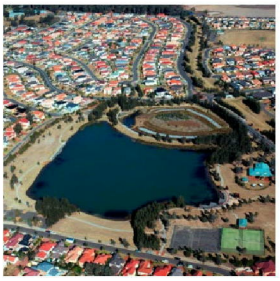

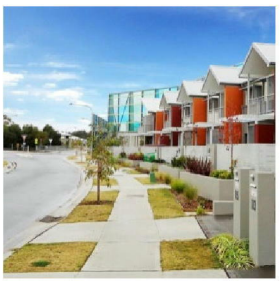

SUSTAINABLE CERTIFICATION
ISO9001:2008
AS/NZS 4801:2001
ISO 14001:2004
Endorsed
Integrated Management System

Jordan Springs Stage 1 – Residential

Operation & Maintenance Manual

lendlease

February, 2019

J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

Document Control

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1 INTRODUCTION

This Operation and Maintenance Manual has been prepared to address development consent conditions 30 and 46 of Penrith City Council's *Notice of Determination (Application Number DA18/0655)*. This manual details the ongoing operation and maintenance of the proposed Stormwater Treatment Measures (STMs) servicing Lendlease's proposed Stage 1 Residential development at Jordan Springs.

The proposed Stage 1 Residential development is shown on Plate 1.1 below.

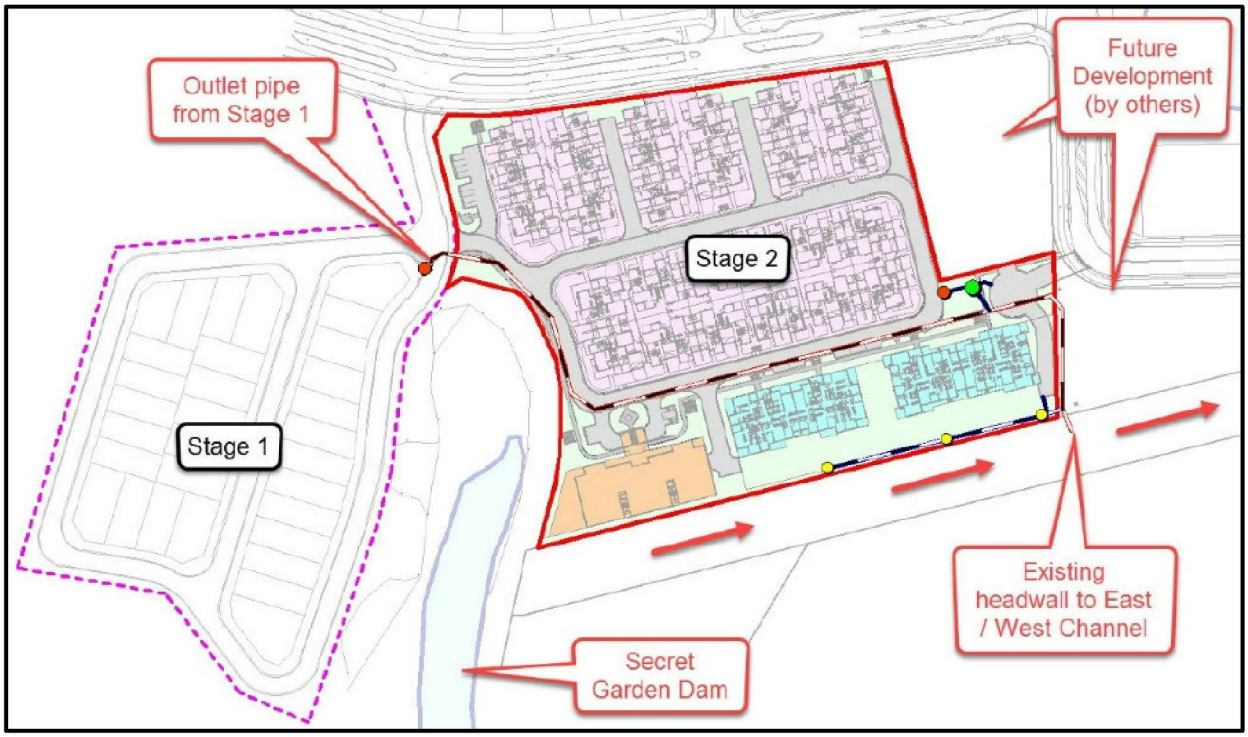


PLATE 1.1 – DEVICE LOCATION

The proposed development will include the construction of a CDS type Gross Pollutant Trap (GPT) install downstream to improve the quantitative and qualitative properties of the stormwater runoff.

2 GROSS POLLUTANT TRAP

2.1 Description

Gross Pollutant Traps (GPTs) are the first element in the "Treatment Train" of Stormwater Treatment Measures (STMs). They remove the light litter and a significant proportion of the coarse sediment from the runoff. In so doing they protect the integrity of the secondary treatment device downstream.

They can be specifically designed to fit with site specific constraints or they can be purchased as proprietary devices modified to fit the location. Most GPTs use either a centrifugal or direct screening technologies to remove the bed load or positively buoyant pollutants.

2.2 Pollutant Removal Mechanisms

- Settling or sedimentation;
- Reduction in flow velocity using centrifugal forces or temporary detention;
- Filtration using screens (often referred to as Trash Racks).

2.3 Operation

"The descriptions of GPTs and sediment traps are divided into five operating types:

- **drainage entrance treatments:** grate entrance systems, side entry pits and gully pit traps
- **direct screening devices:** litter collection baskets, release nets, trash racks, return flow litter baskets, and channel nets
- **non-clogging screens:** circular and downwardly inclined screens
- **floating traps:** flexible floating booms, floating debris traps
- **sediment traps:** sediment settling basins and ponds, circular settling tanks, hydrodynamic separators."

(Engineers Australia, 2005)

The specific GPT proposed for Lendlease's Stage 1 Residential development is a Rocla CDS unit (refer Plate 2.1). This GPT type uses an internal weir to divert "contaminated" runoff into a screening chamber where gross pollutants are collected and stored at the base of the device. At this point the gross pollutants are being captured using deflective screens and stored at the bottom of the screening chamber.

During storm events greater than the performance capacity of the GPT unit, flows overtop the internal weir and bypass the GPT unit. The detailed operation of the CDS unit is described on the next few pages.

2.4 Rocla CDS

Rocla CDS units are proposed to be installed within selected surface inlet pits along the southern boundary of Jordan Springs Retirement Living Stage 2. They remove light litter, debris and coarse sediment from stormwater runoff prior to discharge to the downstream tertiary treatment device.

Details of the general configuration and maintenance requirements for the Rocla CDS unit are provided below.

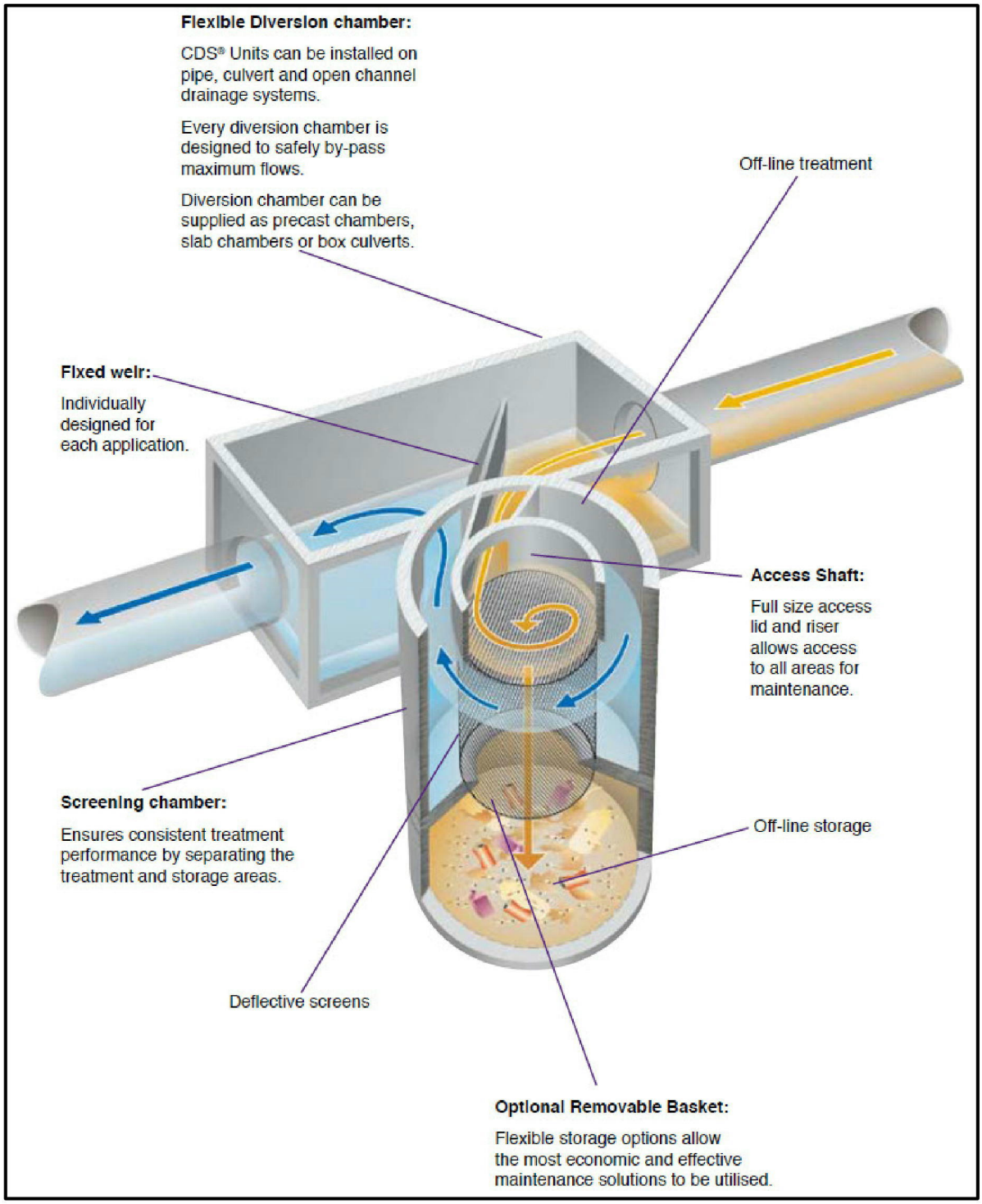


PLATE 2.1 – KEY FEATURES OF ROCLA CDS UNIT

Source: Rocla – CDS® Unit Technical Summary

CAPABILITIES

The CDS® Unit is the most awarded stormwater treatment device. CDS® pioneered the first gross pollutant trap in Australia in 1995 and since then the vast amount of validation and testing performed in Australia and overseas has led to both local and international leadership. Rocla Water Quality has a highly skilled design team devoted to improving stormwater quality. This dedication has made the CDS® Gross Pollutant Trap (GPT) the most efficient, cost effective and easy to clean GPT on the market.

