, equating to 0.5% of the construction cost. A reseal is required every 5 years (Periodic Maintenance), consisting of a new sand seal over the whole section, equating to 15% of the construction cost.
- Double Otta Seal: Routine maintenance to patch potholes and seal cracks annually, equating to 0.5% of the construction cost. A reseal is required every 10 years (Periodic Maintenance), consisting of a single Otta seal over the whole section, equating to 20% of the construction cost.

## Table 4: Comparison of the Whole Life Costs for the Pavements

| Working Life | Standard NEC Gravel - Straight and Level | 1 Standard NEC Gravel - Hilly | 2.1 Bamboo Reinforced Concrete 125mm | 2.2 Bamboo Reinforced Concrete 150mm | 3.1 Geocells 75mm | 3.2 Geocells 100mm | 3.3 Geocells 150mm | 4 Mortared Stone | 5 Handpacked Stone | 6 Concrete Paving Blocks | 7 Sand Seal | 8.1 Single Otta Seal with Sand Seal | 8.2 Double Otta Seal | 9 Engineered Natural Material - Level | 9 Engineered Natural Material - Hilly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year 0 | Constr. -2.43 | Constr. -2.43 | Constr. -15.22 | Constr. -17.74 | Constr. -18.83 | Constr. -23.46 | Constr. -32.73 | Constr. -6.33 | Constr. -6.33 | Constr. -14.15 | Constr. -6.27 | Constr. -7.69 | Constr. -9.10 | Constr. -0.23 | Constr. -0.23 |
| Year 1 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 2 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 3 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 4 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 5 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 15.0% -1.15 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 6 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 7 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 8 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 9 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 10 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 15.0% -1.15 | 20.0% -1.82 | -0.76 | -1.10 |
| Year 11 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 12 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 13 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 14 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 15 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 15.0% -1.15 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 16 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 17 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 18 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 19 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 0.5% -0.03 | 0.5% -0.04 | 0.5% -0.05 | -0.76 | -1.10 |
| Year 20 | 13% -0.76 | 18% -1.10 | 1.5% -0.23 | 1.0% -0.18 | 1.5% -0.28 | 1.25% -0.29 | 1.0% -0.33 | 2.0% -0.13 | 3.0% -0.19 | 1.0% -0.14 | 20.0% -1.25 | 15.0% -1.15 | 0.5% -0.05 | -0.76 | -1.10 |
| Salvage | -50% 1.21 | -50% 1.21 | -50% 7.61 | -60% 10.64 | -40% 7.53 | -50% 11.73 | -60% 19.64 | -50% 3.16 | -30% 1.90 | -50% 7.07 | -50% 3.14 | -60% 4.61 | -60% 5.46 | -50% 1.21 | 1.21 |
| **NPV** | **6% -10.14** | **-13.90** | **-14.72** | **-15.70** | **-18.73** | **-22.05** | **-28.97** | **-6.46** | **-7.50** | **-12.92** | **-11.81** | **-8.53** | **-8.50** | **-8.06** | **-11.82** |
| **NPV** | **10% -7.91** | **-10.60** | **-14.67** | **-16.19** | **-18.38** | **-22.16** | **-29.88** | **-6.34** | **-6.99** | **-13.09** | **-10.07** | **-8.13** | **-8.58** | **-5.91** | **-8.60** |

Note: Estimated Maintenance Scenarios

Costs in LAK - July 2008: USD 1 = LAK 8,835

SEACAP work in Vietnam[4] on the use of various pavement types has provided some insights into the possible maintenance requirements of gravel roads within the region. The SEACAP data for gravel roads was used in an approximate form because, when these costs were prepared, it was not clear that conditions between the different areas are wholly comparable. An additional reason was that the SEACAP gravel loss prediction mechanism for Vietnam was still in a preliminary state.

The Contract rates include no separate figure for subgrade shaping and compaction, there is therefore no contract rate available to represent the costs of grading and reshaping gravel road surfaces. For the purposes of this illustrative analysis, shown in Table 4, a rate of USD 0.23/m² (LAK 2,000/m²) has been assumed as the cost of a single grading and shaping maintenance operation.

Although initial construction of the engineered natural material is low (corresponding to the USD 0.23/m² assumed above) it has been assumed that imported gravel will be used in subsequent maintenance. It is also assumed that the maintenance cost will be equal to that for the NEC gravel pavement, since reliance on the in situ material implies that the road level will become progressively lower as material is not replaced; this is considered unacceptable. Costs have been reviewed using 6% and 10% discount rates.

When the Net Present Value (NPV) or whole life costs of these pavement types are summarised and considered in order of NPV they can be ranked as shown in Table 5. This Table shows 6% rankings to the left and 10% to the right.

### Table 5: Pavement Type in Order of NPV

| Pavement Type Ordered using 6% Discount Rate | Cost USD/m² | NPV 6% | NPV 10% | Cost USD/m² | Pavement Type Ordered using 10% Discount Rate |
|---|---|---|---|---|---|
| Mortared Stone | 6.33 | 6.46 | 5.91 | 0.23 | Engineered Natural Material - Level |
| Handpacked Stone | 6.33 | 7.50 | 6.34 | 6.33 | Mortared Stone |
| Engineered Natural Material - Level | 0.23 | 8.06 | 6.99 | 6.33 | Handpacked Stone |
| Double Otta Seal | 9.10 | 8.50 | 7.91 | 2.43 | Standard NEC Gravel - Straight and Level |
| Single Otta Seal with Sand Seal | 7.69 | 8.53 | 8.13 | 7.69 | Single Otta Seal with Sand Seal |
| Standard NEC Gravel - Straight and Level | 2.43 | 10.14 | 8.58 | 9.10 | Double Otta Seal |
| Sand Seal | 6.27 | 11.81 | 8.60 | 0.23 | Engineered Natural Material - Hilly |
| Engineered Natural Material - Hilly | 0.23 | 11.82 | 10.07 | 6.27 | Sand Seal |
| Concrete Paving Blocks | 14.15 | 12.92 | 10.60 | 2.43 | Standard NEC Gravel - Hilly |
| Standard NEC Gravel - Hilly | 2.43 | 13.90 | 13.09 | 14.15 | Concrete Paving Blocks |
| Bamboo Reinforced Concrete 125mm | 15.22 | 14.72 | 14.67 | 15.22 | Bamboo Reinforced Concrete 125mm |
| Bamboo Reinforced Concrete 150mm | 17.74 | 15.70 | 16.19 | 17.74 | Bamboo Reinforced Concrete 150mm |
| Geocells 75mm | 18.83 | 18.73 | 18.38 | 18.83 | Geocells 75mm |
| Geocells 100mm | 23.46 | 22.05 | 22.16 | 23.46 | Geocells 100mm |
| Geocells 150mm | 32.73 | 28.97 | 29.88 | 32.73 | Geocells 150mm |

July 2008: USD 1 = LAK 8,835

As noted above these results must be viewed with caution since they are based on just one Contractor's view of the costs. Although the rankings change somewhat depending on whether a 6% or 10% discount rate is adopted the overall pattern is much the same with only minor differences.

[4] ***Rural Road Surfacing Research***, *SEACAP 1, Final Report, (Vol 1 and App A) Ministry of Transport Vietnam, December 2006.*

The position of the Engineered Natural Material in this table has little meaning since this surface type is only used in specific local circumstances, such as roads with low gradients. However in these circumstances, it will be the surfacing of choice.

More significant is the consistently low value of the Mortared and Hand Packed Stone Pavements. In addition to the low construction cost, maintenance costs are low as these pavement types are highly suited to community maintenance once the basic skills have been acquired, requiring no equipment other than hammers, some basic transport and a source of stone. However these pavements are not suitable on roads with considerable vehicular traffic, as they are very rough to drive on.

The NEC gravel pavement (Hilly) also comes out fairly well, however, it must be remembered that the low whole life cost in this table includes only regular maintenance and does not reflect the cost of emergency maintenance for wash-outs; it offers no certainty that such a road will be kept open at all times during the rainy seasons. In addition, the regular grading maintenance that such a pavement requires implies substantial regular inputs at the DPWT level, not just community based work. It should be noted that regular grading is an essential maintenance element in order to keep gravel loss within acceptable limits.

The sand seal is the worst of the various bituminous pavements in terms of NPV due to the maintenance requirements, and experience in Lao has shown its life is very short. The economic analysis assumes regular routine maintenance is performed. If this does not materialise, the pavement will deteriorate rapidly – which is what has happened in this project.

The Double Otta Seal is the best of the bitumen based pavements, in terms of NPV of 6%, and almost the best with an NPV of 10%. This double seal offers a potentially robust pavement without the fragility of the sand seal topping. It suffers, of course, from the inevitable requirement for outside assistance and equipment where bitumen distribution is required for maintenance purposes.

Concrete block paving is a reasonably direct alternative to the handpacked stone surfaces and merits further attention. As noted previously there is considerable doubt regarding the validity of the pricing of this material and if the price could be brought down to USD 8.49/m² (LAK 75,000/m²) then NPVs at 6% and 10% become USD 12.92 (LAK 114,156) and USD 13.09 (LAK 115,658) respectively; although this remains above the handpacked stone surfaces it is clearly competitive when one considers the ease with which a much superior finished surface can be constructed.

# 4.0 LAO PDR MAINTENANCE REQUIREMENTS

## 4.1 General

No road pavement can be expected to give maximum performance in the long term without receiving appropriate maintenance. The road as a whole requires regular maintenance, the degree of which will vary depending on climate and terrain. Maintenance will largely consist of cleaning drains and drainage systems, vegetation control, shoulder maintenance and general upkeep and repairs to the road infrastructure, guard rails and signs. These items should be maintained irrespective of pavement type.

The maintenance requirements for the road pavement will vary considerably depending on the pavement construction and the traffic to which it is subjected. In general, there is a trade-off between initial pavement construction cost and subsequent maintenance costs. However, this trade-off is not constant throughout the pavement life and will vary with conditions of use. A gravel pavement used on a stretch of straight and level embankment will require substantially less maintenance than the same pavement employed on a steep gradient with sharp curves.

The most cost effective choice of pavement can be assessed on the basis of the estimated whole life cost of the pavement options, which consists of the initial construction cost plus the costs of future maintenance. In the case of roads carrying substantial traffic this estimation can be complicated by the need to consider the cost implications for that traffic, Vehicle Operating Costs (VOC), of varying road conditions resulting from alternative maintenance scenarios together with variations in the maintenance requirements generated by different traffic levels.

In the case of the project roads in Lao PDR, traffic is extremely light and maintenance requirements will mainly depend on environmental effects (primarily rainfall) rather than traffic, particularly in the cases of natural and gravel surfaces. Bituminous bound surfaces can be expected to resist environmental effects for some time but they will eventually require repair and renewal. The sand seal, in particular, is likely to deteriorate fairly rapidly as it will be susceptible to damage from even the light traffic on these roads, which will further increase susceptibility to erosion damage in the wet season. The hard surfaces of the stone, block and concrete pavements can be expected to last considerably longer.

## 4.2 Lao Maintenance Structure and Capacity

The road network of Lao PDR comprises a number of road categories, of which rural roads make up over 40%. Unpaved earth roads account for over 50% of the entire road network. A breakdown of the road network in Lao PDR is given in Table 6.

**Table 6: Lao PDR Road Network (Lao Ministry of Public Work and Transport 2012)**

| Road Type | Length (km) | % | Paved (km) | Unpaved (km) | | Maintainable | Un-maintainable |
|---|---|---|---|---|---|---|---|
| | | | | Gravel | Earth | | |
| National Road | 7,200 | 19 | 3,963 | 2,457 | 779 | 6,421 | 779 |
| Provincial Road | 7,255 | 19 | 470 | 3,774 | 3,010 | 5,681 | 1,574 |
| District Road | 4,914 | 13 | 111 | 2,529 | 2,273 | 3,207 | 1,707 |
| Rural Road | 15,754 | 42 | 78 | 3,255 | 12,421 | 5,362 | 10,392 |
| Urban Road | 1,870 | 5 | 529 | 887 | 455 | 1,416 | 454 |
| Special Road | 775 | 2 | 97 | 291 | 388 | 388 | 387 |
| **Total** | **37,768** | **100** | **5,248** | **13,193** | **19,326** | **22,475** | **15,293** |

It can be clearly seen that rural roads make up a large portion of the road network and the majority of these roads are unpaved earth or gravel roads. However Table 6 also highlights that the Local Road Division (LRD) can only maintain just over one third of all rural roads and over 15,000 km of the road network cannot be maintained with the current available funding.

According to the Poverty Eradication Plan on Rural Roads[5], the cost to maintain all 15,754 km of rural roads in Lao PDR would be 21,841,814 USD. Divided over three years, this requires an annual budget of 7,280,521 USD to be spent in this area. However, current funding of the 3 year rolling plan shows:

- The budget received and implemented in 2011/12 was 2,506,893 USD;
- The budget planned for 2012/13 is 3,008,273 USD, and;
- The budget needed in 2013/14 is 16,326,648 USD.

As can be seen, the allocated budgets in 2011/12 and 2012/13 are far below that required. The required budget in 2013/14 also far exceeds what is likely to be available. This highlights the need for cost effective solutions which help make limited budgets stretch as far as possible.

[5] Dept. of Roads Local Road Division (2012), ***Lao Road Sector Project (LRSP) Sub Component A2: Provincial Road Maintenance – 3 Year Rolling Plan 2012-2015***, Vientiane: Ministry of Public Works and Transport.

# 5.0 MONITORING OF THE TRIAL SECTIONS

## 5.1 General

In order to monitor the pavement trials various data were collected prior to and during construction. Specifically, data were collected on the bearing capacity of the road foundations, gradients and alignment, predicted traffic loading and climate.

Following completion of the demonstration sections in 2007 a set of base line condition data was collected by the consultant. A follow up condition survey was carried out in February 2009 by Lao Transport Engineering Consult (LTEC) and OTB Engineering (International) Ltd.

The condition surveys carried out in October 2012 in conjunction with this report mark the third set of condition data collected for the SEACAP trial sections over a period of 5 years. This data will provide valuable information on the short-medium term performance of rural access roads constructed under the EOD ethos and a first hand insight into the deterioration that occurred, allowing for a more comprehensive understanding of the maintenance required.

## 5.2 Monitoring Beacons

During the course of the project a series of beacons were constructed along both sides of the trial sections, at spacing of 10 m. An example beacon is shown in Figure 1. These beacons serve two purposes:

1. To divide the trial length into sections to allow easy identification of the segments, and;
2. To allow easy cross section measurement in order to record the surface deformation.

The beacons were surveyed and their position fixed so damaged or missing beacons could be reinstated as necessary over the monitoring period.

**Figure 1: SEACAP Monitoring Beacon**

However, it was noticed on a subsequent site visit in November 2007 that many of the monitoring beacons had been destroyed, as shown in Figure 2. The beacons were removed as a result of safety concerns and the potential risk posed to cyclists and motorcyclists using the road.

**Figure 2: Removed and Damaged Monitoring Beacon**

As a result of safety issues, it is clear that use of similar beacons in future will not be adequate. During the condition surveys carried out in October 2012 the survey team were able to identify the remains of monitoring beacons, and with the combined use of a GPS unit, locate the chainage of these beacons. Then, using a measuring tape and spray paint the data capture locations were marked on the road.

While the locations of data capture were simple to identify through this method, the damage to monitoring beacons has meant the method of collecting surface profile data has had to be adapted from the dipped levels method, to the use of a dumpy level and levelling staff.

## 5.3 Pavement Monitoring Methods

To determine the performance of the rural assess roads, the following method of monitoring was proposed. The trial section is divided into 'blocks' for monitoring, each block can be described and any distress graphically represented by sketches and photographs.

### *5.3.1 Visual Condition Surveys*

Visual inspections were performed on all sections to assess the structural condition of the road, which has now under-gone a number of years traffic. The visual inspections recorded the degree and extent of distress in each of the segments of the trial sections. The condition assessments were logged with photographs of each 'monitoring block'. The roads were logged using GPS to mark their start and finish points and any points of interest.

### *5.3.2 Photographic Logging*

Photographs were taken at each segment of the trial sections along the road, at the points marked on the road surface by the survey team correlating to the locations of the monitoring beacons. This means that each segment has been photographed from approximately the same position during each different survey and that photographs can be shown as a moving video or viewed individually.

### *5.3.3 Surface Profile Measurement*

As mentioned previously, the vandalism to the monitoring beacons constructed along the trial sections meant that the method for collection of surface deformation data had to be adapted. The monitoring beacons were fundamental in the previous method of taking dipped levels from a measuring tape suspended between the metal re-bar encased in each monitoring beacon, as shown in Figure 3.

**Figure 3: Recording Surface Deformation by Dipped Levels in 2007**

A dumpy level and levelling staff were used in the October 2012 data collection to obtain reduced levels at points along the width of the carriageway. It is possible to compare the dipped levels taken previously to the current reduced levels, by utilising the reduced levels taken along the centreline of the road during alignment surveys immediately following the initial completion of construction. Comparisons can then be made between the different sets of levels, so that observations of any surface deformation that has occurred can be made.

### *5.3.4 Surface Rut Measurement*

Rut measurements taken by the traditional method of using a 3 m straight edge have been conducted. Rut depths were recorded at 25 cm intervals up to a total width of 1.75 m in each direction from the road centre line.

### *5.3.5 Dynamic Cone Penetrometer*

The Dynamic Cone Penetrometer (DCP) is an engineering tool for measuring the in-situ strength of a pavement at its in-situ density and moisture content. It is a useful tool for rapidly determining the pavement and subgrade DN value (penetration in mm per blow) which can then be correlated to CBR. This reduces the need to take excessive numbers of samples to the laboratory. It measures to a depth of up to 900 mm with the standard apparatus.

DCP testing was conducted on the engineered earth, NEC standard gravel and sealed pavements to determine the pavement strength, with tests performed at 50 m intervals.

The concrete, stone and paving block surfaces were not tested as it is not possible penetrate the surface.

### *5.3.6 Roughness Measurement (MERLIN)*

To determine roughness, 200 measurements were taken at regular intervals using the MERLIN apparatus, as shown in Figure 4. For each measurement, the MERLIN was rested on the road with the wheel in its normal position. The rear foot, probe and stabiliser were in contact with the road surface and the position of the pointer on the chart was marked.

Once all measurements were taken, the International Roughness Index (IRI) (m/km) of the section was calculated using standard equations. The roughness was determined for all trial sections.

**Figure 4: Using a MERLIN to calculate IRI**

### *5.3.7 Surface Texture (Sand Patch)*

Sand patch tests were conducted on the bituminous trial sections at 100 m intervals. These tests are performed on bituminous roads to determine the surface texture.

A known quantity of sand is spread in a circular pattern using a standard round tool on the test area of road. If the road has a coarse texture (i.e. is rough), the circular pattern of sand which can be created will be small, whilst in contrast, if the road has a fine texture (i.e. is smooth) the circle will be larger. Therefore, the size of the 'sand circle' is inversely proportional to the texture of the road.

### *5.3.8 Structural Integrity using Light Weight Deflectometer (LWD)*

An LWD survey consisting of a single test in each segment of trial section was conducted, to determine the structural integrity of the pavement at the points tested. This apparatus is designed to determine the modulus of elasticity (E) for the various pavement layers and pavement structure as a whole.

Recording of this data over time will show the deterioration of the pavement trial sections under specific climatic conditions and loading conditions. These tests were repeated in each of the areas tested previously so as to commence data collection for this process.

### *5.3.9 Classified Traffic Counts*

Classified 12 hour traffic counts were conducted on each of the trial sections during daylight hours. It has been estimated that total, uncounted, night-time traffic would amount to no more than 20% of the daytime traffic.

Traffic counts were conducted at the following locations:

- Road 1-1: 0+940 km;
- Road 1-3: 0+650 km;
- Road 2: 0+760 km;
- Road 3-2: 0+920 km;
- Road 3-3: 0+050 km;
- Road 5: 0+850 km;
- Road 8: 1+505 km.

Traffic counts were conducted on each of these roads at the same locations as in previous traffic counts, as part of all monitoring exercises.

# 6.0 DATA INTERPRETATION

## 6.1 Visual Condition Surveys and Photographic Logging

The visual condition surveys and photographic logging record the general performance of the trial sections over the past 5 years since construction and noted any areas of failure and distress, and the extent of these occurrences. Photographs at 10 m intervals along all sections were logged, including photographs detailing areas of failure. These photographs are also geo-tagged with GPS coordinates and can be viewed on Garmin's BaseCamp software. The Photograph Log is provided in Appendix A. Below is a summary of the performance of the different surfacing options implemented across the various roads.

### *6.1.1 Gravel and Earth Pavements*

Performance of the gravel and earth pavements is satisfactory on well draining flat sections of the roads, and these roads allow basic access throughout all seasons of the year. Areas of rutting and channelling of water along the carriageway were still identified. However, with routine maintenance to ensure that the camber/cross fall of the carriageway is maintained and clearing of drainage is carried out, these sections should perform adequately under the present conditions.

Under the EOD ethos, it is intended that the gravel and earth pavement options are applied on undemanding, level sections of road. It is evident in areas that were not treated under this contract that these surfacing options are not sufficient on steep gradients. It is also evident that water running down the surface of the road can cause significant erosion channels, as shown in Figure 5. This reinforces the need to apply more substantial surfacing options on sections of steep gradient (typically gradients of 6% or more[6]) and highlights the unsuitability of gravel wearing course in these sections.

**Figure 5: Erosion channels on Untreated Steep Section**

### *6.1.2 Bituminous (Flexible) Pavements*

Three different bituminous pavements were constructed as part of the SEACAP trials; a sand seal, a single Otta seal and a single Otta seal with a sand cover seal. As of October 2012, the single sand seal is in poor condition with areas of severe deterioration including pot holes, surface ravelling and edge break. There are areas where there are no remnants of the seal itself and only the crushed rock sub base remains, as seen in Figure 6. This deterioration likely began shortly after construction in 2007,

[6] Cook, J. (2009) ***Performance Monitoring of the NEC-ADB Package 1 Trial and Gravel Roads****, SEACAP 17.02 - Final Report*, OTB-LTEC.

as erosion of the seal and shallow potholes were recorded during the LTEC-OTB survey in 2009. The deterioration is thought to be due to the location and terrain in which the surfacing was applied, however the life time of a single sand seal is in the region of 2-4 years and this level of deterioration could be expected. The sand seal was constructed on two slopes either side of a free flowing river crossing, and it is believed that during events of heavy rainfall significant water flowing along the carriageway has led to excessive wear of this section.

**Figure 6: Deterioration of Single Sand Seal**

The double Otta seal and Otta seal with a sand cover seal were constructed adjacent to each other. Overall, both have performed well and are in good condition, albeit with some minor defects which could be rectified through routine maintenance. Deterioration of the Otta seal with sand cover seal appears to be greater than that of the double Otta seal. The measured edge break and material loss is in the region of 100 mm at the double Otta seal section in comparison to approximately 150-200 mm where the sand cover seal is used - as can be seen in Figure 7 and Figure 8. There are a higher number of pot holes and areas of distress on the Otta seal with sand cover seal than that of the double Otta seal. However, as also noted in 2009, these are more an issue of surface deterioration rather than of structural problems.

**Figure 7: Typical View of Double Otta Seal Section in Good Condition**

**Figure 8: Typical Single Otta Seal with Sand Cover Seal Section Showing Some Edge Break**


### *6.1.3 Block Pavements*

Three different block paving options were implemented as trial sections; including hand packed stone, mortared stone and concrete paving blocks.

The hand-packed stone and mortared stone sections are performing well from an engineering perspective. They are in moderate to good condition and continue to provide year round access during the wet season, when a gravel road would not be sufficient. There are some localised areas of failure with missing stones or edge break which could be rectified through routine maintenance, as can be seen in Figure 9. An advantage of this surfacing type is its simplicity and low cost of repair with local materials, requiring no skilled labour.

However, this pavement type is inherently rough and it was apparent that the hand packed and mortared stone were not favoured by bicycle and motorcycle drivers, who instead opt to use the shoulder in some places. This practice was also observed during the 2009 survey and is similar to the situation with surfacing under AFCAP in Tanzania.

**Figure 9: Edge break and loose stone on Hand Packed Stone section**


The concrete paving block section constructed under the SEACAP 17 trials has been implemented on a relatively steep incline and is performing well. There is little sign of major distress and it is allowing year round access along this section.

Similar blocks have been utilised under the AFCAP project in Tanzania on the Lawate – Kibongoto road, running through a flat market section which experiences high levels of traffic. It is expected that this section will perform as well in Tanzania as it has done in Lao. The success of this section also indicates the possibility of use on steeper inclines (medium gradients of 4-5% and steeper gradients >6%), a solution that was previously discounted on Lawate – Kibongoto road.

The few minor problem areas are highlighted by some loose blocks, caused either by edge break where vehicles are using the shoulders or by blocks in the centreline of the carriageway that have been removed, as seen in Figure 10. These missing blocks could also be a result of broken or damaged blocks which were observed in 2009.

However these areas of missing blocks have been repaired by local villagers using a mixture of earth, gravel and small stones, providing suitable short-term maintenance solution with the surrounding blocks remaining firmly in place. Cracked blocks were observed in both the 2009 and 2012 survey; however, they could be easily replaced during routine maintenance.

**Figure 10: Concrete block section showing typical extent distress but as can be seen on left, general condition is very good and distress is easily repairable**

### *6.1.4 Concrete Rigid (Pavements)*

Two types of rigid concrete pavements were constructed as part of the SEACAP 17 trial sections; these are bamboo reinforced concrete slabs and concrete geocells. As seen in Figure 11 and Figure 12, both are performing very well with little or no maintenance required.

The concrete geocells are experiencing a small amount of edge break around the top edges of each individual concrete cell. This is not of concern at this stage and is also not unexpected as it is simply the relatively weaker edge of the concrete breaking off under trafficking. Once these edges have been removed, it is anticipated that there will be no further deterioration, however, this is something which will be monitored in future, especially on the project in Tanzania.

The main defect on the bamboo concrete sections was the occasional broken corner on the concrete slab. This can be easily repaired during routine maintenance, with the overall pavement condition still very good – as seen in Figure 12 below.

**Figure 11: Concrete Geocell Sections in Very Good Condition**

**Figure 12: Bamboo Reinforced Concrete Sections in Excellent Condition**

## 6.2 Surface Profile Measurement and Rut Measurement

### *6.2.1 Surface Profile Measurement*

Measurement of surface rut depth along the various trial sections further highlights the information picked up from the visual condition surveys. A number of sections were taken from each trial section and plotted to determine the difference in level between 2007 and 2012. This data was predominantly used to determine the average amount of material which has been lost from gravel and earth pavements. Due to their size, a graphical representation of these cross sections has been provided in Appendix B, rather than in the main body of this report.

Overall, the results for most sealed road sections are positive. The concrete geocells, bamboo reinforced concrete and concrete paving bricks have all performed very well and there was little difference in surface profile observed. Calculations for material losses showed small average losses across the width of the road, however, these are minimal and easily affected by the impact of inaccuracies in the surveys – i.e. not holding the staff in the exact same spot in each of the past three surveys, especially in steep areas. Based on the visual assessment, it does not appear as if these surfacings have moved to any great extent over the past five years.

The hand packed stone is performing well in most locations along the road. There were differences observed in the profile, however, they are not significant and are not impacting the functionality of the road. The profile results on this particular surfacing are also sensitive to differences in test location, as depending on whether the surveyor places the staff on top of a stone, or in the gravel between them, the level can vary quite significantly.

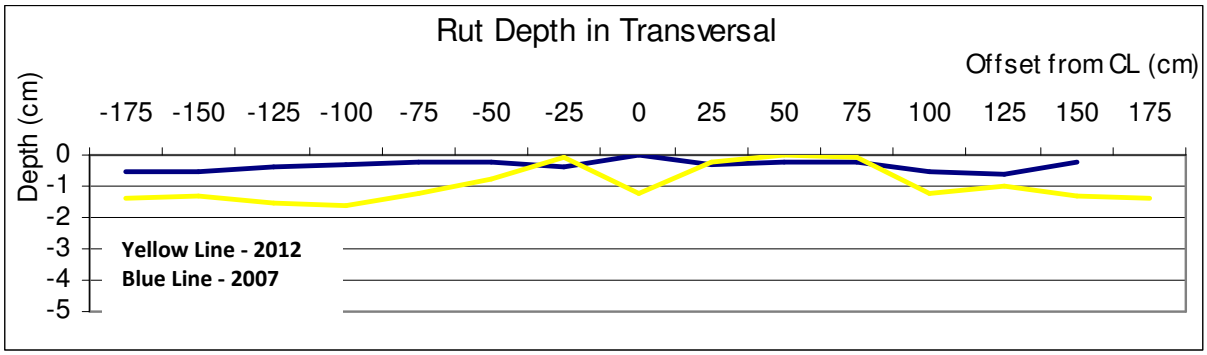
Regarding the bituminous surfaces, Otta seals are in good condition, with little significant profile differences measured. However, the sand seals have deteriorated badly over the past five years. In many places they have completely disintegrated, as shown in Figure 6 previously. This has resulted in a drop in profile being observed along the sand seal sections which is consistent with the thickness of the surfacing plus some material loss from the base – average loss was 32 mm.

In the case of the gravel sections, as expected, all sections had lost their gravel wearing courses, which were originally 200 mm thick. Calculations on the average gravel loss across the pavement width based on the profile measurements confirmed this. Across the width of the road, this tended to range from 100-200 mm loss, indicating a 50-100% gravel loss over the past five years. This is value is closer to 100% towards the centre of the road and around the wheel paths, meaning in the trafficked areas of the road, the gravel has more-or-less been removed. The profiles for some of these sections have changed quite considerably, as seen in Appendix B.

### 6.2.2 *Rut Depth Measurement*

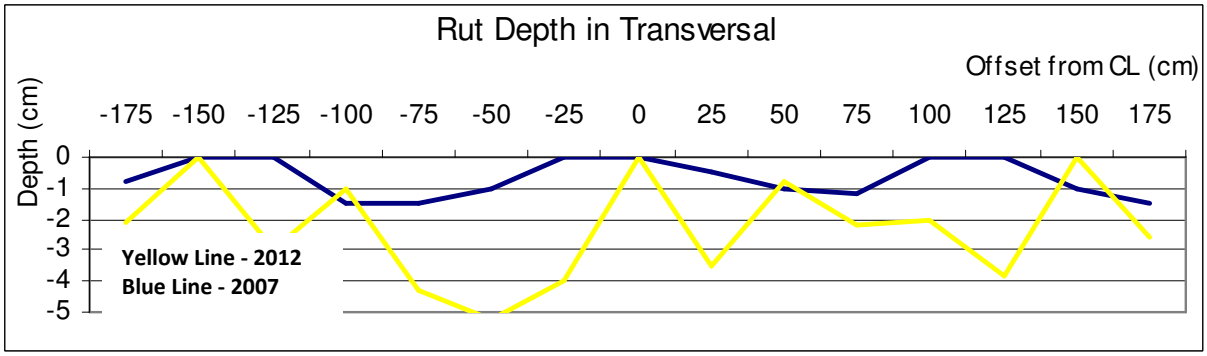
The rut depth measurements tend to corroborate the findings of the visual assessment and the profile measurements. Concrete paving blocks showed evidence of rutting, but overall they performed well and the rutting is not a major concern. The rutting was reasonably low and typically ranged between 5 – 20 mm, with only the occasional result exceeding 20 mm – see Figure 13. The ruts do not affect the functionality of the road at this stage.

**Figure 13: Rut Measurements for Concrete Paving Blocks on Road 5 at Chainage 1.255 km.**




Hand packed stone was not expected to provide low rut measurements, not necessarily due to expected movements in the surfacing, but due to its very rough nature and the impact this could have on taking readings. As expected, the results were significantly higher than other 'paved' sections, with values tending to exceed 40 mm around the wheel paths and occasionally exceeding 50 mm. However, this is not alarming considering the surfacing type in question. The hand packed stone is naturally rough and this is likely to have some impact on the results. Additionally, as the photographs for the hand packed stone sections show, they are in good condition and rutting is having little effect on their functionality. A typical cross section from a hand packed stone section is displayed in Figure 14 below.

**Figure 14: Rut Measurements for Hand Packed Stone on Road 2.2 at Chainage 0.855 km.**

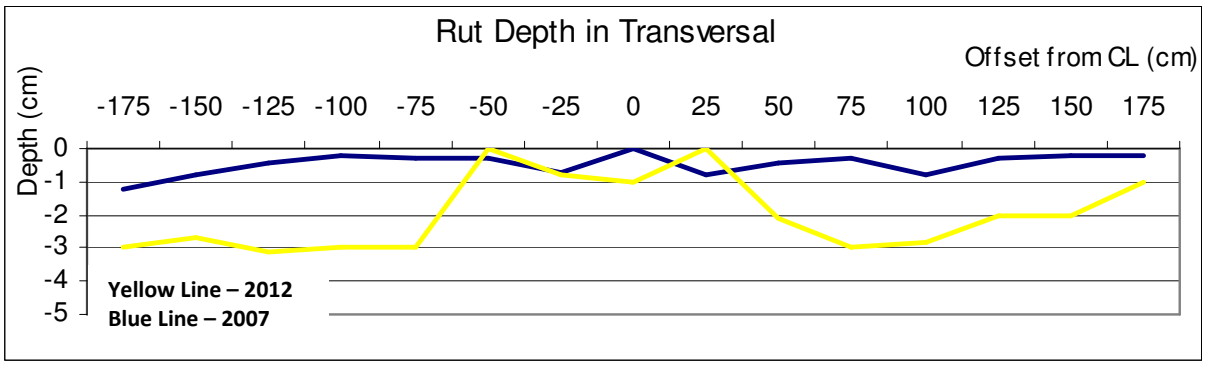



Mortared stone had similarly extensive rutting but its degree was less severe. It showed occasional large ruts in excess of 40-50 mm, however, overall they tended to be lesser in severity than the HPS. Whilst the HPS tended to regularly have values exceeding 40 mm, maximum rutting values for the mortared stone tended to fall into the range of 20-40 mm.

The bituminous surfaces suffered varying degrees of rutting. Otta seals performed reasonably well, whilst sand seals have completely disintegrated, resulting in the type of cross section shown in Figure 15 below. Whilst not necessarily attributable to rutting, it correlates well with the visual assessments showing the surfacing has completely deteriorated over the past five years and has not

received any maintenance. Sand seals are not a robust surfacing and have a short life expectancy (2-4 years) if not maintained.

**Figure 15: Rut Measurements for Sand Seal on Road 8 at Chainage 1.575 km.**

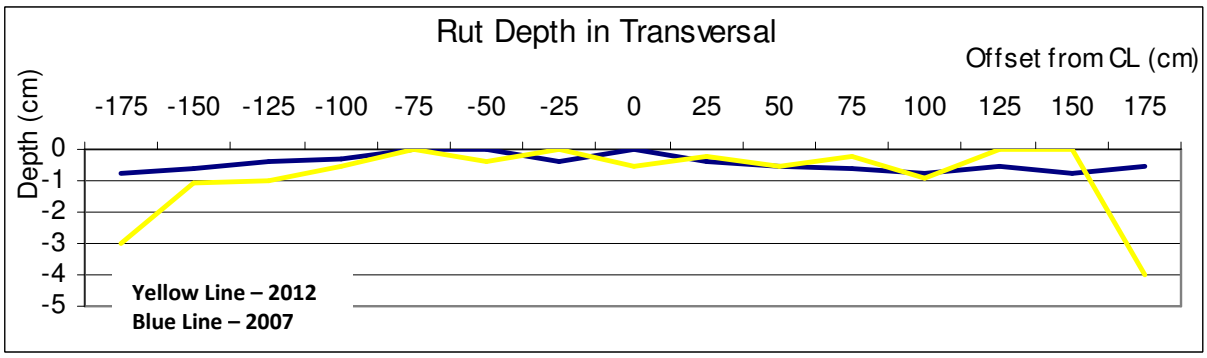



Otta seals are a more robust and durable surfacing and as such performed better in the period since construction. However, the rutting results are still quite variable and analyses are distorted by the occasional high values, typically found at the edge of the carriageway. This could be the result of poor placement of the straight edge on the edge of the carriageway and measuring the drop off the side of the seal (see edge of carriageway in Figure 16).

When looking at the central area of the carriageway and the wheel tracks, it appears that the Otta seal has performed reasonably well. Whilst there are some high rut values in the data set, most are at the edges of the carriageway. Excluding these values at the edges of the pavement, it is more likely the true degree of rutting is that displayed towards the wheel tracks. Here, rutting is in the range of 10-30 mm. Minor widespread rutting (<20 mm) was observed in the 2009 survey also.

Ruts in excess of 10 mm can be capable of holding water when located on a flat gradient and a camber of 2.5-3%, which could then be at risk of entering the pavement and weakening the base. On an LVRR, this may not be as significant as on a major highway. On a major highway frequently trafficked by heavy vehicles this water would be forced into the pavement, weakening the base and exacerbating the rutting problem. Future monitoring trips will give an indication of the speed at which these ruts are developing. This may be a useful indicator of the life expectancy of the pavement. At present, with the exception of some edge break and potholes, the Otta seal sections are in reasonable condition and are still capable of catering for the traffic using the road.

**Figure 16: Rut Measurements for Single Otta Seal with Sand Seal Cover on Road 3.2 at Chainage 0.305 km.**



## 6.3 Dynamic Cone Penetrometer

The DCP data gathered from the surveys has been used to calculate corresponding CBR values, giving an indication of the pavement strength. Using appropriate formulae, the thickness and CBR value of each pavement layer has been determined at each 50 m interval where DCP tests were conducted. These values for layer thickness and CBR can be compared to the original construction details as well as previous monitoring data, in order to assess adherence to the construction specification and to assess any changes in pavement strength since construction.

The DCP testing was performed towards the end of the wet season. As a result, the anticipated pavement moisture condition would be around Optimum Moisture Content (OMC). The specified CBR values for each pavement layer were standard 4 day soaked. Subsequent research tends to show that with base material this is likely to result in an over-design as it is unlikely that the material will ever experience these fully-soaked conditions in service. It remains, however, appropriate for subgrade and subbase also.

All DCP results, with associated graphs for penetration vs. number of blows, have been compiled in Appendix D. A summary of the results will be provided in the sections below.

### *6.3.1 Road 1.1 and Road 1.3*

Gravel Wearing Course

These two roads are summarised together as all sections tested had gravel wearing courses and the results/observations are very similar. Five tests were performed on Road 1.1 between 0.505 km and 0.690 km, whilst on Road 1.3, a further five tests were performed between 1.175 km and 1.415 km.

The construction thicknesses were 200 mm of gravel wearing course, with 300 mm gravel selected subgrade (SSG). The DCP results show the layer thicknesses are correlating well with the construction thicknesses.

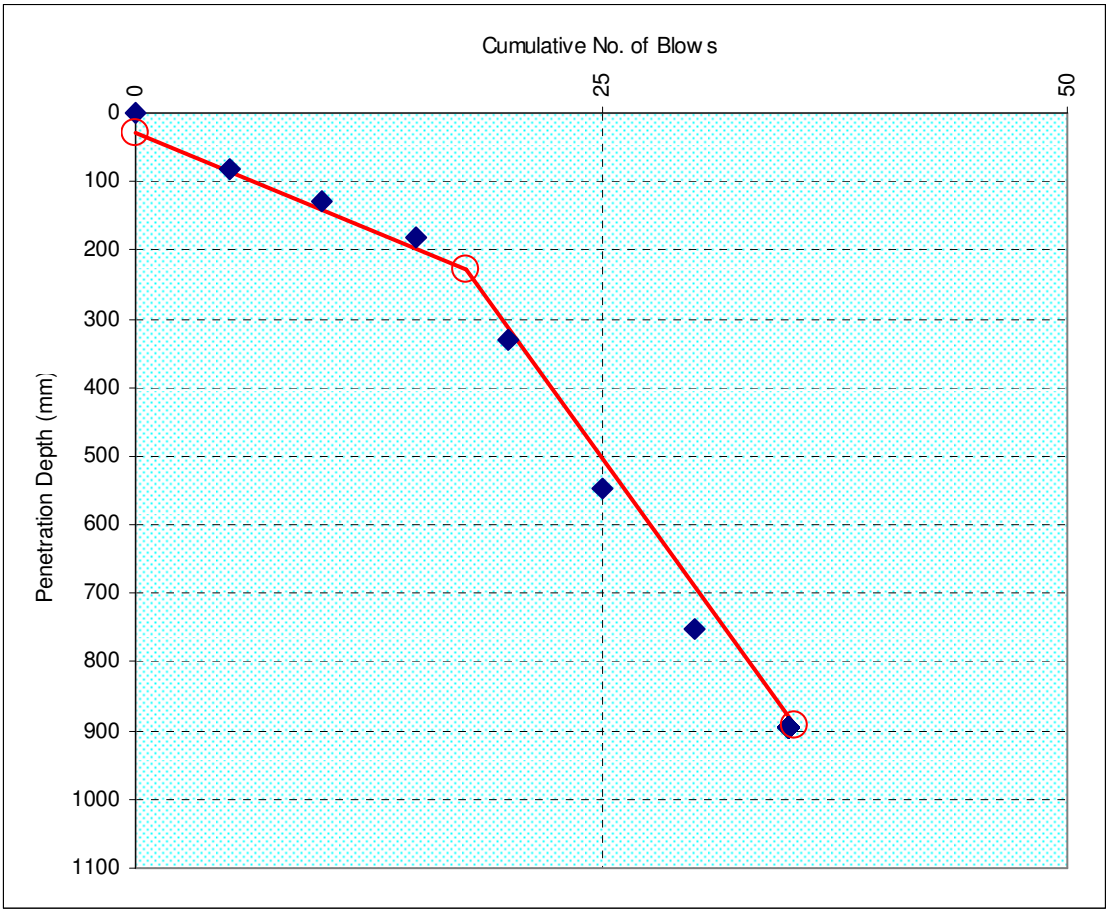
From visual inspections, it was clear that the roads have lost most, if not all, of their gravel wearing course. Most DCP results plotted for this section show a 300 mm layer at or near ground level, which would correspond with the original SSG layer.

On Road 1.1, the in-situ CBR value for SSG ranges from 10-19%, whilst on Road 1.3, the CBR range is 16-41%. As the materials were wet at the time of testing, the results give a good indication of the material strength when they are in their weakest condition in the field.

Subgrade CBR's ranged from 7-12% along Road 1.1, which demonstrates there is also reasonably good strength in the in-situ material. On Road 1.2, the subgrade provided in-situ CBR values ranging from 4-8%, which are weaker than the previous section.

Figure 17 below is a typical result from these sections, showing how the wearing course has been completely lost. The graph shows the SSG layer which overlies the subgrade. The SSG thickness is estimated at 275 mm in this location, whilst the construction thickness was 300 mm. The most likely reason for this discrepancy is that in the absence of the wearing course, the base is also beginning to erode due to traffic and environmental effects.

**Figure 17: DCP Result for Road 1.3 at Chainage 1.325 km.**




### *6.3.2 Road 2*

Gravel Wearing Course

The results for this section are largely consistent with the gravel sections on Road 1.1 and 1.3. A total of five tests were performed between 0.405 km and 0.595 km. Visual inspections determined that the gravel wearing course has been mostly lost over the past five years. As a result, DCP data will primarily give an indication of the base and subgrade strength.

The in-situ CBR's for SSG material range from 24-48%; it should be noted that the material was wet at the time of testing. The specified strength for this material was 8% CBR (soaked), and whilst the in-situ results are un-correlated for moisture content, it is likely this material is adequate. The graphs indicate the SSG thickness is approximately 200 mm, which is much lower than the 300 mm constructed. Subgrade CBR is also consistent through the section, ranging from 4-7%.

### *6.3.3 Road 3-2*

Otta Seals (Single with Sand Seal and Double Otta Seal)

All Otta seal sections shall be discussed simultaneously as the pavement design underneath the surfacing is the same. Each section was constructed from 150 mm crushed stone base with a CBR (soaked) of minimum 80% and 120 mm natural gravel subbase with a CBR (soaked) of at least 25%. A total of 11 tests were performed between 0.020 km and 0.520 km.

Whilst not correlated to moisture results, the DCP results show that the base under these sections does not meet the 80% CBR (soaked) specification. In-situ CBR's range from 16-60%, thus if they were to be correlated to moisture content, they would reduce further. Nonetheless, with the

exception of some edge break and occasional potholes, on the whole the pavements are performing well regardless of these low results.

Results as low as 16% were rare and the overall average CBR was 36% under the single Otta seal and 49% under the double Otta seal. The performance of the road and the CBR values obtained show that the 80% CBR (soaked) is not required on LVRR. This is something which has been realised in the years since SEACAP and has been incorporated into designs in Tanzania.

Engineered Natural Surface

The engineered natural surface was designed to have a subgrade CBR (soaked) ≥5%. A total of 8 tests were performed between 0.570 km and 0.920 km.

The DCP results were generally higher in the top 100-200 mm, likely as a result of trafficking over the past five years. In this top layer, the in-situ CBR ranged from 17-90%, however, the average in-situ CBR for this layer was 43%.

This is quite a strong layer and has most likely been heavily compacted by traffic. The subgrade exhibits some high strength in this area, with an in-situ CBR ranging from 7-54% at various depths below this top layer.

Gravel Wearing Course

The gravel pavement construction is the same as that described previously i.e. 200 mm gravel wearing course and 300 mm base. The specified CBR (soaked) for the wearing course is ≥25%, whilst for the base it is ≥8%. A total of 5 tests were performed between 1.520 km and 1.720 km.

The DCP provided in-situ CBR values ranging from 34%-71% in the top 100-150 mm, which is now the base as based on the visual inspection, the gravel appears to have worn away in the years since construction. Whilst the field results are uncorrelated to moisture content, it is likely that the strength would meet the specified requirements. The remainder of the base layer has an in-situ CBR of between 8-23%, which is more representative of the original strength of the layer.

Subgrade CBR's are in a similar range to the other sections, with the lowest recorded value being 8% in two consecutive tests at 1.620 km and 1.670 km.

### *6.3.4 Road 3.3*

Gravel Wearing Course

Five DCP tests were performed between 1.605 km and 1.795 km. The construction details for the gravel wearing course on Road 3.3 are the same as previous sections. The DCP also showed very similar data regarding layer thickness to the previous section on Road 3.2.

The gravel wearing course appears to have mostly eroded, leaving the base. The DCP measured base thickness is less than 200 mm (constructed depth was 300 mm) in all but one of the five tests on this section. It is likely that the 300 mm base material is present, however, the upper 200 mm has been compacted by years of trafficking and therefore appears to be a different layer on the DCP graphs.

The in-situ CBR values for the upper base layer range from 23-63%, with an average of 40%. Again, whilst uncorrelated to moisture content, it is likely that this is in excess of the specified requirement of 8%. Below this, the CBR ranges from 7-12% which would likely be below the required CBR of 8% if correlated against comparative soaked CBR results.

The subgrade in this section has an average CBR of 10% and a small range of between 7% and 13%.

### 6.3.5 Road 5

Gravel Wearing Course

Pavement design values are the same as previous sections, with DCP data following similar trends as before. A total of 5 DCP tests were performed between 3.155 km and 3.345 km.

Most of the gravel on these roads has been lost over time, leaving only the base layer. The estimated thickness of this layer based on the DCP results was between 100-180 mm across the five tests performed.

The in-situ CBR for this top layer/base layer ranges from 26-72%, which is likely to be adequate for the material and layer. With regards the subgrade, the in-situ CBR's ranged from 6-11%.

### 6.3.6 Road 8

Sand Seal

Sand seal was constructed using the same pavement design thicknesses as for Otta seals. This includes 150 mm of crushed stone base with a soaked CBR ≥80% and 120 mm natural gravel subbase with soaked CBR ≥25%. The surfacing has completely disintegrated along most of the section. Where parts of the surfacing remains, it is in very poor condition.

A total of 14 tests were performed between 1.505 km and 2.205 km. In most tests, the thickness of the base layer can be estimated and correlates reasonably well with the design value of 150 mm, typically falling between 100-150 mm. Where a thickness <150 mm is observed, it is attributed to losses incurred as a result of disintegration of the surfacing. In many cases it is not possible to differentiate the change from subbase to subgrade by strength.

The in-situ CBR values for the base range from 42-97%, similar to those seen on the Otta seal sections. Two locations exceeded 100%, but only for the top 36 mm of the pavement and thus have not been included in the previous range as a representative indication of the base strength. Seven of the fourteen tests were in excess of 70%, whilst three tests had CBR's between 61-65%. The overall average in-situ CBR in this section was 65%.

Whilst not directly comparable, it is reasonable to say that if the in-situ CBR (which is at worst around OMC in the subgrade) is below the specified soaked value, the material will not comply with specification. A small number of values were significantly below the 80% specification and the design values used for LVRR at present. These were at 1.705 km where the CBR was 42% (discounting the 132% which was observed in the first 36 mm as it may be the result of a stone or traffic compaction and not a true reflection of the layer strength), 1.755 km where the base displayed a CBR of 48% and at 1.905 km the base CBR was 44% and finally, 2.005 km which had a CBR of 18%.

Gravel Wearing Course

Five DCP tests were performed on the gravel section between 2.205 km 2.395 km. Results are reasonably similar to the previous gravel sections. Like the previous sections, much of the gravel has been lost in the five years since construction. Therefore, what remains is likely to consist mostly of the base material and underlying subgrade.

As expected, the top 100-200 mm of the gravel section exhibits the highest CBR values, having been compacted over time by the passing traffic. Across the five tests, the CBR for this layer ranges from 53-98%, with an average of 67%. Underlying this is most likely the subgrade material. The CBR for this layer is in the range of 6-53%.

### 6.3.7 DCP Summary

As can be seen in the tests above, moisture contents were not taken and this was due to the damage which would have been caused to the pavements by excavation to gather samples. However, tests

were performed towards the end of the rainy season, at which time the pavement materials should be at their weakest. In such a case, it is reasonable to say that if the in-situ CBR values are less than the required soaked CBR, those materials inevitably will not comply with the specification. However, the materials are also likely to be in their weakest in-situ condition and it would not be expected that the CBR values would reduce further than this point at any other time of the year. This suggests that CBR (soaked) tends to be an over-estimate, or over-conservative, for base specification on LVRR, because if the road has been properly designed and constructed (and maintained), the base should never be in the fully soaked condition.

Based on the results seen above, there is little concern about the gravel materials used in the unsealed pavements. However, it appears that the strength of base layers along the bituminous sealed sections is weaker than expected. These sections had an original base specification of CBR 80% (soaked) and were constructed from crushed stone.

In reality, the stone source was not of very high quality and little quality control testing was performed during construction – with the exception of in-situ density. The approach was to test the materials in the borrow pits/quarries and if they complied with specification, they were used in construction. A similar approach to this has been taken in Tanzania.

It appears that the CBR of the material is not as high as it should be on the Otta seal sections, however on the whole, the Otta seal sections are performing very well. There is some rutting which could be attributed to the relatively weak base layer, however, it is not causing serious distress at present and the roads have been trafficked for 5 years without maintenance. However the same cannot be said of the sand seal, this deterioration is a result of disintegration of a poor quality surfacing, rather than structural defects.

In the time since SEACAP, further work on LVRR design has been done, particularly in Africa under AFCAP. One of the outcomes of this work is that the specification requirements for materials, particularly in the base layer, can be reduced from those required for general highway construction. In other words, an 80% (soaked) CBR specification for base material is not necessarily required for LVRR construction. Manuals, such as the Ethiopian Pavement Design Manual for LVRR, recognise this fact and specifications for a road similar to this one, have been reduced to CBR (soaked) of 65% for the base.

The CBR for Otta seal sections will not comply with this new specification either, however, the road is still performing well. The rutting is not desirable; although, it could be resolved by a material with a higher CBR specification and/or increased compaction (compaction to refusal, rather than at 98% MDD). As a result, a clear recommendation on a suitable CBR cannot be made on the back of the findings in Lao; however, they do indicate that CBR values for base materials in current LVRR specifications are likely within the correct range.

## 6.4 Surface Roughness

Roughness measurements for each trial section have been taken on three occasions, a base line survey in 2007 and two follow up surveys in 2009 and 2012. The calculated International Roughness Index (IRI) (m/km) from these surveys is shown in Table 8.

Additionally, typical IRI values and their serviceability descriptions from Table 10.2 in Overseas Road Note (ORN) 5 have been provided in Table 7. This provides a good comparison which assists in putting results from the monitoring trip into perspective.

**Table 7: Typical Roughness Values for Different Serviceability Levels from ORN 5**

| Pavement Type | Summary of Serviceability Description | IRI Range (m/km) |
|---|---|---|
| Paved | Ride comfortable at speeds over 120 km/hr. Undulation barely perceptible at 80 km/h in range 1.3-1.8. No depressions, potholes or corrugations are noticeable. | 1.5-2.5 |
| Paved | Ride comfortable at 100-120 km/h, at 80 km/h moderately perceptible movements or large undulations may be felt. If on a defective surface: occasional depressions, patches or potholes with frequency of 1-2 per 50 m or many shallow potholes. Surface without defects: moderate corrugations or large undulations. | 4.0-5.5 |
| Paved | Ride comfortable at 70-90 km/h, strongly perceptible movements and swaying. Usually associated with defects – frequent moderate and uneven depressions or patches. If on a surface without defects – strong undulations and corrugations. | 7.0-8.0 |
| Paved | Ride comfortable at 50-60 km/h, frequent sharp movements or swaying. Associated with severe defects: frequent, deep and uneven depressions and patches. | 9.0-10.0 |
| Paved | Necessary to reduce velocity below 50 km/h. Many deep depressions and potholes and severe disintegration. | 11.0-12.0 |
| Unpaved | Recently bladed surface of fine gravel with excellent longitudinal and transverse profile (usually found only in short lengths). | 1.5-2.5 |
| Unpaved | Ride comfortable up to 80-100 km/h. Gentle undulations and swaying. | 3.5-4.5 |
| Unpaved | Ride comfortable up to 70-80 km/h but aware of sharp movements and some wheel bounce. Frequent shallow-moderate depressions or shallow potholes | 7.5-9.0 |
| Unpaved | Ride comfortable at 40-70 km/h, frequent moderate transverse depressions or occasional deep depressions or potholes. Strong corrugations. | 11.5-13.5 |
| Unpaved | Ride comfortable at 30-40 km/h. Frequent transverse depressions and/or potholes. Not possible to avoid all depressions except the worst. | 16.0-17.5 |
| Unpaved | Ride comfortable at 20-30 km/h, speeds higher than 40-50 km/h would cause severe discomfort and possible vehicle damage. | 20.0-22.0 |

The data contained in Table 8 show that between 2007 and 2009, the roughness (IRI) has increased, as expected, on every section except concrete paving blocks. It is not clear why there was a reduction in IRI on the concrete paving blocks, however, it may be a result of bedding in one of the blocks or, as the reduction is small, associated with the natural standard error built into the testing – which essentially means there is little change in roughness between 2007 and 2009.

However, after 2009, there is a reduction in IRI values on most sections. This signifies a reduction in roughness over that period. A reduction in roughness is not anticipated in the absence of routine maintenance on gravel and bituminous sealed sections, as can be seen with the two results on Road 8.0 which got progressively rougher over the five year period.

Gravel and earth roads change continuously through the year and this could impact the roughness results that were calculated. However, in most cases the results show gravel sections have either deteriorated or remained in a similar condition to when measured in 2009.

However, a reduction in IRI is not expected on bituminous and concrete roads, as in the absence of maintenance, it does not follow logic that these roads could be getting less rough. Ideally, further monitoring could help in determining what is happening and whether this trend is going to continue much further into the future.

**Table 8: SEACAP 17 Trial Section IRI Values**

| Road | Section | IRI (m/km) | | |
|---|---|---|---|---|
| | | Base Line (2007) | Feb 2009 | Oct 2012 |
| 1-1 | NEC Standard Gravel | 8.28 | 15.13 | 14.36 |
| 1-3 | NEC Standard Gravel | 7.46 | 18.31 | 11.41 |
| 2.0 | NEC Standard Gravel | 9.51 | 17.69 | 16.70 |
| | Hand Packed Stone | 6.59 | 16.65 | 18.68 |
| 3-2 | Double Otta Seal | 7.19 | 8.90 | 4.67 |
| | Single Otta Seal w/ Sand Seal | 7.31 | 8.62 | 5.52 |
| | Engineered Natural Surface | 6.02 | 10.42 | 8.26 |
| | Mortared Stone | 14.28 | 22.46 | 17.67 |
| | NEC Standard Gravel | 9.01 | 10.35 | 11.61 |
| 3-3 | NEC Standard Gravel | 7.48 | 10.00 | 5.24 |
| 5.0 | Concrete Paving Blocks | 9.05 | 8.21 | 6.25 |
| | Bamboo Reinforced Concrete | 11.67 | 12.63 | 7.01 |
| | Concrete Geocell | 8.12 | 8.21 | 6.19 |
| 8.0 | Sand Seal | 6.49 | 8.21 | 12.91 |
| | NEC Standard Gravel | 7.80 | 10.00 | 15.13 |

Reduction in IRI aside, when referenced against Table 7, the Otta seal sections appear to be performing well and provide a comfortable ride at reasonably high speeds. The same can be said of the concrete paving blocks, bamboo reinforced concrete and concrete geocells whose IRI values are comparable to a paved road with a comfortable driving speed of 70-90 km/h – albeit they do appear to have had higher IRI values in 2007 and 2009, with values of 11.7 and 12.6 m/km, which appear particularly high for a new concrete surface. This correlates well with the outcome of the visual surveys, as the overall impression was that these pavements are performing well at this stage.

However, gravel and stone block sections do not perform well – except for 1 gravel section on Road 3-3 which has an IRI of 5.24 m/km. The remainder have IRI values ranging from 11.4-16.7 m/km. This indicates a surface which has a comfortable driving speed of 40-70 km/h, or 30-40 km/h on Road 2.0 which has an IRI >16 m/km. This also correlates reasonably well with the visual inspections and the surfaces observed.

An IRI of 12.9 m/km on the sand seal section is in line with what was observed in the visual inspection, albeit perhaps a little higher than expected. As per the final 'paved' description in

Table 7, an IRI between 11.0 and 12.0 m/km indicates severe disintegration and necessity for reduced speed.

Hand packed stone and mortared stone perform poorly, with an IRI ranging from 17.7-18.8 m/km in 2012 - but values were as high as 22.5 m/km for mortared stone in 2009. These IRI values correspond with the poorest of unpaved surfaces and indicates potential for discomfort and vehicular damage – which has been sited as an issue by locals both in Lao and Tanzania and implies that such local discontent with these surfacings is justified.

## 6.5 Surface Texture

Surface texture measurements were taken by the sand patch test during the base line monitoring survey in 2007 and again in the most recent survey in October 2012. No surface texture assessments were made in 2009. Results from both surveys are displayed in Table 9, where a lower value represents a smoother surface texture and a higher value represents a rougher texture.

It can be seen from the data in Table 9 that the surface roughness of all the sections has reduced. This is due to motorised traffic on the roads causing wear to the surface aggregate which will become smoother, before the aggregate begins to wear away completely and the road becomes rougher as the surface treatment is removed. This will continue to occur unless maintenance is carried out.

These values show that surface texture has reduced marginally over time. It should be noted that a smoother surface texture will provide less skid resistance for vehicles and thus stopping distances may increase, however the values obtained for the SEACAP trials are adequate for this type of road.

**Table 9: SEACAP 17 Trials Surface Texture Depth Measurement**

| Road | Section | Average Texture Depth (mm) | |
|---|---|---|---|
| | | 2007 | 2012 |
| 3-2 | Double Otta Seal | 0.963 | 0.413 |
| | Single Otta Seal w/ Sand Seal | 0.708 | 0.650 |
| 8 | Sand Seal | 0.636 | 0.495 |

## 6.6 Structural Integrity using LWD

### *6.6.1 Overview*

The Light Weight Deflectometer (LWD) was used to determine the deflection on different pavement types and also give an indication of the resilient modulus and deterioration of the pavement over time since construction.

Deflections are measured by three sensors, one located centrally underneath the load plate and two further sensors located at 300 mm and 500 mm from the load plate respectively (see Figure 18). These give the deflections $\delta_1$, $\delta_2$ and $\delta_3$, which will be discussed later.

**Figure 18: Photographs Showing LWD Equipment and Testing Underway**


The deterioration is given through a number of different elastic moduli which provide an indication of layer stiffness. The stiffer a material is, the higher its elastic modulus will be. The following moduli will be discussed in the following section and are outputs from the LWD testing:

- E1: Modulus of the upper pavement layer(s);
- E2: Modulus of the lower pavement layer (s);
- $E_m$: Subgrade modulus at the top of construction;
- $E_0$: Surface deflection modulus at the top of construction.

### *6.6.2 Results*

Deflections

*Un-sealed Sections (Gravel Wearing Course and Engineered Natural Earth)*

Gravel sections and the engineered natural earth section showed 90$^{th}$ percentile deflections which were comparable to most other surfacings, as shown in Table 10 below. The largest deflection occurs beneath the load plate and ranged from 115.8 µm to 375.8 µm. Values reduced significantly at the outer two sensors which made for quite steep deflection bowls.

**Table 10: 90$^{th}$ Percentile Deflections for Un-sealed Sections**

| Road No. | Pavement Type | $\delta_1$ (µm) | $\delta_2$ (µm) | $\delta_3$ (µm) |
|---|---|---|---|---|
| 1.1 | Gravel Wearing Course | 316.6 | 38.0 | 18.6 |
| 1.3 | Gravel Wearing Course | 170.6 | 41.4 | 21.6 |
| 2.0 | Gravel Wearing Course | 281.6 | 35.0 | 12.4 |
| 3.2 | Engineered Natural Surface | 238.4 | 19.0 | 8.0 |
| 3.2 | Gravel Wearing Course | 214.0 | 21.2 | 10.0 |
| 3.3 | Gravel Wearing Course | 375.8 | 45.6 | 24.0 |
| 5.0 | Gravel Wearing Course | 216.8 | 65.6 | 30.0 |
| 8.0 | Gravel Wearing Course | 115.8 | 25.0 | 10.6 |

When compared to deflections measured in 2007, the results show that deflections have generally increased as expected. However, increases were not observed in all sections. The deflections

measured on gravel sections for Roads 1.3 and 8.0 showed that the central deflection was lower, but results at the outer two sensors remained similar to those measured five years ago. Perhaps this could be attributed to subgrade strengths remaining the same and the overall deflection being affected by gravel loss. A summary of the results is given in Table 14.

### *Otta Seal and Sand Seal*

Deflections for Otta and sand seal were understandably lower than those observed on the un-sealed sections. For the Otta seal, an overall 90$^{th}$ percentile deflection of 146.3 µm was observed under the load plate. This reduced to 17.9 µm and 6.0 µm at the 300 mm and 500 mm sensors respectively.

On the sand seal the central deflection was low, having a value of 84.3 µm. This is much lower than that observed in 2007, when the deflection was 233.0 µm. This is likely to be incorrect considering the deterioration of the surfacing in recent years. This may have had an impact on the test accuracy as it caused the surface to be difficult to test on. Results at the outer two sensors are comparable to those measured in 2007. However, due to the potential inaccuracies observed at the central sensor, the accuracy of the outer values cannot be guaranteed.

**Table 11: 90$^{th}$ Percentile Deflections for Otta Seal and Sand Seal Sections**

| Road No. | Pavement Type | $\delta_1$ (µm) | $\delta_2$ (µm) | $\delta_3$ (µm) |
|---|---|---|---|---|
| 3.2 | Otta seal | 146.3 | 17.9 | 6.0 |
| 8.0 | Sand seal | 84.3 | 28.3 | 12.0 |

### *Segmental Block Surfaces (Hand Packed Stone, Mortared Stone and Concrete Paving Blocks)*

Analysis of the data showed similar central deflections to those seen on gravel sections, however, the deflections at 300 mm and 500 mm tended to be lower. Central deflections of similar magnitude as un-sealed sections were not expected on these surfacings – the hand packed stone had a deflection of 220.5 µm, whilst it was 174.6 µm and 202.4 µm on the concrete paving blocks and mortared stone respectively.

Regarding the concrete paving blocks, it is unusual that a higher deflection is observed at the outer sensor (at 500 mm) than the middle one (at 300 mm). Additionally, the central deflection is significantly lower than that recorded in 2007 – see Table 14. This gives an indication of the difficulty of testing this surfacing using LWD and obtaining reliable results.

This could be a result of the weaker layer underneath the block surfacings (125 mm of gravel subbase, CBR ≥25%) or because of the potential unsuitability of the equipment for this surfacing type.

**Table 12: 90$^{th}$ Percentile Deflections for Segmental Block Surfaces**

| Road No. | Pavement Type | $\delta_1$ (µm) | $\delta_2$ (µm) | $\delta_3$ (µm) |
|---|---|---|---|---|
| 2.0 | Hand Packed Stone | 220.5 | 13.0 | 6.0 |
| 3.2 | Mortared Stone | 202.4 | 11.6 | 5.0 |
| 5.0 | Concrete Paving Blocks | 174.6 | 1.9 | 12.0 |

### *Concrete Pavements (Bamboo Reinforced Concrete and Concrete Geocells)*

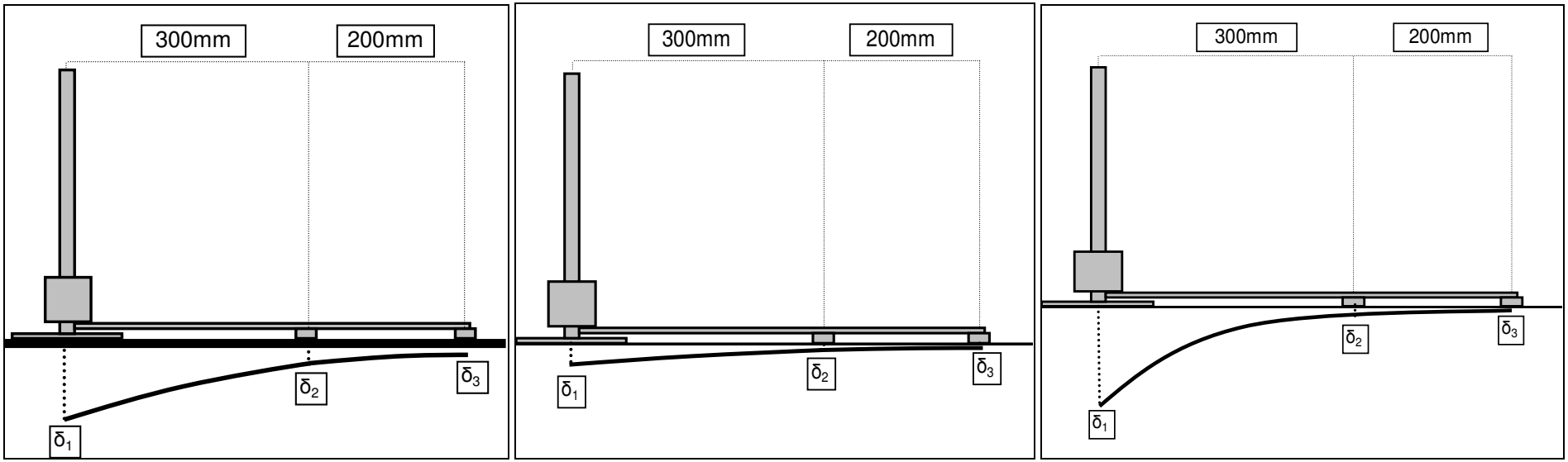
Concrete pavements are the best performing of all the sections and this is reflected in the deflection results. As expected, the bamboo reinforced concrete is showing very little deflection across all three sensors. The geocells are showing higher deflection values, but they are not excessive. Table 13 below gives a summary of the deflections observed on this monitoring trip.

Results also compare well to those measured in 2007, with little variation being observed. These results are displayed in Table 14 at the end of this section.

**Table 13: 90th Percentile Deflections for Concrete Surfaces**

| Road No. | Pavement Type | $\delta_1$ (µm) | $\delta_2$ (µm) | $\delta_3$ (µm) |
|---|---|---|---|---|
| 5.0 | Bamboo Reinforced Concrete | 35.0 | 25.1 | 16.0 |
| 5.0 | Concrete Geocells | 110.0 | 36.0 | 17.0 |

**Figure 19: Pictorial Comparison of Typical Deflection Bowls**




**Idealised Deflection Bowl** | **Typical Deflection Bowl for Bamboo Reinforced Concrete Pavement** | **Bowl Shape Observed on Site for Non-Concrete Pavements**

Observations:

1. For pavements that are not of concrete construction, deflection bowls similar to the 'idealised' scenario were envisaged. This did not materialise and bowls looked more like the final picture shown in Figure 19. There tended to be a large deflection under the central sensor and two comparatively small deflections under the other two sensors;

2. On the bamboo reinforced concrete pavement, there was very little deflection observed across all three sensors, which was expected;

3. The segmental block surfaces (hand packed stone, mortared stone and concrete paving blocks) gave numerous 'zero' readings for deflections at $\delta_2$ or $\delta_3$. This is thought to be due to the impact from the LWD being distributed over a single block or stone which the equipment is resting on. This transmits the greatest loading through that location giving the high reading at $\delta_1$ but occasionally little or no deflection is registered at the $\delta_2$ and $\delta_3$ sensors. As a result, it is considered that LWD cannot give meaningful and accurate results on these pavement types.

### Table 14: Deflection Data for each Trial Section

| Road No. | Pavement Type | $\delta_1$ (µm) Location: Load Plate | | $\delta_2$ (µm) Location: 300 mm from Load Plate | | $\delta_3$ (µm) Location: 500 mm from Load Plate | |
|---|---|---|---|---|---|---|---|
| | | **2007** | **2012** | **2007** | **2012** | **2007** | **2012** |
| 1.1 | Gravel Wearing Course | 133.0 | 316.6 | 31.0 | 38.0 | 16.0 | 21.60 |
| 1.3 | Gravel Wearing Course | 246.0 | 170.6 | 46.0 | 41.4 | 21.0 | 21.60 |
| 2.0 | Hand Packed Stone | 158.0 | 220.5 | 21.0 | 13.0 | 8.0 | 6.0 |
| 2.0 | Gravel Wearing Course | 204.0 | 281.6 | 17.0 | 35.0 | 8.0 | 12.4 |
| 3.2 | Mortared Stone | 107.0 | 202.4 | 39.0 | 11.6 | 10.0 | 5.0 |
| 3.2 | Engineered Earth Surface | 132.0 | 238.4 | 12.0 | 19.0 | 3.0 | 8.0 |
| 3.2 | Gravel Wearing Course | 126.0 | 214.0 | 15.0 | 21.2 | 4.0 | 10.0 |
| 3.2 | Otta Seal | 137.0 | 146.3 | 15.0 | 17.9 | 2.0 | 6.0 |
| 3.3 | Gravel Wearing Course | 159.0 | 375.8 | 30.0 | 45.6 | 13.0 | 24.0 |
| 5.0 | Bamboo Reinforced Concrete | 42.0 | 35.0 | 31.0 | 25.1 | 18.0 | 16.0 |
| 5.0 | Concrete Geocells | 122.0 | 110.0 | 35.0 | 36.0 | 15.0 | 17.0 |
| 5.0 | Gravel Wearing Course | 155.0 | 216.8 | 45.0 | 65.6 | 22.0 | 30.0 |
| 5.0 | Concrete Paving Blocks | 412.0 | 174.6 | 5.0 | 1.9 | 7.0 | 12.0 |
| 8.0 | Gravel Wearing Course | 130.0 | 115.8 | 23.0 | 25.0 | 10.0 | 10.6 |
| 8.0 | Sand Seal | 233.0 | 84.3 | 26.0 | 28.3 | 8.0 | 12.0 |

## Layer Moduli

### *Gravel Sections*

Gravel sections have shown the most deterioration in all other tests, with the gravel layer having mostly disappeared over the past 5 years. As a result of this, the upper layer, E1, from 2012 has to be compared to the 'E2' value from 2007.

This comparison shows that generally, moduli have either increased or remained similar to those measured in 2007, as shown in Table 15. This is likely due to traffic compaction over time which has increased the density of the material and thus the measured stiffness. The subgrade modulus has decreased, as has the surface deflection modulus. The decrease in surface deflection modulus is expected as the surface is now subbase material, as opposed to the wearing course which existed 5 years ago. The subgrade modulus is likely attributable to the time of year which the tests were carried out. The tests were performed towards the end of the rainy season, therefore the subgrade is close to its weakest condition.

### *Engineered Natural Surface*

One engineered natural surface section was tested on Road 3.2. Due to the nature of construction (i.e. there is no base or subbase) there is no E1 or E2 value to report. With regards the subgrade and surface deflection moduli, both have reduced since 2007 from 40 MPa to 27 MPa and 76 MPa to 53 MPa respectively. This result could also be impacted by the time of year testing was conducted. As it was the end of the rainy season, the material strength is lower than during drier times of the year. This would have had an impact on the stiffness being recorded.

### *Otta Seal*

This section is located on Road 3.2. There was a significant reduction in the E1 and E2 moduli observed along this section, with values falling from 285 MPa to 53 MPa and 89 MPa to 27 MPa respectively. This correlates well with the DCP tests, which also gave lower base and subbase CBR's than expected.

The subgrade modulus has increased along this section, but the surface defection modulus has reduced. The reduction in surface deflection modulus is likely a result of the weaker layers which are underneath it.

### *Sand Seal*

As reported previously, the sand seal surfacing on Road 8.0 has mostly disintegrated over the past 5 years. A decrease in the E1 modulus, from 188 MPa to 120 MPa, has been observed and this is most likely due to weakening of the base layer now the surfacing no longer offers any protection.

Both the subgrade modulus and surface deflection modulus have decreased from 40 MPa to 33 MPa and 106 MPa to 75 MPa respectively. This may be due to the conditions at the time of testing and surface deterioration respectively. However, the E2 value has shown a significant increase and this cannot be readily explained. It could be a result of compaction of the layer over time.

### *Geocells and Bamboo Reinforced Concrete*

The geocells on Road 5.0 showed that E1 has decreased from 171 MPa to 46 MPa, whilst E2 has increased to 150 MPa from 54 MPa. It is not clear how effective LWD is for testing such a high strength surface and especially for determining the E2 values underneath, due to its 'light weight' nature. This could be a reason for the results seen here, as it is not expected that the E1 value should decrease so significantly for a concrete structure.

Increased E1 values were observed for the bamboo reinforced concrete section on Road 5.0, with values rising from 1119 MPa to 4580 MPa. These are too large to be attributable to any increase in concrete strength. It is more likely that the result is erroneously high. As with the geocells, it appears that the LWD may not accurately determine the moduli for such high strength surfaces and also the layers beneath them.

### *Segmental Surfaces (Hand Packed Stone, Mortared Stone and Concrete Paving Blocks)*

There were some problems during the analysis for the segmental block surfaces. A number of 'zero' readings were observed in the outer two sensors on some of the trial sections which caused problems for the software when analysing. To allow the analyses to proceed, these zero values had to be modified to a very low deflection of 1 µm.

It is thought that the problem is due to the nature of the surfacing type in question. The load plate is transferring the load to the block or stone on which it is placed, however, nothing is being transferred or registered by the blocks at 300 mm and 500 mm from the load plate. It is likely that this test is not suitable for segmental block surfacings.

The results for concrete paving blocks show that E1 has reduced significantly since 2007, with the modulus falling from 213 MPa to 15 MPa. This is unlikely to be accurate and highlights the difficulties observed with this equipment on the segmental surfacings. The E1 value for hand packed stone remained the same as in 2007, at 55 MPa.

In the case of the E2 values, for hand packed stone the value decreased from 28 MPa to 17 MPa. For concrete paving blocks it increased to 150 MPa from 14 MPa. This highlights another issue with analysing these pavement types. The value of 150 MPa was the initial 'seed value' used for the E2 layer to commence the analysis process. This value is used as a starting value in the iterations to find what the actual E2 value is. However, in the case of hand packed stone, mortared stone, geocells and bamboo reinforced concrete, it appears that with the high strength surfacings it is unable to do this. In each case it returned the same E2 value as that used as the 'seed', i.e. 150 MPa.

Due to the difficulties observed in analysing some of these surfacings, one conclusion is that the LWD is most likely unsuitable for testing surfaces such as segmental blocks and perhaps concrete also. The equipment appears more suited for use on un-sealed gravel and natural earth surfaces and also on the bituminous sealed sections.

### Table 15:Summary of Layer Moduli for each Trial Section

| Road | Upper Layer (E1 - MPa) | | Lower Layer (E2 - MPa) | | Subgrade Modulus ($E_m$ - MPa) | | Surface Deflection Modulus ($E_0$ - MPa) | |
|---|---|---|---|---|---|---|---|---|
| | **2007** | **2012** | **2007** | **2012** | **2007** | **2012** | **2007** | **2012** |
| R.1.1 GWC | 174 | 35 | 34 | 36 | 94 | 87 | 129 | 48 |
| R1.3 GWC | 89 | n/a | 45 | 36 | 144 | 41 | 85 | 47 |
| R2.0 HPS | 55 | 55 | 28 | 17 | 19 | 44 | 45 | 51 |
| R2.0 MTS | 98 | 8 | 14 | 150 | 22 | 13 | 64 | 38 |
| R2.0 GWC | 60 | n/a | 28 | 28 | 67 | 24 | 73 | 40 |
| R3.2 ENS | n/a | n/a | n/a | n/a | 40 | 27 | 73 | 56 |
| R3.2 GWC | 182 | n/a | 38 | 60 | 64 | 46 | 136 | 71 |
| R3.2 SOS | 285 | 53 | 89 | 27 | 22 | 129 | 91 | 67 |
| R3.3 GWC | 154 | n/a | 30 | 26 | 58 | 39 | 112 | 34 |
| R5.0 BRC | 1119 | 4580 | 350 | 150 | 41 | 59 | 189 | 399 |
| R5.0 GEO | 171 | 46 | 54 | 150 | 44 | 31 | 101 | 76 |
| R5.0 GWC | 87 | n/a | 65 | 65 | 97 | 28 | 77 | 62 |
| R5.0 CPB | 213 | 15 | 14 | 150 | 25 | 15 | 56 | 48 |
| R8.0 GWC | 115 | 95 | 58 | 107 | 210 | 47 | 112 | 89 |
| R8.0 SS | 188 | 120 | 23 | 61 | 40 | 33 | 106 | 75 |

## 6.7 Traffic Counts

During the base line and October 2012 follow up monitoring surveys, 12 hour traffic counts were carried out on each of the SEACAP 17 project roads. These counts have been extrapolated to provide values for 24 hour counts and a value for average daily traffic (ADT) calculated.

The traffic counts during both monitoring surveys in 2007 and 2012 were carried out in October and therefore this will provide an accurate comparison of the level of traffic during this time of year. The results from the counts are shown below in Table 16.

**Table 16: SEACAP 17 Traffic Count Data**

| Road | Count Location (km) | Base Line 2007 | | | October 2012 | | |
|---|---|---|---|---|---|---|---|
| | | Date of Count | ADT | % Heavy Vehicles | Date of Count | ADT | % Heavy Vehicles |
| 1-1 | 0+940 | 10 Oct 2007 | 18 | 44% | 15 Oct 2012 | 44 | 10% |
| 1-3 | 0+650 | 9 Oct 2007 | 22 | 10% | 15 Oct 2012 | 20 | 42% |
| 2 | 0+760 | 9 Oct 2007 | 102 | 33% | 9 Oct 2012 | 210 | 10% |
| 3-2 | 0+920 | 11 Oct 2007 | 49 | 29% | 10 Oct 2012 | 107 | 32% |
| 3-3 | 0+050 | 11 Oct 2007 | 17 | 42% | 11 Oct 2012 | 43 | 10% |
| 5 | 0+850 | 10 Oct 2007 | 47 | 10% | 11 Oct 2012 | 67 | 10% |
| 8 | 1+505 | 10 Oct 2007 | 34 | 33% | 12 Oct 2012 | 60 | 10% |

In the table above, 'heavy vehicles' refers to two-axle trucks (less than 5 tonnes) and tractors. The data in Table 16 clearly shows an increase in the number of vehicles per day using the SEACAP 17 project roads, on all but Road 1-3. This traffic growth is expected, as locals would have become aware of the improved roads, vehicular traffic would then increase as access to the rural communities became easier, and villagers were able to transport goods to and from the main Route 3 highway more easily.

In Table 17 the number of ESA's the road has carried since construction and the number it is likely to carry in total over ten years have been estimated. This has been estimated based on a number of assumptions:

- The difference between 2007 and 2012 traffic levels is known (approximately) from the two traffic count surveys;
- Annual increases in traffic over the first five years have been calculated based on dividing the 'known' traffic increase into logical increments for each year. Annual increased were assumed over the five year period i.e. 40% increase after Year 1, 25% after Year 2, 15% after Year 3 and it is considered that increases would then level-off at a standard rate, taken as 10%, thereafter;
- For the second five year period (i.e. from Year 5-10) it has been assumed that traffic will increase by 10% year-on-year;
- Axle loading has been estimated as 3,000 kg for a 'heavy vehicle' and 500 kg for cars. Motorbikes are the most numerous vehicle observed on the road, but they have not been included in the ESA calculations - their impact on the ESA value was extremely small;
- The standard ESA formula from Overseas Roadnote 31 was used to calculate the ESA value – $ESA = (Axle\ Load(kg)/8160)^{4.5}$.

As can be seen in Table 17, even after ten years of trafficking, the ESA's are still very low. The highest values are seen on Road 2 and Road 3-2, but these still only equate to 0.002 mesa and 0.0015 mesa respectively after 10 years. This could be attributed to the low numbers of actual 'heavy' vehicles using these roads, with the traffic being predominantly made up of motorbikes and cars, which have little impact on the ESA calculations.

This also highlights the fact that the environment plays the most important role in the deterioration of these roads, rather than the effects of traffic – the sand seal is a particular case in point.

**Table 17: Estimate of Axle Loading Over Past 5 Years and after 10 Years**

| Road | Traffic and ESA Estimate After 5 Years | | Traffic and ESA Estimate After 10 Years | |
|---|---|---|---|---|
| | Estimated Total Traffic Over 5 Years | Estimated ESA Loading After 5 Years | Estimated Total Traffic Over 10 Years | Estimated ESA Loading After 10 Years |
| 1-1 | 68,438 | 205 | 176,290 | 528 |
| 1-3 | 37,413 | 108 | 94,076 | 271 |
| 2 | 333,975 | 796 | 848,727 | 2,024 |
| 3-2 | 168,813 | 571 | 431,091 | 1,458 |
| 3-3 | 66,613 | 192 | 172,014 | 496 |
| 5 | 113,150 | 126 | 277,380 | 308 |
| 8 | 97,638 | 233 | 244,709 | 583 |

# 7.0 SOCIO-ECONOMIC STUDY

## 7.1 Objectives

The objective of this short social study was to gain an understanding of local opinion on the SEACAP roads and to examine how construction of the roads has impacted their lives. The study examined the impact on the general livelihoods of the surrounding communities due mainly to accessibility, improvement in costs and travel time.

The specific objectives of the study were to:

- Obtain a qualitative assessment from first-hand experience as to how the roads have impacted the socio-economic status of the surrounding communities;
- Determine if there has been any change in road safety due to construction of the roads;
- Get a clear understanding of all impacts the roads have had, both positive and negative;
- To determine and understand varying views on the issues surrounding the roads.

## 7.2 Socio-Economic Data for the Project Area

### *7.2.1 Houay Xai*

The trial sections were constructed on feeder roads off the NH3, in Houay Xai District of Bokeo Province. The area is located in the North western region of Lao, near the border with Thailand. The area is characterised by a tropical climate, with a three month wet season from August to October, which makes many of the roads impassable during this period. Many of the roads serve a productive agricultural area where rice is the main crop followed by timber, rubber and more recently, bananas.

The district of Houay Xai is considered to be a non-poor district, with the level of poverty being among the lowest in the country and along the Mekong River bordering Thailand. The northern districts have a lower than national average poverty level of 34.7% due largely to the greater employment opportunities in the agricultural sector.

The population density and distribution can be seen to be closely linked to infrastructure development, with the highest density populations found in capital cities and along the major highways. There has been a notable shift in the migration patterns throughout the country that can be closely linked to infrastructure improvements.

Each of the feeder roads on which the trial surfaces were constructed pass through a number of villages. These villages vary in size from 20 families to over 100 families. Each village relies mainly on agriculture as the primary source of income.

Selection of the roads on which trial surfaces were constructed was based on the feeder roads that had been selected for upgrade by the Lao government as part of their rural development strategy. On these roads traffic consists mainly of motorbikes and ‘tuktuks’, with a relatively smaller number of motor cars. The seven different all weather surfaces were constructed on the selected feeder roads, to test the performance of the surfaces types.

## 7.3 Survey Methods

### *7.3.1 Requirements for the Survey*

In order to administer and record the survey accurately and efficiently, the following items were used by the team:

- Interpreter (for verbatim reporting);
- 4x4 vehicle and driver;
- Laptop;
- Hardback bound note books;
- Camera.

## 7.4 Planned Survey Methods

The surveys were conducted using a qualitative checklist, which gathers people's opinions on a range of topics – see checklist in Appendix I. The lists were to be filled in by the surveyor while doing one-on-one interviews with key informants in the local communities. The checklists were used flexibly to allow for differing key issues to be determined and to allow the differing effects of the road on the varying communities to be understood.

The participants were interviewed in their homes, local fields and shops. An effort was made to interview a range of different participants, including school teachers, nurses, shop owners, farmers, labourers, village heads and residents. The analysis would then identify key statements in the data from a diverse range of informants.

The following are features and benefits of checklist interviews and related qualitative research approaches:

- Checklist can be used to explore issues in much greater depth than survey Questionnaires;
- Checklist can be used to explore 'multiple realities' – i.e. issues where there is no one right answer, but where different people have different ideas and perspectives;
- Checklist can be used as a stand-alone technique as in this research study, where research time is restricted;
- Qualitative research is good for uncovering why things happen and understanding people's own understandings of their situation, so a very useful starting point in research;
- The checklist interview may offer a good opportunity to introduce a new project and its goals.

The checklist used in this study was based on that used in a similar social study in Tanzania. Gina Porter, a sociologist working on behalf of AFCAP was consulted for the design of the Tanzanian checklist. Gina, based at Durham University, has extensive experience in areas such as child mobility and transport, gender and transport and off road communities and physical access.

## 7.5 Experience in the Field

The number of surveys conducted was limited by the short period of time which was spent in the field, though all locations were easily accessible as the survey was carried out in the dry season. However in many cases, difficulty was experienced in finding people to interview in many of the villages, as most leave to work in the fields in the morning. This often limited the scope of people available in each village.

It was intended that one on one interviews be conducted in the presence of the interpreter, who was instructed to translate the respondent's answer verbatim. However in many cases where the interviews were conducted in a village, community members would gather around and often add their opinions. This did not seem to influence the respondent's attitude or answers and often the respondents were quite detailed and descriptive of their experience of the road.

## 7.6 Data Collection

### *7.6.1 Objectives*

The primary objective was to understand how the roads have impacted the surrounding communities and if they have had an influence on the socio-economic status of the people.

### *7.6.2 Methodology*

Nine days were spent conducting interviews along the seven roads. A total of 20 interviews were carried out. The responses were categorised based on the socio-economic position or status within the village of the respondents. One-page reports of each category have then been compiled – these have been provided in Appendix I.

### *7.6.3 Key Informants*

Before commencement of the field work, identification of the various socio-economic categories that were to form the base of the interviews was carried out. Where people in these categories were identified in the villages, they were interviewed. The remainder of the sample of respondents was selected randomly.

Interviews were conducted with a total of 20 people - 17 men and 3 women. The sample consisted of village heads, teachers, a fisherman, farmers, a labourer, shop owners and a nurse – see Figure 20. The sample age ranged from early 20's to early 70's. No children where interviewed due to the lack of parental presence to give consent.

**Figure 20: Photographs showing local rice paddy worker, Namsamongtai, sitting in the shaded hut for his lunch break (left) and a local shop keeper, Sisavat, waiting for customers(right)**


## 7.7 Interview Locations

All interviews took place at the respondent's location to reduce the inconvenience – see Figure 21. In some instances the interviewers were invited into the respondent's home. All roads where driven to the end of the drivable section, or the last village identified on the map outside of the road section, before the interviews commenced.

**Figure 21: A local village where most of the interviews were conducted (left), the nurse of Ban Phouvanekao village in her rooms (right).**



## 7.8 Data Analysis and Discussion

### *7.8.1 General*

The randomly selected sample appears to have provided a good picture of the impact the roads have had on the lives of residents in the surrounding communities, as a broad spectrum of informants, in terms of position in the communities and occupation, were interviewed, giving varying points of view on the roads. However the disproportion between the genders of candidates interviewed does limit the scope of the findings.

## 7.9 Local Economy

### *7.9.1 Trade and Business*

In three of the villages, local residents mentioned that since the roads' construction there has been an improvement in trade within the village. One man said that he used to be the only shop in his village but since the road was improved several new shops have opened. He thinks it is because trucks can get to his village all year round to deliver the shop supplies.

In Ban Houaysala village, a local lady has set up a clothing stall. She can now get into town easily to buy her garments which she then sells to the local villagers. She is the only person selling items in this village.

In a third village, local farmers now sell their vegetables and livestock products to people who come to the village from Houay Xai. Once these people collect the produce, they sell it in the Houay Xai market. This has opened up access to a wider market for the local farmers surrounding the project roads.

### *7.9.2 Agriculture*

The Bokeo district has an agriculture based economy and many of the farmers and labourers interviewed mentioned that that the roads have assisted with accessibility in a variety of ways.

A rubber farmer who was interviewed said that the road has made it possible for the collection truck to get up the hill to his farm more easily. Many local farmers said that it was now much easier and faster for them to get their produce to the market. For some it would take up to a day to get their vegetables to the market by foot, but now they can use 'tuktuks' which take only a few hours.

### *7.9.3 Fishing*

One local fisherman, who lives in Ban Phouvanekao, was interviewed on his way home. He explained that previously he could only sell his catch in his village and a neighbouring village as it would begin to decompose before he could get it to market. Now that the road and bridge have been built, his village is connected to the main road and he can get the fish to town in an hour. This has enabled him to make more money from selling the fish.

## 7.10 Access to Health Facilities

Most of the villages which were visited did not have any form of health care facilities. In the case of contracting an illness, villagers must travel to another village, or in most cases, a town for treatment. In many instances this journey was previously and to a lesser extent is currently made by foot.

A local nurse in one village was also interviewed and she explained how the road has helped her small practice. Whilst she has very basic facilities, now when people are sick or injured she can get them to the nearest hospital much more easily by tuktuk. She also explained that she has easier and more frequent access to medical supplies.

## 7.11 Access to Education

A local school teacher and parents were interviewed about their opinions on access to education and pupil absenteeism. The school teacher highlighted that fewer children are late for school now and, although there is still a problem in the wet season, there was far less absenteeism than before road improvements were made.

According to one parent and the deputy head of Ban Chomkeo village, there is only access to primary education in the area through one local primary school. When children go to high school they have to travel to the NH 3 – closest main road. Prior to construction of the road this had to be done by foot, but now they can go to school by bicycle or motorbike.

## 7.12 Road Safety

### *7.12.1 Increase in Vehicle Numbers*

Since the construction of many of the road sections, the number of ‘tuktuks’ and motorbikes has increased dramatically. Previously, many of the villages were not accessible by motorised transport and those that were could not be accessed in the rainy season.

### *7.12.2 Road Design*

Of the seven different road surfaces constructed, five received no criticism from the local community for their surfacing. However this was not the case with the two hand packed stone surfaces. Every respondent on those two roads complained about the bumpiness of the road. Many complained that it was breaking their motor bikes. One responded, who lives at the top of the mortared stone section, said that it has caused some children to fall off their bicycles and break their arms. When asked if they would like more of the road surfaced, the majority responded yes but not with the stones.

Very few vehicular accidents were reported as a result of the surfacing. The two that were reported were due to drivers going too fast around a very sharp corner and either driving off the road or crashing into another car.

### *7.12.3 Driver Safety*

Very few, and on many roads none, of the motor bike riders wore helmets. The potential dangers of riding a bike unprotected do not seem to have been fully recognised by the local communities. Nor was there any education in schools on how to use the road correctly or the consequences of not

doing so and how to deal with accidents. None of the participants were worried about safety and all felt the roads were safe.

## 7.13 Other Issues Raised

Although this survey was aimed at assessing the impact of the road on accessibility for villagers, a large number of respondents wanted new roads for market access, to the larger markets in Houay Xai. In terms of schooling and health they wanted facilities built in their villages. Most did not have any health facilities and many had only primary schools.

Further construction along the demonstration roads to improve their overall condition not only has the potential to improve the personal transport of people in the areas, but also to improve the access to commercial or public transport to the villages. Public transport vehicle operators are required to be over the age of 25 and to obtain specialised licensing, as well as to register the specific vehicles to be used.

Regulation regarding passenger safety have been clearly legislated with regards to the number of passenger specific vehicle can carry and the use of safety equipment. Despite this the regulations are seldom followed.

# 8.0 CONCLUSIONS

## General

The overall feeling from this monitoring study is that most of the pavements appear to have been successful and they are performing well at this stage. Data presented in this report provides a good window into the future performance of the demonstration sections that have recently been completed under the AFCAP project in Tanzania. Many of the same surfacing options have been utilised across both the SEACAP and AFCAP projects and the information collected in Lao following 5 years of the roads being trafficable provides informed knowledge about the required maintenance and performance of these types of pavements.

From the observations of the SEACAP 17 trial sections we can make the following conclusions:

## Concrete Surfaces have been Successful so far

As expected the bamboo reinforced concrete and geocells have deteriorated the least and would be expected to provide reliable access into the future with perhaps minor maintenance. They were the most expensive options to construct, but also have high Net Present Values (NPV).

After 5 years they are in very good condition and continue to provide a robust surfacing which can guarantee year-round access where used. Out of all the surfacings, they also require the least maintenance. Where costs and local material availability allows, they should certainly be given due consideration on LVRRs, especially in high stress areas.

## Concrete Paving Blocks have been Successful so far

After 5 years the concrete paving blocks are still providing a durable, hard-wearing and fully functional pavement. Whilst they were also an expensive option in this project, the costs elsewhere are likely to be lower.

There has been no maintenance and whilst a number of blocks are missing, locals have patched the gaps with gravel and stone and the surface has held firm. If replacement blocks were made available, the surfaces could be properly repaired quickly and easily.

In addition to the durability and functionality, it also provides an aesthetically pleasing surfacing and in areas where blocks can be manufactured cheaply and easily using local materials, they would provide an ideal solution to dust problems in towns and villages.

## Otta Seals have been Successful although (as with all surfaces) Routine Maintenance is Important

Otta seals have generally performed well and should continue to be considered for LVRRs, although routine maintenance is now required to prevent deterioration where edge break and potholes were observed. They were less expensive than the concrete or paving block options, but as was seen, tend to have higher maintenance requirements over their lifetimes.

This should be given consideration when choosing the most appropriate surfacing type, as inevitably, the lifespan of the road will be linked to the ability of local road authorities in Lao to maintain the chosen surfacing.

## Sealing the Full Width

It has been identified on the double Otta seal and Otta seal with sand cover seal sections that there was a certain amount of edge break that, without treatment, could lead to further deterioration of the carriageway. Similarly the District Engineer in Bagamoyo, Tanzania has recently taken action to construct stone pitching along the edges of the bituminous demonstration sections along the Bago – Talawanda road, in order to limit the effects of edge break along these sections. It is recommended

that, in the construction of bituminous sections on similar rural road projects, the bituminous seal should extend across the full width of the road to prevent against edge break.

### Further Use of Single Sand Seals as a Surfacing Option is not Recommended

Perhaps not surprisingly, the surface type that deteriorated the most was the single sand seal. This is expected as it is a thin seal used for very low traffic volumes and has a design life of approximately 2-4 years.

Under the AFCAP project in Tanzania a double sand seal has been constructed along a short (200 m) section of the road running through a village for the purpose of reducing dust pollution. However, given the evidence of poor performance from the SEACAP 17 trials, it is recommended that in future the use of sand seals is discouraged. Whilst cheap to construct, they are not durable and maintenance costs may be high. Consideration should be given to other surfacings, such as Otta seals, concrete or paving bricks, depending on costs and the local materials available.

### Limit the Use of Hand Packed Stone and Mortared Stone

Following observations of traffic behaviour and road-user opinion along the demonstration sections in Lao and Tanzania, the use of hand packed stone and mortared stone should be limited to cases where alternative surface methods are not feasible. When this is the case, they should be limited to short lengths as the inherent roughness of the pavements has been said to cause damage to vehicles, and has been the cause of road accidents.

In both Tanzania and Lao, it was found that motorcycle drivers were using the shoulders on segmental block sections to avoid the rough carriageway. These surfacings should be a 'last resort' if no other options are available.

### Loss of Gravel on Un-Sealed Roads

As was to be expected, gravel sections have lost their wearing courses during the past 5 years and no maintenance has been carried out to re-gravel. This is not surprising; however, it does highlight the maintenance needs of these pavements particularly in wet areas where annual gravel loss can be expected to be high.

### Reducing IRI values

The IRI values, particularly between 2009 and 2012, appear to be reducing in some instances. This is of particular concern on the concrete and Otta seal pavements as it goes against the natural progression of increasing IRI in the absence of routine maintenance. Additionally, it appears as if the original IRI values obtained for some sections, particularly concrete sections, may be quite high – e.g. IRI of 11.67 m/km on bamboo reinforced concrete in 2007.

Regarding high IRI values, TRL Report 229[7] provides the formula $IRI = 0.593 + 0.0471\ D$, where $D$ is the distance in millimetres between the tenth/eleventh crosses on either side of the MERLIN distribution. This formula was developed for earth, gravel, asphalt and surface dressed roads. However, it is interesting to note that in the same report, it is mentioned that work in Indonesia on hand laid penetration macadam found a different correlation between the D value and IRI. This was caused by the different wave lengths on the hand laid surface – the formula was given as $IRI = 1.913 + 0.0490\ D$.

[7] Transport Research Laboratory (1996), ***TRL Report 229 - The MERLIN Road Roughness Machine: User Guide,*** Crowthorne England: Transport Research Laboratory.

Whilst this formula is not applicable to this work, and indeed it would further increase the IRI values measured in Lao, it appears possible that the current MERLIN formula may not be appropriate for hand laid surfaces and, may not applicable for concrete or segmental block surfaces.

This may explain the high IRI values, but it does not necessarily explain why the roughness is reducing. It is likely that further monitoring would be required to assess this fully.

### Problems with LWD Testing on Segmental Block and Concrete Pavement

As discussed previously, LWD testing on segmental block and concrete pavements posed some issues both with the deflections observed and with the moduli the analysis returned. As a result the accuracy of the data cannot be guaranteed. It is likely that the LWD is not suitable for use on these pavements and should be limited to use on un-sealed and bituminous sections only.

### Conclusions from Socio-Economic Aspects of the Monitoring Trip

There are a number of conclusions that can be drawn from the results of the survey of the socio-economic impacts of the construction of the tester roads:

- Access to health facilities has improved since the construction of the trial sections. People now have easier and faster access in case of emergencies and for the elderly, who no longer must walk from their villages. With further construction along the roads, health care access can be improved further;
- Most villages do not have access to either a primary or high school. The trial sections have shortened travel times to the distant schools and has reduced the likelihood of non-attendance by both pupils and teachers;
- Many of the villages along the roads have experienced local economic improvement, with the opening of new shops and increase in trade within the villages. Higher profits have also been realised by the local farmers in the villages as many have now been given access to larger markets and more reliable access to already existing market locations. There have also been increased opportunities in terms of the variety of produce that can now be traded;
- Road safety did not seem to be an issue for most people, however, there is a need for stricter enforcement of the use of helmets for motorbike riders. There is also a need to incorporate road safety into the lives of the local children if any further construction is to occur. Road safety should continue to be taken into consideration in the design of new roads and their surfacing;
- There is potential for a further in-depth study into the possible socio-economic impacts that a road may have on the lives of local village communities and should be considered if any further construction is to occur. However it is evident that the communities have already experienced the benefits of the test sections.

# Appendix A

## Photographic Log

| Road 1.1 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+505 | 0+505 |
|  |  |
| 0+605 | 0+605 |
|  |  |
| 0+695 | 0+695 |

| Road 1.3 NEC Standard Gravel | |
|---|---|
| **2007** | **2012** |
|  |  |
| **1+225** | **1+225** |
|  |  |
| **1+325** | **1+325** |
|  |  |
| **1+415** | **1+415** |

| Road 2 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+405 | 0+405 |
|  |  |
| 0+505 | 0+505 |
|  |  |
| 0+595 | 0+595 |

| Road 2 Hand Packed Stone | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+605 | 0+605 |
|  |  |
| 0+705 | 0+705 |
|  |  |
| 0+805 | 0+805 |

| Road 2 Hand Packed Stone | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+905 | 0+905 |
|  |  |
| 1+005 | 1+005 |
|  |  |
| 1+095 | 1+095 |

| Road 3.2 Otta Seal | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0.025 | 0+025 |
|  |  |
| 0.125 | 0+125 |
|  |  |
| 0.225 | 0+225 |

| Road 3.2 Otta Seal | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0.265 | 0+265 |

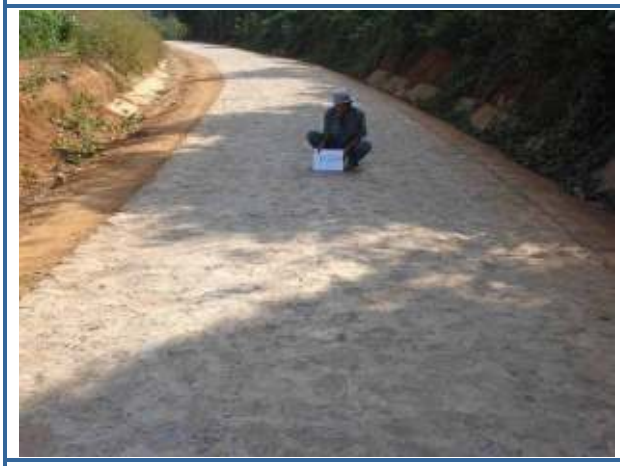
| Road R3-2 Otta Seal and Sand Seal | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+275 | 0+275 |
|  |  |
| 0+375 | 0+375 |
|  |  |
| 0+475 | 0+475 |

| Road R3-2 Otta Seal and Sand Seal | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+525 | 0+525 |

| Road R3-2 Engineered Natural Surface | |
|---|---|
| **2007** | **2012** |
|  |  |
| **0+525** | **0+525** |
|  |  |
| **0+625** | **0+625** |
|  |  |
| **0+725** | **0+725** |

| Road R3-2 Engineered Natural Surface | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+825 | 0+825 |
|  |  |
| 0+905 | 0+905 |

| Road R3-2 Mortared Stone | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+925 | 0+925 |
|  |  |
| 1+025 | 1+025 |
|  |  |
| 1+125 | 1+125 |

| Road R3-2 Mortared Stone | |
|---|---|
| 2007 | 2012 |
|  |  |
| 1+225 | 1+225 |
|  |  |
| 1+325 | 1+325 |
|  |  |
| 1+425 | 1+425 |

| Road R3-2 Mortared Stone | |
|---|---|
| 2007 | 2012 |
|  |  |
| 1+515 | 1+515 |

| Road 3-2 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 1+525 | 1+525 |
|  |  |
| 1+625 | 1+625 |
|  |  |
| 1+715 | 1+715 |

| Road 3-3 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 1+605 | 1+605 |
|  |  |
| 1+705 | 1+705 |
|  |  |
| 1+795 | 1+795 |

| Road 5 Concrete Paving Blocks | |
|---|---|
| 2007 | 2012 |
|  |  |
| 0+905 | 0+905 |
|  |  |
| 1+005 | 1+005 |
|  |  |
| 1+115 | 1+115 |

| Road 5 Concrete Paving Blocks | |
|---|---|
| **2007** | **2012** |
|  |  |
| **1+215** | **1+215** |
|  |  |
| **1+315** | **1+315** |
|  |  |
| **1+395** | **1+395** |

| Road 5 Bamboo Reinforced Concrete | |
|---|---|
| 2007 | 2012 |
|  |  |
| 1+995 | 1+995 |
|  |  |
| 2+095 | 2+095 |
|  |  |
| 2+195 | 2+195 |

| Road 5 Bamboo Reinforced Concrete | |
|---|---|
| **2007** | **2012** |
|  |  |
| **2+295** | **2+295** |
|  |  |
| **2+395** | **2+395** |
|  |  |
| **2+495** | **2+495** |

| Road 5 Bamboo Reinforced Concrete | |
|---|---|
| 2007 | 2012 |
|  |  |
| 2+515 | 2+515 |

| Road 5 - Geocells | |
|---|---|
| **2007** | **2012** |
|  |  |
| **2+755** | **2+755** |
|  |  |
| **2+855** | **2+855** |
|  |  |
| **2+955** | **2+955** |

| Road 5 - Geocells | |
|---|---|
| **2007** | **2012** |
|  |  |
| **3+055** | **3+055** |
|  |  |
| **3+145** | **3+145** |

| Road 5 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 3+155 | 3+155 |
|  |  |
| 3+255 | 3+255 |
|  |  |
| 3+345 | 3+345 |

| Road 8 Sand Seal | |
|---|---|
| **2007** | **2012** |
|  |  |
| **1+505** | **1+505** |
|  |  |
| **1+605** | **1+605** |
|  |  |
| **1+705** | **1+705** |

| Road 8 Sand Seal | |
|---|---|
| **2007** | **2012** |
|  |  |
| **1+805** | **1+805** |
|  |  |
| **1+905** | **1+905** |
|  |  |
| **2+005** | **2+005** |

| Road 8 Sand Seal | |
|---|---|
| 2007 | 2012 |
|  |  |
| 2+105 | 2+105 |
|  |  |
| 2+195 | 2+195 |

| Road 8 NEC Standard Gravel | |
|---|---|
| 2007 | 2012 |
|  |  |
| 2.205 | 2+205 |
|  |  |
| 2.305 | 2+305 |
|  |  |
| 2.395 | 2+395 |

# Appendix B

## Surface Profiles

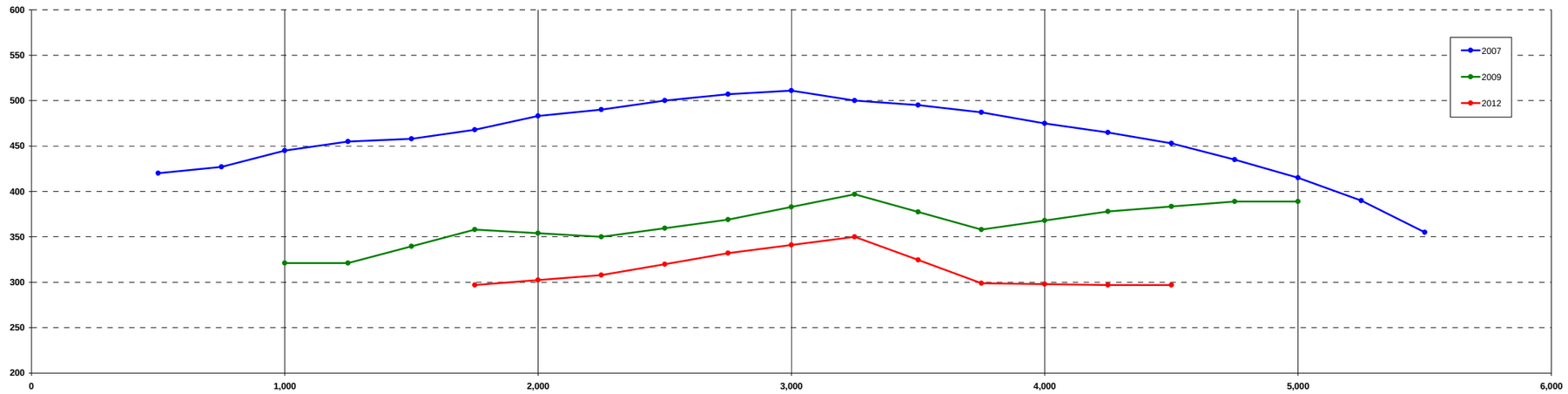
# Road 1.1

## Road 1.1

## Gravel (0.625km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| | Y | 420 | 427 | 445 | 455 | 458 | 468 | 483 | 490 | 500 | 507 | 511 | 500 | 495 | 487 | 475 | 465 | 453 | 435 | 415 | 390 | 355 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | 321 | 321 | 340 | 358 | 354 | 350 | 360 | 369 | 383 | 397 | 378 | 358 | 368 | 378 | 384 | 389 | 389 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | | | | 297 | 303 | 308 | 320 | 332 | 341 | 350 | 325 | 299 | 298 | 297 | 297 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 124 | - | 119 | - | 129 | - | 141 | - | 128 | - | 118 | - | 107 | - | 70 | - | 26 | - | | | | 107 |
| Difference (2009 - 2012) | - | - | - | - | - | - | 52 | - | 40 | - | 42 | - | 53 | - | 70 | - | 87 | - | - | - | | | | 57 |
| | | | | | | | | | | | | | | | | | | | | | | | Total: | 164 mm |

### 2007

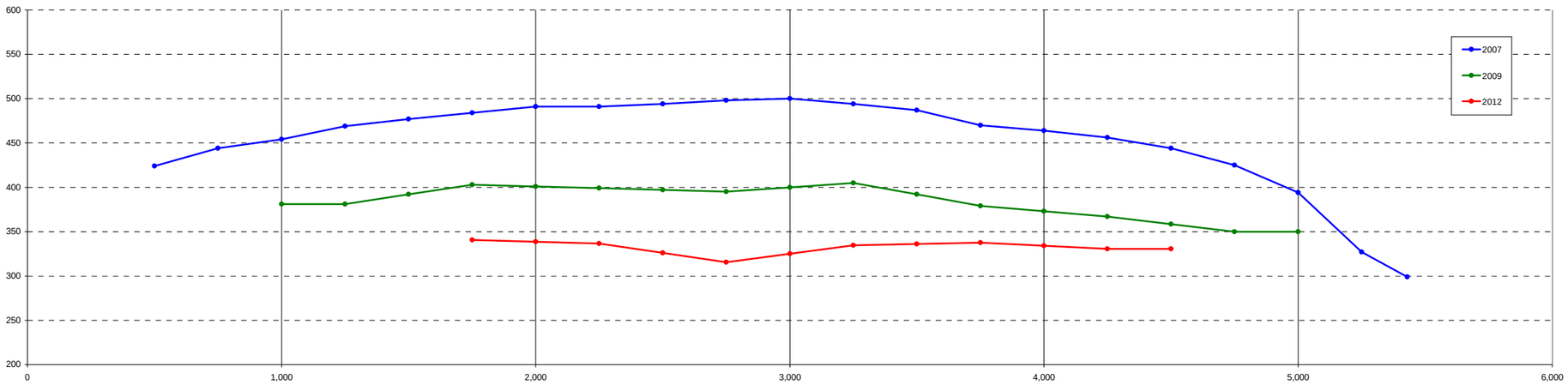
### 2012

## Road 1.1

## Gravel (0.675km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5430 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5430 | | | | |
| | Y | 424 | 444 | 454 | 469 | 477 | 484 | 491 | 491 | 494 | 498 | 500 | 494 | 487 | 470 | 464 | 456 | 444 | 425 | 394 | 327 | 299 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,430 | | | | |
| | Y | | | 381 | 381 | 392 | 403 | 401 | 399 | 397 | 395 | 400 | 405 | 392 | 379 | 373 | 367 | 359 | 350 | 350 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,430 | | | | |
| | Y | | | | | | 341 | 339 | 337 | 326 | 316 | 325 | 335 | 336 | 338 | 334 | 331 | 331 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 73 | - | 85 | - | 90 | - | 97 | - | 100 | - | 95 | - | 91 | - | 86 | - | 44 | - | | | | 85 |
| Difference (2009 - 2012) | - | - | - | - | - | - | 63 | - | 71 | - | 75 | - | 56 | - | 39 | - | 28 | - | - | - | | | | 55 |
| | | | | | | | | | | | | | | | | | | | | | | | Total: | 140 mm |

### 2007

### 2012

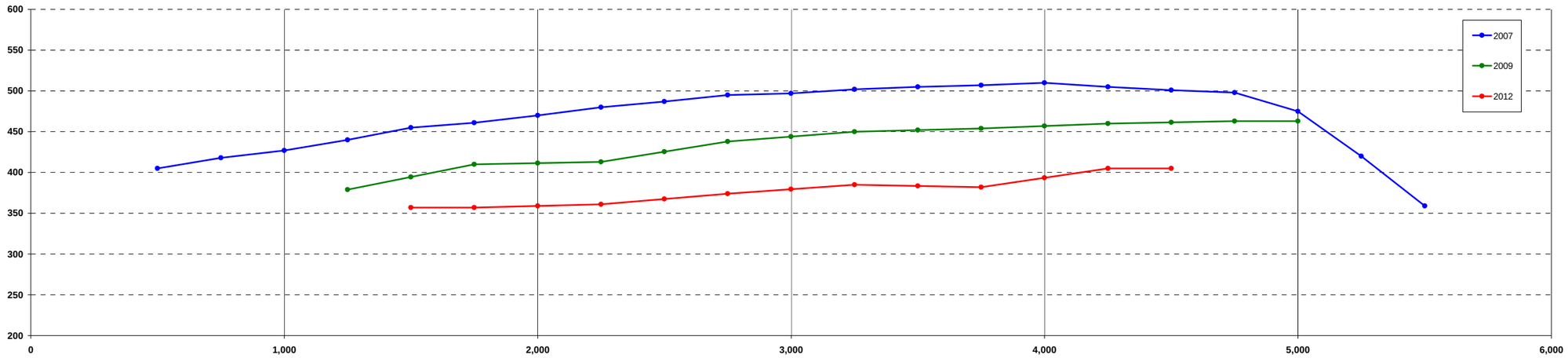
# Road 1.3

## Road Number 1.3

## Gravel (1.295km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| | Y | 405 | 418 | 427 | 440 | 455 | 461 | 470 | 480 | 487 | 495 | 497 | 502 | 505 | 507 | 510 | 505 | 501 | 498 | 475 | 420 | 359 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | | 379 | 395 | 410 | 412 | 413 | 426 | 438 | 444 | 450 | 452 | 454 | 457 | 460 | 462 | 463 | 463 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | | | 357 | 357 | 359 | 361 | 368 | 374 | 380 | 385 | 384 | 382 | 394 | 405 | 405 | | | | | | | | |




| X | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | 5500.00 | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | - | - | 61 | - | 59 | - | 62 | - | 53 | - | 53 | - | 53 | - | 40 | - | 12 | - | - | | | 49 |
| Difference (2009 - 2012) | - | - | - | - | 38 | - | 53 | - | 58 | - | 65 | - | 69 | - | 64 | - | 57 | - | - | - | - | | | 57 |
| | | | | | | | | | | | | | | | | | | | | | | | Total: | 106 mm |

**2007**

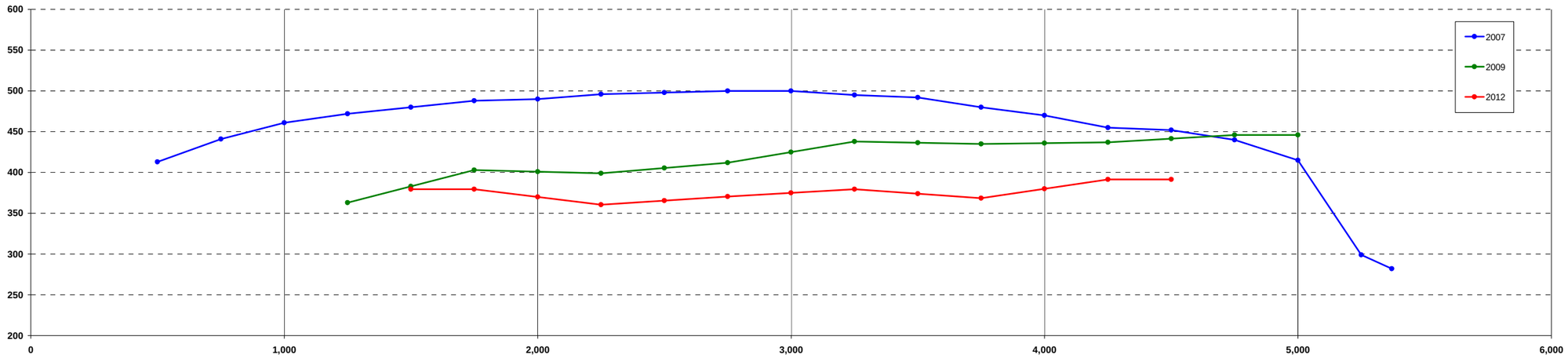
**2012**

## Road Number 1.3

## Gravel (1.345km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5370 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5370 | | | | |
| | Y | 413 | 441 | 461 | 472 | 480 | 488 | 490 | 496 | 498 | 500 | 500 | 495 | 492 | 480 | 470 | 455 | 452 | 440 | 415 | 299 | 282 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,370 | | | | |
| | Y | | | | 363 | 383 | 403 | 401 | 399 | 406 | 412 | 425 | 438 | 437 | 435 | 436 | 437 | 442 | 446 | 446 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,370 | | | | |
| | Y | | | | | 380 | 380 | 370 | 361 | 366 | 371 | 375 | 380 | 374 | 369 | 380 | 392 | 392 | | | | | | | | |




| X | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | 5370.00 | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | - | - | 97 | - | 89 | - | 93 | - | 75 | - | 56 | - | 34 | - | 11 | - | -31 | - | - | | | 53 |
| Difference (2009 - 2012) | - | - | - | - | 4 | - | 31 | - | 40 | - | 50 | - | 63 | - | 56 | - | 50 | - | - | - | - | | | 42 |
| | | | | | | | | | | | | | | | | | | | | | | | Total: | 189 mm |

**2007**

**2012**

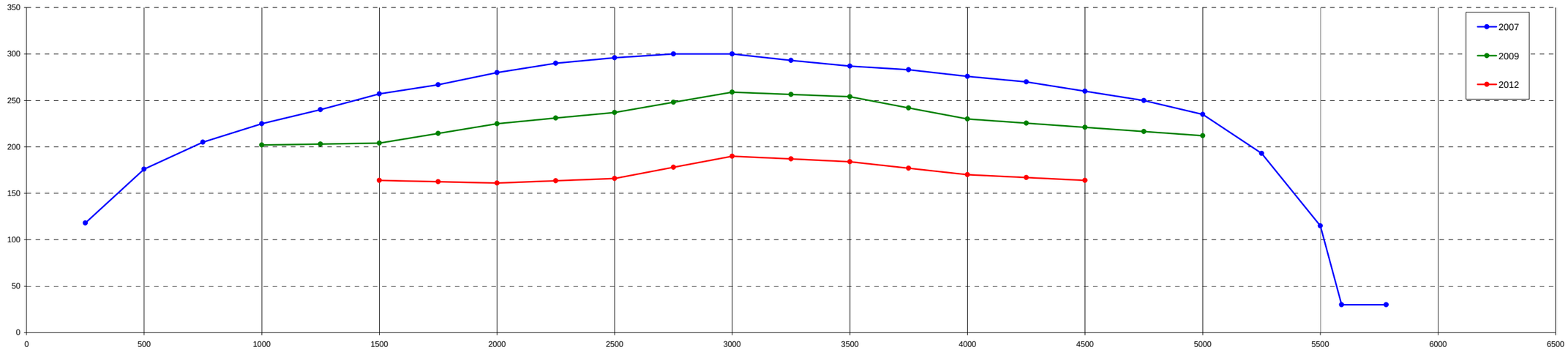
# Road 2.0

# Road 2

## Gravel (0.475km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5590 | 5780 | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5590 | 5780 | | |
| | y | 118 | 176 | 205 | 225 | 240 | 257 | 267 | 280 | 290 | 296 | 300 | 300 | 293 | 287 | 283 | 276 | 270 | 260 | 250 | 235 | 193 | 115 | 30 | 30 | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 202 | 203 | 204 | 215 | 225 | 231 | 237 | 248 | 259 | 257 | 254 | 242 | 230 | 226 | 221 | 217 | 212 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | | | 164 | 163 | 161 | 164 | 166 | 178 | 190 | 187 | 184 | 177 | 170 | 167 | 164 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 23 | - | 53 | - | 55 | - | 59 | - | 41 | - | 33 | - | 46 | - | 39 | - | 23 | | | | | | 41 |
| Difference (2009 - 2012) | - | - | - | - | 40 | - | 64 | - | 71 | - | 69 | - | 70 | - | 60 | - | 57 | - | 48 | | | | | | 60 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 101 |

### 2007

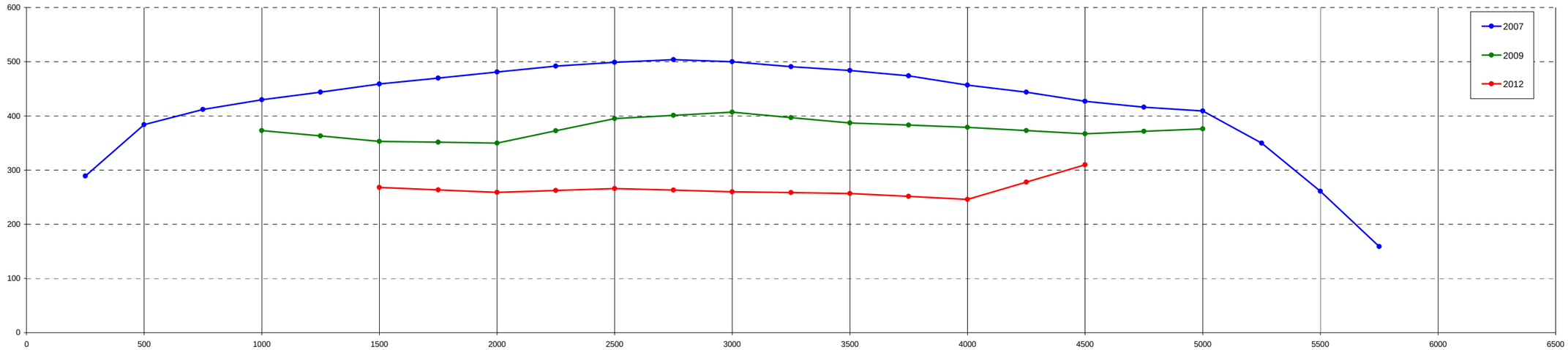

### 2012

# Road 2

## Gravel (0.545km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | **0** | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | #N/A | | |
| | **y** | 289 | 384 | 412 | 430 | 444 | 459 | 470 | 481 | 492 | 499 | 504 | 500 | 491 | 484 | 474 | 457 | 444 | 427 | 416 | 409 | 350 | 261 | 159 | #N/A | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 373 | 363 | 353 | 352 | 350 | 373 | 395 | 401 | 407 | 397 | 387 | 383 | 379 | 373 | 367 | 372 | 376 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 268 | 264 | 259 | 263 | 266 | 263 | 260 | 259 | 257 | 252 | 246 | 278 | 310 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 57 | - | 106 | - | 131 | - | 104 | - | 93 | - | 97 | - | 78 | - | 60 | - | 33 | | | | | | 84 |
| **Difference (2009 - 2012)** | - | - | - | - | 85 | - | 91 | - | 129 | - | 147 | - | 130 | - | 133 | - | 57 | - | 66 | - | | | | | 105 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | 189 |

**2007**

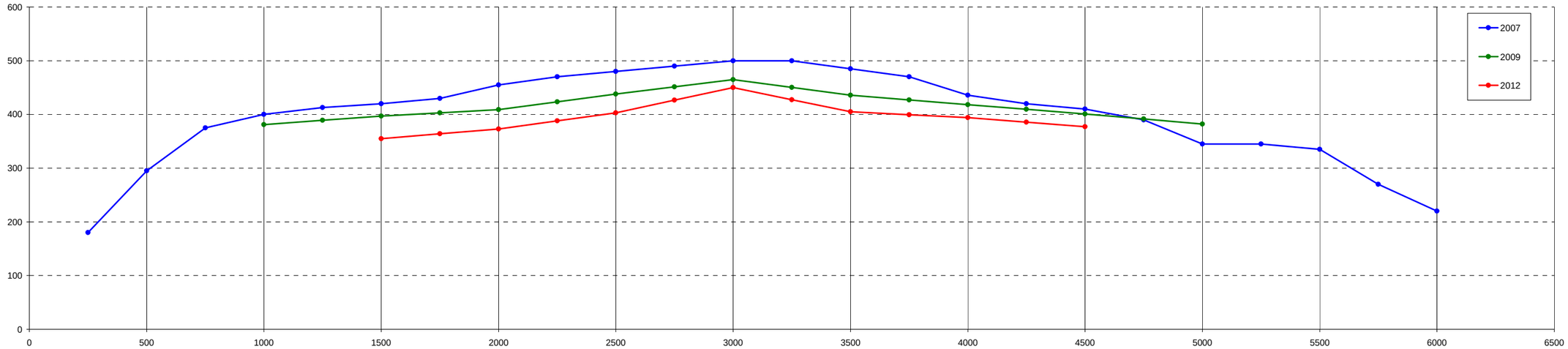
**2012**

# Road 2

## Hand Packed Stone (0.725km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| | y | 180 | 295 | 375 | 400 | 413 | 420 | 430 | 455 | 470 | 480 | 490 | 500 | 500 | 485 | 470 | 436 | 420 | 410 | 390 | 345 | 345 | 335 | 270 | 220 | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 381 | 389 | 397 | 403 | 409 | 424 | 438 | 452 | 465 | 451 | 436 | 427 | 418 | 410 | 401 | 392 | 382 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | | | 355 | 364 | 373 | 388 | 403 | 427 | 450 | 428 | 405 | 400 | 394 | 386 | 377 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 19 | - | 23 | - | 46 | - | 42 | - | 35 | - | 49 | - | 18 | - | 9 | - | -37 | | | | | | 23 |
| Difference (2009 - 2012) | - | - | - | - | 42 | - | 36 | - | 35 | - | 15 | - | 31 | - | 24 | - | 24 | - | 5 | | | | | | 27 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 49 |

**2007**

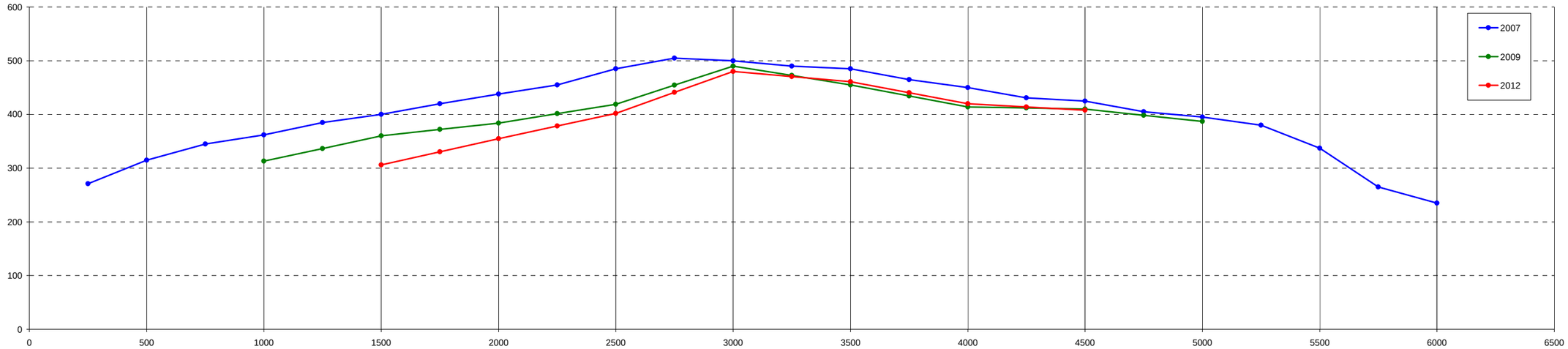
**2012**

# Road 2

## Hand Packed Stone (0.795km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| | y | 271 | 315 | 345 | 362 | 385 | 400 | 420 | 438 | 455 | 485 | 505 | 500 | 490 | 485 | 465 | 450 | 431 | 425 | 405 | 395 | 380 | 337 | 265 | 235 | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 313 | 337 | 360 | 372 | 384 | 402 | 419 | 455 | 490 | 473 | 455 | 435 | 414 | 412 | 410 | 399 | 387 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | | | 306 | 331 | 355 | 379 | 402 | 441 | 480 | 471 | 461 | 441 | 420 | 414 | 408 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 49 | - | 40 | - | 54 | - | 66 | - | 10 | - | 30 | - | 36 | - | 15 | - | 8 | | | | | | 34 |
| Difference (2009 - 2012) | - | - | - | - | 54 | - | 29 | - | 17 | - | 10 | - | -6 | - | -6 | - | 2 | - | -21 | | | | | | 10 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 44 |

### 2007

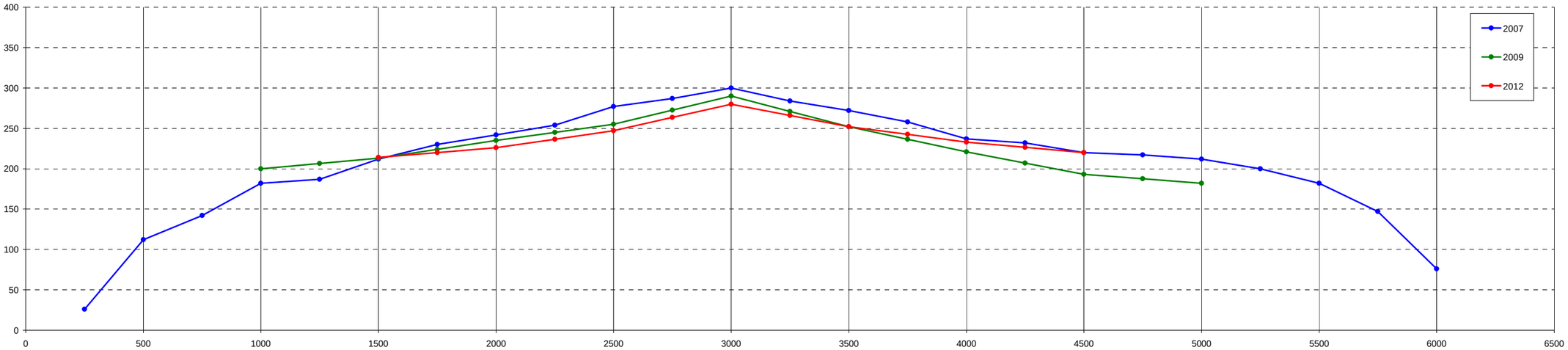
### 2012

# Road 2

## Hand Packed Stone (0.965km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| | y | 26 | 112 | 142 | 182 | 187 | 212 | 230 | 242 | 254 | 277 | 287 | 300 | 284 | 272 | 258 | 237 | 232 | 220 | 217 | 212 | 200 | 182 | 147 | 76 | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 200 | 207 | 213 | 224 | 235 | 245 | 255 | 273 | 290 | 271 | 252 | 237 | 221 | 207 | 193 | 188 | 182 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | | | 214 | 220 | 226 | 237 | 247 | 264 | 280 | 266 | 252 | 243 | 233 | 227 | 220 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | -18 | - | -1 | - | 7 | - | 22 | - | 10 | - | 20 | - | 16 | - | 27 | - | 30 | | | | | | 13 |
| Difference (2009 - 2012) | - | - | - | - | -1 | - | 9 | - | 8 | - | 10 | - | 0 | - | -12 | - | -27 | - | -38 | | | | | | -6 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 6 |

### 2007

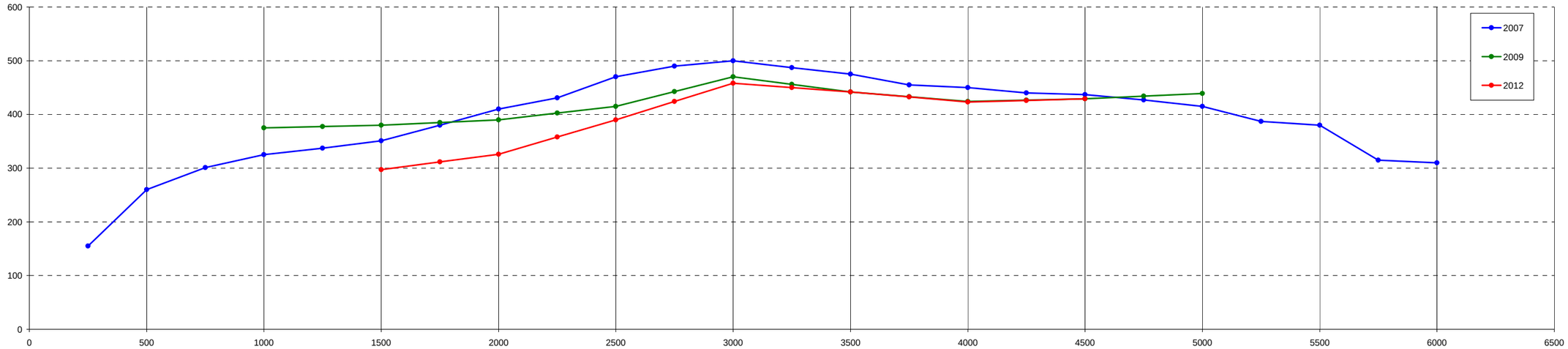
### 2012

# Road 2

## Hand Packed Stone (1.035km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | **6000** | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | 6000 | | |
| | **y** | 155 | 260 | 301 | 325 | 337 | 351 | 380 | 410 | 431 | 470 | 490 | 500 | 487 | 475 | 455 | 450 | 440 | 437 | 427 | 415 | 387 | 380 | 315 | 310 | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 375 | 378 | 380 | 385 | 390 | 403 | 415 | 443 | 470 | 456 | 442 | 433 | 424 | 427 | 429 | 434 | 439 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 297 | 312 | 326 | 358 | 390 | 424 | 458 | 450 | 442 | 433 | 423 | 426 | 429 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | -50 | - | -29 | - | 20 | - | 55 | - | 30 | - | 33 | - | 26 | - | 8 | - | -24 | | | | | | 8 |
| **Difference (2009 - 2012)** | - | - | - | - | 83 | - | 64 | - | 25 | - | 12 | - | 0 | - | 1 | - | 0 | - | 10 | | | | | | 24 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | 32 |

**2007**

**2012**

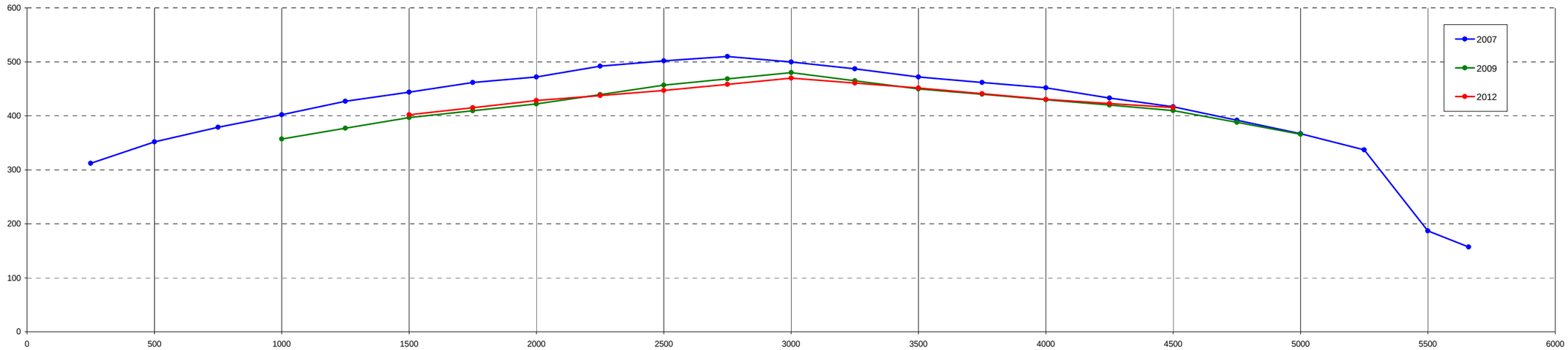
# Road 3.2

# Road 3.2

## Single Otta Seal (0.175km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5660** | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5660 | | | |
| | **y** | 312 | 352 | 379 | 402 | 427 | 444 | 462 | 472 | 492 | 502 | 510 | 500 | 487 | 472 | 462 | 452 | 433 | 417 | 392 | 367 | 337 | 187 | 157 | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 357 | 377 | 397 | 410 | 422 | 440 | 457 | 469 | 480 | 465 | 450 | 440 | 430 | 420 | 410 | 388 | 366 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 402 | 415 | 429 | 438 | 447 | 458 | 470 | 461 | 452 | 441 | 431 | 423 | 416 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Total Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 45 | - | 47 | - | 50 | - | 45 | - | 20 | - | 22 | - | 22 | - | 7 | - | 1 | | | | | | 29 |
| **Difference (2007 - 2012)** | - | - | - | - | -5 | - | -7 | - | 10 | - | 10 | - | -2 | - | -1 | - | -6 | - | -50 | | | | | | -6 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **23 mm** |

### 2007

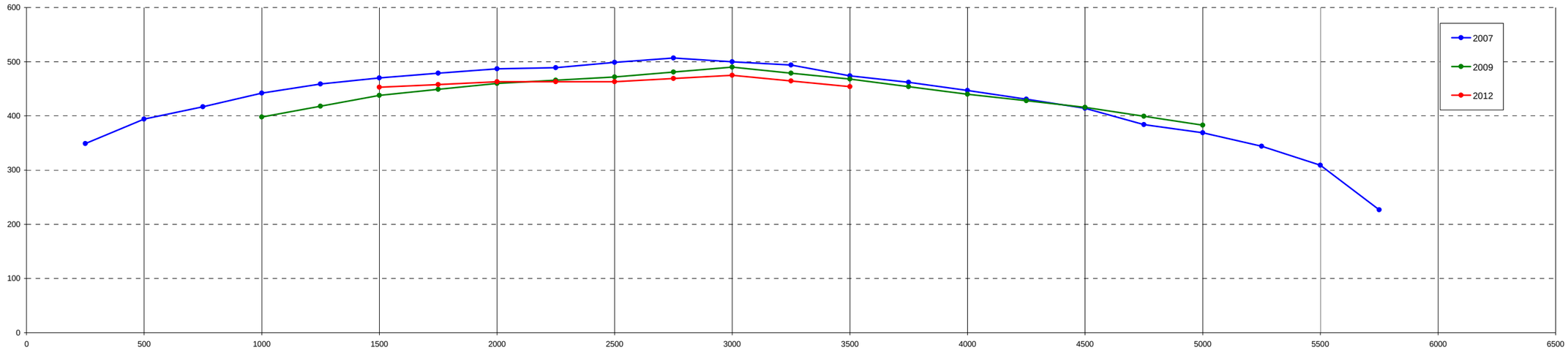
### 2012

# Road 3.2

## Single Otta Seal (0.245km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| | **y** | 349 | 394 | 417 | 442 | 459 | 470 | 479 | 487 | 489 | 499 | 507 | 500 | 494 | 474 | 462 | 447 | 431 | 414 | 384 | 369 | 344 | 309 | 227 | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 398 | 418 | 438 | 449 | 460 | 466 | 472 | 481 | 490 | 479 | 468 | 454 | 440 | 428 | 416 | 400 | 383 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 453 | 458 | 463 | 463 | 463 | 469 | 475 | 465 | 454 | -10,063 | -20,580 | -20,596 | -20,611 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Total Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 44 | - | 32 | - | 27 | - | 27 | - | 10 | - | 6 | - | 7 | - | -2 | - | -14 | | | | | | 15 |
| **Difference (2007 - 2012)** | - | - | - | - | -15 | - | -3 | - | 9 | - | 15 | - | 14 | - | - | - | - | - | - | | | | | | 4 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **19 mm** |

**2007**

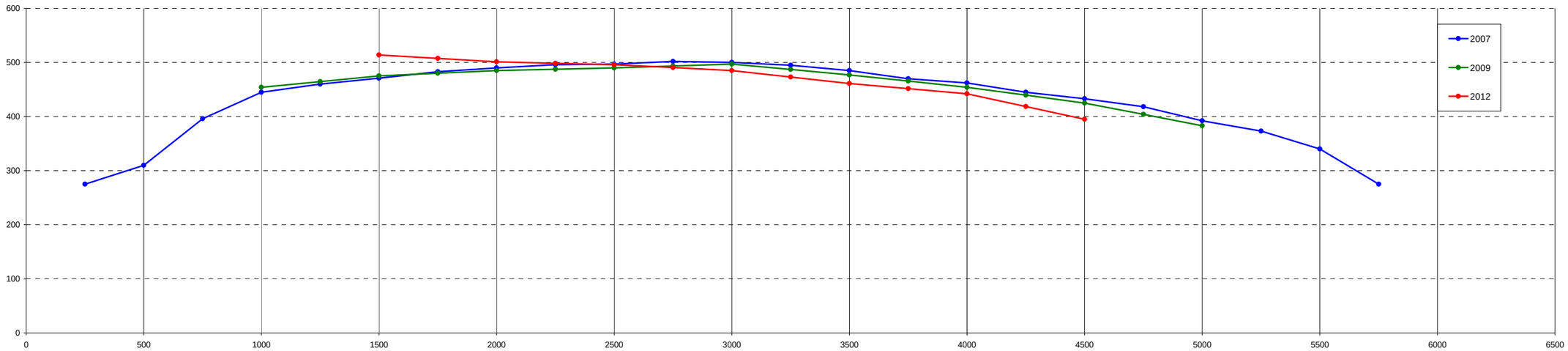
**2012**

# Road 3.2

## Double Otta Seal (0.445km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| | **y** | 275 | 310 | 396 | 445 | 460 | 471 | 483 | 490 | 496 | 497 | 502 | 500 | 495 | 485 | 470 | 462 | 445 | 433 | 418 | 392 | 373 | 340 | 275 | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 454 | 465 | 475 | 480 | 485 | 488 | 490 | 494 | 497 | 487 | 477 | 466 | 454 | 440 | 425 | 404 | 383 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 514 | 508 | 501 | 499 | 496 | 491 | 485 | 473 | 461 | 452 | 442 | 419 | 395 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Total Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | -9 | - | -4 | - | 5 | - | 7 | - | 3 | - | 8 | - | 8 | - | 8 | - | 9 | | | | | | 4 |
| **Difference (2007 - 2012)** | - | - | - | - | -39 | - | -16 | - | -6 | - | 12 | - | 16 | - | 12 | - | 30 | - | -12 | | | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **4 mm** |

**2007**

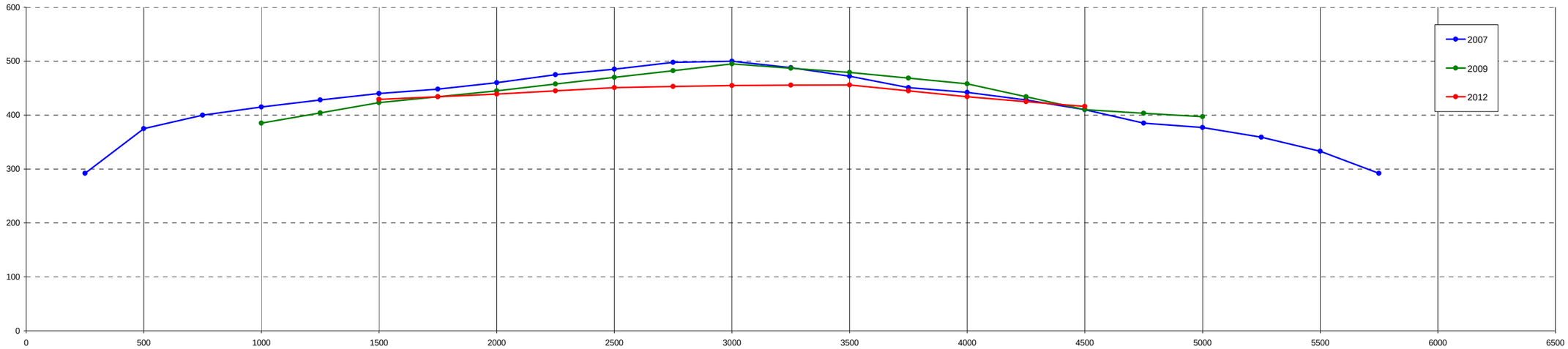
**2012**

# Road 3.2

## Double Otta Seal (0.505km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| | y | 292 | 375 | 400 | 415 | 428 | 440 | 448 | 460 | 475 | 485 | 498 | 500 | 488 | 472 | 451 | 442 | 428 | 410 | 385 | 377 | 359 | 333 | 292 | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 385 | 404 | 423 | 434 | 445 | 458 | 470 | 483 | 495 | 487 | 479 | 469 | 458 | 434 | 410 | 404 | 397 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | | | 429 | 434 | 439 | 445 | 451 | 453 | 455 | 456 | 456 | 445 | 434 | 425 | 416 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 30 | - | 17 | - | 15 | - | 15 | - | 5 | - | -7 | - | -16 | - | 0 | - | -20 | | | | | | 4 |
| Difference (2007 - 2012) | - | - | - | - | -6 | - | 6 | - | 19 | - | 40 | - | 23 | - | 24 | - | -6 | - | -19 | | | | | | 10 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 14 mm |

**2007**

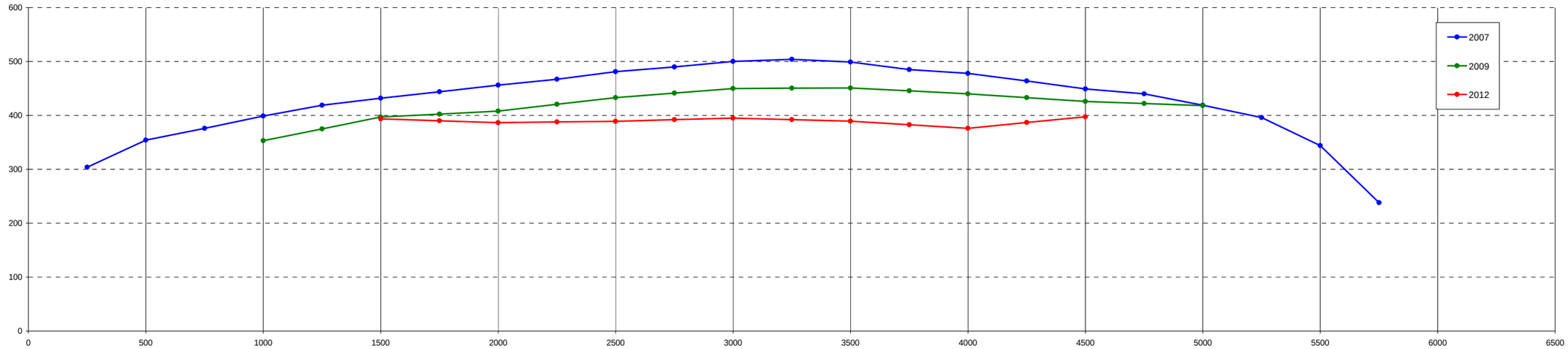
**2012**

# Road 3.2

## Engineered Natural Surface (0.825km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| | **y** | 304 | 354 | 376 | 399 | 419 | 432 | 444 | 456 | 467 | 481 | 490 | 500 | 504 | 499 | 485 | 478 | 464 | 449 | 440 | 419 | 396 | 344 | 238 | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 353 | 375 | 397 | 403 | 408 | 421 | 433 | 442 | 450 | 451 | 451 | 446 | 440 | 433 | 426 | 422 | 418 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 394 | 390 | 387 | 388 | 389 | 392 | 395 | 392 | 390 | 383 | 376 | 387 | 398 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 46 | - | 35 | - | 48 | - | 48 | - | 50 | - | 48 | - | 38 | - | 23 | - | 1 | | | | | | 37 |
| **Difference (2007 - 2012)** | - | - | - | - | 38 | - | 70 | - | 92 | - | 105 | - | 110 | - | 102 | - | 52 | - | 22 | | | | | | 74 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **111 mm** |

**2007**

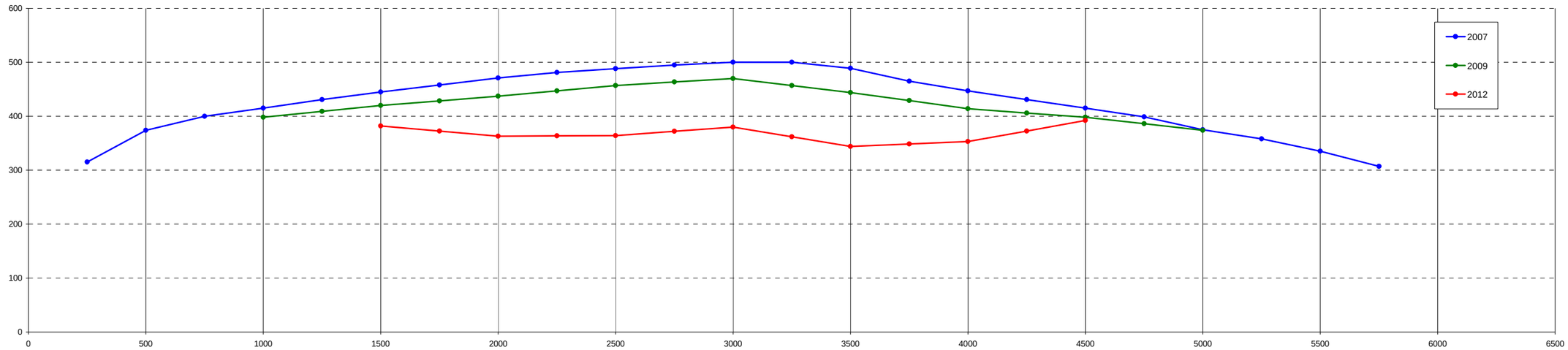
**2012**

# Road 3.2

## Engineered Natural Surface (0.895km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | **5750** | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | 5750 | | | |
| | **y** | 315 | 374 | 400 | 415 | 431 | 445 | 458 | 471 | 481 | 488 | 495 | 500 | 500 | 489 | 465 | 447 | 431 | 415 | 399 | 375 | 358 | 335 | 307 | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 398 | 409 | 420 | 429 | 437 | 447 | 457 | 464 | 470 | 457 | 444 | 429 | 414 | 406 | 398 | 386 | 374 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 382 | 373 | 363 | 364 | 364 | 372 | 380 | 362 | 344 | 349 | 353 | 373 | 392 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 17 | - | 25 | - | 34 | - | 31 | - | 30 | - | 45 | - | 33 | - | 17 | - | 1 | | | | | | 26 |
| **Difference (2007 - 2012)** | - | - | - | - | 63 | - | 108 | - | 124 | - | 120 | - | 145 | - | 94 | - | 23 | - | -17 | | | | | | 83 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **108 mm** |

**2007**

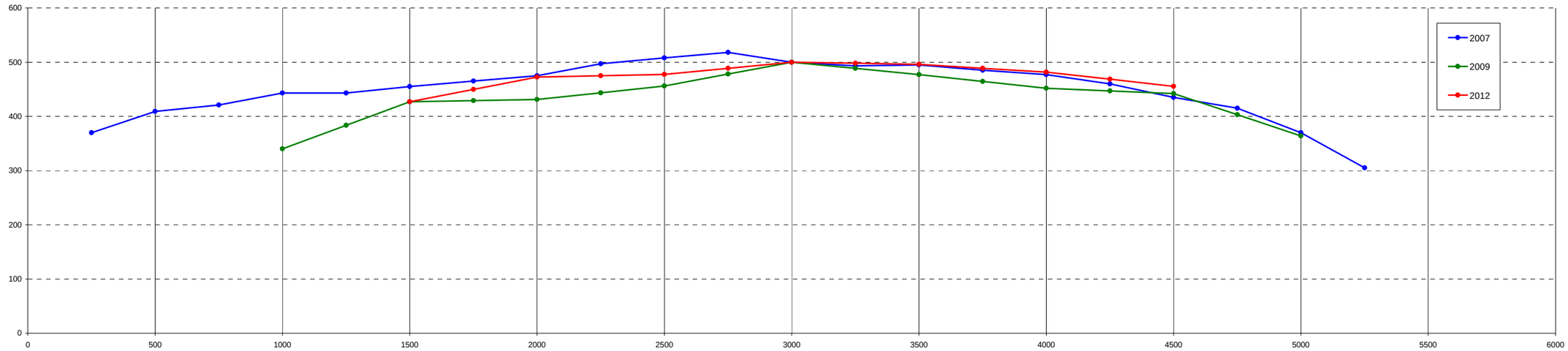
**2012**

# Road 3.2

## Mortared Stone (1.225km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | | | | | |
| | **y** | 370 | 409 | 421 | 443 | 443 | 455 | 465 | 475 | 497 | 508 | 518 | 500 | 493 | 495 | 485 | 477 | 460 | 435 | 415 | 370 | 305 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | | |
| | **y** | | | | 340 | 384 | 427 | 429 | 431 | 444 | 456 | 478 | 500 | 489 | 477 | 465 | 452 | 447 | 442 | 403 | 364 | | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | | |
| | **y** | | | | | | 427 | 450 | 473 | 475 | 478 | 489 | 500 | 498 | 496 | 489 | 482 | 469 | 456 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Total Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 103 | - | 28 | - | 44 | - | 52 | - | 0 | - | 18 | - | 25 | - | -7 | - | 6 | | | | | | 30 |
| **Difference (2007 - 2012)** | - | - | - | - | 28 | - | 3 | - | 30 | - | 0 | - | -1 | - | -5 | - | -21 | - | -86 | | | | | | -6 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **24 mm** |

**2007**

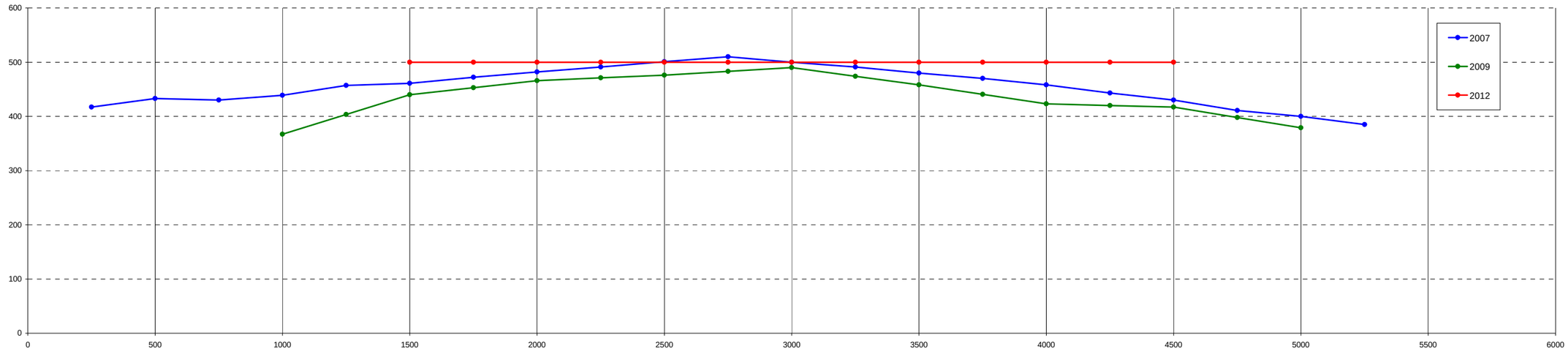
**2012**

# Road 3.2

## Mortared Stone (1.295km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | | | | | |
| | **y** | 417 | 433 | 430 | 439 | 457 | 461 | 472 | 482 | 491 | 501 | 510 | 500 | 491 | 480 | 470 | 458 | 443 | 430 | 411 | 400 | 385 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 367 | 404 | 440 | 453 | 466 | 471 | 476 | 483 | 490 | 474 | 458 | 441 | 423 | 420 | 417 | 398 | 379 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 72 | - | 21 | - | 16 | - | 25 | - | 10 | - | 22 | - | 35 | - | 13 | - | 21 | | | | | | 26 |
| **Difference (2007 - 2012)** | - | - | - | - | -39 | - | -18 | - | 1 | - | 0 | - | -20 | - | -42 | - | -70 | - | -100 | | | | | | -36 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **-10 mm** |

**2007**

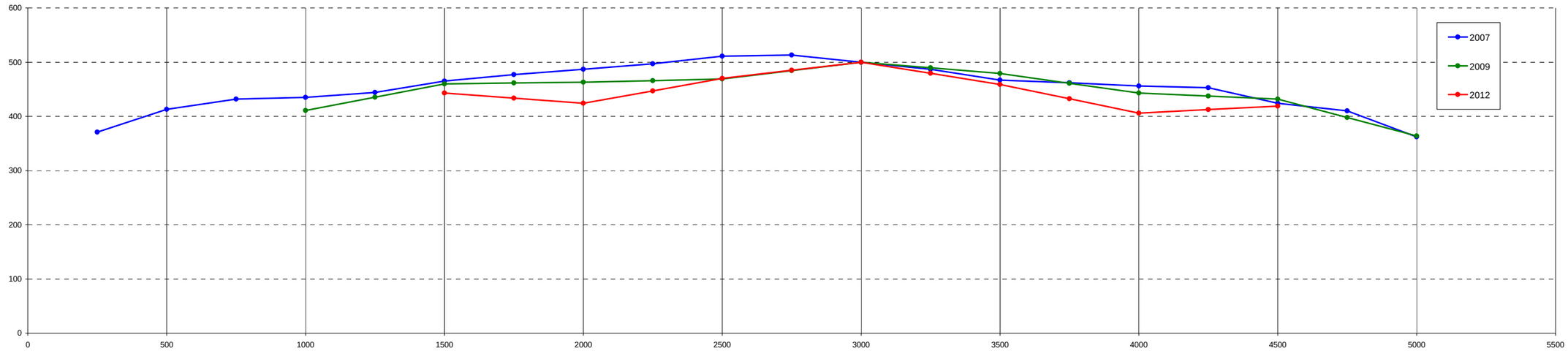
**2012**

# Road 3.2

## Mortared Stone (1.395km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | **y** | 371 | 413 | 432 | 435 | 444 | 465 | 477 | 487 | 497 | 511 | 513 | 500 | 487 | 467 | 462 | 456 | 453 | 424 | 410 | 362 | | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 411 | 436 | 460 | 462 | 463 | 466 | 469 | 485 | 500 | 490 | 479 | 461 | 443 | 438 | 432 | 398 | 364 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 443 | 434 | 424 | 447 | 470 | 485 | 500 | 480 | 459 | 433 | 406 | 413 | 419 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Total Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 24 | - | 5 | - | 24 | - | 42 | - | 0 | - | -12 | - | 13 | - | -8 | - | -2 | | | | | | 10 |
| **Difference (2007 - 2012)** | - | - | - | - | 22 | - | 63 | - | 41 | - | 0 | - | 8 | - | 50 | - | 5 | - | - | | | | | | 27 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **37 mm** |

**2007**

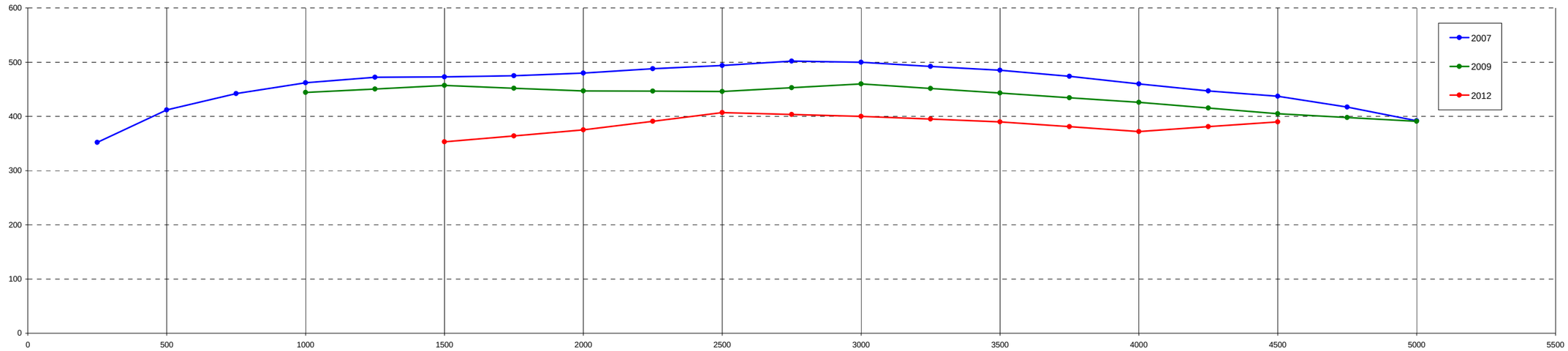
**2012**

# Road 3.2

## Gravel (1.525km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | y | 352 | 412 | 442 | 462 | 472 | 473 | 475 | 480 | 488 | 494 | 502 | 500 | 492 | 485 | 474 | 460 | 447 | 437 | 417 | 392 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 444 | 451 | 457 | 452 | 447 | 447 | 446 | 453 | 460 | 452 | 443 | 435 | 426 | 416 | 405 | 398 | 391 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 353 | 364 | 375 | 391 | 407 | 404 | 400 | 395 | 390 | 381 | 372 | 381 | 390 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 18 | - | 16 | - | 33 | - | 48 | - | 40 | - | 42 | - | 34 | - | 32 | - | 1 | | | | | | 29 |
| **Difference (2007 - 2012)** | - | - | - | - | 120 | - | 105 | - | 87 | - | 100 | - | 95 | - | 88 | - | 47 | - | - | | | | | | 92 |
| | | | | | | | | | | | | | | | | | | | | | | | | **Total:** | **121 mm** |

**2007**

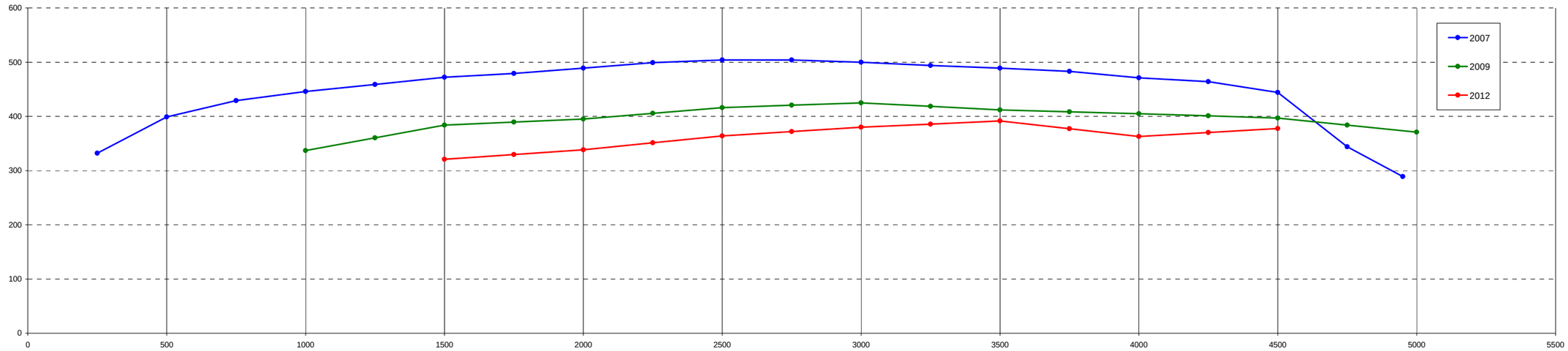
**2012**

# Road 3.2

## Gravel (1.595km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 4950 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 4950 | | | | | | |
| | y | 332 | 399 | 429 | 446 | 459 | 472 | 479 | 489 | 499 | 504 | 504 | 500 | 494 | 489 | 483 | 471 | 464 | 444 | 344 | 289 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 337 | 361 | 384 | 390 | 395 | 406 | 416 | 421 | 425 | 419 | 412 | 409 | 405 | 401 | 397 | 384 | 371 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 321 | 330 | 339 | 351 | 364 | 372 | 380 | 386 | 392 | 377 | 363 | 370 | 378 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 4950.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 109 | - | 88 | - | 94 | - | 88 | - | 75 | - | 77 | - | 66 | - | 47 | - | -82 | | | | | | 62 |
| Difference (2007 - 2012) | - | - | - | - | 151 | - | 151 | - | 140 | - | 120 | - | 97 | - | 108 | - | 66 | - | - | | | | | | 119 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 182 mm |

**2007**

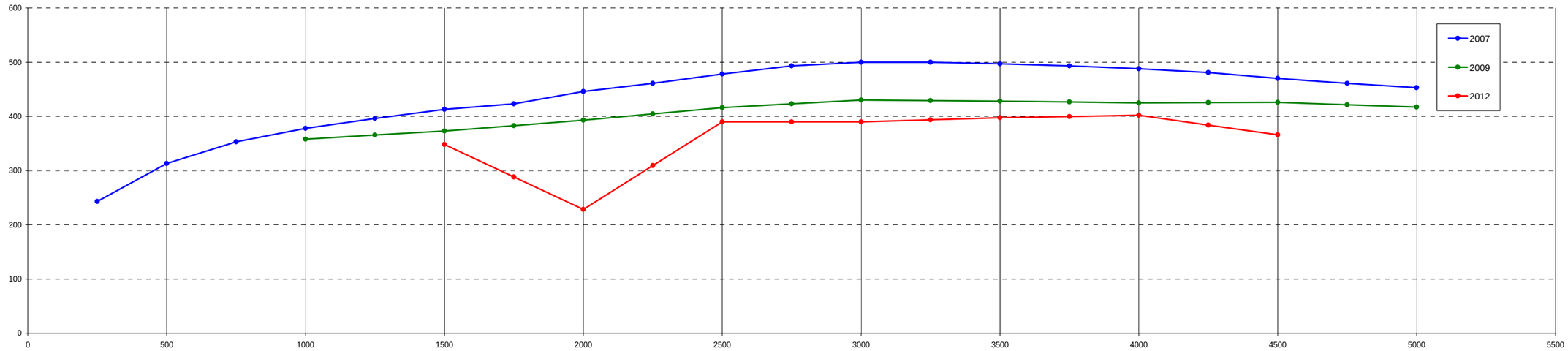
**2012**

# Road 3.2

## Gravel (1.695km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | y | 243 | 313 | 353 | 378 | 396 | 413 | 423 | 446 | 461 | 478 | 493 | 500 | 500 | 497 | 493 | 488 | 481 | 470 | 461 | 453 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 358 | 366 | 373 | 383 | 393 | 405 | 416 | 423 | 430 | 429 | 428 | 427 | 425 | 426 | 426 | 422 | 417 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 348 | 288 | 229 | 309 | 390 | 390 | 390 | 394 | 398 | 400 | 402 | 384 | 366 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Total Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 20 | - | 40 | - | 53 | - | 62 | - | 70 | - | 69 | - | 63 | - | 44 | - | 36 | | | | | | 51 |
| Difference (2007 - 2012) | - | - | - | - | 65 | - | 218 | - | 88 | - | 110 | - | 100 | - | 86 | - | 104 | - | - | | | | | | 110 |
| | | | | | | | | | | | | | | | | | | | | | | | | Total: | 161 mm |

**2007**

**2012**

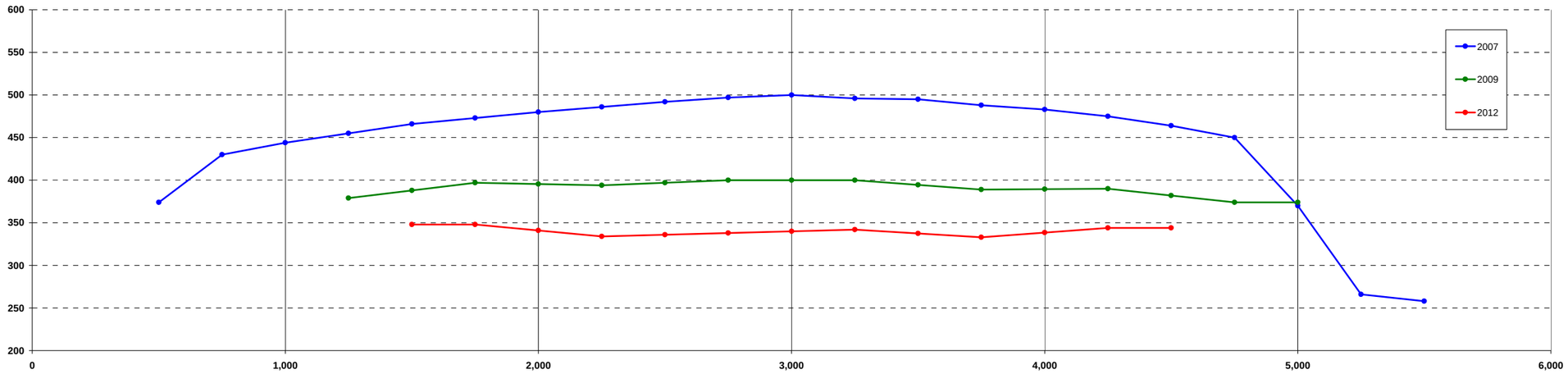
# Road 3.3

## Road Number 3.3

## Gravel (1.675km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| | Y | 374 | 430 | 444 | 455 | 466 | 473 | 480 | 486 | 492 | 497 | 500 | 496 | 495 | 488 | 483 | 475 | 464 | 450 | 370 | 266 | 258 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | | 379 | 388 | 397 | 396 | 394 | 397 | 400 | 400 | 400 | 395 | 389 | 390 | 390 | 382 | 374 | 374 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,500 | | | | |
| | Y | | | | | 348 | 348 | 341 | 334 | 336 | 338 | 340 | 342 | 338 | 333 | 339 | 344 | 344 | | | | | | | | |




| X | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | 5500.00 | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | - | - | 78 | - | 85 | - | 95 | - | 100 | - | 101 | - | 94 | - | 82 | - | -4 | - | - | | | 79 |
| Difference (2009 - 2012) | - | - | - | - | 40 | - | 55 | - | 61 | - | 60 | - | 57 | - | 51 | - | 38 | - | - | - | - | | | 52 |
| | | | | | | | | | | | | | | | | | | | | | | | | 130 |

