



發展局
Development Bureau

DATA STANDARDISATION REPORT FOR DWSS

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1. INTRODUCTION

1.1. List of Abbreviation

API	Application Programming Interface
DWSS	Digital Works Supervision System
DR	Disaster Recovery
ER	Engineering Representative
HKSCS	Hong Kong Supplementary Character Set
iCWP	integrated Capital Works Platform
JSON	JavaScript Object Notation
PMD	Project Manager Delegate
SFTP	SSH File Transfer Protocol
SOAP	Simple Object Access Protocol
UTF-8	8-bit Unicode Transformation Format
XML	Extensible Mark-up Language

1.2. Background

- 1.2.1 The Government is leading the construction industry to make change by implementing “Construction 2.0” advocating “Innovation”, “Professionalisation” and “Revitalisation” to uplift the capacity and sustainability of the industry, increase productivity, enhance regulation and quality assurance, improve site safety and reduce environmental impact.
- 1.2.2 The 2019-20 Budget announced that the Government would promote digitisation of the supervision system and conduct trials in pilot projects in order to enhance the standard and efficiency of works supervision.
- 1.2.3 With the overwhelming support from the construction industry and the successful trials in the pilot projects, the Government will put forward the wider adoption of the DWSS.
- 1.2.4 Capital works contracts, including capital subventions contracts under Head 708, shall adopt the DWSS with an aim of enhancing the standard and efficiency of works supervision as well as the quality and safety of works. Bureaux/Departments are encouraged to adopt the DWSS in other works contracts, such as maintenance and term contracts, with a view to strengthening works supervision.
- 1.2.5 The DWSS shall provide API libraries for authorised parties to access to the required data of the DWSS. The Contractor shall maintain all APIs during system upgrade or maintenance and keep copy of the API library documents after launching of the DWSS and major system upgrades.
- 1.2.6 API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other.
- 1.2.7 Over the years, what an “API” is has often described any sort of generic connectivity interface to an application. More recently, however, the modern API has taken on some characteristics that make them extraordinarily valuable and useful¹:
- (a) Modern APIs adhere to standards (typically HTTP and REST), that are developer-

¹ <https://www.mulesoft.com/resources/api/what-is-an-api>

- friendly, easily accessible and understood broadly;
- (b) They are treated more like products than code. They are designed for consumption for specific audiences, they are documented, and they are versioned in a way that users can have certain expectations of its maintenance and lifecycle;
- (c) Because they are much more standardized, they have a much stronger discipline for security and governance, as well as monitored and managed for performance and scale; and
- (d) As any other piece of productized software, the modern API has its own software development lifecycle (SDLC) of designing, testing, building, managing, and versioning. Also, modern APIs are well documented for consumption and versioning.

1.3. Introduction

- 1.3.1 The adoption of DWSS in capital works contracts with pre-tender estimate exceeding HK\$300 million means there will be considerable number of DWSSs feeding data to iCWP for data analysis.
- 1.3.2 Currently, there is no common data standard for data exchange between DWSS and iCWP. Lack of data standardisation could result in collection of inaccurate data, which would in turn affect the accuracy of data analytics negatively.
- 1.3.3 Data standardisation will help to ensure data are collected correctly. Data standardisation plays a vital role to ensure that data are “usable” and trustworthy for data analysis and sharing.
- 1.3.4 The purpose of data standardisation is to ensure that data are consistent and clear across different applications. “Consistent” means output is reliable in such a way that related data can be identified using common terminology and format. “Clear” is to ensure that the data can be easily understood by those who are not involved with the data maintenance process.

1.4. Purpose of this Data Standardisation Report

- 1.4.1 The purpose of this Data Standardisation Report is to
 - (a) Describe the business requirements of data standardization;
 - (b) Illustrate with baseline examples how data could provide insights to executives for project governance; and
 - (c) Describe the data level technical requirements.
- 1.4.2 Detail technical design, including technology adopted (e.g. SFTP, JSON, SOAP, etc.), frequency of transfer, checking and verification of data correctness, exception handling workflow, and resumption procedures, etc. is not included in this Report.

1.5. Summary of Data to be interfaced from DWSS to iCWP

- 1.5.1 The following table depicts the data to be transferred from DWSS to iCWP by means of unmanned system-to-system interfaces.

Module	Data to be Collected
RISC – Section 4.3	<ol style="list-style-type: none"> 1. Total Number of Non-Conformance RISC Forms in a period 2. Total Number of Urgent RISC Forms in a period 3. Average Elapsed Time of RISC Forms in a period 4. Revision of RISC Forms in a period 5. Number of overdue RISC Forms in a period 6. Number of completed / in-completed / outstanding RISC Forms in a period 7. Passing / Failure Statistics of RISC Forms in a period 8. Total Number of Delayed Approval of RISC Forms in a period 9. Failure rate of 1st Inspection of RISC Forms in a period 10. Raw data of RISC Forms
Site Dairy – Section 0	<ol style="list-style-type: none"> 1. Number of overdue Site Dairy in a period 2. Number of completed / in-completed Site Dairy in a period 3. Number of Contractor’s Staff, Labour and Plant 4. Raw data of Site Dairy
Site Safety Inspection Records – Section 4.4	<ol style="list-style-type: none"> 1. Number of completed / in-completed Site Safety Inspection Records in a period 2. Number of Non-Compliance / Near Miss Reports / Incident Reports of Site Safety Inspection Records in a period 3. Accident Rate of Site Safety Inspection Records in a period 4. Number of Safety Convictions of Site Safety Inspection Records in a period 5. Average Elapsed Time of Site Safety Inspection Records in a period 6. Number of Late Rectifications in a period
Cleansing Inspection Records – Section 4.5	<ol style="list-style-type: none"> 1. Number of completed / in-completed Cleansing Inspection Records in a period 2. Number of Non-Compliance of Cleansing Inspection Records in a period 3. Average Elapsed Time of Cleansing Inspection Records in a period
Labour Return Statistics – Section 4.6	<ol style="list-style-type: none"> 1. Labour Return Statistics – No. of Labours Employed in a period 2. Labour Return Statistics – Wage Rates of Workers & No. of Workers per Trade in a period

Table 1-1 Summary of data to be transferred from DWSS to iCWP

1.6. Structure of the Data Standardisation Report

1.6.1 This Report is to document Data Standardisation Requirements for transmission of data from DWSS to iCWP.

1.6.2 The structure of this Report is outlined below:

- (i) Section 1 - Introduction
- (ii) Section 2 - Business Description of Data Standardisation Requirements
- (iii) Section 3 - Visual Representation of Statistical Data
- (iv) Section 4 – Data Standardisation Technical Requirements
- (v) Section 5 – Conclusions and Recommendations

2. Business Description of Data Standardisation Requirements

2.1. General

2.1.1 This Section describes the business requirements of statistical data to be collected from DWSS.

2.1.2 Data Standardisation aims to standardise statistical data collected from DWSS so as to provide project management insights to executives by means of visual / graphical presentation of these statistical data collected from DWSS. Statistics are displayed in the form of dashboard, charts and reports.

2.2. RISC

2.2.1 Statistical data are collected from RISC Forms. Typical RISC forms are shown in Appendix A – Sample RISC Form.

2.2.2 “Works Category” is a mandatory input of all RISC forms, except ArchSD Contracts. Works Category are stipulated in VOLUME 1 and VOLUME 2 of The General Specification For Civil Engineering Works (2020 Edition) and General Specification for Building (2017 Edition). This list of Works Category is shown in Appendix A1.

2.2.3 Statistics of RISC forms are grouped and sorted by “Category”. Therefore, performance of different aspects of RISC could be closely monitored.

2.2.4 Statistics of RISC forms will be analysed by the aspects of performance illustrated in the following table.

Aspect of Performance	Data to be Collected
Compliance	<ul style="list-style-type: none"> Total Number of Non-Conformance RISC Forms in a period
Planning and Coordination	<ul style="list-style-type: none"> Total Number of Urgent RISC Forms in a period
Quality of Works	<ul style="list-style-type: none"> Revision of RISC Forms in a period Passing / Failure Statistics of RISC Forms in a period Failure rate of 1st Inspection of RISC Forms in a period
Efficiency	<ul style="list-style-type: none"> Average Elapsed Time of RISC Forms in a period Number of overdue RISC Forms in a period Number of completed / in-completed / outstanding RISC Forms in a period Total Number of Delayed Approval of RISC Forms in a period

Table 2-1 Performance Monitoring by Statistical Data of RISC Forms

2.2.5 Total Number of Non-Conformance RISC Forms in a period aims to monitor the number of Non-Conformance RISC forms of a Contract / Project submitted in a given period. Non-Conformance is defined as Submission Date of a RISC Form a later date than the Actual Inspection Date of the RISC Form.

2.2.6 Total Number of Urgent RISC Forms in a period aims to monitor the number of Urgent RISC forms of a Contract / Project submitted in a given period. “Urgent” is defined as Submission Date of a RISC Form raised within 24 hours from its inspection. High

number or percentage of Urgent RISC Forms indicates Contractor poor planning, scheduling and coordination of inspection / survey.

- 2.2.7 Revision of RISC Forms in a period aims to monitor the number of revisions of RISC Form from submission to completion. High number of revisions of RISC Forms indicates quality problems of inspection / survey activities. For instance, Contractor has to revise details of inspection / survey request due to insufficient information provided, such as missing details of works to be inspected or missing drawings that supposed to be attached.. Similarly, high failure rate of 1st Inspection of RISC Forms in a period indicate problems encounter in quality of inspection / survey activities.
- 2.2.8 Passing/ Failure Statistic of RISC forms aims to monitor the Contractor's quality of works. Low passing rate/ high failure rate in a given period indicates Contractor's low performance on quality control and assurance.
- 2.2.9 Average Elapsed Time of RISC Forms in a period aims to track the average elapsed time (in days) from submission to completion of all RISC Forms of a Project / Contract. Public Holiday and Non-Working Days are not excluded. Prolonged completion of RISC Forms implies inefficient execution and management of inspection and survey activities.

2.2.10 Number of overdue RISC Forms in a period aims indicate overdue RISC Forms in a period, which is measured by the difference between the time at which RISC was signed and returned by surveyor and inspector and the actual time of inspection / survey activities. A RISC Form is overdue if the difference is equal to or longer than 24 hours. High number of overdue RISC Forms indicates poor efficiency in management of inspection / survey activities. Similarly, high number of outstanding RISC Forms in period and high number of Delayed Approval of RISC Forms in a period also indicate inefficient management of inspection / survey activities.

2.2.11 Raw data of RISC Forms are collected for data analytics.

2.3. Site Diary

2.3.1 Statistical data are collected from Site Diary. A typical Site Diary is shown in Appendix B – Sample Site Diary.

2.3.2 The template shown in Appendix B – Sample Site Diary is not applicable to ArchSD Contracts. Alternative way of data exchange such as system-to-system interface with eIRS of ArchSD may need to be considered.

2.3.3 Statistics of Site Diary indicates efficiency of projects. Followings are data to be collected for Site Diary

- i. Number of overdue Site Diary in a period;
- ii. Number of completed / in-completed Site Diary in a period; and
- iii. Number of Contractor's Staff, Labour and Plant.

2.3.4 Number of overdue Site Diary in a period aims indicate overdue Site Diary in a period, which is measured by the difference between the time at which Site Diary was endorsed (this timestamp is generated by the system and cannot be edited) and the date of the site diary. It is overdue if the difference is equal to or longer than 1 week. High number of overdue Site Diary indicates poor efficiency in management of Site Diary. Similarly, high number of incompleted Site Diary in a period also indicates inefficient management of Site Diary.

2.3.5 Number of Contractor's Staff, Labour and Plant indicates deployment of resources each project.

2.3.6 Raw data of Site Diary are collected for data analytics.

2.4. Site Safety Inspection Records

2.4.1 Statistical data are collected from Site Safety Inspection Records. A typical Site Safety Inspection Record is shown in Appendix C – Sample Site Safety Inspection Records.

2.4.2 The template shown in Appendix C – Sample Site Safety Inspection Records is not applicable to ArchSD Contracts. Alternative way of data exchange such as system-to-system interface with eIRS of ArchSD may need to be considered.

2.4.3 “Safety Works Category” is a mandatory input of all Site Safety Inspection Record. Safety Works Category is grouped by referencing to Chapter 8 of Construction Site Safety Manual.