Some the key parameters of the CDS® Units are summarised below;

Features	Benefits
Continuously Deflective Screen	- This insures the screen does not block. - Screens don't require cleaning or maintenance.
Vortex force	- The vortex aids the screen cleaning and draws the waste into the centre and down to the storage sump away from the treatment area.
Screening Chamber	- The sheer plane created by the screen between the vortex flow action keeps the screen clear of trapped pollution to ensure continuous and max treatment performance. - The flow regime in the screening chamber avoids re-suspension and wash-outs of stored pollutants.
Optional Maintenance Procedures	- Can be fully isolated from flow. - Doesn't require confined space entry. - Choice of the most effective cleaning process for the application.
Fixed weir	- Guarantees maximum treatment flow is diverted into screening chamber including all neutrally buoyant material.
Design Service	- Life cycle cost analysis. - Installation supervision. - Stormwater quality assessment. - Complete hydraulic assessment.
Continuous field validation.	- Provide design information for industry on the ability of CDS® Units to meet the latest developments and future demands in stormwater quality.
Design Flexibility	- Can customise designs to suit most applications.
Off-line storage	- Does not allow stored waste to be re-suspended. - Keeps the storage area isolated from the screening area, allowing for continuous and maximum treatment.

TECHNOLOGY

The CDS® Unit utilises the energy of the inflow to create a vortex flow regime within the CDS® screening chamber.

The stormwater inflow is introduced tangentially to the screening chamber via a customised inlet chute. The vortex motion within the screen chamber provides a continuous circular flow that directs the pollutants away from the screen towards the centre. This low energy zone is where most of the pollutants lose buoyancy and sink into the storage sump below.

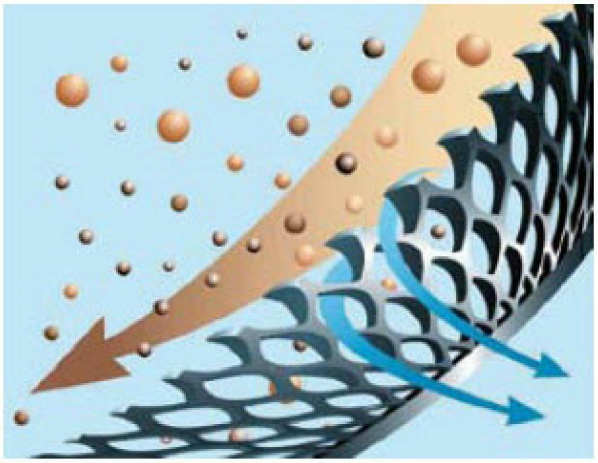


Figure 1: CDS® Unit deflective screen operation

The specially designed deflective screen shields the apertures from the pollution in rotational flow, which improves treatment operation and performance efficiency (as shown in Figure 1). The screen design along with the tangential flow and vortex forces provides all the benefits of a vortex separator and a physical filter without their limitations.

The CDS® Unit simply creates a whirlpool that draws all the deflected and settling pollutants to the centre of the screening chamber where they fall out into the storage sump below.

The pollutant storage sump located below the screening chamber allows pollutants to be removed from the flow path and away from the screens, thus maintaining a reliable treatment efficiency.

The unique CDS® technology is the most reliable way to effectively and efficiently treat gross pollutants in stormwater drainage systems.

Source: Rocla – CDS® Unit Technical Summary

2.5 Maintenance

GPTs rely on their screens being clean and the separation chamber having sufficient capacity to capture and retain the solid pollution contained within the design flow. Maintenance specific to the Rocla CDS GPT is described below.

CDS® UNITS MAINTENANCE

Whilst the frequency of cleaning will be dependant upon the pollutant loads of each catchment, there are three alternative methods of removing the collected waste from CDS® Units.

The following methods of cleaning can be used individually on any CDS® Unit, even well after installation.

This is a very significant feature that allows asset owners to choose the cheapest option available for ongoing maintenance given the required cleaning frequency and the respective cleaning services and resources available.

The three maintenance options available are described following:

1. MECHANICAL GRAB CLEANING

Cleaning by grab can be carried out without dewatering the unit and is a single person operation in most locations.

This results in a cleaning technique which is generally faster, cheaper and safer. It also allows a visible inspection of the pollution that was captured, as opposed to suction that doesn't. No physical entry is required.

2. BASKET REMOVAL CLEANING

If a waste removal basket is fitted, it can be lifted at any time, without the need for dewatering. Also it provides a safe and cost effective method of cleaning. The cost benefit of this option depends on the CDS® Unit design and on waste disposal requirements. No physical entry is required.

3. SUCTION CLEANING

Due to the dewatering time, costs and disposal of the water, suction cleaning is generally the most expensive cleaning option. However by taking advantage of the large sump volumes available in CDS® Units, it may still be a very cost effective maintenance option.

Suction cleaning is used for most proprietary GPT's. Even if a more cost effective method is used at shorter intervals, suction cleaning is recommended for CDS® Units at one to two year intervals so that a thorough inspection of the screen and lower chambers can be carried out. Physical entry may or may not be required.

Normally a CDS® Unit would be sized with an appropriate sump volume to allow cleaning 3 or 4 times per year. These maintenance cleans would be carried out either by using a basket or a grab, with a single comprehensive clean per year completed by suction.

The best option for any particular unit will depend on tidal or backwater impact, pollution load and cleaning frequency as well as access and disposal costs for pump-down water.

CDS® Units may sometimes be required to use penstocks to isolate the unit during maintenance operations. This would be essential where a unit is affected by backwater and/or high levels of tidal inundation.

The main benefit of removable baskets is their speed and ease of cleaning, particularly in tidal zones. But the storage basket must be smaller than the screen to allow its removal. As such, the volume in a basket will be less than that of a large sump CDS® Unit volume.

Consequently, whilst it may be cheaper, cleaning removable baskets might also be required 4 or 5 times more often.

For larger CDS® Units, the grab truck cleaning option offers the removal of 80 – 90% of the pollution stored in a sump and is subjected to similar constraints as the removable basket option.

When considering GPT maintenance costs and procedures, the three maintenance options of CDS® Units offer greater operational flexibility and low life-cycle cost considerations.

More general GPT maintenance decision methodology information is available in the CDS® Unit Operation and Maintenance manuals or upon request.

For more information call Rocla on 131 004 or visit our website www.waterquality.rocla.com.au

Source: Rocla – CDS® Unit Technical Summary

For further details of the maintenance requirements of the Rocla CDS® GPT unit, refer to Appendix B for the manufacturer maintenance manual, Appendix C for examples of a maintenance checklist and Appendix D for the maintenance schedules.

3 LIFE CYCLE COSTS

The indicative cost to construct / install and maintain the stormwater management have been adopted from the water quality *MUSIC* modelling completed as part of the Development Application process. The accuracy of these estimates are not guaranteed and all quantities are to be checked and confirmed by the contractor or Council.

The rates adopted for these estimates are based on the average unit rate provided in the *MUSIC* software. The actual contract awarded for the work will be based on the market conditions at the time of the contract and therefore all rates will be subject at that time to rise and fall.

Table 3.1 below indicates the probable cost for construction / installation of the GPT and servicing the Jordan Springs Stage 1 Residential development.

TABLE 3.1 – INDICATIVE GPT COSTING

GPT Location	Stage 1 GPT
Adopted GPT Volume (m^3)*	1.4
Life Cycle (years)	30
Typical Annual Maintenance Cost ($)	$1,849
Annualised Renewal / Adaptation Cost ($)	$237
Renewal / Adaptation Period (years)	30
Decommissioning Cost ($)	$8,607

* As suggested in MUSIC Model

As outlined above, this Opinion of Probable cost is based on J. Wyndham Prince's experience and judgment as a firm of practicing professional civil engineers familiar with the construction industry. The cost estimate cannot be guaranteed as we have no control over Contractor's prices, market forces, material supply costs, competitive bids from tenderers and specific site conditions that may be encountered but not yet investigated.

4 DISPOSAL OF WASTE

Throughout the life cycle of the water quality treatment devices, waste will accumulate that will require disposal off site. It is the responsibility of Penrith City Council or its representative to ensure the waste management and disposal processes are in accordance with current industry practices and relevant waste disposal legislation. All waste that is collected during the operation and maintenance processes will need to be quantified and reported to Penrith City Council.

APPENDIX A – ENGINEERING PLANS

REFER TO INSET FOR CONTINUATION

NOTE:
DRIVEWAYS NOT TO BE CONSTRUCTED.
SHOWN ON PLAN FOR LOCATION ONLY.
VEHICULAR CROSSING TO BE CONSTRUCTED
REFER TO DETAILS ON DRAWINGS CC08.

LOT 2
DP 121 6994

MINOR WORKS ON NATIONAL PARKS AND WILDLIFE SERVICES LAND.

