

Winnipeg Sewage Treatment Program Integrated Management System



WSTP Technical Document Numbering System

DOCUMENT NUMBER: CD-RC-PC-01

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1. SCOPE OF THE DOCUMENT

This document is a procedure that implements a new technical documents numbering system for design of the major upgrades of the wastewater facilities under the scope of the Winnipeg Sewage Treatment Program. It will facilitate the integration of documents in a facility oriented documents management system.

This procedure will be implemented progressively to the Program facilities during the major upgrades as most of the facility technical documents will be revised or created during the upgrade and expansion works.

The phasing of implementation is governed by procedure CD-RC-PC-02 WSTP Technical Document Numbering Systems Management Procedure.

2. STRUCTURE OF THE TECHNICAL DOCUMENT NUMBERING SYSTEM (TDNS)

The Technical Document Numbering System defines a string of multiple fields used to create an informative document number for facilities technical documents.

The organization, structure and coding of the TDNS is derived from the City Drawing Standard numbering system, with some additions and/or changes introduced to fulfill the system objectives. These are explained in the following sections.

Table 1 shows the TDNS.

N= numeral, L= Letter, C= character (i.e. =N or L).

	Document Number							Additional information							
Field	Source Code		Facility Code		Discipline Code	Document Type		Process Area	Document Number		Sheet Number		Revision Number		Document Size
Data	C		NNNN		L	LLL		LN	NN		CCC		LN or NN		L or LN
Ex:	1	-	0102	-	C	GAD	-	A1	01	-	001	-	D1	-	A1

Table 1: TDNS structure

3. DEFINITION OF TDNS FIELDS

3.1 Document Number Elements

3.1.1 Source Code (C)

This field is a one digit field.

Source Codes
1 Design drawings
2 Manufacturer’s drawings
3 Construction drawings (temporary)
4 Demolition drawings
A Design documents
B Manufacturer’s documents
C Construction documents (temporary)

Table 2: Source Codes

3.1.2 Facility Code (NNNN)

The TDNS uses the same facility codes as the Drawing Standard numbering system, and in addition introduces the code “0100” as a virtual facility for Program standard documents that are not specific to a particular facility.

WSTP Facilities List:

0100 to 0109 – Wastewater Treatment Facilities

- 0100 – **WST** Program standard documents (not specific to a site),
- 0101 – North Plant,
- 0102 – South Plant,
- 0103 – West Plant

(Other facilities codes for facilities not included in the Program do not pertain to this document).

3.1.3 Discipline Code (L)

The disciplines are as per Table 3:

Disciplines
A Automation-Instrumentation and Control
B Building-Architectural
C Civil
D General
E Electrical
M Mechanical – <i>Includes HVAC/Plumbing</i>
O Operations
P Process (<i>Process and Process Mechanical</i>)
S Structural
Y Commissioning

Table 3: Discipline Codes

3.1.4 Document Type (LLL)

(a) Table applicable for Source Codes:

- 1 Design drawings
- 2 Manufacturer's drawings
- 3 Construction drawings (temporary)
- 4 Demolition drawings

Discipline Codes												
A	B	C	D	E	M	O	P	S	Y			
Automation / Instrumentation and Control	Building/Architectural	Civil	General	Electrical	Mechanical	Operations	Process	Structural	Commissioning	Total count	Document Type: Drawing	Code
1	1	1	1	1	1	1		1	1	9		General Arrangement drawing (including section views)
1				1					1	3	Block diagram	BDG
1				1					1	3	Wiring / connection diagram	WDG
1				1	1				1	4	Installation drawing	IDW
		1							1	2	Layout	LYT
				1					1	2	Earthing/grounding	GRD
1				1						2	Cable routing	CRT
				1					1	2	Single line diagram	SLD
				1					1	2	Three-line diagram	TLD
				1					1	2	Terminal drawing	TDW
1				1					1	3	Cable drawing	CDW
1				1					1	3	MCC / cabinets drawing	CBD
1				1						2	Cable trays	CTR
		1								1	Survey	SVY
		1								1	Environmental	ENV
		1								1	Landscaping	LSC
		1								1	Roads and sidewalks	RSW
		1								1	Fencing	FNC
		1								1	Drains	DRN