1. Site Planning and Layout;
2. Excavations;
3. Scaffolding;
4. Ladders;
5. Roof Work;
6. Steel Erection;
7. Work Over Water;
8. Confined Spaces;
9. Transport;
10. Safe Use of Plant;
11. Concrete Formwork;
12. Electricity;
13. Fire Precautions;
14. Noise;
15. Hazardous Substances
16. Welfare Facilities; and
17. Others.

2.4.4 Statistics of Site Safety Inspection Records will be analysed by the aspects of performance illustrated in the following table.

Aspect of Performance	Data to be Collected
Compliance	<ul style="list-style-type: none"> • Number of completed / in-completed Site Safety Inspection Records in a period • Number of Non-Compliance of Site Safety Inspection / Near Miss Reports / Incident Reports Records in a period
Safety	<ul style="list-style-type: none"> • Accident Rate in a period • Number of Safety Convictions in a period
Efficiency	<ul style="list-style-type: none"> • Average Elapsed Time of Site Safety Inspection Records in a period • Number of late rectifications in a period
Quality of Works	<ul style="list-style-type: none"> • Revision of Site Safety Inspection Records in a period

Table 2-2 Performance Monitoring by Statistical Data of Site Safety Inspection Records

- 2.4.5 Number of Non-Compliance of Site Safety Inspection Records / Near Miss Reports / Incident Reports of in period aims to track the number of non-compliance, near miss reports or incident reports by the Contractor / PDM. Similarly, high number of in-completed Site Safety Inspection Records also indicates compliance issues of Contractors.
- 2.4.6 Accident Rate in a period and Number of Safety Convictions Records in a period measure safety performance of projects. This data will be reported by the Contractor. The higher the statistics, the poorer the safety performance.
- 2.4.7 Average Elapsed Time of Site Safety Inspection Records in a period aims to track the average elapsed time (in days) from submission to completion of all Site Safety Inspection Records of a Project / Contract. Public Holiday and Non-Working Days are not excluded. Higher Elapsed Time means less efficiency.
- 2.4.8 Number of late rectification aims to track the number of late rectification recorded in the Site Safety Inspection Records. "Late Rectification" is defined as when the "date completed" on the form is later than the "agreed date for completion" on the form. This statistic can indicate the works efficiency of the Contractor.
- 2.4.9 Revision of Site Safety Inspection Records in a period aims to monitor the number of revisions of Site Safety Inspection Records from submission to completion. High number of revisions of Site Safety Inspection Records indicates quality problems Site Safety Inspection.

2.5. Cleansing Inspection Records

- 2.5.1 Statistical data are collected from Cleansing Inspection Records. A typical Cleansing Inspection Record is shown in Appendix D – Sample Cleansing Inspection Records.
- 2.5.2 The template shown in Appendix D – Sample Cleansing Inspection Records is not applicable to ArchSD Contracts. Alternative way of data exchange such as system-to-system interface with eIRS of ArchSD may need to be considered.
- 2.5.3 Statistics of Cleansing Inspection Records will be analysed by the aspects of performance illustrated in the following table

Aspect of Performance	Data to be Collected
Compliance	<ul style="list-style-type: none"> Number of completed / in-completed Cleansing Inspection Records in a period Number of Non-Compliance of Cleansing Inspection Records of in a period
Efficiency	<ul style="list-style-type: none"> Average Elapsed Time of Cleansing Inspection Records in a period
Quality of Works	<ul style="list-style-type: none"> Revision of Cleansing Inspection Records in a period

Table 2-3 Performance Monitoring by Statistical Data of Cleansing Inspection Records

- 2.5.4 Number of Non-Compliance of Cleansing Inspection Records of in period aims to track the number of non-compliance by the Contractor / PDM. Similarly, high number of in-completed Cleansing Inspection Records also indicates compliance issues of Contractors.
- 2.5.5 Average Elapsed Time of Cleansing Inspection Records in a period aims to track the average elapsed time (in days) from submission to completion of all Cleansing Inspection Records of a Project / Contract. Public Holiday and Non-Working Days are not excluded. Higher Elapsed Time means less efficiency.
- 2.5.6 Revision of Cleansing Inspection Records in a period aims to monitor the number of revisions of Cleansing Inspection Records from submission to completion. High number of revisions of Cleansing Inspection Records indicates quality problems Cleansing Inspection.

2.6. Labour Return

- 2.6.1 Statistical data are collected from Labour Return. A typical Labour Return is shown in Appendix E – Sample Labour Return.
- 2.6.2 The template shown in Appendix E – Sample Labour Return is not applicable to ArchSD Contracts. Alternative way of data exchange such as system-to-system interface with eIRS of ArchSD may need to be considered.
- 2.6.3 Labour Return Statistics – No. of Labours Employed in a period aims to show the number of labours employed in a period.
- 2.6.4 Labour Return Statistics – Wage Rates of Workers & No. of Workers per Trade in a period aims to show the wage rates of workers and number of workers per trade in a period.

3. Sample Visual Representation of Statistical Data

3.1. General

3.1.1 This Section illustrates how Dashboard could be used to present statistical data collected from DWSS to provide insight to executives. Visualisations described in this Section are baseline suggestions and for reference only.

3.2. RISC

3.2.1 The following figure provides a sample Dashboard view to present RISC data collected from DWSS.

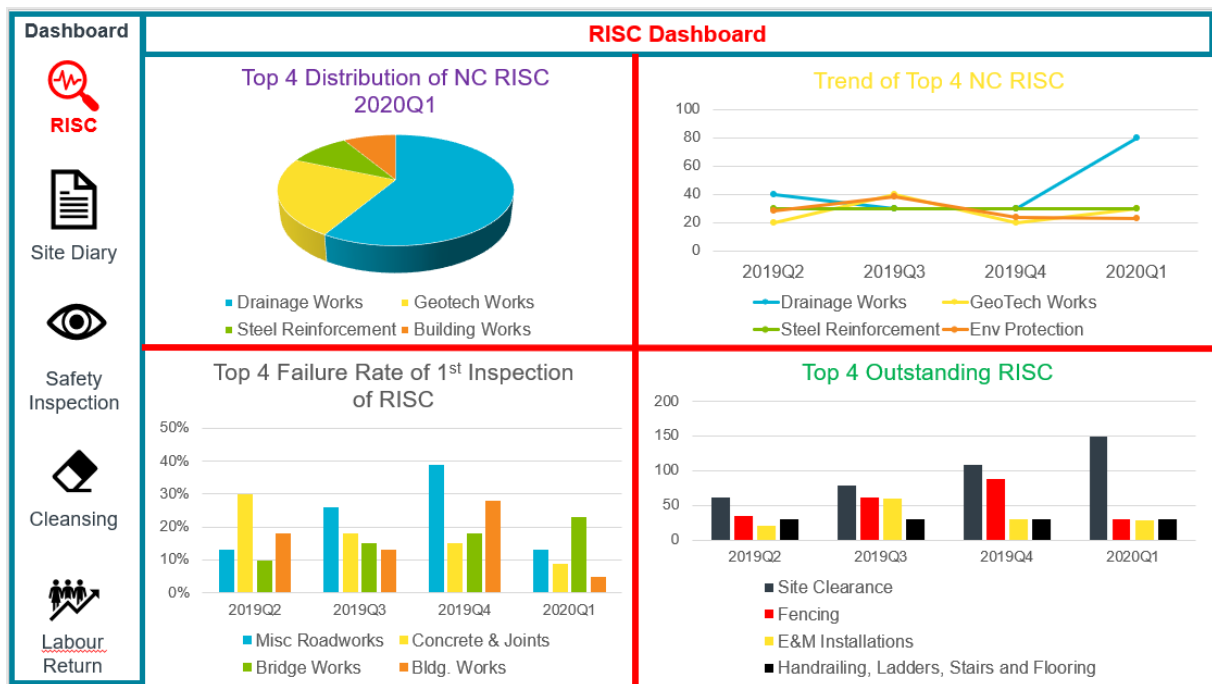


Figure 3-1 Sample Dashboard view of RISC Data collected from DWSS

3.2.2 The pie chart “**Top 4 Distribution of NC RISC 2020Q1**” indicates that Drainage Works tops the list of Non Compliance (NC) RISC for the quarter 2020Q1, followed by Geotechnical Works, Steel Reinforcement and Building Works.

3.2.3 It is possible to drill down details by clicking on the pie chart. For instance, click on Drainage Works, the list of projects will be displayed, sorted by the number of NC RISC in descending order. To view project information, click on the project number.

3.2.4 The line chart “**Trend of Top 4 NC RISC**” shows the trend of top 4 NC RISC in the past 4 quarters. This line chart indicates that total number of NC RISC for Drainage Works increases drastically in the quarter of 2020Q1, while the remaining works in the top 4 remains steady throughout the last 4 quarters.

3.2.5 It is possible to zoom in / zoom out using mouse wheel like zooming in / out in Google Map. Daily, Weekly, Monthly statistics could be shown by zooming in the line chart. Alternatively, yearly statistics could be shown by zooming out the line chart.

3.2.6 Similarly, it is possible to drill down details by clicking on the line chart. For instance, click on Drainage Works, the list of projects will be displayed, sorted by the number of NC RISC in descending order. To view project information, click on the project number.

3.2.7 The bar chart “**Top 4 Failure Rate of 1st Inspection of RISC**” shows the failure rate of first inspection of RISC. As illustrated in the above figure, it indicates that failure rate of first inspection of Bridge Works is increasing in recent quarters, whereas that of Concrete and Joints in Concrete is showing signs of improvement as it is in a decreasing trend.

3.2.8 The operations of zooming in / out, as well as the drill down operations as mentioned in paragraphs 3.2.5 and 3.2.6 also apply to this bar chart.

3.2.9 The bar chart “**Top 4 Outstanding RISC**” shows the top 4 outstanding RISC by work category. As illustrated in the above figure, the number of outstanding RISC of Site Clearance is in an increasing trend. Furthermore, the situation worsens particularly in the quarter of 2020Q1. Fencing was in an increasing trend in the last 3 quarters, but improved drastically in the quarter of 2020Q1.

3.3. Site Diary

3.3.1 The following figure provides a sample Dashboard view to present Site Diary data collected from DWSS.

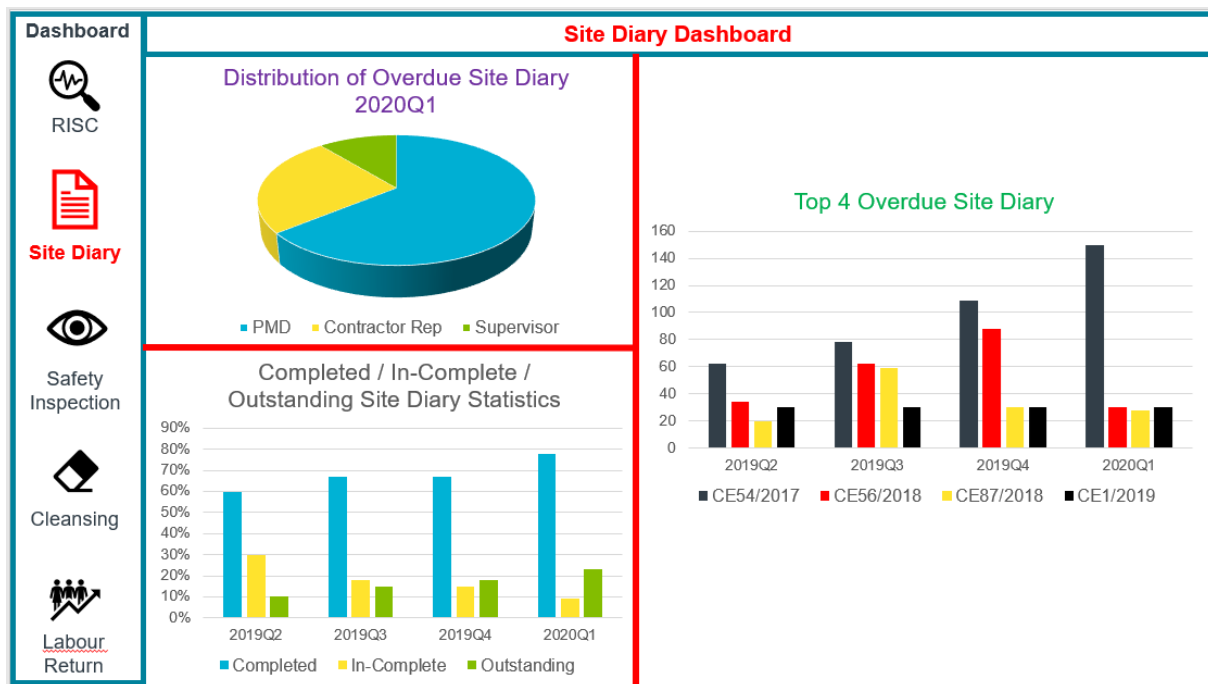


Figure 3-2 Sample Dashboard view of Site Diary Data collected from DWSS

3.3.2 The pie chart “**Distribution of Overdue Site Diary 2020Q1**” indicates that majority of Site Diary are overdue by PMD.