**2007**

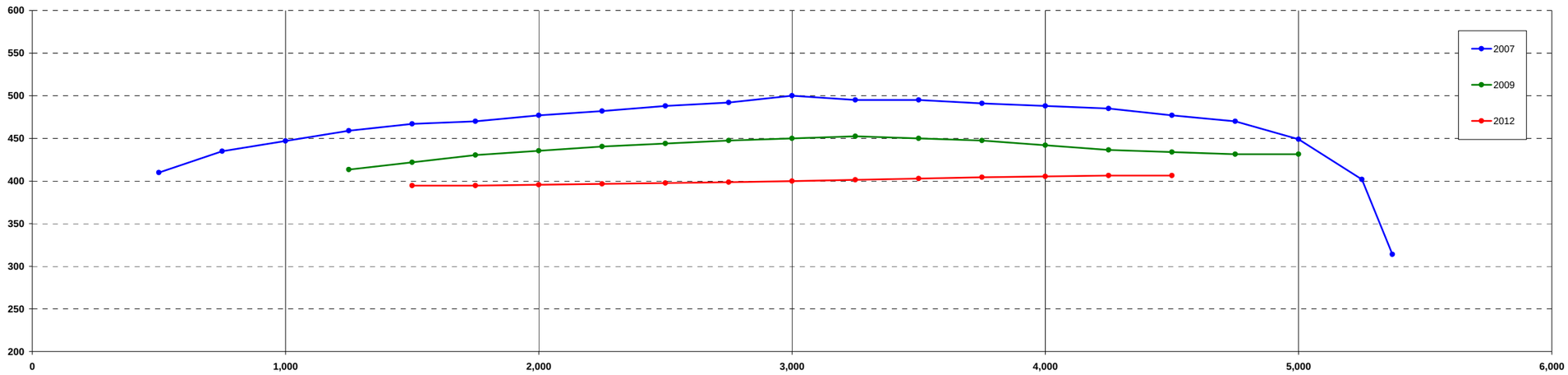
**2012**

## Road Number 3.3

## Gravel (1.725km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5370 | | | | |
| 2007 | X | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5370 | | | | |
| | Y | 410 | 435 | 447 | 459 | 467 | 470 | 477 | 482 | 488 | 492 | 500 | 495 | 495 | 491 | 488 | 485 | 477 | 470 | 449 | 402 | 314 | | | | |
| 2009 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,370 | | | | |
| | Y | | | | 414 | 422 | 431 | 436 | 441 | 444 | 448 | 450 | 453 | 450 | 448 | 442 | 437 | 434 | 432 | 432 | | | | | | |
| 2012 | X | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | 5,250 | 5,370 | | | | |
| | Y | | | | | 395 | 395 | 396 | 397 | 398 | 399 | 400 | 402 | 403 | 405 | 406 | 407 | 407 | | | | | | | | |




| X | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | 5250.00 | 5370.00 | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | - | - | 45 | - | 42 | - | 44 | - | 50 | - | 45 | - | 46 | - | 43 | - | 18 | - | - | | | 42 |
| Difference (2007 - 2012) | - | - | - | - | 73 | - | 82 | - | 91 | - | 100 | - | 92 | - | 83 | - | 71 | - | - | - | - | | | 84 |
| | | | | | | | | | | | | | | | | | | | | | | | | 126 |

**2007**

**2012**

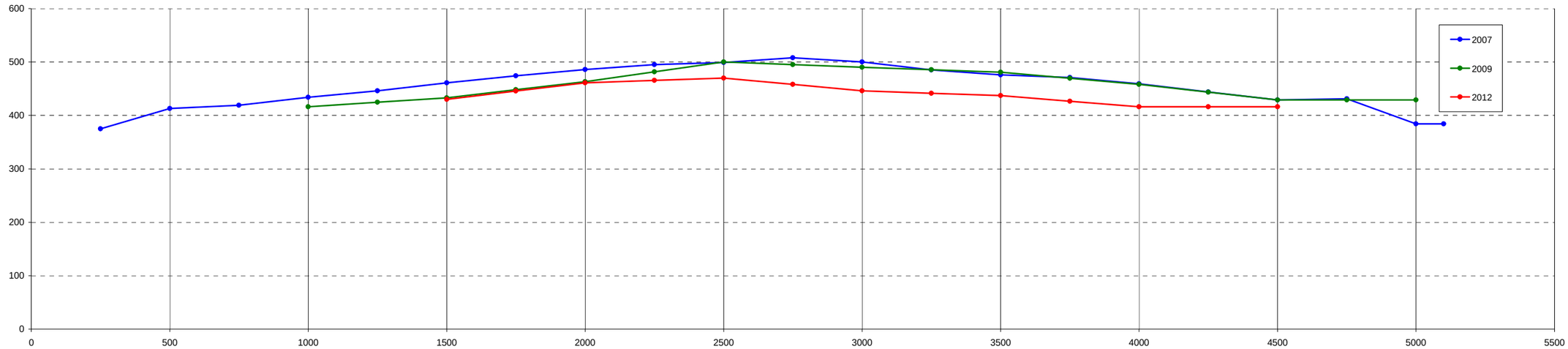
# Road 5.0

# Road 5

## Concrete Paving Blocks (0.975km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5100** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5100 | | | | | |
| | **y** | 375 | 413 | 419 | 434 | 446 | 461 | 474 | 486 | 495 | 499 | 508 | 500 | 485 | 476 | 471 | 459 | 444 | 429 | 431 | 384 | 384 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 416 | 425 | 433 | 448 | 463 | 482 | 500 | 495 | 490 | 486 | 481 | 470 | 458 | 444 | 429 | 429 | 429 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 430 | 446 | 461 | 466 | 470 | 458 | 446 | 442 | 437 | 427 | 416 | 416 | 416 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 18 | - | 28 | - | 23 | - | -1 | - | 10 | - | -5 | - | 1 | - | 0 | - | -45 | | | | | | **3** |
| **Difference (2007 - 2012)** | - | - | - | - | 31 | - | 25 | - | 29 | - | 54 | - | 39 | - | 43 | - | 13 | - | - | | | | | | **33** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **37** |

**2007**

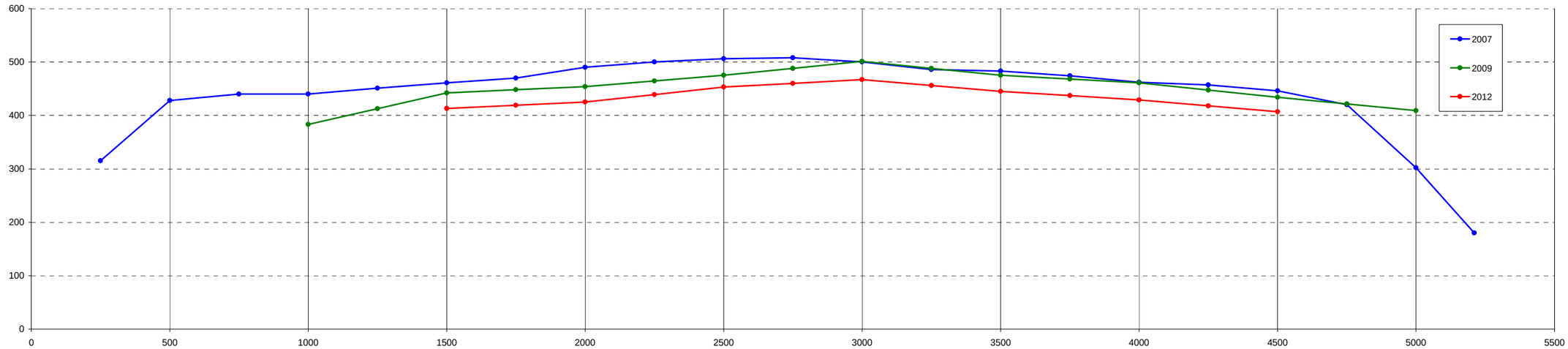
**2012**

# Road 5

## Concrete Paving Blocks (1.045km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5210** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5210 | | | | | |
| | **y** | 315 | 428 | 440 | 440 | 451 | 461 | 470 | 490 | 500 | 506 | 508 | 500 | 486 | 483 | 474 | 462 | 457 | 446 | 420 | 302 | 180 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 383 | 413 | 442 | 448 | 454 | 465 | 475 | 488 | 501 | 488 | 475 | 468 | 461 | 448 | 434 | 422 | 409 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 413 | 419 | 425 | 439 | 453 | 460 | 467 | 456 | 445 | 437 | 429 | 418 | 407 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 57 | - | 19 | - | 36 | - | 31 | - | -1 | - | 8 | - | 1 | - | 12 | - | -107 | | | | | | **6** |
| **Difference (2007 - 2012)** | - | - | - | - | 48 | - | 65 | - | 53 | - | 33 | - | 38 | - | 33 | - | 39 | - | - | | | | | | **44** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **50** |

**2007**

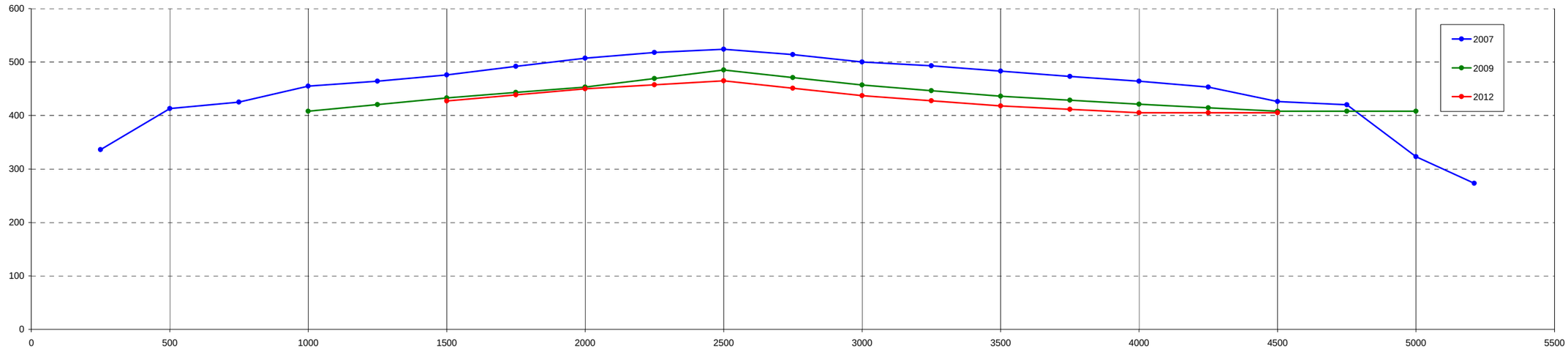
**2012**

# Road 5

## Concrete Paving Blocks (1.275km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5210** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5210 | | | | | |
| | **y** | 336 | 413 | 425 | 455 | 464 | 476 | 492 | 507 | 518 | 524 | 514 | 500 | 493 | 483 | 473 | 464 | 453 | 426 | 420 | 323 | 273 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 408 | 421 | 433 | 443 | 453 | 469 | 485 | 471 | 457 | 447 | 436 | 429 | 421 | 415 | 408 | 408 | 408 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 427 | 439 | 450 | 458 | 465 | 451 | 437 | 428 | 418 | 412 | 405 | 405 | 405 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 47 | - | 43 | - | 54 | - | 39 | - | 43 | - | 47 | - | 43 | - | 18 | - | -85 | | | | | | **28** |
| **Difference (2007 - 2012)** | - | - | - | - | 49 | - | 57 | - | 59 | - | 63 | - | 65 | - | 59 | - | 21 | - | - | | | | | | **53** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **81** |

**2007**

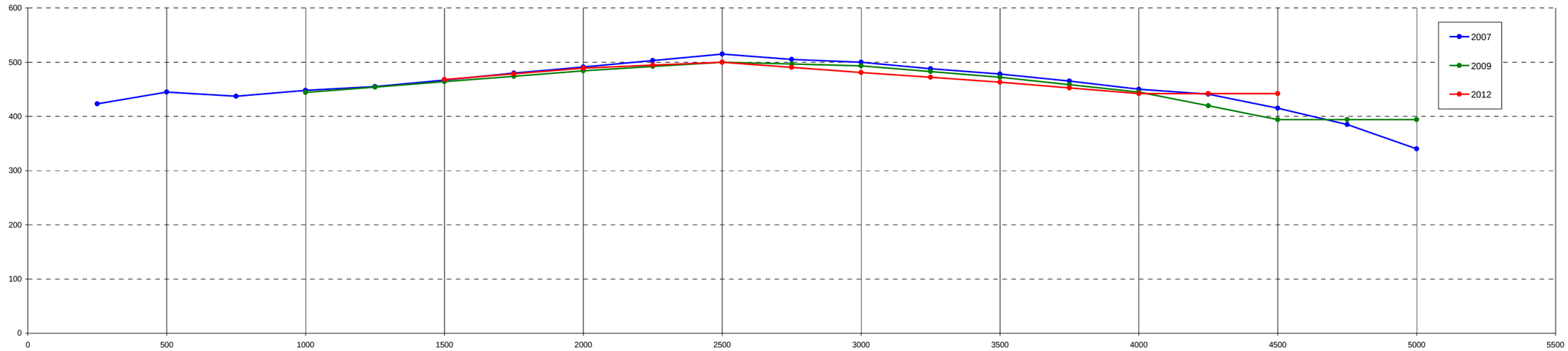
**2012**

# Road 5

## Bamboo Concrete (2.025km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | **y** | 423 | 445 | 437 | 448 | 455 | 467 | 480 | 491 | 503 | 515 | 505 | 500 | 488 | 478 | 465 | 450 | 441 | 415 | 385 | 340 | | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 444 | 454 | 464 | 474 | 484 | 492 | 500 | 497 | 493 | 483 | 472 | 459 | 445 | 420 | 394 | 394 | 394 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 468 | 479 | 489 | 495 | 500 | 491 | 481 | 472 | 463 | 453 | 442 | 442 | 442 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 4 | - | 3 | - | 7 | - | 15 | - | 7 | - | 6 | - | 5 | - | 21 | - | -54 | | | | | | **2** |
| **Difference (2007 - 2012)** | - | - | - | - | -1 | - | 2 | - | 15 | - | 19 | - | 15 | - | 8 | - | -27 | - | - | | | | | | **4** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **6** |

**2007**

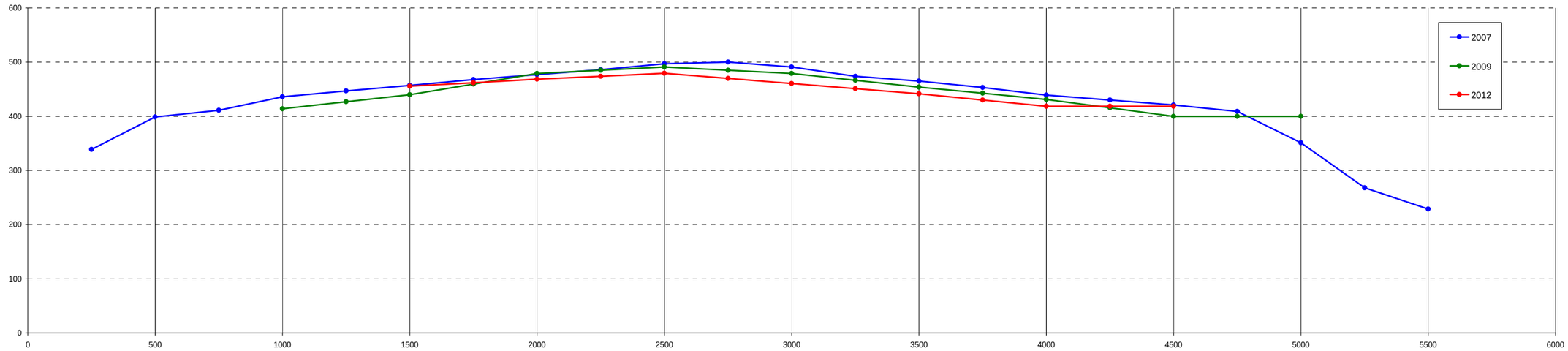
**2012**

# Road 5

## Bamboo Concrete (2.095km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5500** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5500 | | | | |
| | **y** | 339 | 399 | 411 | 436 | 447 | 457 | 468 | 477 | 486 | 497 | 500 | 491 | 474 | 465 | 453 | 439 | 430 | 421 | 409 | 351 | 268 | 229 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 414 | 427 | 440 | 460 | 479 | 485 | 491 | 485 | 479 | 467 | 454 | 443 | 431 | 416 | 400 | 400 | 400 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 456 | 462 | 469 | 474 | 480 | 470 | 461 | 451 | 442 | 430 | 419 | 419 | 419 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 22 | - | 17 | - | -2 | - | 6 | - | 12 | - | 11 | - | 8 | - | 21 | - | -49 | | | | | | **5** |
| **Difference (2007 - 2012)** | - | - | - | - | 2 | - | 9 | - | 18 | - | 31 | - | 24 | - | 21 | - | 3 | - | - | | | | | | **15** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **20** |

**2007**

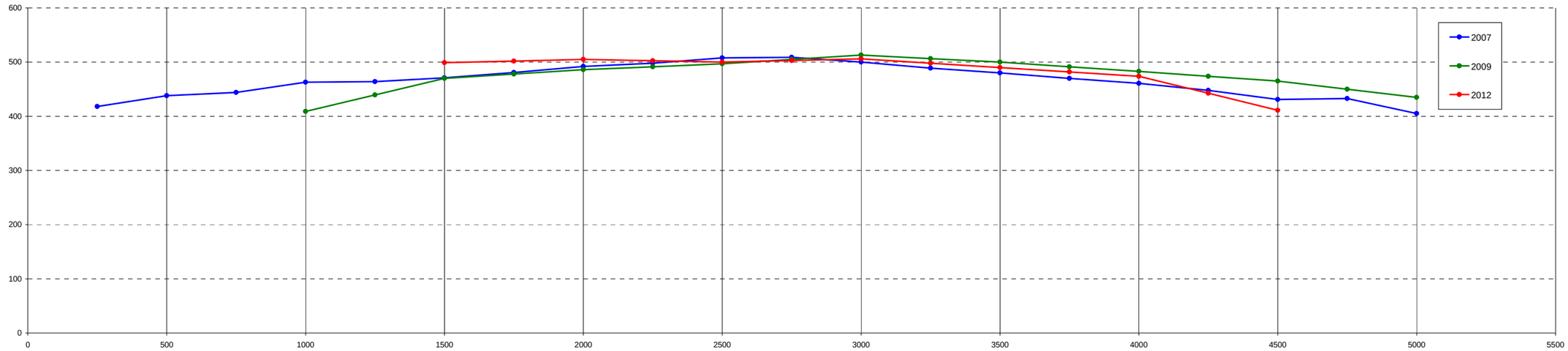
**2012**

# Road 5

## Bamboo Concrete (2.355km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | y | 418 | 438 | 444 | 463 | 464 | 471 | 481 | 492 | 498 | 508 | 509 | 500 | 489 | 480 | 470 | 461 | 448 | 431 | 433 | 405 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 409 | 440 | 470 | 478 | 486 | 492 | 497 | 505 | 513 | 507 | 500 | 492 | 483 | 474 | 465 | 450 | 435 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 499 | 502 | 505 | 503 | 500 | 503 | 506 | 498 | 490 | 482 | 474 | 443 | 411 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 54 | - | 1 | - | 6 | - | 11 | - | -13 | - | -20 | - | -22 | - | -34 | - | -30 | | | | | | -5 |
| Difference (2007 - 2012) | - | - | - | - | -28 | - | -13 | - | 8 | - | -6 | - | -10 | - | -13 | - | 20 | - | - | | | | | | -6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | -11 |

**2007**

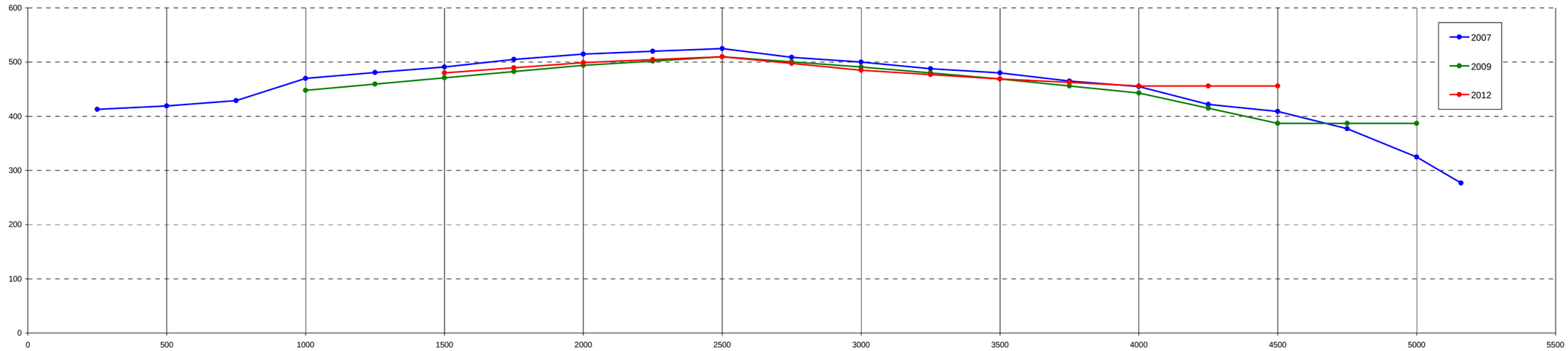
**2012**

# Road 5

## Bamboo Concrete (2.445km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5160** | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5160 | | | | | |
| | **y** | 413 | 419 | 429 | 470 | 481 | 491 | 505 | 515 | 520 | 525 | 509 | 500 | 488 | 480 | 465 | 455 | 422 | 409 | 377 | 325 | 277 | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 448 | 460 | 471 | 483 | 494 | 502 | 510 | 501 | 491 | 480 | 469 | 456 | 443 | 415 | 387 | 387 | 387 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 480 | 490 | 499 | 505 | 510 | 498 | 485 | 477 | 469 | 463 | 456 | 456 | 456 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 22 | - | 20 | - | 21 | - | 15 | - | 9 | - | 11 | - | 12 | - | 22 | - | -62 | | | | | | **8** |
| **Difference (2007 - 2012)** | - | - | - | - | 11 | - | 16 | - | 15 | - | 15 | - | 11 | - | -1 | - | -47 | - | - | | | | | | **3** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **11** |

**2007**

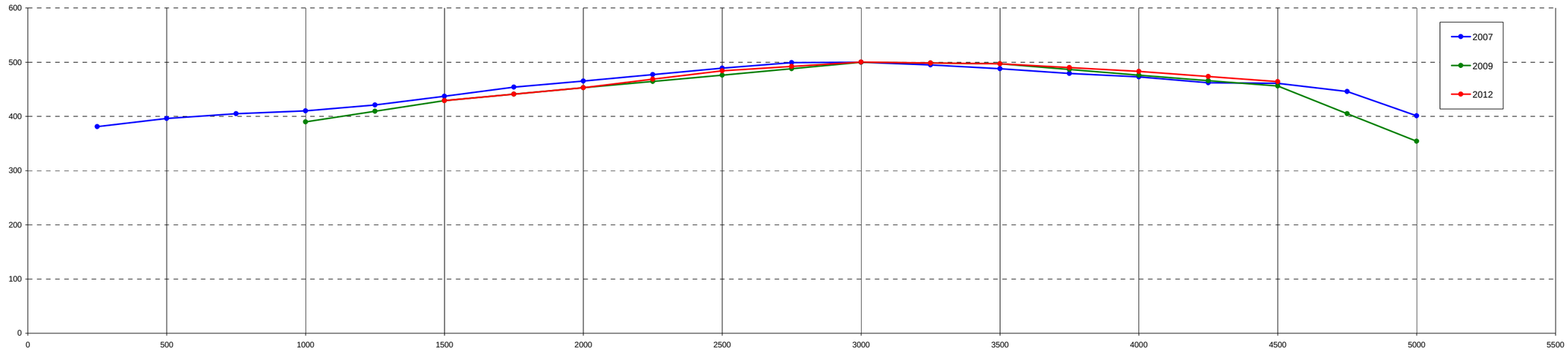
**2012**

# Road 5

## Concrete Geocells (2.875km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | **y** | 381 | 396 | 405 | 410 | 421 | 437 | 454 | 465 | 477 | 489 | 499 | 500 | 495 | 488 | 479 | 473 | 462 | 461 | 446 | 401 | | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 390 | 410 | 429 | 441 | 453 | 465 | 476 | 488 | 500 | 498 | 497 | 486 | 476 | 466 | 456 | 405 | 354 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 429 | 441 | 453 | 468 | 484 | 492 | 500 | 499 | 497 | 490 | 483 | 474 | 464 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 20 | - | 8 | - | 12 | - | 13 | - | 0 | - | -9 | - | -3 | - | 5 | - | 47 | | | | | | **10** |
| **Difference (2007 - 2012)** | - | - | - | - | 8 | - | 12 | - | 5 | - | 0 | - | -9 | - | -10 | - | -3 | - | - | | | | | | **0** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **11** |

**2007**

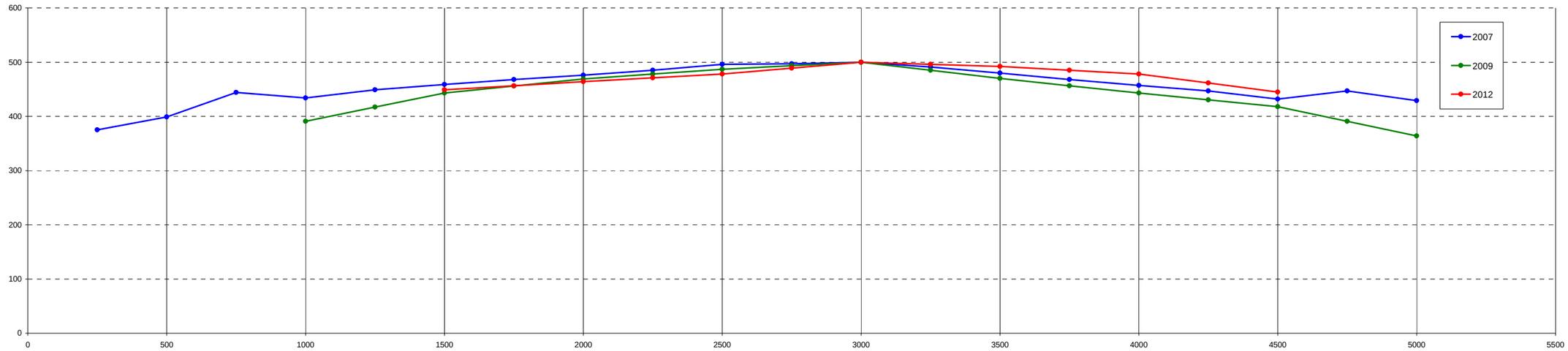
**2012**

# Road 5

## Concrete Geocells (3.075km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | y | 375 | 399 | 444 | 434 | 449 | 459 | 468 | 476 | 485 | 496 | 497 | 500 | 491 | 480 | 468 | 457 | 447 | 432 | 447 | 429 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 391 | 417 | 443 | 456 | 469 | 478 | 487 | 494 | 500 | 485 | 470 | 457 | 443 | 431 | 418 | 391 | 364 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 449 | 457 | 464 | 471 | 478 | 489 | 500 | 496 | 492 | 485 | 478 | 462 | 445 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 43 | - | 16 | - | 7 | - | 9 | - | 0 | - | 10 | - | 14 | - | 14 | - | 65 | | | | | | 20 |
| Difference (2007 - 2012) | - | - | - | - | 10 | - | 12 | - | 18 | - | 0 | - | -12 | - | -21 | - | -13 | - | - | | | | | | -1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 19 |

**2007**

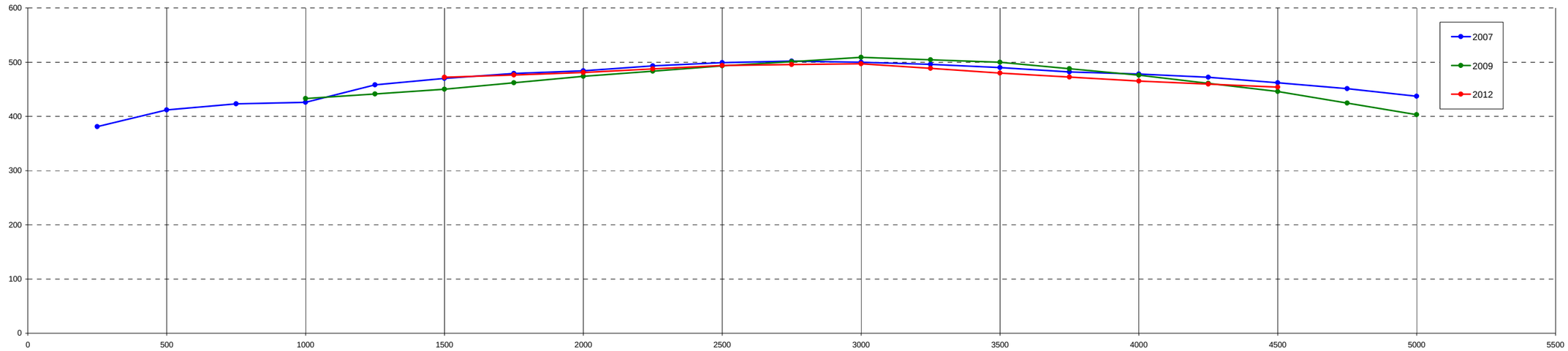
**2012**

# Road 5

## Concrete Geocells (2.975km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | **y** | 381 | 412 | 423 | 426 | 458 | 470 | 479 | 484 | 493 | 499 | 502 | 500 | 496 | 490 | 482 | 478 | 472 | 462 | 451 | 437 | | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 433 | 442 | 450 | 462 | 474 | 484 | 493 | 501 | 509 | 505 | 500 | 488 | 476 | 461 | 446 | 425 | 403 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 472 | 476 | 481 | 488 | 494 | 496 | 497 | 489 | 480 | 473 | 465 | 460 | 454 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | -7 | - | 20 | - | 10 | - | 6 | - | -9 | - | -10 | - | 2 | - | 16 | - | 34 | | | | | | **7** |
| **Difference (2007 - 2012)** | - | - | - | - | -2 | - | 3 | - | 5 | - | 3 | - | 10 | - | 13 | - | 8 | - | - | | | | | | **6** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **13** |

**2007**

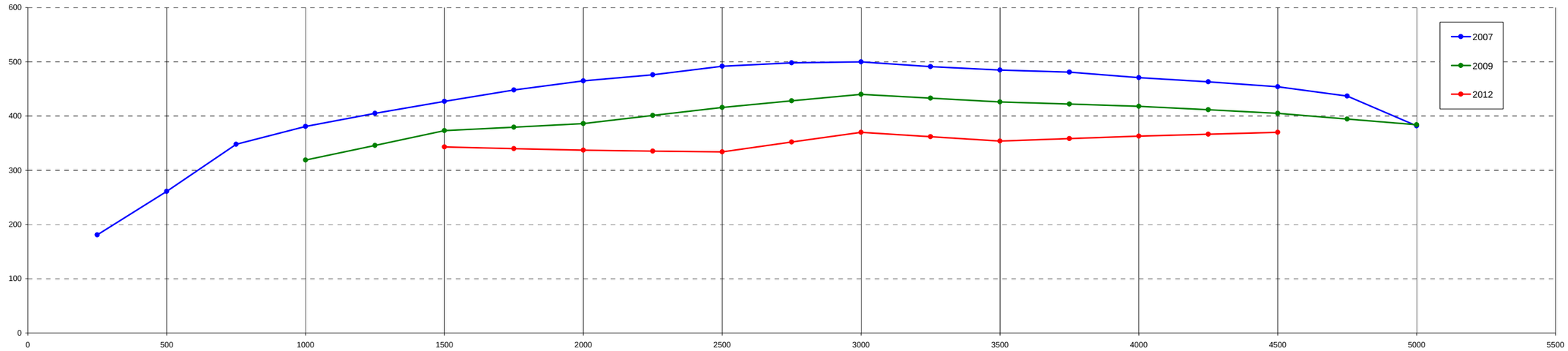
**2012**

# Road 5

## Gravel (3.195km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | | | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | **y** | 181 | 261 | 348 | 381 | 405 | 427 | 448 | 465 | 476 | 492 | 498 | 500 | 491 | 485 | 481 | 471 | 463 | 454 | 437 | 382 | | | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 319 | 346 | 373 | 380 | 386 | 401 | 416 | 428 | 440 | 433 | 426 | 422 | 418 | 412 | 405 | 395 | 384 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | **y** | | | | | | 343 | 340 | 337 | 336 | 334 | 352 | 370 | 362 | 354 | 359 | 363 | 367 | 370 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Loss** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 62 | - | 54 | - | 79 | - | 76 | - | 60 | - | 59 | - | 53 | - | 49 | - | -2 | | | | | | **54** |
| **Difference (2007 - 2012)** | - | - | - | - | 84 | - | 128 | - | 158 | - | 130 | - | 131 | - | 108 | - | 84 | - | - | | | | | | **118** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **172** |

**2007**

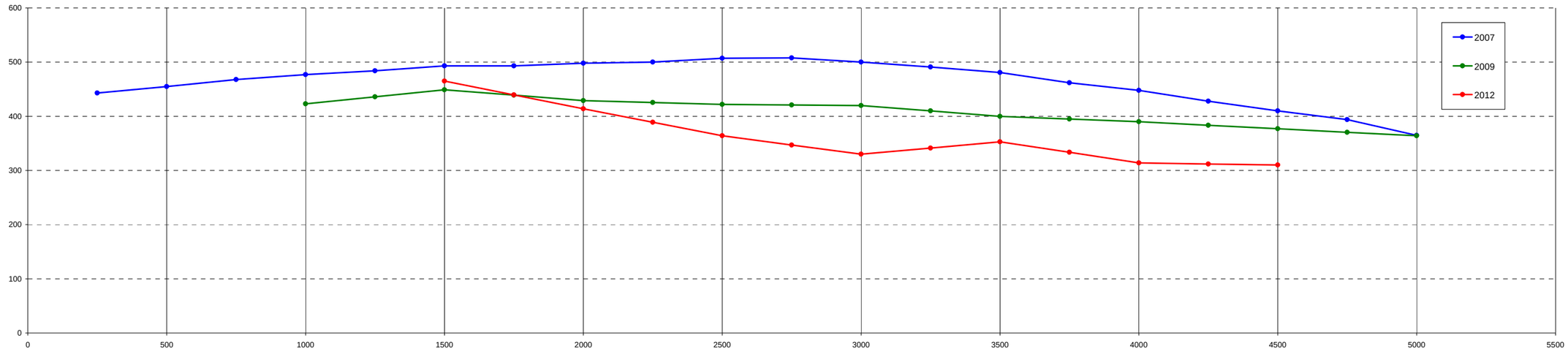
**2012**

# Road 5

## Gravel (3.275km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| 2007 | x | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | | | | | | |
| | y | 443 | 455 | 468 | 477 | 484 | 493 | 493 | 498 | 500 | 507 | 508 | 500 | 491 | 481 | 462 | 448 | 428 | 410 | 394 | 365 | | | | | | |
| 2009 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | y | | | | 423 | 436 | 449 | 439 | 429 | 426 | 422 | 421 | 420 | 410 | 400 | 395 | 390 | 384 | 377 | 371 | 364 | | | | | | |
| 2012 | x | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | | | | | | | | |
| | y | | | | | | 465 | 440 | 414 | 389 | 364 | 347 | 330 | 342 | 353 | 334 | 314 | 312 | 310 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Loss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Difference (2007 - 2009) | - | - | 54 | - | 44 | - | 69 | - | 85 | - | 80 | - | 81 | - | 58 | - | 33 | - | 1 | | | | | | 56 |
| Difference (2007 - 2012) | - | - | - | - | 28 | - | 84 | - | 143 | - | 170 | - | 128 | - | 134 | - | 100 | - | - | | | | | | 112 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 169 |

**2007**

**2012**

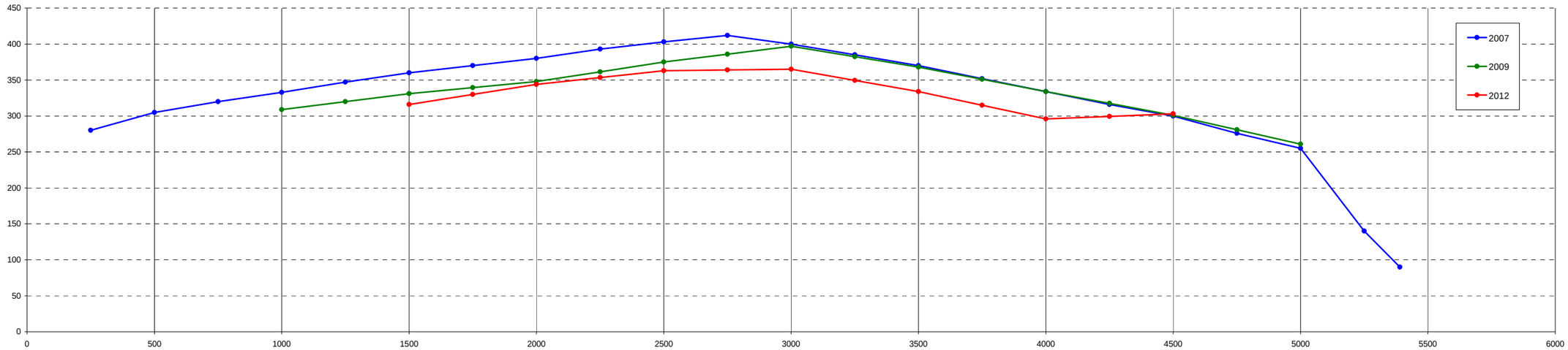
# Road 8.0

# Road 8

## Sand Seal (1.825km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5390** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5390 | | | | |
| | **y** | 280 | 305 | 320 | 333 | 347 | 360 | 370 | 380 | 393 | 403 | 412 | 400 | 385 | 370 | 352 | 334 | 316 | 300 | 276 | 255 | 140 | 90 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 309 | 320 | 331 | 340 | 348 | 362 | 375 | 386 | 397 | 383 | 368 | 351 | 334 | 318 | 301 | 281 | 261 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 316 | 330 | 344 | 354 | 363 | 364 | 365 | 350 | 334 | 315 | 296 | 300 | 303 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 24 | - | 29 | - | 32 | - | 28 | - | 3 | - | 2 | - | 0 | - | -1 | - | -6 | | | | | | **12** |
| **Difference (2007 - 2012)** | - | - | - | - | 15 | - | 4 | - | 12 | - | 32 | - | 34 | - | 38 | - | -2 | - | -42 | | | | | | **11** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **24** |

**2007**

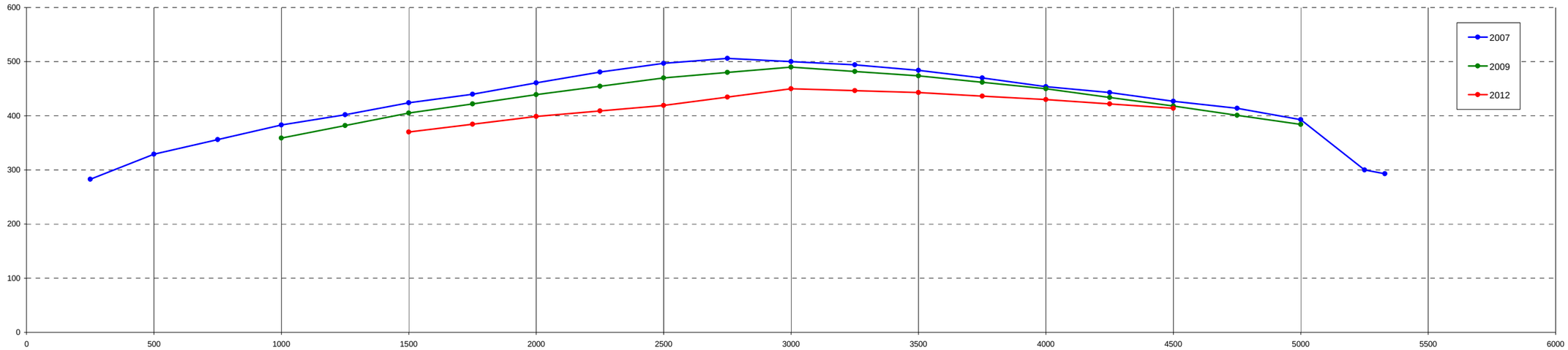
**2012**

# Road 8

## Sand Seal (1.895km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5330** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5330 | | | | |
| | **y** | 283 | 329 | 356 | 383 | 402 | 424 | 440 | 461 | 481 | 497 | 506 | 500 | 494 | 484 | 470 | 454 | 443 | 427 | 414 | 393 | 300 | 293 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 359 | 382 | 405 | 422 | 439 | 455 | 470 | 480 | 490 | 482 | 474 | 462 | 450 | 434 | 418 | 401 | 384 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 370 | 385 | 399 | 409 | 419 | 435 | 450 | 447 | 443 | 437 | 430 | 422 | 414 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 24 | - | 19 | - | 22 | - | 27 | - | 10 | - | 10 | - | 4 | - | 9 | - | 9 | | | | | | **15** |
| **Difference (2007 - 2012)** | - | - | - | - | 35 | - | 40 | - | 51 | - | 40 | - | 31 | - | 20 | - | 4 | - | -30 | | | | | | **24** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **39** |

**2007**

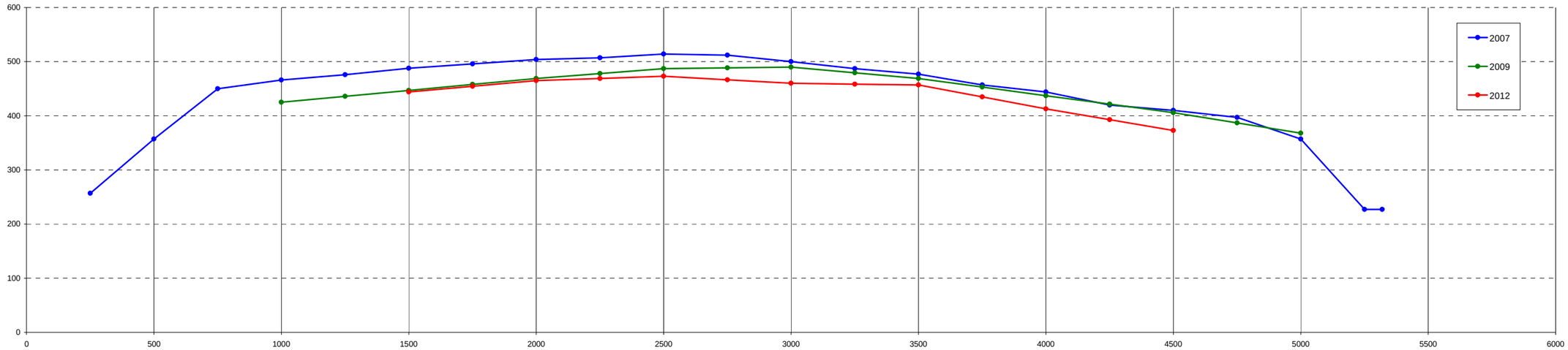
**2012**

# Road 8

## Sand Seal (2.095km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5320** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5320 | | | | |
| | **y** | 257 | 357 | 450 | 466 | 476 | 488 | 496 | 504 | 507 | 514 | 512 | 500 | 487 | 477 | 457 | 444 | 420 | 410 | 397 | 357 | 227 | 227 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 425 | 436 | 447 | 458 | 469 | 478 | 487 | 489 | 490 | 480 | 469 | 453 | 437 | 422 | 406 | 387 | 368 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 444 | 455 | 465 | 469 | 473 | 467 | 460 | 459 | 457 | 435 | 413 | 393 | 373 | | | | | | | | |




| | 500.00 | 750.00 | 1000.00 | 1250.00 | 1500.00 | 1750.00 | 2000.00 | 2250.00 | 2500.00 | 2750.00 | 3000.00 | 3250.00 | 3500.00 | 3750.00 | 4000.00 | 4250.00 | 4500.00 | 4750.00 | 5000.00 | | | | | | Average Losses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 41 | - | 41 | - | 35 | - | 27 | - | 10 | - | 8 | - | 7 | - | 4 | - | -11 | | | | | | **18** |
| **Difference (2007 - 2012)** | - | - | - | - | 3 | - | 4 | - | 14 | - | 30 | - | 12 | - | 24 | - | 33 | - | -5 | | | | | | **14** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **32** |

**2007**

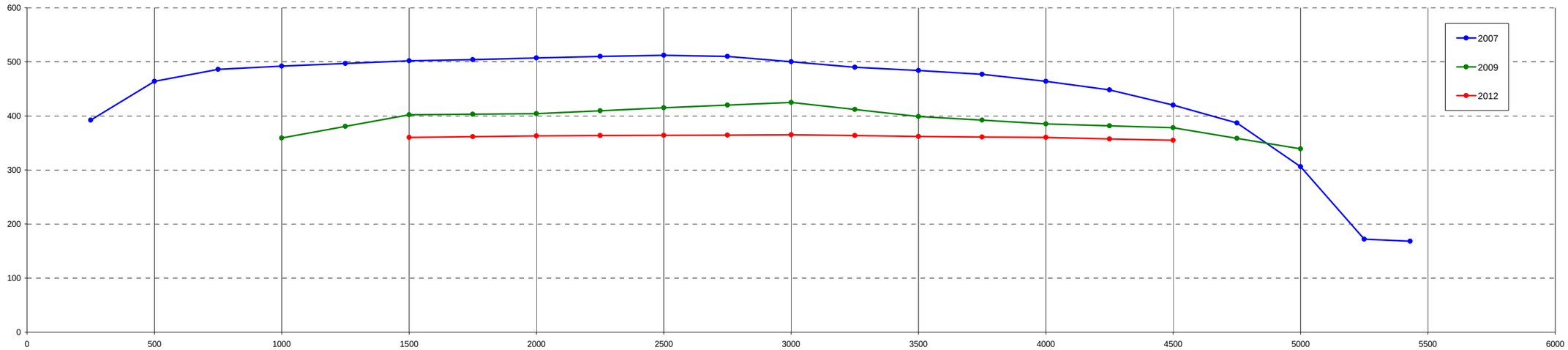
**2012**

# Road 8

## Gravel (2.225km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5430** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5430 | | | | |
| | **y** | 392 | 464 | 486 | 492 | 497 | 502 | 504 | 507 | 510 | 512 | 510 | 500 | 490 | 484 | 477 | 464 | 448 | 420 | 387 | 306 | 172 | 168 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 359 | 381 | 402 | 403 | 404 | 410 | 415 | 420 | 425 | 412 | 399 | 392 | 385 | 382 | 378 | 359 | 339 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 360 | 362 | 363 | 364 | 364 | 365 | 365 | 364 | 362 | 361 | 360 | 358 | 355 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 133 | - | 100 | - | 103 | - | 97 | - | 75 | - | 85 | - | 79 | - | 42 | - | -33 | | | | | | **76** |
| **Difference (2007 - 2012)** | - | - | - | - | 42 | - | 41 | - | 51 | - | 60 | - | 37 | - | 25 | - | 23 | - | -16 | 33 | | | | | **33** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **109** |

**2007**

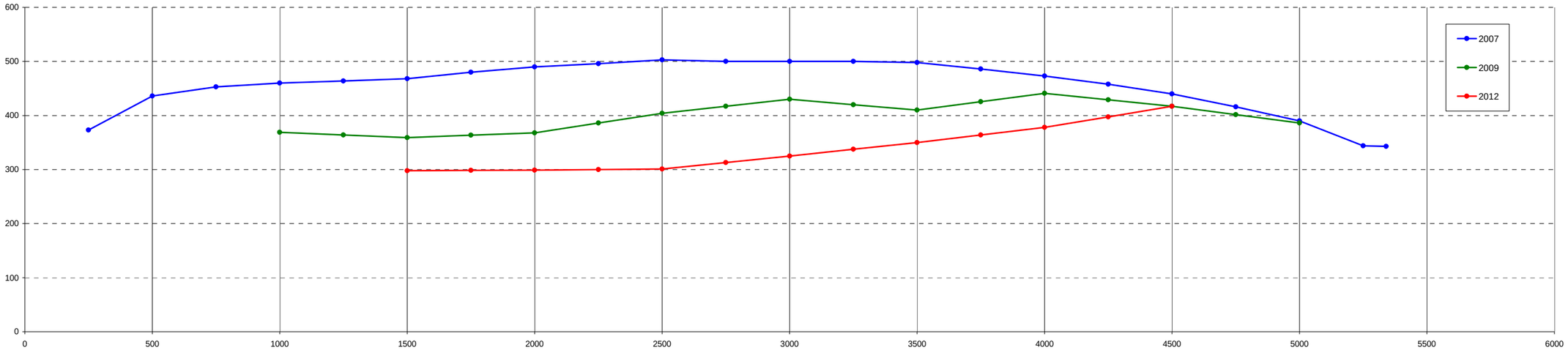
**2012**

# Road 8

## Gravel (2.225km)

### Combined Assessment (All Years)

| | | Distance Across the Carriageway - 'X' (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | **250** | **500** | **750** | **1000** | **1250** | **1500** | **1750** | **2000** | **2250** | **2500** | **2750** | **3000** | **3250** | **3500** | **3750** | **4000** | **4250** | **4500** | **4750** | **5000** | **5250** | **5340** | | | | |
| 2007 | **x** | 250 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | 4250 | 4500 | 4750 | 5000 | 5250 | 5340 | | | | |
| | **y** | 373 | 436 | 453 | 460 | 464 | 468 | 480 | 490 | 496 | 503 | 500 | 500 | 500 | 498 | 486 | 473 | 458 | 440 | 416 | 390 | 344 | 343 | | | | |
| 2009 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | 369 | 364 | 359 | 364 | 368 | 386 | 404 | 417 | 430 | 420 | 410 | 426 | 441 | 429 | 417 | 402 | 386 | | | | | | |
| 2012 | **x** | 250 | 500 | 750 | 1,000 | 1,250 | 1,500 | 1,750 | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 | 3,250 | 3,500 | 3,750 | 4,000 | 4,250 | 4,500 | 4,750 | 5,000 | | | | | | |
| | **y** | | | | | | 298 | 299 | 299 | 300 | 301 | 313 | 325 | 338 | 350 | 364 | 378 | 398 | 417 | | | | | | | | |




| | **500.00** | **750.00** | **1000.00** | **1250.00** | **1500.00** | **1750.00** | **2000.00** | **2250.00** | **2500.00** | **2750.00** | **3000.00** | **3250.00** | **3500.00** | **3750.00** | **4000.00** | **4250.00** | **4500.00** | **4750.00** | **5000.00** | | | | | | **Average Losses** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Difference (2007 - 2009)** | - | - | 91 | - | 109 | - | 122 | - | 99 | - | 70 | - | 88 | - | 32 | - | 23 | - | 4 | | | | | | **71** |
| **Difference (2007 - 2012)** | - | - | - | - | 61 | - | 69 | - | 103 | - | 105 | - | 60 | - | 63 | - | 0 | - | -31 | 54 | | | | | **54** |
| | | | | | | | | | | | | | | | | | | | | | | | | | **125** |

**2007**

**2012**

# Appendix C

## Rut Depth Measurements

## R 2.0 Hand Packed Stone

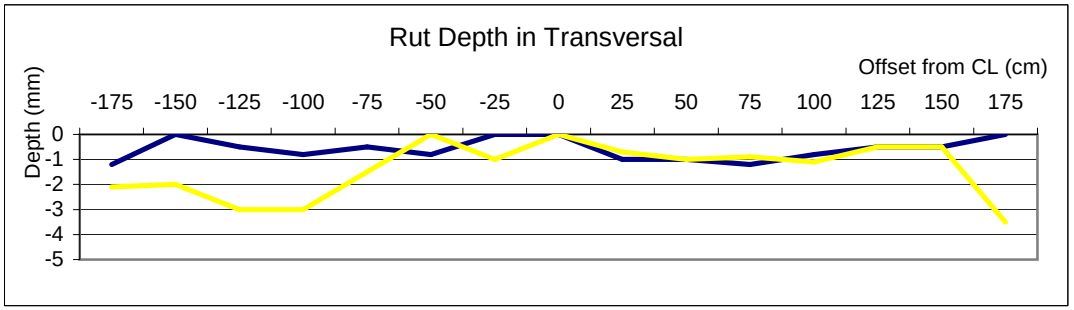
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+605

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

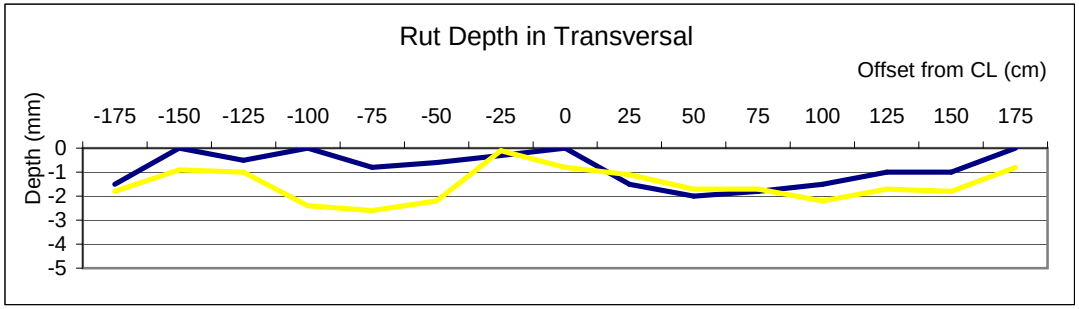
| Side | Offset from CL (cm) | 28/08/2007 Rut depth (cm) | | 08/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 2.1 | -2.1 |
| | -150 | 0 | 0 | 2 | -2 |
| | -125 | 0.5 | -0.5 | 3 | -3 |
| | -100 | 0.8 | -0.8 | 3 | -3 |
| | -75 | 0.5 | -0.5 | 1.5 | -1.5 |
| | -50 | 0.8 | -0.8 | 0 | 0 |
| | -25 | 0 | 0 | 1 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 0.7 | -0.7 |
| | 50 | 1 | -1 | 1 | -1 |
| | 75 | 1.2 | -1.2 | 0.9 | -0.9 |
| | 100 | 0.8 | -0.8 | 1.1 | -1.1 |
| | 125 | 0.5 | -0.5 | 0.5 | -0.5 |
| | 150 | 0.5 | -0.5 | 0.5 | -0.5 |
| | 175 | 0 | 0 | 3.5 | -3.5 |



KM 0+615

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 18 | -1.8 |
| | -150 | 0 | 0 | 9 | -0.9 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0 | 0 | 24 | -2.4 |
| | -75 | 0.8 | -0.8 | 26 | -2.6 |
| | -50 | 0.6 | -0.6 | 22 | -2.2 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 1.5 | -1.5 | 11 | -1.1 |
| | 50 | 2 | -2 | 17 | -1.7 |
| | 75 | 1.8 | -1.8 | 17 | -1.7 |
| | 100 | 1.5 | -1.5 | 22 | -2.2 |
| | 125 | 1 | -1 | 17 | -1.7 |
| | 150 | 1 | -1 | 18 | -1.8 |
| | 175 | 0 | 0 | 8 | -0.8 |



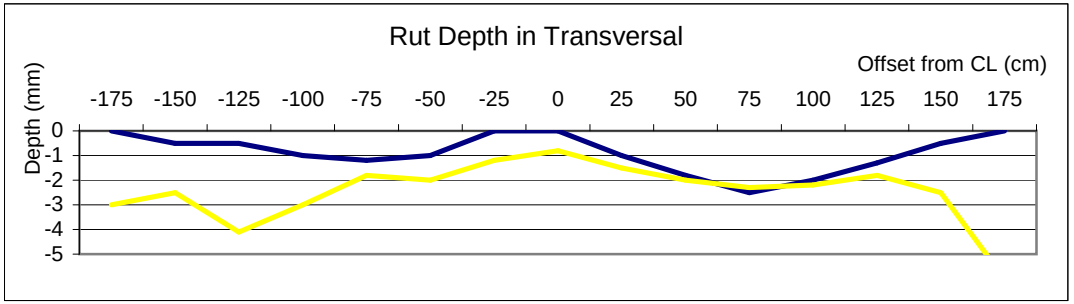
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+625

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

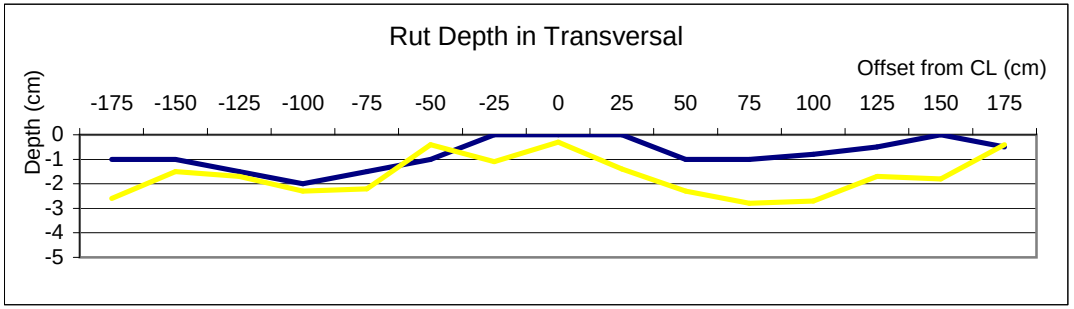
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 30 | -3 |
| | -150 | 0.5 | -0.5 | 25 | -2.5 |
| | -125 | 0.5 | -0.5 | 41 | -4.1 |
| | -100 | 1 | -1 | 30 | -3 |
| | -75 | 1.2 | -1.2 | 18 | -1.8 |
| | -50 | 1 | -1 | 20 | -2 |
| | -25 | 0 | 0 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 1 | -1 | 15 | -1.5 |
| | 50 | 1.8 | -1.8 | 20 | -2 |
| | 75 | 2.5 | -2.5 | 23 | -2.3 |
| | 100 | 2 | -2 | 22 | -2.2 |
| | 125 | 1.3 | -1.3 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 25 | -2.5 |
| | 175 | 0 | 0 | 60 | -6 |



KM 0+635

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 26 | -2.6 |
| | -150 | 1 | -1 | 15 | -1.5 |
| | -125 | 1.5 | -1.5 | 17 | -1.7 |
| | -100 | 2 | -2 | 23 | -2.3 |
| | -75 | 1.5 | -1.5 | 22 | -2.2 |
| | -50 | 1 | -1 | 4 | -0.4 |
| | -25 | 0 | 0 | 11 | -1.1 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0 | 0 | 14 | -1.4 |
| | 50 | 1 | -1 | 23 | -2.3 |
| | 75 | 1 | -1 | 28 | -2.8 |
| | 100 | 0.8 | -0.8 | 27 | -2.7 |
| | 125 | 0.5 | -0.5 | 17 | -1.7 |
| | 150 | 0 | 0 | 18 | -1.8 |
| | 175 | 0.5 | -0.5 | 4 | -0.4 |



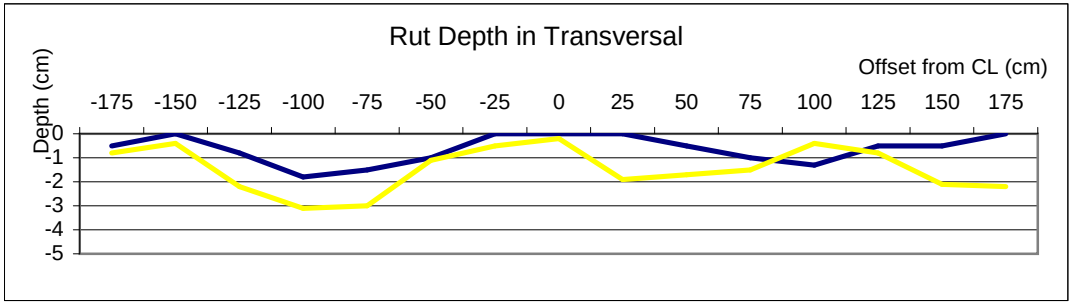
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+645

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

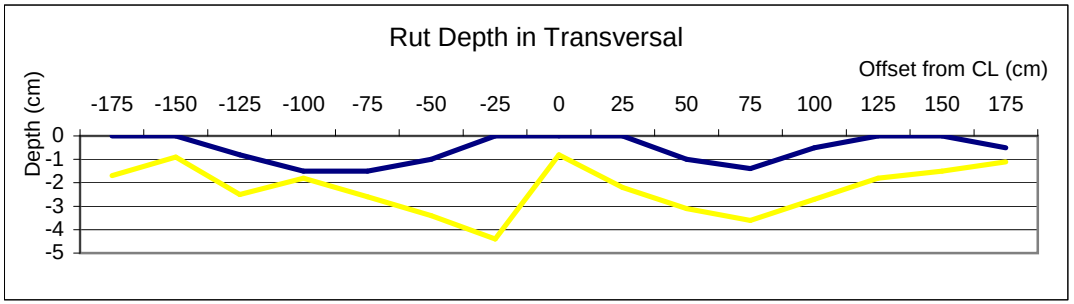
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 0 | 0 | 4 | -0.4 |
| | -125 | 0.8 | -0.8 | 22 | -2.2 |
| | -100 | 1.8 | -1.8 | 31 | -3.1 |
| | -75 | 1.5 | -1.5 | 30 | -3 |
| | -50 | 1 | -1 | 11 | -1.1 |
| | -25 | 0 | 0 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0 | 0 | 19 | -1.9 |
| | 50 | 0.5 | -0.5 | 17 | -1.7 |
| | 75 | 1 | -1 | 15 | -1.5 |
| | 100 | 1.3 | -1.3 | 4 | -0.4 |
| | 125 | 0.5 | -0.5 | 8 | -0.8 |
| | 150 | 0.5 | -0.5 | 21 | -2.1 |
| | 175 | 0 | 0 | 22 | -2.2 |



KM 0+655

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 17 | -1.7 |
| | -150 | 0 | 0 | 9 | -0.9 |
| | -125 | 0.8 | -0.8 | 25 | -2.5 |
| | -100 | 1.5 | -1.5 | 18 | -1.8 |
| | -75 | 1.5 | -1.5 | 26 | -2.6 |
| | -50 | 1 | -1 | 34 | -3.4 |
| | -25 | 0 | 0 | 44 | -4.4 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0 | 0 | 22 | -2.2 |
| | 50 | 1 | -1 | 31 | -3.1 |
| | 75 | 1.4 | -1.4 | 36 | -3.6 |
| | 100 | 0.5 | -0.5 | 27 | -2.7 |
| | 125 | 0 | 0 | 18 | -1.8 |
| | 150 | 0 | 0 | 15 | -1.5 |
| | 175 | 0.5 | -0.5 | 11 | -1.1 |



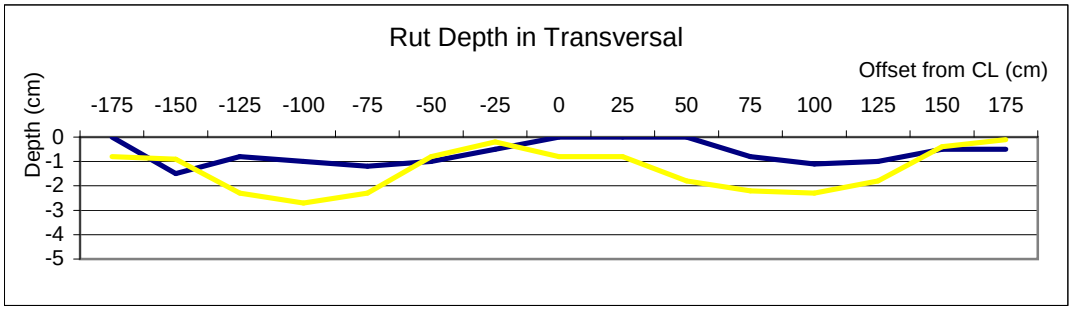
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+665

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

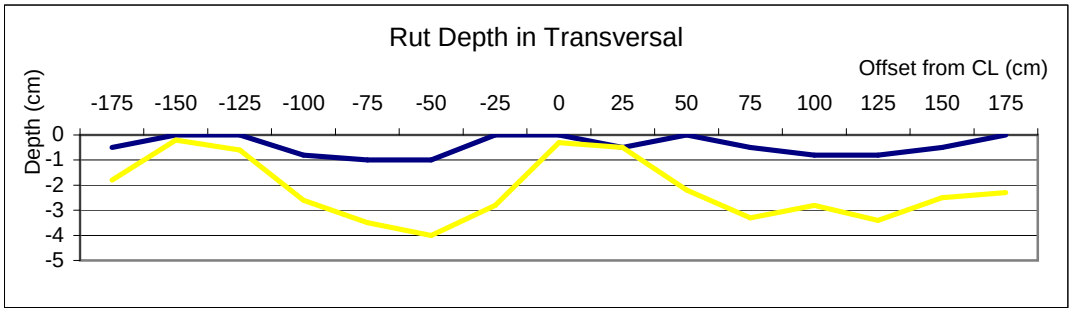
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 8 | -0.8 |
| | -150 | 1.5 | -1.5 | 9 | -0.9 |
| | -125 | 0.8 | -0.8 | 23 | -2.3 |
| | -100 | 1 | -1 | 27 | -2.7 |
| | -75 | 1.2 | -1.2 | 23 | -2.3 |
| | -50 | 1 | -1 | 8 | -0.8 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0 | 0 | 8 | -0.8 |
| | 50 | 0 | 0 | 18 | -1.8 |
| | 75 | 0.8 | -0.8 | 22 | -2.2 |
| | 100 | 1.1 | -1.1 | 23 | -2.3 |
| | 125 | 1 | -1 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 4 | -0.4 |
| | 175 | 0.5 | -0.5 | 1 | -0.1 |



KM 0+675

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 18 | -1.8 |
| | -150 | 0 | 0 | 2 | -0.2 |
| | -125 | 0 | 0 | 6 | -0.6 |
| | -100 | 0.8 | -0.8 | 26 | -2.6 |
| | -75 | 1 | -1 | 35 | -3.5 |
| | -50 | 1 | -1 | 40 | -4 |
| | -25 | 0 | 0 | 28 | -2.8 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 5 | -0.5 |
| | 50 | 0 | 0 | 22 | -2.2 |
| | 75 | 0.5 | -0.5 | 33 | -3.3 |
| | 100 | 0.8 | -0.8 | 28 | -2.8 |
| | 125 | 0.8 | -0.8 | 34 | -3.4 |
| | 150 | 0.5 | -0.5 | 25 | -2.5 |
| | 175 | 0 | 0 | 23 | -2.3 |



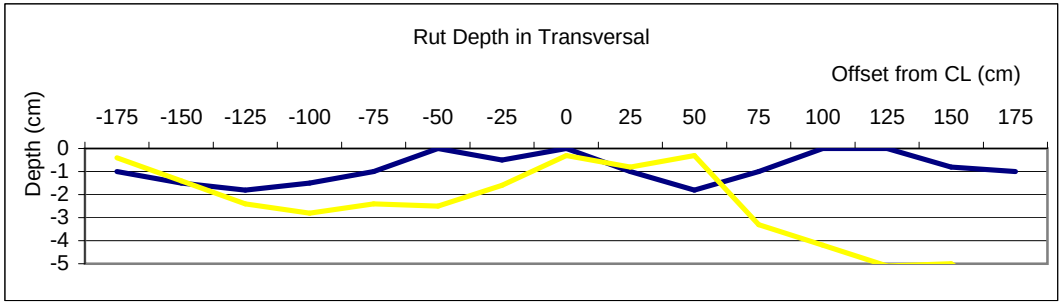
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+685

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

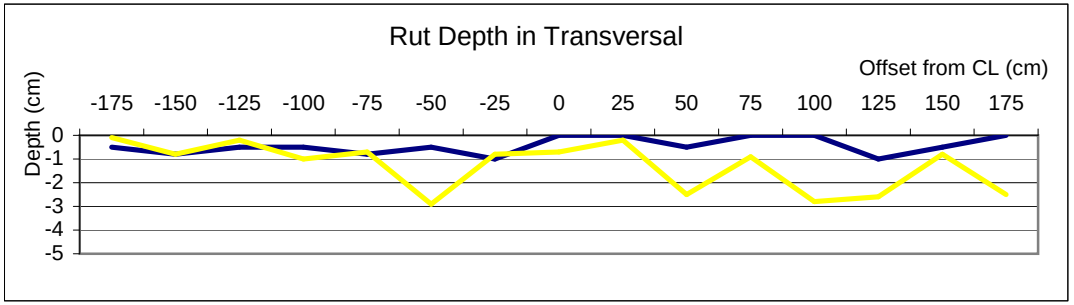
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 4 | -0.4 |
| | -150 | 1.5 | -1.5 | 14 | -1.4 |
| | -125 | 1.8 | -1.8 | 24 | -2.4 |
| | -100 | 1.5 | -1.5 | 28 | -2.8 |
| | -75 | 1 | -1 | 24 | -2.4 |
| | -50 | 0 | 0 | 25 | -2.5 |
| | -25 | 0.5 | -0.5 | 16 | -1.6 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1 | -1 | 8 | -0.8 |
| | 50 | 1.8 | -1.8 | 3 | -0.3 |
| | 75 | 1 | -1 | 33 | -3.3 |
| | 100 | 0 | 0 | 42 | -4.2 |
| | 125 | 0 | 0 | 51 | -5.1 |
| | 150 | 0.8 | -0.8 | 50 | -5 |
| | 175 | 1 | -1 | 69 | -6.9 |



KM 0+695

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 1 | -0.1 |
| | -150 | 0.8 | -0.8 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 2 | -0.2 |
| | -100 | 0.5 | -0.5 | 10 | -1 |
| | -75 | 0.8 | -0.8 | 7 | -0.7 |
| | -50 | 0.5 | -0.5 | 29 | -2.9 |
| | -25 | 1 | -1 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0 | 0 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 25 | -2.5 |
| | 75 | 0 | 0 | 9 | -0.9 |
| | 100 | 0 | 0 | 28 | -2.8 |
| | 125 | 1 | -1 | 26 | -2.6 |
| | 150 | 0.5 | -0.5 | 8 | -0.8 |
| | 175 | 0 | 0 | 25 | -2.5 |



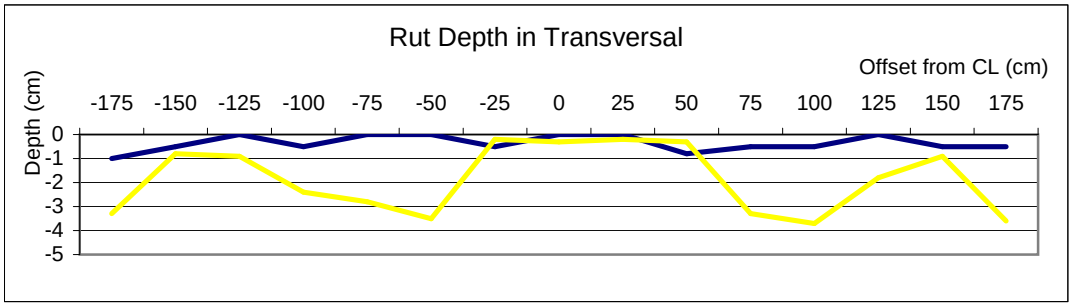
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+705

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

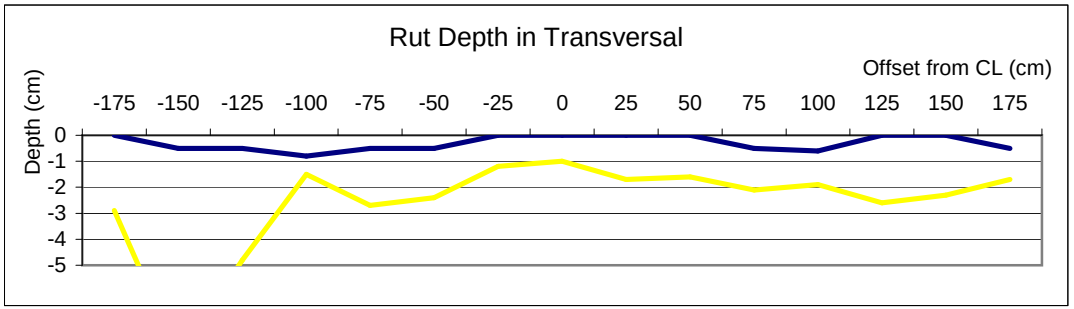
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 33 | -3.3 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0 | 0 | 9 | -0.9 |
| | -100 | 0.5 | -0.5 | 24 | -2.4 |
| | -75 | 0 | 0 | 28 | -2.8 |
| | -50 | 0 | 0 | 35 | -3.5 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0 | 0 | 2 | -0.2 |
| | 50 | 0.8 | -0.8 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 33 | -3.3 |
| | 100 | 0.5 | -0.5 | 37 | -3.7 |
| | 125 | 0 | 0 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 9 | -0.9 |
| | 175 | 0.5 | -0.5 | 36 | -3.6 |



KM 0+715

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 29 | -2.9 |
| | -150 | 0.5 | -0.5 | 85 | -8.5 |
| | -125 | 0.5 | -0.5 | 48 | -4.8 |
| | -100 | 0.8 | -0.8 | 15 | -1.5 |
| | -75 | 0.5 | -0.5 | 27 | -2.7 |
| | -50 | 0.5 | -0.5 | 24 | -2.4 |
| | -25 | 0 | 0 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0 | 0 | 17 | -1.7 |
| | 50 | 0 | 0 | 16 | -1.6 |
| | 75 | 0.5 | -0.5 | 21 | -2.1 |
| | 100 | 0.6 | -0.6 | 19 | -1.9 |
| | 125 | 0 | 0 | 26 | -2.6 |
| | 150 | 0 | 0 | 23 | -2.3 |
| | 175 | 0.5 | -0.5 | 17 | -1.7 |



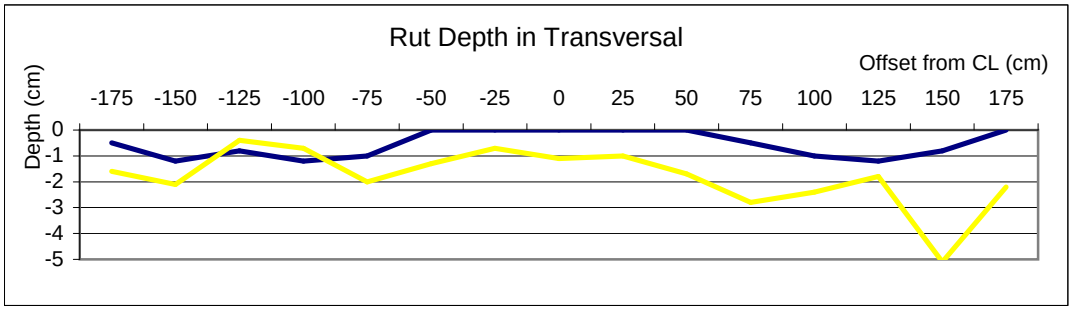
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+725

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

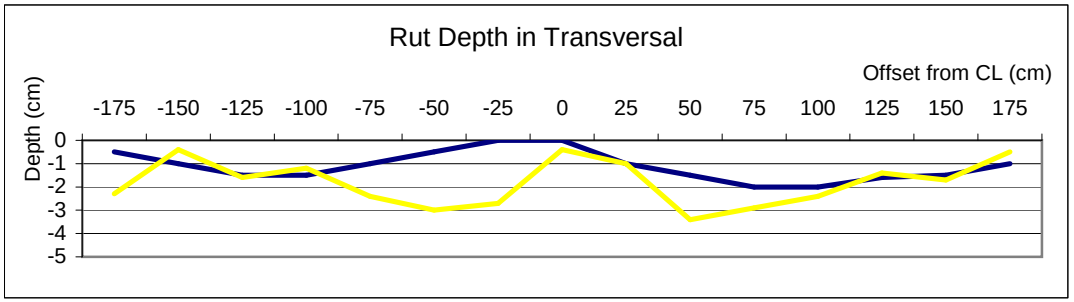
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 16 | -1.6 |
| | -150 | 1.2 | -1.2 | 21 | -2.1 |
| | -125 | 0.8 | -0.8 | 4 | -0.4 |
| | -100 | 1.2 | -1.2 | 7 | -0.7 |
| | -75 | 1 | -1 | 20 | -2 |
| | -50 | 0 | 0 | 13 | -1.3 |
| | -25 | 0 | 0 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 11 | -1.1 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 0 | 0 | 17 | -1.7 |
| | 75 | 0.5 | -0.5 | 28 | -2.8 |
| | 100 | 1 | -1 | 24 | -2.4 |
| | 125 | 1.2 | -1.2 | 18 | -1.8 |
| | 150 | 0.8 | -0.8 | 51 | -5.1 |
| | 175 | 0 | 0 | 22 | -2.2 |



KM 0+735

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 23 | -2.3 |
| | -150 | 1 | -1 | 4 | -0.4 |
| | -125 | 1.5 | -1.5 | 16 | -1.6 |
| | -100 | 1.5 | -1.5 | 12 | -1.2 |
| | -75 | 1 | -1 | 24 | -2.4 |
| | -50 | 0.5 | -0.5 | 30 | -3 |
| | -25 | 0 | 0 | 27 | -2.7 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 1 | -1 | 10 | -1 |
| | 50 | 1.5 | -1.5 | 34 | -3.4 |
| | 75 | 2 | -2 | 29 | -2.9 |
| | 100 | 2 | -2 | 24 | -2.4 |
| | 125 | 1.6 | -1.6 | 14 | -1.4 |
| | 150 | 1.5 | -1.5 | 17 | -1.7 |
| | 175 | 1 | -1 | 5 | -0.5 |



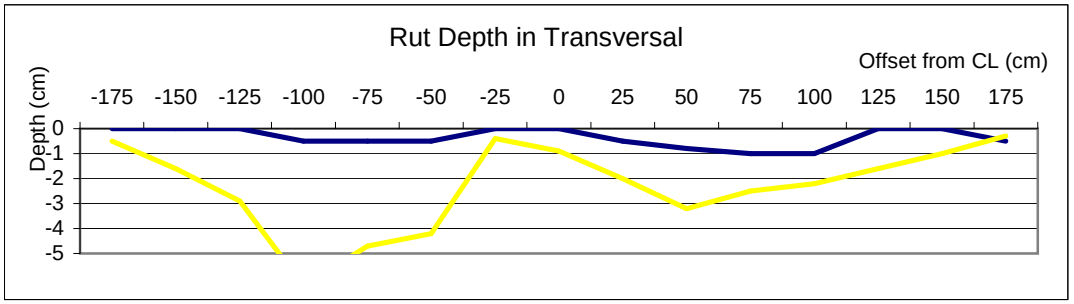
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+745

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

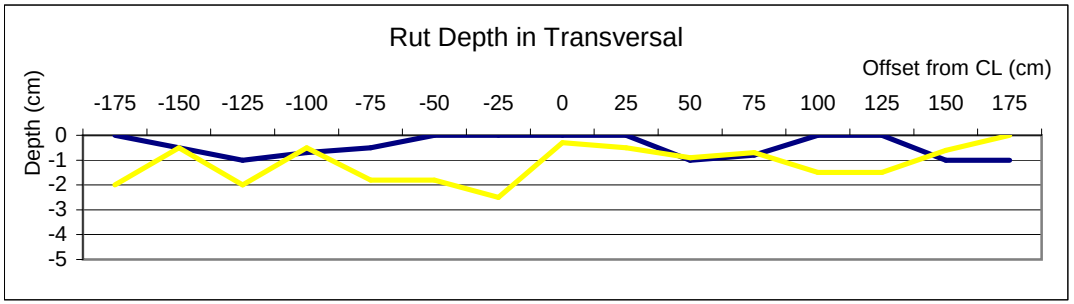
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 5 | -0.5 |
| | -150 | 0 | 0 | 16 | -1.6 |
| | -125 | 0 | 0 | 29 | -2.9 |
| | -100 | 0.5 | -0.5 | 63 | -6.3 |
| | -75 | 0.5 | -0.5 | 47 | -4.7 |
| | -50 | 0.5 | -0.5 | 42 | -4.2 |
| | -25 | 0 | 0 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0.5 | -0.5 | 20 | -2 |
| | 50 | 0.8 | -0.8 | 32 | -3.2 |
| | 75 | 1 | -1 | 25 | -2.5 |
| | 100 | 1 | -1 | 22 | -2.2 |
| | 125 | 0 | 0 | 16 | -1.6 |
| | 150 | 0 | 0 | 10 | -1 |
| | 175 | 0.5 | -0.5 | 3 | -0.3 |



KM 0+755

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 20 | -2 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 1 | -1 | 20 | -2 |
| | -100 | 0.7 | -0.7 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 18 | -1.8 |
| | -50 | 0 | 0 | 18 | -1.8 |
| | -25 | 0 | 0 | 25 | -2.5 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0 | 0 | 5 | -0.5 |
| | 50 | 1 | -1 | 9 | -0.9 |
| | 75 | 0.8 | -0.8 | 7 | -0.7 |
| | 100 | 0 | 0 | 15 | -1.5 |
| | 125 | 0 | 0 | 15 | -1.5 |
| | 150 | 1 | -1 | 6 | -0.6 |
| | 175 | 1 | -1 | 0 | 0 |



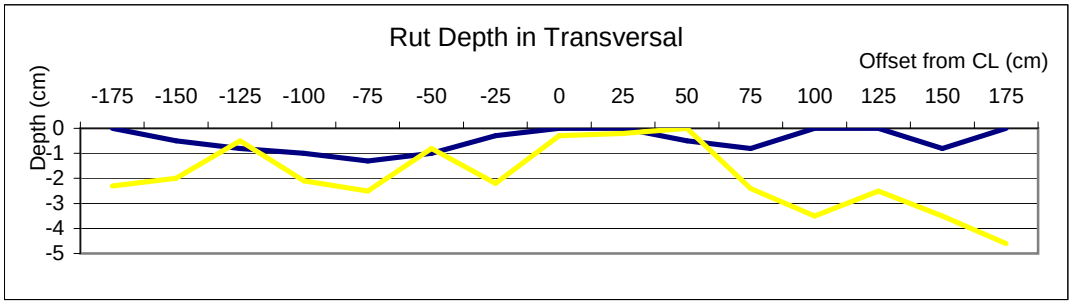
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+765

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

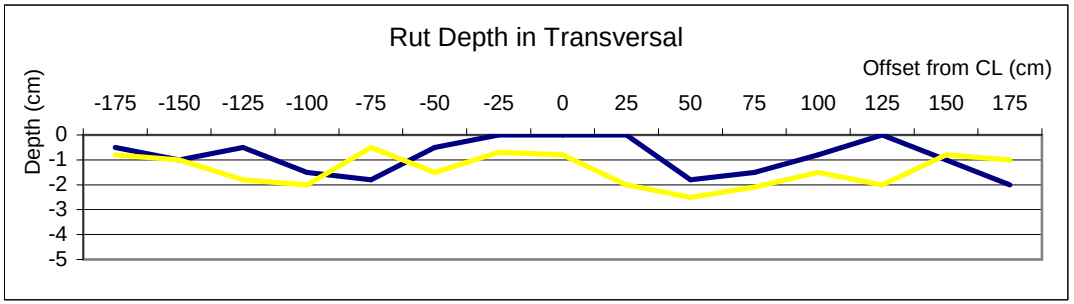
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 23 | -2.3 |
| | -150 | 0.5 | -0.5 | 20 | -2 |
| | -125 | 0.8 | -0.8 | 5 | -0.5 |
| | -100 | 1 | -1 | 21 | -2.1 |
| | -75 | 1.3 | -1.3 | 25 | -2.5 |
| | -50 | 1 | -1 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 22 | -2.2 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0 | 0 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.8 | -0.8 | 24 | -2.4 |
| | 100 | 0 | 0 | 35 | -3.5 |
| | 125 | 0 | 0 | 25 | -2.5 |
| | 150 | 0.8 | -0.8 | 35 | -3.5 |
| | 175 | 0 | 0 | 46 | -4.6 |



KM 0+775

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 1 | -1 | 10 | -1 |
| | -125 | 0.5 | -0.5 | 18 | -1.8 |
| | -100 | 1.5 | -1.5 | 20 | -2 |
| | -75 | 1.8 | -1.8 | 5 | -0.5 |
| | -50 | 0.5 | -0.5 | 15 | -1.5 |
| | -25 | 0 | 0 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0 | 0 | 20 | -2 |
| | 50 | 1.8 | -1.8 | 25 | -2.5 |
| | 75 | 1.5 | -1.5 | 21 | -2.1 |
| | 100 | 0.8 | -0.8 | 15 | -1.5 |
| | 125 | 0 | 0 | 20 | -2 |
| | 150 | 1 | -1 | 8 | -0.8 |
| | 175 | 2 | -2 | 10 | -1 |



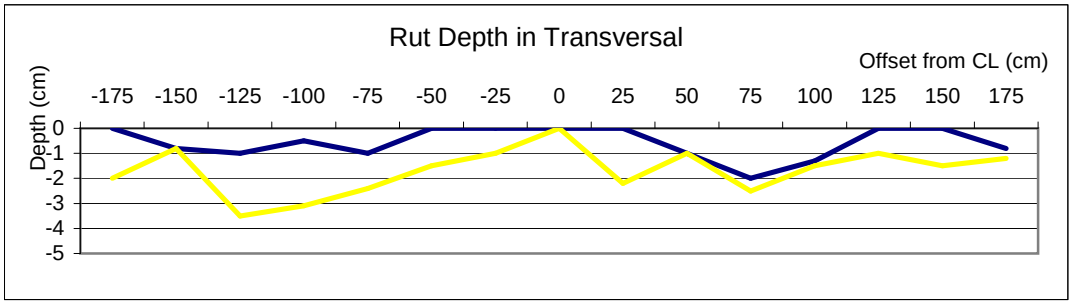
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+785

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

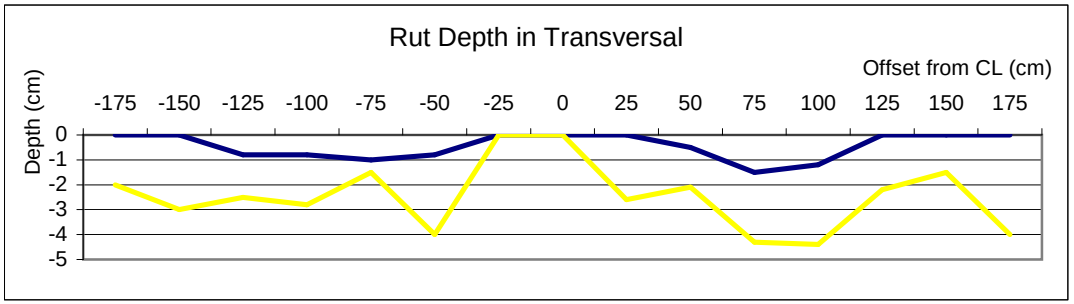
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 20 | -2 |
| | -150 | 0.8 | -0.8 | 8 | -0.8 |
| | -125 | 1 | -1 | 35 | -3.5 |
| | -100 | 0.5 | -0.5 | 31 | -3.1 |
| | -75 | 1 | -1 | 24 | -2.4 |
| | -50 | 0 | 0 | 15 | -1.5 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 22 | -2.2 |
| | 50 | 1 | -1 | 10 | -1 |
| | 75 | 2 | -2 | 25 | -2.5 |
| | 100 | 1.3 | -1.3 | 15 | -1.5 |
| | 125 | 0 | 0 | 10 | -1 |
| | 150 | 0 | 0 | 15 | -1.5 |
| | 175 | 0.8 | -0.8 | 12 | -1.2 |



KM 0+795

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 20 | -2 |
| | -150 | 0 | 0 | 30 | -3 |
| | -125 | 0.8 | -0.8 | 25 | -2.5 |
| | -100 | 0.8 | -0.8 | 28 | -2.8 |
| | -75 | 1 | -1 | 15 | -1.5 |
| | -50 | 0.8 | -0.8 | 40 | -4 |
| | -25 | 0 | 0 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 26 | -2.6 |
| | 50 | 0.5 | -0.5 | 21 | -2.1 |
| | 75 | 1.5 | -1.5 | 43 | -4.3 |
| | 100 | 1.2 | -1.2 | 44 | -4.4 |
| | 125 | 0 | 0 | 22 | -2.2 |
| | 150 | 0 | 0 | 15 | -1.5 |
| | 175 | 0 | 0 | 40 | -4 |



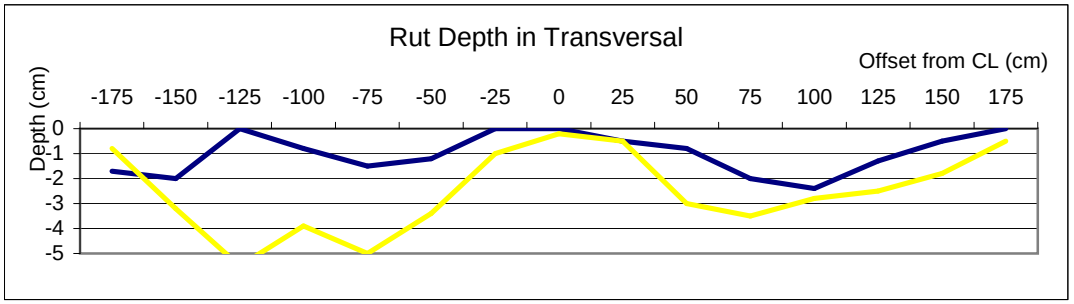
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+805

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

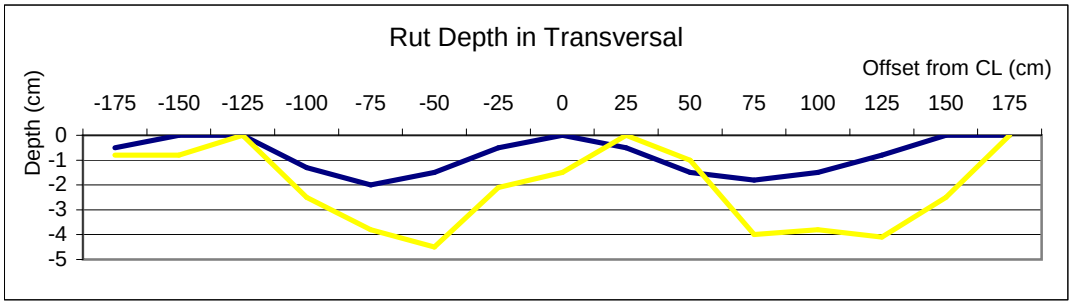
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.7 | -1.7 | 8 | -0.8 |
| | -150 | 2 | -2 | 32 | -3.2 |
| | -125 | 0 | 0 | 55 | -5.5 |
| | -100 | 0.8 | -0.8 | 39 | -3.9 |
| | -75 | 1.5 | -1.5 | 50 | -5 |
| | -50 | 1.2 | -1.2 | 34 | -3.4 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 5 | -0.5 |
| | 50 | 0.8 | -0.8 | 30 | -3 |
| | 75 | 2 | -2 | 35 | -3.5 |
| | 100 | 2.4 | -2.4 | 28 | -2.8 |
| | 125 | 1.3 | -1.3 | 25 | -2.5 |
| | 150 | 0.5 | -0.5 | 18 | -1.8 |
| | 175 | 0 | 0 | 5 | -0.5 |



KM 0+815

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 0 | 0 | 8 | -0.8 |
| | -125 | 0 | 0 | 0 | 0 |
| | -100 | 1.3 | -1.3 | 25 | -2.5 |
| | -75 | 2 | -2 | 38 | -3.8 |
| | -50 | 1.5 | -1.5 | 45 | -4.5 |
| | -25 | 0.5 | -0.5 | 21 | -2.1 |
| CL | 0 | 0 | 0 | 15 | -1.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 1.5 | -1.5 | 10 | -1 |
| | 75 | 1.8 | -1.8 | 40 | -4 |
| | 100 | 1.5 | -1.5 | 38 | -3.8 |
| | 125 | 0.8 | -0.8 | 41 | -4.1 |
| | 150 | 0 | 0 | 25 | -2.5 |
| | 175 | 0 | 0 | 0 | 0 |



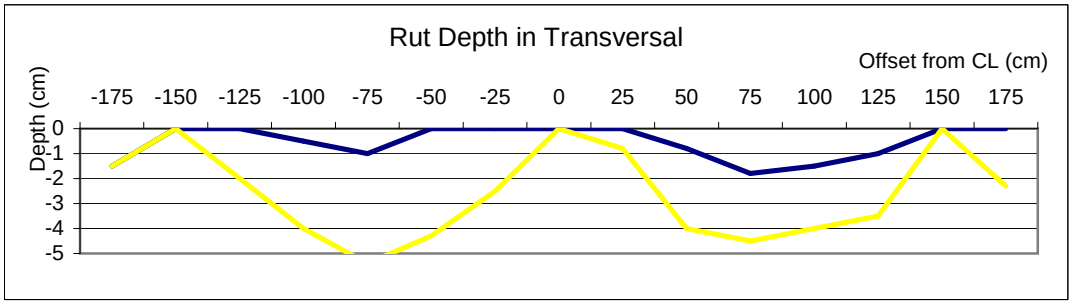
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+825

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

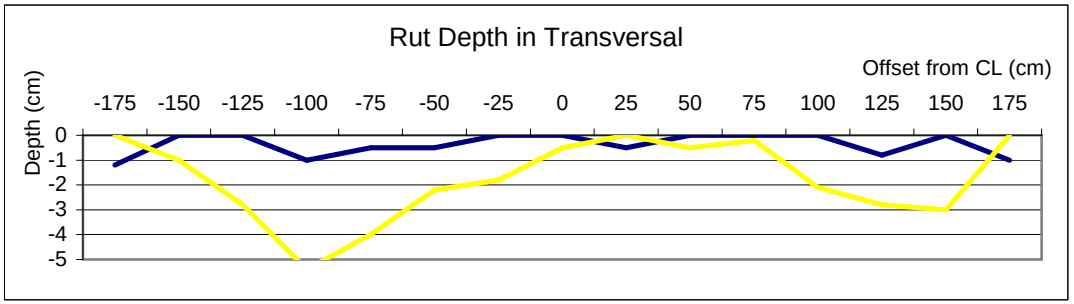
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 15 | -1.5 |
| | -150 | 0 | 0 | 0 | 0 |
| | -125 | 0 | 0 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 40 | -4 |
| | -75 | 1 | -1 | 54 | -5.4 |
| | -50 | 0 | 0 | 43 | -4.3 |
| | -25 | 0 | 0 | 25 | -2.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 8 | -0.8 |
| | 50 | 0.8 | -0.8 | 40 | -4 |
| | 75 | 1.8 | -1.8 | 45 | -4.5 |
| | 100 | 1.5 | -1.5 | 40 | -4 |
| | 125 | 1 | -1 | 35 | -3.5 |
| | 150 | 0 | 0 | 0 | 0 |
| | 175 | 0 | 0 | 23 | -2.3 |



KM 0+835

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 0 | 0 |
| | -150 | 0 | 0 | 10 | -1 |
| | -125 | 0 | 0 | 28 | -2.8 |
| | -100 | 1 | -1 | 54 | -5.4 |
| | -75 | 0.5 | -0.5 | 40 | -4 |
| | -50 | 0.5 | -0.5 | 22 | -2.2 |
| | -25 | 0 | 0 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0 | 0 | 5 | -0.5 |
| | 75 | 0 | 0 | 2 | -0.2 |
| | 100 | 0 | 0 | 21 | -2.1 |
| | 125 | 0.8 | -0.8 | 28 | -2.8 |
| | 150 | 0 | 0 | 30 | -3 |
| | 175 | 1 | -1 | 0 | 0 |



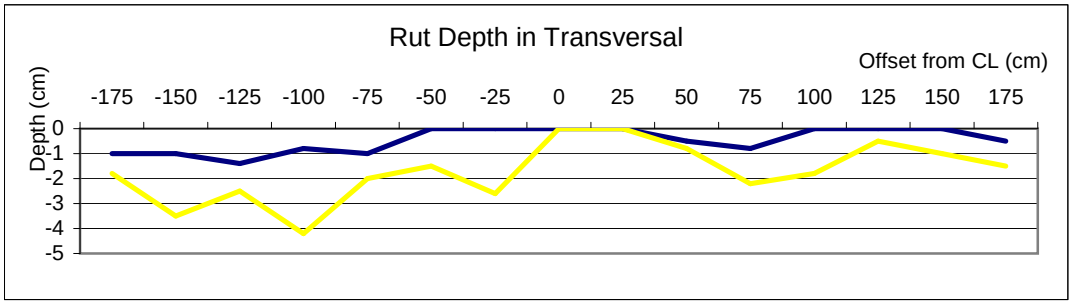
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+845

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

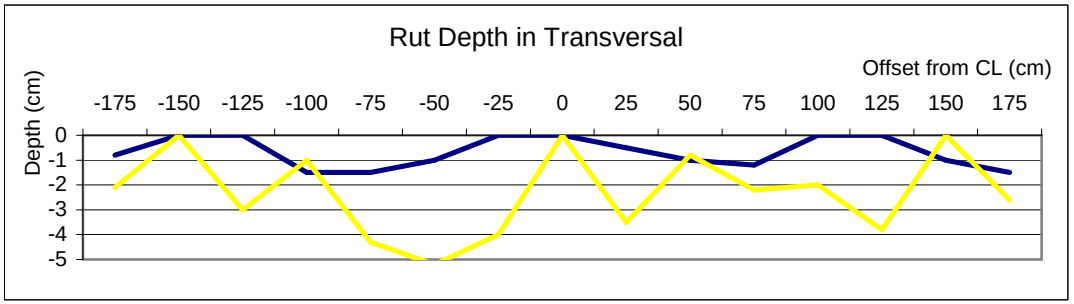
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 18 | -1.8 |
| | -150 | 1 | -1 | 35 | -3.5 |
| | -125 | 1.4 | -1.4 | 25 | -2.5 |
| | -100 | 0.8 | -0.8 | 42 | -4.2 |
| | -75 | 1 | -1 | 20 | -2 |
| | -50 | 0 | 0 | 15 | -1.5 |
| | -25 | 0 | 0 | 26 | -2.6 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 8 | -0.8 |
| | 75 | 0.8 | -0.8 | 22 | -2.2 |
| | 100 | 0 | 0 | 18 | -1.8 |
| | 125 | 0 | 0 | 5 | -0.5 |
| | 150 | 0 | 0 | 10 | -1 |
| | 175 | 0.5 | -0.5 | 15 | -1.5 |



KM 0+855

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 21 | -2.1 |
| | -150 | 0 | 0 | 0 | 0 |
| | -125 | 0 | 0 | 30 | -3 |
| | -100 | 1.5 | -1.5 | 10 | -1 |
| | -75 | 1.5 | -1.5 | 43 | -4.3 |
| | -50 | 1 | -1 | 52 | -5.2 |
| | -25 | 0 | 0 | 40 | -4 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 35 | -3.5 |
| | 50 | 1 | -1 | 8 | -0.8 |
| | 75 | 1.2 | -1.2 | 22 | -2.2 |
| | 100 | 0 | 0 | 20 | -2 |
| | 125 | 0 | 0 | 38 | -3.8 |
| | 150 | 1 | -1 | 0 | 0 |
| | 175 | 1.5 | -1.5 | 26 | -2.6 |



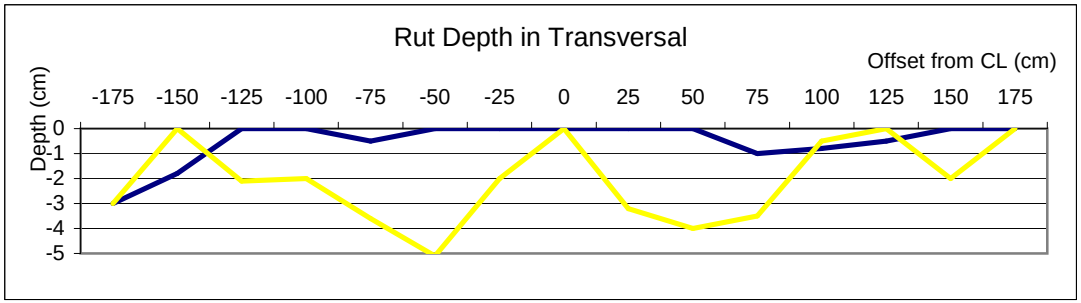
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+865

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

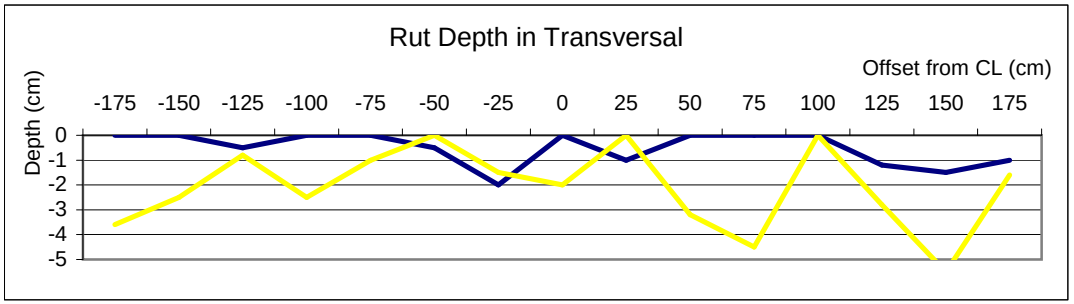
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 30 | -3 |
| | -150 | 1.8 | -1.8 | 0 | 0 |
| | -125 | 0 | 0 | 21 | -2.1 |
| | -100 | 0 | 0 | 20 | -2 |
| | -75 | 0.5 | -0.5 | 36 | -3.6 |
| | -50 | 0 | 0 | 51 | -5.1 |
| | -25 | 0 | 0 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 32 | -3.2 |
| | 50 | 0 | 0 | 40 | -4 |
| | 75 | 1 | -1 | 35 | -3.5 |
| | 100 | 0.8 | -0.8 | 5 | -0.5 |
| | 125 | 0.5 | -0.5 | 0 | 0 |
| | 150 | 0 | 0 | 20 | -2 |
| | 175 | 0 | 0 | 0 | 0 |



KM 0+875

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 36 | -3.6 |
| | -150 | 0 | 0 | 25 | -2.5 |
| | -125 | 0.5 | -0.5 | 8 | -0.8 |
| | -100 | 0 | 0 | 25 | -2.5 |
| | -75 | 0 | 0 | 10 | -1 |
| | -50 | 0.5 | -0.5 | 0 | 0 |
| | -25 | 2 | -2 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 1 | -1 | 0 | 0 |
| | 50 | 0 | 0 | 32 | -3.2 |
| | 75 | 0 | 0 | 45 | -4.5 |
| | 100 | 0 | 0 | 0 | 0 |
| | 125 | 1.2 | -1.2 | 28 | -2.8 |
| | 150 | 1.5 | -1.5 | 55 | -5.5 |
| | 175 | 1 | -1 | 16 | -1.6 |



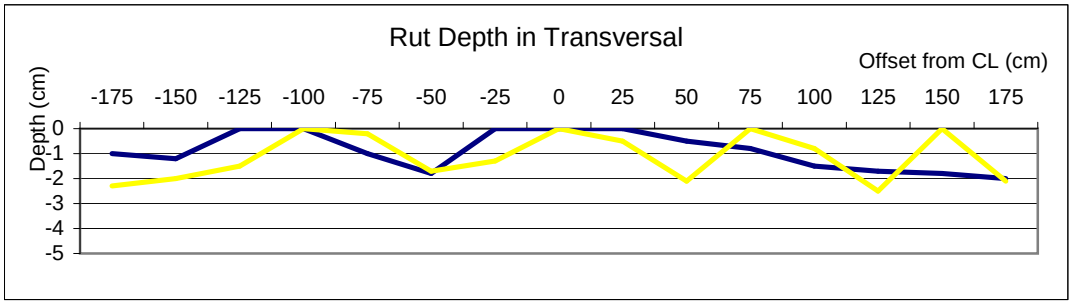
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+885

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 23 | -2.3 |
| | -150 | 1.2 | -1.2 | 20 | -2 |
| | -125 | 0 | 0 | 15 | -1.5 |
| | -100 | 0 | 0 | 0 | 0 |
| | -75 | 1 | -1 | 2 | -0.2 |
| | -50 | 1.8 | -1.8 | 17 | -1.7 |
| | -25 | 0 | 0 | 13 | -1.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 5 | -0.5 |
| | 50 | 0.5 | -0.5 | 21 | -2.1 |
| | 75 | 0.8 | -0.8 | 0 | 0 |
| | 100 | 1.5 | -1.5 | 8 | -0.8 |
| | 125 | 1.7 | -1.7 | 25 | -2.5 |
| | 150 | 1.8 | -1.8 | 0 | 0 |
| | 175 | 2 | -2 | 21 | -2.1 |

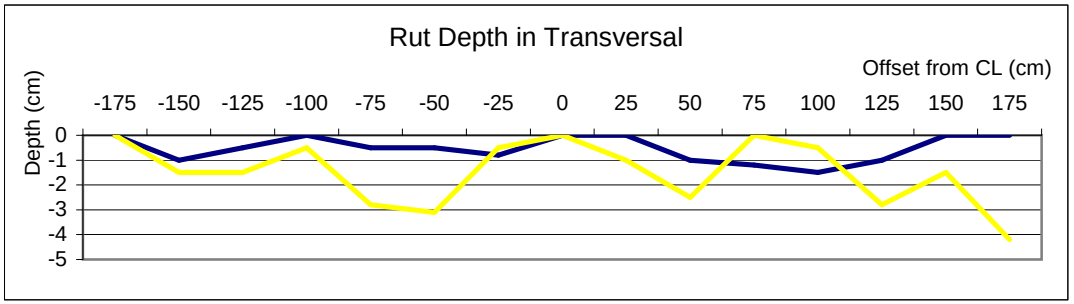


KM 0+895

Measured by: Khambone
Checked by: Singthong

Date: 28/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 1 | -1 | 15 | -1.5 |
| | -125 | 0.5 | -0.5 | 15 | -1.5 |
| | -100 | 0 | 0 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 28 | -2.8 |
| | -50 | 0.5 | -0.5 | 31 | -3.1 |
| | -25 | 0.8 | -0.8 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 1 | -1 | 25 | -2.5 |
| | 75 | 1.2 | -1.2 | 0 | 0 |
| | 100 | 1.5 | -1.5 | 5 | -0.5 |
| | 125 | 1 | -1 | 28 | -2.8 |
| | 150 | 0 | 0 | 15 | -1.5 |
| | 175 | 0 | 0 | 42 | -4.2 |



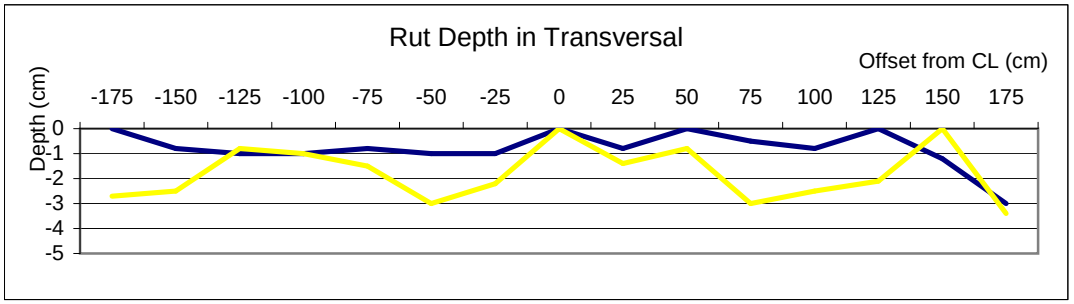
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+905

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

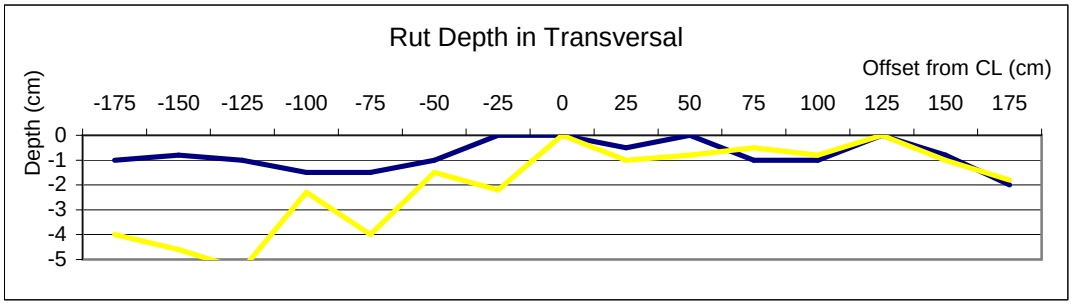
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 27 | -2.7 |
| | -150 | 0.8 | -0.8 | 25 | -2.5 |
| | -125 | 1 | -1 | 8 | -0.8 |
| | -100 | 1 | -1 | 10 | -1 |
| | -75 | 0.8 | -0.8 | 15 | -1.5 |
| | -50 | 1 | -1 | 30 | -3 |
| | -25 | 1 | -1 | 22 | -2.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.8 | -0.8 | 14 | -1.4 |
| | 50 | 0 | 0 | 8 | -0.8 |
| | 75 | 0.5 | -0.5 | 30 | -3 |
| | 100 | 0.8 | -0.8 | 25 | -2.5 |
| | 125 | 0 | 0 | 21 | -2.1 |
| | 150 | 1.2 | -1.2 | 0 | 0 |
| | 175 | 3 | -3 | 34 | -3.4 |



KM 0+915

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 40 | -4 |
| | -150 | 0.8 | -0.8 | 46 | -4.6 |
| | -125 | 1 | -1 | 54 | -5.4 |
| | -100 | 1.5 | -1.5 | 23 | -2.3 |
| | -75 | 1.5 | -1.5 | 40 | -4 |
| | -50 | 1 | -1 | 15 | -1.5 |
| | -25 | 0 | 0 | 22 | -2.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0 | 0 | 8 | -0.8 |
| | 75 | 1 | -1 | 5 | -0.5 |
| | 100 | 1 | -1 | 8 | -0.8 |
| | 125 | 0 | 0 | 0 | 0 |
| | 150 | 0.8 | -0.8 | 10 | -1 |
| | 175 | 2 | -2 | 18 | -1.8 |



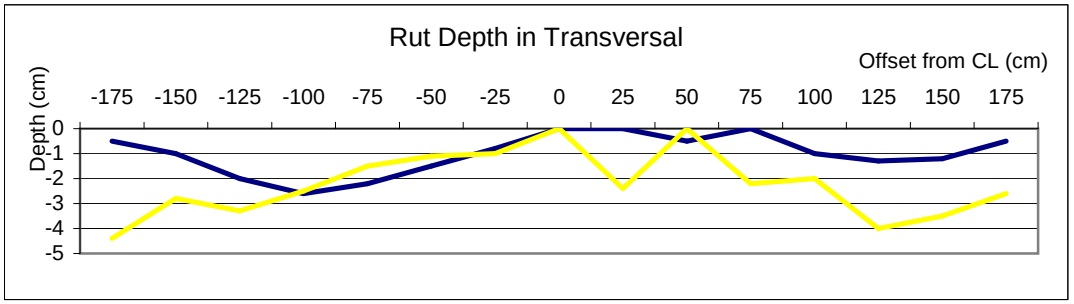
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+925

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

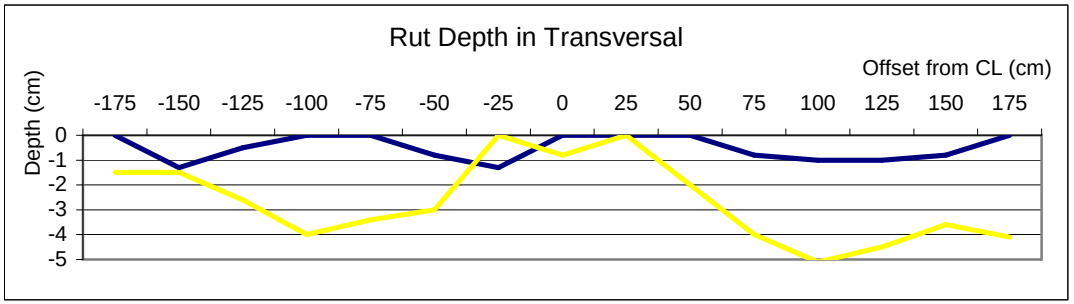
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 44 | -4.4 |
| | -150 | 1 | -1 | 28 | -2.8 |
| | -125 | 2 | -2 | 33 | -3.3 |
| | -100 | 2.6 | -2.6 | 25 | -2.5 |
| | -75 | 2.2 | -2.2 | 15 | -1.5 |
| | -50 | 1.5 | -1.5 | 11 | -1.1 |
| | -25 | 0.8 | -0.8 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 24 | -2.4 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0 | 0 | 22 | -2.2 |
| | 100 | 1 | -1 | 20 | -2 |
| | 125 | 1.3 | -1.3 | 40 | -4 |
| | 150 | 1.2 | -1.2 | 35 | -3.5 |
| | 175 | 0.5 | -0.5 | 26 | -2.6 |



KM 0+935

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 15 | -1.5 |
| | -150 | 1.3 | -1.3 | 15 | -1.5 |
| | -125 | 0.5 | -0.5 | 26 | -2.6 |
| | -100 | 0 | 0 | 40 | -4 |
| | -75 | 0 | 0 | 34 | -3.4 |
| | -50 | 0.8 | -0.8 | 30 | -3 |
| | -25 | 1.3 | -1.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0 | 0 | 0 | 0 |
| | 50 | 0 | 0 | 20 | -2 |
| | 75 | 0.8 | -0.8 | 40 | -4 |
| | 100 | 1 | -1 | 51 | -5.1 |
| | 125 | 1 | -1 | 45 | -4.5 |
| | 150 | 0.8 | -0.8 | 36 | -3.6 |
| | 175 | 0 | 0 | 41 | -4.1 |



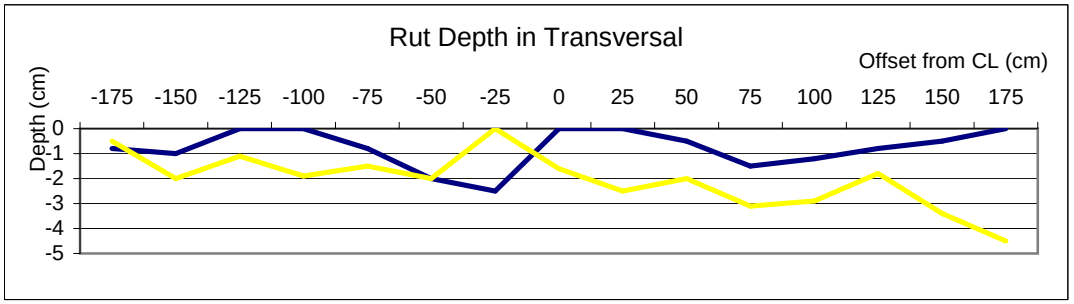
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+945

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

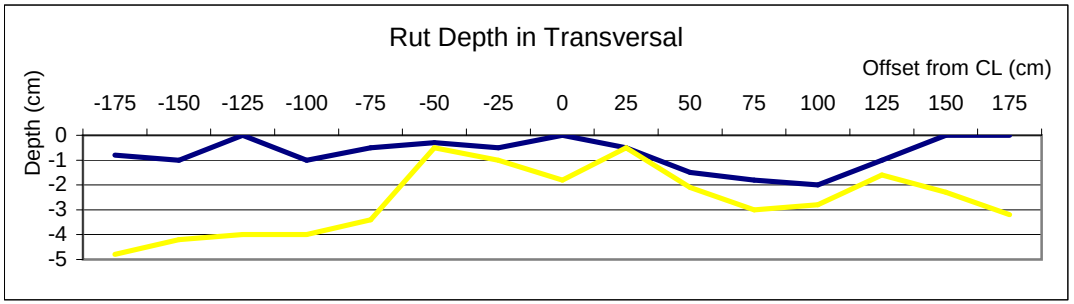
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 5 | -0.5 |
| | -150 | 1 | -1 | 20 | -2 |
| | -125 | 0 | 0 | 11 | -1.1 |
| | -100 | 0 | 0 | 19 | -1.9 |
| | -75 | 0.8 | -0.8 | 15 | -1.5 |
| | -50 | 2 | -2 | 20 | -2 |
| | -25 | 2.5 | -2.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 16 | -1.6 |
| Right Hand Side | 25 | 0 | 0 | 25 | -2.5 |
| | 50 | 0.5 | -0.5 | 20 | -2 |
| | 75 | 1.5 | -1.5 | 31 | -3.1 |
| | 100 | 1.2 | -1.2 | 29 | -2.9 |
| | 125 | 0.8 | -0.8 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 34 | -3.4 |
| | 175 | 0 | 0 | 45 | -4.5 |



KM 0+955

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 48 | -4.8 |
| | -150 | 1 | -1 | 42 | -4.2 |
| | -125 | 0 | 0 | 40 | -4 |
| | -100 | 1 | -1 | 40 | -4 |
| | -75 | 0.5 | -0.5 | 34 | -3.4 |
| | -50 | 0.3 | -0.3 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 18 | -1.8 |
| Right Hand Side | 25 | 0.5 | -0.5 | 5 | -0.5 |
| | 50 | 1.5 | -1.5 | 21 | -2.1 |
| | 75 | 1.8 | -1.8 | 30 | -3 |
| | 100 | 2 | -2 | 28 | -2.8 |
| | 125 | 1 | -1 | 16 | -1.6 |
| | 150 | 0 | 0 | 23 | -2.3 |
| | 175 | 0 | 0 | 32 | -3.2 |



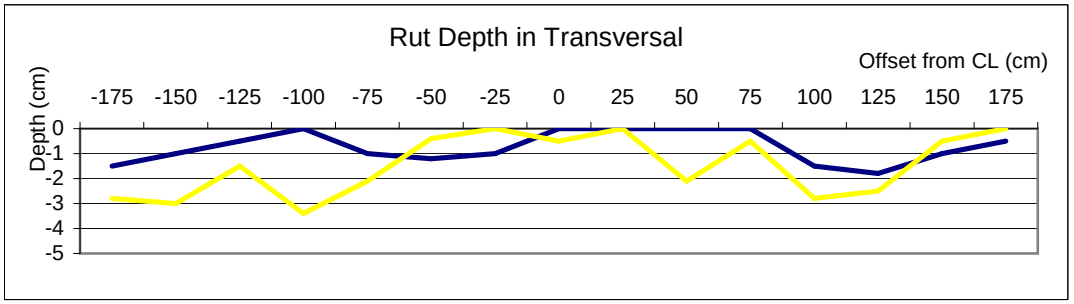
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+965

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

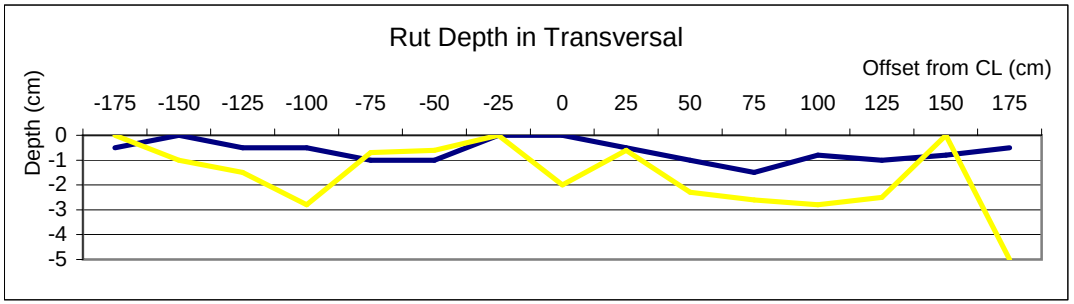
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 28 | -2.8 |
| | -150 | 1 | -1 | 30 | -3 |
| | -125 | 0.5 | -0.5 | 15 | -1.5 |
| | -100 | 0 | 0 | 34 | -3.4 |
| | -75 | 1 | -1 | 21 | -2.1 |
| | -50 | 1.2 | -1.2 | 4 | -0.4 |
| | -25 | 1 | -1 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0 | 0 | 0 | 0 |
| | 50 | 0 | 0 | 21 | -2.1 |
| | 75 | 0 | 0 | 5 | -0.5 |
| | 100 | 1.5 | -1.5 | 28 | -2.8 |
| | 125 | 1.8 | -1.8 | 25 | -2.5 |
| | 150 | 1 | -1 | 5 | -0.5 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



KM 0+975

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0 | 0 | 10 | -1 |
| | -125 | 0.5 | -0.5 | 15 | -1.5 |
| | -100 | 0.5 | -0.5 | 28 | -2.8 |
| | -75 | 1 | -1 | 7 | -0.7 |
| | -50 | 1 | -1 | 6 | -0.6 |
| | -25 | 0 | 0 | 0 | 0 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 6 | -0.6 |
| | 50 | 1 | -1 | 23 | -2.3 |
| | 75 | 1.5 | -1.5 | 26 | -2.6 |
| | 100 | 0.8 | -0.8 | 28 | -2.8 |
| | 125 | 1 | -1 | 25 | -2.5 |
| | 150 | 0.8 | -0.8 | 0 | 0 |
| | 175 | 0.5 | -0.5 | 50 | -5 |



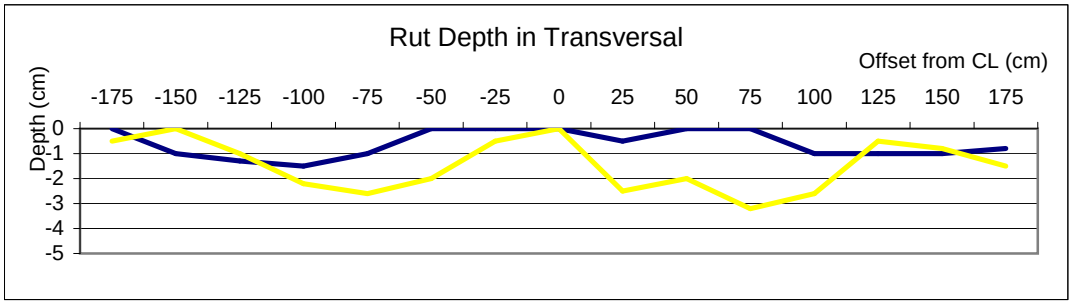
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 0+985

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

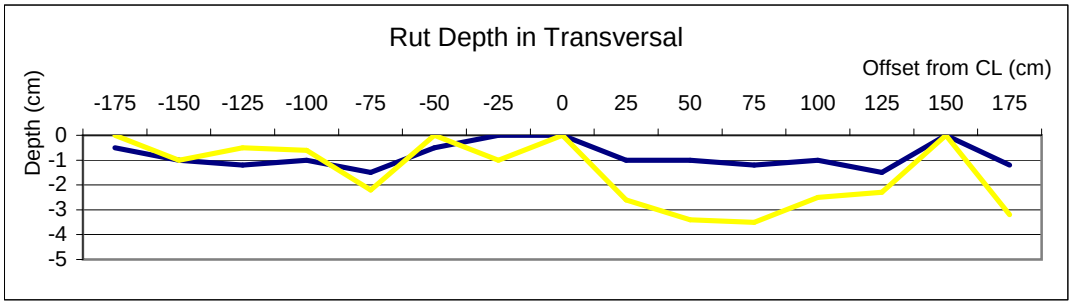
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 5 | -0.5 |
| | -150 | 1 | -1 | 0 | 0 |
| | -125 | 1.3 | -1.3 | 10 | -1 |
| | -100 | 1.5 | -1.5 | 22 | -2.2 |
| | -75 | 1 | -1 | 26 | -2.6 |
| | -50 | 0 | 0 | 20 | -2 |
| | -25 | 0 | 0 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 25 | -2.5 |
| | 50 | 0 | 0 | 20 | -2 |
| | 75 | 0 | 0 | 32 | -3.2 |
| | 100 | 1 | -1 | 26 | -2.6 |
| | 125 | 1 | -1 | 5 | -0.5 |
| | 150 | 1 | -1 | 8 | -0.8 |
| | 175 | 0.8 | -0.8 | 15 | -1.5 |



KM 0+995

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 1 | -1 | 10 | -1 |
| | -125 | 1.2 | -1.2 | 5 | -0.5 |
| | -100 | 1 | -1 | 6 | -0.6 |
| | -75 | 1.5 | -1.5 | 22 | -2.2 |
| | -50 | 0.5 | -0.5 | 0 | 0 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 26 | -2.6 |
| | 50 | 1 | -1 | 34 | -3.4 |
| | 75 | 1.2 | -1.2 | 35 | -3.5 |
| | 100 | 1 | -1 | 25 | -2.5 |
| | 125 | 1.5 | -1.5 | 23 | -2.3 |
| | 150 | 0 | 0 | 0 | 0 |
| | 175 | 1.2 | -1.2 | 32 | -3.2 |



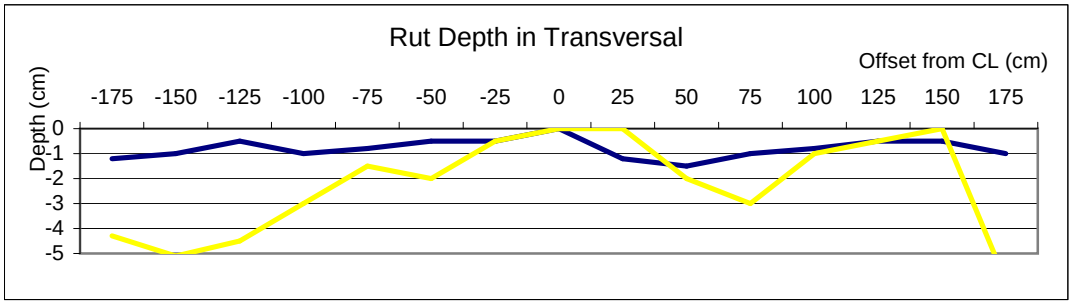
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 1+005

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

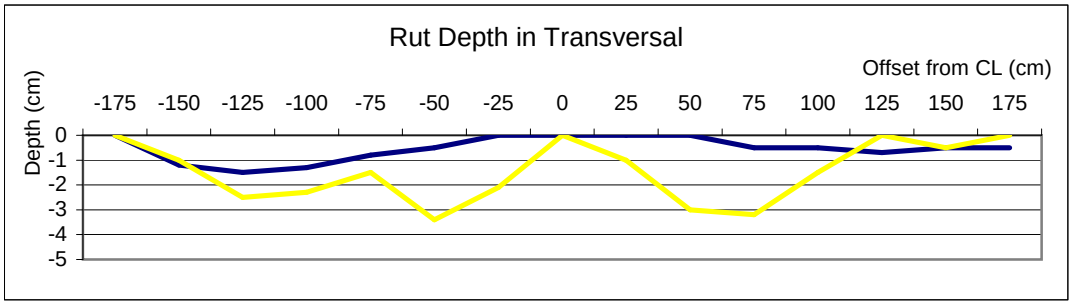
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 43 | -4.3 |
| | -150 | 1 | -1 | 51 | -5.1 |
| | -125 | 0.5 | -0.5 | 45 | -4.5 |
| | -100 | 1 | -1 | 30 | -3 |
| | -75 | 0.8 | -0.8 | 15 | -1.5 |
| | -50 | 0.5 | -0.5 | 20 | -2 |
| | -25 | 0.5 | -0.5 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1.2 | -1.2 | 0 | 0 |
| | 50 | 1.5 | -1.5 | 20 | -2 |
| | 75 | 1 | -1 | 30 | -3 |
| | 100 | 0.8 | -0.8 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 0.5 | -0.5 | 0 | 0 |
| | 175 | 1 | -1 | 61 | -6.1 |



KM 1+015

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 1.2 | -1.2 | 10 | -1 |
| | -125 | 1.5 | -1.5 | 25 | -2.5 |
| | -100 | 1.3 | -1.3 | 23 | -2.3 |
| | -75 | 0.8 | -0.8 | 15 | -1.5 |
| | -50 | 0.5 | -0.5 | 34 | -3.4 |
| | -25 | 0 | 0 | 21 | -2.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 0 | 0 | 30 | -3 |
| | 75 | 0.5 | -0.5 | 32 | -3.2 |
| | 100 | 0.5 | -0.5 | 15 | -1.5 |
| | 125 | 0.7 | -0.7 | 0 | 0 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



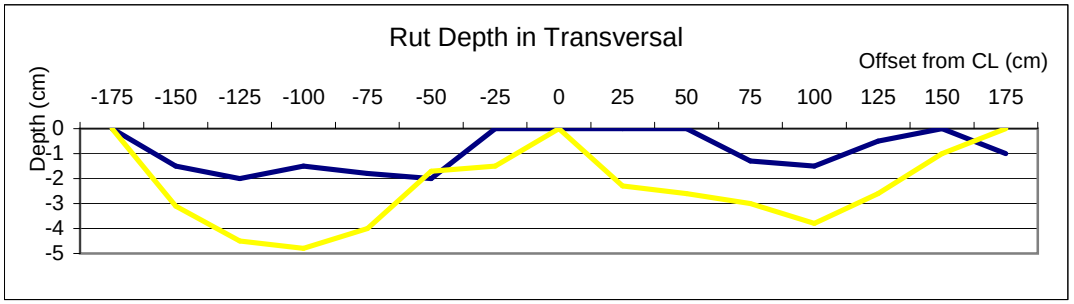
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 1+025

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

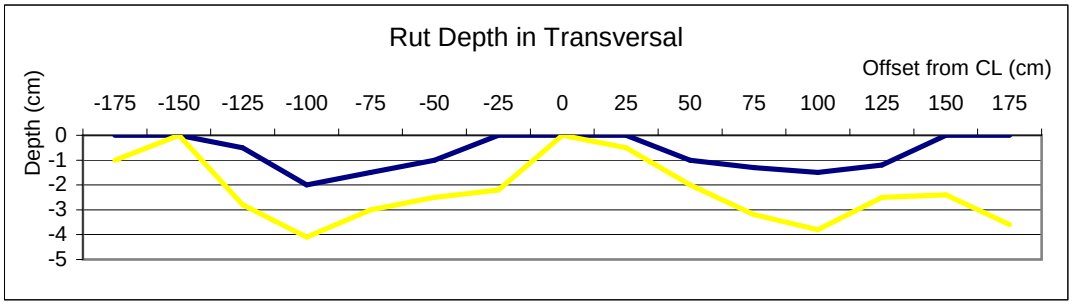
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 1.5 | -1.5 | 31 | -3.1 |
| | -125 | 2 | -2 | 45 | -4.5 |
| | -100 | 1.5 | -1.5 | 48 | -4.8 |
| | -75 | 1.8 | -1.8 | 40 | -4 |
| | -50 | 2 | -2 | 17 | -1.7 |
| | -25 | 0 | 0 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 23 | -2.3 |
| | 50 | 0 | 0 | 26 | -2.6 |
| | 75 | 1.3 | -1.3 | 30 | -3 |
| | 100 | 1.5 | -1.5 | 38 | -3.8 |
| | 125 | 0.5 | -0.5 | 26 | -2.6 |
| | 150 | 0 | 0 | 10 | -1 |
| | 175 | 1 | -1 | 0 | 0 |



KM 1+035

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 10 | -1 |
| | -150 | 0 | 0 | 0 | 0 |
| | -125 | 0.5 | -0.5 | 28 | -2.8 |
| | -100 | 2 | -2 | 41 | -4.1 |
| | -75 | 1.5 | -1.5 | 30 | -3 |
| | -50 | 1 | -1 | 25 | -2.5 |
| | -25 | 0 | 0 | 22 | -2.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 5 | -0.5 |
| | 50 | 1 | -1 | 20 | -2 |
| | 75 | 1.3 | -1.3 | 32 | -3.2 |
| | 100 | 1.5 | -1.5 | 38 | -3.8 |
| | 125 | 1.2 | -1.2 | 25 | -2.5 |
| | 150 | 0 | 0 | 24 | -2.4 |
| | 175 | 0 | 0 | 36 | -3.6 |



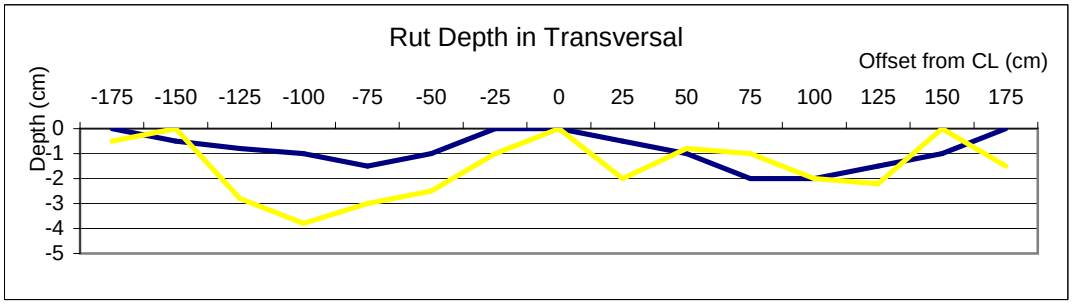
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 1+045

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

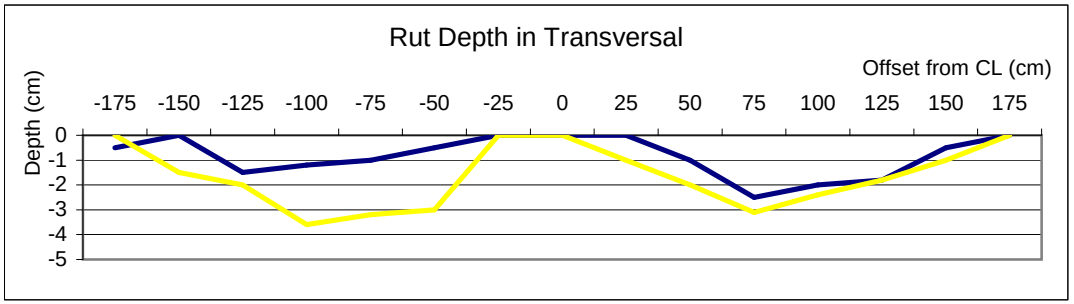
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 5 | -0.5 |
| | -150 | 0.5 | -0.5 | 0 | 0 |
| | -125 | 0.8 | -0.8 | 28 | -2.8 |
| | -100 | 1 | -1 | 38 | -3.8 |
| | -75 | 1.5 | -1.5 | 30 | -3 |
| | -50 | 1 | -1 | 25 | -2.5 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 20 | -2 |
| | 50 | 1 | -1 | 8 | -0.8 |
| | 75 | 2 | -2 | 10 | -1 |
| | 100 | 2 | -2 | 20 | -2 |
| | 125 | 1.5 | -1.5 | 22 | -2.2 |
| | 150 | 1 | -1 | 0 | 0 |
| | 175 | 0 | 0 | 15 | -1.5 |



KM 1+055

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0 | 0 | 15 | -1.5 |
| | -125 | 1.5 | -1.5 | 20 | -2 |
| | -100 | 1.2 | -1.2 | 36 | -3.6 |
| | -75 | 1 | -1 | 32 | -3.2 |
| | -50 | 0.5 | -0.5 | 30 | -3 |
| | -25 | 0 | 0 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 1 | -1 | 20 | -2 |
| | 75 | 2.5 | -2.5 | 31 | -3.1 |
| | 100 | 2 | -2 | 24 | -2.4 |
| | 125 | 1.8 | -1.8 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 0 | 0 | 0 | 0 |



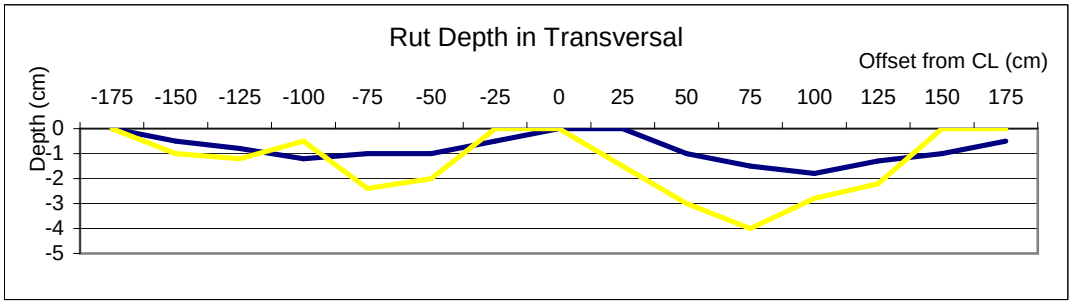
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 1+065

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

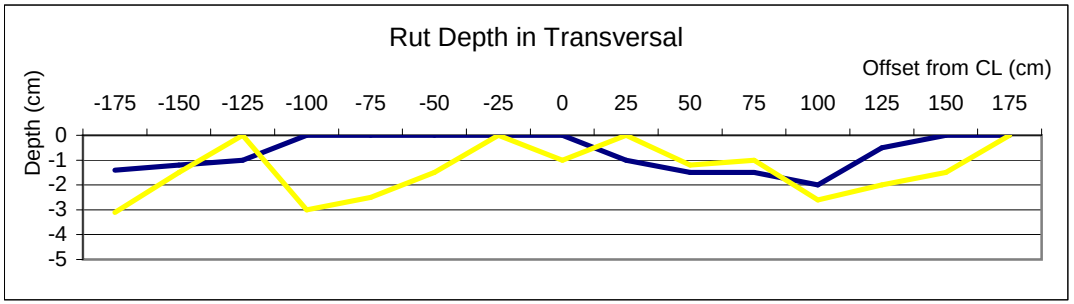
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0.5 | -0.5 | 10 | -1 |
| | -125 | 0.8 | -0.8 | 12 | -1.2 |
| | -100 | 1.2 | -1.2 | 5 | -0.5 |
| | -75 | 1 | -1 | 24 | -2.4 |
| | -50 | 1 | -1 | 20 | -2 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0 | 0 | 15 | -1.5 |
| | 50 | 1 | -1 | 30 | -3 |
| | 75 | 1.5 | -1.5 | 40 | -4 |
| | 100 | 1.8 | -1.8 | 28 | -2.8 |
| | 125 | 1.3 | -1.3 | 22 | -2.2 |
| | 150 | 1 | -1 | 0 | 0 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



KM 1+075

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 31 | -3.1 |
| | -150 | 1.2 | -1.2 | 15 | -1.5 |
| | -125 | 1 | -1 | 0 | 0 |
| | -100 | 0 | 0 | 30 | -3 |
| | -75 | 0 | 0 | 25 | -2.5 |
| | -50 | 0 | 0 | 15 | -1.5 |
| | -25 | 0 | 0 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 1 | -1 | 0 | 0 |
| | 50 | 1.5 | -1.5 | 12 | -1.2 |
| | 75 | 1.5 | -1.5 | 10 | -1 |
| | 100 | 2 | -2 | 26 | -2.6 |
| | 125 | 0.5 | -0.5 | 20 | -2 |
| | 150 | 0 | 0 | 15 | -1.5 |
| | 175 | 0 | 0 | 0 | 0 |



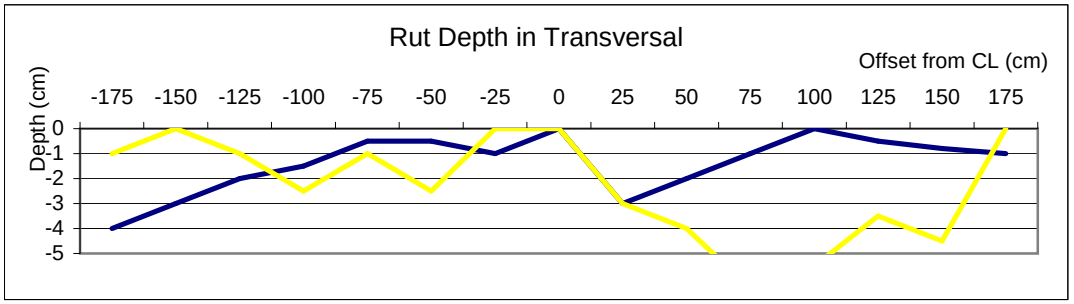
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 2.2 Pavement type: Hand Packed Stone

KM 1+085

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

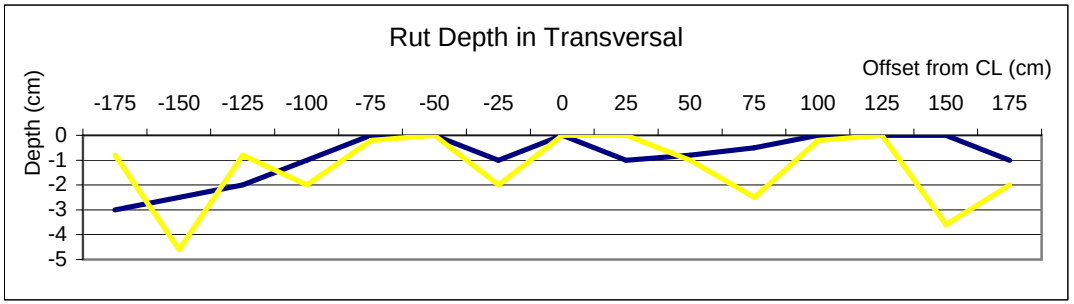
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 4 | -4 | 10 | -1 |
| | -150 | 3 | -3 | 0 | 0 |
| | -125 | 2 | -2 | 10 | -1 |
| | -100 | 1.5 | -1.5 | 25 | -2.5 |
| | -75 | 0.5 | -0.5 | 10 | -1 |
| | -50 | 0.5 | -0.5 | 25 | -2.5 |
| | -25 | 1 | -1 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 3 | -3 | 30 | -3 |
| | 50 | 2 | -2 | 40 | -4 |
| | 75 | 1 | -1 | 64 | -6.4 |
| | 100 | 0 | 0 | 55 | -5.5 |
| | 125 | 0.5 | -0.5 | 35 | -3.5 |
| | 150 | 0.8 | -0.8 | 45 | -4.5 |
| | 175 | 1 | -1 | 0 | 0 |



KM 1+095

Measured by: Khambone Date: 28/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 8 | -0.8 |
| | -150 | 2.5 | -2.5 | 46 | -4.6 |
| | -125 | 2 | -2 | 8 | -0.8 |
| | -100 | 1 | -1 | 20 | -2 |
| | -75 | 0 | 0 | 2 | -0.2 |
| | -50 | 0 | 0 | 0 | 0 |
| | -25 | 1 | -1 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 0 | 0 |
| | 50 | 0.8 | -0.8 | 10 | -1 |
| | 75 | 0.5 | -0.5 | 25 | -2.5 |
| | 100 | 0 | 0 | 2 | -0.2 |
| | 125 | 0 | 0 | 0 | 0 |
| | 150 | 0 | 0 | 36 | -3.6 |
| | 175 | 1 | -1 | 20 | -2 |



## R 3.2 Mortared Stone

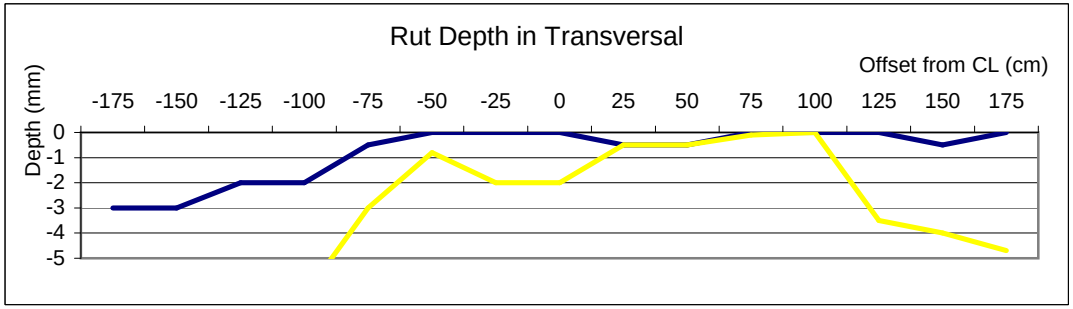
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 0+925

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) 25/08/2007 | | Rut depth (cm) 05/10/2012 | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 140 | -14 |
| | -150 | 3 | -3 | 100 | -10 |
| | -125 | 2 | -2 | 95 | -9.5 |
| | -100 | 2 | -2 | 65 | -6.5 |
| | -75 | 0.5 | -0.5 | 30 | -3 |
| | -50 | 0 | 0 | 8 | -0.8 |
| | -25 | 0 | 0 | 20 | -2 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 5 | -0.5 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0 | 0 | 1 | -0.1 |
| | 100 | 0 | 0 | 0 | 0 |
| | 125 | 0 | 0 | 35 | -3.5 |
| | 150 | 0.5 | -0.5 | 40 | -4 |
| | 175 | 0 | 0 | 47 | -4.7 |

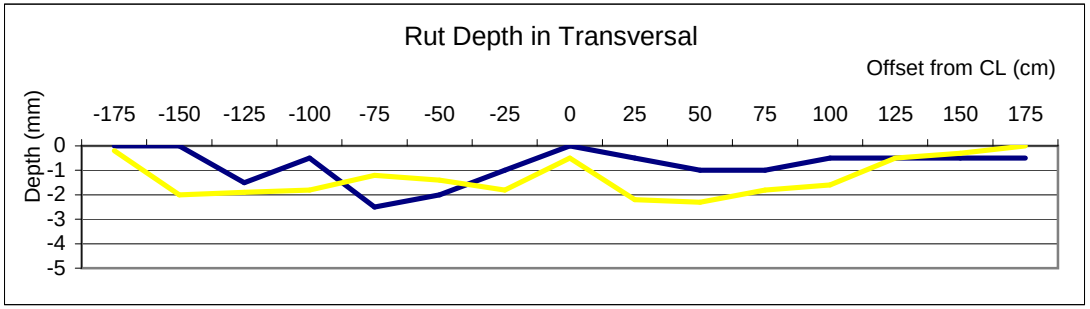


KM 0+935

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 2 | -0.2 |
| | -150 | 0 | 0 | 20 | -2 |
| | -125 | 1.5 | -1.5 | 19 | -1.9 |
| | -100 | 0.5 | -0.5 | 18 | -1.8 |
| | -75 | 2.5 | -2.5 | 12 | -1.2 |
| | -50 | 2 | -2 | 14 | -1.4 |
| | -25 | 1 | -1 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 22 | -2.2 |
| | 50 | 1 | -1 | 23 | -2.3 |
| | 75 | 1 | -1 | 18 | -1.8 |
| | 100 | 0.5 | -0.5 | 16 | -1.6 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 0.5 | -0.5 | 0 | 0 |
| | | | | | 0 |
| | | | | | 0 |
| | | | | | 0 |
| | | | | | 0 |
| | | | | | 0 |
| | | | | | 0 |
| | | | | | 0 |



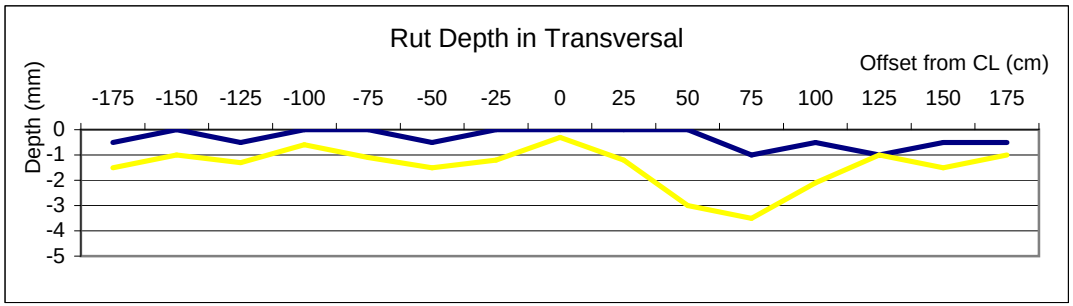
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 0+945

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 15 | -1.5 |
| | -150 | 0 | 0 | 10 | -1 |
| | -125 | 0.5 | -0.5 | 13 | -1.3 |
| | -100 | 0 | 0 | 6 | -0.6 |
| | -75 | 0 | 0 | 11 | -1.1 |
| | -50 | 0.5 | -0.5 | 15 | -1.5 |
| | -25 | 0 | 0 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0 | 0 | 12 | -1.2 |
| | 50 | 0 | 0 | 30 | -3 |
| | 75 | 1 | -1 | 35 | -3.5 |
| | 100 | 0.5 | -0.5 | 21 | -2.1 |
| | 125 | 1 | -1 | 10 | -1 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0.5 | -0.5 | 10 | -1 |

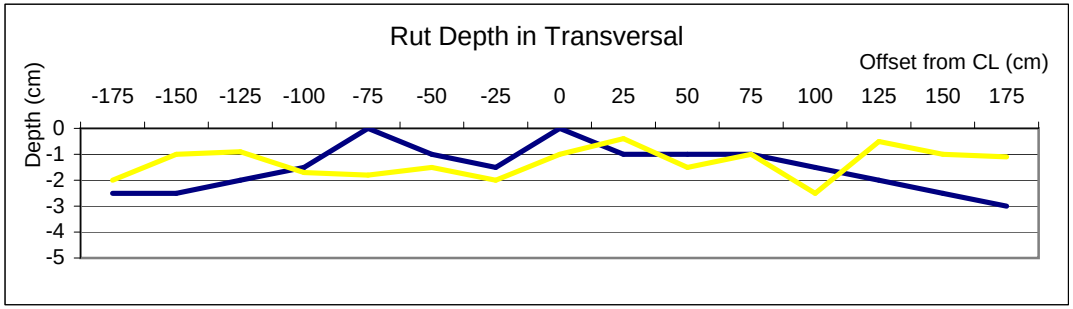


KM 0+955

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.5 | -2.5 | 20 | -2 |
| | -150 | 2.5 | -2.5 | 10 | -1 |
| | -125 | 2 | -2 | 9 | -0.9 |
| | -100 | 1.5 | -1.5 | 17 | -1.7 |
| | -75 | 0 | 0 | 18 | -1.8 |
| | -50 | 1 | -1 | 15 | -1.5 |
| | -25 | 1.5 | -1.5 | 20 | -2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 1 | -1 | 4 | -0.4 |
| | 50 | 1 | -1 | 15 | -1.5 |
| | 75 | 1 | -1 | 10 | -1 |
| | 100 | 1.5 | -1.5 | 25 | -2.5 |
| | 125 | 2 | -2 | 5 | -0.5 |
| | 150 | 2.5 | -2.5 | 10 | -1 |
| | 175 | 3 | -3 | 11 | -1.1 |



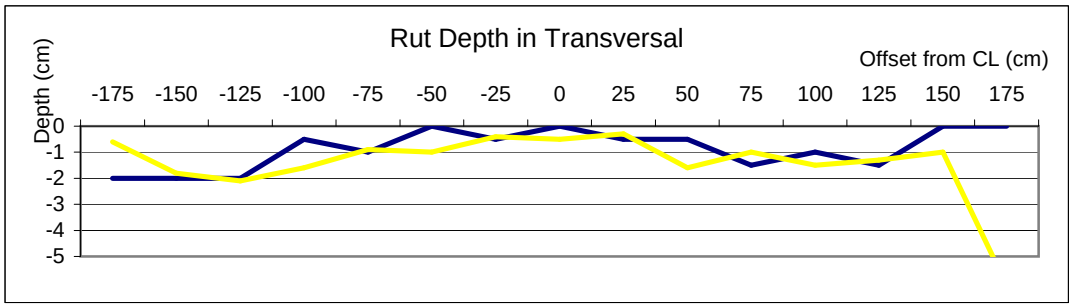
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 0+965

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 6 | -0.6 |
| | -150 | 2 | -2 | 18 | -1.8 |
| | -125 | 2 | -2 | 21 | -2.1 |
| | -100 | 0.5 | -0.5 | 16 | -1.6 |
| | -75 | 1 | -1 | 9 | -0.9 |
| | -50 | 0 | 0 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 16 | -1.6 |
| | 75 | 1.5 | -1.5 | 10 | -1 |
| | 100 | 1 | -1 | 15 | -1.5 |
| | 125 | 1.5 | -1.5 | 13 | -1.3 |
| | 150 | 0 | 0 | 10 | -1 |
| | 175 | 0 | 0 | 61 | -6.1 |

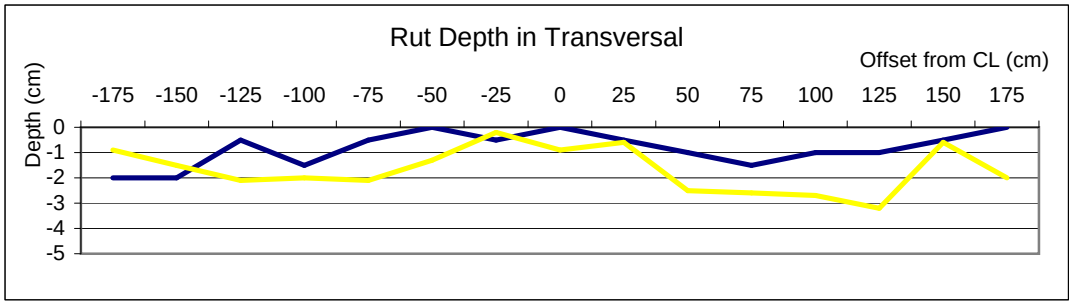


KM 0+975

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 9 | -0.9 |
| | -150 | 2 | -2 | 15 | -1.5 |
| | -125 | 0.5 | -0.5 | 21 | -2.1 |
| | -100 | 1.5 | -1.5 | 20 | -2 |
| | -75 | 0.5 | -0.5 | 21 | -2.1 |
| | -50 | 0 | 0 | 13 | -1.3 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0.5 | -0.5 | 6 | -0.6 |
| | 50 | 1 | -1 | 25 | -2.5 |
| | 75 | 1.5 | -1.5 | 26 | -2.6 |
| | 100 | 1 | -1 | 27 | -2.7 |
| | 125 | 1 | -1 | 32 | -3.2 |
| | 150 | 0.5 | -0.5 | 6 | -0.6 |
| | 175 | 0 | 0 | 20 | -2 |



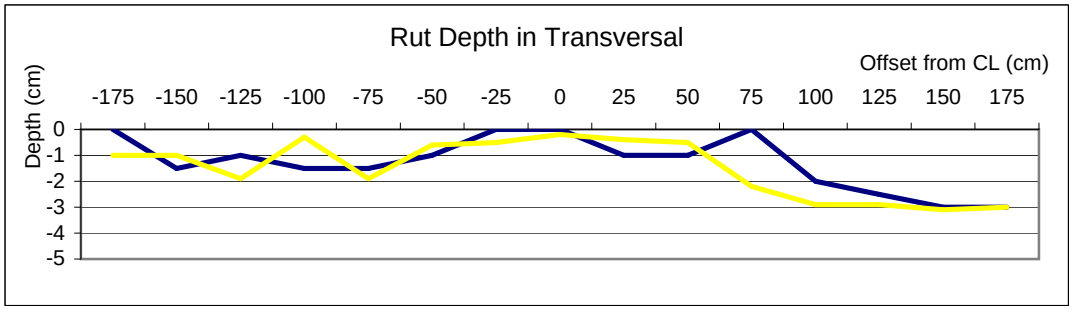
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 0+985

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 10 | -1 |
| | -150 | 1.5 | -1.5 | 10 | -1 |
| | -125 | 1 | -1 | 19 | -1.9 |
| | -100 | 1.5 | -1.5 | 3 | -0.3 |
| | -75 | 1.5 | -1.5 | 19 | -1.9 |
| | -50 | 1 | -1 | 6 | -0.6 |
| | -25 | 0 | 0 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 1 | -1 | 4 | -0.4 |
| | 50 | 1 | -1 | 5 | -0.5 |
| | 75 | 0 | 0 | 22 | -2.2 |
| | 100 | 2 | -2 | 29 | -2.9 |
| | 125 | 2.5 | -2.5 | 29 | -2.9 |
| | 150 | 3 | -3 | 31 | -3.1 |
| | 175 | 3 | -3 | 30 | -3 |

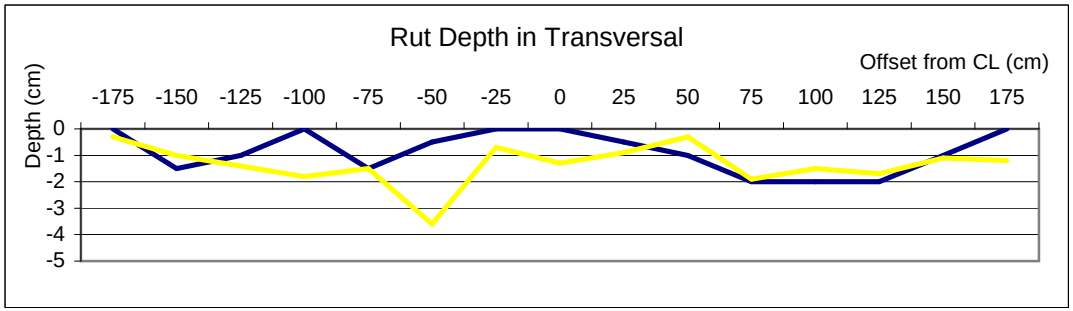


KM 0+995

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 3 | -0.3 |
| | -150 | 1.5 | -1.5 | 10 | -1 |
| | -125 | 1 | -1 | 14 | -1.4 |
| | -100 | 0 | 0 | 18 | -1.8 |
| | -75 | 1.5 | -1.5 | 15 | -1.5 |
| | -50 | 0.5 | -0.5 | 36 | -3.6 |
| | -25 | 0 | 0 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 13 | -1.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 9 | -0.9 |
| | 50 | 1 | -1 | 3 | -0.3 |
| | 75 | 2 | -2 | 19 | -1.9 |
| | 100 | 2 | -2 | 15 | -1.5 |
| | 125 | 2 | -2 | 17 | -1.7 |
| | 150 | 1 | -1 | 11 | -1.1 |
| | 175 | 0 | 0 | 12 | -1.2 |



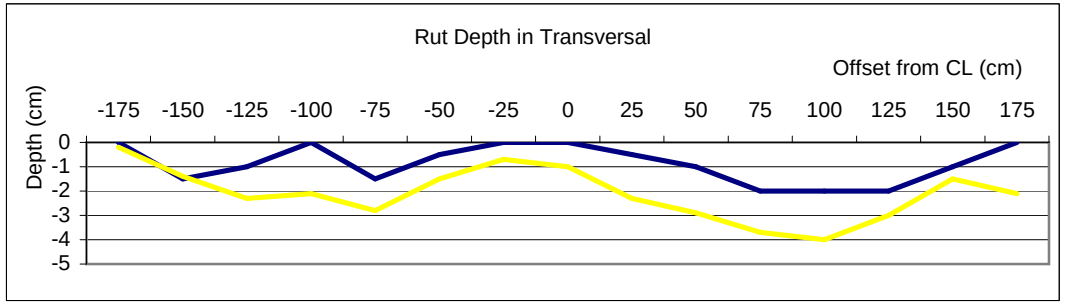
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+005

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 2 | -0.2 |
| | -150 | 1.5 | -1.5 | 14 | -1.4 |
| | -125 | 1 | -1 | 23 | -2.3 |
| | -100 | 0 | 0 | 21 | -2.1 |
| | -75 | 1.5 | -1.5 | 28 | -2.8 |
| | -50 | 0.5 | -0.5 | 15 | -1.5 |
| | -25 | 0 | 0 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 23 | -2.3 |
| | 50 | 1 | -1 | 29 | -2.9 |
| | 75 | 2 | -2 | 37 | -3.7 |
| | 100 | 2 | -2 | 40 | -4 |
| | 125 | 2 | -2 | 30 | -3 |
| | 150 | 1 | -1 | 15 | -1.5 |
| | 175 | 0 | 0 | 21 | -2.1 |

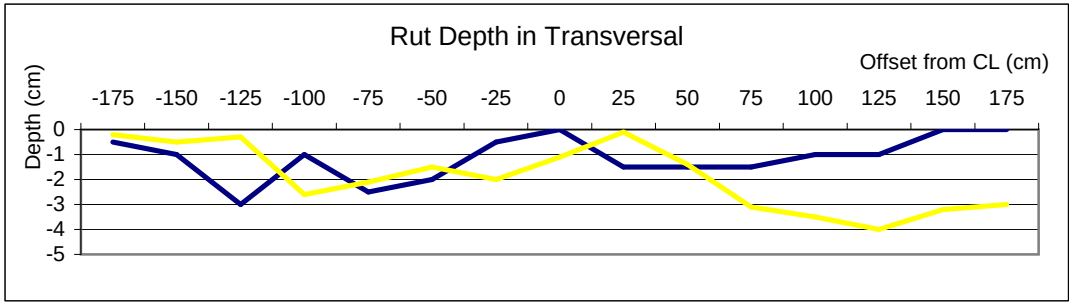


KM 1+015

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 2 | -0.2 |
| | -150 | 1 | -1 | 5 | -0.5 |
| | -125 | 3 | -3 | 3 | -0.3 |
| | -100 | 1 | -1 | 26 | -2.6 |
| | -75 | 2.5 | -2.5 | 21 | -2.1 |
| | -50 | 2 | -2 | 15 | -1.5 |
| | -25 | 0.5 | -0.5 | 20 | -2 |
| CL | 0 | 0 | 0 | 11 | -1.1 |
| Right Hand Side | 25 | 1.5 | -1.5 | 1 | -0.1 |
| | 50 | 1.5 | -1.5 | 14 | -1.4 |
| | 75 | 1.5 | -1.5 | 31 | -3.1 |
| | 100 | 1 | -1 | 35 | -3.5 |
| | 125 | 1 | -1 | 40 | -4 |
| | 150 | 0 | 0 | 32 | -3.2 |
| | 175 | 0 | 0 | 30 | -3 |



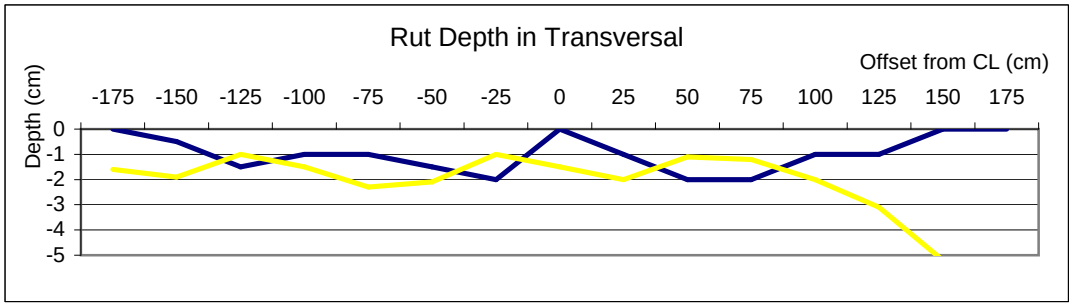
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+025

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

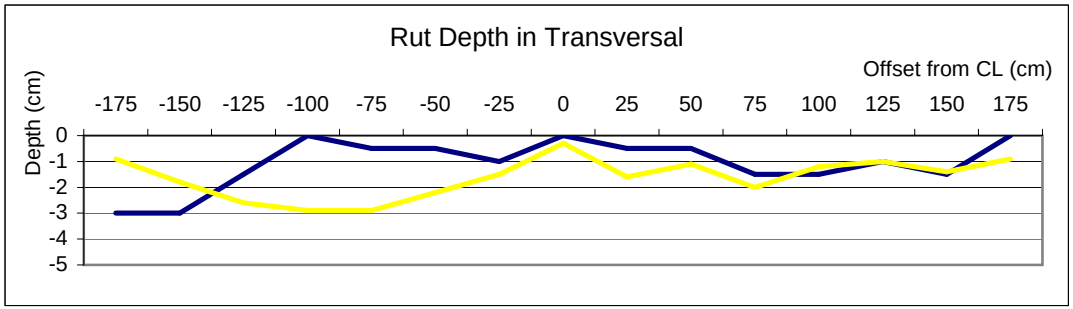
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 16 | -1.6 |
| | -150 | 0.5 | -0.5 | 19 | -1.9 |
| | -125 | 1.5 | -1.5 | 10 | -1 |
| | -100 | 1 | -1 | 15 | -1.5 |
| | -75 | 1 | -1 | 23 | -2.3 |
| | -50 | 1.5 | -1.5 | 21 | -2.1 |
| | -25 | 2 | -2 | 10 | -1 |
| CL | 0 | 0 | 0 | 15 | -1.5 |
| Right Hand Side | 25 | 1 | -1 | 20 | -2 |
| | 50 | 2 | -2 | 11 | -1.1 |
| | 75 | 2 | -2 | 12 | -1.2 |
| | 100 | 1 | -1 | 20 | -2 |
| | 125 | 1 | -1 | 31 | -3.1 |
| | 150 | 0 | 0 | 52 | -5.2 |
| | 175 | 0 | 0 | 60 | -6 |



KM 1+035

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 9 | -0.9 |
| | -150 | 3 | -3 | 18 | -1.8 |
| | -125 | 1.5 | -1.5 | 26 | -2.6 |
| | -100 | 0 | 0 | 29 | -2.9 |
| | -75 | 0.5 | -0.5 | 29 | -2.9 |
| | -50 | 0.5 | -0.5 | 22 | -2.2 |
| | -25 | 1 | -1 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 16 | -1.6 |
| | 50 | 0.5 | -0.5 | 11 | -1.1 |
| | 75 | 1.5 | -1.5 | 20 | -2 |
| | 100 | 1.5 | -1.5 | 12 | -1.2 |
| | 125 | 1 | -1 | 10 | -1 |
| | 150 | 1.5 | -1.5 | 14 | -1.4 |
| | 175 | 0 | 0 | 9 | -0.9 |



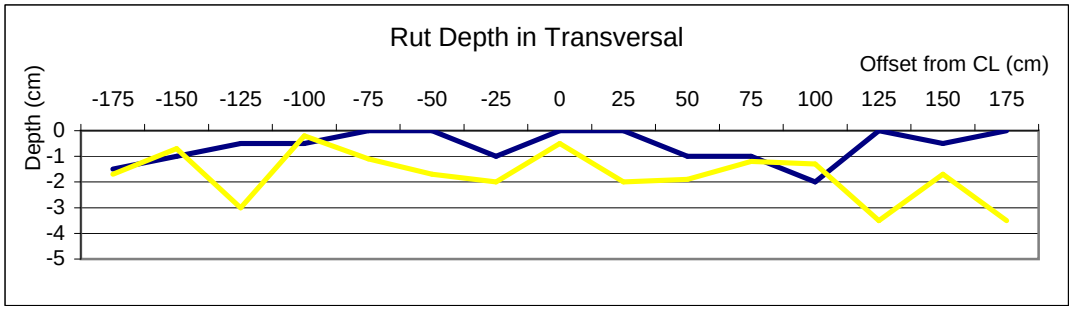
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+045

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 17 | -1.7 |
| | -150 | 1 | -1 | 7 | -0.7 |
| | -125 | 0.5 | -0.5 | 30 | -3 |
| | -100 | 0.5 | -0.5 | 2 | -0.2 |
| | -75 | 0 | 0 | 11 | -1.1 |
| | -50 | 0 | 0 | 17 | -1.7 |
| | -25 | 1 | -1 | 20 | -2 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0 | 0 | 20 | -2 |
| | 50 | 1 | -1 | 19 | -1.9 |
| | 75 | 1 | -1 | 12 | -1.2 |
| | 100 | 2 | -2 | 13 | -1.3 |
| | 125 | 0 | 0 | 35 | -3.5 |
| | 150 | 0.5 | -0.5 | 17 | -1.7 |
| | 175 | 0 | 0 | 35 | -3.5 |

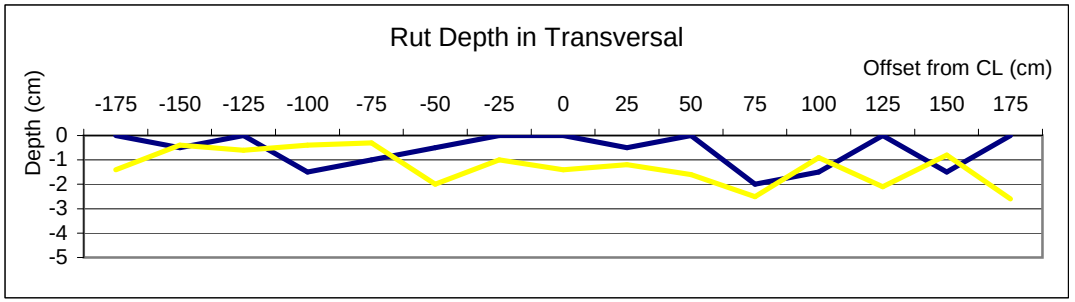


KM 1+055

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 14 | -1.4 |
| | -150 | 0.5 | -0.5 | 4 | -0.4 |
| | -125 | 0 | 0 | 6 | -0.6 |
| | -100 | 1.5 | -1.5 | 4 | -0.4 |
| | -75 | 1 | -1 | 3 | -0.3 |
| | -50 | 0.5 | -0.5 | 20 | -2 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 14 | -1.4 |
| Right Hand Side | 25 | 0.5 | -0.5 | 12 | -1.2 |
| | 50 | 0 | 0 | 16 | -1.6 |
| | 75 | 2 | -2 | 25 | -2.5 |
| | 100 | 1.5 | -1.5 | 9 | -0.9 |
| | 125 | 0 | 0 | 21 | -2.1 |
| | 150 | 1.5 | -1.5 | 8 | -0.8 |
| | 175 | 0 | 0 | 26 | -2.6 |



