



Operation & Maintenance Manuals Volume 3 As Constructed Drawings

Wacol WRP



Q-Pulse Id TMS378

Active 22/11/2013



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Tenix Drawings

As Constructed P&ID

LEGEND - EQUIPMENT ABBREVIATIONS

No	DESCRIPTION	No	DESCRIPTION	No	DESCRIPTION
AAH	ANALYSER ALARM HIGH	LS	LEVEL SWITCH	TE	TEMPERATURE ELEMENT
AAL	ANALYSER ALARM LOW	LSH	LEVEL SWITCH HIGH LEVEL	TIC	TEMPERATURE INDICATING CONTROLLER
AC	AIR COMPRESSOR	LSHH	LEVEL SWITCH HIGH LEVEL LIMIT	TI	TEMPERATURE INDICATION
AE	ANALYSER ELEMENT	LSL	LEVEL SWITCH LOW LEVEL	TIT	TEMPERATURE INDICATING TRANSMITTER
AF	ENCLOSURE FAN TO BLOWER	LSLL	LEVEL SWITCH LOW LEVEL LIMIT	TK	TANK, VESSEL, LAGOON OR BUNDED STRUCTURE
AI	ANALYSER INDICATION	LT	LEVEL TRANSMITTER	TKP	PRESSURE TANK
AIC	ANALYSER INDICATING CONTROLLER	LY	LEVEL RELAY	TS	TEMPERATURE SWITCH
AIT	ANALYSER INDICATING TRANSMITTER	LX	LEVEL SETPOINT	TT	TEMPERATURE TRANSMITTER
AI	ANALYSER INDICATION	MT	MOTOR	TUR	TURBIDITY METER
AS	AUTO SAMPLER	MAH	MOISTURE ALARM HIGH	UVAL	LOW UV ALARM
AX	ANALYSER SETPOINT	MF	MAG FLOW METER	V	VALVE
BL	AERATION BLOWER	MINH	MANHOLE	VAH	VIBRATION ALARM HIGH
BN	STORAGE BIN	MS	MOISTURE SWITCH	VCA	VALVE CONTROL AIR
BPS	BELT FILTER PRESS	NA	NITRATE ANALYSER	VE	VIBRATION ELEMENT
BU	BAGGING UNIT	NAT	NITRATE INDICATOR TRANSMITTER	VIT	VIBRATION TRANSMITTER
CAH	CONDUCTIVITY ALARM HIGH	NRV	NON RETURN VALVE	VS	VIBRATION SWITCH
CAL	CONDUCTIVITY ALARM LOW	OI	OXYGEN INDICATOR	VY	VIBRATION RELAY
CE	CONDUCTIVITY ELEMENT	OIT	OXYGEN INDICATOR TRANSMITTER	WE	WEIGHT ELEMENT
CF	CENTRIFUGE	OS	OVERLOAD SWITCH	WI	WEIGHT INDICATOR
CIT	CONDUCTIVITY INDICATING TRANSMITTER	PAH	PRESSURE ALARM HIGH	WIT	WEIGHT INDICATOR TRANSMITTER
CNL	CHANNEL / OUTFALL	PAHH	PRESSURE ALARM HIGH HIGH	WM	SCREW PRESS
CO	CONDUCTIVITY METER	PAL	PRESSURE ALARM LOW	WR	WEIR, OVERFLOW STRUCTURE
CP	AIR COMPRESSOR	PALL	PRESSURE ALARM LOW LOW	XAAH	UNCLASSIFIED ALARM HIGH HIGH
CS	SPEED CONTROLLER	PAV	POWER ACTUATED VALVE	XAL	UNCLASSIFIED ALARM LOW
CV	CONVEYOR	P	SPRAY PUMP	XALL	UNCLASSIFIED ALARM LOW LOW
DEC	FABRICATED DECANTER	PU	PUMP	XE	UNCLASSIFIED ELEMENT
DP	DEW POINT	POAH	PRESSURE DIFFERENTIAL ALARM HIGH	XI	UNCLASSIFIED INDICATOR
EJ	EJECTOR	POIT	PRESSURE DIFFERENTIAL INDICATING TRANSMITTER	XS	UNCLASSIFIED SWITCH