3.3.3 It is possible to drill down details by clicking on the pie chart. For instance, click on PMD, the list of projects will be displayed, sorted by the number of overdue Site Diary in descending order. To view project information, click on the project number.

- 3.3.4 The bar chart “**Completed / In-Complete / Outstanding Site Diary Statistics**” shows the distribution of Completed / In-Completed Site Diary. As illustrated in the above figure, it indicates that the number of in-completed Site Diary is decreasing over the recent quarters. However, the number of in-completed Site Diary increases, this could be alarming from senior management point of view.
- 3.3.5 It is possible to zoom in / zoom out using mouse wheel like zooming in / out in Google Map. Daily, Weekly, Monthly statistics could be shown by zooming in the bar chart. Alternatively, yearly statistics could be shown by zooming out the bar chart.
- 3.3.6 Similarly, it is possible to drill down details by clicking on the bar chart. For instance, click on in-completed Site Diary, the list of projects will be displayed, sorted by the number of in-completed Site Diary in decending order. To view project information, click on the project number.
- 3.3.7 The bar chart “**Top 4 Overdue Site Diary**” shows the top 4 in-completed Site Diary by project. As illustrated in the above figure, the number of overdue Site Diary of CE54/2017 is in an increasing trend. Futhermore, the situation worsens particularly in the quarter of 2020Q1. CE56/2018 was in an increasing trend in the last 3 quarters, but improved drastically in the quarter of 2020Q1.
- 3.3.8 The operations of zooming in / out as mentioned in paragraphs 3.3.5 also apply to this bar chart.

3.4. Site Safety Inspection Records

3.4.1 The following figure provides a sample Dashboard view to present Site Safety Inspection data collected from DWSS.

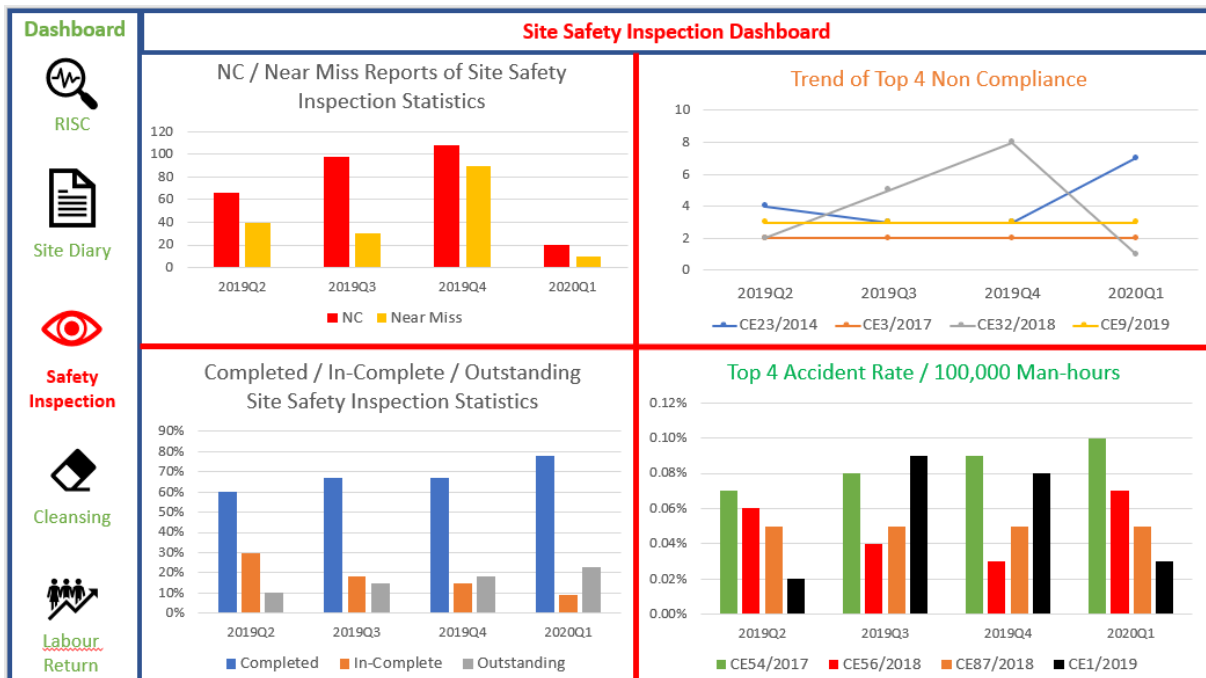


Figure 3-3 Sample Dashboard view of Site Safety Inspection Data collected from DWSS

- 3.4.2 The bar chart “**NC / Near Miss Reports of Site Safety Inspection Statistics**” shows the number of NC / Near Miss Report. As illustrated in the above figure, it indicates that both the number NC / Near Miss Report was in an increasing trend in the last 3 quarters, but improved drastically in the quarter of 2020Q1.
- 3.4.3 The operations of zooming in / out, as well as the drill down operations as mentioned in paragraphs 3.3.5 and 3.3.6 also apply to this bar chart.
- 3.4.4 The line chart “**Trend of Top 4 Non Compliance**” shows the trend of top 4 Non Compliance in the past 4 quarters. This line chart indicates that total number of Non Compliance of CE32/2018 was in an increasing trend in the last 3 quarters, but improved drastically in the quarter of 2020Q1. It also indicates that the total number of Non Compliance of CE23/2014 increased drastically in the quarter of 2020Q1.
- 3.4.5 The operations of zooming in / out as mentioned in paragraphs 3.3.5 also apply to this bar chart.
- 3.4.6 The bar chart “**Completed / In-Completed / Outstanding Site Safety Inspection Statistics**” shows the distribution of Completed / In-Completed Site Safety Inspection Records. As illustrated in the above figure, it indicates that the number of in-complete Site Safety Inspection Records is decreasing over the recent quarters. However, the number of in-completed Site Safety Inspection Records increases, this could be alarming from senior management point of view.
- 3.4.7 The operations of zooming in / out, as well as the drill down operations as mentioned in paragraphs 3.3.5 and 3.3.6 also apply to this bar chart.
- 3.4.8 The bar chart “**Top 4 Accident Rate / 100,000 Man-hours**” shows Top 4 Accident Rate / 100,000 Man-hours. As illustrated in the above figure, it indicates that the accident rate of CE54/2017 is in an increasing trend.
- 3.4.9 The operations of zooming in / out as mentioned in paragraphs 3.3.5 also apply to this bar chart.

3.5. Cleansing Inspection Records

3.5.1 The following figure provides a sample Dashboard view to present Cleansing Inspection data collected from DWSS.

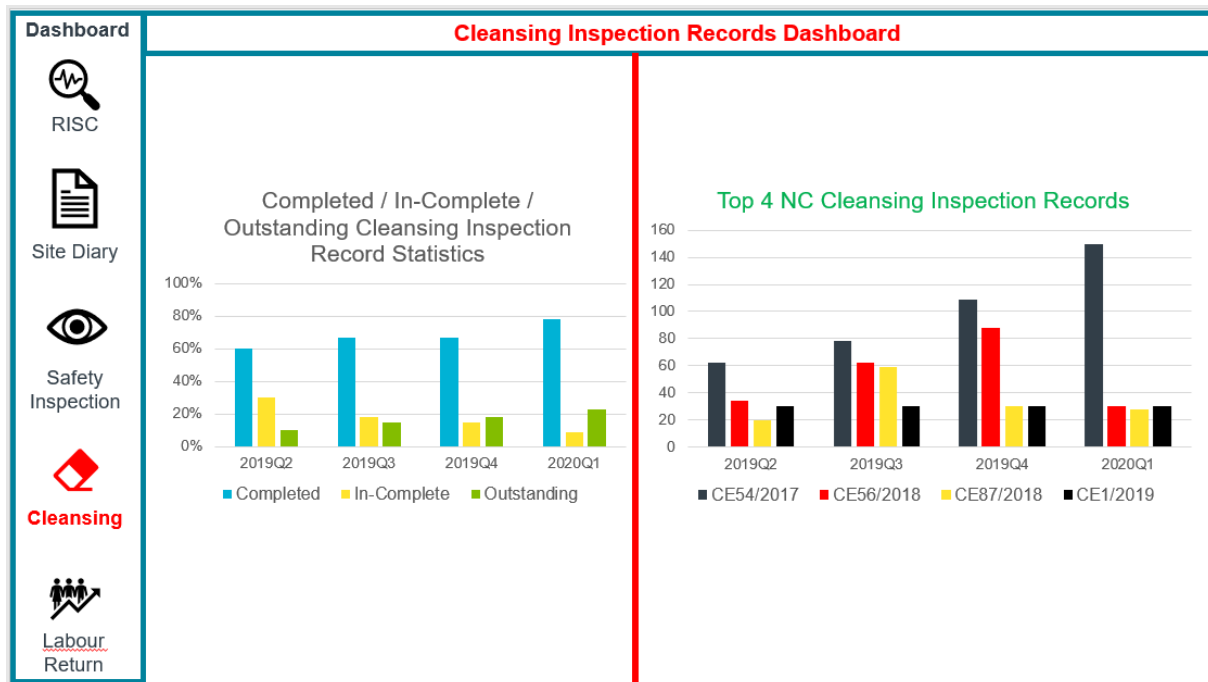


Figure 3-4 Sample Dashboard view of Cleansing Inspection Data collected from DWSS

3.5.2 The bar chart “**Completed / In-Completed / Outstanding Cleansing Inspection Records Statistics**” shows the distribution of Completed / In-Completed Cleansing Inspection Records. As illustrated in the above figure, it indicates that the number of in-complete Cleansing Inspection Records is decreasing over the recent quarters. However, the number of in-completed Cleansing Inspection Records increases, this could be alarming from senior management point of view.

3.5.3 The operations of zooming in / out, as well as the drill down operations as mentioned in paragraphs 3.3.5 and 3.3.6 also apply to this bar chart.

3.5.4 The bar chart “**Top 4 NC Cleansing Inspection Records**” shows the top 4 NC Cleansing Inspection Records by project. As illustrated in the above figure, the number of overdue Cleansing Inspection Records of CE54/2017 is in an increasing trend. Furthermore, the situation worsens particularly in the quarter of 2020Q1. CE56/2018 was in an increasing trend in the last 3 quarters, but improved drastically in the quarter of 2020Q1.