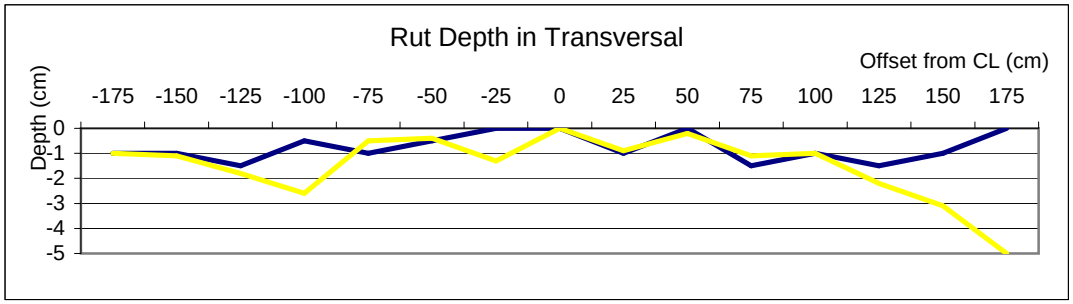
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+065

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 10 | -1 |
| | -150 | 1 | -1 | 11 | -1.1 |
| | -125 | 1.5 | -1.5 | 18 | -1.8 |
| | -100 | 0.5 | -0.5 | 26 | -2.6 |
| | -75 | 1 | -1 | 5 | -0.5 |
| | -50 | 0.5 | -0.5 | 4 | -0.4 |
| | -25 | 0 | 0 | 13 | -1.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 9 | -0.9 |
| | 50 | 0 | 0 | 2 | -0.2 |
| | 75 | 1.5 | -1.5 | 11 | -1.1 |
| | 100 | 1 | -1 | 10 | -1 |
| | 125 | 1.5 | -1.5 | 22 | -2.2 |
| | 150 | 1 | -1 | 31 | -3.1 |
| | 175 | 0 | 0 | 50 | -5 |

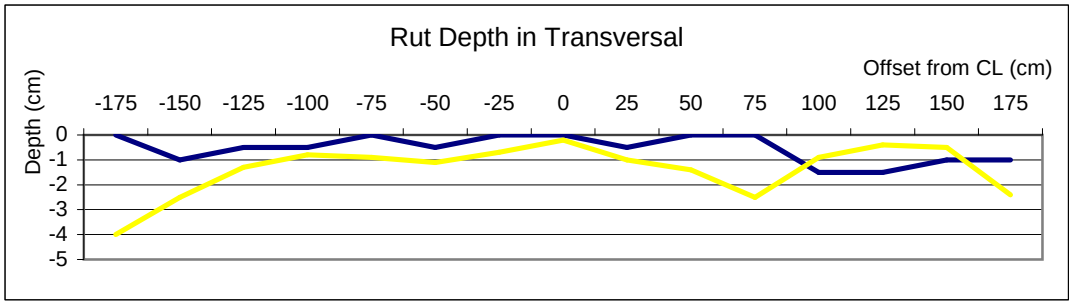


KM 1+075

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 40 | -4 |
| | -150 | 1 | -1 | 25 | -2.5 |
| | -125 | 0.5 | -0.5 | 13 | -1.3 |
| | -100 | 0.5 | -0.5 | 8 | -0.8 |
| | -75 | 0 | 0 | 9 | -0.9 |
| | -50 | 0.5 | -0.5 | 11 | -1.1 |
| | -25 | 0 | 0 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0 | 0 | 14 | -1.4 |
| | 75 | 0 | 0 | 25 | -2.5 |
| | 100 | 1.5 | -1.5 | 9 | -0.9 |
| | 125 | 1.5 | -1.5 | 4 | -0.4 |
| | 150 | 1 | -1 | 5 | -0.5 |
| | 175 | 1 | -1 | 24 | -2.4 |



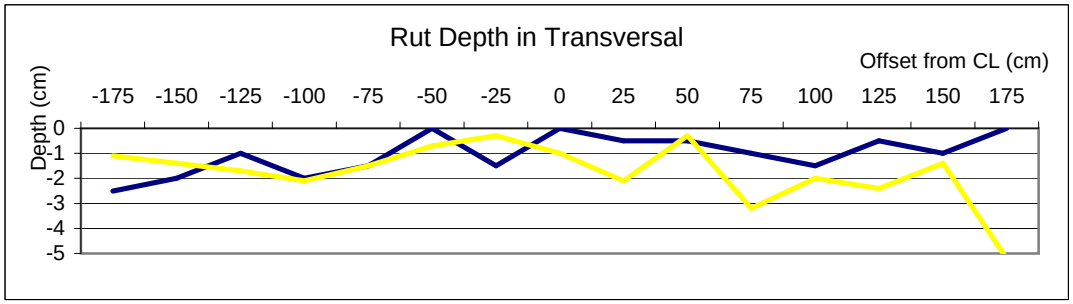
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+085

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.5 | -2.5 | 11 | -1.1 |
| | -150 | 2 | -2 | 14 | -1.4 |
| | -125 | 1 | -1 | 17 | -1.7 |
| | -100 | 2 | -2 | 21 | -2.1 |
| | -75 | 1.5 | -1.5 | 15 | -1.5 |
| | -50 | 0 | 0 | 7 | -0.7 |
| | -25 | 1.5 | -1.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 21 | -2.1 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 1 | -1 | 32 | -3.2 |
| | 100 | 1.5 | -1.5 | 20 | -2 |
| | 125 | 0.5 | -0.5 | 24 | -2.4 |
| | 150 | 1 | -1 | 14 | -1.4 |
| | 175 | 0 | 0 | 52 | -5.2 |

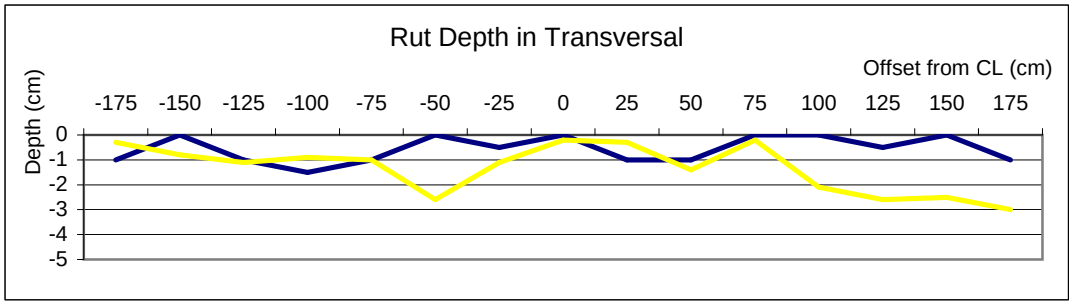


KM 1+095

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 3 | -0.3 |
| | -150 | 0 | 0 | 8 | -0.8 |
| | -125 | 1 | -1 | 11 | -1.1 |
| | -100 | 1.5 | -1.5 | 9 | -0.9 |
| | -75 | 1 | -1 | 10 | -1 |
| | -50 | 0 | 0 | 26 | -2.6 |
| | -25 | 0.5 | -0.5 | 11 | -1.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 1 | -1 | 3 | -0.3 |
| | 50 | 1 | -1 | 14 | -1.4 |
| | 75 | 0 | 0 | 2 | -0.2 |
| | 100 | 0 | 0 | 21 | -2.1 |
| | 125 | 0.5 | -0.5 | 26 | -2.6 |
| | 150 | 0 | 0 | 25 | -2.5 |
| | 175 | 1 | -1 | 30 | -3 |



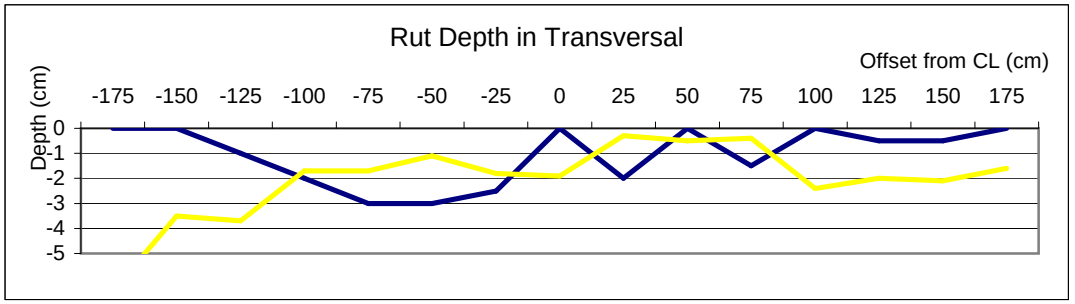
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+105

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 65 | -6.5 |
| | -150 | 0 | 0 | 35 | -3.5 |
| | -125 | 1 | -1 | 37 | -3.7 |
| | -100 | 2 | -2 | 17 | -1.7 |
| | -75 | 3 | -3 | 17 | -1.7 |
| | -50 | 3 | -3 | 11 | -1.1 |
| | -25 | 2.5 | -2.5 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 19 | -1.9 |
| Right Hand Side | 25 | 2 | -2 | 3 | -0.3 |
| | 50 | 0 | 0 | 5 | -0.5 |
| | 75 | 1.5 | -1.5 | 4 | -0.4 |
| | 100 | 0 | 0 | 24 | -2.4 |
| | 125 | 0.5 | -0.5 | 20 | -2 |
| | 150 | 0.5 | -0.5 | 21 | -2.1 |
| | 175 | 0 | 0 | 16 | -1.6 |

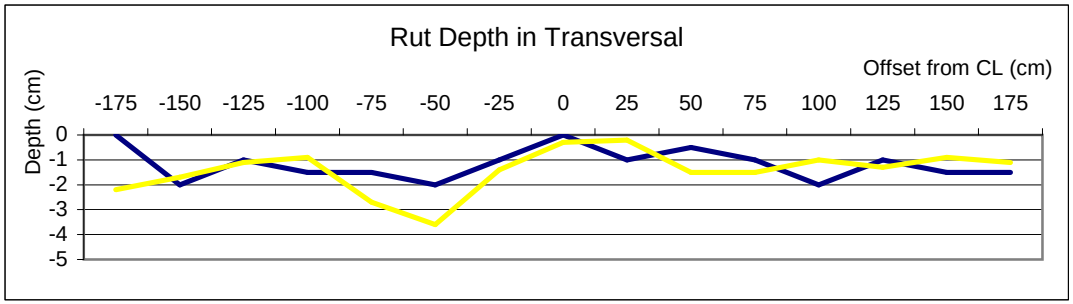


KM 1+115

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 22 | -2.2 |
| | -150 | 2 | -2 | 17 | -1.7 |
| | -125 | 1 | -1 | 11 | -1.1 |
| | -100 | 1.5 | -1.5 | 9 | -0.9 |
| | -75 | 1.5 | -1.5 | 27 | -2.7 |
| | -50 | 2 | -2 | 36 | -3.6 |
| | -25 | 1 | -1 | 14 | -1.4 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1 | -1 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 15 | -1.5 |
| | 75 | 1 | -1 | 15 | -1.5 |
| | 100 | 2 | -2 | 10 | -1 |
| | 125 | 1 | -1 | 13 | -1.3 |
| | 150 | 1.5 | -1.5 | 9 | -0.9 |
| | 175 | 1.5 | -1.5 | 11 | -1.1 |



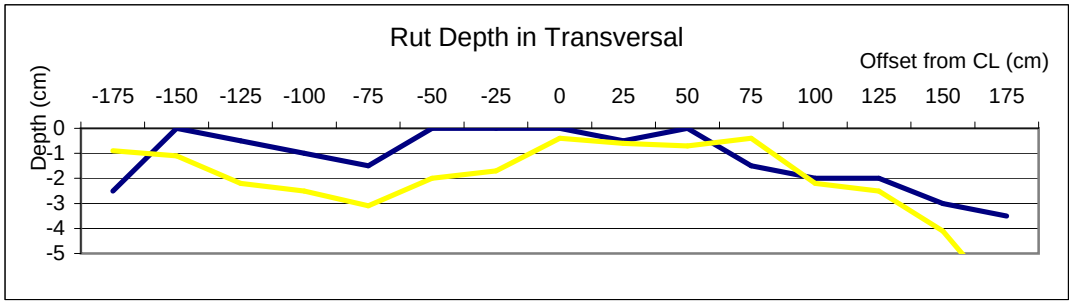
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+125

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.5 | -2.5 | 9 | -0.9 |
| | -150 | 0 | 0 | 11 | -1.1 |
| | -125 | 0.5 | -0.5 | 22 | -2.2 |
| | -100 | 1 | -1 | 25 | -2.5 |
| | -75 | 1.5 | -1.5 | 31 | -3.1 |
| | -50 | 0 | 0 | 20 | -2 |
| | -25 | 0 | 0 | 17 | -1.7 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.5 | -0.5 | 6 | -0.6 |
| | 50 | 0 | 0 | 7 | -0.7 |
| | 75 | 1.5 | -1.5 | 4 | -0.4 |
| | 100 | 2 | -2 | 22 | -2.2 |
| | 125 | 2 | -2 | 25 | -2.5 |
| | 150 | 3 | -3 | 41 | -4.1 |
| | 175 | 3.5 | -3.5 | 71 | -7.1 |

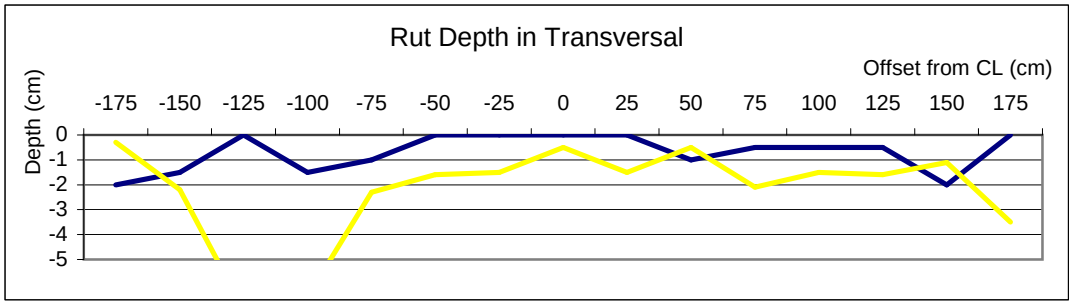


KM 1+135

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 3 | -0.3 |
| | -150 | 1.5 | -1.5 | 22 | -2.2 |
| | -125 | 0 | 0 | 70 | -7 |
| | -100 | 1.5 | -1.5 | 65 | -6.5 |
| | -75 | 1 | -1 | 23 | -2.3 |
| | -50 | 0 | 0 | 16 | -1.6 |
| | -25 | 0 | 0 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0 | 0 | 15 | -1.5 |
| | 50 | 1 | -1 | 5 | -0.5 |
| | 75 | 0.5 | -0.5 | 21 | -2.1 |
| | 100 | 0.5 | -0.5 | 15 | -1.5 |
| | 125 | 0.5 | -0.5 | 16 | -1.6 |
| | 150 | 2 | -2 | 11 | -1.1 |
| | 175 | 0 | 0 | 35 | -3.5 |



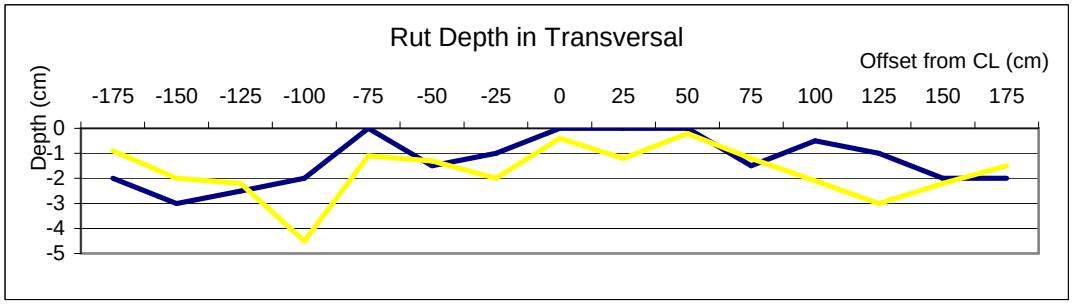
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+145

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 9 | -0.9 |
| | -150 | 3 | -3 | 20 | -2 |
| | -125 | 2.5 | -2.5 | 22 | -2.2 |
| | -100 | 2 | -2 | 45 | -4.5 |
| | -75 | 0 | 0 | 11 | -1.1 |
| | -50 | 1.5 | -1.5 | 13 | -1.3 |
| | -25 | 1 | -1 | 20 | -2 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0 | 0 | 12 | -1.2 |
| | 50 | 0 | 0 | 2 | -0.2 |
| | 75 | 1.5 | -1.5 | 12 | -1.2 |
| | 100 | 0.5 | -0.5 | 21 | -2.1 |
| | 125 | 1 | -1 | 30 | -3 |
| | 150 | 2 | -2 | 22 | -2.2 |
| | 175 | 2 | -2 | 15 | -1.5 |

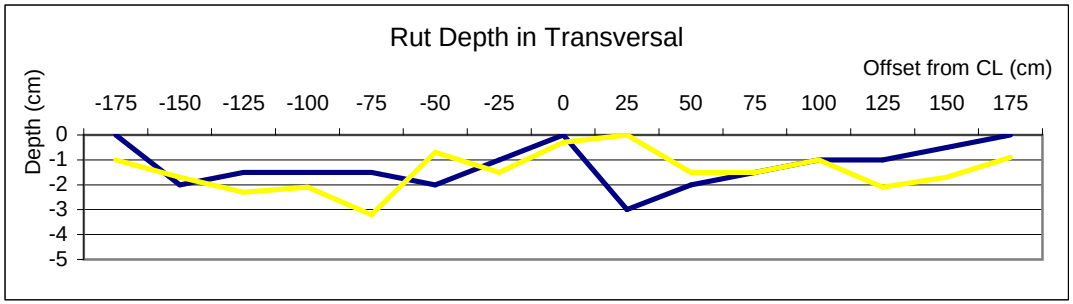


KM 1+155

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 10 | -1 |
| | -150 | 2 | -2 | 17 | -1.7 |
| | -125 | 1.5 | -1.5 | 23 | -2.3 |
| | -100 | 1.5 | -1.5 | 21 | -2.1 |
| | -75 | 1.5 | -1.5 | 32 | -3.2 |
| | -50 | 2 | -2 | 7 | -0.7 |
| | -25 | 1 | -1 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 3 | -3 | 0 | 0 |
| | 50 | 2 | -2 | 15 | -1.5 |
| | 75 | 1.5 | -1.5 | 15 | -1.5 |
| | 100 | 1 | -1 | 10 | -1 |
| | 125 | 1 | -1 | 21 | -2.1 |
| | 150 | 0.5 | -0.5 | 17 | -1.7 |
| | 175 | 0 | 0 | 9 | -0.9 |



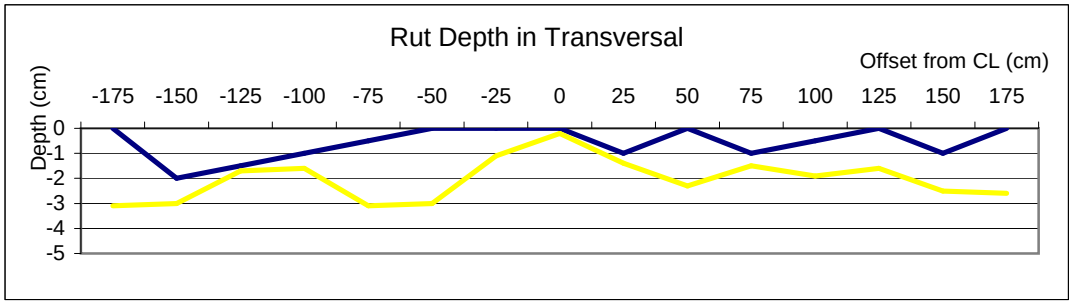
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+165

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 31 | -3.1 |
| | -150 | 2 | -2 | 30 | -3 |
| | -125 | 1.5 | -1.5 | 17 | -1.7 |
| | -100 | 1 | -1 | 16 | -1.6 |
| | -75 | 0.5 | -0.5 | 31 | -3.1 |
| | -50 | 0 | 0 | 30 | -3 |
| | -25 | 0 | 0 | 11 | -1.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 1 | -1 | 14 | -1.4 |
| | 50 | 0 | 0 | 23 | -2.3 |
| | 75 | 1 | -1 | 15 | -1.5 |
| | 100 | 0.5 | -0.5 | 19 | -1.9 |
| | 125 | 0 | 0 | 16 | -1.6 |
| | 150 | 1 | -1 | 25 | -2.5 |
| | 175 | 0 | 0 | 26 | -2.6 |

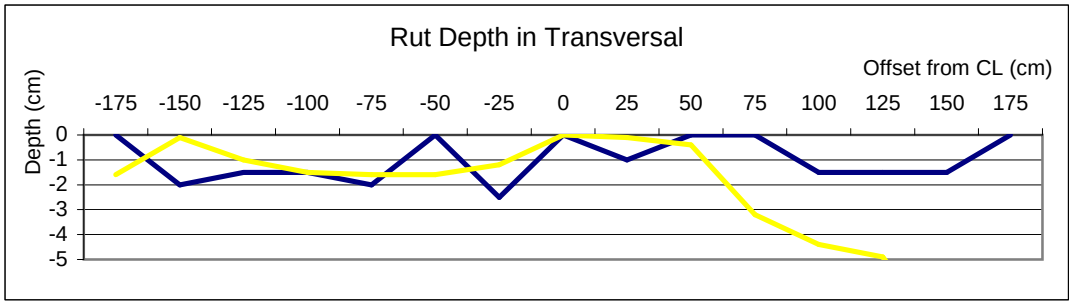


KM 1+175

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 16 | -1.6 |
| | -150 | 2 | -2 | 1 | -0.1 |
| | -125 | 1.5 | -1.5 | 10 | -1 |
| | -100 | 1.5 | -1.5 | 15 | -1.5 |
| | -75 | 2 | -2 | 16 | -1.6 |
| | -50 | 0 | 0 | 16 | -1.6 |
| | -25 | 2.5 | -2.5 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 1 | -0.1 |
| | 50 | 0 | 0 | 4 | -0.4 |
| | 75 | 0 | 0 | 32 | -3.2 |
| | 100 | 1.5 | -1.5 | 44 | -4.4 |
| | 125 | 1.5 | -1.5 | 49 | -4.9 |
| | 150 | 1.5 | -1.5 | 83 | -8.3 |
| | 175 | 0 | 0 | 110 | -11 |



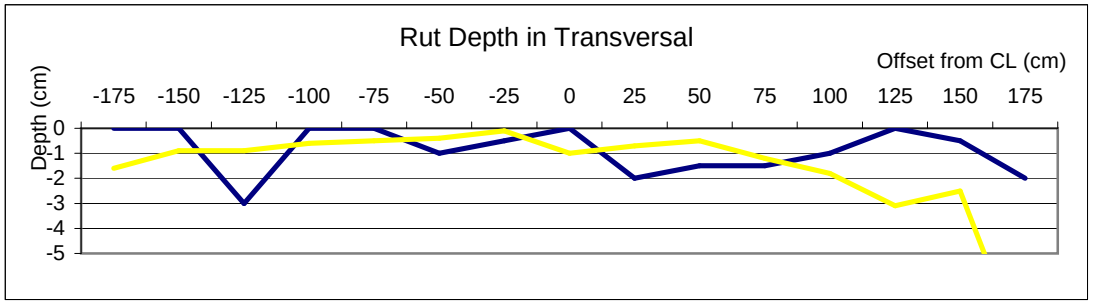
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+185

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 16 | -1.6 |
| | -150 | 0 | 0 | 9 | -0.9 |
| | -125 | 3 | -3 | 9 | -0.9 |
| | -100 | 0 | 0 | 6 | -0.6 |
| | -75 | 0 | 0 | 5 | -0.5 |
| | -50 | 1 | -1 | 4 | -0.4 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 2 | -2 | 7 | -0.7 |
| | 50 | 1.5 | -1.5 | 5 | -0.5 |
| | 75 | 1.5 | -1.5 | 12 | -1.2 |
| | 100 | 1 | -1 | 18 | -1.8 |
| | 125 | 0 | 0 | 31 | -3.1 |
| | 150 | 0.5 | -0.5 | 25 | -2.5 |
| | 175 | 2 | -2 | 92 | -9.2 |

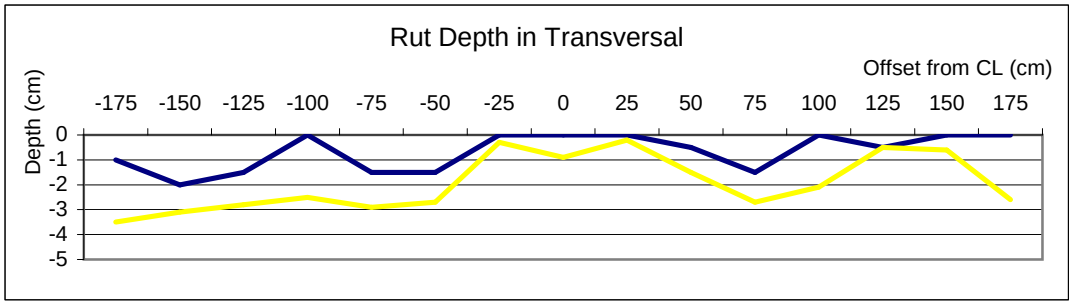


KM 1+195

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 35 | -3.5 |
| | -150 | 2 | -2 | 31 | -3.1 |
| | -125 | 1.5 | -1.5 | 28 | -2.8 |
| | -100 | 0 | 0 | 25 | -2.5 |
| | -75 | 1.5 | -1.5 | 29 | -2.9 |
| | -50 | 1.5 | -1.5 | 27 | -2.7 |
| | -25 | 0 | 0 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0 | 0 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 15 | -1.5 |
| | 75 | 1.5 | -1.5 | 27 | -2.7 |
| | 100 | 0 | 0 | 21 | -2.1 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 0 | 0 | 6 | -0.6 |
| | 175 | 0 | 0 | 26 | -2.6 |



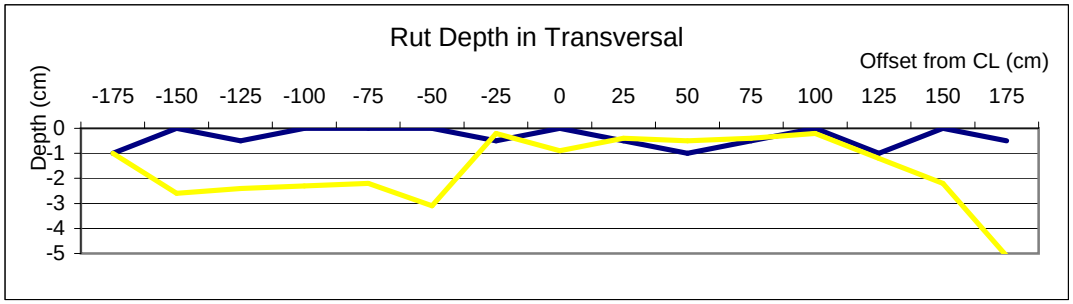
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+205

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 10 | -1 |
| | -150 | 0 | 0 | 26 | -2.6 |
| | -125 | 0.5 | -0.5 | 24 | -2.4 |
| | -100 | 0 | 0 | 23 | -2.3 |
| | -75 | 0 | 0 | 22 | -2.2 |
| | -50 | 0 | 0 | 31 | -3.1 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0.5 | -0.5 | 4 | -0.4 |
| | 50 | 1 | -1 | 5 | -0.5 |
| | 75 | 0.5 | -0.5 | 4 | -0.4 |
| | 100 | 0 | 0 | 2 | -0.2 |
| | 125 | 1 | -1 | 12 | -1.2 |
| | 150 | 0 | 0 | 22 | -2.2 |
| | 175 | 0.5 | -0.5 | 51 | -5.1 |

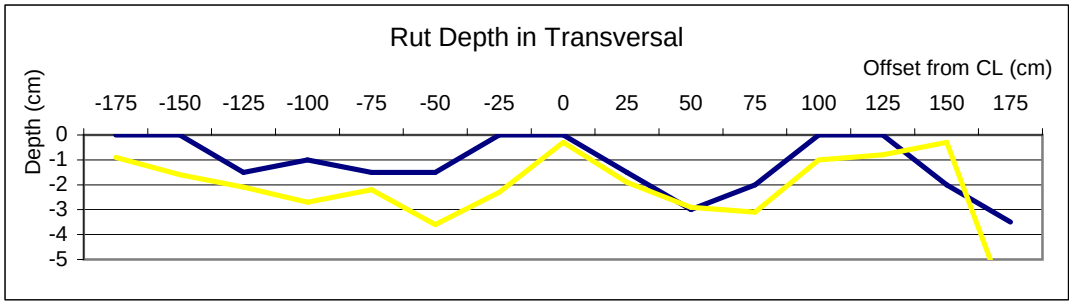


KM 1+215

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 9 | -0.9 |
| | -150 | 0 | 0 | 16 | -1.6 |
| | -125 | 1.5 | -1.5 | 21 | -2.1 |
| | -100 | 1 | -1 | 27 | -2.7 |
| | -75 | 1.5 | -1.5 | 22 | -2.2 |
| | -50 | 1.5 | -1.5 | 36 | -3.6 |
| | -25 | 0 | 0 | 23 | -2.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1.5 | -1.5 | 19 | -1.9 |
| | 50 | 3 | -3 | 29 | -2.9 |
| | 75 | 2 | -2 | 31 | -3.1 |
| | 100 | 0 | 0 | 10 | -1 |
| | 125 | 0 | 0 | 8 | -0.8 |
| | 150 | 2 | -2 | 3 | -0.3 |
| | 175 | 3.5 | -3.5 | 72 | -7.2 |



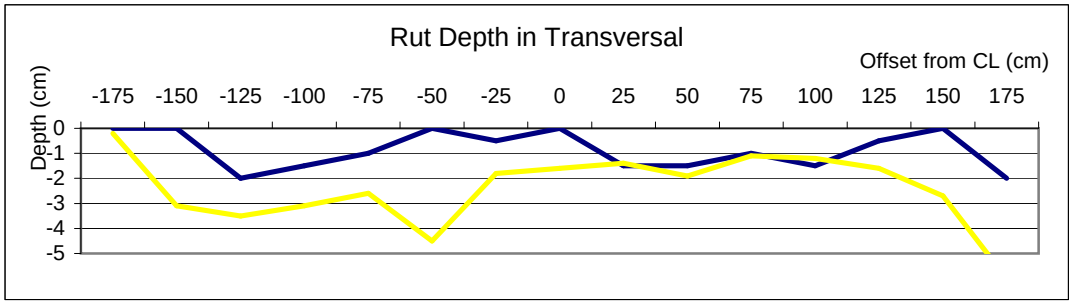
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+225

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

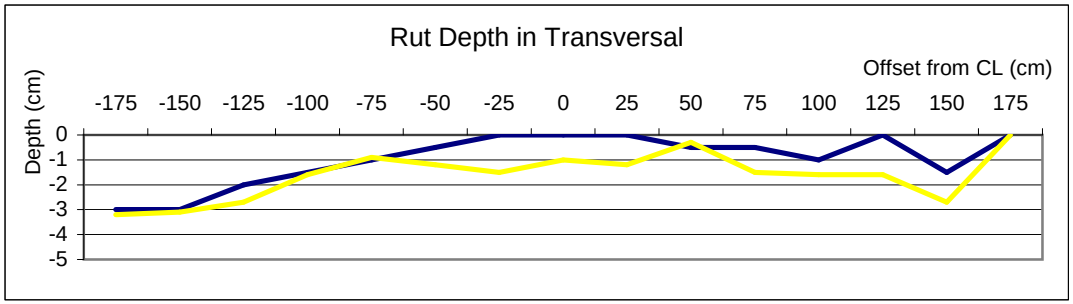
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 2 | -0.2 |
| | -150 | 0 | 0 | 31 | -3.1 |
| | -125 | 2 | -2 | 35 | -3.5 |
| | -100 | 1.5 | -1.5 | 31 | -3.1 |
| | -75 | 1 | -1 | 26 | -2.6 |
| | -50 | 0 | 0 | 45 | -4.5 |
| | -25 | 0.5 | -0.5 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 16 | -1.6 |
| Right Hand Side | 25 | 1.5 | -1.5 | 14 | -1.4 |
| | 50 | 1.5 | -1.5 | 19 | -1.9 |
| | 75 | 1 | -1 | 11 | -1.1 |
| | 100 | 1.5 | -1.5 | 12 | -1.2 |
| | 125 | 0.5 | -0.5 | 16 | -1.6 |
| | 150 | 0 | 0 | 27 | -2.7 |
| | 175 | 2 | -2 | 60 | -6 |



KM 1+235

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 32 | -3.2 |
| | -150 | 3 | -3 | 31 | -3.1 |
| | -125 | 2 | -2 | 27 | -2.7 |
| | -100 | 1.5 | -1.5 | 16 | -1.6 |
| | -75 | 1 | -1 | 9 | -0.9 |
| | -50 | 0.5 | -0.5 | 12 | -1.2 |
| | -25 | 0 | 0 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0 | 0 | 12 | -1.2 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 15 | -1.5 |
| | 100 | 1 | -1 | 16 | -1.6 |
| | 125 | 0 | 0 | 16 | -1.6 |
| | 150 | 1.5 | -1.5 | 27 | -2.7 |
| | 175 | 0 | 0 | | 0 |



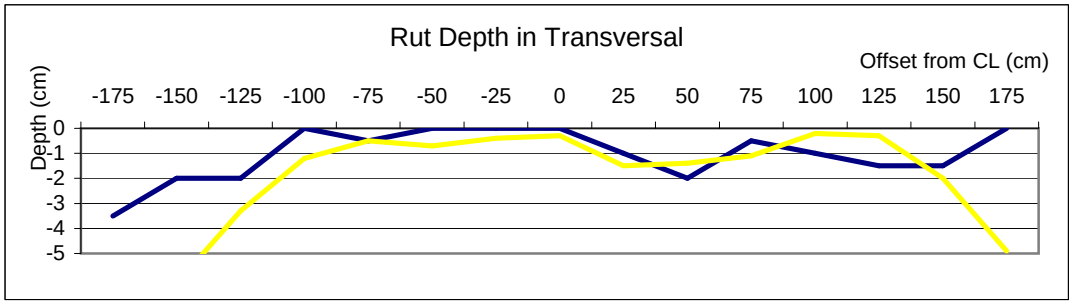
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+245

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3.5 | -3.5 | 65 | -6.5 |
| | -150 | 2 | -2 | 62 | -6.2 |
| | -125 | 2 | -2 | 33 | -3.3 |
| | -100 | 0 | 0 | 12 | -1.2 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 0 | 0 | 7 | -0.7 |
| | -25 | 0 | 0 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1 | -1 | 15 | -1.5 |
| | 50 | 2 | -2 | 14 | -1.4 |
| | 75 | 0.5 | -0.5 | 11 | -1.1 |
| | 100 | 1 | -1 | 2 | -0.2 |
| | 125 | 1.5 | -1.5 | 3 | -0.3 |
| | 150 | 1.5 | -1.5 | 20 | -2 |
| | 175 | 0 | 0 | 49 | -4.9 |

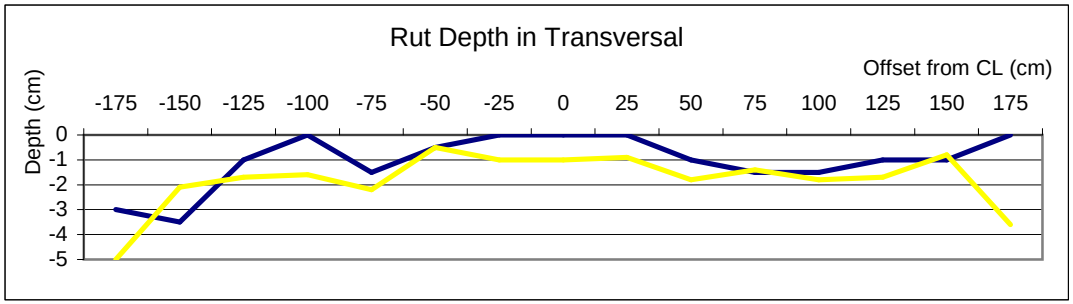


KM 1+255

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 50 | -5 |
| | -150 | 3.5 | -3.5 | 21 | -2.1 |
| | -125 | 1 | -1 | 17 | -1.7 |
| | -100 | 0 | 0 | 16 | -1.6 |
| | -75 | 1.5 | -1.5 | 22 | -2.2 |
| | -50 | 0.5 | -0.5 | 5 | -0.5 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0 | 0 | 9 | -0.9 |
| | 50 | 1 | -1 | 18 | -1.8 |
| | 75 | 1.5 | -1.5 | 14 | -1.4 |
| | 100 | 1.5 | -1.5 | 18 | -1.8 |
| | 125 | 1 | -1 | 17 | -1.7 |
| | 150 | 1 | -1 | 8 | -0.8 |
| | 175 | 0 | 0 | 36 | -3.6 |



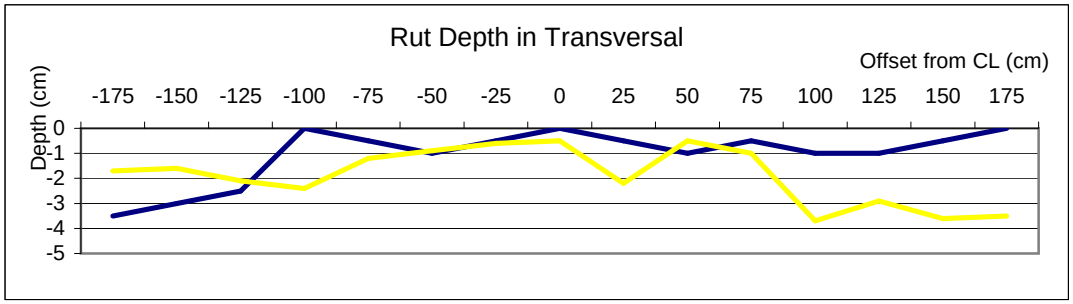
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+265

Measured by: Khambone Date: 25/08/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3.5 | -3.5 | 17 | -1.7 |
| | -150 | 3 | -3 | 16 | -1.6 |
| | -125 | 2.5 | -2.5 | 21 | -2.1 |
| | -100 | 0 | 0 | 24 | -2.4 |
| | -75 | 0.5 | -0.5 | 12 | -1.2 |
| | -50 | 1 | -1 | 9 | -0.9 |
| | -25 | 0.5 | -0.5 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 22 | -2.2 |
| | 50 | 1 | -1 | 5 | -0.5 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 1 | -1 | 37 | -3.7 |
| | 125 | 1 | -1 | 29 | -2.9 |
| | 150 | 0.5 | -0.5 | 36 | -3.6 |
| | 175 | 0 | 0 | 35 | -3.5 |

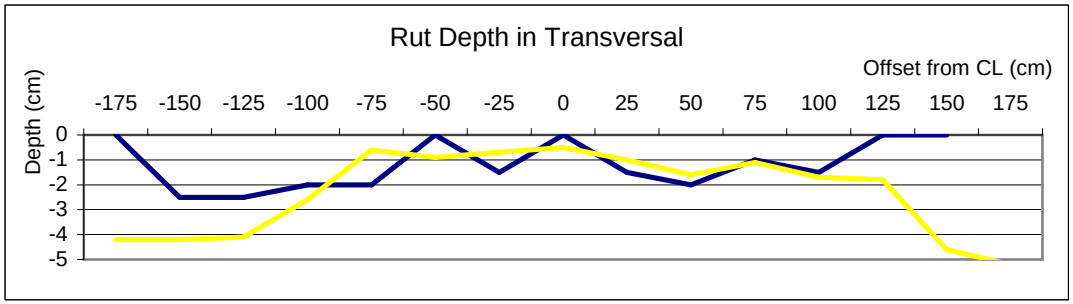


KM 1+275

Measured by: Khambone
Checked by: Singthong

Date: 25/08/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 42 | -4.2 |
| | -150 | 2.5 | -2.5 | 42 | -4.2 |
| | -125 | 2.5 | -2.5 | 41 | -4.1 |
| | -100 | 2 | -2 | 26 | -2.6 |
| | -75 | 2 | -2 | 6 | -0.6 |
| | -50 | 0 | 0 | 9 | -0.9 |
| | -25 | 1.5 | -1.5 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 1.5 | -1.5 | 10 | -1 |
| | 50 | 2 | -2 | 16 | -1.6 |
| | 75 | 1 | -1 | 11 | -1.1 |
| | 100 | 1.5 | -1.5 | 17 | -1.7 |
| | 125 | 0 | 0 | 18 | -1.8 |
| | 150 | 0 | 0 | 46 | -4.6 |
| | 175 | 0 | 0 | 52 | -5.2 |



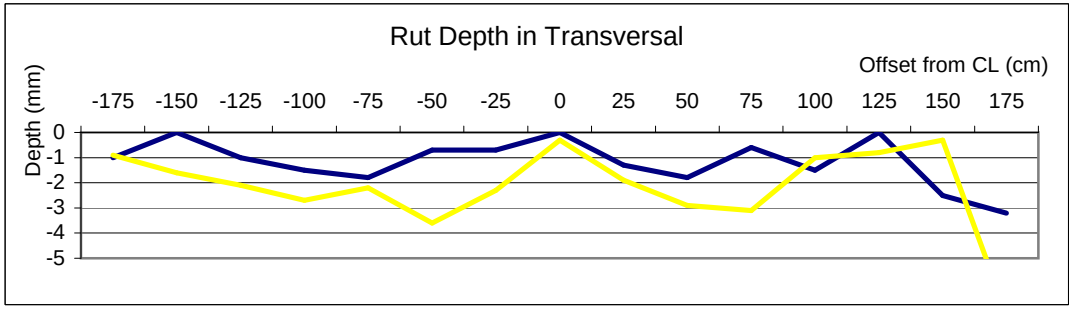
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+215

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

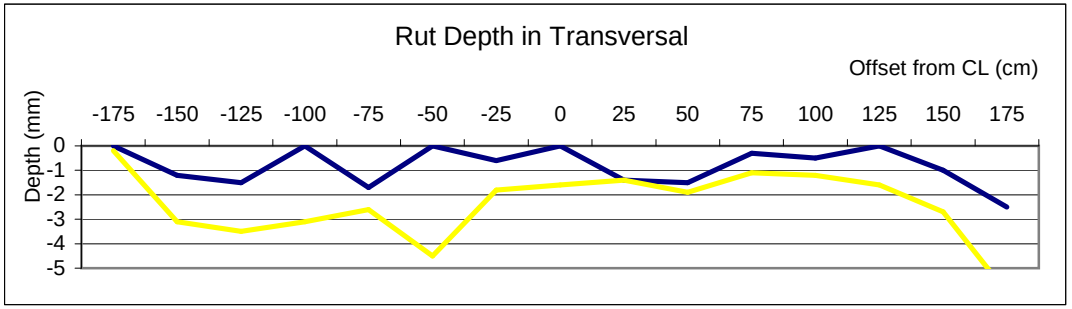
| Side | Offset from CL (cm) | 30/08/2007 Rut depth (cm) | | 05/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 9 | -0.9 |
| | -150 | 0 | 0 | 16 | -1.6 |
| | -125 | 1 | -1 | 21 | -2.1 |
| | -100 | 1.5 | -1.5 | 27 | -2.7 |
| | -75 | 1.8 | -1.8 | 22 | -2.2 |
| | -50 | 0.7 | -0.7 | 36 | -3.6 |
| | -25 | 0.7 | -0.7 | 23 | -2.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1.3 | -1.3 | 19 | -1.9 |
| | 50 | 1.8 | -1.8 | 29 | -2.9 |
| | 75 | 0.6 | -0.6 | 31 | -3.1 |
| | 100 | 1.5 | -1.5 | 10 | -1 |
| | 125 | 0 | 0 | 8 | -0.8 |
| | 150 | 2.5 | -2.5 | 3 | -0.3 |
| | 175 | 3.2 | -3.2 | 72 | -7.2 |



KM 1+225

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 2 | -0.2 |
| | -150 | 1.2 | -1.2 | 31 | -3.1 |
| | -125 | 1.5 | -1.5 | 35 | -3.5 |
| | -100 | 0 | 0 | 31 | -3.1 |
| | -75 | 1.7 | -1.7 | 26 | -2.6 |
| | -50 | 0 | 0 | 45 | -4.5 |
| | -25 | 0.6 | -0.6 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 16 | -1.6 |
| Right Hand Side | 25 | 1.4 | -1.4 | 14 | -1.4 |
| | 50 | 1.5 | -1.5 | 19 | -1.9 |
| | 75 | 0.3 | -0.3 | 11 | -1.1 |
| | 100 | 0.5 | -0.5 | 12 | -1.2 |
| | 125 | 0 | 0 | 16 | -1.6 |
| | 150 | 1 | -1 | 27 | -2.7 |
| | 175 | 2.5 | -2.5 | 60 | -6 |



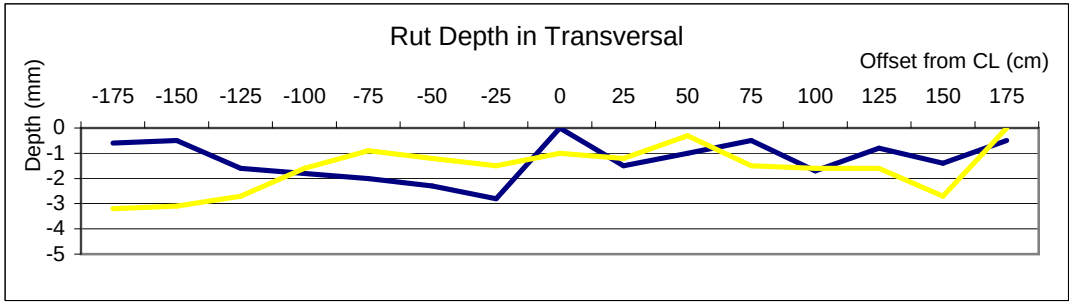
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+235

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

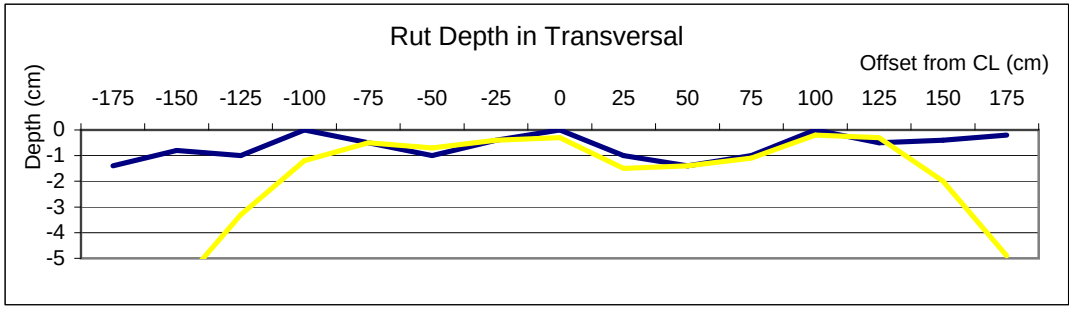
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 32 | -3.2 |
| | -150 | 0.5 | -0.5 | 31 | -3.1 |
| | -125 | 1.6 | -1.6 | 27 | -2.7 |
| | -100 | 1.8 | -1.8 | 16 | -1.6 |
| | -75 | 2 | -2 | 9 | -0.9 |
| | -50 | 2.3 | -2.3 | 12 | -1.2 |
| | -25 | 2.8 | -2.8 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 1.5 | -1.5 | 12 | -1.2 |
| | 50 | 1 | -1 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 15 | -1.5 |
| | 100 | 1.7 | -1.7 | 16 | -1.6 |
| | 125 | 0.8 | -0.8 | 16 | -1.6 |
| | 150 | 1.4 | -1.4 | 27 | -2.7 |
| | 175 | 0.5 | -0.5 | | 0 |



KM 1+245

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 65 | -6.5 |
| | -150 | 0.8 | -0.8 | 62 | -6.2 |
| | -125 | 1 | -1 | 33 | -3.3 |
| | -100 | 0 | 0 | 12 | -1.2 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 1 | -1 | 7 | -0.7 |
| | -25 | 0.4 | -0.4 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 1 | -1 | 15 | -1.5 |
| | 50 | 1.4 | -1.4 | 14 | -1.4 |
| | 75 | 1 | -1 | 11 | -1.1 |
| | 100 | 0 | 0 | 2 | -0.2 |
| | 125 | 0.5 | -0.5 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 49 | -4.9 |



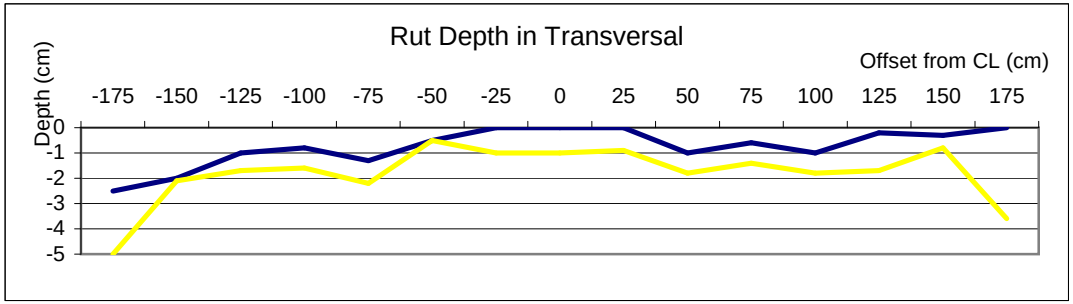
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+255

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

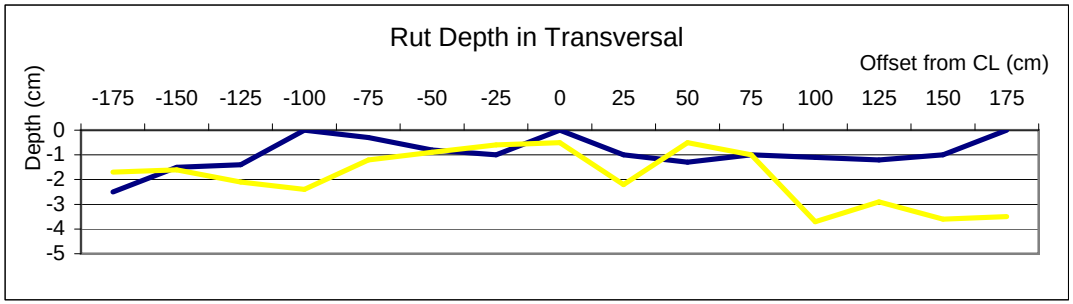
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.5 | -2.5 | 50 | -5 |
| | -150 | 2 | -2 | 21 | -2.1 |
| | -125 | 1 | -1 | 17 | -1.7 |
| | -100 | 0.8 | -0.8 | 16 | -1.6 |
| | -75 | 1.3 | -1.3 | 22 | -2.2 |
| | -50 | 0.5 | -0.5 | 5 | -0.5 |
| | -25 | 0 | 0 | 10 | -1 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0 | 0 | 9 | -0.9 |
| | 50 | 1 | -1 | 18 | -1.8 |
| | 75 | 0.6 | -0.6 | 14 | -1.4 |
| | 100 | 1 | -1 | 18 | -1.8 |
| | 125 | 0.2 | -0.2 | 17 | -1.7 |
| | 150 | 0.3 | -0.3 | 8 | -0.8 |
| | 175 | 0 | 0 | 36 | -3.6 |



KM 1+265

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.5 | -2.5 | 17 | -1.7 |
| | -150 | 1.5 | -1.5 | 16 | -1.6 |
| | -125 | 1.4 | -1.4 | 21 | -2.1 |
| | -100 | 0 | 0 | 24 | -2.4 |
| | -75 | 0.3 | -0.3 | 12 | -1.2 |
| | -50 | 0.8 | -0.8 | 9 | -0.9 |
| | -25 | 1 | -1 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 1 | -1 | 22 | -2.2 |
| | 50 | 1.3 | -1.3 | 5 | -0.5 |
| | 75 | 1 | -1 | 10 | -1 |
| | 100 | 1.1 | -1.1 | 37 | -3.7 |
| | 125 | 1.2 | -1.2 | 29 | -2.9 |
| | 150 | 1 | -1 | 36 | -3.6 |
| | 175 | 0 | 0 | 35 | -3.5 |



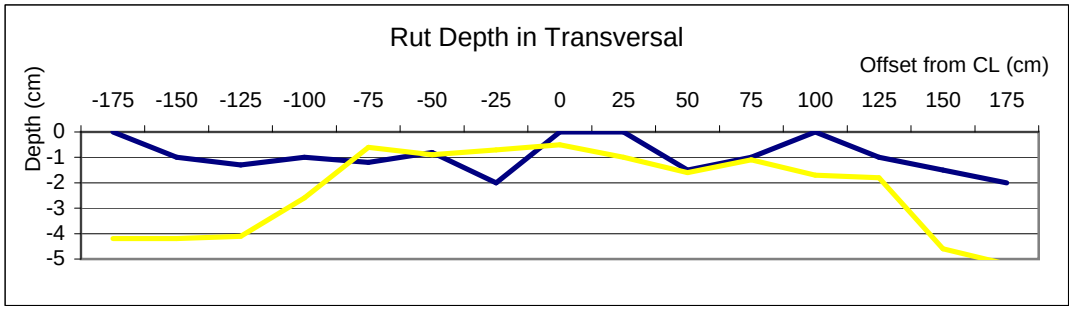
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+275

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

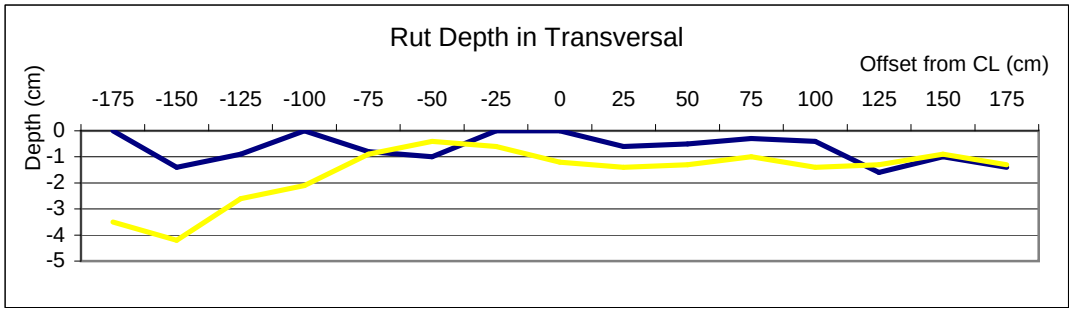
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 42 | -4.2 |
| | -150 | 1 | -1 | 42 | -4.2 |
| | -125 | 1.3 | -1.3 | 41 | -4.1 |
| | -100 | 1 | -1 | 26 | -2.6 |
| | -75 | 1.2 | -1.2 | 6 | -0.6 |
| | -50 | 0.8 | -0.8 | 9 | -0.9 |
| | -25 | 2 | -2 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 1.5 | -1.5 | 16 | -1.6 |
| | 75 | 1 | -1 | 11 | -1.1 |
| | 100 | 0 | 0 | 17 | -1.7 |
| | 125 | 1 | -1 | 18 | -1.8 |
| | 150 | 1.5 | -1.5 | 46 | -4.6 |
| | 175 | 2 | -2 | 52 | -5.2 |



KM 1+285

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 35 | -3.5 |
| | -150 | 1.4 | -1.4 | 42 | -4.2 |
| | -125 | 0.9 | -0.9 | 26 | -2.6 |
| | -100 | 0 | 0 | 21 | -2.1 |
| | -75 | 0.8 | -0.8 | 9 | -0.9 |
| | -50 | 1 | -1 | 4 | -0.4 |
| | -25 | 0 | 0 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 12 | -1.2 |
| Right Hand Side | 25 | 0.6 | -0.6 | 14 | -1.4 |
| | 50 | 0.5 | -0.5 | 13 | -1.3 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.4 | -0.4 | 14 | -1.4 |
| | 125 | 1.6 | -1.6 | 13 | -1.3 |
| | 150 | 1 | -1 | 9 | -0.9 |
| | 175 | 1.4 | -1.4 | 13 | -1.3 |



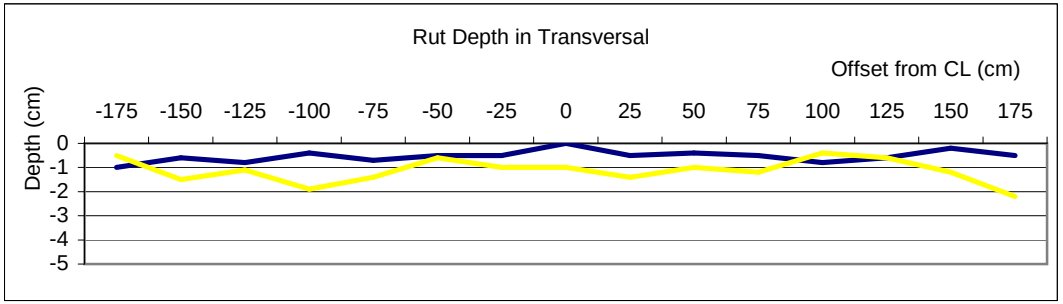
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+295

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

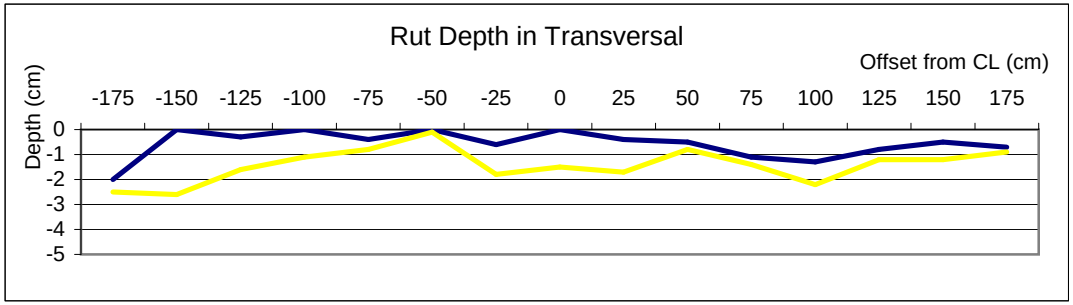
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 5 | -0.5 |
| | -150 | 0.6 | -0.6 | 15 | -1.5 |
| | -125 | 0.8 | -0.8 | 11 | -1.1 |
| | -100 | 0.4 | -0.4 | 19 | -1.9 |
| | -75 | 0.7 | -0.7 | 14 | -1.4 |
| | -50 | 0.5 | -0.5 | 6 | -0.6 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 14 | -1.4 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.5 | -0.5 | 12 | -1.2 |
| | 100 | 0.8 | -0.8 | 4 | -0.4 |
| | 125 | 0.6 | -0.6 | 6 | -0.6 |
| | 150 | 0.2 | -0.2 | 12 | -1.2 |
| | 175 | 0.5 | -0.5 | 22 | -2.2 |



KM 1+305

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 25 | -2.5 |
| | -150 | 0 | 0 | 26 | -2.6 |
| | -125 | 0.3 | -0.3 | 16 | -1.6 |
| | -100 | 0 | 0 | 11 | -1.1 |
| | -75 | 0.4 | -0.4 | 8 | -0.8 |
| | -50 | 0 | 0 | 1 | -0.1 |
| | -25 | 0.6 | -0.6 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 15 | -1.5 |
| Right Hand Side | 25 | 0.4 | -0.4 | 17 | -1.7 |
| | 50 | 0.5 | -0.5 | 8 | -0.8 |
| | 75 | 1.1 | -1.1 | 14 | -1.4 |
| | 100 | 1.3 | -1.3 | 22 | -2.2 |
| | 125 | 0.8 | -0.8 | 12 | -1.2 |
| | 150 | 0.5 | -0.5 | 12 | -1.2 |
| | 175 | 0.7 | -0.7 | 9 | -0.9 |



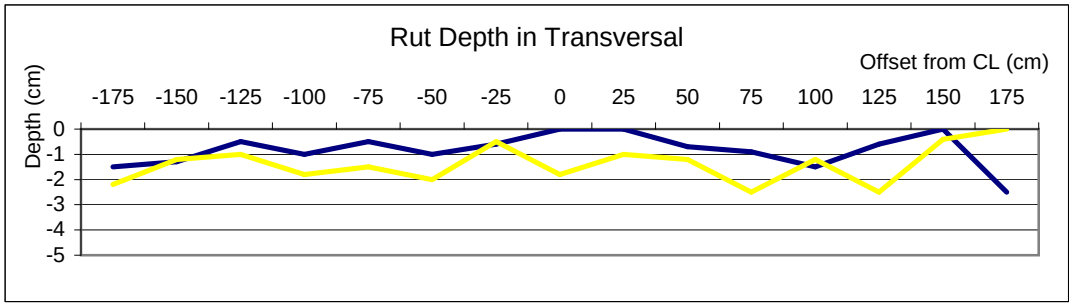
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+315

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

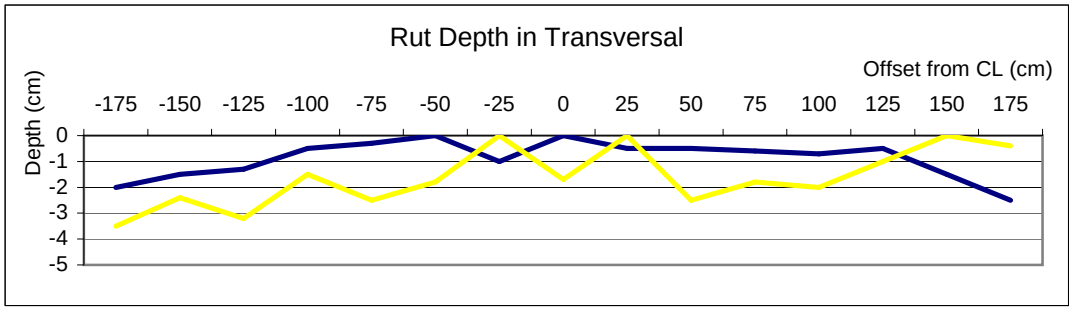
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 22 | -2.2 |
| | -150 | 1.3 | -1.3 | 12 | -1.2 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 1 | -1 | 18 | -1.8 |
| | -75 | 0.5 | -0.5 | 15 | -1.5 |
| | -50 | 1 | -1 | 20 | -2 |
| | -25 | 0.6 | -0.6 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 18 | -1.8 |
| Right Hand Side | 25 | 0 | 0 | 10 | -1 |
| | 50 | 0.7 | -0.7 | 12 | -1.2 |
| | 75 | 0.9 | -0.9 | 25 | -2.5 |
| | 100 | 1.5 | -1.5 | 12 | -1.2 |
| | 125 | 0.6 | -0.6 | 25 | -2.5 |
| | 150 | 0 | 0 | 4 | -0.4 |
| | 175 | 2.5 | -2.5 | 0 | 0 |



KM 1+325

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 35 | -3.5 |
| | -150 | 1.5 | -1.5 | 24 | -2.4 |
| | -125 | 1.3 | -1.3 | 32 | -3.2 |
| | -100 | 0.5 | -0.5 | 15 | -1.5 |
| | -75 | 0.3 | -0.3 | 25 | -2.5 |
| | -50 | 0 | 0 | 18 | -1.8 |
| | -25 | 1 | -1 | 0 | 0 |
| CL | 0 | 0 | 0 | 17 | -1.7 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 25 | -2.5 |
| | 75 | 0.6 | -0.6 | 18 | -1.8 |
| | 100 | 0.7 | -0.7 | 20 | -2 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 1.5 | -1.5 | 0 | 0 |
| | 175 | 2.5 | -2.5 | 4 | -0.4 |



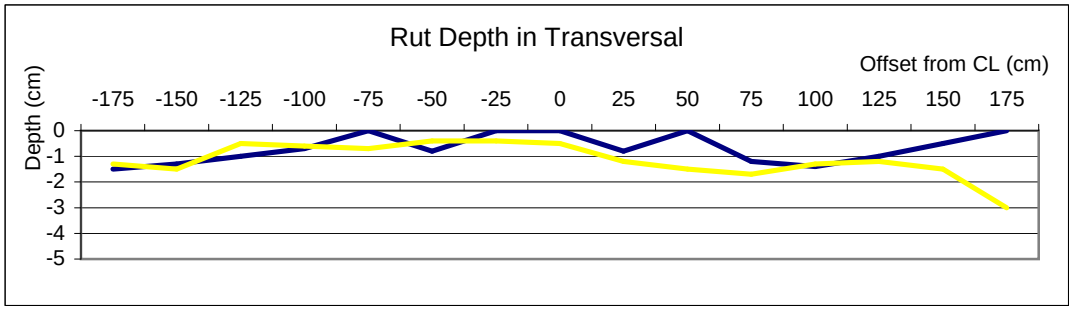
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+335

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

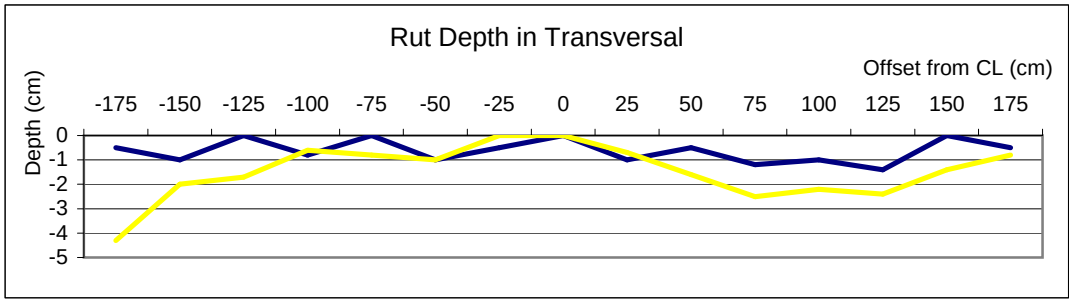
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 13 | -1.3 |
| | -150 | 1.3 | -1.3 | 15 | -1.5 |
| | -125 | 1 | -1 | 5 | -0.5 |
| | -100 | 0.7 | -0.7 | 6 | -0.6 |
| | -75 | 0 | 0 | 7 | -0.7 |
| | -50 | 0.8 | -0.8 | 4 | -0.4 |
| | -25 | 0 | 0 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.8 | -0.8 | 12 | -1.2 |
| | 50 | 0 | 0 | 15 | -1.5 |
| | 75 | 1.2 | -1.2 | 17 | -1.7 |
| | 100 | 1.4 | -1.4 | 13 | -1.3 |
| | 125 | 1 | -1 | 12 | -1.2 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0 | 0 | 30 | -3 |



KM 1+345

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 43 | -4.3 |
| | -150 | 1 | -1 | 20 | -2 |
| | -125 | 0 | 0 | 17 | -1.7 |
| | -100 | 0.8 | -0.8 | 6 | -0.6 |
| | -75 | 0 | 0 | 8 | -0.8 |
| | -50 | 1 | -1 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1 | -1 | 7 | -0.7 |
| | 50 | 0.5 | -0.5 | 16 | -1.6 |
| | 75 | 1.2 | -1.2 | 25 | -2.5 |
| | 100 | 1 | -1 | 22 | -2.2 |
| | 125 | 1.4 | -1.4 | 24 | -2.4 |
| | 150 | 0 | 0 | 14 | -1.4 |
| | 175 | 0.5 | -0.5 | 8 | -0.8 |



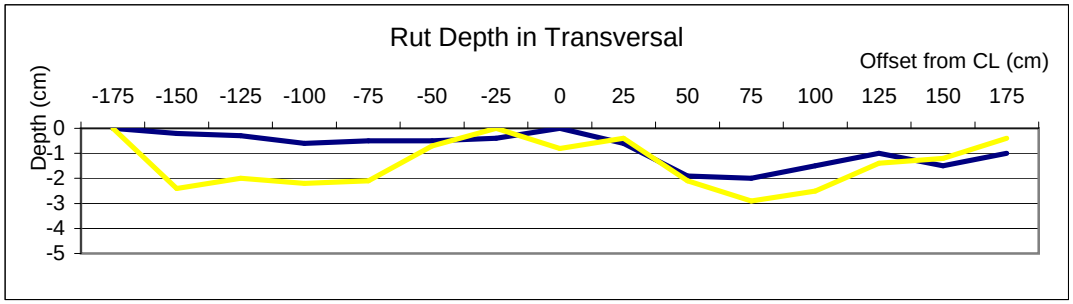
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+355

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

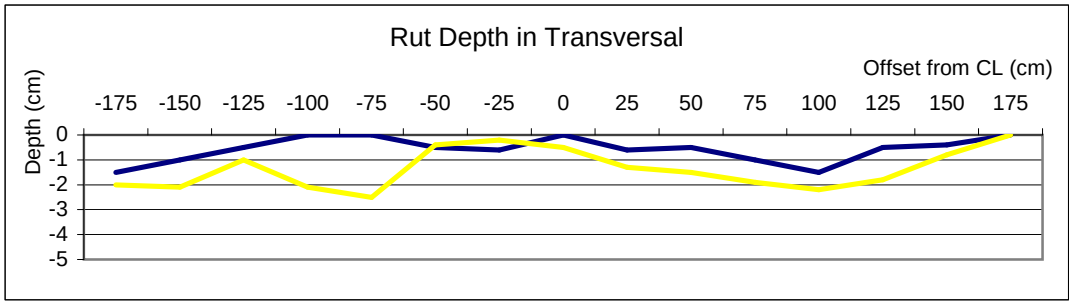
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0.2 | -0.2 | 24 | -2.4 |
| | -125 | 0.3 | -0.3 | 20 | -2 |
| | -100 | 0.6 | -0.6 | 22 | -2.2 |
| | -75 | 0.5 | -0.5 | 21 | -2.1 |
| | -50 | 0.5 | -0.5 | 7 | -0.7 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.6 | -0.6 | 4 | -0.4 |
| | 50 | 1.9 | -1.9 | 21 | -2.1 |
| | 75 | 2 | -2 | 29 | -2.9 |
| | 100 | 1.5 | -1.5 | 25 | -2.5 |
| | 125 | 1 | -1 | 14 | -1.4 |
| | 150 | 1.5 | -1.5 | 12 | -1.2 |
| | 175 | 1 | -1 | 4 | -0.4 |



KM 1+365

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 20 | -2 |
| | -150 | 1 | -1 | 21 | -2.1 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0 | 0 | 21 | -2.1 |
| | -75 | 0 | 0 | 25 | -2.5 |
| | -50 | 0.5 | -0.5 | 4 | -0.4 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 13 | -1.3 |
| | 50 | 0.5 | -0.5 | 15 | -1.5 |
| | 75 | 1 | -1 | 19 | -1.9 |
| | 100 | 1.5 | -1.5 | 22 | -2.2 |
| | 125 | 0.5 | -0.5 | 18 | -1.8 |
| | 150 | 0.4 | -0.4 | 8 | -0.8 |
| | 175 | 0 | 0 | 0 | 0 |



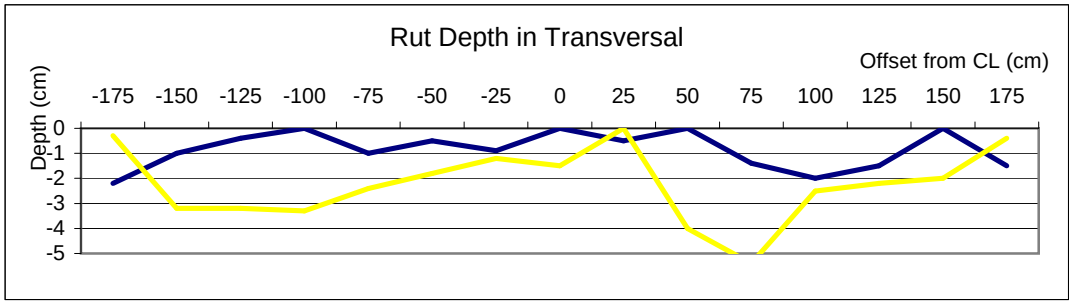
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+375

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

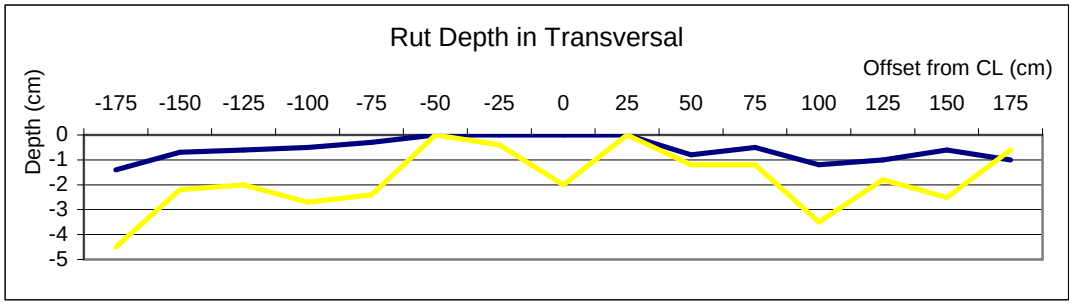
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2.2 | -2.2 | 3 | -0.3 |
| | -150 | 1 | -1 | 32 | -3.2 |
| | -125 | 0.4 | -0.4 | 32 | -3.2 |
| | -100 | 0 | 0 | 33 | -3.3 |
| | -75 | 1 | -1 | 24 | -2.4 |
| | -50 | 0.5 | -0.5 | 18 | -1.8 |
| | -25 | 0.9 | -0.9 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 15 | -1.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0 | 0 | 40 | -4 |
| | 75 | 1.4 | -1.4 | 54 | -5.4 |
| | 100 | 2 | -2 | 25 | -2.5 |
| | 125 | 1.5 | -1.5 | 22 | -2.2 |
| | 150 | 0 | 0 | 20 | -2 |
| | 175 | 1.5 | -1.5 | 4 | -0.4 |



KM 1+385

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 45 | -4.5 |
| | -150 | 0.7 | -0.7 | 22 | -2.2 |
| | -125 | 0.6 | -0.6 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 27 | -2.7 |
| | -75 | 0.3 | -0.3 | 24 | -2.4 |
| | -50 | 0 | 0 | 0 | 0 |
| | -25 | 0 | 0 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0 | 0 | 0 | 0 |
| | 50 | 0.8 | -0.8 | 12 | -1.2 |
| | 75 | 0.5 | -0.5 | 12 | -1.2 |
| | 100 | 1.2 | -1.2 | 35 | -3.5 |
| | 125 | 1 | -1 | 18 | -1.8 |
| | 150 | 0.6 | -0.6 | 25 | -2.5 |
| | 175 | 1 | -1 | 6 | -0.6 |



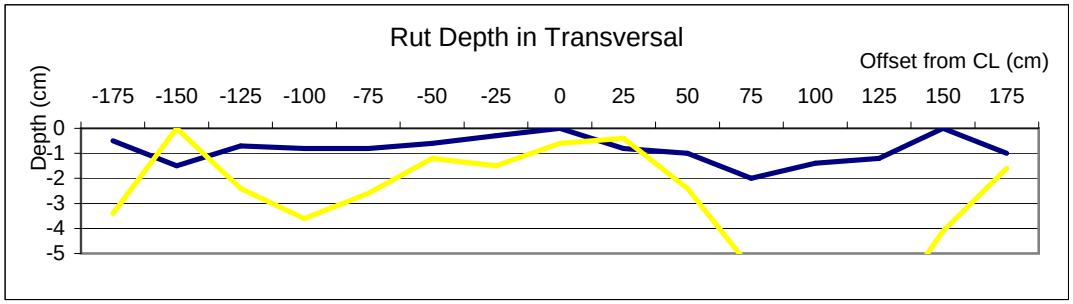
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+395

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

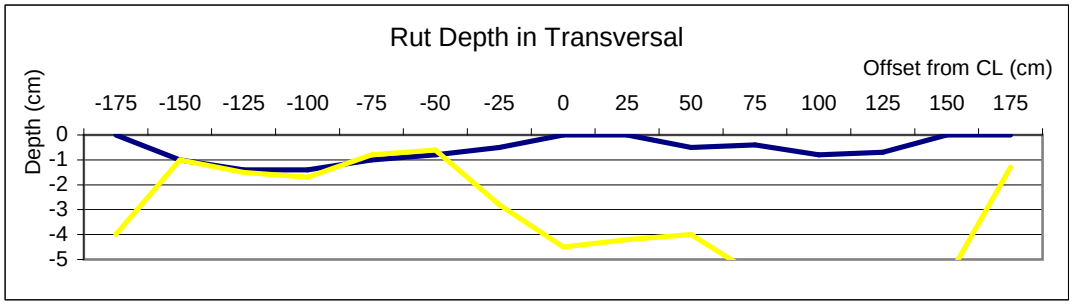
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 34 | -3.4 |
| | -150 | 1.5 | -1.5 | 0 | 0 |
| | -125 | 0.7 | -0.7 | 24 | -2.4 |
| | -100 | 0.8 | -0.8 | 36 | -3.6 |
| | -75 | 0.8 | -0.8 | 26 | -2.6 |
| | -50 | 0.6 | -0.6 | 12 | -1.2 |
| | -25 | 0.3 | -0.3 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.8 | -0.8 | 4 | -0.4 |
| | 50 | 1 | -1 | 24 | -2.4 |
| | 75 | 2 | -2 | 56 | -5.6 |
| | 100 | 1.4 | -1.4 | 85 | -8.5 |
| | 125 | 1.2 | -1.2 | 78 | -7.8 |
| | 150 | 0 | 0 | 41 | -4.1 |
| | 175 | 1 | -1 | 16 | -1.6 |



KM 1+405

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 40 | -4 |
| | -150 | 1 | -1 | 10 | -1 |
| | -125 | 1.4 | -1.4 | 15 | -1.5 |
| | -100 | 1.4 | -1.4 | 17 | -1.7 |
| | -75 | 1 | -1 | 8 | -0.8 |
| | -50 | 0.8 | -0.8 | 6 | -0.6 |
| | -25 | 0.5 | -0.5 | 28 | -2.8 |
| CL | 0 | 0 | 0 | 45 | -4.5 |
| Right Hand Side | 25 | 0 | 0 | 42 | -4.2 |
| | 50 | 0.5 | -0.5 | 40 | -4 |
| | 75 | 0.4 | -0.4 | 56 | -5.6 |
| | 100 | 0.8 | -0.8 | 85 | -8.5 |
| | 125 | 0.7 | -0.7 | 80 | -8 |
| | 150 | 0 | 0 | 58 | -5.8 |
| | 175 | 0 | 0 | 13 | -1.3 |



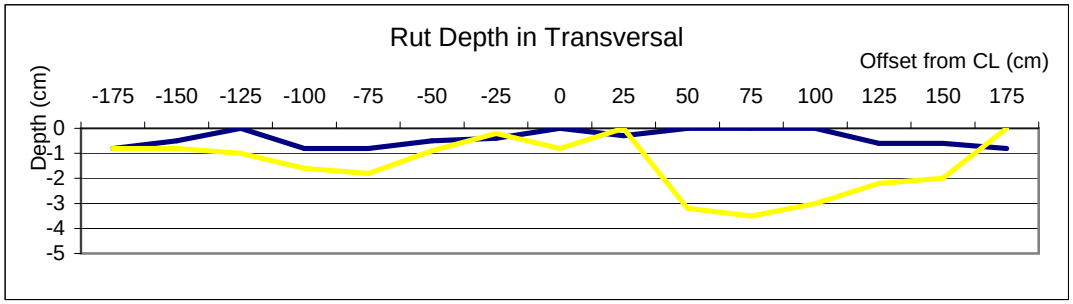
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+415

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

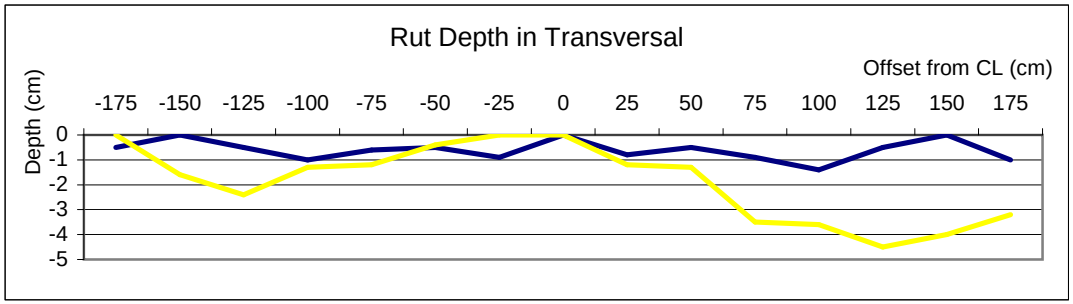
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 8 | -0.8 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0 | 0 | 10 | -1 |
| | -100 | 0.8 | -0.8 | 16 | -1.6 |
| | -75 | 0.8 | -0.8 | 18 | -1.8 |
| | -50 | 0.5 | -0.5 | 9 | -0.9 |
| | -25 | 0.4 | -0.4 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0 | 0 | 32 | -3.2 |
| | 75 | 0 | 0 | 35 | -3.5 |
| | 100 | 0 | 0 | 30 | -3 |
| | 125 | 0.6 | -0.6 | 22 | -2.2 |
| | 150 | 0.6 | -0.6 | 20 | -2 |
| | 175 | 0.8 | -0.8 | 0 | 0 |



KM 1+425

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0 | 0 | 16 | -1.6 |
| | -125 | 0.5 | -0.5 | 24 | -2.4 |
| | -100 | 1 | -1 | 13 | -1.3 |
| | -75 | 0.6 | -0.6 | 12 | -1.2 |
| | -50 | 0.5 | -0.5 | 4 | -0.4 |
| | -25 | 0.9 | -0.9 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.8 | -0.8 | 12 | -1.2 |
| | 50 | 0.5 | -0.5 | 13 | -1.3 |
| | 75 | 0.9 | -0.9 | 35 | -3.5 |
| | 100 | 1.4 | -1.4 | 36 | -3.6 |
| | 125 | 0.5 | -0.5 | 45 | -4.5 |
| | 150 | 0 | 0 | 40 | -4 |
| | 175 | 1 | -1 | 32 | -3.2 |



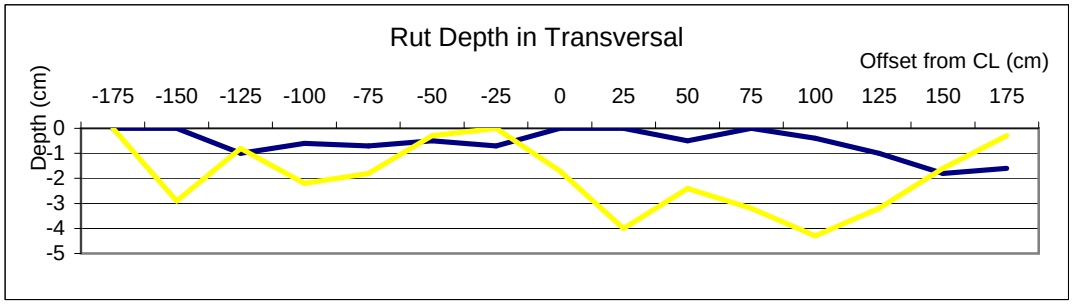
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+435

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

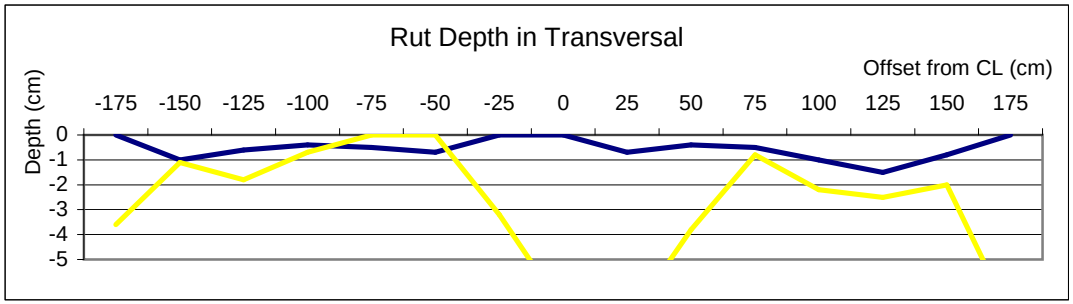
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0 | 0 | 29 | -2.9 |
| | -125 | 1 | -1 | 8 | -0.8 |
| | -100 | 0.6 | -0.6 | 22 | -2.2 |
| | -75 | 0.7 | -0.7 | 18 | -1.8 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 17 | -1.7 |
| Right Hand Side | 25 | 0 | 0 | 40 | -4 |
| | 50 | 0.5 | -0.5 | 24 | -2.4 |
| | 75 | 0 | 0 | 32 | -3.2 |
| | 100 | 0.4 | -0.4 | 43 | -4.3 |
| | 125 | 1 | -1 | 32 | -3.2 |
| | 150 | 1.8 | -1.8 | 16 | -1.6 |
| | 175 | 1.6 | -1.6 | 3 | -0.3 |



KM 1+445

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 36 | -3.6 |
| | -150 | 1 | -1 | 11 | -1.1 |
| | -125 | 0.6 | -0.6 | 18 | -1.8 |
| | -100 | 0.4 | -0.4 | 7 | -0.7 |
| | -75 | 0.5 | -0.5 | 0 | 0 |
| | -50 | 0.7 | -0.7 | 0 | 0 |
| | -25 | 0 | 0 | 32 | -3.2 |
| CL | 0 | 0 | 0 | 70 | -7 |
| Right Hand Side | 25 | 0.7 | -0.7 | 75 | -7.5 |
| | 50 | 0.4 | -0.4 | 38 | -3.8 |
| | 75 | 0.5 | -0.5 | 8 | -0.8 |
| | 100 | 1 | -1 | 22 | -2.2 |
| | 125 | 1.5 | -1.5 | 25 | -2.5 |
| | 150 | 0.8 | -0.8 | 20 | -2 |
| | 175 | 0 | 0 | 73 | -7.3 |



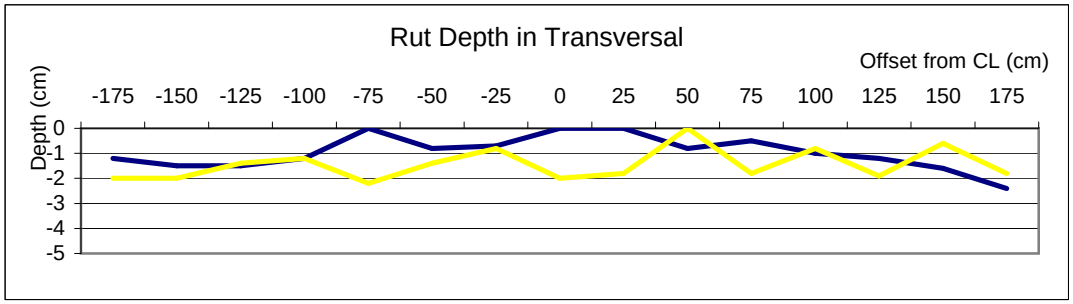
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+455

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

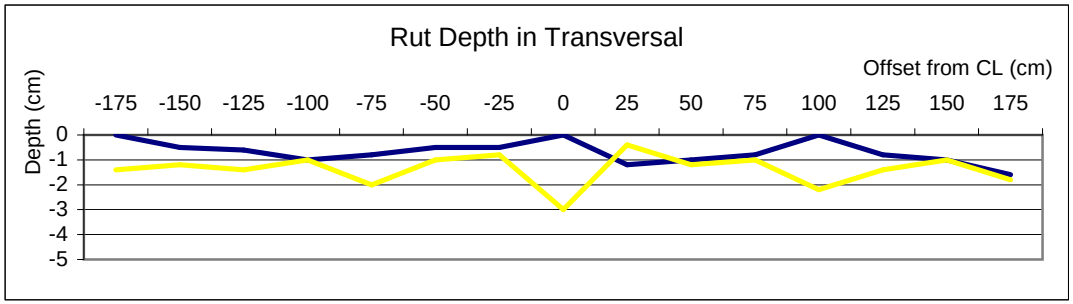
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 20 | -2 |
| | -150 | 1.5 | -1.5 | 20 | -2 |
| | -125 | 1.5 | -1.5 | 14 | -1.4 |
| | -100 | 1.2 | -1.2 | 12 | -1.2 |
| | -75 | 0 | 0 | 22 | -2.2 |
| | -50 | 0.8 | -0.8 | 14 | -1.4 |
| | -25 | 0.7 | -0.7 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0 | 0 | 18 | -1.8 |
| | 50 | 0.8 | -0.8 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 18 | -1.8 |
| | 100 | 1 | -1 | 8 | -0.8 |
| | 125 | 1.2 | -1.2 | 19 | -1.9 |
| | 150 | 1.6 | -1.6 | 6 | -0.6 |
| | 175 | 2.4 | -2.4 | 18 | -1.8 |



KM 1+465

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 14 | -1.4 |
| | -150 | 0.5 | -0.5 | 12 | -1.2 |
| | -125 | 0.6 | -0.6 | 14 | -1.4 |
| | -100 | 1 | -1 | 10 | -1 |
| | -75 | 0.8 | -0.8 | 20 | -2 |
| | -50 | 0.5 | -0.5 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 30 | -3 |
| Right Hand Side | 25 | 1.2 | -1.2 | 4 | -0.4 |
| | 50 | 1 | -1 | 12 | -1.2 |
| | 75 | 0.8 | -0.8 | 10 | -1 |
| | 100 | 0 | 0 | 22 | -2.2 |
| | 125 | 0.8 | -0.8 | 14 | -1.4 |
| | 150 | 1 | -1 | 10 | -1 |
| | 175 | 1.6 | -1.6 | 18 | -1.8 |



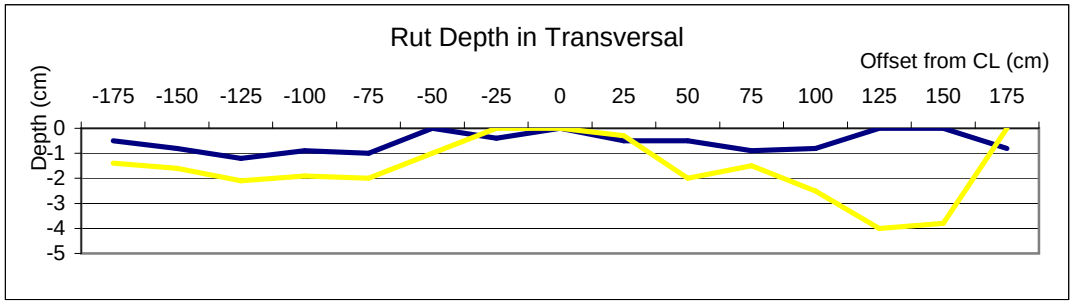
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+475

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

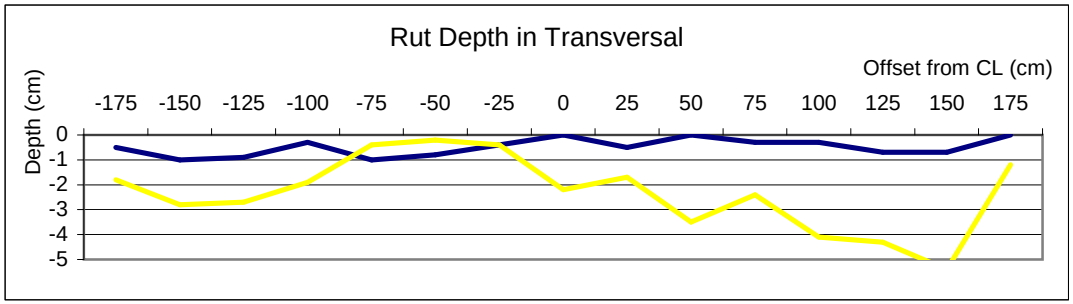
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 14 | -1.4 |
| | -150 | 0.8 | -0.8 | 16 | -1.6 |
| | -125 | 1.2 | -1.2 | 21 | -2.1 |
| | -100 | 0.9 | -0.9 | 19 | -1.9 |
| | -75 | 1 | -1 | 20 | -2 |
| | -50 | 0 | 0 | 10 | -1 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 20 | -2 |
| | 75 | 0.9 | -0.9 | 15 | -1.5 |
| | 100 | 0.8 | -0.8 | 25 | -2.5 |
| | 125 | 0 | 0 | 40 | -4 |
| | 150 | 0 | 0 | 38 | -3.8 |
| | 175 | 0.8 | -0.8 | 0 | 0 |



KM 1+485

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 18 | -1.8 |
| | -150 | 1 | -1 | 28 | -2.8 |
| | -125 | 0.9 | -0.9 | 27 | -2.7 |
| | -100 | 0.3 | -0.3 | 19 | -1.9 |
| | -75 | 1 | -1 | 4 | -0.4 |
| | -50 | 0.8 | -0.8 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 22 | -2.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 17 | -1.7 |
| | 50 | 0 | 0 | 35 | -3.5 |
| | 75 | 0.3 | -0.3 | 24 | -2.4 |
| | 100 | 0.3 | -0.3 | 41 | -4.1 |
| | 125 | 0.7 | -0.7 | 43 | -4.3 |
| | 150 | 0.7 | -0.7 | 54 | -5.4 |
| | 175 | 0 | 0 | 12 | -1.2 |



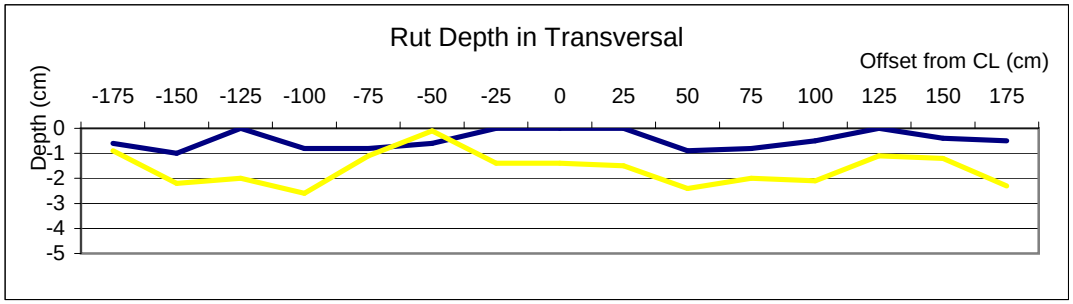
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+495

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

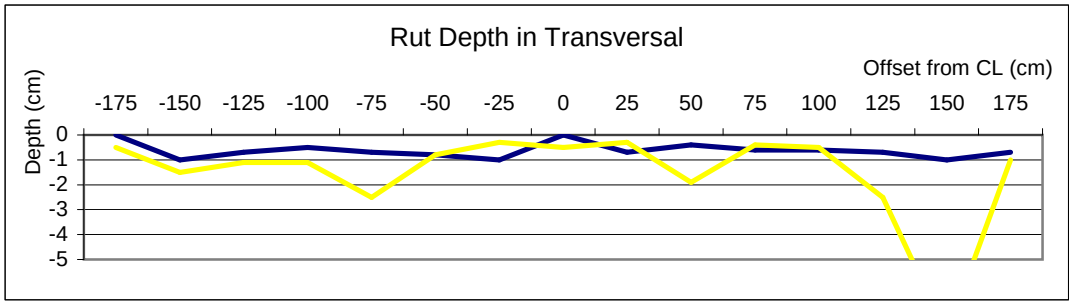
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 9 | -0.9 |
| | -150 | 1 | -1 | 22 | -2.2 |
| | -125 | 0 | 0 | 20 | -2 |
| | -100 | 0.8 | -0.8 | 26 | -2.6 |
| | -75 | 0.8 | -0.8 | 11 | -1.1 |
| | -50 | 0.6 | -0.6 | 1 | -0.1 |
| | -25 | 0 | 0 | 14 | -1.4 |
| CL | 0 | 0 | 0 | 14 | -1.4 |
| Right Hand Side | 25 | 0 | 0 | 15 | -1.5 |
| | 50 | 0.9 | -0.9 | 24 | -2.4 |
| | 75 | 0.8 | -0.8 | 20 | -2 |
| | 100 | 0.5 | -0.5 | 21 | -2.1 |
| | 125 | 0 | 0 | 11 | -1.1 |
| | 150 | 0.4 | -0.4 | 12 | -1.2 |
| | 175 | 0.5 | -0.5 | 23 | -2.3 |



KM 1+505

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 5 | -0.5 |
| | -150 | 1 | -1 | 15 | -1.5 |
| | -125 | 0.7 | -0.7 | 11 | -1.1 |
| | -100 | 0.5 | -0.5 | 11 | -1.1 |
| | -75 | 0.7 | -0.7 | 25 | -2.5 |
| | -50 | 0.8 | -0.8 | 8 | -0.8 |
| | -25 | 1 | -1 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.7 | -0.7 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 19 | -1.9 |
| | 75 | 0.6 | -0.6 | 4 | -0.4 |
| | 100 | 0.6 | -0.6 | 5 | -0.5 |
| | 125 | 0.7 | -0.7 | 25 | -2.5 |
| | 150 | 1 | -1 | 80 | -8 |
| | 175 | 0.7 | -0.7 | 10 | -1 |



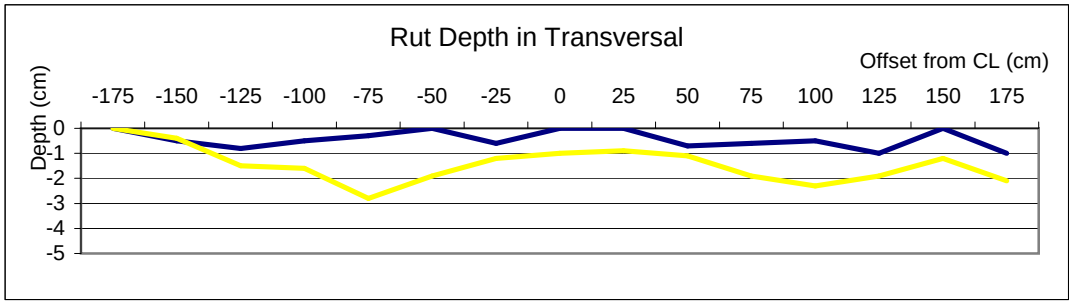
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Mortared Stone

KM 1+515

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0.5 | -0.5 | 4 | -0.4 |
| | -125 | 0.8 | -0.8 | 15 | -1.5 |
| | -100 | 0.5 | -0.5 | 16 | -1.6 |
| | -75 | 0.3 | -0.3 | 28 | -2.8 |
| | -50 | 0 | 0 | 19 | -1.9 |
| | -25 | 0.6 | -0.6 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0 | 0 | 9 | -0.9 |
| | 50 | 0.7 | -0.7 | 11 | -1.1 |
| | 75 | 0.6 | -0.6 | 19 | -1.9 |
| | 100 | 0.5 | -0.5 | 23 | -2.3 |
| | 125 | 1 | -1 | 19 | -1.9 |
| | 150 | 0 | 0 | 12 | -1.2 |
| | 175 | 1 | -1 | 21 | -2.1 |



## R 3.2 Otta Seal

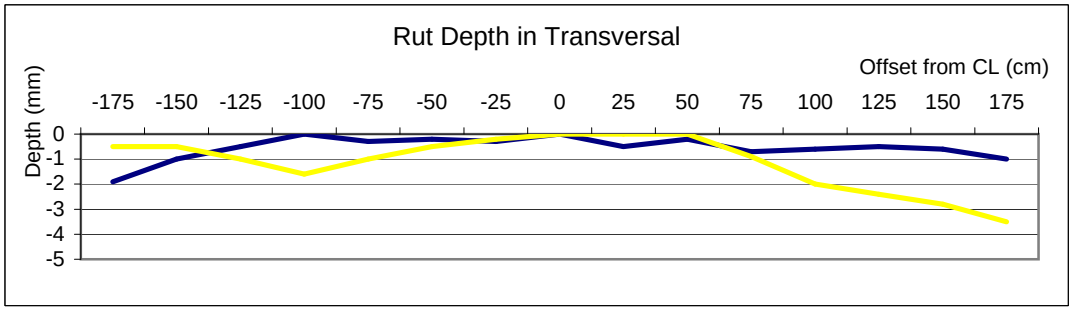
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single/Double Otta Seal

KM 0+025

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

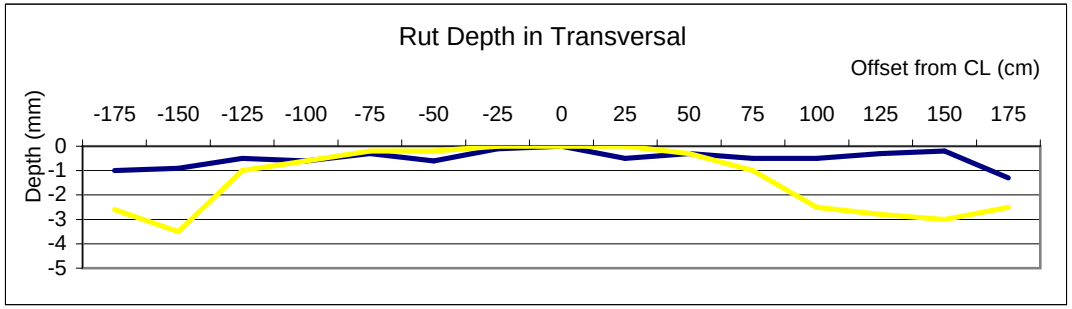
| Side | Offset from CL (cm) | 30/08/2007 Rut depth (cm) | | 03/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.9 | -1.9 | 5 | -0.5 |
| | -150 | 1 | -1 | 5 | -0.5 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0 | 0 | 16 | -1.6 |
| | -75 | 0.3 | -0.3 | 10 | -1 |
| | -50 | 0.2 | -0.2 | 5 | -0.5 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.7 | -0.7 | 9 | -0.9 |
| | 100 | 0.6 | -0.6 | 20 | -2 |
| | 125 | 0.5 | -0.5 | 24 | -2.4 |
| | 150 | 0.6 | -0.6 | 28 | -2.8 |
| | 175 | 1 | -1 | 35 | -3.5 |



KM 0+035

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 26 | -2.6 |
| | -150 | 0.9 | -0.9 | 35 | -3.5 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.6 | -0.6 | 6 | -0.6 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.6 | -0.6 | 2 | -0.2 |
| | -25 | 0.1 | -0.1 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.5 | -0.5 | 25 | -2.5 |
| | 125 | 0.3 | -0.3 | 28 | -2.8 |
| | 150 | 0.2 | -0.2 | 30 | -3 |
| | 175 | 1.3 | -1.3 | 25 | -2.5 |



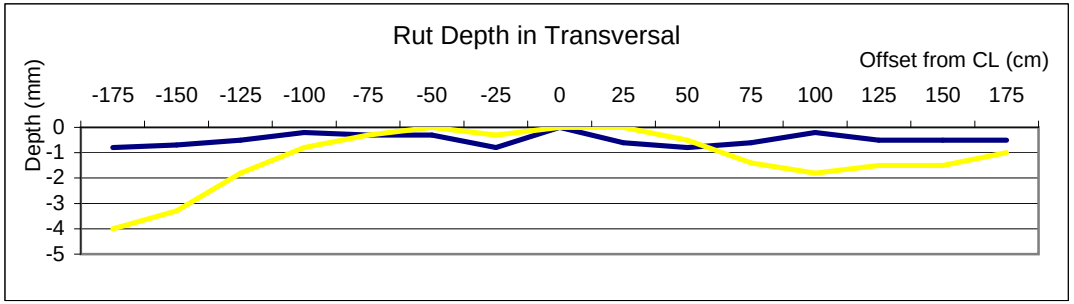
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+045

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

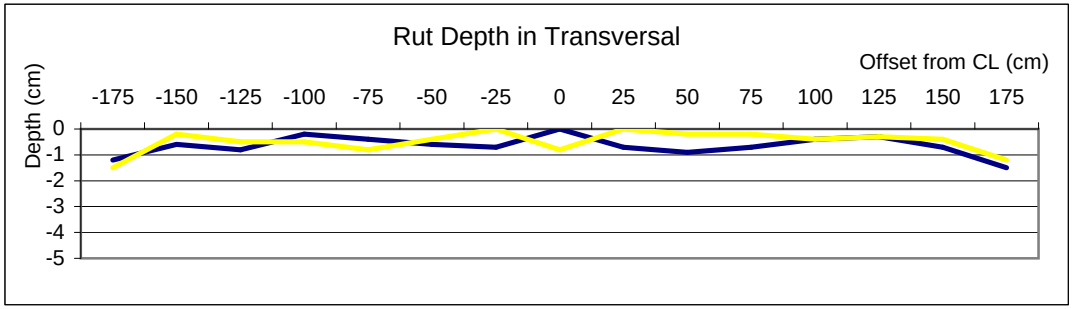
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 40 | -4 |
| | -150 | 0.7 | -0.7 | 33 | -3.3 |
| | -125 | 0.5 | -0.5 | 18 | -1.8 |
| | -100 | 0.2 | -0.2 | 8 | -0.8 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.8 | -0.8 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.8 | -0.8 | 5 | -0.5 |
| | 75 | 0.6 | -0.6 | 14 | -1.4 |
| | 100 | 0.2 | -0.2 | 18 | -1.8 |
| | 125 | 0.5 | -0.5 | 15 | -1.5 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0.5 | -0.5 | 10 | -1 |



KM 0+055

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 15 | -1.5 |
| | -150 | 0.6 | -0.6 | 2 | -0.2 |
| | -125 | 0.8 | -0.8 | 5 | -0.5 |
| | -100 | 0.2 | -0.2 | 5 | -0.5 |
| | -75 | 0.4 | -0.4 | 8 | -0.8 |
| | -50 | 0.6 | -0.6 | 4 | -0.4 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.7 | -0.7 | 0 | 0 |
| | 50 | 0.9 | -0.9 | 2 | -0.2 |
| | 75 | 0.7 | -0.7 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 4 | -0.4 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.7 | -0.7 | 4 | -0.4 |
| | 175 | 1.5 | -1.5 | 12 | -1.2 |



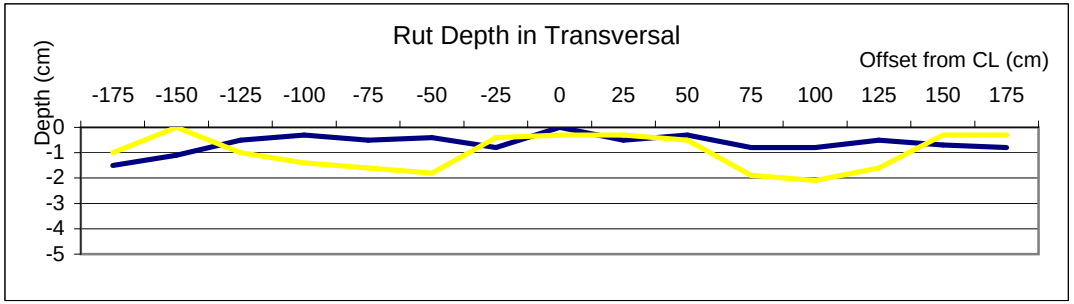
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+065

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

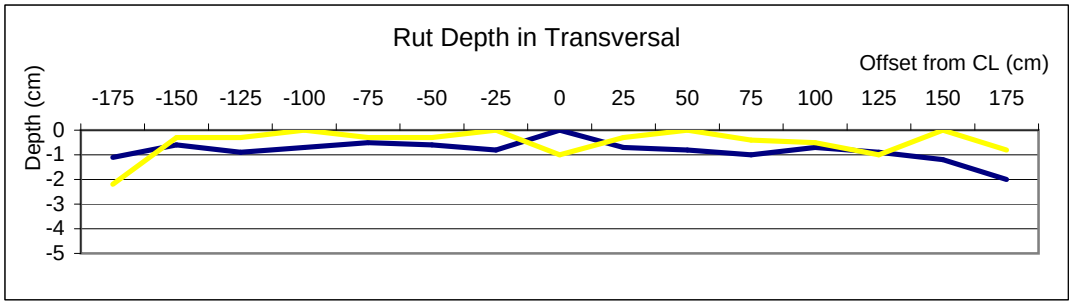
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 10 | -1 |
| | -150 | 1.1 | -1.1 | 0 | 0 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 14 | -1.4 |
| | -75 | 0.5 | -0.5 | 16 | -1.6 |
| | -50 | 0.4 | -0.4 | 18 | -1.8 |
| | -25 | 0.8 | -0.8 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.8 | -0.8 | 19 | -1.9 |
| | 100 | 0.8 | -0.8 | 21 | -2.1 |
| | 125 | 0.5 | -0.5 | 16 | -1.6 |
| | 150 | 0.7 | -0.7 | 3 | -0.3 |
| | 175 | 0.8 | -0.8 | 3 | -0.3 |



KM 0+075

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.1 | -1.1 | 22 | -2.2 |
| | -150 | 0.6 | -0.6 | 3 | -0.3 |
| | -125 | 0.9 | -0.9 | 3 | -0.3 |
| | -100 | 0.7 | -0.7 | 0 | 0 |
| | -75 | 0.5 | -0.5 | 3 | -0.3 |
| | -50 | 0.6 | -0.6 | 3 | -0.3 |
| | -25 | 0.8 | -0.8 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.7 | -0.7 | 3 | -0.3 |
| | 50 | 0.8 | -0.8 | 0 | 0 |
| | 75 | 1 | -1 | 4 | -0.4 |
| | 100 | 0.7 | -0.7 | 5 | -0.5 |
| | 125 | 0.9 | -0.9 | 10 | -1 |
| | 150 | 1.2 | -1.2 | 0 | 0 |
| | 175 | 2 | -2 | 8 | -0.8 |



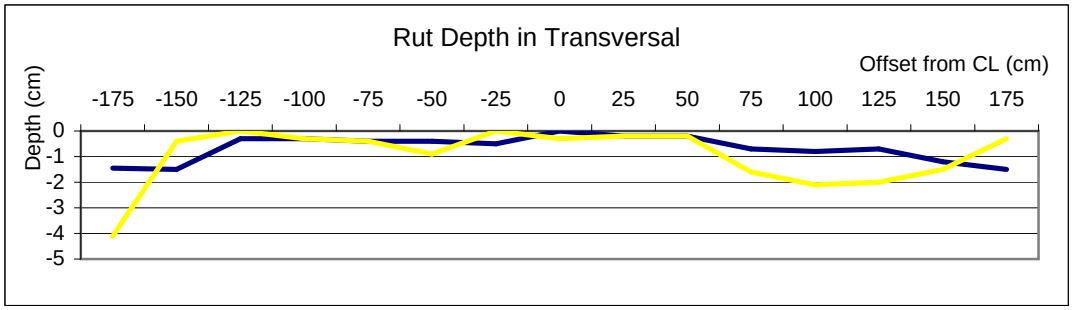
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+085

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

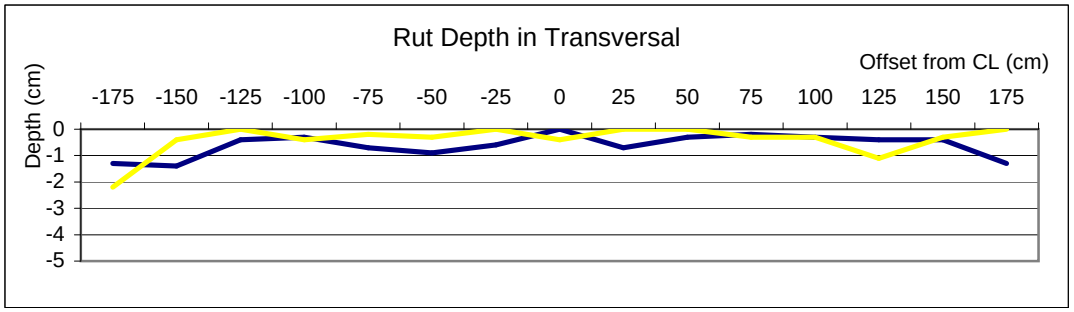
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.45 | -1.45 | 41 | -4.1 |
| | -150 | 1.5 | -1.5 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 4 | -0.4 |
| | -50 | 0.4 | -0.4 | 9 | -0.9 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.2 | -0.2 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.7 | -0.7 | 16 | -1.6 |
| | 100 | 0.8 | -0.8 | 21 | -2.1 |
| | 125 | 0.7 | -0.7 | 20 | -2 |
| | 150 | 1.2 | -1.2 | 15 | -1.5 |
| | 175 | 1.5 | -1.5 | 3 | -0.3 |



KM 0+095

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.3 | -1.3 | 22 | -2.2 |
| | -150 | 1.4 | -1.4 | 4 | -0.4 |
| | -125 | 0.4 | -0.4 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 4 | -0.4 |
| | -75 | 0.7 | -0.7 | 2 | -0.2 |
| | -50 | 0.9 | -0.9 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.7 | -0.7 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.4 | -0.4 | 11 | -1.1 |
| | 150 | 0.4 | -0.4 | 3 | -0.3 |
| | 175 | 1.3 | -1.3 | 0 | 0 |



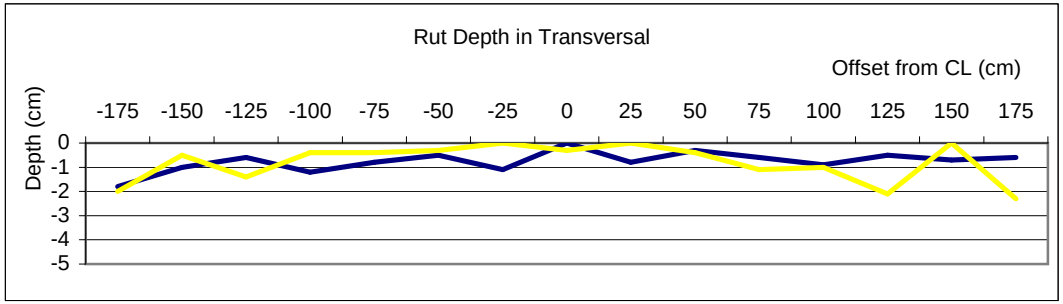
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+105

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

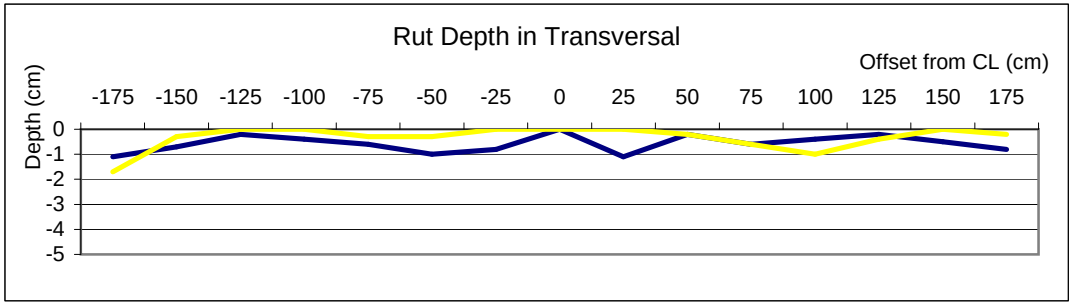
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.8 | -1.8 | 20 | -2 |
| | -150 | 1 | -1 | 5 | -0.5 |
| | -125 | 0.6 | -0.6 | 14 | -1.4 |
| | -100 | 1.2 | -1.2 | 4 | -0.4 |
| | -75 | 0.8 | -0.8 | 4 | -0.4 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 1.1 | -1.1 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.8 | -0.8 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 4 | -0.4 |
| | 75 | 0.6 | -0.6 | 11 | -1.1 |
| | 100 | 0.9 | -0.9 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 21 | -2.1 |
| | 150 | 0.7 | -0.7 | 0 | 0 |
| | 175 | 0.6 | -0.6 | 23 | -2.3 |



KM 0+115

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.1 | -1.1 | 17 | -1.7 |
| | -150 | 0.7 | -0.7 | 3 | -0.3 |
| | -125 | 0.2 | -0.2 | 0 | 0 |
| | -100 | 0.4 | -0.4 | 0 | 0 |
| | -75 | 0.6 | -0.6 | 3 | -0.3 |
| | -50 | 1 | -1 | 3 | -0.3 |
| | -25 | 0.8 | -0.8 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 1.1 | -1.1 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.6 | -0.6 | 6 | -0.6 |
| | 100 | 0.4 | -0.4 | 10 | -1 |
| | 125 | 0.2 | -0.2 | 4 | -0.4 |
| | 150 | 0.5 | -0.5 | 0 | 0 |
| | 175 | 0.8 | -0.8 | 2 | -0.2 |



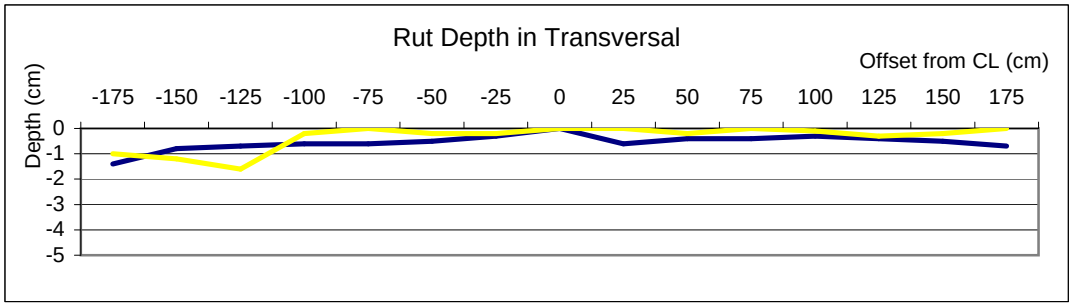
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+125

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 10 | -1 |
| | -150 | 0.8 | -0.8 | 12 | -1.2 |
| | -125 | 0.7 | -0.7 | 16 | -1.6 |
| | -100 | 0.6 | -0.6 | 2 | -0.2 |
| | -75 | 0.6 | -0.6 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 2 | -0.2 |
| | 175 | 0.7 | -0.7 | 0 | 0 |

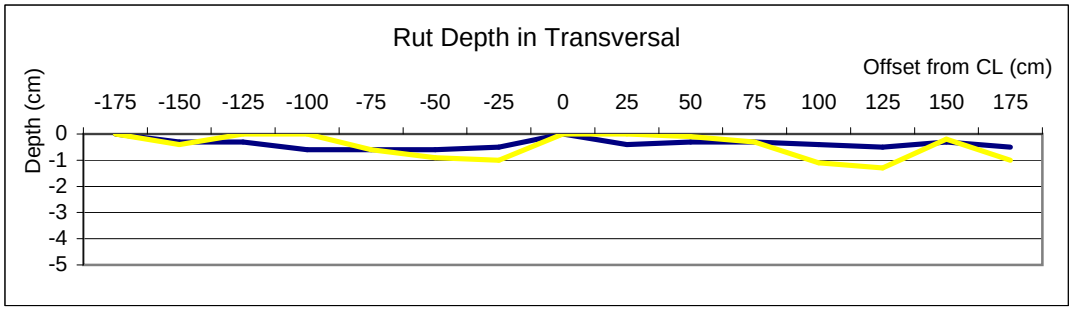


KM 0+135

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.6 | -0.6 | 0 | 0 |
| | -75 | 0.6 | -0.6 | 6 | -0.6 |
| | -50 | 0.6 | -0.6 | 9 | -0.9 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.4 | -0.4 | 11 | -1.1 |
| | 125 | 0.5 | -0.5 | 13 | -1.3 |
| | 150 | 0.3 | -0.3 | 2 | -0.2 |
| | 175 | 0.5 | -0.5 | 10 | -1 |



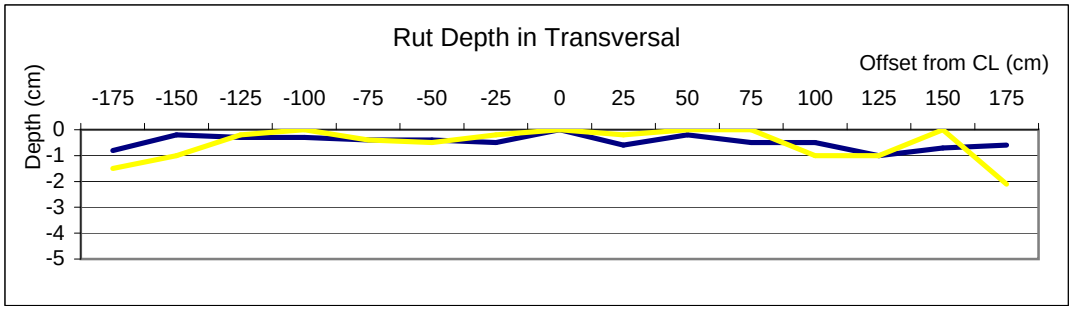
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+145

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 15 | -1.5 |
| | -150 | 0.2 | -0.2 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 0 | 0 |
| | -75 | 0.4 | -0.4 | 4 | -0.4 |
| | -50 | 0.4 | -0.4 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 0 | 0 |
| | 100 | 0.5 | -0.5 | 10 | -1 |
| | 125 | 1 | -1 | 10 | -1 |
| | 150 | 0.7 | -0.7 | 0 | 0 |
| | 175 | 0.6 | -0.6 | 21 | -2.1 |

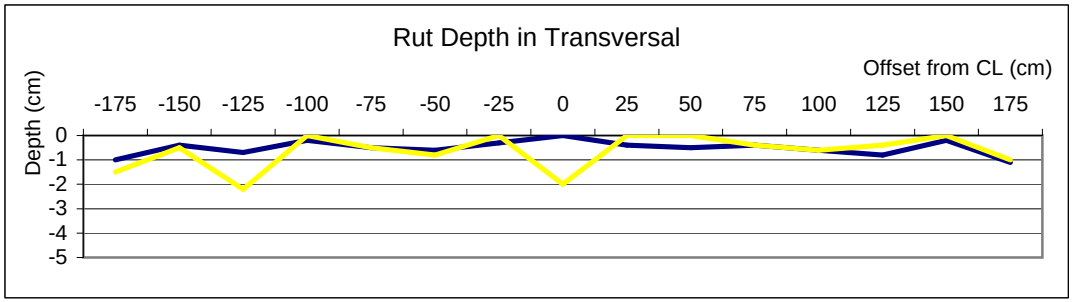


KM 0+155

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 15 | -1.5 |
| | -150 | 0.4 | -0.4 | 5 | -0.5 |
| | -125 | 0.7 | -0.7 | 22 | -2.2 |
| | -100 | 0.2 | -0.2 | 0 | 0 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 0.6 | -0.6 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 4 | -0.4 |
| | 100 | 0.6 | -0.6 | 6 | -0.6 |
| | 125 | 0.8 | -0.8 | 4 | -0.4 |
| | 150 | 0.2 | -0.2 | 0 | 0 |
| | 175 | 1.1 | -1.1 | 10 | -1 |



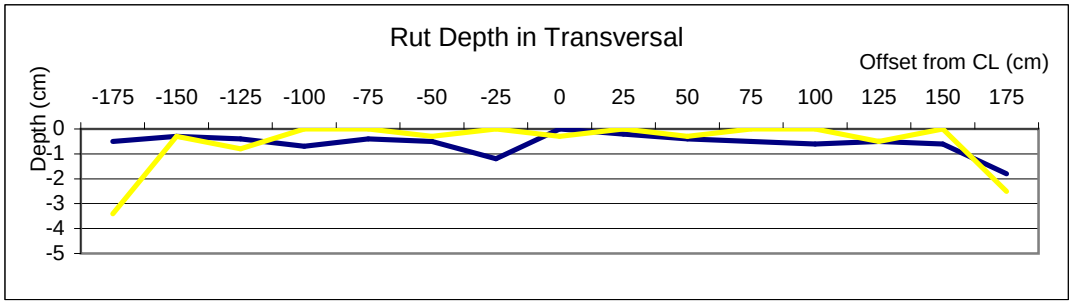
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+165

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

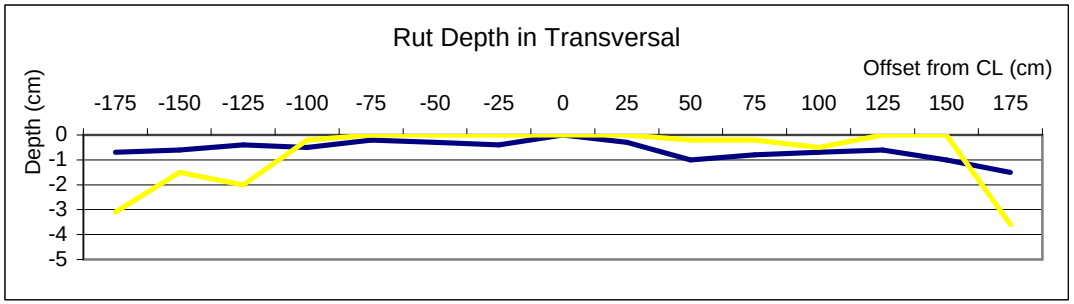
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 34 | -3.4 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.4 | -0.4 | 8 | -0.8 |
| | -100 | 0.7 | -0.7 | 0 | 0 |
| | -75 | 0.4 | -0.4 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 1.2 | -1.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 0 | 0 |
| | 100 | 0.6 | -0.6 | 0 | 0 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 0.6 | -0.6 | 0 | 0 |
| | 175 | 1.8 | -1.8 | 25 | -2.5 |



KM 0+175

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 31 | -3.1 |
| | -150 | 0.6 | -0.6 | 15 | -1.5 |
| | -125 | 0.4 | -0.4 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 1 | -1 | 2 | -0.2 |
| | 75 | 0.8 | -0.8 | 2 | -0.2 |
| | 100 | 0.7 | -0.7 | 5 | -0.5 |
| | 125 | 0.6 | -0.6 | 0 | 0 |
| | 150 | 1 | -1 | 0 | 0 |
| | 175 | 1.5 | -1.5 | 36 | -3.6 |



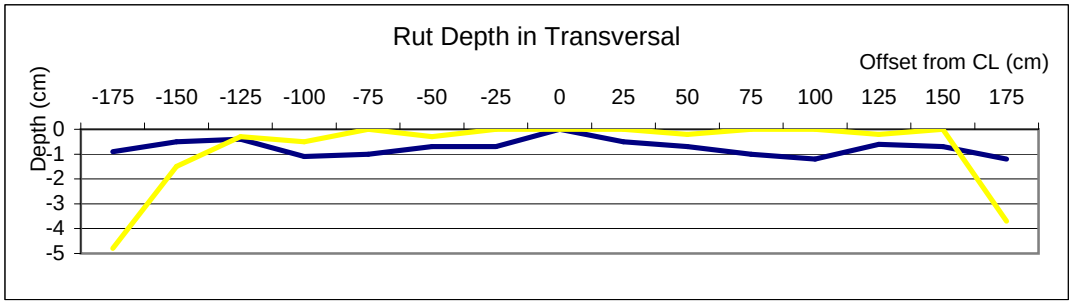
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+185

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 48 | -4.8 |
| | -150 | 0.5 | -0.5 | 15 | -1.5 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 1.1 | -1.1 | 5 | -0.5 |
| | -75 | 1 | -1 | 0 | 0 |
| | -50 | 0.7 | -0.7 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.7 | -0.7 | 2 | -0.2 |
| | 75 | 1 | -1 | 0 | 0 |
| | 100 | 1.2 | -1.2 | 0 | 0 |
| | 125 | 0.6 | -0.6 | 2 | -0.2 |
| | 150 | 0.7 | -0.7 | 0 | 0 |
| | 175 | 1.2 | -1.2 | 37 | -3.7 |

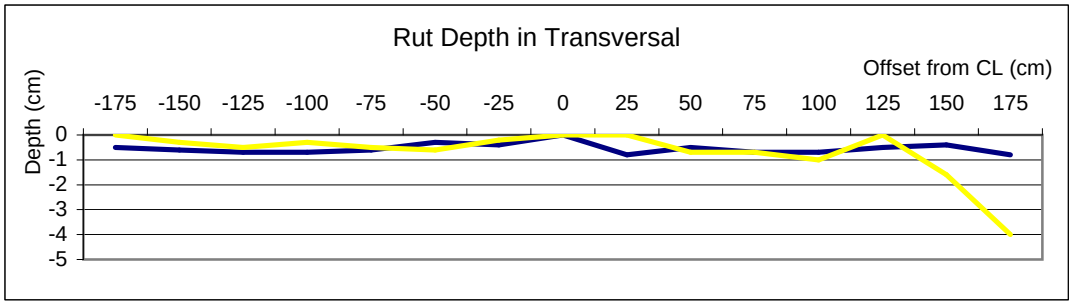


KM 0+195

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0.6 | -0.6 | 3 | -0.3 |
| | -125 | 0.7 | -0.7 | 5 | -0.5 |
| | -100 | 0.7 | -0.7 | 3 | -0.3 |
| | -75 | 0.6 | -0.6 | 5 | -0.5 |
| | -50 | 0.3 | -0.3 | 6 | -0.6 |
| | -25 | 0.4 | -0.4 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.8 | -0.8 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 7 | -0.7 |
| | 75 | 0.7 | -0.7 | 7 | -0.7 |
| | 100 | 0.7 | -0.7 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 0 | 0 |
| | 150 | 0.4 | -0.4 | 16 | -1.6 |
| | 175 | 0.8 | -0.8 | 40 | -4 |



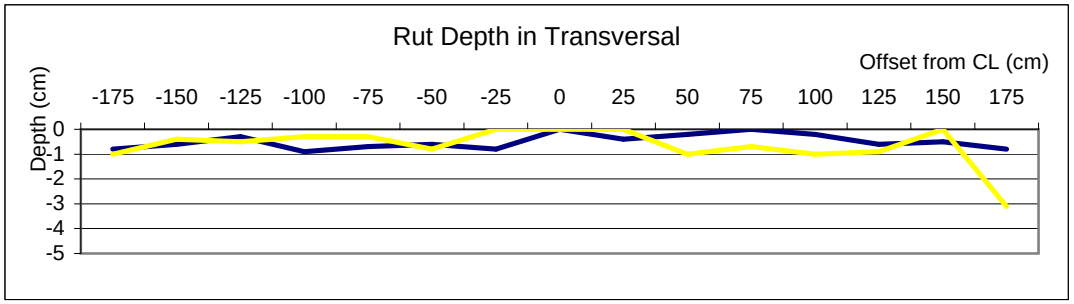
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+205

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 10 | -1 |
| | -150 | 0.6 | -0.6 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 5 | -0.5 |
| | -100 | 0.9 | -0.9 | 3 | -0.3 |
| | -75 | 0.7 | -0.7 | 3 | -0.3 |
| | -50 | 0.6 | -0.6 | 8 | -0.8 |
| | -25 | 0.8 | -0.8 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 10 | -1 |
| | 75 | 0 | 0 | 7 | -0.7 |
| | 100 | 0.2 | -0.2 | 10 | -1 |
| | 125 | 0.6 | -0.6 | 9 | -0.9 |
| | 150 | 0.5 | -0.5 | 0 | 0 |
| | 175 | 0.8 | -0.8 | 31 | -3.1 |

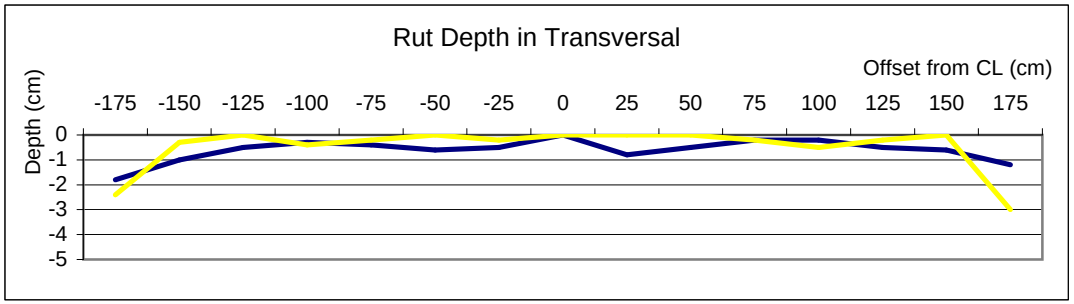


KM 0+215

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.8 | -1.8 | 24 | -2.4 |
| | -150 | 1 | -1 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 2 | -0.2 |
| | -50 | 0.6 | -0.6 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.8 | -0.8 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 2 | -0.2 |
| | 100 | 0.2 | -0.2 | 5 | -0.5 |
| | 125 | 0.5 | -0.5 | 2 | -0.2 |
| | 150 | 0.6 | -0.6 | 0 | 0 |
| | 175 | 1.2 | -1.2 | 30 | -3 |



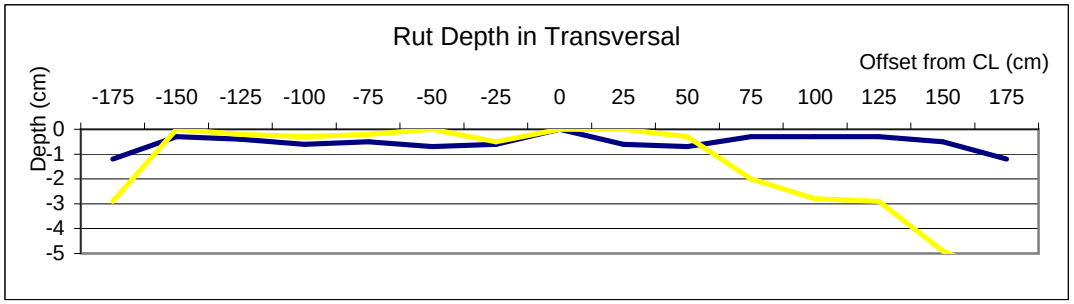
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+225

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 29 | -2.9 |
| | -150 | 0.3 | -0.3 | 0 | 0 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.6 | -0.6 | 3 | -0.3 |
| | -75 | 0.5 | -0.5 | 2 | -0.2 |
| | -50 | 0.7 | -0.7 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.7 | -0.7 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 20 | -2 |
| | 100 | 0.3 | -0.3 | 28 | -2.8 |
| | 125 | 0.3 | -0.3 | 29 | -2.9 |
| | 150 | 0.5 | -0.5 | 49 | -4.9 |
| | 175 | 1.2 | -1.2 | 60 | -6 |

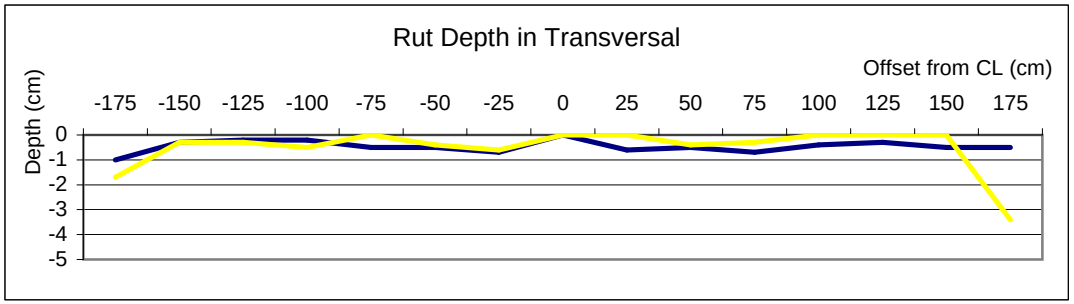


KM 0+235

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 17 | -1.7 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.2 | -0.2 | 3 | -0.3 |
| | -100 | 0.2 | -0.2 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 4 | -0.4 |
| | -25 | 0.7 | -0.7 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 4 | -0.4 |
| | 75 | 0.7 | -0.7 | 3 | -0.3 |
| | 100 | 0.4 | -0.4 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 0 | 0 |
| | 150 | 0.5 | -0.5 | 0 | 0 |
| | 175 | 0.5 | -0.5 | 34 | -3.4 |



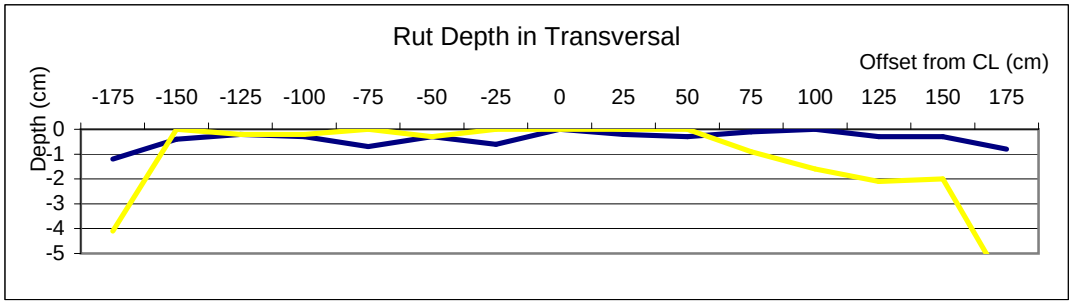
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Double Otta Seal

KM 0+245

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 41 | -4.1 |
| | -150 | 0.4 | -0.4 | 0 | 0 |
| | -125 | 0.2 | -0.2 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.7 | -0.7 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.1 | -0.1 | 9 | -0.9 |
| | 100 | 0 | 0 | 16 | -1.6 |
| | 125 | 0.3 | -0.3 | 21 | -2.1 |
| | 150 | 0.3 | -0.3 | 20 | -2 |
| | 175 | 0.8 | -0.8 | 64 | -6.4 |

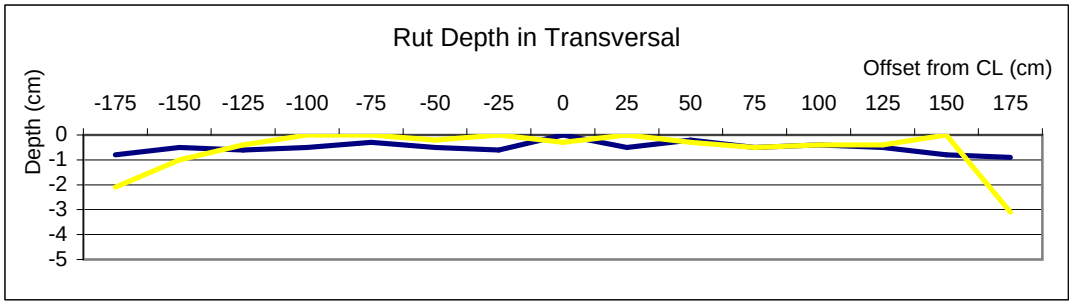


KM 0+255

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 21 | -2.1 |
| | -150 | 0.5 | -0.5 | 10 | -1 |
| | -125 | 0.6 | -0.6 | 4 | -0.4 |
| | -100 | 0.5 | -0.5 | 0 | 0 |
| | -75 | 0.3 | -0.3 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 4 | -0.4 |
| | 125 | 0.5 | -0.5 | 4 | -0.4 |
| | 150 | 0.8 | -0.8 | 0 | 0 |
| | 175 | 0.9 | -0.9 | 31 | -3.1 |



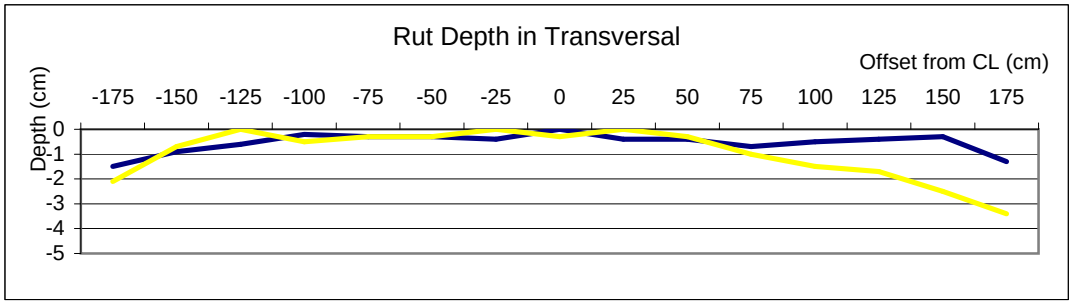
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+265

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

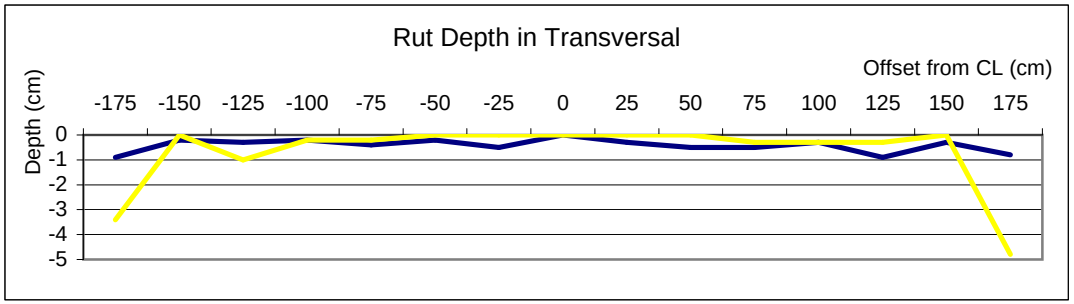
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 21 | -2.1 |
| | -150 | 0.9 | -0.9 | 7 | -0.7 |
| | -125 | 0.6 | -0.6 | 0 | 0 |
| | -100 | 0.2 | -0.2 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.7 | -0.7 | 10 | -1 |
| | 100 | 0.5 | -0.5 | 15 | -1.5 |
| | 125 | 0.4 | -0.4 | 17 | -1.7 |
| | 150 | 0.3 | -0.3 | 25 | -2.5 |
| | 175 | 1.3 | -1.3 | 34 | -3.4 |



KM 0+275

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 34 | -3.4 |
| | -150 | 0.2 | -0.2 | 0 | 0 |
| | -125 | 0.3 | -0.3 | 10 | -1 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.4 | -0.4 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.9 | -0.9 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 0 | 0 |
| | 175 | 0.8 | -0.8 | 48 | -4.8 |



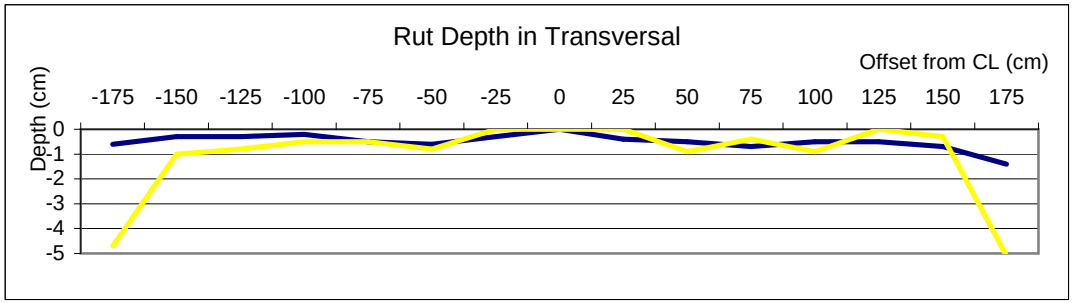
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+285

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

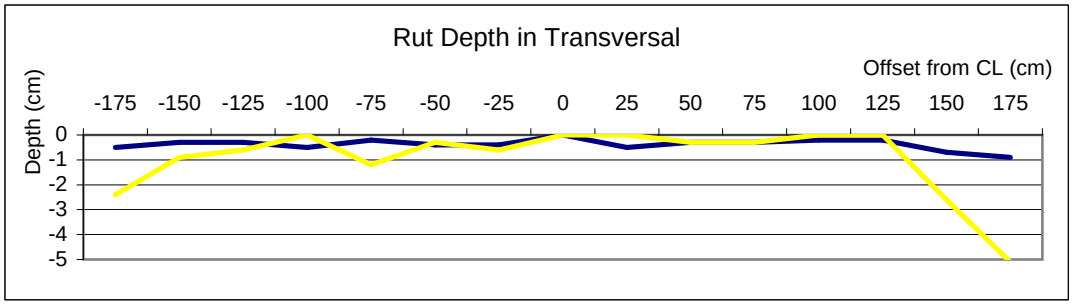
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 47 | -4.7 |
| | -150 | 0.3 | -0.3 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 8 | -0.8 |
| | -100 | 0.2 | -0.2 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 0.6 | -0.6 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 9 | -0.9 |
| | 75 | 0.7 | -0.7 | 4 | -0.4 |
| | 100 | 0.5 | -0.5 | 9 | -0.9 |
| | 125 | 0.5 | -0.5 | 0 | 0 |
| | 150 | 0.7 | -0.7 | 3 | -0.3 |
| | 175 | 1.4 | -1.4 | 51 | -5.1 |



KM 0+295

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 24 | -2.4 |
| | -150 | 0.3 | -0.3 | 9 | -0.9 |
| | -125 | 0.3 | -0.3 | 6 | -0.6 |
| | -100 | 0.5 | -0.5 | 0 | 0 |
| | -75 | 0.2 | -0.2 | 12 | -1.2 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 0 | 0 |
| | 125 | 0.2 | -0.2 | 0 | 0 |
| | 150 | 0.7 | -0.7 | 26 | -2.6 |
| | 175 | 0.9 | -0.9 | 51 | -5.1 |



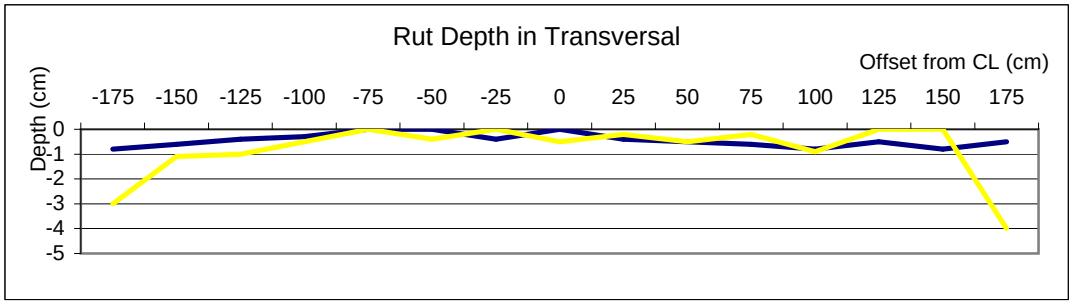
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+305

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

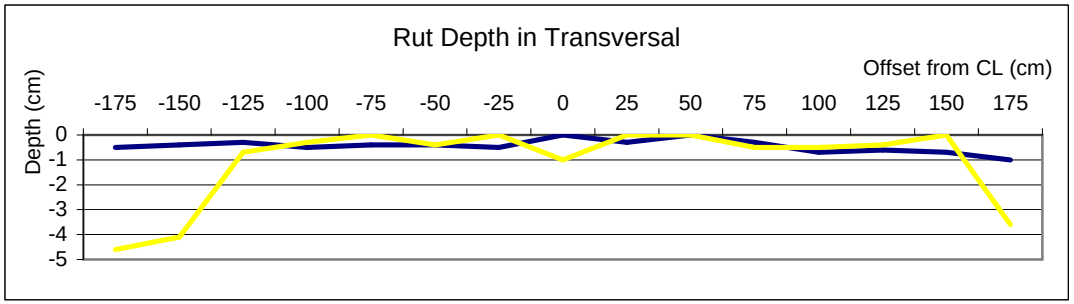
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 30 | -3 |
| | -150 | 0.6 | -0.6 | 11 | -1.1 |
| | -125 | 0.4 | -0.4 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0 | 0 | 0 | 0 |
| | -50 | 0 | 0 | 4 | -0.4 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.6 | -0.6 | 2 | -0.2 |
| | 100 | 0.8 | -0.8 | 9 | -0.9 |
| | 125 | 0.5 | -0.5 | 0 | 0 |
| | 150 | 0.8 | -0.8 | 0 | 0 |
| | 175 | 0.5 | -0.5 | 40 | -4 |



KM 0+315

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 46 | -4.6 |
| | -150 | 0.4 | -0.4 | 41 | -4.1 |
| | -125 | 0.3 | -0.3 | 7 | -0.7 |
| | -100 | 0.5 | -0.5 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 0 | 0 |
| | -50 | 0.4 | -0.4 | 4 | -0.4 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0 | 0 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.7 | -0.7 | 5 | -0.5 |
| | 125 | 0.6 | -0.6 | 4 | -0.4 |
| | 150 | 0.7 | -0.7 | 0 | 0 |
| | 175 | 1 | -1 | 36 | -3.6 |



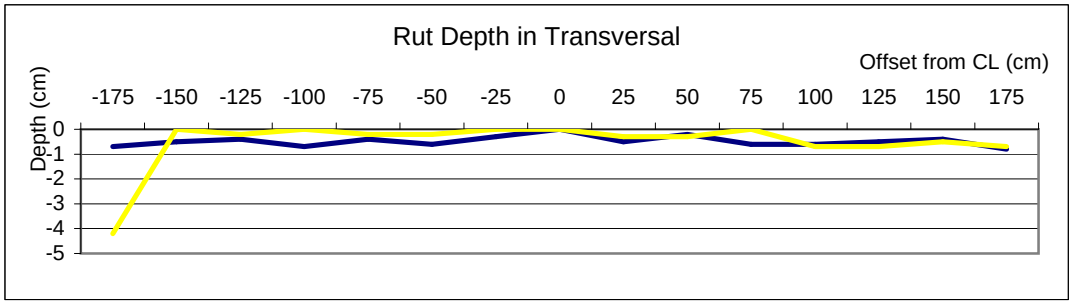
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+325

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

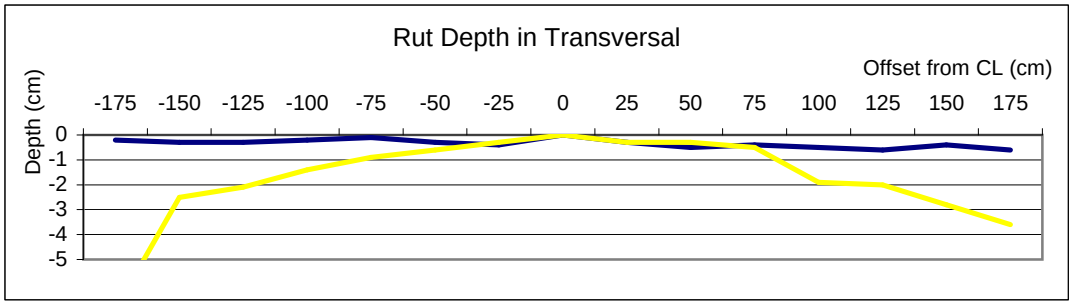
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 42 | -4.2 |
| | -150 | 0.5 | -0.5 | 0 | 0 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.7 | -0.7 | 0 | 0 |
| | -75 | 0.4 | -0.4 | 2 | -0.2 |
| | -50 | 0.6 | -0.6 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.6 | -0.6 | 0 | 0 |
| | 100 | 0.6 | -0.6 | 7 | -0.7 |
| | 125 | 0.5 | -0.5 | 7 | -0.7 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 0.8 | -0.8 | 7 | -0.7 |



KM 0+335

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 70 | -7 |
| | -150 | 0.3 | -0.3 | 25 | -2.5 |
| | -125 | 0.3 | -0.3 | 21 | -2.1 |
| | -100 | 0.2 | -0.2 | 14 | -1.4 |
| | -75 | 0.1 | -0.1 | 9 | -0.9 |
| | -50 | 0.3 | -0.3 | 6 | -0.6 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 5 | -0.5 |
| | 100 | 0.5 | -0.5 | 19 | -1.9 |
| | 125 | 0.6 | -0.6 | 20 | -2 |
| | 150 | 0.4 | -0.4 | 28 | -2.8 |
| | 175 | 0.6 | -0.6 | 36 | -3.6 |



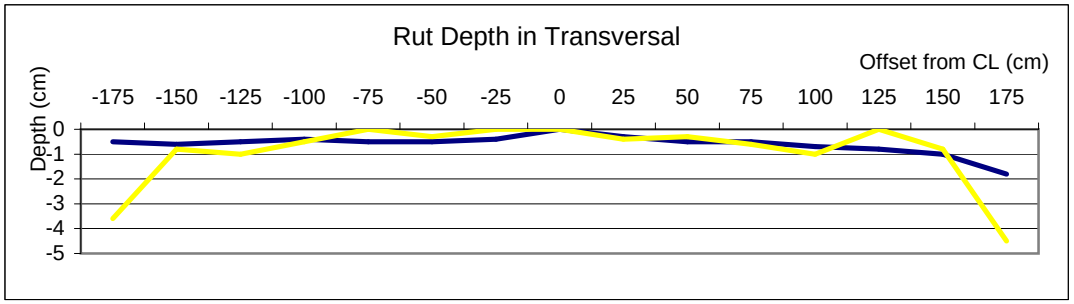
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+345

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 36 | -3.6 |
| | -150 | 0.6 | -0.6 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 4 | -0.4 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 6 | -0.6 |
| | 100 | 0.7 | -0.7 | 10 | -1 |
| | 125 | 0.8 | -0.8 | 0 | 0 |
| | 150 | 1 | -1 | 8 | -0.8 |
| | 175 | 1.8 | -1.8 | 45 | -4.5 |

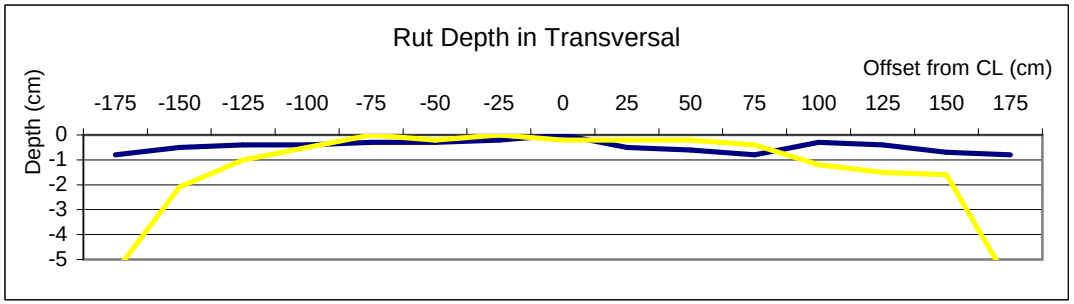


KM 0+355

Measured by: Khambone
Checked by: Singthong

Date: 29/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 55 | -5.5 |
| | -150 | 0.5 | -0.5 | 21 | -2.1 |
| | -125 | 0.4 | -0.4 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.6 | -0.6 | 2 | -0.2 |
| | 75 | 0.8 | -0.8 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 12 | -1.2 |
| | 125 | 0.4 | -0.4 | 15 | -1.5 |
| | 150 | 0.7 | -0.7 | 16 | -1.6 |
| | 175 | 0.8 | -0.8 | 60 | -6 |



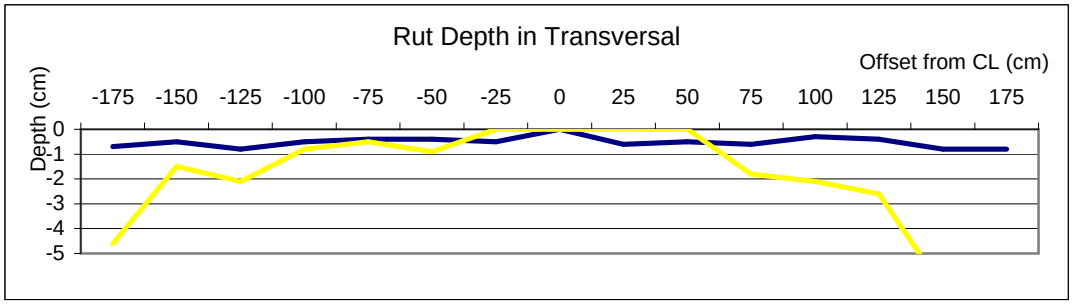
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+365

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 46 | -4.6 |
| | -150 | 0.5 | -0.5 | 15 | -1.5 |
| | -125 | 0.8 | -0.8 | 21 | -2.1 |
| | -100 | 0.5 | -0.5 | 8 | -0.8 |
| | -75 | 0.4 | -0.4 | 5 | -0.5 |
| | -50 | 0.4 | -0.4 | 9 | -0.9 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.6 | -0.6 | 18 | -1.8 |
| | 100 | 0.3 | -0.3 | 21 | -2.1 |
| | 125 | 0.4 | -0.4 | 26 | -2.6 |
| | 150 | 0.8 | -0.8 | 64 | -6.4 |
| | 175 | 0.8 | -0.8 | 83 | -8.3 |

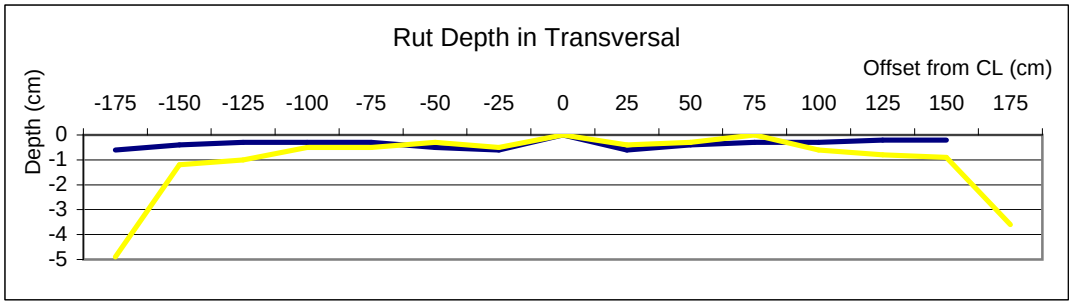


KM 0+375

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 49 | -4.9 |
| | -150 | 0.4 | -0.4 | 12 | -1.2 |
| | -125 | 0.3 | -0.3 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 5 | -0.5 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 4 | -0.4 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 6 | -0.6 |
| | 125 | 0.2 | -0.2 | 8 | -0.8 |
| | 150 | 0.2 | -0.2 | 9 | -0.9 |
| | 175 | 0.8 | -0.8 | 36 | -3.6 |



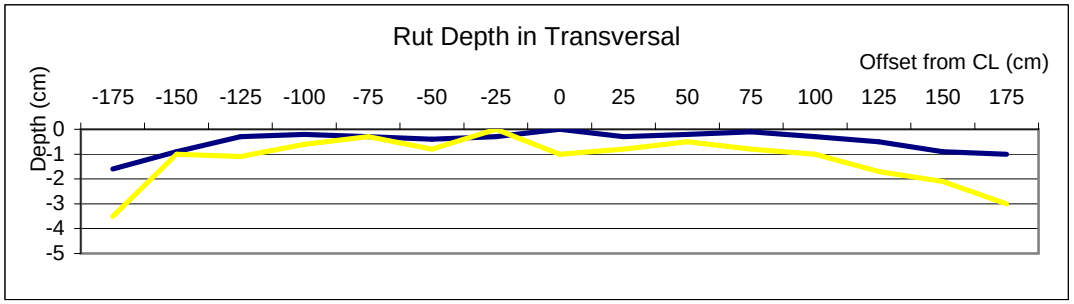
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+385

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

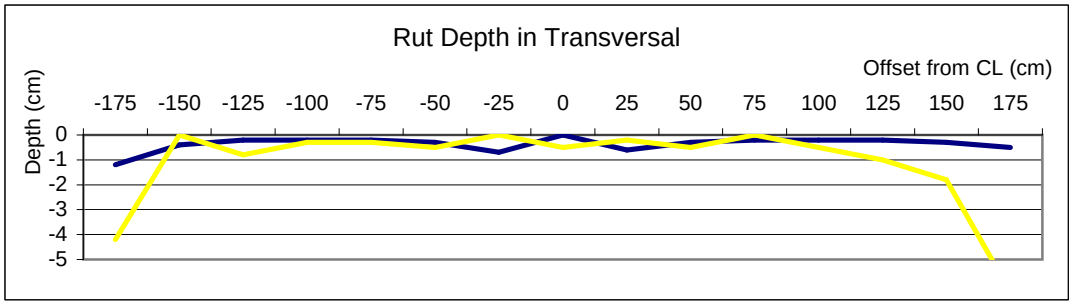
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 35 | -3.5 |
| | -150 | 0.9 | -0.9 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 11 | -1.1 |
| | -100 | 0.2 | -0.2 | 6 | -0.6 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.4 | -0.4 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 8 | -0.8 |
| | 50 | 0.2 | -0.2 | 5 | -0.5 |
| | 75 | 0.1 | -0.1 | 8 | -0.8 |
| | 100 | 0.3 | -0.3 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 17 | -1.7 |
| | 150 | 0.9 | -0.9 | 21 | -2.1 |
| | 175 | 1 | -1 | 30 | -3 |



KM 0+395

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 42 | -4.2 |
| | -150 | 0.4 | -0.4 | 0 | 0 |
| | -125 | 0.2 | -0.2 | 8 | -0.8 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 5 | -0.5 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 5 | -0.5 |
| | 125 | 0.2 | -0.2 | 10 | -1 |
| | 150 | 0.3 | -0.3 | 18 | -1.8 |
| | 175 | 0.5 | -0.5 | 63 | -6.3 |



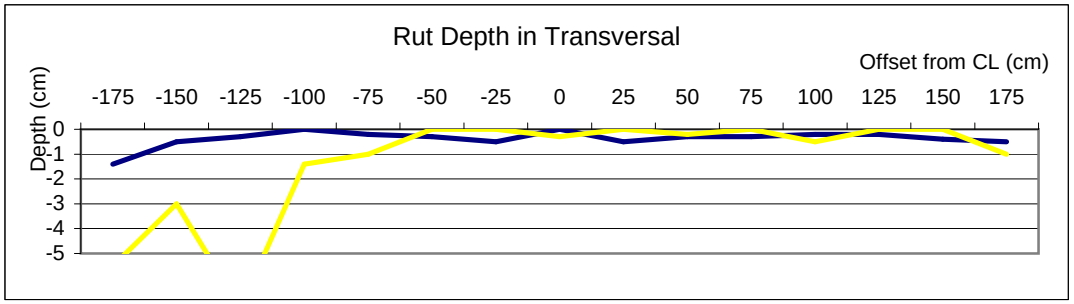
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+405

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 55 | -5.5 |
| | -150 | 0.5 | -0.5 | 30 | -3 |
| | -125 | 0.3 | -0.3 | 72 | -7.2 |
| | -100 | 0 | 0 | 14 | -1.4 |
| | -75 | 0.2 | -0.2 | 10 | -1 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 5 | -0.5 |
| | 125 | 0.2 | -0.2 | 0 | 0 |
| | 150 | 0.4 | -0.4 | 0 | 0 |
| | 175 | 0.5 | -0.5 | 10 | -1 |

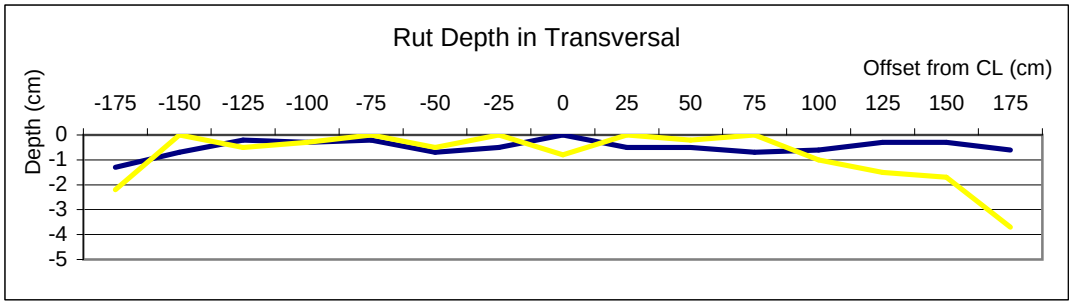


KM 0+415

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.3 | -1.3 | 22 | -2.2 |
| | -150 | 0.7 | -0.7 | 0 | 0 |
| | -125 | 0.2 | -0.2 | 5 | -0.5 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.7 | -0.7 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 2 | -0.2 |
| | 75 | 0.7 | -0.7 | 0 | 0 |
| | 100 | 0.6 | -0.6 | 10 | -1 |
| | 125 | 0.3 | -0.3 | 15 | -1.5 |
| | 150 | 0.3 | -0.3 | 17 | -1.7 |
| | 175 | 0.6 | -0.6 | 37 | -3.7 |



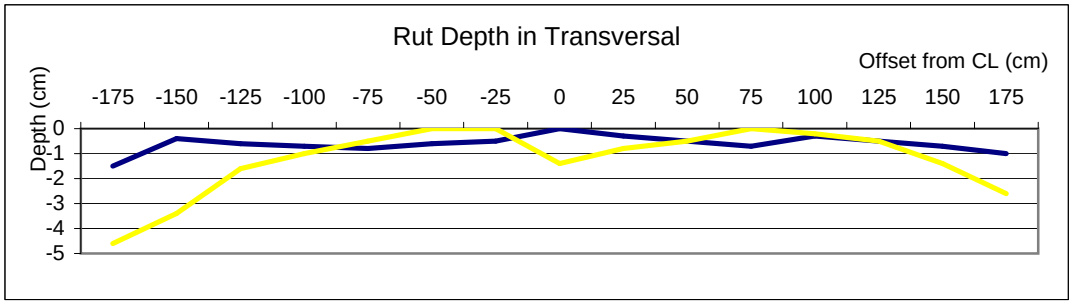
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+425

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

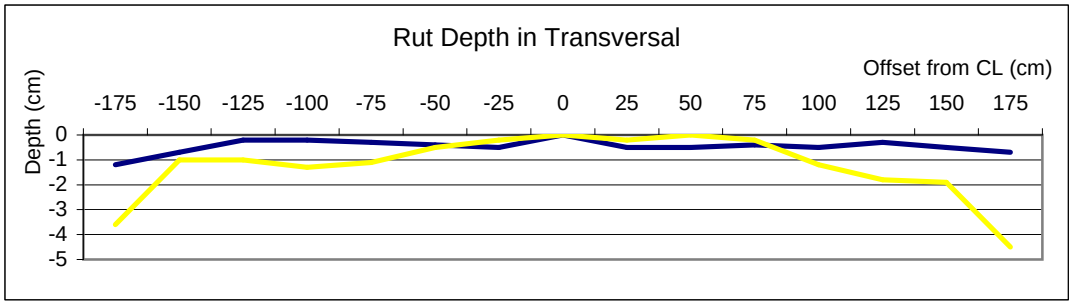
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 46 | -4.6 |
| | -150 | 0.4 | -0.4 | 34 | -3.4 |
| | -125 | 0.6 | -0.6 | 16 | -1.6 |
| | -100 | 0.7 | -0.7 | 10 | -1 |
| | -75 | 0.8 | -0.8 | 5 | -0.5 |
| | -50 | 0.6 | -0.6 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 14 | -1.4 |
| Right Hand Side | 25 | 0.3 | -0.3 | 8 | -0.8 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.7 | -0.7 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 0.7 | -0.7 | 14 | -1.4 |
| | 175 | 1 | -1 | 26 | -2.6 |



KM 0+435

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 36 | -3.6 |
| | -150 | 0.7 | -0.7 | 10 | -1 |
| | -125 | 0.2 | -0.2 | 10 | -1 |
| | -100 | 0.2 | -0.2 | 13 | -1.3 |
| | -75 | 0.3 | -0.3 | 11 | -1.1 |
| | -50 | 0.4 | -0.4 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 12 | -1.2 |
| | 125 | 0.3 | -0.3 | 18 | -1.8 |
| | 150 | 0.5 | -0.5 | 19 | -1.9 |
| | 175 | 0.7 | -0.7 | 45 | -4.5 |



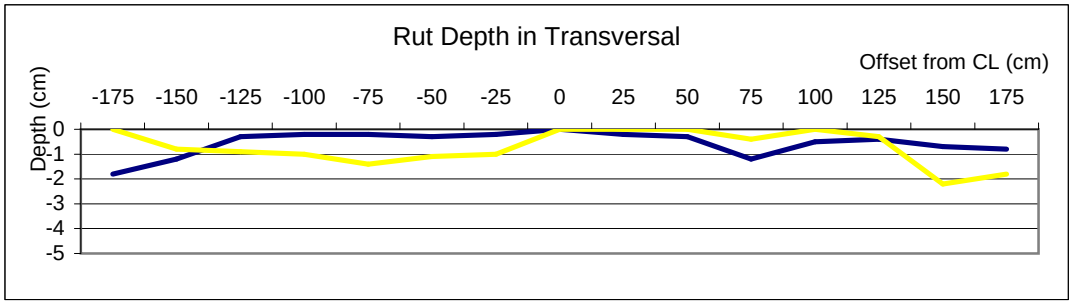
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+445

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

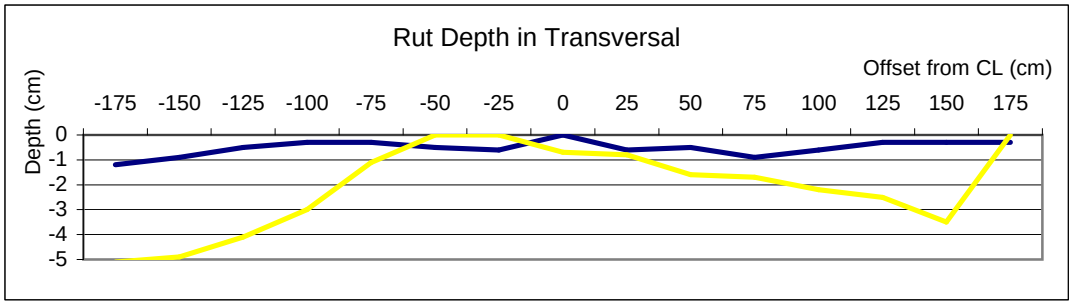
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.8 | -1.8 | 0 | 0 |
| | -150 | 1.2 | -1.2 | 8 | -0.8 |
| | -125 | 0.3 | -0.3 | 9 | -0.9 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 14 | -1.4 |
| | -50 | 0.3 | -0.3 | 11 | -1.1 |
| | -25 | 0.2 | -0.2 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 1.2 | -1.2 | 4 | -0.4 |
| | 100 | 0.5 | -0.5 | 0 | 0 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.7 | -0.7 | 22 | -2.2 |
| | 175 | 0.8 | -0.8 | 18 | -1.8 |