ES	EYEWASH STATION	PDS	PRESSURE DIFFERENTIAL SWITCH	XSC	UNCLASSIFIED SWITCH CLOSED
FAH	FLOW ALARM HIGH	POSH	PRESSURE DIFFERENTIAL SWITCH HIGH	XSO	UNCLASSIFIED SWITCH OPEN
FAHH	FLOW ALARM HIGH HIGH	PE	PRESSURE ELEMENT	XSS	UNCLASSIFIED SAFETY SWITCH
FAL	FLOW ALARM LOW	PH	pH PROBE	XY	UNCLASSIFIED RELAY
FALL	FLOW ALARM LOW LOW	PHAH	pH ALARM HIGH LEVEL LIMIT	YAH	TORQUE ALARM HIGH
FCV	FLOW CONTROL VALVE	PHAL	pH ALARM LOW LEVEL	YS	TORQUE SWITCH
FE	FLOW ELEMENT	PHT	pH TRANSMITTER	ZA	POSITION ALARM
FFC	FLOW RATIO CONTROLLER	PI	PRESSURE INDICATOR	ZAC	POSITION ALARM CLOSED
FI	FLOW INDICATION	PIT	PRESSURE INDICATOR TRANSMITTER	ZAO	POSITION ALARM OPEN
FIC	FLOW INDICATING CONTROLLER	PK	PENSTOCK	ZI	POSITION INDICATION
FIT	FLOW INDICATING TRANSMITTER	PLH	PRESSURE LEVEL HIGH	ZIC	POSITION INDICATOR CLOSED
FAN	FAN	PRV	PRESSURE RELIEF VALVE	ZIO	POSITION INDICATOR OPEN
FLC	FLEXIBLE CONNECTION	PS	PRESSURE SWITCH	ZO	POSITION OPEN
FQ	FLOW TOTAL	PSH	PRESSURE SWITCH HIGH	ZOC	POSITION CONTROL OPEN / CLOSE
FS	FLOW SWITCH	PSL	PRESSURE SWITCH LOW	ZS	POSITION SWITCH
FSH	FLOW SWITCH HIGH	PSLL	PRESSURE SWITCH LOW LOW	ZSC	POSITION SWITCH CLOSED
FSHH	FLOW SWITCH HIGH HIGH	PSV	PRESSURE REDUCING VALVE	ZSL	POSITION SWITCH LEFT
FSL	FLOW SWITCH LOW	PT	PRESSURE TRANSMITTER	ZSR	POSITION SWITCH RIGHT
FSSL	FLOW SWITCH LOW LOW	PX	PRESSURE SETPOINT	ZSO	POSITION SWITCH OPEN
FX	FLOW SETPOINT	PXS	PROXIMITY SWITCH	ZSS	POSITION SAFETY SWITCH
GC	GRIT CLASSIFIER	RPO	REDOX POTENTIAL ANALYSER	ZY	POSITION RELAY
H	HIGH	RPOT	REDOX POTENTIAL TRANSMITTER		
HH	HIGH HIGH	RT	ROTAMETER		
HS	HAND SWITCH	SAH	SPEED ALARM HIGH		
HV	HAND VALVE	SAL	SPEED ALARM LOW		
JA	JET AERATOR	SB	STOP BOARD		
KC	TIMER CONTROL	SCR	SCREW CONVEYOR		
KX	TIME SETPOINT	SE	SCREEN		
L	LOW	SG	SLUICE GATE		
LAH	LEVEL ALARM HIGH	SIC	SPEED INDICATING CONTROLLER		
LAHH	LEVEL ALARM HIGH LEVEL	SL	STOP LOG		
LAL	LEVEL ALARM LOW	SM	STATIC MIXER		
LALL	LEVEL ALARM LOW LEVEL	SS	SPEED SWITCH		
LCP	LOCAL CONTROL PANEL	SSL	SPEED SWITCH LOW (UNDERSPEED)		
LE	LEVEL ELEMENT	SV	SOLENOID VALVE		
LI	LEVEL INDICATOR	SK	SPEED SETPOINT		
LIC	LEVEL INDICATING CONTROLLER	SY	SPEED RELAY		
LIT	LEVEL INDICATING TRANSMITTER	TAH	TEMPERATURE ALARM HIGH		
LL	LOW LOW	TAHH	TEMPERATURE ALARM HIGH HIGH		
LOC	LIMIT OF CONTRACT	TAL	TEMPERATURE ALARM LOW		
		TALL	TEMPERATURE ALARM LOW LOW		