Discipline Codes												
A	B	C	D	E	M	O	P	S	Y			
Automation / Instrumentation and Control	Building/Architectural	Civil	General	Electrical	Mechanical	Operations	Process	Structural	Commissioning	Total count	Document Type: Drawing	Code
		1								1		Utilities
					1				1	2	Piping isometrics	ISO
							1		1	2	PID	PID
						1	1		1	3	PFD	PFD
							1		1	2	Hydraulic line	HYD
								1		1	Foundation drawings	FDW
								1		1	Reinforcement drawing	RDW
								1		1	Form drawings.	SDW
								1		1	Structural steel dwg	SST
								1		1	Precast concrete dwg	PCC
	1									1	Fixture and furniture dwg	FAF
1	1	1	1	1	1		1	1	1	9	Demolition Drawings	DEM
1	1	1	1	1	1	1	1	1	1	10	Discipline Specific Schedules – Door/Hardware/Luminaire/ HVAC etc	SCH
1	1	1	1	1	1	1	1	1	1	10	Discipline Specific Standard details	DTL
	1	1	1	1	1		1	1		7	3D Models	MOD
	1	1	1	1	1		1	1		7	Master/Extraction Files	MST
1				1					1	3	Motor Control ((Includes, motor starter schematics and connection diagrams)	MCL
1									1	2	Instrumentation Loop Diagrams	ILD
				1						1	Lighting Drawings (Plan and schematics)	LTG
				1		1			1	3	Hazardous Location Classification (Plans / Sections)	HLC
1				1						2	Networking	NET
				1						1	Fire Alarm	FAS
				1						1	Security	SCY

Table 4: distribution of drawings types by discipline.

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(b) Table applicable for Source Codes:

- A Design documents
- B Manufacturer’s documents
- C Construction documents (temporary)

Discipline Codes													
A	B	C	D	E	M	O	P	S	Y				
Automation / Instrumentation and Control	Building/Architectural	Civil	General	Electrical	Mechanical	Operations	Process	Structural	Commissioning	Total count	Document Type: non-drawing technical document	Code	
						1				1		Area Manual	AMA
						1				1		Asset Register	ASR
1				1						2		Cable Schedule	CSC
1	1	1	1	1	1		1	1	1	9		Calculations	CLC
	1	1	1		1					3		Code Analysis	CDA
1										1		Control Table	CTB
1	1	1	1	1	1		1	1	1	9		Data Sheet	DTS
1	1	1	1	1	1		1	1	1	9		Design Notes	DSN
1	1	1	1	1	1		1	1	1	9		Design Plan	DSP
1	1	1	1	1	1		1	1	1	9		Design Report	PDR
1	1	1	1	1	1	1	1	1	1	10		Documents list	LDC
			1							1		Drawings list	LDW
						1				1		Emergency Operating Procedure	EOP
							1			1		Fluids list	LFL
1										1		Functional Requirement Specification	FRS
1										1		Input /Output list Process Logic Controller	LIO
1	1	1	1	1	1	1	1	1	1	1		Asset List	LAS
						1				1		Operating and Maintenance Manual	OMM
						1				1		Operating Safe Work Procedure	OSW
						1				1	Operations Job Hazard Assessment	OJH	
						1				1	Operations Lockout/Tagout	TOP	

Discipline Codes													
A	B	C	D	E	M	O	P	S	Y				
Automation / Instrumentation and Control	Building/Architectural	Civil	General	Electrical	Mechanical	Operations	Process	Structural	Commissioning	Total count	Document Type: non-drawing technical document	Code	
												Procedure	
							1					Process Control Narrative	PCN
1	1	1	1	1	1		1	1	1	9		Schedule of Material	SMT
1	1	1	1	1	1		1	1	1	9		Sketch	SKT
1	1	1	1	1	1		1	1	1	9		Specification	SPC
						1				1		Standard Operating Procedure (SOP)	SOP
		1	1	1								Survey Report	SUR
1	1	1	1	1	1		1	1	1	9		Technical Assessment	TAS
1	1	1	1	1	1		1	1	1	9		Technical Memorandum	TMO
						1				1		Training Material	TRN
			1			1						Work Shop Report	WSR

Table 5: distribution of non-drawing technical documents types by discipline

3.1.5 Process Area (LN)

Process area is composed of 2 digits consisting of an area code and a process code.

Area Code is a letter and refers to a specific location in the Facility. It is a similar code as the one used in the City Equipment Identification Standard Doc code 510276-0000-40ER-0002).

The Process Code is a number and refers to a specific process within each area. The Process Codes may be different for different areas.