3.5.5 The operations of zooming in / out as mentioned in paragraphs 3.3.5 also apply to this bar chart.

3.6. Labour Returns

3.6.1 The following figure provides a sample Dashboard view to present Labour Returns data collected from DWSS.

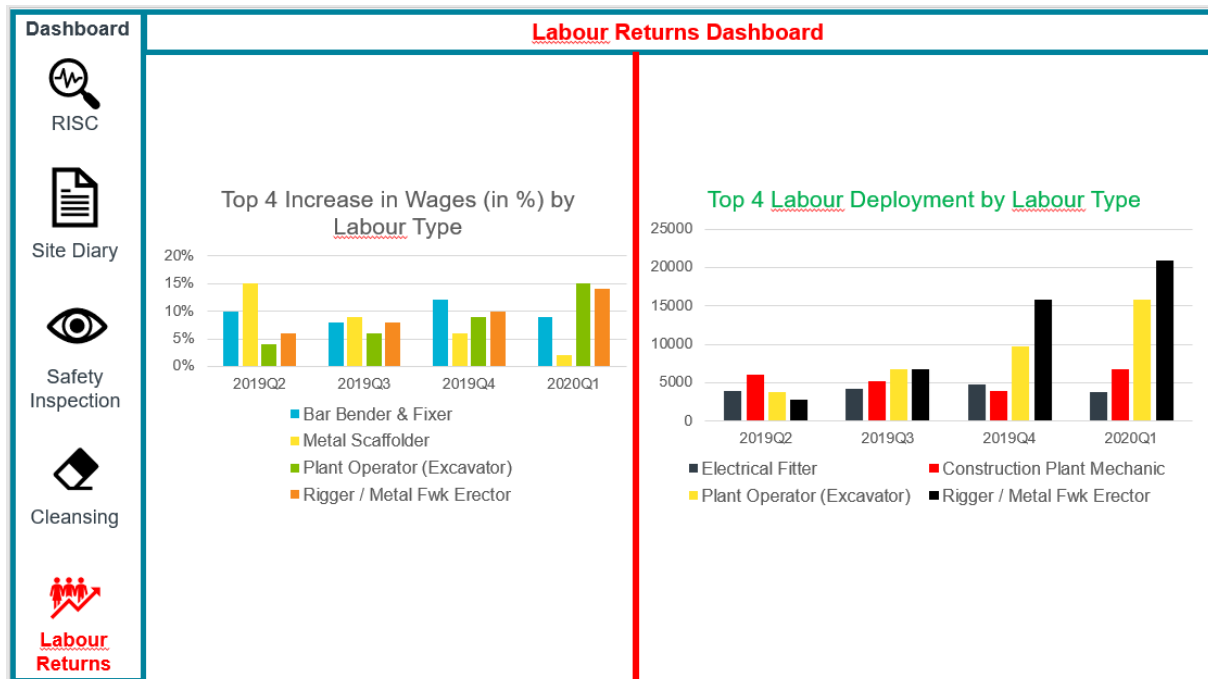


Figure 3-5 Sample Dashboard view of Labour Return Data collected from DWSS

3.6.2 “**Top 4 Increase in Wages (in %) by Labour Type**” shows that wages of Plant Operator (Excavator) and Rigger / Metal Fwk Erector are rising in recent quarters. Wage increase of these 2 types of labour may be brought by increasing demand of these labours as illustrated in “**Top 4 Labour Deployment by Labour Type**”.

3.6.3 The operations of zooming in / out as mentioned in paragraphs 3.3.5 also apply to these bar charts.

3.6.4 It is possible to view Dashboard such that Trade Code could be grouped by Trade. The following figure is a sample of Labour Type (Trade Division) grouped by Trade Code.

Trade	Trade Division	Trade Code
Carpenter (Formwork)	Carpenter (Fender)	C306
	Carpenter (Formwork) (Master)	C307 / C407
	Carpenter (Formwork - Civil Construction)	C307b / C407b
	Carpenter (Formwork - Civil Construction) (Striking)	C307d
	Carpenter (Formwork - Building Construction)	C307a / C407a
	Carpenter (Formwork - Building Construction) (Striking)	C307c

Figure 3-6 Group by Trade Code

4. Data Standardisation Technical Requirements

4.1. Format

- 4.1.1 XML is recommended as the format for data exchange between DWSS and iCWP. It could be embedded and transmitted via JSON, SOAP or SFTP.
- 4.1.2 File Name should be named using standardised file naming convention **Project No-Contract No-Dataset ID-Timestamp.xml**, provided that SFTP is used as protocol for data exchange. An example is **461TH-HY_2014_09-DWSS-RISC-01-2020070800303208.xml**. The **Timestamp** generated is Hong Kong time.
- 4.1.3 UTF-8 encoding is recommended as the encoding standard for data exchange between DWSS and iCWP. Chinese characters, if any, should adopt the latest version of ISO/IEC 10646 and HKSCS for encoding.
- 4.1.4 Special characters should be handled. The following table illustrates the special characters to be handled.

Special Character	Escaped Form	Gets Replaced By
Ampersand	&	&
Less-than	<	<
Greater-than	>	>
Quotes	"	"
Apostrophe	'	'

Table 4-1 Special Characters of XML

4.2. Unique Identifier

- 4.2.1 The unique identifier of various forms of DWSS is constructed by **Project No-Contract No-Module-Form-YYYYMMDD-System Gen No**, where YYYYMMDD is the date when the form is first submitted / saved in the DWSS. An example is **461TH-HY/2014/09-RISC-SUR-20200629-001**.
- 4.2.2 The following table illustrates the possible values of **Module**.

Module Abbreviation	Module Description
RISC	Site Inspection / Survey Request Form
SD	Site Diary
SRB	Site Record Book
SSR	Site Safety Record
CIC	Daily and Weekly Cleansing Inspection Checklist
LRR	Labour Return Record

Table 4-2 Possible Values of Module

4.2.3 The following table illustrates the possible values of **Form**.

Form Abbreviation	Module Description
SUR	Survey
SI	Site Inspection
PW	Pre work Safety Check
WSI	Weekly Safety Walk Inspection
MSI	Monthly Safety Walk Inspection
EI	Environmental Inspection
PTW	Permit to work
NCR	Non-conformity Reports
SPP	Safety Performance Report
SCR	Safety Score Card
DCI	Daily Cleansing Inspection
WCI	Weekly Cleansing Inspection
XX	Not Applicable

Table 4-3 Possible Values of Form

4.3. Data requirement of RISC

4.3.1 The Section describes the data standardisation requirement of RISC data. RISC data would be transferred from DWSS to iCWP by means of unmanned system-to-system interfaces. Two categories of data are required, namely statistical data and raw data.

4.3.2 Followings are functional description of statistical data requirement of RISC:

- (i) Total Number of Non-Conformance RISC Forms in a period – To track non-conformance of RISC form submission (i.e. submission of RISC form after Survey / Inspection);
- (ii) Total Number of Urgent RISC Forms in a period – To track urgent survey / inspection request;
- (iii) Average Elapsed Time of RISC Forms in a period – To track the elapsed time from creation to completion of the request;
- (iv) Revision of RISC Forms in a period – To track the number of revisions of RISC form from creation to completion of the request;
- (v) Number of overdue RISC Forms in a period;
- (vi) Number of completed / in-completed / outstanding RISC Forms in a period (not applicable to ArchSD Contracts);
- (vii) Passing / Failure Statistics of RISC Forms in a period;
- (viii) Total Number of Delayed Approval of RISC Forms in a period (not applicable to ArchSD Contracts); and
- (ix) Failure rate of 1st Inspection of RISC Forms in a period.

4.3.3 Apart from statistical data, raw data would also be collected for data analytics purpose.

Total Number of Non-Conformance RISC Forms in a period

4.3.4 This data set aims to monitor the number of Non-Conformance RISC forms of a Contract / Project submitted in a given period. Non-Conformance is defined as Submission Date of a RISC Form a later date than the Actual Inspection Date of the RISC Form. For instance, Actual Inspection Date of a RISC Form was 7 July 2020 while Submission Date of the RISC Form as 11 July 2020.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-01
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period (a)	Number	Y	Multiple versions of the same RISC Form are counted once only	140
Total No. of NC RISC in the period (b)	Number	Y	Ditto	10
Percentage (= b / a * 100)	Number (9,2)	Y	XX.00	7.14
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	130
Grand Total of NC RISC of the Works Category in the period	Number	Y	Ditto	9
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:30:01

Table 4-4 Data Requirement of Total No. of NC RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-01</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>140</Total_RISC>
<Total_NC_RISC>10</Total_NC_RISC>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>130</Grand_Total_RISC>
<Grand_Total_NC_RISC>9</Grand_Total_NC_RISC>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>10</Grand_Total_RISC>
<Grand_Total_NC_RISC>1</Grand_Total_NC_RISC>
</Works_Category>
</List_of_Works_Category>
<Percentage>7.14</Percentage>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-1 An example of XML Representation of Data Requirement of Total No. of NC RISC Forms in a period

Total Number of Urgent RISC Forms in a period

4.3.5 This data set aims to monitor the number of Urgent RISC forms of a Contract / Project submitted in a given period. “Urgent” is defined as Submission Date of a RISC Form raised within 24 hours from its inspection. For instance, Planned Inspection Date of a RISC Form was 7 July 2020 17:08 while Submission Date of the RISC Form as 7 July 2020 09:38.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-02
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC Forms in the period (a)	Number	Y	Multiple versions of the same RISC Form are counted once only	140
Total No. of Urgent RISC Forms in the period (b)	Number	Y	Ditto	30
Percentage (= b / a * 100)	Number (9,2)	Y	XX.00	21.42
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	130
Grand Total No. of Urgent RISC Forms of the Works Category in the period	Number	Y	Ditto	29
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-5 Data Requirement of Total No. of Urgent RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-02</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>140</Total_RISC>
<Total_Urgent_RISC>30</Total_Urgent_RISC>
<Percentage>21.42</Percentage>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>130</Grand_Total_RISC>
<Grand_Total_Urgent_RISC>29</Grand_Total_Urgent_RISC>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>10</Grand_Total_RISC>
<Grand_Total_Urgent_RISC>1</Grand_Total_Urgent_RISC>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-2 An example of XML Representation of Data Requirement of Total No. of Urgent RISC Forms in a period

Average Elapsed Time of RISC Forms in a period

4.3.6 This data set aims to track the average elapsed time (in days) from submission to completion of all RISC Forms of a Project / Contract. Public Holiday and Non-Working Days are not excluded.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-03
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	140
Average Days of Completion of ALL RISC Forms in the period (Completion Date (Last Version) – First Submission Date)	Number (9,2)	Y	Ditto	10.32
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	130
Average Days of Completion of ALL RISC Forms of the Works Category in the period	Number (9,2)	Y	Ditto	10.32
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-6 Elapsed Time of RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-03</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>140</Total_RISC>
<Av_Days_Complete>10.32</Av_Days_Complete>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>130</Grand_Total_RISC>
<Av_Days>12.29</Av_Days>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>10</Grand_Total_RISC>
<Av_Days>9.29</Av_Days>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-3 An example of XML Representation of Data Requirement of Elapsed Time of RISC Forms in a period

Revision of RISC Forms in a period

4.3.7 This data set aims to monitor the number of revisions of RISC Form from submission to completion. This data can help indicate the quality of works of the Contractors. High number of revisions of RISC Forms indicates quality problems of inspection / survey activities.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-04
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	2
Average Number of Revisions of RISC Forms in the period	Number (9,2)	Y	Calculated by dividing the total number of revisions (or Versions) of ALL RISC Forms by Total No. of RISC of the period. For instance, 2 RISC Forms were issued, one with 9 versions while another with 4 versions.	= (9+4) / 2 6.5
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only	1
Average Number of Revisions of RISC Forms of the Works Category in the period	Number (9,2)	Y	Ditto	9
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-7 Number of Revisions of RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-04</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>2</Total_RISC>
<Av_No_of_Revisions>6.5</Av_No_of_Revisions>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>1</Grand_Total_RISC>
<Av_Rev>9</Av_Rev>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>1</Grand_Total_RISC>
<Av_Rev>4</Av_Rev>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-4 An example of XML Representation of Data Requirement of Number of Revisions of RISC Forms in a period

Number of overdue RISC Forms in a period

4.3.8 This data set aims indicate overdue RISC Forms in a period, which is measured by the difference between the time at which RISC was signed and returned by surveyor and the actual time of survey / inspection. It is overdue if the difference is equal to or longer than 24 hours.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-05
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	12
Total No. of Overdue RISC in the period	Number (9,2)	Y	Sum all RISC where Date Time signed by surveyor – date time of actual inspection >= 24 hours	3
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	9
Grand Total No. of Overdue RISC of the Works Category in the period	Number (9,2)	Y	Ditto	2
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-8 Number of Overdue RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-05</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>12</Total_RISC>
<Total_Overdue_RISC>3</Total_Overdue_RISC>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>9</Grand_Total_RISC>
<Grand_Total_Overdue_RISC>2</Grand_Total_Overdue_RISC>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>3</Grand_Total_RISC>
<Grand_Total_Overdue_RISC>1</Grand_Total_Overdue_RISC>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-5 An example of XML Representation of Data Requirement of Number of Overdue RISC Forms in a period