SCOUR PROTECTION

CONSTRUCT RETAINING WALL

ROCK-LINED DRAINAGE CHANNEL

CATCH DRAIN
0.7% FALL MIN
REFER TO DETAIL

FUTURE STAGE 2

MAINTENANCE ACCESS
150mm THICK 32MPa CONCRETE WITH SL82 MESH ON COMPACTED GRANULAR SUBGRADE
COLOUR "CAFE" BY BORAL OR SIMILAR

CONSTRUCT GPT
ROCLA CDS 1009
OR EQUIVALENT

CONSTRUCT 2 X 750Ø
STORMWATER PIPES

SCOUR PROTECTION

CONSTRUCT
RETAINING WALL

SECRET
GARDEN
DAM

FOOTPATH REFER TO
COUNCIL STANDARDS SD1001.

1% AEP FLOOD LEVEL + FREE BOARD
1% AEP FLOOD LEVEL = IL 39.92m
FREE BOARD LEVEL = 0.5m
IL 39.92 + 500 = IL 40.42m (BLUE LINE)

CATCH DRAIN
0.7% FALL MIN
REFER TO DETAIL

MAINTENANCE ACCESS
150mm THICK 32MPa CONCRETE WITH SL82
MESH ON COMPACTED GRANULAR SUBGRADE
COLOUR "CAFE" BY BORAL OR SIMILAR

REMOVE MOUND AND LOCALLY REGRADE

REMOVE MOUND AND LOCALLY REGRADE

REFER TO DRAWING CC07 FOR CONTINUATION

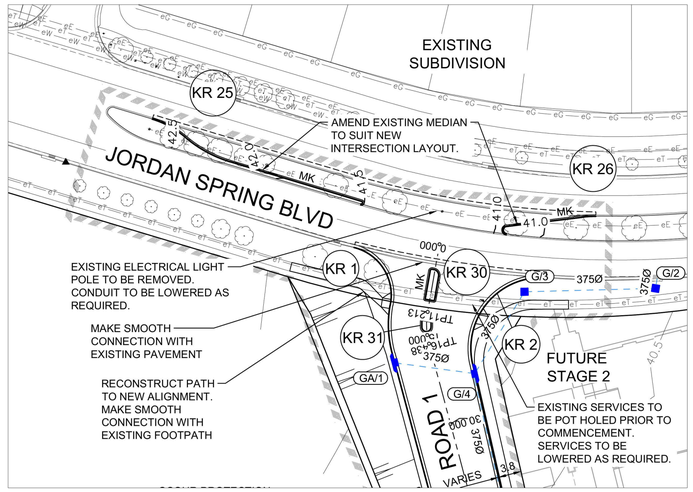
PLAN
SCALE 1:500

1:500 (AT A1)
1:1000 (AT A3)

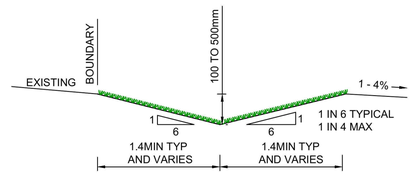
10 0 10 20 30 40 50
METRES

LEGEND

- PROPOSED DRAINAGE PITS
- PROPOSED DRAINAGE PIPE
- DRAINAGE EASEMENT (2m WIDE)
- 120.0 DESIGN CONTOUR
- 120.0 NS CONTOUR
- LIMIT OF WORKS
- PROPOSED RETAINING WALL
- FUTURE RETAINING WALL



INSET
SCALE 1:500



DEPTH VARIES TO ACHIEVE CONTINUAL GRADE AND INVERT LEVELS AT SPECIFIED LOCATIONS

TYPICAL GRASSED LINED
CATCH DRAIN DETAIL
SCALE 1:25

DIAL BEFORE YOU DIG www.1100.com.au

WARNING!
UNDERGROUND SERVICE CABLES IN VICINITY. EXERCISE EXTREME CAUTION DURING EXCAVATION. CONTACT "DIAL BEFORE YOU DIG" PRIOR TO ANY CONSTRUCTION WORK

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS.
NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS

	AMENDMENT	DES	DRN	CKD	APR	DATE
2	IISSUED FOR CONSTRUCTION CERTIFICATE	MMC	NM	AM	MS	06/02/19
1	ISSUED FOR CLIENT REVIEW	MMC	NM			30/01/19

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AZIMUTH: MGA
DATUM: AHD
ORIGIN:

CLIENT: lendlease

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

JORDAN SPRING
STAGE 1 - RESIDENTIAL
ENGINEERING PLAN
SHEET 1 OF 2

PLAN No: 11048701/CC06 2
FILE No: 11048701CC06
SHEET SIZE: A1 ORIGINAL

Plotted: 7 February , 2019 10:04:29 AM File Name: J:\110487 - Jordan Springs Retirement Living\02 - Development Application Stage\CD\CC\STAGE 1\11048701CC06.dwg

APPENDIX B – ROCLA CDS® GPT UNIT MAINTENANCE MANUAL

OPERATION AND MAINTENANCE MANUAL

Version: November 2014

CDS UNIT MODEL

PROJECT NUMBER

SITE ADDRESS

INSTALLER;

CDS UNIT OWNER

CDS Technologies is part of the Rocla Pipeline Company.
ABN 31000032191 www.rocla.com.au
72 Orchardleigh Street, PO Box 748 GUILDFORD NSW 216
Telephone (02) 8724 2861 Facsimile (02) 8724 2862

Contents

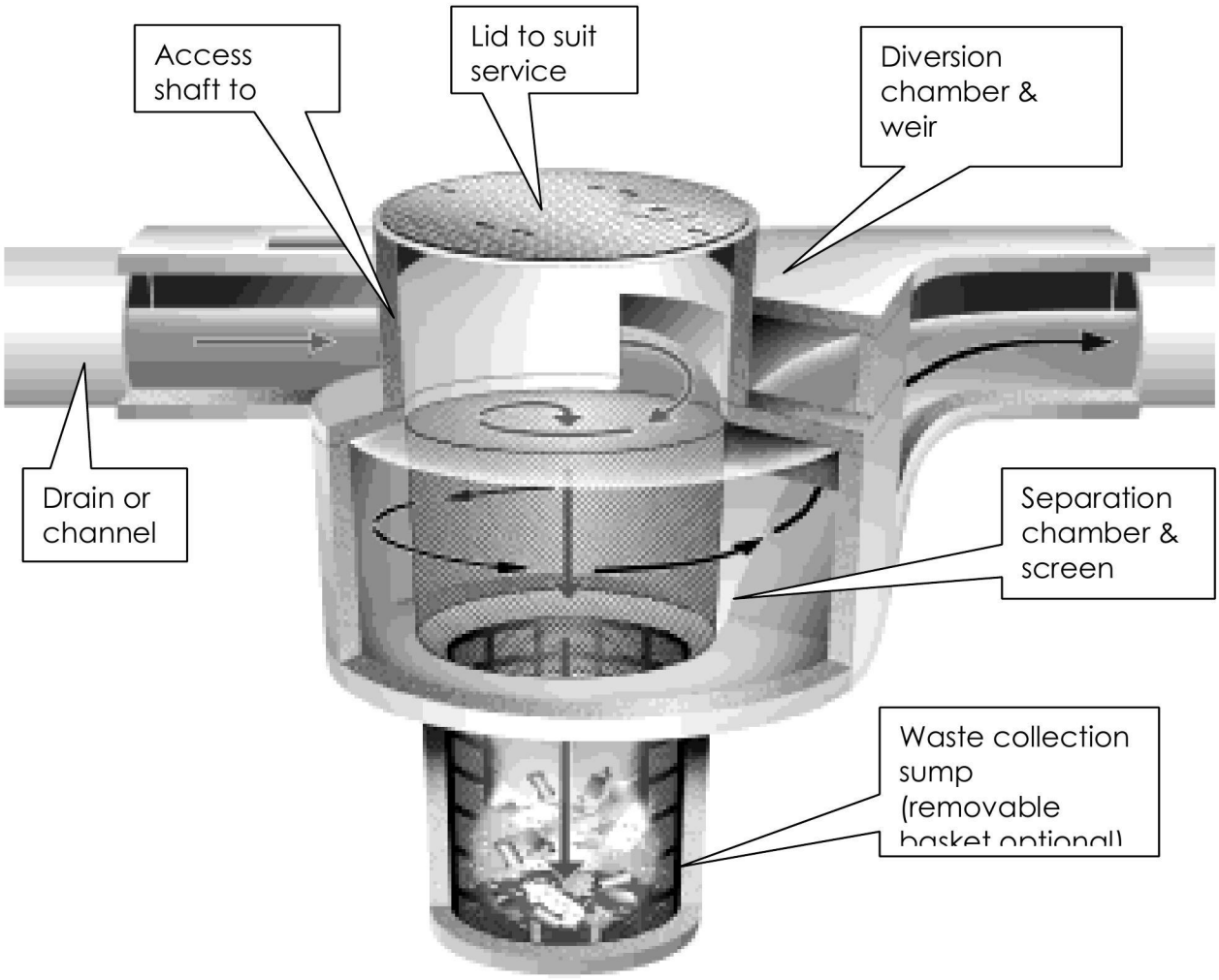
1 Preamble

1.1 CDS Technologies has been established to provide a cost-effective way to achieve environmental sustainability in water quality. The company is committed to its Clients and the environment, however its focus is on the development, manufacture, construction, installation, maintenance and repair of the CDS units.

1.2 The CDS owner may opt to perform their own cleaning or contract the cleaning to a pre-qualified contractor. Pre-qualified contractors are approved by CDS Technologies to perform inspections and cleaning in conformance with CDS Technologies Specification. They have demonstrated that they can meet all safety and environmental legislation and are adequately insured. These contractors can provide very competitive rates, provide valuable feedback on the CDS operation and will take the worry and effort out of the maintenance process.