INSTRUMENT SIGNS
FIELD DISCRETE INSTRUMENT



XXXX ZZZ
AREA SEQUENTIAL
CODE NUMBER

FIELD DISCRETE SIGNAL



XXXX ZZZ
AREA SEQUENTIAL
CODE NUMBER

FIELD MOUNTED PROGRAMMABLE
LOGIC CONTROLLER



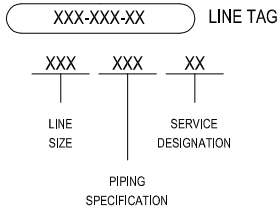
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AREA SEQUENTIAL
CODE NUMBER

LEGEND - EQUIPMENT SYMBOLS

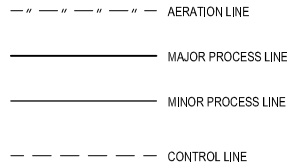
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NORMALLY OPEN		NORMALLY CLOSED		SPRAY
	SLUICE/GATE VALVE		BALL VALVE		FUNNEL / TUNDISH
	GLOBE VALVE		BUTTERFLY VALVE		AIR ACTUATED CONTROL VALVE
	NON-RETURN VALVE		KNIFE-GATE VALVE		SIGHT GLASS
	HAND VALVE		AIR ACTUATED VALVE		DIAPHRAGM DOSING PUMP
	MOTOR ACTUATED VALVE		DIAPHRAGM VALVE		FLANGE CONNECTOR
	PLUG VALVE		SOLENOID VALVE		REDUCER
	PRESSURE SUSTAINING VALVE		PRESSURE RELIEF VALVE		PRESSURE SWITCH
	PRESSURE REDUCING VALVE		DIAPHRAGM AND SPRING VALVE		MIXER/AGITATOR
	ACTUATED BUTTERFLY VALVE		SLIDING GATE VALVE		MOTOR
	SUBMERSIBLE PUMP		PUMP		SILENCER
	DRY MOUNTED PUMP		INTERLOCK		'Y' STRAINER
	ROTOR PUMP / ROTARY LOBE PUMP		AFTER COOLER		AIR FILTER
	HELICAL ROTOR PUMP		MEMBRANE FILTER		AIR COMPRESSOR
	EXHAUST FAN		STATIC MIXER		FLOAT
	BLOWER		SPIRAL STATIC MIXER		INTERLOCK
	ULTRASONIC LEVEL SENSOR		SCREW CONVEYOR TYPE 1		AFTER COOLER
	MAG FLOW METER		SCREW CONVEYOR TYPE 2		MEMBRANE FILTER
	FLOW METER		AUTOMATICALLY ACTUATED PENSTOCK		STATIC MIXER
	ROTAMETER		MANUALLY OPERATED PENSTOCK		SPIRAL STATIC MIXER
	STOP LOG / BOARD		WEIR		SCREW CONVEYOR TYPE 1
	AUTOMATIC SAMPLER		SCREENINGS WASH PRESS		SCREW CONVEYOR TYPE 2
	CAMLOCK		JET AERATOR		AUTOMATICALLY ACTUATED PENSTOCK
	CAMLOCK TYPE 2		MULTITRODE		MANUALLY OPERATED PENSTOCK
	PRESSURE SENSOR (LEVEL)				WEIR
	EXHAUST FAN VIBRATION DAMPENER				SCREENINGS WASH PRESS
	THRUST TYPE DISMANTLING JOINT				JET AERATOR

PIPING

LINE DESIGNATION



LINE TYPES



SERVICE DESIGNATION

AA	AERATION AIR	PD	POLY DOSING
AS	ACTIVATED SLUDGE	PE	PRIMARY EFFLUENT
AD	ALUMINIUM SULPHATE DOSING	PS	PRIMARY SLUDGE
BW	BACKWASH WATER	PT	PRIMARY TREATED WATER
BO	BOREWATER	PW	POTABLE WATER
CA	COMPRESSED AIR	RAS	RETURN ACTIVATED SLUDGE
CD	CAUSTIC DOSING	RE	RETICULATED EFFLUENT - (SERVICE WATER)
CE	CENTRATE	RL	RETURN LIQUOR
CG	CHLORINE GAS	RS	RAW SEWAGE
CS	CHLORINE SOLUTION	RW	RAW WASTEWATER
CT	CITRIC ACID DOSING	SA	SCOUR AIR
DE	DISINFECTED EFFLUENT	SBS	SODIUM BISULPHITE DOSING
DN	DRAIN	SC	SCUM
DS	DIGESTED SLUDGE	SE	SECONDARY EFFLUENT
EF	EFFLUENT	SP	SEPTAGE
FA	FOUL AIR	SPL	SPENT PICKLE LIQUOR DOSING
FE	FILTERED EFFLUENT	SN	SUPERNATANT, SUBNATANT
FL	FILTRATE	TS	THICKENED SLUDGE
FR	FILTER RINSE	WAS	WASTE ACTIVATED SLUDGE
GRT	GRIT SLURRY	WM	WASTE MIXED LIQUOR
IA	INSTRUMENT AIR	WR	WATER (REACTION)
MD	MOLASSES DOSING		
ML	MIXED LIQUOR		
ND	NITROGEN DOSING		
NP	NITROGEN PURGE		
NPW	NON POTABLE WATER		
OV	OIL VAPOUR		
OL	CONDENSED OIL		

SPECIFICATION

ABS	ACRYLONITRILE BUTADIENE STYRENE
CON	CONCRETE
COP	COPPER
DI	DUCTILE IRON
DICL	DUCTILE IRON CEMENT LINED
FRC	FIBRE REINFORCED CEMENT
FLH	FLEXIBLE HOSE
GRP	GLASS REINFORCED PLASTIC
GMS	GALVANISED STEEL
MSI	MILD STEEL
MSCL	MILD STEEL CEMENT LINED
MSO	MILD STEEL SPIRAL WOUND
NVL	NYLON
PE	POLYETHYLENE
PVC	POLY VINYL CHLORIDE, UNPLASTICISED
PVI	POLY VINYL IRON
SS	STAINLESS STEEL, TYPE 316
VC	VITREOUS CLAY
VCX	VITRIFIED CLAY

AS CONSTRUCTED

NOTE:

1. 486/5/5-0173-003 AREA
EQUIPMENT CODES, INSTRUMENT
CODES, PIPE MATERIAL CODES AND
PIPE SERVICE CODES PREVAIL IN
CASE OF CONFLICT.