KM 0+455

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 51 | -5.1 |
| | -150 | 0.9 | -0.9 | 49 | -4.9 |
| | -125 | 0.5 | -0.5 | 41 | -4.1 |
| | -100 | 0.3 | -0.3 | 30 | -3 |
| | -75 | 0.3 | -0.3 | 11 | -1.1 |
| | -50 | 0.5 | -0.5 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.6 | -0.6 | 8 | -0.8 |
| | 50 | 0.5 | -0.5 | 16 | -1.6 |
| | 75 | 0.9 | -0.9 | 17 | -1.7 |
| | 100 | 0.6 | -0.6 | 22 | -2.2 |
| | 125 | 0.3 | -0.3 | 25 | -2.5 |
| | 150 | 0.3 | -0.3 | 35 | -3.5 |
| | 175 | 0.3 | -0.3 | 0 | 0 |



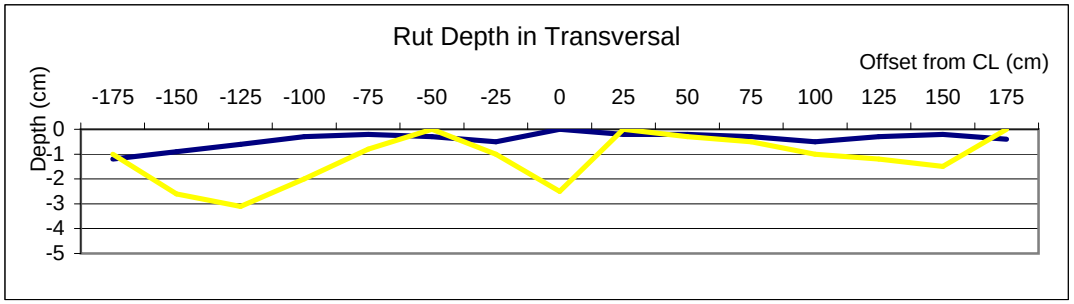
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+465

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 10 | -1 |
| | -150 | 0.9 | -0.9 | 26 | -2.6 |
| | -125 | 0.6 | -0.6 | 31 | -3.1 |
| | -100 | 0.3 | -0.3 | 20 | -2 |
| | -75 | 0.2 | -0.2 | 8 | -0.8 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 25 | -2.5 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.5 | -0.5 | 10 | -1 |
| | 125 | 0.3 | -0.3 | 12 | -1.2 |
| | 150 | 0.2 | -0.2 | 15 | -1.5 |
| | 175 | 0.4 | -0.4 | 0 | 0 |

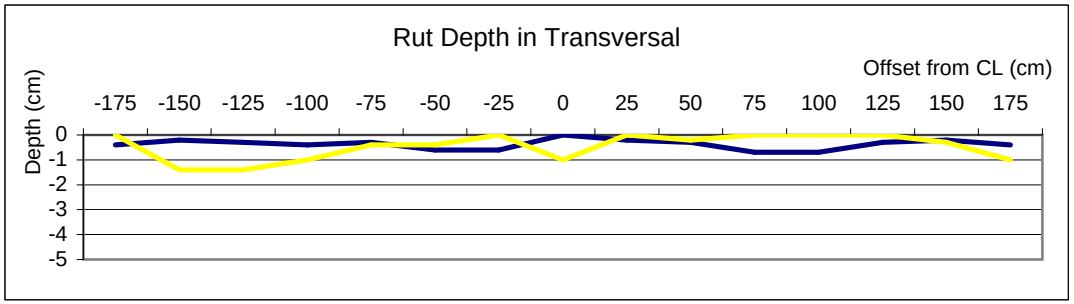


KM 0+475

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 0 | 0 |
| | -150 | 0.2 | -0.2 | 14 | -1.4 |
| | -125 | 0.3 | -0.3 | 14 | -1.4 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0.3 | -0.3 | 4 | -0.4 |
| | -50 | 0.6 | -0.6 | 4 | -0.4 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.7 | -0.7 | 0 | 0 |
| | 100 | 0.7 | -0.7 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 0 | 0 |
| | 150 | 0.2 | -0.2 | 3 | -0.3 |
| | 175 | 0.4 | -0.4 | 10 | -1 |



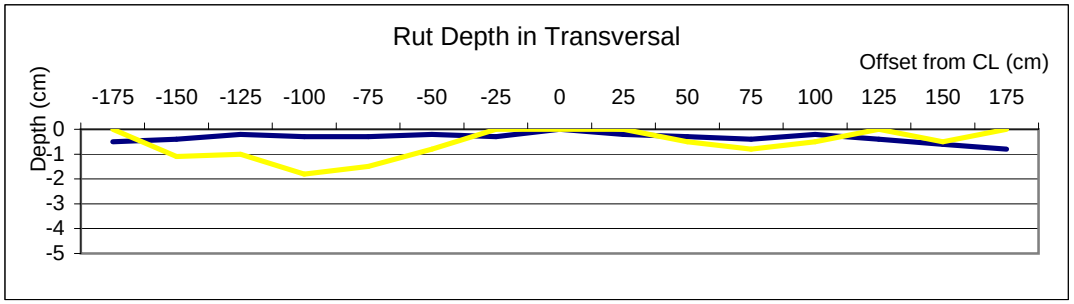
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+485

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

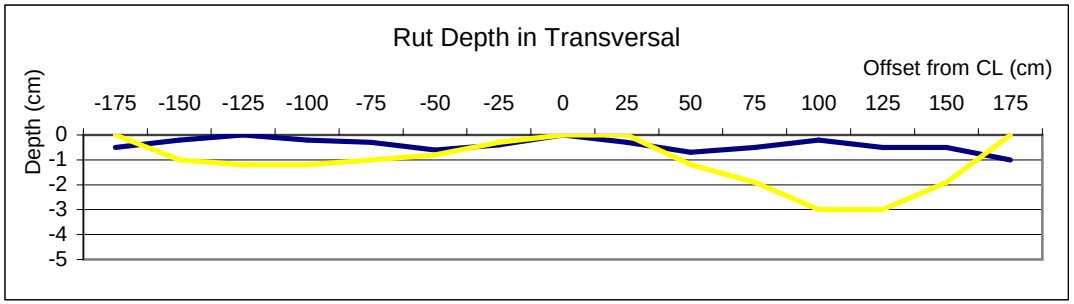
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 11 | -1.1 |
| | -125 | 0.2 | -0.2 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 18 | -1.8 |
| | -75 | 0.3 | -0.3 | 15 | -1.5 |
| | -50 | 0.2 | -0.2 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.4 | -0.4 | 8 | -0.8 |
| | 100 | 0.2 | -0.2 | 5 | -0.5 |
| | 125 | 0.4 | -0.4 | 0 | 0 |
| | 150 | 0.6 | -0.6 | 5 | -0.5 |
| | 175 | 0.8 | -0.8 | 0 | 0 |



KM 0+495

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0.2 | -0.2 | 10 | -1 |
| | -125 | 0 | 0 | 12 | -1.2 |
| | -100 | 0.2 | -0.2 | 12 | -1.2 |
| | -75 | 0.3 | -0.3 | 10 | -1 |
| | -50 | 0.6 | -0.6 | 8 | -0.8 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.7 | -0.7 | 12 | -1.2 |
| | 75 | 0.5 | -0.5 | 19 | -1.9 |
| | 100 | 0.2 | -0.2 | 30 | -3 |
| | 125 | 0.5 | -0.5 | 30 | -3 |
| | 150 | 0.5 | -0.5 | 19 | -1.9 |
| | 175 | 1 | -1 | 0 | 0 |



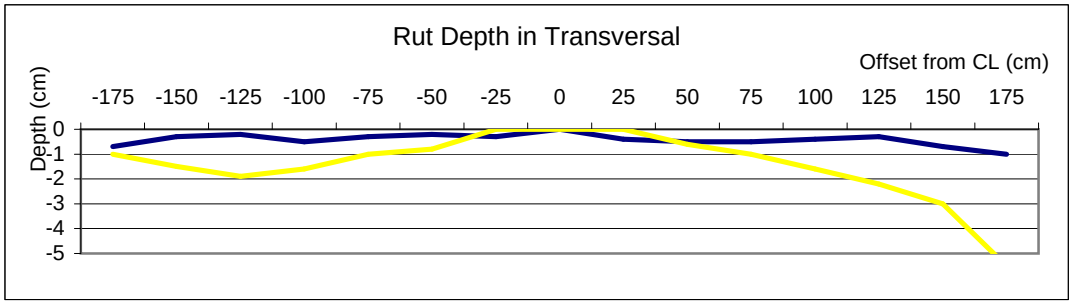
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 3.2 Pavement type: Single Otta Seal with Sand Cover

KM 0+505

Measured by: Khambone Date: 30/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 10 | -1 |
| | -150 | 0.3 | -0.3 | 15 | -1.5 |
| | -125 | 0.2 | -0.2 | 19 | -1.9 |
| | -100 | 0.5 | -0.5 | 16 | -1.6 |
| | -75 | 0.3 | -0.3 | 10 | -1 |
| | -50 | 0.2 | -0.2 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 6 | -0.6 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.4 | -0.4 | 16 | -1.6 |
| | 125 | 0.3 | -0.3 | 22 | -2.2 |
| | 150 | 0.7 | -0.7 | 30 | -3 |
| | 175 | 1 | -1 | 55 | -5.5 |

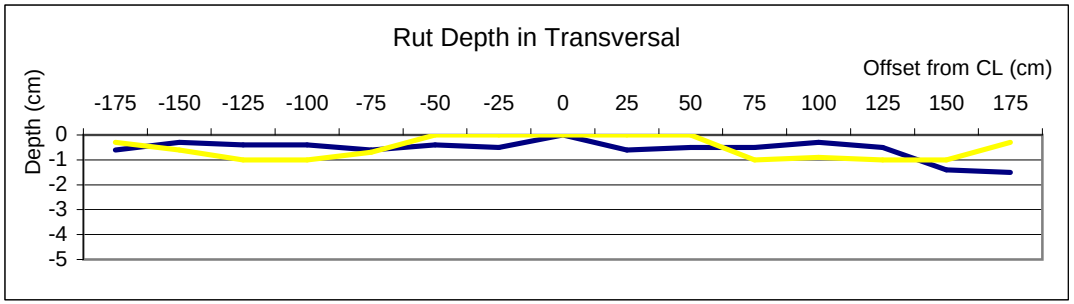


KM 0+515

Measured by: Khambone
Checked by: Singthong

Date: 30/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 6 | -0.6 |
| | -125 | 0.4 | -0.4 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0.6 | -0.6 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 9 | -0.9 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 1.4 | -1.4 | 10 | -1 |
| | 175 | 1.5 | -1.5 | 3 | -0.3 |



# R 5.0 Bamboo Reinforced Concrete

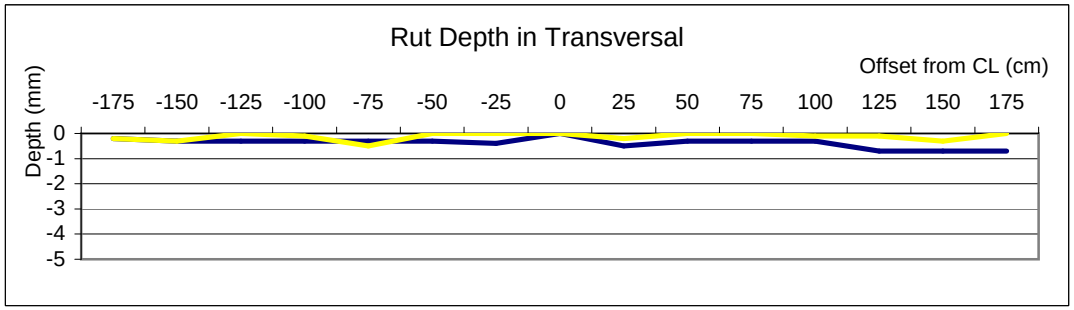
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 1+955

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | 31/08/2007 Rut depth (cm) | | 11/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 2 | -0.2 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 5 | -0.5 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.7 | -0.7 | 1 | -0.1 |
| | 150 | 0.7 | -0.7 | 3 | -0.3 |
| | 175 | 0.7 | -0.7 | 0 | 0 |

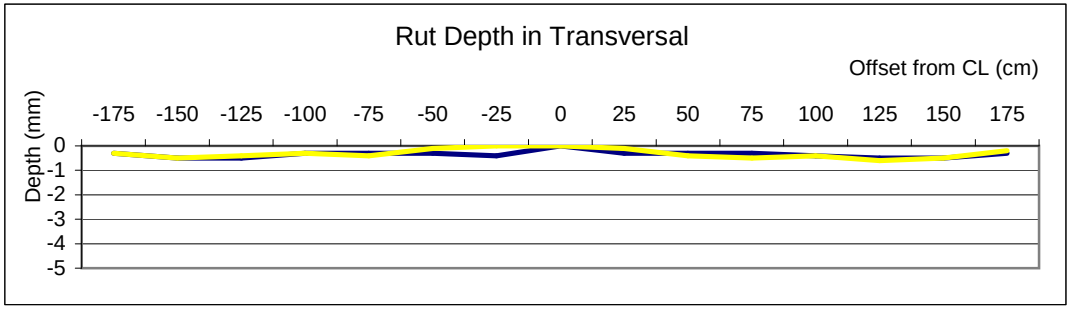


KM 1+965

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 3 | -0.3 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.5 | -0.5 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 4 | -0.4 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 4 | -0.4 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 4 | -0.4 |
| | 125 | 0.5 | -0.5 | 6 | -0.6 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 0.3 | -0.3 | 2 | -0.2 |



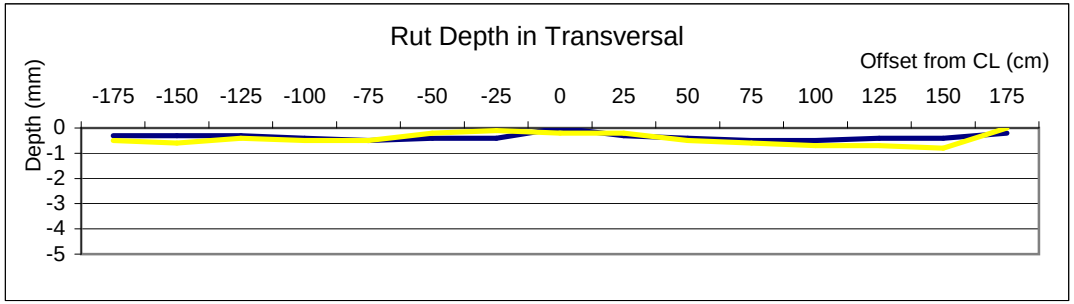
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 1+975

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

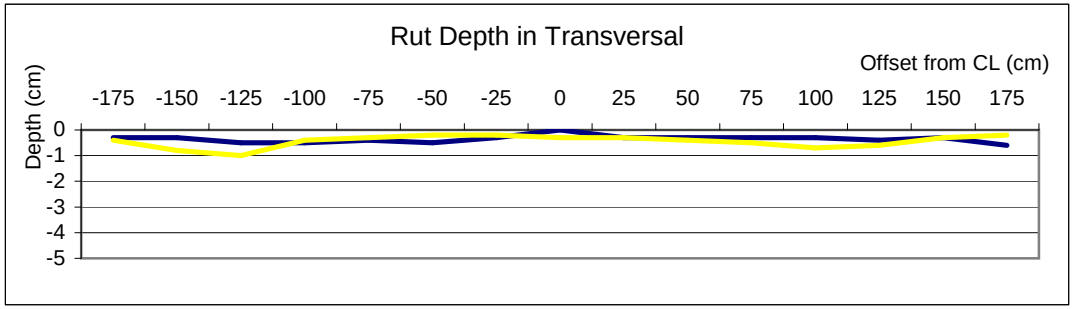
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 6 | -0.6 |
| | -125 | 0.3 | -0.3 | 4 | -0.4 |
| | -100 | 0.4 | -0.4 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 5 | -0.5 |
| | 75 | 0.5 | -0.5 | 6 | -0.6 |
| | 100 | 0.5 | -0.5 | 7 | -0.7 |
| | 125 | 0.4 | -0.4 | 7 | -0.7 |
| | 150 | 0.4 | -0.4 | 8 | -0.8 |
| | 175 | 0.2 | -0.2 | 0 | 0 |



KM 1+985

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 4 | -0.4 |
| | -150 | 0.3 | -0.3 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.5 | -0.5 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 4 | -0.4 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.3 | -0.3 | 7 | -0.7 |
| | 125 | 0.4 | -0.4 | 6 | -0.6 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.6 | -0.6 | 2 | -0.2 |



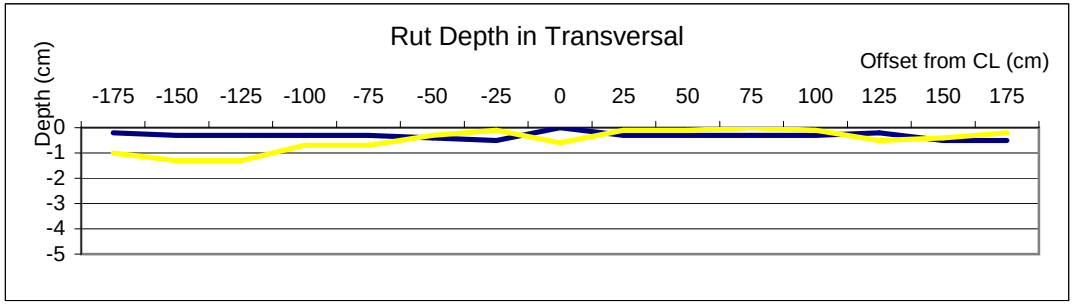
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 1+995

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 10 | -1 |
| | -150 | 0.3 | -0.3 | 13 | -1.3 |
| | -125 | 0.3 | -0.3 | 13 | -1.3 |
| | -100 | 0.3 | -0.3 | 7 | -0.7 |
| | -75 | 0.3 | -0.3 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.2 | -0.2 | 5 | -0.5 |
| | 150 | 0.5 | -0.5 | 4 | -0.4 |
| | 175 | 0.5 | -0.5 | 2 | -0.2 |

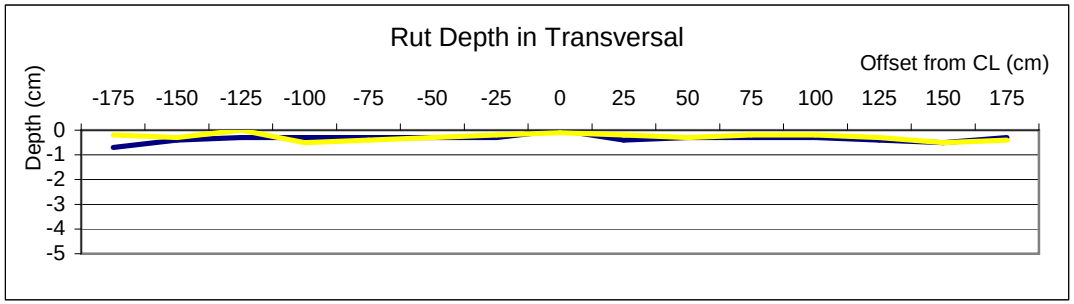


KM 2+005

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 4 | -0.4 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 0.3 | -0.3 | 4 | -0.4 |



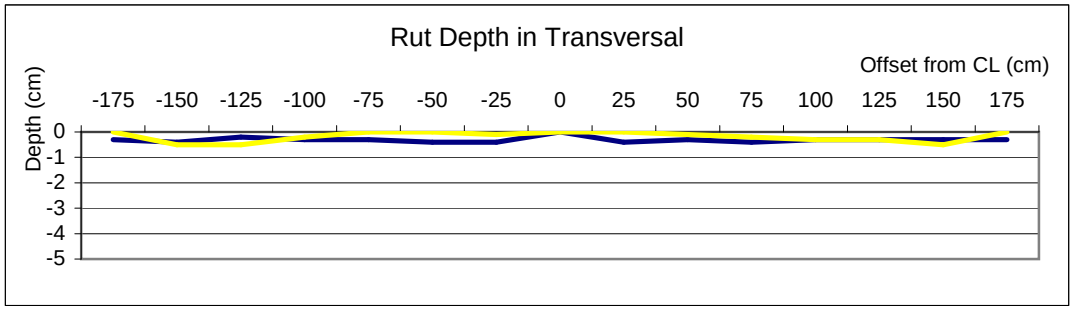
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+015

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

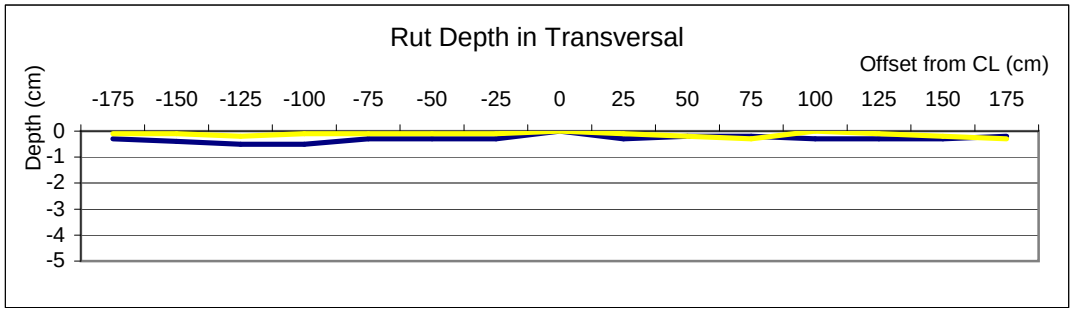
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 5 | -0.5 |
| | -125 | 0.2 | -0.2 | 5 | -0.5 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 0 | 0 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 5 | -0.5 |
| | 175 | 0.3 | -0.3 | 0 | 0 |



KM 2+025

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 1 | -0.1 |
| | -150 | 0.4 | -0.4 | 1 | -0.1 |
| | -125 | 0.5 | -0.5 | 2 | -0.2 |
| | -100 | 0.5 | -0.5 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.3 | -0.3 | 2 | -0.2 |
| | 175 | 0.2 | -0.2 | 3 | -0.3 |



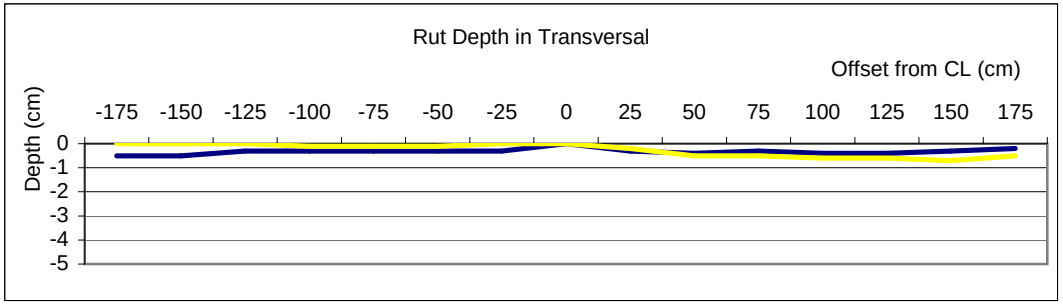
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+035

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

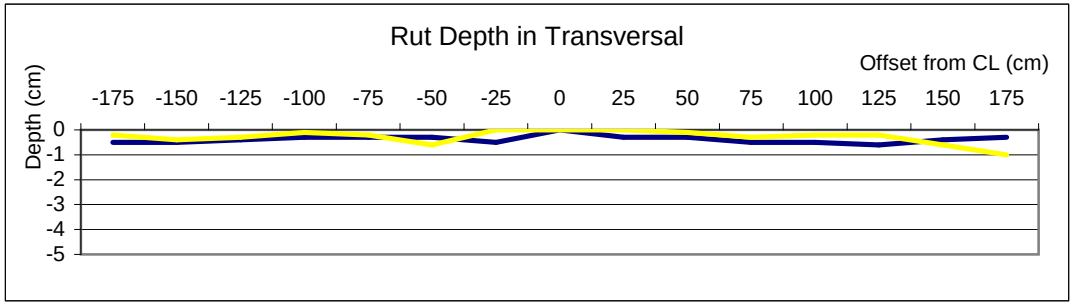
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0.5 | -0.5 | 0 | 0 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 5 | -0.5 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 6 | -0.6 |
| | 125 | 0.4 | -0.4 | 6 | -0.6 |
| | 150 | 0.3 | -0.3 | 7 | -0.7 |
| | 175 | 0.2 | -0.2 | 5 | -0.5 |



KM 2+045

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 2 | -0.2 |
| | -150 | 0.5 | -0.5 | 4 | -0.4 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 6 | -0.6 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.5 | -0.5 | 3 | -0.3 |
| | 100 | 0.5 | -0.5 | 2 | -0.2 |
| | 125 | 0.6 | -0.6 | 2 | -0.2 |
| | 150 | 0.4 | -0.4 | 6 | -0.6 |
| | 175 | 0.3 | -0.3 | 10 | -1 |



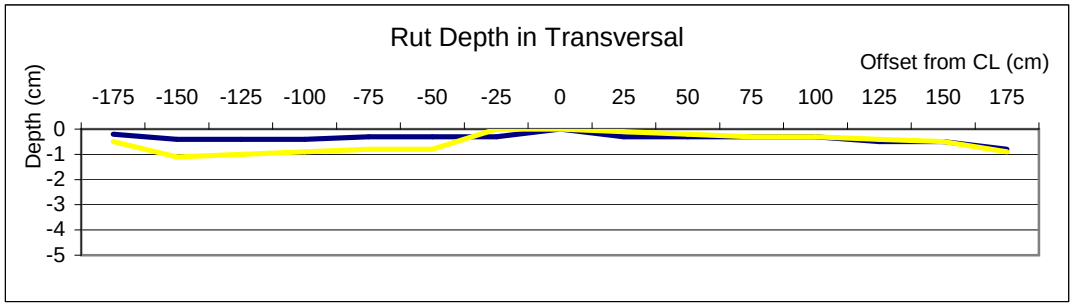
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+055

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 5 | -0.5 |
| | -150 | 0.4 | -0.4 | 11 | -1.1 |
| | -125 | 0.4 | -0.4 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 9 | -0.9 |
| | -75 | 0.3 | -0.3 | 8 | -0.8 |
| | -50 | 0.3 | -0.3 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.5 | -0.5 | 4 | -0.4 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 0.8 | -0.8 | 9 | -0.9 |

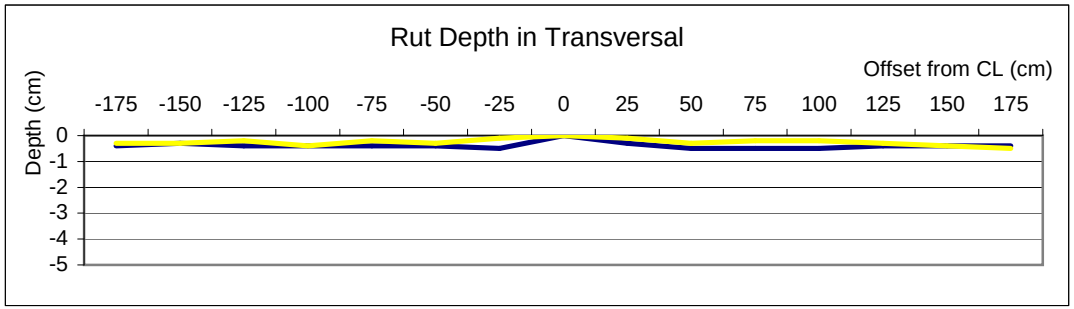


KM 2+065

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.4 | -0.4 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 0.5 | -0.5 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 4 | -0.4 |
| | 175 | 0.4 | -0.4 | 5 | -0.5 |



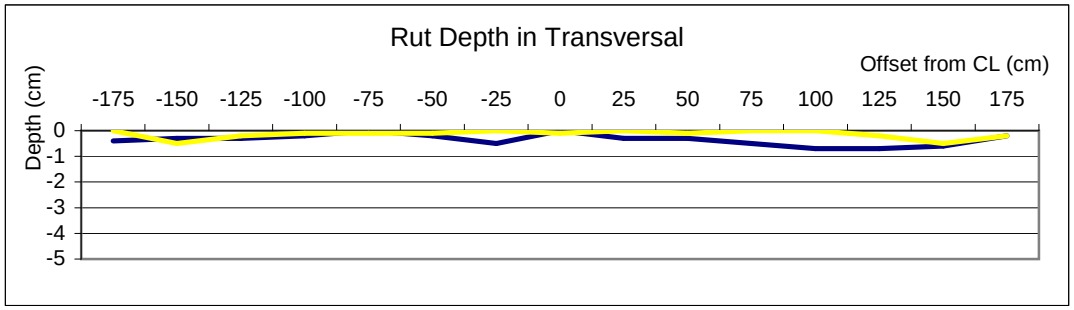
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+075

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 0 | 0 |
| | -150 | 0.3 | -0.3 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.2 | -0.2 | 1 | -0.1 |
| | -75 | 0 | 0 | 1 | -0.1 |
| | -50 | 0.2 | -0.2 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.5 | -0.5 | 0 | 0 |
| | 100 | 0.7 | -0.7 | 0 | 0 |
| | 125 | 0.7 | -0.7 | 2 | -0.2 |
| | 150 | 0.6 | -0.6 | 5 | -0.5 |
| | 175 | 0.2 | -0.2 | 2 | -0.2 |

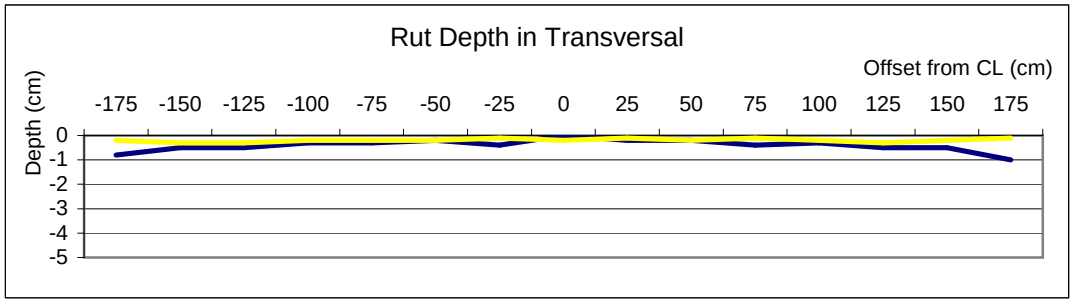


KM 2+085

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 2 | -0.2 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.2 | -0.2 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.5 | -0.5 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 2 | -0.2 |
| | 175 | 1 | -1 | 1 | -0.1 |



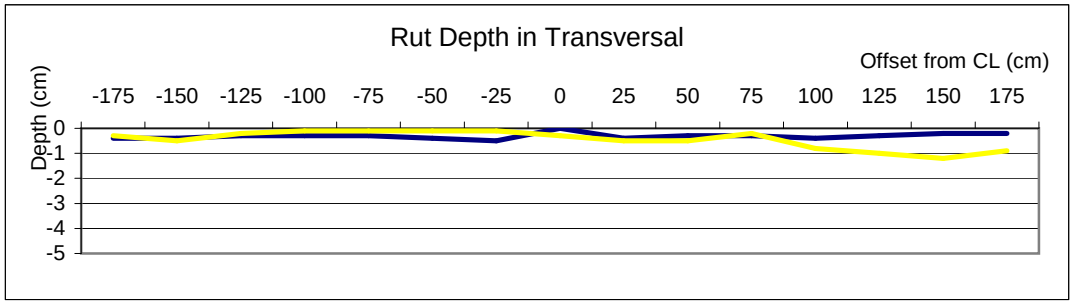
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+095

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

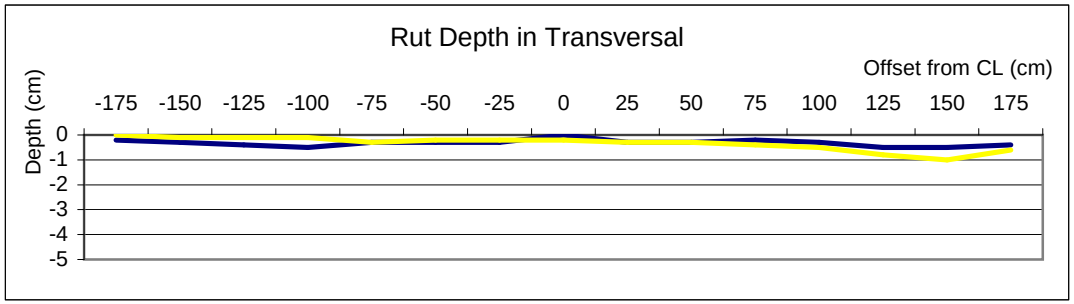
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 3 | -0.3 |
| | -150 | 0.4 | -0.4 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.4 | -0.4 | 5 | -0.5 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 8 | -0.8 |
| | 125 | 0.3 | -0.3 | 10 | -1 |
| | 150 | 0.2 | -0.2 | 12 | -1.2 |
| | 175 | 0.2 | -0.2 | 9 | -0.9 |



KM 2+105

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 0 | 0 |
| | -150 | 0.3 | -0.3 | 1 | -0.1 |
| | -125 | 0.4 | -0.4 | 1 | -0.1 |
| | -100 | 0.5 | -0.5 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.5 | -0.5 | 8 | -0.8 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 0.4 | -0.4 | 6 | -0.6 |



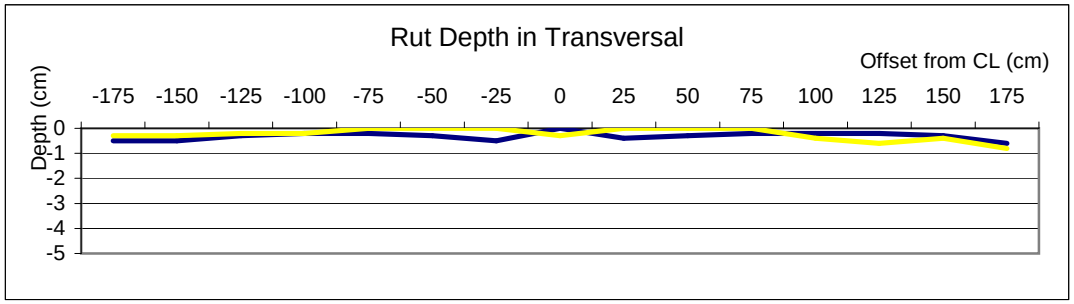
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+115

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

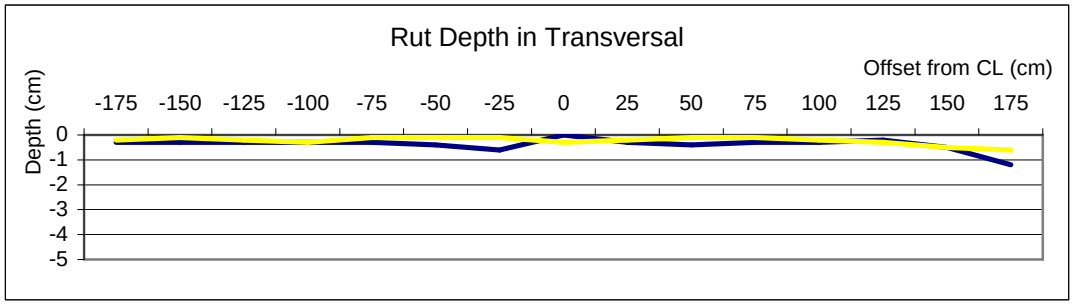
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 3 | -0.3 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 4 | -0.4 |
| | 125 | 0.2 | -0.2 | 6 | -0.6 |
| | 150 | 0.3 | -0.3 | 4 | -0.4 |
| | 175 | 0.6 | -0.6 | 8 | -0.8 |



KM 2+125

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 2 | -0.2 |
| | -150 | 0.3 | -0.3 | 1 | -0.1 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.6 | -0.6 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.2 | -0.2 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 1.2 | -1.2 | 6 | -0.6 |



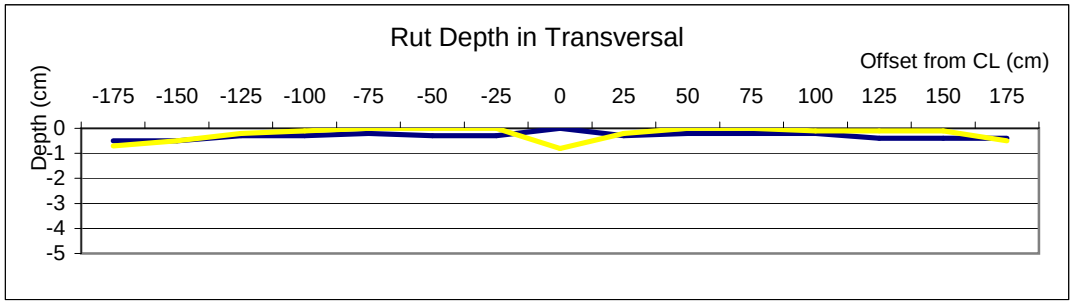
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+135

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

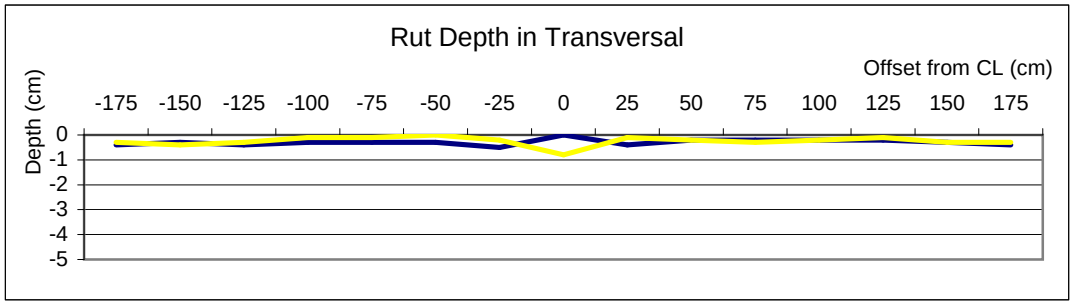
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 7 | -0.7 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 1 | -0.1 |
| | 150 | 0.4 | -0.4 | 1 | -0.1 |
| | 175 | 0.4 | -0.4 | 5 | -0.5 |



KM 2+145

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 2 | -0.2 |
| | 125 | 0.2 | -0.2 | 1 | -0.1 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.4 | -0.4 | 3 | -0.3 |



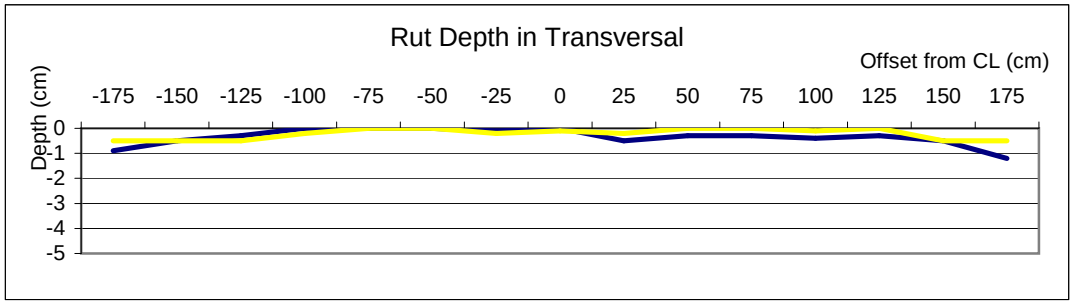
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+155

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 5 | -0.5 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 5 | -0.5 |
| | -100 | 0 | 0 | 2 | -0.2 |
| | -75 | 0 | 0 | 0 | 0 |
| | -50 | 0 | 0 | 0 | 0 |
| | -25 | 0.1 | -0.1 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.4 | -0.4 | 1 | -0.1 |
| | 125 | 0.3 | -0.3 | 0 | 0 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 1.2 | -1.2 | 5 | -0.5 |

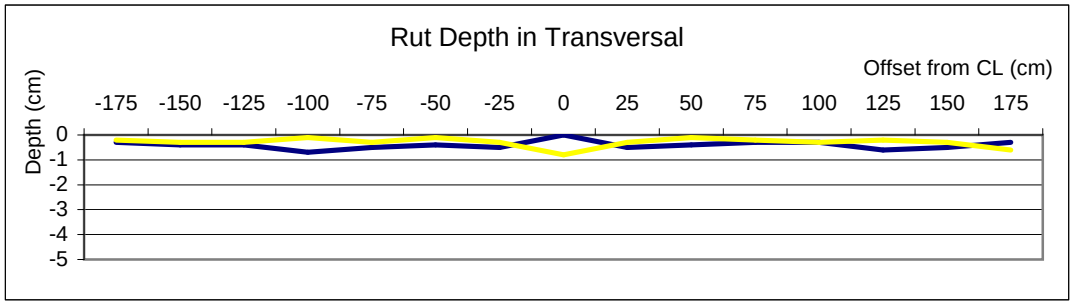


KM 2+165

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 0.7 | -0.7 | 1 | -0.1 |
| | -75 | 0.5 | -0.5 | 3 | -0.3 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.6 | -0.6 | 2 | -0.2 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 0.3 | -0.3 | 6 | -0.6 |



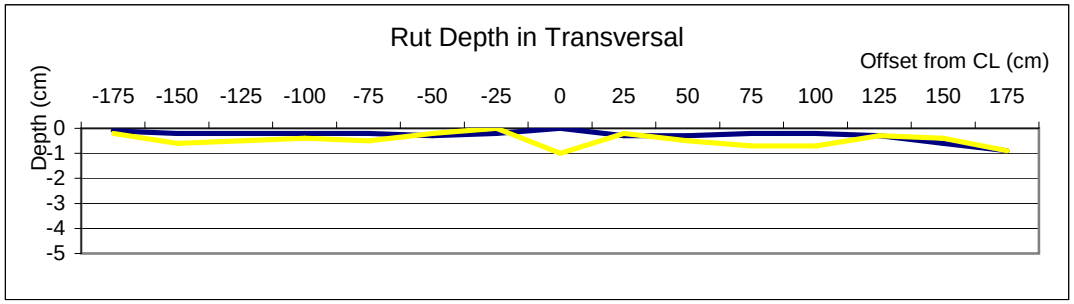
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+175

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.1 | -0.1 | 2 | -0.2 |
| | -150 | 0.2 | -0.2 | 6 | -0.6 |
| | -125 | 0.2 | -0.2 | 5 | -0.5 |
| | -100 | 0.2 | -0.2 | 4 | -0.4 |
| | -75 | 0.2 | -0.2 | 5 | -0.5 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.2 | -0.2 | 7 | -0.7 |
| | 100 | 0.2 | -0.2 | 7 | -0.7 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.6 | -0.6 | 4 | -0.4 |
| | 175 | 0.9 | -0.9 | 9 | -0.9 |

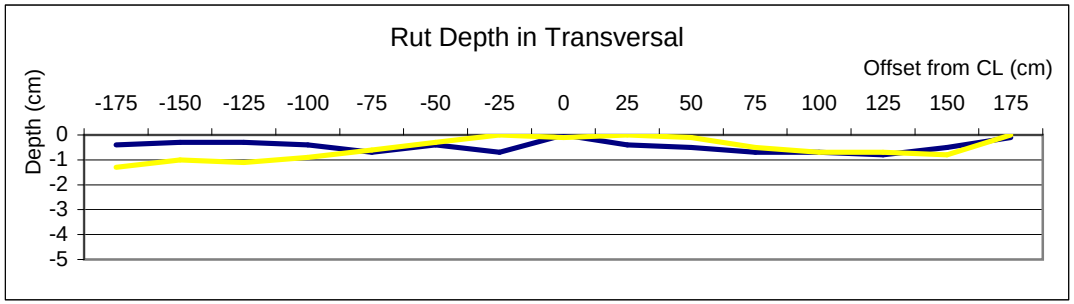


KM 2+185

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 13 | -1.3 |
| | -150 | 0.3 | -0.3 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 11 | -1.1 |
| | -100 | 0.4 | -0.4 | 9 | -0.9 |
| | -75 | 0.7 | -0.7 | 6 | -0.6 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 1 | -0.1 |
| | 75 | 0.7 | -0.7 | 5 | -0.5 |
| | 100 | 0.7 | -0.7 | 7 | -0.7 |
| | 125 | 0.8 | -0.8 | 7 | -0.7 |
| | 150 | 0.5 | -0.5 | 8 | -0.8 |
| | 175 | 0.1 | -0.1 | 0 | 0 |



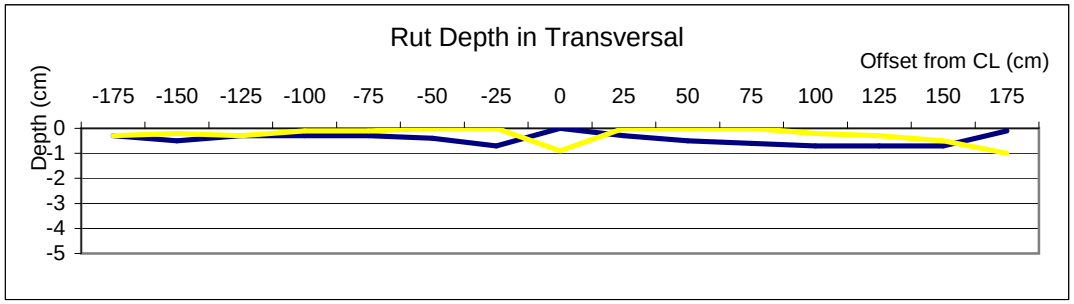
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+195

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

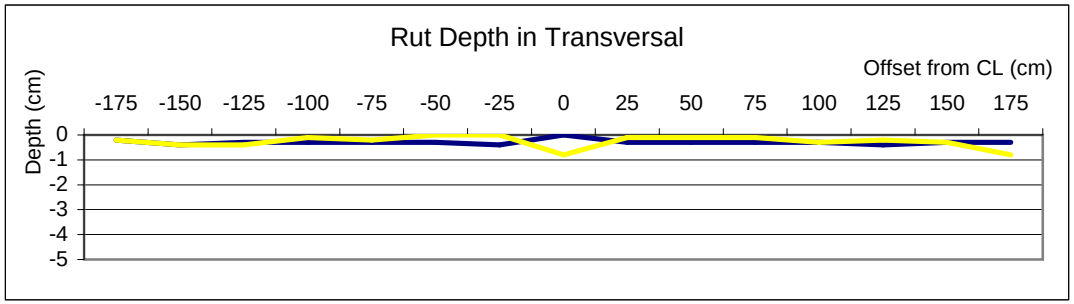
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 3 | -0.3 |
| | -150 | 0.5 | -0.5 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 0 | 0 |
| | 75 | 0.6 | -0.6 | 0 | 0 |
| | 100 | 0.7 | -0.7 | 2 | -0.2 |
| | 125 | 0.7 | -0.7 | 3 | -0.3 |
| | 150 | 0.7 | -0.7 | 5 | -0.5 |
| | 175 | 0.1 | -0.1 | 10 | -1 |



KM 2+205

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.4 | -0.4 | 2 | -0.2 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.3 | -0.3 | 8 | -0.8 |



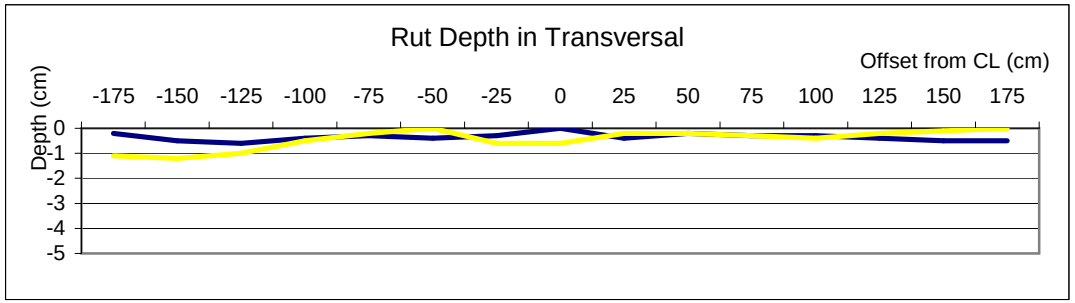
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+215

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

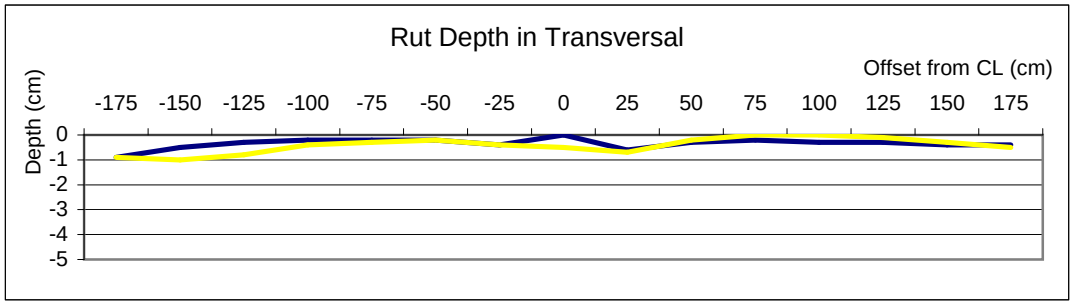
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 11 | -1.1 |
| | -150 | 0.5 | -0.5 | 12 | -1.2 |
| | -125 | 0.6 | -0.6 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 4 | -0.4 |
| | 125 | 0.4 | -0.4 | 2 | -0.2 |
| | 150 | 0.5 | -0.5 | 1 | -0.1 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



KM 2+225

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 9 | -0.9 |
| | -150 | 0.5 | -0.5 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 8 | -0.8 |
| | -100 | 0.2 | -0.2 | 4 | -0.4 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 7 | -0.7 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.4 | -0.4 | 3 | -0.3 |
| | 175 | 0.4 | -0.4 | 5 | -0.5 |



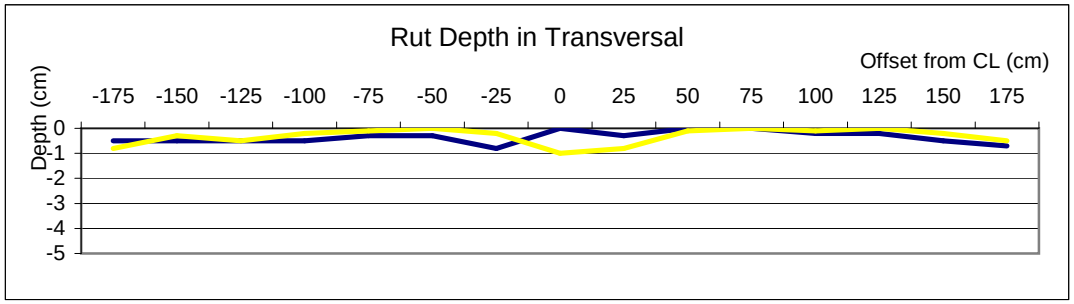
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+235

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

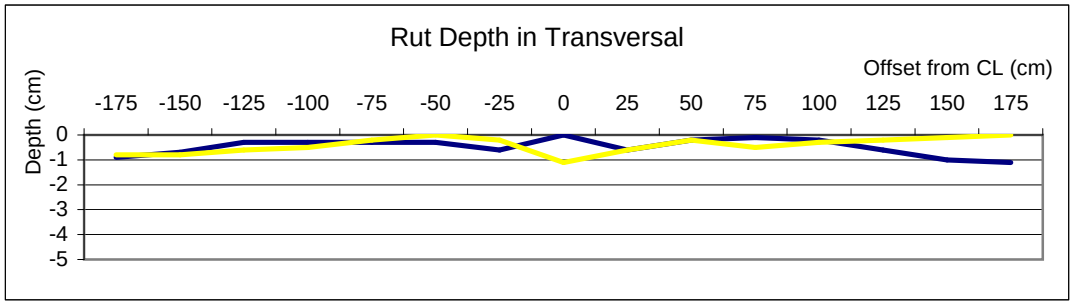
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 5 | -0.5 |
| | -100 | 0.5 | -0.5 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.8 | -0.8 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 8 | -0.8 |
| | 50 | 0 | 0 | 1 | -0.1 |
| | 75 | 0 | 0 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 1 | -0.1 |
| | 125 | 0.2 | -0.2 | 0 | 0 |
| | 150 | 0.5 | -0.5 | 2 | -0.2 |
| | 175 | 0.7 | -0.7 | 5 | -0.5 |



KM 2+245

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 8 | -0.8 |
| | -150 | 0.7 | -0.7 | 8 | -0.8 |
| | -125 | 0.3 | -0.3 | 6 | -0.6 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 11 | -1.1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 6 | -0.6 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.1 | -0.1 | 5 | -0.5 |
| | 100 | 0.2 | -0.2 | 3 | -0.3 |
| | 125 | 0.6 | -0.6 | 2 | -0.2 |
| | 150 | 1 | -1 | 1 | -0.1 |
| | 175 | 1.1 | -1.1 | 0 | 0 |



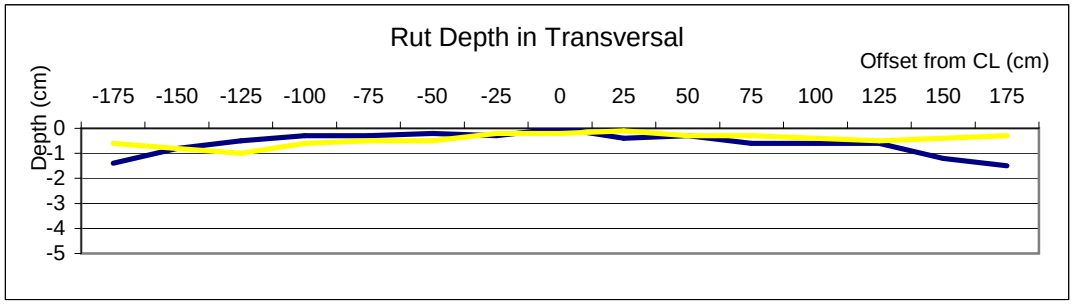
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+255

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 6 | -0.6 |
| | -150 | 0.8 | -0.8 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 6 | -0.6 |
| | -75 | 0.3 | -0.3 | 5 | -0.5 |
| | -50 | 0.2 | -0.2 | 5 | -0.5 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.6 | -0.6 | 3 | -0.3 |
| | 100 | 0.6 | -0.6 | 4 | -0.4 |
| | 125 | 0.6 | -0.6 | 5 | -0.5 |
| | 150 | 1.2 | -1.2 | 4 | -0.4 |
| | 175 | 1.5 | -1.5 | 3 | -0.3 |

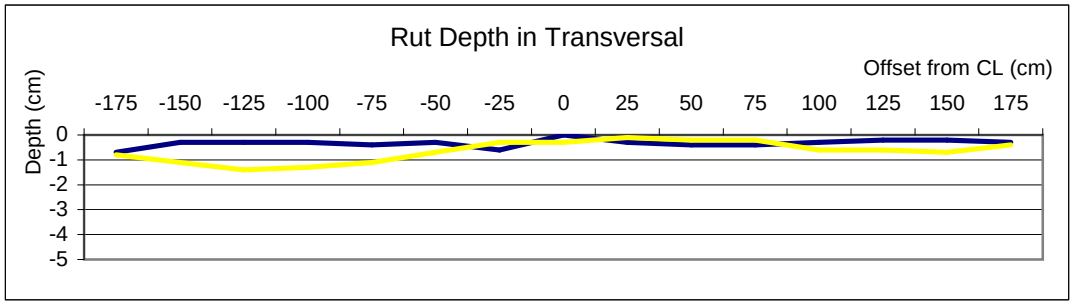


KM 2+265

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 8 | -0.8 |
| | -150 | 0.3 | -0.3 | 11 | -1.1 |
| | -125 | 0.3 | -0.3 | 14 | -1.4 |
| | -100 | 0.3 | -0.3 | 13 | -1.3 |
| | -75 | 0.4 | -0.4 | 11 | -1.1 |
| | -50 | 0.3 | -0.3 | 7 | -0.7 |
| | -25 | 0.6 | -0.6 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 6 | -0.6 |
| | 125 | 0.2 | -0.2 | 6 | -0.6 |
| | 150 | 0.2 | -0.2 | 7 | -0.7 |
| | 175 | 0.3 | -0.3 | 4 | -0.4 |



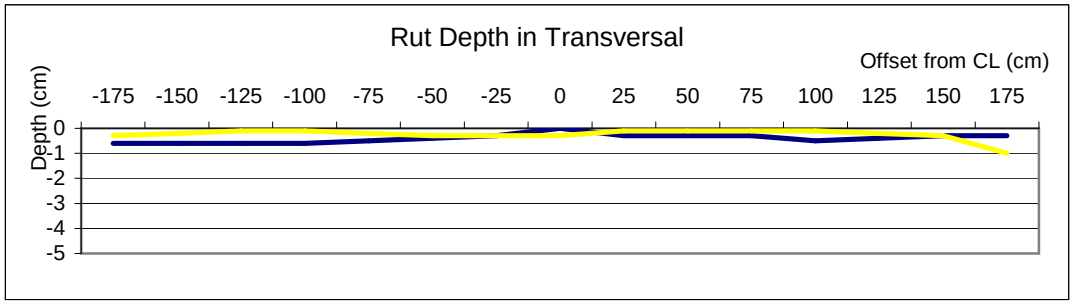
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+275

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 3 | -0.3 |
| | -150 | 0.6 | -0.6 | 2 | -0.2 |
| | -125 | 0.6 | -0.6 | 1 | -0.1 |
| | -100 | 0.6 | -0.6 | 1 | -0.1 |
| | -75 | 0.5 | -0.5 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.5 | -0.5 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 2 | -0.2 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.3 | -0.3 | 10 | -1 |

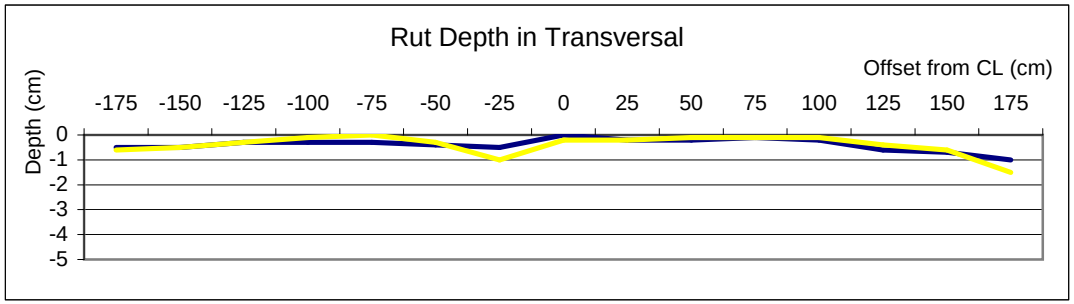


KM 2+285

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 6 | -0.6 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 0 | 0 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.2 | -0.2 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 1 | -0.1 |
| | 75 | 0.1 | -0.1 | 1 | -0.1 |
| | 100 | 0.2 | -0.2 | 1 | -0.1 |
| | 125 | 0.6 | -0.6 | 4 | -0.4 |
| | 150 | 0.7 | -0.7 | 6 | -0.6 |
| | 175 | 1 | -1 | 15 | -1.5 |



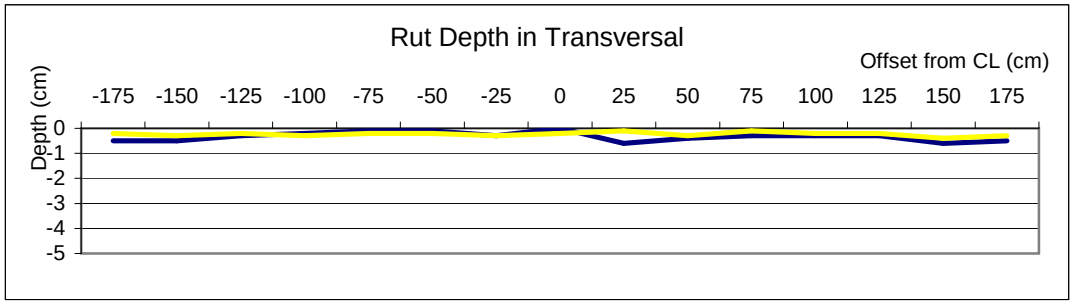
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+295

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 2 | -0.2 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.1 | -0.1 | 2 | -0.2 |
| | -50 | 0.1 | -0.1 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.6 | -0.6 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.3 | -0.3 | 2 | -0.2 |
| | 150 | 0.6 | -0.6 | 4 | -0.4 |
| | 175 | 0.5 | -0.5 | 3 | -0.3 |

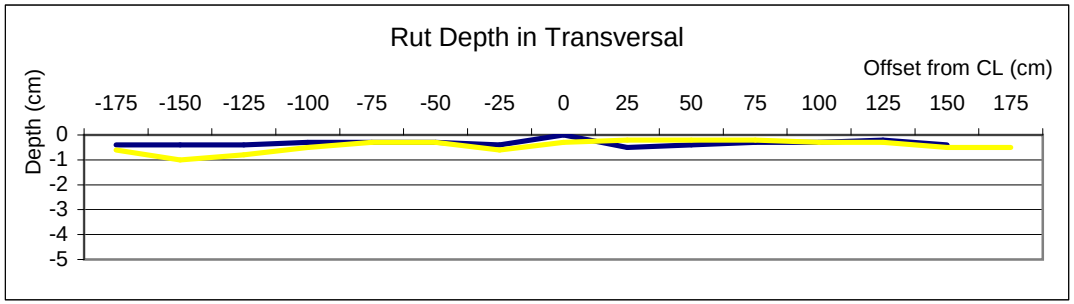


KM 2+305

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 6 | -0.6 |
| | -150 | 0.4 | -0.4 | 10 | -1 |
| | -125 | 0.4 | -0.4 | 8 | -0.8 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.2 | -0.2 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 0.2 | -0.2 | 5 | -0.5 |



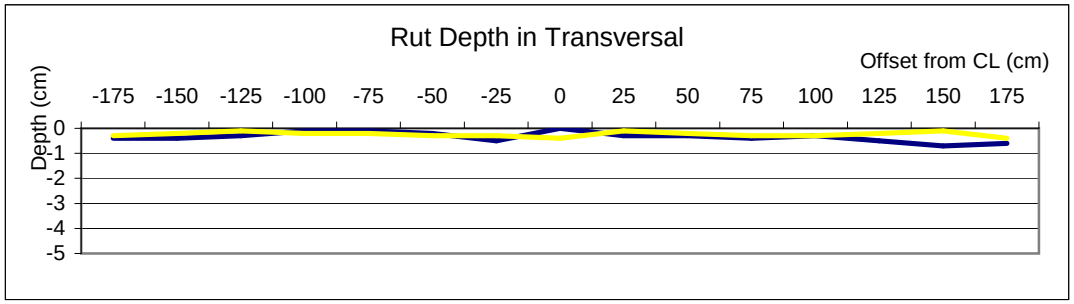
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+315

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

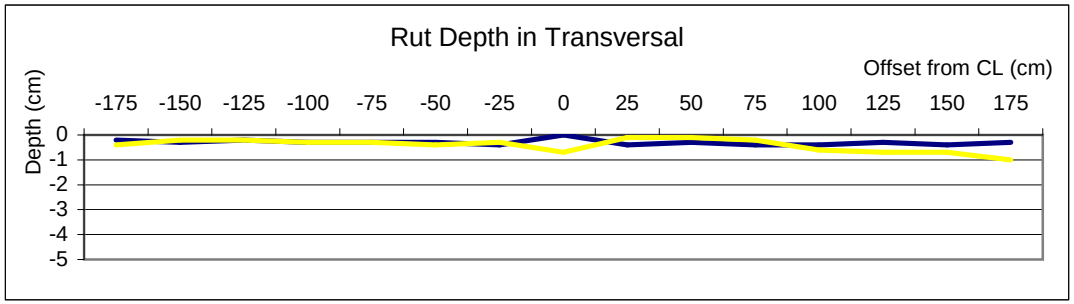
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 3 | -0.3 |
| | -150 | 0.4 | -0.4 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 1 | -0.1 |
| | -100 | 0.1 | -0.1 | 2 | -0.2 |
| | -75 | 0.1 | -0.1 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.5 | -0.5 | 2 | -0.2 |
| | 150 | 0.7 | -0.7 | 1 | -0.1 |
| | 175 | 0.6 | -0.6 | 4 | -0.4 |



KM 2+325

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 4 | -0.4 |
| | -150 | 0.3 | -0.3 | 2 | -0.2 |
| | -125 | 0.2 | -0.2 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 4 | -0.4 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 6 | -0.6 |
| | 125 | 0.3 | -0.3 | 7 | -0.7 |
| | 150 | 0.4 | -0.4 | 7 | -0.7 |
| | 175 | 0.3 | -0.3 | 10 | -1 |



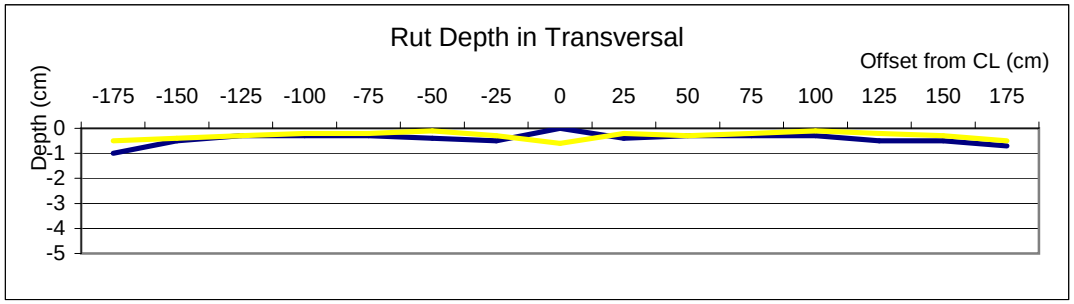
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+335

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

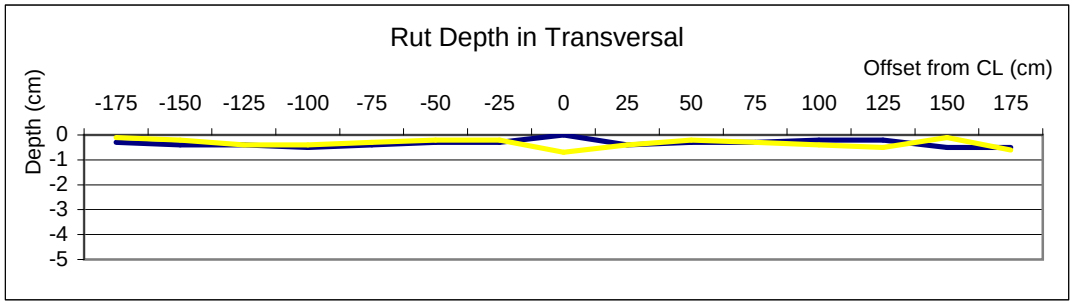
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 5 | -0.5 |
| | -150 | 0.5 | -0.5 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.5 | -0.5 | 2 | -0.2 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 0.7 | -0.7 | 5 | -0.5 |



KM 2+345

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 1 | -0.1 |
| | -150 | 0.4 | -0.4 | 2 | -0.2 |
| | -125 | 0.4 | -0.4 | 4 | -0.4 |
| | -100 | 0.5 | -0.5 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.4 | -0.4 | 4 | -0.4 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 4 | -0.4 |
| | 125 | 0.2 | -0.2 | 5 | -0.5 |
| | 150 | 0.5 | -0.5 | 1 | -0.1 |
| | 175 | 0.5 | -0.5 | 6 | -0.6 |



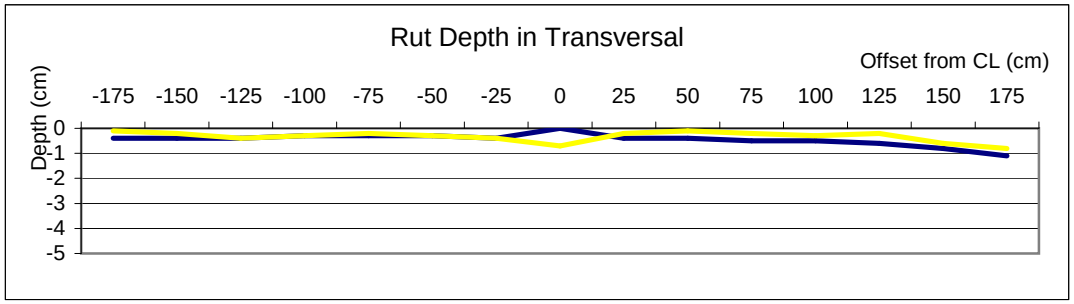
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+355

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 1 | -0.1 |
| | -150 | 0.4 | -0.4 | 2 | -0.2 |
| | -125 | 0.4 | -0.4 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.5 | -0.5 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 3 | -0.3 |
| | 125 | 0.6 | -0.6 | 2 | -0.2 |
| | 150 | 0.8 | -0.8 | 6 | -0.6 |
| | 175 | 1.1 | -1.1 | 8 | -0.8 |

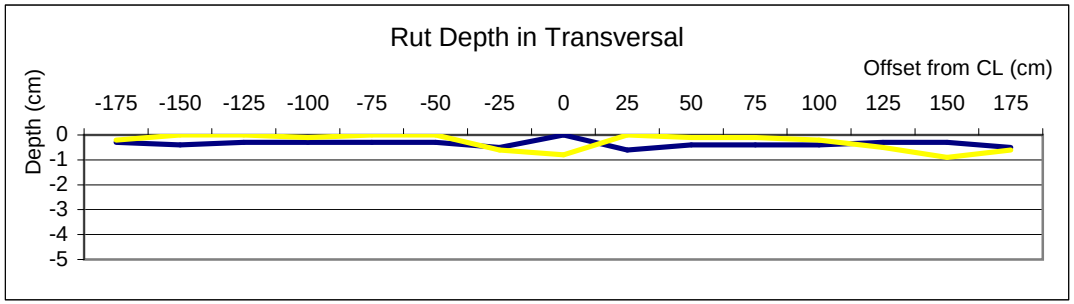


KM 2+365

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 0 | 0 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 1 | -0.1 |
| | 100 | 0.4 | -0.4 | 2 | -0.2 |
| | 125 | 0.3 | -0.3 | 5 | -0.5 |
| | 150 | 0.3 | -0.3 | 9 | -0.9 |
| | 175 | 0.5 | -0.5 | 6 | -0.6 |



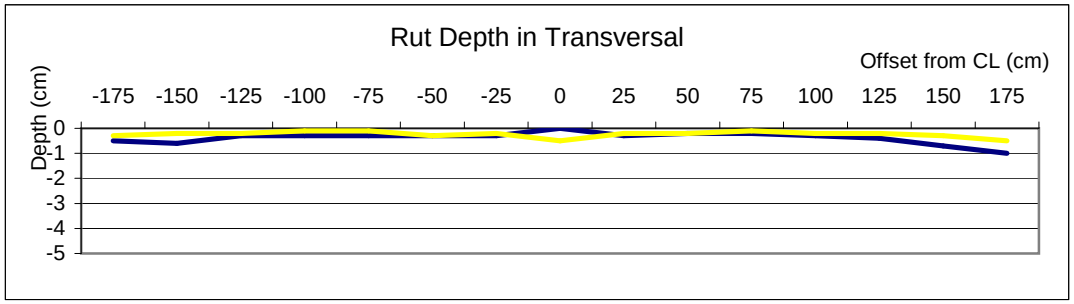
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+375

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

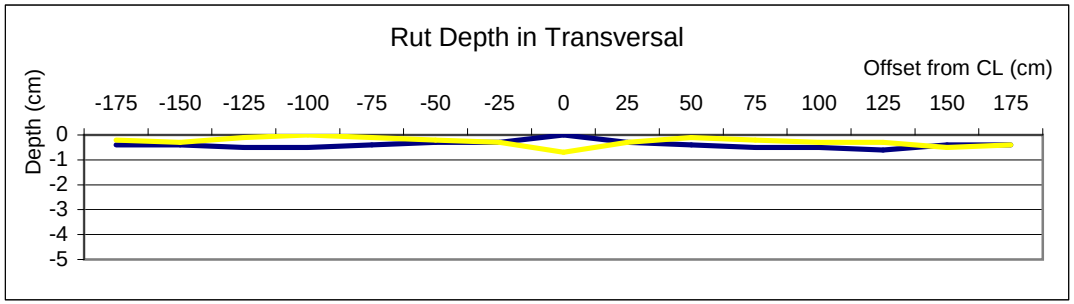
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 3 | -0.3 |
| | -150 | 0.6 | -0.6 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.3 | -0.3 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 2 | -0.2 |
| | 150 | 0.7 | -0.7 | 3 | -0.3 |
| | 175 | 1 | -1 | 5 | -0.5 |



KM 2+385

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 1 | -0.1 |
| | -100 | 0.5 | -0.5 | 0 | 0 |
| | -75 | 0.4 | -0.4 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.5 | -0.5 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 3 | -0.3 |
| | 125 | 0.6 | -0.6 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 0.4 | -0.4 | 4 | -0.4 |



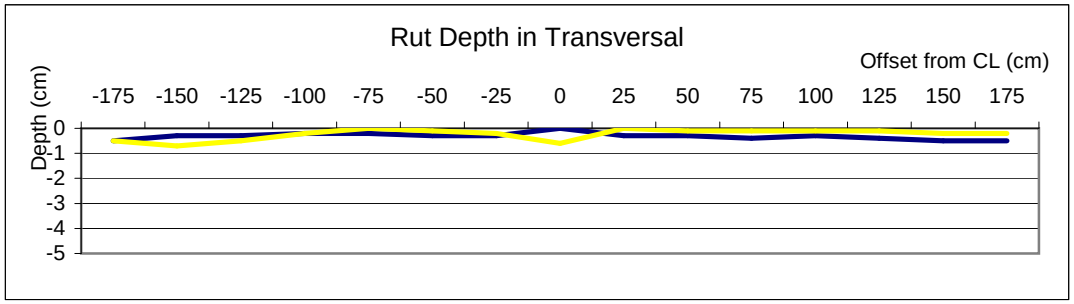
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+395

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

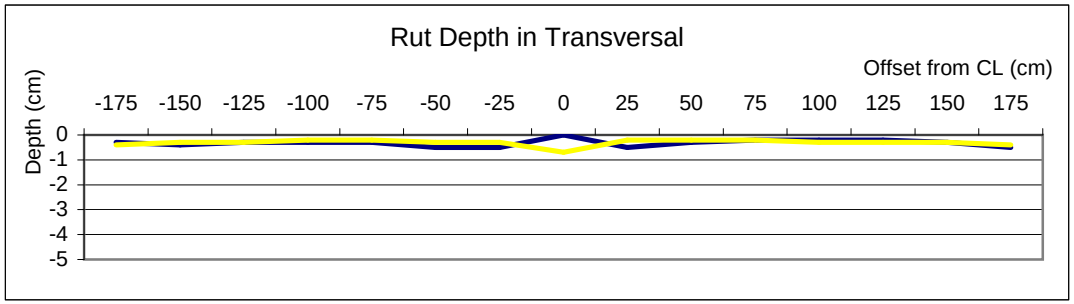
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 7 | -0.7 |
| | -125 | 0.3 | -0.3 | 5 | -0.5 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 1 | -0.1 |
| | 150 | 0.5 | -0.5 | 2 | -0.2 |
| | 175 | 0.5 | -0.5 | 2 | -0.2 |



KM 2+405

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 4 | -0.4 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 2 | -0.2 |
| | 100 | 0.2 | -0.2 | 3 | -0.3 |
| | 125 | 0.2 | -0.2 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.5 | -0.5 | 4 | -0.4 |



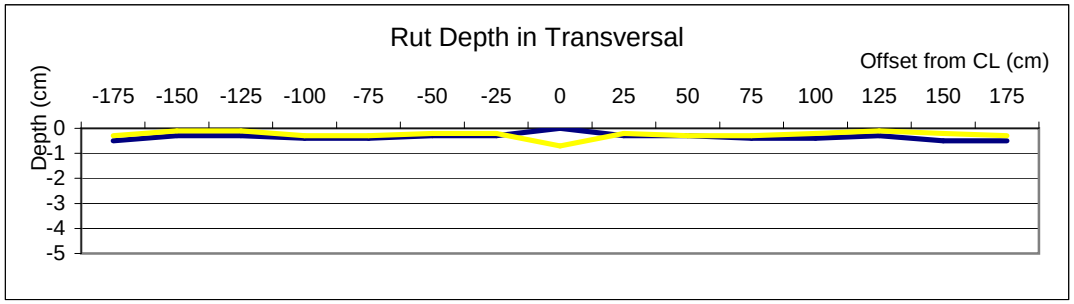
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+415

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

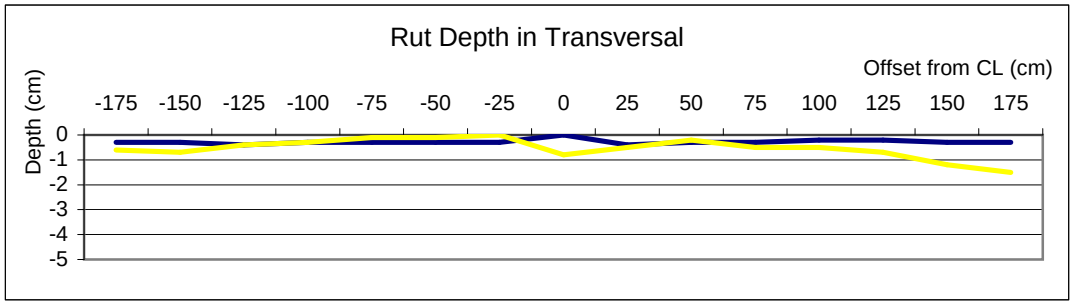
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 1 | -0.1 |
| | -125 | 0.3 | -0.3 | 1 | -0.1 |
| | -100 | 0.4 | -0.4 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.4 | -0.4 | 2 | -0.2 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.5 | -0.5 | 2 | -0.2 |
| | 175 | 0.5 | -0.5 | 3 | -0.3 |



KM 2+425

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 6 | -0.6 |
| | -150 | 0.3 | -0.3 | 7 | -0.7 |
| | -125 | 0.4 | -0.4 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.4 | -0.4 | 5 | -0.5 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.2 | -0.2 | 5 | -0.5 |
| | 125 | 0.2 | -0.2 | 7 | -0.7 |
| | 150 | 0.3 | -0.3 | 12 | -1.2 |
| | 175 | 0.3 | -0.3 | 15 | -1.5 |



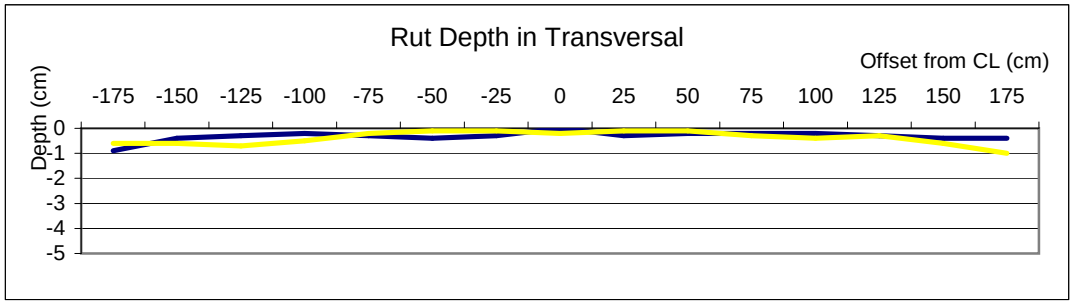
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+435

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 6 | -0.6 |
| | -150 | 0.4 | -0.4 | 6 | -0.6 |
| | -125 | 0.3 | -0.3 | 7 | -0.7 |
| | -100 | 0.2 | -0.2 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 1 | -0.1 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 4 | -0.4 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 6 | -0.6 |
| | 175 | 0.4 | -0.4 | 10 | -1 |

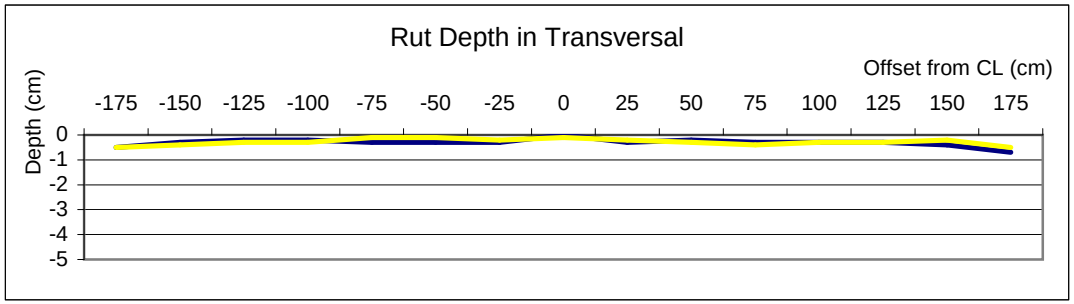


KM 2+445

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.2 | -0.2 | 3 | -0.3 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 2 | -0.2 |
| | 175 | 0.7 | -0.7 | 5 | -0.5 |



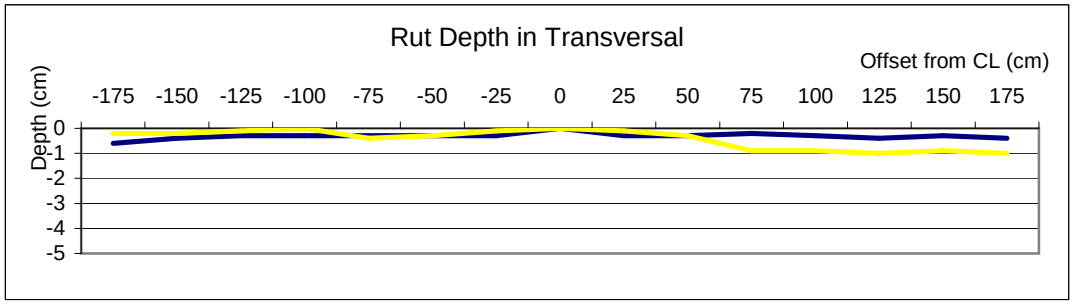
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+455

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

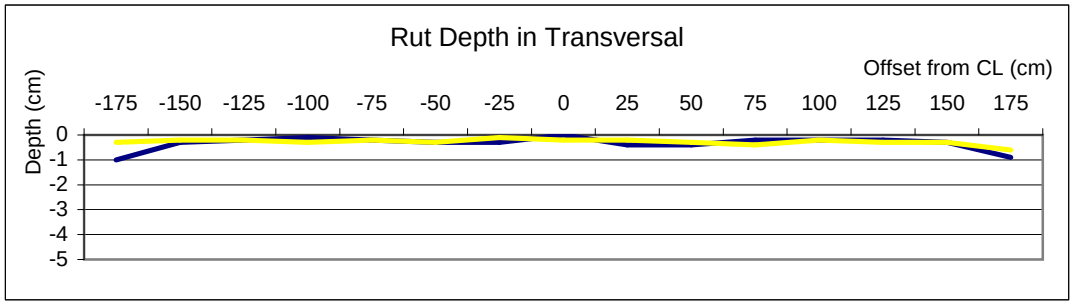
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 2 | -0.2 |
| | -150 | 0.4 | -0.4 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 1 | -0.1 |
| | -100 | 0.3 | -0.3 | 0 | 0 |
| | -75 | 0.3 | -0.3 | 4 | -0.4 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 9 | -0.9 |
| | 100 | 0.3 | -0.3 | 9 | -0.9 |
| | 125 | 0.4 | -0.4 | 10 | -1 |
| | 150 | 0.3 | -0.3 | 9 | -0.9 |
| | 175 | 0.4 | -0.4 | 10 | -1 |



KM 2+465

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 2 | -0.2 |
| | -125 | 0.2 | -0.2 | 2 | -0.2 |
| | -100 | 0.1 | -0.1 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 4 | -0.4 |
| | 100 | 0.2 | -0.2 | 2 | -0.2 |
| | 125 | 0.2 | -0.2 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.9 | -0.9 | 6 | -0.6 |



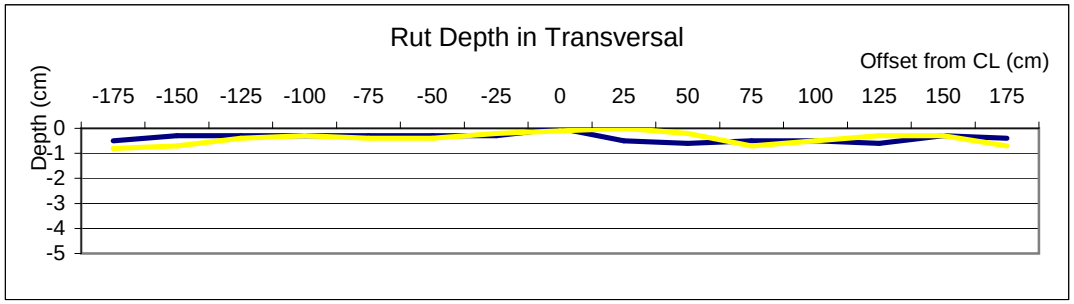
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+475

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

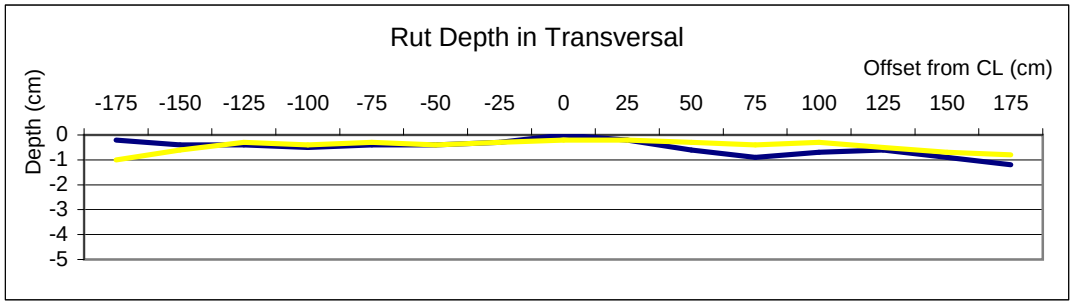
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 0.3 | -0.3 | 7 | -0.7 |
| | -125 | 0.3 | -0.3 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 4 | -0.4 |
| | -50 | 0.3 | -0.3 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.6 | -0.6 | 2 | -0.2 |
| | 75 | 0.5 | -0.5 | 7 | -0.7 |
| | 100 | 0.5 | -0.5 | 5 | -0.5 |
| | 125 | 0.6 | -0.6 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.4 | -0.4 | 7 | -0.7 |



KM 2+485

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 6 | -0.6 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 0.5 | -0.5 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.4 | -0.4 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.2 | -0.2 | 2 | -0.2 |
| | 50 | 0.6 | -0.6 | 3 | -0.3 |
| | 75 | 0.9 | -0.9 | 4 | -0.4 |
| | 100 | 0.7 | -0.7 | 3 | -0.3 |
| | 125 | 0.6 | -0.6 | 5 | -0.5 |
| | 150 | 0.9 | -0.9 | 7 | -0.7 |
| | 175 | 1.2 | -1.2 | 8 | -0.8 |



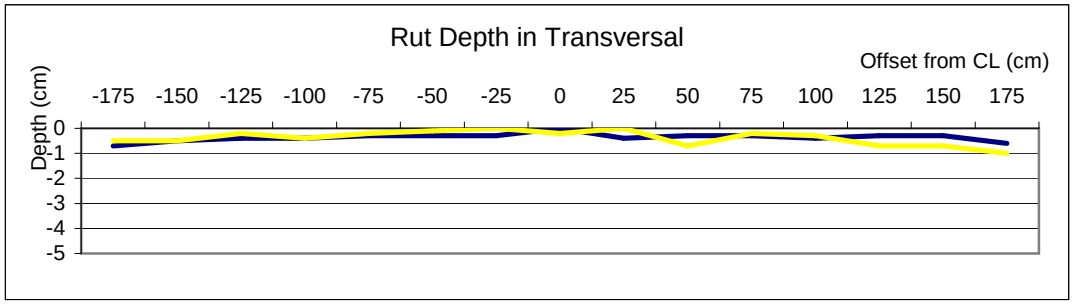
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+495

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 5 | -0.5 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.4 | -0.4 | 4 | -0.4 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 7 | -0.7 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 7 | -0.7 |
| | 150 | 0.3 | -0.3 | 7 | -0.7 |
| | 175 | 0.6 | -0.6 | 10 | -1 |

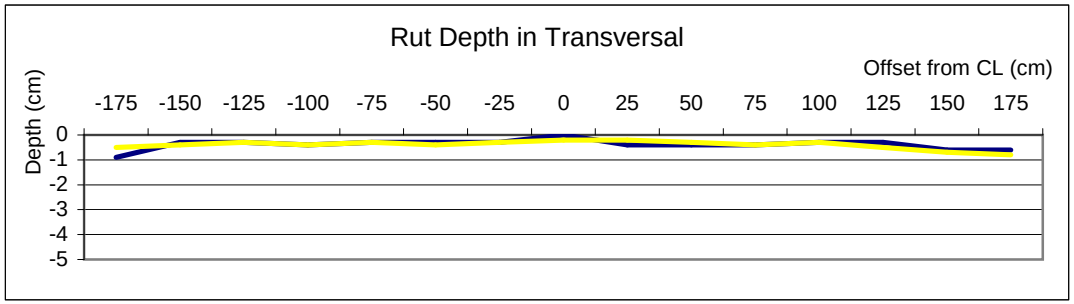


KM 2+505

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.4 | -0.4 | 4 | -0.4 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 5 | -0.5 |
| | 150 | 0.6 | -0.6 | 7 | -0.7 |
| | 175 | 0.6 | -0.6 | 8 | -0.8 |



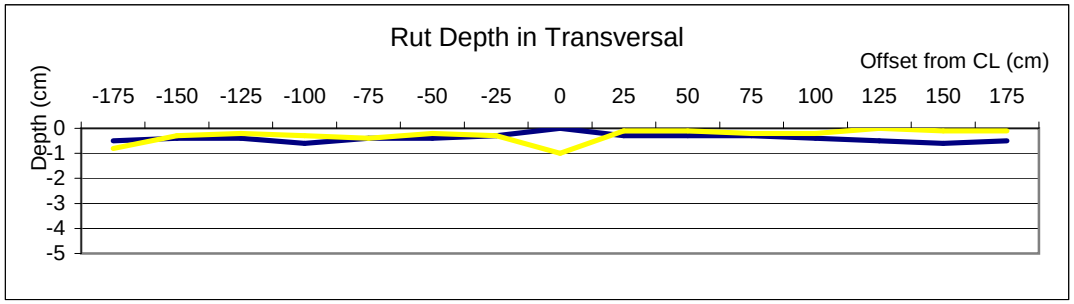
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Bam Boo Reinforced Concrete

KM 2+515

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 8 | -0.8 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.6 | -0.6 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 4 | -0.4 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 2 | -0.2 |
| | 125 | 0.5 | -0.5 | 0 | 0 |
| | 150 | 0.6 | -0.6 | 1 | -0.1 |
| | 175 | 0.5 | -0.5 | 1 | -0.1 |

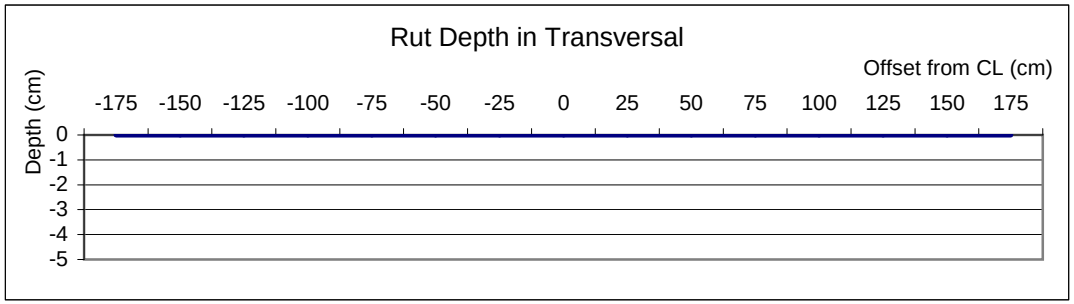


KM 2+525

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | | 0 | | 0 |
| | -150 | | 0 | | 0 |
| | -125 | | 0 | | 0 |
| | -100 | | 0 | | 0 |
| | -75 | | 0 | | 0 |
| | -50 | | 0 | | 0 |
| | -25 | | 0 | | 0 |
| CL | 0 | | 0 | | 0 |
| Right Hand Side | 25 | | 0 | | 0 |
| | 50 | | 0 | | 0 |
| | 75 | | 0 | | 0 |
| | 100 | | 0 | | 0 |
| | 125 | | 0 | | 0 |
| | 150 | | 0 | | 0 |
| | 175 | | 0 | | 0 |



# R 5.0 Concrete Paving Blocks

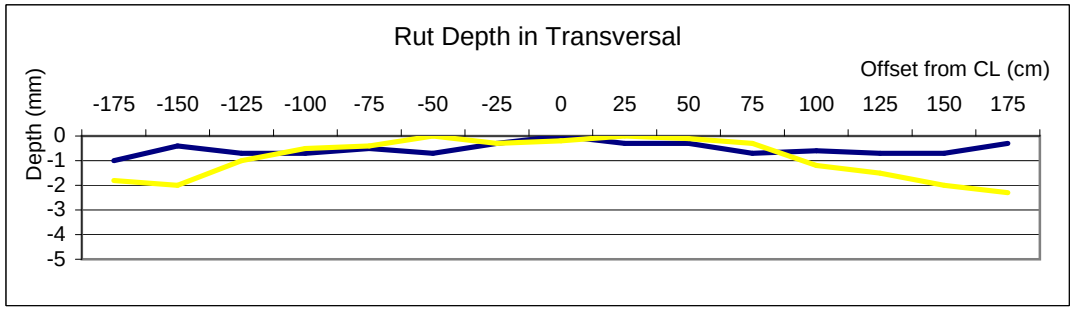
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 0+905

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

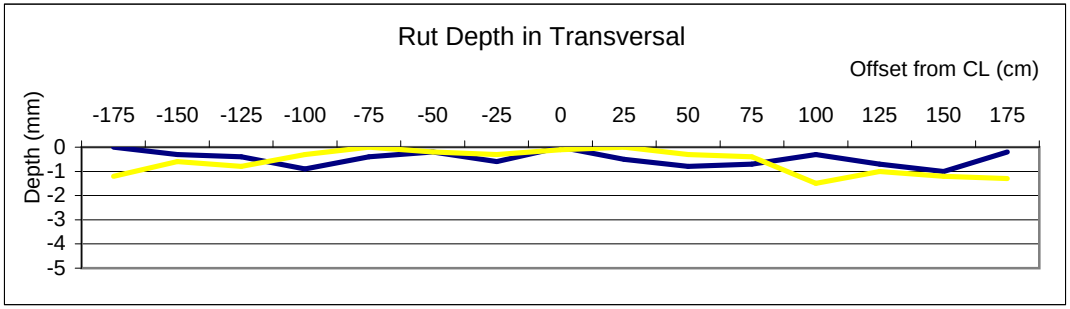
| Side | Offset from CL (cm) | 31/08/2007 Rut depth (cm) | | 11/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 18 | -1.8 |
| | -150 | 0.4 | -0.4 | 20 | -2 |
| | -125 | 0.7 | -0.7 | 10 | -1 |
| | -100 | 0.7 | -0.7 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 4 | -0.4 |
| | -50 | 0.7 | -0.7 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.7 | -0.7 | 3 | -0.3 |
| | 100 | 0.6 | -0.6 | 12 | -1.2 |
| | 125 | 0.7 | -0.7 | 15 | -1.5 |
| | 150 | 0.7 | -0.7 | 20 | -2 |
| | 175 | 0.3 | -0.3 | 23 | -2.3 |



KM 0+915

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 12 | -1.2 |
| | -150 | 0.3 | -0.3 | 6 | -0.6 |
| | -125 | 0.4 | -0.4 | 8 | -0.8 |
| | -100 | 0.9 | -0.9 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 0 | 0 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.8 | -0.8 | 3 | -0.3 |
| | 75 | 0.7 | -0.7 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 15 | -1.5 |
| | 125 | 0.7 | -0.7 | 10 | -1 |
| | 150 | 1 | -1 | 12 | -1.2 |
| | 175 | 0.2 | -0.2 | 13 | -1.3 |



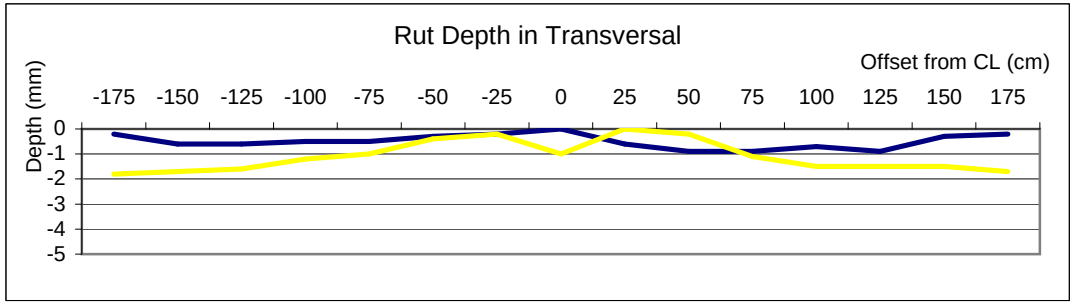
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 0+925

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

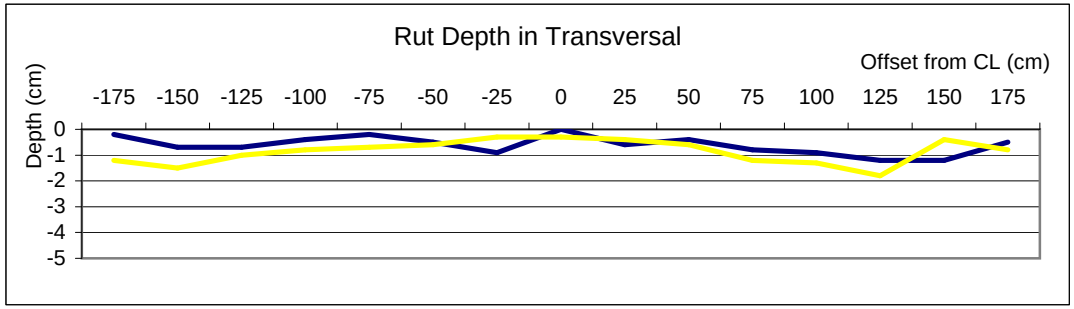
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 18 | -1.8 |
| | -150 | 0.6 | -0.6 | 17 | -1.7 |
| | -125 | 0.6 | -0.6 | 16 | -1.6 |
| | -100 | 0.5 | -0.5 | 12 | -1.2 |
| | -75 | 0.5 | -0.5 | 10 | -1 |
| | -50 | 0.3 | -0.3 | 4 | -0.4 |
| | -25 | 0.2 | -0.2 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.9 | -0.9 | 2 | -0.2 |
| | 75 | 0.9 | -0.9 | 11 | -1.1 |
| | 100 | 0.7 | -0.7 | 15 | -1.5 |
| | 125 | 0.9 | -0.9 | 15 | -1.5 |
| | 150 | 0.3 | -0.3 | 15 | -1.5 |
| | 175 | 0.2 | -0.2 | 17 | -1.7 |



KM 0+935

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 12 | -1.2 |
| | -150 | 0.7 | -0.7 | 15 | -1.5 |
| | -125 | 0.7 | -0.7 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 8 | -0.8 |
| | -75 | 0.2 | -0.2 | 7 | -0.7 |
| | -50 | 0.5 | -0.5 | 6 | -0.6 |
| | -25 | 0.9 | -0.9 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.6 | -0.6 | 4 | -0.4 |
| | 50 | 0.4 | -0.4 | 6 | -0.6 |
| | 75 | 0.8 | -0.8 | 12 | -1.2 |
| | 100 | 0.9 | -0.9 | 13 | -1.3 |
| | 125 | 1.2 | -1.2 | 18 | -1.8 |
| | 150 | 1.2 | -1.2 | 4 | -0.4 |
| | 175 | 0.5 | -0.5 | 8 | -0.8 |



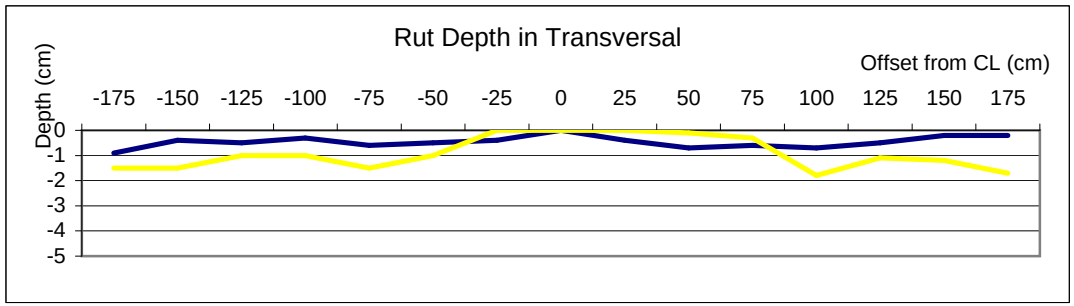
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 0+945

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

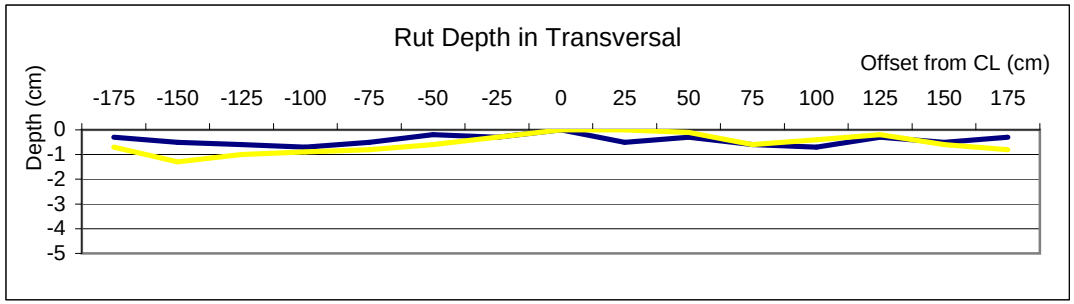
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 15 | -1.5 |
| | -150 | 0.4 | -0.4 | 15 | -1.5 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 10 | -1 |
| | -75 | 0.6 | -0.6 | 15 | -1.5 |
| | -50 | 0.5 | -0.5 | 10 | -1 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.7 | -0.7 | 1 | -0.1 |
| | 75 | 0.6 | -0.6 | 3 | -0.3 |
| | 100 | 0.7 | -0.7 | 18 | -1.8 |
| | 125 | 0.5 | -0.5 | 11 | -1.1 |
| | 150 | 0.2 | -0.2 | 12 | -1.2 |
| | 175 | 0.2 | -0.2 | 17 | -1.7 |



KM 0+955

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 7 | -0.7 |
| | -150 | 0.5 | -0.5 | 13 | -1.3 |
| | -125 | 0.6 | -0.6 | 10 | -1 |
| | -100 | 0.7 | -0.7 | 9 | -0.9 |
| | -75 | 0.5 | -0.5 | 8 | -0.8 |
| | -50 | 0.2 | -0.2 | 6 | -0.6 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.6 | -0.6 | 6 | -0.6 |
| | 100 | 0.7 | -0.7 | 4 | -0.4 |
| | 125 | 0.3 | -0.3 | 2 | -0.2 |
| | 150 | 0.5 | -0.5 | 6 | -0.6 |
| | 175 | 0.3 | -0.3 | 8 | -0.8 |



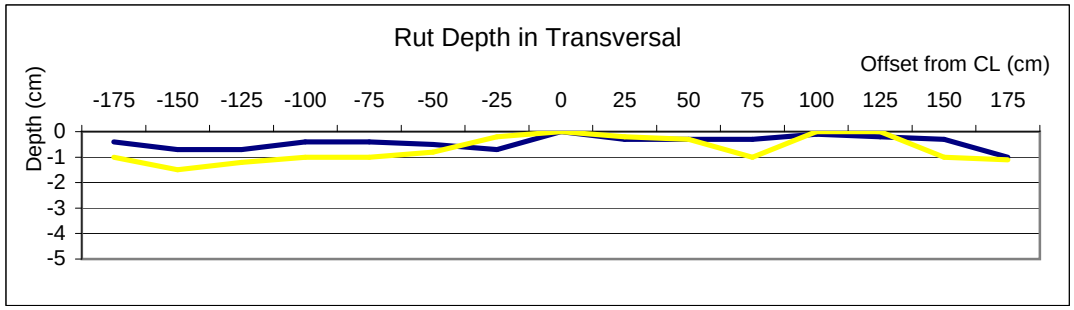
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 0+965

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

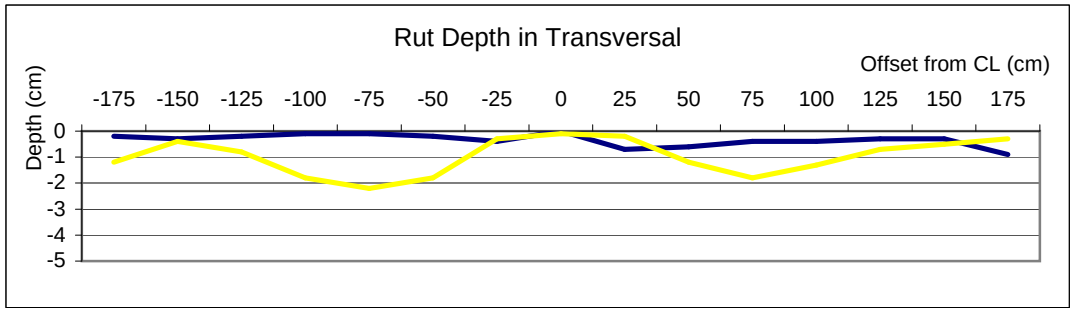
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 10 | -1 |
| | -150 | 0.7 | -0.7 | 15 | -1.5 |
| | -125 | 0.7 | -0.7 | 12 | -1.2 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0.4 | -0.4 | 10 | -1 |
| | -50 | 0.5 | -0.5 | 8 | -0.8 |
| | -25 | 0.7 | -0.7 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.1 | -0.1 | 0 | 0 |
| | 125 | 0.2 | -0.2 | 0 | 0 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 1 | -1 | 11 | -1.1 |



KM 0+975

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 12 | -1.2 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.2 | -0.2 | 8 | -0.8 |
| | -100 | 0.1 | -0.1 | 18 | -1.8 |
| | -75 | 0.1 | -0.1 | 22 | -2.2 |
| | -50 | 0.2 | -0.2 | 18 | -1.8 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.7 | -0.7 | 2 | -0.2 |
| | 50 | 0.6 | -0.6 | 12 | -1.2 |
| | 75 | 0.4 | -0.4 | 18 | -1.8 |
| | 100 | 0.4 | -0.4 | 13 | -1.3 |
| | 125 | 0.3 | -0.3 | 7 | -0.7 |
| | 150 | 0.3 | -0.3 | 5 | -0.5 |
| | 175 | 0.9 | -0.9 | 3 | -0.3 |



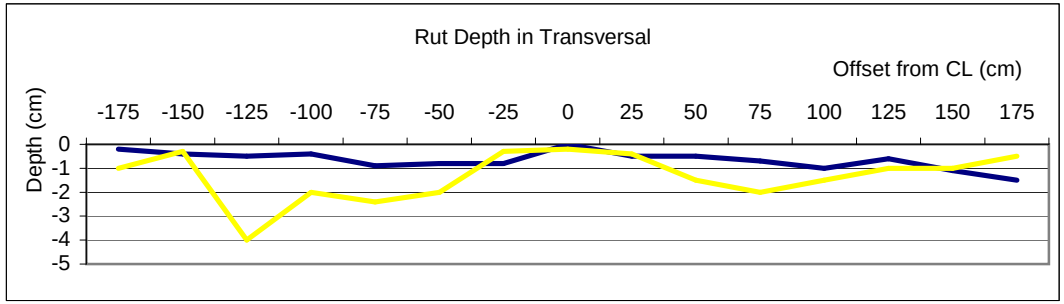
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 0+985

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

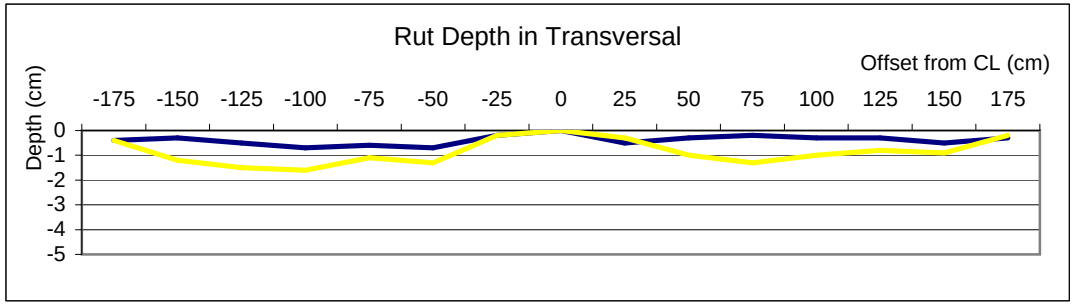
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 40 | -4 |
| | -100 | 0.4 | -0.4 | 20 | -2 |
| | -75 | 0.9 | -0.9 | 24 | -2.4 |
| | -50 | 0.8 | -0.8 | 20 | -2 |
| | -25 | 0.8 | -0.8 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 4 | -0.4 |
| | 50 | 0.5 | -0.5 | 15 | -1.5 |
| | 75 | 0.7 | -0.7 | 20 | -2 |
| | 100 | 1 | -1 | 15 | -1.5 |
| | 125 | 0.6 | -0.6 | 10 | -1 |
| | 150 | 1.1 | -1.1 | 10 | -1 |
| | 175 | 1.5 | -1.5 | 5 | -0.5 |



KM 0+995

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 4 | -0.4 |
| | -150 | 0.3 | -0.3 | 12 | -1.2 |
| | -125 | 0.5 | -0.5 | 15 | -1.5 |
| | -100 | 0.7 | -0.7 | 16 | -1.6 |
| | -75 | 0.6 | -0.6 | 11 | -1.1 |
| | -50 | 0.7 | -0.7 | 13 | -1.3 |
| | -25 | 0.2 | -0.2 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 13 | -1.3 |
| | 100 | 0.3 | -0.3 | 10 | -1 |
| | 125 | 0.3 | -0.3 | 8 | -0.8 |
| | 150 | 0.5 | -0.5 | 9 | -0.9 |
| | 175 | 0.3 | -0.3 | 2 | -0.2 |



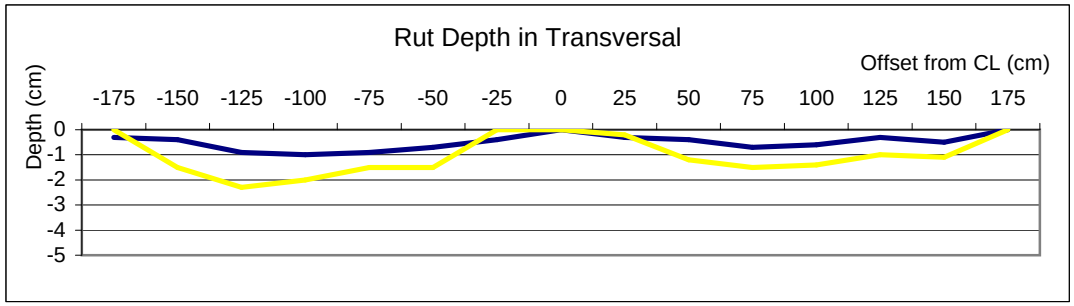
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+005

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 15 | -1.5 |
| | -125 | 0.9 | -0.9 | 23 | -2.3 |
| | -100 | 1 | -1 | 20 | -2 |
| | -75 | 0.9 | -0.9 | 15 | -1.5 |
| | -50 | 0.7 | -0.7 | 15 | -1.5 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 12 | -1.2 |
| | 75 | 0.7 | -0.7 | 15 | -1.5 |
| | 100 | 0.6 | -0.6 | 14 | -1.4 |
| | 125 | 0.3 | -0.3 | 10 | -1 |
| | 150 | 0.5 | -0.5 | 11 | -1.1 |
| | 175 | 0 | 0 | 0 | 0 |

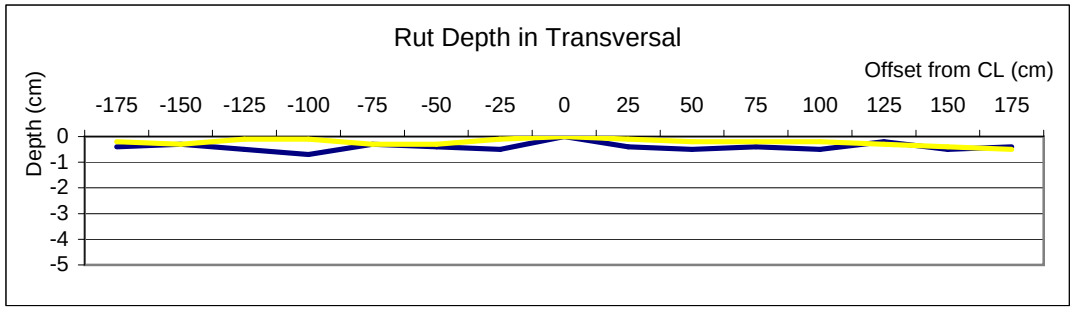


KM 1+015

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 2 | -0.2 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 1 | -0.1 |
| | -100 | 0.7 | -0.7 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.5 | -0.5 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 2 | -0.2 |
| | 125 | 0.2 | -0.2 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 4 | -0.4 |
| | 175 | 0.4 | -0.4 | 5 | -0.5 |



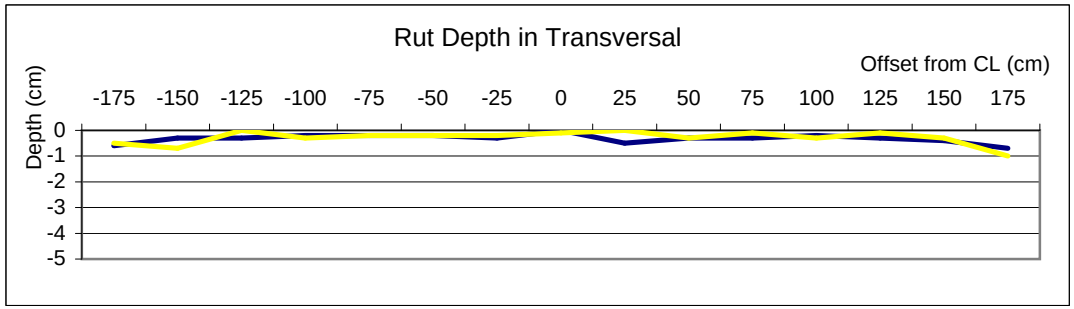
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+025

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

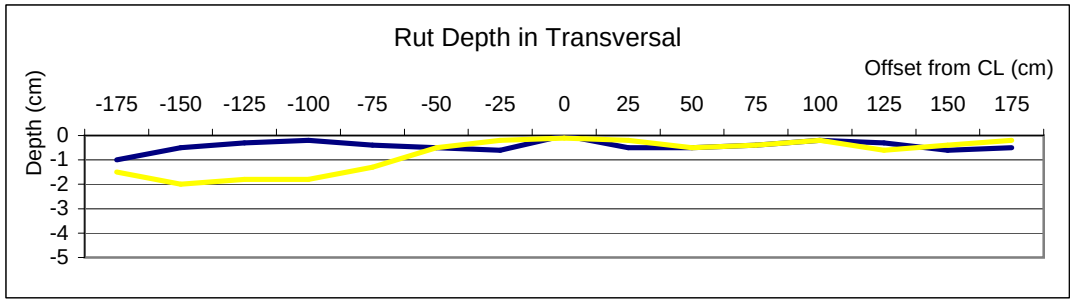
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 7 | -0.7 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.2 | -0.2 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.4 | -0.4 | 3 | -0.3 |
| | 175 | 0.7 | -0.7 | 10 | -1 |



KM 1+035

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 15 | -1.5 |
| | -150 | 0.5 | -0.5 | 20 | -2 |
| | -125 | 0.3 | -0.3 | 18 | -1.8 |
| | -100 | 0.2 | -0.2 | 18 | -1.8 |
| | -75 | 0.4 | -0.4 | 13 | -1.3 |
| | -50 | 0.5 | -0.5 | 5 | -0.5 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.4 | -0.4 | 4 | -0.4 |
| | 100 | 0.2 | -0.2 | 2 | -0.2 |
| | 125 | 0.3 | -0.3 | 6 | -0.6 |
| | 150 | 0.6 | -0.6 | 4 | -0.4 |
| | 175 | 0.5 | -0.5 | 2 | -0.2 |



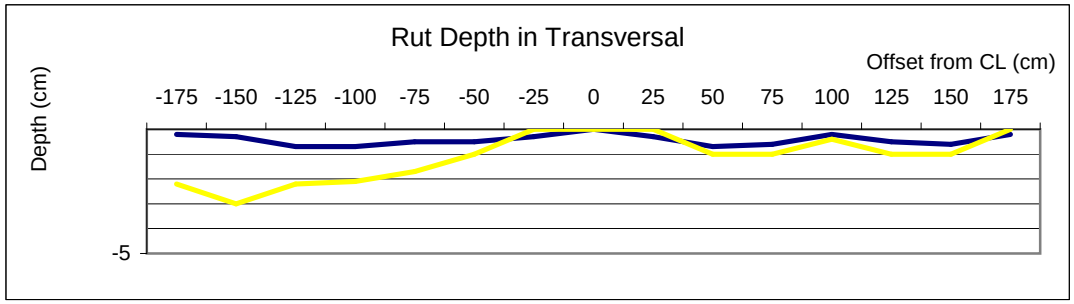
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+045

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 22 | -2.2 |
| | -150 | 0.3 | -0.3 | 30 | -3 |
| | -125 | 0.7 | -0.7 | 22 | -2.2 |
| | -100 | 0.7 | -0.7 | 21 | -2.1 |
| | -75 | 0.5 | -0.5 | 17 | -1.7 |
| | -50 | 0.5 | -0.5 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.7 | -0.7 | 10 | -1 |
| | 75 | 0.6 | -0.6 | 10 | -1 |
| | 100 | 0.2 | -0.2 | 4 | -0.4 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.6 | -0.6 | 10 | -1 |
| | 175 | 0.2 | -0.2 | 0 | 0 |

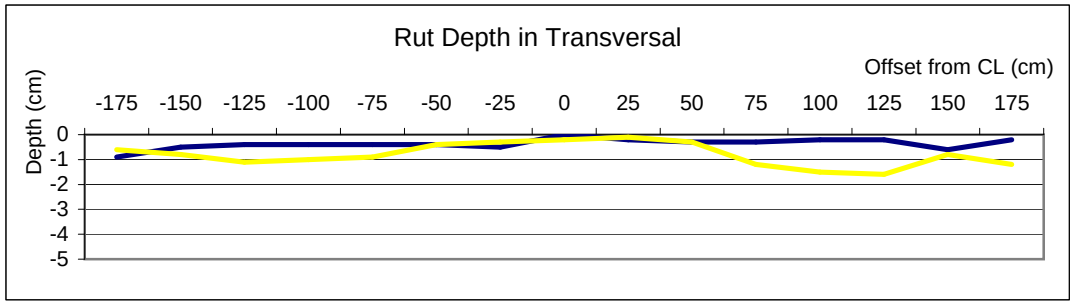


KM 1+055

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 6 | -0.6 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0.4 | -0.4 | 11 | -1.1 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0.4 | -0.4 | 9 | -0.9 |
| | -50 | 0.4 | -0.4 | 4 | -0.4 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.2 | -0.2 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 12 | -1.2 |
| | 100 | 0.2 | -0.2 | 15 | -1.5 |
| | 125 | 0.2 | -0.2 | 16 | -1.6 |
| | 150 | 0.6 | -0.6 | 8 | -0.8 |
| | 175 | 0.2 | -0.2 | 12 | -1.2 |



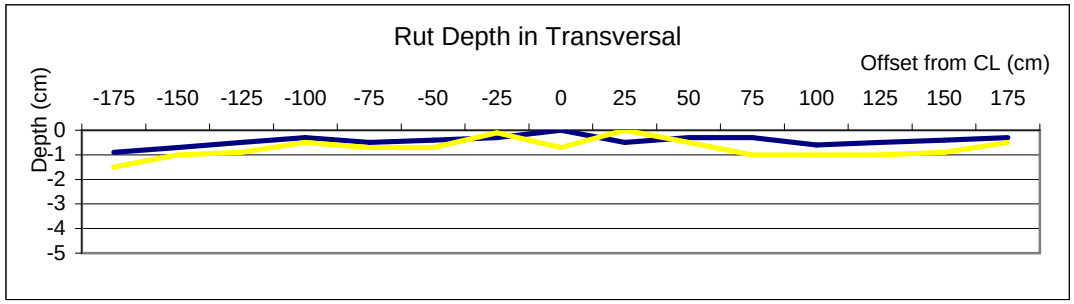
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+065

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 15 | -1.5 |
| | -150 | 0.7 | -0.7 | 10 | -1 |
| | -125 | 0.5 | -0.5 | 9 | -0.9 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.5 | -0.5 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 7 | -0.7 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.6 | -0.6 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.4 | -0.4 | 9 | -0.9 |
| | 175 | 0.3 | -0.3 | 5 | -0.5 |

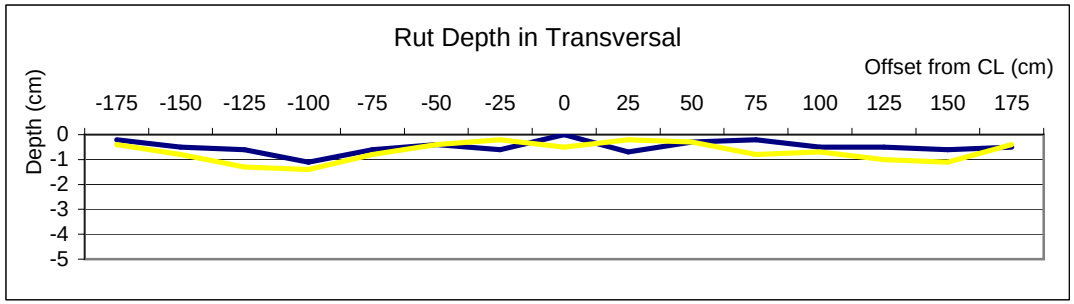


KM 1+075

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 4 | -0.4 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0.6 | -0.6 | 13 | -1.3 |
| | -100 | 1.1 | -1.1 | 14 | -1.4 |
| | -75 | 0.6 | -0.6 | 8 | -0.8 |
| | -50 | 0.4 | -0.4 | 4 | -0.4 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.7 | -0.7 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 8 | -0.8 |
| | 100 | 0.5 | -0.5 | 7 | -0.7 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.6 | -0.6 | 11 | -1.1 |
| | 175 | 0.5 | -0.5 | 4 | -0.4 |



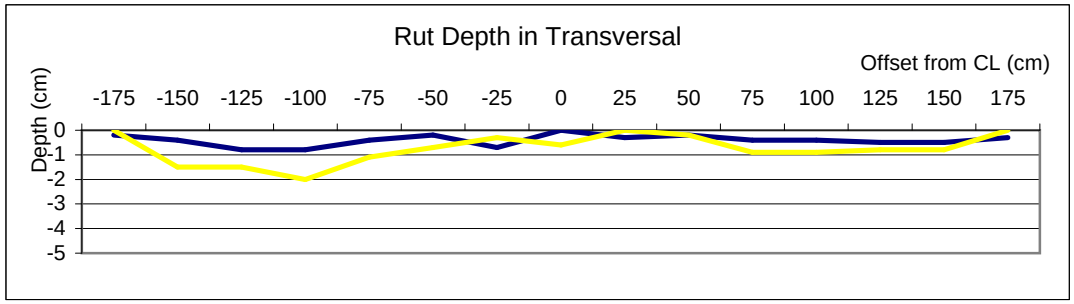
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+085

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

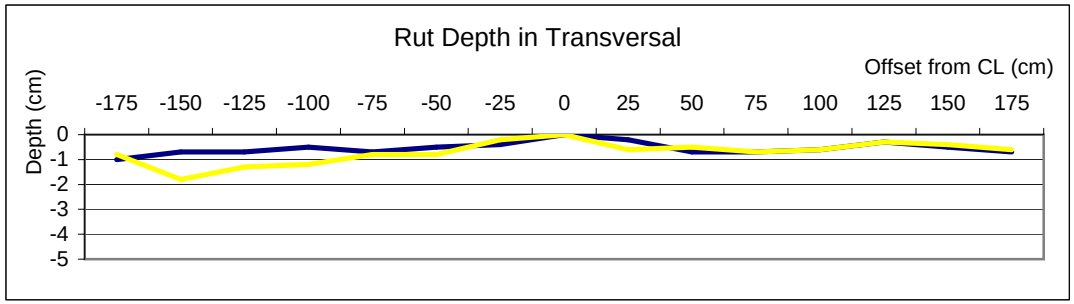
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 15 | -1.5 |
| | -125 | 0.8 | -0.8 | 15 | -1.5 |
| | -100 | 0.8 | -0.8 | 20 | -2 |
| | -75 | 0.4 | -0.4 | 11 | -1.1 |
| | -50 | 0.2 | -0.2 | 7 | -0.7 |
| | -25 | 0.7 | -0.7 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 9 | -0.9 |
| | 100 | 0.4 | -0.4 | 9 | -0.9 |
| | 125 | 0.5 | -0.5 | 8 | -0.8 |
| | 150 | 0.5 | -0.5 | 8 | -0.8 |
| | 175 | 0.3 | -0.3 | 0 | 0 |



KM 1+095

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 8 | -0.8 |
| | -150 | 0.7 | -0.7 | 18 | -1.8 |
| | -125 | 0.7 | -0.7 | 13 | -1.3 |
| | -100 | 0.5 | -0.5 | 12 | -1.2 |
| | -75 | 0.7 | -0.7 | 8 | -0.8 |
| | -50 | 0.5 | -0.5 | 8 | -0.8 |
| | -25 | 0.4 | -0.4 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 6 | -0.6 |
| | 50 | 0.7 | -0.7 | 5 | -0.5 |
| | 75 | 0.7 | -0.7 | 7 | -0.7 |
| | 100 | 0.6 | -0.6 | 6 | -0.6 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.5 | -0.5 | 4 | -0.4 |
| | 175 | 0.7 | -0.7 | 6 | -0.6 |



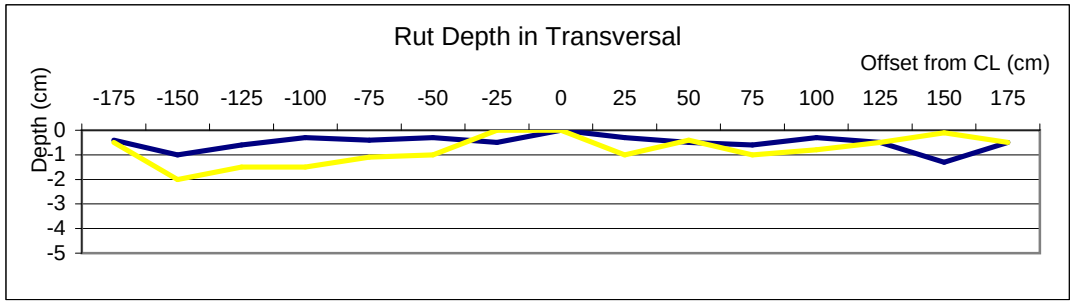
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+105

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 5 | -0.5 |
| | -150 | 1 | -1 | 20 | -2 |
| | -125 | 0.6 | -0.6 | 15 | -1.5 |
| | -100 | 0.3 | -0.3 | 15 | -1.5 |
| | -75 | 0.4 | -0.4 | 11 | -1.1 |
| | -50 | 0.3 | -0.3 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 10 | -1 |
| | 50 | 0.5 | -0.5 | 4 | -0.4 |
| | 75 | 0.6 | -0.6 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 8 | -0.8 |
| | 125 | 0.5 | -0.5 | 5 | -0.5 |
| | 150 | 1.3 | -1.3 | 1 | -0.1 |
| | 175 | 0.5 | -0.5 | 5 | -0.5 |

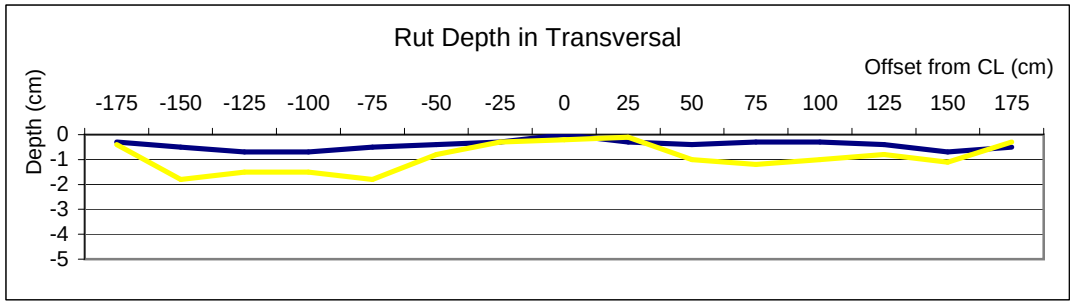


KM 1+115

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 4 | -0.4 |
| | -150 | 0.5 | -0.5 | 18 | -1.8 |
| | -125 | 0.7 | -0.7 | 15 | -1.5 |
| | -100 | 0.7 | -0.7 | 15 | -1.5 |
| | -75 | 0.5 | -0.5 | 18 | -1.8 |
| | -50 | 0.4 | -0.4 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.3 | -0.3 | 12 | -1.2 |
| | 100 | 0.3 | -0.3 | 10 | -1 |
| | 125 | 0.4 | -0.4 | 8 | -0.8 |
| | 150 | 0.7 | -0.7 | 11 | -1.1 |
| | 175 | 0.5 | -0.5 | 3 | -0.3 |



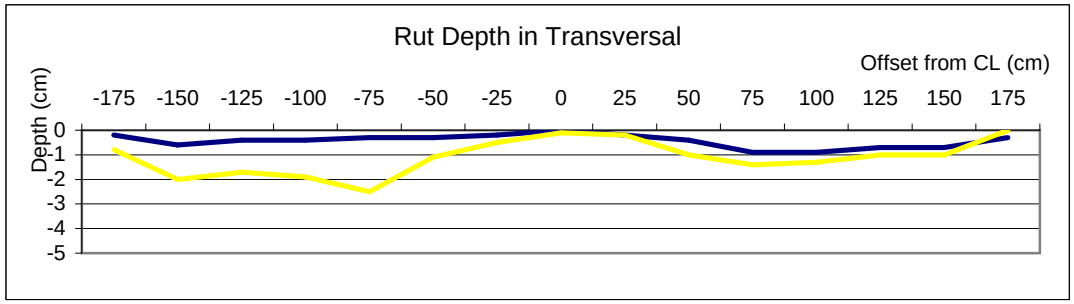
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+125

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 8 | -0.8 |
| | -150 | 0.6 | -0.6 | 20 | -2 |
| | -125 | 0.4 | -0.4 | 17 | -1.7 |
| | -100 | 0.4 | -0.4 | 19 | -1.9 |
| | -75 | 0.3 | -0.3 | 25 | -2.5 |
| | -50 | 0.3 | -0.3 | 11 | -1.1 |
| | -25 | 0.2 | -0.2 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.2 | -0.2 | 2 | -0.2 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.9 | -0.9 | 14 | -1.4 |
| | 100 | 0.9 | -0.9 | 13 | -1.3 |
| | 125 | 0.7 | -0.7 | 10 | -1 |
| | 150 | 0.7 | -0.7 | 10 | -1 |
| | 175 | 0.3 | -0.3 | 0 | 0 |

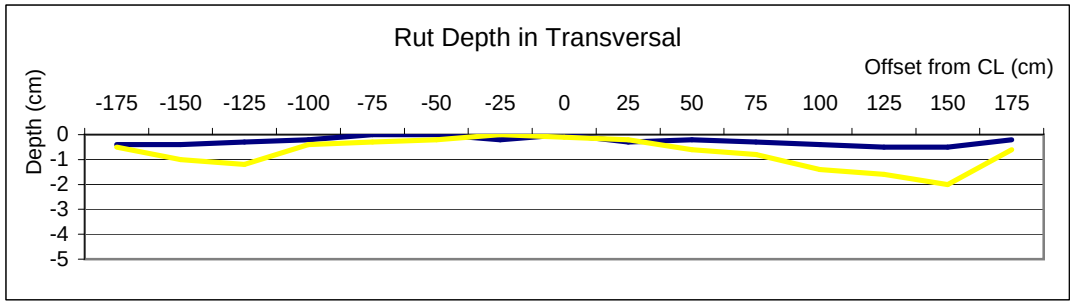


KM 1+135

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 5 | -0.5 |
| | -150 | 0.4 | -0.4 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 12 | -1.2 |
| | -100 | 0.2 | -0.2 | 4 | -0.4 |
| | -75 | 0 | 0 | 3 | -0.3 |
| | -50 | 0 | 0 | 2 | -0.2 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 6 | -0.6 |
| | 75 | 0.3 | -0.3 | 8 | -0.8 |
| | 100 | 0.4 | -0.4 | 14 | -1.4 |
| | 125 | 0.5 | -0.5 | 16 | -1.6 |
| | 150 | 0.5 | -0.5 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 6 | -0.6 |



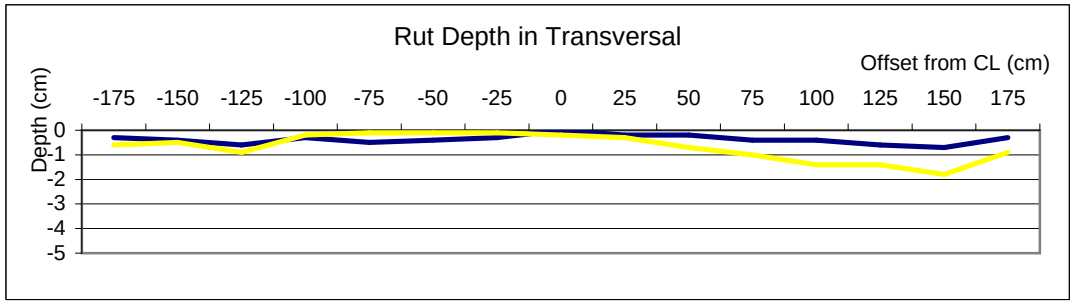
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+145

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 6 | -0.6 |
| | -150 | 0.4 | -0.4 | 5 | -0.5 |
| | -125 | 0.6 | -0.6 | 9 | -0.9 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.5 | -0.5 | 1 | -0.1 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.2 | -0.2 | 3 | -0.3 |
| | 50 | 0.2 | -0.2 | 7 | -0.7 |
| | 75 | 0.4 | -0.4 | 10 | -1 |
| | 100 | 0.4 | -0.4 | 14 | -1.4 |
| | 125 | 0.6 | -0.6 | 14 | -1.4 |
| | 150 | 0.7 | -0.7 | 18 | -1.8 |
| | 175 | 0.3 | -0.3 | 9 | -0.9 |

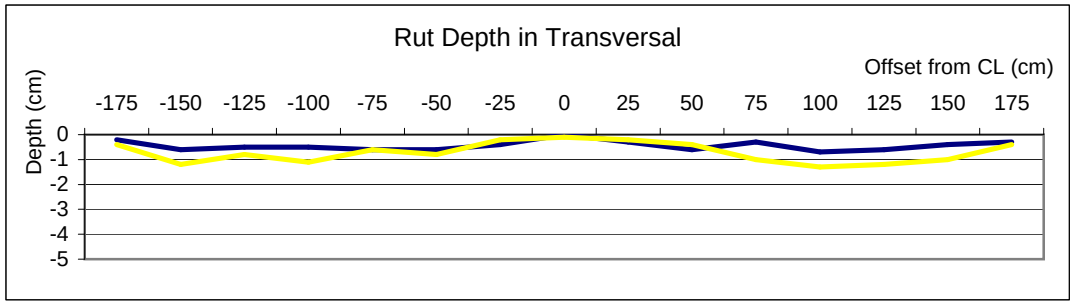


KM 1+155

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 4 | -0.4 |
| | -150 | 0.6 | -0.6 | 12 | -1.2 |
| | -125 | 0.5 | -0.5 | 8 | -0.8 |
| | -100 | 0.5 | -0.5 | 11 | -1.1 |
| | -75 | 0.6 | -0.6 | 6 | -0.6 |
| | -50 | 0.6 | -0.6 | 8 | -0.8 |
| | -25 | 0.4 | -0.4 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.6 | -0.6 | 4 | -0.4 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.7 | -0.7 | 13 | -1.3 |
| | 125 | 0.6 | -0.6 | 12 | -1.2 |
| | 150 | 0.4 | -0.4 | 10 | -1 |
| | 175 | 0.3 | -0.3 | 4 | -0.4 |



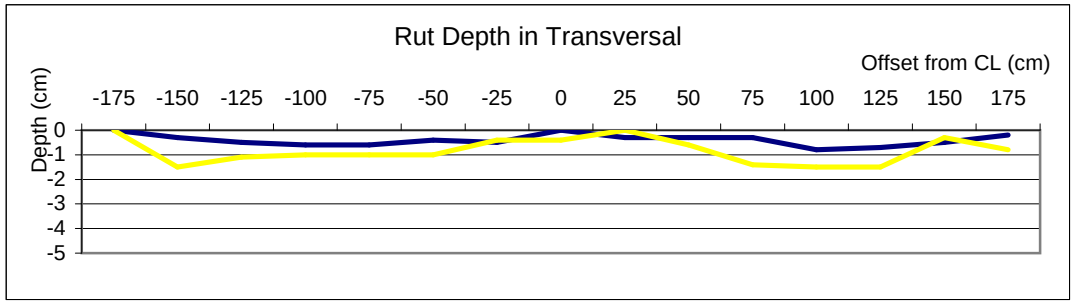
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+165

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 0 | 0 |
| | -150 | 0.3 | -0.3 | 15 | -1.5 |
| | -125 | 0.5 | -0.5 | 11 | -1.1 |
| | -100 | 0.6 | -0.6 | 10 | -1 |
| | -75 | 0.6 | -0.6 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 6 | -0.6 |
| | 75 | 0.3 | -0.3 | 14 | -1.4 |
| | 100 | 0.8 | -0.8 | 15 | -1.5 |
| | 125 | 0.7 | -0.7 | 15 | -1.5 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 0.2 | -0.2 | 8 | -0.8 |

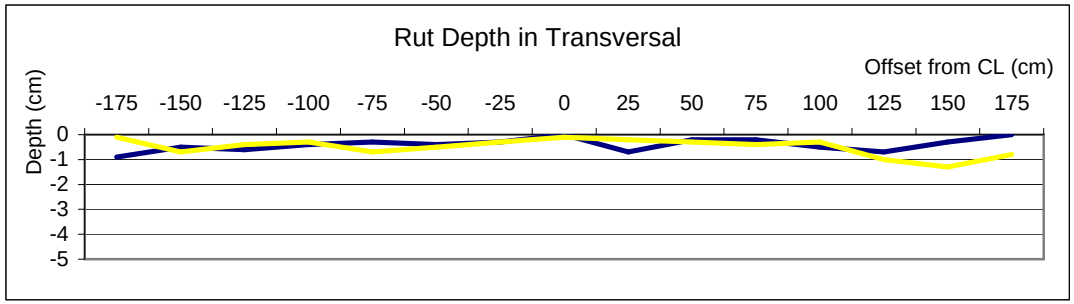


KM 1+175

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 1 | -0.1 |
| | -150 | 0.5 | -0.5 | 7 | -0.7 |
| | -125 | 0.6 | -0.6 | 4 | -0.4 |
| | -100 | 0.4 | -0.4 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 5 | -0.5 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.7 | -0.7 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 4 | -0.4 |
| | 100 | 0.5 | -0.5 | 3 | -0.3 |
| | 125 | 0.7 | -0.7 | 10 | -1 |
| | 150 | 0.3 | -0.3 | 13 | -1.3 |
| | 175 | 0 | 0 | 8 | -0.8 |



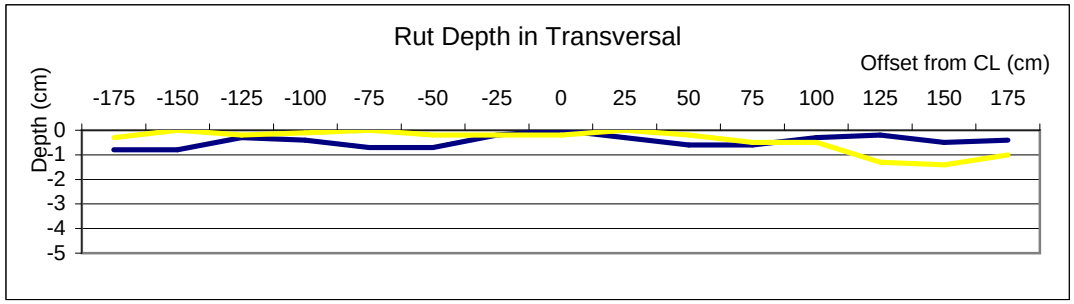
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+185

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

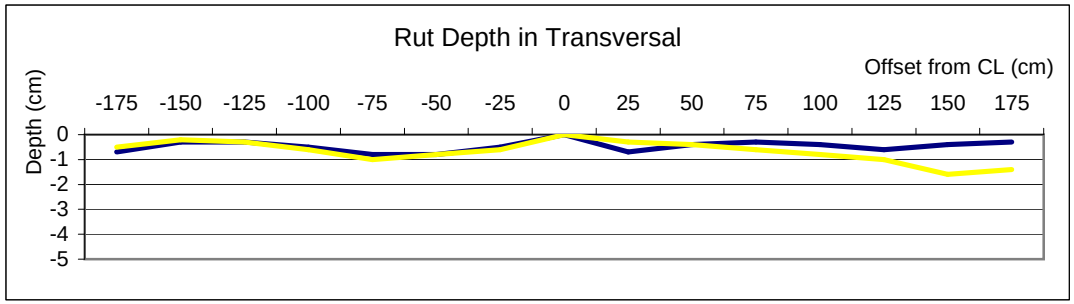
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 3 | -0.3 |
| | -150 | 0.8 | -0.8 | 0 | 0 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.4 | -0.4 | 1 | -0.1 |
| | -75 | 0.7 | -0.7 | 0 | 0 |
| | -50 | 0.7 | -0.7 | 2 | -0.2 |
| | -25 | 0.2 | -0.2 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.6 | -0.6 | 2 | -0.2 |
| | 75 | 0.6 | -0.6 | 5 | -0.5 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.2 | -0.2 | 13 | -1.3 |
| | 150 | 0.5 | -0.5 | 14 | -1.4 |
| | 175 | 0.4 | -0.4 | 10 | -1 |



KM 1+195

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 5 | -0.5 |
| | -150 | 0.3 | -0.3 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.5 | -0.5 | 6 | -0.6 |
| | -75 | 0.8 | -0.8 | 10 | -1 |
| | -50 | 0.8 | -0.8 | 8 | -0.8 |
| | -25 | 0.5 | -0.5 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.7 | -0.7 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 4 | -0.4 |
| | 75 | 0.3 | -0.3 | 6 | -0.6 |
| | 100 | 0.4 | -0.4 | 8 | -0.8 |
| | 125 | 0.6 | -0.6 | 10 | -1 |
| | 150 | 0.4 | -0.4 | 16 | -1.6 |
| | 175 | 0.3 | -0.3 | 14 | -1.4 |



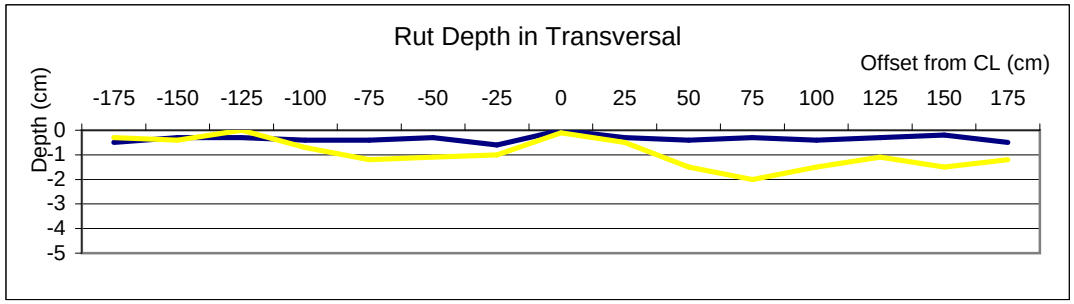
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+205

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 3 | -0.3 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.4 | -0.4 | 7 | -0.7 |
| | -75 | 0.4 | -0.4 | 12 | -1.2 |
| | -50 | 0.3 | -0.3 | 11 | -1.1 |
| | -25 | 0.6 | -0.6 | 10 | -1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 5 | -0.5 |
| | 50 | 0.4 | -0.4 | 15 | -1.5 |
| | 75 | 0.3 | -0.3 | 20 | -2 |
| | 100 | 0.4 | -0.4 | 15 | -1.5 |
| | 125 | 0.3 | -0.3 | 11 | -1.1 |
| | 150 | 0.2 | -0.2 | 15 | -1.5 |
| | 175 | 0.5 | -0.5 | 12 | -1.2 |

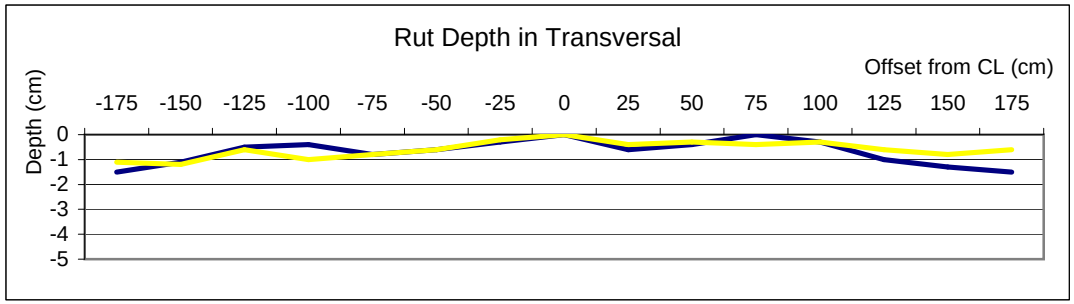


KM 1+215

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 11 | -1.1 |
| | -150 | 1.1 | -1.1 | 12 | -1.2 |
| | -125 | 0.5 | -0.5 | 6 | -0.6 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0.8 | -0.8 | 8 | -0.8 |
| | -50 | 0.6 | -0.6 | 6 | -0.6 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 4 | -0.4 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0 | 0 | 4 | -0.4 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 1 | -1 | 6 | -0.6 |
| | 150 | 1.3 | -1.3 | 8 | -0.8 |
| | 175 | 1.5 | -1.5 | 6 | -0.6 |



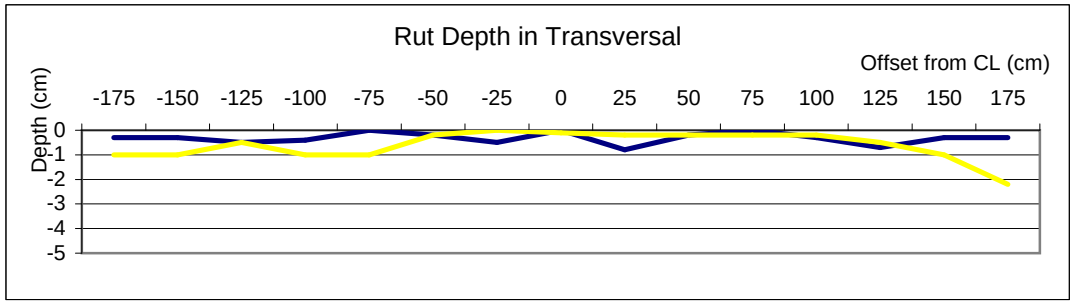
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+225

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

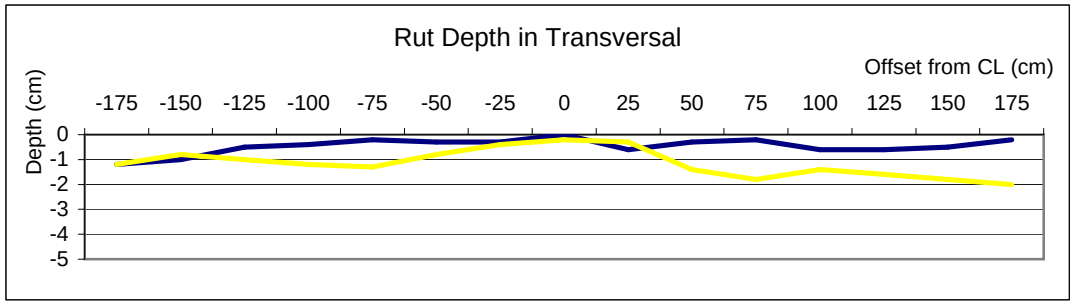
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 10 | -1 |
| | -150 | 0.3 | -0.3 | 10 | -1 |
| | -125 | 0.5 | -0.5 | 5 | -0.5 |
| | -100 | 0.4 | -0.4 | 10 | -1 |
| | -75 | 0 | 0 | 10 | -1 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.8 | -0.8 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0 | 0 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.7 | -0.7 | 5 | -0.5 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.3 | -0.3 | 22 | -2.2 |



KM 1+235

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 12 | -1.2 |
| | -150 | 1 | -1 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 12 | -1.2 |
| | -75 | 0.2 | -0.2 | 13 | -1.3 |
| | -50 | 0.3 | -0.3 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 4 | -0.4 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.6 | -0.6 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 14 | -1.4 |
| | 75 | 0.2 | -0.2 | 18 | -1.8 |
| | 100 | 0.6 | -0.6 | 14 | -1.4 |
| | 125 | 0.6 | -0.6 | 16 | -1.6 |
| | 150 | 0.5 | -0.5 | 18 | -1.8 |
| | 175 | 0.2 | -0.2 | 20 | -2 |



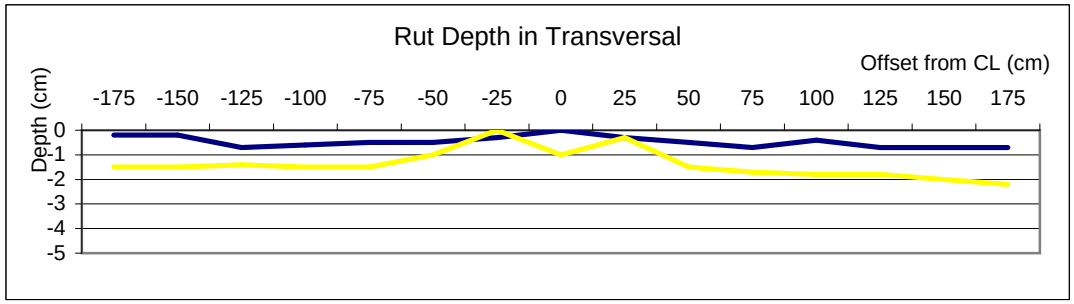
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+245

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

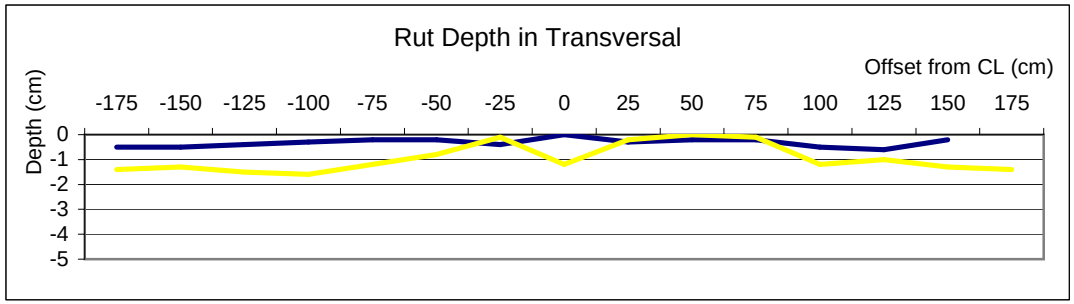
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 15 | -1.5 |
| | -150 | 0.2 | -0.2 | 15 | -1.5 |
| | -125 | 0.7 | -0.7 | 14 | -1.4 |
| | -100 | 0.6 | -0.6 | 15 | -1.5 |
| | -75 | 0.5 | -0.5 | 15 | -1.5 |
| | -50 | 0.5 | -0.5 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 15 | -1.5 |
| | 75 | 0.7 | -0.7 | 17 | -1.7 |
| | 100 | 0.4 | -0.4 | 18 | -1.8 |
| | 125 | 0.7 | -0.7 | 18 | -1.8 |
| | 150 | 0.7 | -0.7 | 20 | -2 |
| | 175 | 0.7 | -0.7 | 22 | -2.2 |



KM 1+255

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 14 | -1.4 |
| | -150 | 0.5 | -0.5 | 13 | -1.3 |
| | -125 | 0.4 | -0.4 | 15 | -1.5 |
| | -100 | 0.3 | -0.3 | 16 | -1.6 |
| | -75 | 0.2 | -0.2 | 12 | -1.2 |
| | -50 | 0.2 | -0.2 | 8 | -0.8 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 12 | -1.2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 1 | -0.1 |
| | 100 | 0.5 | -0.5 | 12 | -1.2 |
| | 125 | 0.6 | -0.6 | 10 | -1 |
| | 150 | 0.2 | -0.2 | 13 | -1.3 |
| | 175 | 0.3 | -0.3 | 14 | -1.4 |



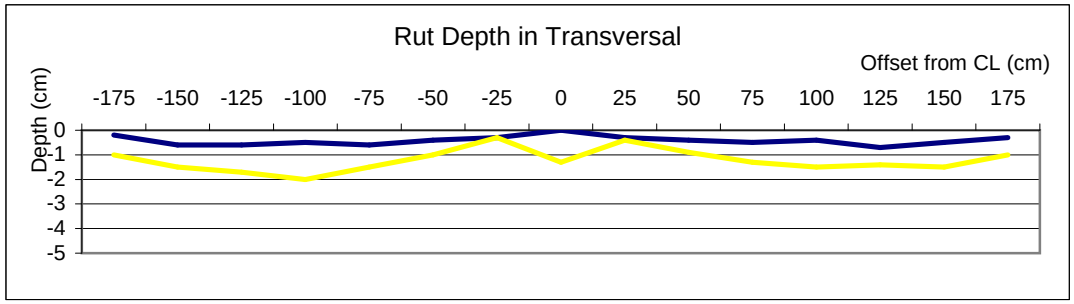
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+265

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

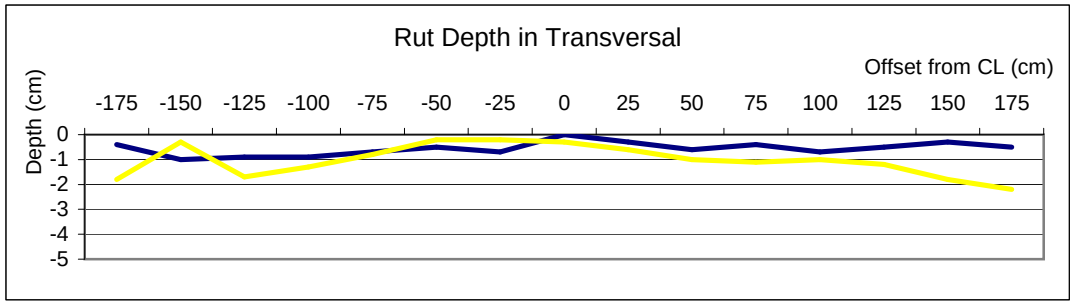
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 10 | -1 |
| | -150 | 0.6 | -0.6 | 15 | -1.5 |
| | -125 | 0.6 | -0.6 | 17 | -1.7 |
| | -100 | 0.5 | -0.5 | 20 | -2 |
| | -75 | 0.6 | -0.6 | 15 | -1.5 |
| | -50 | 0.4 | -0.4 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 13 | -1.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 4 | -0.4 |
| | 50 | 0.4 | -0.4 | 9 | -0.9 |
| | 75 | 0.5 | -0.5 | 13 | -1.3 |
| | 100 | 0.4 | -0.4 | 15 | -1.5 |
| | 125 | 0.7 | -0.7 | 14 | -1.4 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0.3 | -0.3 | 10 | -1 |



KM 1+275

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 18 | -1.8 |
| | -150 | 1 | -1 | 3 | -0.3 |
| | -125 | 0.9 | -0.9 | 17 | -1.7 |
| | -100 | 0.9 | -0.9 | 13 | -1.3 |
| | -75 | 0.7 | -0.7 | 8 | -0.8 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.7 | -0.7 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 6 | -0.6 |
| | 50 | 0.6 | -0.6 | 10 | -1 |
| | 75 | 0.4 | -0.4 | 11 | -1.1 |
| | 100 | 0.7 | -0.7 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 12 | -1.2 |
| | 150 | 0.3 | -0.3 | 18 | -1.8 |
| | 175 | 0.5 | -0.5 | 22 | -2.2 |



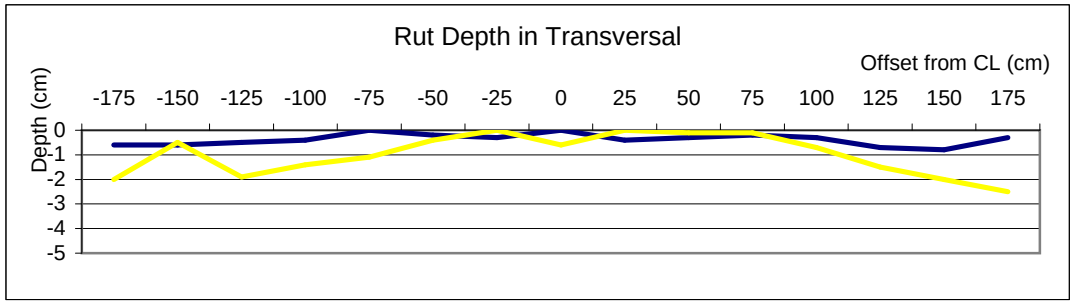
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+285

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 20 | -2 |
| | -150 | 0.6 | -0.6 | 5 | -0.5 |
| | -125 | 0.5 | -0.5 | 19 | -1.9 |
| | -100 | 0.4 | -0.4 | 14 | -1.4 |
| | -75 | 0 | 0 | 11 | -1.1 |
| | -50 | 0.2 | -0.2 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.2 | -0.2 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 7 | -0.7 |
| | 125 | 0.7 | -0.7 | 15 | -1.5 |
| | 150 | 0.8 | -0.8 | 20 | -2 |
| | 175 | 0.3 | -0.3 | 25 | -2.5 |

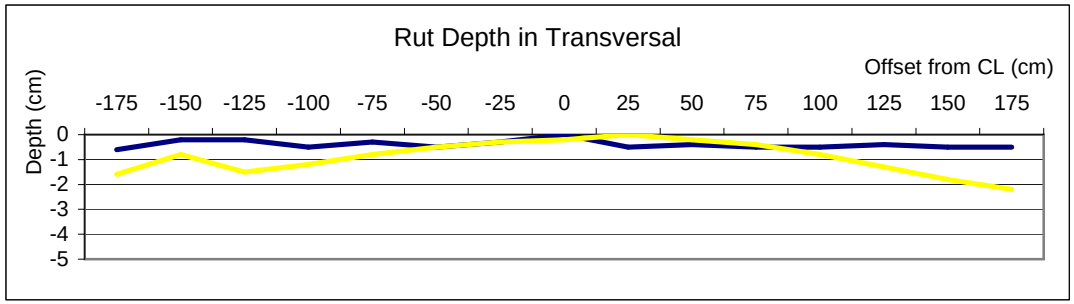


KM 1+295

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 16 | -1.6 |
| | -150 | 0.2 | -0.2 | 8 | -0.8 |
| | -125 | 0.2 | -0.2 | 15 | -1.5 |
| | -100 | 0.5 | -0.5 | 12 | -1.2 |
| | -75 | 0.3 | -0.3 | 8 | -0.8 |
| | -50 | 0.5 | -0.5 | 5 | -0.5 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.5 | -0.5 | 4 | -0.4 |
| | 100 | 0.5 | -0.5 | 8 | -0.8 |
| | 125 | 0.4 | -0.4 | 13 | -1.3 |
| | 150 | 0.5 | -0.5 | 18 | -1.8 |
| | 175 | 0.5 | -0.5 | 22 | -2.2 |



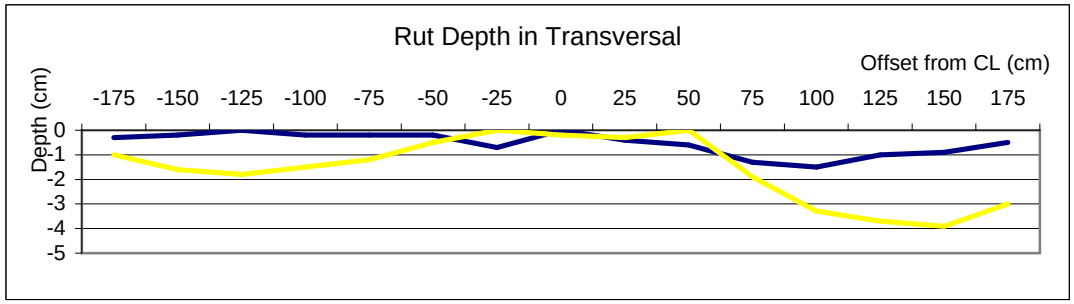
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+305

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

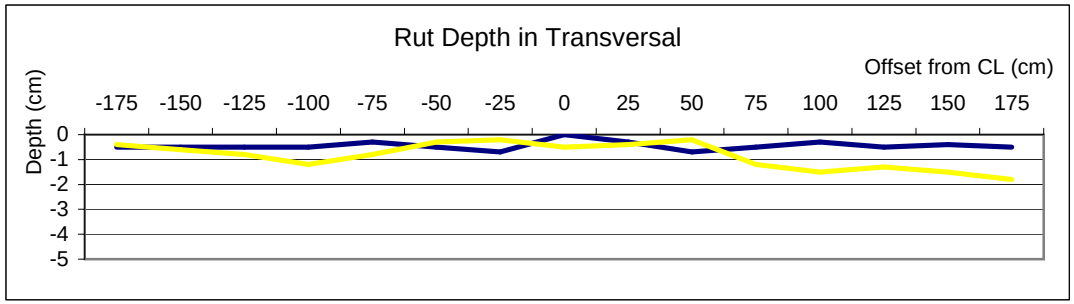
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 10 | -1 |
| | -150 | 0.2 | -0.2 | 16 | -1.6 |
| | -125 | 0 | 0 | 18 | -1.8 |
| | -100 | 0.2 | -0.2 | 15 | -1.5 |
| | -75 | 0.2 | -0.2 | 12 | -1.2 |
| | -50 | 0.2 | -0.2 | 5 | -0.5 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.4 | -0.4 | 3 | -0.3 |
| | 50 | 0.6 | -0.6 | 0 | 0 |
| | 75 | 1.3 | -1.3 | 19 | -1.9 |
| | 100 | 1.5 | -1.5 | 33 | -3.3 |
| | 125 | 1 | -1 | 37 | -3.7 |
| | 150 | 0.9 | -0.9 | 39 | -3.9 |
| | 175 | 0.5 | -0.5 | 30 | -3 |



KM 1+315

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 4 | -0.4 |
| | -150 | 0.5 | -0.5 | 6 | -0.6 |
| | -125 | 0.5 | -0.5 | 8 | -0.8 |
| | -100 | 0.5 | -0.5 | 12 | -1.2 |
| | -75 | 0.3 | -0.3 | 8 | -0.8 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.3 | -0.3 | 4 | -0.4 |
| | 50 | 0.7 | -0.7 | 2 | -0.2 |
| | 75 | 0.5 | -0.5 | 12 | -1.2 |
| | 100 | 0.3 | -0.3 | 15 | -1.5 |
| | 125 | 0.5 | -0.5 | 13 | -1.3 |
| | 150 | 0.4 | -0.4 | 15 | -1.5 |
| | 175 | 0.5 | -0.5 | 18 | -1.8 |



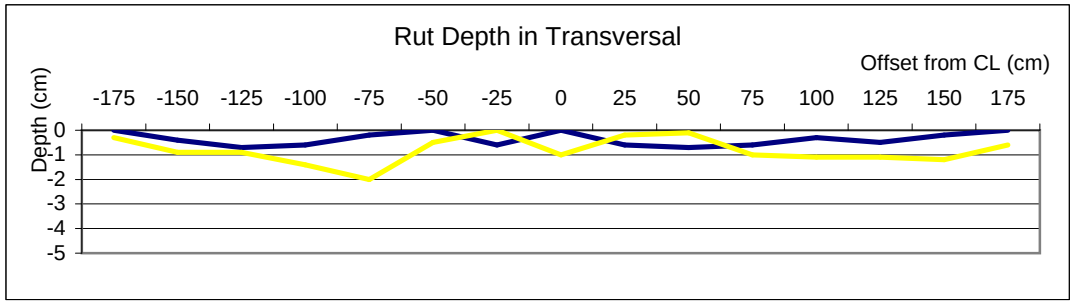
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+325

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 3 | -0.3 |
| | -150 | 0.4 | -0.4 | 9 | -0.9 |
| | -125 | 0.7 | -0.7 | 9 | -0.9 |
| | -100 | 0.6 | -0.6 | 14 | -1.4 |
| | -75 | 0.2 | -0.2 | 20 | -2 |
| | -50 | 0 | 0 | 5 | -0.5 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.7 | -0.7 | 1 | -0.1 |
| | 75 | 0.6 | -0.6 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 11 | -1.1 |
| | 125 | 0.5 | -0.5 | 11 | -1.1 |
| | 150 | 0.2 | -0.2 | 12 | -1.2 |
| | 175 | 0 | 0 | 6 | -0.6 |

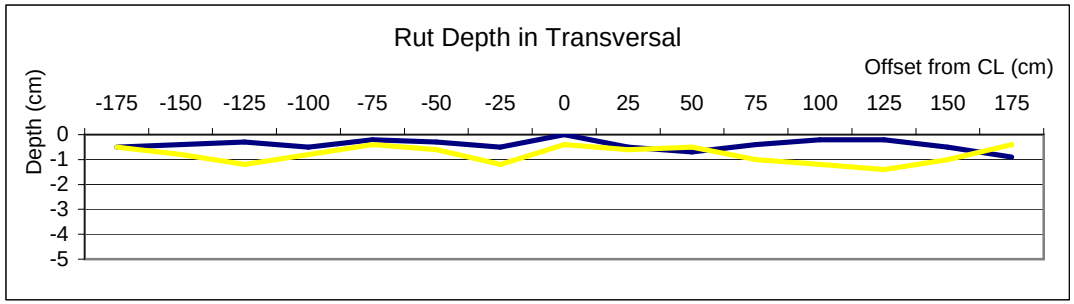


KM 1+335

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 5 | -0.5 |
| | -150 | 0.4 | -0.4 | 8 | -0.8 |
| | -125 | 0.3 | -0.3 | 12 | -1.2 |
| | -100 | 0.5 | -0.5 | 8 | -0.8 |
| | -75 | 0.2 | -0.2 | 4 | -0.4 |
| | -50 | 0.3 | -0.3 | 6 | -0.6 |
| | -25 | 0.5 | -0.5 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.5 | -0.5 | 6 | -0.6 |
| | 50 | 0.7 | -0.7 | 5 | -0.5 |
| | 75 | 0.4 | -0.4 | 10 | -1 |
| | 100 | 0.2 | -0.2 | 12 | -1.2 |
| | 125 | 0.2 | -0.2 | 14 | -1.4 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 0.9 | -0.9 | 4 | -0.4 |



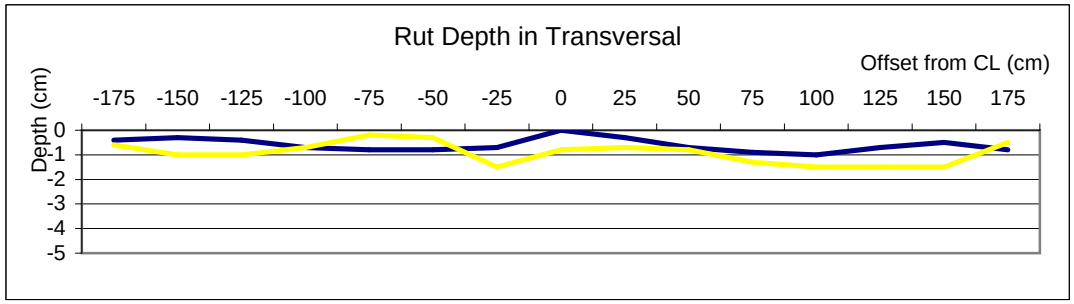
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+345

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 6 | -0.6 |
| | -150 | 0.3 | -0.3 | 10 | -1 |
| | -125 | 0.4 | -0.4 | 10 | -1 |
| | -100 | 0.7 | -0.7 | 7 | -0.7 |
| | -75 | 0.8 | -0.8 | 2 | -0.2 |
| | -50 | 0.8 | -0.8 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.3 | -0.3 | 7 | -0.7 |
| | 50 | 0.7 | -0.7 | 8 | -0.8 |
| | 75 | 0.9 | -0.9 | 13 | -1.3 |
| | 100 | 1 | -1 | 15 | -1.5 |
| | 125 | 0.7 | -0.7 | 15 | -1.5 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0.8 | -0.8 | 5 | -0.5 |