1.3 Definitions

CDS For simplicity, the letters CDS will be taken to mean a CDS unit.



2 Inspections

2.1 Routine Inspections

2.1.1 Routine inspections are recommended to ensure the CDS is functioning correctly and indicate when cleaning is necessary. These should be carried out on a regular monthly basis. Additionally, it is recommended that a non-scheduled inspection be carried out after any heavy downpour or prolonged period of wet weather. These inspections are the responsibility of the CDS unit owner, unless other arrangements have been made with CDS Pty Ltd. Due to the efficiency of the CDS design, it is likely that they will collect large quantities of pollutants during significant rainfall events. Inspections after heavy rain are therefore even more important than scheduled inspections.

2.1.2 The routine inspection involves removing the access hatch in the CDS main lid and visually checking the visible part of the screen, the percentage of water surface occupied by floatables and measuring the level of accumulated debris in the sump.

2.1.3 This level can be calculated using a survey staff or weighted string line, by measuring the distance from the estimated top of the debris to the top of the lid. A chart is provided on the data sheet that allows the depth measurement to be converted into a percentage full. The data sheet is located in Appendix D. CDS can also provide simple Excell spreadsheet programs for constructed units on request.

2.1.4 When the accumulated material reaches the level of the top of the sump (100% full), it is recommended that it be emptied.

2.1.5 Should the trapped material be allowed to accumulate and rise into the separation chamber, i.e. above the bottom of the screen, the efficient operation of the unit will be compromised with subsequent flows possibly leading to screen blockage.

2.1.6 A standard report for a routine inspection is shown at Appendix A. This should be faxed to the CDS unit owner and CDS Technologies head office. This information helps in future CDS unit sizing and cleaning frequency estimations.

2.1.7 CDS Technologies should be informed if there is any damage or non-functionality observed with the CDS through the completion and forwarding of the 'Damage and Non-Functionality Report' included in Appendix A.

2.2 Annual Inspection

2.2.1 CDS recommends Annual Inspections involving dewatering the unit and checking the condition of the screen, area behind the screen , diversion chamber , weir, lids and any special features of the unit (Baskets can be excluded from this because they can be inspected at every cleanout).

2.2.2 The Damage or Non-Functionality Report (Appendix C) can be used to record any damage or wear and tear that will require attention.

2.2.3 This is also a good opportunity to apply grease to the frame of any cast iron lids and/or lubricate padlocks.

3 Recommended Cleaning Methods

3.1 There are several factors influencing the choice of cleaning method, the main factor being CDS unit size. Other factors include access, equipment availability, required frequency, cost any restrictions, eg units in tidal locations cannot generally be cleaned by eduction.

Unit Size (Screen Diameter mm)	Recommended Cleaning Method	Comments
500 (PL0506)	Suction	Unit not designed for basket; total volume of water and waste is well within range of standard eduction equipment
700 (P0708 series)	Suction	Unit not designed for basket; total volume of water and waste is well within range of standard eduction equipment
900 (P1000 Series)	Suction/basket	Suction is the most cost-effective method.
1500 (P1512 series)	Suction/basket	Suction is the most cost effective method.
2000 (P2000 series)	Suction/basket/ grab	Grab is the most cost effective method.
3000 (P3000 series)	Suction/grab	Grab is the most cost effective method.

3.2 The basket is available for purchase from CDS Technologies and consists of a fabricated fibreglass and steel lifting ring supporting a reinforced fabric basket and connected by SWR slings and shackles. The basket has stainless steel quick-release closures and buckles. A basket is preferred in units which are below low tide or where other methods are not feasible.

3.3 The following chapters detail procedures for each of the recommended methods with illustrations, and include safety information and related regulations.

4 Basket Cleaning

The following is a recommended procedure for emptying the CDS unit fitted with an optional collection basket (this procedure is shown in Figure 4.1). See also Hazard Analysis at Section 4.8.

For units fitted with an Oil Baffle the Oil must be removed using the methodology for Eduction Cleaning prior to the removal of the basket process. See Section 5.

4.1 Remove lid(s) from access chamber

CDS units in trafficked areas (roadways) are fitted with load-class lids (Gatic). The lids are usually multi-part and have tapered edges. Special lifting levers are required to remove them. Larger units in trafficked areas may have RSJ beams to support the lid structure. These also must be removed. If the lifting tackle for the basket is hanging from the RSJ, it must be disconnected and temporarily connected to the inside of the access shaft while the RSJ is removed.

CDS units in non-trafficked areas (parks or reserves) may be constructed from fibreglass, galvanised steel or timber and may be single or of multi part construction. Fibreglass lids on models F0908/0912 can be easily removed by hand after unlocking with a T bar key.

Galvanised and timber lids have adequate lifting points to assist in removal by crane.

When working in a roadway, utilise appropriate traffic control measures.

For safety reasons, any staff working over the open unit should wear a safety harness tied back to an immovable object.

4.2 Connect lifting tackle

Subject to access, the following crane capacities should be adequate to lift full baskets from the sumps of CDS units.

The estimate of the full basket weight can be obtained from the CDS unit Data Sheet.

900mm CDS	5 tonne capacity crane minimum
1500mm CDS	8 tonne capacity crane minimum
2000mm CDS	12 tonne capacity crane minimum
3000mm CDS	15 tonne capacity crane minimum

The crane needs to be able to raise the bottom of the basket, which is up to 7 metres below the lifting ring, over the side of the truck being used to transport the waste.

The crane should be located on suitably firm ground and

operated by a qualified crane operator and guided by a qualified dogman. All staff on the ground in the vicinity of the unit should wear hard hats.

The lifting ring, which is temporarily attached to the side of the CDS, is to be attached to the crane hook.

4.3 Lifting the basket

If the unit is especially full or there is a great deal of floating material on the surface, it is recommended that the basket be raised slowly to reduce turbulence in the separation chamber which can wash floatable items over the rim of the basket.

Floating material should be pushed towards the centre to ensure it is caught as the basket rises. If some floating material remains in the CDS unit, it will likely be removed next time or it is possible to create a backwash by "dunking" the basket under the surface and quickly back up again. If the basket is found to have a significant amount of material "nesting" on the lifting collar, it is recommended that this material be pushed down into the basket using a broom, rake, shovel or staff before removing the basket completely from the unit.

With the bottom of the basket raised above the water level, allow water to drain back into the CDS unit for a few minutes.

Lift and place basket into truck and allow it to settle to relieve tension in securing straps. Release the Quick-release couplings that hold the basket closed.

Raise basket and allow contents to discharge into truck.

Lower basket and remove any trapped contents. If material is tangled in lifting slings, remove it.

Waste should not be handled unless appropriate protective gloves are worn.

Close basket and secure straps with Quick-release couplings. Place and position basket back in the CDS unit. It is sometimes advisable to weight the basket with two or three bricks to prevent the fabric from billowing up.

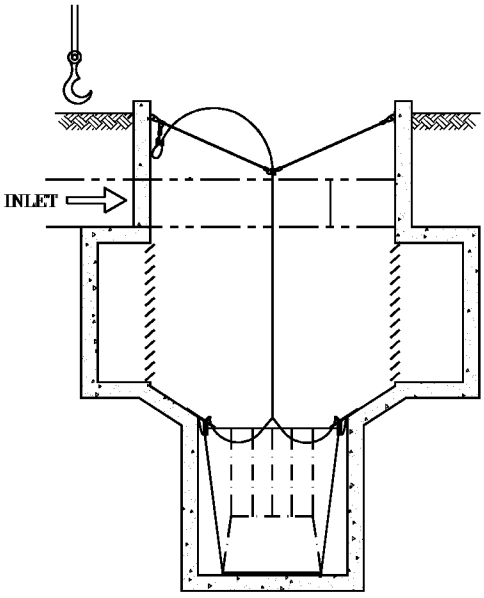
Check the separation screen for blockage or damage. Any material caught on the screen should be hosed or scrubbed off with a hard-bristle broom.

A significant quantity of material blocking the screen can be regarded as evidence of non-functionality and reported to CDS Technologies. If any damage is apparent, it should be reported to CDS as soon as practicable to enable a site inspection to be done. The phone number is listed on the CDS Data Sheet.

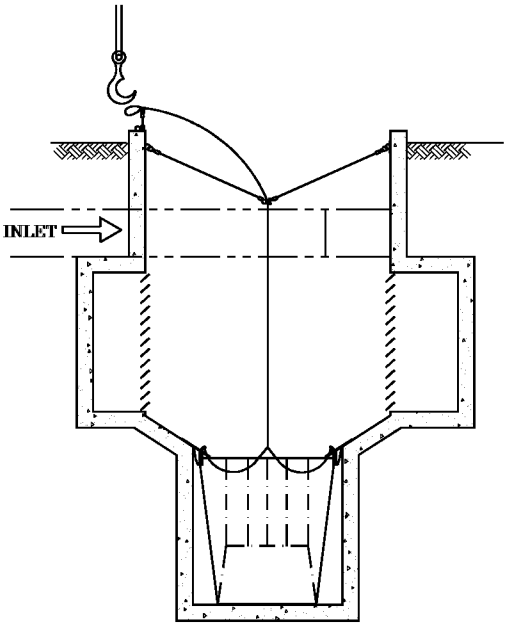
Replace lifting tackle and lids to their normal position.

NB It is important that the lifting cable hangs vertically down from the centre of the lid so as not to impede the circular flow of water in the CDS.