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE:

NAME of SIGNATORY: JEAN MARC LAURILLARD

RPEQ No. or LICENCE: 13594

COMPANY NAME: TENIX

START DATE: FINISH DATE: 01.10.2013



TENIX DRAWING No. 300832-I-DWG-5002 REV. 1

DESIGN: Y.WU DRAWN: S.BAYAN CHECK: J.LAURILLARD

APPROVED: M.LESKE DATE: 01.10.2013

K.VAHEESAN ORIGINAL SIGNED

NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



SHEET No. OF AMEND.

QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0173-010

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AREA CODES		EQUIPMENT CODES		INSTRUMENT & FUNCTION SYMBOLS		PIPE NUMBERING		TYPICAL INSTALLATIONS																							
<p>AREA 0100 - SEWAGE DELIVERY</p> <p>0110 SEWAGE PUMPS</p> <p>0190 PROCESS CONTROL</p> <p>AREA 0200 - PRE-TREATMENT</p> <p>0210 SCREENS</p> <p>0220 SCREENINGS WASHING</p> <p>0230 GRIT REMOVAL</p> <p>0240 GRIT CLASSIFICATION</p> <p>0250 FLOW SPLITTER</p> <p>0260 FINE SCREENS</p> <p>0290 PROCESS CONTROL</p> <p>AREA 0300 - CLARIFICATION</p> <p>0310 TANKS</p> <p>0320 SCUM PUMPING</p> <p>0330 WAS PUMPING</p> <p>0340 RAS PUMPING</p> <p>0350 SUPERNATANT</p> <p>AREA 0400 - SLUDGE TREATMENT</p> <p>0410 RAW SLUDGE THICKENING</p> <p>0420 WAS THICKENING/DEWATERING</p> <p>0430 HYDROLYSIS</p> <p>0440 DIGESTION TANKS</p> <p>0450 DIGESTED SLUDGE DEWATERING</p> <p>0460 POLY SYSTEM</p> <p>0470 SIDE STREAM TREATMENT</p> <p>0480 DIGESTION AERATION</p> <p>0490 PROCESS CONTROL</p> <p>AREA 0500 - BIOLOGICAL TREATMENT</p> <p>0510 TANKS</p> <p>0520 AERATION BLOWERS</p> <p>0530 WAS PUMPING</p> <p>0540 MLSS RECYCLE PUMPS/MBR FEED PUMPS</p> <p>0560 SCUM PUMPING</p> <p>0590 PROCESS CONTROL</p> <p>AREA 0600 - MEMBRANES/FILTRATION</p> <p>0610 TANKS</p> <p>0620 SCUM PUMPING</p> <p>0630 RAS SYSTEM</p> <p>0640 MEMBRANE AERATION BLOWERS</p> <p>0650 MEMBRANE PERMEATE SYSTEM</p> <p>0660 WAS PUMPING</p> <p>0670 BACK PULSE PS</p> <p>0680 VACUUM PS</p> <p>0690 DRAIN PS</p> <p>AREA 0700 - DISINFECTION AND OUTFALL</p> <p>0710 CHLORINE</p> <p>0720 UV</p> <p>0730 OZONE</p> <p>0740 AWTP OFFTAKE</p> <p>0780 OUTFALL</p> <p>0790 PROCESS CONTROL</p> <p>AREA 0800 ODOUR MANAGEMENT</p> <p>AREA 0900 - ENERGY RECOVERY</p> <p>AREA 1000 - SITE SERVICES</p> <p>1010 TREATMENT COMPRESSED AIR</p> <p>1020 POTABLE WATER</p> <p>1030 SERVICE WATER</p> <p>1040 ELECTRICAL POWER DISTRIBUTION</p> <p>1050 EMERGENCY POWER GENERATION</p> <p>1060 FIRE WATER</p> <p>1090 PROCESS CONTROL</p> <p>AREA 1100 - GENERAL</p> <p>1110 ROADS</p> <p>1120 TELECOMMUNICATIONS</p> <p>1130 BUILDINGS</p> <p>1140 STORMWATER</p> <p>1150 SEWERAGE</p> <p>1160 SECURITY</p> <p>1170 GROUNDS AND LIGHTING</p> <p>1180 SAFETY AND LIFTING</p> <p>1190 PROCESS CONTROL</p> <p>AREA 2000 - WATER RECLAMATION</p> <p>2080 TANKER FACILITY</p> <p>2090 PROCESS CONTROL</p> <p>AREA 3000 - CHEMICAL DOSING</p> <p>3010 ALUMINIUM SULPHATE</p> <p>3020 CAUSTIC SODA</p> <p>3030 SUPPLEMENTARY CARBON</p> <p>3040 SODIUM HYPOCHLORITE</p> <p>3050 CITRIC ACID</p> <p>3060 SODIUM BICARBONATE</p>		<p>AS</p> <p>ATU AUTO SMAPLER</p> <p>BFP AIR TREATMENT UNIT</p> <p>BGU BELT FILTER PRESS</p> <p>BLU BAGGING UNIT</p> <p>BLR BLOWER</p> <p>BLR BLOWER ROOM</p> <p>BN STORAGE BIN</p> <p>BND BUND</p> <p>BOI BOILER</p> <p>BRN BURNER</p> <p>CCL CALIBRATION