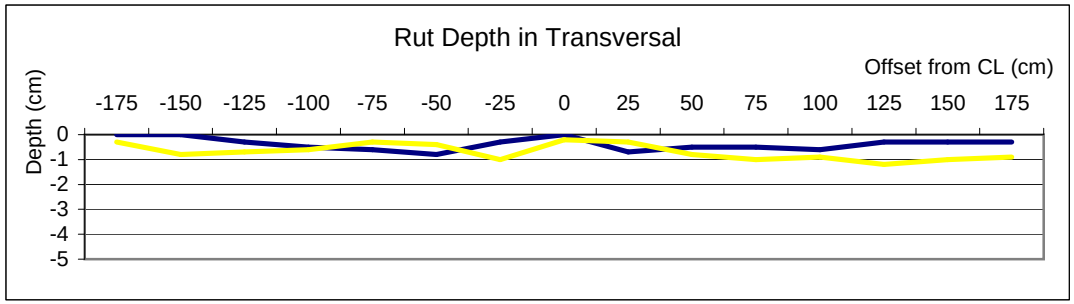


KM 1+355

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 3 | -0.3 |
| | -150 | 0 | 0 | 8 | -0.8 |
| | -125 | 0.3 | -0.3 | 7 | -0.7 |
| | -100 | 0.5 | -0.5 | 6 | -0.6 |
| | -75 | 0.6 | -0.6 | 3 | -0.3 |
| | -50 | 0.8 | -0.8 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 10 | -1 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.7 | -0.7 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 8 | -0.8 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.6 | -0.6 | 9 | -0.9 |
| | 125 | 0.3 | -0.3 | 12 | -1.2 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.3 | -0.3 | 9 | -0.9 |



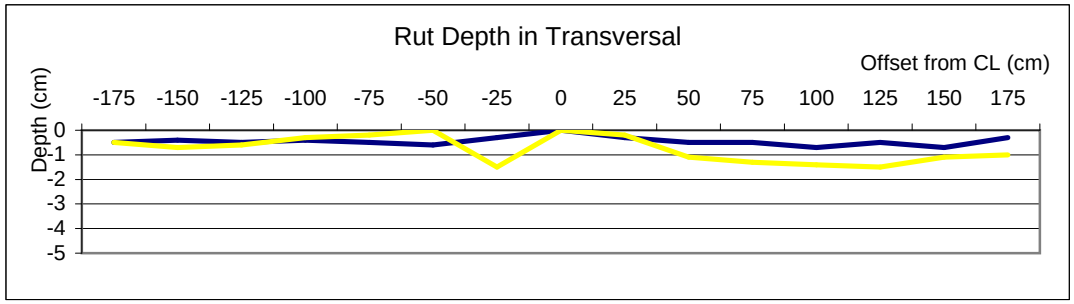
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+365

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 5 | -0.5 |
| | -150 | 0.4 | -0.4 | 7 | -0.7 |
| | -125 | 0.5 | -0.5 | 6 | -0.6 |
| | -100 | 0.4 | -0.4 | 3 | -0.3 |
| | -75 | 0.5 | -0.5 | 2 | -0.2 |
| | -50 | 0.6 | -0.6 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 11 | -1.1 |
| | 75 | 0.5 | -0.5 | 13 | -1.3 |
| | 100 | 0.7 | -0.7 | 14 | -1.4 |
| | 125 | 0.5 | -0.5 | 15 | -1.5 |
| | 150 | 0.7 | -0.7 | 11 | -1.1 |
| | 175 | 0.3 | -0.3 | 10 | -1 |

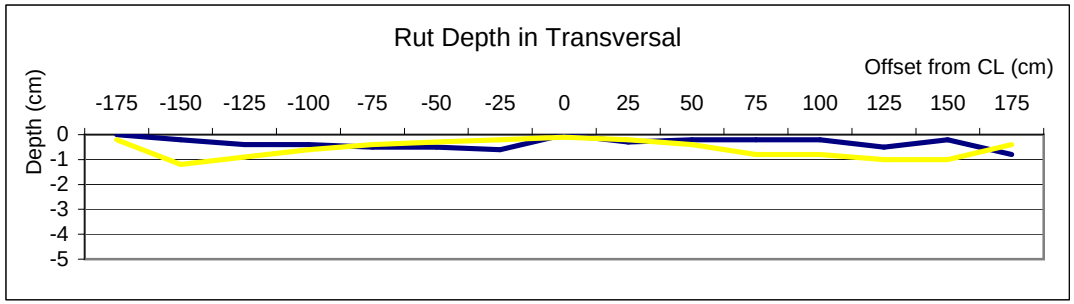


KM 1+375

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0 | 0 | 2 | -0.2 |
| | -150 | 0.2 | -0.2 | 12 | -1.2 |
| | -125 | 0.4 | -0.4 | 9 | -0.9 |
| | -100 | 0.4 | -0.4 | 6 | -0.6 |
| | -75 | 0.5 | -0.5 | 4 | -0.4 |
| | -50 | 0.5 | -0.5 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 4 | -0.4 |
| | 75 | 0.2 | -0.2 | 8 | -0.8 |
| | 100 | 0.2 | -0.2 | 8 | -0.8 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.2 | -0.2 | 10 | -1 |
| | 175 | 0.8 | -0.8 | 4 | -0.4 |



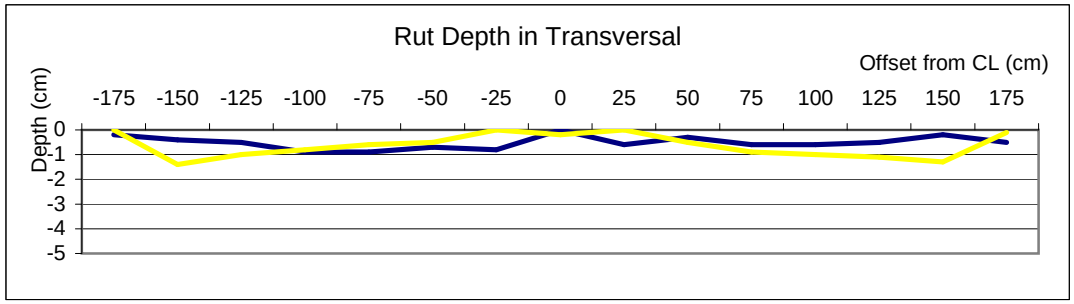
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Paving Block Concrete

KM 1+385

Measured by: Khambone Date: 31/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 14 | -1.4 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.9 | -0.9 | 8 | -0.8 |
| | -75 | 0.9 | -0.9 | 6 | -0.6 |
| | -50 | 0.7 | -0.7 | 5 | -0.5 |
| | -25 | 0.8 | -0.8 | 0 | 0 |
| CL | 0 | 0 | 0 | 2 | -0.2 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 5 | -0.5 |
| | 75 | 0.6 | -0.6 | 9 | -0.9 |
| | 100 | 0.6 | -0.6 | 10 | -1 |
| | 125 | 0.5 | -0.5 | 11 | -1.1 |
| | 150 | 0.2 | -0.2 | 13 | -1.3 |
| | 175 | 0.5 | -0.5 | 1 | -0.1 |

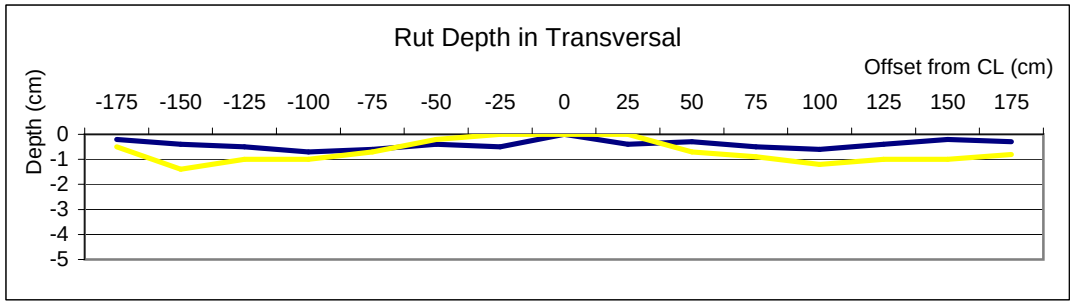


KM 1+395

Measured by: Khambone
Checked by: Singthong

Date: 31/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.2 | -0.2 | 5 | -0.5 |
| | -150 | 0.4 | -0.4 | 14 | -1.4 |
| | -125 | 0.5 | -0.5 | 10 | -1 |
| | -100 | 0.7 | -0.7 | 10 | -1 |
| | -75 | 0.6 | -0.6 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 7 | -0.7 |
| | 75 | 0.5 | -0.5 | 9 | -0.9 |
| | 100 | 0.6 | -0.6 | 12 | -1.2 |
| | 125 | 0.4 | -0.4 | 10 | -1 |
| | 150 | 0.2 | -0.2 | 10 | -1 |
| | 175 | 0.3 | -0.3 | 8 | -0.8 |



# R 5.0 Concrete Geocells

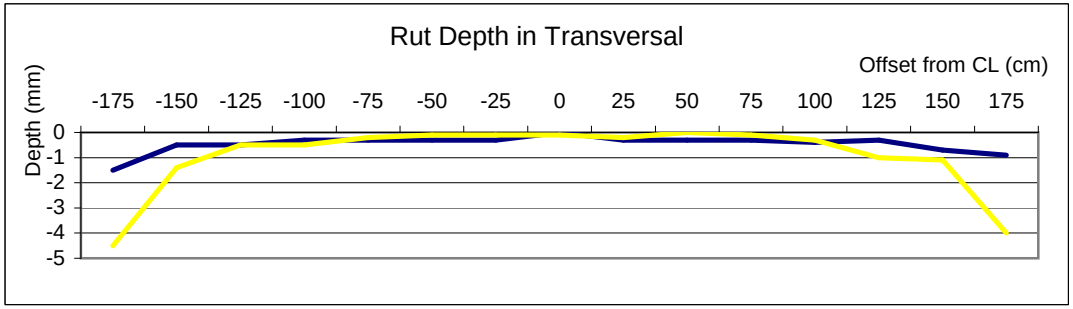
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+755

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) 03/09/2007 | | Rut depth (cm) 11/10/2012 | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 45 | -4.5 |
| | -150 | 0.5 | -0.5 | 14 | -1.4 |
| | -125 | 0.5 | -0.5 | 5 | -0.5 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.4 | -0.4 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 10 | -1 |
| | 150 | 0.7 | -0.7 | 11 | -1.1 |
| | 175 | 0.9 | -0.9 | 40 | -4 |

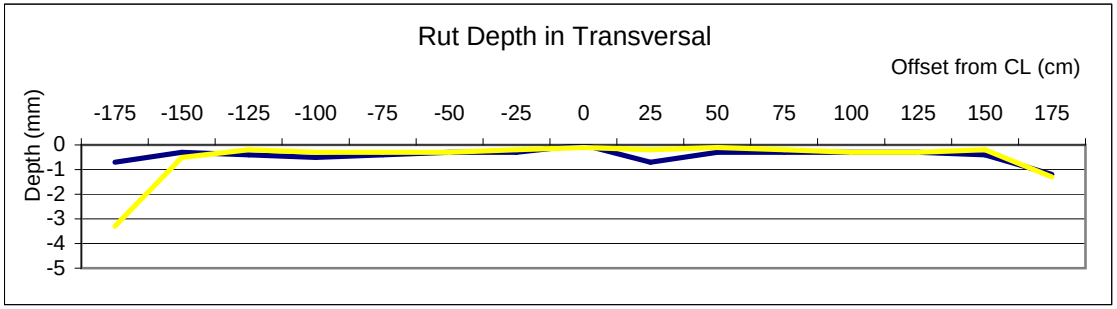


KM 2+765

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 33 | -3.3 |
| | -150 | 0.3 | -0.3 | 5 | -0.5 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.5 | -0.5 | 3 | -0.3 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.3 | -0.3 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.7 | -0.7 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 2 | -0.2 |
| | 175 | 1.2 | -1.2 | 13 | -1.3 |



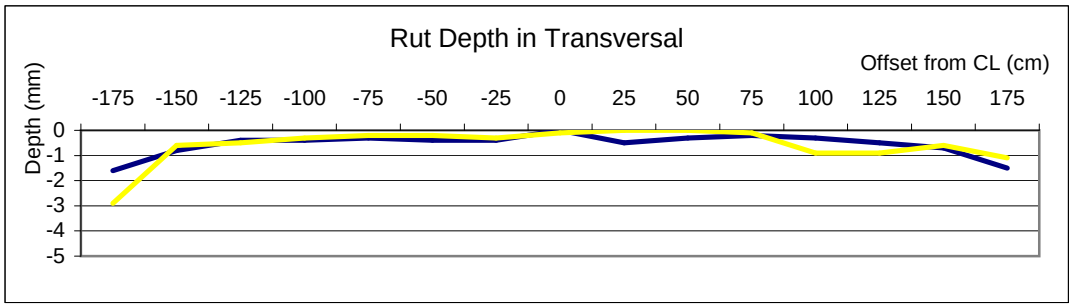
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+775

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 29 | -2.9 |
| | -150 | 0.8 | -0.8 | 6 | -0.6 |
| | -125 | 0.4 | -0.4 | 5 | -0.5 |
| | -100 | 0.4 | -0.4 | 3 | -0.3 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 9 | -0.9 |
| | 125 | 0.5 | -0.5 | 9 | -0.9 |
| | 150 | 0.7 | -0.7 | 6 | -0.6 |
| | 175 | 1.5 | -1.5 | 11 | -1.1 |

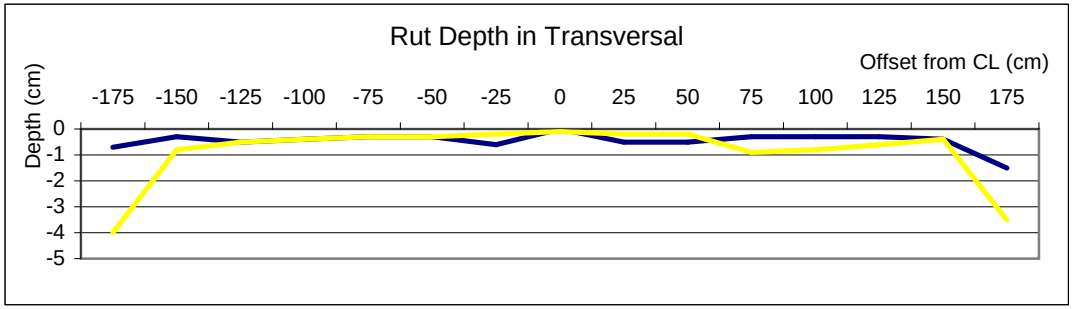


KM 2+785

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 40 | -4 |
| | -150 | 0.3 | -0.3 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 5 | -0.5 |
| | -100 | 0.4 | -0.4 | 4 | -0.4 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 9 | -0.9 |
| | 100 | 0.3 | -0.3 | 8 | -0.8 |
| | 125 | 0.3 | -0.3 | 6 | -0.6 |
| | 150 | 0.4 | -0.4 | 4 | -0.4 |
| | 175 | 1.5 | -1.5 | 35 | -3.5 |



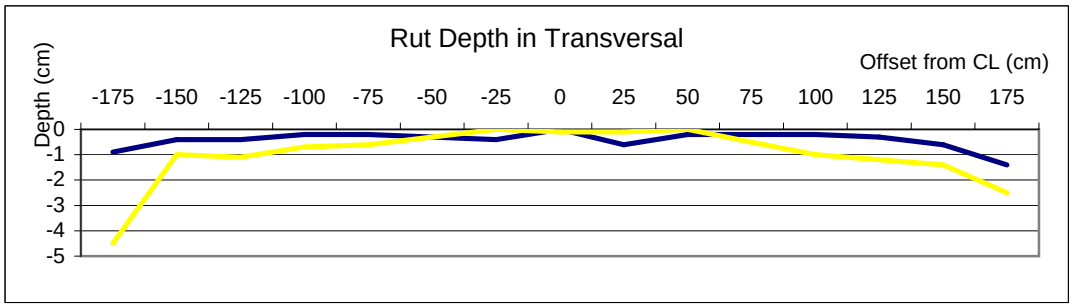
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+795

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 45 | -4.5 |
| | -150 | 0.4 | -0.4 | 10 | -1 |
| | -125 | 0.4 | -0.4 | 11 | -1.1 |
| | -100 | 0.2 | -0.2 | 7 | -0.7 |
| | -75 | 0.2 | -0.2 | 6 | -0.6 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 5 | -0.5 |
| | 100 | 0.2 | -0.2 | 10 | -1 |
| | 125 | 0.3 | -0.3 | 12 | -1.2 |
| | 150 | 0.6 | -0.6 | 14 | -1.4 |
| | 175 | 1.4 | -1.4 | 25 | -2.5 |

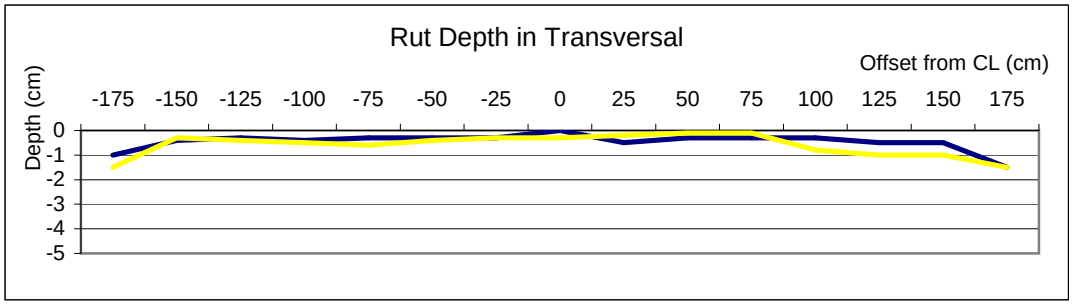


KM 2+805

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 15 | -1.5 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 4 | -0.4 |
| | -100 | 0.4 | -0.4 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 6 | -0.6 |
| | -50 | 0.3 | -0.3 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 8 | -0.8 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 1.5 | -1.5 | 15 | -1.5 |



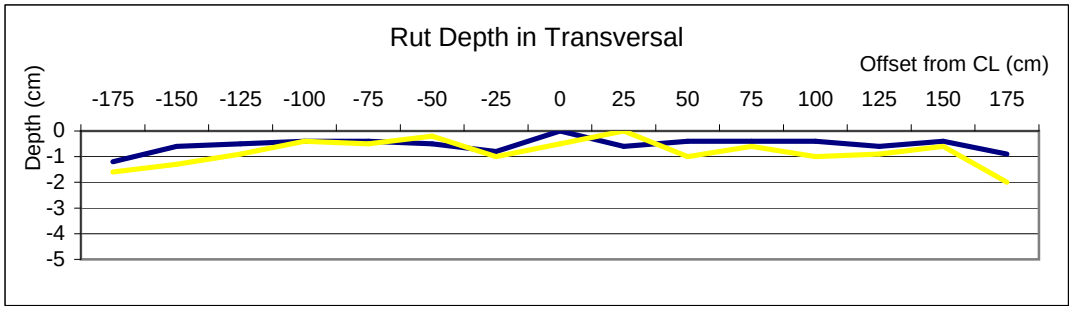
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+815

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

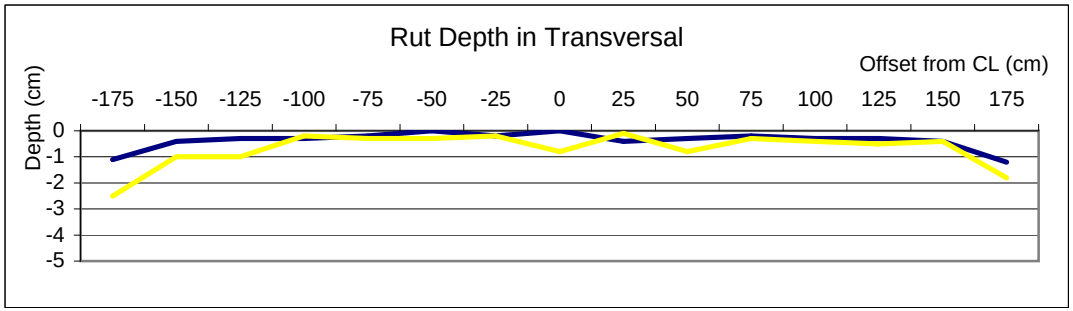
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 16 | -1.6 |
| | -150 | 0.6 | -0.6 | 13 | -1.3 |
| | -125 | 0.5 | -0.5 | 9 | -0.9 |
| | -100 | 0.4 | -0.4 | 4 | -0.4 |
| | -75 | 0.4 | -0.4 | 5 | -0.5 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.8 | -0.8 | 10 | -1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.4 | -0.4 | 6 | -0.6 |
| | 100 | 0.4 | -0.4 | 10 | -1 |
| | 125 | 0.6 | -0.6 | 9 | -0.9 |
| | 150 | 0.4 | -0.4 | 6 | -0.6 |
| | 175 | 0.9 | -0.9 | 20 | -2 |



KM 2+825

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.1 | -1.1 | 25 | -2.5 |
| | -150 | 0.4 | -0.4 | 10 | -1 |
| | -125 | 0.3 | -0.3 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0 | 0 | 3 | -0.3 |
| | -25 | 0.2 | -0.2 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 8 | -0.8 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 4 | -0.4 |
| | 125 | 0.3 | -0.3 | 5 | -0.5 |
| | 150 | 0.4 | -0.4 | 4 | -0.4 |
| | 175 | 1.2 | -1.2 | 18 | -1.8 |



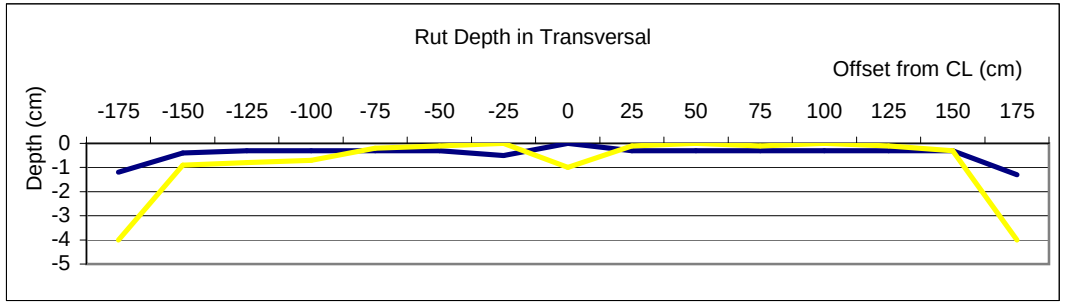
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+835

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

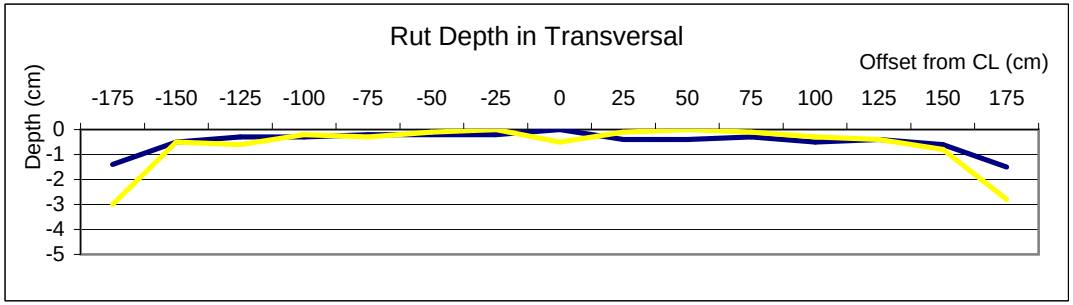
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 40 | -4 |
| | -150 | 0.4 | -0.4 | 9 | -0.9 |
| | -125 | 0.3 | -0.3 | 8 | -0.8 |
| | -100 | 0.3 | -0.3 | 7 | -0.7 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 1.3 | -1.3 | 40 | -4 |



KM 2+845

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 30 | -3 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 6 | -0.6 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0.2 | -0.2 | 1 | -0.1 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.5 | -0.5 | 3 | -0.3 |
| | 125 | 0.4 | -0.4 | 4 | -0.4 |
| | 150 | 0.6 | -0.6 | 8 | -0.8 |
| | 175 | 1.5 | -1.5 | 28 | -2.8 |



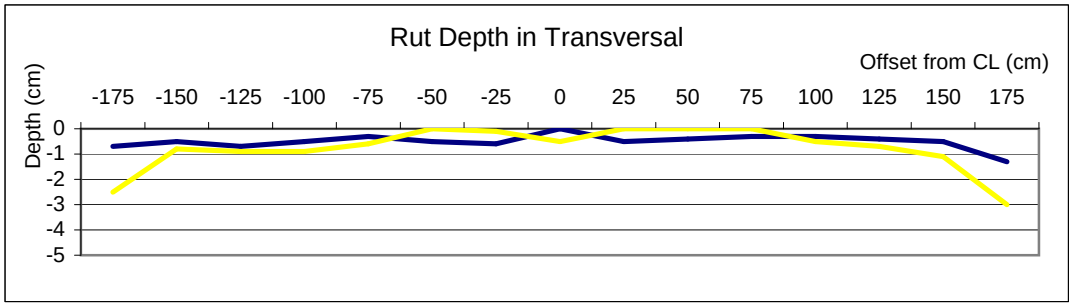
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+855

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

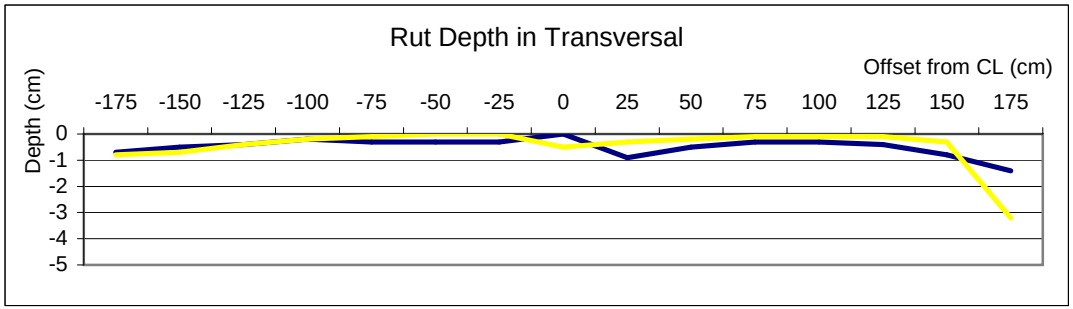
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 25 | -2.5 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0.7 | -0.7 | 9 | -0.9 |
| | -100 | 0.5 | -0.5 | 9 | -0.9 |
| | -75 | 0.3 | -0.3 | 6 | -0.6 |
| | -50 | 0.5 | -0.5 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.4 | -0.4 | 7 | -0.7 |
| | 150 | 0.5 | -0.5 | 11 | -1.1 |
| | 175 | 1.3 | -1.3 | 30 | -3 |



KM 2+865

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 8 | -0.8 |
| | -150 | 0.5 | -0.5 | 7 | -0.7 |
| | -125 | 0.4 | -0.4 | 4 | -0.4 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.9 | -0.9 | 3 | -0.3 |
| | 50 | 0.5 | -0.5 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 1 | -0.1 |
| | 150 | 0.8 | -0.8 | 3 | -0.3 |
| | 175 | 1.4 | -1.4 | 32 | -3.2 |



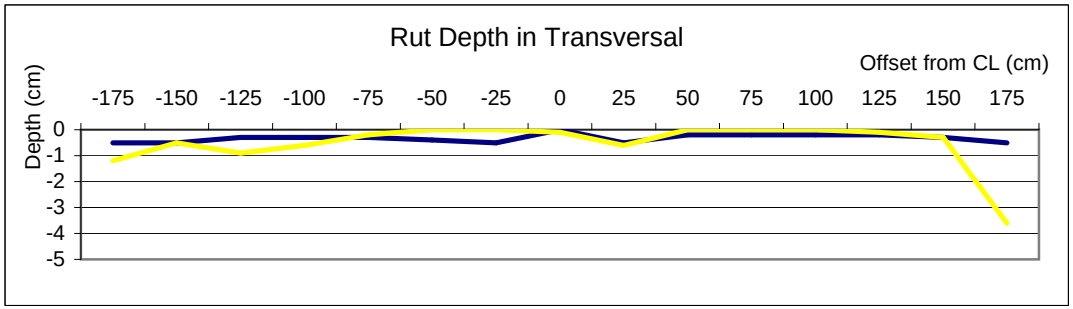
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+875

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 12 | -1.2 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.3 | -0.3 | 9 | -0.9 |
| | -100 | 0.3 | -0.3 | 6 | -0.6 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 6 | -0.6 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.2 | -0.2 | 0 | 0 |
| | 125 | 0.2 | -0.2 | 1 | -0.1 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 0.5 | -0.5 | 36 | -3.6 |

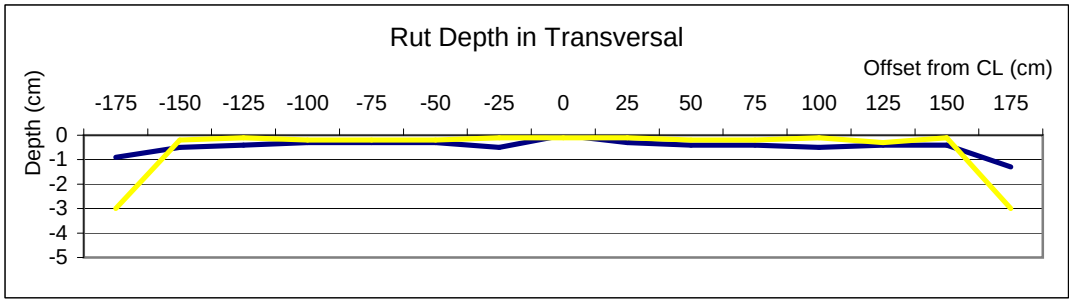


KM 2+885

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 30 | -3 |
| | -150 | 0.5 | -0.5 | 2 | -0.2 |
| | -125 | 0.4 | -0.4 | 1 | -0.1 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 1 | -0.1 |
| | 175 | 1.3 | -1.3 | 30 | -3 |



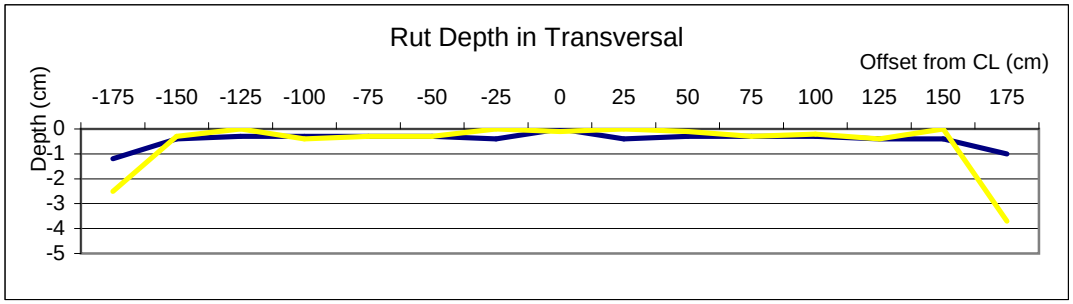
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+895

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 25 | -2.5 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 4 | -0.4 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 4 | -0.4 |
| | 150 | 0.4 | -0.4 | 0 | 0 |
| | 175 | 1 | -1 | 37 | -3.7 |

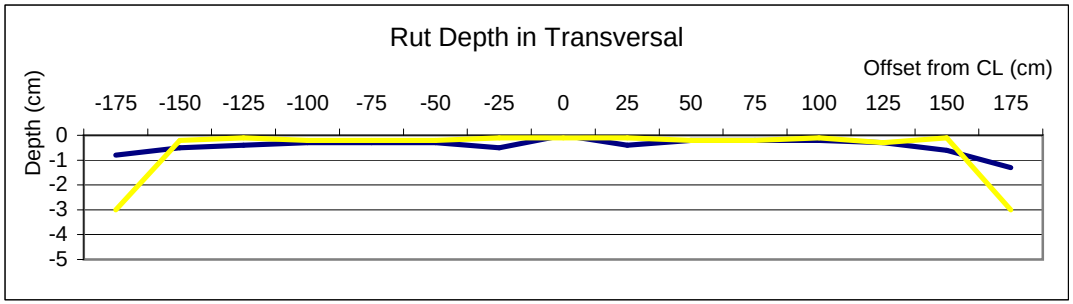


KM 2+905

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 30 | -3 |
| | -150 | 0.5 | -0.5 | 2 | -0.2 |
| | -125 | 0.4 | -0.4 | 1 | -0.1 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.2 | -0.2 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 2 | -0.2 |
| | 100 | 0.2 | -0.2 | 1 | -0.1 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.6 | -0.6 | 1 | -0.1 |
| | 175 | 1.3 | -1.3 | 30 | -3 |



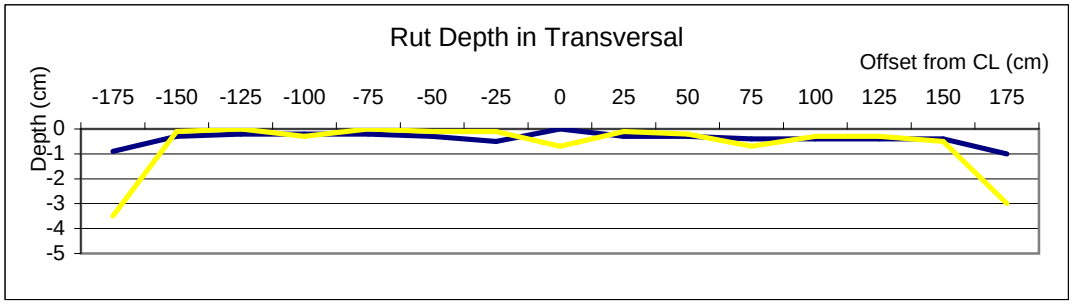
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+915

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 35 | -3.5 |
| | -150 | 0.3 | -0.3 | 1 | -0.1 |
| | -125 | 0.2 | -0.2 | 0 | 0 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 7 | -0.7 |
| | 100 | 0.4 | -0.4 | 3 | -0.3 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 1 | -1 | 30 | -3 |

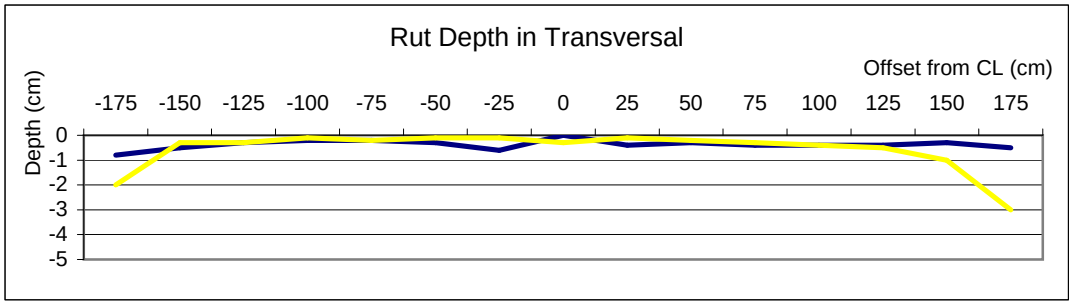


KM 2+925

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 20 | -2 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.2 | -0.2 | 1 | -0.1 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.6 | -0.6 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.4 | -0.4 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.4 | -0.4 | 4 | -0.4 |
| | 125 | 0.4 | -0.4 | 5 | -0.5 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.5 | -0.5 | 30 | -3 |



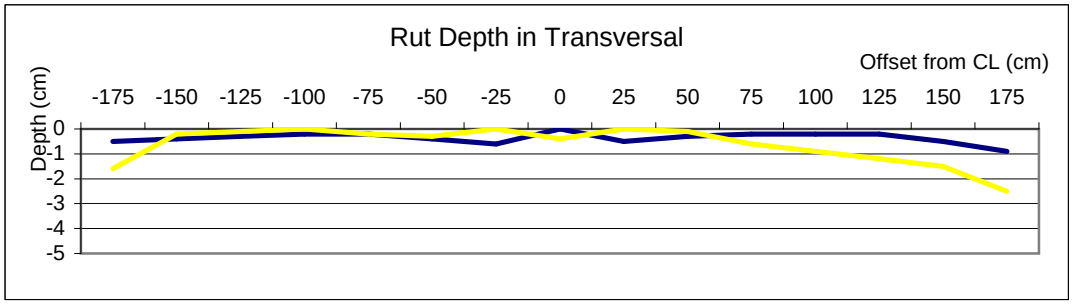
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+935

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

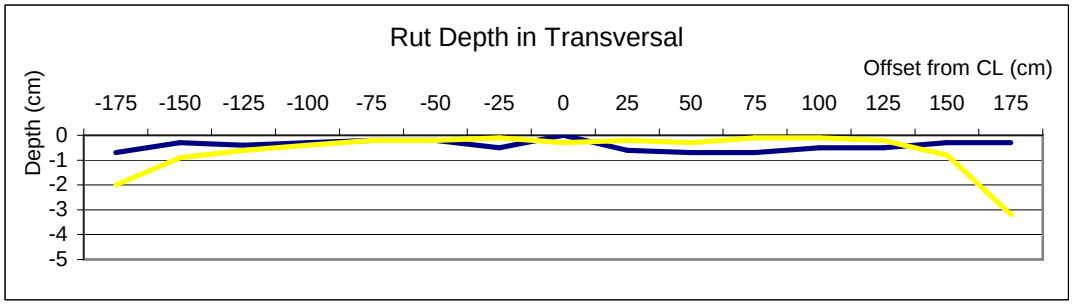
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 16 | -1.6 |
| | -150 | 0.4 | -0.4 | 2 | -0.2 |
| | -125 | 0.3 | -0.3 | 1 | -0.1 |
| | -100 | 0.2 | -0.2 | 0 | 0 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.4 | -0.4 | 3 | -0.3 |
| | -25 | 0.6 | -0.6 | 0 | 0 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.2 | -0.2 | 6 | -0.6 |
| | 100 | 0.2 | -0.2 | 9 | -0.9 |
| | 125 | 0.2 | -0.2 | 12 | -1.2 |
| | 150 | 0.5 | -0.5 | 15 | -1.5 |
| | 175 | 0.9 | -0.9 | 25 | -2.5 |



KM 2+945

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 20 | -2 |
| | -150 | 0.3 | -0.3 | 9 | -0.9 |
| | -125 | 0.4 | -0.4 | 6 | -0.6 |
| | -100 | 0.3 | -0.3 | 4 | -0.4 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.7 | -0.7 | 3 | -0.3 |
| | 75 | 0.7 | -0.7 | 1 | -0.1 |
| | 100 | 0.5 | -0.5 | 1 | -0.1 |
| | 125 | 0.5 | -0.5 | 2 | -0.2 |
| | 150 | 0.3 | -0.3 | 8 | -0.8 |
| | 175 | 0.3 | -0.3 | 32 | -3.2 |



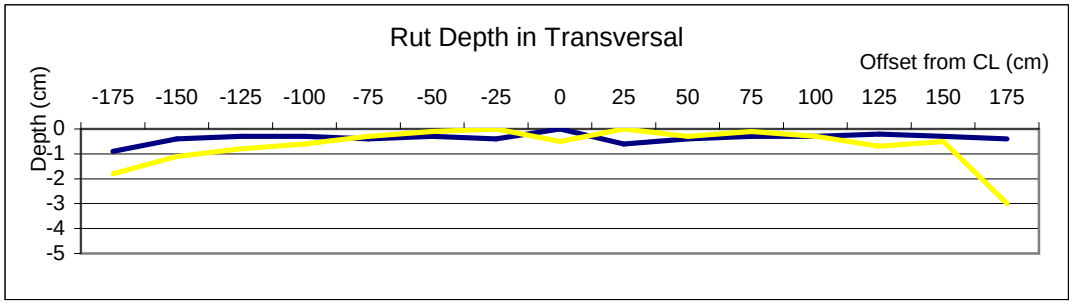
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+955

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 18 | -1.8 |
| | -150 | 0.4 | -0.4 | 11 | -1.1 |
| | -125 | 0.3 | -0.3 | 8 | -0.8 |
| | -100 | 0.3 | -0.3 | 6 | -0.6 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 1 | -0.1 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.2 | -0.2 | 7 | -0.7 |
| | 150 | 0.3 | -0.3 | 5 | -0.5 |
| | 175 | 0.4 | -0.4 | 30 | -3 |

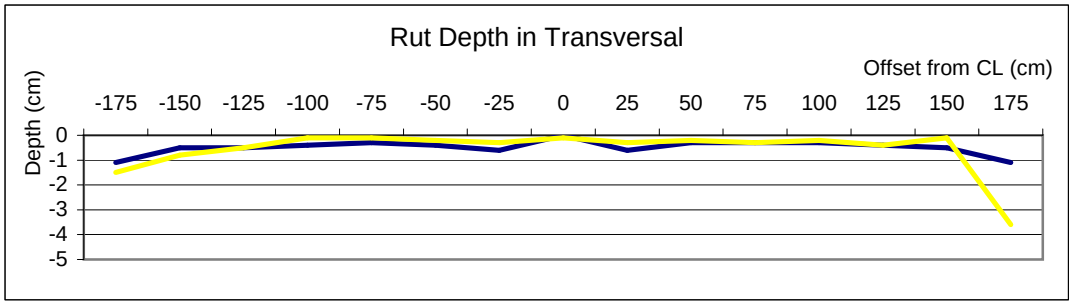


KM 2+965

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.1 | -1.1 | 15 | -1.5 |
| | -150 | 0.5 | -0.5 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 5 | -0.5 |
| | -100 | 0.4 | -0.4 | 1 | -0.1 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 4 | -0.4 |
| | 150 | 0.5 | -0.5 | 1 | -0.1 |
| | 175 | 1.1 | -1.1 | 36 | -3.6 |



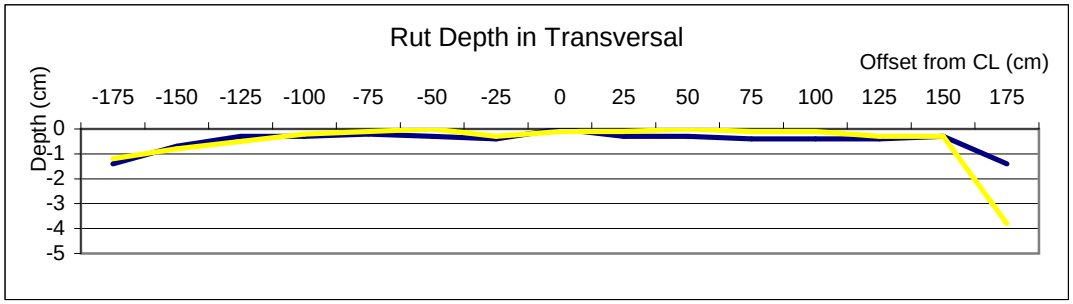
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+975

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

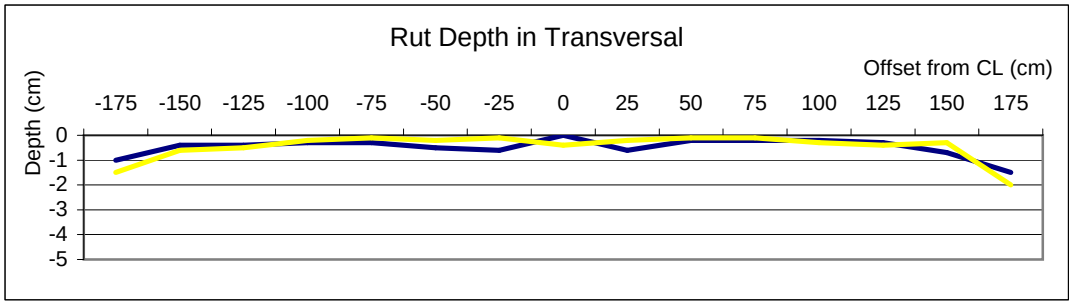
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 12 | -1.2 |
| | -150 | 0.7 | -0.7 | 8 | -0.8 |
| | -125 | 0.3 | -0.3 | 5 | -0.5 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.4 | -0.4 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 1 | -0.1 |
| | 100 | 0.4 | -0.4 | 1 | -0.1 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 1.4 | -1.4 | 38 | -3.8 |



KM 2+985

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 15 | -1.5 |
| | -150 | 0.4 | -0.4 | 6 | -0.6 |
| | -125 | 0.4 | -0.4 | 5 | -0.5 |
| | -100 | 0.3 | -0.3 | 2 | -0.2 |
| | -75 | 0.3 | -0.3 | 1 | -0.1 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.2 | -0.2 | 1 | -0.1 |
| | 75 | 0.2 | -0.2 | 1 | -0.1 |
| | 100 | 0.2 | -0.2 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 4 | -0.4 |
| | 150 | 0.7 | -0.7 | 3 | -0.3 |
| | 175 | 1.5 | -1.5 | 20 | -2 |



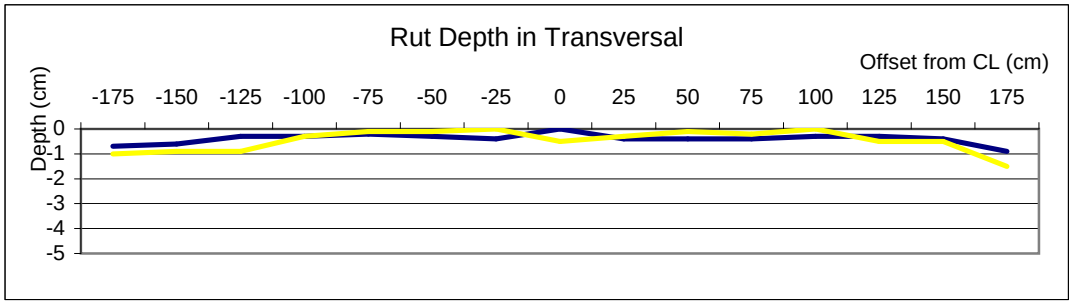
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 2+995

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

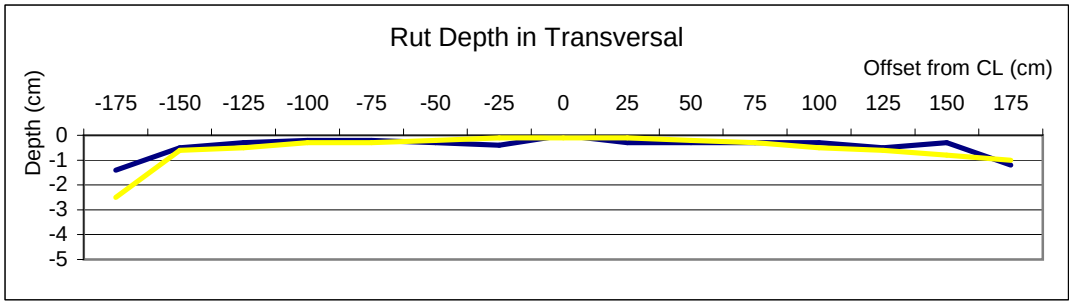
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 10 | -1 |
| | -150 | 0.6 | -0.6 | 9 | -0.9 |
| | -125 | 0.3 | -0.3 | 9 | -0.9 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 1 | -0.1 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.4 | -0.4 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.3 | -0.3 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 5 | -0.5 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 0.9 | -0.9 | 15 | -1.5 |



KM 3+005

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 25 | -2.5 |
| | -150 | 0.5 | -0.5 | 6 | -0.6 |
| | -125 | 0.3 | -0.3 | 5 | -0.5 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.5 | -0.5 | 6 | -0.6 |
| | 150 | 0.3 | -0.3 | 8 | -0.8 |
| | 175 | 1.2 | -1.2 | 10 | -1 |



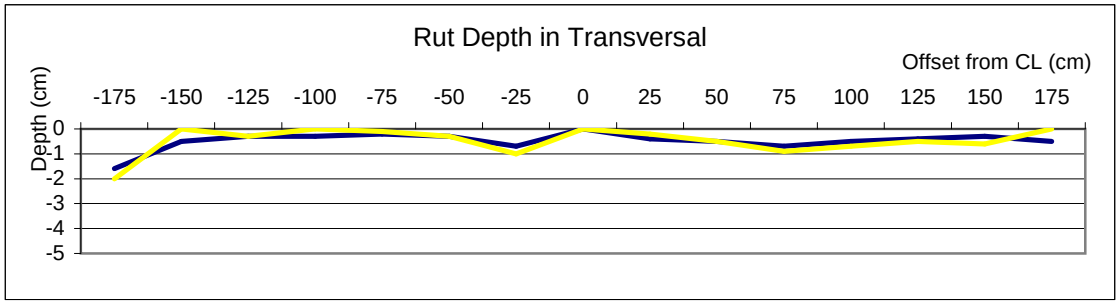
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+015

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

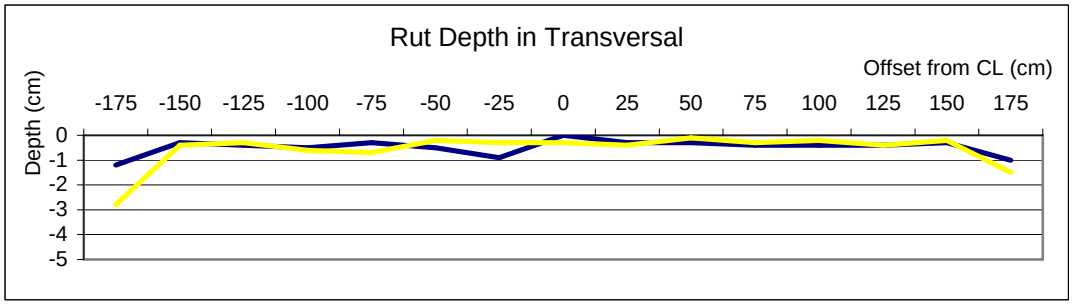
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 20 | -2 |
| | -150 | 0.5 | -0.5 | 0 | 0 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 0 | 0 |
| | -75 | 0.2 | -0.2 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.7 | -0.7 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.7 | -0.7 | 9 | -0.9 |
| | 100 | 0.5 | -0.5 | 7 | -0.7 |
| | 125 | 0.4 | -0.4 | 5 | -0.5 |
| | 150 | 0.3 | -0.3 | 6 | -0.6 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



KM 3+025

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 28 | -2.8 |
| | -150 | 0.3 | -0.3 | 4 | -0.4 |
| | -125 | 0.4 | -0.4 | 3 | -0.3 |
| | -100 | 0.5 | -0.5 | 6 | -0.6 |
| | -75 | 0.3 | -0.3 | 7 | -0.7 |
| | -50 | 0.5 | -0.5 | 2 | -0.2 |
| | -25 | 0.9 | -0.9 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.3 | -0.3 | 4 | -0.4 |
| | 50 | 0.3 | -0.3 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.4 | -0.4 | 2 | -0.2 |
| | 125 | 0.4 | -0.4 | 4 | -0.4 |
| | 150 | 0.3 | -0.3 | 2 | -0.2 |
| | 175 | 1 | -1 | 15 | -1.5 |



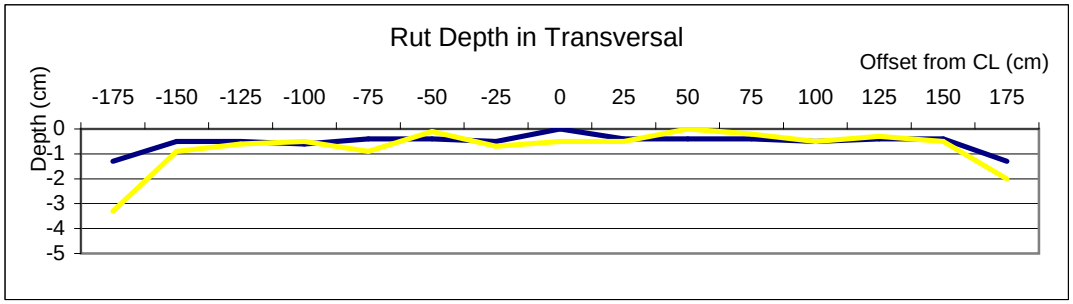
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+035

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.3 | -1.3 | 33 | -3.3 |
| | -150 | 0.5 | -0.5 | 9 | -0.9 |
| | -125 | 0.5 | -0.5 | 6 | -0.6 |
| | -100 | 0.6 | -0.6 | 5 | -0.5 |
| | -75 | 0.4 | -0.4 | 9 | -0.9 |
| | -50 | 0.4 | -0.4 | 1 | -0.1 |
| | -25 | 0.5 | -0.5 | 7 | -0.7 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.4 | -0.4 | 5 | -0.5 |
| | 50 | 0.4 | -0.4 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.5 | -0.5 | 5 | -0.5 |
| | 125 | 0.4 | -0.4 | 3 | -0.3 |
| | 150 | 0.4 | -0.4 | 5 | -0.5 |
| | 175 | 1.3 | -1.3 | 20 | -2 |

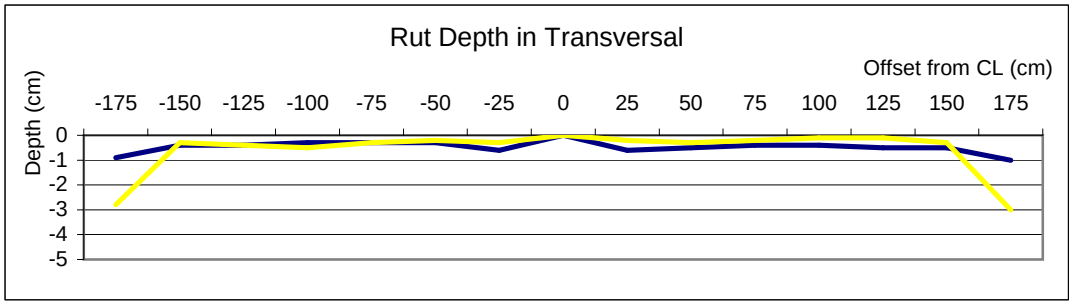


KM 3+045

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 28 | -2.8 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.4 | -0.4 | 4 | -0.4 |
| | -100 | 0.3 | -0.3 | 5 | -0.5 |
| | -75 | 0.3 | -0.3 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 2 | -0.2 |
| | 50 | 0.5 | -0.5 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 2 | -0.2 |
| | 100 | 0.4 | -0.4 | 1 | -0.1 |
| | 125 | 0.5 | -0.5 | 1 | -0.1 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 1 | -1 | 30 | -3 |



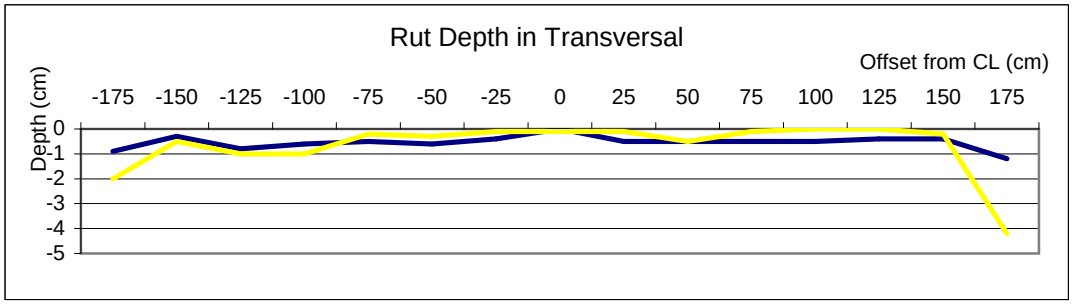
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+055

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

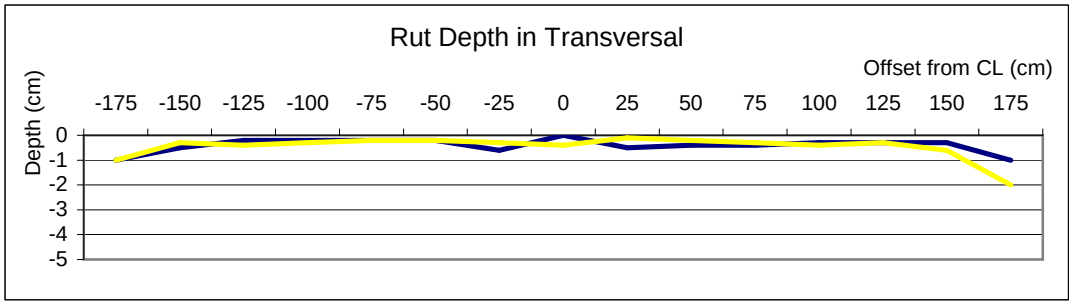
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 20 | -2 |
| | -150 | 0.3 | -0.3 | 5 | -0.5 |
| | -125 | 0.8 | -0.8 | 10 | -1 |
| | -100 | 0.6 | -0.6 | 10 | -1 |
| | -75 | 0.5 | -0.5 | 2 | -0.2 |
| | -50 | 0.6 | -0.6 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 1 | -0.1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 1 | -0.1 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.5 | -0.5 | 1 | -0.1 |
| | 100 | 0.5 | -0.5 | 0 | 0 |
| | 125 | 0.4 | -0.4 | 0 | 0 |
| | 150 | 0.4 | -0.4 | 2 | -0.2 |
| | 175 | 1.2 | -1.2 | 42 | -4.2 |



KM 3+065

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 10 | -1 |
| | -150 | 0.5 | -0.5 | 3 | -0.3 |
| | -125 | 0.2 | -0.2 | 4 | -0.4 |
| | -100 | 0.2 | -0.2 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.2 | -0.2 | 2 | -0.2 |
| | -25 | 0.6 | -0.6 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 4 | -0.4 |
| Right Hand Side | 25 | 0.5 | -0.5 | 1 | -0.1 |
| | 50 | 0.4 | -0.4 | 2 | -0.2 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 4 | -0.4 |
| | 125 | 0.3 | -0.3 | 3 | -0.3 |
| | 150 | 0.3 | -0.3 | 6 | -0.6 |
| | 175 | 1 | -1 | 20 | -2 |



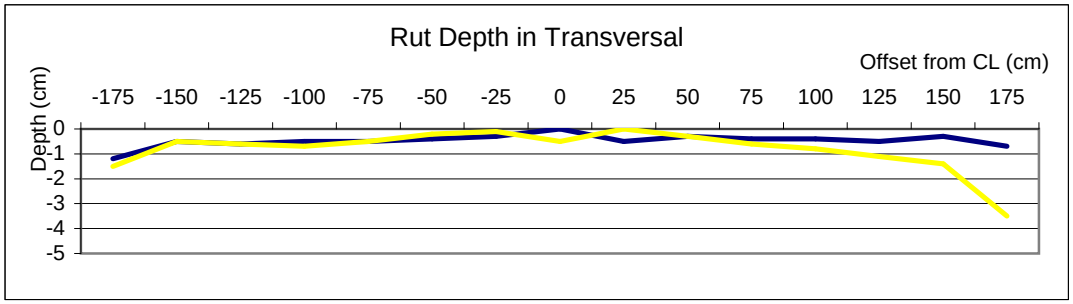
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+075

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

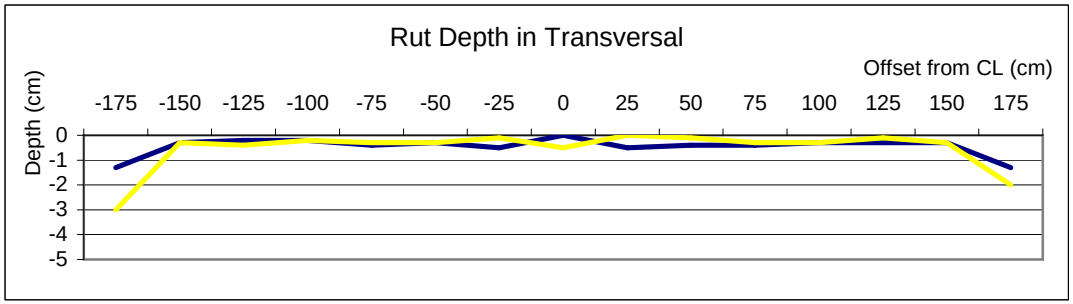
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 15 | -1.5 |
| | -150 | 0.5 | -0.5 | 5 | -0.5 |
| | -125 | 0.6 | -0.6 | 6 | -0.6 |
| | -100 | 0.5 | -0.5 | 7 | -0.7 |
| | -75 | 0.5 | -0.5 | 5 | -0.5 |
| | -50 | 0.4 | -0.4 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 6 | -0.6 |
| | 100 | 0.4 | -0.4 | 8 | -0.8 |
| | 125 | 0.5 | -0.5 | 11 | -1.1 |
| | 150 | 0.3 | -0.3 | 14 | -1.4 |
| | 175 | 0.7 | -0.7 | 35 | -3.5 |



KM 3+085

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.3 | -1.3 | 30 | -3 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.2 | -0.2 | 4 | -0.4 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.4 | -0.4 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 1 | -0.1 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 1 | -0.1 |
| | 150 | 0.3 | -0.3 | 3 | -0.3 |
| | 175 | 1.3 | -1.3 | 20 | -2 |



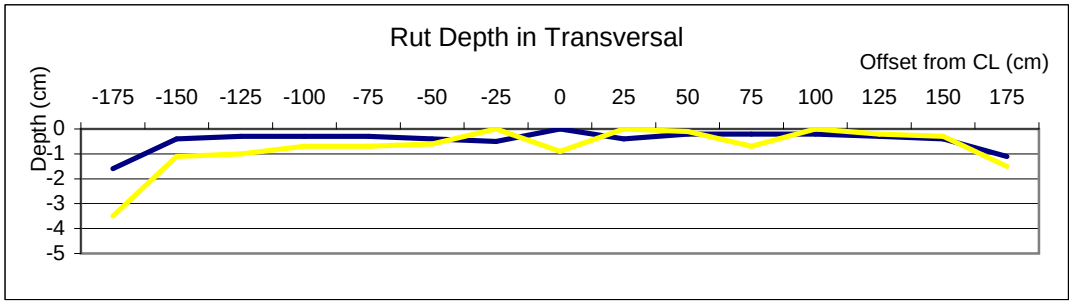
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+095

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 35 | -3.5 |
| | -150 | 0.4 | -0.4 | 11 | -1.1 |
| | -125 | 0.3 | -0.3 | 10 | -1 |
| | -100 | 0.3 | -0.3 | 7 | -0.7 |
| | -75 | 0.3 | -0.3 | 7 | -0.7 |
| | -50 | 0.4 | -0.4 | 6 | -0.6 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 9 | -0.9 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 1 | -0.1 |
| | 75 | 0.2 | -0.2 | 7 | -0.7 |
| | 100 | 0.2 | -0.2 | 0 | 0 |
| | 125 | 0.3 | -0.3 | 2 | -0.2 |
| | 150 | 0.4 | -0.4 | 3 | -0.3 |
| | 175 | 1.1 | -1.1 | 15 | -1.5 |

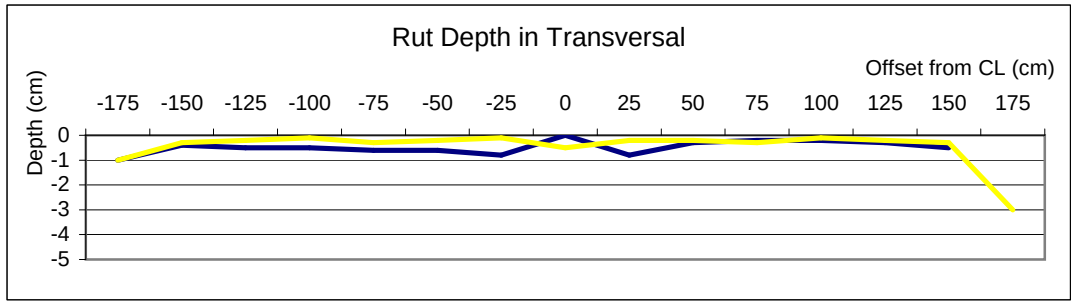


KM 3+105

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 3 | -0.3 |
| | -125 | 0.5 | -0.5 | 2 | -0.2 |
| | -100 | 0.5 | -0.5 | 1 | -0.1 |
| | -75 | 0.6 | -0.6 | 3 | -0.3 |
| | -50 | 0.6 | -0.6 | 2 | -0.2 |
| | -25 | 0.8 | -0.8 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.8 | -0.8 | 2 | -0.2 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 1 | -0.1 |
| | 125 | 0.3 | -0.3 | 2 | -0.2 |
| | 150 | 0.5 | -0.5 | 3 | -0.3 |
| | 175 | 1.3 | -1.3 | 30 | -3 |



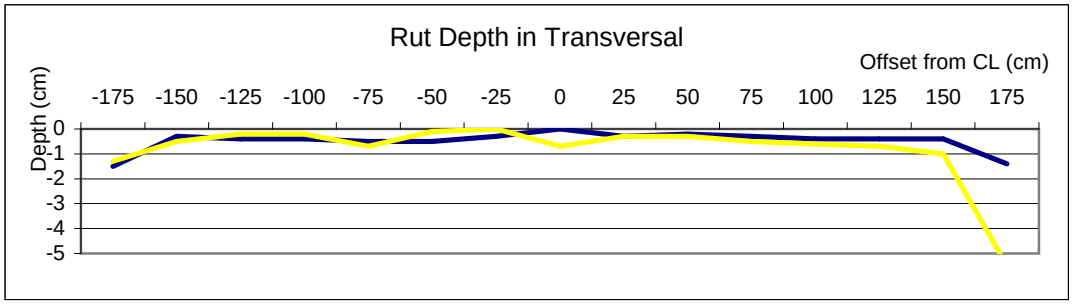
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+115

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 13 | -1.3 |
| | -150 | 0.3 | -0.3 | 5 | -0.5 |
| | -125 | 0.4 | -0.4 | 2 | -0.2 |
| | -100 | 0.4 | -0.4 | 2 | -0.2 |
| | -75 | 0.5 | -0.5 | 7 | -0.7 |
| | -50 | 0.5 | -0.5 | 1 | -0.1 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.2 | -0.2 | 3 | -0.3 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 6 | -0.6 |
| | 125 | 0.4 | -0.4 | 7 | -0.7 |
| | 150 | 0.4 | -0.4 | 10 | -1 |
| | 175 | 1.4 | -1.4 | 55 | -5.5 |

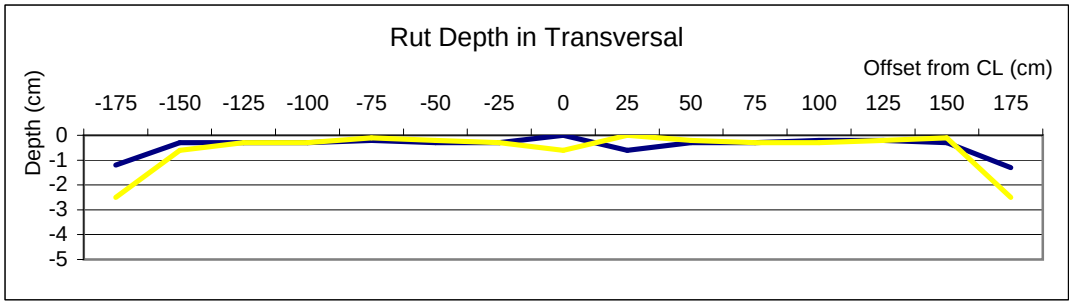


KM 3+125

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 25 | -2.5 |
| | -150 | 0.3 | -0.3 | 6 | -0.6 |
| | -125 | 0.3 | -0.3 | 3 | -0.3 |
| | -100 | 0.3 | -0.3 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 1 | -0.1 |
| | -50 | 0.3 | -0.3 | 2 | -0.2 |
| | -25 | 0.3 | -0.3 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 6 | -0.6 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 2 | -0.2 |
| | 75 | 0.3 | -0.3 | 3 | -0.3 |
| | 100 | 0.2 | -0.2 | 3 | -0.3 |
| | 125 | 0.2 | -0.2 | 2 | -0.2 |
| | 150 | 0.3 | -0.3 | 1 | -0.1 |
| | 175 | 1.3 | -1.3 | 25 | -2.5 |



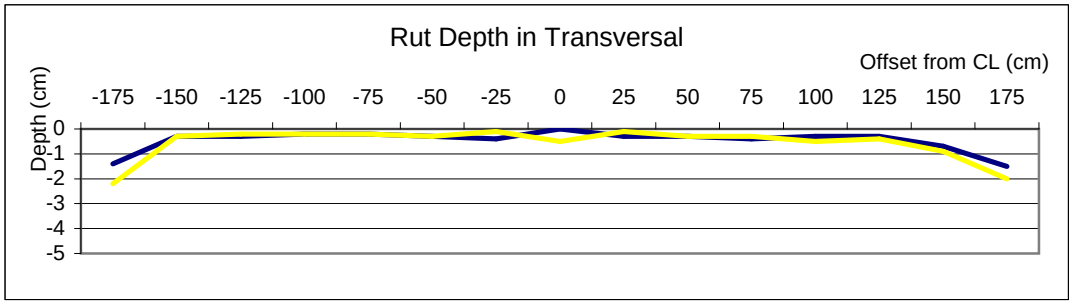
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 5 Pavement type: Geo cell

KM 3+135

Measured by: Khambone Date: 03/09/2007
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 22 | -2.2 |
| | -150 | 0.3 | -0.3 | 3 | -0.3 |
| | -125 | 0.3 | -0.3 | 2 | -0.2 |
| | -100 | 0.2 | -0.2 | 2 | -0.2 |
| | -75 | 0.2 | -0.2 | 2 | -0.2 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 1 | -0.1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.3 | -0.3 | 1 | -0.1 |
| | 50 | 0.3 | -0.3 | 3 | -0.3 |
| | 75 | 0.4 | -0.4 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.3 | -0.3 | 4 | -0.4 |
| | 150 | 0.7 | -0.7 | 9 | -0.9 |
| | 175 | 1.5 | -1.5 | 20 | -2 |

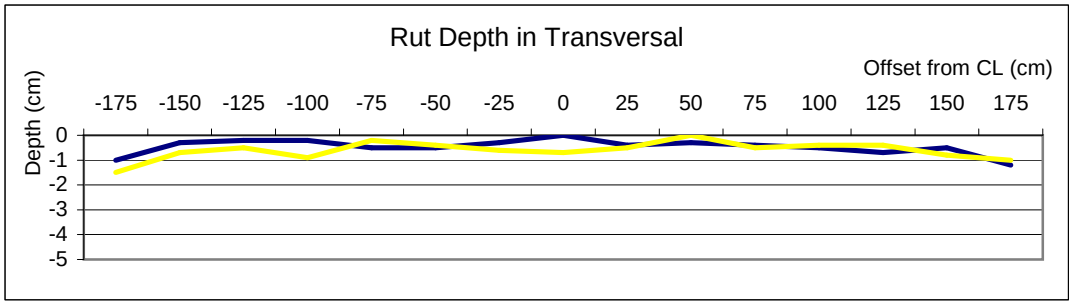


KM 3+145

Measured by: Khambone
Checked by: Singthong

Date: 03/09/2007
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 15 | -1.5 |
| | -150 | 0.3 | -0.3 | 7 | -0.7 |
| | -125 | 0.2 | -0.2 | 5 | -0.5 |
| | -100 | 0.2 | -0.2 | 9 | -0.9 |
| | -75 | 0.5 | -0.5 | 2 | -0.2 |
| | -50 | 0.5 | -0.5 | 4 | -0.4 |
| | -25 | 0.3 | -0.3 | 6 | -0.6 |
| CL | 0 | 0 | 0 | 7 | -0.7 |
| Right Hand Side | 25 | 0.4 | -0.4 | 5 | -0.5 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 5 | -0.5 |
| | 100 | 0.5 | -0.5 | 4 | -0.4 |
| | 125 | 0.7 | -0.7 | 4 | -0.4 |
| | 150 | 0.5 | -0.5 | 8 | -0.8 |
| | 175 | 1.2 | -1.2 | 10 | -1 |



# R 8.0 Sand Seal

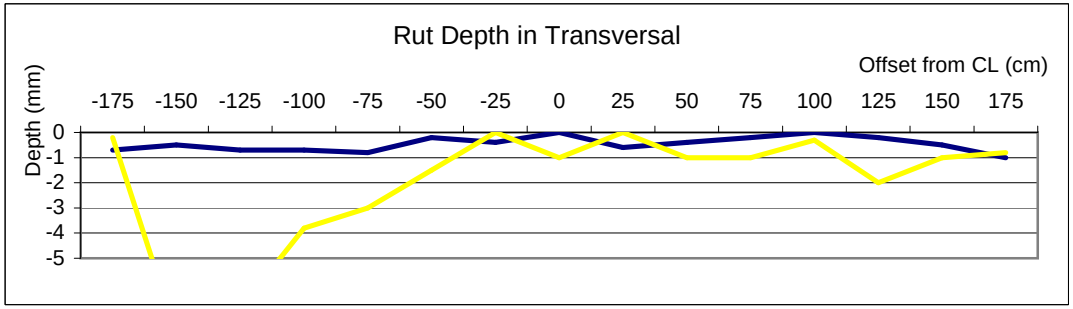
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+505

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

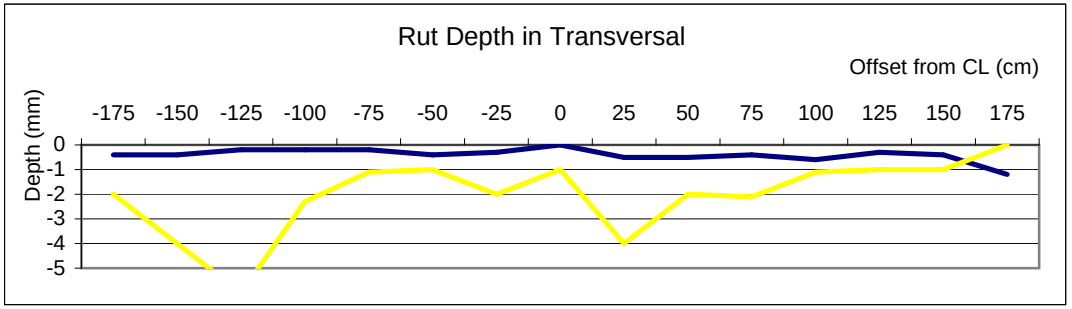
| Side | Offset from CL (cm) | 29/08/2007 Rut depth (cm) | | 09/10/2012 Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 2 | -0.2 |
| | -150 | 0.5 | -0.5 | 80 | -8 |
| | -125 | 0.7 | -0.7 | 70 | -7 |
| | -100 | 0.7 | -0.7 | 38 | -3.8 |
| | -75 | 0.8 | -0.8 | 30 | -3 |
| | -50 | 0.2 | -0.2 | 15 | -1.5 |
| | -25 | 0.4 | -0.4 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 10 | -1 |
| | 100 | 0 | 0 | 3 | -0.3 |
| | 125 | 0.2 | -0.2 | 20 | -2 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 1 | -1 | 8 | -0.8 |



KM 1+515

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 20 | -2 |
| | -150 | 0.4 | -0.4 | 40 | -4 |
| | -125 | 0.2 | -0.2 | 60 | -6 |
| | -100 | 0.2 | -0.2 | 23 | -2.3 |
| | -75 | 0.2 | -0.2 | 11 | -1.1 |
| | -50 | 0.4 | -0.4 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 20 | -2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 40 | -4 |
| | 50 | 0.5 | -0.5 | 20 | -2 |
| | 75 | 0.4 | -0.4 | 21 | -2.1 |
| | 100 | 0.6 | -0.6 | 11 | -1.1 |
| | 125 | 0.3 | -0.3 | 10 | -1 |
| | 150 | 0.4 | -0.4 | 10 | -1 |
| | 175 | 1.2 | -1.2 | 0 | 0 |



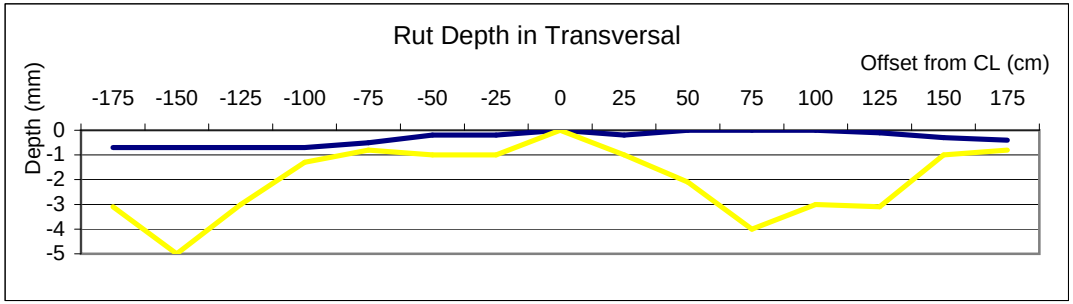
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+525

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

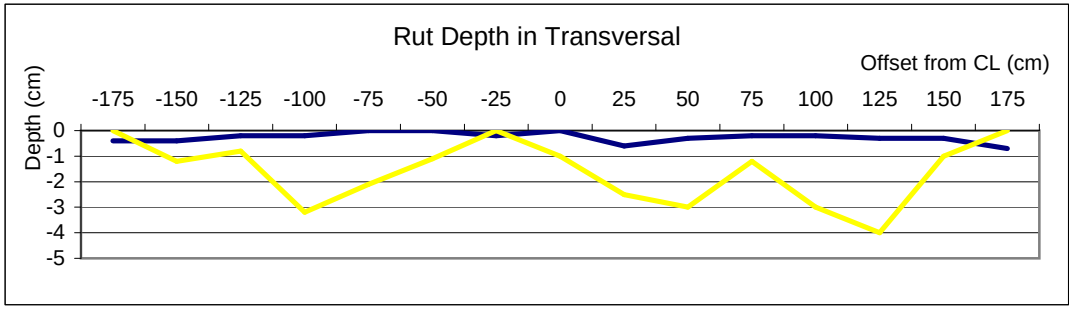
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 31 | -3.1 |
| | -150 | 0.7 | -0.7 | 50 | -5 |
| | -125 | 0.7 | -0.7 | 30 | -3 |
| | -100 | 0.7 | -0.7 | 13 | -1.3 |
| | -75 | 0.5 | -0.5 | 8 | -0.8 |
| | -50 | 0.2 | -0.2 | 10 | -1 |
| | -25 | 0.2 | -0.2 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 10 | -1 |
| | 50 | 0 | 0 | 21 | -2.1 |
| | 75 | 0 | 0 | 40 | -4 |
| | 100 | 0 | 0 | 30 | -3 |
| | 125 | 0.1 | -0.1 | 31 | -3.1 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.4 | -0.4 | 8 | -0.8 |



KM 1+535

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 12 | -1.2 |
| | -125 | 0.2 | -0.2 | 8 | -0.8 |
| | -100 | 0.2 | -0.2 | 32 | -3.2 |
| | -75 | 0 | 0 | 21 | -2.1 |
| | -50 | 0 | 0 | 11 | -1.1 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 25 | -2.5 |
| | 50 | 0.3 | -0.3 | 30 | -3 |
| | 75 | 0.2 | -0.2 | 12 | -1.2 |
| | 100 | 0.2 | -0.2 | 30 | -3 |
| | 125 | 0.3 | -0.3 | 40 | -4 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.7 | -0.7 | 0 | 0 |



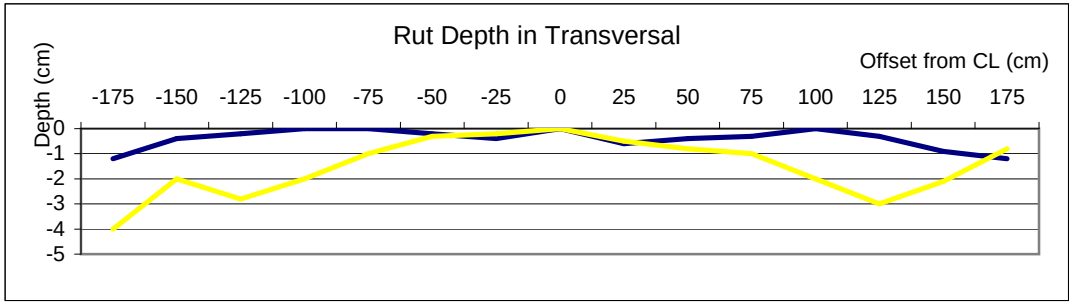
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+545

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

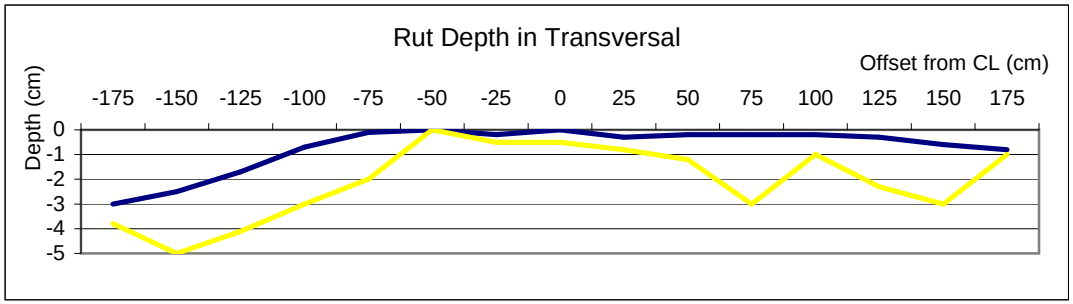
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 40 | -4 |
| | -150 | 0.4 | -0.4 | 20 | -2 |
| | -125 | 0.2 | -0.2 | 28 | -2.8 |
| | -100 | 0 | 0 | 20 | -2 |
| | -75 | 0 | 0 | 10 | -1 |
| | -50 | 0.2 | -0.2 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 2 | -0.2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 5 | -0.5 |
| | 50 | 0.4 | -0.4 | 8 | -0.8 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0 | 0 | 20 | -2 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.9 | -0.9 | 21 | -2.1 |
| | 175 | 1.2 | -1.2 | 8 | -0.8 |



KM 1+555

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 3 | -3 | 38 | -3.8 |
| | -150 | 2.5 | -2.5 | 50 | -5 |
| | -125 | 1.7 | -1.7 | 41 | -4.1 |
| | -100 | 0.7 | -0.7 | 30 | -3 |
| | -75 | 0.1 | -0.1 | 20 | -2 |
| | -50 | 0 | 0 | 0 | 0 |
| | -25 | 0.2 | -0.2 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.3 | -0.3 | 8 | -0.8 |
| | 50 | 0.2 | -0.2 | 12 | -1.2 |
| | 75 | 0.2 | -0.2 | 30 | -3 |
| | 100 | 0.2 | -0.2 | 10 | -1 |
| | 125 | 0.3 | -0.3 | 23 | -2.3 |
| | 150 | 0.6 | -0.6 | 30 | -3 |
| | 175 | 0.8 | -0.8 | 10 | -1 |



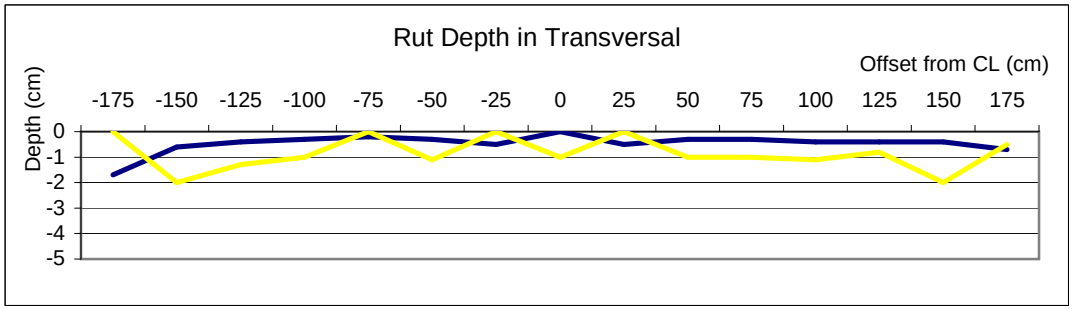
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+565

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

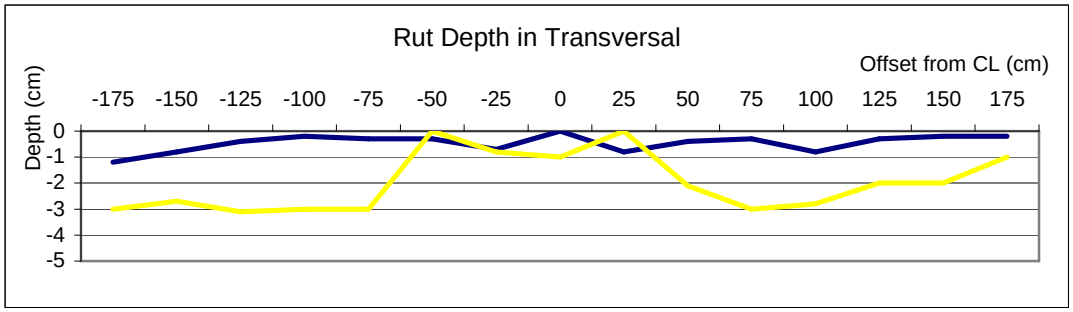
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.7 | -1.7 | 0 | 0 |
| | -150 | 0.6 | -0.6 | 20 | -2 |
| | -125 | 0.4 | -0.4 | 13 | -1.3 |
| | -100 | 0.3 | -0.3 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 11 | -1.1 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 10 | -1 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.4 | -0.4 | 11 | -1.1 |
| | 125 | 0.4 | -0.4 | 8 | -0.8 |
| | 150 | 0.4 | -0.4 | 20 | -2 |
| | 175 | 0.7 | -0.7 | 5 | -0.5 |



KM 1+575

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 30 | -3 |
| | -150 | 0.8 | -0.8 | 27 | -2.7 |
| | -125 | 0.4 | -0.4 | 31 | -3.1 |
| | -100 | 0.2 | -0.2 | 30 | -3 |
| | -75 | 0.3 | -0.3 | 30 | -3 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.7 | -0.7 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.8 | -0.8 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 21 | -2.1 |
| | 75 | 0.3 | -0.3 | 30 | -3 |
| | 100 | 0.8 | -0.8 | 28 | -2.8 |
| | 125 | 0.3 | -0.3 | 20 | -2 |
| | 150 | 0.2 | -0.2 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 10 | -1 |



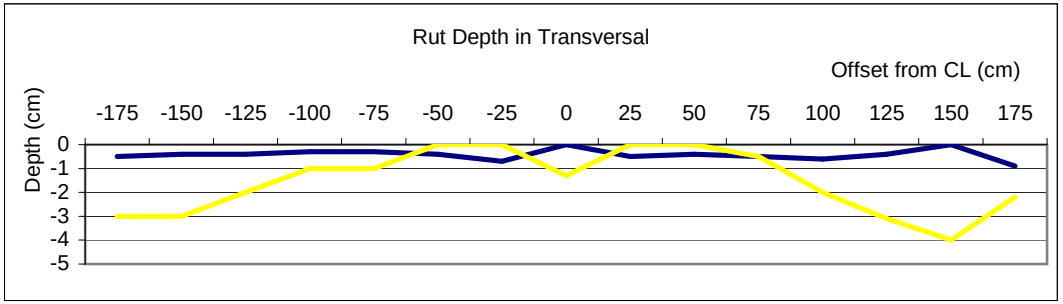
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+585

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

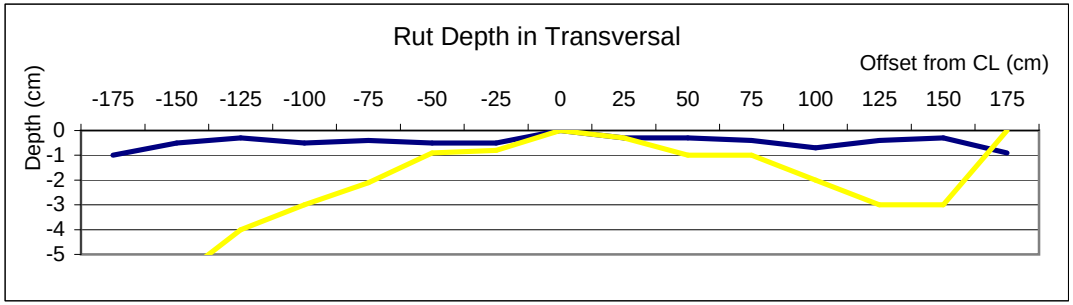
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 30 | -3 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.4 | -0.4 | 20 | -2 |
| | -100 | 0.3 | -0.3 | 10 | -1 |
| | -75 | 0.3 | -0.3 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.7 | -0.7 | 0 | 0 |
| CL | 0 | 0 | 0 | 13 | -1.3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 5 | -0.5 |
| | 100 | 0.6 | -0.6 | 20 | -2 |
| | 125 | 0.4 | -0.4 | 31 | -3.1 |
| | 150 | 0 | 0 | 40 | -4 |
| | 175 | 0.9 | -0.9 | 22 | -2.2 |



KM 1+595

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 80 | -8 |
| | -150 | 0.5 | -0.5 | 60 | -6 |
| | -125 | 0.3 | -0.3 | 40 | -4 |
| | -100 | 0.5 | -0.5 | 30 | -3 |
| | -75 | 0.4 | -0.4 | 21 | -2.1 |
| | -50 | 0.5 | -0.5 | 9 | -0.9 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 10 | -1 |
| | 75 | 0.4 | -0.4 | 10 | -1 |
| | 100 | 0.7 | -0.7 | 20 | -2 |
| | 125 | 0.4 | -0.4 | 30 | -3 |
| | 150 | 0.3 | -0.3 | 30 | -3 |
| | 175 | 0.9 | -0.9 | 0 | 0 |



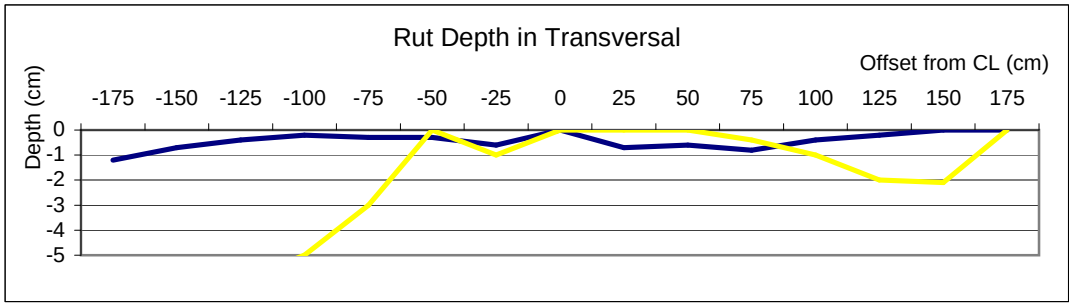
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+605

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

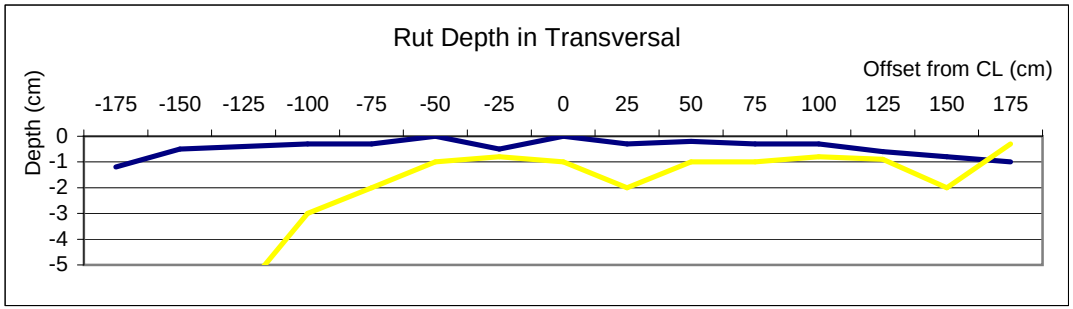
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 72 | -7.2 |
| | -150 | 0.7 | -0.7 | 58 | -5.8 |
| | -125 | 0.4 | -0.4 | 60 | -6 |
| | -100 | 0.2 | -0.2 | 50 | -5 |
| | -75 | 0.3 | -0.3 | 30 | -3 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.7 | -0.7 | 0 | 0 |
| | 50 | 0.6 | -0.6 | 0 | 0 |
| | 75 | 0.8 | -0.8 | 4 | -0.4 |
| | 100 | 0.4 | -0.4 | 10 | -1 |
| | 125 | 0.2 | -0.2 | 20 | -2 |
| | 150 | 0 | 0 | 21 | -2.1 |
| | 175 | 0 | 0 | 0 | 0 |



KM 1+615

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 100 | -10 |
| | -150 | 0.5 | -0.5 | 80 | -8 |
| | -125 | 0.4 | -0.4 | 60 | -6 |
| | -100 | 0.3 | -0.3 | 30 | -3 |
| | -75 | 0.3 | -0.3 | 20 | -2 |
| | -50 | 0 | 0 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 20 | -2 |
| | 50 | 0.2 | -0.2 | 10 | -1 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 8 | -0.8 |
| | 125 | 0.6 | -0.6 | 9 | -0.9 |
| | 150 | 0.8 | -0.8 | 20 | -2 |
| | 175 | 1 | -1 | 3 | -0.3 |



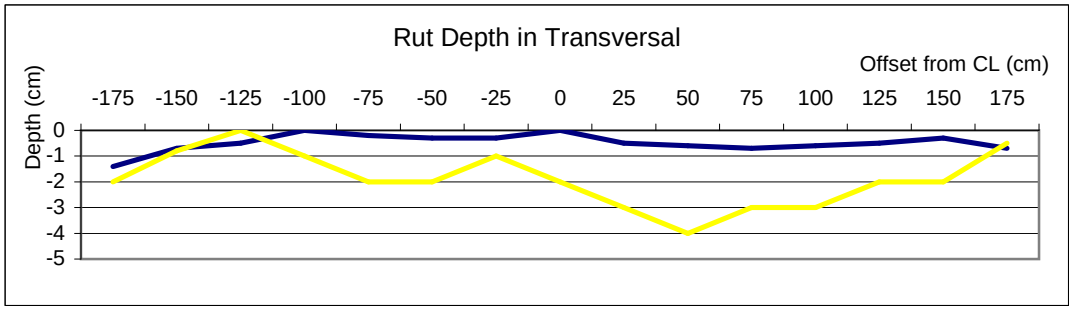
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+625

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

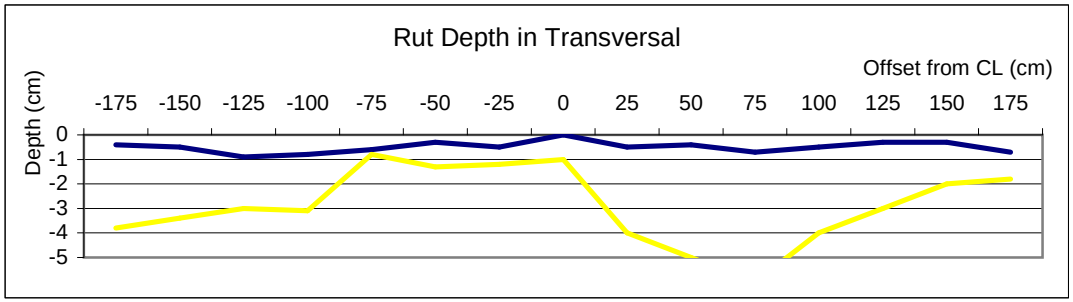
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.4 | -1.4 | 20 | -2 |
| | -150 | 0.7 | -0.7 | 8 | -0.8 |
| | -125 | 0.5 | -0.5 | 0 | 0 |
| | -100 | 0 | 0 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 20 | -2 |
| | -25 | 0.3 | -0.3 | 10 | -1 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 30 | -3 |
| | 50 | 0.6 | -0.6 | 40 | -4 |
| | 75 | 0.7 | -0.7 | 30 | -3 |
| | 100 | 0.6 | -0.6 | 30 | -3 |
| | 125 | 0.5 | -0.5 | 20 | -2 |
| | 150 | 0.3 | -0.3 | 20 | -2 |
| | 175 | 0.7 | -0.7 | 5 | -0.5 |



KM 1+675

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 38 | -3.8 |
| | -150 | 0.5 | -0.5 | 34 | -3.4 |
| | -125 | 0.9 | -0.9 | 30 | -3 |
| | -100 | 0.8 | -0.8 | 31 | -3.1 |
| | -75 | 0.6 | -0.6 | 8 | -0.8 |
| | -50 | 0.3 | -0.3 | 13 | -1.3 |
| | -25 | 0.5 | -0.5 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 40 | -4 |
| | 50 | 0.4 | -0.4 | 50 | -5 |
| | 75 | 0.7 | -0.7 | 60 | -6 |
| | 100 | 0.5 | -0.5 | 40 | -4 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.3 | -0.3 | 20 | -2 |
| | 175 | 0.7 | -0.7 | 18 | -1.8 |



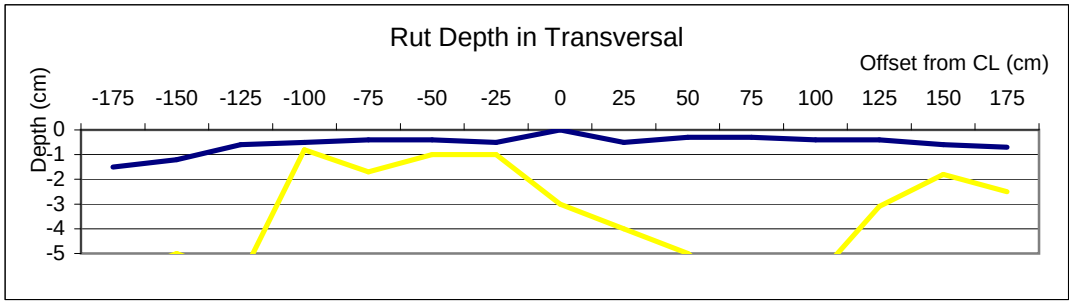
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+685

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

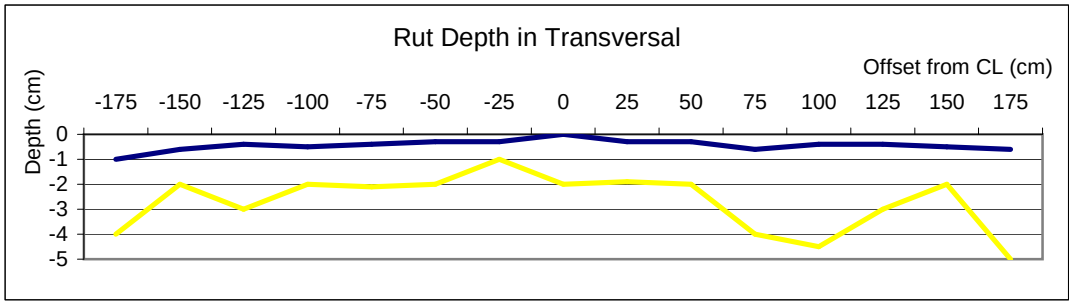
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 60 | -6 |
| | -150 | 1.2 | -1.2 | 50 | -5 |
| | -125 | 0.6 | -0.6 | 60 | -6 |
| | -100 | 0.5 | -0.5 | 8 | -0.8 |
| | -75 | 0.4 | -0.4 | 17 | -1.7 |
| | -50 | 0.4 | -0.4 | 10 | -1 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 30 | -3 |
| Right Hand Side | 25 | 0.5 | -0.5 | 40 | -4 |
| | 50 | 0.3 | -0.3 | 50 | -5 |
| | 75 | 0.3 | -0.3 | 70 | -7 |
| | 100 | 0.4 | -0.4 | 60 | -6 |
| | 125 | 0.4 | -0.4 | 31 | -3.1 |
| | 150 | 0.6 | -0.6 | 18 | -1.8 |
| | 175 | 0.7 | -0.7 | 25 | -2.5 |



KM 1+695

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 40 | -4 |
| | -150 | 0.6 | -0.6 | 20 | -2 |
| | -125 | 0.4 | -0.4 | 30 | -3 |
| | -100 | 0.5 | -0.5 | 20 | -2 |
| | -75 | 0.4 | -0.4 | 21 | -2.1 |
| | -50 | 0.3 | -0.3 | 20 | -2 |
| | -25 | 0.3 | -0.3 | 10 | -1 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 19 | -1.9 |
| | 50 | 0.3 | -0.3 | 20 | -2 |
| | 75 | 0.6 | -0.6 | 40 | -4 |
| | 100 | 0.4 | -0.4 | 45 | -4.5 |
| | 125 | 0.4 | -0.4 | 30 | -3 |
| | 150 | 0.5 | -0.5 | 20 | -2 |
| | 175 | 0.6 | -0.6 | 50 | -5 |



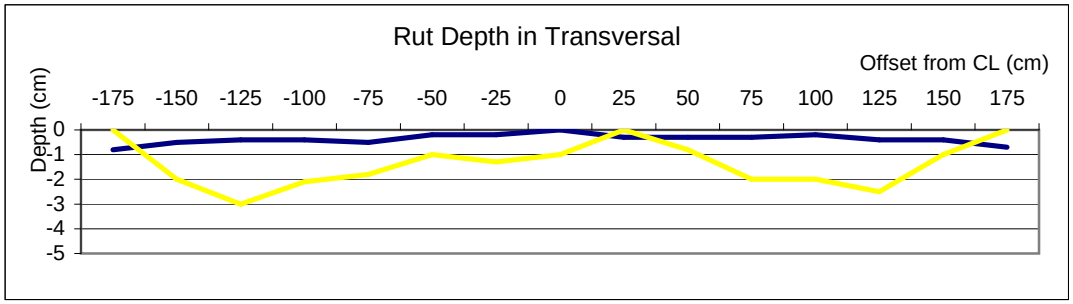
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+705

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

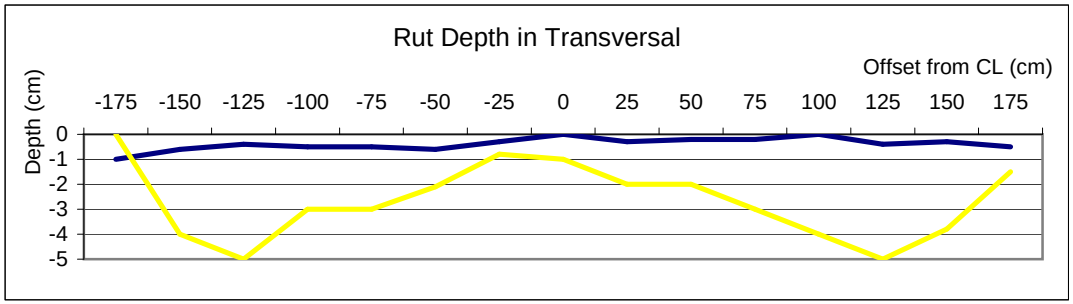
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 0 | 0 |
| | -150 | 0.5 | -0.5 | 20 | -2 |
| | -125 | 0.4 | -0.4 | 30 | -3 |
| | -100 | 0.4 | -0.4 | 21 | -2.1 |
| | -75 | 0.5 | -0.5 | 18 | -1.8 |
| | -50 | 0.2 | -0.2 | 10 | -1 |
| | -25 | 0.2 | -0.2 | 13 | -1.3 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 8 | -0.8 |
| | 75 | 0.3 | -0.3 | 20 | -2 |
| | 100 | 0.2 | -0.2 | 20 | -2 |
| | 125 | 0.4 | -0.4 | 25 | -2.5 |
| | 150 | 0.4 | -0.4 | 10 | -1 |
| | 175 | 0.7 | -0.7 | 0 | 0 |



KM 1+715

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 0 | 0 |
| | -150 | 0.6 | -0.6 | 40 | -4 |
| | -125 | 0.4 | -0.4 | 50 | -5 |
| | -100 | 0.5 | -0.5 | 30 | -3 |
| | -75 | 0.5 | -0.5 | 30 | -3 |
| | -50 | 0.6 | -0.6 | 21 | -2.1 |
| | -25 | 0.3 | -0.3 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 20 | -2 |
| | 50 | 0.2 | -0.2 | 20 | -2 |
| | 75 | 0.2 | -0.2 | 30 | -3 |
| | 100 | 0 | 0 | 40 | -4 |
| | 125 | 0.4 | -0.4 | 50 | -5 |
| | 150 | 0.3 | -0.3 | 38 | -3.8 |
| | 175 | 0.5 | -0.5 | 15 | -1.5 |



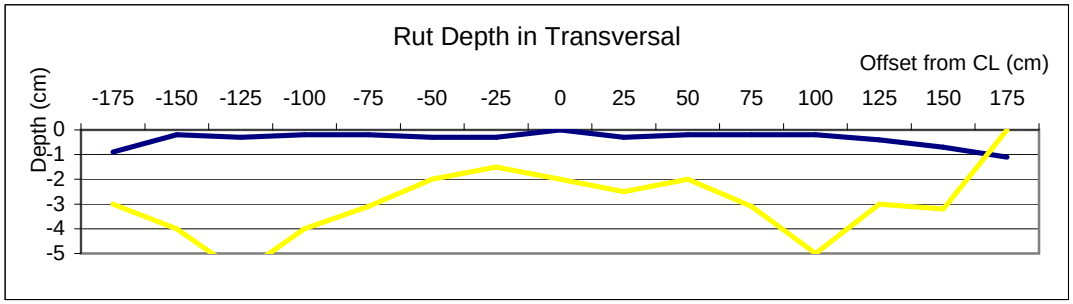
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+725

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

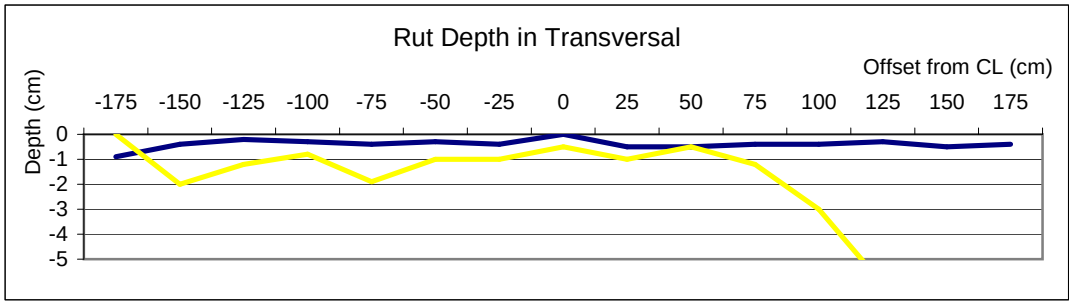
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 30 | -3 |
| | -150 | 0.2 | -0.2 | 40 | -4 |
| | -125 | 0.3 | -0.3 | 58 | -5.8 |
| | -100 | 0.2 | -0.2 | 40 | -4 |
| | -75 | 0.2 | -0.2 | 31 | -3.1 |
| | -50 | 0.3 | -0.3 | 20 | -2 |
| | -25 | 0.3 | -0.3 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 25 | -2.5 |
| | 50 | 0.2 | -0.2 | 20 | -2 |
| | 75 | 0.2 | -0.2 | 31 | -3.1 |
| | 100 | 0.2 | -0.2 | 50 | -5 |
| | 125 | 0.4 | -0.4 | 30 | -3 |
| | 150 | 0.7 | -0.7 | 32 | -3.2 |
| | 175 | 1.1 | -1.1 | 0 | 0 |



KM 1+735

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 20 | -2 |
| | -125 | 0.2 | -0.2 | 12 | -1.2 |
| | -100 | 0.3 | -0.3 | 8 | -0.8 |
| | -75 | 0.4 | -0.4 | 19 | -1.9 |
| | -50 | 0.3 | -0.3 | 10 | -1 |
| | -25 | 0.4 | -0.4 | 10 | -1 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0.5 | -0.5 | 5 | -0.5 |
| | 75 | 0.4 | -0.4 | 12 | -1.2 |
| | 100 | 0.4 | -0.4 | 30 | -3 |
| | 125 | 0.3 | -0.3 | 60 | -6 |
| | 150 | 0.5 | -0.5 | 70 | -7 |
| | 175 | 0.4 | -0.4 | 60 | -6 |



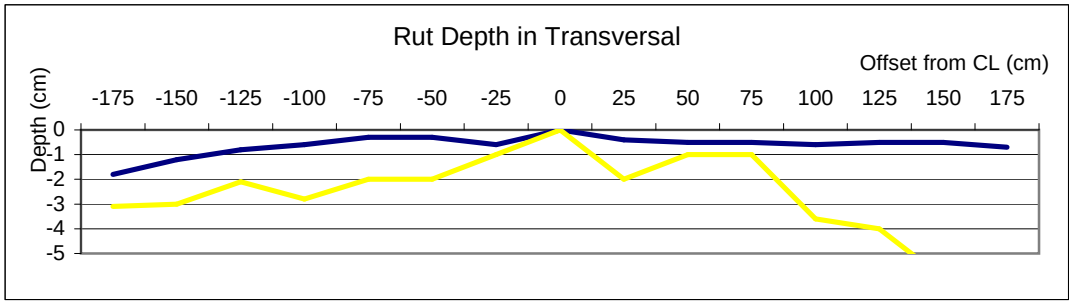
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+745

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

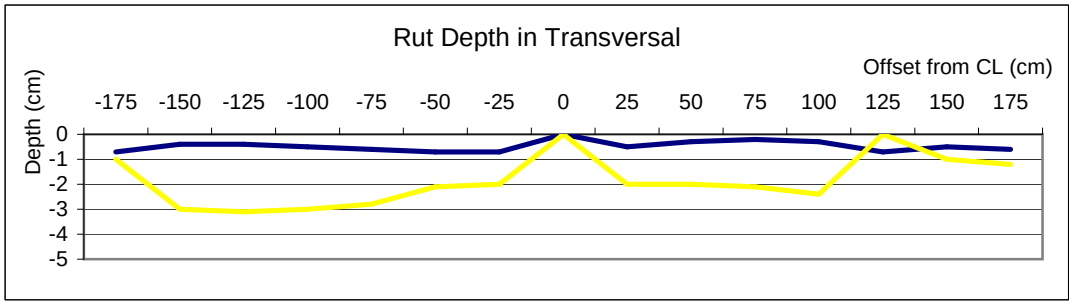
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.8 | -1.8 | 31 | -3.1 |
| | -150 | 1.2 | -1.2 | 30 | -3 |
| | -125 | 0.8 | -0.8 | 21 | -2.1 |
| | -100 | 0.6 | -0.6 | 28 | -2.8 |
| | -75 | 0.3 | -0.3 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 20 | -2 |
| | -25 | 0.6 | -0.6 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 20 | -2 |
| | 50 | 0.5 | -0.5 | 10 | -1 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.6 | -0.6 | 36 | -3.6 |
| | 125 | 0.5 | -0.5 | 40 | -4 |
| | 150 | 0.5 | -0.5 | 60 | -6 |
| | 175 | 0.7 | -0.7 | 80 | -8 |



KM 1+755

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.4 | -0.4 | 31 | -3.1 |
| | -100 | 0.5 | -0.5 | 30 | -3 |
| | -75 | 0.6 | -0.6 | 28 | -2.8 |
| | -50 | 0.7 | -0.7 | 21 | -2.1 |
| | -25 | 0.7 | -0.7 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 20 | -2 |
| | 50 | 0.3 | -0.3 | 20 | -2 |
| | 75 | 0.2 | -0.2 | 21 | -2.1 |
| | 100 | 0.3 | -0.3 | 24 | -2.4 |
| | 125 | 0.7 | -0.7 | 0 | 0 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 0.6 | -0.6 | 12 | -1.2 |



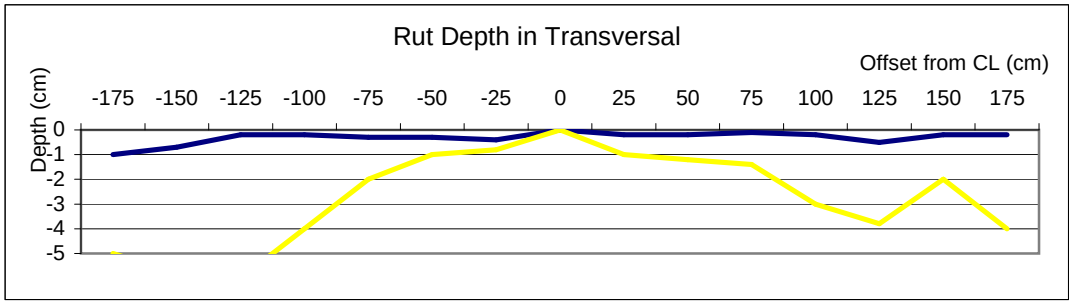
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+765

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

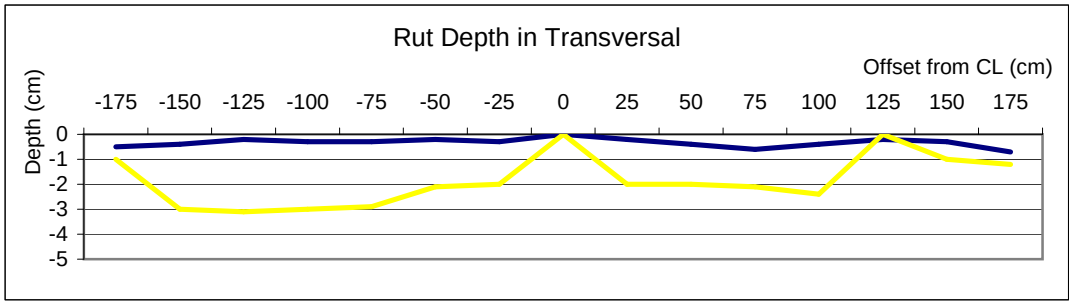
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 50 | -5 |
| | -150 | 0.7 | -0.7 | 58 | -5.8 |
| | -125 | 0.2 | -0.2 | 60 | -6 |
| | -100 | 0.2 | -0.2 | 40 | -4 |
| | -75 | 0.3 | -0.3 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 10 | -1 |
| | -25 | 0.4 | -0.4 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 10 | -1 |
| | 50 | 0.2 | -0.2 | 12 | -1.2 |
| | 75 | 0.1 | -0.1 | 14 | -1.4 |
| | 100 | 0.2 | -0.2 | 30 | -3 |
| | 125 | 0.5 | -0.5 | 38 | -3.8 |
| | 150 | 0.2 | -0.2 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 40 | -4 |



KM 1+775

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.2 | -0.2 | 31 | -3.1 |
| | -100 | 0.3 | -0.3 | 30 | -3 |
| | -75 | 0.3 | -0.3 | 29 | -2.9 |
| | -50 | 0.2 | -0.2 | 21 | -2.1 |
| | -25 | 0.3 | -0.3 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.2 | -0.2 | 20 | -2 |
| | 50 | 0.4 | -0.4 | 20 | -2 |
| | 75 | 0.6 | -0.6 | 21 | -2.1 |
| | 100 | 0.4 | -0.4 | 24 | -2.4 |
| | 125 | 0.2 | -0.2 | 0 | 0 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.7 | -0.7 | 12 | -1.2 |



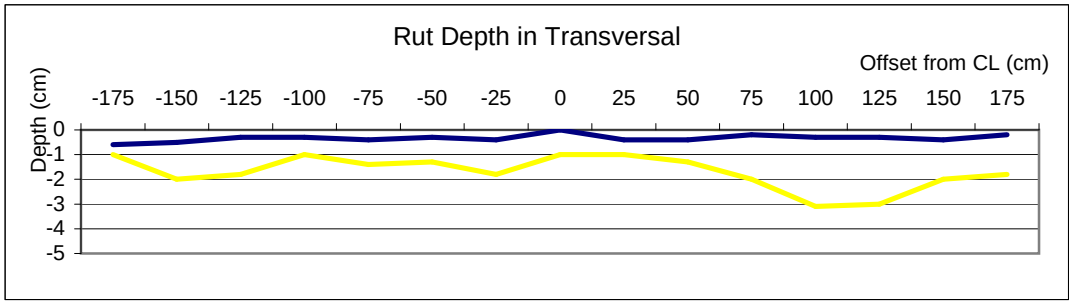
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+785

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

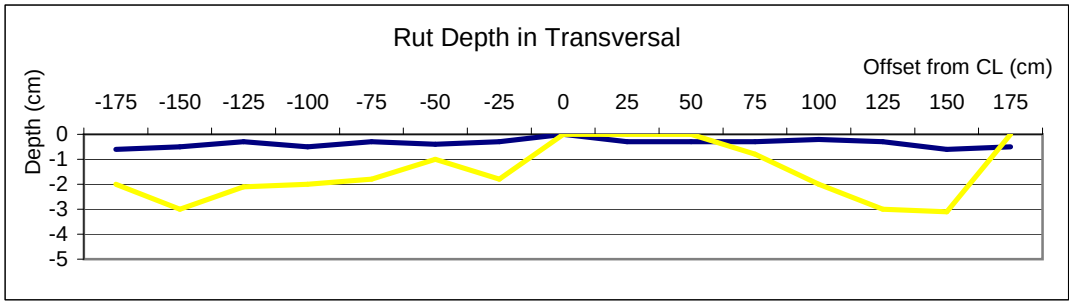
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 10 | -1 |
| | -150 | 0.5 | -0.5 | 20 | -2 |
| | -125 | 0.3 | -0.3 | 18 | -1.8 |
| | -100 | 0.3 | -0.3 | 10 | -1 |
| | -75 | 0.4 | -0.4 | 14 | -1.4 |
| | -50 | 0.3 | -0.3 | 13 | -1.3 |
| | -25 | 0.4 | -0.4 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 10 | -1 |
| | 50 | 0.4 | -0.4 | 13 | -1.3 |
| | 75 | 0.2 | -0.2 | 20 | -2 |
| | 100 | 0.3 | -0.3 | 31 | -3.1 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.4 | -0.4 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 18 | -1.8 |



KM 1+795

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 20 | -2 |
| | -150 | 0.5 | -0.5 | 30 | -3 |
| | -125 | 0.3 | -0.3 | 21 | -2.1 |
| | -100 | 0.5 | -0.5 | 20 | -2 |
| | -75 | 0.3 | -0.3 | 18 | -1.8 |
| | -50 | 0.4 | -0.4 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 8 | -0.8 |
| | 100 | 0.2 | -0.2 | 20 | -2 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.6 | -0.6 | 31 | -3.1 |
| | 175 | 0.5 | -0.5 | 0 | 0 |



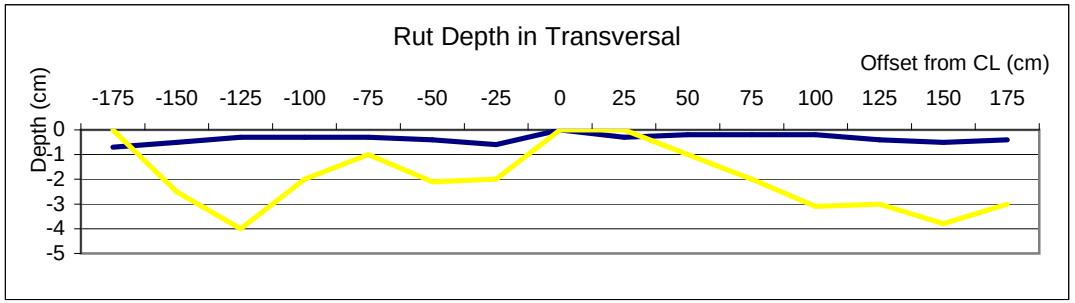
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+805

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

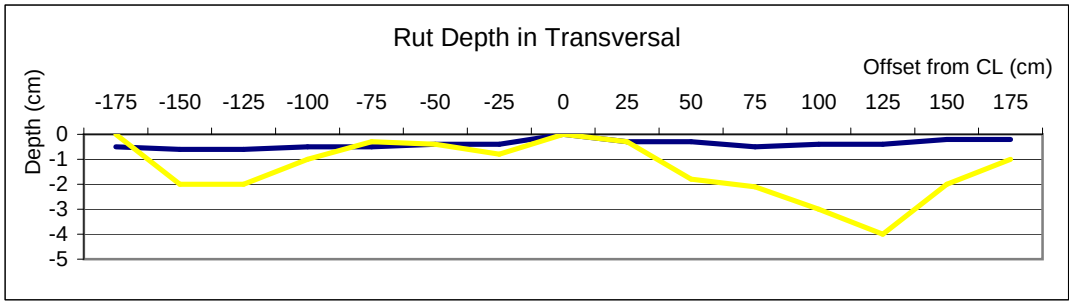
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 0 | 0 |
| | -150 | 0.5 | -0.5 | 25 | -2.5 |
| | -125 | 0.3 | -0.3 | 40 | -4 |
| | -100 | 0.3 | -0.3 | 20 | -2 |
| | -75 | 0.3 | -0.3 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 21 | -2.1 |
| | -25 | 0.6 | -0.6 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.2 | -0.2 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 20 | -2 |
| | 100 | 0.2 | -0.2 | 31 | -3.1 |
| | 125 | 0.4 | -0.4 | 30 | -3 |
| | 150 | 0.5 | -0.5 | 38 | -3.8 |
| | 175 | 0.4 | -0.4 | 30 | -3 |



KM 1+815

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 0 | 0 |
| | -150 | 0.6 | -0.6 | 20 | -2 |
| | -125 | 0.6 | -0.6 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 10 | -1 |
| | -75 | 0.5 | -0.5 | 3 | -0.3 |
| | -50 | 0.4 | -0.4 | 4 | -0.4 |
| | -25 | 0.4 | -0.4 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 3 | -0.3 |
| | 50 | 0.3 | -0.3 | 18 | -1.8 |
| | 75 | 0.5 | -0.5 | 21 | -2.1 |
| | 100 | 0.4 | -0.4 | 30 | -3 |
| | 125 | 0.4 | -0.4 | 40 | -4 |
| | 150 | 0.2 | -0.2 | 20 | -2 |
| | 175 | 0.2 | -0.2 | 10 | -1 |



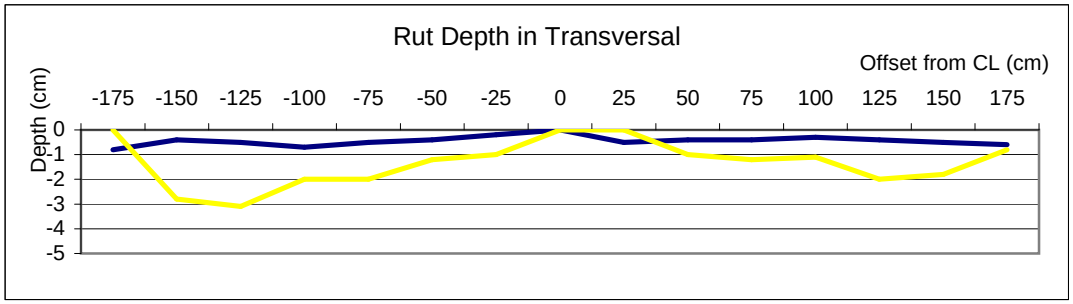
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+825

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

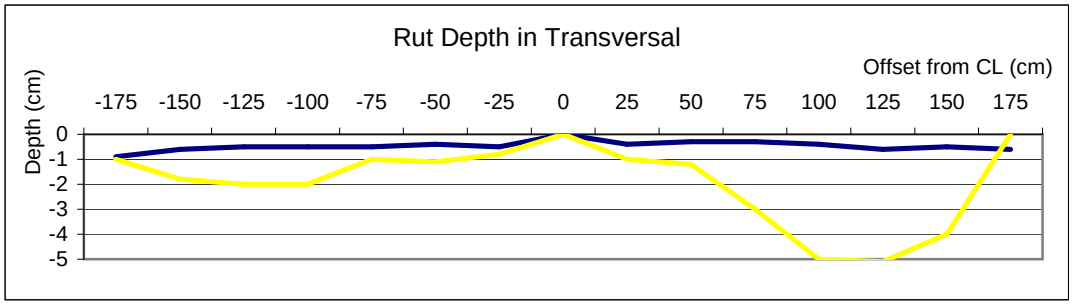
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 0 | 0 |
| | -150 | 0.4 | -0.4 | 28 | -2.8 |
| | -125 | 0.5 | -0.5 | 31 | -3.1 |
| | -100 | 0.7 | -0.7 | 20 | -2 |
| | -75 | 0.5 | -0.5 | 20 | -2 |
| | -50 | 0.4 | -0.4 | 12 | -1.2 |
| | -25 | 0.2 | -0.2 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.4 | -0.4 | 12 | -1.2 |
| | 100 | 0.3 | -0.3 | 11 | -1.1 |
| | 125 | 0.4 | -0.4 | 20 | -2 |
| | 150 | 0.5 | -0.5 | 18 | -1.8 |
| | 175 | 0.6 | -0.6 | 8 | -0.8 |



KM 1+835

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 10 | -1 |
| | -150 | 0.6 | -0.6 | 18 | -1.8 |
| | -125 | 0.5 | -0.5 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 20 | -2 |
| | -75 | 0.5 | -0.5 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 11 | -1.1 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 10 | -1 |
| | 50 | 0.3 | -0.3 | 12 | -1.2 |
| | 75 | 0.3 | -0.3 | 30 | -3 |
| | 100 | 0.4 | -0.4 | 50 | -5 |
| | 125 | 0.6 | -0.6 | 51 | -5.1 |
| | 150 | 0.5 | -0.5 | 40 | -4 |
| | 175 | 0.6 | -0.6 | 0 | 0 |



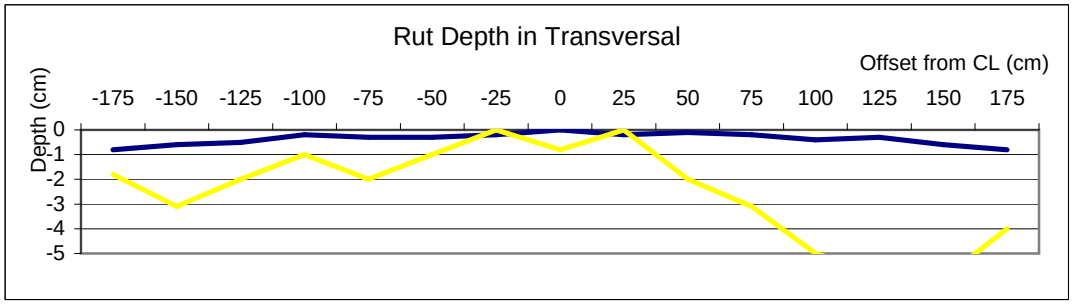
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+845

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

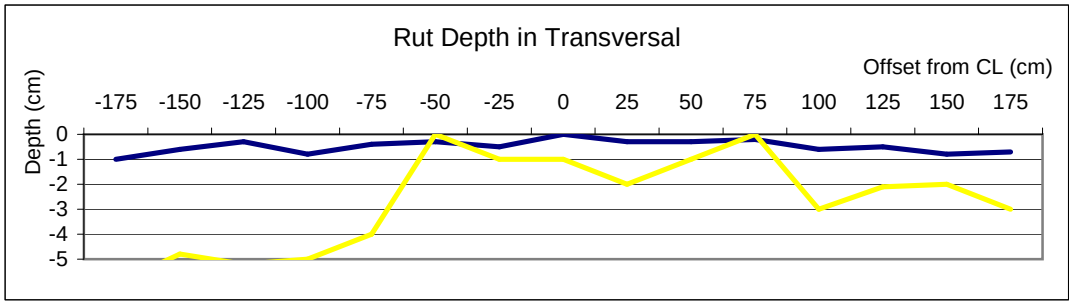
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 18 | -1.8 |
| | -150 | 0.6 | -0.6 | 31 | -3.1 |
| | -125 | 0.5 | -0.5 | 20 | -2 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.3 | -0.3 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 10 | -1 |
| | -25 | 0.2 | -0.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.2 | -0.2 | 0 | 0 |
| | 50 | 0.1 | -0.1 | 20 | -2 |
| | 75 | 0.2 | -0.2 | 31 | -3.1 |
| | 100 | 0.4 | -0.4 | 50 | -5 |
| | 125 | 0.3 | -0.3 | 58 | -5.8 |
| | 150 | 0.6 | -0.6 | 60 | -6 |
| | 175 | 0.8 | -0.8 | 40 | -4 |



KM 1+855

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 60 | -6 |
| | -150 | 0.6 | -0.6 | 48 | -4.8 |
| | -125 | 0.3 | -0.3 | 52 | -5.2 |
| | -100 | 0.8 | -0.8 | 50 | -5 |
| | -75 | 0.4 | -0.4 | 40 | -4 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 20 | -2 |
| | 50 | 0.3 | -0.3 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.6 | -0.6 | 30 | -3 |
| | 125 | 0.5 | -0.5 | 21 | -2.1 |
| | 150 | 0.8 | -0.8 | 20 | -2 |
| | 175 | 0.7 | -0.7 | 30 | -3 |



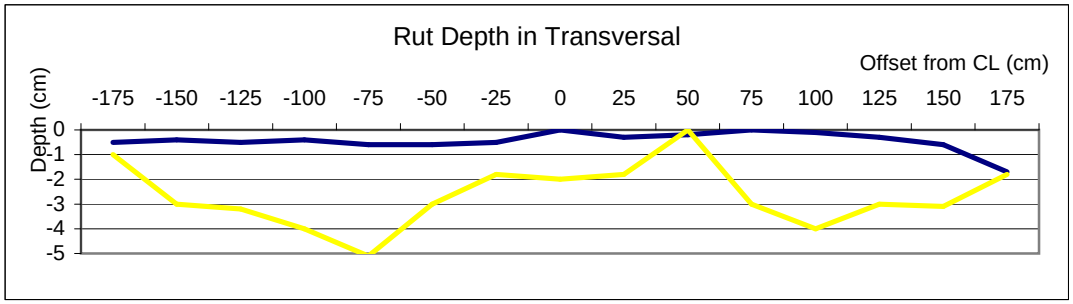
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+865

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

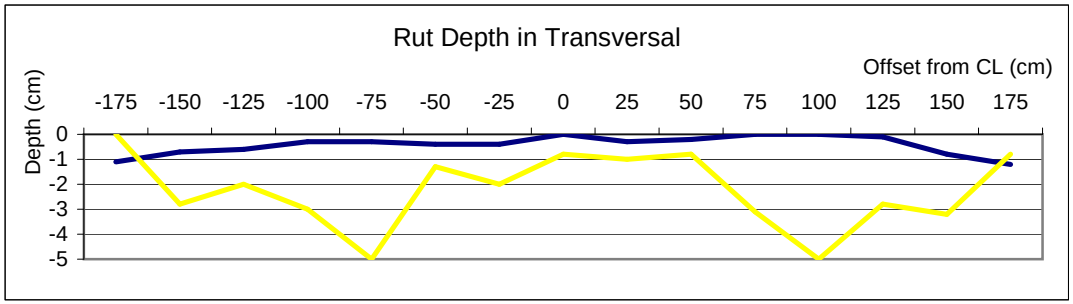
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.5 | -0.5 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.5 | -0.5 | 32 | -3.2 |
| | -100 | 0.4 | -0.4 | 40 | -4 |
| | -75 | 0.6 | -0.6 | 51 | -5.1 |
| | -50 | 0.6 | -0.6 | 30 | -3 |
| | -25 | 0.5 | -0.5 | 18 | -1.8 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 18 | -1.8 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0 | 0 | 30 | -3 |
| | 100 | 0.1 | -0.1 | 40 | -4 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.6 | -0.6 | 31 | -3.1 |
| | 175 | 1.7 | -1.7 | 18 | -1.8 |



KM 1+875

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.1 | -1.1 | 0 | 0 |
| | -150 | 0.7 | -0.7 | 28 | -2.8 |
| | -125 | 0.6 | -0.6 | 20 | -2 |
| | -100 | 0.3 | -0.3 | 30 | -3 |
| | -75 | 0.3 | -0.3 | 50 | -5 |
| | -50 | 0.4 | -0.4 | 13 | -1.3 |
| | -25 | 0.4 | -0.4 | 20 | -2 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.3 | -0.3 | 10 | -1 |
| | 50 | 0.2 | -0.2 | 8 | -0.8 |
| | 75 | 0 | 0 | 31 | -3.1 |
| | 100 | 0 | 0 | 50 | -5 |
| | 125 | 0.1 | -0.1 | 28 | -2.8 |
| | 150 | 0.8 | -0.8 | 32 | -3.2 |
| | 175 | 1.2 | -1.2 | 8 | -0.8 |



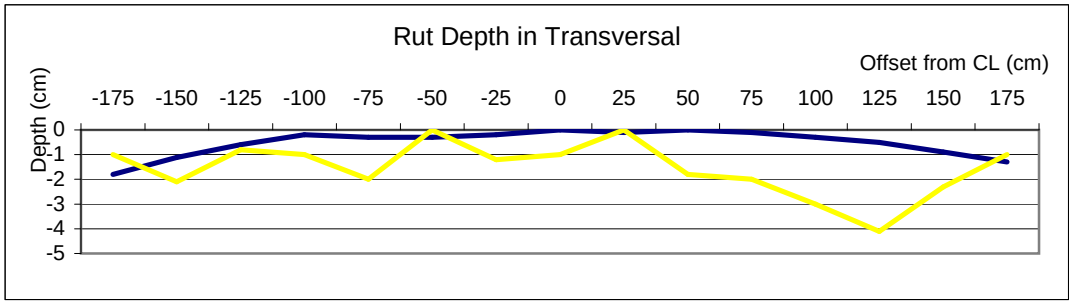
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+885

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

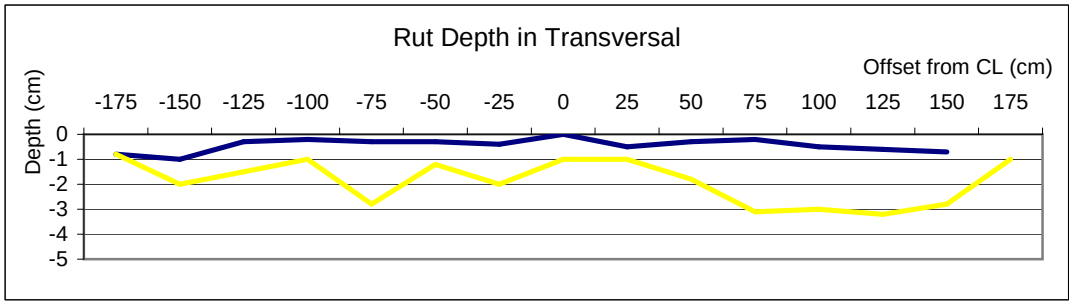
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.8 | -1.8 | 10 | -1 |
| | -150 | 1.12 | -1.12 | 21 | -2.1 |
| | -125 | 0.6 | -0.6 | 8 | -0.8 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.3 | -0.3 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.2 | -0.2 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.1 | -0.1 | 0 | 0 |
| | 50 | 0 | 0 | 18 | -1.8 |
| | 75 | 0.1 | -0.1 | 20 | -2 |
| | 100 | 0.3 | -0.3 | 30 | -3 |
| | 125 | 0.5 | -0.5 | 41 | -4.1 |
| | 150 | 0.9 | -0.9 | 23 | -2.3 |
| | 175 | 1.3 | -1.3 | 10 | -1 |



KM 1+895

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 8 | -0.8 |
| | -150 | 1 | -1 | 20 | -2 |
| | -125 | 0.3 | -0.3 | 15 | -1.5 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.3 | -0.3 | 28 | -2.8 |
| | -50 | 0.3 | -0.3 | 12 | -1.2 |
| | -25 | 0.4 | -0.4 | 20 | -2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0.3 | -0.3 | 18 | -1.8 |
| | 75 | 0.2 | -0.2 | 31 | -3.1 |
| | 100 | 0.5 | -0.5 | 30 | -3 |
| | 125 | 0.6 | -0.6 | 32 | -3.2 |
| | 150 | 0.7 | -0.7 | 28 | -2.8 |
| | 175 | 0.7 | -0.7 | 10 | -1 |



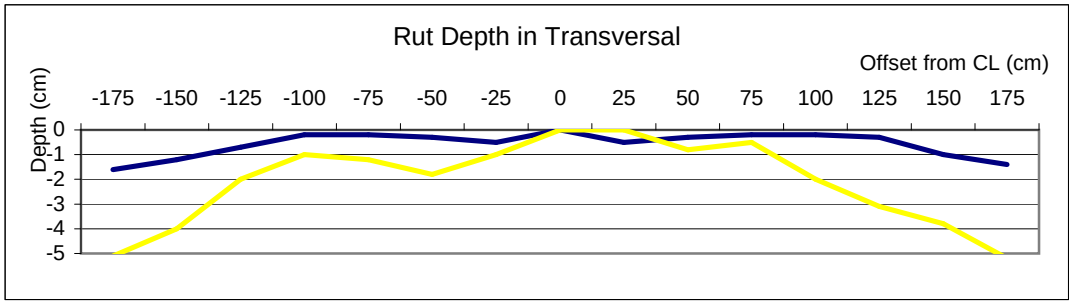
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+905

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

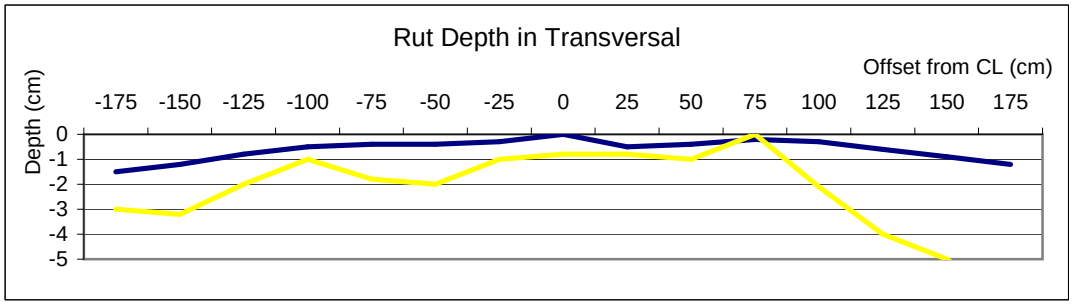
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 51 | -5.1 |
| | -150 | 1.2 | -1.2 | 40 | -4 |
| | -125 | 0.7 | -0.7 | 20 | -2 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 12 | -1.2 |
| | -50 | 0.3 | -0.3 | 18 | -1.8 |
| | -25 | 0.5 | -0.5 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 8 | -0.8 |
| | 75 | 0.2 | -0.2 | 5 | -0.5 |
| | 100 | 0.2 | -0.2 | 20 | -2 |
| | 125 | 0.3 | -0.3 | 31 | -3.1 |
| | 150 | 1 | -1 | 38 | -3.8 |
| | 175 | 1.4 | -1.4 | 52 | -5.2 |



KM 1+915

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 30 | -3 |
| | -150 | 1.2 | -1.2 | 32 | -3.2 |
| | -125 | 0.8 | -0.8 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 10 | -1 |
| | -75 | 0.4 | -0.4 | 18 | -1.8 |
| | -50 | 0.4 | -0.4 | 20 | -2 |
| | -25 | 0.3 | -0.3 | 10 | -1 |
| CL | 0 | 0 | 0 | 8 | -0.8 |
| Right Hand Side | 25 | 0.5 | -0.5 | 8 | -0.8 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 21 | -2.1 |
| | 125 | 0.6 | -0.6 | 40 | -4 |
| | 150 | 0.9 | -0.9 | 50 | -5 |
| | 175 | 1.2 | -1.2 | 68 | -6.8 |



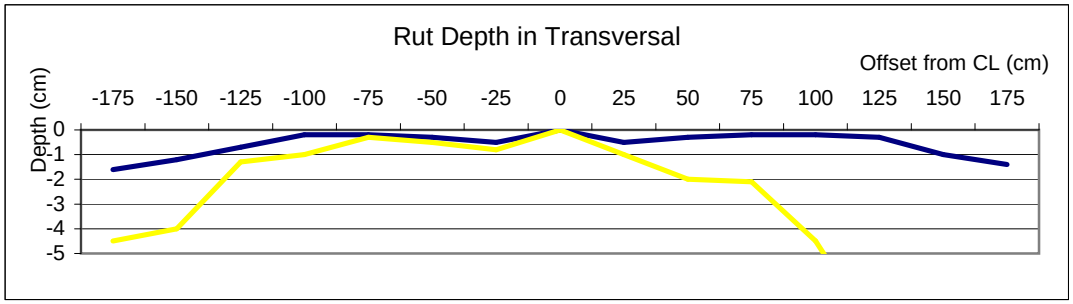
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+925

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

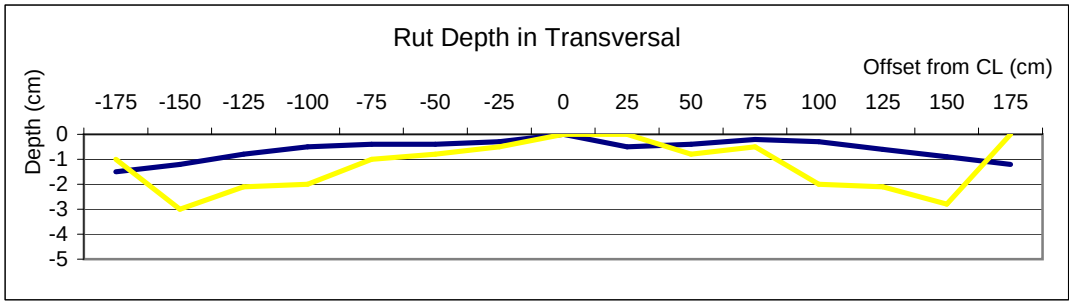
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 45 | -4.5 |
| | -150 | 1.2 | -1.2 | 40 | -4 |
| | -125 | 0.7 | -0.7 | 13 | -1.3 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 3 | -0.3 |
| | -50 | 0.3 | -0.3 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0.3 | -0.3 | 20 | -2 |
| | 75 | 0.2 | -0.2 | 21 | -2.1 |
| | 100 | 0.2 | -0.2 | 45 | -4.5 |
| | 125 | 0.3 | -0.3 | 85 | -8.5 |
| | 150 | 1 | -1 | 90 | -9 |
| | 175 | 1.4 | -1.4 | 100 | -10 |



KM 1+935

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 10 | -1 |
| | -150 | 1.2 | -1.2 | 30 | -3 |
| | -125 | 0.8 | -0.8 | 21 | -2.1 |
| | -100 | 0.5 | -0.5 | 20 | -2 |
| | -75 | 0.4 | -0.4 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 8 | -0.8 |
| | -25 | 0.3 | -0.3 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 8 | -0.8 |
| | 75 | 0.2 | -0.2 | 5 | -0.5 |
| | 100 | 0.3 | -0.3 | 20 | -2 |
| | 125 | 0.6 | -0.6 | 21 | -2.1 |
| | 150 | 0.9 | -0.9 | 28 | -2.8 |
| | 175 | 1.2 | -1.2 | 0 | 0 |



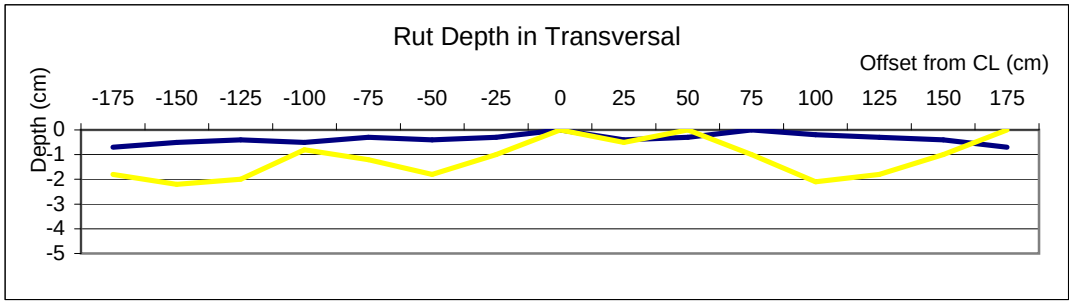
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+945

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

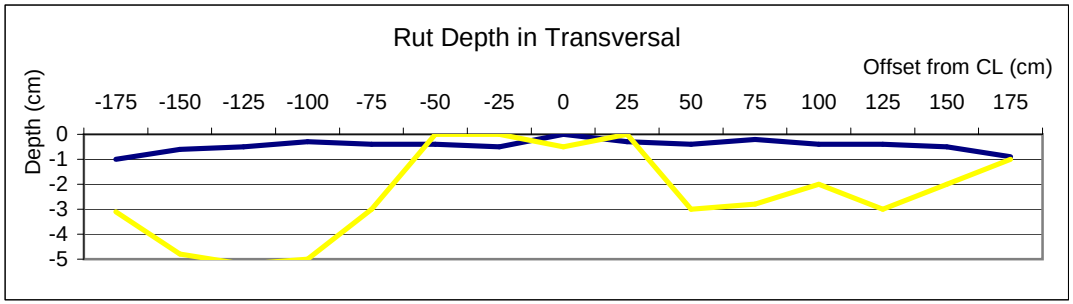
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 18 | -1.8 |
| | -150 | 0.5 | -0.5 | 22 | -2.2 |
| | -125 | 0.4 | -0.4 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 8 | -0.8 |
| | -75 | 0.3 | -0.3 | 12 | -1.2 |
| | -50 | 0.4 | -0.4 | 18 | -1.8 |
| | -25 | 0.3 | -0.3 | 10 | -1 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 5 | -0.5 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0 | 0 | 10 | -1 |
| | 100 | 0.2 | -0.2 | 21 | -2.1 |
| | 125 | 0.3 | -0.3 | 18 | -1.8 |
| | 150 | 0.4 | -0.4 | 10 | -1 |
| | 175 | 0.7 | -0.7 | 0 | 0 |



KM 1+955

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 31 | -3.1 |
| | -150 | 0.6 | -0.6 | 48 | -4.8 |
| | -125 | 0.5 | -0.5 | 52 | -5.2 |
| | -100 | 0.3 | -0.3 | 50 | -5 |
| | -75 | 0.4 | -0.4 | 30 | -3 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 30 | -3 |
| | 75 | 0.2 | -0.2 | 28 | -2.8 |
| | 100 | 0.4 | -0.4 | 20 | -2 |
| | 125 | 0.4 | -0.4 | 30 | -3 |
| | 150 | 0.5 | -0.5 | 20 | -2 |
| | 175 | 0.9 | -0.9 | 10 | -1 |



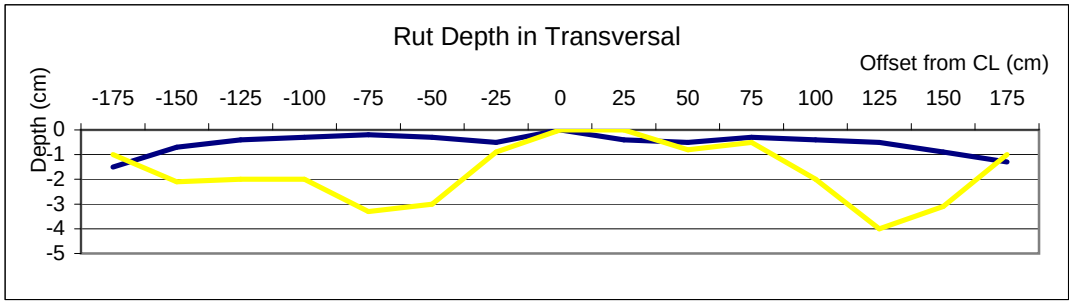
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+965

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

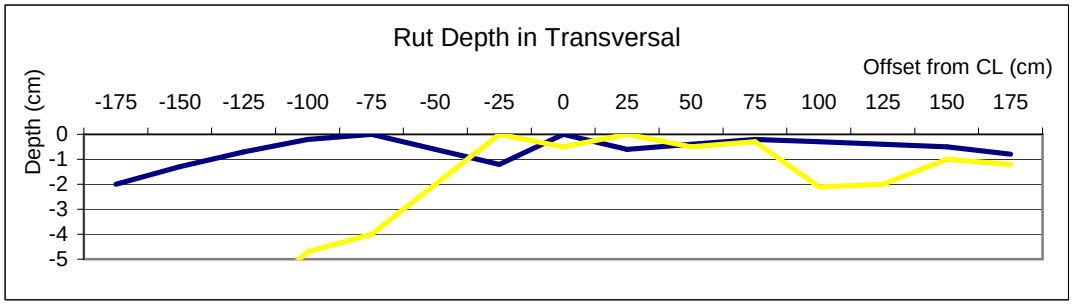
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.5 | -1.5 | 10 | -1 |
| | -150 | 0.7 | -0.7 | 21 | -2.1 |
| | -125 | 0.4 | -0.4 | 20 | -2 |
| | -100 | 0.3 | -0.3 | 20 | -2 |
| | -75 | 0.2 | -0.2 | 33 | -3.3 |
| | -50 | 0.3 | -0.3 | 30 | -3 |
| | -25 | 0.5 | -0.5 | 9 | -0.9 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.4 | -0.4 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 8 | -0.8 |
| | 75 | 0.3 | -0.3 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 20 | -2 |
| | 125 | 0.5 | -0.5 | 40 | -4 |
| | 150 | 0.9 | -0.9 | 31 | -3.1 |
| | 175 | 1.3 | -1.3 | 10 | -1 |



KM 1+975

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 2 | -2 | 88 | -8.8 |
| | -150 | 1.3 | -1.3 | 80 | -8 |
| | -125 | 0.7 | -0.7 | 70 | -7 |
| | -100 | 0.2 | -0.2 | 47 | -4.7 |
| | -75 | 0 | 0 | 40 | -4 |
| | -50 | 0.6 | -0.6 | 20 | -2 |
| | -25 | 1.2 | -1.2 | 0 | 0 |
| CL | 0 | 0 | 0 | 5 | -0.5 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 5 | -0.5 |
| | 75 | 0.2 | -0.2 | 3 | -0.3 |
| | 100 | 0.3 | -0.3 | 21 | -2.1 |
| | 125 | 0.4 | -0.4 | 20 | -2 |
| | 150 | 0.5 | -0.5 | 10 | -1 |
| | 175 | 0.8 | -0.8 | 12 | -1.2 |



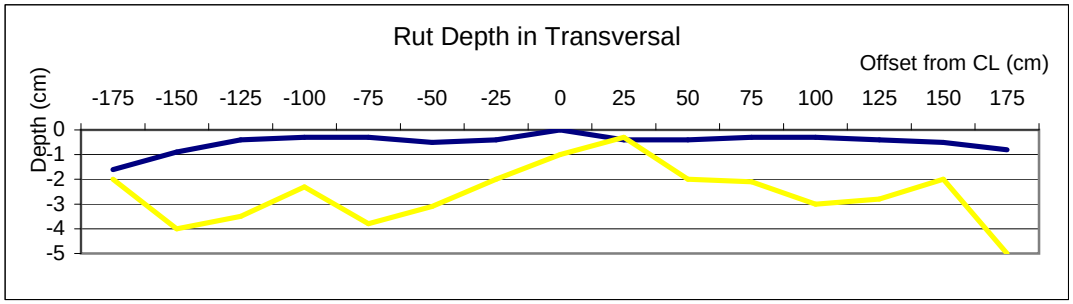
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 1+985

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

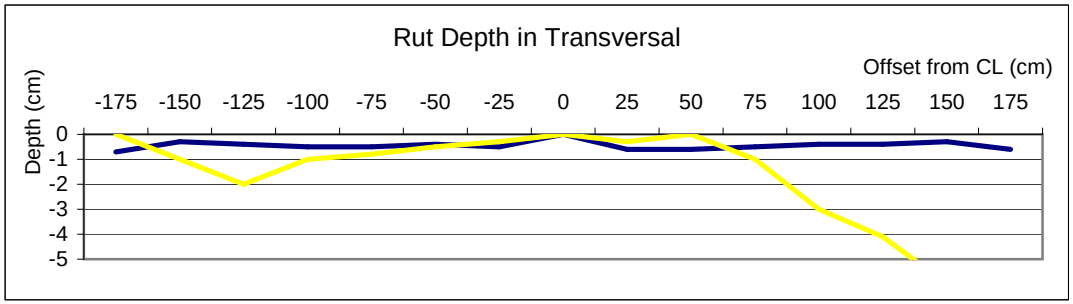
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 20 | -2 |
| | -150 | 0.9 | -0.9 | 40 | -4 |
| | -125 | 0.4 | -0.4 | 35 | -3.5 |
| | -100 | 0.3 | -0.3 | 23 | -2.3 |
| | -75 | 0.3 | -0.3 | 38 | -3.8 |
| | -50 | 0.5 | -0.5 | 31 | -3.1 |
| | -25 | 0.4 | -0.4 | 20 | -2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 20 | -2 |
| | 75 | 0.3 | -0.3 | 21 | -2.1 |
| | 100 | 0.3 | -0.3 | 30 | -3 |
| | 125 | 0.4 | -0.4 | 28 | -2.8 |
| | 150 | 0.5 | -0.5 | 20 | -2 |
| | 175 | 0.8 | -0.8 | 50 | -5 |



KM 1+995

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 0 | 0 |
| | -150 | 0.3 | -0.3 | 10 | -1 |
| | -125 | 0.4 | -0.4 | 20 | -2 |
| | -100 | 0.5 | -0.5 | 10 | -1 |
| | -75 | 0.5 | -0.5 | 8 | -0.8 |
| | -50 | 0.4 | -0.4 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 3 | -0.3 |
| | 50 | 0.6 | -0.6 | 0 | 0 |
| | 75 | 0.5 | -0.5 | 10 | -1 |
| | 100 | 0.4 | -0.4 | 30 | -3 |
| | 125 | 0.4 | -0.4 | 41 | -4.1 |
| | 150 | 0.3 | -0.3 | 60 | -6 |
| | 175 | 0.6 | -0.6 | 76 | -7.6 |



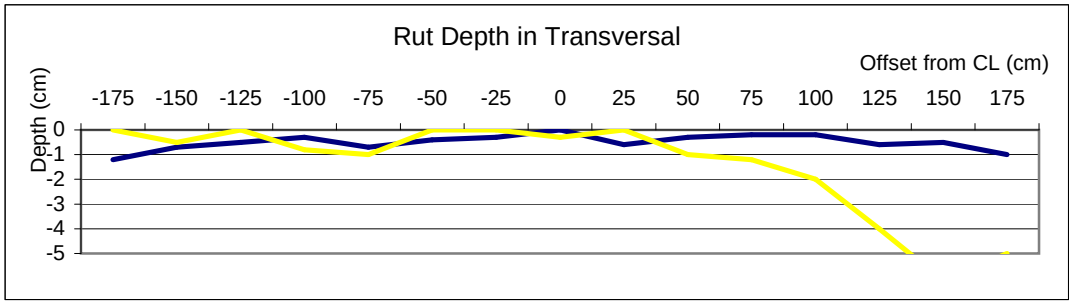
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+005

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

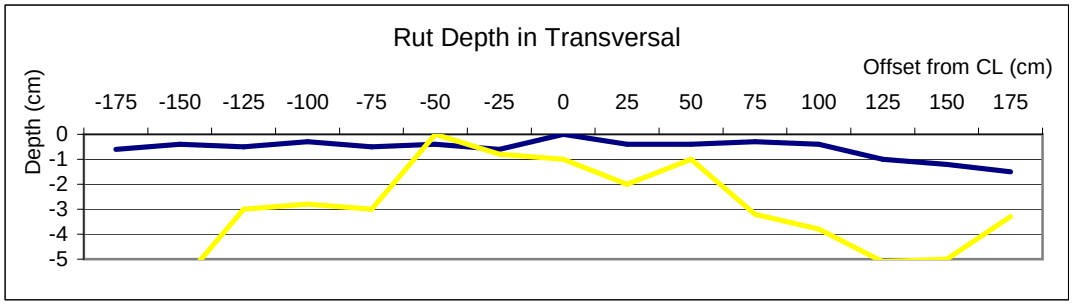
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.2 | -1.2 | 0 | 0 |
| | -150 | 0.7 | -0.7 | 5 | -0.5 |
| | -125 | 0.5 | -0.5 | 0 | 0 |
| | -100 | 0.3 | -0.3 | 8 | -0.8 |
| | -75 | 0.7 | -0.7 | 10 | -1 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.3 | -0.3 | 0 | 0 |
| CL | 0 | 0 | 0 | 3 | -0.3 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 10 | -1 |
| | 75 | 0.2 | -0.2 | 12 | -1.2 |
| | 100 | 0.2 | -0.2 | 20 | -2 |
| | 125 | 0.6 | -0.6 | 40 | -4 |
| | 150 | 0.5 | -0.5 | 61 | -6.1 |
| | 175 | 1 | -1 | 50 | -5 |



KM 2+015

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 57 | -5.7 |
| | -150 | 0.4 | -0.4 | 60 | -6 |
| | -125 | 0.5 | -0.5 | 30 | -3 |
| | -100 | 0.3 | -0.3 | 28 | -2.8 |
| | -75 | 0.5 | -0.5 | 30 | -3 |
| | -50 | 0.4 | -0.4 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 20 | -2 |
| | 50 | 0.4 | -0.4 | 10 | -1 |
| | 75 | 0.3 | -0.3 | 32 | -3.2 |
| | 100 | 0.4 | -0.4 | 38 | -3.8 |
| | 125 | 1 | -1 | 51 | -5.1 |
| | 150 | 1.2 | -1.2 | 50 | -5 |
| | 175 | 1.5 | -1.5 | 33 | -3.3 |



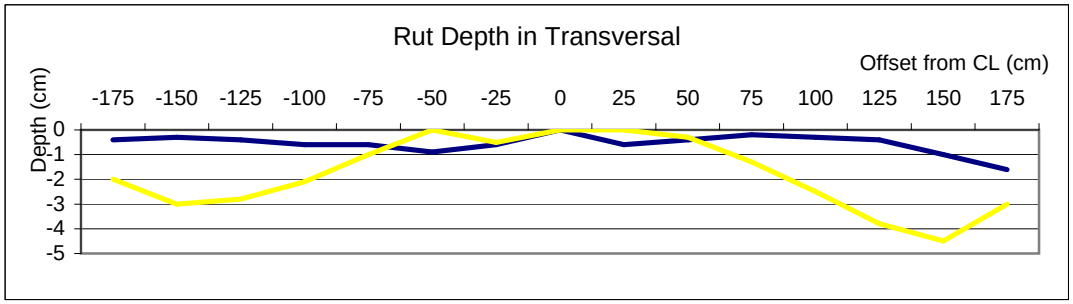
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+025

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

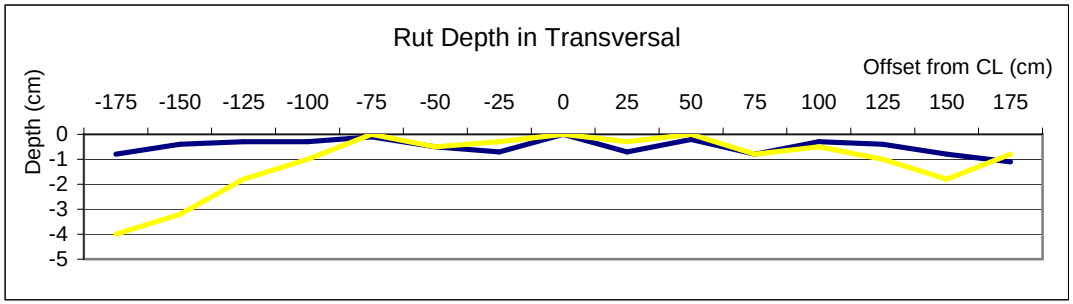
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 20 | -2 |
| | -150 | 0.3 | -0.3 | 30 | -3 |
| | -125 | 0.4 | -0.4 | 28 | -2.8 |
| | -100 | 0.6 | -0.6 | 21 | -2.1 |
| | -75 | 0.6 | -0.6 | 10 | -1 |
| | -50 | 0.9 | -0.9 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.4 | -0.4 | 3 | -0.3 |
| | 75 | 0.2 | -0.2 | 13 | -1.3 |
| | 100 | 0.3 | -0.3 | 25 | -2.5 |
| | 125 | 0.4 | -0.4 | 38 | -3.8 |
| | 150 | 1 | -1 | 45 | -4.5 |
| | 175 | 1.6 | -1.6 | 30 | -3 |



KM 2+035

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 40 | -4 |
| | -150 | 0.4 | -0.4 | 32 | -3.2 |
| | -125 | 0.3 | -0.3 | 18 | -1.8 |
| | -100 | 0.3 | -0.3 | 10 | -1 |
| | -75 | 0.1 | -0.1 | 0 | 0 |
| | -50 | 0.5 | -0.5 | 5 | -0.5 |
| | -25 | 0.7 | -0.7 | 3 | -0.3 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.7 | -0.7 | 3 | -0.3 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.8 | -0.8 | 8 | -0.8 |
| | 100 | 0.3 | -0.3 | 5 | -0.5 |
| | 125 | 0.4 | -0.4 | 10 | -1 |
| | 150 | 0.8 | -0.8 | 18 | -1.8 |
| | 175 | 1.1 | -1.1 | 8 | -0.8 |



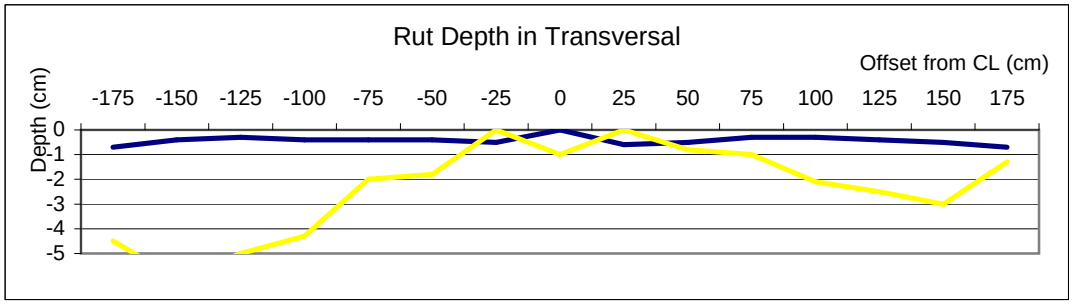
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+045

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 45 | -4.5 |
| | -150 | 0.4 | -0.4 | 60 | -6 |
| | -125 | 0.3 | -0.3 | 50 | -5 |
| | -100 | 0.4 | -0.4 | 43 | -4.3 |
| | -75 | 0.4 | -0.4 | 20 | -2 |
| | -50 | 0.4 | -0.4 | 18 | -1.8 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 8 | -0.8 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 21 | -2.1 |
| | 125 | 0.4 | -0.4 | 25 | -2.5 |
| | 150 | 0.5 | -0.5 | 30 | -3 |
| | 175 | 0.7 | -0.7 | 13 | -1.3 |

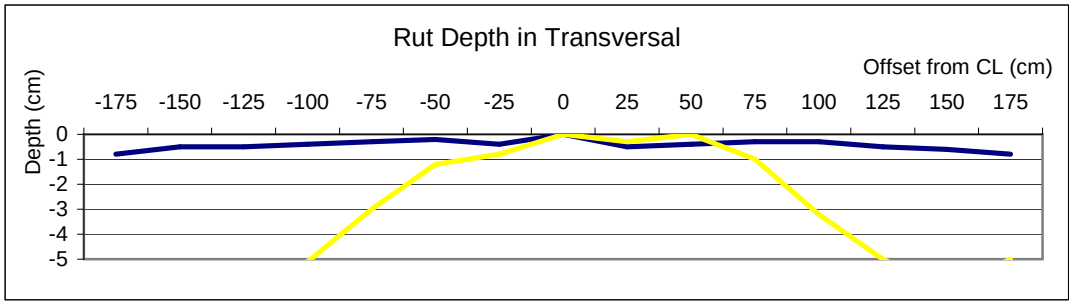


KM 2+055

Measured by: Khambone
Checked by: Singthong

Date: 29/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 73 | -7.3 |
| | -150 | 0.5 | -0.5 | 80 | -8 |
| | -125 | 0.5 | -0.5 | 60 | -6 |
| | -100 | 0.4 | -0.4 | 51 | -5.1 |
| | -75 | 0.3 | -0.3 | 30 | -3 |
| | -50 | 0.2 | -0.2 | 12 | -1.2 |
| | -25 | 0.4 | -0.4 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.5 | -0.5 | 3 | -0.3 |
| | 50 | 0.4 | -0.4 | 0 | 0 |
| | 75 | 0.3 | -0.3 | 10 | -1 |
| | 100 | 0.3 | -0.3 | 32 | -3.2 |
| | 125 | 0.5 | -0.5 | 50 | -5 |
| | 150 | 0.6 | -0.6 | 62 | -6.2 |
| | 175 | 0.8 | -0.8 | 50 | -5 |



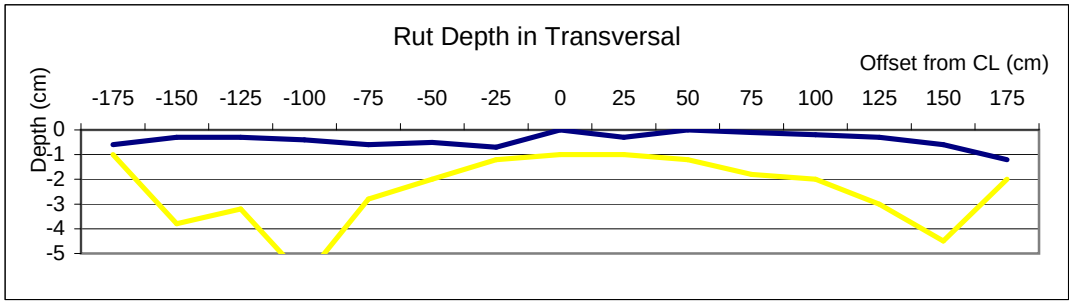
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+065

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

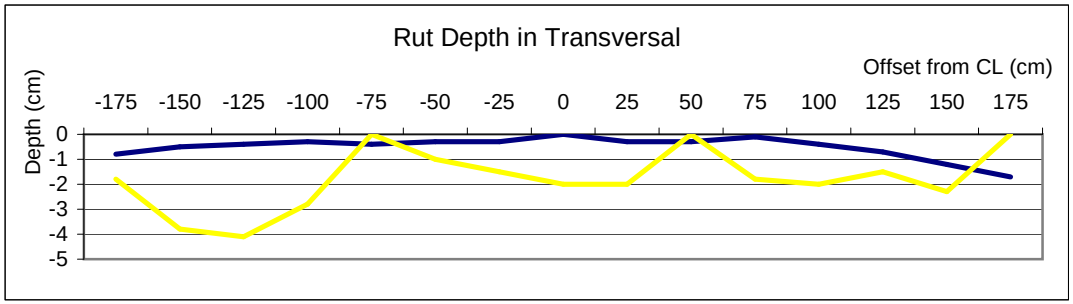
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 10 | -1 |
| | -150 | 0.3 | -0.3 | 38 | -3.8 |
| | -125 | 0.3 | -0.3 | 32 | -3.2 |
| | -100 | 0.4 | -0.4 | 60 | -6 |
| | -75 | 0.6 | -0.6 | 28 | -2.8 |
| | -50 | 0.5 | -0.5 | 20 | -2 |
| | -25 | 0.7 | -0.7 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 10 | -1 |
| | 50 | 0 | 0 | 12 | -1.2 |
| | 75 | 0.1 | -0.1 | 18 | -1.8 |
| | 100 | 0.2 | -0.2 | 20 | -2 |
| | 125 | 0.3 | -0.3 | 30 | -3 |
| | 150 | 0.6 | -0.6 | 45 | -4.5 |
| | 175 | 1.2 | -1.2 | 20 | -2 |



KM 2+075

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 18 | -1.8 |
| | -150 | 0.5 | -0.5 | 38 | -3.8 |
| | -125 | 0.4 | -0.4 | 41 | -4.1 |
| | -100 | 0.3 | -0.3 | 28 | -2.8 |
| | -75 | 0.4 | -0.4 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 10 | -1 |
| | -25 | 0.3 | -0.3 | 15 | -1.5 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.3 | -0.3 | 20 | -2 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.1 | -0.1 | 18 | -1.8 |
| | 100 | 0.4 | -0.4 | 20 | -2 |
| | 125 | 0.7 | -0.7 | 15 | -1.5 |
| | 150 | 1.2 | -1.2 | 23 | -2.3 |
| | 175 | 1.7 | -1.7 | 0 | 0 |



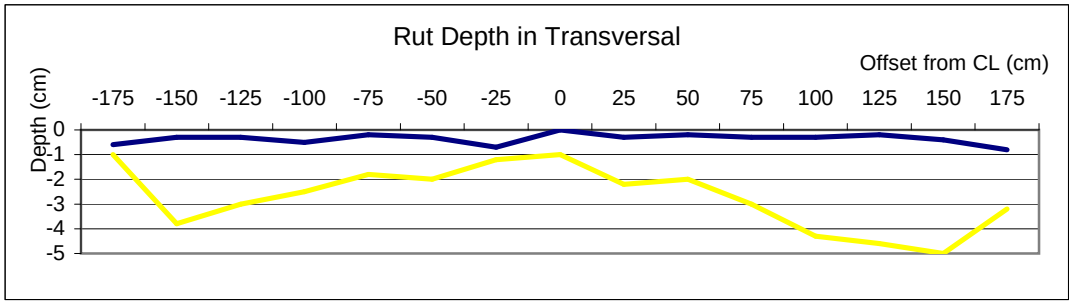
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+085