4.4	Disposal of Pollutants	Record the quantity of pollutants removed from the CDS with a visual assessment of the breakdown by type: • % silt and sediment • % litter • % vegetation A note should be made of any unusual or large items, eg. oil, paint, car tyres etc. Dispose of pollutant material at an approved tipping site, ie. a tip which is licensed by the Waste Authority in the relevant state. A record of the weight of the material extracted should be kept. The weight may be read by the crane, or the weigh station as the disposal truck enters the tip. The weight should be recorded on the CDS Cleanout Report (Appendix B). Care should be taken to: Cover the load en-route to the tip and to ensure that none of the litter from the load escapes from the truck. Adequately drain the material before leaving the site.
4.5	Tidy Site	Tidy the site of any debris prior to leaving.
4.6	Complete and Forward Cleaning Report	Complete Cleaning Report (Appendix B) and forward to the CDS unit owner. If there is any damage or non-functionality, complete Damage or Non-Functionality Report (Appendix C) and forward to the CDS Contact Person listed on the CDS Data Sheet.
4.7	Annual Clean and Inspection	On an annual basis the CDS should be pumped down as described in the section on Suction Cleaning, the basket removed, the sump pumped out and thoroughly cleaned of any debris that may have accumulated under the basket. The water from the sump is either disposed of appropriately to sewer or pumped upstream so that it can be released and retreated by the CDS unit. A close inspection should be carried out on the screen, basket, lifting tackle etc and any maintenance requirements should be reported. Inform CDS Technologies when this annual service is to occur if they are required to attend. Inspect the return channel behind the screen and remove any accumulated silt or other deposits, if present. Record details in the "Comments" section of the 'Clean Out Report'.



(1)



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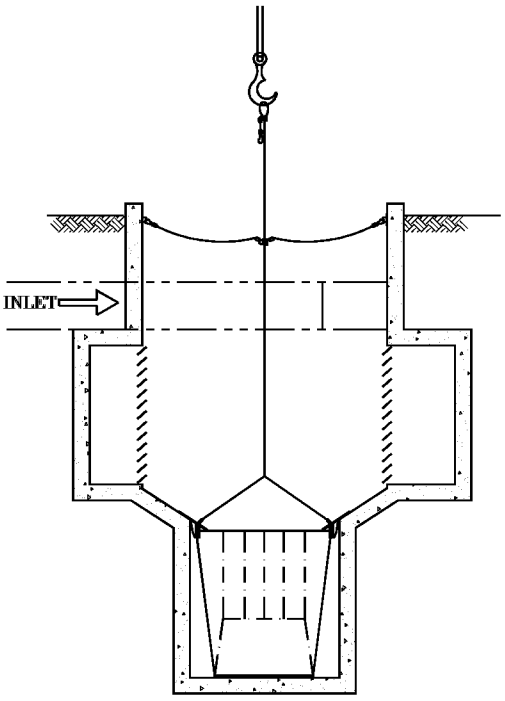

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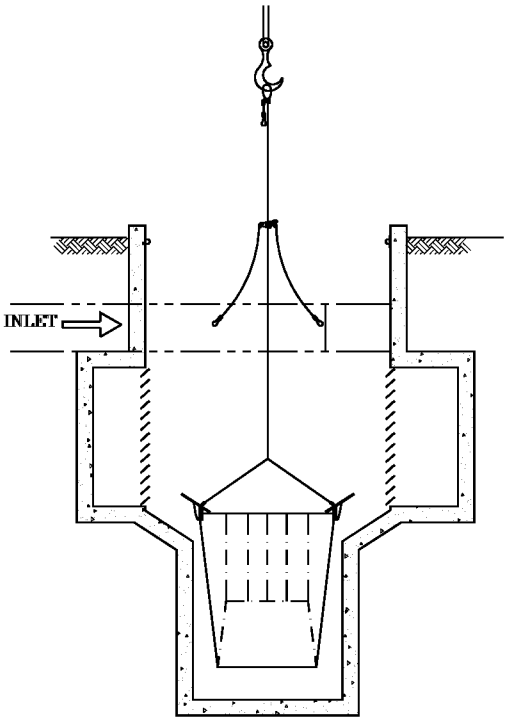
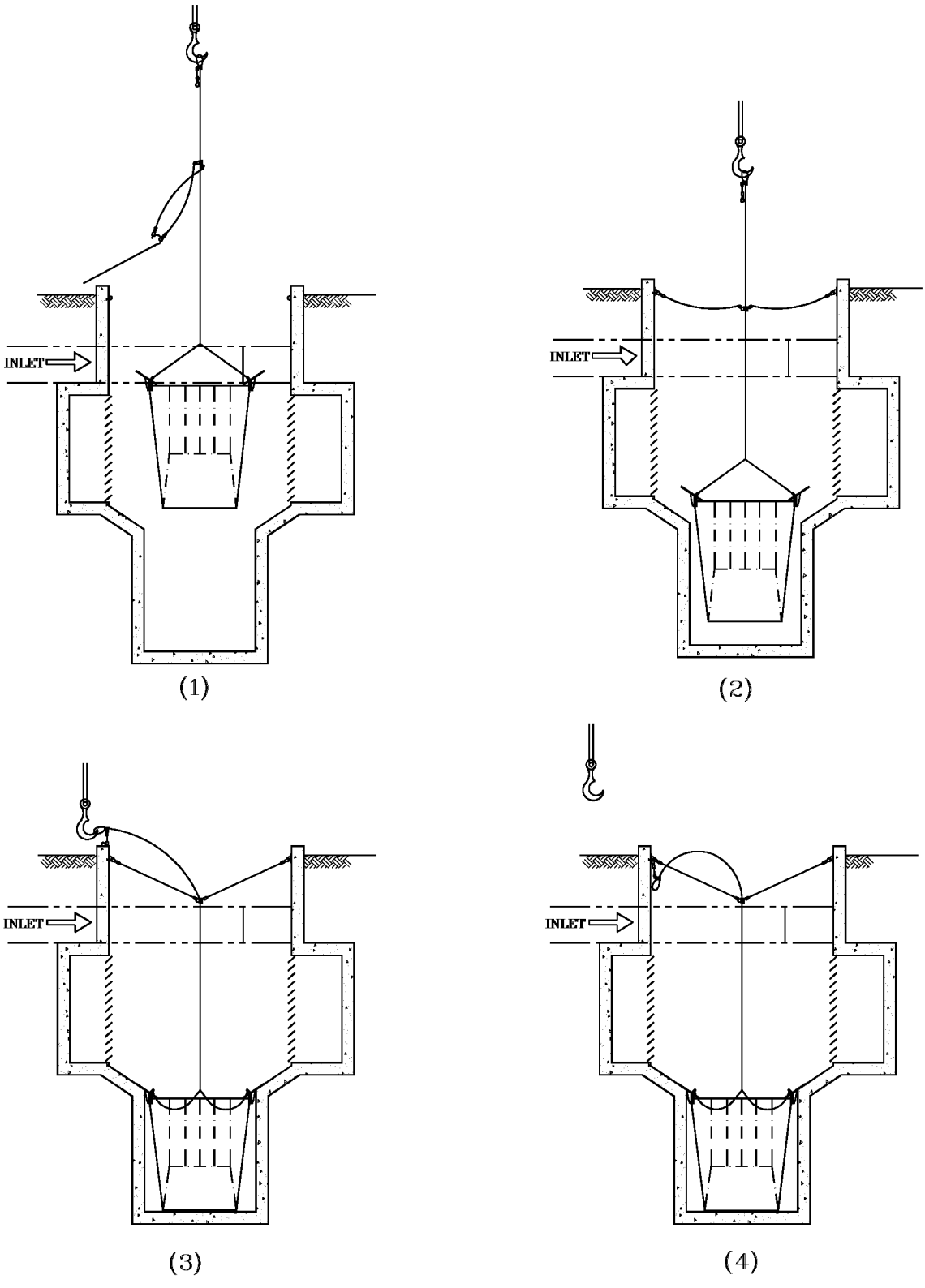


(4)

LIFTING OPERATION



LOWERING OPERATION

Figure

4.8 HAZARD ANALYSIS

Activity: Basket Cleaning of CDS Unit

Task	Possible Hazard	Hazard Control
Site Establishment	Traffic Hazards	Implement Traffic Control Plan Obtain Road Closure Approval if necessary
	Risk to Pedestrian	Care to be taken when driving cranes, trucks etc. through public areas. Use assistant to guide reversing vehicle and ward off pedestrians In high pedestrian traffic areas, erect barricades around open CDS unit
Remove CDS Lid	Manual Handling	Correct Manual Lifting Techniques PPE : Steel cap boots, hard hat, gloves Lifting tackle in good condition. Crane in good condition, qualified operators. Crane near overhead electrical cables 3m clearance required to overhead electrical cables
Remove Basket	Lifting Cable Breaks	Check basket lifting tackle for deterioration. Check cable as it emerges from under the water for deterioration. No person to stand under basket as it is removed.
	Person fall into CDS unit	It is not possible to remove the CDS basket whilst barriers are placed around CDS unit. Therefore special care must be taken whilst working around the open CDS unit.
Empty Basket into truck	Biological contamination Basket swings hitting employee	Wear gloves and wash hands afterwards with anti-bacterial soap. PPE, hard hat
Replace Basket	See Remove Basket	
Replace CDS lid	See Remove CDS Lid	

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5 SUCTION CLEANING

The following is a procedure for emptying the CDS unit using a truck-mounted suction unit (this procedure is shown in Figure 5.1). See Hazard Analysis at Section 5.8.

UNITS FITTED WITH OPTIONAL OIL BAFFLES

In the case of Units fitted with an Oil baffle the oil must be removed by eduction prior to de-watering.

Oil will be sitting on the surface at the fluid level inside the screen in the unit; this will be visible through the lid at surface level.

The eduction hose is carefully lowered into the oil, care being taken not to protrude below the oil level and the oil removed by suction.

The depth of the oil on the surface can be gauged by the oil residue on the dipping staff used to establish the level of pollution contained in the sump.

This oil will be securely quarantined or retained in a vessel for disposal

NB: Eduction or the use of absorbent material such as Oil Absorbent Pillows is the only way to remove the oil, the grab or basket method is still a clean out method for the remainder of the pollutant but the oil must be removed first.