CYLINDER</p> <p>CDR CARD READER</p> <p>CF CENTRIFUGE</p> <p>CLF CLASSIFIER</p> <p>CHU ACTUATED CHUTE</p> <p>CLM CLAM GATE</p> <p>CLR CLARIFIER</p> <p>CNL CHANNEL/OUTFALL</p> <p>CMP COMPRESSOR</p> <p>CRN CRANE</p> <p>CTW COOLING TOWER</p> <p>CV CONVEYOR</p> <p>CY CYCLONE</p> <p>D DENSITY</p> <p>DEC DECANter</p> <p>DIF DIFFUSER</p> <p>DMA DAMPENER AIR</p> <p>DMI DAMPENER AIR INLET</p> <p>DMP DAMPENER</p> <p>DPS DIAPHRAGM SEAL</p> <p>DVT DAVIT</p> <p>EJC EJECTOR</p> <p>EXH EXHAUST STACK</p> <p>FAN FAN</p> <p>FDR FEEDER</p> <p>FLM FLAME ARRESTOR</p> <p>FLT FILTER</p> <p>FTB FLOW TUBE/ROTAMETER</p> <p>GDD GRAVITY DRAINAGE DECK</p> <p>GEN GENERATOR SET</p> <p>GNT GANTRY</p> <p>GT GRIT TRAP</p> <p>HA HYDRAULIC ACCUMULATOR</p> <p>HEX HEAT EXCHANGER</p> <p>HOI HOIST</p> <p>HPR HOPPER</p> <p>HR HOSE REEL</p> <p>HTR HEATING COIL</p> <p>HV HAND VALVE</p> <p>HYD HYDRAULIC SYSTEM</p> <p>IPS INSTRUMENT POWER SUPPLY</p> <p>ISU INSULATION</p> <p>MNC MACERATOR</p> <p>MNH MANHOLE</p> <p>MT MOTOR</p> <p>MW MOTORISED WEIR</p> <p>MX MIXER</p> <p>NRV NON RETURN VALVE</p> <p>PEC PORTABLE EVAPORATIVE COOLER</p> <p>PT PENSTOCK</p> <p>PTF PLATFORM AND HANDRAIL</p> <p>PV PRESSURE VESSEL</p> <p>RCT REACTOR</p> <p>REV REVERSING MOTOR</p> <p>RG RADIOACTIVE GAUGE</p> <p>SB STOP BOARD</p> <p>SBR BAND SCREEN</p> <p>SCB SCRUBBER</p> <p>SCH SCUM HARVESTER</p> <p>SCN MANUAL SCREEN</p> <p>SCR SCREW CONVEYOR</p> <p>SOR DRUM SCREEN</p> <p>SEP SEPARATOR</p> <p>SFT SOFTENER - WATER</p> <p>SG SLUICE GATE</p> <p>SIL SILENCER</p> <p>SLW SLEW DRIVE</p> <p>SP SCRAPER BRIDGE</p> <p>SPT SPIROTAINER</p> <p>SSH SAFETY SHOWER</p> <p>SSR STEP SCREEN</p> <p>SST SOFT STARTER</p> <p>STR STRAINER</p> <p>SV SOLENOID VALVE</p> <p>TK TANK</p> <p>TKP PRESSURISED TANK</p> <p>UV UV DISINFECTION</p> <p>RPZD BACK FLOW PREVENTER</p> <p>VCA VALVE CONTROL - AIR</p> <p>VCE VALVE CONTROL - ELECTRIC</p> <p>VPR VALVE PRESSURE RELIEF</p> <p>VPS VALVE PRESSURE REDUCTION</p> <p>VSD VALVE PRESSURE SUSTAINING</p> <p>WDM WATER MANAGEMENT UNIT - TANKER OUTLOADING</p> <p>WSK WASHPACTOR</p> <p>WPR WASH PRESS</p> <p>WR WEIR</p>		<p>DISCRETE FIELD MOUNTED INSTRUMENT/DEVICE</p> <p>REMOTE PANEL MOUNTED DISCRETE INSTRUMENT/DEVICE WITH INDICATION/CONTROL</p> <p>MAIN PLANT PLC INPUT OR OUTPUT WITH ASSOCIATED FUNCTIONALITY, OPERATOR ACCESSIBLE</p> <p>VENDOR PACKAGE PLC INPUT OR OUTPUT</p> <p>GENERAL INTERLOCK</p>		<p>XXXX-YYYY-ZZZZ</p> <p>PIPE CONTENTS</p> <p>PIPE MATERIAL</p> <p>NOMINAL PIPESIZE (mm)</p> <p>e.g. 114-150-UPVC-DR = No. 114, 150mm UNPLASTICISED PVC, DRAINAGE ALL DIMENSIONS NOMINAL BORE EXCEPT MILD STEEL PIPE AND PE</p>		<p>PIPE MATERIAL CODES</p> <p>ABS ACRYLONITRILE BUTADIENE STYRENE</p> <p>ACX ASBESTOS CEMENT</p> <p>CCE CONCRETE CHANNEL EXPOXY LINED</p> <p>CCX CONCRETE CHANNEL</p> <p>CIC CAST IRON CEMENT LINED</p> <p>CIE DUCTILE IRON EXPOXY LINED</p> <p>CIX CAST IRON</p> <p>COP COPPER</p> <p>DICL DUCTILE IRON CEMENT LINED</p> <p>DIFC EPOXY COATED & EPOXY LINE DICL</p> <p>DOC DUCTILE IRON CALCIUM ALUMINATE CEMENT LINED</p> <p>FRP FIBRE REINFORCED CONCRETE</p> <p>FRC FIBREGLASS REINFORCED PLASTIC</p> <p>GMS GALVANISED MILD STEEL</p> <p>MSCL MILD STEEL CEMENT LINED</p> <p>MSK MILD STEEL FUSION BONDED POLYETHYLENE COATED</p> <p>MP MILD STEEL