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

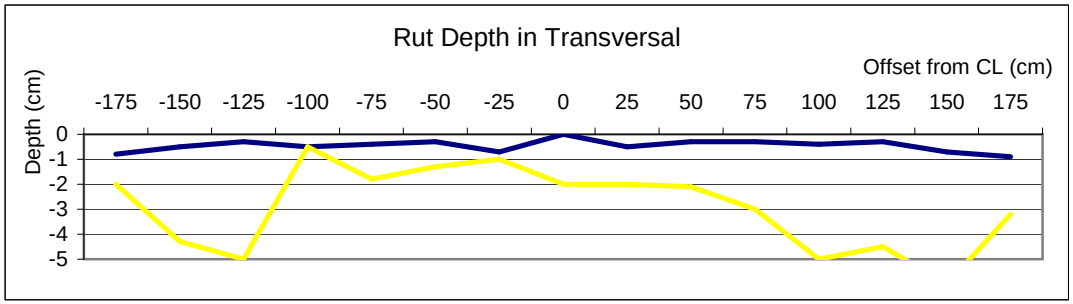
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 10 | -1 |
| | -150 | 0.3 | -0.3 | 38 | -3.8 |
| | -125 | 0.3 | -0.3 | 30 | -3 |
| | -100 | 0.5 | -0.5 | 25 | -2.5 |
| | -75 | 0.2 | -0.2 | 18 | -1.8 |
| | -50 | 0.3 | -0.3 | 20 | -2 |
| | -25 | 0.7 | -0.7 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 22 | -2.2 |
| | 50 | 0.2 | -0.2 | 20 | -2 |
| | 75 | 0.3 | -0.3 | 30 | -3 |
| | 100 | 0.3 | -0.3 | 43 | -4.3 |
| | 125 | 0.2 | -0.2 | 46 | -4.6 |
| | 150 | 0.4 | -0.4 | 50 | -5 |
| | 175 | 0.8 | -0.8 | 32 | -3.2 |



KM 2+095

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.8 | -0.8 | 20 | -2 |
| | -150 | 0.5 | -0.5 | 43 | -4.3 |
| | -125 | 0.3 | -0.3 | 50 | -5 |
| | -100 | 0.5 | -0.5 | 5 | -0.5 |
| | -75 | 0.4 | -0.4 | 18 | -1.8 |
| | -50 | 0.3 | -0.3 | 13 | -1.3 |
| | -25 | 0.7 | -0.7 | 10 | -1 |
| CL | 0 | 0 | 0 | 20 | -2 |
| Right Hand Side | 25 | 0.5 | -0.5 | 20 | -2 |
| | 50 | 0.3 | -0.3 | 21 | -2.1 |
| | 75 | 0.3 | -0.3 | 30 | -3 |
| | 100 | 0.4 | -0.4 | 50 | -5 |
| | 125 | 0.3 | -0.3 | 45 | -4.5 |
| | 150 | 0.7 | -0.7 | 60 | -6 |
| | 175 | 0.9 | -0.9 | 32 | -3.2 |



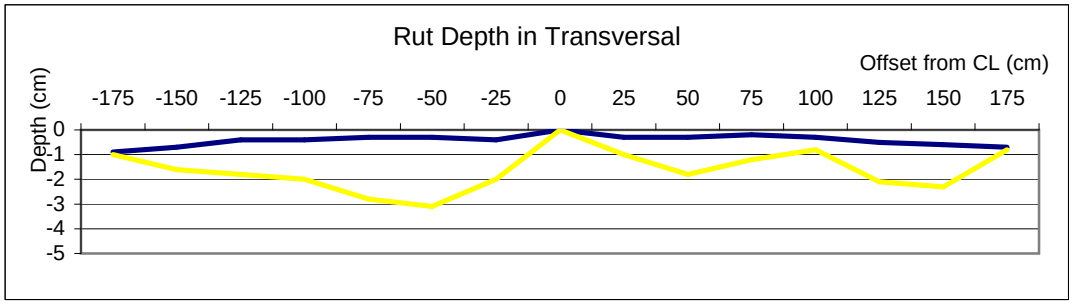
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+105

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

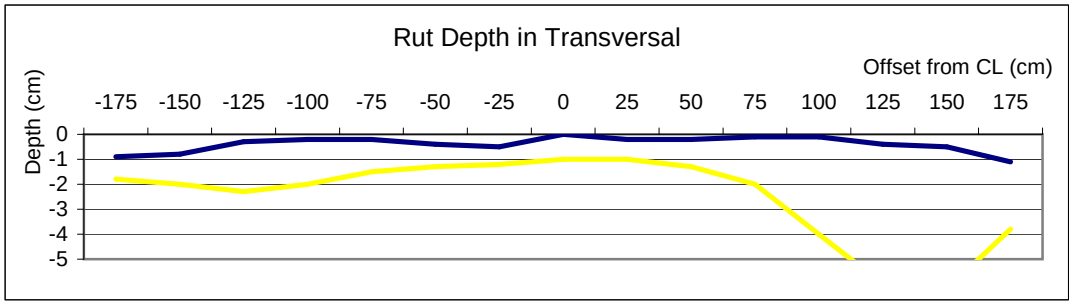
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 10 | -1 |
| | -150 | 0.7 | -0.7 | 16 | -1.6 |
| | -125 | 0.4 | -0.4 | 18 | -1.8 |
| | -100 | 0.4 | -0.4 | 20 | -2 |
| | -75 | 0.3 | -0.3 | 28 | -2.8 |
| | -50 | 0.3 | -0.3 | 31 | -3.1 |
| | -25 | 0.4 | -0.4 | 20 | -2 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.3 | -0.3 | 10 | -1 |
| | 50 | 0.3 | -0.3 | 18 | -1.8 |
| | 75 | 0.2 | -0.2 | 12 | -1.2 |
| | 100 | 0.3 | -0.3 | 8 | -0.8 |
| | 125 | 0.5 | -0.5 | 21 | -2.1 |
| | 150 | 0.6 | -0.6 | 23 | -2.3 |
| | 175 | 0.7 | -0.7 | 8 | -0.8 |



KM 2+115

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 18 | -1.8 |
| | -150 | 0.8 | -0.8 | 20 | -2 |
| | -125 | 0.3 | -0.3 | 23 | -2.3 |
| | -100 | 0.2 | -0.2 | 20 | -2 |
| | -75 | 0.2 | -0.2 | 15 | -1.5 |
| | -50 | 0.4 | -0.4 | 13 | -1.3 |
| | -25 | 0.5 | -0.5 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.2 | -0.2 | 10 | -1 |
| | 50 | 0.2 | -0.2 | 13 | -1.3 |
| | 75 | 0.1 | -0.1 | 20 | -2 |
| | 100 | 0.1 | -0.1 | 40 | -4 |
| | 125 | 0.4 | -0.4 | 60 | -6 |
| | 150 | 0.5 | -0.5 | 62 | -6.2 |
| | 175 | 1.1 | -1.1 | 38 | -3.8 |



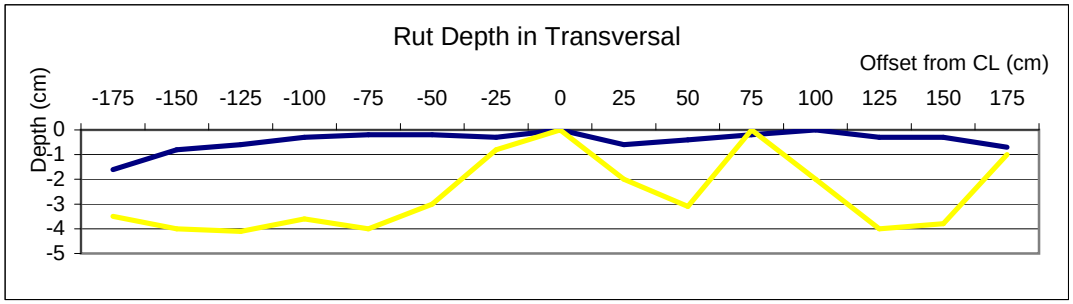
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+125

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1.6 | -1.6 | 35 | -3.5 |
| | -150 | 0.8 | -0.8 | 40 | -4 |
| | -125 | 0.6 | -0.6 | 41 | -4.1 |
| | -100 | 0.3 | -0.3 | 36 | -3.6 |
| | -75 | 0.2 | -0.2 | 40 | -4 |
| | -50 | 0.2 | -0.2 | 30 | -3 |
| | -25 | 0.3 | -0.3 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 20 | -2 |
| | 50 | 0.4 | -0.4 | 31 | -3.1 |
| | 75 | 0.2 | -0.2 | 0 | 0 |
| | 100 | 0 | 0 | 20 | -2 |
| | 125 | 0.3 | -0.3 | 40 | -4 |
| | 150 | 0.3 | -0.3 | 38 | -3.8 |
| | 175 | 0.7 | -0.7 | 10 | -1 |

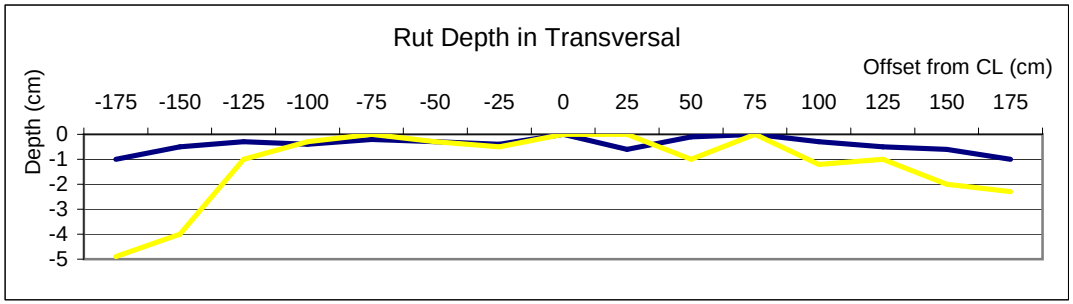


KM 2+135

Measured by: Khambone
Checked by: Singthong

Date: 29/08/07
Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 1 | -1 | 49 | -4.9 |
| | -150 | 0.5 | -0.5 | 40 | -4 |
| | -125 | 0.3 | -0.3 | 10 | -1 |
| | -100 | 0.4 | -0.4 | 3 | -0.3 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.4 | -0.4 | 5 | -0.5 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.6 | -0.6 | 0 | 0 |
| | 50 | 0.1 | -0.1 | 10 | -1 |
| | 75 | 0 | 0 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 12 | -1.2 |
| | 125 | 0.5 | -0.5 | 10 | -1 |
| | 150 | 0.6 | -0.6 | 20 | -2 |
| | 175 | 1 | -1 | 23 | -2.3 |



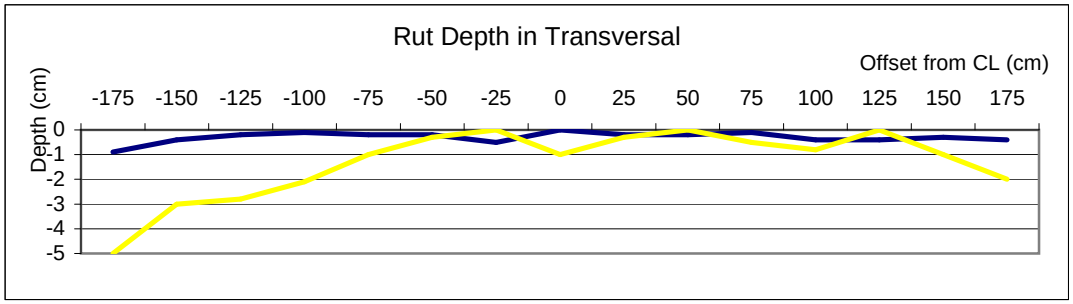
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+145

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

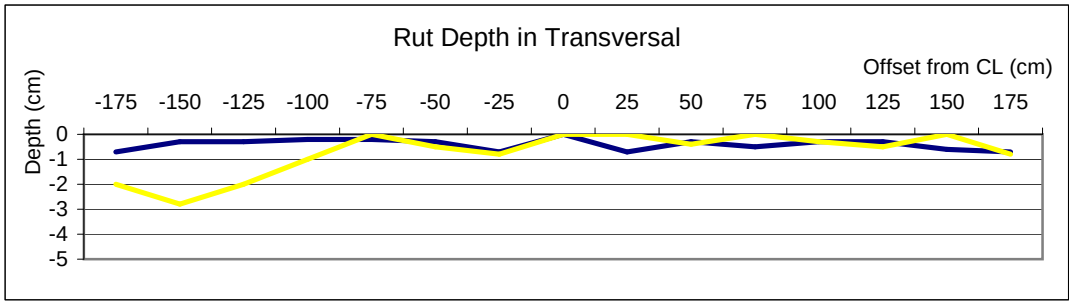
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.9 | -0.9 | 50 | -5 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.2 | -0.2 | 28 | -2.8 |
| | -100 | 0.1 | -0.1 | 21 | -2.1 |
| | -75 | 0.2 | -0.2 | 10 | -1 |
| | -50 | 0.2 | -0.2 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.2 | -0.2 | 3 | -0.3 |
| | 50 | 0.2 | -0.2 | 0 | 0 |
| | 75 | 0.1 | -0.1 | 5 | -0.5 |
| | 100 | 0.4 | -0.4 | 8 | -0.8 |
| | 125 | 0.4 | -0.4 | 0 | 0 |
| | 150 | 0.3 | -0.3 | 10 | -1 |
| | 175 | 0.4 | -0.4 | 20 | -2 |



KM 2+155

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 20 | -2 |
| | -150 | 0.3 | -0.3 | 28 | -2.8 |
| | -125 | 0.3 | -0.3 | 20 | -2 |
| | -100 | 0.2 | -0.2 | 10 | -1 |
| | -75 | 0.2 | -0.2 | 0 | 0 |
| | -50 | 0.3 | -0.3 | 5 | -0.5 |
| | -25 | 0.7 | -0.7 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 0 | 0 |
| Right Hand Side | 25 | 0.7 | -0.7 | 0 | 0 |
| | 50 | 0.3 | -0.3 | 4 | -0.4 |
| | 75 | 0.5 | -0.5 | 0 | 0 |
| | 100 | 0.3 | -0.3 | 3 | -0.3 |
| | 125 | 0.3 | -0.3 | 5 | -0.5 |
| | 150 | 0.6 | -0.6 | 0 | 0 |
| | 175 | 0.7 | -0.7 | 8 | -0.8 |



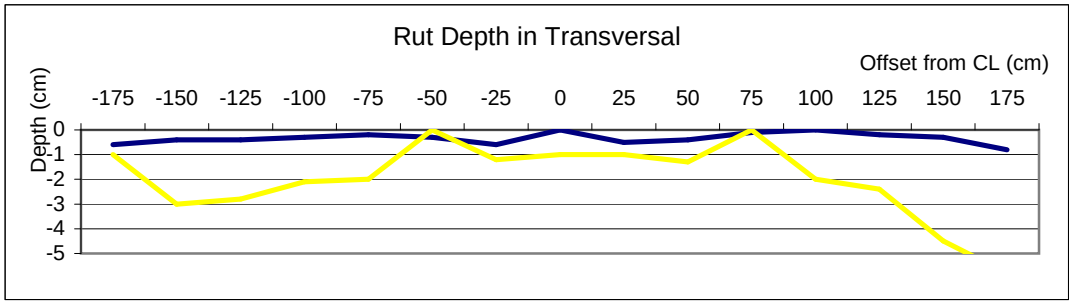
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+165

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

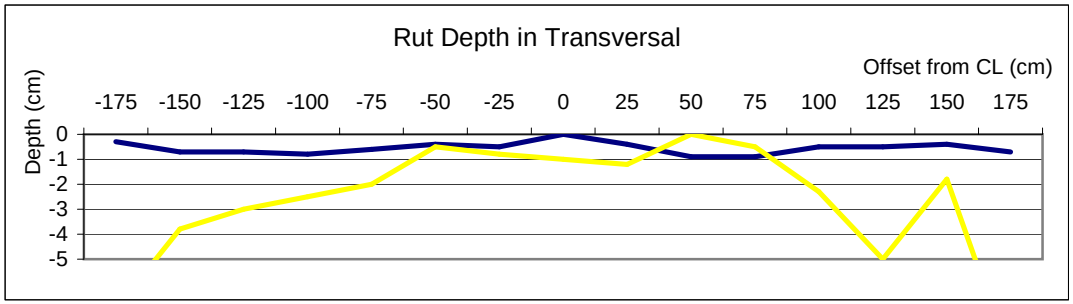
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.6 | -0.6 | 10 | -1 |
| | -150 | 0.4 | -0.4 | 30 | -3 |
| | -125 | 0.4 | -0.4 | 28 | -2.8 |
| | -100 | 0.3 | -0.3 | 21 | -2.1 |
| | -75 | 0.2 | -0.2 | 20 | -2 |
| | -50 | 0.3 | -0.3 | 0 | 0 |
| | -25 | 0.6 | -0.6 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.5 | -0.5 | 10 | -1 |
| | 50 | 0.4 | -0.4 | 13 | -1.3 |
| | 75 | 0.1 | -0.1 | 0 | 0 |
| | 100 | 0 | 0 | 20 | -2 |
| | 125 | 0.2 | -0.2 | 24 | -2.4 |
| | 150 | 0.3 | -0.3 | 45 | -4.5 |
| | 175 | 0.8 | -0.8 | 58 | -5.8 |



KM 2+175

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.3 | -0.3 | 70 | -7 |
| | -150 | 0.7 | -0.7 | 38 | -3.8 |
| | -125 | 0.7 | -0.7 | 30 | -3 |
| | -100 | 0.8 | -0.8 | 25 | -2.5 |
| | -75 | 0.6 | -0.6 | 20 | -2 |
| | -50 | 0.4 | -0.4 | 5 | -0.5 |
| | -25 | 0.5 | -0.5 | 8 | -0.8 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.4 | -0.4 | 12 | -1.2 |
| | 50 | 0.9 | -0.9 | 0 | 0 |
| | 75 | 0.9 | -0.9 | 5 | -0.5 |
| | 100 | 0.5 | -0.5 | 23 | -2.3 |
| | 125 | 0.5 | -0.5 | 50 | -5 |
| | 150 | 0.4 | -0.4 | 18 | -1.8 |
| | 175 | 0.7 | -0.7 | 90 | -9 |



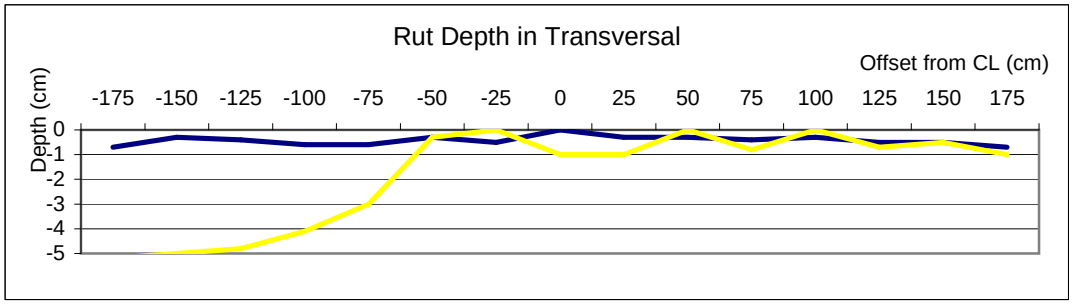
Northern Economic Corridor Project
Rural Access Roads Package 1 and SEACAP17
Pavement Inspection use of Straight Edge

Access Road No.: 8 Pavement type: Sand Seal

KM 2+185

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

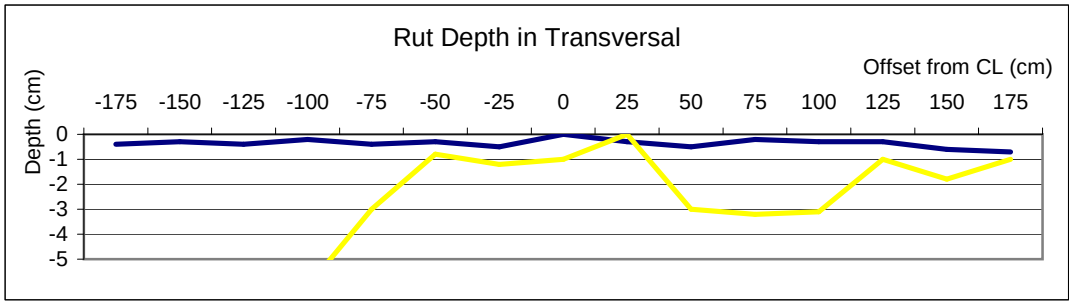
| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.7 | -0.7 | 52 | -5.2 |
| | -150 | 0.3 | -0.3 | 50 | -5 |
| | -125 | 0.4 | -0.4 | 48 | -4.8 |
| | -100 | 0.6 | -0.6 | 41 | -4.1 |
| | -75 | 0.6 | -0.6 | 30 | -3 |
| | -50 | 0.3 | -0.3 | 3 | -0.3 |
| | -25 | 0.5 | -0.5 | 0 | 0 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 10 | -1 |
| | 50 | 0.3 | -0.3 | 0 | 0 |
| | 75 | 0.4 | -0.4 | 8 | -0.8 |
| | 100 | 0.3 | -0.3 | 0 | 0 |
| | 125 | 0.5 | -0.5 | 7 | -0.7 |
| | 150 | 0.5 | -0.5 | 5 | -0.5 |
| | 175 | 0.7 | -0.7 | 10 | -1 |



KM 2+195

Measured by: Khambone Date: 29/08/07
Checked by: Singthong Page

| Side | Offset from CL (cm) | Rut depth (cm) | | Rut depth (cm) | |
|---|---|---|---|---|---|
| Left Hand Side | -175 | 0.4 | -0.4 | 95 | -9.5 |
| | -150 | 0.3 | -0.3 | 82 | -8.2 |
| | -125 | 0.4 | -0.4 | 73 | -7.3 |
| | -100 | 0.2 | -0.2 | 61 | -6.1 |
| | -75 | 0.4 | -0.4 | 30 | -3 |
| | -50 | 0.3 | -0.3 | 8 | -0.8 |
| | -25 | 0.5 | -0.5 | 12 | -1.2 |
| CL | 0 | 0 | 0 | 10 | -1 |
| Right Hand Side | 25 | 0.3 | -0.3 | 0 | 0 |
| | 50 | 0.5 | -0.5 | 30 | -3 |
| | 75 | 0.2 | -0.2 | 32 | -3.2 |
| | 100 | 0.3 | -0.3 | 31 | -3.1 |
| | 125 | 0.3 | -0.3 | 10 | -1 |
| | 150 | 0.6 | -0.6 | 18 | -1.8 |
| | 175 | 0.7 | -0.7 | 10 | -1 |



# Appendix D

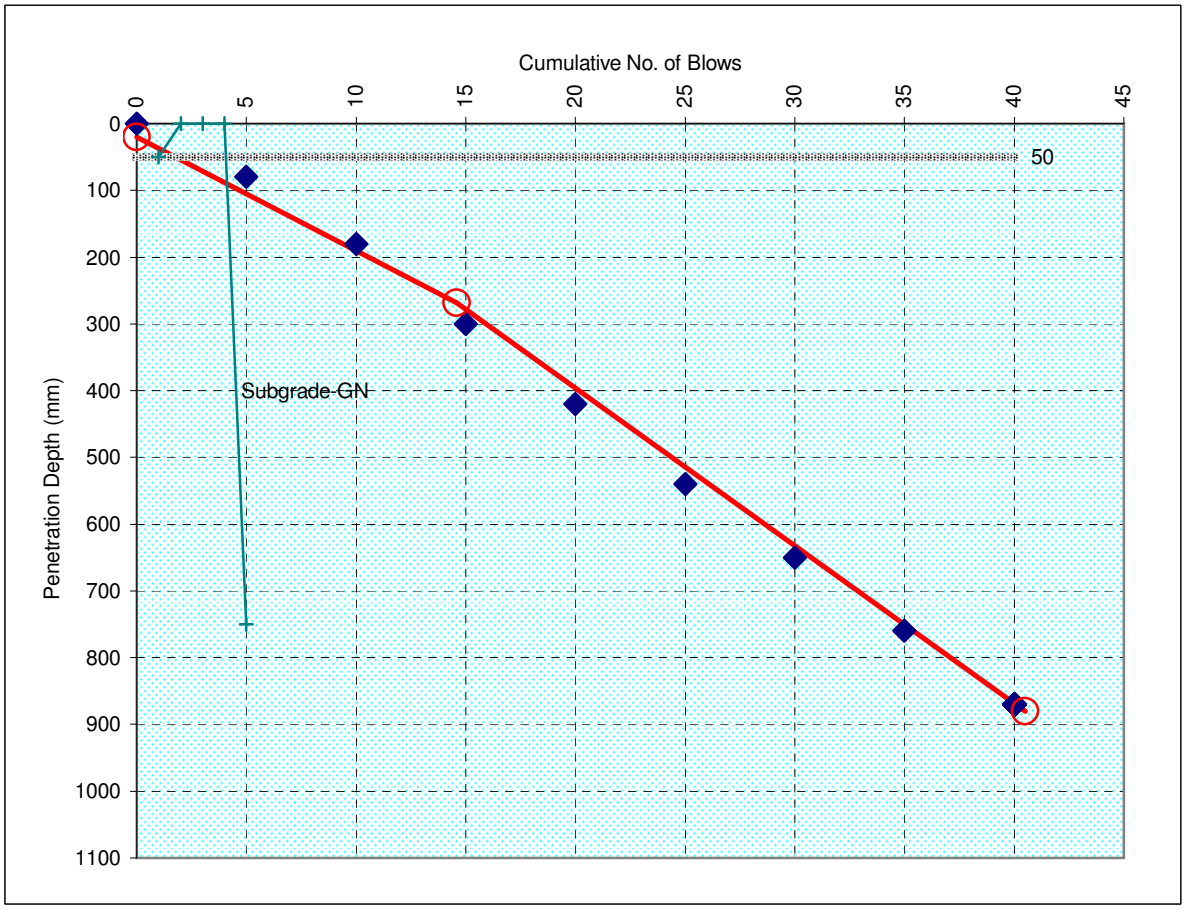
## Dynamic Cone Penetrometer (DCP) Results

# Road Code 1-1

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-1 | | |
| Chainage: | 0+505 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 269 | 249 | 15 | 15 |
| Layer 3 | 269 | 880 | 611 | 41 | 11 |
| Layer 4 | | | | | |

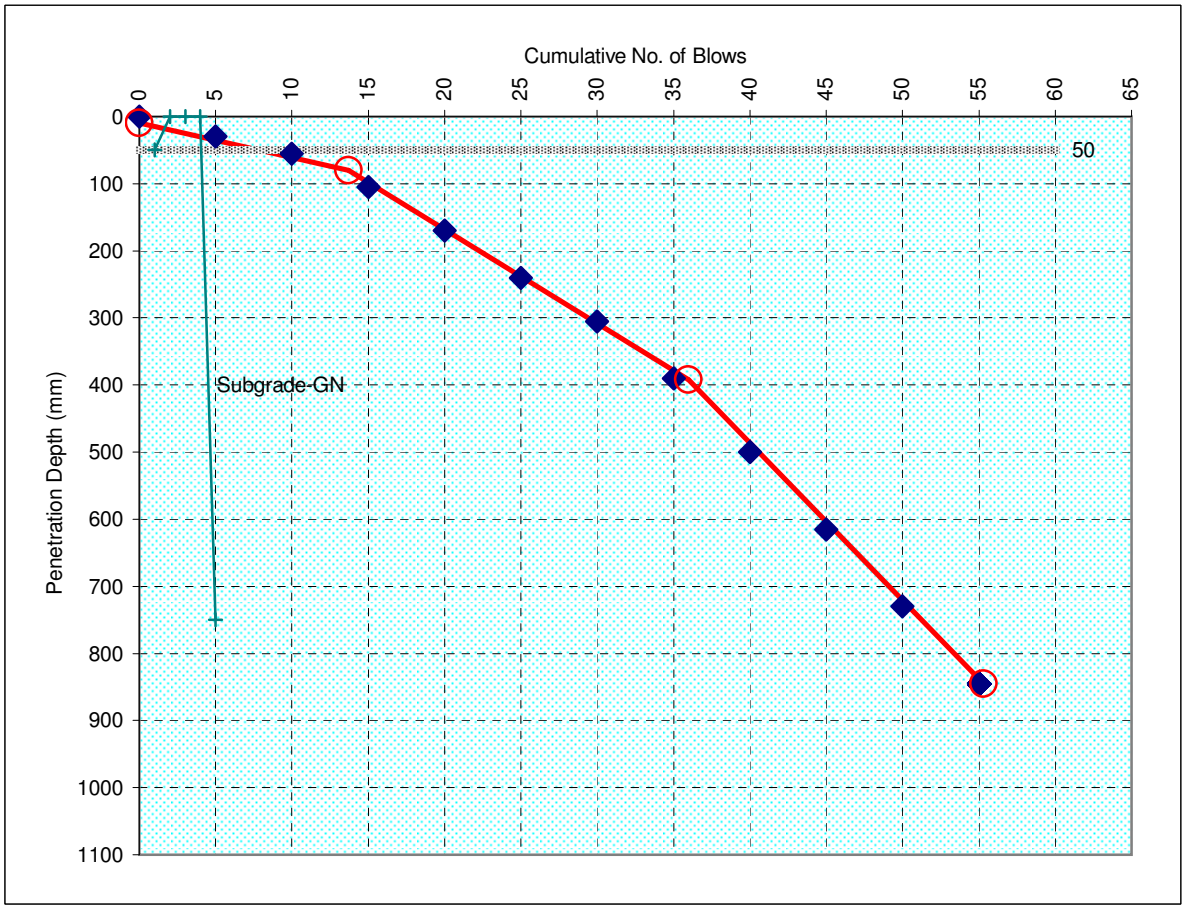
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 10 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-1 | | |
| Chainage: | 0+555 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 80 | 70 | 14 | 54 |
| Layer 3 | 80 | 392 | 312 | 36 | 19 |
| Layer 4 | 392 | 845 | 453 | 55 | 11 |
| Layer 5 | | | | | |

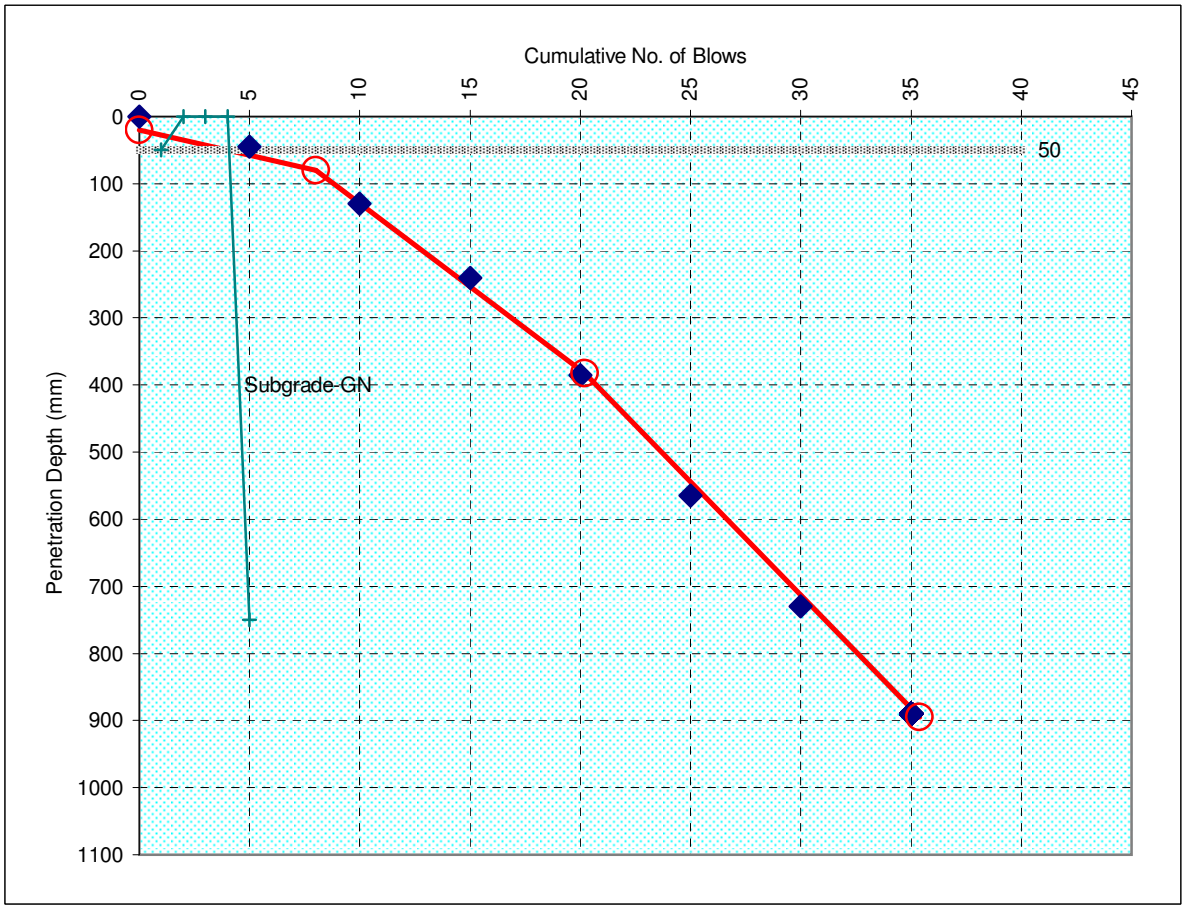
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 50 | 17 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-1 | | |
| Chainage: | 0+605 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 80 | 60 | 8 | 36 |
| Layer 3 | 80 | 383 | 303 | 20 | 10 |
| Layer 4 | 383 | 895 | 512 | 35 | 7 |
| Layer 5 | | | | | |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 9 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

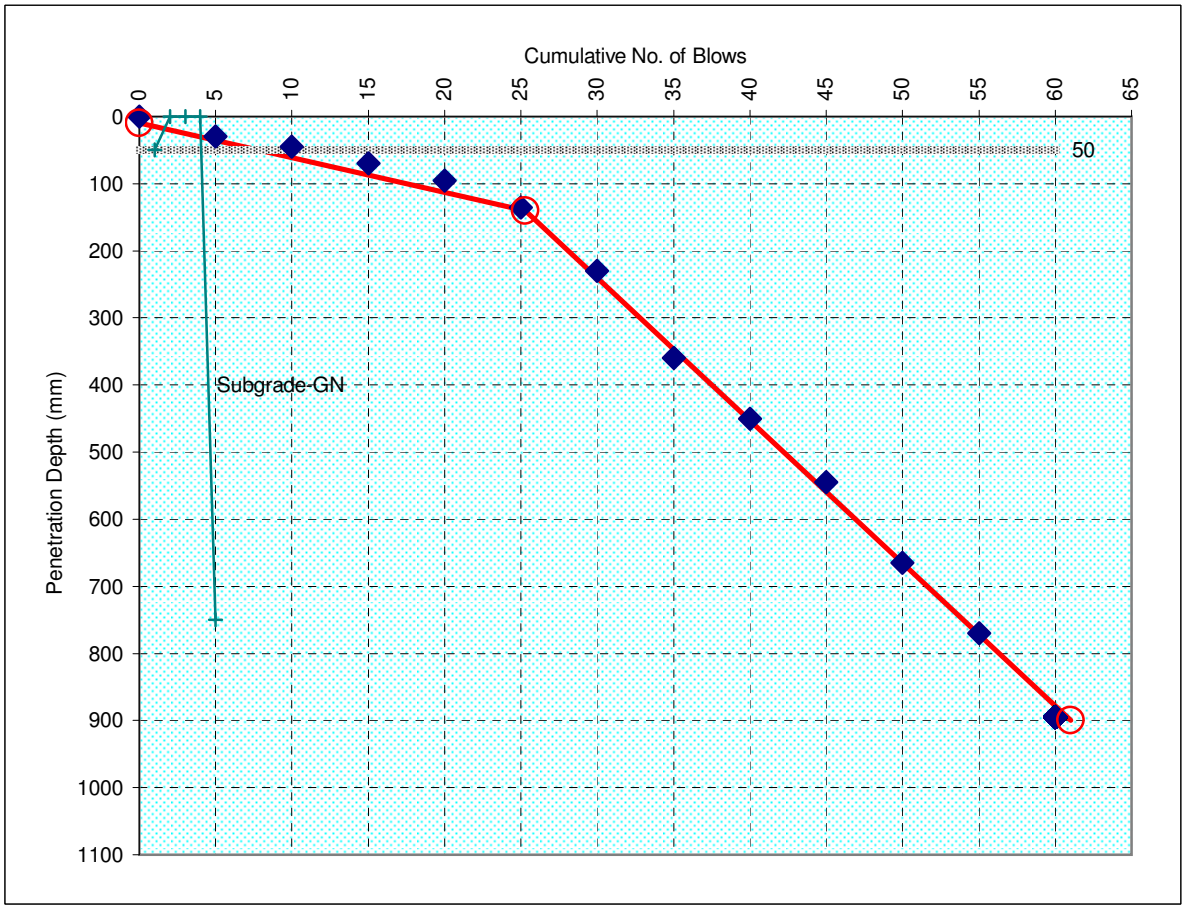
Operator: JM/VV

Road Code: 1-1

Chainage: 0+655 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 140 | 130 | 25 | 54 |
| Layer 3 | 140 | 900 | 760 | 61 | 12 |

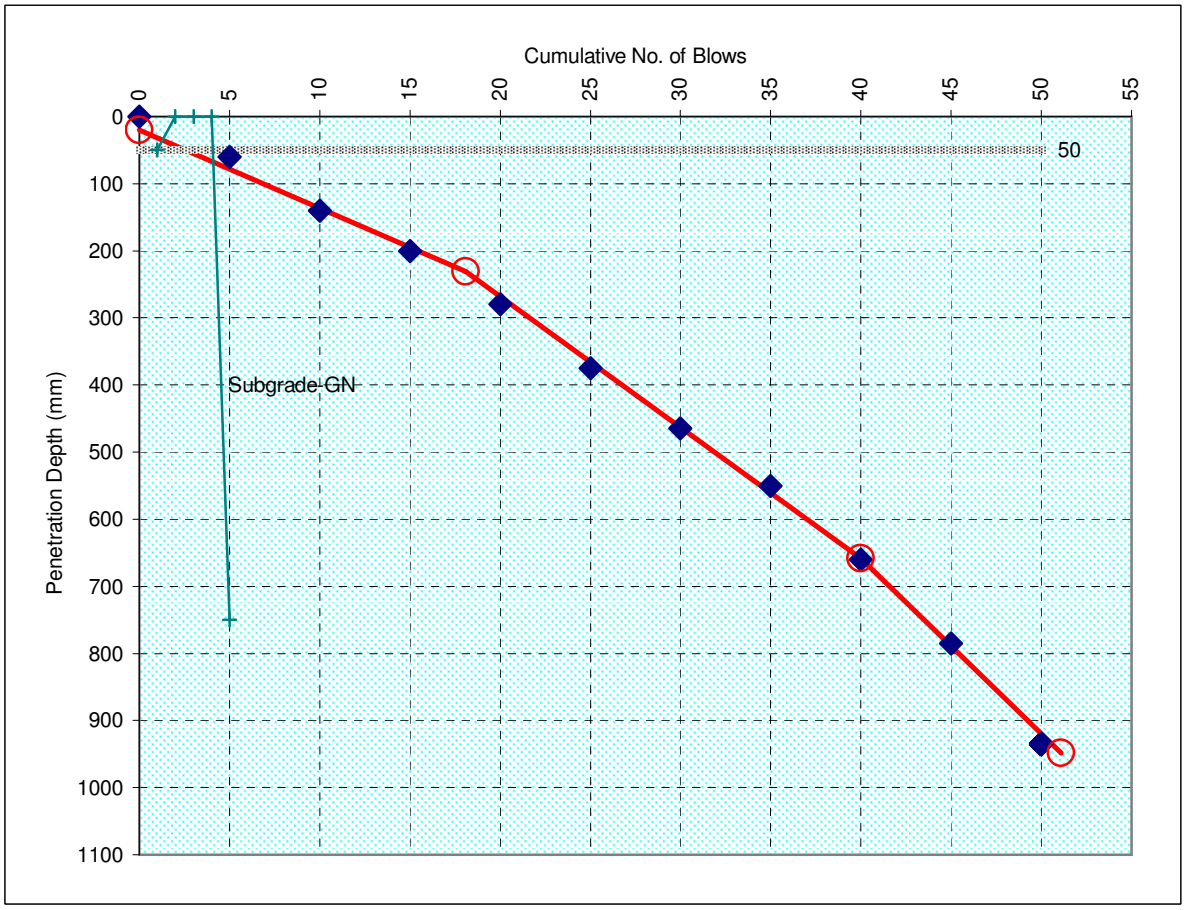
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 50 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-1 | | |
| Chainage: | 0+690 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 231 | 211 | 18 | 23 |
| Layer 3 | 231 | 658 | 427 | 40 | 13 |
| Layer 4 | 658 | 948 | 290 | 51 | 10 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

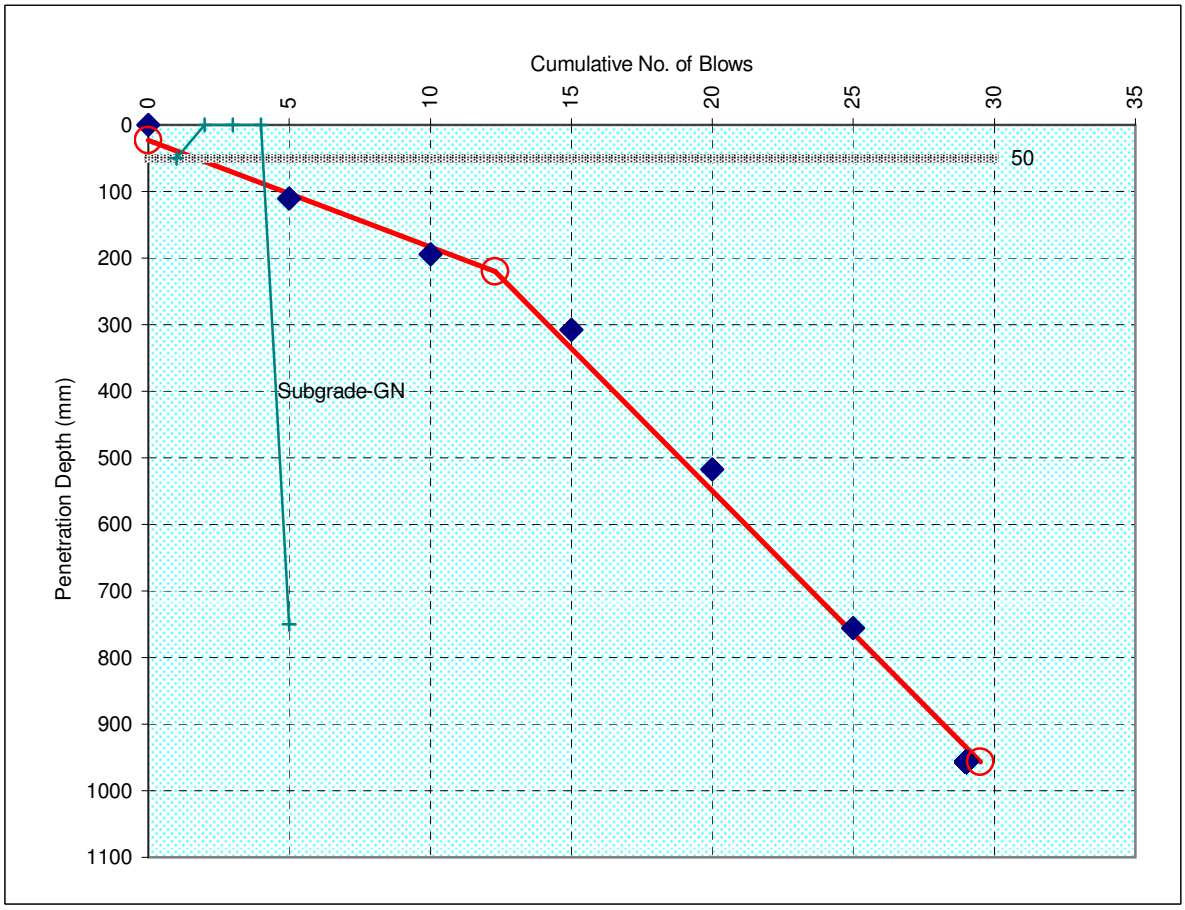
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 40 | 14 |

# Road Code 1-3

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-3 | | |
| Chainage: | 1+225 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 23 | 23 | 0 | Drilled |
| Layer 2 | 23 | 220 | 197 | 12 | 16 |
| Layer 3 | 220 | 957 | 737 | 30 | 6 |
| Layer 4 | | | | | |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 20 | 7 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

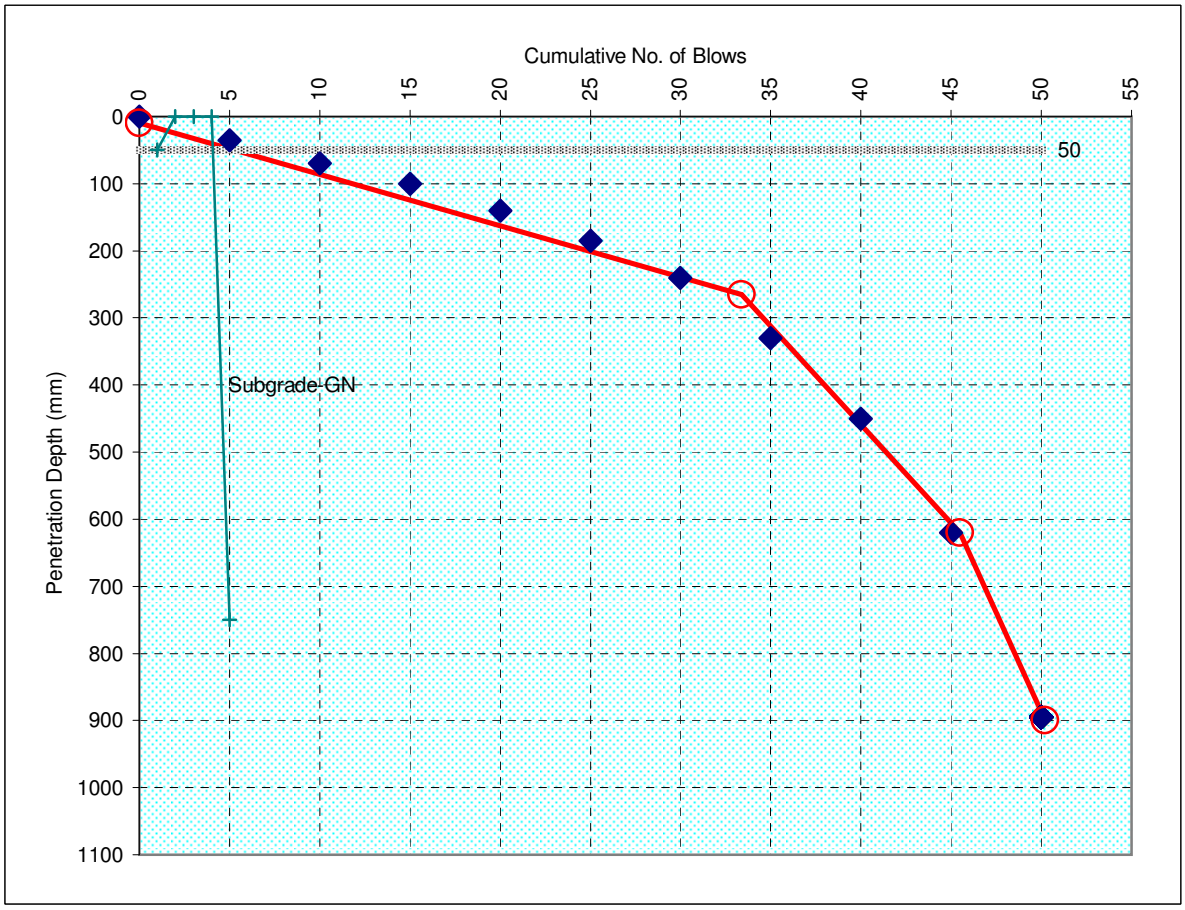
Operator: JM/VV

Road Code: 1-3

Chainage: 1+175 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 265 | 255 | 33 | 35 |
| Layer 3 | 265 | 620 | 355 | 46 | 8 |
| Layer 4 | 620 | 900 | 280 | 50 | 4 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

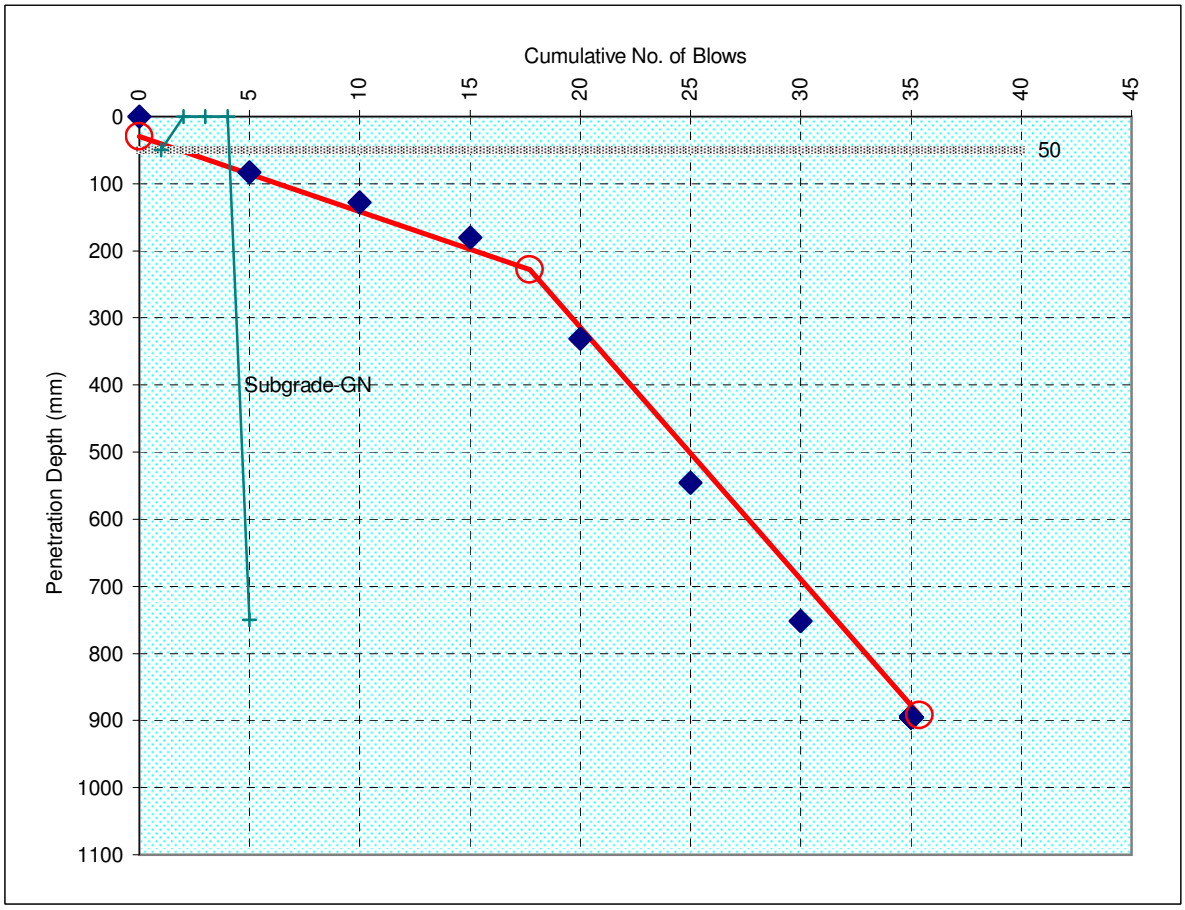
Operator: JM/VV

Road Code: 1-3

Chainage: 1+325 Location: 0 m Side: Right

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 30 | 30 | 0 | Drilled |
| Layer 2 | 30 | 228 | 198 | 18 | 24 |
| Layer 3 | 228 | 892 | 664 | 35 | 7 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

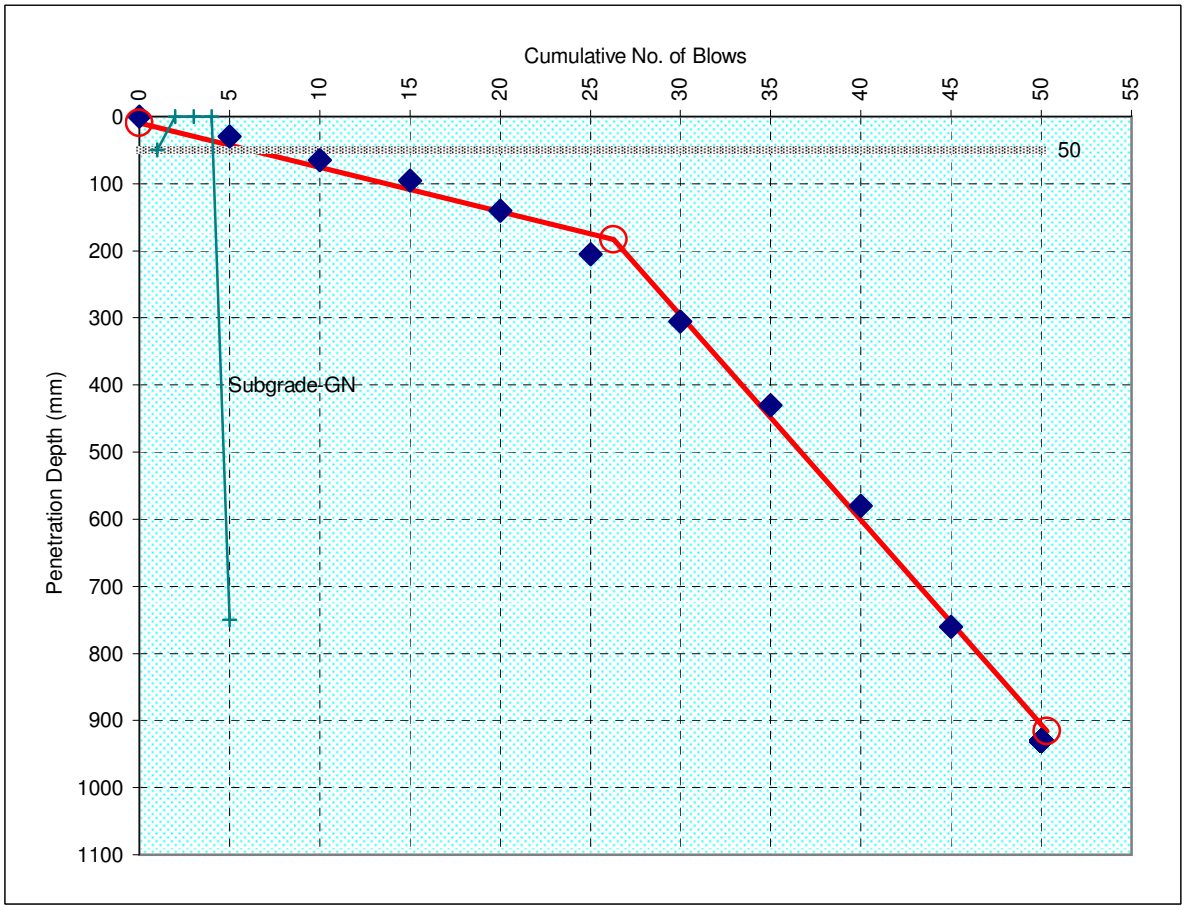
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 25 | 9 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-3 | | |
| Chainage: | 1+375 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 183 | 173 | 26 | 41 |
| Layer 3 | 183 | 916 | 733 | 50 | 8 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

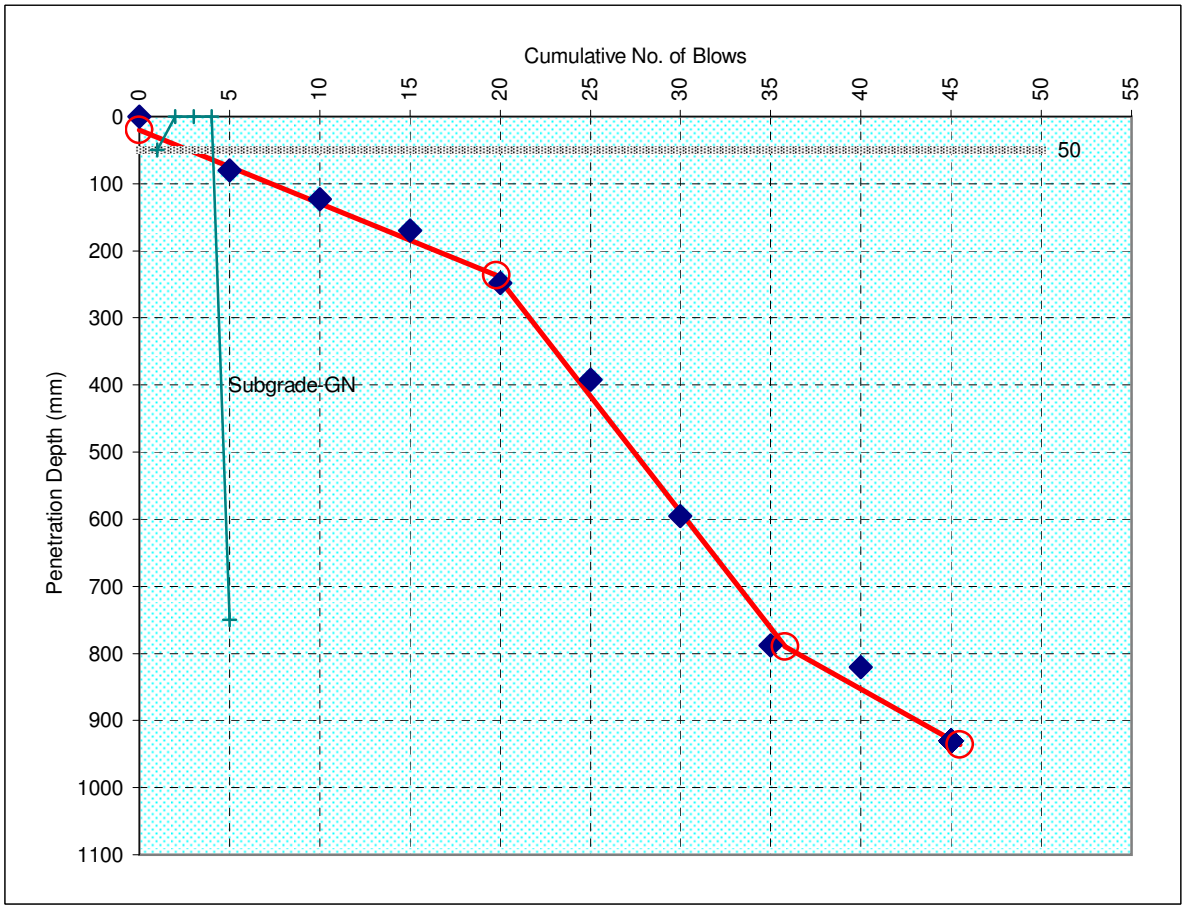
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 40 | 13 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 1-3 | | |
| Chainage: | 1+415 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 237 | 217 | 20 | 24 |
| Layer 3 | 237 | 790 | 553 | 36 | 7 |
| Layer 4 | 790 | 936 | 146 | 46 | 17 |
| Layer 5 | | | | | |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

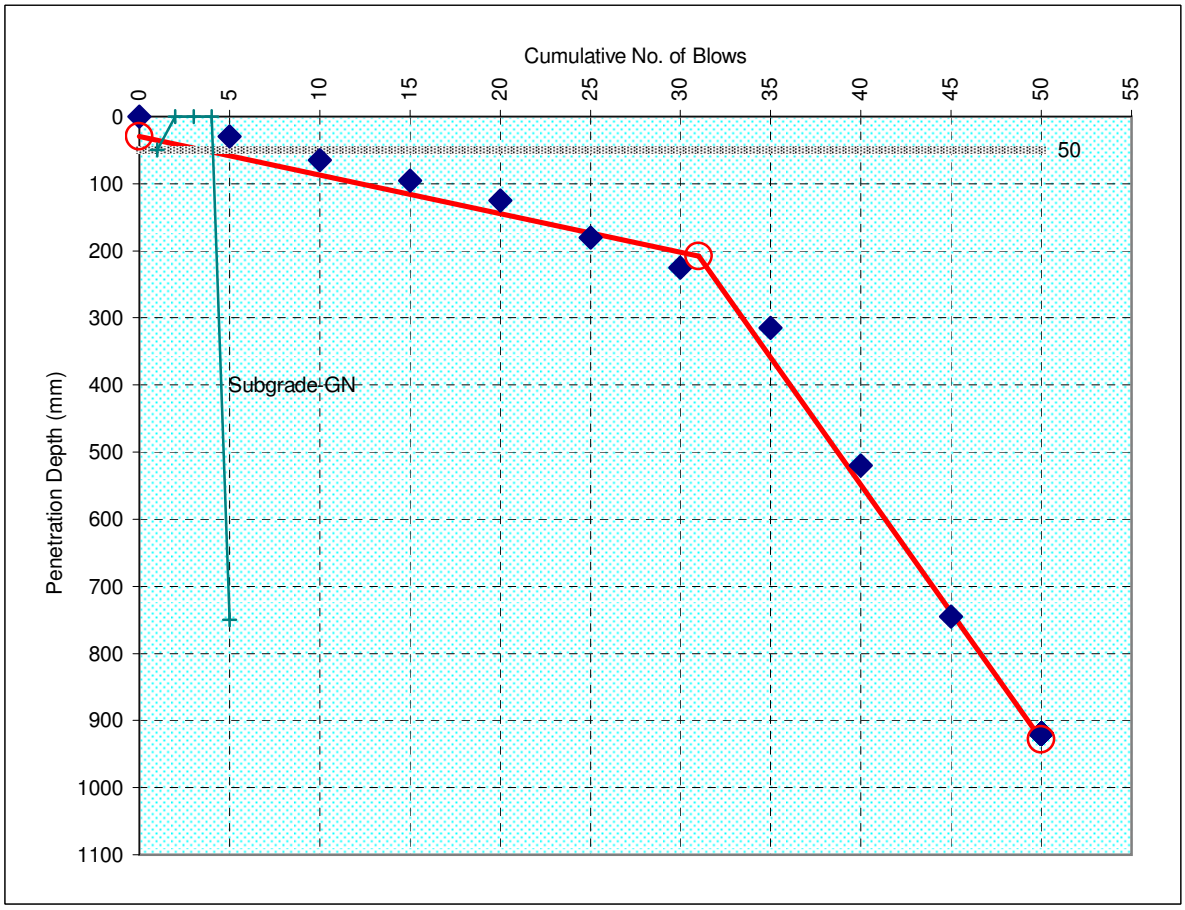
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 10 |

# Road Code 2

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 2 | | |
| Chainage: | 0+405 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 30 | 30 | 0 | Drilled |
| Layer 2 | 30 | 208 | 178 | 31 | 48 |
| Layer 3 | 208 | 928 | 720 | 50 | 6 |
| Layer 4 | | | | | |

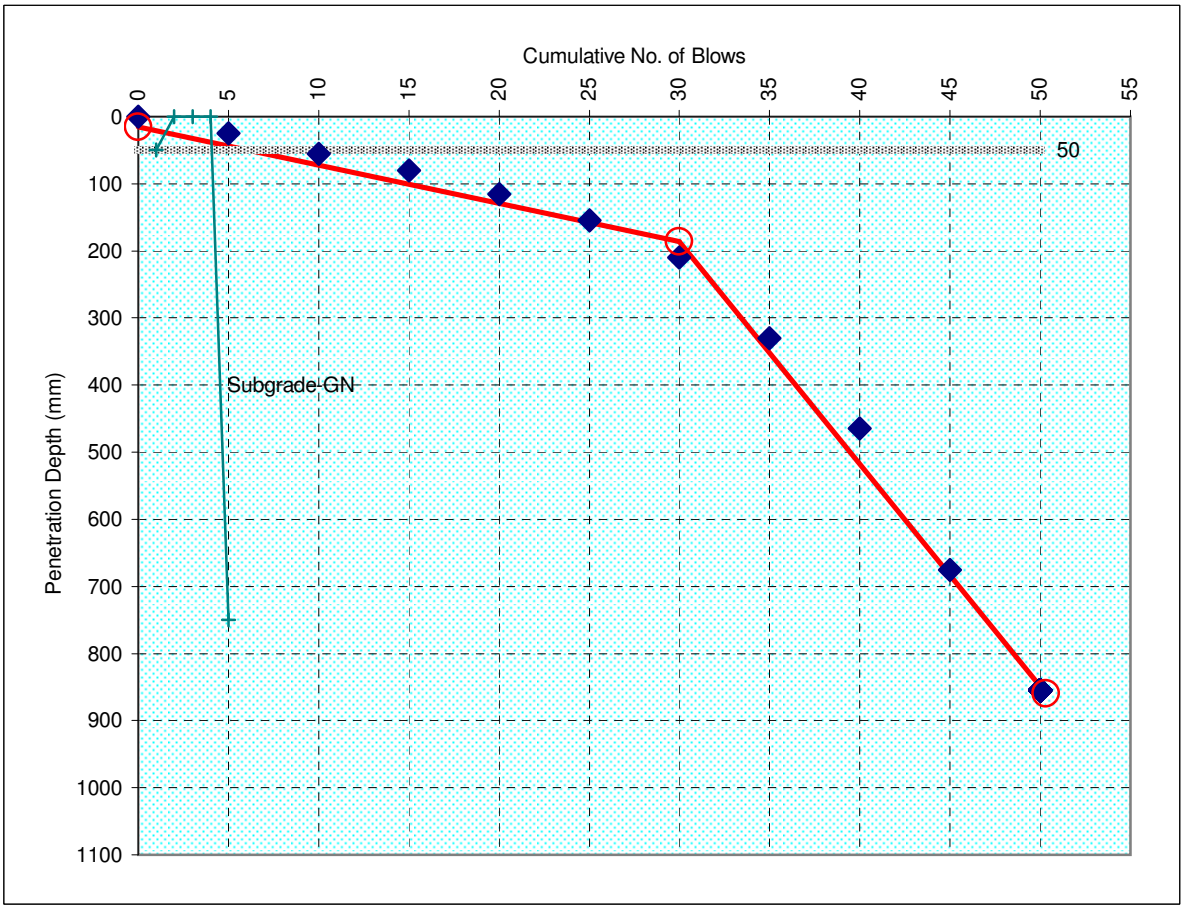
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 2 | | |
| Chainage: | 0+455 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 15 | 15 | 0 | Drilled |
| Layer 2 | 15 | 186 | 171 | 30 | 48 |
| Layer 3 | 186 | 860 | 674 | 50 | 7 |

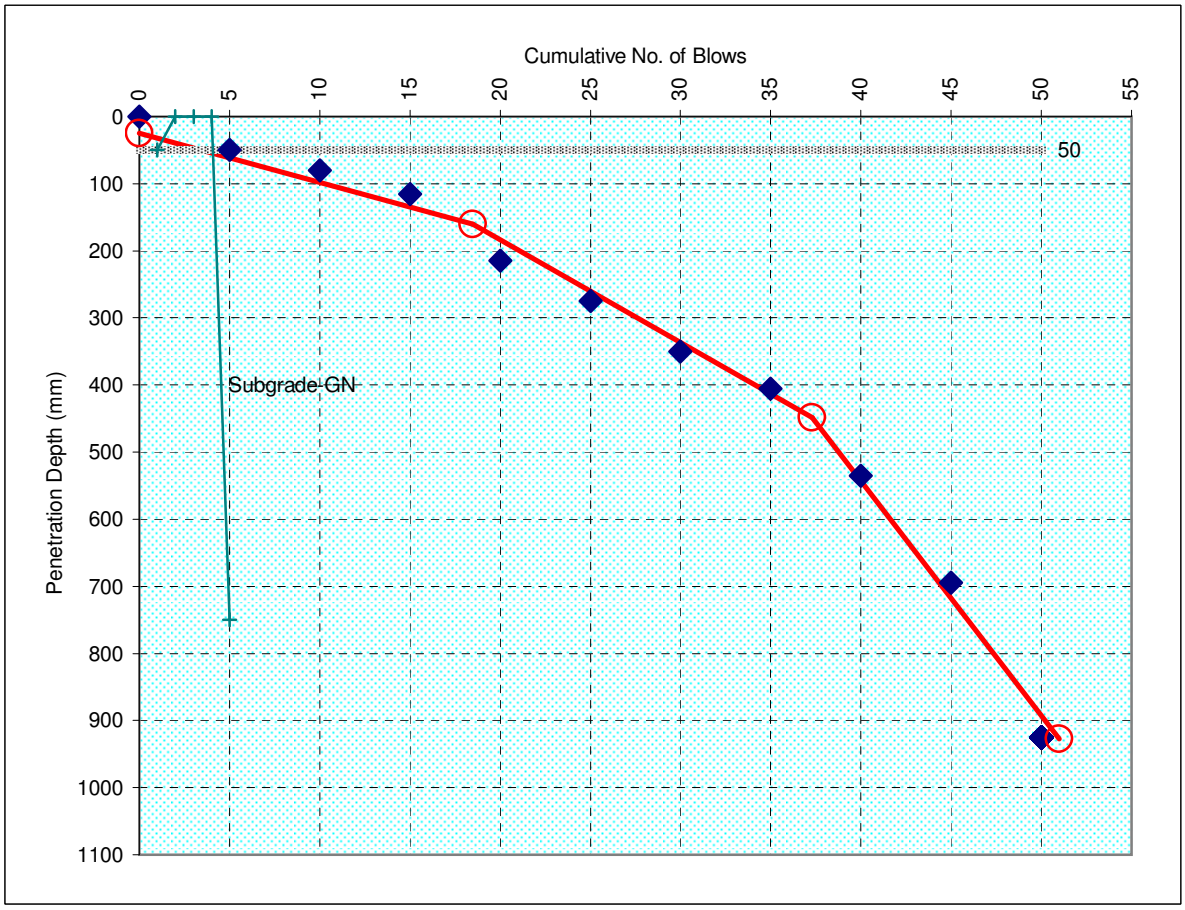
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 2 | | |
| Chainage: | 0+505 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *$Log_{10}$ (CBR) =* *2.48* *-1.057* *$Log_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 25 | 25 | 0 | Drilled |
| Layer 2 | 25 | 160 | 135 | 19 | 37 |
| Layer 3 | 160 | 448 | 288 | 37 | 17 |
| | 448 | 927 | 479 | 51 | 7 |

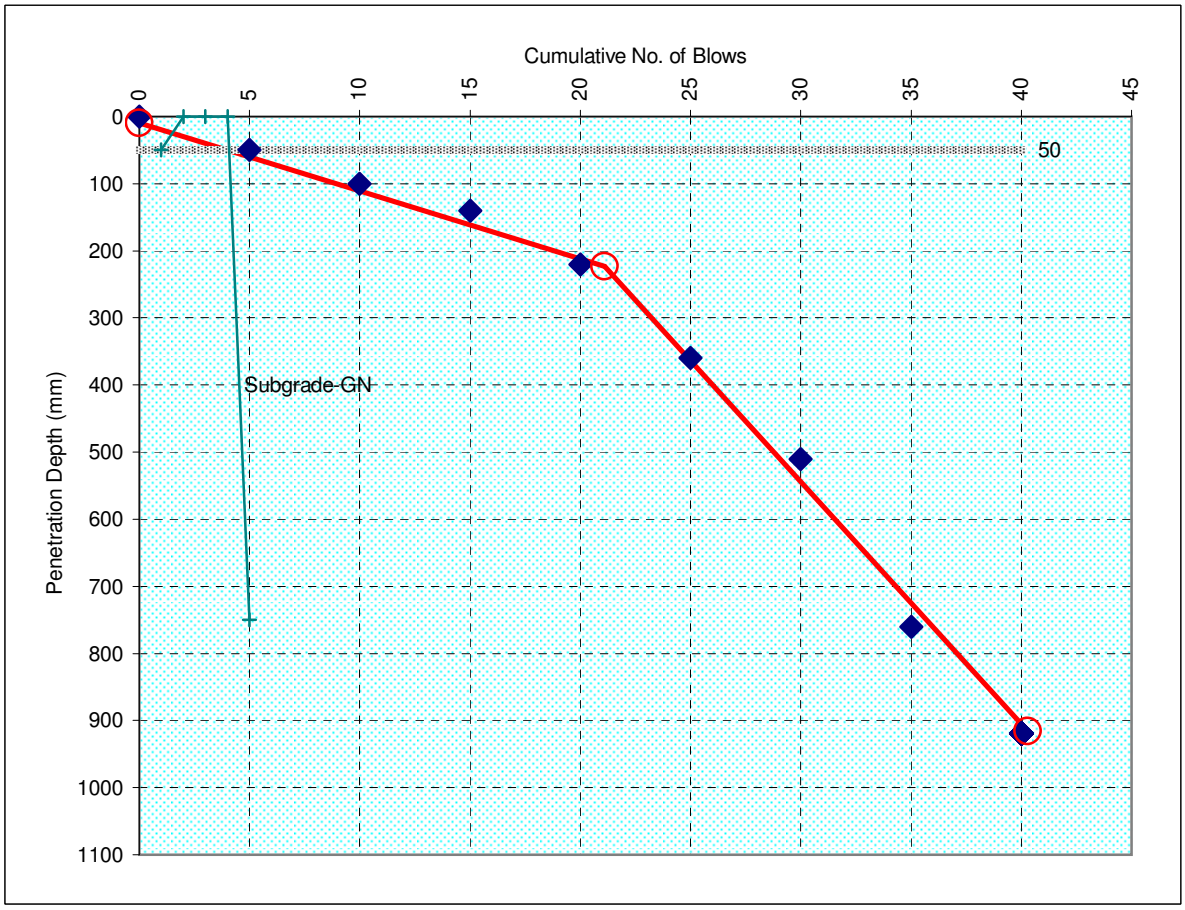
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 2 | | |
| Chainage: | 0+555 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 223 | 213 | 21 | 26 |
| Layer 3 | 223 | 916 | 693 | 40 | 7 |
| Layer 4 | | | | | |

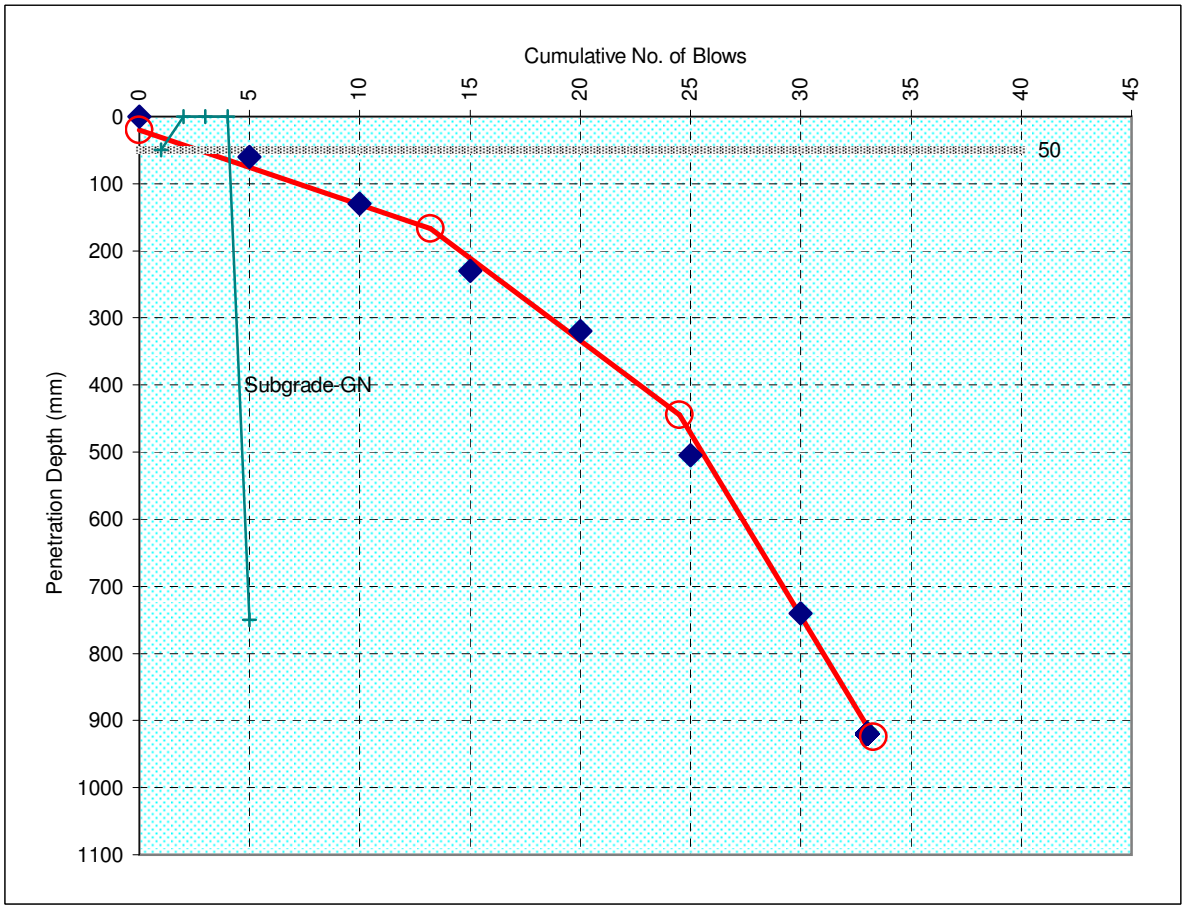
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 9 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 2 | | |
| Chainage: | 0+595 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 167 | 147 | 13 | 24 |
| Layer 3 | 167 | 445 | 278 | 25 | 10 |
| Layer 4 | 445 | 924 | 479 | 33 | 4 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

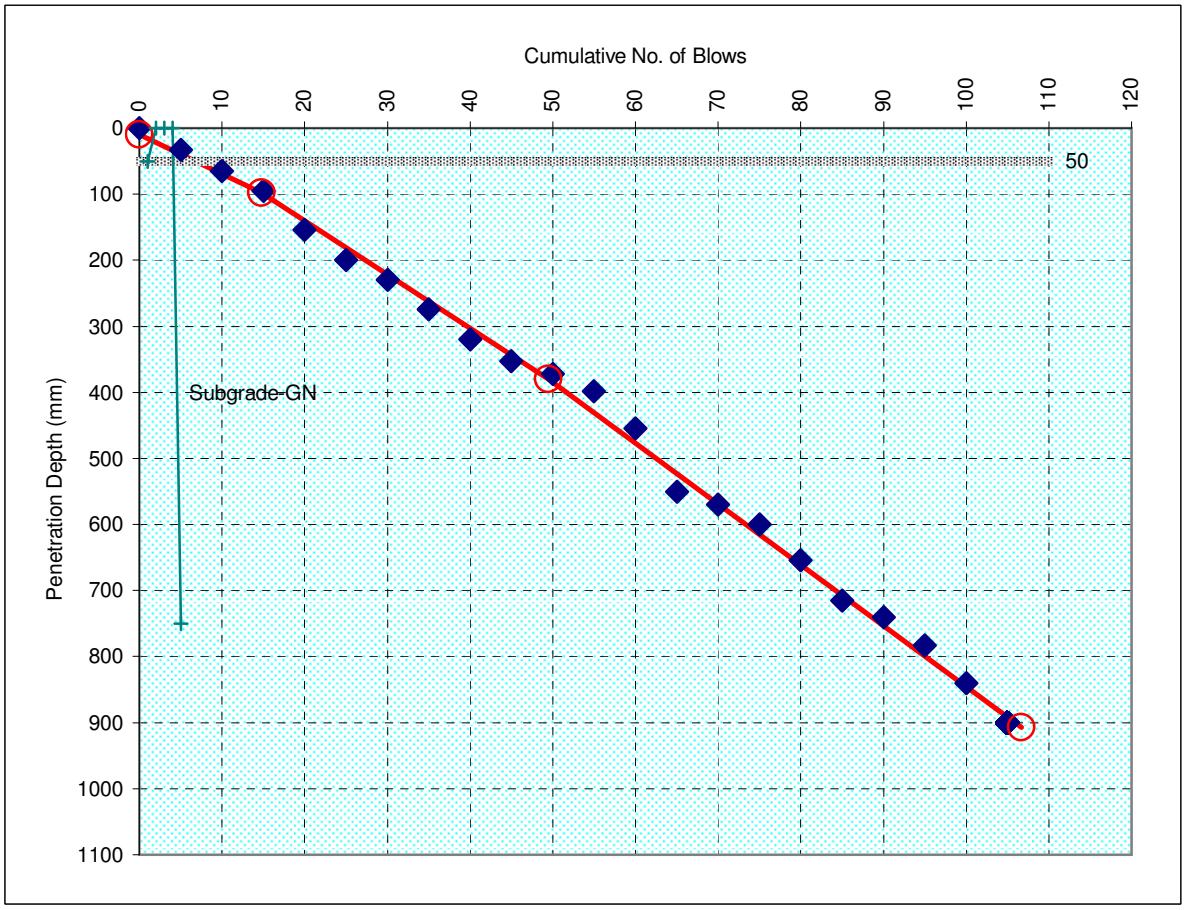
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 10 |

# Road Code 3.2

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+020 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 98 | 88 | 15 | 46 |
| Layer 3 | 98 | 380 | 282 | 50 | 33 |
| Layer 4 | 380 | 907 | 527 | 107 | 29 |

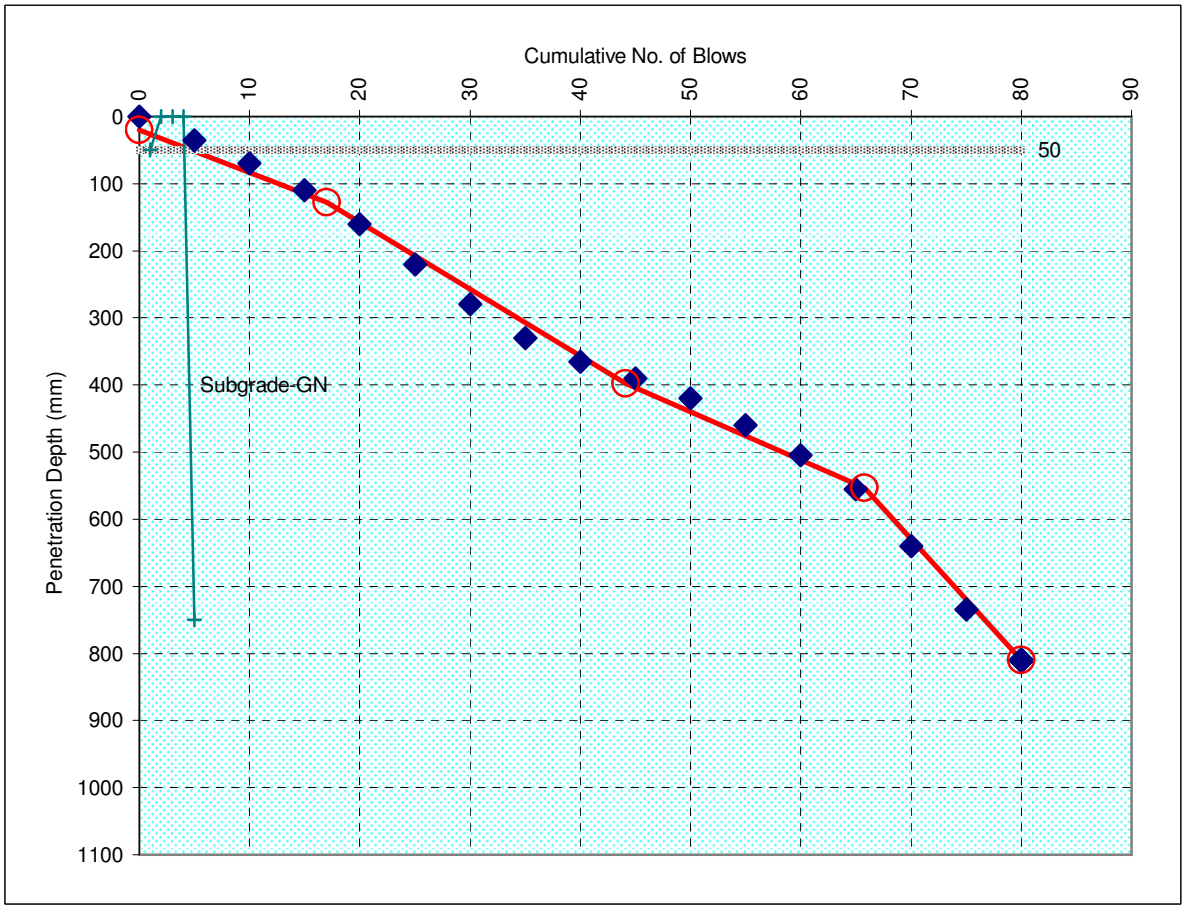
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 90 | 33 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+070 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 128 | 108 | 17 | 43 |
| Layer 3 | 128 | 398 | 270 | 44 | 27 |
| Layer 4 | 398 | 553 | 155 | 66 | 38 |
| Layer 5 | 553 | 810 | 257 | 80 | 14 |

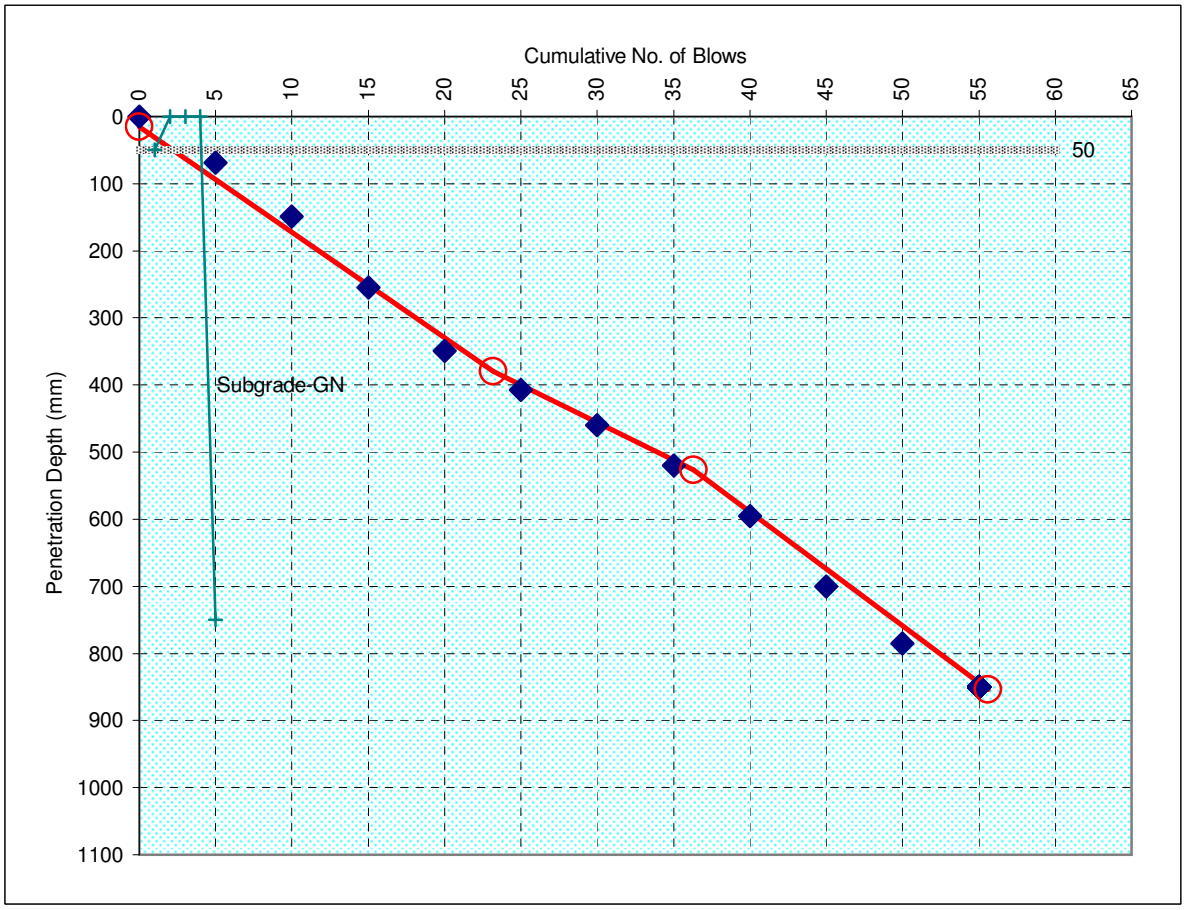
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 75 | 26 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+120 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 15 | 15 | 0 | Drilled |
| Layer 2 | 15 | 380 | 365 | 23 | 16 |
| Layer 3 | 380 | 527 | 147 | 36 | 23 |
| Layer 4 | 527 | 854 | 327 | 56 | 15 |

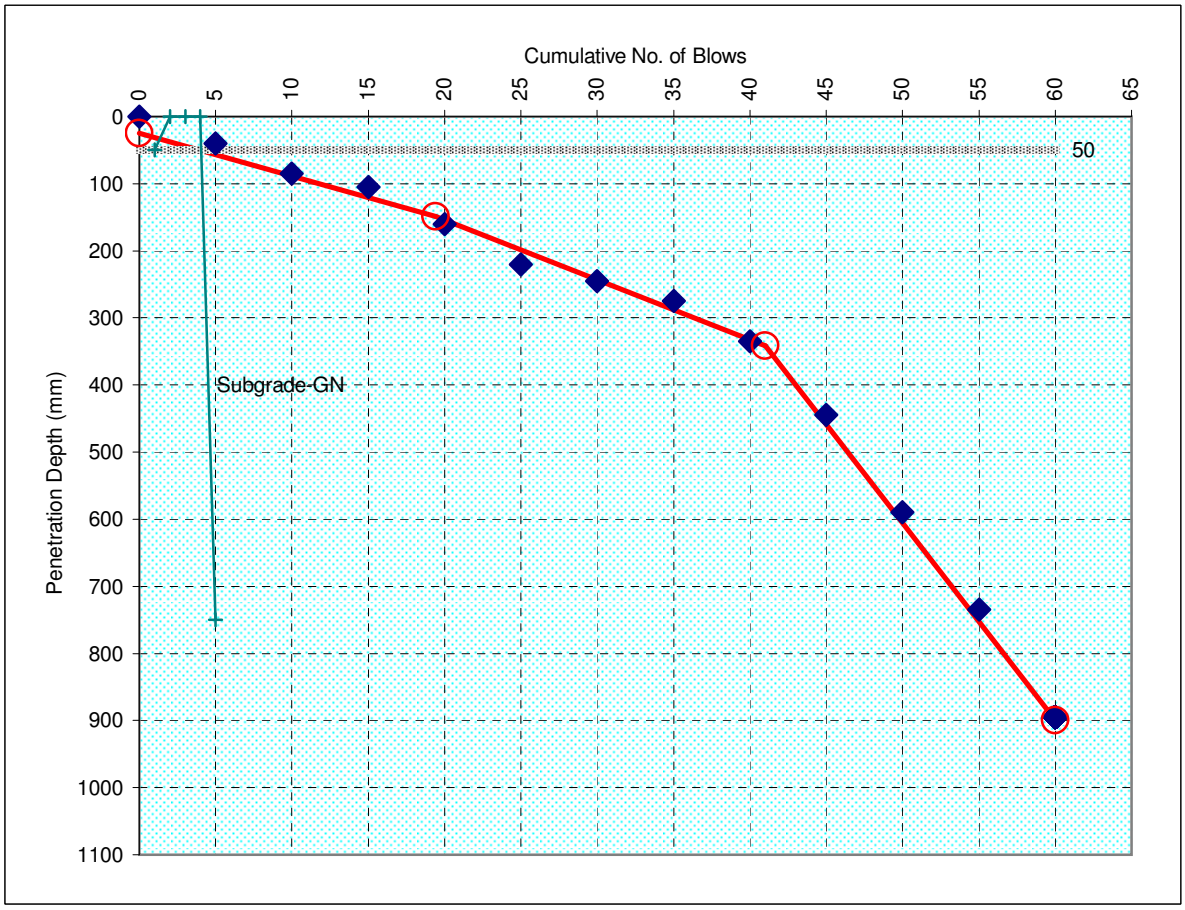
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 16 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+170 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 25 | 25 | 0 | Drilled |
| Layer 2 | 25 | 149 | 124 | 19 | 43 |
| Layer 3 | 149 | 342 | 193 | 41 | 30 |
| Layer 4 | 342 | 900 | 558 | 60 | 8 |

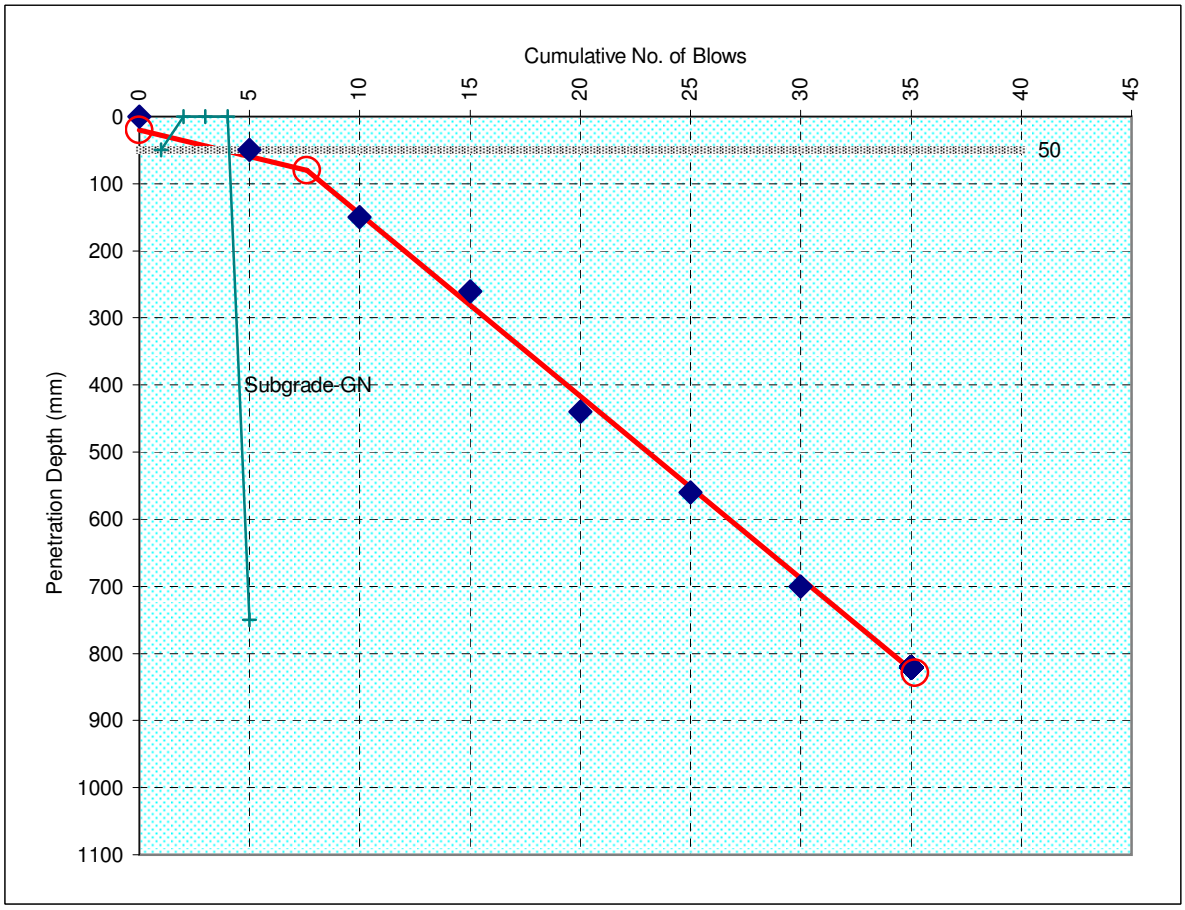
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 19 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+220 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 80 | 60 | 8 | 34 |
| Layer 3 | 80 | 829 | 749 | 35 | 9 |

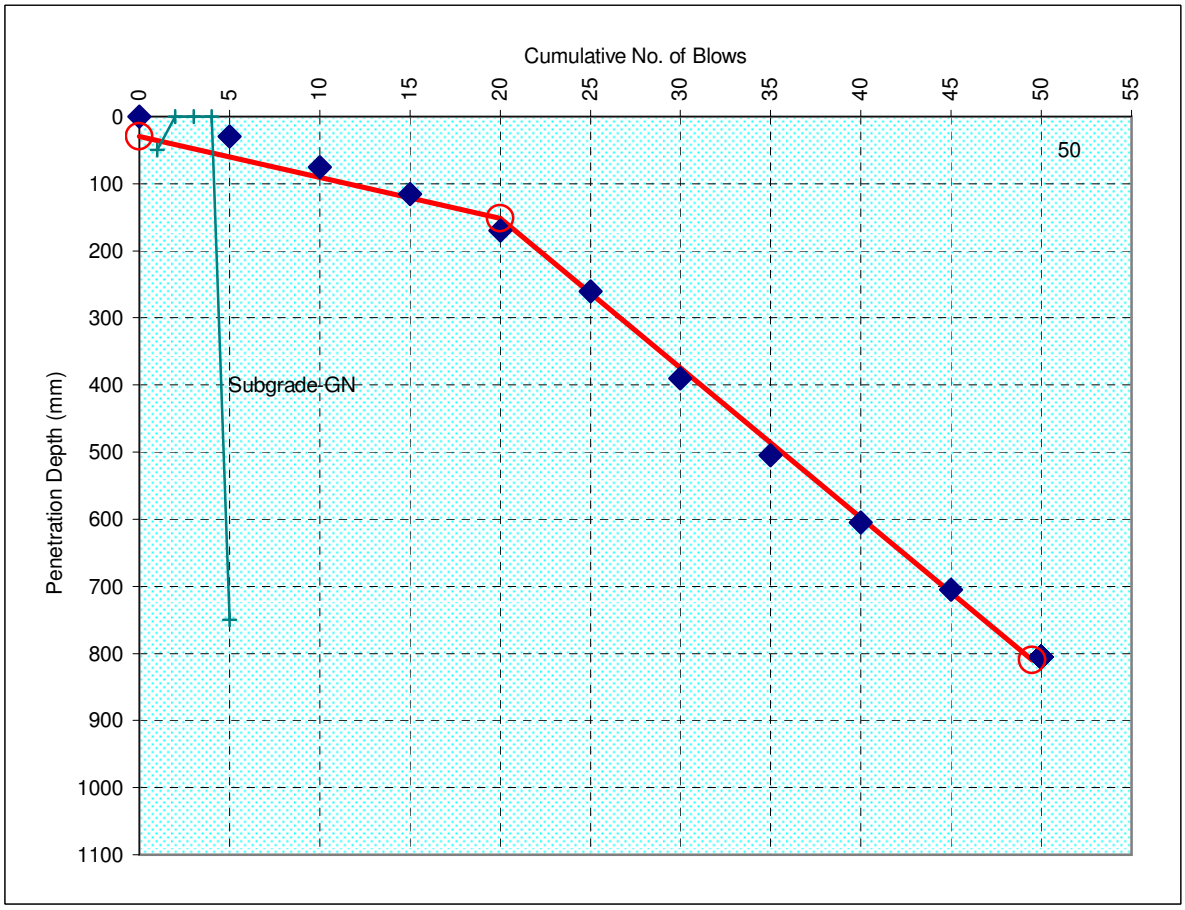
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 9 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+270 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Single Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 30 | 30 | 0 | Drilled |
| Layer 2 | 30 | 152 | 122 | 20 | 45 |
| Layer 3 | 152 | 810 | 658 | 50 | 11 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

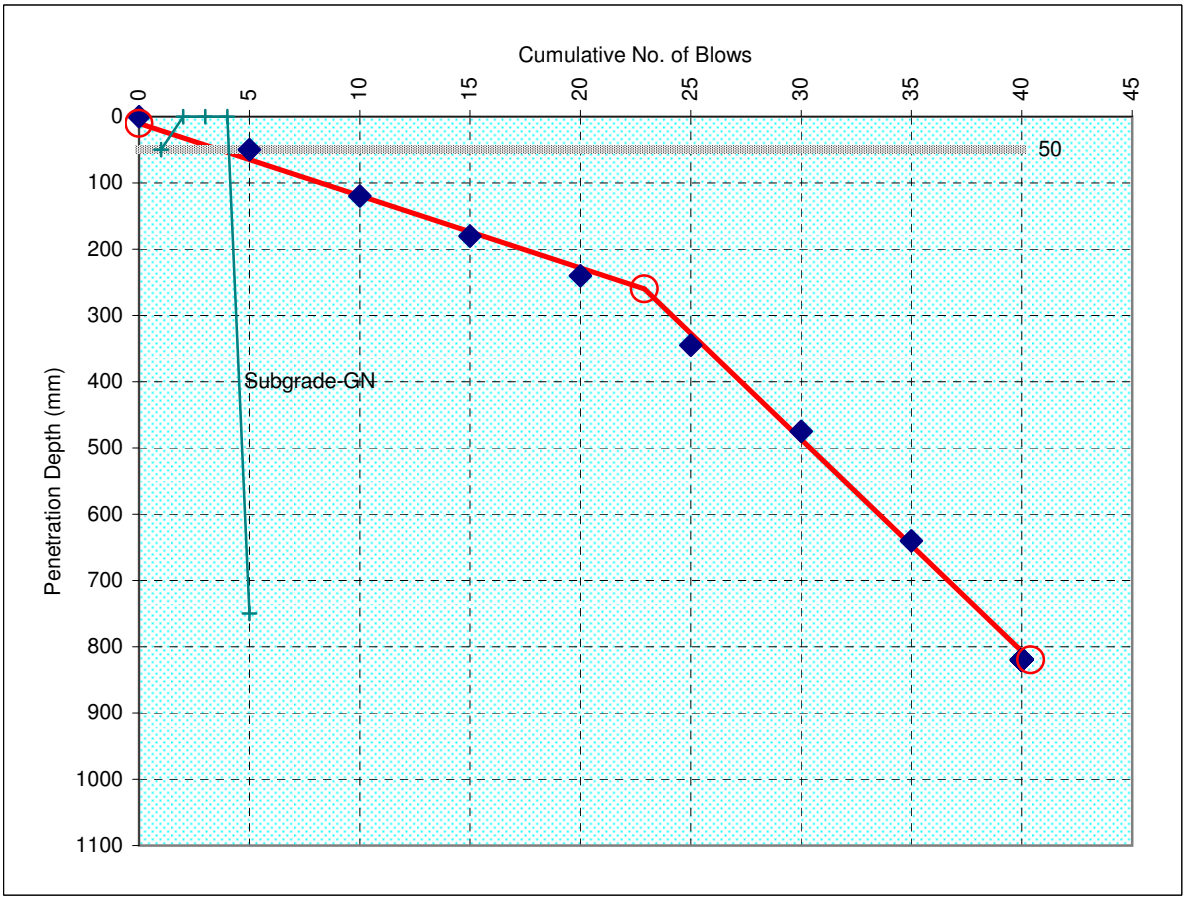
Operator: JM/VV

Road Code: 3.2

Chainage: 0+320 Location: 0 m Side: Right

Depth below Surface at test start: 0 mm

Description: Single Otta Seal 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 260 | 250 | 23 | 24 |
| Layer 3 | 260 | 820 | 560 | 40 | 8 |

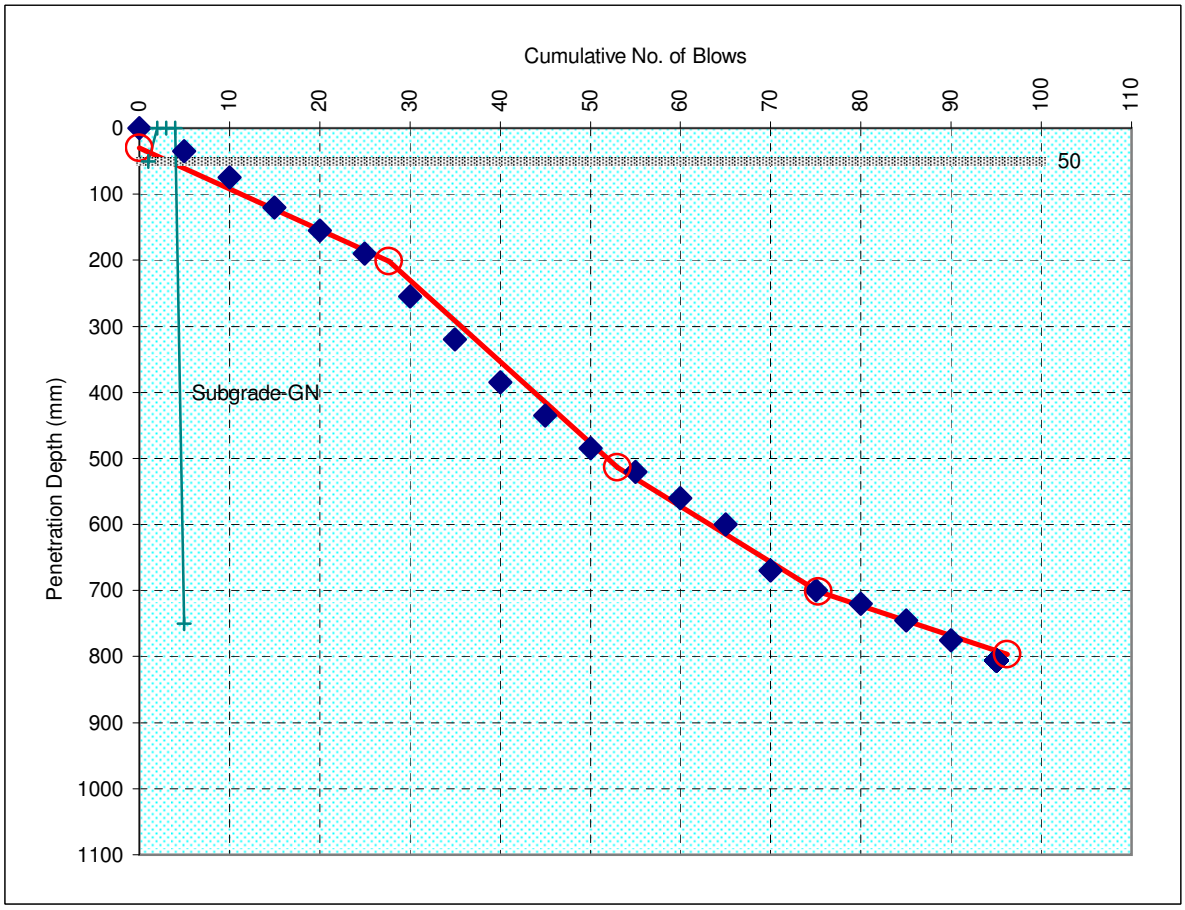
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 35 | 11 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+370 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Double Otta Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 30 | 30 | 0 | Drilled |
| Layer 2 | 30 | 202 | 172 | 28 | 44 |
| Layer 3 | 202 | 514 | 312 | 53 | 21 |
| Layer 4 | 514 | 702 | 188 | 75 | 32 |
| Layer 5 | 702 | 797 | 95 | 96 | 61 |

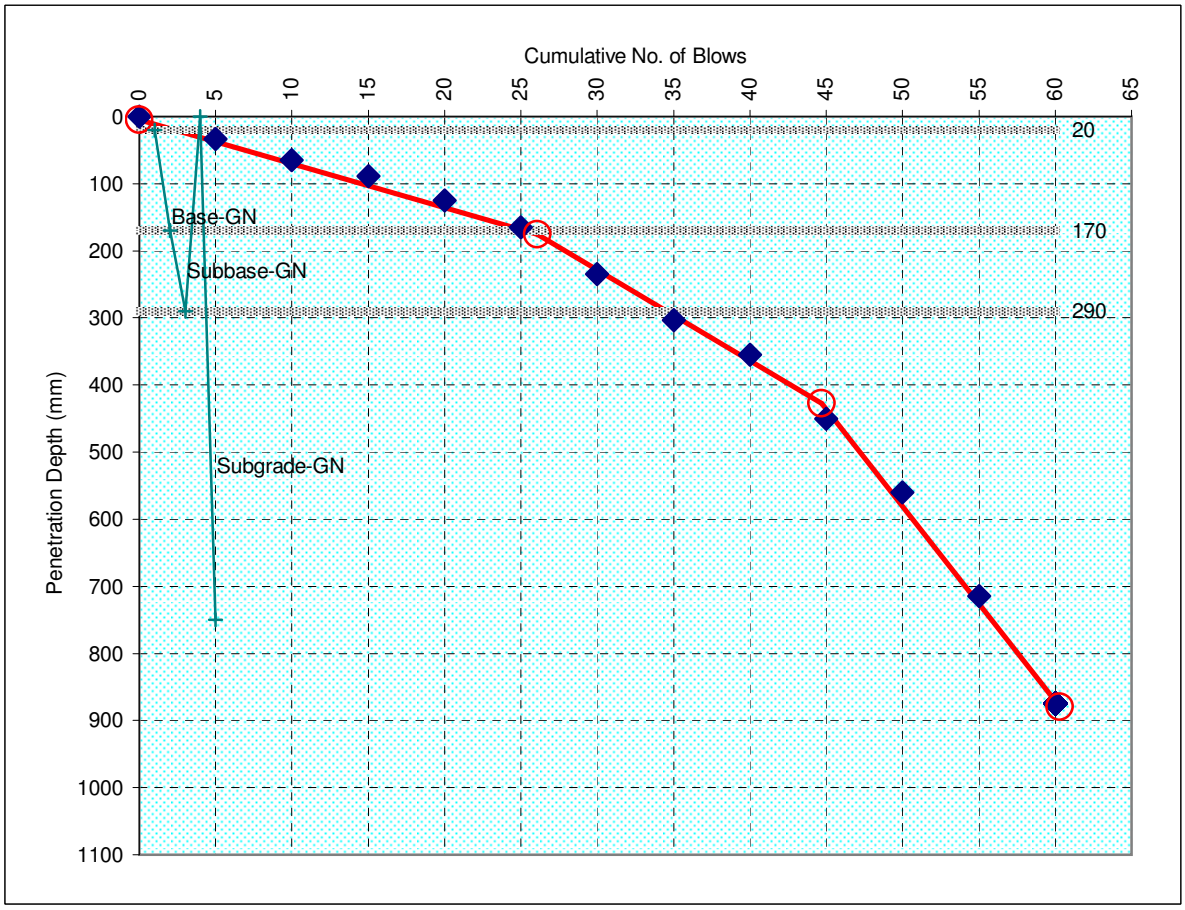
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 30 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+420 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Double Otta Seal | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 5 | 5 | 0 | Drilled |
| Layer 2 | 5 | 176 | 171 | 26 | 41 |
| Layer 3 | 176 | 427 | 251 | 45 | 19 |
| Layer 4 | 427 | 880 | 453 | 60 | 9 |

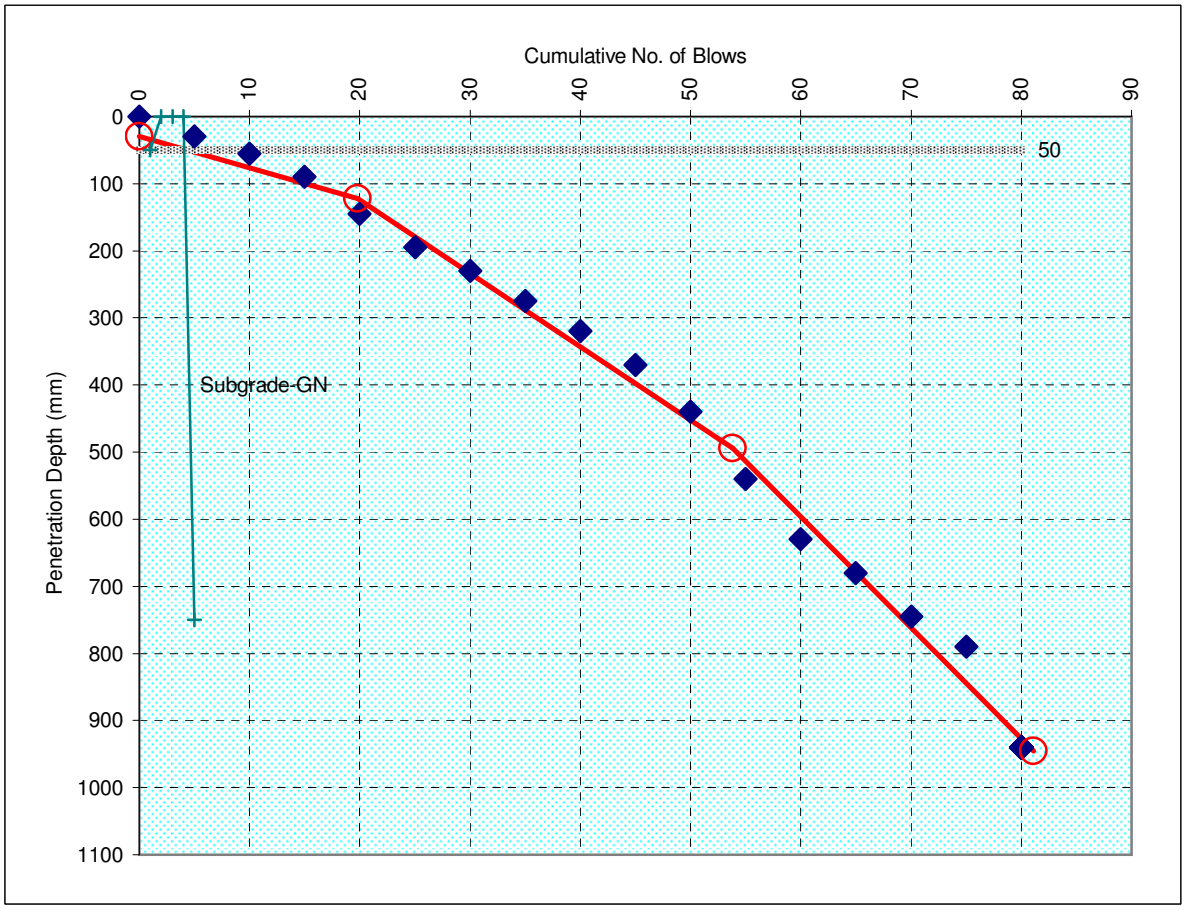
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 20 | 1 | |
| Base | GN | 170 | 25 | 44 |
| Subbase | GN | 290 | 30 | 10 |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 14 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+470 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Double Otta Seal | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 30 | 30 | 0 | Drilled |
| Layer 2 | 30 | 122 | 92 | 20 | 60 |
| Layer 3 | 122 | 494 | 372 | 54 | 24 |
| Layer 4 | 494 | 945 | 451 | 81 | 16 |

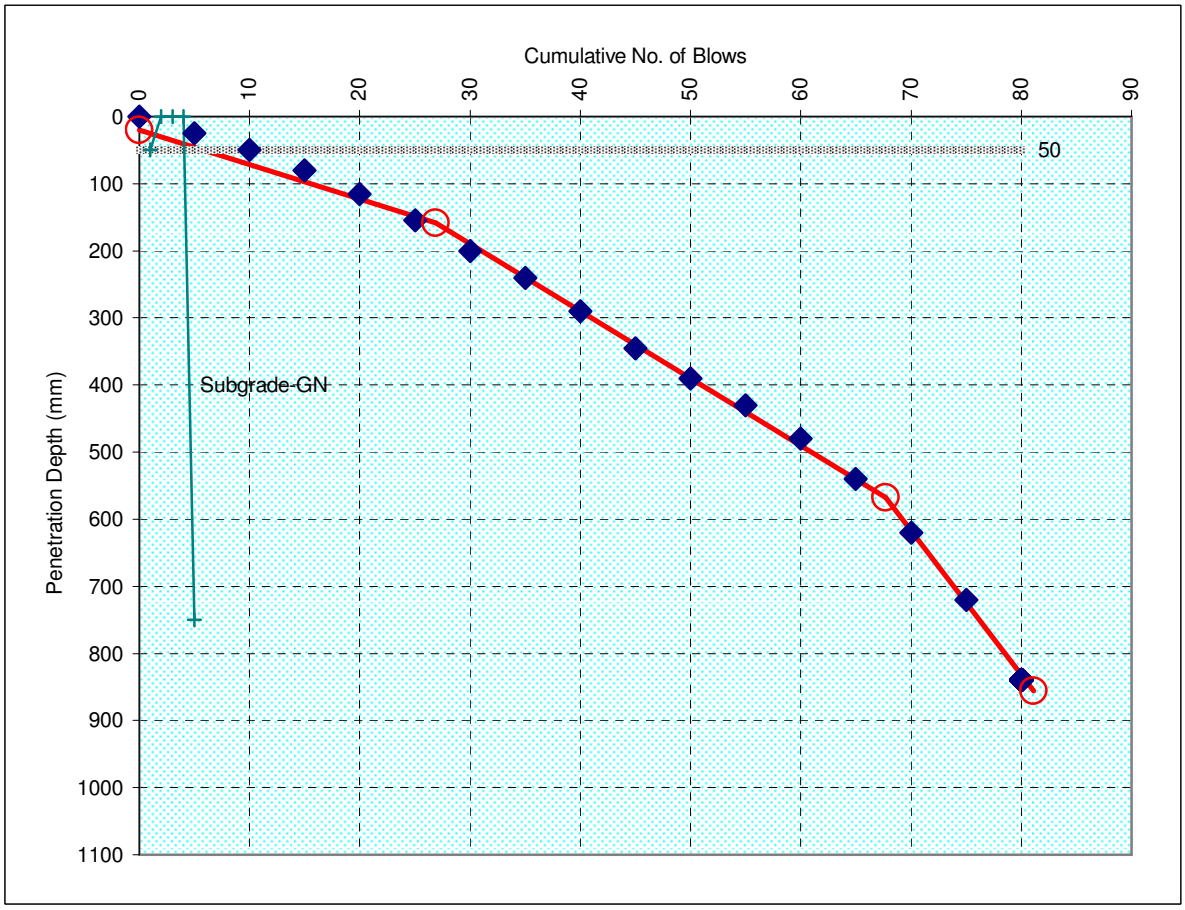
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 70 | 24 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+520 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Double Otta Seal | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 158 | 138 | 27 | 54 |
| Layer 3 | 158 | 568 | 410 | 68 | 26 |
| Layer 4 | 568 | 856 | 288 | 81 | 12 |

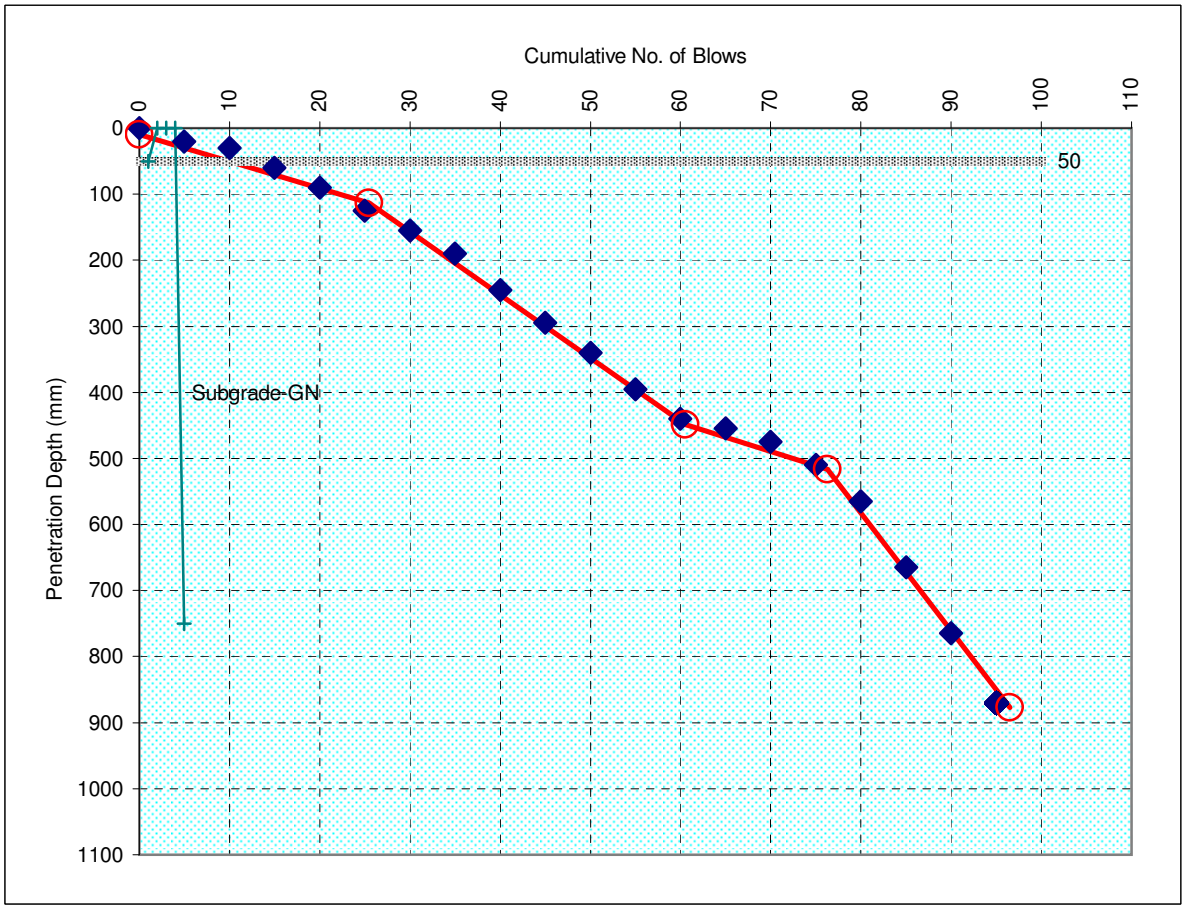
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 75 | 24 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+570 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 113 | 103 | 26 | 69 |
| Layer 3 | 113 | 449 | 336 | 61 | 28 |
| Layer 4 | 449 | 517 | 68 | 76 | 65 |
| Layer 5 | 517 | 877 | 360 | 97 | 14 |

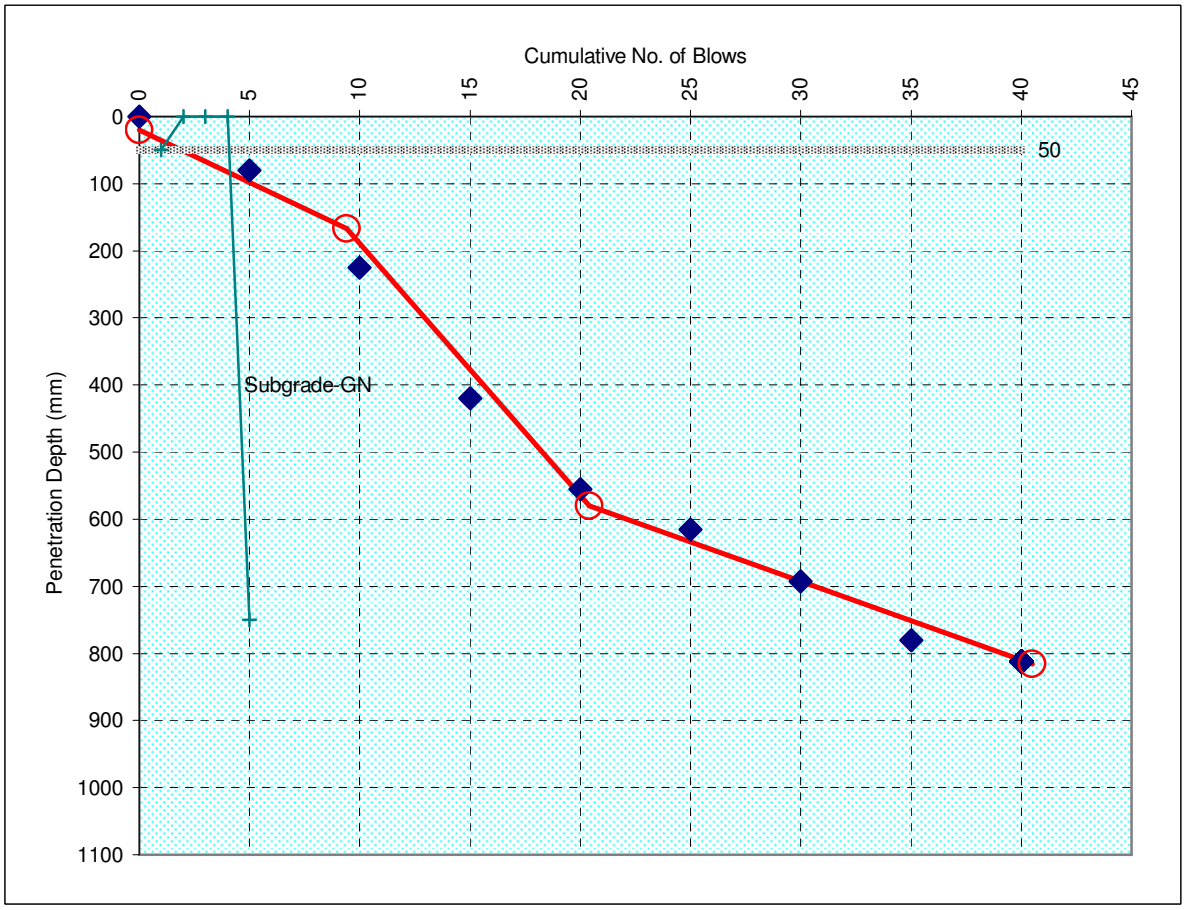
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 28 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+620 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 167 | 147 | 9 | 17 |
| Layer 3 | 167 | 580 | 413 | 20 | 7 |
| Layer 4 | 580 | 816 | 236 | 41 | 22 |

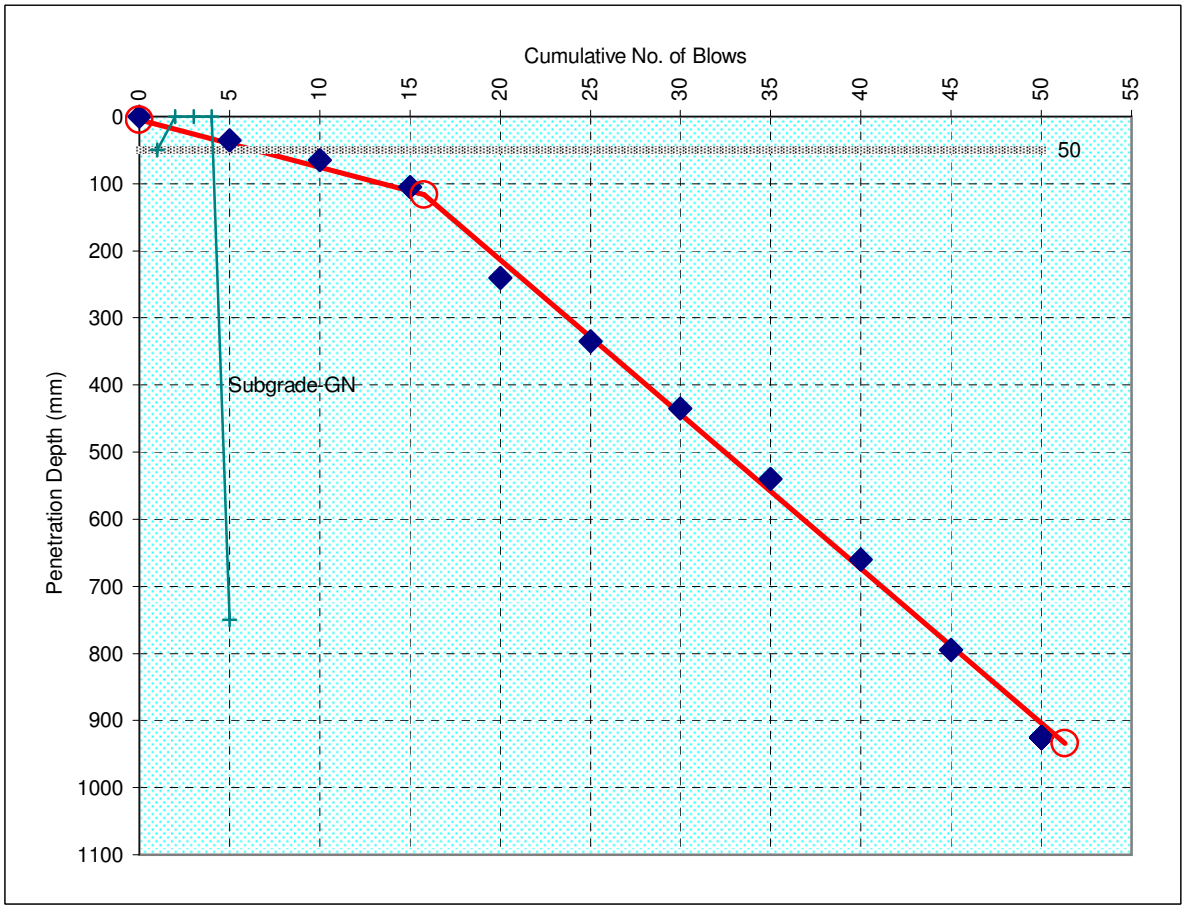
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 10 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+670 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship *$Log_{10}$ (CBR) =* *2.48* *-1.057* *$Log_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 5 | 5 | 0 | Drilled |
| Layer 2 | 5 | 116 | 111 | 16 | 38 |
| Layer 3 | 116 | 934 | 818 | 51 | 11 |

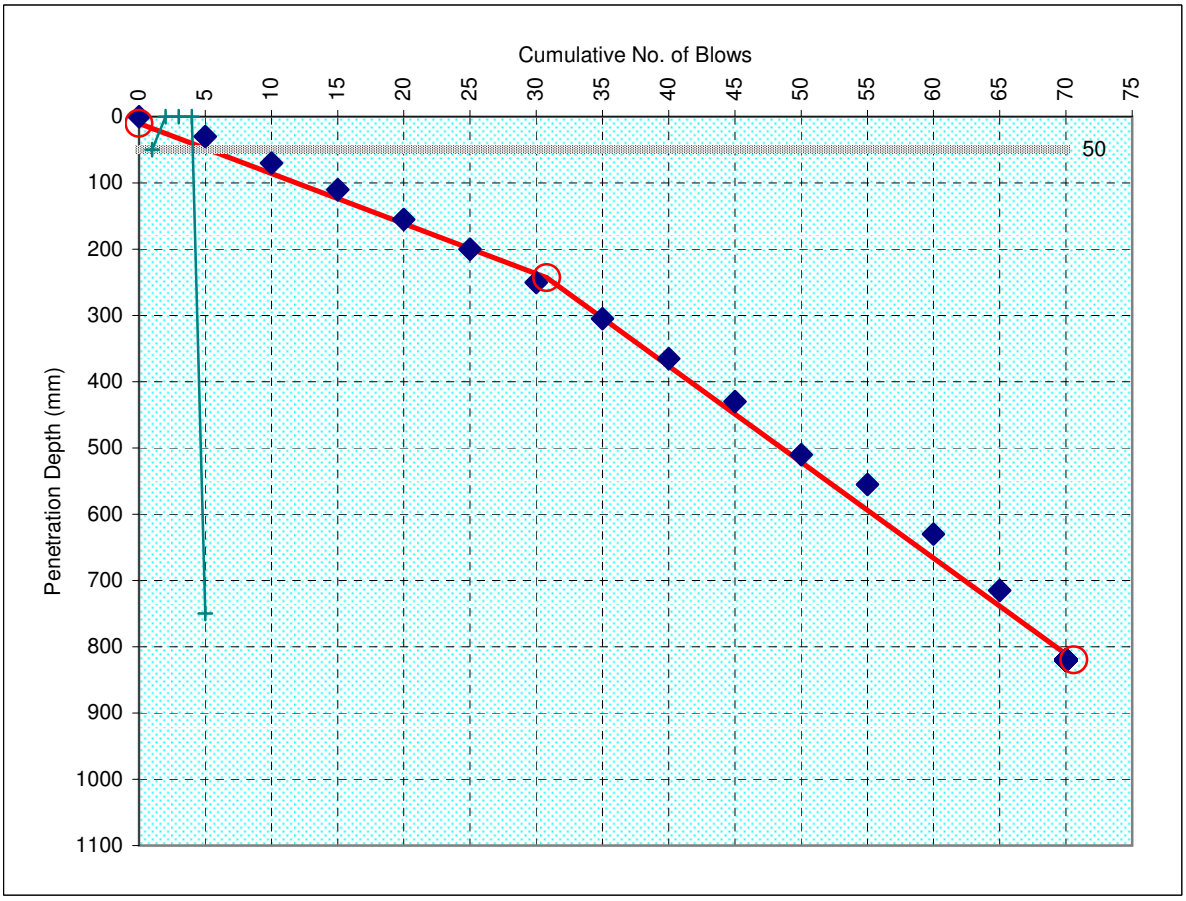
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 40 | 13 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+720 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 243 | 233 | 31 | 36 |
| Layer 3 | 243 | 820 | 577 | 71 | 18 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

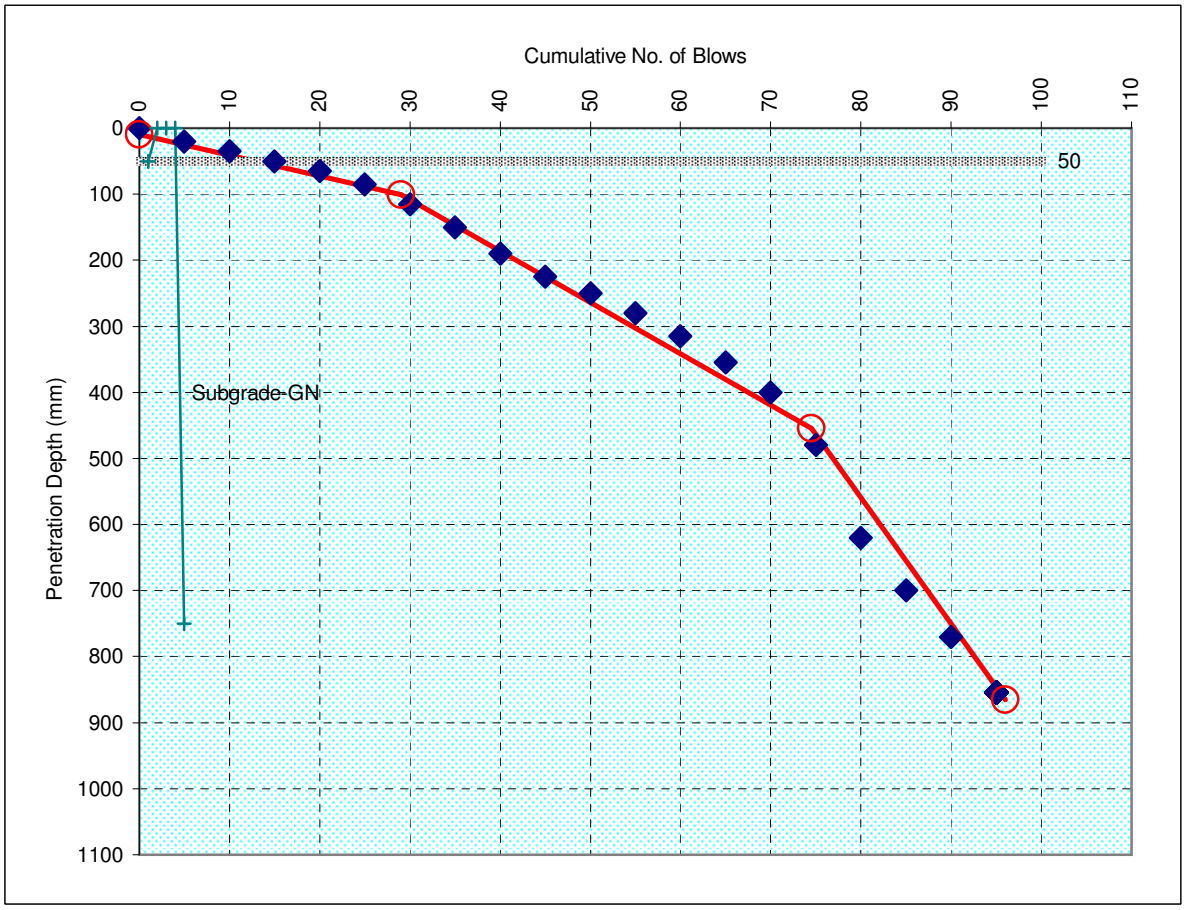
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 65 | 23 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+770 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 101 | 91 | 29 | 90 |
| Layer 3 | 101 | 455 | 354 | 75 | 35 |
| Layer 4 | 455 | 865 | 410 | 96 | 13 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 26 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

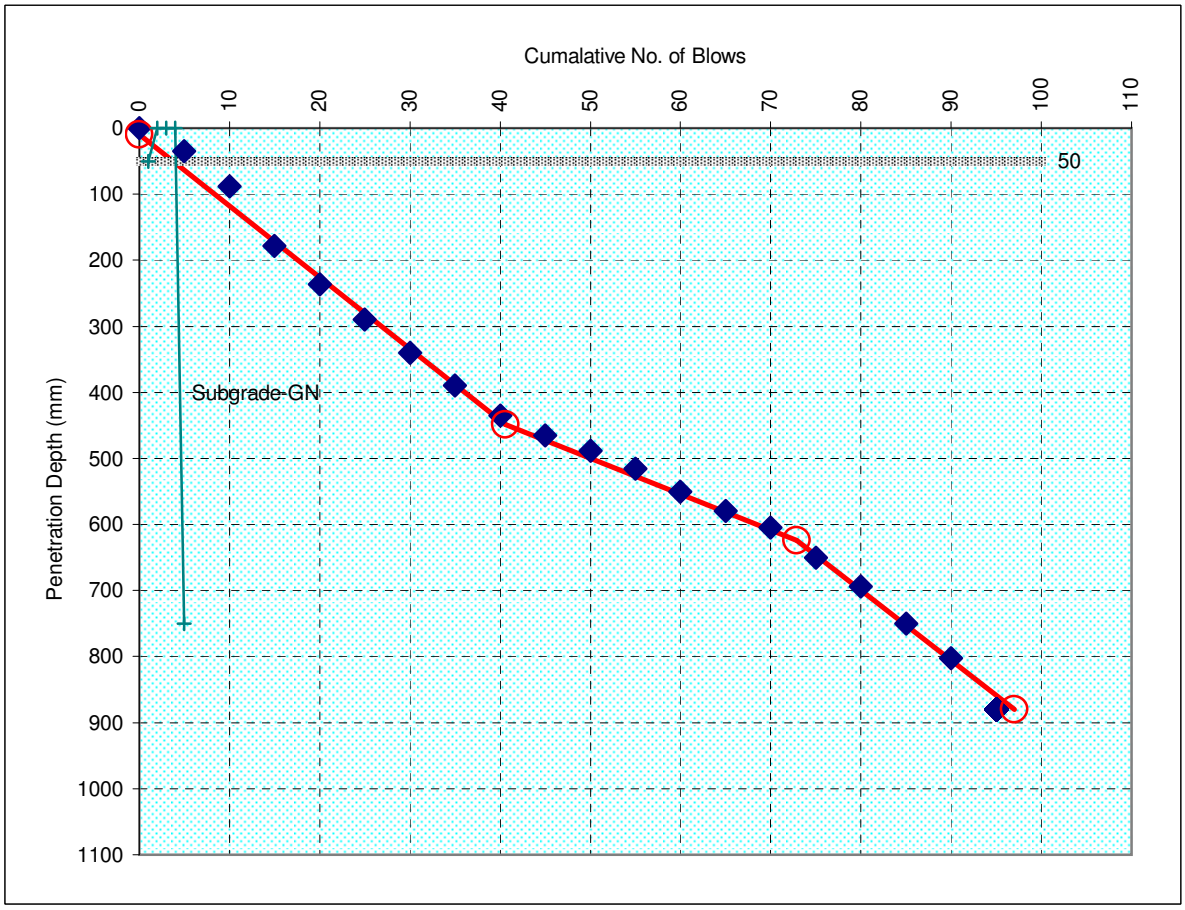
Operator: JM/VV

Road Code: 3.2

Chainage: 0+820 Location: 0 m Side: Left

Depth below Surface at test start: 0 mm

Description: Natural Surface 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 449 | 439 | 41 | 24 |
| Layer 3 | 449 | 624 | 175 | 73 | 51 |
| Layer 4 | 624 | 880 | 256 | 97 | 25 |

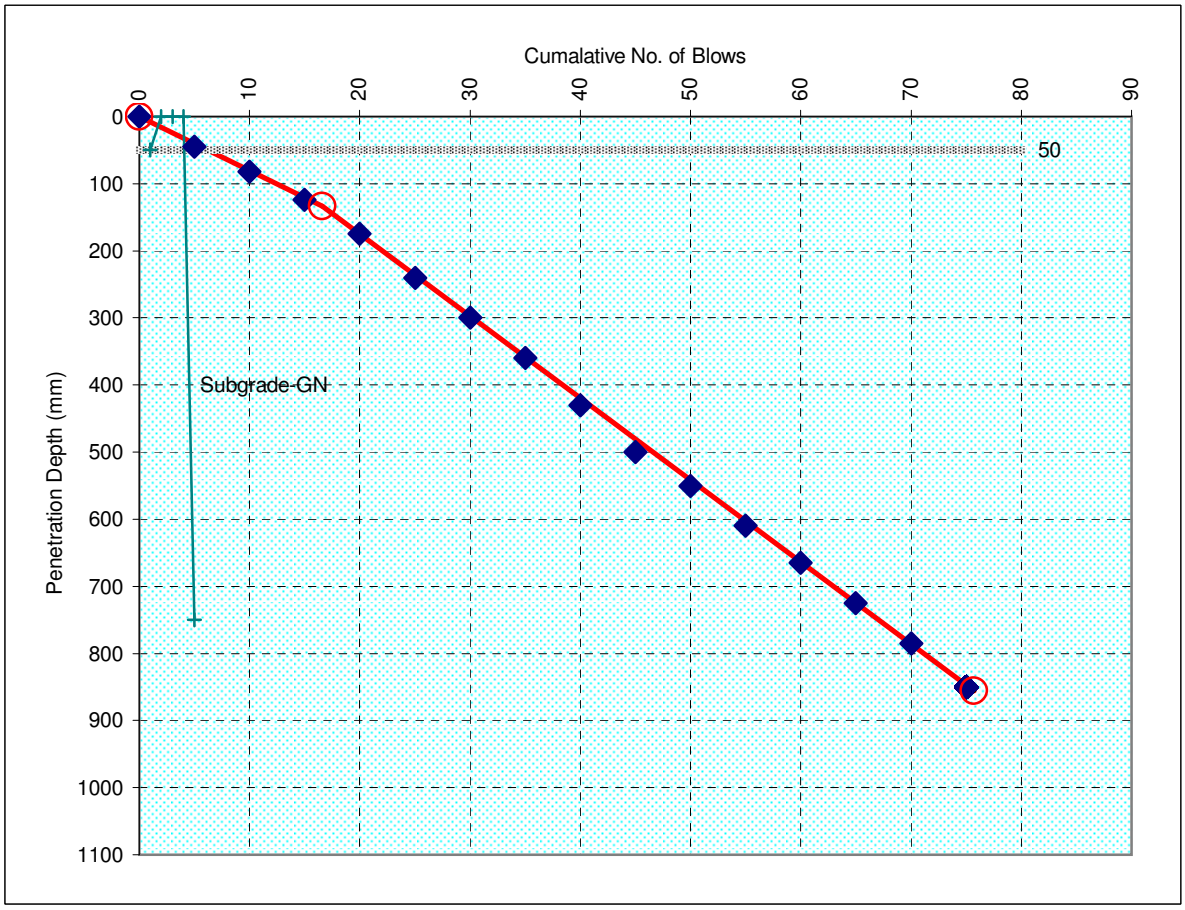
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 30 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+870 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 134 | 134 | 17 | 33 |
| Layer 3 | 134 | 856 | 722 | 76 | 21 |

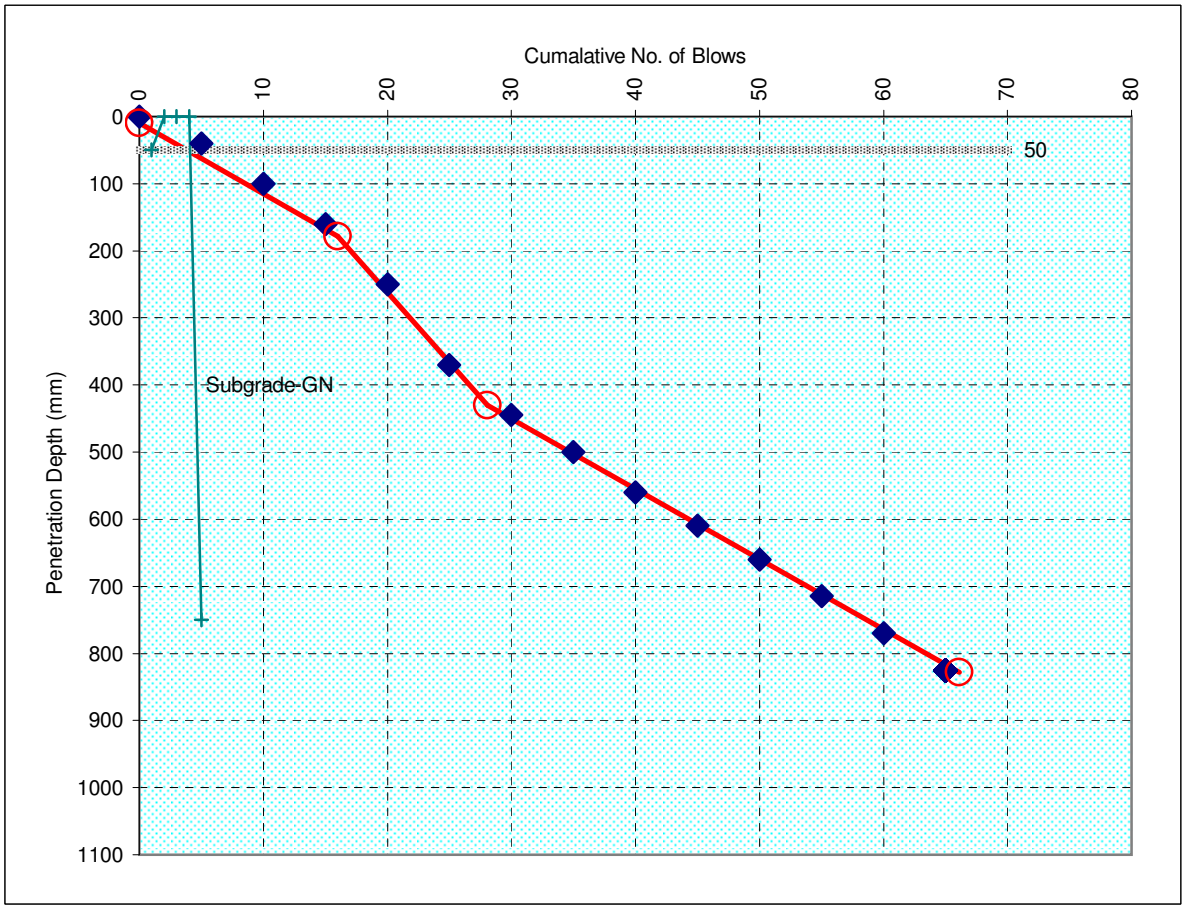
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 65 | 23 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 0+920 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Natural Surface | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 178 | 168 | 16 | 25 |
| Layer 3 | 178 | 430 | 252 | 28 | 12 |
| Layer 4 | 430 | 828 | 398 | 66 | 25 |

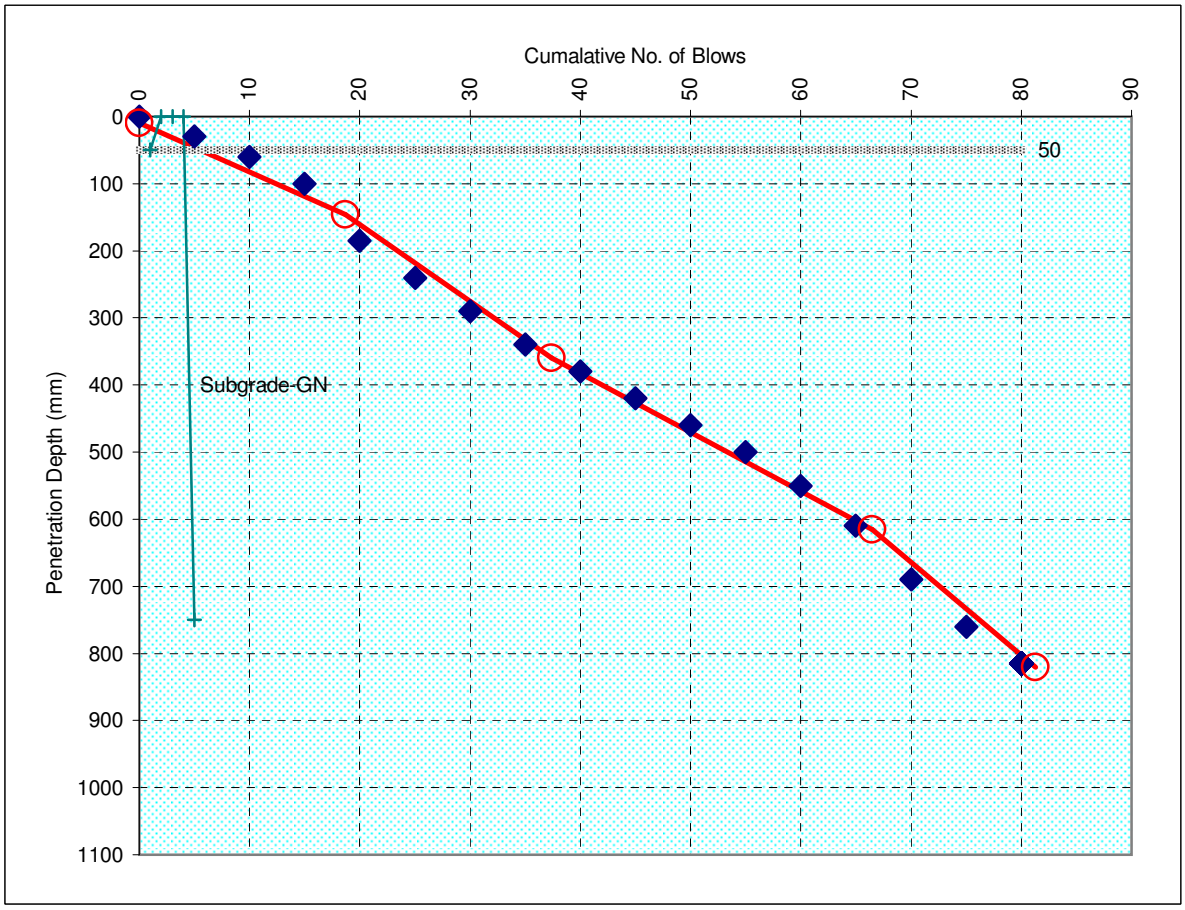
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 19 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 1+520 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 146 | 136 | 19 | 37 |
| Layer 3 | 146 | 360 | 214 | 37 | 23 |
| Layer 4 | 360 | 615 | 255 | 67 | 30 |
| Layer 5 | 615 | 820 | 205 | 81 | 19 |

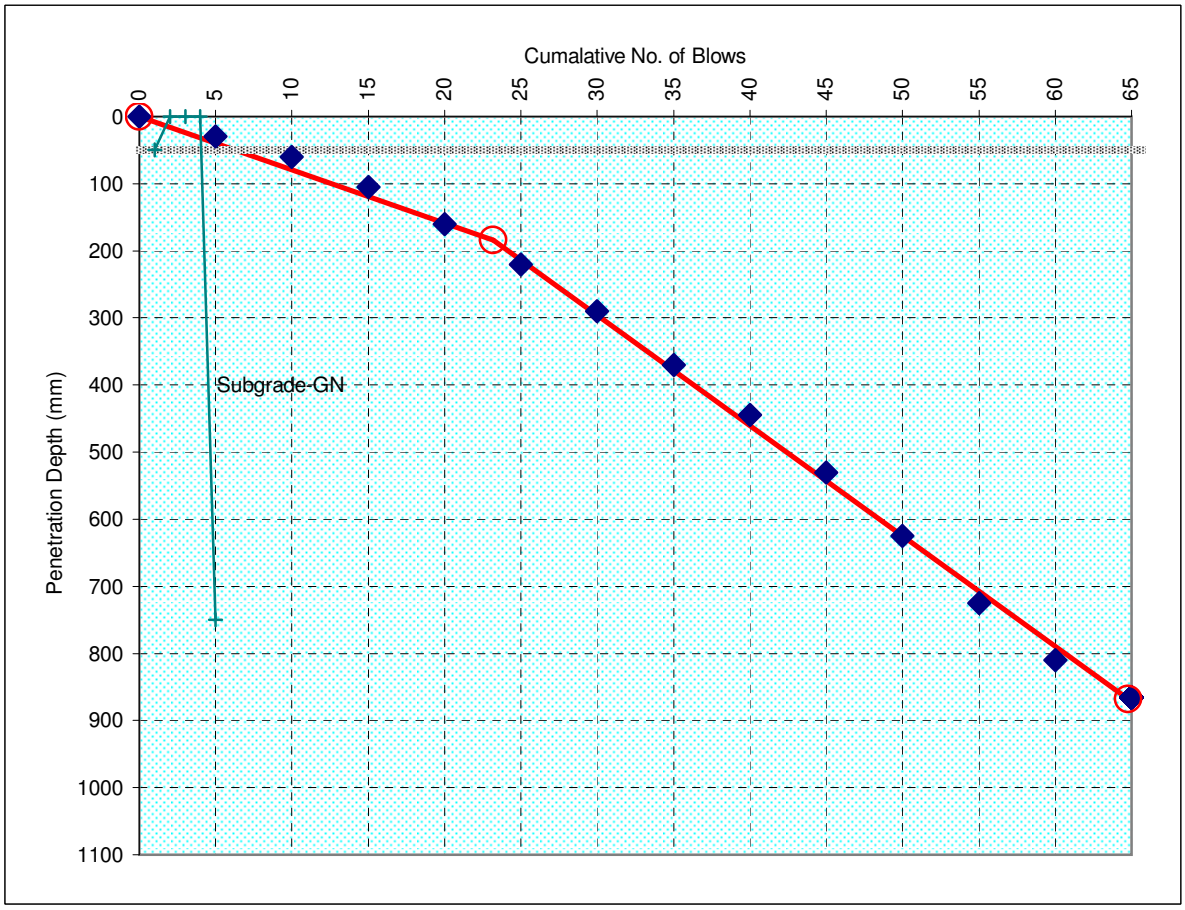
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 70 | 24 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 1+570 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 184 | 184 | 23 | 34 |
| Layer 3 | 184 | 868 | 684 | 65 | 16 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 19 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

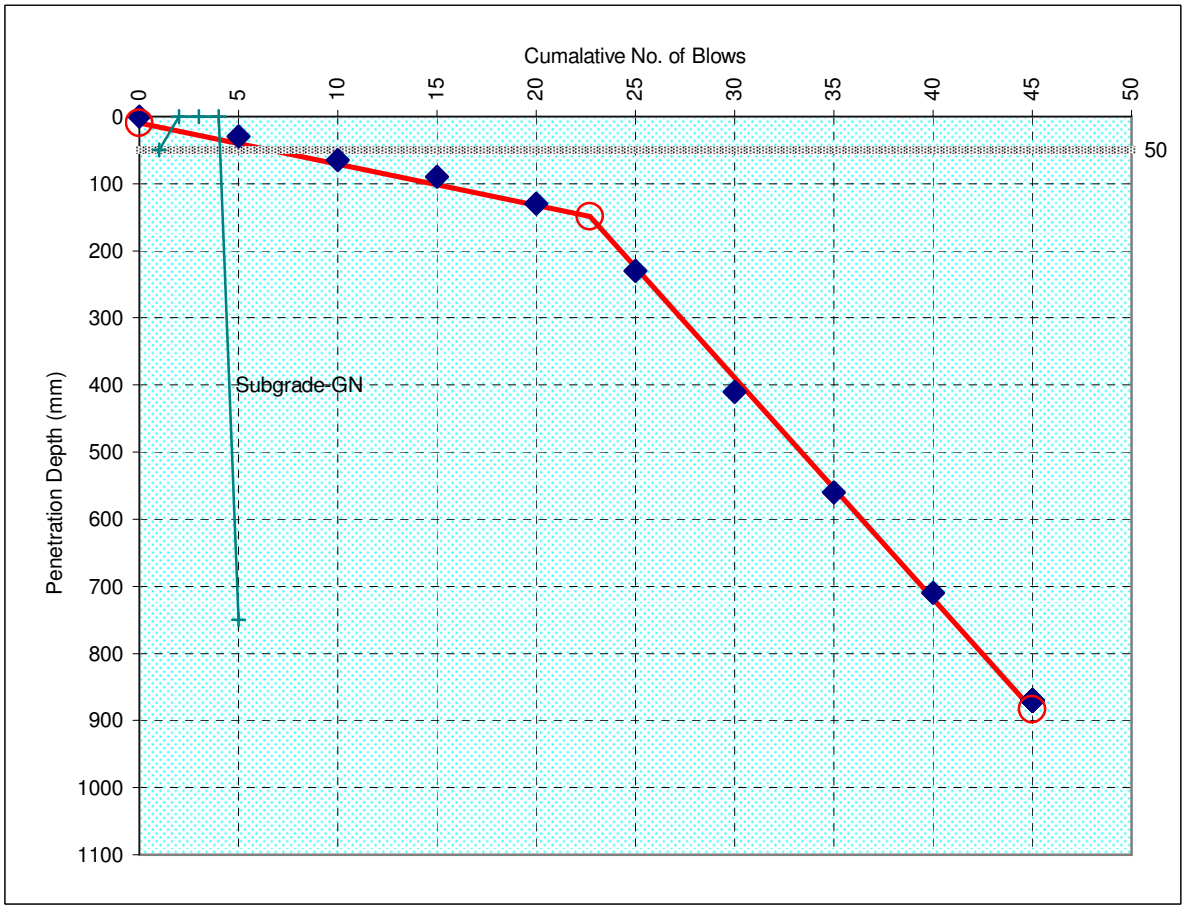
Operator: JM/VV

Road Code: 3.2

Chainage: 1+620 Location: 0 m Side: Left

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 149 | 139 | 23 | 44 |
| Layer 3 | 149 | 883 | 734 | 45 | 8 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

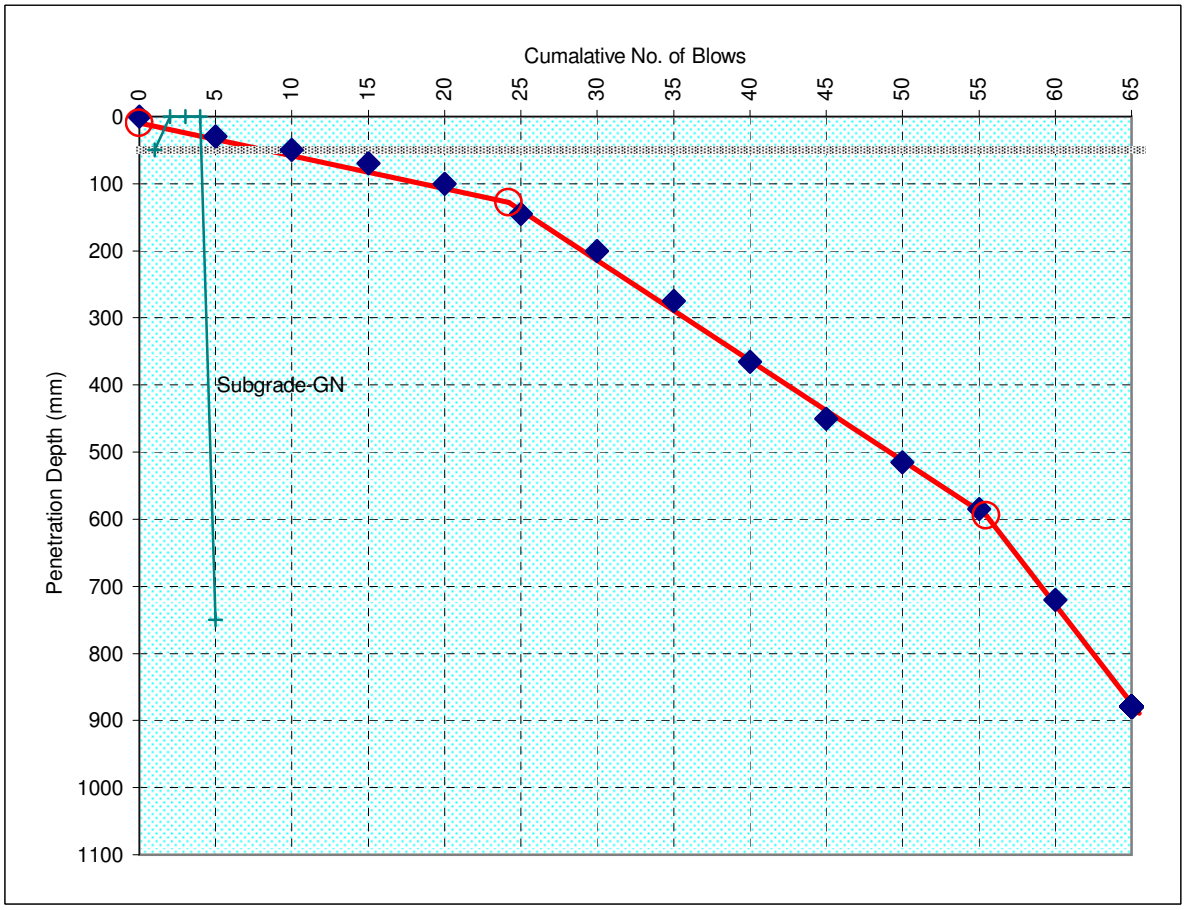
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 40 | 13 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 1+670 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 128 | 118 | 24 | 57 |
| Layer 3 | 128 | 594 | 466 | 56 | 17 |
| Layer 4 | 594 | 889 | 295 | 66 | 8 |
| Layer 5 | | | | | |

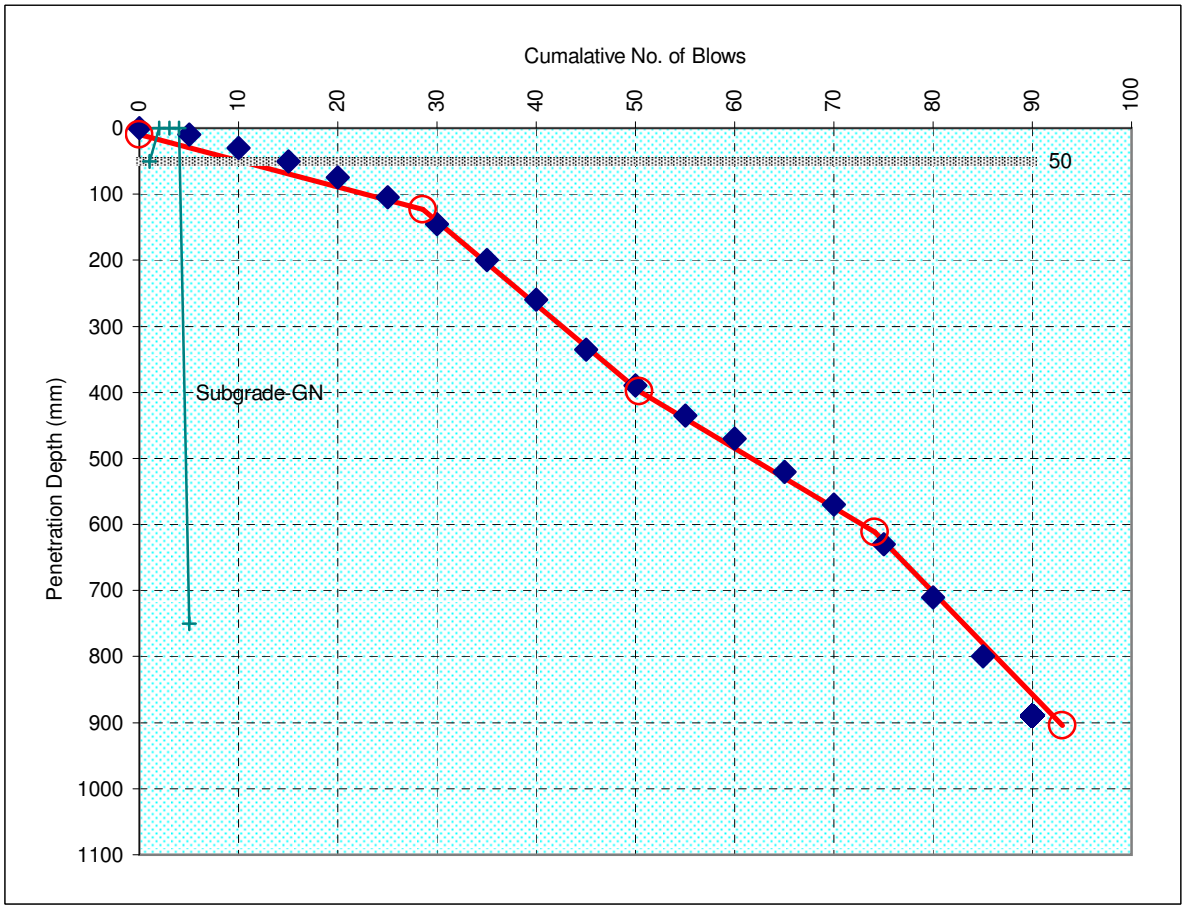
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 60 | 19 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.2 | | |
| Chainage: | 1+720 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ *(CBR) =* *2.48* *-1.057* $Log_{10}$ *(mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 123 | 113 | 29 | 71 |
| Layer 3 | 123 | 398 | 275 | 50 | 21 |
| Layer 4 | 398 | 612 | 214 | 74 | 30 |
| Layer 5 | 612 | 904 | 292 | 93 | 17 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

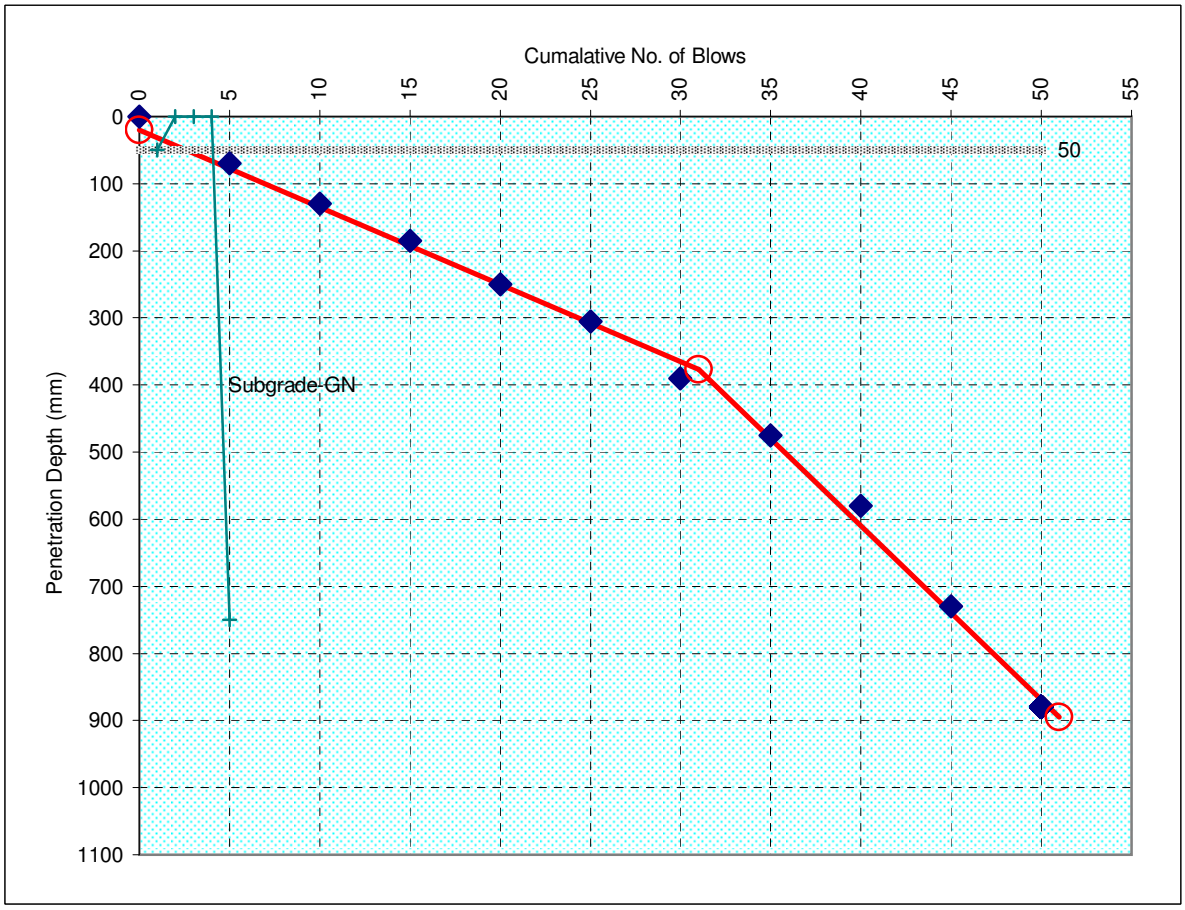
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 80 | 24 |

# Road Code 3-3

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.3 | | |
| Chainage: | 1+605 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *$Log_{10}$ (CBR) =* *2.48* *-1.057* *$Log_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 377 | 357 | 31 | 23 |
| Layer 3 | 377 | 895 | 518 | 51 | 10 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |
| Layer 6 | | | | | |