Remove lid

5.1	Stop inflow	If necessary, the incoming flow can be blocked using a drop-board or sandbags stacked across the inlet. Ensure that the flow is low enough for a person to safely enter the chamber to place the drop-board. NB If working in a roadway, erect appropriate traffic control measures.
5.2	Pump down the separation chamber	Place a flex drive pump or suction hose in the outlet of the separation chamber, ie outside the screen. This water can be discharged downstream because it has passed through the screen, therefore it has undergone treatment. Other options that may be considered include pumping the water upstream of the inlet. It may be necessary to remove water removed from the unit and transport it by tanker to an approved disposal site or it may be discharged to sewer if approved by local water authority. Do not pump water from the inside of the screen directly downstream. Access to the outside of the screen is via the Diversion Chamber. The water level will drop to the top of the sump.
5.3	Remove debris by suction	Using a "Super sucker" type suction cleaner, remove the debris from the sump (Experience has shown that the common Council Road Sweeper Eductor is not nearly as

efficient at removing the debris).

For larger units, removal by suction may require the assistance of a suitably qualified "Confined Spaces" worker, lowered into the CDS unit to manually direct the nozzle of the suction hose and remove blockages. Any large items or sticks blocking the nozzle may be put to one side and removed manually on completion of the suction process.

Confined spaces legislation requires that the employee in the unit be harnessed to a tripod-type hoist that is permanently manned above, while a third operator mans the suction machine.

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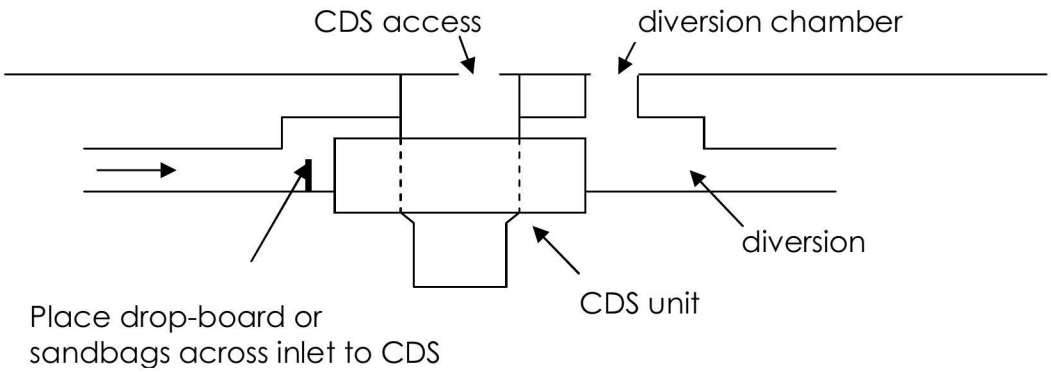
5.4	Disposal of Pollutants	Record the quantity of pollutants removed from the CDS with a visual assessment of the breakdown by type: _____ % silt and sediment _____ % litter _____ % vegetation A note should be made of any unusual or large items, eg. oil, paint, car tyres etc. Dispose of pollutant material at an approved tipping site, ie. a tip which is licensed by the Waste Authority in the relevant state. The free water removed can be discharged back into the CDS unit to minimise transportation and disposal costs. The material should be weighed if possible. Weight should be measured when free water no longer drains out of the material. If this is not possible, an estimation of weight should be made.
5.5	Tidy Site	Tidy the site of any debris prior to leaving.
5.6	Complete and Forward Cleaning Report	Complete Cleaning Report (Appendix B) and forward to CDS owner. If there is any damage or non-functionality, complete Damage or Non-Functionality Report (Appendix C) and forward to the CDS Contact Person listed on the CDS Data Sheet.

Annually the CDS unit should be fully inspected inside and outside the screen to ensure no damage, algal growth or deposition of material has occurred. Any problems should be reported to the CDS owner and to CDS Technologies contact person.

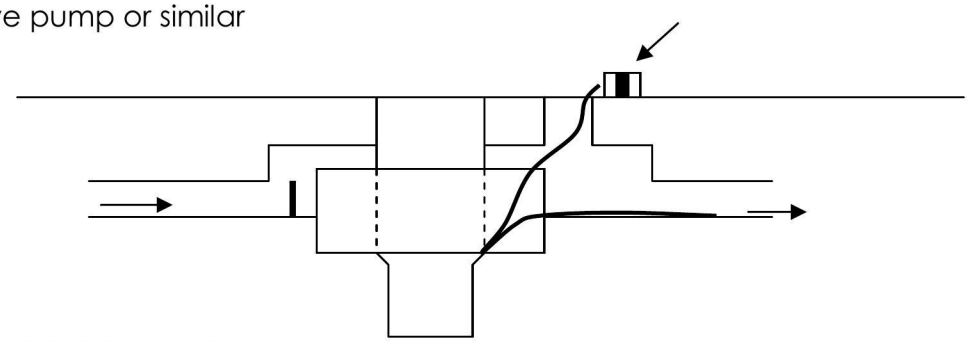
5.7 PROCEDURE

Stop Inflow

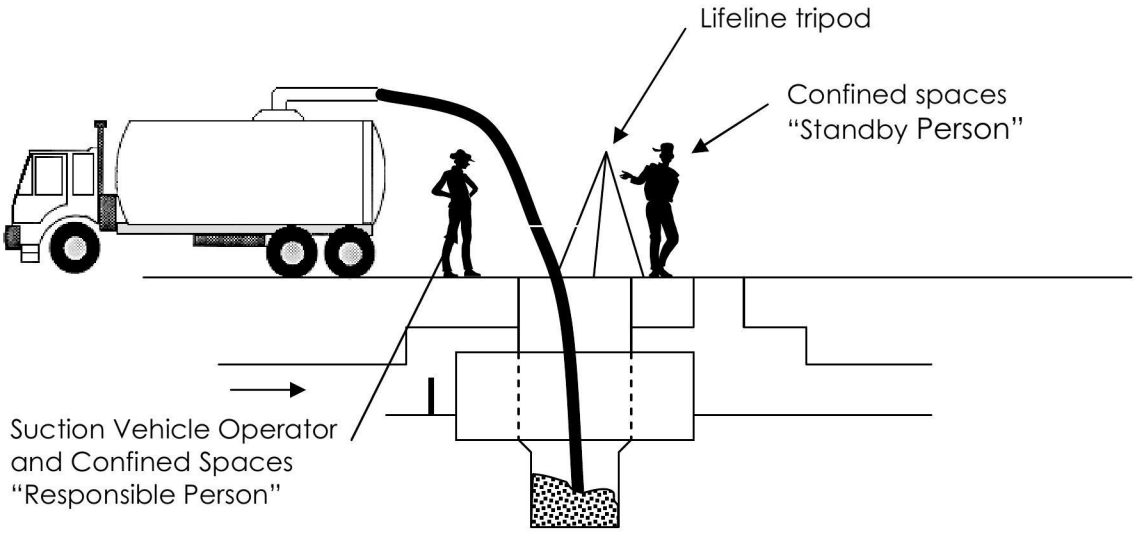


Pump down the separation chamber from the outside of the screen

Flexi-drive pump or similar



Remove debris by suction



NB: A person may be needed inside the CDS unit to guide the head of the suction hose.
All 3 staff in this method require Confined Spaces Training.

5.8 HAZARD ANALYSIS

Activity : Cleaning CDS units by vacuum loading

WHAT CAN GO WRONG	HOW WILL IT BE MANAGED
Proposed Work: Cleaning of C.D.S. units of various sizes by Vacuum Loading at various locations. <u>Consequences</u> Possible Road Work Entry into Confined Spaces	Field staff will be certified through AS2865 and safety inducted prior to commencing fieldwork. A supervisor will issue each crew with a work schedule for the day. The responsible person will ensure each site is handled with extreme care. Should roadwork be required, the crew will have the correct signs, barricades and appropriate dress.
Confined Space Category: Deterioration of air quality may occur within a confined space resulting in a category change. Illegal dumping of trade waste / chemicals may also result in confined space category changes.	The responsible person will ensure: Gas testing is undertaken for the duration of the work. If gas levels are above AS2865 allowable levels postpone work until reasonable levels can be achieved. Force ventilation equipment is available, on site, and can be used if required. Vacuum truck draws fresh air into chamber. Personnel entering the confined space will wear all the appropriate safety gear, including hard hat, steel capped boots, overall, eye protection, gloves and be connected to an approved lifeline/tripod set-up at all times whilst in the confined space. Remove other manhole lids in vicinity of work. Should trade waste chemicals become evident all work will cease, evacuation will proceed. Once evacuation is complete C.D.S. will be notified immediately. Self rescue unit to be worn.

WHAT CAN GO WRONG	HOW WILL IT BE MANAGED
Isolation of Work Site: Partial blockage/diversion boards, installed upstream to divert flows, may fail resulting in increased flow conditions.	The responsible person will ensure: Isolation of the work site by ensuring level of flow is at workable levels prior to confined space entry. The work can be done during low flow conditions. Flow levels are monitored upstream of the work location. Personnel entering the confined space will wear all the appropriate safety gear, including hard hat, steel capped boots, overall, eye protection, gloves and be connected to an approved lifeline/tripod set-up at all times whilst in the confined space.
Pre-entry Inspection: Air quality may exceed As2865 limits. Excessive flow conditions Presence of fumes, smells and noxious gases.	Gas detection will be undertaken prior to commencing confined space work. Gas detection is to continue for the entirety of the work. The work crew will complete an Entry Permit once they have tested for gas. Copy of Entry Permit to be forwarded to C.D.S. Should excessive flows be present work is not to proceed until such time that flows are at acceptable levels.