Number of completed / in-completed / outstanding RISC Forms in a period

- 4.3.9 This data set aims indicate the number of completed / in-completed / outstanding RISC Forms in a period. A RISC Form is completed if the following fields are filled in (not blanked):
- a) Actual Survey / Inspection Date and Time;
 - b) The time at which RISC Form was signed and returned by surveyor; and
 - c) The time at which RISC Form was received and signed by the Contractor.
- 4.3.10 A RISC Form is in-completed if Actual Survey / Inspection Date and Time is filled in **but the following fields blanked:**
- a) The time at which RISC Form was signed and returned by surveyor; and/or
 - b) The time at which RISC Form was received and signed by the Contractor.
- 4.3.11 A RISC Form is outstanding **if the following fields are filled in** but Actual Survey / Inspection Date and Time blanked:
- a) The time at which RISC Form was signed and returned by surveyor; and/or
 - b) The time at which RISC Form was received and signed by the Contractor.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-06
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	12
Total No. of Completed RISC in the period	Number	Y	Please refer to 4.3.9	6
Total No. of In-Completed RISC in the period	Number	Y	Please refer to 4.3.10	3
Total No. of Outstanding RISC in the period	Number	Y	Please refer to 4.3.11	3
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	9
Grand Total No. of Completed RISC of the Works Category in the period	Number	Y		3
Grand Total No. of In-Completed RISC of the Works Category in the period	Number	Y		1
Grand Total No. of Outstanding RISC of the Works Category in the period	Number	Y		1
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-9 Number of Completed / In-Completed / Outstanding RISC Forms in a period


```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-06</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>12</Total_RISC>
<Total_Complete_RISC>9</Total_Complete_RISC>
<Total_Incomplete_RISC>2</Total_Incomplete_RISC>
<Total_Outstanding_RISC>1</Total_Outstanding_RISC>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>9</Grand_Total_RISC>
<Grand_Total_Complete_RISC>7</Grand_Total_Complete_RISC>
<Grand_Total_Incomplete_RISC>1</Grand_Total_Incomplete_RISC>
<Grand_Total_Outstanding_RISC>1</Grand_Total_Outstanding_RISC>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>3</Grand_Total_RISC>
<Grand_Total_Complete_RISC>2</Grand_Total_Complete_RISC>
<Grand_Total_Incomplete_RISC>1</Grand_Total_Incomplete_RISC>
<Grand_Total_Outstanding_RISC>0</Grand_Total_Outstanding_RISC>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-6 An example of XML Representation of Data Requirement of Number of Completed / In-Completed / Outstanding RISC Forms in a period

Passing / Failure Statistics of RISC Forms in a period

- 4.3.12 A passing of a RISC Form is indicated by no deficiencies identified in the survey / inspection. This means the box “There is no objection to you proceeding with the work” in the RISC Form is ticked / checked.
- 4.3.13 A failure of a RISC Form is indicated by the deficiencies identified in the survey / inspection. This means the box “The following deficiencies have been noted” in the RISC Form is ticked / checked.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-07
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	12
Total No. of Passing RISC in the period	Number	Y	Please refer to 4.3.12	9
Total No. of Failing RISC in the period	Number	Y	Please refer to 4.3.13	3
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	9
Grand Total No. of Passing RISC of the Works Category in the period	Number	Y		6
Grand Total No. of Failing RISC of the Works Category in the period	Number	Y		2
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-10 Passing / Failure Statistics of RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-07</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>12</Total_RISC>
<Total_Passing_RISC>9</Total_Passing_RISC>
<Total_Failing_RISC>3</Total_Failing_RISC>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>8</Grand_Total_RISC>
<Grand_Total_Passing_RISC>6</Grand_Total_Passing_RISC>
<Grand_Total_Failing_RISC>2</Grand_Total_Failing_RISC>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>4</Grand_Total_RISC>
<Grand_Total_Passing_RISC>3</Grand_Total_Passing_RISC>
<Grand_Total_Failing_RISC>1</Grand_Total_Failing_RISC>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-7 An example of XML Representation of Data Requirement of Passing / Failure Statistics of RISC Forms in a period

Total Number of Delayed Approval of RISC Forms in a period

4.3.14 This data set aims to monitor the number of Delayed Approval of RISC forms of a Contract / Project submitted in a given period. “Delayed Approval” is defined as the time at which RISC Form was signed and returned by the surveyor’s manager equal to or longer than 24 hours from the time at which the RISC Form was signed by the surveyor. For instance, the time of a RISC Form signed by the surveyor was 7 July 2020 17:08 while Approval Date of the RISC Form (i.e. the time at which the RISC Form was signed by the surveyor’s manager) as 10 July 2020 09:38.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-08
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC Forms in the period (a)	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted.	140
Total No. of Delayed Approval of RISC Forms in the period (b)	Number	Y	Ditto	30
Percentage (= b / a * 100)	Number (9,2)	Y	XX.00	21.42
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period (c)	Number	Y	Multiple versions of the same RISC Form are counted once only. Only final version is counted	130
Grand Total No. of Delayed Approval of RISC Forms of the Works Category in the period (d)				
Percentage (= d / c * 100)	Number (9,2)	Y	XX.00	21.42
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-11 Data Requirement of Total No. of Delayed Approval of RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-08</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>140</Total_RISC>
<Total_Delay_Approved_RISC>30</Total_Delay_Approved_RISC>
<Percentage>21.42</Percentage>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>130</Grand_Total_RISC>
<Grand_Total_Delay_Approved_RISC>20</Grand_Total_Delay_Approved_RISC>
<Percentage>15.38</Percentage>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>10</Grand_Total_RISC>
<Grand_Total_Delay_Approved_RISC>10</Grand_Total_Delay_Approved_RISC>
<Percentage>100</Percentage>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-8 An example of XML Representation of Data Requirement of Delayed Approval of RISC Forms in a period

Failure Rate of 1st Inspection of RISC Forms in a period

4.3.15 This data set aims to monitor the Failure Rate of 1st Inspection of RISC Forms in a period. This means the box “The following deficiencies have been noted” in the RISC Form is ticked / checked for the 1st Version of each RISC Form.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-09
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC Forms in the period (a)	Number	Y	Multiple versions of the same RISC Form are counted once only. Only FIRST version is counted.	140
Total No. of Failure of 1st Inspection of RISC Forms in the period (b)	Number	Y	Please refer to 4.3.15	30
Percentage (= b / a * 100)	Number (9,2)	Y	XX.00	21.42
Works Category Description	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
Grand Total of RISC of the Works Category in the period (c)	Number	Y	Multiple versions of the same RISC Form are counted once only. Only FIRST version is counted.	130
Grand Total No. of Failure of 1st Inspection of RISC Forms of the Works Category in the period (d)				
Percentage (= d / c * 100)	Number (9,2)	Y	XX.00	21.42
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-12 Data Requirement of Failure Rate of 1st Inspection of RISC Forms in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-09</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>140</Total_RISC>
<Total_Failure_1st_Inspect_RISC>30</Total_Failure_1st_Inspect_RISC >
<Percentage>21.42</Percentage>
<List_of_Works_Category>
<Works_Category>
<Works_Category_Desc>Fencing</Works_Category_Desc>
<Grand_Total_RISC>130</Grand_Total_RISC>
<Grand_Total_Failure_1st_Inspect_RISC>20</Grand_Total_Failure_1st_Inspect_RISC>
<Percentage>15.38</Percentage>
</Works_Category>
<Works_Category>
<Works_Category_Desc>Earth Works</Works_Category_Desc>
<Grand_Total_RISC>10</Grand_Total_RISC>
<Grand_Total_Failure_1st_Inspect_RISC>10</Grand_Total_Failure_1st_Inspect_RISC>
<Percentage>100</Percentage>
</Works_Category>
</List_of_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-9 An example of XML Representation of Data Requirement Failure Rate of 1st Inspection of RISC Forms in a period

Raw data of RISC Forms

4.3.16 RISC Form Status is tabulated in the following table

Status	Submission Date	Planned Survey / Inspection Date	Actual Survey / Inspection Date	Returned and Signed Date By checking party	Counter Signed Date by ER	Received and Signed Date by Contractor
1 = Submitted	NOT NULL	NULL	NULL	NULL	NULL	NULL
2 = Inspected	NOT NULL	NOT NULL	NOT NULL	NULL	NULL	NULL
3 = Endorsed	NOT NULL	NOT NULL	NOT NULL	NOT NULL	NOT NULL	NOT NULL

Table 4-13 RISC Form Status

4.3.17 A RISC Form inspection is “Passed” if the field “There is no objection to you proceeding with the work” is ticked. The RISC Form inspection is “Failed” if the field “The following deficiencies have been noted” is ticked. The RISC Form inspection is “N/A” if neither option is ticked.

4.3.18 The Data Requirements of raw data of RISC Forms are listed in the following table.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-RISC-10
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	RISC	RISC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of RISC in the period	Number	Y	Each version of the same RISC Form is counted separately. All versions of the same RISC Form will be included	3845
RISC Form Unique Number	Text	Y	Project No- Contract No- Module-Form- YYYYMMDD- System Gen No.	461TH- HY/2014/09- RISC-SUR- 20200629-001
Source RISC Form Number	Text	Y	The RISC number stored in the source DWSS. This number is used to match the source RISC number when necessary.	RISC-SURV-10234

			Different System has different format. The example provided here is for illustration only.	
Works Category	Text	Y	Please refer to Appendix A1 for the Works Category of RISC Forms	Fencing
RISC Form Status	Number	Y	Please refer to paragraph 4.3.16	1 = Submitted 2 = Inspected 3 = Endorsed 4 = N/A
Inspection Result	Number	Y	Please refer to paragraph 4.3.17	1 = Passed 2 = Failed 3 = N/A
Location	Text	N	For use of DWSS which has multiple locations	
RISC Form Version Number	Number	Y	N/A	1
RISC Form Submission Date	Date	Y	YYYYMMDD	20200701
RISC Form Planned Survey / Inspection Date	Date	Y	YYYYMMDD	20200702
RISC Form Actual Survey / Inspection Date	Date	Y	YYYYMMDD	20200703
RISC Form Returned and Signed Date By checking party	Date	Y	YYYYMMDD	20200705
RISC Form Counter Signed Date by ER	Date	Y	YYYYMMDD	20200705
RISC Form Received and Signed Date by Contractor	Date	Y	YYYYMMDD	20200705
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-14 Data Requirement of Raw Data of RISC Forms in a period

```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-RISC-10</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>RISC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_RISC>3845</Total_RISC>
<List_of_RISC>
<RISC_Form>
<RISC_No>461TH-HY/2014/09-RISC-SUR-20200629-001</RISC_No>
<Source_RISC_No>RISC-SURV-10234</Source_RISC_No>
<Works_Category>Fencing</Works_Category>
<RISC_Form_Status>3</RISC_Form_Status>
<Inspection_Result>1</Inspection_Result>
<Location>Kai Tak Ventilation Building</Location>
<Version_No>1</Version_No>
<Submission_Date>20200701</Submission_Date>
<Planned_Survey_Inspection_Date>20200702</Planned_Survey_Inspection_Date>
<Actual_Survey_Inspection_Date>20200703</Actual_Survey_Inspection_Date>
<Signed_Date>20200705</Signed_Date>
<Counter_Signed_Date>20200705</Counter_Signed_Date>
<Signed_Date_Contractor>20200705</Signed_Date_Contractor>
</RISC_Form>
<RISC_Form>
<RISC_No>461TH-HY/2014/09-RISC-SUR-20200630-001</RISC_No>
<Source_RISC_No>RISC-SURV-10268</Source_RISC_No>
<Works_Category>Fencing</Works_Category>
<RISC_Form_Status>3</RISC_Form_Status>
<Inspection_Result>1</Inspection_Result>
<Location>Kai Tak Ventilation Building</Location>
<Version_No>1</Version_No>
<Submission_Date>20200701</Submission_Date>
<Planned_Survey_Inspection_Date>20200702</Planned_Survey_Inspection_Date>
<Actual_Survey_Inspection_Date></Actual_Survey_Inspection_Date>
<Signed_Date></Signed_Date>
<Counter_Signed_Date></Counter_Signed_Date>
<Signed_Date_Contractor></Signed_Date_Contractor>
</RISC_Form>
<RISC_Form>
<RISC_No>461TH-HY/2014/09-RISC-SUR-20200630-001</RISC_No>
<Source_RISC_No>RISC-SURV-10268</Source_RISC_No>
<Works_Category>Fencing</Works_Category>
<Version_No>2</Version_No>
<RISC_Form_Status>3</RISC_Form_Status>
<Inspection_Result>1</Inspection_Result>
<Location>Kai Tak Ventilation Building</Location>
<Submission_Date>20200701</Submission_Date>
<Planned_Survey_Inspection_Date>20200702</Planned_Survey_Inspection_Date>
<Actual_Survey_Inspection_Date>20200703</Actual_Survey_Inspection_Date>
<Signed_Date>20200705</Signed_Date>
<Counter_Signed_Date>20200705</Counter_Signed_Date>
<Signed_Date_Contractor>20200705</Signed_Date_Contractor>
</RISC_Form>
</List_of_RISC>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-10 An example of XML Representation of Data Requirement of Raw Data of RISC Forms in a period