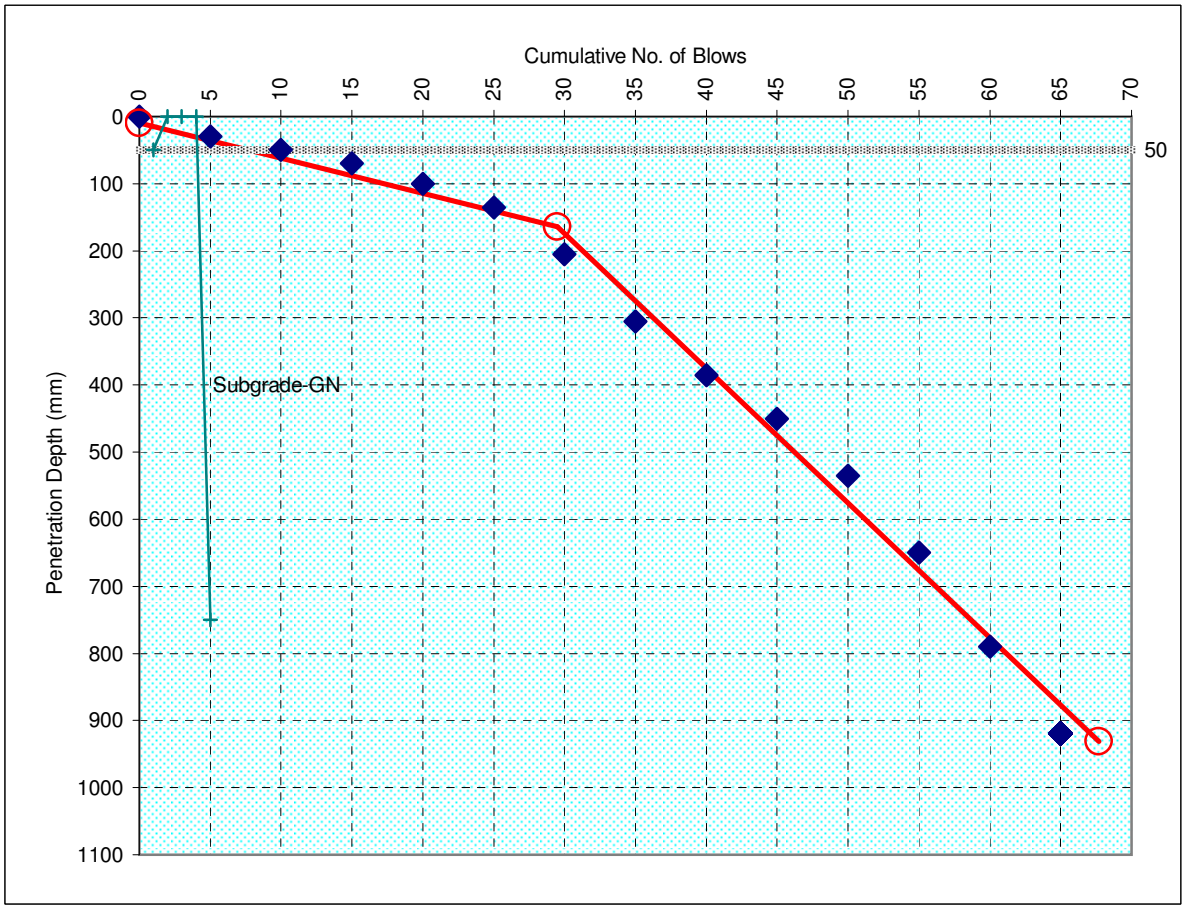
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 1 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 16 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.3 | | |
| Chainage: | 1+655 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *$Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 164 | 154 | 30 | 53 |
| Layer 3 | 164 | 931 | 767 | 68 | 13 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |
| Layer 6 | | | | | |

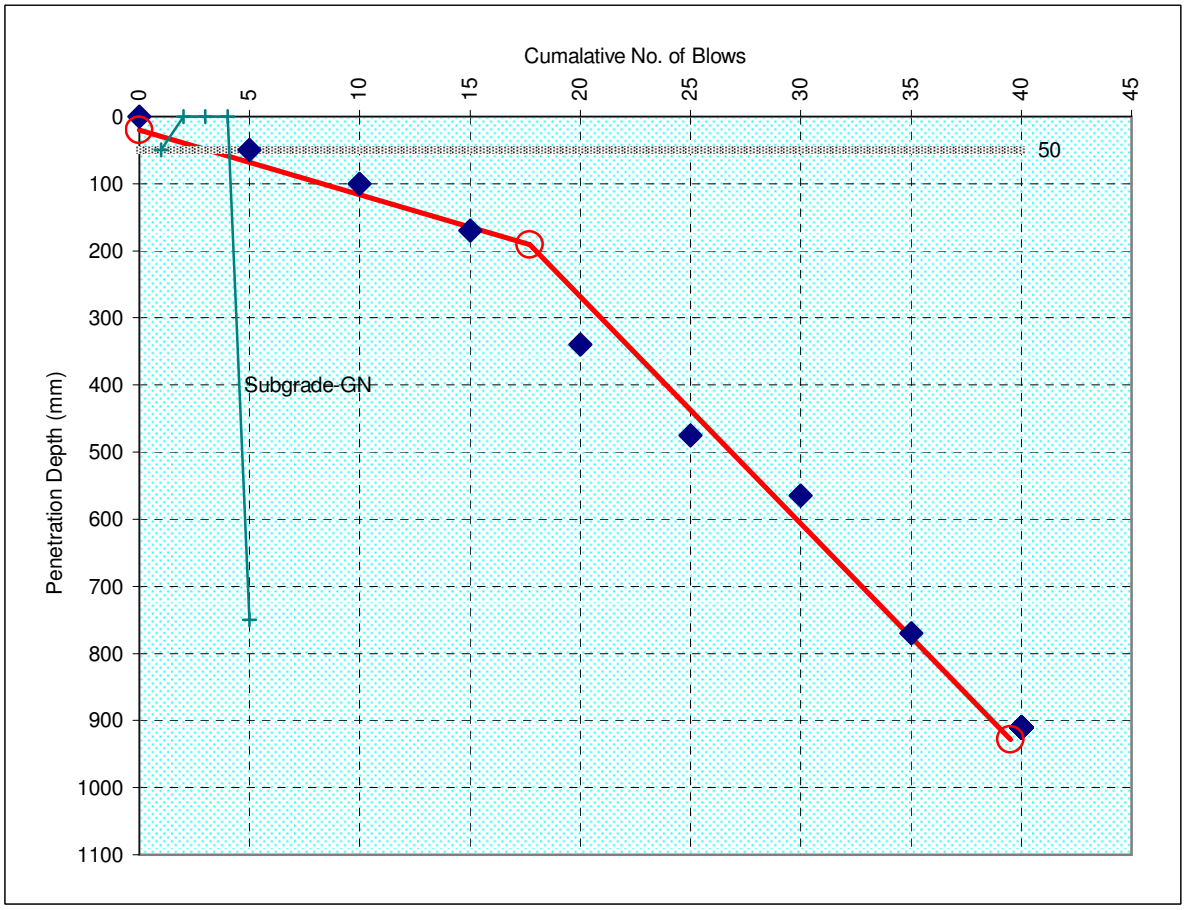
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 17 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.3 | | |
| Chainage: | 1+705 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 191 | 171 | 18 | 27 |
| Layer 3 | 191 | 928 | 737 | 40 | 7 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

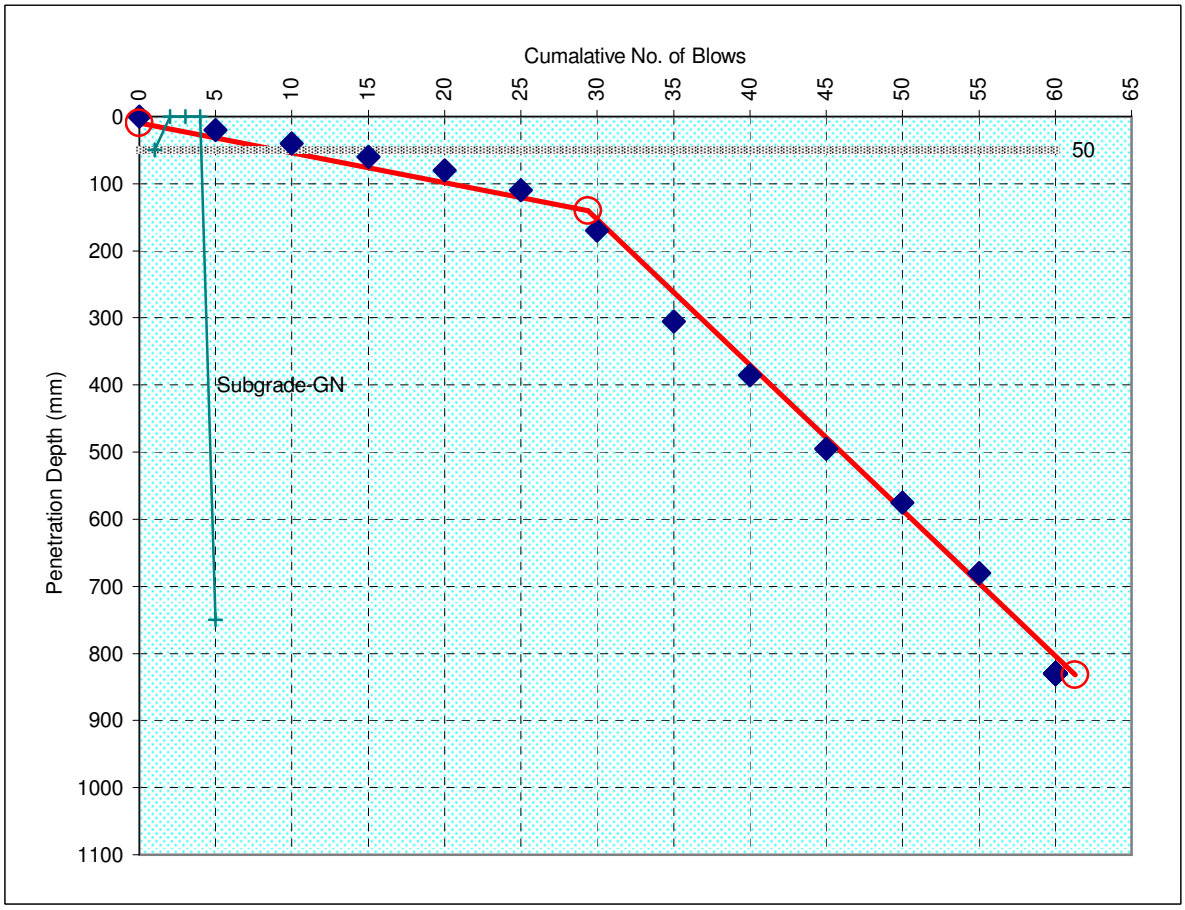
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 9 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.3 | | |
| Chainage: | 1+755 | Location: | 0 00/01/1900 |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 140 | 130 | 29 | 63 |
| Layer 3 | 140 | 832 | 692 | 61 | 12 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |

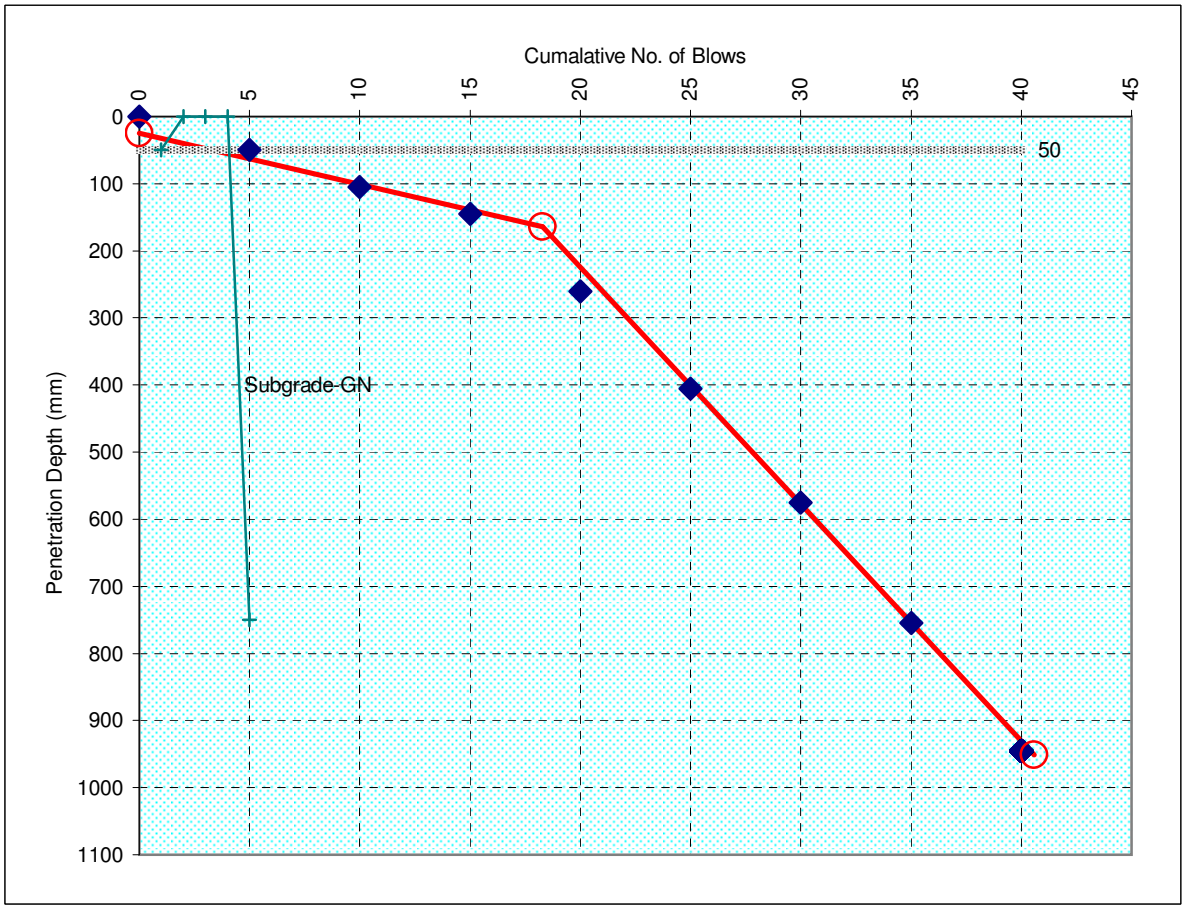
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 17 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 3.3 | | |
| Chainage: | 1+795 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 25 | 25 | 0 | Drilled |
| Layer 2 | 25 | 164 | 139 | 18 | 35 |
| Layer 3 | 164 | 951 | 787 | 41 | 7 |
| Layer 4 | | | | | |
| Layer 5 | | | | | |
| Layer 6 | | | | | |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

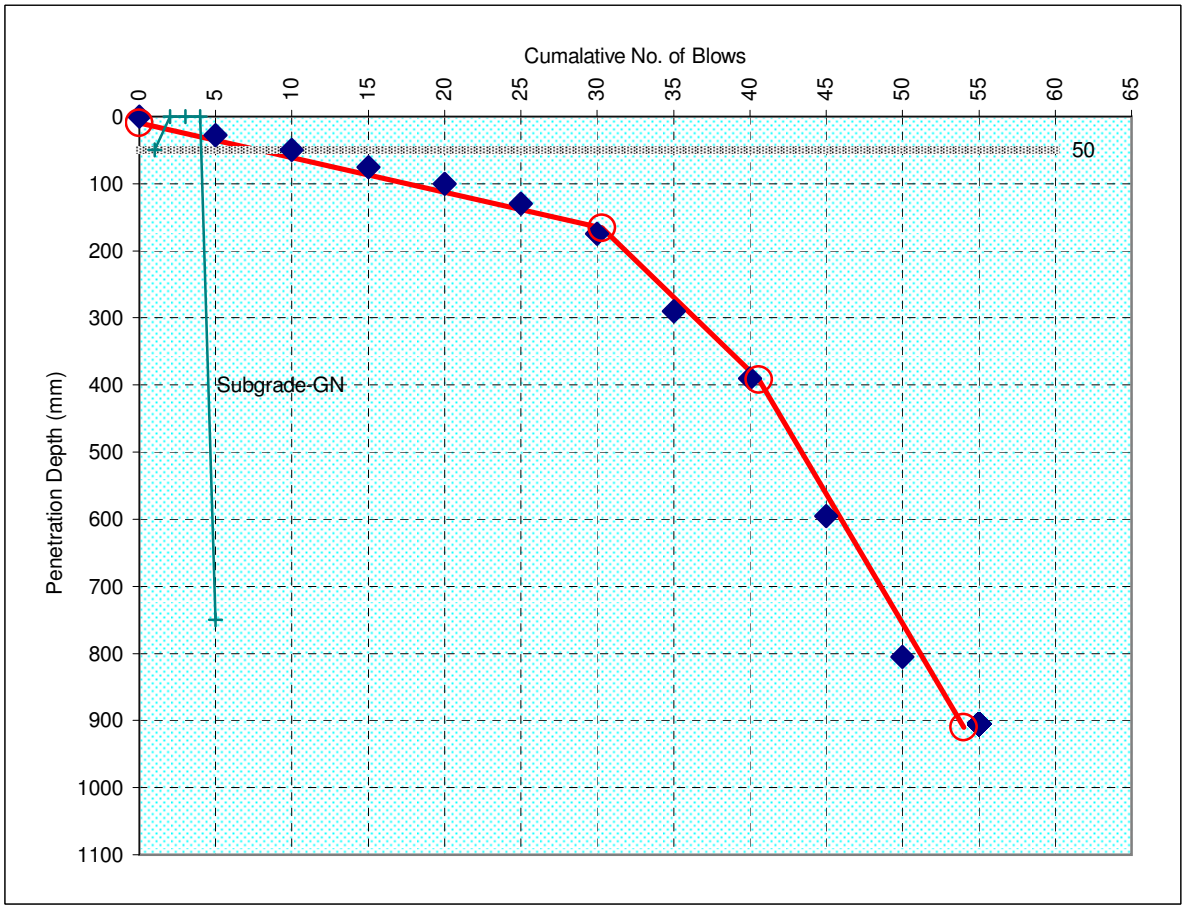
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 30 | 9 |

# Road Code 5

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 5 | | |
| Chainage: | 3+155 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 166 | 156 | 30 | 53 |
| Layer 3 | 166 | 392 | 226 | 41 | 12 |
| Layer 4 | 392 | 910 | 518 | 54 | 6 |
| Layer 5 | | | | | |

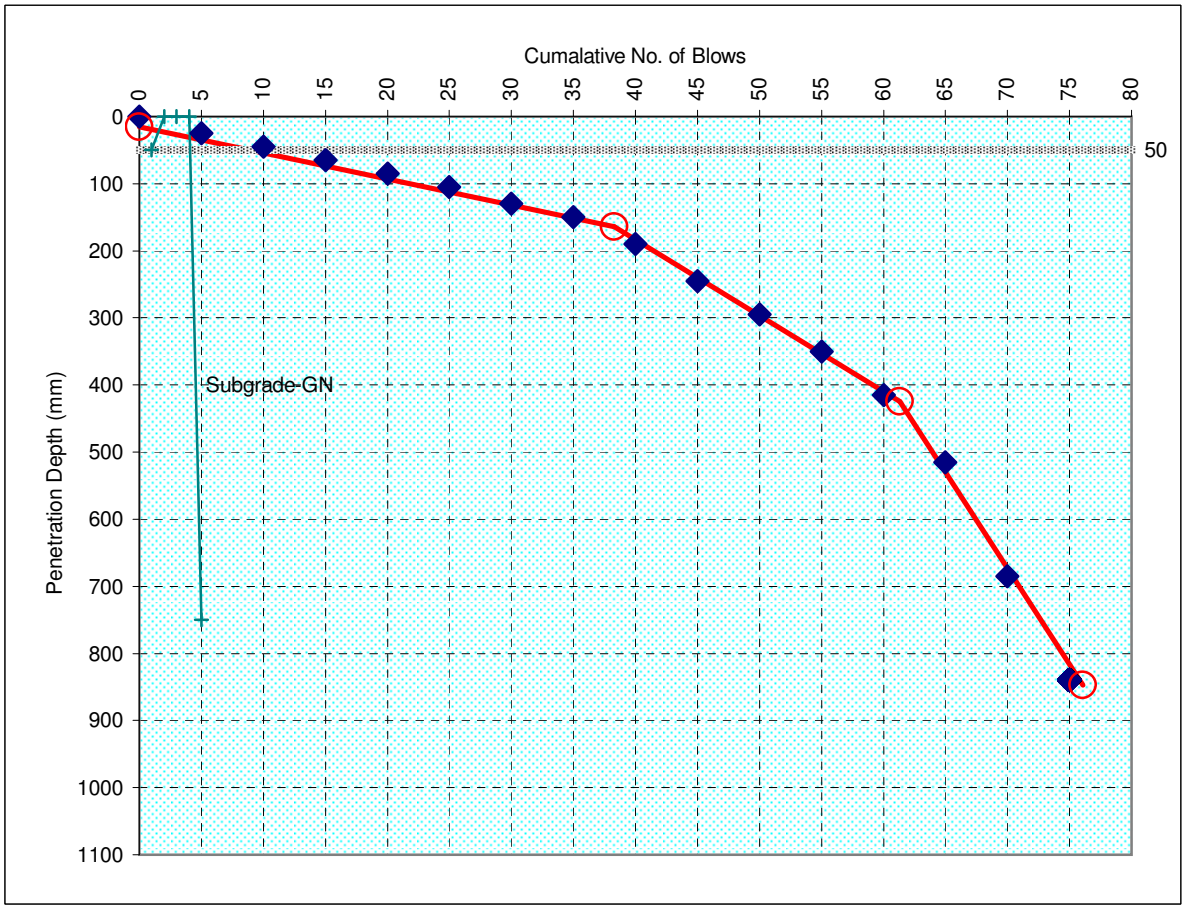
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 45 | 13 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 5 | | |
| Chainage: | 3+205 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 15 | 15 | 0 | Drilled |
| Layer 2 | 15 | 164 | 149 | 38 | 72 |
| Layer 3 | 164 | 425 | 261 | 61 | 23 |
| Layer 4 | 425 | 847 | 422 | 76 | 9 |

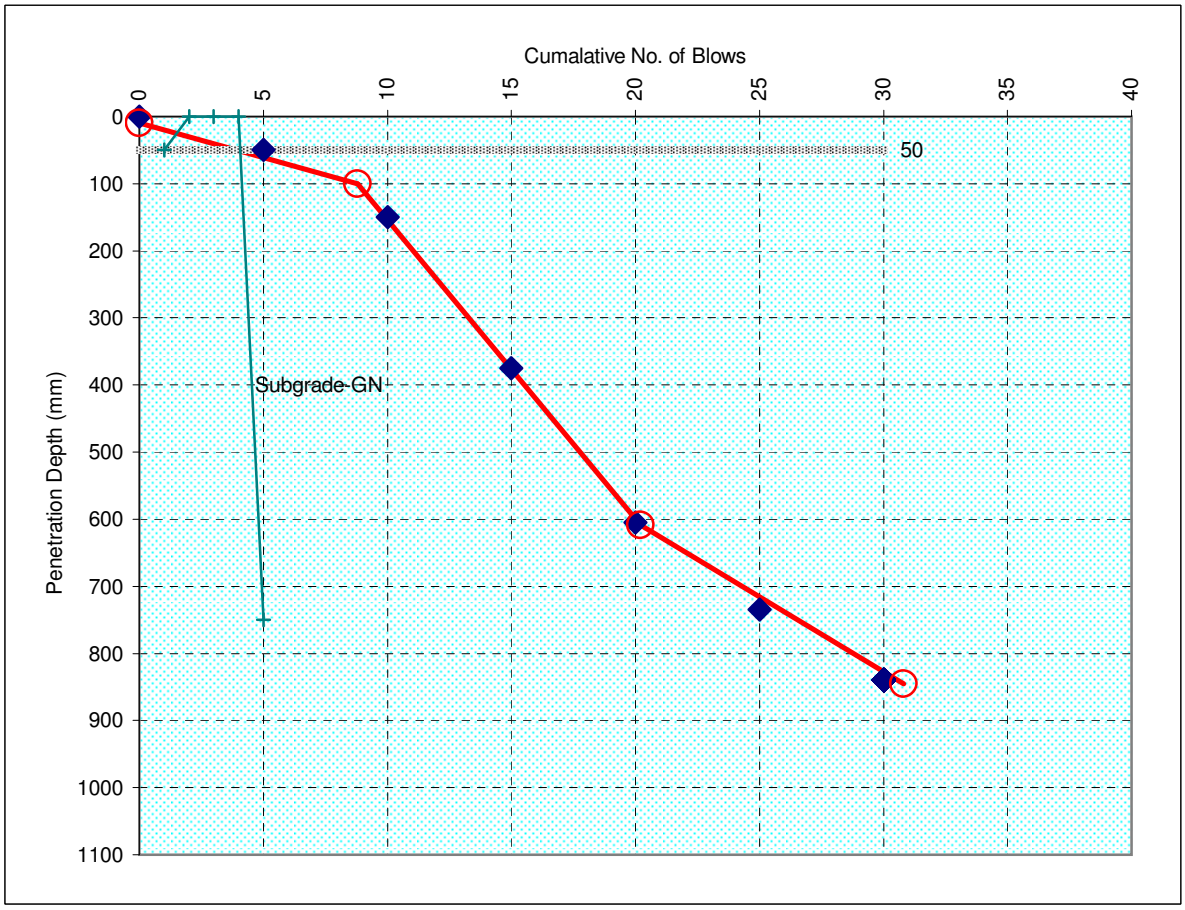
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 70 | 23 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 5 | | |
| Chainage: | 3+255 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 100 | 90 | 9 | 26 |
| Layer 3 | 100 | 609 | 509 | 20 | 5 |
| Layer 4 | 609 | 845 | 236 | 31 | 11 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 25 | 7 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

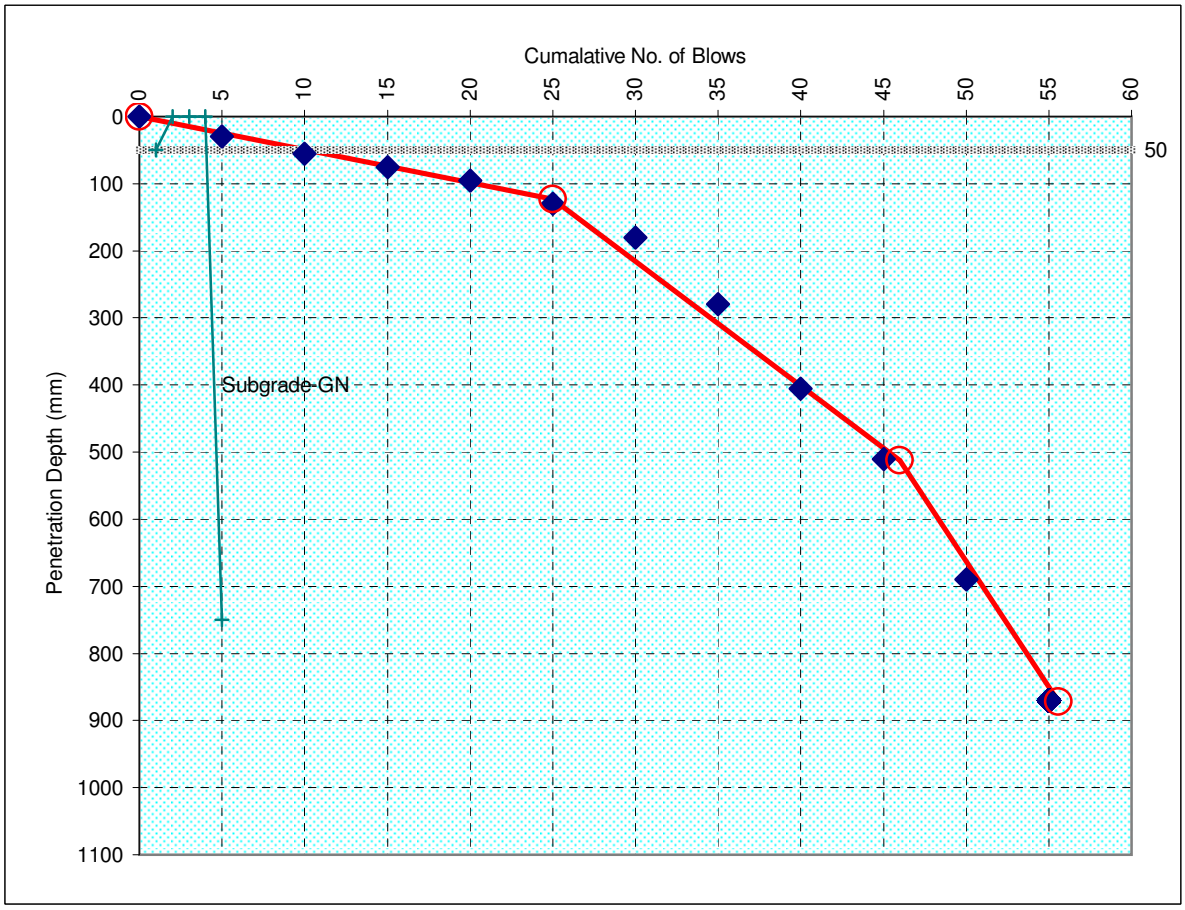
Operator: JM/VV

Road Code: 5

Chainage: 3+305 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 123 | 123 | 25 | 56 |
| Layer 3 | 123 | 512 | 389 | 46 | 14 |
| Layer 4 | 512 | 872 | 360 | 56 | 7 |

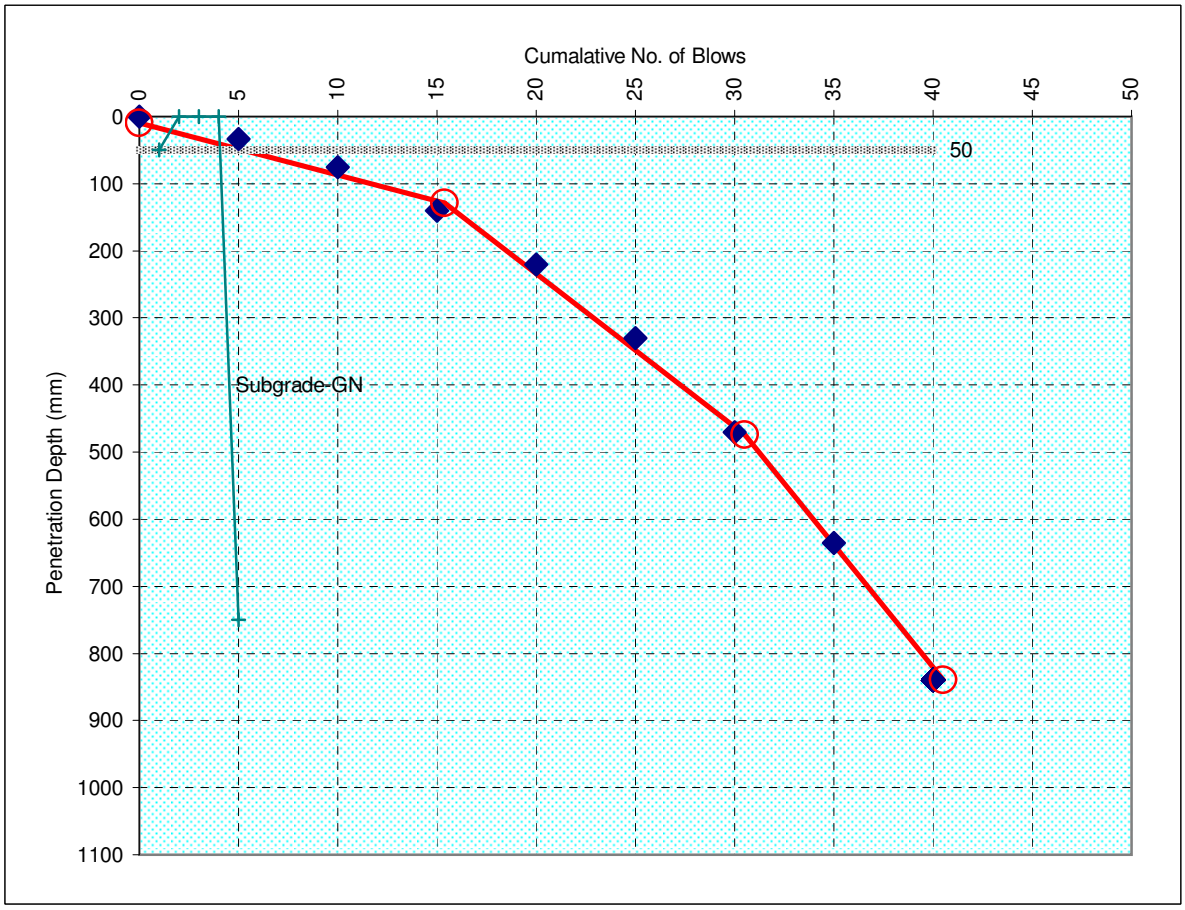
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 50 | 17 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 5 | | |
| Chainage: | 3+345 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 129 | 119 | 15 | 35 |
| Layer 3 | 129 | 474 | 345 | 31 | 11 |
| Layer 4 | 474 | 840 | 366 | 41 | 7 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

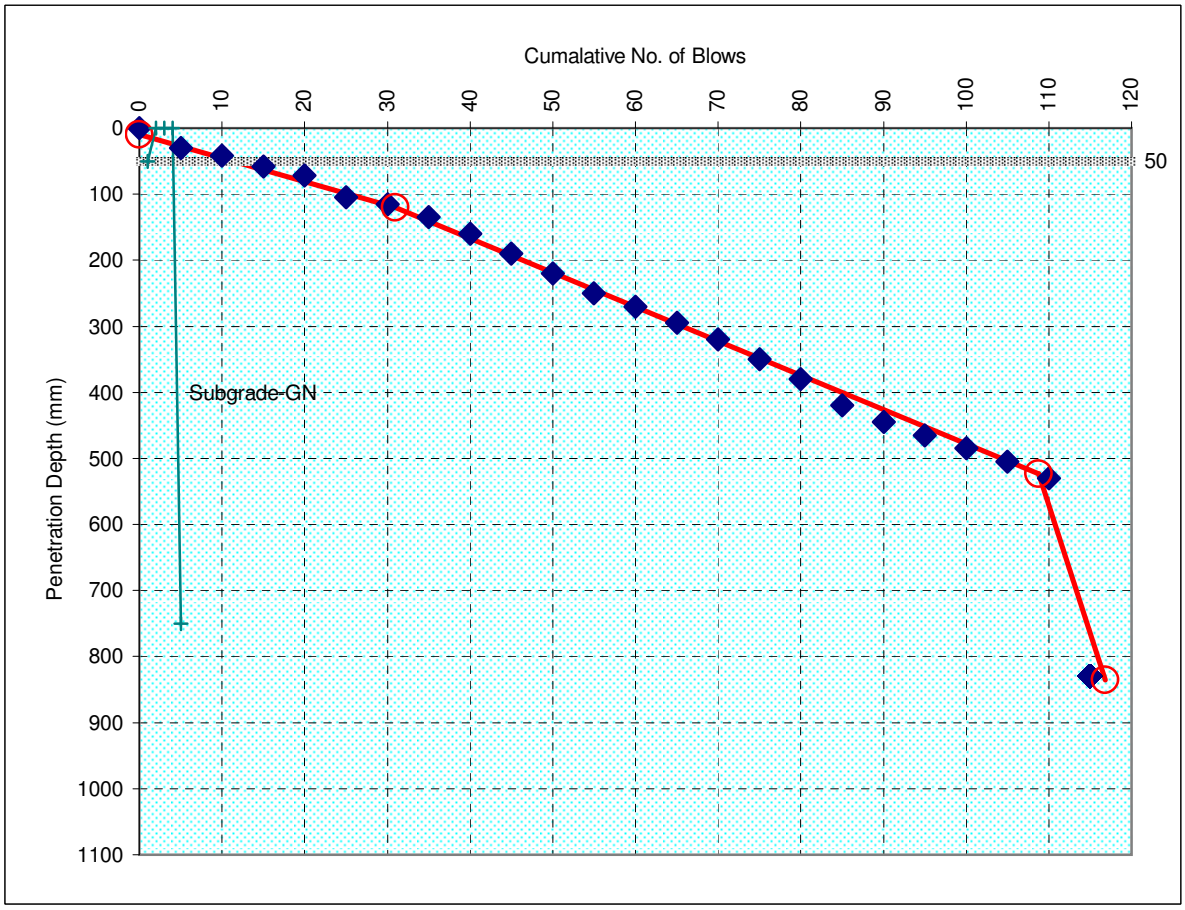
| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 5 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 35 | 11 |

# Road Code 8

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 1+505 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 120 | 110 | 31 | 79 |
| Layer 3 | 120 | 523 | 403 | 109 | 53 |
| Layer 4 | 523 | 835 | 312 | 117 | 6 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 110 | 39 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

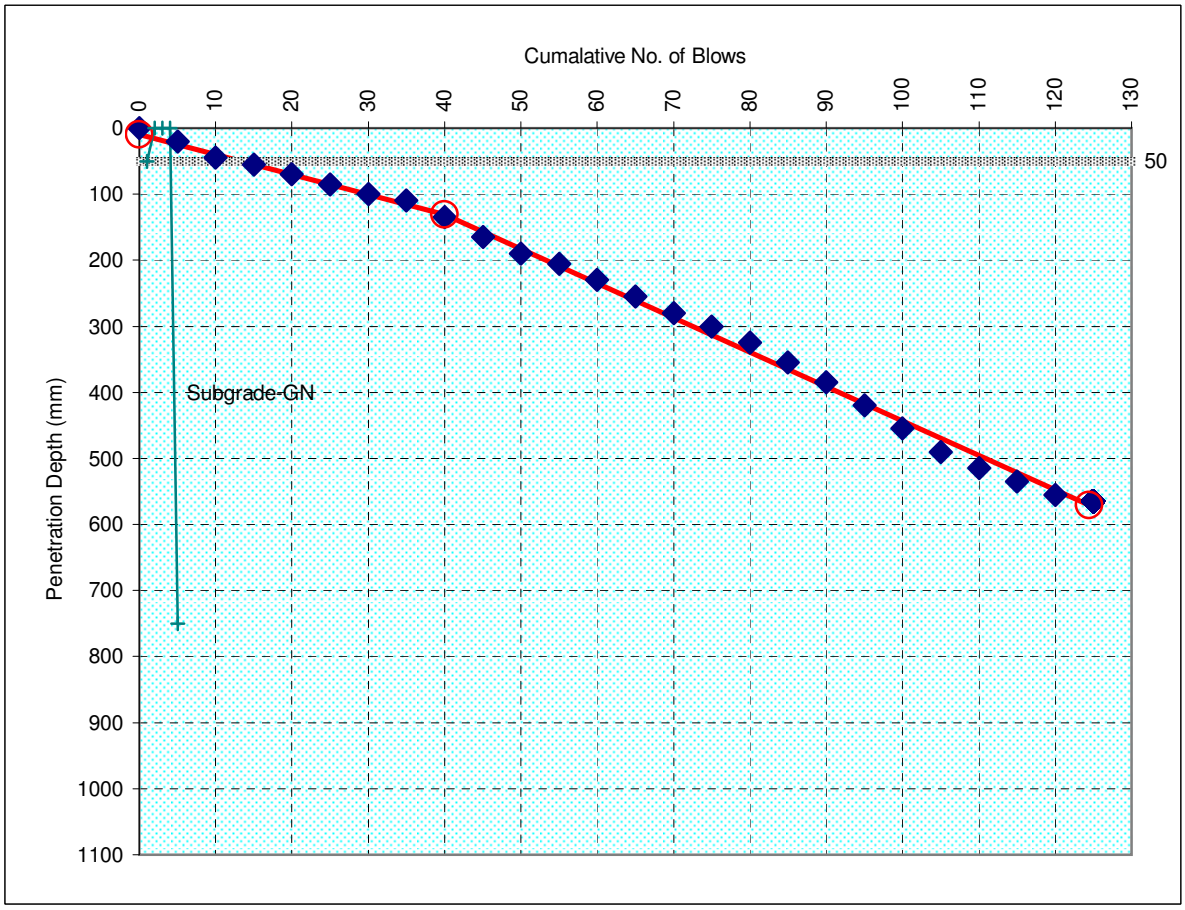
Operator: JM/VV

Road Code: 8

Chainage: 1+555 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 131 | 121 | 40 | 94 |
| Layer 3 | 131 | 571 | 440 | 125 | 53 |

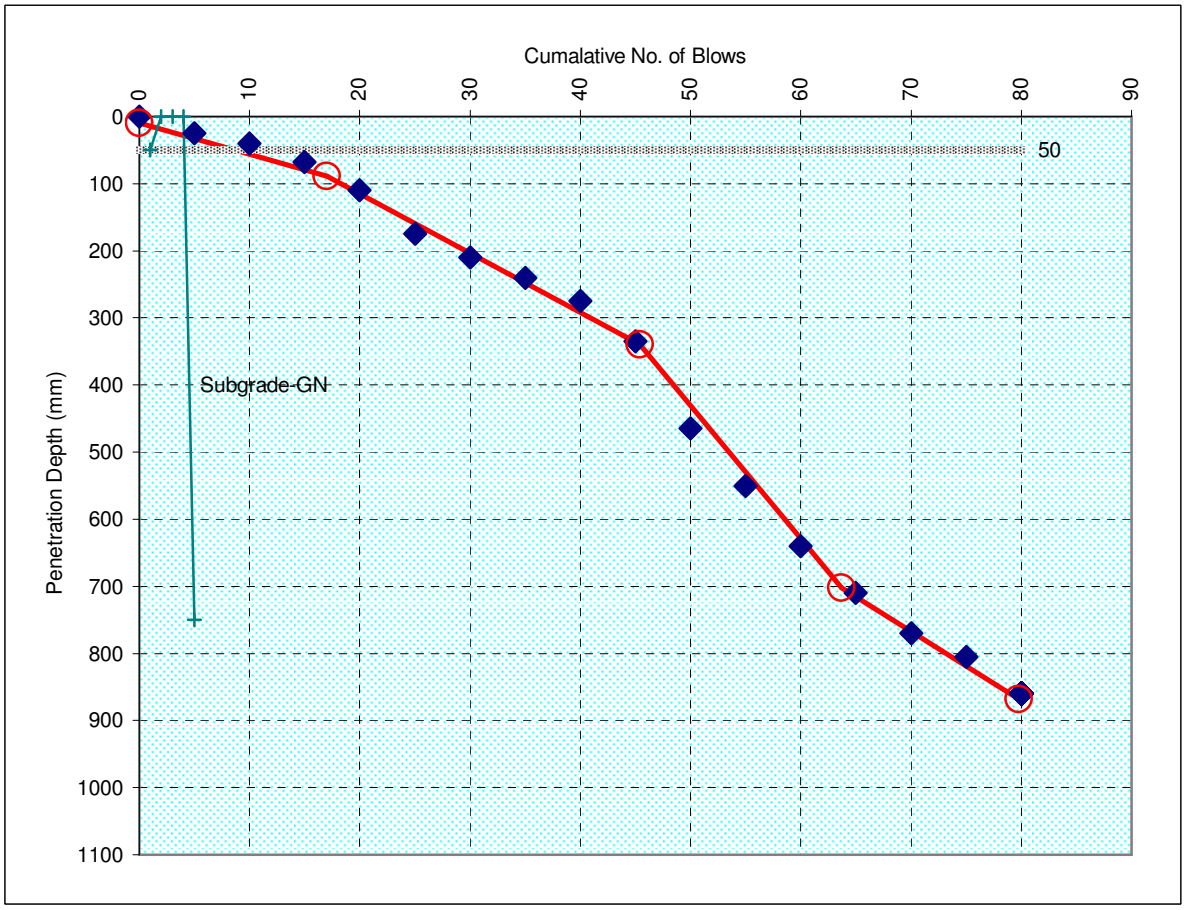
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 125 | 45 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8.00 | | |
| Chainage: | 1+605 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship *$Log_{10}$ (CBR) =* *2.48* *-1.057* *$Log_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 89 | 79 | 17 | 60 |
| Layer 3 | 89 | 340 | 251 | 45 | 30 |
| Layer 4 | 340 | 702 | 362 | 64 | 13 |
| Layer 5 | 702 | 868 | 166 | 80 | 26 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 65 | 21 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

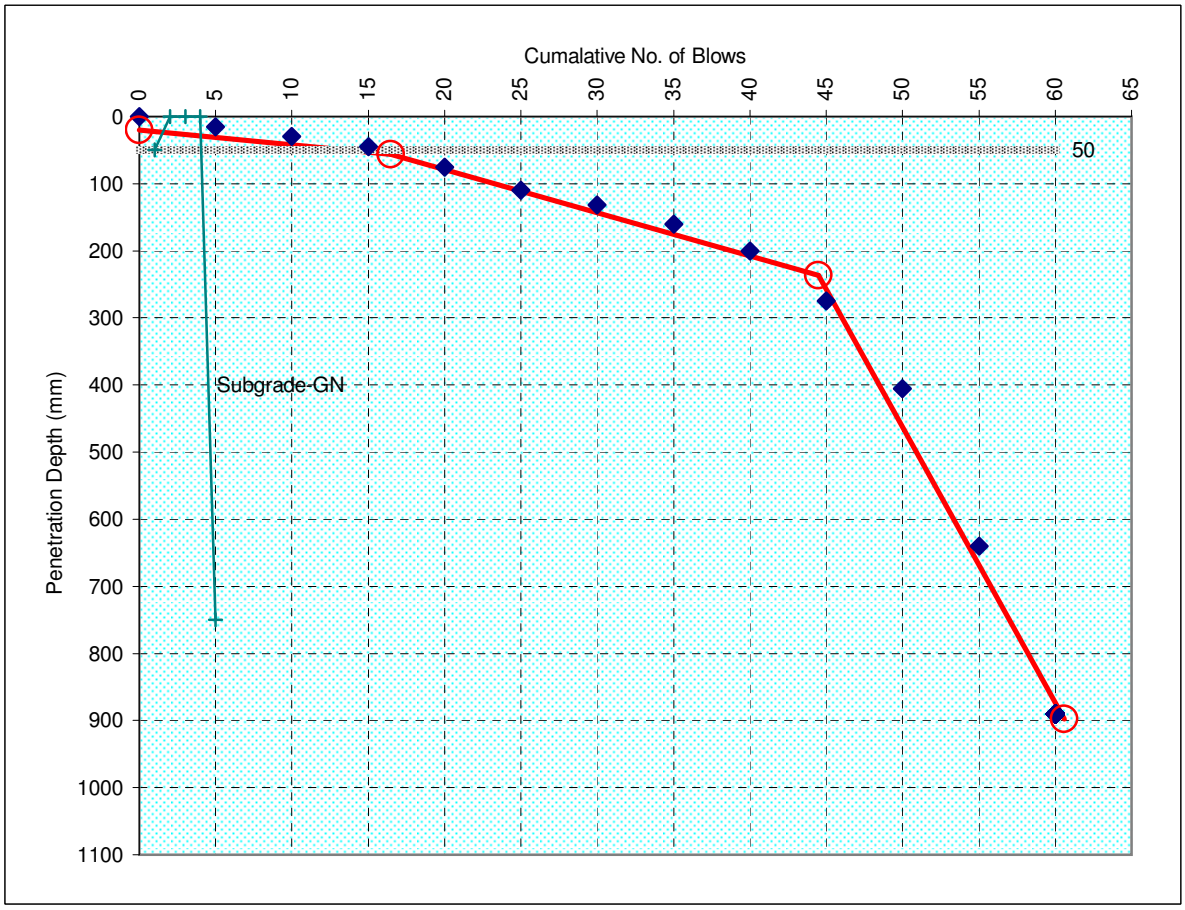
Operator: JM/VV

Road Code: 8

Chainage: 1+705 Location: 0 m Side: Left

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 56 | 36 | 17 | 132 |
| Layer 3 | 56 | 237 | 181 | 45 | 42 |
| Layer 4 | 237 | 898 | 661 | 61 | 6 |

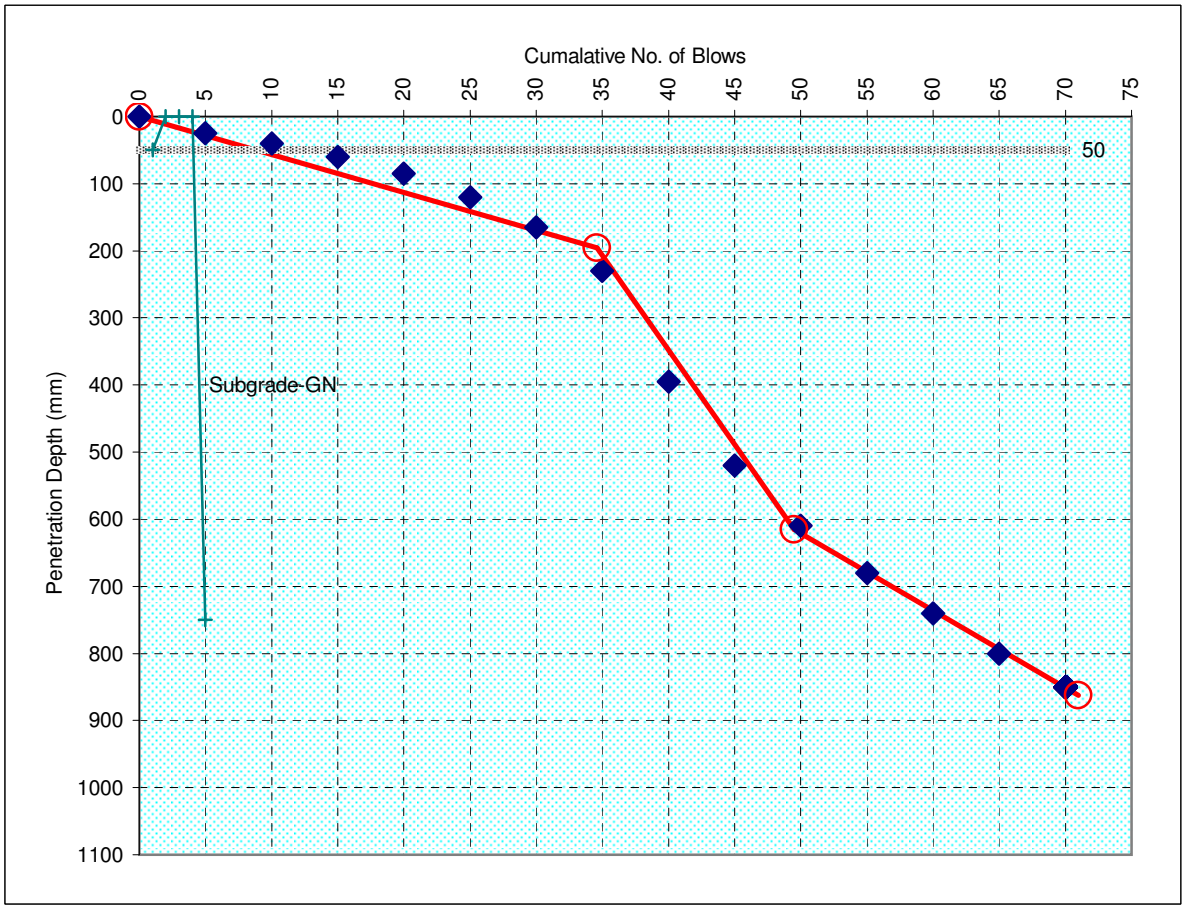
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 55 | 15 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 1+755 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 196 | 196 | 35 | 48 |
| Layer 3 | 196 | 615 | 419 | 50 | 9 |
| Layer 4 | 615 | 862 | 247 | 71 | 23 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 60 | 19 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

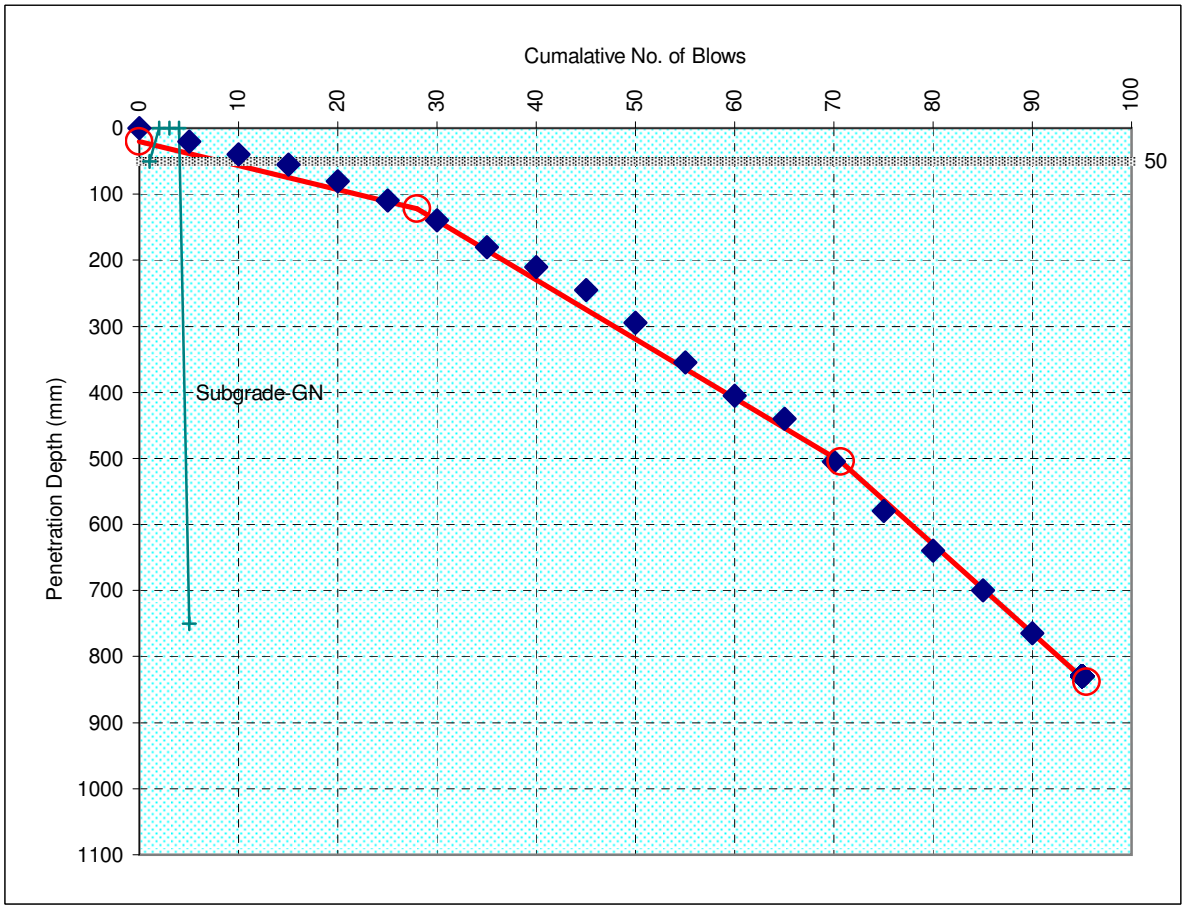
Operator: JM/VV

Road Code: 8

Chainage: 1+805 Location: 0 m Side: Right

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 122 | 102 | 28 | 77 |
| Layer 3 | 122 | 505 | 383 | 71 | 30 |
| Layer 4 | 505 | 838 | 333 | 96 | 19 |

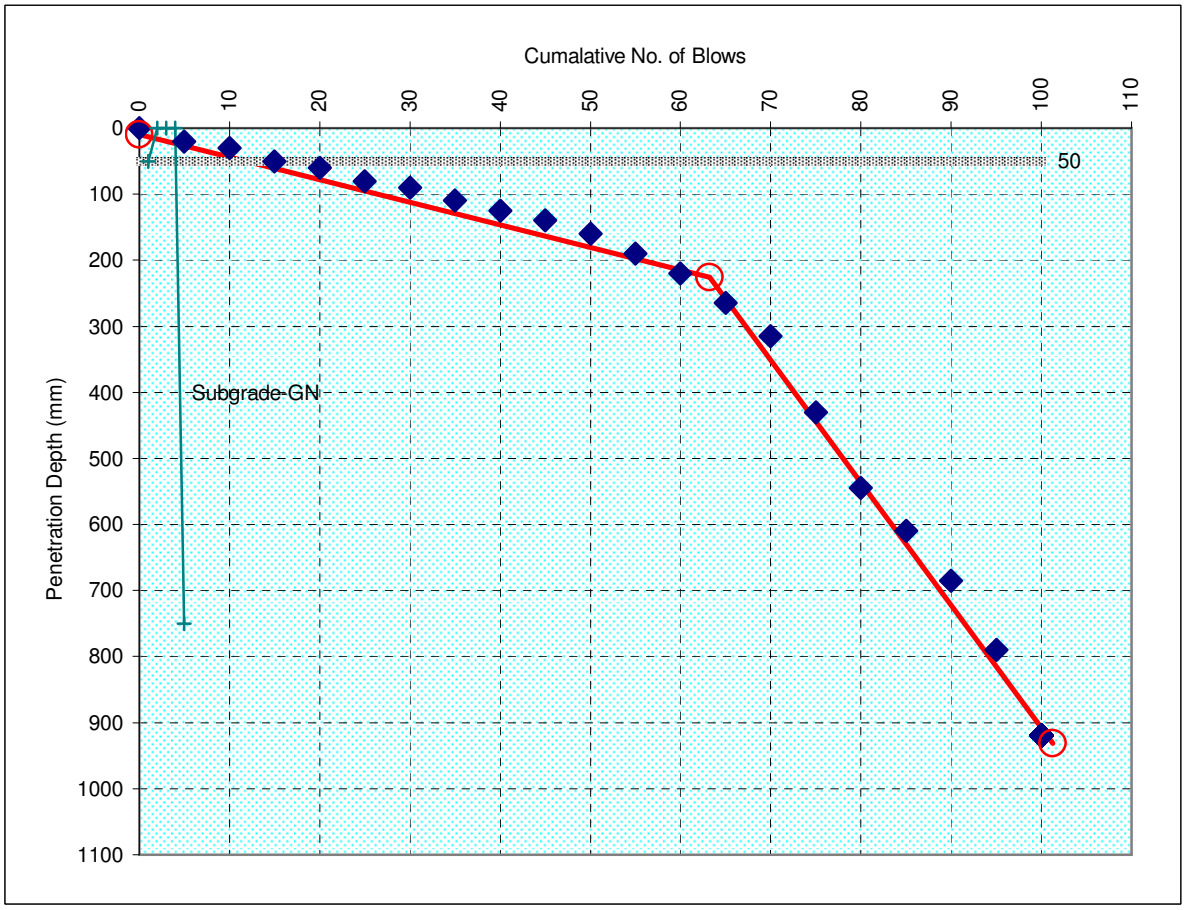
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 28 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 1+855 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 226 | 216 | 63 | 82 |
| Layer 3 | 226 | 931 | 705 | 101 | 14 |

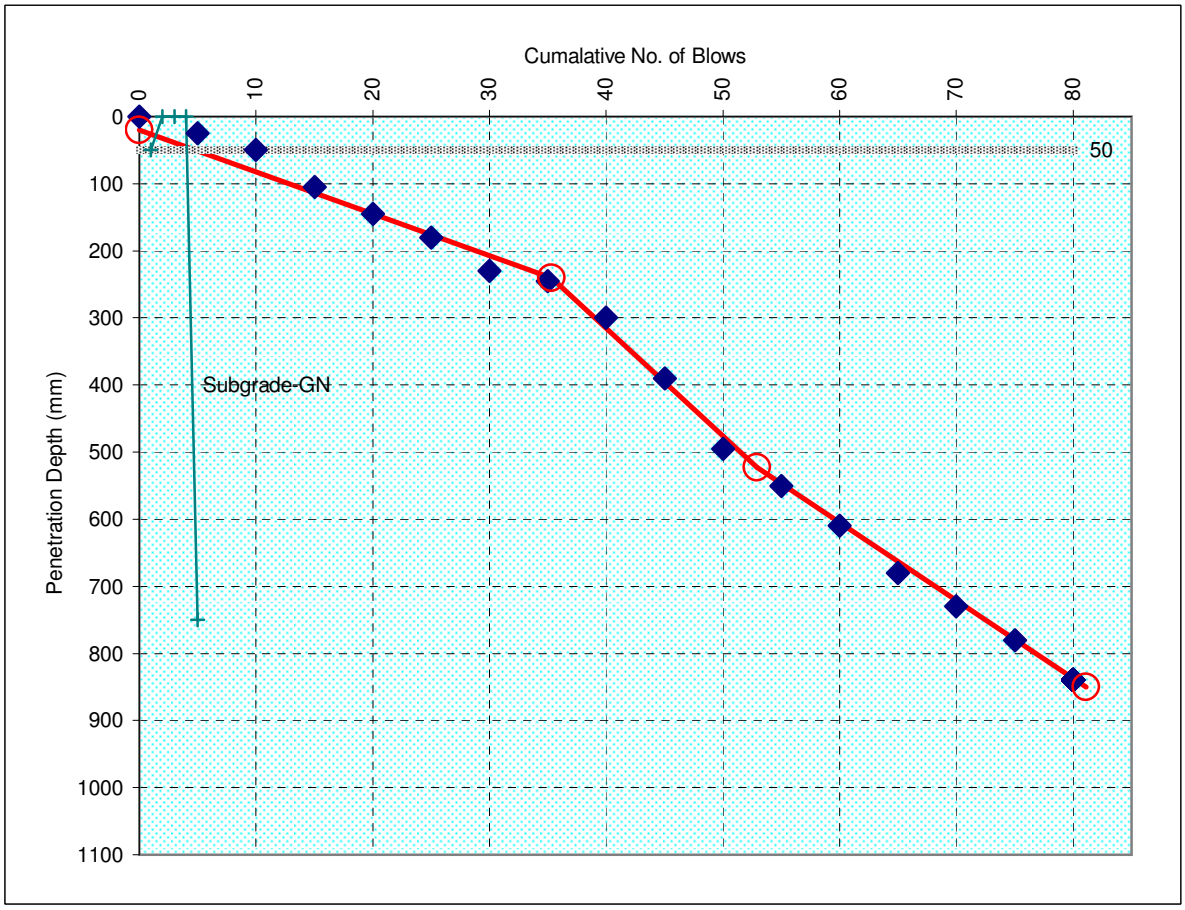
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 90 | 28 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 1+905 | Location: | 0 m |
| Side: | Left | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 240 | 220 | 35 | 44 |
| Layer 3 | 240 | 523 | 283 | 53 | 16 |
| Layer 4 | 523 | 850 | 327 | 81 | 23 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 70 | 23 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

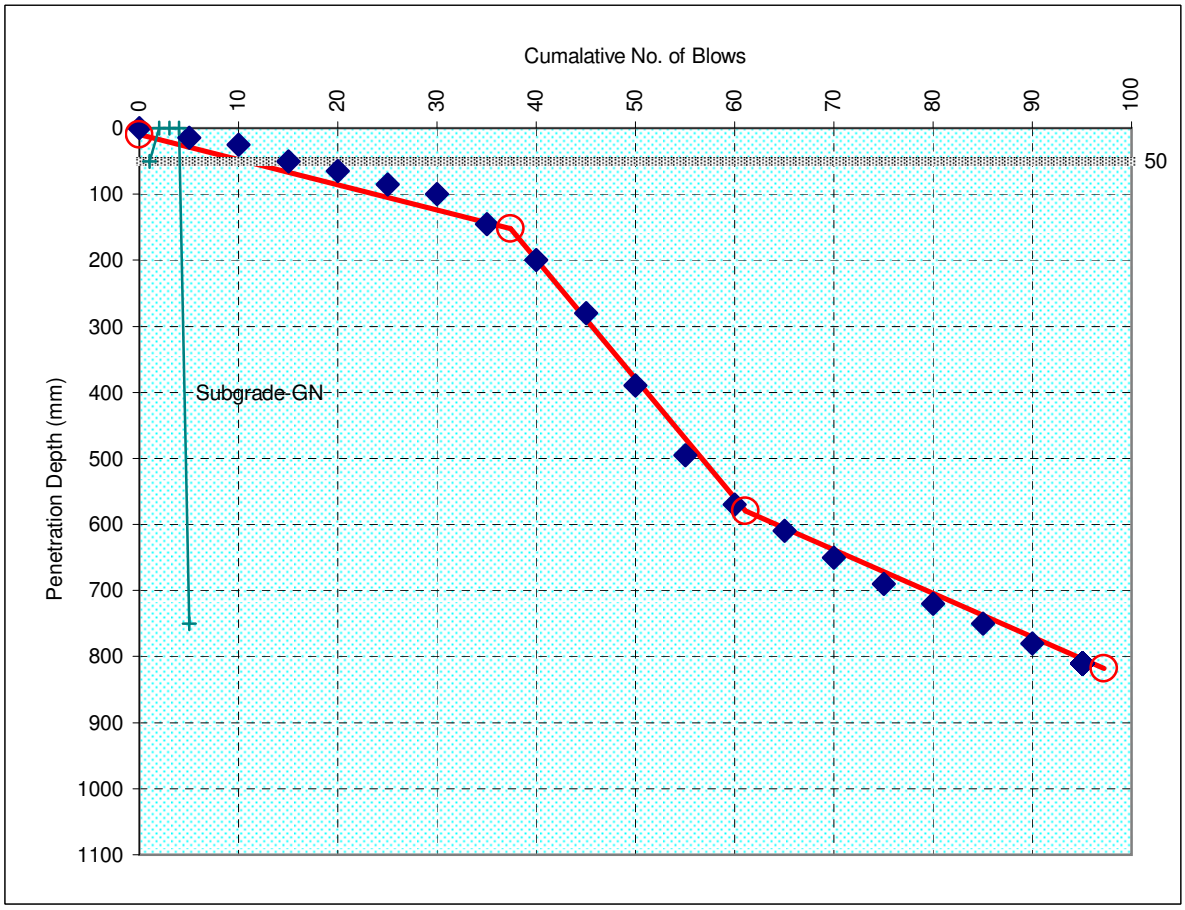
Operator: JM/VV

Road Code: 8

Chainage: 1+955 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 10 | 10 | 0 | Drilled |
| Layer 2 | 10 | 152 | 142 | 37 | 74 |
| Layer 3 | 152 | 580 | 428 | 61 | 14 |
| Layer 4 | 580 | 818 | 238 | 97 | 41 |

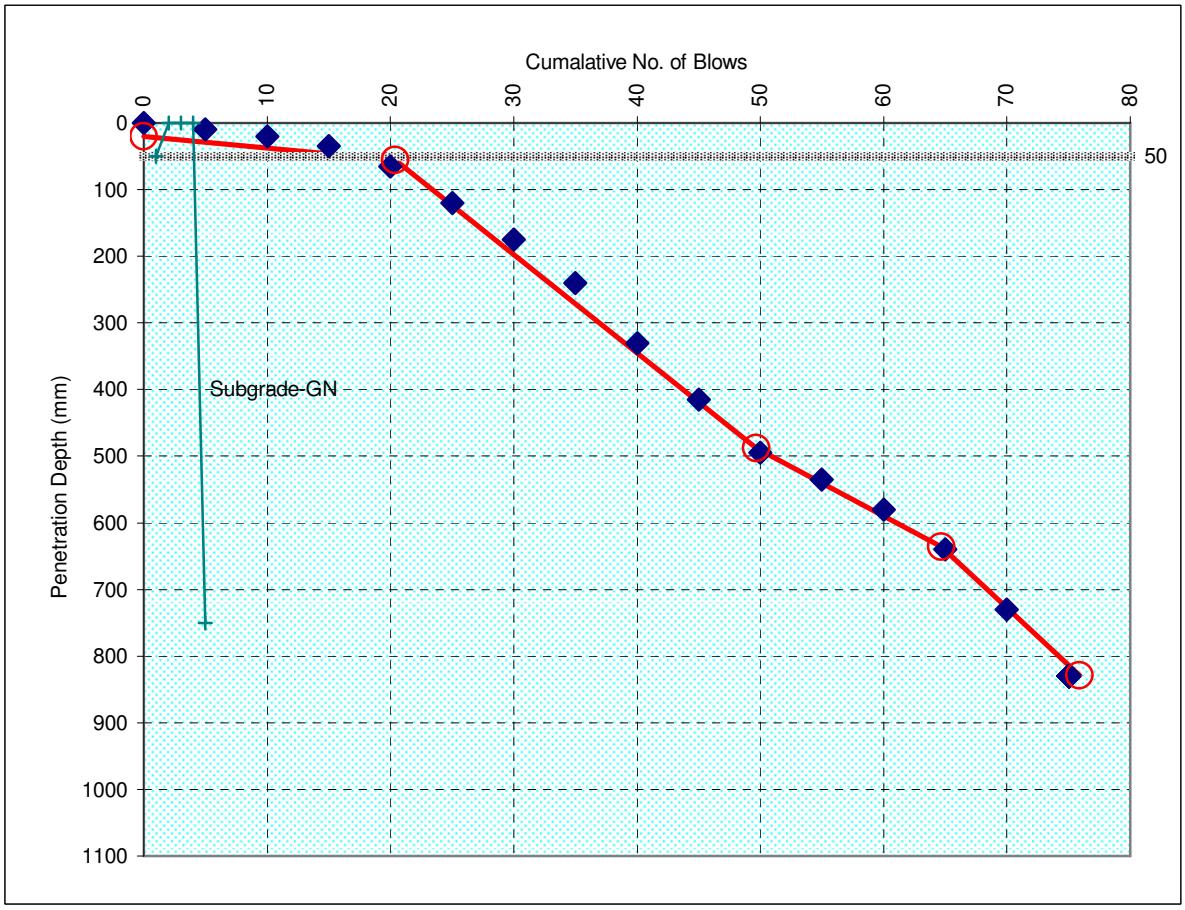
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 85 | 26 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+005 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 56 | 36 | 20 | 166 |
| Layer 3 | 56 | 488 | 432 | 50 | 18 |
| Layer 4 | 488 | 636 | 148 | 65 | 27 |
| Layer 5 | 636 | 829 | 193 | 76 | 15 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 15 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 70 | 21 |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

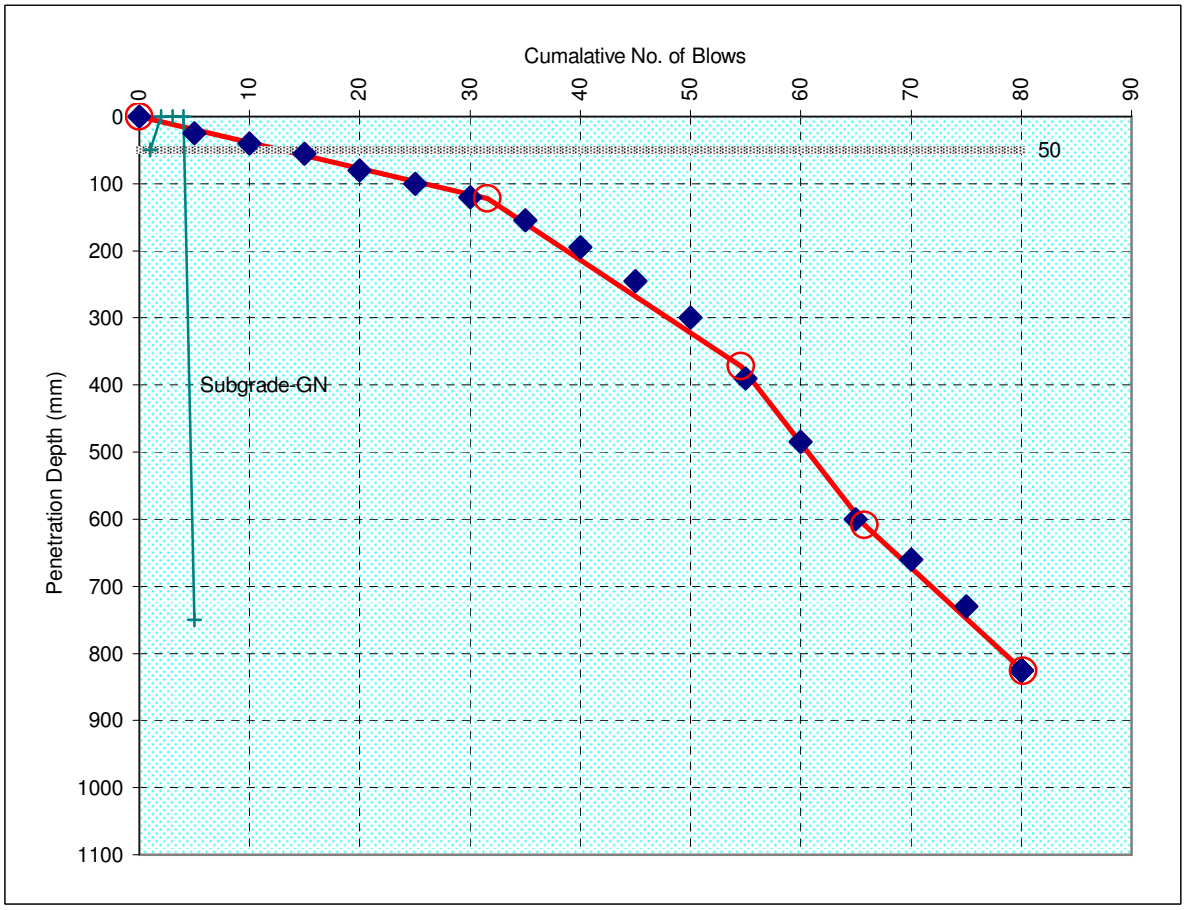
Operator: JM/VV

Road Code: 8

Chainage: 2+055 Location: 0 m Side: Centre

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 122 | 122 | 32 | 72 |
| Layer 3 | 122 | 372 | 250 | 55 | 24 |
| Layer 4 | 372 | 609 | 237 | 66 | 12 |
| Layer 5 | 609 | 826 | 217 | 80 | 17 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 50 | 10 | |
| Base | GN | N | | Hide |
| Subbase | GN | N | | Hide |
| Selected Subgrade | GN | N | | Hide |
| Subgrade | GN | 750 | 75 | 24 |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

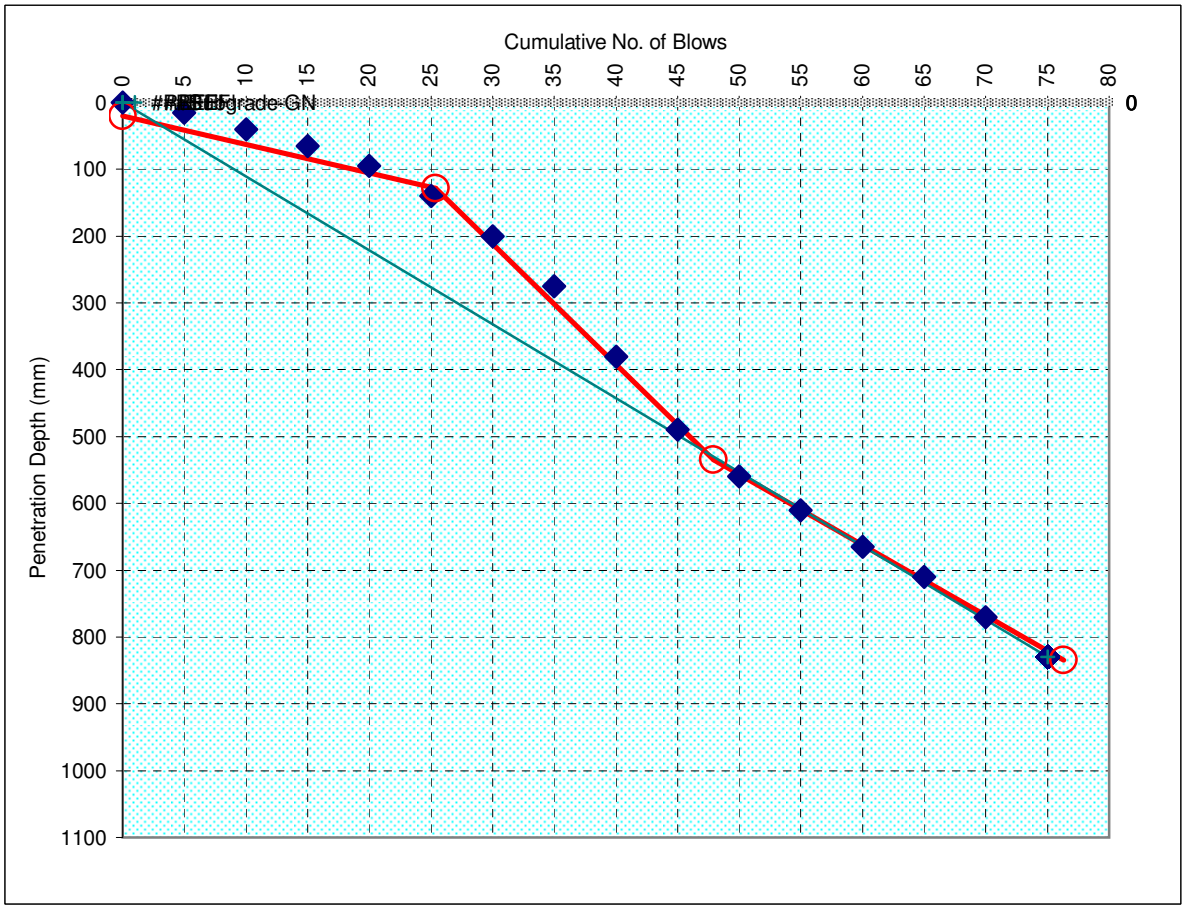
Operator: JM/VV

Road Code: 8

Chainage: 2+105 Location: 0 m Side: Left

Depth below Surface at test start: 0 mm

Description: Sand Seal 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 128 | 108 | 25 | 65 |
| Layer 3 | 128 | 535 | 407 | 48 | 14 |
| Layer 4 | 535 | 835 | 300 | 76 | 25 |

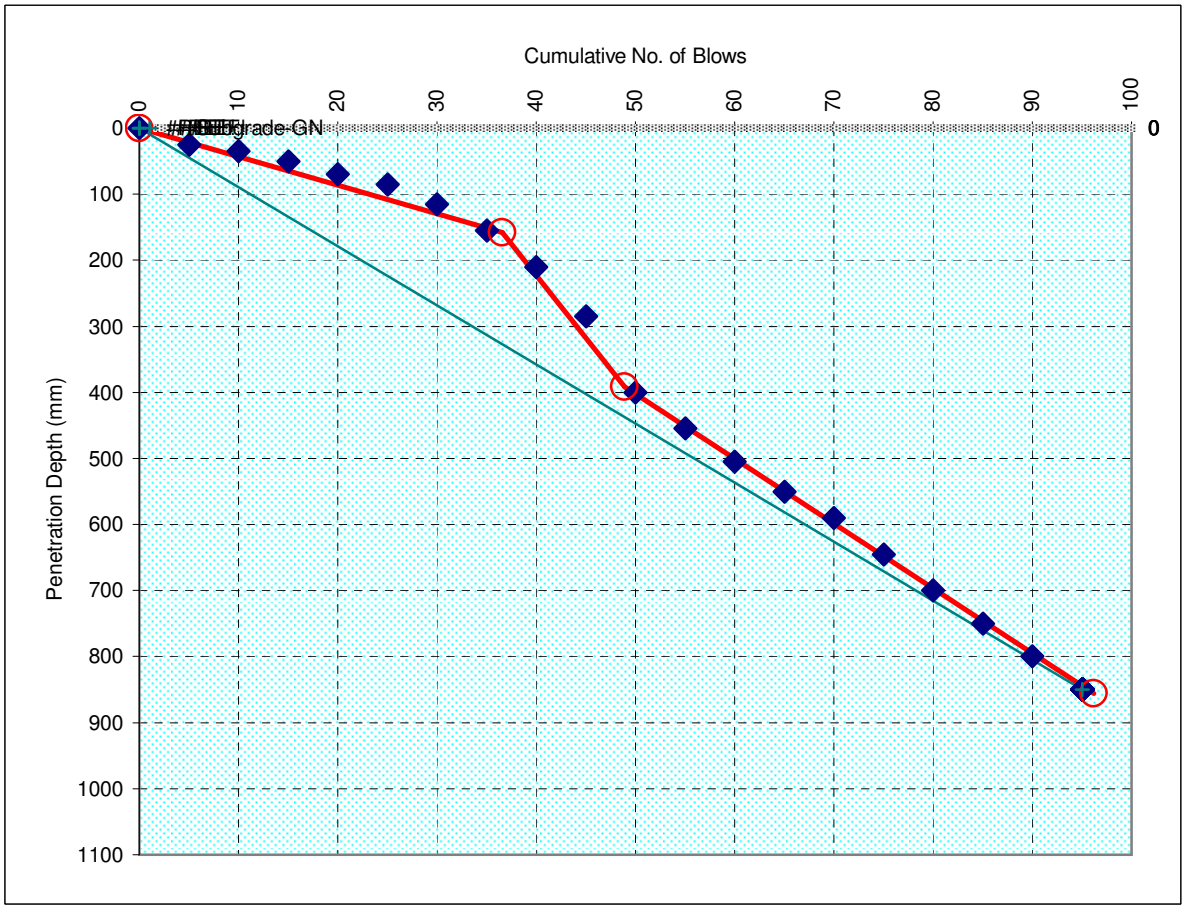
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 830 | 75 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+155 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ *(CBR) =* *2.48* *-1.057* $Log_{10}$ *(mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 158 | 158 | 37 | 64 |
| Layer 3 | 158 | 392 | 234 | 49 | 13 |
| Layer 4 | 392 | 856 | 464 | 96 | 27 |

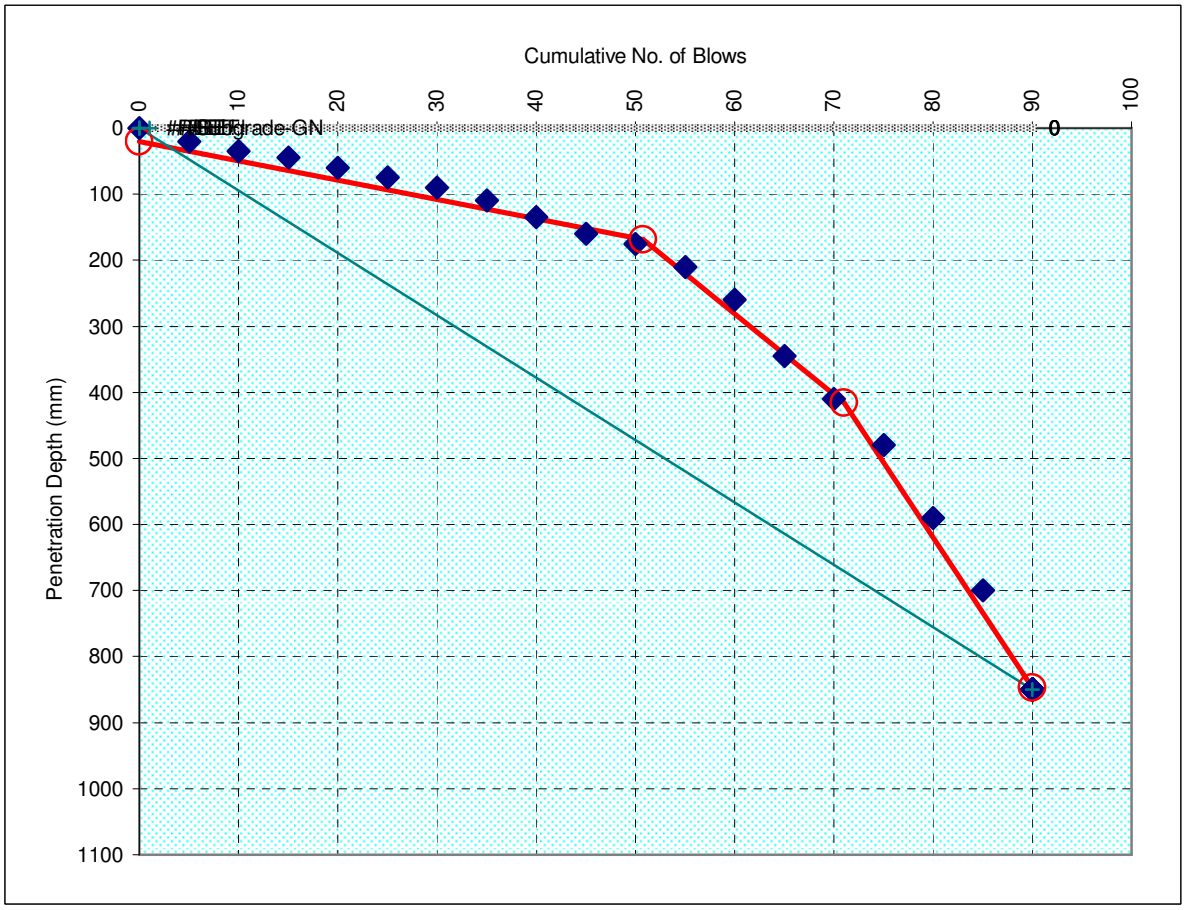
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 850 | 95 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+195 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Sand Seal | | 0 |




CBR Relationship $Log_{10}$ *(CBR) =* *2.48* *-1.057* $Log_{10}$ *(mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 169 | 149 | 51 | 97 |
| Layer 3 | 169 | 416 | 247 | 71 | 21 |
| Layer 4 | 416 | 847 | 431 | 90 | 11 |

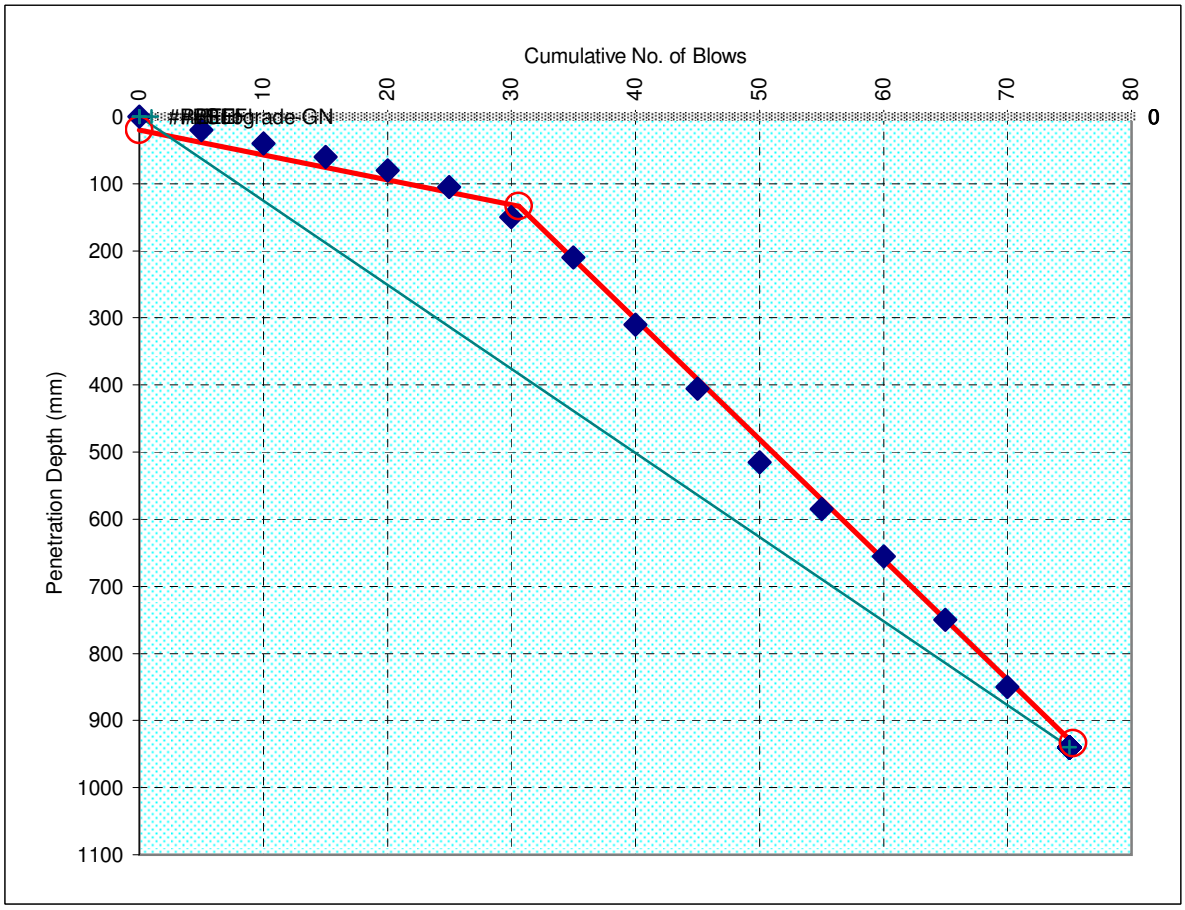
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 850 | 90 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+205 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 134 | 114 | 31 | 75 |
| Layer 3 | 134 | 934 | 800 | 75 | 14 |

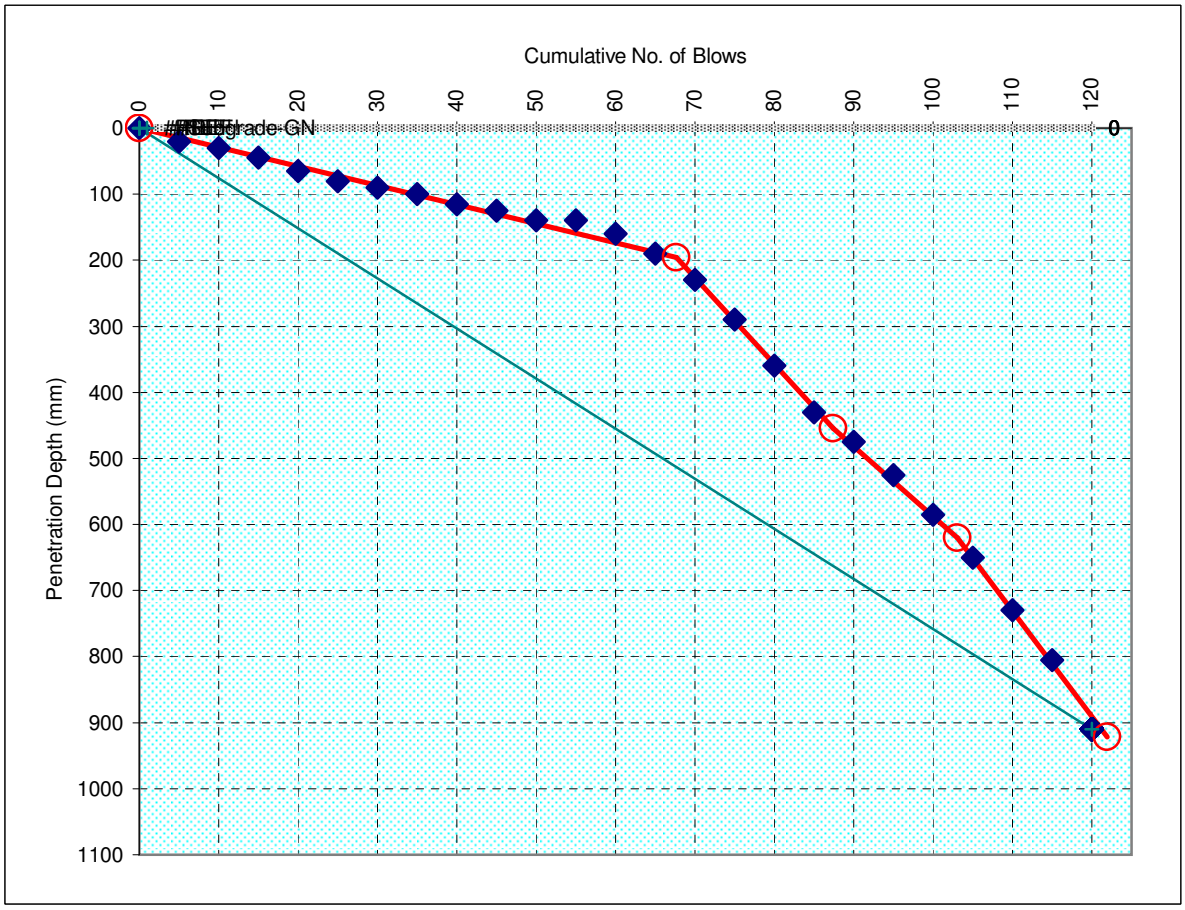
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 940 | 75 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+255 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ *(CBR) =* *2.48* *-1.057* $Log_{10}$ *(mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 196 | 196 | 68 | 98 |
| Layer 3 | 196 | 455 | 259 | 87 | 20 |
| Layer 4 | 455 | 620 | 165 | 103 | 25 |
| Layer 5 | 620 | 922 | 302 | 122 | 16 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 910 | 120 | #REF! |

**0.000**

**Roughton International**

**Dynamic Cone Penetrometer Test**

Date: Oct 2012

Road Name: SEACAP 17 Lao PDR

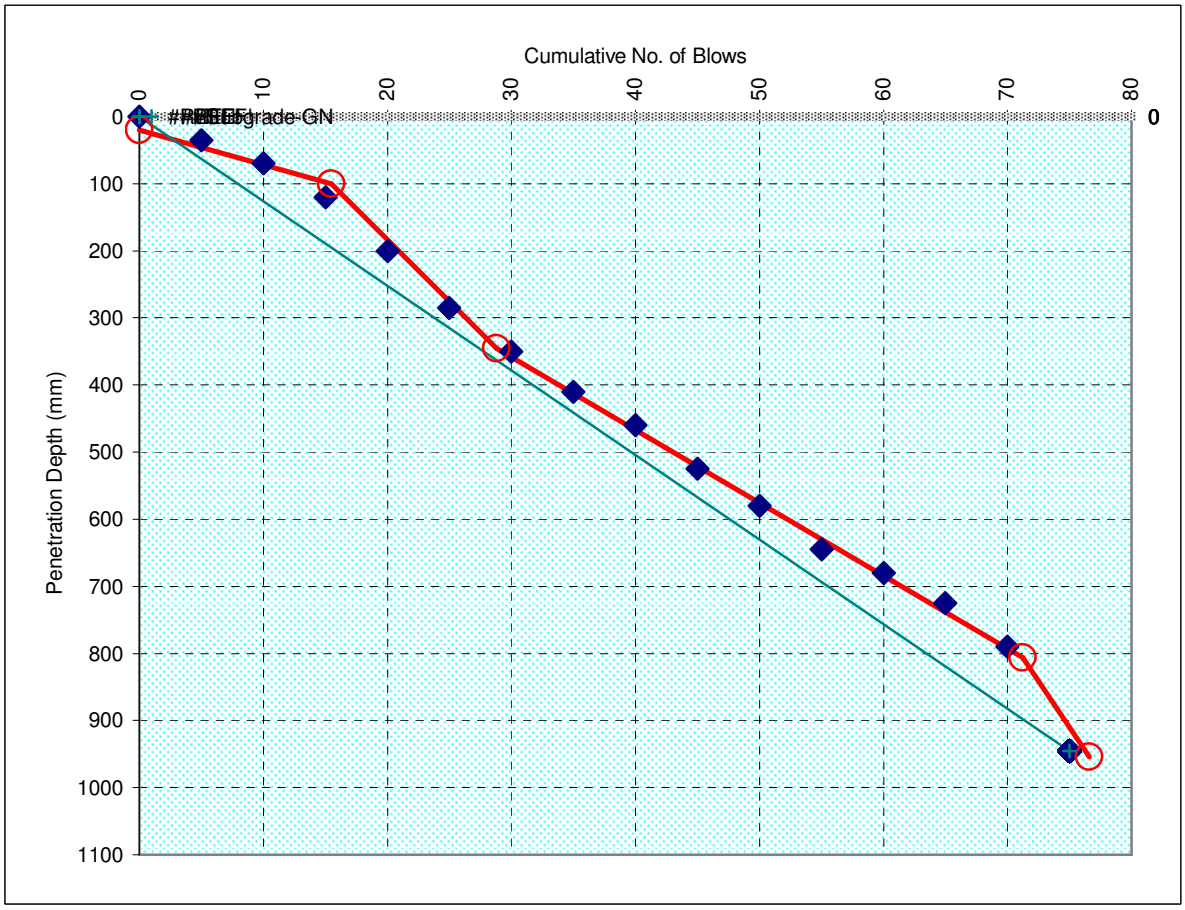
Operator: JM/VV

Road Code: 8

Chainage: 2+305 Location: 0 m Side: Left

Depth below Surface at test start: 0 mm

Description: Gravel 0




CBR Relationship $Log_{10}$ (CBR) = 2.48 -1.057 $Log_{10}$ (mm/ blow)

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 20 | 20 | 0 | Drilled |
| Layer 2 | 20 | 100 | 80 | 16 | 53 |
| Layer 3 | 100 | 345 | 245 | 29 | 14 |
| Layer 4 | 345 | 806 | 461 | 71 | 24 |
| Layer 5 | 806 | 954 | 148 | 77 | 9 |

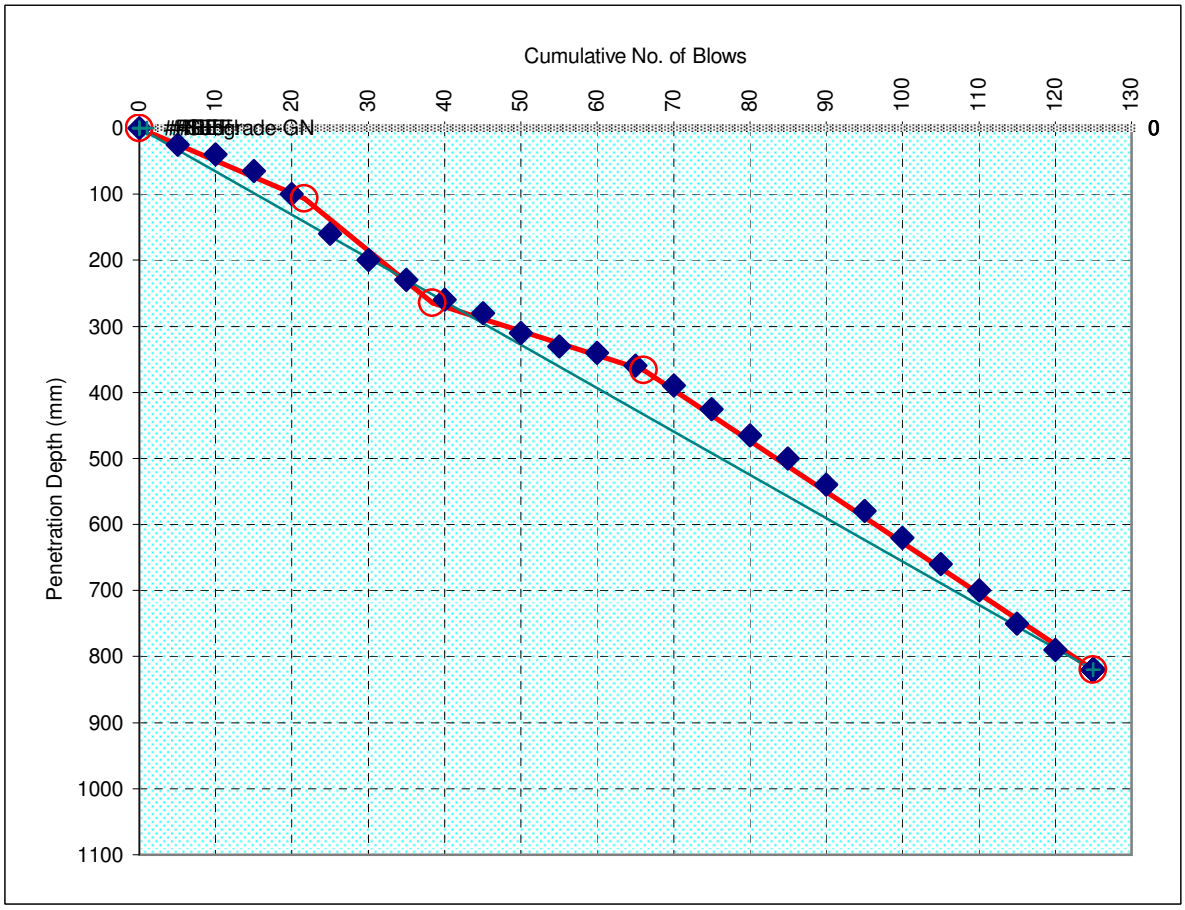
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 945 | 75 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+355 | Location: | 0 m |
| Side: | Centre | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship $Log_{10}$ *(CBR) =* *2.48* *-1.057* $Log_{10}$ *(mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 107 | 107 | 22 | 56 |
| Layer 3 | 107 | 265 | 158 | 38 | 28 |
| Layer 4 | 265 | 366 | 101 | 66 | 77 |
| Layer 5 | 366 | 820 | 454 | 125 | 35 |

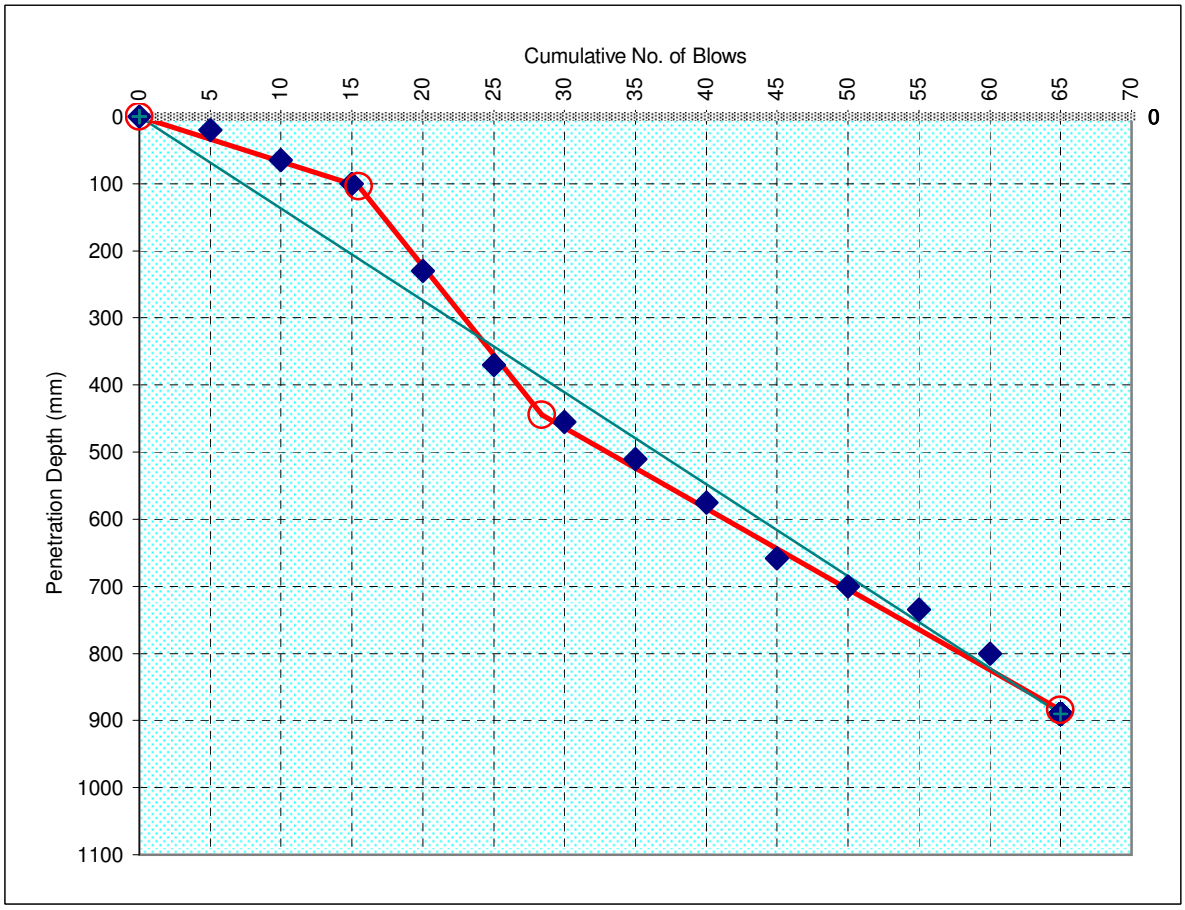
***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | 0 | 1 | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 820 | 125 | #REF! |

**0.000** **Roughton International**

**Dynamic Cone Penetrometer Test**

| | | | |
|---|---|---|---|
| Date: | Oct 2012 | | |
| Road Name: | SEACAP 17 Lao PDR | Operator: | JM/VV |
| Road Code: | 8 | | |
| Chainage: | 2+395 | Location: | 0 m |
| Side: | Right | | |
| Depth below Surface at test start: | 0 mm | | |
| Description: | Gravel | | 0 |




CBR Relationship *Log $_{10}$ (CBR) =* *2.48* *-1.057* *Log $_{10}$ (mm/ blow)*

***Layer Characteristics as Determined by the DCP Test***

| Layer | Start (mm) | End (mm) | Thickness (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|---|
| Layer 1 | 0 | 0 | 0 | 0 | Drilled |
| Layer 2 | 0 | 104 | 104 | 16 | 40 |
| Layer 3 | 104 | 445 | 341 | 28 | 9 |
| Layer 4 | 445 | 884 | 439 | 65 | 22 |

***Pavement Layer Characteristics as Determined by Trial Pits or Construction Details***

| Layer | Material Code | Depth (mm) | Blows (No.) | Strength CBR (%) |
|---|---|---|---|---|
| Surface | | #REF! | #REF! | |
| Base | GN | #REF! | #REF! | #REF! |
| Subbase | GN | #REF! | #REF! | #REF! |
| Selected Subgrade | GN | #REF! | #REF! | #REF! |
| Subgrade | GN | 890 | 65 | #REF! |

# Appendix E

## Roughness Measurements (MERLIN)

International Roughness Index
SEACAP 17

| Road | Section | IRI (m/km) Base Line | 2009 | Oct-12 |
|---|---|---|---|---|
| 1-1 | Gravel Wearing Course | 8.28 | 15.13 | 14.36 |
| 1-3 | Gravel Wearing Course | 7.46 | 18.31 | 11.41 |
| 2 | Gravel Wearing Course | 9.51 | 17.69 | 16.70 |
| | Hand Packed Stone | 6.59 | 16.65 | 18.68 |
| 3-2 | Single Otta Seal | 7.19 | 8.90 | 4.67 |
| | Double Otta Seal | 7.31 | 8.62 | 5.52 |
| | Engineered Natural Surface | 6.02 | 10.42 | 8.26 |
| | Mortared Stone | 14.28 | 22.46 | 17.67 |
| | Gravel Wearing Course | 9.01 | 10.35 | 11.61 |
| 3-3 | Gravel Wearing Course | 7.48 | 10.00 | 5.24 |
| 5 | Concrete Paving Blocks | 9.05 | 8.21 | 6.25 |
| | Bamboo Reinforced Concrete | 11.67 | 12.63 | 7.01 |
| | Concrete Geocell | 8.12 | 8.21 | 6.16 |
| | Gravel Wearing Course | 7.92 | 10.00 | 5.56 |
| 8 | Sand Seal | 6.49 | 8.21 | 12.91 |
| | Gravel Wearing Course | 7.80 | 10.00 | 15.13 |

SEACAP17, HOUAYXAI DISTRICT, BOKEO PROVINCE LAO PDR

Consultant: Roughton International in association with Lao Transport Engineering Consult

# MERLIN MEASUREMENT SHEET

$$Sf = \frac{10T}{S}$$

T = 6 mm, 12 mm
S = 35 mm, 70 mm

$$Sf_6 = \frac{10 \times 6}{35} = 1.7142$$

$$Sf_{12} = \frac{10 \times 12}{70} = 1.7142$$

$$IRI = 0.593 + 0.0471\ D \times Sf$$

| Access Road No.: | Chainage (KM to KM) | Pavement Type | Left Side | | | | Right Side | | | | Average IRI (mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Forward | | Backward | | Forward | | Backward | | |
| | | | D | IRI | D | IRI | D | IRI | D | IRI | |
| 1.1 | 0+500 - 0+700 | Gravel Wearing Course | 100 | 8.6669 | 94 | 8.1824 | 91 | 7.9402 | 96 | 8.3439 | 8.2834 |
| 1.3 | 1+220 - 1+420 | Gravel Wearing Course | 105 | 9.0706 | 91 | 7.9402 | 77 | 6.8099 | 67 | 6.0025 | 7.4558 |
| 2 | 0+400 - 0+600 | Gravel Wearing Course | 120 | 10.2817 | 112 | 9.6357 | 103 | 8.9091 | 107 | 9.2321 | 9.5146 |
| | 0+600 - 1+095 | Hand Packed Stone | 69 | 6.1640 | 78 | 6.8906 | 73 | 6.4869 | 77 | 6.8099 | 6.5879 |
| 3.2 | 0+020 - 0+270 | Single Otta Seal | 73 | 6.4869 | 77 | 6.8099 | 77 | 6.8099 | 100 | 8.6669 | 7.1934 |
| | 0+270 - 0+520 | Double Otta Seal | 96 | 8.3439 | 77 | 6.8099 | 87 | 7.6173 | 73 | 6.4869 | 7.3145 |
| | 0+520 - 0+920 | Engineered Natural Surface | 69 | 6.1640 | 68 | 6.0832 | 73 | 6.4869 | 59 | 5.3566 | 6.0227 |
| | 0+920 - 1+275 | Mortared Stone | 157 | 13.2690 | 179 | 15.0452 | 170 | 14.3186 | 172 | 14.4801 | 14.2782 |
| | 1+275 - 1+520 | Mortared Stone | 100 | 8.6669 | 133 | 11.3313 | 101 | 8.7476 | 100 | 8.6669 | 11.8157 |
| | 1+520 - 1+715 | Gravel Wearing Course | 118 | 10.1202 | 95 | 8.2632 | 109 | 9.3935 | 95 | 8.2632 | 9.0100 |
| 3.3 | 1+600 - 1+800 | Gravel Wearing Course | 91 | 7.9402 | 95 | 8.2632 | 73 | 6.4869 | 82 | 7.2136 | 7.4760 |
| 5 | 0+900 - 1+400 | Concrete Paving Block | 91 | 7.9402 | 105 | 9.0706 | 118 | 10.1202 | 105 | 9.0706 | 9.0504 |
| | 1+950 - 2+525 | Bamboo Reinforced Concrete | 140 | 11.8964 | 132 | 11.2505 | 136 | 11.5735 | 141 | 11.9772 | 11.6744 |
| | 2+750 - 3+150 | Geocell | 91 | 7.9402 | 91 | 7.9402 | 100 | 8.6669 | 91 | 7.9402 | 8.1219 |
| | 4+500 - 4+700 | Gravel Wearing Course | 72 | 6.4062 | 81 | 7.1328 | 105 | 9.0706 | 105 | 9.0706 | 7.9200 |
| 8 | 1+500 - 1+630 | Sand Seal | 96 | 8.3439 | 86 | 7.5365 | 82 | 7.2136 | 81 | 7.1328 | 7.5567 |
| | 1+670 - 1+875 | Sand Seal | 72 | 6.4062 | 94 | 8.1824 | 72 | 6.4062 | 54 | 4.9529 | 6.4869 |
| | 1+875 - 2+200 | Sand Seal | 72 | 6.4062 | 67 | 6.0025 | 72 | 6.4062 | 75 | 6.6484 | 6.8032 |
| | 2+200 - 2+395 | Gravel Wearing Course | 89 | 7.7788 | 85 | 7.4558 | 94 | 8.1824 | 89 | 7.7788 | 7.7989 |

## 6. MERLIN MEASUREMENT SHEET

$$sf = \frac{10 \times T}{S}$$

T= 6 mm , 12 mm

S= 35 mm , 70 mm

$$sf = \frac{10 \times 6}{35} = 1.7143$$

$$sf = \frac{10 \times 12}{70} = 1.7143$$

D = L x sf

IRI = 0.593 + (0.0471 x Dx sf)

| Access Road No. : | Chainage (KM to KM) | Pavement Type | Left Side | | | Right Side | | Average IRI (mm) |
|---|---|---|---|---|---|---|---|---|
| | | | D | | IRI | D | IRI | |
| 1011 | 0+600 - 0+700 | Gravel | 188.573 | 110.006 | 15.818 | 171.43 | 14.434 | 15.126 |
| 1013 | 1+270 - 1+270 | Gravel | 233.145 | 136.008 | 19.417 | 205.716 | 17.202 | 18.310 |
| 102 | 0+450 - 0+550 | Gravel | 207.43 | 121.007 | 17.341 | 216.002 | 18.033 | 17.687 |
| | 0+940 - 1+040 | Packed Stone | 198.859 | 116.007 | 16.649 | 198.859 | 16.649 | 16.649 |
| | 0+700 - 0+800 | Packed Stone | 224.573 | 131.008 | 18.725 | 198.859 | 16.649 | 17.687 |
| 1032 | 0+150 - 0+250 | Single Otta Seal | 108.001 | 63.0037 | 9.313 | 97.7151 | 8.482 | 8.898 |
| | 0+415 - 0+515 | Double Otta Seal | 99.4294 | 58.0034 | 8.621 | 99.4294 | 8.621 | 8.621 |
| | 0+800 - 0+900 | Eng' Nat.Surface | 108.001 | 63.0037 | 9.313 | 135.43 | 11.527 | 10.420 |
| | 1+200 - 1+300 | Mortared Stone | 324.003 | 189.011 | 26.753 | 315.431 | 26.061 | 26.407 |
| | 1+300 - 1+400 | Mortared Stone | 288.002 | 168.01 | 23.846 | 253.716 | 21.078 | 22.462 |
| | 1+520 - 1+620 | Gravel | 162.859 | 95.0055 | 13.742 | 144.001 | 12.219 | 12.981 |
| | 1+620 - 1+720 | Gravel | 116.572 | 68.004 | 10.005 | 125.144 | 10.697 | 10.351 |
| 1033 | 1+650 - 1+750 | Gravel | 108.001 | 63.0037 | 9.313 | 125.144 | 10.697 | 10.005 |
| 105 | 0+950 - 1+050 | Paving Blocks | 154.287 | 90.0053 | 13.050 | 116.572 | 10.005 | 11.527 |
| | 1+250 - 1+350 | Paving Blocks | 80.5721 | 47.0027 | 7.098 | 108.001 | 9.313 | 8.206 |
| | 2+000 - 2+100 | Bamboo Concrete | 161.144 | 94.0055 | 13.604 | 198.859 | 16.649 | 15.126 |
| | 2+350 - 2+450 | Bamboo Concrete | 144.001 | 84.0049 | 12.219 | 154.287 | 13.050 | 12.635 |
| | 2+800 - 2+800 | Geocells | 116.572 | 68.004 | 10.005 | 99.4294 | 8.621 | 9.313 |
| | 2+950 - 3+050 | Geocells | 99.4294 | 58.0034 | 8.621 | 89.1436 | 7.790 | 8.206 |
| | 3+050 - 3+175 | Geocells | 80.5721 | 47.0027 | 7.098 | 135.43 | 11.527 | 9.313 |
| | 3+175 - 3+275 | Gravel | 116.572 | 68.004 | 10.005 | 116.572 | 10.005 | 10.005 |
| | 4+550 - 4+650 | Gravel | 135.43 | 79.0046 | 11.527 | 135.43 | 11.527 | 11.527 |
| 108 | 1+800 - 1+900 | Sand Seal | 99.4294 | 58.0034 | 8.621 | 89.1436 | 7.790 | 8.206 |
| | 2+000 - 2+100 | Sand Seal | 99.4294 | 58.0034 | 8.621 | 108.001 | 9.313 | 8.967 |
| | 2+225 - 2+325 | Gravel | 116.572 | 68.004 | 10.005 | 116.572 | 10.005 | 10.005 |

| International Roughness Index<br>SEACAP 17 | | | | | Road Name: | | | |
|---|---|---|---|---|---|---|---|---|
| Road | Section | Wheel Path | Date Recorded | D | $S_f$ | D cal | IRI | Average IRI |
| | | | | mm | | mm | m/km | m/km |
| 1-1 | Gravel Wearing Course | LHS | 06/10/2012 | 191 | 1.714 | 327.429 | 16.015 | **14.360** |
| | | | | | | | | |
| | | RHS | 06/10/2012 | 150 | 1.714 | 257.143 | 12.704 | |
| 1-3 | Gravel Wearing Course | LHS | 06/10/2012 | 125 | 1.714 | 214.286 | 10.686 | **11.413** |
| | | | | | | | | |
| | | RHS | 06/10/2012 | 143 | 1.714 | 245.143 | 12.139 | |
| 2 | Gravel Wearing Course | LHS | 08/10/2012 | 203 | 1.714 | 348.000 | 16.984 | **16.701** |
| | | | | | | | | |
| | | RHS | 08/10/2012 | 196 | 1.714 | 336.000 | 16.419 | |
| | Hand Packed Stone | LHS | 08/10/2012 | 223 | 1.714 | 382.286 | 18.599 | **18.679** |
| | | | | | | | | |
| | | RHS | 08/10/2012 | 225 | 1.714 | 385.714 | 18.760 | |
| 3-2 | Single Otta Seal | LHS | 03/10/2012 | 50 | 1.714 | 85.714 | 4.630 | **4.671** |
| | | | | | | | | |
| | | RHS | 03/10/2012 | 51 | 1.714 | 87.429 | 4.711 | |
| | Double Otta Seal | LHS | 03/10/2012 | 65 | 1.714 | 111.429 | 5.841 | **5.518** |
| | | | | | | | | |
| | | RHS | 03/10/2012 | 57 | 1.714 | 97.714 | 5.195 | |
| | Engineered Natural Surface | LHS | 03/10/2012 | 84 | 1.714 | 144.000 | 7.375 | **8.264** |
| | | | | | | | | |
| | | RHS | 03/10/2012 | 106 | 1.714 | 181.714 | 9.152 | |
| | Mortared Stone | LHS | 03/10/2012 | 221 | 1.714 | 378.857 | 18.437 | **17.670** |
| | | | | | | | | |
| | | RHS | 03/10/2012 | 202 | 1.714 | 346.286 | 16.903 | |
| | Gravel Wearing Course | LHS | 03/10/2012 | 149 | 1.714 | 255.429 | 12.624 | **11.614** |
| | | | | | | | | |
| | | RHS | 03/10/2012 | 124 | 1.714 | 212.571 | 10.605 | |
| 3-3 | Gravel Wearing Course | LHS | 06/10/2012 | 66 | 1.714 | 113.143 | 5.922 | **5.236** |
| | | | | | | | | |
| | | RHS | 06/10/2012 | 49 | 1.714 | 84.000 | 4.549 | |
| 5 | Concrete Paving Blocks | LHS | 10/10/2012 | 74 | 1.714 | 126.857 | 6.568 | **6.245** |
| | | | | | | | | |
| | | RHS | 10/10/2012 | 66 | 1.714 | 113.143 | 5.922 | |
| | Bamboo Reinforced Concrete | LHS | 10/10/2012 | 83 | 1.714 | 142.286 | 7.295 | **7.012** |
| | | | | | | | | |
| | | RHS | 10/10/2012 | 76 | 1.714 | 130.286 | 6.729 | |
| | Concrete Geocell | LHS | 10/10/2012 | 80 | 1.714 | 137.143 | 7.052 | **6.164** |
| | | | | | | | | |
| | | RHS | 10/10/2012 | 58 | 1.714 | 99.429 | 5.276 | |
| | Gravel Wearing Course | LHS | 11/10/2012 | 62 | 1.714 | 106.286 | 5.599 | **5.559** |
| | | | | | | | | |
| | | RHS | 11/10/2012 | 61 | 1.714 | 104.571 | 5.518 | |
| 8 | Sand Seal | LHS | 09/10/2012 | 153 | 1.714 | 262.286 | 12.947 | **12.906** |
| | | | | | | | | |
| | | RHS | 09/10/2012 | 152 | 1.714 | 260.571 | 12.866 | |
| | Gravel Wearing Course | LHS | 09/10/2012 | 174 | 1.714 | 298.286 | 14.642 | **15.127** |
| | | | | | | | | |
| | | RHS | 09/10/2012 | 186 | 1.714 | 318.857 | 15.611 | |

# Appendix F

## Surface Texture (Sand Patch Test)

SEACAP 17, Houayxai Bokeo Province
Consultant: Roughton International in association with LTEC

# SAND PATCH TEST FORM

Access Road No.: 3-2 Type of Pavement: Otta Seal (Double and Single)

Tested by: Singthong Checked by: Vandy V. Date: 21 Aug. 2007

| Location (KM) | Diametre (mm) | | | | | Texture depth (mm) $63660/D^2$ |
|---|---|---|---|---|---|---|
| | D1 | D2 | D3 | D4 | Average | |
| 0 + 025 | 256 | 255 | 258 | 255 | 256.00 | 0.971 |
| 0 + 125 | 236 | 250 | 246 | 246 | 244.50 | 1.065 |
| 0 + 225 | 284 | 260 | 278 | 270 | 273.00 | 0.854 |
| | | | | | | |
| Average | | | | | - | 0.963 |
| | | | | | | |
| 0 + 315 | 294 | 295 | 278 | 300 | 291.75 | 0.748 |
| 0 + 405 | 260 | 260 | 280 | 251 | 262.75 | 0.922 |
| 0 + 515 | 375 | 376 | 382 | 367 | 375.00 | 0.453 |
| | | | | | - | |
| Average | | | | | - | 0.708 |
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SEACAP 17, Houayxai Bokeo Province
Consultant: Roughton International in association with LTEC

## SAND PATCH TEST FORM

Access Road No.: 3-2 Type of Pavement: Otta Seal (Double and Single)

Tested by: Singthong Checked by: Vandy V. Date: 9 Oct. 2012

| Location (KM) | Diametre (mm) | | | | | Texture depth (mm) $63660/D^2$ |
|---|---|---|---|---|---|---|
| | D1 | D2 | D3 | D4 | Average | |
| 0 + 025 | 360 | 370 | 375 | 360 | 366.25 | 0.475 |
| 0 + 125 | 380 | 370 | 370 | 370 | 372.50 | 0.459 |
| 0 + 225 | 450 | 470 | 450 | 460 | 457.50 | 0.304 |
| | | | | | - | |
| Average | | | | | | 0.413 |
| | | | | | | |
| 0 + 315 | 300 | 300 | 320 | 310 | 307.50 | 0.673 |
| 0 + 405 | 350 | 370 | 340 | 350 | 352.50 | 0.512 |
| 0 + 515 | 280 | 290 | 300 | 285 | 288.75 | 0.764 |
| | | | | | - | |
| Average | | | | | - | 0.650 |
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SEACAP 17, Houayxai Bokeo Province
Consultant: Roughton International in association with LTEC

# SAND PATCH TEST FORM

Access Road No.: 8 Type of Pavement: Sand Seal

Tested by: Singthong Checked by: Vandy V. Date: 21 Aug. 2007

| Location (KM) | Diametre (mm) | | | | | Texture depth (mm) $63660/D^2$ |
|---|---|---|---|---|---|---|
| | D1 | D2 | D3 | D4 | Average | |
| 1 + 505 | 320 | 305 | 312 | 313 | 312.50 | 0.652 |
| 1 + 605 | 321 | 310 | 311 | 310 | 313.00 | 0.650 |
| 1 + 705 | 320 | 318 | 321 | 318 | 319.25 | 0.625 |
| 1 + 805 | 309 | 315 | 320 | 300 | 311.00 | 0.658 |
| 1 + 905 | 320 | 326 | 325 | 320 | 322.75 | 0.611 |
| 2 + 005 | 365 | 353 | 360 | 362 | 360.00 | 0.491 |
| 2 + 105 | 295 | 305 | 288 | 293 | 295.25 | 0.730 |
| 2 + 195 | 300 | 310 | 300 | 321 | 307.75 | 0.672 |
| | | | | | - | |
| Average | | | | | - | 0.636 |
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SEACAP 17, Houayxai Bokeo Province
Consultant: Roughton International in association with LTEC

# SAND PATCH TEST FORM

Access Road No.: 8 Type of Pavement: Sand Seal

Tested by: Singthong Checked by: Vandy V. Date: 9 Oct. 2012

| Location (KM) | Diametre (mm) | | | | | Texture depth (mm) $63660/D^2$ |
|---|---|---|---|---|---|---|
| | D1 | D2 | D3 | D4 | Average | |
| 1 + 505 | 310 | 320 | 300 | 300 | 307.50 | 0.673 |
| 1 + 605 | 320 | 340 | 340 | 350 | 337.50 | 0.559 |
| 1 + 705 | 380 | 370 | 370 | 360 | 370.00 | 0.465 |
| 1 + 805 | 370 | 380 | 370 | 390 | 377.50 | 0.447 |
| 1 + 905 | 420 | 400 | 390 | 400 | 402.50 | 0.393 |
| 2 + 005 | 400 | 390 | 410 | 410 | 402.50 | 0.393 |
| 2 + 105 | 350 | 360 | 340 | 350 | 350.00 | 0.520 |
| 2 + 195 | 340 | 360 | 360 | 350 | 352.50 | 0.512 |
| | | | | | - | |
| Average | | | | | - | 0.495 |
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# Appendix G

## Light Weight Deflectometer (LWD) Test

**File:** **Rd 1.1 gravel**
**Date:** **06. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.60** | **93.00** | **0.00** | **300.00** | **500.00** | **610.00** | **83.00** | **31.00** | **116.00** | **245.00** | **2.23** |
| | **Minimum** | | | **150.00** | **5.80** | **81.00** | **0.00** | **300.00** | **500.00** | **197.00** | **34.00** | **17.00** | **37.00** | **-42.00** | **0.59** |
| | **Average** | | | **150.00** | **6.14** | **86.81** | **0.00** | **300.00** | **500.00** | **441.63** | **47.33** | **23.85** | **55.78** | **75.93** | **1.28** |
| | **Percentile** | **10%** | | **150.00** | **5.80** | **82.00** | **0.00** | **300.00** | **500.00** | **316.60** | **38.00** | **18.60** | **40.60** | **1.40** | **0.82** |
| 1 | rd 1.1 gv km 0+505cl | 1 | 13:42:04 | 150 | 5.8 | 82 | 0 | 300 | 500 | 529 | 44 | 25 | 41 | 194 | 1.633 |
| | | 2 | 13:42:13 | 150 | 6.1 | 87 | 0 | 300 | 500 | 512 | 44 | 25 | 45 | 65 | 1.535 |
| | | 3 | 13:42:23 | 150 | 6.1 | 87 | 0 | 300 | 500 | 480 | 43 | 24 | 48 | 67 | 1.388 |
| 2 | rd 1.1 gv km 0+530cl | 1 | 13:43:51 | 150 | 6.1 | 86 | 0 | 300 | 500 | 423 | 77 | 29 | 54 | 68 | 1.18 |
| | | 2 | 13:44:00 | 150 | 6.3 | 89 | 0 | 300 | 500 | 412 | 83 | 29 | 57 | 21 | 1.141 |
| | | 3 | 13:44:09 | 150 | 6.2 | 88 | 0 | 300 | 500 | 385 | 74 | 28 | 60 | 53 | 0.955 |
| 3 | rd 1.1 gv km 0+555cl | 1 | 13:45:28 | 150 | 5.8 | 81 | 0 | 300 | 500 | 542 | 48 | 29 | 40 | 172 | 1.648 |
| | | 2 | 13:45:38 | 150 | 6.1 | 86 | 0 | 300 | 500 | 511 | 59 | 30 | 44 | -1 | 1.53 |
| | | 3 | 13:45:47 | 150 | 6.1 | 86 | 0 | 300 | 500 | 514 | 60 | 31 | 44 | 3 | 1.507 |
| 4 | rd 1.1 gv km 0+580cl | 1 | 13:47:07 | 150 | 6 | 85 | 0 | 300 | 500 | 520 | 46 | 27 | 43 | 156 | 1.614 |
| | | 2 | 13:47:16 | 150 | 6.1 | 87 | 0 | 300 | 500 | 413 | 43 | 25 | 55 | -13 | 1.06 |
| | | 3 | 13:47:25 | 150 | 6.1 | 87 | 0 | 300 | 500 | 398 | 43 | 26 | 57 | 26 | 1.001 |
| 5 | rd 1.1 gv km 0+605cl | 1 | 13:48:41 | 150 | 5.8 | 82 | 0 | 300 | 500 | 415 | 42 | 21 | 52 | 83 | 1.103 |
| | | 2 | 13:48:50 | 150 | 6 | 84 | 0 | 300 | 500 | 402 | 43 | 21 | 55 | 25 | 0.989 |
| | | 3 | 13:48:59 | 150 | 6.1 | 86 | 0 | 300 | 500 | 414 | 45 | 22 | 55 | 35 | 0.996 |
| 6 | rd 1.1 gv km 0+630cl | 1 | 13:50:45 | 150 | 6.1 | 87 | 0 | 300 | 500 | 197 | 38 | 24 | 116 | 109 | 0.59 |
| | | 2 | 13:50:54 | 150 | 6.3 | 89 | 0 | 300 | 500 | 230 | 43 | 27 | 102 | 118 | 0.624 |
| | | 3 | 13:51:03 | 150 | 6.4 | 90 | 0 | 300 | 500 | 262 | 45 | 28 | 90 | 70 | 0.702 |
| 7 | rd 1.1 gv km 0+655cl | 1 | 13:52:42 | 150 | 6.3 | 89 | 0 | 300 | 500 | 543 | 39 | 20 | 43 | 196 | 1.484 |
| | | 2 | 13:52:51 | 150 | 6.6 | 93 | 0 | 300 | 500 | 394 | 41 | 21 | 62 | 26 | 0.955 |
| | | 3 | 13:52:59 | 150 | 6.6 | 93 | 0 | 300 | 500 | 385 | 41 | 21 | 64 | 12 | 0.897 |
| 8 | rd 1.1 gv km 0+680cl | 1 | 13:54:05 | 150 | 6.1 | 86 | 0 | 300 | 500 | 610 | 34 | 18 | 37 | 158 | 2.017 |
| | | 2 | 13:54:15 | 150 | 6.4 | 90 | 0 | 300 | 500 | 508 | 38 | 19 | 47 | 48 | 1.504 |
| | | 3 | 13:54:23 | 150 | 6.4 | 91 | 0 | 300 | 500 | 544 | 38 | 20 | 44 | 73 | 1.761 |
| 9 | rd 1.1 gv km 0+695cl | 1 | 13:55:18 | 150 | 6 | 85 | 0 | 300 | 500 | 591 | 42 | 17 | 38 | 245 | 2.228 |
| | | 2 | 13:55:27 | 150 | 6.1 | 86 | 0 | 300 | 500 | 437 | 42 | 18 | 52 | 83 | 1.466 |
| | | 3 | 13:55:36 | 150 | 5.8 | 82 | 0 | 300 | 500 | 353 | 43 | 19 | 61 | -42 | 1.152 |

**File:** **Rd 1.1 Gravel Wearing Course**
**Date:** **06 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***167*** | ***300*** | | | | | | | | |
| ***Minimum*** | | | | ***33*** | ***31*** | ***35*** | ***-0.27*** | ***51*** | ***46*** | | |
| ***Maximum*** | | | | ***153*** | ***77*** | ***214*** | ***0.00*** | ***214*** | ***104*** | | |
| ***Average*** | | | | ***72*** | ***47*** | ***142*** | ***-0.05*** | ***146*** | ***63*** | | |
| ***Percentile*** | ***10%*** | | | ***35*** | ***36*** | ***75*** | ***0*** | ***87*** | ***48*** | | |
| ***Percentile*** | ***50%*** | | | ***62*** | ***43*** | ***152*** | ***0*** | ***152*** | ***58*** | | |
| 1 | km 0+505cl | 300 | | 36 | | 136 | 0 | 136 | 48 | 0 | |
| 2 | km 0+530cl | 100 | 300 | 85 | 43 | 35 | -0.27 | 51 | 58 | 0 | |
| 3 | km 0+555cl | 100 | 300 | 61 | 31 | 134 | 0 | 134 | 48 | 0 | |
| 4 | km 0+580cl | 100 | 300 | 85 | 43 | 178 | 0 | 178 | 66 | 0 | |
| 5 | km 0+605cl | 100 | 300 | 62 | 41 | 176 | 0 | 176 | 58 | 0 | |
| 6 | km 0+630cl | 100 | 300 | 153 | 77 | 152 | 0 | 152 | 104 | 0 | |
| 7 | km 0+655cl | 100 | 300 | 89 | 45 | 214 | 0 | 214 | 71 | 0 | |
| 8 | km 0+680cl | 300 | | 33 | | 167 | 0 | 167 | 46 | 0 | |
| 9 | km 0+695cl | 300 | | 45 | | 85 | -0.13 | 96 | 56 | 0 | |

**File:** **Rd1.3 gravel**
**Date:** **06. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **830.00** | **80.00** | **35.00** | **697.00** | **227.00** | **2.31** |
| | **Minimum** | | | **150.00** | **5.80** | **82.00** | **0.00** | **300.00** | **500.00** | **35.00** | **35.00** | **21.00** | **27.00** | **-160.00** | **-0.61** |
| | **Average** | | | **150.00** | **6.22** | **88.07** | **0.00** | **300.00** | **500.00** | **382.44** | **54.15** | **26.93** | **98.74** | **7.85** | **0.89** |
| | **Percentile** | **10%** | | **150.00** | **5.96** | **84.60** | **0.00** | **300.00** | **500.00** | **170.60** | **41.40** | **21.60** | **39.20** | **-98.40** | **0.07** |
| 1 | rd1.3 gv km1+225cl | 1 | 15:29:12 | 150 | 6.2 | 88 | 0 | 300 | 500 | 116 | 35 | 21 | 199 | -80 | -0.611 |
| | | 2 | 15:29:22 | 150 | 6.4 | 91 | 0 | 300 | 500 | 86 | 38 | 21 | 278 | -126 | -0.312 |
| | | 3 | 15:29:31 | 150 | 6.5 | 92 | 0 | 300 | 500 | 35 | 39 | 22 | 697 | -160 | -0.425 |
| 2 | rd1.3 gv km1+250cl | 1 | 15:31:12 | 150 | 6.3 | 90 | 0 | 300 | 500 | 376 | 47 | 23 | 63 | 64 | 0.945 |
| | | 2 | 15:31:21 | 150 | 6.4 | 91 | 0 | 300 | 500 | 320 | 49 | 24 | 75 | -31 | 0.752 |
| | | 3 | 15:31:55 | 150 | 6.5 | 92 | 0 | 300 | 500 | 334 | 45 | 23 | 72 | -29 | 0.717 |
| 3 | rd1.3 gv km1+275cl | 1 | 15:33:19 | 150 | 6.2 | 87 | 0 | 300 | 500 | 246 | 53 | 26 | 93 | -37 | 0.322 |
| | | 2 | 15:33:28 | 150 | 6.1 | 86 | 0 | 300 | 500 | 228 | 50 | 25 | 100 | -62 | 0.349 |
| | | 3 | 15:33:37 | 150 | 6.2 | 88 | 0 | 300 | 500 | 357 | 53 | 27 | 65 | 114 | 1.003 |
| 4 | rd1.3 gv km1+300cl | 1 | 15:35:35 | 150 | 6.4 | 91 | 0 | 300 | 500 | 395 | 43 | 21 | 61 | -39 | 0.798 |
| | | 2 | 15:35:47 | 150 | 6.5 | 92 | 0 | 300 | 500 | 399 | 45 | 22 | 61 | -10 | 0.839 |
| | | 3 | 15:35:57 | 150 | 6.4 | 91 | 0 | 300 | 500 | 386 | 45 | 22 | 62 | -68 | 0.852 |
| 5 | rd1.3 gv km1+325cl | 1 | 15:37:18 | 150 | 6.2 | 88 | 0 | 300 | 500 | 533 | 50 | 25 | 44 | 120 | 1.382 |
| | | 2 | 15:37:27 | 150 | 6.4 | 91 | 0 | 300 | 500 | 477 | 50 | 25 | 50 | 27 | 1.131 |
| | | 3 | 15:37:37 | 150 | 6.5 | 91 | 0 | 300 | 500 | 468 | 50 | 25 | 51 | 10 | 1.078 |
| 6 | rd1.3 gv km1+350cl | 1 | 15:38:50 | 150 | 6 | 85 | 0 | 300 | 500 | 830 | 80 | 35 | 27 | 227 | 2.31 |
| | | 2 | 15:38:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 628 | 78 | 34 | 37 | 28 | 1.606 |
| | | 3 | 15:39:08 | 150 | 6.2 | 88 | 0 | 300 | 500 | 604 | 78 | 34 | 38 | 39 | 1.537 |
| 7 | rd1.3 gv km1+375cl | 1 | 15:40:21 | 150 | 5.9 | 84 | 0 | 300 | 500 | 525 | 61 | 28 | 42 | 146 | 1.685 |
| | | 2 | 15:40:32 | 150 | 6 | 85 | 0 | 300 | 500 | 446 | 57 | 26 | 50 | 55 | 1.227 |
| | | 3 | 15:40:42 | 150 | 6.2 | 87 | 0 | 300 | 500 | 421 | 58 | 27 | 55 | 17 | 1.115 |
| 8 | rd1.3 gv km1+400cl | 1 | 15:41:53 | 150 | 6 | 85 | 0 | 300 | 500 | 207 | 49 | 29 | 107 | -128 | 0.389 |
| | | 2 | 15:42:01 | 150 | 5.8 | 82 | 0 | 300 | 500 | 223 | 52 | 32 | 97 | -8 | 0.457 |
| | | 3 | 15:42:10 | 150 | 5.9 | 84 | 0 | 300 | 500 | 222 | 50 | 31 | 100 | 39 | 0.459 |
| 9 | rd1.3 gv km1+415cl | 1 | 15:45:19 | 150 | 6 | 85 | 0 | 300 | 500 | 554 | 68 | 33 | 40 | 102 | 1.767 |
| | | 2 | 15:45:28 | 150 | 6.2 | 87 | 0 | 300 | 500 | 443 | 69 | 33 | 52 | -13 | 1.299 |
| | | 3 | 15:45:37 | 150 | 6.3 | 89 | 0 | 300 | 500 | 467 | 70 | 33 | 50 | 15 | 1.371 |

**File: Rd 1.3 Gravel Wearing Course**
**Date: 06 October 2012**

| Point No. | Location | H1 mm | E1 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***222*** | | | | | | | |
| ***Minimum*** | | | ***31*** | ***6*** | ***-1*** | ***31*** | ***37*** | ***0*** | |
| ***Maximum*** | | | ***1905*** | ***106*** | ***0*** | ***106*** | ***524*** | ***0*** | |
| ***Average*** | | | ***262*** | ***52*** | ***0*** | ***62*** | ***63*** | ***0*** | |
| ***Percentile*** | ***10%*** | | ***36*** | ***21*** | ***0*** | ***41*** | ***47*** | ***0*** | |
| ***Percentile*** | ***50%*** | | ***47*** | ***59*** | ***0*** | ***66*** | ***61*** | ***0*** | |
| 1 | km1+225cl | 300 | 1905 | 6 | -0.61 | 43 | 524 | 0 | |
| 2 | km1+250cl | 200 | 61 | 68 | -0.16 | 75 | 73 | 0 | |
| 3 | km1+275cl | 200 | 84 | 59 | -0.16 | 67 | 85 | 0 | |
| 4 | km1+300cl | 200 | 47 | 64 | -0.18 | 71 | 61 | 0 | |
| 5 | km1+325cl | 200 | 37 | 61 | -0.16 | 66 | 50 | 0 | |
| 6 | km1+350cl | 200 | 31 | 25 | -0.28 | 31 | 37 | 0 | |
| 7 | km1+375cl | 200 | 44 | 38 | -0.24 | 46 | 52 | 0 | |
| 8 | km1+400cl | 250 | 100 | 106 | 0 | 106 | 98 | 0 | |
| 9 | km1+415cl | 250 | 45 | 42 | -0.18 | 50 | 51 | 0 | |

**File:** **Rd 2 hand pack stone**
**Date:** **08. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.70** | **95.00** | **0.00** | **300.00** | **500.00** | **1166.00** | **50.00** | **19.00** | **145.00** | **1166.00** | **2.49** |
| | **Minimum** | | | **150.00** | **6.00** | **84.00** | **0.00** | **300.00** | **500.00** | **161.00** | **0.00** | **3.00** | **20.00** | **-199.00** | **-0.55** |
| | **Average** | | | **150.00** | **6.24** | **88.18** | **0.00** | **300.00** | **500.00** | **439.91** | **26.15** | **10.09** | **66.97** | **221.05** | **1.03** |
| | **Percentile** | **10%** | | **150.00** | **6.10** | **86.00** | **0.00** | **300.00** | **500.00** | **220.50** | **13.00** | **6.00** | **30.50** | **-14.50** | **0.55** |
| 1 | rd 2 km 0+605 cl | 1 | 13:13:44 | 150 | 6.1 | 87 | 0 | 300 | 500 | 312 | 27 | 17 | 73 | 226 | 1.19 |
| | | 2 | 13:13:59 | 150 | 6 | 85 | 0 | 300 | 500 | 797 | 30 | 19 | 28 | 797 | 1.229 |
| | | 3 | 13:14:19 | 150 | 6.3 | 89 | 0 | 300 | 500 | 520 | 30 | 16 | 45 | 520 | 0.89 |
| 2 | rd 2 km 0+630 cl | 1 | 13:17:01 | 150 | 6.1 | 86 | 0 | 300 | 500 | 279 | 17 | 6 | 82 | 190 | 0.754 |
| | | 2 | 13:17:13 | 150 | 6.3 | 89 | 0 | 300 | 500 | 161 | 27 | 6 | 145 | 36 | 0.344 |
| | | 3 | 13:17:23 | 150 | 6.3 | 89 | 0 | 300 | 500 | 551 | 32 | 6 | 42 | 551 | 0.675 |
| 3 | rd 2 km 0+655 cl | 1 | 13:19:02 | 150 | 6.1 | 86 | 0 | 300 | 500 | 790 | 36 | 11 | 29 | 420 | 2.279 |
| | | 2 | 13:19:12 | 150 | 6.2 | 87 | 0 | 300 | 500 | 404 | 30 | 10 | 57 | 404 | 0.976 |
| | | 3 | 13:19:22 | 150 | 6.2 | 88 | 0 | 300 | 500 | 354 | 26 | 8 | 65 | 354 | 0.693 |
| 4 | rd 2 km 0+680 cl | 1 | 13:21:27 | 150 | 6.3 | 88 | 0 | 300 | 500 | 275 | 17 | 5 | 85 | 149 | 1.042 |
| | | 2 | 13:21:37 | 150 | 6.2 | 88 | 0 | 300 | 500 | 217 | 23 | 6 | 107 | 126 | 0.795 |
| | | 3 | 13:21:46 | 150 | 6.4 | 90 | 0 | 300 | 500 | 227 | 24 | 6 | 104 | 111 | 0.783 |
| 5 | rd 2 km 0+705 cl | 1 | 13:23:31 | 150 | 6 | 84 | 0 | 300 | 500 | 552 | 0 | 8 | 40 | 552 | 1.262 |
| | | 2 | 13:24:04 | 150 | 6.2 | 87 | 0 | 300 | 500 | 477 | 20 | 10 | 48 | 389 | 0.863 |
| | | 3 | 13:24:19 | 150 | 6.2 | 88 | 0 | 300 | 500 | 735 | 9 | 8 | 31 | 735 | 0.831 |
| 6 | rd 2 km 0+730 cl | 1 | 13:26:12 | 150 | 6.2 | 88 | 0 | 300 | 500 | 298 | 10 | 11 | 77 | 82 | 0.754 |
| | | 2 | 13:26:21 | 150 | 6.3 | 89 | 0 | 300 | 500 | 249 | 16 | 9 | 94 | 25 | 0.552 |
| | | 3 | 13:26:30 | 150 | 6.3 | 89 | 0 | 300 | 500 | 250 | 18 | 8 | 93 | 35 | 0.556 |
| 7 | rd 2 km 0+755 cl | 1 | 13:28:15 | 150 | 6.1 | 87 | 0 | 300 | 500 | 573 | 4 | 3 | 40 | -18 | 2.01 |
| | | 2 | 13:28:26 | 150 | 6.2 | 88 | 0 | 300 | 500 | 500 | 13 | 5 | 46 | 139 | 1.463 |
| | | 3 | 13:28:35 | 150 | 6.2 | 88 | 0 | 300 | 500 | 434 | 13 | 6 | 53 | 52 | 1.124 |
| 8 | rd 2 km 0+780 cl | 1 | 13:30:03 | 150 | 6.1 | 87 | 0 | 300 | 500 | 408 | 19 | 6 | 56 | 290 | 1.382 |
| | | 2 | 13:30:13 | 150 | 6.2 | 87 | 0 | 300 | 500 | 1124 | 25 | 8 | 20 | 1124 | 1.211 |
| | | 3 | 13:30:22 | 150 | 6.2 | 88 | 0 | 300 | 500 | 439 | 26 | 9 | 53 | 439 | 0.733 |
| 9 | rd 2 km 0+805 cl | 1 | 13:32:12 | 150 | 6.1 | 86 | 0 | 300 | 500 | 574 | 28 | 13 | 40 | 158 | 1.832 |
| | | 2 | 13:32:22 | 150 | 6.2 | 88 | 0 | 300 | 500 | 477 | 28 | 12 | 49 | 45 | 1.354 |
| | | 3 | 13:32:31 | 150 | 6.1 | 86 | 0 | 300 | 500 | 479 | 27 | 12 | 47 | 40 | 1.387 |
| 10 | rd 2 km 0+830 cl | 1 | 13:36:30 | 150 | 6.1 | 87 | 0 | 300 | 500 | 530 | 20 | 11 | 43 | 9 | 1.72 |
| | | 2 | 13:36:38 | 150 | 6.1 | 86 | 0 | 300 | 500 | 515 | 21 | 11 | 44 | 313 | 1.618 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 13:36:45 | 150 | 6.1 | 86 | 0 | 300 | 500 | 556 | 19 | 11 | 41 | 491 | 1.733 |
| | 4 | 13:39:18 | 150 | 6.1 | 87 | 0 | 300 | 500 | 770 | 25 | 15 | 30 | -33 | 2.002 |
| | 5 | 13:39:27 | 150 | 6.2 | 88 | 0 | 300 | 500 | 698 | 29 | 13 | 33 | 358 | 0.534 |
| | 6 | 13:39:35 | 150 | 6.2 | 88 | 0 | 300 | 500 | 660 | 26 | 12 | 35 | 660 | 0.606 |
| 11 rd 2 km 0+855 cl | 1 | 13:40:53 | 150 | 6.1 | 86 | 0 | 300 | 500 | 1026 | 33 | 12 | 22 | 861 | 2.489 |
| | 2 | 13:41:01 | 150 | 6.3 | 90 | 0 | 300 | 500 | 984 | 31 | 10 | 24 | 984 | 1.619 |
| | 3 | 13:41:09 | 150 | 6.3 | 89 | 0 | 300 | 500 | 290 | 27 | 10 | 81 | 161 | 0.743 |
| 12 rd 2 km 0+880 cl | 1 | 13:43:51 | 150 | 6.1 | 87 | 0 | 300 | 500 | 289 | 10 | 11 | 79 | 74 | 0.957 |
| | 2 | 13:43:58 | 150 | 6.3 | 89 | 0 | 300 | 500 | 242 | 20 | 11 | 97 | -84 | 0.617 |
| | 3 | 13:44:11 | 150 | 6.3 | 90 | 0 | 300 | 500 | 224 | 18 | 8 | 106 | 16 | 0.549 |
| 13 rd 2 km 0+905 cl | 1 | 13:45:57 | 150 | 6.2 | 87 | 0 | 300 | 500 | 545 | 39 | 16 | 42 | 122 | 1.552 |
| | 2 | 13:46:05 | 150 | 6.2 | 88 | 0 | 300 | 500 | 401 | 45 | 16 | 58 | 48 | 1.05 |
| | 3 | 13:46:17 | 150 | 6.3 | 89 | 0 | 300 | 500 | 411 | 44 | 15 | 57 | -108 | 1.149 |
| 14 rd 2 km 0+930 cl | 1 | 13:48:03 | 150 | 6 | 84 | 0 | 300 | 500 | 300 | 12 | 13 | 74 | -126 | 0.955 |
| | 2 | 13:48:11 | 150 | 6.3 | 89 | 0 | 300 | 500 | 241 | 26 | 12 | 98 | -2 | 0.64 |
| | 3 | 13:48:19 | 150 | 6.4 | 90 | 0 | 300 | 500 | 224 | 25 | 11 | 106 | 169 | 0.601 |
| 15 rd 2 km 0+955 cl | 1 | 13:50:22 | 150 | 6.1 | 87 | 0 | 300 | 500 | 365 | 19 | 7 | 62 | -195 | 1.273 |
| | 2 | 13:50:30 | 150 | 6.2 | 87 | 0 | 300 | 500 | 337 | 23 | 6 | 68 | 337 | 1.042 |
| | 3 | 13:50:38 | 150 | 6.2 | 87 | 0 | 300 | 500 | 1166 | 24 | 7 | 20 | 1166 | 1.081 |
| 16 rd 2 km 0+980 cl | 1 | 13:52:12 | 150 | 6.2 | 88 | 0 | 300 | 500 | 290 | 19 | 12 | 80 | 86 | 0.808 |
| | 2 | 13:52:20 | 150 | 6.3 | 88 | 0 | 300 | 500 | 247 | 24 | 12 | 94 | 0 | 0.602 |
| | 3 | 13:52:31 | 150 | 6.3 | 89 | 0 | 300 | 500 | 235 | 23 | 12 | 99 | -4 | 0.553 |
| 17 rd 2 km 1+005 cl | 1 | 13:54:15 | 150 | 6.1 | 87 | 0 | 300 | 500 | 376 | 40 | 14 | 61 | 88 | 1.101 |
| | 2 | 13:54:23 | 150 | 6.2 | 88 | 0 | 300 | 500 | 332 | 40 | 14 | 70 | 27 | 0.881 |
| | 3 | 13:54:34 | 150 | 6.2 | 88 | 0 | 300 | 500 | 359 | 42 | 14 | 64 | 48 | 0.99 |
| 18 rd 2 km 1+030 cl | 1 | 13:56:29 | 150 | 6.3 | 89 | 0 | 300 | 500 | 303 | 20 | 6 | 77 | 118 | 0.855 |
| | 2 | 13:56:39 | 150 | 6.4 | 90 | 0 | 300 | 500 | 181 | 22 | 6 | 131 | 72 | 0.457 |
| | 3 | 13:56:48 | 150 | 6.4 | 90 | 0 | 300 | 500 | 180 | 23 | 6 | 132 | 162 | 0.506 |
| 19 rd 2 km 1+055 cl | 1 | 13:58:47 | 150 | 6.3 | 88 | 0 | 300 | 500 | 566 | 45 | 9 | 41 | 138 | 1.787 |
| | 2 | 13:58:56 | 150 | 6.3 | 90 | 0 | 300 | 500 | 456 | 41 | 11 | 52 | 19 | 1.284 |
| | 3 | 13:59:07 | 150 | 6.4 | 91 | 0 | 300 | 500 | 448 | 41 | 12 | 53 | -11 | 1.282 |
| 20 rd 2 km 1+080 cl | 1 | 14:01:36 | 150 | 6.5 | 92 | 0 | 300 | 500 | 234 | 45 | 10 | 104 | 32 | 0.677 |
| | 2 | 14:01:45 | 150 | 6.6 | 93 | 0 | 300 | 500 | 198 | 50 | 11 | 123 | 5 | 0.555 |
| | 3 | 14:01:56 | 150 | 6.7 | 95 | 0 | 300 | 500 | 201 | 44 | 11 | 125 | 15 | 0.582 |
| 21 rd 2 km 1+095 cl | 1 | 14:03:58 | 150 | 6.4 | 90 | 0 | 300 | 500 | 301 | 31 | 8 | 79 | 83 | 0.927 |
| | 2 | 14:04:11 | 150 | 6.4 | 90 | 0 | 300 | 500 | 718 | 32 | 8 | 33 | 718 | 0.864 |
| | 3 | 14:04:20 | 150 | 6.4 | 91 | 0 | 300 | 500 | 179 | 33 | 8 | 133 | -199 | -0.547 |

**File:** **Rd 2 Hand Packed Stone**
**Date:** **08 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***100*** | ***125*** | | | | | | | | |
| ***Minimum*** | | | | ***49*** | ***15*** | ***8*** | ***-0.87*** | ***26*** | ***45*** | | |
| ***Maximum*** | | | | ***365*** | ***110*** | ***541*** | ***0.00*** | ***541*** | ***129*** | | |
| ***Average*** | | | | ***126*** | ***38*** | ***212*** | ***-0.22*** | ***221*** | ***85*** | | |
| ***Percentile*** | ***10%*** | | | ***55*** | ***17*** | ***22*** | ***-1*** | ***44*** | ***51*** | | |
| ***Percentile*** | ***50%*** | | | ***99*** | ***30*** | ***247*** | ***0*** | ***247*** | ***83*** | | |
| 1 | km 0+605 cl | 100 | 125 | 55 | 17 | 206 | 0 | 206 | 48 | 0 | |
| 2 | km 0+630 cl | 100 | 125 | 255 | 77 | 16 | -0.8 | 39 | 117 | 0 | |
| 3 | km 0+655 cl | 100 | 125 | 70 | 21 | 300 | 0 | 300 | 62 | 0 | |
| 4 | km 0+680 cl | 100 | 125 | 162 | 49 | 53 | -0.49 | 77 | 104 | 0 | |
| 5 | km 0+705 cl | 100 | 125 | 125 | 38 | 541 | 0 | 541 | 111 | 0 | |
| 6 | km 0+730 cl | 100 | 125 | 118 | 35 | 409 | 0 | 409 | 100 | 0 | |
| 7 | km 0+755 cl | 100 | 125 | 89 | 27 | 535 | 0 | 535 | 83 | 0 | |
| 8 | km 0+780 cl | 100 | 125 | 55 | 17 | 303 | 0 | 303 | 51 | 0 | |
| 9 | km 0+805 cl | 100 | 125 | 65 | 20 | 249 | 0 | 249 | 57 | 0 | |
| 10 | km 0+830 cl | 100 | 125 | 49 | 15 | 247 | 0 | 247 | 45 | 0 | |
| 11 | km 0+855 cl | 100 | 125 | 81 | 24 | 258 | -0.02 | 260 | 68 | 0 | |
| 12 | km 0+880 cl | 100 | 125 | 125 | 38 | 363 | 0 | 363 | 104 | 0 | |
| 13 | km 0+905 cl | 100 | 125 | 80 | 24 | 72 | -0.21 | 81 | 57 | 0 | |
| 14 | km 0+930 cl | 100 | 125 | 132 | 40 | 278 | 0 | 278 | 103 | 0 | |
| 15 | km 0+955 cl | 100 | 125 | 72 | 22 | 149 | -0.2 | 161 | 61 | 0 | |
| 16 | km 0+980 cl | 100 | 125 | 128 | 38 | 280 | 0 | 280 | 100 | 0 | |
| 17 | km 1+005 cl | 100 | 125 | 99 | 30 | 61 | -0.27 | 73 | 66 | 0 | |
| 18 | km 1+030 cl | 100 | 125 | 222 | 67 | 48 | -0.53 | 76 | 129 | 0 | |
| 19 | km 1+055 cl | 100 | 125 | 71 | 21 | 62 | -0.3 | 73 | 52 | 0 | |
| 20 | km 1+080 cl | 100 | 125 | 365 | 110 | 8 | -0.87 | 26 | 121 | 0 | |
| 21 | km 1+095 cl | 100 | 125 | 228 | 68 | 22 | -0.66 | 44 | 110 | 0 | |

**File:** **Rd 2 Gravel Wearing Course**
**Date:** **08 October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.60** | **93.00** | **0.00** | **300.00** | **500.00** | **827.00** | **114.00** | **38.00** | **100.00** | **670.00** | **2.73** |
| | **Minimum** | | | **150.00** | **5.90** | **84.00** | **0.00** | **300.00** | **500.00** | **221.00** | **30.00** | **7.00** | **27.00** | **-582.00** | **0.47** |
| | **Average** | | | **150.00** | **6.23** | **88.22** | **0.00** | **300.00** | **500.00** | **439.81** | **52.89** | **19.96** | **59.26** | **114.44** | **1.24** |
| | **Percentile** | **10%** | | **150.00** | **5.96** | **84.60** | **0.00** | **300.00** | **500.00** | **281.60** | **35.00** | **12.40** | **37.40** | **25.00** | **0.60** |
| 1 | rd 2 km0+405cl | 1 | 11:36:29 | 150 | 6.4 | 91 | 0 | 300 | 500 | 468 | 114 | 31 | 51 | 350 | 1.619 |
| | | 2 | 11:36:40 | 150 | 6.5 | 93 | 0 | 300 | 500 | 397 | 70 | 30 | 61 | 73 | 1.05 |
| | | 3 | 11:36:50 | 150 | 6.4 | 91 | 0 | 300 | 500 | 363 | 66 | 29 | 66 | 95 | 0.864 |
| 2 | rd 2 km0+430cl | 1 | 11:38:30 | 150 | 5.9 | 84 | 0 | 300 | 500 | 275 | 79 | 28 | 80 | 50 | 0.882 |
| | | 2 | 11:38:41 | 150 | 5.9 | 84 | 0 | 300 | 500 | 221 | 68 | 26 | 100 | 19 | 0.549 |
| | | 3 | 11:38:52 | 150 | 6.4 | 90 | 0 | 300 | 500 | 288 | 105 | 38 | 82 | -5 | 0.883 |
| 3 | rd 2 km0+455cl | 1 | 11:40:33 | 150 | 6.3 | 89 | 0 | 300 | 500 | 581 | 61 | 24 | 40 | 284 | 2.154 |
| | | 2 | 11:40:45 | 150 | 6 | 85 | 0 | 300 | 500 | 387 | 54 | 23 | 58 | 60 | 1.19 |
| | | 3 | 11:40:55 | 150 | 5.9 | 84 | 0 | 300 | 500 | 353 | 48 | 21 | 62 | 98 | 0.939 |
| 4 | rd 2 km0+480cl | 1 | 11:55:16 | 150 | 6.1 | 86 | 0 | 300 | 500 | 286 | 35 | 16 | 79 | 286 | 0.621 |
| | | 2 | 11:55:26 | 150 | 6.2 | 88 | 0 | 300 | 500 | 296 | 35 | 15 | 78 | 296 | 0.468 |
| | | 3 | 11:55:37 | 150 | 6.2 | 88 | 0 | 300 | 500 | 233 | 36 | 16 | 99 | 65 | 0.574 |
| 5 | rd 2 km0+505cl | 1 | 11:57:03 | 150 | 6.2 | 88 | 0 | 300 | 500 | 599 | 52 | 19 | 39 | 221 | 2.019 |
| | | 2 | 11:57:16 | 150 | 6.1 | 87 | 0 | 300 | 500 | 670 | 51 | 21 | 34 | 670 | 1.656 |
| | | 3 | 11:57:25 | 150 | 6.2 | 88 | 0 | 300 | 500 | 656 | 46 | 18 | 35 | -582 | 2.045 |
| 6 | rd 2 km0+530cl | 1 | 11:58:42 | 150 | 6.3 | 89 | 0 | 300 | 500 | 581 | 35 | 9 | 40 | 156 | 1.738 |
| | | 2 | 11:58:51 | 150 | 6.3 | 89 | 0 | 300 | 500 | 477 | 36 | 10 | 49 | 43 | 1.251 |
| | | 3 | 11:59:00 | 150 | 6.3 | 89 | 0 | 300 | 500 | 457 | 30 | 7 | 51 | 29 | 1.129 |
| 7 | rd 2 km0+555cl | 1 | 12:00:19 | 150 | 6 | 85 | 0 | 300 | 500 | 827 | 39 | 14 | 27 | 386 | 2.726 |
| | | 2 | 12:00:27 | 150 | 6.2 | 87 | 0 | 300 | 500 | 568 | 39 | 14 | 40 | 84 | 1.514 |
| | | 3 | 12:00:35 | 150 | 6.4 | 90 | 0 | 300 | 500 | 542 | 40 | 14 | 44 | 48 | 1.454 |
| 8 | rd 2 km0+580cl | 1 | 12:02:31 | 150 | 6.6 | 93 | 0 | 300 | 500 | 307 | 51 | 19 | 80 | 34 | 0.737 |
| | | 2 | 12:02:39 | 150 | 6.1 | 86 | 0 | 300 | 500 | 299 | 56 | 23 | 76 | 37 | 0.708 |
| | | 3 | 12:02:53 | 150 | 6.6 | 93 | 0 | 300 | 500 | 296 | 53 | 21 | 83 | 59 | 0.724 |
| 9 | rd 2 km0+595cl | 1 | 12:03:53 | 150 | 6.1 | 87 | 0 | 300 | 500 | 565 | 43 | 18 | 40 | 156 | 1.705 |
| | | 2 | 12:04:04 | 150 | 6.3 | 89 | 0 | 300 | 500 | 449 | 44 | 18 | 52 | 34 | 1.163 |
| | | 3 | 12:04:13 | 150 | 6.3 | 89 | 0 | 300 | 500 | 434 | 42 | 17 | 54 | 44 | 1.086 |

**File:** **Rd 2 Gravel Wearing Course**
**Date:** **08 October 2012**

| Point No. | Location | H1 mm | E1 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***200*** | | | | | | | |
| ***Minimum*** | | | ***24*** | ***6*** | ***-1*** | ***18*** | ***34*** | ***0*** | |
| ***Maximum*** | | | ***174*** | ***52*** | ***0*** | ***66*** | ***89*** | ***0*** | |
| ***Average*** | | | ***65*** | ***29*** | ***0*** | ***40*** | ***61*** | ***0*** | |
| ***Percentile*** | ***10%*** | | ***28*** | ***12*** | ***-1*** | ***24*** | ***40*** | ***0*** | |
| ***Percentile*** | ***50%*** | | ***52*** | ***31*** | ***0*** | ***40*** | ***59*** | ***0*** | |
| 1 | km 0+405 cl | 200 | 64 | 28 | -0.31 | 37 | 63 | 0 | |
| 2 | km 0+430 cl | 200 | 174 | 6 | -0.66 | 18 | 89 | 0 | |
| 3 | km 0+455 cl | 200 | 52 | 33 | -0.31 | 43 | 59 | 0 | |
| 4 | km 0+480 cl | 200 | 78 | 52 | -0.3 | 66 | 89 | 0 | |
| 5 | km 0+505 cl | 200 | 24 | 32 | -0.33 | 39 | 34 | 0 | |
| 6 | km 0+530 cl | 200 | 39 | 14 | -0.73 | 26 | 49 | 0 | |
| 7 | km 0+555 cl | 200 | 29 | 31 | -0.41 | 41 | 41 | 0 | |
| 8 | km 0+580 cl | 200 | 81 | 27 | -0.38 | 40 | 78 | 0 | |
| 9 | km 0+595 cl | 200 | 40 | 37 | -0.34 | 47 | 52 | 0 | |

**File:** **Rd 2 Mortared Stone**
**Date:** **08. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **1088.00** | **83.00** | **32.00** | **160.00** | **1088.00** | **3.49** |
| | **Minimum** | | | **150.00** | **5.80** | **82.00** | **0.00** | **300.00** | **500.00** | **150.00** | **8.00** | **1.00** | **22.00** | **-732.00** | **-0.13** |
| | **Average** | | | **150.00** | **6.24** | **88.30** | **0.00** | **300.00** | **500.00** | **386.07** | **41.91** | **15.85** | **74.43** | **100.58** | **0.89** |
| | **Percentile** | **10%** | | **150.00** | **6.00** | **85.60** | **0.00** | **300.00** | **500.00** | **202.40** | **11.60** | **5.00** | **35.60** | **-51.00** | **0.39** |
| 1 | rd 3.2ms km0+925cl | 1 | 04:56:25 | 150 | 6.2 | 88 | 0 | 300 | 500 | 553 | 31 | 9 | 42 | 152 | 1.616 |
| | | 2 | 04:56:35 | 150 | 6.4 | 90 | 0 | 300 | 500 | 427 | 35 | 9 | 55 | 72 | 1.232 |
| | | 3 | 04:56:45 | 150 | 6.4 | 90 | 0 | 300 | 500 | 435 | 34 | 9 | 54 | 196 | 1.264 |
| 2 | rd 3.2ms km0+950cl | 1 | 05:01:26 | 150 | 6.4 | 90 | 0 | 300 | 500 | 174 | 35 | 13 | 136 | 174 | 0.229 |
| | | 2 | 05:01:37 | 150 | 6.4 | 90 | 0 | 300 | 500 | 159 | 35 | 12 | 149 | 123 | 0.247 |
| | | 3 | 05:01:48 | 150 | 6.4 | 91 | 0 | 300 | 500 | 150 | 34 | 12 | 160 | 113 | 0.232 |
| 3 | rd 3.2ms km0+975cl | 1 | 05:05:34 | 150 | 6.2 | 87 | 0 | 300 | 500 | 373 | 29 | 3 | 61 | 310 | 0.986 |
| | | 2 | 05:05:44 | 150 | 6.3 | 89 | 0 | 300 | 500 | 425 | 36 | 5 | 55 | 425 | 0.699 |
| | | 3 | 05:05:54 | 150 | 6.3 | 89 | 0 | 300 | 500 | 338 | 36 | 5 | 69 | 338 | 0.715 |
| 4 | rd 3.2ms km1+000cl | 1 | 05:08:40 | 150 | 6.3 | 89 | 0 | 300 | 500 | 294 | 49 | 20 | 80 | 15 | 0.676 |
| | | 2 | 05:08:51 | 150 | 6.4 | 90 | 0 | 300 | 500 | 277 | 47 | 19 | 86 | -75 | 0.623 |
| | | 3 | 05:09:01 | 150 | 6.4 | 90 | 0 | 300 | 500 | 280 | 47 | 19 | 85 | -13 | 0.653 |
| 5 | rd 3.2ms km1+025cl | 1 | 05:11:45 | 150 | 6 | 85 | 0 | 300 | 500 | 759 | 45 | 21 | 29 | -257 | 1.969 |
| | | 2 | 05:11:56 | 150 | 6.1 | 87 | 0 | 300 | 500 | 599 | 49 | 22 | 38 | -549 | 1.262 |
| | | 3 | 05:12:06 | 150 | 6.1 | 86 | 0 | 300 | 500 | 736 | 47 | 20 | 31 | -203 | 1.757 |
| 6 | rd 3.2ms km1+050cl | 1 | 05:14:48 | 150 | 6.2 | 87 | 0 | 300 | 500 | 305 | 65 | 24 | 75 | 78 | 0.696 |
| | | 2 | 05:15:00 | 150 | 6.2 | 88 | 0 | 300 | 500 | 273 | 63 | 27 | 85 | 43 | 0.566 |
| | | 3 | 05:15:09 | 150 | 6.2 | 88 | 0 | 300 | 500 | 280 | 63 | 28 | 83 | 53 | 0.58 |
| 7 | rd 3.2ms km1+075cl | 1 | 05:17:50 | 150 | 6.2 | 88 | 0 | 300 | 500 | 379 | 51 | 22 | 61 | 214 | 1.037 |
| | | 2 | 05:18:01 | 150 | 6.2 | 88 | 0 | 300 | 500 | 276 | 59 | 25 | 84 | 24 | 0.583 |
| | | 3 | 05:18:11 | 150 | 6.3 | 88 | 0 | 300 | 500 | 275 | 60 | 26 | 84 | 150 | 0.603 |
| 8 | rd 3.2ms km1+100cl | 2 | 05:20:32 | 150 | 6.2 | 88 | 0 | 300 | 500 | 232 | 9 | 9 | 100 | 64 | 0.596 |
| | | 3 | 05:20:41 | 150 | 6.3 | 89 | 0 | 300 | 500 | 243 | 12 | 9 | 96 | 84 | 0.653 |
| 9 | rd 3.2ms km1+125cl | 1 | 05:23:03 | 150 | 6.3 | 89 | 0 | 300 | 500 | 151 | 40 | 10 | 155 | -14 | -0.132 |
| | | 2 | 05:23:12 | 150 | 6.4 | 90 | 0 | 300 | 500 | 247 | 40 | 12 | 96 | 247 | -0.032 |
| | | 3 | 05:23:24 | 150 | 6.4 | 90 | 0 | 300 | 500 | 337 | 40 | 12 | 70 | 337 | -0.072 |
| 10 | rd 3.2ms km1+150cl | 1 | 05:25:18 | 150 | 6.2 | 87 | 0 | 300 | 500 | 307 | 60 | 22 | 75 | 307 | 0.704 |
| | | 2 | 05:25:27 | 150 | 6.4 | 90 | 0 | 300 | 500 | 225 | 60 | 22 | 105 | 151 | 0.635 |
| | | 3 | 05:25:39 | 150 | 6.3 | 90 | 0 | 300 | 500 | 295 | 59 | 23 | 80 | 295 | 0.619 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 rd 3.2ms km1+175cl | 1 | 05:27:59 | 150 | 6.1 | 87 | 0 | 300 | 500 | 769 | 63 | 20 | 30 | 271 | 0.899 |
| | 2 | 05:28:07 | 150 | 6.3 | 89 | 0 | 300 | 500 | 234 | 53 | 23 | 100 | 234 | 0.623 |
| | 3 | 05:28:16 | 150 | 6.2 | 88 | 0 | 300 | 500 | 216 | 53 | 23 | 107 | 139 | 0.567 |
| 12 rd 3.2ms km1+200cl | 1 | 05:29:56 | 150 | 6.1 | 86 | 0 | 300 | 500 | 349 | 80 | 26 | 65 | 1 | 1.013 |
| | 2 | 05:30:04 | 150 | 6 | 85 | 0 | 300 | 500 | 219 | 83 | 31 | 102 | -591 | 0.44 |
| | 3 | 05:30:12 | 150 | 6.1 | 87 | 0 | 300 | 500 | 200 | 72 | 29 | 115 | -732 | 0.344 |
| 13 rd 3.2ms km1+225cl | 1 | 05:32:18 | 150 | 6.3 | 89 | 0 | 300 | 500 | 239 | 32 | 17 | 98 | 59 | 0.648 |
| | 2 | 05:32:29 | 150 | 6.4 | 91 | 0 | 300 | 500 | 204 | 37 | 18 | 117 | 34 | 0.504 |
| | 3 | 05:32:39 | 150 | 6.4 | 90 | 0 | 300 | 500 | 218 | 36 | 19 | 109 | -5 | 0.555 |
| 14 rd 3.2ms km1+250cl | 1 | 05:34:02 | 150 | 6.2 | 88 | 0 | 300 | 500 | 356 | 63 | 22 | 65 | 57 | 1.021 |
| | 2 | 05:34:11 | 150 | 6.4 | 90 | 0 | 300 | 500 | 301 | 63 | 22 | 79 | 9 | 0.791 |
| | 3 | 05:34:20 | 150 | 6.4 | 90 | 0 | 300 | 500 | 293 | 63 | 23 | 81 | 5 | 0.759 |
| 15 rd 3.2ms km1+275cl | 1 | 05:36:26 | 150 | 6.3 | 89 | 0 | 300 | 500 | 380 | 43 | 15 | 62 | 138 | 0.933 |
| | 2 | 05:36:37 | 150 | 6.4 | 91 | 0 | 300 | 500 | 333 | 45 | 16 | 72 | 180 | 0.775 |
| | 3 | 05:36:47 | 150 | 6.5 | 92 | 0 | 300 | 500 | 334 | 46 | 16 | 73 | 333 | 0.817 |
| 16 rd 3.2ms km1+300cl | 1 | 05:38:50 | 150 | 6.3 | 89 | 0 | 300 | 500 | 543 | 35 | 16 | 43 | 543 | 0.807 |
| | 2 | 05:38:59 | 150 | 6.4 | 90 | 0 | 300 | 500 | 957 | 36 | 16 | 25 | 957 | 0.682 |
| | 3 | 05:39:08 | 150 | 6.3 | 89 | 0 | 300 | 500 | 1088 | 37 | 16 | 22 | 1088 | 0.607 |
| 17 rd 3.2ms km1+325cl | 1 | 05:41:06 | 150 | 6.3 | 90 | 0 | 300 | 500 | 515 | 49 | 31 | 46 | 128 | 1.524 |
| | 2 | 05:41:18 | 150 | 6.2 | 88 | 0 | 300 | 500 | 445 | 58 | 31 | 52 | 67 | 1.213 |
| | 3 | 05:41:28 | 150 | 6.2 | 88 | 0 | 300 | 500 | 449 | 61 | 32 | 52 | 63 | 1.235 |
| 18 rd 3.2ms km1+350cl | 2 | 05:53:20 | 150 | 6.1 | 86 | 0 | 300 | 500 | 372 | 11 | 16 | 61 | 24 | 0.952 |
| | 3 | 05:53:29 | 150 | 6 | 86 | 0 | 300 | 500 | 365 | 15 | 17 | 62 | 18 | 0.917 |
| 19 rd 3.2ms km1+375cl | 3 | 05:55:50 | 150 | 5.8 | 82 | 0 | 300 | 500 | 403 | 8 | 1 | 54 | -597 | 1.158 |
| 20 rd 3.2ms km1+400cl | 1 | 05:57:59 | 150 | 5.9 | 84 | 0 | 300 | 500 | 950 | 8 | 5 | 23 | 530 | 3.487 |
| | 2 | 05:58:10 | 150 | 6 | 85 | 0 | 300 | 500 | 584 | 10 | 6 | 38 | 99 | 1.847 |
| | 3 | 05:59:55 | 150 | 5.8 | 83 | 0 | 300 | 500 | 530 | 76 | 2 | 41 | 52 | 1.559 |
| 21 rd 3.2ms km1+425cl | 2 | 06:02:10 | 150 | 6.2 | 87 | 0 | 300 | 500 | 480 | 8 | 23 | 48 | -15 | 1.243 |
| | 3 | 06:02:19 | 150 | 6.1 | 87 | 0 | 300 | 500 | 477 | 9 | 22 | 48 | -35 | 1.22 |
| 22 rd 3.2ms km1+450cl | 1 | 06:03:56 | 150 | 6 | 85 | 0 | 300 | 500 | 698 | 15 | 5 | 32 | 194 | 2.262 |
| | 2 | 06:04:06 | 150 | 6.2 | 88 | 0 | 300 | 500 | 535 | 19 | 6 | 43 | 24 | 1.545 |
| | 3 | 06:04:15 | 150 | 6.2 | 88 | 0 | 300 | 500 | 536 | 20 | 6 | 43 | 100 | 1.487 |
| 23 rd 3.2ms km1+475cl | 1 | 06:05:42 | 150 | 6.2 | 88 | 0 | 300 | 500 | 331 | 52 | 1 | 70 | 176 | 1.058 |
| | 2 | 06:05:51 | 150 | 6.2 | 88 | 0 | 300 | 500 | 278 | 54 | 1 | 83 | 35 | 0.787 |
| | 3 | 06:05:59 | 150 | 6.3 | 89 | 0 | 300 | 500 | 276 | 54 | 1 | 85 | 75 | 0.779 |
| 24 rd 3.2ms km1+500cl | 1 | 06:07:18 | 150 | 6.4 | 91 | 0 | 300 | 500 | 242 | 21 | 7 | 99 | 117 | 0.641 |
| | 2 | 06:07:28 | 150 | 6.4 | 91 | 0 | 300 | 500 | 184 | 25 | 6 | 130 | 52 | 0.429 |
| | 3 | 06:07:37 | 150 | 6.4 | 91 | 0 | 300 | 500 | 180 | 25 | 6 | 133 | 58 | 0.414 |