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Access: Manhole/Access lid dimensions may not comply with Australian Standards. General public and road access routes may be interrupted. Suction hose restricts size of manhole.	The responsible person will ensure: Access will only be undertaken if it is possible, through the manhole opening. Entry will NOT take place into a manhole/confined space if these site-opening sizes do not conform to Australian Standards. The entrant will wear a safety harness. Appropriate signs and barricades will be used around the work area to ensure public and traffic routes are kept to a minimum. All tools, manhole lids and other equipment is to be kept within the barricaded area. Suction hose to be removed whilst assessing/egressing the manhole.
WHAT CAN GO WRONG	***HOW WILL IT BE MANAGED***
Methods of Work: Failure of safety equipment while in use. Noise may impact on the employees and the residents/public.	The responsible person will ensure: Daily inspection of all equipment will take place prior to work commencing. This will ensure equipment is maintained in good condition. Noise levels throughout this contract will comply with the EPA's Noise Control Manual. Personnel will have earplugs available for their use as and when required.
Suitable Workers: Unqualified workers without training working within a Confined Space.	All persons working on a cleaning project will have undertaken and are currently certified to work under AS2865. All staff is trained in the use of the equipment and materials to be used for this project. Other training will include and is not limited to a Safety Induction, First Aid/CPR Training.

	The responsible person will ensure: Only AS2865 certified person could enter a Confined Space to carry out work. All staff members working on-site are carrying their Confined Space tickets.
Rescue Precautions:	The responsible person will ensure: Each field crew will have undertaken a Safety Induction. Each crew will be equipped with a First Aid Kit and a mobile telephone.
Traffic & Public Access: Manholes are located on roads, footpaths and private property. The work may cause disruption to motorists and residents living in the area.	The responsible person will ensure: Traffic control measures including signs, barricades and witches hats are used on roadways. Barricades and pedestrian diversion shall be utilised on footpaths and on private property.

WHAT CAN GO WRONG	***HOW WILL IT BE MANAGED***
Illumination: Poor lighting may result in slips and falls.	The responsible person will ensure: Dolphin torches are used in the confined space in conjunction with miners lights fixed to the entry workers helmet. The stand-by person will have a 12v light that he/she can shine from above to help light up the area.
Ventilation: Fumes, smells and unacceptable gas levels.	The responsible person will ensure: Gas testing is undertaken for the duration of the work. If gas levels are above AS2865 allowable levels postpone work until reasonable levels can be achieved. Force ventilation equipment is available, on site, and can be used if required. Stand-by person will remain at the entry/exit point to allow emergency exit if required. Personnel entering the confined space will wear all the appropriate

	safety gear, including hard hat, steel capped boots, overalls, eye protection, gloves and be connected to an approved lifeline/tripod set-up at all times whilst in the confined space. Should air quality deteriorate work will cease, evacuation will proceed.
Contents / Hazard: Sharp objects, syringes and hazardous materials.	The responsible person will ensure: Site inspection, prior to commencing confined space work, is to take place. Retrieved hazardous materials and sharp objects or syringes are to be disposed of correctly.
Fire / Explosion Risk: Fuels and Oils	The responsible person will ensure: Confined space is evacuated immediately if the Lower Explosive Limit (LEL) exceeds 5% on Gas Detector.

WHAT CAN GO WRONG	***HOW WILL IT BE MANAGED***
Temperature: No hot work is expected.	N/A
Electrical Isolation: Possibility of electrocution.	The responsible person will ensure: Isolation of electrical equipment. All electrical equipment to be used is inspected prior to undertaking any work. All electrical equipment used in confined spaces shall be low-voltage.
Manual Handling of Manhole:	The responsible person will ensure: Mechanical lifting equipment shall be used. All manhole covers are put back on pits and manholes before leaving site.

6 CLAMSHELL (GRAB) CLEANING

The following is a procedure for emptying the CDS unit using a tipper-truck-mounted clamshell or grab bucket (this procedure is shown in Figure 6.1). This method is available for 2m & up diameter CDS units due to the physical size of the bucket. Currently only two of the units exists in Australia, based in Sydney and Melbourne, which can service all states. Contact your CDS representative to arrange for a quotation. See Hazard Analysis at Section 6.7.

For units fitted with an Oil Baffle the Oil must be removed using the methodology for Eduction Cleaning prior to the grab process. See Section 5.

6.1	Remove lids	See section 4.1
6.2	Remove debris by clamshell	Ensure clamshell does not contact screen as damage can occur. Clamshell should be perforated and should be lifted clear of water surface and allowed to drain. Using the clamshell, load the waste into the tipping body of the truck. The truck should be positioned so that water draining from the body drains back into the CDS. Drain waste thoroughly before proceeding to tip.
6.3	Scoop floating waste	Using a pool scoop, remove the floating litter from the surface of the water in the separation chamber. Replace lid.

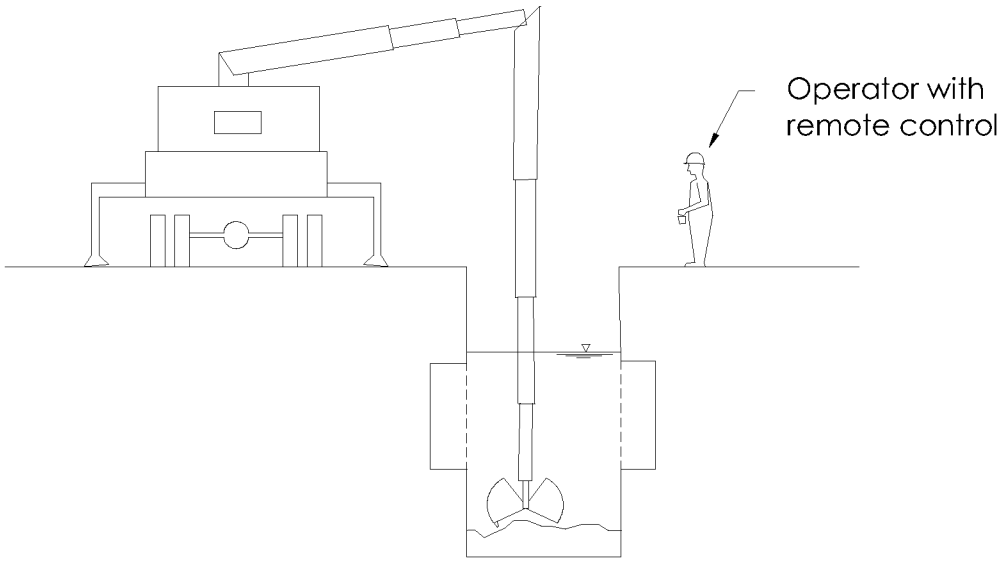


Figure 6.1 Clamshell bucket operation

6.4	Disposal of Pollutants	Record the quantity of pollutants removed from the CDS with a visual assessment of the breakdown by type: _____ % silt and sediment _____ % litter _____ % vegetation A note should be made of any unusual or large items, eg. oil, paint, car tyres etc. Dispose of pollutant material at an approved tipping site, ie. a tip which is licensed by the Waste Authority in the relevant state. Any free water removed can be discharged back into the CDS unit to minimise transportation and disposal costs. The material should be weighed if possible. Weight should be measured when the free water no longer drains out at the material. If this is not possible, an estimation of weight should be made.
6.5	Tidy Site	Tidy the site of any debris prior to leaving.
6.6	Complete and Forward Cleaning Report	Complete Cleaning Report (Appendix B) and forward to CDS owner. If there is any damage or non-functionality, complete Damage or Non-Functionality Report (Appendix C) and forward to the CDS Contact Person listed on the CDS Data Sheet.

Annually the CDS unit should be fully inspected inside and outside the screen to ensure no damage, algal growth or deposition of material has occurred. Any problems should be reported to the CDS owner and to CDS Technologies contact person.

6.7 HAZARD ANALYSIS 1

Activity : Grab Cleaning of CDS Unit

Task	Possible Hazard	Hazard Control
Site Establishment	Traffic Hazards	Implement Traffic Control Plan Obtain Road Closure Approval if necessary
	Risk to Pedestrian	Care to be taken when driving cranes, trucks etc. through public areas. Use assistant to guide reversing vehicle and ward off pedestrians In high pedestrian traffic areas, erect barricades around open CDS unit
Remove CDS Lid	Manual Handling	Correct Manual Lifting Techniques PPE : Steel cap boots, hard hat, gloves Lifting tackle in good condition. Crane in good condition, qualified operators. Crane near overhead electrical cables 3m clearance required to overhead electrical cables
	Person fall into CDS unit	Special care must be taken whilst working around the open CDS unit. Place barricade round open CDS unit. Place wire ladder into CDS unit fixed to truck.
Empty Bucket into truck	Biological contamination Bucket swings hitting employee	Wear gloves and wash hands afterwards with anti-bacterial soap. PPE, hard hat
Replace Basket	See Remove Basket	
Replace CDS lid	See Remove CDS Lid	

7 Safety Regulations

7.1 The safety regulations applying in the State or Territory are to be strictly adhered to.

7.2 The party performing the cleaning is to be fully aware of all applicable safety regulations and ensure that all staff are adequately trained in safe working practices.

7.3 These safety regulations include but are not limited to:

- 7.3.1 Occupational Health and Safety Legislation
- 7.3.2 Confined Spaces Legislation
- 7.3.3 Motor Traffic Legislation
- 7.3.4 Scaffolding and Lifts Regulations
- 7.3.5 Health Regulations dealing with handling of hazardous substances
- 7.3.6 Hazardous Substances Legislation
- 7.3.7 Manual Handling Regulations
- 7.3.8 Plant Operating Instructions
- 7.3.9 Traffic and Pedestrian Safety Standards.

7.4 Adequate insurances should be carried to cover Public Liability and Worker Injury.

8 Environmental Responsibility

8.1 CDS Technologies is committed to improving the environment with its products. It is essential therefore that the process of cleaning the CDS is performed in a manner, which is environmentally responsible. Simply, there must not be any waste left on the site or anything other than the treated water discharged into the environment. The waste must be disposed of in a best practice manner with regard to environmental legislation.