4.4. Data Requirement of Site Dairy

Number of overdue Site Dairy in a period

4.4.1 This data set aims indicate overdue Site Dairy in a period, which is measured by the difference between the time at which Site Dairy was submitted (this timestamp is generated by the system and cannot be edited) and the time inputted by user in Site Dairy. It is overdue if the difference is equal to or longer than 1 week:

- a) The time at which the Site Dairy was signed by the PMD;
- b) The time at which the Site Dairy was signed by the Contractor Representative; and
- c) The time at which the Site Dairy was signed by the Supervisor.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SD-01
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SD	SD
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of Site Dairy in the period	Number	Y	Multiple versions of the same Site Dairy are counted once only. Only final version is counted	12
Total No. of Overdue Site Dairy by PMD in the period	Number	Y	Sum all Site Dairy where Date Time signed by PMD – date time of Submission \geq 1 week	3
Total No. of Overdue Site Dairy by Contractor Representative in the period	Number	Y	Sum all Site Dairy where Date Time signed by Contractor Representative – date time of Submission \geq 1 week	3
Total No. of Overdue Site Dairy by Supervisor in the period	Number	Y	Sum all Site Dairy where Date Time signed by Supervisor – date time of Submission \geq 1 week	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-15 Number of Overdue Site Dairy in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SD-01</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module> SD </Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_Site_Diary>12</Total_Site_Diary>
<Total_Overdue_PMD>3</Total_Overdue_PMD>
<Total_Overdue_CR>3</Total_Overdue_CR>
<Total_Overdue_SUP>3</Total_Overdue_SUP>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-11 An example of XML Representation of Data Requirement of Number of Overdue Site Diary in a period

Number of completed / in-completed Site Diary in a period

4.4.2 This data set aims indicate the number of completed / in-completed Site Diary in a period. A Site Diary is completed if the following fields are filled in (not blanked):

- a) The time at which the Site Diary was signed by the PMD;
- b) The time at which the Site Diary was signed by the Contractor Representative;
and
- c) The time at which the Site Diary was signed by the Supervisor.

4.4.3 A Site Diary is in-completed if Submission Date and Time is filled in **but the following fields blanked:**

- a) The time at which the Site Diary was signed by the PMD; and/or
- b) The time at which the Site Diary was signed by the Contractor Representative;
and/or
- c) The time at which the Site Diary was signed by the Supervisor.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SD-02
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SD	SD
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of SD in the period	Number	Y	Multiple versions of the same Site Diary are counted once only. Only final version is counted	6
Total No. of Completed SD in the period	Number	Y	Please refer to 4.3.20	3
Total No. of In-Completed SD in the period	Number	Y	Please refer to 4.3.21	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-16 Number of Completed / In-Completed Site Diary in a period

```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SD-02</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SD</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_SD>6</Total_SD>
<Total_Complete_SD>3</Total_Complete_SD>
<Total_Incomplete_SD>3</Total_Incomplete_SD>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-12 An example of XML Representation of Data Requirement of Number of Completed / In-Completed Site Diary in a period

Number of Contractor's Staff, Labour and Plant

4.4.4 Number of Contractor's Staff, Labour and Plant indicates deployment of resources each project. The following table illustrates Data Requirement.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SD-03
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SD	SD
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Count of Contractor Site Staff Type in the period	Number	Y	The count of types of Contractor Site Staff	10
Contractor Site Staff Type	Text	Y	N/A	Site Manager
Number of Contractor Site Staff Type in the period	Number	Y	N/A	3
Count of Labour Type in the period	Number	Y	The count of types of Labour	4
Labour Type	Text	Y	N/A	Bar Bender & Fixer
Number of Labour Type in the period	Number	Y	N/A	40
Count of Equipment Type in the period	Number	Y	The count of types of Equipment	16
Equipment Type	Text	Y	N/A	Backhoe with Breaker
Number of Equipment Type in the period	Number	Y	N/A	19
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-17 Data Requirement of Number of Contractor's Staff, Labour and Plant in a period

```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID>DWSS-SD-03</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SD</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Count_Site_Staff_Type>10</Count_Site_Staff_Type>
<List_of_Site_Staff>
<Site_Staff>
<Contractor_Site_Staff_Type> Site Manager </Contractor_Site_Staff_Type>
<Count_Site_Staff>3</Count_Site_Staff>
</Site_Staff>
<Site_Staff>
<Contractor_Site_Staff_Type> Deputy Project Director</Contractor_Site_Staff_Type>
<Count_Site_Staff>1</Count_Site_Staff>
</Site_Staff>
</List_of_Site_Staff>
<List_of_Labour>
<Labour>
<Contractor_Labour_Type> Electrician </Contractor_Labour_Type>
<Count_Labour>1</Count_Labour>
</Labour>
<Labour>
<Contractor_Labour_Type> Surveying Manager </Contractor_Labour_Type>
<Count_Labour>1</Count_Labour>
</Labour>
</List_of_Labour>
<List_of_Equipment>
<Equipment>
<Contractor_Equipment_Type> Backhoe with Breaker </Contractor_Equipment_Type>
<Count_Equipment>1</Count_Equipment>
</Equipment>
<Equipment>
<Contractor_Equipment_Type> Generator </Contractor_Equipment_Type>
<Count_Equipment>1</Count_Equipment>
</Equipment>
</List_of_Equipment>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-13 An example of XML Representation of Number of Contractor’s Staff, Labour and Plant in a period

Raw data of Site Dairy

4.4.5 Raw data of Site Dairy would be captured for data analytics purpose. The following table illustrates Data Requirement.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SD-04
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SD	SD
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Site Dairy Form Unique Number	Text	Y	Project No-Contract No-Module-Form-YYYYMMDD-System Gen No.	461TH-HY/2014/09-SD-XX-20200629-001
Source Site Dairy Form Number	Text	Y	The Site Diary number stored in the source DWSS. This number is used to match the source Site Diary number when necessary. Different System has different format. The example provided here is for illustration only.	SD-10234
Site Dairy Form Version Number	Number	Y	Only the FINAL Version is needed, interim version is NOT needed	1
Count of Contractor Site Staff Type in the period	Number	Y	The count of types of Contractor Site Staff	10
Contractor Site Staff Type	Text	Y	N/A	Site Manager
Number of Contractor Site Staff Type in the period	Number	Y	N/A	3
Count of Labour Type in the period	Number	Y	The count of types of Labour	4
Labour Type	Text	Y	N/A	Bar Bender & Fixer
Number of Labour Type in the period	Number	Y	N/A	40
Count of Equipment Type in the period	Number	Y	The count of types of Equipment	16
Equipment Type	Text	Y	N/A	Backhoe with Breaker
Number of Equipment Type in the period	Number	Y	N/A	19
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-18 Data Requirement of Raw Data of Site Dairy in a period


```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID>DWSS-SD-04</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SD</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<List_of_SD>
<SD_Form>
<SD_No> HY/2014/09-SD-XX-20200629-001</SD_No>
<Source_SD_No>SD-10234</Source_SD_No>
<Version_No>1</Version_No>
<Submission_Date>20200701</Submission_Date>
<Count_Site_Staff_Type>10</Count_Site_Staff_Type>
<List_of_Site_Staff>
<Site_Staff>
<Contractor_Site_Staff_Type> Site Manager </Contractor_Site_Staff_Type>
<Count_Site_Staff>3</Count_Site_Staff>
</Site_Staff>
<Site_Staff>
<Contractor_Site_Staff_Type> Deputy Project Director</Contractor_Site_Staff_Type>
<Count_Site_Staff>1</Count_Site_Staff>
</Site_Staff>
</List_of_Site_Staff>
<List_of_Labour>
<Labour>
<Contractor_Labour_Type> Electrician </Contractor_Labour_Type>
<Count_Labour>1</Count_Labour>
</Labour>
<Labour>
<Contractor_Labour_Type> Surveying Manager </Contractor_Labour_Type>
<Count_Labour>1</Count_Labour>
</Labour>
</List_of_Labour>
<List_of_Equipment>
<Equipment>
<Contractor_Equipment_Type> Backhoe with Breaker </Contractor_Equipment_Type>
<Count_Equipment>1</Count_Equipment>
</Equipment>
<Equipment>
<Contractor_Equipment_Type> Generator </Contractor_Equipment_Type>
<Count_Equipment>1</Count_Equipment>
</Equipment>
</List_of_Equipment>
</SD_Form>
</List_of_SD>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-14 An example of XML Representation of Data Requirement of Raw Data of Site Dairy in a period

4.5. Data Requirement of Site Safety Inspection Records

Number of completed / in-completed Site Safety Inspection Records in a period

4.5.1 This data set aims indicate the number of completed / in-completed Site Safety Inspection Records in a period. A Site Safety Inspection Record is completed if the following field is filled in (not blanked):

- a) The time at which the Site Safety Inspection Record was signed.

4.5.2 A Site Safety Inspection Record is in-completed if Submission Date and Time is filled in **but the following field blanked**:

- a) The time at which the Site Safety Inspection Record was signed.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-01
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of SSR in the period	Number	Y	Multiple versions of the same Site Safety Inspection Record are counted once only. Only final version is counted	6
Total No. of Completed SSR in the period	Number	Y	Please refer to 4.4.1	3
Total No. of In-Completed SSR in the period	Number	Y	Please refer to 4.4.2	3
Safety Works Category	Text	Y	Please refer to 2.4.3	Excavations
Grand Total No. of SSR of the Safety Works Category in the period	Number	Y		3
Grand Total No. of Completed SSR of the Safety Works Category in the period	Number	Y		2
Grand Total No. of In-Completed SSR of the Safety Works Category in the period	Number	Y		2
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-19 Number of Completed / In-Completed Site Safety Inspection Record in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-01</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_SSR>6</Total_SSR>
<Total_Complete_SSR>3</Total_Complete_SSR>
<Total_Incomplete_SSR>3</Total_Incomplete_SSR>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Grand_Total_SSR>3</Grand_Total_SSR>
<Grand_Total_Complete_SSR>2</Grand_Total_Complete_SSR>
<Grand_Total_Incomplete_SSR>2</Grand_Total_Incomplete_SSR>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Grand_Total_SSR>3</Grand_Total_SSR>
<Grand_Total_Complete_SSR>1</Grand_Total_Complete_SSR>
<Grand_Total_Incomplete_SSR>1</Grand_Total_Incomplete_SSR>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-15 An example of XML Representation of Data Requirement of Number of Completed / In-Completed Site Safety Inspection Record in a period

Number of Non-Compliance of Site Safety Inspection Records / Near Miss Reports / Incident Reports in a period

4.5.3 This data set aims to track the number of non-compliance of Site Safety Inspection Records, near miss reports or incident reports submitted by the Contractor / PDM.

4.5.4 “Non-compliance of Site Safety Inspection Records” is defined as when the box “N” in the Site Safety Inspection Form is ticked or checked.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-02
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of SSR in the period	Number	Y	Multiple versions of the same Site Safety Inspection Record are counted once only. Only final version is counted	18
Total No. of Near Miss SSR in the period	Number	Y	N/A	3
Total No. of Incident Reports SSR in the period	Number	Y	N/A	3
Total No. of Non-Compliance SSR in the period	Number	Y	N/A	3
Safety Works Category	Text	Y	Please refer to 2.4.3	Excavations
Grand Total No. of SSR of the Safety Works Category in the period	Number	Y	N/A	15
Grand Total No. of Near Miss SSR of the Safety Works Category in the period	Number	Y	N/A	2
Grand Total No. of Incident Reports SSR of the Safety Works Category in the period	Number	Y	N/A	2
Grand Total No. of Non-Compliance SSR of the Safety Works Category in the period	Number	Y	N/A	2
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-20 Number of Non-Compliance / Near Miss / Incident Reports of Site Safety Inspection Record in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-02</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_SSR>18</Total_SSR>
<Total_Near_Miss_SSR>3</Total_Near_Miss_SSR>
<Total_Incident_SSR>3</Total_Incident_SSR>
<Total_NC_SSR>3</Total_NC_SSR>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Grand_Total_SSR>15</Grand_Total_SSR>
<Grand_Total_Near_Miss_SSR>2</Grand_Total_Near_Miss_SSR>
<Grand_Total_Incident_SSR>2</Grand_Total_Incident_SSR>
<Grand_Total_NC_SSR>2</Grand_Total_NC_SSR>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Grand_Total_SSR>3</Grand_Total_SSR>
<Grand_Total_Near_Miss_SSR>1</Grand_Total_Near_Miss_SSR>
<Grand_Total_Incident_SSR>1</Grand_Total_Incident_SSR>
<Grand_Total_NC_SSR>1</Grand_Total_NC_SSR>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-16 An example of XML Representation of Data Requirement of Number of Non-Compliance / Near Miss / Incident Reports of Site Safety Inspection Record in a period

Accident Rate in a period

4.5.5 This data set aims to track the accident rate reported by the Contractor/ PDM.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-03
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Accident Rate Per 100,000 man-hours in the period	Number (9,2)	Y	N/A	0.03
Accident Rate per 1,000 workers in the period	Number (9,2)	Y	N/A	0.02
Safety Works Category	Text	Y	Please refer to 2.4.3	Excavations
Accident Rate Per 100,000 man-hours of the Safety Works Category in the period	Number (9,2)	Y	N/A	0.03
Accident Rate per 1,000 workers of the Safety Works Category in the period	Number (9,2)	Y	N/A	0.02
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-21 Accident Rate of Site Safety Inspection Records in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-03</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Acc_Rate_Per_100K_Manhours>0.03</Acc_Rate_Per_100K_Manhours>
<Acc_Rate_Per_10K_Workers>0.02</Acc_Rate_Per_10K_Workers>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Acc_Rate_Per_100K_Mhours>0.03</Acc_Rate_Per_100K_Mhours>
<Acc_Rate_Per_10K_Wkers>0.02</Acc_Rate_Per_10K_Wkers>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Acc_Rate_Per_100K_Mhours>0.03</Acc_Rate_Per_100K_Mhours>
<Acc_Rate_Per_10K_Wkers>0.02</Acc_Rate_Per_10K_Wkers>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-17 An example of XML Representation of Accident Rate of Site Safety Inspection Records in a period

Number of Safety Convictions in a period

4.5.6 This data set aims to track the number of safety convictions reported by the Contractor/ PDM.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-04
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of SSR in the period	Number	Y	Multiple versions of the same Site Safety Inspection Record are counted once only. Only final version is counted	18
Total No. of Safety Convictions in the period	Number	Y	N/A	3
Safety Works Category	Text	Y	Please refer to 2.4.3	Excavations
Grand Total No. of SSR of the Safety Works Category in the period	Number	Y	N/A	15
Grand Total No. of Safety Convictions of the Safety Works Category in the period	Number	Y	N/A	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-22 Number of Safety Convictions of Site Safety Inspection Record in a period