FUSION BONDED POLYETHYLENE COATED AND LINED</p> <p>PE POLYETHYLENE</p> <p>PP POLYPROPYLENE</p> <p>PVC POLYVINYL CHLORIDE</p> <p>PVG PVC SCHEDULE 80</p> <p>RCP REINFORCED CONCRETE</p> <p>SS STAINLESS STEEL 316 L</p> <p>SSW STAINLESS STEEL 316 L SPIRAL - WELD</p> <p>SSX STAINLESS STEEL 316 L SCHEDULE 10</p> <p>UPVC RIGID UNPLASTICISED POLYVINYL CHLORIDE</p> <p>VCX VITRIFIED CLAY</p> <p>XMA UNKNOWN MATERIAL</p>		<p>PIPE SERVICE CODES</p> <p>ALM ALUMINIUM SUPHATE</p> <p>BRF BIOSCRUBBER RETICULATION FLUID</p> <p>CAU CAUSTIC SODA</p> <p>CIT CITRIC ACID</p> <p>CLX SODIUM HYPOCHLORITE</p> <p>DL DIESEL</p> <p>DWAS DIGESTED WASTE ACTIVATED SLUDGE</p> <p>EF EFFLUENT WATER</p> <p>FA FOUL AIR</p> <p>FW FIRE WATER</p> <p>FL FILTRATE/CENTRATE</p> <p>GT GRIT SLURRY</p> <p>IA INSTRUMENT AIR</p> <p>ML MIXED LIQUOR</p> <p>MET METHANOL DOSING</p> <p>NUT NUTRIENT</p> <p>PM PERMEATE</p> <p>POLY POLYELECTROLYTE</p> <p>PRA PROCESS AIR</p> <p>PW POTABLE WATER</p> <p>RAS RETURN ACTIVATED SLUDGE</p> <p>RAW OR PRELIMINARY TREATED SEWAGE</p> <p>SC SCUM</p> <p>SCRS SCREENINGS</p> <p>SE SECONDARY EFFLUENT</p> <p>SNT SUPERNATANT</p> <p>SUP SUPPLEMENTARY CARBON</p> <p>SW SERVICE WATER</p> <p>TWAS THICKENED WASTE ACTIVATED SLUDGE</p> <p>WAS WASTE ACTIVATED SLUDGE</p>		<p>PIPE SIZES</p> <p>XDN UNKNOWN PIPE DIAMETER</p>		<p>PLANT NUMBERING</p> <p>THE PROPOSED PLANT NUMBER IS A SEMI-INTELLIGENT NUMBER WHICH ALLOWS FOR READY IDENTIFICATION OF ASSET OWNER, SITE, PROCESS AND ASSET TYPE, FOLLOWED BY AN INCREMENTAL NUMBER ie</p> <p>PLANT NUMBER</p> <p>RWSTP-FIT-0200-001</p> <p>SITE ID NUMBER ASSET TAG NUMBER</p> <p>NB: ONLY LAST 10 CHARACTERS TO BE SHOWN ON P&ID</p> <p>SITE ID TO BE SHOWN AT THE BOTTOM OF EACH P&ID</p> <ul style="list-style-type: none">RWSTP - SITE (ROSEWOOD SEWAGE TREATMENT PLANT) - 5 CharactersFIT - ASSET GROUP (FLOW METER) - 3 Characters0200 - PROCESS AREA (PRE-TREATMENT) - 4 Characters001 - INCREMENTAL NUMBER - 3 Characters		<p>AS CONSTRUCTED</p> <p>AS CONSTRUCTED DETAILS</p> <p>I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.</p> <p>SIGNED: DATE:</p> <p>NAME OF SIGNATORY: JEAN MARC LAURILLARD</p> <p>RPEQ No. or LICENCE: 13594</p> <p>COMPANY NAME: TENIX</p> <p>START DATE: FINISH DATE: 01.10.2013</p> <p>TENIX</p> <p>TENIX AUSTRALIA PTY LTD ACN 000 000 004</p> <p>TENIX DRAWING No. 300832-I-DWG-5003 REV. 1</p> <p>DESIGN: Y.WU DRAWN: S.BAYAN CHECK: J.LAURILLARD</p> <p>APPROVED: M.LESKE DATE: 01.10.2013</p> <p>K.VAHEESAN ORIGINAL SIGNED</p> <p>NAME SIGNATURE DATE</p> <p>QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)</p> <p>QUEENSLAND UrbanUtilities</p> <p>SHEET No. OF AMEND.</p> <p>486/5/5-0173-011 A</p>															
K																															
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DESIGN W.O. No. 300832		DRAFTING CHECK		ORIGINAL SIGNED S.BAYAN 01.10.13		ORIGINAL SIGNED Y.WU 01.10.13		WACOL WATER RECLAMATION PLANT INLET WORKS UPGRADE		QUU P&ID LEGEND		QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.	
CONSTRUCTION W.O. No. BW 70146-WD16		CAD FILE		ORIGINAL SIGNED J.LAURILLARD 13549 01.10.13		ORIGINAL SIGNED M.LESKE 01.10.13						486/5/5-0173-011 A	
FUNDED BY Q.U.U. () EXTERNAL ()		Q.U.U. FILE No.		185/255/663/49		DESIGN CHECK R.P.E.Q. No.							