8.2 The party performing the cleaning must be aware of all environmental legislation applicable to these operations and ensure that all employees are trained in work practices complying with the legislation.

8.3 This legislation includes but is not limited to:

8.3.1 Local Government Regulations
8.3.2 Clean Waters Act
8.3.3 Waste Disposal Regulations
8.3.4 Litter Regulations

9 Documentation

9.1 There are only 3 documents generated by the inspection and cleaning of the CDS.

9.2 Inspection Report

Appendix A to be completed for each inspection and copy forwarded to CDS owner.

9.3 Cleaning Report

Appendix B is to be completed for each clean and forwarded to CDS owner.

9.4 Damage or Non-Functionality Report

Appendix C is to be completed upon observance of any damage or extraordinary occurrence affecting the normal operation of the CDS. Examples of these are:

9.4.1 damaged screen
9.4.2 damaged exclusion bars
9.4.3 damaged lids
9.4.4 screen blockage
9.4.5 repeated inlet blockage, and such like.

CDS Technologies will discuss with the CDS owner any remedial action required.

9.5 CDS Data Sheet

Appendix D - This contains relevant information about each CDS and includes contact phone numbers for CDS Contact Personnel including after hours numbers.

9.6 Any damage or non-functionality of the CDS unit should be reported on a Damage or Non-functionality Report (Appendix C) to CDS/Rocla

Inspection Form

Appendix A

Date: _____

Cleaning Contractor Company: _____

Phone No: _____ Fax No: _____

Inspection Person: _____

Unit Identification: _____

Percent cover of floatables on surface: _____

State of the screen (if visible): _____

Depth from base to lid: _____

Depth of accumulated solids: _____

Percent full: _____

Comments: _____

_____

_____

_____

Signed: _____

The report is to be faxed to the CDS owner.

CDS Clean Out Report

Appendix B

Date:_____

Cleaning Contractor Company:

Phone No:_____

Fax No:

Contact Person:

Unit Identification:

Address:_____

Method of Cleaning:

Time Taken:

Volume or mass of removed material:

Breakdown of material: _____Oil Quantity in litres

_____%silt and sand

____%litter

____%vegetation

Safety Procedures implemented in accordance with Hazard Analysis : Yes No

*Comments:*_____

_____

_____

*Signed:*_____

This report is to be faxed to the CDS owner.

Any damage or non-functionality of the CDS unit should be reported on a Damage or Non-functionality Report Appendix C to CDS /Rocla

Appendix C

Damage or Non-functionality Report

Date:_____

Unit Identification:

Address:_____

Company doing inspection/cleaning:

Contact Person:

Phone:_____Fax:

Nature of damage or problem:

Signed:_____

This report is to be faxed to CDS/Rocla

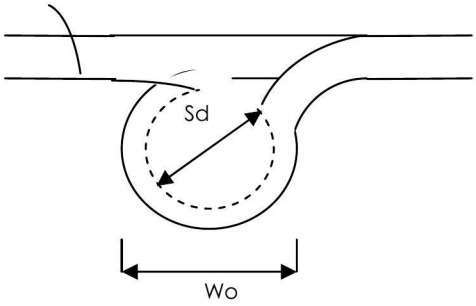
CDS Unit Data Sheet

Appendix D

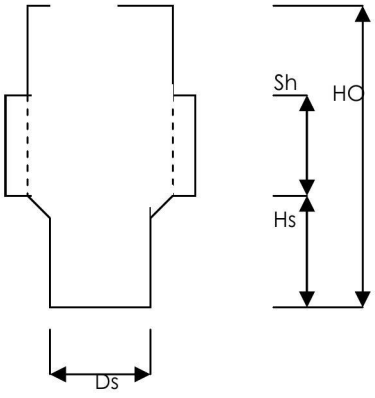
Name:		Unit Name:	
Address:		Unit No:	
		Unit Address:	
Contact Person:		Site:	
Phone:		Truck Instruction:	
Fax:		Keys:	
Mobile:		Lid Type:	
CDS Rep:		Lid Size:	
Phone:		Emptying Method(s):	Oil removed: Yes/No
After Hours:		Date Operational:	

Technical Data

Screen diameter	(Sd) =	
Screen height	(Sh) =	
Over all height	(H0) =	
Over all width	(Wo) =	
Sump diameter	(Ds) =	
Sump Height	(Hs) =	
Sump total volume	(Vt) =	
Unit weight of solid material	(γ)	800t/m^3
Estimate weight of full basket	=	



Depth from Lid to Pollution	Volume m^3	Weight tonnes	Percent Full
Screen bot			> 100
Sump Top			100
			90
			80
			70
			60
			50
			40
			30
			20
			10
Base =	0.00	0.00	Base Sump



ADDITIONAL NOTES ON CLEANOUT PROCEDURES ETC

APPENDIX C – MAINTENANCE CHECKLISTS

GROSS POLLUTANT TRAP OPERATION & MAINTENANCE CHECKLIST

Investigating Officer:	
Date:	
Time:	
Weather: rainfall in previous 2-3 days?	
Person contacted during visit:	

Site Name:		Suburb	
Owner:		Catchment	
Engineer;		File No.	

Needs Immediate Attention	X	No Action Required	OK
Not Applicable	NA	Clarification Required	?

Design Report	Required	Y/N	Available	Y/N	Adequate	Y/N	Approximate Check	Y/N
As Built Plans	Required	Y/N	Available	Y/N	Adequate	Y/N	Required to Verify	
Vegetation Management Plan	Required	Y/N	Available	Y/N	Adequate	Y/N	Volumes	

ITEMS INSPECTED	Checked Y/N	Mtce Req Y/N	Insp Freq A/M/S	ITEMS INSPECTED	Checked Y/N	Mtce Req Y/N	Insp Freq A/M/S
Access			**A/S**	**Other**			**M/S**
1. Condition of access ramp?				15. Condition of inlet?	**Good**	**Fair**	**Poor**
2. Vehicular turning bay?				16. Drains clear & operational?			
3. Condition of fence/gate?				17. Concrete & screens OK?			
4. Evidence of sink holes?				18. External site encroachments			
				19. Complaints from residents			
Separation Chamber			**A/S**	20. Aesthetics:			
5. Sedmnt accumulation >50%				a) Grass mowing?			
6. Maintenance access:				b) Graffiti?			
a) By hand?				c) Other?			
b) By machinery?				21. Public safety hazards?			
7. Debris on by-pass weir?				22. Other?			
8. Screens >50% clear opening?							
9. Evidence of corrosion?							
10. Evidence of gas buildup?							
Outlet Structure			**A/S**				
11. Sediment visible in outlet?							
12. Condition of outlet?							
a) Cracks or displacement?							
b) Minor spalling (<25 mm)?							
c) Major spalling (reo exposd)?							
d) Joint failure?							
e) Leakage evident?							
f) Headwall/wingwall condition?	**Good**	**Fair**	**Poor**				
g) Undercutting of protection?							
h) Evidence of erosion/scouring							
i) Evidence of sedimentation?							
13. Stabilisation of sides?							
14. Other?							

Inspection Frequency Key A = Annual, M = Monthly, S = After monthly storm (> 25 mm in 24 hrs)

OFFICER'S REMARKS:

OVERALL CONDITION OF FACILITY:

In accordance with approved design plans? **Y/N**

In accordance with As Built plans? **Y/N**

Maintenance required as detailed above? **Y/N**

Complies with Approval Conditions? **Y/N**

Comments: _____

Date by which maintenance must be completed / /

Date by which any outstanding information is required by / /

Officer's signature _____

Owner's Agent/ Engineer's signature _____

APPENDIX D – MAINTENANCE SCHEDULES

J Wyndham Prince Pty Ltd

GROSS POLLUTANT TREATMENT DEVICE MAINTENANCE SCHEDULE - CDS UNIT P1009

JORDAN SPRINGS STAGE 1 - RESIDENTIAL

MAINTENANCE ACTION	FREQUENCY	RESPONSIBILITY	PROCEDURE
GPT Unit			
Visually inspect main storage chamber	Monthly (or after significant storm event ≥20 mm)	Maintenance Contractor	Remove access hatch of the CDS unit main lid and inspect the visible parts of the screen for obstruction by debris.
Inspect for depth of sediment captured	Monthly (or after significant storm event ≥20 mm)	Maintenance Contractor	Remove access hatch of the CDS unit main lid and use sediment depth measurement device (probe) as indicated in the CDS Operation and Maintenance Manual. Sediment removal is required if sump is at 75% capacity or greater (should not be allowed to reach 100% capacity).
Inspect for obstructions within device	Monthly (or after significant storm event ≥20 mm)	Maintenance Contractor	Remove access hatch of the CDS unit main lid and visually inspect chamber and inlet/outlet pipe locations for blockages or obstructions.
Remove captured litter and sediment	As necessary through inspection advice (Quarterly, or after a total of 20 mm or more of rainfall has fallen within a 24 hour period, whichever comes first, or immediately after oil or hazardous material spillage).	Maintenance Contractor	Litter removal is required if the unit is at 75% of its storage capacity or greater. Removal of litter to be carried out using an eductor truck or clam shell unit with tip truck as detailed in CDS Operation and Maintenance Manual.
Inspect area around device for subsidence	Annually	Maintenance Contractor	Check along drainage lines and at pit locations for subsidence likely to indicate leakages and/or piping.
Inspect for secure fixture of internal fittings in chamber	Annually	Maintenance Contractor	Annual inspections involve dewatering of the unit and checking the condition of the screen, diversion chamber, weir, lids and any other features of the unit (includes fittings & securing bolts) as well as the general integrity of unit.
Check outlet opening dimensions are correct and retain solid edges	Five Yearly	Maintenance Contractor	Compare dimensions to design as shown in Work-As-Executed plans and ensure edges are not pitted or damaged.