```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-04</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_SSR>18</Total_SSR>
<Total_Safe_Convict_SSR>3</Total_Safe_Convict_SSR>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Grand_Total_SSR>15</Grand_Total_SSR>
<Grand_Total_Safe_Convict_SSR>2</Grand_Total_Safe_Convict_SSR>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Grand_Total_SSR>3</Grand_Total_SSR>
<Grand_Total_Safe_Convict_SSR>1</Grand_Total_Safe_Convict_SSR>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-18 An example of XML Representation of Data Requirement of Number of Safety Convictions of Site Safety Inspection Records in a period

Average Elapsed Time of Site Safety Inspection Records in a period

4.5.7 This data set aims to track the average elapsed time (in days) from submission to completion of all Site Safety Inspection Records of a Project / Contract. Public Holiday and Non-Working Days are not excluded.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-05
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of Site Safety Inspection Records in the period	Number	Y	Multiple versions of the same Site Safety Inspection Record are counted once only	140
Average Days of Completion of all Site Safety Inspection Records in the period (Completion Date (Last Version) – First Submission Date)	Number (9,2)	Y	Ditto	10.32
Safety Works Category	Text	Y	Please refer to 2.4.3	Excavations
Grand Total No. of SSR of the Safety Works Category in the period	Number	Y	N/A	15
Average Days of Completion of all Site Safety Inspection Records of the Safety Works Category in the period (Completion Date (Last Version) – First Submission Date)	Number (9,2)	Y	N/A	10.32
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-23 Data Requirement of Average Elapsed Time of Site Safety Inspection Records in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-05</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_Site_Safety_Inspection_Record>140</Total_Site_Safety_Inspection_Record>
<Av_Days_Complete>10.32</Av_Days_Complete>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Grand_Total_SSR>125</Grand_Total_SSR>
<Grand_Av_Days_Complete>10.32</Grand_Av_Days_Complete>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Grand_Total_SSR>15</Grand_Total_SSR>
<Grand_Av_Days_Complete>10.32</Grand_Av_Days_Complete>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-19 An example of XML Representation of Data Requirement of Average Elapsed Time of Site Safety Inspection Records in a period

Number of Late Rectification in a period

4.5.8 This data aims to track the number of late rectification recorded in the Site Safety Inspection Records. “Late Rectification” is defined as when the “date completed” on the form is later than the “agreed date for completion” on the form for more than 3 days. This statistic can indicate the works efficiency of the Contractor.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-SSR-06
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	SSR	SSR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of SSR in the period	Number	Y		18
Total No. of Late Rectification of SSR in the period	Number	Y	N/A	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Figure 4-20 Data Requirement of Total No. of Late Rectification in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-SSR-06</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>SSR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_SSR>18</Total_SSR>
<Total_Late_Retification_SSR>3</Total_Late_Retification_SSR>
<List_of_Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Excavations</Safety_Works_Category_Desc>
<Grand_Total_SSR>15</Grand_Total_SSR>
<Total_Late_Retification_SSR>2</Total_Late_Retification_SSR>
</Safety_Works_Category>
<Safety_Works_Category>
<Safety_Works_Category_Desc>Scaffolding</Safety_Works_Category_Desc>
<Grand_Total_SSR>3</Grand_Total_SSR>
<Total_Late_Retification_SSR>1</Total_Late_Retification_SSR>
</Safety_Works_Category>
</List_of_Safety_Works_Category>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-21 An example of XML Representation of Total No. of Late Rectification in a period

4.6. Data Requirement of Cleansing Inspection Records

Number of completed / in-completed Cleansing Inspection Records in a period

4.6.1 This data set aims indicate the number of completed / in-completed Cleansing Inspection Records in a period. A Cleansing Inspection Record is completed if the following fields are filled in (not blanked):

- a) The time at which the Cleansing Inspection Record was signed by the Contractor's representative.
- b) The time at which the Cleansing Inspection Record was signed by and the Employer's Representative.

4.6.2 A Cleansing Inspection Record is in-completed if Submission Date and Time is filled in **but the following field blanked:**

- a) The time at which the Cleansing Inspection Record was signed by Technical Manager; and/or
- b) The time at which the Cleansing Inspection Record was signed by ER; and/or
- c) The time at which the Cleansing Inspection Record was signed by Site Agent.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-CIC-01
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	CIC	CIC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of CIC in the period	Number	Y	Multiple versions of the same Cleansing Inspection Record are counted once only. Only final version is counted	6
Total No. of Completed CIC in the period	Number	Y	Please refer to 4.5.1	3
Total No. of In-Completed CIC in the period	Number	Y	Please refer to 4.5.2	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-24 Number of Completed / In-Completed Cleansing Inspection Record in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-CIC-01</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>CIC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_CIC>6</Total_CIC>
<Total_Complete_CIC>3</Total_Complete_CIC>
<Total_Incomplete_CIC>3</Total_Incomplete_CIC>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-22 An example of XML Representation of Data Requirement of Number of Completed / In-Completed Cleansing Inspection Record in a period

Number of Non-Compliance of Cleansing Inspection Records in a period

- 4.6.3 This data set aims to track the number of non-compliance of Cleansing Inspection Records.
- 4.6.4 “Non-compliance of Cleansing Inspection Records” is defined as when the “Status” box is marked with “X”.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-CIC-02
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	CIC	CIC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of CIC in the period	Number	Y	Multiple versions of the same Cleansing Inspection Record are counted once only. Only final version is counted	18
Total No. of Non-Compliance CIC in the period	Number	Y	N/A	3
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-25 Number of Non-Compliance of Cleansing Inspection Records in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-CIC-02</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>CIC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_CIC>18</Total_CIC>
<Total_NC_CIC>3</Total_NC_CIC>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-23 An example of XML Representation of Data Requirement of Number of Non-Compliance of Cleansing Inspection Records in a period

Average Elapsed Time of Cleansing Inspection Records in a period

4.6.5 This data set aims to track the average elapsed time (in days) from submission to completion of all Cleansing Inspection Records of a Project / Contract. Public Holiday and Non-Working Days are not excluded.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-CIC-03
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	CIC	CIC
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total No. of Cleansing Inspection Records in the period	Number	Y	Multiple versions of the same Cleansing Inspection Records are counted once only	140
Average Days of Completion of all Cleansing Inspection Records in the period (Completion Date (Last Version) – First Submission Date)	Number (9,2)	Y	Ditto	10.32
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-26 Data Requirement of Average Elapsed Time of Cleansing Inspection Records in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-CIC-03</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>CIC</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_Cleansing_Inspection_Record>140</Total_Cleansing_Inspection_Record>
<Av_Days_Complete>10.32</Av_Days_Complete>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Table 4-27 An example of XML Representation of Data Requirement of Average Elapsed Time of Cleansing Inspection Records in a period

4.7. Labour Return Statistics

Labour Return Statistics – No. of Labours Employed in a period

4.7.1 This data set aims to show the number of labours employed in a period.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-LRR-01
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	LRR	LRR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Total Number of Labour Employed in the period	Number	Y	N/A	3609
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-28 No. of Labours Employed in a period

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-LRR-01</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>LRR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<Total_Labour>3609</Total_Labour>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>
```

Figure 4-24 An example of XML Representation of No. of Labours Employed in a period

Labour Return Statistics – Wage Rates of Workers & No. of Workers per Trade in a period

4.7.2 This data set aims to show the wage rates of workers & No. of Workers per Trade in a period.

Data Field	Data Type	Mandatory (Y/N)	Format / Mask	Example
Dataset ID	Text	Y	N/A	DWSS-LRR-02
Project No	Text	Y	N/A	461TH
Contract No.	Text	Y	N/A	HY/2014/09
Module	Text	Y	LRR	LRR
Period From	Date	Y	YYYYMMDD	20200701
Period To	Date	Y	YYYYMMDD	20200707
Trade Code	Text	Y	N/A	Carpenter
Average number of workers of the trade in the period	Number	Y	XX	2468
Count of Worker Types in the period	Number	Y	The count of types of Workers in a Trade	30
Worker Code	Text	Y	N/A	C304
Worker Description	Text	Y	N/A	Bar Bender & Fixer
Number of Worker in the period	Number	Y	XX	128
Average Wage in the period	Number (9,2)	Y	XX.00	36798.14
Highest Wage in the period	Number (9,2)	Y	XX.00	40593.00
Lowest Wage in the period	Number (9,2)	Y	XX.00	32984.00
Timestamp – the date when this data set is transferred to iCWP	Datetime	Y	YYYY-MM-dd HH:mm:ss	2020-07-08 00:35:01

Table 4-29 Wage Rates of Workers & No. of Workers per Trade in a period