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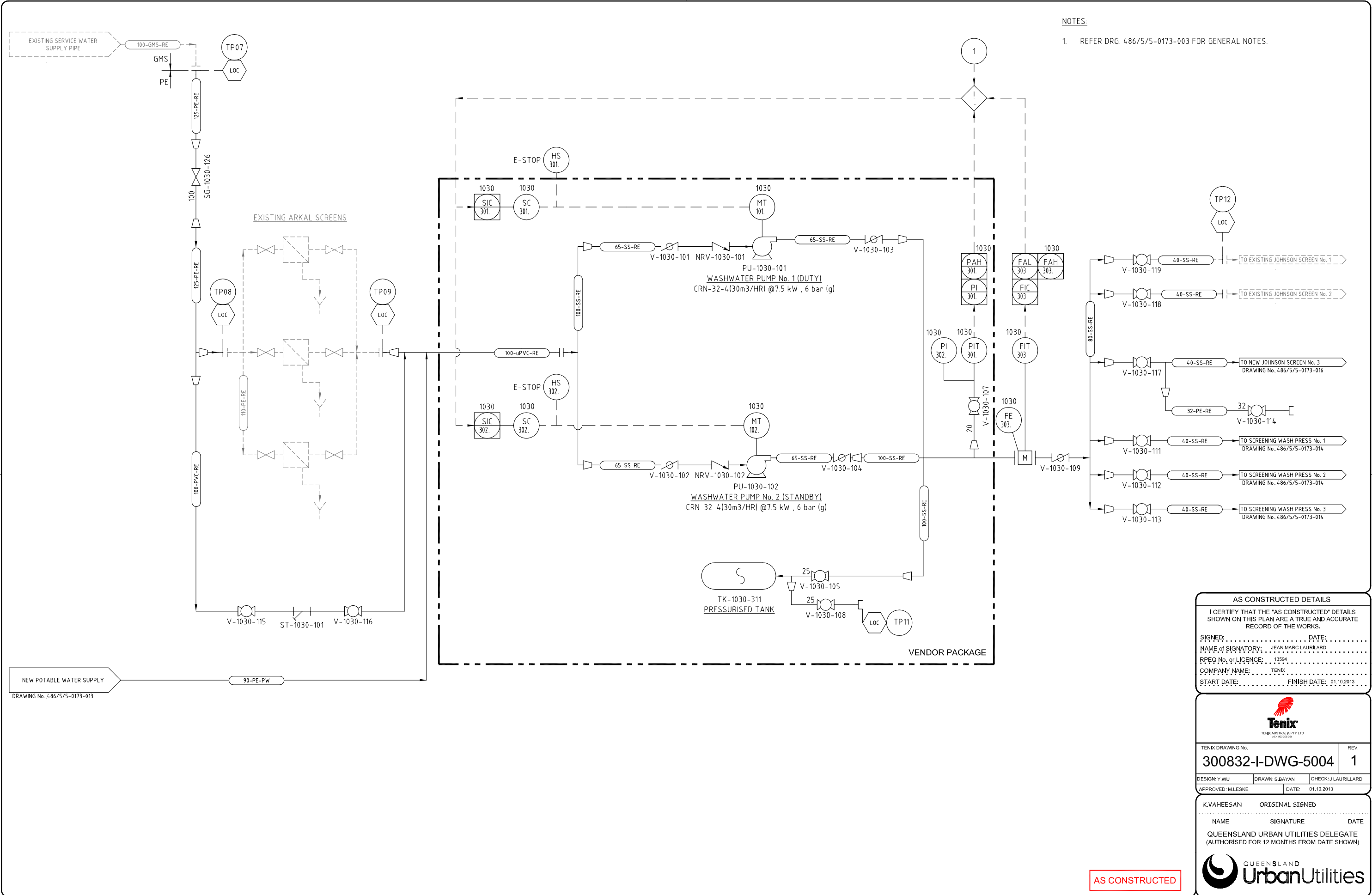
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FUNDED BY Q.U.U. () EXTERNAL ()		Q.U.U. FILE No.		185									