For the SEWPCC refer to the document CD-RC-RF-02 SEWPCC Process Areas.

NEWPCC and WWPCC process areas for future works will be developed at a later time (Ref: CD-RC-PC-02 WSTP Technical Document Numbering Systems Management Procedure)

3.1.6 Document Number (NN)

The document number is 2 digits for chronological numbering.

3.2 Additional Information Elements

The additional information data should be included as part of the document identification system when added to the document itself but does not need to be used as part of the numbering convention unless necessary for tracking of revision and status. This information should be attached as metadata when supported by the document management system (DMS).

3.2.1 Sheet Number (CCC)

The sheet number is a three character field used for multiple sheet drawings (including electrical drawings), example 001, 002, etc.

For non-drawing technical documents, the number of sheets is not relevant (because these documents will be managed as a whole). In future, it is envisioned that this field may be used to link the document to an asset or a group of assets with a 3 character code (CCC), numbers or letters. Currently for non-drawing technical documents the default value is 000.

3.2.2 Revision number (LN / NN)

The revision number can be either a combination of status and revision or just a revision number depending on the phase.

Up to the “Detailed Design” status the revision number consists of a letter and a number/letter, where the letter identifies the stage of the project and the number/letter represents the revision (0 to 9 and A to Z).

“For Construction” and “As-built” drawings should be released as revision 00, and every change thereafter would be identified as a two digit number, i.e. 01, 02 to 99.

Revision number	Description
A0-A9	Conceptual Design
B0-B9	Preliminary Design
D0-D9	Detailed Design
00 - 99	For Construction and As-Built Revisions
Z0-Z9	TBD

Table 6 Revision number Codes

3.2.3

Document Size (L/LN)

- A. 8.5 x 11 Inches (215.9 x 279.4 mm)
- B. 11 x 17 Inches (279.4 x 431.8 mm)
- A2. 420 x 594 mm (16.5 x 23.4 Inches)
- A1. 594 x 841 mm (23.4 x 33.1 Inches)
- B1. 707 x 1000 mm (27.8 x 39.4 Inches)
- A0. 841 x 1189 mm (33.1 x 46.8 Inches)

Nota:

- 1/ sizes refer to true ANSI Engineering or true ISO formats
- 2/ dimensions in brackets indicate approximate measurement
- 3/ for drawings not marked as “not to scale”, it is recommended that a scale bar be included in the drawing to avoid any confusion due to the actual format of reproduction of the document.

4. REFERENCING TECHNICAL DOCUMENTS

Technical documents can be referenced within the body of any base document.

When referenced in a base document, the first 2 fields (source code and facility code) of the document that are common to the base document are optional. Additional information fields are not indicated.

5. ELECTRONIC FILE NAME

The electronic file name of a technical document is identical to the Technical Document number followed by an extension. Fields separators are the dash (-) key. Bid opportunity or purchase order number is a temporary field included at the beginning of the document name and will no longer be required after implementation of the DMS).

Additional information elements:

- Sheet number is optional, and is to be used only when information is relevant.
- Revision number is mandatory.
- Size is not included in the electronic file name.

a) Technical document:

ex: 682-2012-1-0102-CGAD-B601-B1

or 682-2012-1-0102-CGAD-B601-001-B1 (if sheet information is relevant)

Bid Op N# 682-2012, design drawing, SEWPCC civil, general arrangement drawing process area, Service Building and Existing Chemical Storage Building, Process code: HVAC and Odour, document 01, sheet 001, first revision in Preliminary Design phase.

b) Naming of technical documents for attachment to Tender

When including a technical document on the Material Management web site for tender, the same TDNS format is used within the Materials Management naming convention formats (refer to Material Management document “Bid opportunity document file naming convention) adapted as in the following example;

####-YYYY_Drawing_1-0102-CGAD-B601-RB1.pdf

for drawing No: 1-0102-CGAD-B601-B1, Where

- the string “####-YYYY_Drawing_” must be inserted before the technical document number (#### for Bid Op number and YYYY for year, separated by a dash),
- the technical document revision number must be preceded by capital letter “R”,
- “.pdf” is the file extension

When the document sheet number is relevant, the latter is inserted after the document number and before the revision number in between dashes. The format “_Sht#” is not to be used.

ex: ####-YYYY_Drawing_1-0102-CGAD-B601-001-RB1.pdf

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