```

<?xml version = "1.0" encoding = "UTF-8" standalone = "no" ?>
<DWSS>
<Dataset_ID> DWSS-LRR-02</Dataset_ID>
<Project_Number>461TH</Project_Number>
<Contract_Number>HY/2014/09</Contract_Number>
<Module>LRR</Module>
<Period_From>20200701</Period_From>
<Period_To>20200707</Period_To>
<List_of_Trade_Code>
<Trade>
<Trade_Code>Carpenter</Trade_Code>
<Average_No_Workers_Trade>2468</Average_No_Workers_Trade >
<Count_Worker_Type>30</Count_Worker_Type>
<List_of_Worker_Type>
<Worker_Type>
<Worker_Code>C304</Worker_Code>
<Worker_Desc> Bar Bender and Fixer </Worker_Desc>
<Count_Worker>128</Count_Worker>
<Average_Worker_Wage>36798.14</Average_Worker_Wage>
<Highest_Worker_Wage>40593.00</Highest_Worker_Wage>
<Lowest_Worker_Wage>32984.00</Lowest_Worker_Wage>
</Worker_Type>
</List_of_Worker_Type>
</Trade>
<Trade>
<Trade_Code> Concretor </Trade_Code>
<Average_No_Workers_Trade>2472</Average_No_Workers_Trade >
<Count_Worker_Type>10</Count_Worker_Type>
<List_of_Worker_Type>
<Worker_Type>
<Worker_Code>C309</Worker_Code>
<Worker_Desc> Concretor </Worker_Desc>
<Average_Worker_Wage>43752.67</Average_Worker_Wage>
<Highest_Worker_Wage>48593.00</Highest_Worker_Wage>
<Lowest_Worker_Wage>37984.00</Lowest_Worker_Wage>
</Worker_Type>
</List_of_Worker_Type>
</Trade>
</List_of_Trade_Code>
<Timestamp>2020-07-08 00:30:01</Timestamp>
</DWSS>

```

Figure 4-25 An example of XML Representation of Wage Rates of Workers & No. of Workers per Trade in a period

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions and Recommendations

- 5.1.1 This Data Standardisation Report defines the datasets which will be transferred from DWSS to iCWP in future.
- 5.1.2 Protocol (e.g. API / Webservices etc.), upload frequency, data validation, data format, application handshaking approach, exception handling mechanism and workflow, security design (e.g. password changing mechanism, whether to adopt certificate for authentication, etc.), and Disaster Recovery (DR) procedures will be confirmed in subsequent stage by System Interface Specifications.
- 5.1.3 Data Standardisation is a continuous exercise and it needs to be reviewed regularly to ensure that new data could be fed to iCWP when data are available.

Appendix A

Request for Inspection Check Form

To: The *Supervisor*,

(Attention: _____) RISCF No.: _____ Rev. _____

The following works is expected to be ready for your inspection / testing / checking:

(1) Location, portion, chainage, level of works:

(2) Works (foundation, reinforcement, formwork) to be Inspected / tested / checked: (3) Works Category:

_____ at _____ on _____ before proceeding to the next operation of
(time) (date)

Select your answer	▼
General	
Site Clearance	
Landscape Softworks and Establishment Works	
Fencing	
Drainage Works	
Earthworks	
Geotechnical Works	

Check general cleaning _____

which is scheduled for _____ (time) _____ (date) using the following Equipment : _____

Issued by the Contractor : _____ (time) _____ (date) by _____

(Signature)

Received by RE/IOW : _____ (time) _____ (date) by _____

(Signature)

To: Site Agent,

(Attention: _____) Inspected at _____ by _____

There is no objection to you proceeding with the work.

The following deficiencies have been noted.

The giving of this information and this inspection shall not relieve the Contractor of any liabilities or obligations under this contract.

Form returned and signed by _____ (time) _____ (date) by [] []

(Signature)

#Countersigned by the RE _____ (time) _____ (date) by [] []

(Signature)

Form received and signed by the Contractor _____ (time) _____ (date) by [] []

(Signature)

Attachment

RISC No. _____

REV. _____

- by

Time

- by

Time

Request for Survey Check Form

To: The *Supervisor*,

(Attention: _____) RISCF No.: _____ Rev. _____

The following survey is expected to be ready for your checking :

(1) Location, portion, chainage, level of works:

(2) Survey to be checked:

at _____ on _____ before proceeding to the next operation of
(time) (date)

(3) Works Category:

Select your answer	▼
General	
Site Clearance	
Landscape Softworks and Establishment Works	
Fencing	
Drainage Works	
Earthworks	
Geotechnical Works	

which is scheduled for _____ (time) _____ (date) using the following Equipment : _____

Issued by the Contractor : _____ (time) _____ (date) by _____ []

(Signature)

Received by LS/SSO(E)/SO(E) : _____ (time) _____ (date) by _____ []

(Signature)

To: Site Agent,

(Attention: _____) surveyed at _____ by _____

There is no objection to you proceeding with the work.

The following deficiencies have been noted.

The giving of this information and this inspection shall not relieve the Contractor of any liabilities or obligations under this contract.

Form returned and signed by _____ (time) _____ (date) by _____ [] []

(Signature)

#Countersigned by the RE _____ (time) _____ (date) by _____ [] []

(Signature)

Form received and signed by the Contractor _____ (time) _____ (date) by _____ [] []

(Signature)

Appendix A1

Appendix A1 - RISC Works Categories

Category	Section	Description
Civil	1	General
	2	Site Clearance
	3	Landscape Softworks and Establishment Works
	4	Fencing
	5	Drainage Works
	6	Earthworks
	7	Geotechnical Works
	8	Piling Works
	9	Carriageways: Sub-base Material and Bituminous Material
	10	Concrete Carriageway
	11	Miscellaneous Roadworks
	12	Traffic Signs, Road Markings and Road Stubs
	13	Works for Electrical and Mechanical Installations
	14	Formwork and Finishes to Concrete Materials
	15	Steel Reinforcement
	16	Concrete and Joints in Concrete
	17	Prestressing
	18	Steelwork
	19	Handrailing, Ladders, Stairs and Flooring
	20	Bridgeworks
	21	Marine Works
	22	Water Supply Pipeworks
	23	Water Retaining Structures
	24	Building Works
	25	Environmental Protection
	26	Preservation and Protection of Trees
	27	Others
	28	Survey
Buildings	1	Preliminaries
	2	Demolition, Site Clearance & Alterations
	3	Excavation & Earthwork
	4	Steel Sheet Piling Work
	5	Piling Work
	6	Structural Concrete Work
	7	Prestressed Concrete Work
	8	Concrete for Minor & Non- structural Work
	9	Brickwork & Blockwork
	10	Masonry
	11	Tanking
	12	Roofing
	13	Carpentry & Joinery
	14	Ironmongery
	15	Structural Steel Work
	16	Curtain Walls
	17	Metal Work
	18	Finishes
	19	Sanitary Appliances
	20	Glazing
	21	Painting
	22	Internal Fittings and Fixtures
	23	Plumbing and Drainage
	24	External Works
	25	Landscape Work
	26	Geotechnical Works and Soil and Rock Slopes
	27	Others
	28	Survey
E&M	1	Fire Services
	2	Ventilation
	3	Plumbing and Drainage
	4	Lift and Escalator
	5	Signalling and Communication
	6	Electrical Installation
	7	Others
	8	Survey

Appendix B

Contract No.:

Date: _____

Day: _____

Contract Date: _____

SITE DIARY

Client Department:

Contractor:

Idling Code			
a Breakdown			e Bad Weather
b Surplus			f Task Completed
c Awaiting Instruction			g No Operator
d Assemble/Disassemble			h Not Required

(To be insert)

Area	Location	SubLocation	Activity	Labour				Equipment					Remarks		
				Trade	Code	No	Working Hour	Type	ID	Working No	Idling No	Idling Code		Working Hour	

Signed: _____

Project Manager Delegate

Name/Post: _____

Date: _____

Signed: _____

Contractor's Representative

Name/Post: _____

Date: _____

Signed: _____

Supervisor

Name/Post: _____

Date: _____

Daily record and instruction checked and agreed

Appendix C

Safety Inspection Checklist

Weekly Site Safety Inspection Checklist

Contract No.: _____

Contract Title: _____

Date: _____ Time: _____

No.	Item Description	Y	N	NA	Agreed date for completion	Date completed	Rectification Status
1	General						
1.1	<i>Insert item</i>						
2	Flammable Liquids/ Gases						
2.1	<i>Insert item</i>						
3	Hazardous Substances						
3.1	<i>Insert item</i>						
4	Electricity						
4.1	<i>Insert item</i>						
5	Fire Precaution						
5.1	<i>Insert item</i>						
6	Working Area						
6.1	<i>Insert item</i>						
7	Lifting Operation						
7.1	<i>Insert item</i>						
8	Material Hoist						
8.1	<i>Insert item</i>						
9	Confined Spaces						
9.1	<i>Insert item</i>						
10	Noise						
10.1	<i>Insert item</i>						
11	Gas Welding and Cutting Equipment						
11.1	<i>Insert item</i>						
12	Electricity-arc Welding						
12.1	<i>Insert item</i>						

13	Mechanical Plant and Equipment						
13.1	<i>Insert item</i>						
14	Tunnel						
14.1	<i>Insert item</i>						
15	Formwork						
15.1	<i>Insert item</i>						
16	Hoarding						
16.1	<i>Insert item</i>						
17	Working at Height						
17.1	<i>Insert item</i>						
18	Abrasive Wheels						
18.1	<i>Insert item</i>						
19	Excavations						
19.1	<i>Insert item</i>						
20	Slings and other Lifting Gears						
20.1	<i>Insert item</i>						
21	Compressed Air/ Pneumatic Air Tools						
21.1	<i>Insert item</i>						
22	Protection of the Public						
22.1	<i>Insert item</i>						
23	Prevention of Mosquito Breed						
23.1	<i>Insert item</i>						
24	Work Over Water						
24.1	<i>Insert item</i>						
25	Welfare Facilities						
25.1	<i>Insert item</i>						

Remarks: Y – Compliance. /N – Generally in Compliance but improvement is required. / NS – Not Sometime./ NA- Not Applicable

Safety Environmental Photo Record

Weekly Site Safety Inspection Checklist

Date of Inspection:

Time:

Item No	Item Description	Y	N	NA	Agreed date for completion	Date completed	Rectification Status
Photo (Before)				Photo (After)			
Location: Finding:				Following Action Taken:			
Photo (Before)				Photo (After)			
Location: Finding:				Following Action Taken:			

--	--	--	--	--	--	--

Photo (Before)	Photo (After)
<p style="text-align: center;">Location:</p> <p style="text-align: center;">Finding:</p>	<p style="text-align: center;">Following Action Taken:</p>

--

--	--	--	--	--	--	--

Photo (Before)	Photo (After)
<p style="text-align: center;">Location:</p> <p style="text-align: center;">Finding:</p>	<p style="text-align: center;">Following Action Taken:</p>

<p>Name:</p> <p>Date:</p>

Appendix D

Daily Cleaning Inspection Checklist

Contract No:	Inspection No. 檢查編號		
Contract Title:	Inspection Date 檢查日期		
Location:	Time 時間		
Items to be checked 檢查項目	Inspection Time 檢查時間	Photo 照片 (Y有/N無)	Remark 備註
1. Maintenance of passageways, common accesses & public areas are free of obstruction 保持通道，公共通道及公眾地方沒有阻塞	Status: Action:		
2. Proper storage & stacking of materials 物料存放穩固及適當儲存	Status: Action:		
3. Proper placement & storage of tools & equipment after work 工具和設備在每日完工後適當地放置及儲存	Status: Action:		
4. Proper sorting, storage and/or disposal of waste materials in accordance with WMP 根據廢物處理計劃書將廢物適當地分類，儲存和/或棄置	Status: Action:		
5. Proper securing of hoarding, barriers, guarding, lighting and signage of Works 提供適當及穩固的圍街板，圍欄，防護網和照明及張貼有關告示標誌	Status: Action:		
6. Prevention & removal of water ponds and flooding 防止及清除積水與水浸	Status: Action:		
7. Cleaning of stockpiling and wastes arising from the Works 清理因工程堆積過多的廢料	Status: Action:		
8. Condition of cleanliness and tidiness of the site including Public Cleaning Area in the perspective of the general public 地盤範圍包括會對公眾構成影響的地方之清潔和整潔狀況	Status: Action:		
9. Control of mosquitoes and removal of stagnant water 控制蚊蟲滋生及清除積水	Status: Action:		
10. Keep Traffic Cone clean and in orderly manner 保持雪糕筒之整潔	Status: Action:		
11. Other Cleaning requirements as instructed by RE 駐地盤工程師其他清潔指示	Status: Action:		

Status Legend (檢查結果代號): (S)- Satisfactory (可接受)

(X)- Need Improvement (需要改善，再檢查)

(NA)- Not Applicable (不適用)

Name of Inspector:

Joint site inspection before the noon of the day following the cleaning day

檢查人員姓名：

於清潔日之翌日中午前進行聯合地盤視察

(Appointed person by _____)

(_____) Technical Manager

(ER 工程師代表)

(Site Agent 地盤代表)

Date:

(_____) AIOW

(_____) Project Manager

日期：

(Date 日期)

(Date 日期)

Daily Cleaning Inspection Checklist

Inspection No. 検査編號: _____

Inspection Date 検査日期: _____

Photo 1	Photo 2	Photo 3

Appendix E