**File:** **Rd 2 Mortared Stone**
**Date:** **08 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***65*** | ***125*** | | | | | | | | |
| ***Minimum*** | | | | ***4*** | ***150*** | ***1*** | ***-2.09*** | ***10*** | ***21*** | | |
| ***Maximum*** | | | | ***775*** | ***150*** | ***297*** | ***0.00*** | ***297*** | ***151*** | | |
| ***Average*** | | | | ***114*** | ***150*** | ***33*** | ***-0.72*** | ***46*** | ***75*** | | |
| ***Percentile*** | ***10%*** | | | ***8*** | ***150*** | ***2*** | ***-2*** | ***13*** | ***38*** | | |
| ***Percentile*** | ***50%*** | | | ***56*** | ***150*** | ***19*** | ***-1*** | ***33*** | ***78*** | | |
| 1 | rd 3.2ms km0+925cl | 65 | 125 | 19 | 150 | 11 | -0.8 | 23 | 54 | 0 | |
| 2 | rd 3.2ms km0+950cl | 65 | 125 | 601 | 150 | 28 | -0.52 | 50 | 151 | 0 | |
| 3 | rd 3.2ms km0+975cl | 65 | 125 | 46 | 150 | 2 | -1.4 | 11 | 59 | 0 | |
| 4 | rd 3.2ms km1+000cl | 65 | 125 | 52 | 150 | 29 | -0.4 | 41 | 83 | 0 | |
| 5 | rd 3.2ms km1+025cl | 65 | 125 | 8 | 150 | 26 | -0.38 | 36 | 34 | 0 | |
| 6 | rd 3.2ms km1+050cl | 65 | 125 | 79 | 150 | 27 | -0.33 | 37 | 82 | 0 | |
| 7 | rd 3.2ms km1+075cl | 65 | 125 | 70 | 150 | 28 | -0.34 | 39 | 82 | 0 | |
| 8 | rd 3.2ms km1+100cl | 65 | 125 | 121 | 150 | 1 | -2.09 | 12 | 91 | 0 | |
| 9 | rd 3.2ms km1+125cl | 65 | 125 | 64 | 150 | 14 | -0.69 | 28 | 83 | 0 | |
| 10 | rd 3.2ms km1+150cl | 65 | 125 | 153 | 150 | 18 | -0.48 | 31 | 92 | 0 | |
| 11 | rd 3.2ms km1+175cl | 65 | 125 | 143 | 150 | 35 | -0.31 | 47 | 102 | 0 | |
| 12 | rd 3.2ms km1+200cl | 65 | 125 | 775 | 150 | 13 | -0.47 | 27 | 105 | 0 | |
| 13 | rd 3.2ms km1+225cl | 65 | 125 | 74 | 150 | 87 | -0.16 | 96 | 113 | 0 | |
| 14 | rd 3.2ms km1+250cl | 65 | 125 | 82 | 150 | 15 | -0.52 | 26 | 78 | 0 | |
| 15 | rd 3.2ms km1+275cl | 65 | 125 | 36 | 150 | 19 | -0.55 | 31 | 71 | 0 | |
| 16 | rd 3.2ms km1+300cl | 65 | 125 | 4 | 150 | 23 | -0.45 | 33 | 21 | 0 | |
| 17 | rd 3.2ms km1+325cl | 65 | 125 | 15 | 150 | 54 | -0.14 | 59 | 51 | 0 | |
| 18 | rd 3.2ms km1+350cl | 65 | 125 | 32 | 150 | 1 | -1.96 | 10 | 59 | 0 | |
| 19 | rd 3.2ms km1+375cl | 65 | 125 | 14 | 150 | 9 | -1.18 | 27 | 52 | 0 | |
| 20 | rd 3.2ms km1+400cl | 65 | 125 | 8 | 150 | 15 | -0.89 | 32 | 37 | 0 | |
| 21 | rd 3.2ms km1+425cl | 65 | 125 | 7 | 150 | 297 | 0 | 297 | 40 | 0 | |
| 22 | rd 3.2ms km1+450cl | 65 | 125 | 10 | 150 | 22 | -0.68 | 37 | 43 | 0 | |
| 23 | rd 3.2ms km1+475cl | 65 | 125 | 59 | 150 | 2 | -1.71 | 14 | 77 | 0 | |
| 24 | rd 3.2ms km1+500cl | 65 | 125 | 257 | 150 | 14 | -0.86 | 34 | 127 | 0 | |

**File:** **rd3.2 natural surface**
**Date:** **13. May 2005**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.70** | **95.00** | **0.00** | **300.00** | **500.00** | **468.00** | **70.00** | **25.00** | **115.00** | **334.00** | **1.17** |
| | **Minimum** | | | **150.00** | **6.20** | **88.00** | **0.00** | **300.00** | **500.00** | **206.00** | **16.00** | **7.00** | **51.00** | **-769.00** | **0.39** |
| | **Average** | | | **150.00** | **6.46** | **91.42** | **0.00** | **300.00** | **500.00** | **312.15** | **33.50** | **12.54** | **80.50** | **14.79** | **0.62** |
| | **Percentile** | **10%** | | **150.00** | **6.30** | **90.00** | **0.00** | **300.00** | **500.00** | **238.40** | **19.00** | **8.00** | **58.00** | **-88.10** | **0.42** |
| 1 | rd3.2 nf km 0+525cl | 1 | 04:21:48 | 150 | 6.5 | 92 | 0 | 300 | 500 | 399 | 31 | 9 | 61 | 19 | 0.752 |
| | | 2 | 04:22:02 | 150 | 6.4 | 91 | 0 | 300 | 500 | 365 | 30 | 8 | 65 | -93 | 0.633 |
| | | 3 | 04:22:13 | 150 | 6.6 | 93 | 0 | 300 | 500 | 380 | 32 | 9 | 64 | 7 | 0.641 |
| 2 | rd3.2 nf km 0+550cl | 1 | 04:23:25 | 150 | 6.4 | 91 | 0 | 300 | 500 | 256 | 47 | 19 | 94 | 20 | 0.477 |
| | | 2 | 04:23:36 | 150 | 6.5 | 92 | 0 | 300 | 500 | 259 | 47 | 19 | 94 | 51 | 0.502 |
| | | 3 | 04:23:48 | 150 | 6.5 | 93 | 0 | 300 | 500 | 259 | 48 | 21 | 94 | 51 | 0.501 |
| 3 | rd3.2 nf km 0+575cl | 1 | 04:24:59 | 150 | 6.4 | 90 | 0 | 300 | 500 | 394 | 70 | 25 | 60 | 68 | 1.167 |
| | | 2 | 04:25:09 | 150 | 6.5 | 92 | 0 | 300 | 500 | 347 | 63 | 23 | 70 | -35 | 0.967 |
| | | 3 | 04:25:20 | 150 | 6.5 | 92 | 0 | 300 | 500 | 343 | 67 | 24 | 71 | 11 | 0.976 |
| 4 | rd3.2 nf km 0+600cl | 1 | 04:26:50 | 150 | 6.5 | 92 | 0 | 300 | 500 | 338 | 39 | 17 | 72 | 8 | 0.88 |
| | | 2 | 04:27:03 | 150 | 6.6 | 94 | 0 | 300 | 500 | 339 | 41 | 19 | 73 | -30 | 0.913 |
| | | 3 | 04:27:14 | 150 | 6.6 | 93 | 0 | 300 | 500 | 331 | 35 | 16 | 74 | 14 | 0.755 |
| 5 | rd3.2 nf km 0+625cl | 1 | 04:28:17 | 150 | 6.3 | 90 | 0 | 300 | 500 | 296 | 35 | 12 | 80 | 202 | 0.635 |
| | | 2 | 04:28:26 | 150 | 6.4 | 90 | 0 | 300 | 500 | 295 | 36 | 13 | 80 | -62 | 0.489 |
| | | 3 | 04:28:35 | 150 | 6.4 | 90 | 0 | 300 | 500 | 303 | 33 | 12 | 78 | -142 | 0.47 |
| 6 | rd3.2 nf km 0+650cl | 1 | 04:29:34 | 150 | 6.6 | 93 | 0 | 300 | 500 | 283 | 25 | 8 | 87 | 15 | 0.484 |
| | | 2 | 04:29:44 | 150 | 6.7 | 95 | 0 | 300 | 500 | 276 | 27 | 9 | 90 | -2 | 0.437 |
| | | 3 | 04:29:53 | 150 | 6.6 | 94 | 0 | 300 | 500 | 272 | 26 | 8 | 91 | 7 | 0.432 |
| 7 | rd3.2 nf km 0+675cl | 1 | 04:30:58 | 150 | 6.4 | 90 | 0 | 300 | 500 | 446 | 53 | 16 | 53 | 39 | 0.902 |
| | | 2 | 04:31:08 | 150 | 6.3 | 90 | 0 | 300 | 500 | 434 | 47 | 14 | 54 | 66 | 0.805 |
| | | 3 | 04:31:17 | 150 | 6.5 | 91 | 0 | 300 | 500 | 440 | 48 | 14 | 55 | 329 | 0.808 |
| 8 | rd3.2 nf km 0+700cl | 1 | 04:32:16 | 150 | 6.4 | 90 | 0 | 300 | 500 | 321 | 43 | 18 | 74 | -128 | 0.651 |
| | | 2 | 04:32:28 | 150 | 6.4 | 91 | 0 | 300 | 500 | 305 | 42 | 18 | 78 | -19 | 0.66 |
| | | 3 | 04:32:41 | 150 | 6.4 | 91 | 0 | 300 | 500 | 327 | 56 | 22 | 74 | -68 | 0.681 |
| 9 | rd3.2 nf km 0+725cl | 1 | 04:33:43 | 150 | 6.4 | 91 | 0 | 300 | 500 | 296 | 18 | 9 | 81 | 8 | 0.515 |
| | | 2 | 04:33:53 | 150 | 6.6 | 93 | 0 | 300 | 500 | 286 | 19 | 9 | 86 | -6 | 0.459 |
| | | 3 | 04:34:02 | 150 | 6.6 | 93 | 0 | 300 | 500 | 289 | 19 | 11 | 85 | -2 | 0.489 |
| 10 | rd3.2 nf km 0+750cl | 1 | 04:35:11 | 150 | 6.3 | 89 | 0 | 300 | 500 | 223 | 21 | 8 | 105 | -27 | 0.546 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 04:35:21 | 150 | 6.3 | 90 | 0 | 300 | 500 | 206 | 21 | 8 | 115 | -30 | 0.387 |
| | | 3 | 04:35:31 | 150 | 6.4 | 91 | 0 | 300 | 500 | 207 | 22 | 9 | 115 | -93 | 0.426 |
| 11 | rd3.2 nf km 0+775cl | 1 | 04:36:34 | 150 | 6.3 | 89 | 0 | 300 | 500 | 239 | 16 | 7 | 98 | 43 | 0.42 |
| | | 2 | 04:36:44 | 150 | 6.5 | 92 | 0 | 300 | 500 | 230 | 16 | 7 | 106 | 51 | 0.412 |
| | | 3 | 04:36:54 | 150 | 6.6 | 94 | 0 | 300 | 500 | 237 | 18 | 8 | 104 | -7 | 0.389 |
| 12 | rd3.2 nf km 0+800cl | 1 | 04:38:00 | 150 | 6.2 | 88 | 0 | 300 | 500 | 322 | 24 | 12 | 72 | 322 | 0.606 |
| | | 2 | 04:38:09 | 150 | 6.4 | 91 | 0 | 300 | 500 | 334 | 23 | 12 | 72 | 334 | 0.521 |
| | | 3 | 04:38:17 | 150 | 6.5 | 91 | 0 | 300 | 500 | 278 | 23 | 13 | 87 | 226 | 0.521 |
| 13 | rd3.2 nf km 0+825cl | 1 | 04:39:12 | 150 | 6.5 | 92 | 0 | 300 | 500 | 259 | 26 | 12 | 93 | 123 | 0.608 |
| | | 2 | 04:39:22 | 150 | 6.6 | 93 | 0 | 300 | 500 | 242 | 25 | 11 | 101 | 39 | 0.473 |
| | | 3 | 04:39:31 | 150 | 6.6 | 94 | 0 | 300 | 500 | 249 | 25 | 11 | 99 | -86 | 0.502 |
| 14 | rd3.2 nf km 0+850cl | 1 | 04:40:24 | 150 | 6.4 | 91 | 0 | 300 | 500 | 377 | 29 | 8 | 63 | 140 | 0.723 |
| | | 2 | 04:40:34 | 150 | 6.4 | 90 | 0 | 300 | 500 | 328 | 27 | 8 | 72 | -65 | 0.652 |
| | | 3 | 04:40:44 | 150 | 6.3 | 89 | 0 | 300 | 500 | 299 | 25 | 8 | 79 | -769 | 0.509 |
| 15 | rd3.2 nf km 0+875cl | 1 | 04:41:45 | 150 | 6.4 | 91 | 0 | 300 | 500 | 468 | 29 | 10 | 51 | 75 | 0.905 |
| | | 2 | 04:41:55 | 150 | 6.4 | 91 | 0 | 300 | 500 | 413 | 28 | 8 | 58 | 4 | 0.833 |
| | | 3 | 04:42:05 | 150 | 6.4 | 90 | 0 | 300 | 500 | 411 | 27 | 7 | 58 | 40 | 0.792 |
| 16 | rd3.2 nf km 0+900cl | 1 | 04:43:07 | 150 | 6.5 | 92 | 0 | 300 | 500 | 274 | 36 | 11 | 89 | -6 | 0.475 |
| | | 2 | 04:43:16 | 150 | 6.5 | 92 | 0 | 300 | 500 | 257 | 35 | 11 | 94 | 4 | 0.404 |
| | | 3 | 04:43:28 | 150 | 6.4 | 91 | 0 | 300 | 500 | 251 | 35 | 11 | 95 | 64 | 0.411 |

**File:** **Rd3.2 Engineered Natural Surface**
**Date:** **13 May 2005**

| Point No. | Location | C MPa | n | Em MPa | Eo MPa | Bedrock mm |
|---|---|---|---|---|---|---|
| ***Constant*** | | | | | | |
| ***Minimum*** | | ***22*** | ***-1*** | ***24*** | ***50*** | ***0*** |
| ***Maximum*** | | ***64*** | ***0*** | ***65*** | ***112*** | ***0*** |
| ***Average*** | | ***43*** | ***0*** | ***45*** | ***80*** | ***0*** |
| ***Percentile*** | ***10%*** | ***26*** | ***-1*** | ***27*** | ***56*** | ***0*** |
| ***Percentile*** | ***50%*** | ***43*** | ***0*** | ***45*** | ***79*** | ***0*** |
| 1 | km 0+525 cl | 27 | -0.61 | 28 | 60 | 0 |
| 2 | km 0+550 cl | 64 | -0.21 | 65 | 91 | 0 |
| 3 | km 0+575 cl | 44 | -0.25 | 45 | 66 | 0 |
| 4 | km 0+600 cl | 42 | -0.36 | 43 | 72 | 0 |
| 5 | km 0+625 cl | 40 | -0.42 | 42 | 74 | 0 |
| 6 | km 0+650 cl | 43 | -0.51 | 44 | 87 | 0 |
| 7 | km 0+675 cl | 25 | -0.5 | 26 | 50 | 0 |
| 8 | km 0+700 cl | 47 | -0.28 | 48 | 73 | 0 |
| 9 | km 0+725 cl | 43 | -0.53 | 45 | 89 | 0 |
| 10 | km 0+750 cl | 60 | -0.43 | 63 | 112 | 0 |
| 11 | km 0+775 cl | 51 | -0.53 | 53 | 105 | 0 |
| 12 | km 0+800 cl | 43 | -0.46 | 45 | 83 | 0 |
| 13 | km 0+825 cl | 55 | -0.41 | 57 | 100 | 0 |
| 14 | km 0+850 cl | 32 | -0.58 | 34 | 69 | 0 |
| 15 | km 0+875 cl | 22 | -0.69 | 24 | 52 | 0 |
| 16 | km 0+900 cl | 50 | -0.39 | 52 | 89 | 0 |

**File:** rd3.2 gravel
**Date:** 13. May 2005

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.90** | **98.00** | **0.00** | **300.00** | **500.00** | **816.00** | **62.00** | **30.00** | **113.00** | **763.00** | **1.31** |
| | **Minimum** | | | **150.00** | **5.90** | **84.00** | **0.00** | **300.00** | **500.00** | **204.00** | **19.00** | **8.00** | **27.00** | **-529.00** | **0.36** |
| | **Average** | | | **150.00** | **6.37** | **90.04** | **0.00** | **300.00** | **500.00** | **327.30** | **36.67** | **17.04** | **84.19** | **94.07** | **0.64** |
| | **Percentile** | **10%** | | **150.00** | **6.10** | **86.00** | **0.00** | **300.00** | **500.00** | **214.00** | **21.20** | **10.00** | **47.60** | **-114.20** | **0.44** |
| 1 | rd 3.2g km1+525cl | 1 | 06:12:17 | 150 | 6.3 | 90 | 0 | 300 | 500 | 235 | 28 | 11 | 100 | -11 | 0.507 |
| | | 2 | 06:12:26 | 150 | 6.4 | 91 | 0 | 300 | 500 | 222 | 28 | 11 | 108 | -24 | 0.44 |
| | | 3 | 06:12:36 | 150 | 6.5 | 92 | 0 | 300 | 500 | 228 | 32 | 13 | 106 | -89 | 0.47 |
| 2 | rd 3.2g km1+550cl | 1 | 06:13:51 | 150 | 6.2 | 87 | 0 | 300 | 500 | 215 | 26 | 12 | 107 | -9 | 0.582 |
| | | 2 | 06:14:01 | 150 | 6.5 | 91 | 0 | 300 | 500 | 214 | 28 | 13 | 112 | -12 | 0.485 |
| | | 3 | 06:14:11 | 150 | 6.5 | 92 | 0 | 300 | 500 | 219 | 27 | 13 | 111 | 7 | 0.458 |
| 3 | rd 3.2g km1+575cl | 1 | 06:15:26 | 150 | 6.3 | 89 | 0 | 300 | 500 | 566 | 19 | 8 | 41 | 566 | 0.572 |
| | | 2 | 06:15:36 | 150 | 6.5 | 92 | 0 | 300 | 500 | 277 | 23 | 10 | 88 | 121 | 0.49 |
| | | 3 | 06:15:44 | 150 | 6.4 | 91 | 0 | 300 | 500 | 258 | 20 | 9 | 93 | 139 | 0.426 |
| 4 | rd 3.2g km1+600cl | 1 | 06:17:07 | 150 | 5.9 | 84 | 0 | 300 | 500 | 224 | 37 | 17 | 99 | 122 | 0.618 |
| | | 2 | 06:17:16 | 150 | 6.2 | 87 | 0 | 300 | 500 | 259 | 44 | 22 | 89 | -252 | 0.569 |
| | | 3 | 06:17:27 | 150 | 6.3 | 89 | 0 | 300 | 500 | 439 | 46 | 17 | 54 | 241 | 1.311 |
| 5 | rd 3.2g km1+625cl | 1 | 06:18:36 | 150 | 6.1 | 86 | 0 | 300 | 500 | 438 | 53 | 25 | 52 | 107 | 1.101 |
| | | 2 | 06:18:44 | 150 | 6.4 | 90 | 0 | 300 | 500 | 395 | 52 | 24 | 60 | -17 | 0.904 |
| | | 3 | 06:18:54 | 150 | 6.4 | 90 | 0 | 300 | 500 | 377 | 57 | 26 | 63 | -69 | 0.861 |
| 6 | rd 3.2g km1+650cl | 1 | 06:20:07 | 150 | 6.9 | 97 | 0 | 300 | 500 | 244 | 39 | 19 | 105 | 73 | 0.542 |
| | | 2 | 06:21:27 | 150 | 6.5 | 92 | 0 | 300 | 500 | 214 | 35 | 17 | 113 | -529 | 0.357 |
| | | 3 | 06:25:47 | 150 | 6.4 | 91 | 0 | 300 | 500 | 772 | 39 | 16 | 31 | 763 | 0.703 |
| 7 | rd 3.2g km1+675cl | 1 | 06:27:03 | 150 | 6 | 85 | 0 | 300 | 500 | 816 | 33 | 17 | 27 | 695 | 0.679 |
| | | 2 | 06:27:14 | 150 | 6.2 | 87 | 0 | 300 | 500 | 214 | 39 | 19 | 108 | 26 | 0.526 |
| | | 3 | 06:27:25 | 150 | 6.1 | 86 | 0 | 300 | 500 | 310 | 40 | 21 | 73 | 310 | 0.555 |
| 8 | rd 3.2g km1+700cl | 1 | 06:28:43 | 150 | 6.6 | 93 | 0 | 300 | 500 | 376 | 62 | 30 | 65 | 115 | 1.033 |
| | | 2 | 06:28:51 | 150 | 6.7 | 94 | 0 | 300 | 500 | 325 | 57 | 28 | 76 | -56 | 0.748 |
| | | 3 | 06:29:00 | 150 | 6.9 | 98 | 0 | 300 | 500 | 328 | 61 | 29 | 78 | -152 | 0.808 |
| 9 | rd 3.2g km1+720cl | 1 | 06:30:49 | 150 | 6.5 | 91 | 0 | 300 | 500 | 240 | 24 | 12 | 100 | 90 | 0.474 |
| | | 2 | 06:30:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 228 | 22 | 11 | 101 | 181 | 0.495 |
| | | 3 | 06:31:12 | 150 | 6.2 | 88 | 0 | 300 | 500 | 204 | 19 | 10 | 113 | 204 | 0.446 |

**File:** **Rd 3.2 Gravel Wearing Course**
**Date:** **13 May 2005**

| Point No. | Location | H1 mm | E1 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***167*** | | | | | | | |
| ***Minimum*** | | | ***52*** | ***35*** | ***0*** | ***44*** | ***61*** | ***0*** | |
| ***Maximum*** | | | ***93*** | ***128*** | ***0*** | ***137*** | ***111*** | ***0*** | |
| ***Average*** | | | ***75*** | ***69*** | ***0*** | ***80*** | ***88*** | ***0*** | |
| ***Percentile*** | ***10%*** | | ***60*** | ***39*** | ***0*** | ***46*** | ***71*** | ***0*** | |
| ***Percentile*** | ***50%*** | | ***77*** | ***55*** | ***0*** | ***69*** | ***92*** | ***0*** | |
| 1 | km1+525 cl | 200 | 93 | 50 | -0.38 | 69 | 106 | 0 | |
| 2 | km1+550 cl | 200 | 90 | 96 | -0.21 | 110 | 111 | 0 | |
| 3 | km1+575 cl | 200 | 62 | 102 | -0.25 | 116 | 90 | 0 | |
| 4 | km1+600 cl | 150 | 69 | 35 | -0.35 | 44 | 73 | 0 | |
| 5 | km1+625 cl | 150 | 52 | 40 | -0.26 | 46 | 61 | 0 | |
| 6 | km1+650 cl | 150 | 85 | 55 | -0.29 | 64 | 95 | 0 | |
| 7 | km1+675 cl | 150 | 82 | 70 | -0.18 | 77 | 92 | 0 | |
| 8 | km1+700 cl | 150 | 77 | 48 | -0.21 | 53 | 77 | 0 | |
| 9 | km1+720 cl | 150 | 68 | 128 | -0.18 | 137 | 107 | 0 | |

**File:** **rd 3.2 double otta seal**
**Date:** **13. May 2005**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.60** | **93.00** | **0.00** | **300.00** | **500.00** | **603.00** | **33.00** | **15.00** | **239.00** | **228.00** | **1.77** |
| | **Minimum** | | | **150.00** | **5.70** | **81.00** | **0.00** | **300.00** | **500.00** | **99.00** | **11.00** | **2.00** | **38.00** | **-2332.00** | **-0.24** |
| | **Average** | | | **150.00** | **6.27** | **88.70** | **0.00** | **300.00** | **500.00** | **276.10** | **22.53** | **8.10** | **101.47** | **-54.03** | **0.69** |
| | **Percentile** | **10%** | | **150.00** | **6.10** | **86.00** | **0.00** | **300.00** | **500.00** | **146.30** | **17.90** | **6.00** | **55.70** | **-220.30** | **0.28** |
| 1 | rd 3.2 dos km0+25cl | 1 | 01:54:24 | 150 | 6.3 | 90 | 0 | 300 | 500 | 238 | 24 | 8 | 99 | 0 | 0.642 |
| | | 2 | 01:55:04 | 150 | 6.4 | 90 | 0 | 300 | 500 | 251 | 24 | 8 | 95 | 76 | 0.684 |
| | | 3 | 01:55:26 | 150 | 6.4 | 90 | 0 | 300 | 500 | 241 | 24 | 8 | 99 | 80 | 0.645 |
| 2 | rd 3.2 dos km0+50cl | 1 | 01:59:23 | 150 | 6.2 | 88 | 0 | 300 | 500 | 447 | 21 | 8 | 52 | 103 | 1.355 |
| | | 2 | 01:59:40 | 150 | 6.4 | 91 | 0 | 300 | 500 | 412 | 22 | 8 | 58 | 111 | 1.137 |
| | | 3 | 01:59:57 | 150 | 6.4 | 90 | 0 | 300 | 500 | 384 | 21 | 8 | 62 | 142 | 1.122 |
| 3 | rd 3.2 dos km0+75cl | 1 | 02:01:50 | 150 | 6.2 | 88 | 0 | 300 | 500 | 552 | 16 | 6 | 42 | 188 | 1.768 |
| | | 2 | 02:02:07 | 150 | 6.2 | 88 | 0 | 300 | 500 | 438 | 18 | 6 | 53 | 40 | 1.311 |
| | | 3 | 02:02:26 | 150 | 6.2 | 88 | 0 | 300 | 500 | 410 | 19 | 6 | 57 | -241 | 1.263 |
| 4 | rd 3.2 dos km0+100cl | 1 | 02:05:41 | 150 | 6 | 85 | 0 | 300 | 500 | 490 | 24 | 8 | 46 | -11 | 1.481 |
| | | 2 | 02:06:08 | 150 | 6.2 | 88 | 0 | 300 | 500 | 382 | 28 | 9 | 61 | -10 | 0.944 |
| | | 3 | 02:06:35 | 150 | 6.1 | 86 | 0 | 300 | 500 | 603 | 27 | 10 | 38 | -1080 | 0.7 |
| 5 | rd 3.2 dos km0+125cl | 1 | 02:08:45 | 150 | 6.2 | 87 | 0 | 300 | 500 | 440 | 22 | 6 | 52 | 135 | 1.351 |
| | | 2 | 02:09:00 | 150 | 6.2 | 87 | 0 | 300 | 500 | 357 | 23 | 7 | 64 | 61 | 0.996 |
| | | 3 | 02:09:22 | 150 | 6.2 | 87 | 0 | 300 | 500 | 350 | 22 | 6 | 66 | 68 | 0.948 |
| 6 | rd 3.2 dos km0+150cl | 1 | 02:12:40 | 150 | 6.1 | 86 | 0 | 300 | 500 | 292 | 23 | 8 | 77 | -307 | 0.849 |
| | | 2 | 02:12:59 | 150 | 6.1 | 86 | 0 | 300 | 500 | 324 | 25 | 8 | 70 | -2332 | 0.442 |
| | | 3 | 02:13:26 | 150 | 6.2 | 88 | 0 | 300 | 500 | 294 | 33 | 10 | 79 | -16 | 0.742 |
| 7 | rd 3.2 dos km0+175cl | 1 | 02:15:16 | 150 | 6.2 | 88 | 0 | 300 | 500 | 346 | 21 | 9 | 67 | -5 | 1.005 |
| | | 2 | 02:15:29 | 150 | 6.1 | 87 | 0 | 300 | 500 | 252 | 22 | 8 | 91 | -518 | 0.612 |
| | | 3 | 02:15:43 | 150 | 6.3 | 88 | 0 | 300 | 500 | 310 | 27 | 11 | 75 | 62 | 0.808 |
| 8 | rd 3.2 dos km0+200cl | 1 | 02:17:24 | 150 | 6.2 | 87 | 0 | 300 | 500 | 253 | 20 | 6 | 91 | 25 | 0.707 |
| | | 2 | 02:17:36 | 150 | 6.1 | 87 | 0 | 300 | 500 | 206 | 19 | 6 | 111 | -77 | 0.534 |
| | | 3 | 02:17:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 235 | 20 | 6 | 99 | -86 | 0.534 |
| 9 | rd 3.2 dos km0+225cl | 1 | 02:19:25 | 150 | 6.3 | 89 | 0 | 300 | 500 | 422 | 25 | 9 | 56 | 115 | 1.216 |
| | | 2 | 02:19:39 | 150 | 6.2 | 87 | 0 | 300 | 500 | 337 | 26 | 9 | 68 | 55 | 0.842 |
| | | 3 | 02:19:52 | 150 | 6.1 | 86 | 0 | 300 | 500 | 331 | 26 | 10 | 69 | 124 | 0.919 |
| 10 | rd 3.2 dos km0+250cl | 1 | 02:21:13 | 150 | 6.3 | 89 | 0 | 300 | 500 | 404 | 23 | 9 | 58 | 145 | 1.118 |
| | | 2 | 02:21:24 | 150 | 6.2 | 88 | 0 | 300 | 500 | 338 | 26 | 10 | 69 | -7 | 0.847 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 02:21:37 | 150 | 5.9 | 84 | 0 | 300 | 500 | 313 | 25 | 11 | 71 | -131 | 0.858 |
| 11 rd 3.2 sos km0+275cl | 1 | 02:23:34 | 150 | 6.1 | 86 | 0 | 300 | 500 | 229 | 11 | 2 | 99 | 228 | 0.552 |
| | 2 | 02:24:26 | 150 | 6.2 | 87 | 0 | 300 | 500 | 190 | 15 | 4 | 121 | 154 | 0.502 |
| | 3 | 02:24:44 | 150 | 6.3 | 89 | 0 | 300 | 500 | 283 | 15 | 3 | 82 | 6 | -0.235 |
| 12 rd 3.2 sos km0+300cl | 1 | 02:25:51 | 150 | 6.2 | 88 | 0 | 300 | 500 | 234 | 18 | 7 | 99 | -218 | 0.627 |
| | 2 | 02:26:11 | 150 | 5.7 | 81 | 0 | 300 | 500 | 179 | 18 | 8 | 119 | -288 | 0.421 |
| | 3 | 02:26:37 | 150 | 6.3 | 89 | 0 | 300 | 500 | 267 | 22 | 8 | 87 | -25 | 0.606 |
| 13 rd 3.2 sos km0+325cl | 1 | 04:01:21 | 150 | 6.2 | 87 | 0 | 300 | 500 | 217 | 27 | 10 | 106 | 6 | 0.551 |
| | 2 | 04:01:38 | 150 | 6.2 | 88 | 0 | 300 | 500 | 204 | 27 | 10 | 113 | 26 | 0.489 |
| | 3 | 04:01:50 | 150 | 6.3 | 89 | 0 | 300 | 500 | 206 | 28 | 10 | 114 | 3 | 0.498 |
| 14 rd 3.2 sos km0+350cl | 1 | 04:04:06 | 150 | 6.3 | 89 | 0 | 300 | 500 | 137 | 17 | 6 | 170 | -27 | 0.282 |
| | 2 | 04:04:18 | 150 | 6.2 | 87 | 0 | 300 | 500 | 197 | 16 | 5 | 117 | 166 | 0.268 |
| | 3 | 04:04:35 | 150 | 6.3 | 90 | 0 | 300 | 500 | 139 | 18 | 6 | 170 | -12 | 0.139 |
| 15 rd 3.2 sos km0+375cl | 1 | 04:05:57 | 150 | 6.3 | 89 | 0 | 300 | 500 | 325 | 26 | 10 | 72 | 79 | 0.943 |
| | 2 | 04:06:08 | 150 | 6.3 | 90 | 0 | 300 | 500 | 277 | 26 | 10 | 85 | -34 | 0.744 |
| | 3 | 04:06:20 | 150 | 6.3 | 89 | 0 | 300 | 500 | 275 | 26 | 10 | 86 | -46 | 0.758 |
| 16 rd 3.2 sos km0+400cl | 1 | 04:07:49 | 150 | 6.4 | 91 | 0 | 300 | 500 | 171 | 20 | 9 | 140 | -100 | 0.397 |
| | 2 | 04:08:01 | 150 | 6.5 | 91 | 0 | 300 | 500 | 160 | 20 | 9 | 150 | -10 | 0.342 |
| | 3 | 04:08:14 | 150 | 6.6 | 93 | 0 | 300 | 500 | 163 | 20 | 9 | 150 | -10 | 0.346 |
| 17 rd 3.2 sos km0+425cl | 1 | 04:10:13 | 150 | 6.6 | 93 | 0 | 300 | 500 | 306 | 30 | 15 | 80 | 54 | 0.831 |
| | 2 | 04:10:25 | 150 | 6.6 | 93 | 0 | 300 | 500 | 268 | 29 | 14 | 92 | 10 | 0.668 |
| | 3 | 04:10:35 | 150 | 6.6 | 93 | 0 | 300 | 500 | 264 | 29 | 14 | 93 | 0 | 0.622 |
| 18 rd 3.2 sos km0+450cl | 1 | 04:12:20 | 150 | 6.5 | 92 | 0 | 300 | 500 | 151 | 21 | 7 | 160 | 56 | 0.335 |
| | 2 | 04:12:33 | 150 | 6.4 | 91 | 0 | 300 | 500 | 140 | 21 | 7 | 170 | -10 | 0.278 |
| | 3 | 04:12:42 | 150 | 6.5 | 92 | 0 | 300 | 500 | 147 | 22 | 8 | 165 | -16 | 0.29 |
| 19 rd 3.2 sos km0+475cl | 1 | 04:14:43 | 150 | 6.5 | 92 | 0 | 300 | 500 | 158 | 21 | 7 | 154 | 49 | 0.358 |
| | 2 | 04:14:54 | 150 | 6.4 | 91 | 0 | 300 | 500 | 162 | 22 | 8 | 147 | 33 | 0.354 |
| | 3 | 04:15:05 | 150 | 6.4 | 91 | 0 | 300 | 500 | 161 | 21 | 7 | 149 | 15 | 0.336 |
| 20 rd 3.2 sos km0+500cl | 1 | 04:16:22 | 150 | 6.4 | 90 | 0 | 300 | 500 | 105 | 24 | 7 | 225 | -10 | 0.211 |
| | 2 | 04:16:32 | 150 | 6.4 | 90 | 0 | 300 | 500 | 100 | 23 | 7 | 239 | -18 | 0.182 |
| | 3 | 04:16:42 | 150 | 6.3 | 90 | 0 | 300 | 500 | 99 | 23 | 7 | 239 | -12 | 0.182 |

**File:** **Rd 3.2 Otta Seal**
**Date:** **13 May 2005**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***150*** | ***120*** | | | | | | | | |
| ***Minimum*** | | | | ***42*** | ***21*** | ***33*** | ***-0.61*** | ***77*** | ***52*** | | |
| ***Maximum*** | | | | ***370*** | ***185*** | ***463*** | ***0.00*** | ***463*** | ***233*** | | |
| ***Average*** | | | | ***105*** | ***53*** | ***256*** | ***-0.12*** | ***273*** | ***105*** | | |
| ***Percentile*** | ***10%*** | | | ***53*** | ***27*** | ***100*** | ***0*** | ***129*** | ***67*** | | |
| ***Percentile*** | ***50%*** | | | ***88*** | ***44*** | ***281*** | ***0*** | ***296*** | ***95*** | | |
| 1 | DOS km 0+250 cl | 150 | 120 | 89 | 45 | 172 | -0.17 | 189 | 96 | 0 | |
| 2 | DOS km 0+500 cl | 150 | 120 | 55 | 28 | 385 | 0 | 385 | 68 | 0 | |
| 3 | DOS km 0+750 cl | 150 | 120 | 51 | 26 | 463 | 0 | 463 | 65 | 0 | |
| 4 | DOS km 0+100 cl | 150 | 120 | 42 | 21 | 306 | 0 | 306 | 52 | 0 | |
| 5 | DOS km 0+125 cl | 150 | 120 | 53 | 27 | 413 | 0 | 413 | 67 | 0 | |
| 6 | DOS km 0+150 cl | 150 | 120 | 67 | 34 | 140 | -0.18 | 155 | 74 | 0 | |
| 7 | DOS km 0+175 cl | 150 | 120 | 71 | 36 | 334 | 0 | 334 | 84 | 0 | |
| 8 | DOS km 0+200 cl | 150 | 120 | 94 | 47 | 215 | -0.17 | 236 | 105 | 0 | |
| 9 | DOS km 0+225 cl | 150 | 120 | 57 | 29 | 311 | 0 | 311 | 69 | 0 | |
| 10 | DOS km 0+250 cl | 150 | 120 | 61 | 31 | 294 | 0 | 294 | 72 | 0 | |
| 11 | SOS km 0+275 cl | 150 | 120 | 89 | 45 | 268 | -0.22 | 298 | 106 | 0 | |
| 12 | SOS km 0+300 cl | 150 | 120 | 93 | 47 | 360 | -0.01 | 362 | 106 | 0 | |
| 13 | SOS km 0+325 cl | 150 | 120 | 121 | 61 | 100 | -0.25 | 122 | 113 | 0 | |
| 14 | SOS km 0+350 cl | 150 | 120 | 145 | 73 | 167 | -0.26 | 201 | 148 | 0 | |
| 15 | SOS km 0+375 cl | 150 | 120 | 74 | 37 | 313 | 0 | 313 | 85 | 0 | |
| 16 | SOS km 0+400 cl | 150 | 120 | 142 | 71 | 379 | 0 | 379 | 150 | 0 | |
| 17 | SOS km 0+425 cl | 150 | 120 | 86 | 43 | 255 | 0 | 255 | 93 | 0 | |
| 18 | SOS km 0+450 cl | 150 | 120 | 191 | 96 | 95 | -0.34 | 130 | 167 | 0 | |
| 19 | SOS km 0+475 cl | 150 | 120 | 158 | 79 | 120 | -0.28 | 150 | 147 | 0 | |
| 20 | SOS km 0+500 cl | 150 | 120 | 370 | 185 | 33 | -0.61 | 77 | 233 | 0 | |

**File:** rd3.3 gravel
**Date:** 06. October 2012

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **825.00** | **82.00** | **35.00** | **69.00** | **273.00** | **3.01** |
| | **Minimum** | | | **150.00** | **6.00** | **84.00** | **0.00** | **300.00** | **500.00** | **348.00** | **41.00** | **22.00** | **27.00** | **-60.00** | **0.89** |
| | **Average** | | | **150.00** | **6.26** | **88.48** | **0.00** | **300.00** | **500.00** | **535.33** | **55.93** | **26.81** | **46.44** | **82.19** | **1.60** |
| | **Percentile** | **10%** | | **150.00** | **6.10** | **86.60** | **0.00** | **300.00** | **500.00** | **375.80** | **45.60** | **24.00** | **32.00** | **34.60** | **0.95** |
| 1 | rd3.3 km1+605cl | 1 | 10:47:50 | 150 | 6.1 | 86 | 0 | 300 | 500 | 352 | 41 | 22 | 65 | 53 | 0.886 |
| | | 2 | 10:48:02 | 150 | 6.5 | 92 | 0 | 300 | 500 | 356 | 44 | 24 | 68 | 37 | 0.891 |
| | | 3 | 10:48:14 | 150 | 6.5 | 91 | 0 | 300 | 500 | 348 | 45 | 24 | 69 | 37 | 0.901 |
| 2 | rd3.3 km1+63ocl | 1 | 10:50:10 | 150 | 6.1 | 87 | 0 | 300 | 500 | 441 | 52 | 28 | 52 | 145 | 1.376 |
| | | 2 | 10:50:23 | 150 | 6.3 | 89 | 0 | 300 | 500 | 445 | 55 | 29 | 53 | 69 | 1.298 |
| | | 3 | 10:50:36 | 150 | 6.3 | 89 | 0 | 300 | 500 | 459 | 57 | 30 | 51 | 37 | 1.264 |
| 3 | rd3.3 km1+655cl | 1 | 10:51:58 | 150 | 6.2 | 88 | 0 | 300 | 500 | 446 | 46 | 23 | 52 | 75 | 1.191 |
| | | 2 | 10:52:10 | 150 | 6.4 | 90 | 0 | 300 | 500 | 397 | 51 | 24 | 60 | -60 | 0.997 |
| | | 3 | 10:52:19 | 150 | 6.3 | 89 | 0 | 300 | 500 | 396 | 50 | 24 | 59 | -51 | 0.987 |
| 4 | rd3.3 km1+680cl | 1 | 10:53:45 | 150 | 6.2 | 87 | 0 | 300 | 500 | 648 | 55 | 27 | 36 | 150 | 1.95 |
| | | 2 | 10:53:54 | 150 | 6.4 | 91 | 0 | 300 | 500 | 575 | 53 | 25 | 42 | 45 | 1.517 |
| | | 3 | 10:54:04 | 150 | 6.4 | 90 | 0 | 300 | 500 | 565 | 57 | 26 | 42 | 31 | 1.566 |
| 5 | rd3.3 km1+705cl | 1 | 10:55:29 | 150 | 6.2 | 87 | 0 | 300 | 500 | 671 | 50 | 25 | 34 | 172 | 2.076 |
| | | 2 | 10:55:39 | 150 | 6.3 | 90 | 0 | 300 | 500 | 603 | 56 | 26 | 39 | 67 | 1.715 |
| | | 3 | 10:55:48 | 150 | 6.3 | 90 | 0 | 300 | 500 | 626 | 58 | 27 | 38 | 46 | 1.751 |
| 6 | rd3.3 km1+730cl | 1 | 10:57:08 | 150 | 6.3 | 89 | 0 | 300 | 500 | 537 | 58 | 29 | 44 | 92 | 1.648 |
| | | 2 | 10:57:17 | 150 | 6.3 | 90 | 0 | 300 | 500 | 541 | 69 | 34 | 44 | 114 | 1.764 |
| | | 3 | 10:57:26 | 150 | 6.3 | 90 | 0 | 300 | 500 | 530 | 68 | 35 | 45 | 149 | 1.712 |
| 7 | rd3.3 km1+755cl | 1 | 10:58:42 | 150 | 6.1 | 87 | 0 | 300 | 500 | 443 | 47 | 24 | 52 | 134 | 1.36 |
| | | 2 | 10:58:51 | 150 | 6.3 | 89 | 0 | 300 | 500 | 389 | 49 | 25 | 60 | 62 | 1.11 |
| | | 3 | 10:58:59 | 150 | 6.3 | 89 | 0 | 300 | 500 | 425 | 55 | 27 | 55 | 56 | 1.245 |
| 8 | rd3.3 km1+780cl | 1 | 11:00:06 | 150 | 6.1 | 87 | 0 | 300 | 500 | 709 | 51 | 25 | 32 | 200 | 2.267 |
| | | 2 | 11:00:15 | 150 | 6.2 | 87 | 0 | 300 | 500 | 677 | 58 | 28 | 34 | 72 | 2.23 |
| | | 3 | 11:00:25 | 150 | 6.2 | 88 | 0 | 300 | 500 | 624 | 59 | 29 | 37 | 97 | 1.849 |
| 9 | rd3.3 km1+795cl | 1 | 11:03:28 | 150 | 6 | 84 | 0 | 300 | 500 | 825 | 65 | 27 | 27 | 273 | 3.011 |
| | | 2 | 11:03:38 | 150 | 6.1 | 86 | 0 | 300 | 500 | 702 | 79 | 28 | 32 | 71 | 2.347 |
| | | 3 | 11:03:47 | 150 | 6.2 | 87 | 0 | 300 | 500 | 724 | 82 | 29 | 32 | 46 | 2.344 |

**File:** **Rd 3.3 Gravel Wearing Course**
**Date:** **06. October 2012**

| Point No. | Location | H1 mm | E1 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***206*** | | | | | | | |
| ***Minimum*** | | | ***24*** | ***12*** | ***0*** | ***18*** | ***31*** | ***0*** | |
| ***Maximum*** | | | ***55*** | ***144*** | ***0*** | ***144*** | ***68*** | ***0*** | |
| ***Average*** | | | ***37*** | ***60*** | ***0*** | ***64*** | ***45*** | ***0*** | |
| ***Percentile*** | ***10%*** | | ***26*** | ***34*** | ***0*** | ***39*** | ***34*** | ***0*** | |
| ***Percentile*** | ***50%*** | | ***33*** | ***46*** | ***0*** | ***52*** | ***44*** | ***0*** | |
| 1 | km1+605cl | 300 | 55 | 144 | 0 | 144 | 68 | 0 | |
| 2 | km1+63ocl | 300 | 42 | 112 | 0 | 112 | 52 | 0 | |
| 3 | km1+655cl | 200 | 48 | 49 | -0.22 | 57 | 59 | 0 | |
| 4 | km1+680cl | 200 | 30 | 46 | -0.21 | 52 | 41 | 0 | |
| 5 | km1+705cl | 200 | 28 | 42 | -0.22 | 48 | 39 | 0 | |
| 6 | km1+730cl | 150 | 33 | 41 | -0.18 | 44 | 44 | 0 | |
| 7 | km1+755cl | 150 | 43 | 54 | -0.18 | 58 | 58 | 0 | |
| 8 | km1+780cl | 175 | 24 | 40 | -0.21 | 44 | 35 | 0 | |
| 9 | km1+795cl | 175 | 27 | 12 | -0.49 | 18 | 31 | 0 | |

**File:** **Rd 5 bamboo concrete**
**Date:** **10. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.90** | **97.00** | **0.00** | **300.00** | **500.00** | **98.00** | **55.00** | **43.00** | **2648.00** | **98.00** | **0.29** |
| | **Minimum** | | | **150.00** | **6.30** | **89.00** | **0.00** | **300.00** | **500.00** | **9.00** | **25.00** | **15.00** | **255.00** | **-39.00** | **-0.02** |
| | **Average** | | | **150.00** | **6.59** | **93.28** | **0.00** | **300.00** | **500.00** | **49.46** | **35.36** | **24.49** | **571.86** | **14.22** | **0.14** |
| | **Percentile** | **10%** | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **35.00** | **25.10** | **16.00** | **359.10** | **-7.80** | **0.07** |
| 1 | rd5 bc 1+955cl | 1 | 13:57:22 | 150 | 6.6 | 94 | 0 | 300 | 500 | 57 | 29 | 18 | 434 | 57 | 0.126 |
| | | 2 | 13:57:30 | 150 | 6.6 | 93 | 0 | 300 | 500 | 38 | 28 | 17 | 645 | 6 | 0.113 |
| | | 3 | 13:57:39 | 150 | 6.5 | 92 | 0 | 300 | 500 | 37 | 27 | 17 | 643 | 4 | 0.11 |
| 2 | rd5 bc 1+980cl | 1 | 13:58:32 | 150 | 6.6 | 93 | 0 | 300 | 500 | 42 | 30 | 21 | 582 | 14 | 0.116 |
| | | 2 | 13:58:38 | 150 | 6.5 | 92 | 0 | 300 | 500 | 43 | 29 | 19 | 560 | 43 | 0.103 |
| | | 3 | 13:58:46 | 150 | 6.6 | 93 | 0 | 300 | 500 | 94 | 29 | 19 | 262 | 94 | 0.166 |
| 3 | rd5 bc 2+005cl | 1 | 13:59:50 | 150 | 6.6 | 94 | 0 | 300 | 500 | 50 | 41 | 34 | 495 | 3 | 0.154 |
| | | 2 | 13:59:57 | 150 | 6.7 | 94 | 0 | 300 | 500 | 46 | 39 | 32 | 545 | 7 | 0.139 |
| | | 3 | 14:00:03 | 150 | 6.7 | 95 | 0 | 300 | 500 | 46 | 40 | 33 | 537 | 14 | 0.144 |
| 4 | rd5 bc 2+030cl | 1 | 14:00:54 | 150 | 6.5 | 92 | 0 | 300 | 500 | 52 | 39 | 27 | 466 | 50 | 0.189 |
| | | 2 | 14:01:00 | 150 | 6.7 | 94 | 0 | 300 | 500 | 50 | 38 | 26 | 498 | 37 | 0.168 |
| | | 3 | 14:01:07 | 150 | 6.6 | 93 | 0 | 300 | 500 | 48 | 37 | 26 | 513 | 10 | 0.142 |
| 5 | rd5 bc 2+055cl | 1 | 14:01:57 | 150 | 6.6 | 94 | 0 | 300 | 500 | 68 | 37 | 23 | 360 | 15 | 0.203 |
| | | 2 | 14:02:04 | 150 | 6.7 | 95 | 0 | 300 | 500 | 68 | 35 | 22 | 369 | 19 | 0.194 |
| | | 3 | 14:02:14 | 150 | 6.6 | 93 | 0 | 300 | 500 | 68 | 34 | 22 | 359 | 2 | 0.202 |
| 6 | rd5 bc 2+080cl | 1 | 14:03:03 | 150 | 6.6 | 93 | 0 | 300 | 500 | 77 | 38 | 22 | 318 | 17 | 0.221 |
| | | 2 | 14:03:09 | 150 | 6.7 | 94 | 0 | 300 | 500 | 76 | 36 | 21 | 325 | 3 | 0.209 |
| | | 3 | 14:03:16 | 150 | 6.6 | 93 | 0 | 300 | 500 | 74 | 36 | 21 | 331 | -22 | 0.17 |
| 7 | rd5 bc 2+105cl | 1 | 14:04:08 | 150 | 6.5 | 92 | 0 | 300 | 500 | 55 | 30 | 21 | 443 | 55 | 0.155 |
| | | 2 | 14:04:16 | 150 | 6.5 | 93 | 0 | 300 | 500 | 43 | 29 | 20 | 561 | 36 | 0.151 |
| | | 3 | 14:04:24 | 150 | 6.5 | 92 | 0 | 300 | 500 | 42 | 28 | 20 | 580 | 11 | 0.133 |
| 8 | rd5 bc 2+130cl | 1 | 14:05:08 | 150 | 6.5 | 92 | 0 | 300 | 500 | 53 | 37 | 25 | 453 | -9 | 0.142 |
| | | 2 | 14:05:16 | 150 | 6.5 | 92 | 0 | 300 | 500 | 53 | 36 | 24 | 458 | -1 | 0.152 |
| | | 3 | 14:05:25 | 150 | 6.6 | 94 | 0 | 300 | 500 | 52 | 36 | 24 | 477 | -6 | 0.139 |
| 9 | rd5 bc 2+155cl | 1 | 14:06:06 | 150 | 6.5 | 92 | 0 | 300 | 500 | 65 | 25 | 20 | 373 | 28 | 0.259 |
| | | 2 | 14:06:13 | 150 | 6.5 | 92 | 0 | 300 | 500 | 47 | 31 | 19 | 515 | 10 | 0.164 |
| | | 3 | 14:06:21 | 150 | 6.6 | 93 | 0 | 300 | 500 | 41 | 30 | 19 | 596 | -29 | 0.118 |
| 10 | rd5 bc 2+180cl | 1 | 14:07:11 | 150 | 6.6 | 93 | 0 | 300 | 500 | 38 | 44 | 29 | 640 | 38 | 0.089 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 14:07:17 | 150 | 6.4 | 90 | 0 | 300 | 500 | 12 | 42 | 28 | 2028 | 9 | 0.06 |
| | | 3 | 14:07:24 | 150 | 6.5 | 92 | 0 | 300 | 500 | 31 | 42 | 27 | 787 | 25 | 0.057 |
| 11 | rd5 bc 2+205cl | 1 | 14:08:07 | 150 | 6.3 | 89 | 0 | 300 | 500 | 40 | 26 | 16 | 588 | 0 | 0.097 |
| | | 2 | 14:08:13 | 150 | 6.7 | 95 | 0 | 300 | 500 | 39 | 25 | 15 | 637 | 12 | 0.11 |
| | | 3 | 14:08:21 | 150 | 6.5 | 92 | 0 | 300 | 500 | 39 | 25 | 15 | 627 | 16 | 0.1 |
| 12 | rd5 bc 2+230cl | 1 | 14:09:05 | 150 | 6.5 | 91 | 0 | 300 | 500 | 46 | 43 | 30 | 518 | -3 | 0.069 |
| | | 2 | 14:09:12 | 150 | 6.6 | 93 | 0 | 300 | 500 | 52 | 40 | 28 | 471 | -8 | 0.122 |
| | | 3 | 14:09:21 | 150 | 6.5 | 92 | 0 | 300 | 500 | 50 | 40 | 28 | 489 | 3 | 0.126 |
| 13 | rd5 bc 2+255cl | 1 | 14:10:04 | 150 | 6.6 | 94 | 0 | 300 | 500 | 61 | 55 | 42 | 404 | 8 | 0.183 |
| | | 2 | 14:10:11 | 150 | 6.5 | 93 | 0 | 300 | 500 | 62 | 54 | 41 | 392 | 0 | 0.185 |
| | | 3 | 14:10:21 | 150 | 6.6 | 94 | 0 | 300 | 500 | 62 | 54 | 41 | 397 | 10 | 0.193 |
| 14 | rd5 bc 2+280cl | 1 | 14:11:10 | 150 | 6.6 | 94 | 0 | 300 | 500 | 47 | 36 | 26 | 532 | 14 | 0.143 |
| | | 2 | 14:11:18 | 150 | 6.6 | 93 | 0 | 300 | 500 | 43 | 35 | 25 | 565 | 7 | 0.122 |
| | | 3 | 14:11:27 | 150 | 6.6 | 93 | 0 | 300 | 500 | 46 | 35 | 25 | 536 | 8 | 0.132 |
| 15 | rd5 bc 2+305cl | 1 | 14:12:16 | 150 | 6.5 | 92 | 0 | 300 | 500 | 62 | 52 | 43 | 386 | 62 | 0.21 |
| | | 2 | 14:12:23 | 150 | 6.6 | 94 | 0 | 300 | 500 | 62 | 48 | 39 | 400 | 27 | 0.217 |
| | | 3 | 14:12:33 | 150 | 6.7 | 95 | 0 | 300 | 500 | 60 | 47 | 38 | 416 | 55 | 0.213 |
| 16 | rd5 bc 2+330cl | 1 | 14:14:46 | 150 | 6.7 | 95 | 0 | 300 | 500 | 57 | 49 | 41 | 441 | -4 | 0.169 |
| | | 2 | 14:14:53 | 150 | 6.6 | 93 | 0 | 300 | 500 | 52 | 45 | 38 | 473 | -4 | 0.15 |
| | | 3 | 14:15:00 | 150 | 6.6 | 94 | 0 | 300 | 500 | 54 | 46 | 38 | 457 | 1 | 0.16 |
| 17 | rd5 bc 2+355cl | 1 | 14:15:45 | 150 | 6.7 | 95 | 0 | 300 | 500 | 37 | 25 | 16 | 681 | 22 | 0.12 |
| | | 2 | 14:15:52 | 150 | 6.7 | 95 | 0 | 300 | 500 | 34 | 25 | 16 | 740 | 26 | 0.103 |
| | | 3 | 14:16:00 | 150 | 6.7 | 95 | 0 | 300 | 500 | 98 | 25 | 16 | 255 | 98 | 0.149 |
| 18 | rd5 bc 2+380cl | 1 | 14:16:43 | 150 | 6.5 | 92 | 0 | 300 | 500 | 87 | 31 | 21 | 279 | 87 | 0.138 |
| | | 2 | 14:16:50 | 150 | 6.5 | 92 | 0 | 300 | 500 | 42 | 31 | 20 | 572 | 21 | 0.102 |
| | | 3 | 14:16:57 | 150 | 6.5 | 92 | 0 | 300 | 500 | 36 | 29 | 20 | 668 | 6 | 0.072 |
| 19 | rd5 bc 2+405cl | 1 | 14:17:43 | 150 | 6.4 | 91 | 0 | 300 | 500 | 34 | 34 | 17 | 705 | 4 | 0.076 |
| | | 2 | 14:17:50 | 150 | 6.5 | 92 | 0 | 300 | 500 | 38 | 27 | 16 | 632 | 3 | 0.098 |
| | | 3 | 14:17:59 | 150 | 6.6 | 94 | 0 | 300 | 500 | 35 | 27 | 16 | 710 | 10 | 0.074 |
| 20 | rd5 bc 2+430cl | 1 | 14:18:54 | 150 | 6.6 | 93 | 0 | 300 | 500 | 77 | 46 | 36 | 317 | 57 | 0.286 |
| | | 2 | 14:19:01 | 150 | 6.5 | 92 | 0 | 300 | 500 | 56 | 46 | 35 | 432 | -1 | 0.157 |
| | | 3 | 14:19:08 | 150 | 6.5 | 92 | 0 | 300 | 500 | 54 | 44 | 35 | 446 | 13 | 0.148 |
| 21 | rd5 bc 2+455cl | 1 | 14:19:56 | 150 | 6.5 | 93 | 0 | 300 | 500 | 32 | 26 | 16 | 773 | -10 | 0.065 |
| | | 2 | 14:20:03 | 150 | 6.6 | 94 | 0 | 300 | 500 | 35 | 25 | 15 | 697 | 6 | 0.09 |
| | | 3 | 14:20:10 | 150 | 6.5 | 91 | 0 | 300 | 500 | 31 | 25 | 15 | 781 | -3 | 0.076 |
| 22 | rd5 bc 2+480cl | 1 | 14:20:54 | 150 | 6.7 | 95 | 0 | 300 | 500 | 43 | 34 | 22 | 588 | 0 | 0.138 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 14:21:01 | 150 | 6.8 | 96 | 0 | 300 | 500 | 40 | 35 | 22 | 629 | -2 | 0.124 |
| | | 3 | 14:21:09 | 150 | 6.8 | 96 | 0 | 300 | 500 | 41 | 34 | 21 | 620 | 4 | 0.131 |
| 23 | rd5 bc 2+505cl | 1 | 14:22:13 | 150 | 6.6 | 94 | 0 | 300 | 500 | 37 | 35 | 23 | 658 | -24 | 0.057 |
| | | 2 | 14:22:24 | 150 | 6.7 | 94 | 0 | 300 | 500 | 44 | 34 | 22 | 568 | -39 | 0.087 |
| | | 3 | 14:22:31 | 150 | 6.7 | 94 | 0 | 300 | 500 | 9 | 33 | 21 | 2648 | 1 | -0.023 |
| 24 | rd5 bc 2+520cl | 1 | 14:23:54 | 150 | 6.8 | 96 | 0 | 300 | 500 | 42 | 30 | 19 | 607 | 14 | 0.127 |
| | | 2 | 14:24:01 | 150 | 6.8 | 97 | 0 | 300 | 500 | 37 | 29 | 19 | 683 | -17 | 0.094 |
| | | 3 | 14:24:11 | 150 | 6.9 | 97 | 0 | 300 | 500 | 42 | 29 | 19 | 603 | 4 | 0.125 |

**File:** **Rd 5 Bamboo Reinforced Concrete**
**Date:** **10 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***134*** | ***125*** | | | | | | | | |
| ***Minimum*** | | | | ***1708*** | ***150*** | ***16*** | ***-0.46*** | ***24*** | ***329*** | | |
| ***Maximum*** | | | | ***4628629*** | ***150*** | ***266*** | ***0.00*** | ***266*** | ***1496*** | | |
| ***Average*** | | | | ***265573*** | ***150*** | ***99*** | ***-0.12*** | ***123*** | ***597*** | | |
| ***Percentile*** | ***10%*** | | | ***4580*** | ***150*** | ***28*** | ***0*** | ***59*** | ***399*** | | |
| ***Percentile*** | ***50%*** | | | ***10230*** | ***150*** | ***75*** | ***0*** | ***98*** | ***552*** | | |
| 1 | rd5 bc 1+955cl | 125 | 125 | 13998 | 150 | 36 | -0.38 | 95 | 640 | 0 | |
| 2 | rd5 bc 1+980cl | 125 | 125 | 4551 | 150 | 217 | 0 | 217 | 476 | 0 | |
| 3 | rd5 bc 2+005cl | 125 | 125 | 30632 | 150 | 72 | -0.06 | 87 | 543 | 0 | |
| 4 | rd5 bc 2+030cl | 125 | 125 | 12541 | 150 | 82 | -0.11 | 107 | 501 | 0 | |
| 5 | rd5 bc 2+055cl | 125 | 125 | 2496 | 150 | 187 | 0 | 187 | 368 | 0 | |
| 6 | rd5 bc 2+080cl | 125 | 125 | 1708 | 150 | 187 | 0 | 187 | 329 | 0 | |
| 7 | rd5 bc 2+105cl | 125 | 125 | 9900 | 150 | 202 | 0 | 202 | 582 | 0 | |
| 8 | rd5 bc 2+130cl | 125 | 125 | 7178 | 150 | 163 | 0 | 163 | 468 | 0 | |
| 9 | rd5 bc 2+155cl | 125 | 125 | 10051 | 150 | 81 | -0.19 | 124 | 555 | 0 | |
| 10 | rd5 bc 2+180cl | 125 | 125 | 4628629 | 150 | 16 | -0.06 | 24 | 1180 | 0 | |
| 11 | rd5 bc 2+205cl | 125 | 125 | 8033 | 150 | 215 | -0.05 | 235 | 630 | 0 | |
| 12 | rd5 bc 2+230cl | 125 | 125 | 12775 | 150 | 70 | -0.12 | 95 | 474 | 0 | |
| 13 | rd5 bc 2+255cl | 125 | 125 | 17875 | 150 | 35 | -0.15 | 55 | 392 | 0 | |
| 14 | rd5 bc 2+280cl | 125 | 125 | 16201 | 150 | 83 | -0.11 | 110 | 549 | 0 | |
| 15 | rd5 bc 2+305cl | 125 | 125 | 14227 | 150 | 89 | -0.01 | 91 | 416 | 0 | |
| 16 | rd5 bc 2+330cl | 150 | 125 | 16857 | 150 | 55 | -0.07 | 69 | 468 | 0 | |
| 17 | rd5 bc 2+355cl | 150 | 125 | 4646 | 150 | 266 | 0 | 266 | 618 | 0 | |
| 18 | rd5 bc 2+380cl | 150 | 125 | 10371 | 150 | 47 | -0.27 | 97 | 619 | 0 | |
| 19 | rd5 bc 2+405cl | 150 | 125 | 8714 | 150 | 27 | -0.46 | 89 | 655 | 0 | |
| 20 | rd5 bc 2+430cl | 150 | 125 | 9947 | 150 | 78 | -0.04 | 87 | 442 | 0 | |
| 21 | rd5 bc 2+455cl | 150 | 125 | 10096 | 150 | 31 | -0.44 | 98 | 719 | 0 | |
| 22 | rd5 bc 2+480cl | 150 | 125 | 10364 | 150 | 26 | -0.38 | 75 | 601 | 0 | |
| 23 | rd5 bc 2+505cl | 150 | 125 | 1502639 | 150 | 53 | 0 | 53 | 1496 | 0 | |
| 24 | rd5 bc 2+520cl | 150 | 125 | 9318 | 150 | 59 | -0.26 | 112 | 649 | 0 | |

**File:** **Rd 5 geocell**
**Date:** **10. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.60** | **94.00** | **0.00** | **300.00** | **500.00** | **414.00** | **71.00** | **27.00** | **262.00** | **180.00** | **1.83** |
| | **Minimum** | | | **150.00** | **6.20** | **88.00** | **0.00** | **300.00** | **500.00** | **93.00** | **34.00** | **16.00** | **56.00** | **-45.00** | **0.21** |
| | **Average** | | | **150.00** | **6.44** | **91.16** | **0.00** | **300.00** | **500.00** | **202.22** | **45.90** | **19.53** | **140.37** | **24.49** | **0.51** |
| | **Percentile** | **10%** | | **150.00** | **6.30** | **89.00** | **0.00** | **300.00** | **500.00** | **110.00** | **36.00** | **17.00** | **66.00** | **-15.00** | **0.25** |
| 1 | rd 5 gc km 2+755 cl | 1 | 14:42:40 | 150 | 6.3 | 90 | 0 | 300 | 500 | 348 | 43 | 19 | 68 | 51 | 0.807 |
| | | 2 | 14:42:47 | 150 | 6.5 | 91 | 0 | 300 | 500 | 267 | 48 | 18 | 90 | -2 | 0.574 |
| | | 3 | 14:42:56 | 150 | 6.4 | 91 | 0 | 300 | 500 | 272 | 47 | 19 | 88 | 24 | 0.569 |
| 2 | rd 5 gc km 2+780 cl | 1 | 14:43:48 | 150 | 6.3 | 90 | 0 | 300 | 500 | 225 | 71 | 22 | 105 | 43 | 0.583 |
| | | 2 | 14:43:55 | 150 | 6.4 | 91 | 0 | 300 | 500 | 220 | 66 | 21 | 109 | 25 | 0.518 |
| | | 3 | 14:44:02 | 150 | 6.5 | 91 | 0 | 300 | 500 | 215 | 66 | 20 | 112 | 7 | 0.484 |
| 3 | rd 5 gc km 2+805 cl | 1 | 14:45:17 | 150 | 6.4 | 90 | 0 | 300 | 500 | 392 | 39 | 18 | 61 | 33 | 0.819 |
| | | 2 | 14:45:24 | 150 | 6.4 | 90 | 0 | 300 | 500 | 359 | 40 | 18 | 66 | 51 | 0.735 |
| | | 3 | 14:45:32 | 150 | 6.4 | 91 | 0 | 300 | 500 | 371 | 39 | 19 | 65 | 15 | 0.768 |
| 4 | rd 5 gc km 2+830 cl | 1 | 14:46:29 | 150 | 6.5 | 91 | 0 | 300 | 500 | 271 | 48 | 19 | 89 | -35 | 0.443 |
| | | 2 | 14:46:36 | 150 | 6.4 | 90 | 0 | 300 | 500 | 289 | 44 | 18 | 82 | 180 | 0.617 |
| | | 3 | 14:46:44 | 150 | 6.5 | 92 | 0 | 300 | 500 | 274 | 48 | 20 | 89 | 49 | 0.533 |
| 5 | rd 5 gc km 2+855 cl | 1 | 14:47:45 | 150 | 6.5 | 92 | 0 | 300 | 500 | 160 | 37 | 17 | 152 | 4 | 0.376 |
| | | 2 | 14:47:54 | 150 | 6.4 | 91 | 0 | 300 | 500 | 154 | 40 | 20 | 155 | 56 | 0.367 |
| | | 3 | 14:48:07 | 150 | 6.5 | 91 | 0 | 300 | 500 | 141 | 36 | 18 | 171 | 7 | 0.298 |
| 6 | rd 5 gc km 2+880 cl | 1 | 14:49:30 | 150 | 6.4 | 91 | 0 | 300 | 500 | 223 | 66 | 21 | 107 | 62 | 0.562 |
| | | 2 | 14:49:38 | 150 | 6.5 | 91 | 0 | 300 | 500 | 186 | 64 | 21 | 130 | 44 | 0.434 |
| | | 3 | 14:49:45 | 150 | 6.5 | 92 | 0 | 300 | 500 | 177 | 63 | 21 | 136 | -3 | 0.375 |
| 7 | rd 5 gc km 2+905 cl | 1 | 14:50:58 | 150 | 6.5 | 93 | 0 | 300 | 500 | 243 | 53 | 17 | 100 | 77 | 0.617 |
| | | 2 | 14:51:06 | 150 | 6.6 | 93 | 0 | 300 | 500 | 219 | 51 | 18 | 112 | 67 | 0.501 |
| | | 3 | 14:51:14 | 150 | 6.6 | 94 | 0 | 300 | 500 | 199 | 51 | 18 | 124 | 35 | 0.454 |
| 8 | rd 5 gc km 2+930 cl | 1 | 14:52:02 | 150 | 6.6 | 93 | 0 | 300 | 500 | 184 | 54 | 19 | 134 | -5 | 0.439 |
| | | 2 | 14:52:09 | 150 | 6.6 | 93 | 0 | 300 | 500 | 165 | 51 | 19 | 148 | 58 | 0.374 |
| | | 3 | 14:52:20 | 150 | 6.6 | 94 | 0 | 300 | 500 | 157 | 50 | 20 | 156 | 6 | 0.296 |
| 9 | rd 5 gc km 2+955 cl | 1 | 14:53:10 | 150 | 6.6 | 93 | 0 | 300 | 500 | 186 | 45 | 16 | 132 | -15 | 0.412 |
| | | 2 | 14:53:18 | 150 | 6.6 | 93 | 0 | 300 | 500 | 183 | 43 | 17 | 134 | 58 | 0.461 |
| | | 3 | 14:53:28 | 150 | 6.6 | 93 | 0 | 300 | 500 | 163 | 42 | 17 | 151 | -7 | 0.345 |
| 10 | rd 5 gc km 2+980 cl | 1 | 14:54:23 | 150 | 6.5 | 92 | 0 | 300 | 500 | 123 | 56 | 27 | 198 | 15 | 0.295 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 14:54:31 | 150 | 6.6 | 94 | 0 | 300 | 500 | 110 | 53 | 26 | 225 | -44 | 0.22 |
| | 3 | 14:54:39 | 150 | 6.6 | 94 | 0 | 300 | 500 | 110 | 52 | 26 | 225 | -20 | 0.224 |
| 11 rd 5 gc km 3+005 cl | 1 | 15:18:48 | 150 | 6.3 | 89 | 0 | 300 | 500 | 129 | 44 | 20 | 181 | 16 | 0.312 |
| | 2 | 15:18:57 | 150 | 6.4 | 90 | 0 | 300 | 500 | 116 | 43 | 20 | 204 | 6 | 0.258 |
| | 3 | 15:19:05 | 150 | 6.4 | 90 | 0 | 300 | 500 | 114 | 43 | 20 | 207 | 2 | 0.247 |
| 12 rd 5 gc km 3+030 cl | 1 | 15:20:18 | 150 | 6.2 | 88 | 0 | 300 | 500 | 165 | 39 | 20 | 141 | 8 | 0.413 |
| | 2 | 15:20:26 | 150 | 6.2 | 88 | 0 | 300 | 500 | 138 | 40 | 21 | 169 | -29 | 0.306 |
| | 3 | 15:20:33 | 150 | 6.3 | 90 | 0 | 300 | 500 | 129 | 40 | 21 | 183 | -45 | 0.26 |
| 13 rd 5 gc km 3+055 cl | 1 | 15:22:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 414 | 41 | 21 | 56 | 145 | 1.697 |
| | 2 | 15:23:07 | 150 | 6.4 | 91 | 0 | 300 | 500 | 386 | 42 | 23 | 62 | 35 | 1.772 |
| | 3 | 15:23:13 | 150 | 6.2 | 88 | 0 | 300 | 500 | 406 | 41 | 22 | 57 | 61 | 1.832 |
| 14 rd 5 gc km 3+080 cl | 1 | 15:25:34 | 150 | 6.3 | 89 | 0 | 300 | 500 | 173 | 37 | 17 | 135 | 7 | 0.427 |
| | 2 | 15:25:43 | 150 | 6.3 | 90 | 0 | 300 | 500 | 161 | 36 | 17 | 146 | 45 | 0.411 |
| | 3 | 15:25:51 | 150 | 6.3 | 89 | 0 | 300 | 500 | 142 | 36 | 17 | 165 | -3 | 0.324 |
| 15 rd 5 gc km 3+105 cl | 1 | 15:27:13 | 150 | 6.4 | 91 | 0 | 300 | 500 | 127 | 44 | 18 | 187 | 27 | 0.341 |
| | 2 | 15:27:21 | 150 | 6.5 | 91 | 0 | 300 | 500 | 98 | 44 | 18 | 245 | 28 | 0.269 |
| | 3 | 15:27:29 | 150 | 6.5 | 92 | 0 | 300 | 500 | 96 | 46 | 18 | 250 | -7 | 0.232 |
| 16 rd 5 gc km 3+130 cl | 1 | 15:28:33 | 150 | 6.4 | 91 | 0 | 300 | 500 | 128 | 38 | 20 | 188 | 44 | 0.327 |
| | 2 | 15:28:41 | 150 | 6.4 | 91 | 0 | 300 | 500 | 96 | 39 | 20 | 249 | 15 | 0.24 |
| | 3 | 15:28:48 | 150 | 6.5 | 92 | 0 | 300 | 500 | 93 | 38 | 19 | 262 | -5 | 0.211 |
| 17 rd 5 gc km 3+145 cl | 1 | 15:31:05 | 150 | 6.5 | 92 | 0 | 300 | 500 | 233 | 34 | 18 | 104 | 37 | 0.612 |
| | 2 | 15:31:12 | 150 | 6.4 | 90 | 0 | 300 | 500 | 187 | 35 | 18 | 128 | 27 | 0.44 |
| | 3 | 15:31:21 | 150 | 6.6 | 94 | 0 | 300 | 500 | 196 | 35 | 19 | 126 | -1 | 0.521 |

**File:** **Rd 5 Geocell Concrete Pavement**
**Date:** **10 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***103*** | ***125*** | | | | | | | | |
| ***Minimum*** | | | | ***24*** | ***150*** | ***7*** | ***-0.74*** | ***21*** | ***59*** | | |
| ***Maximum*** | | | | ***1895*** | ***150*** | ***117*** | ***-0.09*** | ***128*** | ***254*** | | |
| ***Average*** | | | | ***530*** | ***150*** | ***52*** | ***-0.35*** | ***70*** | ***150*** | | |
| ***Percentile*** | ***10%*** | | | ***46*** | ***150*** | ***8*** | ***-1*** | ***31*** | ***76*** | | |
| ***Percentile*** | ***50%*** | | | ***400*** | ***150*** | ***47*** | ***0*** | ***60*** | ***141*** | | |
| 1 | d 5 gc km 2+755 | 75 | 125 | 67 | 150 | 26 | -0.44 | 40 | 87 | 0 | |
| 2 | d 5 gc km 2+780 | 75 | 125 | 561 | 150 | 7 | -0.74 | 21 | 107 | 0 | |
| 3 | d 5 gc km 2+805 | 75 | 125 | 24 | 150 | 49 | -0.28 | 60 | 65 | 0 | |
| 4 | d 5 gc km 2+830 | 75 | 125 | 54 | 150 | 31 | -0.39 | 44 | 84 | 0 | |
| 5 | d 5 gc km 2+855 | 75 | 125 | 400 | 150 | 91 | -0.15 | 103 | 162 | 0 | |
| 6 | d 5 gc km 2+880 | 75 | 125 | 1197 | 150 | 7 | -0.74 | 23 | 130 | 0 | |
| 7 | d 5 gc km 2+905 | 75 | 125 | 267 | 150 | 20 | -0.52 | 36 | 117 | 0 | |
| 8 | d 5 gc km 2+930 | 75 | 125 | 763 | 150 | 26 | -0.44 | 46 | 151 | 0 | |
| 9 | d 5 gc km 2+955 | 100 | 125 | 243 | 150 | 36 | -0.39 | 56 | 141 | 0 | |
| 10 | d 5 gc km 2+980 | 100 | 125 | 1895 | 150 | 47 | -0.24 | 69 | 223 | 0 | |
| 11 | d 5 gc km 3+005 | 100 | 125 | 942 | 150 | 58 | -0.24 | 80 | 204 | 0 | |
| 12 | d 5 gc km 3+030 | 100 | 125 | 401 | 150 | 107 | -0.09 | 117 | 175 | 0 | |
| 13 | d 5 gc km 3+055 | 150 | 125 | 35 | 150 | 84 | -0.11 | 92 | 59 | 0 | |
| 14 | d 5 gc km 3+080 | 150 | 125 | 196 | 150 | 79 | -0.2 | 99 | 155 | 0 | |
| 15 | d 5 gc km 3+105 | 150 | 125 | 1152 | 150 | 8 | -0.74 | 37 | 243 | 0 | |
| 16 | d 5 gc km 3+130 | 150 | 125 | 702 | 150 | 89 | -0.16 | 112 | 254 | 0 | |
| 17 | d 5 gc km 3+145 | 150 | 125 | 116 | 150 | 117 | -0.1 | 128 | 126 | 0 | |

**File:** **Rd 5 gavel**
**Date:** **10. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **557.00** | **93.00** | **54.00** | **138.00** | **237.00** | **1.65** |
| | **Minimum** | | | **150.00** | **6.20** | **87.00** | **0.00** | **300.00** | **500.00** | **172.00** | **56.00** | **28.00** | **41.00** | **-217.00** | **0.40** |
| | **Average** | | | **150.00** | **6.34** | **89.85** | **0.00** | **300.00** | **500.00** | **320.59** | **79.59** | **38.74** | **80.52** | **-8.85** | **0.79** |
| | **Percentile** | **10%** | | **150.00** | **6.20** | **88.00** | **0.00** | **300.00** | **500.00** | **216.80** | **65.60** | **30.00** | **53.60** | **-135.40** | **0.50** |
| 1 | rd 5 gv 3+155cl | 1 | 15:34:41 | 150 | 6.4 | 91 | 0 | 300 | 500 | 172 | 56 | 28 | 138 | 66 | 0.41 |
| | | 2 | 15:34:49 | 150 | 6.3 | 90 | 0 | 300 | 500 | 182 | 64 | 30 | 130 | -117 | 0.492 |
| | | 3 | 15:34:58 | 150 | 6.3 | 89 | 0 | 300 | 500 | 173 | 65 | 30 | 135 | 2 | 0.398 |
| 2 | rd 5 gv 3+180cl | 1 | 15:36:39 | 150 | 6.3 | 89 | 0 | 300 | 500 | 274 | 92 | 54 | 86 | -20 | 0.741 |
| | | 2 | 15:36:46 | 150 | 6.3 | 89 | 0 | 300 | 500 | 251 | 88 | 48 | 93 | 66 | 0.678 |
| | | 3 | 15:36:53 | 150 | 6.4 | 90 | 0 | 300 | 500 | 274 | 88 | 49 | 86 | -217 | 0.741 |
| 3 | rd 5 gv 3+205cl | 1 | 15:38:04 | 150 | 6.3 | 89 | 0 | 300 | 500 | 256 | 82 | 36 | 91 | 237 | 0.654 |
| | | 2 | 15:38:12 | 150 | 6.4 | 90 | 0 | 300 | 500 | 240 | 81 | 35 | 99 | 101 | 0.51 |
| | | 3 | 15:38:19 | 150 | 6.4 | 91 | 0 | 300 | 500 | 241 | 81 | 36 | 99 | 2 | 0.526 |
| 4 | rd 5 gv 3+230cl | 1 | 15:40:17 | 150 | 6.2 | 88 | 0 | 300 | 500 | 320 | 93 | 49 | 73 | -20 | 0.871 |
| | | 2 | 15:40:26 | 150 | 6.5 | 92 | 0 | 300 | 500 | 352 | 72 | 39 | 69 | 21 | 0.811 |
| | | 3 | 15:40:37 | 150 | 6.4 | 90 | 0 | 300 | 500 | 328 | 66 | 37 | 73 | 4 | 0.765 |
| 5 | rd 5 gv 3+255cl | 1 | 15:41:45 | 150 | 6.2 | 88 | 0 | 300 | 500 | 284 | 81 | 41 | 82 | -3 | 0.694 |
| | | 2 | 15:41:53 | 150 | 6.4 | 90 | 0 | 300 | 500 | 277 | 79 | 36 | 86 | -56 | 0.579 |
| | | 3 | 15:42:01 | 150 | 6.3 | 90 | 0 | 300 | 500 | 280 | 76 | 37 | 84 | -203 | 0.587 |
| 6 | rd 5 gv 3+280cl | 1 | 15:43:15 | 150 | 6.2 | 88 | 0 | 300 | 500 | 309 | 72 | 30 | 75 | 7 | 0.834 |
| | | 2 | 15:43:22 | 150 | 6.3 | 90 | 0 | 300 | 500 | 316 | 82 | 35 | 75 | -19 | 0.846 |
| | | 3 | 15:43:30 | 150 | 6.4 | 90 | 0 | 300 | 500 | 314 | 82 | 35 | 76 | 34 | 0.882 |
| 7 | rd 5 gv 3+305cl | 1 | 15:44:45 | 150 | 6.2 | 88 | 0 | 300 | 500 | 368 | 79 | 37 | 63 | 32 | 0.737 |
| | | 2 | 15:44:52 | 150 | 6.3 | 90 | 0 | 300 | 500 | 354 | 78 | 37 | 67 | -21 | 0.681 |
| | | 3 | 15:44:59 | 150 | 6.5 | 91 | 0 | 300 | 500 | 351 | 82 | 39 | 69 | -14 | 0.723 |
| 8 | rd 5 gv 3+330cl | 1 | 15:46:02 | 150 | 6.5 | 92 | 0 | 300 | 500 | 415 | 92 | 52 | 58 | -10 | 0.857 |
| | | 2 | 15:46:11 | 150 | 6.3 | 90 | 0 | 300 | 500 | 348 | 82 | 45 | 68 | 7 | 0.853 |
| | | 3 | 15:46:18 | 150 | 6.4 | 91 | 0 | 300 | 500 | 355 | 84 | 46 | 67 | -2 | 0.899 |
| 9 | rd 5 gv 3+355cl | 1 | 15:47:26 | 150 | 6.2 | 87 | 0 | 300 | 500 | 557 | 80 | 31 | 41 | -163 | 1.651 |
| | | 2 | 15:47:33 | 150 | 6.4 | 91 | 0 | 300 | 500 | 545 | 84 | 36 | 44 | 13 | 1.526 |
| | | 3 | 15:47:41 | 150 | 6.5 | 92 | 0 | 300 | 500 | 520 | 88 | 38 | 47 | 34 | 1.353 |

**File:** **Rd 5 Gravel Wearing Course**
**Date:** **10 October 2012**

| Point No. | Location | H1 mm | E1 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***151*** | | | | | | | |
| ***Minimum*** | | | ***49*** | ***20*** | ***0*** | ***24*** | ***44*** | ***0*** | |
| ***Maximum*** | | | ***236*** | ***63*** | ***0*** | ***67*** | ***131*** | ***0*** | |
| ***Average*** | | | ***140*** | ***35*** | ***0*** | ***41*** | ***74*** | ***0*** | |
| ***Percentile*** | ***10%*** | | ***65*** | ***20*** | ***0*** | ***28*** | ***62*** | ***0*** | |
| ***Percentile*** | ***50%*** | | ***135*** | ***33*** | ***0*** | ***38*** | ***73*** | ***0*** | |
| 1 | 3+155 cl | 200 | 228 | 28 | -0.31 | 43 | 131 | 0 | |
| 2 | 3+180 cl | 200 | 135 | 45 | -0.1 | 50 | 90 | 0 | |
| 3 | 3+205 cl | 200 | 157 | 20 | -0.35 | 32 | 97 | 0 | |
| 4 | 3+230 cl | 200 | 69 | 63 | -0.08 | 67 | 71 | 0 | |
| 5 | 3+255 cl | 100 | 236 | 33 | -0.23 | 38 | 84 | 0 | |
| 6 | 3+280 cl | 100 | 209 | 23 | -0.32 | 29 | 73 | 0 | |
| 7 | 3+305 cl | 120 | 97 | 33 | -0.22 | 37 | 67 | 0 | |
| 8 | 3+330 cl | 120 | 83 | 50 | -0.09 | 52 | 67 | 0 | |
| 9 | 3+355 cl | 120 | 49 | 20 | -0.34 | 24 | 44 | 0 | |

**File:** **Rd 5 Concrete Paving Blocks**
**Date:** **10. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **1072.00** | **71.00** | **38.00** | **174.00** | **596.00** | **3.65** |
| | **Minimum** | | | **150.00** | **6.10** | **86.00** | **0.00** | **300.00** | **500.00** | **135.00** | **1.00** | **8.00** | **22.00** | **-58.00** | **0.31** |
| | **Average** | | | **150.00** | **6.31** | **89.22** | **0.00** | **300.00** | **500.00** | **341.77** | **30.15** | **22.10** | **84.30** | **62.78** | **0.85** |
| | **Percentile** | **10%** | | **150.00** | **6.20** | **87.90** | **0.00** | **300.00** | **500.00** | **174.60** | **1.90** | **12.00** | **42.90** | **-14.10** | **0.44** |
| 1 | rd 5 pb 0+900cl | 1 | 13:16:58 | 150 | 6.3 | 89 | 0 | 300 | 500 | 262 | 1 | 12 | 89 | 53 | 0.766 |
| | | 2 | 13:17:09 | 150 | 6.2 | 88 | 0 | 300 | 500 | 241 | 13 | 14 | 96 | -58 | 0.77 |
| | | 3 | 13:17:18 | 150 | 6.4 | 90 | 0 | 300 | 500 | 216 | 13 | 13 | 110 | -11 | 0.496 |
| 2 | rd 5 pb 0+925cl | 1 | 13:18:20 | 150 | 6.1 | 87 | 0 | 300 | 500 | 468 | 1 | 8 | 49 | 133 | 0.962 |
| | | 2 | 13:18:28 | 150 | 6.2 | 88 | 0 | 300 | 500 | 342 | 14 | 10 | 68 | 59 | 0.623 |
| | | 3 | 13:18:35 | 150 | 6.2 | 88 | 0 | 300 | 500 | 335 | 16 | 10 | 69 | 39 | 0.588 |
| 3 | rd 5 pb 0+950cl | 1 | 13:19:27 | 150 | 6.3 | 89 | 0 | 300 | 500 | 369 | 54 | 30 | 63 | 52 | 0.886 |
| | | 2 | 13:19:34 | 150 | 6.3 | 88 | 0 | 300 | 500 | 330 | 57 | 29 | 70 | -14 | 0.751 |
| | | 3 | 13:19:41 | 150 | 6.2 | 88 | 0 | 300 | 500 | 336 | 58 | 29 | 69 | -13 | 0.758 |
| 4 | rd 5 pb 0+975cl | 1 | 13:20:30 | 150 | 6.2 | 88 | 0 | 300 | 500 | 379 | 12 | 20 | 61 | 96 | 0.999 |
| | | 2 | 13:20:36 | 150 | 6.3 | 88 | 0 | 300 | 500 | 355 | 21 | 20 | 65 | 44 | 0.89 |
| | | 3 | 13:20:43 | 150 | 6.2 | 88 | 0 | 300 | 500 | 357 | 22 | 18 | 65 | 43 | 0.883 |
| 5 | rd 5 pb 1+000cl | 1 | 13:21:40 | 150 | 6.2 | 88 | 0 | 300 | 500 | 629 | 44 | 22 | 37 | 207 | 2.23 |
| | | 2 | 13:21:47 | 150 | 6.2 | 87 | 0 | 300 | 500 | 576 | 44 | 20 | 40 | 89 | 1.651 |
| | | 3 | 13:22:08 | 150 | 6.3 | 89 | 0 | 300 | 500 | 549 | 39 | 21 | 43 | 68 | 1.376 |
| 6 | rd 5 pb 1+025cl | 1 | 13:23:14 | 150 | 6.2 | 88 | 0 | 300 | 500 | 260 | 35 | 13 | 89 | -3 | 0.878 |
| | | 2 | 13:23:22 | 150 | 6.3 | 89 | 0 | 300 | 500 | 323 | 34 | 12 | 73 | 43 | 0.949 |
| | | 3 | 13:23:29 | 150 | 6.3 | 89 | 0 | 300 | 500 | 329 | 36 | 13 | 71 | 45 | 0.917 |
| 7 | rd 5 pb 1+050cl | 1 | 13:24:21 | 150 | 6.4 | 90 | 0 | 300 | 500 | 636 | 71 | 34 | 37 | 87 | 1.362 |
| | | 2 | 13:24:28 | 150 | 6.3 | 90 | 0 | 300 | 500 | 490 | 68 | 32 | 48 | -15 | 0.904 |
| | | 3 | 13:24:36 | 150 | 6.4 | 90 | 0 | 300 | 500 | 518 | 70 | 34 | 46 | 5 | 0.917 |
| 8 | rd 5 pb 1+075cl | 1 | 13:25:35 | 150 | 6.3 | 90 | 0 | 300 | 500 | 365 | 1 | 20 | 65 | 41 | 0.804 |
| | | 2 | 13:25:42 | 150 | 6.3 | 89 | 0 | 300 | 500 | 345 | 4 | 20 | 68 | 18 | 0.719 |
| | | 3 | 13:25:49 | 150 | 6.3 | 90 | 0 | 300 | 500 | 339 | 16 | 19 | 70 | 31 | 0.71 |
| 9 | rd 5 pb 1+100cl | 1 | 13:26:35 | 150 | 6.1 | 86 | 0 | 300 | 500 | 497 | 38 | 22 | 46 | 171 | 1.713 |
| | | 2 | 13:26:41 | 150 | 6.2 | 88 | 0 | 300 | 500 | 426 | 41 | 21 | 54 | -41 | 1.026 |
| | | 3 | 13:26:47 | 150 | 6.2 | 88 | 0 | 300 | 500 | 422 | 44 | 22 | 55 | -6 | 0.974 |
| 10 | rd 5 pb 1+125cl | 1 | 13:27:33 | 150 | 6.3 | 89 | 0 | 300 | 500 | 555 | 53 | 24 | 42 | 213 | 1.38 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 13:27:41 | 150 | 6.4 | 90 | 0 | 300 | 500 | 489 | 52 | 23 | 48 | 98 | 1.094 |
| | 3 | 13:27:47 | 150 | 6.4 | 90 | 0 | 300 | 500 | 445 | 52 | 23 | 53 | 62 | 0.995 |
| 11 rd 5 pb 1+150cl | 1 | 13:28:40 | 150 | 6.4 | 91 | 0 | 300 | 500 | 228 | 42 | 27 | 105 | 66 | 0.567 |
| | 2 | 13:28:48 | 150 | 6.5 | 92 | 0 | 300 | 500 | 203 | 50 | 28 | 119 | -28 | 0.417 |
| | 3 | 13:28:56 | 150 | 6.4 | 90 | 0 | 300 | 500 | 223 | 50 | 28 | 106 | 67 | 0.534 |
| 12 rd 5 pb 1+175cl | 3 | 13:30:04 | 150 | 6.4 | 91 | 0 | 300 | 500 | 209 | 2 | 23 | 115 | -47 | 0.439 |
| 13 rd 5 pb 1+200cl | 1 | 13:30:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 1072 | 25 | 8 | 22 | 596 | 3.645 |
| | 2 | 13:31:05 | 150 | 6.4 | 91 | 0 | 300 | 500 | 511 | 28 | 12 | 47 | 60 | 1.322 |
| | 3 | 13:31:13 | 150 | 6.5 | 91 | 0 | 300 | 500 | 474 | 28 | 13 | 51 | 49 | 1.171 |
| 14 rd 5 pb 1+225cl | 1 | 13:32:17 | 150 | 6.4 | 91 | 0 | 300 | 500 | 419 | 13 | 22 | 57 | 115 | 1.156 |
| | 2 | 13:32:26 | 150 | 6.5 | 92 | 0 | 300 | 500 | 373 | 9 | 22 | 65 | 58 | 0.944 |
| | 3 | 13:32:35 | 150 | 6.5 | 92 | 0 | 300 | 500 | 373 | 8 | 22 | 65 | 37 | 0.902 |
| 15 rd 5 pb 1+250cl | 1 | 13:33:22 | 150 | 6.3 | 89 | 0 | 300 | 500 | 287 | 25 | 28 | 82 | 42 | 0.739 |
| | 2 | 13:33:29 | 150 | 6.4 | 91 | 0 | 300 | 500 | 255 | 49 | 24 | 94 | 11 | 0.572 |
| | 3 | 13:33:36 | 150 | 6.5 | 91 | 0 | 300 | 500 | 254 | 21 | 24 | 94 | -42 | 0.566 |
| 16 rd 5 pb 1+275cl | 1 | 13:34:29 | 150 | 6.2 | 87 | 0 | 300 | 500 | 214 | 10 | 33 | 107 | 158 | 0.552 |
| | 2 | 13:34:36 | 150 | 6.4 | 90 | 0 | 300 | 500 | 206 | 12 | 36 | 115 | 91 | 0.52 |
| | 3 | 13:34:43 | 150 | 6.2 | 88 | 0 | 300 | 500 | 198 | 17 | 38 | 117 | 32 | 0.461 |
| 17 rd 5 pb 1+300cl | 2 | 13:35:39 | 150 | 6.5 | 91 | 0 | 300 | 500 | 214 | 1 | 20 | 112 | 8 | 0.634 |
| | 3 | 13:35:46 | 150 | 6.4 | 91 | 0 | 300 | 500 | 212 | 4 | 20 | 113 | 10 | 0.609 |
| 18 rd 5 pb 1+325cl | 1 | 13:36:35 | 150 | 6.2 | 87 | 0 | 300 | 500 | 157 | 29 | 21 | 146 | 19 | 0.4 |
| | 2 | 13:36:42 | 150 | 6.2 | 88 | 0 | 300 | 500 | 153 | 27 | 23 | 151 | 72 | 0.341 |
| | 3 | 13:36:49 | 150 | 6.1 | 87 | 0 | 300 | 500 | 565 | 31 | 21 | 41 | 565 | 0.459 |
| 19 rd 5 pb 1+350cl | 1 | 13:37:37 | 150 | 6.4 | 90 | 0 | 300 | 500 | 185 | 47 | 27 | 128 | 24 | 0.482 |
| | 2 | 13:37:45 | 150 | 6.3 | 89 | 0 | 300 | 500 | 171 | 46 | 25 | 137 | 39 | 0.446 |
| | 3 | 13:37:52 | 150 | 6.4 | 90 | 0 | 300 | 500 | 175 | 46 | 24 | 135 | 57 | 0.476 |
| 20 rd 5 pb 1+375cl | 1 | 13:38:38 | 150 | 6.3 | 89 | 0 | 300 | 500 | 192 | 1 | 27 | 122 | 60 | 0.554 |
| | 2 | 13:38:45 | 150 | 6.4 | 90 | 0 | 300 | 500 | 194 | 1 | 27 | 122 | 27 | 0.485 |
| | 3 | 13:38:52 | 150 | 6.3 | 89 | 0 | 300 | 500 | 187 | 16 | 26 | 125 | 20 | 0.451 |
| 21 rd 5 pb 1+395cl | 1 | 13:40:03 | 150 | 6.3 | 90 | 0 | 300 | 500 | 147 | 50 | 23 | 161 | 55 | 0.417 |
| | 2 | 13:40:09 | 150 | 6.3 | 89 | 0 | 300 | 500 | 135 | 47 | 24 | 174 | 9 | 0.313 |
| | 3 | 13:40:17 | 150 | 6.3 | 89 | 0 | 300 | 500 | 137 | 50 | 22 | 171 | 1 | 0.31 |

**File:** **Rd 5 Concrete Paving Blocks**
**Date:** **10 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***65*** | ***125*** | | | | | | | | |
| ***Minimum*** | | | | ***9*** | ***150*** | ***1*** | ***-2.62*** | ***9*** | ***40*** | | |
| ***Maximum*** | | | | ***28270788*** | ***251*** | ***318*** | ***0.00*** | ***318*** | ***3880*** | | |
| ***Average*** | | | | ***1346418*** | ***155*** | ***74*** | ***-0.49*** | ***88*** | ***277*** | | |
| ***Percentile*** | ***10%*** | | | ***15*** | ***150*** | ***1*** | ***-2*** | ***15*** | ***48*** | | |
| ***Percentile*** | ***50%*** | | | ***32*** | ***150*** | ***48*** | ***0*** | ***57*** | ***93*** | | |
| 1 | rd 5 pb 0+900cl | 65 | 125 | 135 | 150 | 2 | -1.74 | 15 | 96 | 0 | |
| 2 | rd 5 pb 0+925cl | 65 | 125 | 15 | 150 | 238 | -0.05 | 242 | 69 | 0 | |
| 3 | rd 5 pb 0+950cl | 65 | 125 | 30 | 150 | 49 | -0.18 | 56 | 69 | 0 | |
| 4 | rd 5 pb 0+975cl | 65 | 125 | 51 | 150 | 1 | -1.79 | 9 | 61 | 0 | |
| 5 | rd 5 pb 1+000cl | 65 | 125 | 9 | 150 | 49 | -0.24 | 57 | 40 | 0 | |
| 6 | rd 5 pb 1+025cl | 65 | 125 | 28 | 150 | 26 | -0.51 | 40 | 71 | 0 | |
| 7 | rd 5 pb 1+050cl | 65 | 125 | 15 | 150 | 32 | -0.25 | 39 | 47 | 0 | |
| 8 | rd 5 pb 1+075cl | 65 | 125 | 28270788 | 150 | 10 | -0.37 | 91 | 3880 | 0 | |
| 9 | rd 5 pb 1+100cl | 65 | 125 | 15 | 150 | 56 | -0.21 | 64 | 54 | 0 | |
| 10 | rd 5 pb 1+125cl | 65 | 125 | 15 | 150 | 32 | -0.33 | 41 | 50 | 0 | |
| 11 | rd 5 pb 1+150cl | 65 | 125 | 106 | 150 | 95 | -0.06 | 99 | 113 | 0 | |
| 12 | rd 5 pb 1+175cl | 65 | 125 | 81 | 150 | 1 | -2.62 | 15 | 107 | 0 | |
| 13 | rd 5 pb 1+200cl | 65 | 125 | 11 | 150 | 48 | -0.36 | 60 | 48 | 0 | |
| 14 | rd 5 pb 1+225cl | 65 | 125 | 30 | 150 | 1 | -2.16 | 10 | 63 | 0 | |
| 15 | rd 5 pb 1+250cl | 65 | 125 | 29 | 150 | 187 | 0 | 187 | 93 | 0 | |
| 16 | rd 5 pb 1+275cl | 65 | 125 | 32 | 150 | 318 | 0 | 318 | 112 | 0 | |
| 17 | rd 5 pb 1+300cl | 65 | 125 | 838 | 251 | 47 | 0 | 47 | 105 | 0 | |
| 18 | rd 5 pb 1+325cl | 65 | 125 | 70 | 150 | 178 | 0 | 178 | 126 | 0 | |
| 19 | rd 5 pb 1+350cl | 65 | 125 | 294 | 150 | 84 | -0.11 | 92 | 135 | 0 | |
| 20 | rd 5 pb 1+375cl | 65 | 125 | 515 | 155 | 39 | -0.24 | 51 | 122 | 0 | |
| 21 | rd 5 pb 1+395cl | 65 | 125 | 1665 | 150 | 54 | -0.22 | 71 | 170 | 0 | |

**File:** **Rd 8 gravel**
**Date:** **09. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.50** | **92.00** | **0.00** | **300.00** | **500.00** | **359.00** | **67.00** | **36.00** | **213.00** | **226.00** | **1.59** |
| | **Minimum** | | | **150.00** | **6.00** | **85.00** | **0.00** | **300.00** | **500.00** | **110.00** | **22.00** | **7.00** | **68.00** | **-292.00** | **0.19** |
| | **Average** | | | **150.00** | **6.31** | **89.33** | **0.00** | **300.00** | **500.00** | **191.26** | **37.96** | **16.33** | **142.59** | **10.26** | **0.50** |
| | **Percentile** | **10%** | | **150.00** | **6.16** | **86.60** | **0.00** | **300.00** | **500.00** | **115.80** | **25.00** | **10.60** | **73.60** | **-50.40** | **0.21** |
| 1 | rd 8 gv km2+205 cl | 1 | 10:48:46 | 150 | 6.4 | 90 | 0 | 300 | 500 | 343 | 48 | 22 | 69 | 76 | 1.389 |
| | | 2 | 10:48:54 | 150 | 6.5 | 92 | 0 | 300 | 500 | 359 | 47 | 23 | 68 | 9 | 1.586 |
| | | 3 | 10:49:01 | 150 | 6.5 | 92 | 0 | 300 | 500 | 129 | 49 | 25 | 187 | -292 | 0.313 |
| 2 | rd 8 gv km2+230 cl | 1 | 10:50:08 | 150 | 6.2 | 87 | 0 | 300 | 500 | 163 | 64 | 33 | 141 | 31 | 0.387 |
| | | 2 | 10:50:20 | 150 | 6.3 | 90 | 0 | 300 | 500 | 150 | 64 | 34 | 157 | -66 | 0.287 |
| | | 3 | 10:50:29 | 150 | 6.3 | 89 | 0 | 300 | 500 | 172 | 67 | 36 | 136 | 41 | 0.44 |
| 3 | rd 8 gv km2+255 cl | 1 | 10:57:46 | 150 | 6.2 | 88 | 0 | 300 | 500 | 318 | 45 | 14 | 73 | 226 | 0.817 |
| | | 2 | 10:57:59 | 150 | 6.2 | 88 | 0 | 300 | 500 | 291 | 44 | 14 | 80 | -135 | 0.783 |
| | | 3 | 10:58:07 | 150 | 6.3 | 89 | 0 | 300 | 500 | 228 | 45 | 15 | 103 | -6 | 0.692 |
| 4 | rd 8 gv km2+280 cl | 1 | 11:00:03 | 150 | 6 | 85 | 0 | 300 | 500 | 300 | 35 | 15 | 74 | 91 | 0.878 |
| | | 2 | 11:00:11 | 150 | 6.2 | 87 | 0 | 300 | 500 | 268 | 32 | 13 | 86 | 94 | 0.604 |
| | | 3 | 11:02:06 | 150 | 6.2 | 88 | 0 | 300 | 500 | 310 | 35 | 14 | 75 | 33 | 0.913 |
| 5 | rd 8 gv km2+305 cl | 1 | 11:03:53 | 150 | 6.3 | 90 | 0 | 300 | 500 | 170 | 31 | 13 | 139 | 14 | 0.414 |
| | | 2 | 11:04:02 | 150 | 6.3 | 90 | 0 | 300 | 500 | 144 | 30 | 13 | 164 | -26 | 0.31 |
| | | 3 | 11:04:09 | 150 | 6.4 | 91 | 0 | 300 | 500 | 157 | 32 | 14 | 152 | 91 | 0.347 |
| 6 | rd 8 gv km2+330 cl | 1 | 11:05:14 | 150 | 6.1 | 86 | 0 | 300 | 500 | 201 | 39 | 13 | 112 | 13 | 0.468 |
| | | 2 | 11:05:22 | 150 | 6.4 | 90 | 0 | 300 | 500 | 177 | 37 | 10 | 133 | -10 | 0.381 |
| | | 3 | 11:05:30 | 150 | 6.3 | 89 | 0 | 300 | 500 | 204 | 45 | 18 | 115 | 2 | 0.442 |
| 7 | rd 8 gv km2+355 cl | 1 | 11:08:05 | 150 | 6.1 | 86 | 0 | 300 | 500 | 128 | 26 | 12 | 177 | 19 | 0.216 |
| | | 2 | 11:08:53 | 150 | 6.3 | 89 | 0 | 300 | 500 | 122 | 25 | 12 | 191 | 3 | 0.202 |
| | | 3 | 11:09:01 | 150 | 6.5 | 92 | 0 | 300 | 500 | 123 | 27 | 12 | 196 | -8 | 0.193 |
| 8 | rd 8 gv km2+380 cl | 1 | 11:09:59 | 150 | 6.5 | 92 | 0 | 300 | 500 | 137 | 30 | 15 | 176 | 24 | 0.309 |
| | | 2 | 11:10:07 | 150 | 6.3 | 89 | 0 | 300 | 500 | 110 | 29 | 13 | 213 | -40 | 0.21 |
| | | 3 | 11:10:14 | 150 | 6.4 | 90 | 0 | 300 | 500 | 112 | 28 | 12 | 213 | -6 | 0.243 |
| 9 | rd 8 gv km2+395 cl | 1 | 11:11:08 | 150 | 6.4 | 90 | 0 | 300 | 500 | 114 | 24 | 11 | 209 | 0 | 0.244 |
| | | 2 | 11:11:52 | 150 | 6.4 | 91 | 0 | 300 | 500 | 117 | 22 | 7 | 204 | 49 | 0.222 |
| | | 3 | 11:12:00 | 150 | 6.5 | 92 | 0 | 300 | 500 | 117 | 25 | 8 | 207 | 50 | 0.211 |

**File:** **Rd 8 Gravel Wearing Course**
**Date:** **09 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***139*** | ***280*** | | | | | | | | |
| ***Minimum*** | | | | ***65*** | ***100*** | ***16*** | ***-0.60*** | ***32*** | ***79*** | | |
| ***Maximum*** | | | | ***347*** | ***174*** | ***253*** | ***-0.04*** | ***266*** | ***212*** | | |
| ***Average*** | | | | ***235*** | ***138*** | ***80*** | ***-0.33*** | ***110*** | ***151*** | | |
| ***Percentile*** | ***10%*** | | | ***95*** | ***107*** | ***19*** | ***-1*** | ***47*** | ***89*** | | |
| ***Percentile*** | ***50%*** | | | ***284*** | ***143*** | ***57*** | ***0*** | ***73*** | ***155*** | | |
| 1 | km 2+205 cl | 150 | | 284 | | 62 | -0.19 | 73 | 155 | 0 | |
| 2 | km 2+230 cl | 200 | | 287 | | 47 | -0.16 | 59 | 147 | 0 | |
| 3 | km 2+255 cl | 200 | | 103 | | 16 | -0.6 | 32 | 91 | 0 | |
| 4 | km 2+280 cl | 200 | | 65 | | 46 | -0.35 | 61 | 79 | 0 | |
| 5 | km 2+305 cl | 100 | 250 | 235 | 118 | 128 | -0.15 | 153 | 158 | 0 | |
| 6 | km 2+330 cl | 100 | 250 | 200 | 100 | 20 | -0.6 | 51 | 123 | 0 | |
| 7 | km 2+355 cl | 100 | 300 | 285 | 143 | 253 | -0.04 | 266 | 195 | 0 | |
| 8 | km 2+380 cl | 100 | 300 | 347 | 174 | 93 | -0.24 | 137 | 212 | 0 | |
| 9 | km 2+395 cl | 100 | 300 | 308 | 154 | 57 | -0.48 | 122 | 204 | 0 | |

**File:** **Rd 8 sand seal**
**Date:** **09. October 2012**

| Point No. | Location | Drop | Time | Radius mm | Load kN | Stress kPa | Dist. 1 mm | Dist. 2 mm | Dist. 3 mm | Def. 1 Micron | Def. 2 Micron | Def. 3 Micron | Eo MPa | Offset Micron | Energy Joule |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Maximum** | | | **150.00** | **6.80** | **96.00** | **0.00** | **300.00** | **500.00** | **2123.00** | **174.00** | **34.00** | **380.00** | **1066.00** | **9.61** |
| | **Minimum** | | | **150.00** | **5.90** | **83.00** | **0.00** | **300.00** | **500.00** | **63.00** | **17.00** | **9.00** | **11.00** | **-570.00** | **-1.02** |
| | **Average** | | | **150.00** | **6.42** | **90.83** | **0.00** | **300.00** | **500.00** | **259.05** | **49.88** | **18.90** | **150.50** | **29.82** | **0.64** |
| | **Percentile** | **10%** | | **150.00** | **6.20** | **88.00** | **0.00** | **300.00** | **500.00** | **84.30** | **28.30** | **12.00** | **68.90** | **-80.70** | **0.13** |
| 1 | rd 8 km1+505 ss | 1 | 09:11:29 | 150 | 6.2 | 88 | 0 | 300 | 500 | 106 | 17 | 10 | 219 | -26 | 0.09 |
| | | 2 | 09:11:37 | 150 | 6.4 | 90 | 0 | 300 | 500 | 569 | 18 | 9 | 42 | 569 | 0.085 |
| | | 3 | 09:11:43 | 150 | 6.4 | 90 | 0 | 300 | 500 | 81 | 21 | 9 | 293 | 27 | 0.203 |
| 2 | rd 8 ss km1+530 cl | 1 | 09:14:28 | 150 | 6.5 | 91 | 0 | 300 | 500 | 66 | 25 | 15 | 363 | -570 | -0.107 |
| | | 2 | 09:14:35 | 150 | 6.4 | 91 | 0 | 300 | 500 | 65 | 26 | 17 | 369 | -18 | 0.115 |
| | | 3 | 09:14:42 | 150 | 6.5 | 91 | 0 | 300 | 500 | 63 | 24 | 16 | 380 | -50 | 0.086 |
| 3 | rd 8 ss km1+555 cl | 2 | 09:17:25 | 150 | 6.4 | 90 | 0 | 300 | 500 | 259 | 34 | 18 | 91 | 259 | 0.258 |
| | | 3 | 09:17:33 | 150 | 6.5 | 92 | 0 | 300 | 500 | 87 | 34 | 18 | 278 | -4 | 0.206 |
| 4 | rd 8 ss km1+580 cl | 1 | 09:19:05 | 150 | 6 | 85 | 0 | 300 | 500 | 85 | 55 | 18 | 263 | -84 | 0.171 |
| | | 2 | 09:19:11 | 150 | 6.5 | 92 | 0 | 300 | 500 | 88 | 31 | 16 | 275 | 18 | 0.188 |
| | | 3 | 09:19:18 | 150 | 6.5 | 92 | 0 | 300 | 500 | 88 | 31 | 16 | 275 | 3 | 0.178 |
| 5 | rd 8 ss km1+605 cl | 1 | 09:20:32 | 150 | 6.7 | 94 | 0 | 300 | 500 | 117 | 34 | 19 | 212 | 117 | 0.173 |
| | | 2 | 09:21:12 | 150 | 6.5 | 92 | 0 | 300 | 500 | 77 | 36 | 19 | 315 | -90 | 0.126 |
| | | 3 | 09:21:19 | 150 | 6.6 | 94 | 0 | 300 | 500 | 84 | 37 | 20 | 295 | -405 | -1.022 |
| 6 | rd 8 ss km1+630 cl | 1 | 09:23:00 | 150 | 6.4 | 91 | 0 | 300 | 500 | 337 | 64 | 13 | 71 | 11 | 0.934 |
| | | 2 | 09:23:10 | 150 | 6.4 | 90 | 0 | 300 | 500 | 346 | 70 | 14 | 68 | 4 | 0.929 |
| | | 3 | 09:23:23 | 150 | 6.2 | 88 | 0 | 300 | 500 | 314 | 58 | 15 | 74 | -14 | 0.828 |
| 7 | rd 8 ss km1+675 cl | 1 | 10:02:58 | 150 | 6.3 | 90 | 0 | 300 | 500 | 885 | 94 | 32 | 27 | 268 | 4.093 |
| | | 2 | 10:03:12 | 150 | 6.2 | 88 | 0 | 300 | 500 | 1344 | 104 | 32 | 17 | -26 | 4.81 |
| | | 3 | 10:04:28 | 150 | 6.3 | 89 | 0 | 300 | 500 | 2123 | 98 | 32 | 11 | 855 | 9.609 |
| 8 | rd 8 ss km1+700 cl | 1 | 10:06:04 | 150 | 6.4 | 91 | 0 | 300 | 500 | 184 | 65 | 31 | 130 | 36 | 0.559 |
| | | 2 | 10:06:12 | 150 | 6.4 | 90 | 0 | 300 | 500 | 168 | 63 | 31 | 141 | -1 | 0.489 |
| | | 3 | 10:06:21 | 150 | 6.5 | 92 | 0 | 300 | 500 | 177 | 66 | 32 | 137 | -4 | 0.545 |
| 9 | rd 8 ss km1+725 cl | 1 | 10:08:38 | 150 | 6.4 | 90 | 0 | 300 | 500 | 357 | 67 | 28 | 66 | 85 | 0.976 |
| | | 2 | 10:08:47 | 150 | 6.5 | 92 | 0 | 300 | 500 | 312 | 70 | 30 | 78 | 26 | 0.769 |
| | | 3 | 10:08:55 | 150 | 6.5 | 92 | 0 | 300 | 500 | 310 | 67 | 29 | 78 | -41 | 0.754 |
| 10 | rd 8 ss km1+750 cl | 1 | 10:10:13 | 150 | 6.3 | 89 | 0 | 300 | 500 | 156 | 55 | 23 | 150 | 13 | 0.451 |
| | | 2 | 10:10:21 | 150 | 6.4 | 91 | 0 | 300 | 500 | 154 | 50 | 24 | 156 | 5 | 0.444 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 10:10:31 | 150 | 6.4 | 91 | 0 | 300 | 500 | 156 | 55 | 25 | 154 | -1 | 0.455 |
| 11 rd 8 ss km1+775 cl | 1 | 10:11:52 | 150 | 6.3 | 89 | 0 | 300 | 500 | 265 | 72 | 30 | 88 | 24 | 0.786 |
| | 2 | 10:12:00 | 150 | 6.5 | 92 | 0 | 300 | 500 | 231 | 64 | 34 | 105 | 2 | 0.698 |
| | 3 | 10:12:08 | 150 | 6.4 | 91 | 0 | 300 | 500 | 232 | 71 | 34 | 103 | -2 | 0.707 |
| 12 rd 8 ss km1+800 cl | 1 | 10:13:35 | 150 | 6.2 | 88 | 0 | 300 | 500 | 144 | 57 | 26 | 161 | -73 | 0.367 |
| | 2 | 10:13:43 | 150 | 6.3 | 90 | 0 | 300 | 500 | 141 | 53 | 26 | 168 | -109 | 0.372 |
| | 3 | 10:13:51 | 150 | 6.4 | 90 | 0 | 300 | 500 | 148 | 53 | 26 | 160 | -94 | 0.404 |
| 13 rd 8 ss km1+825 cl | 1 | 10:15:08 | 150 | 6.5 | 93 | 0 | 300 | 500 | 168 | 34 | 18 | 146 | 168 | 0.175 |
| | 2 | 10:15:16 | 150 | 6.8 | 96 | 0 | 300 | 500 | 266 | 32 | 18 | 95 | 266 | 0.39 |
| | 3 | 10:15:25 | 150 | 6.5 | 92 | 0 | 300 | 500 | 188 | 35 | 18 | 129 | -9 | 0.377 |
| 14 rd 8 ss km1+850 cl | 1 | 10:16:35 | 150 | 6.4 | 91 | 0 | 300 | 500 | 263 | 59 | 22 | 91 | 55 | 0.73 |
| | 2 | 10:16:44 | 150 | 6.6 | 93 | 0 | 300 | 500 | 232 | 61 | 23 | 106 | 6 | 0.574 |
| | 3 | 10:16:51 | 150 | 6.7 | 94 | 0 | 300 | 500 | 228 | 62 | 23 | 109 | 4 | 0.541 |
| 15 rd 8 ss km1+875 cl | 1 | 10:20:32 | 150 | 6.6 | 93 | 0 | 300 | 500 | 2012 | 68 | 22 | 12 | 1066 | 0.643 |
| | 2 | 10:20:43 | 150 | 6.3 | 90 | 0 | 300 | 500 | 421 | 66 | 23 | 56 | 273 | 1.545 |
| | 3 | 10:20:51 | 150 | 6.3 | 90 | 0 | 300 | 500 | 161 | 68 | 24 | 147 | 31 | 0.277 |
| 16 rd 8 ss km1+900 cl | 1 | 10:22:38 | 150 | 6.5 | 92 | 0 | 300 | 500 | 176 | 32 | 13 | 138 | -109 | 0.467 |
| | 2 | 10:22:46 | 150 | 6.5 | 92 | 0 | 300 | 500 | 154 | 32 | 13 | 157 | -94 | 0.341 |
| | 3 | 10:22:55 | 150 | 6.5 | 92 | 0 | 300 | 500 | 172 | 37 | 16 | 141 | 28 | 0.422 |
| | 4 | 10:24:05 | 150 | 6.6 | 93 | 0 | 300 | 500 | 118 | 29 | 15 | 207 | 6 | 0.237 |
| 17 rd 8 ss km1+925 cl | 1 | 10:27:25 | 150 | 6.6 | 93 | 0 | 300 | 500 | 217 | 52 | 17 | 113 | 26 | 0.525 |
| | 2 | 10:27:35 | 150 | 6.7 | 94 | 0 | 300 | 500 | 197 | 52 | 18 | 126 | 6 | 0.431 |
| | 3 | 10:27:43 | 150 | 6.6 | 94 | 0 | 300 | 500 | 195 | 50 | 18 | 127 | -8 | 0.41 |
| 18 rd 8 ss km1+950 cl | 1 | 10:28:43 | 150 | 6.2 | 87 | 0 | 300 | 500 | 223 | 52 | 18 | 103 | 73 | 0.555 |
| | 2 | 10:28:52 | 150 | 6.6 | 93 | 0 | 300 | 500 | 230 | 59 | 21 | 106 | 24 | 0.605 |
| | 3 | 10:29:00 | 150 | 6.5 | 92 | 0 | 300 | 500 | 216 | 57 | 21 | 112 | 39 | 0.521 |
| 19 rd 8 ss km1+975 cl | 1 | 10:29:59 | 150 | 6.5 | 91 | 0 | 300 | 500 | 209 | 42 | 16 | 115 | 29 | 0.515 |
| | 2 | 10:30:08 | 150 | 6.5 | 92 | 0 | 300 | 500 | 185 | 41 | 16 | 131 | 3 | 0.412 |
| | 3 | 10:30:16 | 150 | 6.5 | 92 | 0 | 300 | 500 | 183 | 42 | 16 | 132 | 7 | 0.419 |
| 20 rd 8 ss km2+000 cl | 1 | 10:31:30 | 150 | 6.3 | 89 | 0 | 300 | 500 | 162 | 44 | 15 | 145 | 50 | 0.411 |
| | 2 | 10:31:39 | 150 | 6.5 | 92 | 0 | 300 | 500 | 160 | 42 | 14 | 151 | 8 | 0.366 |
| | 3 | 10:31:48 | 150 | 6.3 | 89 | 0 | 300 | 500 | 162 | 42 | 16 | 145 | -10 | 0.361 |
| 21 rd 8 ss km2+025 cl | 1 | 10:33:40 | 150 | 6.1 | 86 | 0 | 300 | 500 | 279 | 37 | 12 | 81 | 279 | 0.67 |
| | 2 | 10:33:48 | 150 | 6.3 | 89 | 0 | 300 | 500 | 197 | 42 | 14 | 119 | 75 | 0.539 |
| | 3 | 10:33:56 | 150 | 6.1 | 86 | 0 | 300 | 500 | 183 | 39 | 13 | 124 | 31 | 0.482 |
| 22 rd 8 ss km2+050 cl | 1 | 10:35:55 | 150 | 5.9 | 83 | 0 | 300 | 500 | 396 | 37 | 15 | 55 | -66 | 1.684 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 10:36:02 | 150 | 6.1 | 86 | 0 | 300 | 500 | 319 | 174 | 16 | 71 | -11 | 0.8 |
| | 3 | 10:36:09 | 150 | 6.1 | 86 | 0 | 300 | 500 | 298 | 111 | 17 | 76 | 80 | 0.616 |
| 23 rd 8 ss km2+075 cl | 1 | 10:37:16 | 150 | 6.2 | 88 | 0 | 300 | 500 | 162 | 54 | 19 | 143 | -58 | 0.414 |
| | 2 | 10:37:25 | 150 | 6.4 | 90 | 0 | 300 | 500 | 162 | 53 | 20 | 146 | -20 | 0.415 |
| | 3 | 10:37:32 | 150 | 6.4 | 91 | 0 | 300 | 500 | 160 | 54 | 20 | 150 | -31 | 0.359 |
| 24 rd 8 ss km2+100 cl | 1 | 10:38:32 | 150 | 6.5 | 92 | 0 | 300 | 500 | 193 | 35 | 11 | 125 | 14 | 0.445 |
| | 2 | 10:38:40 | 150 | 6.5 | 92 | 0 | 300 | 500 | 176 | 38 | 12 | 138 | -14 | 0.371 |
| | 3 | 10:38:48 | 150 | 6.4 | 91 | 0 | 300 | 500 | 182 | 45 | 16 | 132 | 3 | 0.425 |
| 25 rd 8 ss km2+125 cl | 1 | 10:39:46 | 150 | 6.4 | 91 | 0 | 300 | 500 | 176 | 42 | 12 | 136 | 43 | 0.424 |
| | 2 | 10:39:55 | 150 | 6.3 | 89 | 0 | 300 | 500 | 159 | 39 | 13 | 147 | -1 | 0.352 |
| | 3 | 10:40:03 | 150 | 6.4 | 90 | 0 | 300 | 500 | 162 | 39 | 13 | 146 | -4 | 0.377 |
| 26 rd 8 ss km2+150 cl | 1 | 10:40:51 | 150 | 6.6 | 93 | 0 | 300 | 500 | 87 | 29 | 9 | 281 | -492 | -0.486 |
| | 2 | 10:40:58 | 150 | 6.4 | 91 | 0 | 300 | 500 | 285 | 29 | 10 | 84 | 38 | 0.765 |
| | 3 | 10:41:06 | 150 | 6.5 | 92 | 0 | 300 | 500 | 248 | 32 | 9 | 98 | -30 | 0.5 |
| 27 rd 8 ss km2+175 cl | 1 | 10:41:57 | 150 | 6.5 | 92 | 0 | 300 | 500 | 179 | 47 | 17 | 135 | 6 | 0.449 |
| | 2 | 10:42:03 | 150 | 6.5 | 93 | 0 | 300 | 500 | 171 | 51 | 20 | 143 | -21 | 0.423 |
| | 3 | 10:42:11 | 150 | 6.6 | 93 | 0 | 300 | 500 | 170 | 51 | 20 | 144 | 13 | 0.417 |
| 28 rd 8 ss km2+200 cl | 1 | 10:43:13 | 150 | 6.6 | 93 | 0 | 300 | 500 | 66 | 28 | 13 | 371 | 4 | 0.124 |
| | 2 | 10:43:21 | 150 | 6.7 | 94 | 0 | 300 | 500 | 66 | 27 | 13 | 375 | 10 | 0.136 |
| | 3 | 10:43:30 | 150 | 6.7 | 94 | 0 | 300 | 500 | 67 | 28 | 13 | 369 | 9 | 0.134 |

**File:** **Rd 8 Sand Seal**
**Date:** **09 October 2012**

| Point No. | Location | H1 mm | H2 mm | E1 MPa | E2 MPa | C MPa | n | Em MPa | Eo MPa | Bedrock mm | Design mm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Constant*** | | ***130*** | ***120*** | | | | | | | | |
| ***Minimum*** | | | | ***12*** | ***6*** | ***2*** | ***-1.06*** | ***11*** | ***15*** | | |
| ***Maximum*** | | | | ***944*** | ***472*** | ***232*** | ***0.00*** | ***232*** | ***377*** | | |
| ***Average*** | | | | ***310*** | ***156*** | ***61*** | ***-0.37*** | ***74*** | ***153*** | | |
| ***Percentile*** | ***10%*** | | | ***120*** | ***61*** | ***13*** | ***-1*** | ***33*** | ***75*** | | |
| ***Percentile*** | ***50%*** | | | ***255*** | ***128*** | ***38*** | ***0*** | ***57*** | ***136*** | | |
| 1 | km 1+505 cl | 130 | 120 | 361 | 181 | 178 | -0.16 | 206 | 259 | 0 | |
| 2 | km 1+530 cl | 130 | 120 | 847 | 424 | 232 | 0 | 232 | 377 | 0 | |
| 3 | km 1+555 cl | 130 | 120 | 439 | 220 | 118 | -0.11 | 134 | 231 | 0 | |
| 4 | km 1+580 cl | 130 | 120 | 565 | 283 | 111 | -0.15 | 134 | 274 | 0 | |
| 5 | km 1+605 cl | 130 | 120 | 861 | 431 | 70 | -0.21 | 98 | 303 | 0 | |
| 6 | km 1+630 cl | 130 | 120 | 123 | 62 | 5 | -0.89 | 17 | 69 | 0 | |
| 7 | km 1+675 cl | 130 | 120 | 12 | 6 | 74 | -0.02 | 74 | 15 | 0 | |
| 8 | km 1+700 cl | 130 | 120 | 311 | 156 | 37 | -0.24 | 52 | 138 | 0 | |
| 1 | km 1+725 cl | 130 | 120 | 114 | 57 | 37 | -0.25 | 48 | 77 | 0 | |
| 10 | km 1+750 cl | 130 | 120 | 314 | 157 | 45 | -0.25 | 63 | 153 | 0 | |
| 11 | km 1+775 cl | 130 | 120 | 179 | 90 | 54 | -0.14 | 63 | 103 | 0 | |
| 12 | km 1+800 cl | 130 | 120 | 360 | 180 | 48 | -0.22 | 65 | 162 | 0 | |
| 13 | km 1+825 cl | 130 | 120 | 125 | 63 | 203 | 0 | 203 | 115 | 0 | |
| 14 | km 1+850 cl | 130 | 120 | 190 | 95 | 20 | -0.46 | 37 | 106 | 0 | |
| 15 | km 1+875 cl | 130 | 120 | 277 | 139 | 11 | -0.58 | 28 | 119 | 0 | |
| 16 | km 1+900 cl | 130 | 120 | 266 | 133 | 118 | -0.14 | 134 | 180 | 0 | |
| 17 | km 1+925 cl | 130 | 120 | 224 | 112 | 21 | -0.51 | 41 | 125 | 0 | |
| 18 | km 1+950 cl | 130 | 120 | 193 | 97 | 19 | -0.49 | 36 | 108 | 0 | |
| 19 | km 1+975 cl | 130 | 120 | 202 | 101 | 39 | -0.38 | 61 | 130 | 0 | |
| 20 | km 2+000 cl | 130 | 120 | 261 | 131 | 25 | -0.5 | 49 | 145 | 0 | |
| 21 | km 2+025 cl | 130 | 120 | 192 | 96 | 23 | -0.53 | 45 | 119 | 0 | |
| 22 | km 2+050 cl | 130 | 120 | 151 | 76 | 2 | -1.06 | 11 | 66 | 0 | |
| 23 | km 2+075 cl | 130 | 120 | 335 | 168 | 14 | -0.57 | 35 | 145 | 0 | |
| 24 | km 2+100 cl | 130 | 120 | 225 | 113 | 22 | -0.56 | 45 | 133 | 0 | |
| 25 | km 2+125 cl | 130 | 120 | 249 | 125 | 25 | -0.52 | 50 | 144 | 0 | |
| 26 | km 2+150 cl | 130 | 120 | 99 | 50 | 59 | -0.38 | 80 | 91 | 0 | |
| 27 | km 2+175 cl | 130 | 120 | 274 | 137 | 25 | -0.44 | 46 | 142 | 0 | |
| 28 | km 2+200 cl | 130 | 120 | 944 | 472 | 60 | -0.34 | 104 | 368 | 0 | |

# Appendix H

## Traffic Count Data

Oct-12

| Road | Date of Count | ADT | %Heavy | Design Loading over 10 years |
|---|---|---|---|---|
| Road 1.1 (km 0+940) | 15/10/2012 | 44 | 10% | 0.00 x 10^6 |
| Road 1.3 (km 0+650) | 15/10/2012 | 20 | 42% | 0.00 x 10^6 |
| Road 2.2 (km 0+760) | 09/10/2012 | 210 | 10% | 0.00 x 10^6 |
| Road 3.2 (km 3+400) | | 0 | 10% | 0.00 x 10^6 |
| Road 3.2 (km 0+920) | 10/10/2012 | 107 | 32% | 0.00 x 10^6 |
| Road 3.3 (km 0+050) | 11/10/2012 | 43 | 10% | 0.00 x 10^6 |
| Road 5 (km 0+850) | 11/10/2012 | 67 | 10% | 0.00 x 10^6 |
| Road 8 (km 1+505) | 12/10/2012 | 60 | 10% | 0.00 x 10^6 |

Base Line (2007)

| Road | Date of Count | ADT | %Heavy | Design Loading over 10 years |
|---|---|---|---|---|
| Road 1.1 (km 0+940) | 10/10/2007 | 18 | 44% | 0.00 x 10^6 |
| Road 1.3 (km 0+650) | 09/10/2007 | 22 | 10% | 0.00 x 10^6 |
| Road 2.2 (km 0+760) | 09/10/2007 | 102 | 33% | 0.00 x 10^6 |
| Road 3.2 (km 3+400) | 11/10/2007 | 14 | 50% | 0.00 x 10^6 |
| Road 3.2 (km 0+920) | 11/10/2007 | 49 | 29% | 0.00 x 10^6 |
| Road 3.3 (km 0+050) | 11/10/2007 | 17 | 42% | 0.00 x 10^6 |
| Road 5 (km 0+850) | 10/10/2007 | 47 | 10% | 0.00 x 10^6 |
| Road 8 (km 1+505) | 10/10/2007 | 34 | 33% | 0.00 x 10^6 |

**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 1.1 (km 0+940)
Date: 15/10/2012
Weather: (6-7) dark, (7-10) sunny, (10-11) raining, (11-13) cloudy, (13-17) sunny, (17-18) dark

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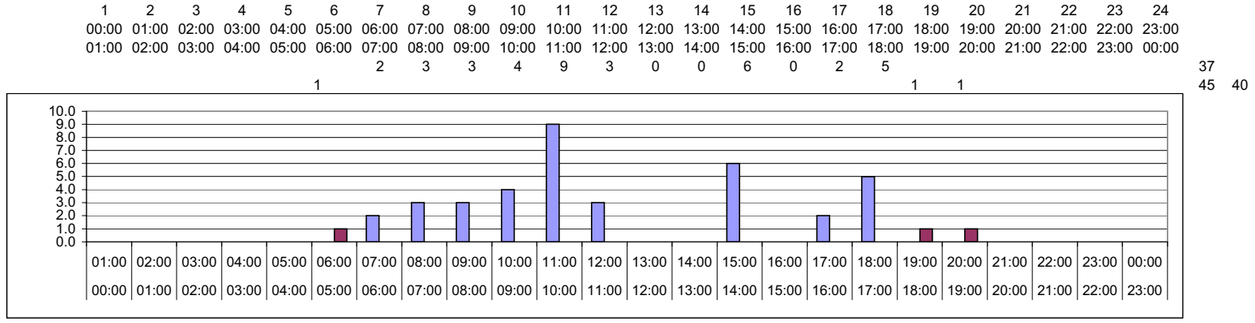
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 0 | 0 | 0 | 4 | 16 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 26 |
| | | To R3 | 6 | 19 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 30 |
| | | Both Directions | 6 | 19 | 0 | 5 | 16 | 1 | 0 | 0 | 0 | 0 | 5 | 4 | 56 |
| 2 | Motor Cycle | From R3 | 6 | 7 | 5 | 7 | 10 | 2 | 2 | 0 | 0 | 3 | 4 | 5 | 51 |
| | | To R3 | 5 | 17 | 4 | 7 | 0 | 0 | 1 | 3 | 1 | 2 | 7 | 10 | 57 |
| | | Both Directions | 11 | 24 | 9 | 14 | 10 | 2 | 3 | 3 | 1 | 5 | 11 | 15 | 108 |
| 3 | Car: 4WD; Pickup | From R3 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 8 |
| | | To R3 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 9 |
| | | Both Directions | 1 | 2 | 2 | 0 | 2 | 2 | 0 | 0 | 4 | 0 | 1 | 3 | 17 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | Both Directions | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 10 |
| 5 | Light Trucks <5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 0 | 5 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 5 | 4 | 9 | 30 |
| | | To R3 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 0 | 23 |
| | | Both Directions | 0 | 14 | 0 | 1 | 0 | 5 | 0 | 8 | 0 | 12 | 4 | 9 | 53 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | | Both Directions | taking | 20% | vehicles to travel at night | | | | | | | | | **44** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | | From R3 | | 2 | 2 | 4 | 8 | 2 | | | 5 | | | 2 | 25 |
| | | To R3 | 2 | 2 | 2 | | 2 | 2 | | | 2 | | 2 | 4 | 18 |
| | | Both Directions | 2 | 3 | 3 | 4 | 9 | 3 | | | 6 | | 2 | 5 | 37 |
| **Percentage Large Vehicles** | | From R4 | | | | | | | | | | | | | 10% |
| | | To R4 | | | | | | | | | | | | | 10% |
| | | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | | From R3 | 8 | 16 | 8 | 18 | 39 | 11 | 3 | 2 | 5 | 10 | 16 | 18 | 154 |
| | | To R3 | 15 | 56 | 6 | 10 | 2 | 2 | 2 | 12 | 3 | 11 | 10 | 21 | 150 |
| | | Both Directions | 22 | 71 | 14 | 28 | 40 | 12 | 4 | 14 | 8 | 21 | 26 | 39 | 299 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 44 | 4 | 25 |
| Count 2 | 2008 | 30% | 58 | 6 | 32 |
| Count 3 | 2009 | 20% | 70 | 7 | 39 |
| Count 4 | 2010 | 10% | 77 | 8 | 43 |
| Count 5 | 2011 | 10% | 85 | 9 | 48 |
| Count 6 | 2012 | 10% | 94 | 9 | 53 |
| Count 7 | 2013 | 10% | 104 | 10 | 58 |
| Count 8 | 2014 | 10% | 115 | 12 | 64 |
| Count 9 | 2015 | 10% | 127 | 13 | 71 |
| Count 10 | 2016 | 10% | 140 | 14 | 78 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 1.3 (km 0+650)
Date: 15/10/2012
Weather: (6-7) dark, (7-17) sunny, (17-18) dark

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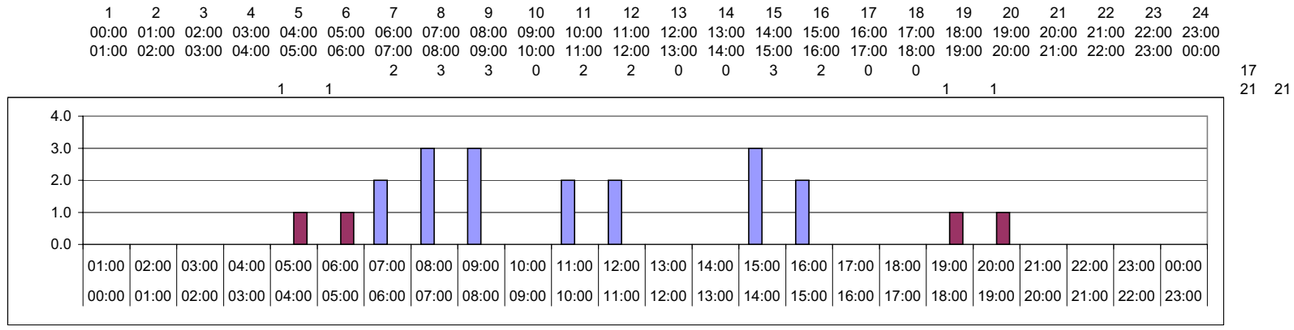
| Item No. | Vehicle Type | Direction | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Traffic Within Time Period | | | | | | | | | | | | |
| 1 | Bicycle | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 7 | 0 | 0 | 11 |
| | | To R3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 11 |
| | | Both Directions | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 8 | 0 | 0 | 22 |
| 2 | Motor Cycle | From R3 | 2 | 4 | 4 | 0 | 11 | 0 | 0 | 3 | 8 | 8 | 0 | 0 | 40 |
| | | To R3 | 21 | 1 | 5 | 0 | 5 | 0 | 0 | 5 | 2 | 1 | 2 | 1 | 43 |
| | | Both Directions | 23 | 5 | 9 | 0 | 16 | 0 | 0 | 8 | 10 | 9 | 2 | 1 | 83 |
| 3 | Car: 4WD; Pickup | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| | | To R3 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | | Both Directions | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 6 |
| 5 | Light Trucks <5t | From R3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | To R3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | Both Directions | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 16 |
| | | To R3 | 8 | 1 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| | | Both Directions | 12 | 2 | 7 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 31 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking | 20% | vehicles to travel at night | | | | | | | | | | **20** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | | 3 | 2 | | | | | | 3 | | | | 8 |
| | To R3 | 2 | | 2 | | 2 | 2 | | | | 2 | | | 10 |
| | Both Directions | 2 | 3 | 3 | | 2 | 2 | | | 3 | 2 | | | 17 |
| **Percentage Large Vehicles** | From R4 | | 33% | | | | | | | | | | | 33% |
| | To R4 | | | | | 50% | | | | | | | | 50% |
| | Both Directions | | 33% | | | 50% | | | | | | | | 42% |
| **Total Number of Road Users in a 24 hour period** | From R3 | 8 | 9 | 9 | | 14 | | | 4 | 18 | 28 | | | 90 |
| | To R3 | 48 | 3 | 14 | | 9 | 2 | | 6 | 3 | 4 | 3 | 2 | 94 |
| | Both Directions | 56 | 11 | 22 | | 22 | 2 | | 10 | 21 | 32 | 3 | 2 | 181 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 20 | 9 | 22 |
| Count 2 | 2008 | 30% | 27 | 11 | 29 |
| Count 3 | 2009 | 20% | 33 | 14 | 35 |
| Count 4 | 2010 | 10% | 37 | 15 | 39 |
| Count 5 | 2011 | 10% | 41 | 17 | 44 |
| Count 6 | 2012 | 10% | 46 | 19 | 49 |
| Count 7 | 2013 | 10% | 51 | 21 | 54 |
| Count 8 | 2014 | 10% | 57 | 24 | 61 |
| Count 9 | 2015 | 10% | 63 | 26 | 67 |
| Count 10 | 2016 | 10% | 70 | 29 | 75 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 2.2 (km 0+760)
Date: 09/10/2012
Weather: (6-7)Dark,(7-16)Sunny,(16-17)Cloudy,(17-18)Raining

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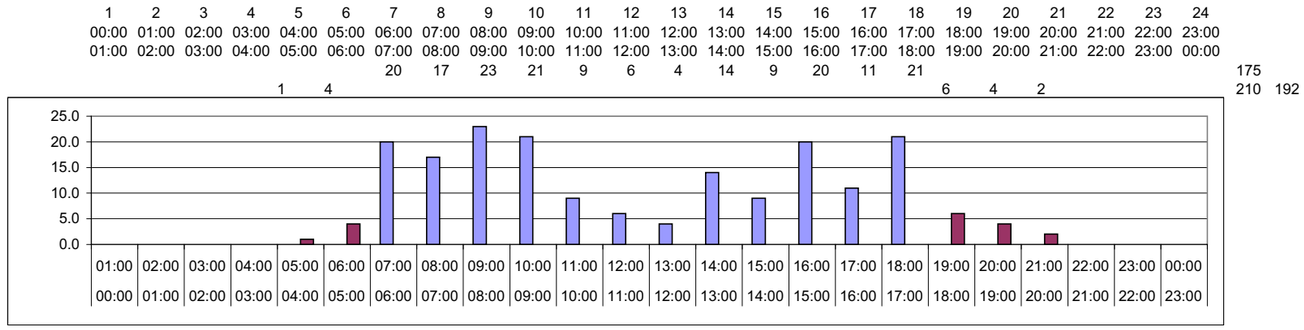
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 3 | 2 | 4 | 2 | 2 | 0 | 0 | 3 | 1 | 22 | 1 | 0 | 40 |
| | | To R3 | 6 | 16 | 20 | 0 | 11 | 1 | 4 | 3 | 7 | 3 | 6 | 4 | 81 |
| | | Both Directions | 9 | 18 | 24 | 2 | 13 | 1 | 4 | 6 | 8 | 25 | 7 | 4 | 121 |
| 2 | Motor Cycle | From R3 | 13 | 20 | 12 | 7 | 9 | 3 | 7 | 2 | 6 | 11 | 13 | 5 | 108 |
| | | To R3 | 12 | 20 | 0 | 11 | 14 | 7 | 6 | 6 | 5 | 12 | 10 | 7 | 110 |
| | | Both Directions | 25 | 40 | 12 | 18 | 23 | 10 | 13 | 8 | 11 | 23 | 23 | 12 | 218 |
| 3 | Car: 4WD; Pickup | From R3 | 3 | 5 | 2 | 3 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 1 | 22 |
| | | To R3 | 3 | 0 | 1 | 6 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 16 |
| | | Both Directions | 6 | 5 | 3 | 9 | 1 | 0 | 0 | 2 | 1 | 5 | 3 | 3 | 38 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 2 | 4 | 13 | 6 | 1 | 2 | 1 | 2 | 1 | 5 | 3 | 2 | 42 |
| | | To R3 | 8 | 5 | 3 | 2 | 5 | 3 | 2 | 7 | 5 | 6 | 3 | 12 | 61 |
| | | Both Directions | 10 | 9 | 16 | 8 | 6 | 5 | 3 | 9 | 6 | 11 | 6 | 14 | 103 |
| 5 | Light Trucks <5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 13 | 22 | 15 | 11 | 2 | 0 | 4 | 0 | 7 | 0 | 1 | 0 | 75 |
| | | To R3 | 14 | 3 | 6 | 6 | 7 | 15 | 8 | 20 | 6 | 15 | 8 | 8 | 116 |
| | | Both Directions | 27 | 25 | 21 | 17 | 9 | 15 | 12 | 20 | 13 | 15 | 9 | 8 | 191 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking 20% vehicles to travel at night | | | | | | | | | | | | **210** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | 6 | 11 | 18 | 11 | 2 | 3 | 2 | 5 | 3 | 9 | 8 | 4 | 82 |
| | To R3 | 14 | 6 | 5 | 10 | 8 | 4 | 3 | 9 | 6 | 11 | 4 | 17 | 97 |
| | Both Directions | 20 | 17 | 23 | 21 | 9 | 6 | 4 | 14 | 9 | 20 | 11 | 21 | 175 |
| **Percentage Large Vehicles** | From R4 | | | | | | | | | | | | | 10% |
| | To R4 | | | | | | | | | | | | | 10% |
| | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | From R3 | 41 | 64 | 56 | 35 | 17 | 6 | 15 | 11 | 20 | 48 | 26 | 10 | 349 |
| | To R3 | 52 | 53 | 36 | 30 | 46 | 32 | 24 | 44 | 28 | 47 | 33 | 40 | 465 |
| | Both Directions | 93 | 117 | 92 | 65 | 63 | 38 | 39 | 54 | 47 | 95 | 58 | 50 | 811 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 210 | 21 | 118 |
| Count 2 | 2008 | 30% | 273 | 27 | 153 |
| Count 3 | 2009 | 20% | 328 | 33 | 184 |
| Count 4 | 2010 | 10% | 361 | 36 | 202 |
| Count 5 | 2011 | 10% | 398 | 40 | 223 |
| Count 6 | 2012 | 10% | 438 | 44 | 245 |
| Count 7 | 2013 | 10% | 482 | 48 | 270 |
| Count 8 | 2014 | 10% | 531 | 53 | 297 |
| Count 9 | 2015 | 10% | 585 | 59 | 328 |
| Count 10 | 2016 | 10% | 644 | 64 | 361 |
| | | | | **Cumulative Design Loading** | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 3.2 (km 3+400)
Date: 11/10/2007
Weather: (6-7) dark, (7-10) cloudy, (11-15) sunny, (15-16) raining, (16-17) cloudy, (17-17) dark

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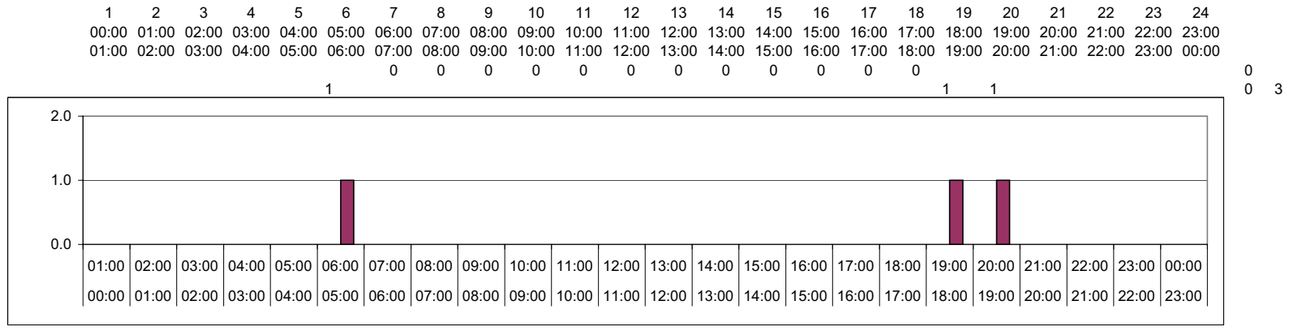
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Motor Cycle | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Car: 4WD; Pickup | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Light Trucks <5t | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Animal Cart/Hand | From R3 | | | | | | | | | | | | | 0 |
| | | To R3 | | | | | | | | | | | | | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking 20% vehicles to travel at night | | | | | | | | | | | | **0** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | | | | | | | | | | | | | |
| | To R3 | | | | | | | | | | | | | |
| | Both Directions | | | | | | | | | | | | | |
| **Percentage Large Vehicles** | From R4 | | | | | | | | | | | | | 10% |
| | To R4 | | | | | | | | | | | | | 10% |
| | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | From R3 | | | | | | | | | | | | | |
| | To R3 | | | | | | | | | | | | | |
| | Both Directions | | | | | | | | | | | | | |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 0 | 0 | 0 |
| Count 2 | 2008 | 30% | 0 | 0 | 0 |
| Count 3 | 2009 | 20% | 0 | 0 | 0 |
| Count 4 | 2010 | 10% | 0 | 0 | 0 |
| Count 5 | 2011 | 10% | 0 | 0 | 0 |
| Count 6 | 2012 | 10% | 0 | 0 | 0 |
| Count 7 | 2013 | 10% | 0 | 0 | 0 |
| Count 8 | 2014 | 10% | 0 | 0 | 0 |
| Count 9 | 2015 | 10% | 0 | 0 | 0 |
| Count 10 | 2016 | 10% | 0 | 0 | 0 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 3.2 (km 0+920)
Date: 10/10/2012
Weather: (6-7) dark, (7-10) cloudy, (11-15) sunny,(15-16) raining, (16-17) cloudy, (17-17) dark

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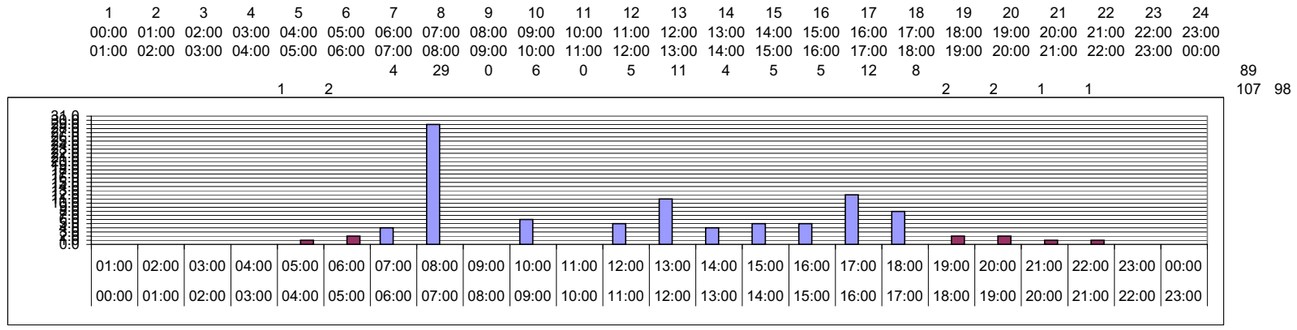
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 30 | 83 |
| | | To R3 | 10 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 30 |
| | | Both Directions | 10 | 1 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 30 | 113 |
| 2 | Motor Cycle | From R3 | 6 | 29 | 0 | 8 | 1 | 8 | 4 | 5 | 4 | 14 | 11 | 8 | 98 |
| | | To R3 | 13 | 11 | 0 | 7 | 0 | 5 | 23 | 4 | 9 | 7 | 7 | 2 | 88 |
| | | Both Directions | 19 | 40 | 0 | 15 | 1 | 13 | 27 | 9 | 13 | 21 | 18 | 10 | 186 |
| 3 | Car: 4WD; Pickup | From R3 | 1 | 13 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 16 |
| | | To R3 | 0 | 1 | 0 | 1 | 0 | 1 | 7 | 3 | 1 | 0 | 2 | 1 | 17 |
| | | Both Directions | 1 | 14 | 0 | 1 | 0 | 2 | 7 | 3 | 1 | 0 | 3 | 1 | 33 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 4 | 14 |
| | | To R3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 1 | 11 |
| | | Both Directions | 0 | 4 | 0 | 2 | 0 | 2 | 0 | 0 | 3 | 2 | 7 | 5 | 25 |
| 5 | Light Trucks <5t | From R3 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| | | To R3 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 7 |
| | | Both Directions | 2 | 6 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 14 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 9 | 4 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 8 | 3 | 30 |
| | | To R3 | 10 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 30 |
| | | Both Directions | 19 | 4 | 8 | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 19 | 3 | 60 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | | Both Directions | taking | 20% | vehicles to travel at night | | | | | | | | | **107** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | | From R3 | 3 | 26 | | 3 | | 4 | | | 3 | | 4 | 5 | 48 |
| | | To R3 | 2 | 4 | | 4 | | 2 | 11 | 4 | 3 | 5 | 9 | 3 | 47 |
| | | Both Directions | 4 | 29 | | 6 | | 5 | 11 | 4 | 5 | 5 | 12 | 8 | 89 |
| **Percentage Large Vehicles** | | From R4 | 33% | 23% | | | | | | | | | | | 28% |
| | | To R4 | 50% | | | 50% | | | 18% | | | 40% | | | 40% |
| | | Both Directions | 50% | 21% | | 33% | | | 18% | | | 40% | | | 32% |
| **Total Number of Road Users in a 24 hour period** | | From R3 | 21 | 66 | 4 | 12 | 2 | 14 | 9 | 6 | 8 | 17 | 89 | 54 | 302 |
| | | To R3 | 41 | 17 | 12 | 22 | | 8 | 39 | 9 | 14 | 14 | 44 | 5 | 225 |
| | | Both Directions | 62 | 83 | 16 | 34 | 2 | 21 | 47 | 15 | 21 | 30 | 132 | 59 | 522 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 107 | 35 | 98 |
| Count 2 | 2008 | 30% | 139 | 45 | 128 |
| Count 3 | 2009 | 20% | 167 | 54 | 153 |
| Count 4 | 2010 | 10% | 184 | 60 | 169 |
| Count 5 | 2011 | 10% | 203 | 66 | 187 |
| Count 6 | 2012 | 10% | 224 | 73 | 206 |
| Count 7 | 2013 | 10% | 247 | 80 | 227 |
| Count 8 | 2014 | 10% | 272 | 88 | 250 |
| Count 9 | 2015 | 10% | 300 | 97 | 276 |
| Count 10 | 2016 | 10% | 330 | 107 | 303 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 3.3 (km 0+050)
Date: 11/10/2012
Weather: (6-7)Dark, (7-17)Sunny, (17-18)Dark

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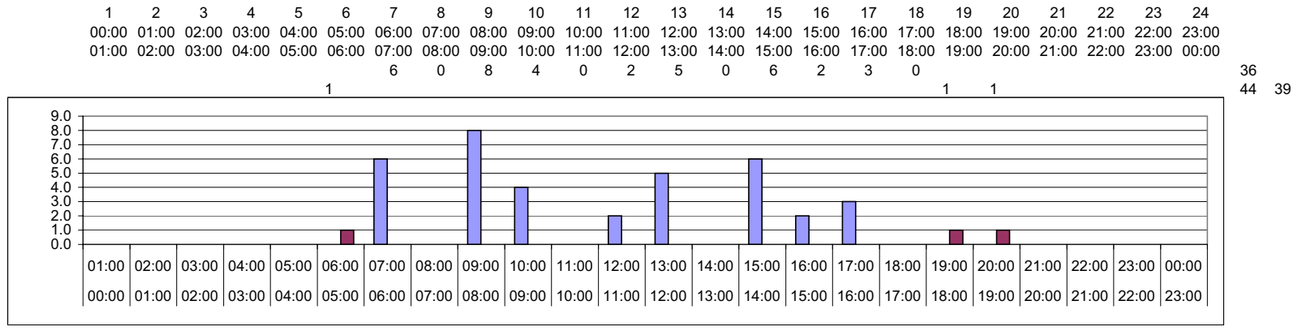
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 4 | 23 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 16 | 31 | 80 |
| | | To R3 | 44 | 9 | 0 | 1 | 0 | 22 | 0 | 1 | 0 | 1 | 0 | 0 | 78 |
| | | Both Directions | 48 | 32 | 0 | 1 | 0 | 22 | 0 | 4 | 0 | 4 | 16 | 31 | 158 |
| 2 | Motor Cycle | From R3 | 4 | 10 | 5 | 1 | 4 | 3 | 7 | 7 | 7 | 0 | 16 | 31 | 95 |
| | | To R3 | 10 | 17 | 2 | 4 | 4 | 7 | 2 | 2 | 3 | 6 | 2 | 5 | 64 |
| | | Both Directions | 14 | 27 | 7 | 5 | 8 | 10 | 9 | 9 | 10 | 6 | 18 | 36 | 159 |
| 3 | Car: 4WD; Pickup | From R3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 3 |
| | | To R3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 6 |
| | | Both Directions | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 2 | 0 | 1 | 0 | 9 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 3 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 9 |
| | | To R3 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 9 |
| | | Both Directions | 3 | 0 | 6 | 2 | 0 | 0 | 2 | 0 | 3 | 1 | 1 | 0 | 18 |
| 5 | Light Trucks <5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 0 | 35 | 4 | 1 | 3 | 1 | 1 | 0 | 6 | 0 | 0 | 0 | 51 |
| | | To R3 | 0 | 3 | 5 | 0 | 0 | 31 | 9 | 4 | 0 | 0 | 0 | 0 | 52 |
| | | Both Directions | 0 | 38 | 9 | 1 | 3 | 32 | 10 | 4 | 6 | 0 | 0 | 0 | 103 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking 20% vehicles to travel at night | | | | | | | | | | | | **43** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | 4 | | 3 | | | 2 | 4 | | 2 | 2 | 2 | | 19 |
| | To R3 | 3 | | 5 | 4 | | | 2 | | 5 | | 2 | | 21 |
| | Both Directions | 6 | | 8 | 4 | | 2 | 5 | | 6 | 2 | 3 | | 36 |
| **Percentage Large Vehicles** | From R4 | | | | | | | | | | | | | 10% |
| | To R4 | | | | | | | | | | | | | 10% |
| | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | From R3 | 14 | 82 | 14 | 3 | 9 | 6 | 14 | 12 | 17 | 5 | 40 | 75 | 291 |
| | To R3 | 68 | 35 | 14 | 10 | 5 | 72 | 15 | 9 | 9 | 9 | 4 | 6 | 256 |
| | Both Directions | 81 | 117 | 27 | 12 | 14 | 78 | 28 | 21 | 26 | 14 | 44 | 81 | 543 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 43 | 4 | 24 |
| Count 2 | 2008 | 30% | 57 | 6 | 32 |
| Count 3 | 2009 | 20% | 69 | 7 | 39 |
| Count 4 | 2010 | 10% | 76 | 8 | 43 |
| Count 5 | 2011 | 10% | 84 | 8 | 47 |
| Count 6 | 2012 | 10% | 93 | 9 | 52 |
| Count 7 | 2013 | 10% | 103 | 10 | 58 |
| Count 8 | 2014 | 10% | 114 | 11 | 64 |
| Count 9 | 2015 | 10% | 126 | 13 | 71 |
| Count 10 | 2016 | 10% | 139 | 14 | 78 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Observed by: LTEC
Project: SEACAP17
Location: Road 5 (km 0+850)
Date: 11/10/2012
Weather: (6-7)Dark, (7-14)Sunny, (14-15)Raining, (15-17)Sunny, (17-18)dark

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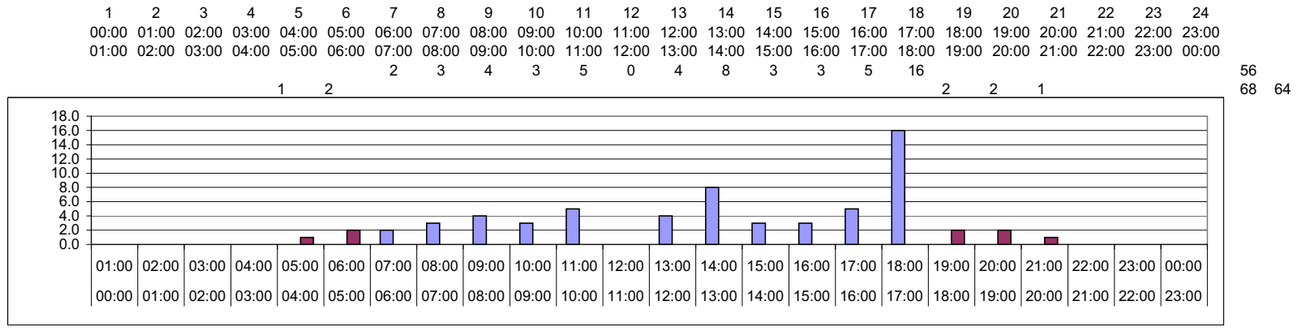
| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Motor Cycle | From R3 | 12 | 7 | 5 | 2 | 3 | 5 | 5 | 4 | 1 | 5 | 12 | 14 | 75 |
| | | To R3 | 9 | 10 | 3 | 9 | 4 | 3 | 8 | 4 | 8 | 2 | 16 | 14 | 90 |
| | | Both Directions | 21 | 17 | 8 | 11 | 7 | 8 | 13 | 8 | 9 | 7 | 28 | 28 | 165 |
| 3 | Car: 4WD; Pickup | From R3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 8 |
| | | To R3 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 7 |
| | | Both Directions | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 2 | 1 | 0 | 4 | 15 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 4 | 12 |
| | | To R3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 3 | 5 | 15 |
| | | Both Directions | 1 | 1 | 2 | 1 | 2 | 0 | 2 | 4 | 0 | 1 | 4 | 9 | 27 |
| 5 | Light Trucks <5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 8 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 10 | 39 |
| | | To R3 | 6 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 13 | 37 |
| | | Both Directions | 14 | 17 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 23 | 76 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking 20% vehicles to travel at night | | | | | | | | | | | | **67** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | | 2 | 3 | 3 | 2 | | 3 | | 3 | 2 | 2 | 10 | 30 |
| | To R3 | 2 | 2 | 2 | | 4 | | 2 | 8 | | 2 | 4 | 6 | 32 |
| | Both Directions | 2 | 3 | 4 | 3 | 5 | | 4 | 8 | 3 | 3 | 5 | 16 | 56 |
| **Percentage Large Vehicles** | From R4 | | | | | | | | | | | | | 10% |
| | To R4 | | | | | | | | | | | | | 10% |
| | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | From R3 | 24 | 22 | 11 | 5 | 5 | 6 | 9 | 5 | 4 | 8 | 27 | 39 | 165 |
| | To R3 | 20 | 22 | 5 | 11 | 9 | 4 | 11 | 12 | 10 | 4 | 36 | 39 | 183 |
| | Both Directions | 44 | 44 | 16 | 16 | 14 | 10 | 20 | 17 | 14 | 11 | 63 | 77 | 346 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| | Year | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 67 | 7 | 38 |
| Count 2 | 2008 | 30% | 88 | 9 | 49 |
| Count 3 | 2009 | 20% | 106 | 11 | 59 |
| Count 4 | 2010 | 10% | 117 | 12 | 66 |
| Count 5 | 2011 | 10% | 129 | 13 | 72 |
| Count 6 | 2012 | 10% | 142 | 14 | 80 |
| Count 7 | 2013 | 10% | 157 | 16 | 88 |
| Count 8 | 2014 | 10% | 173 | 17 | 97 |
| Count 9 | 2015 | 10% | 191 | 19 | 107 |
| Count 10 | 2016 | 10% | 211 | 21 | 118 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |



**Classified Traffic Counts**

Roughton International
*in association with*
Lao Transport Engineering Consult.

Observed by: LTEC
Project: SEACAP17
Location: Road 8 (km 1+505)
Date: 12/10/2012
Weather: (6-7)Dark,(7-10) Sunny,(10-11) Raining,(11-14) Sunny,(14-16) Raining,(16-17) Sunny, (17-18)Dark

| Item No. | Vehicle Type | Direction | Traffic Within Time Period | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | |
| 1 | Bicycle | From R3 | 0 | 0 | 0 | 0 | 4 | 11 | 2 | 0 | 4 | 12 | 2 | 0 | 35 |
| | | To R3 | 3 | 2 | 0 | 0 | 0 | 3 | 3 | 2 | 5 | 7 | 4 | 14 | 43 |
| | | Both Directions | 3 | 2 | 0 | 0 | 4 | 14 | 5 | 2 | 9 | 19 | 6 | 14 | 78 |
| 2 | Motor Cycle | From R3 | 13 | 21 | 28 | 5 | 14 | 7 | 8 | 14 | 9 | 12 | 19 | 19 | 169 |
| | | To R3 | 15 | 14 | 17 | 5 | 9 | 6 | 11 | 11 | 8 | 14 | 21 | 34 | 165 |
| | | Both Directions | 28 | 35 | 45 | 10 | 23 | 13 | 19 | 25 | 17 | 26 | 40 | 53 | 334 |
| 3 | Car: 4WD; Pickup | From R3 | 1 | 2 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 2 | 4 | 0 | 16 |
| | | To R3 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 1 | 0 | 9 |
| | | Both Directions | 1 | 5 | 1 | 1 | 0 | 5 | 1 | 3 | 0 | 3 | 5 | 0 | 25 |
| 4 | Cong Nog, Tok Tok, Tractor | From R3 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 8 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 4 |
| | | Both Directions | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 2 | 0 | 12 |
| 5 | Light Trucks <5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Heavy Trucks >5t | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Mini Bus, Bus | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Pedestrian; Walkers | From R3 | 21 | 49 | 57 | 7 | 18 | 19 | 0 | 9 | 7 | 0 | 9 | 0 | 196 |
| | | To R3 | 9 | 13 | 5 | 6 | 2 | 11 | 11 | 15 | 4 | 6 | 55 | 58 | 195 |
| | | Both Directions | 30 | 62 | 62 | 13 | 20 | 30 | 11 | 24 | 11 | 6 | 64 | 58 | 391 |
| 9 | Animal Cart/Hand | From R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | To R3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Both Directions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Summary**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADT** | Both Directions | taking 20% vehicles to travel at night | | | | | | | | | | | | **60** |
| **Number of Vehicles in a 24 hour period (Inc.Cong Nog)** | From R3 | 2 | 3 | 4 | 2 | 2 | 3 | 3 | 4 | 2 | 5 | 5 | | 35 |
| | To R3 | | 4 | | | | 4 | | 3 | | 3 | 4 | | 18 |
| | Both Directions | 2 | 6 | 4 | 2 | 2 | 6 | 3 | 6 | 2 | 8 | 9 | | 50 |
| **Percentage Large Vehicles** | From R4 | | | | | | | | | | | | | 10% |
| | To R4 | | | | | | | | | | | | | 10% |
| | Both Directions | | | | | | | | | | | | | 10% |
| **Total Number of Road Users in a 24 hour period** | From R3 | 42 | 87 | 106 | 16 | 45 | 47 | 15 | 32 | 26 | 34 | 41 | 23 | 514 |
| | To R3 | 33 | 39 | 27 | 14 | 14 | 28 | 30 | 36 | 21 | 35 | 100 | 128 | 505 |
| | Both Directions | 75 | 125 | 132 | 29 | 58 | 75 | 45 | 68 | 46 | 69 | 141 | 150 | 1013 |

**Predicted Traffic and Axle loading of various Design Live Durations**

| Year | | Est.Inc. | Estimated ADT | Estimated Large | Estimated ESA |
|---|---|---|---|---|---|
| Count 1 | 2007 | | 60 | 6 | 34 |
| Count 2 | 2008 | 30% | 78 | 8 | 44 |
| Count 3 | 2009 | 20% | 94 | 9 | 53 |
| Count 4 | 2010 | 10% | 104 | 10 | 58 |
| Count 5 | 2011 | 10% | 115 | 12 | 64 |
| Count 6 | 2012 | 10% | 127 | 13 | 71 |
| Count 7 | 2013 | 10% | 140 | 14 | 78 |
| Count 8 | 2014 | 10% | 154 | 15 | 86 |
| Count 9 | 2015 | 10% | 170 | 17 | 95 |
| Count 10 | 2016 | 10% | 187 | 19 | 105 |
| | | | **Cumulative Design Loading** | | **0.00 x 10^6** |