NOTES:

1. REFER DRG. 486/5/5-0173-003 FOR GENERAL NOTES.

TO EXISTING JOHNSON SCREEN No. 1

TO EXISTING JOHNSON SCREEN No. 2

TO NEW JOHNSON SCREEN No. 3
DRAWING No. 486/5/5-0173-016

TO SCREENING WASH PRESS No. 1
DRAWING No. 486/5/5-0173-014

TO SCREENING WASH PRESS No. 2
DRAWING No. 486/5/5-0173-014

TO SCREENING WASH PRESS No. 3
DRAWING No. 486/5/5-0173-014

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE:
NAME of SIGNATORY: JEAN MARC LAURILLARD
RPEQ No. or LICENCE: 13594
COMPANY NAME: TENIX
START DATE: FINISH DATE: 01.10.2013

TENIX
TENIX AUSTRALIA PTY LTD
ACR 000 000 004

TENIX DRAWING No. 300832-I-DWG-5004 REV. 1

DESIGN: Y.WU DRAWN: S.BAYAN CHECK: J.LAURILLARD
APPROVED: M.LESKE DATE: 01.10.2013

K.VAHEESAN ORIGINAL SIGNED
NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

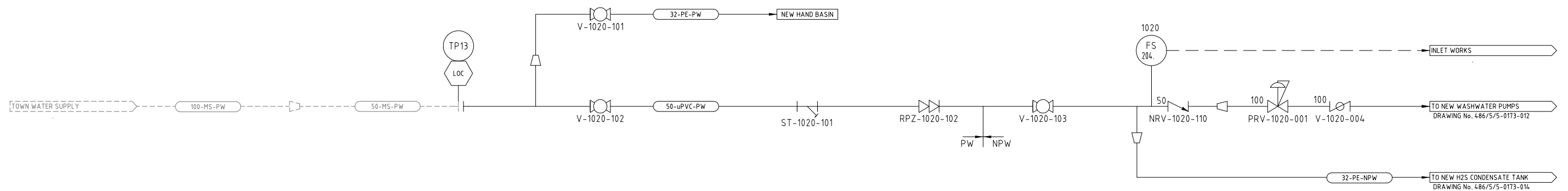
SHEET No. OF
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0173-012 A

FUNDING				DRAFTED		ORIGINAL SIGNED		ORIGINAL SIGNED		ORIGINAL SIGNED	
A	01.10.13	AS CONSTRUCTED	SB YW 13594	DESIGN W.O. No.	300832	ORIGINAL SIGNED S.BAYAN	01.10.13	Y.WU	01.10.13	M.LESKE	01.10.13
0	23.04.13	FOR CONSTRUCTION	RS JML 1068 AH	CONSTRUCTION W.O. No.	BW 70146-WD16	ORIGINAL SIGNED Y.WU	01.10.13	J.LAURILLARD	13549	01.10.13	01.10.13
No.	DATE	AMENDMENT	DRAFTED DESIGNED RPEQ NO. APPROVED	FUNDED BY Q.U.U. (✓) EXTERNAL ()	Q.U.U. FILE No.	185/255/863/49					

ASSET/PROJECT
WACOL WATER RECLAMATION PLANT
INLET WORKS UPGRADE

DRAWING TITLE
P&ID
WASHWATER
SUPPLY SYSTEM

1. REFER DRG. 486/5/5-0173-003 FOR GENERAL NOTES.



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS
SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
RECORD OF THE WORKS.

SIGNED: _____ DATE: _____

NAME OF SIGNATORY: JEAN MARC LAURILARD

REP. No. or LICENCE: 13594

COMPANY NAME: TENIX

START DATE: _____ FINISH DATE: 01.10.2013



TENIX DRAWING No.		REV.
300832-I-DWG-5005		1
DESIGN: Y.WU	DRAWN: S.BAYAN	CHECK: J.LAURILLARD
APPROVED: M.LESKE	DATE: 01.10.2013	

K.VAHEESAN	ORIGINAL SIGNED	
NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



SHEET No. OF	
QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
486/5/5-0173-013	A

AS CONSTRUCTED

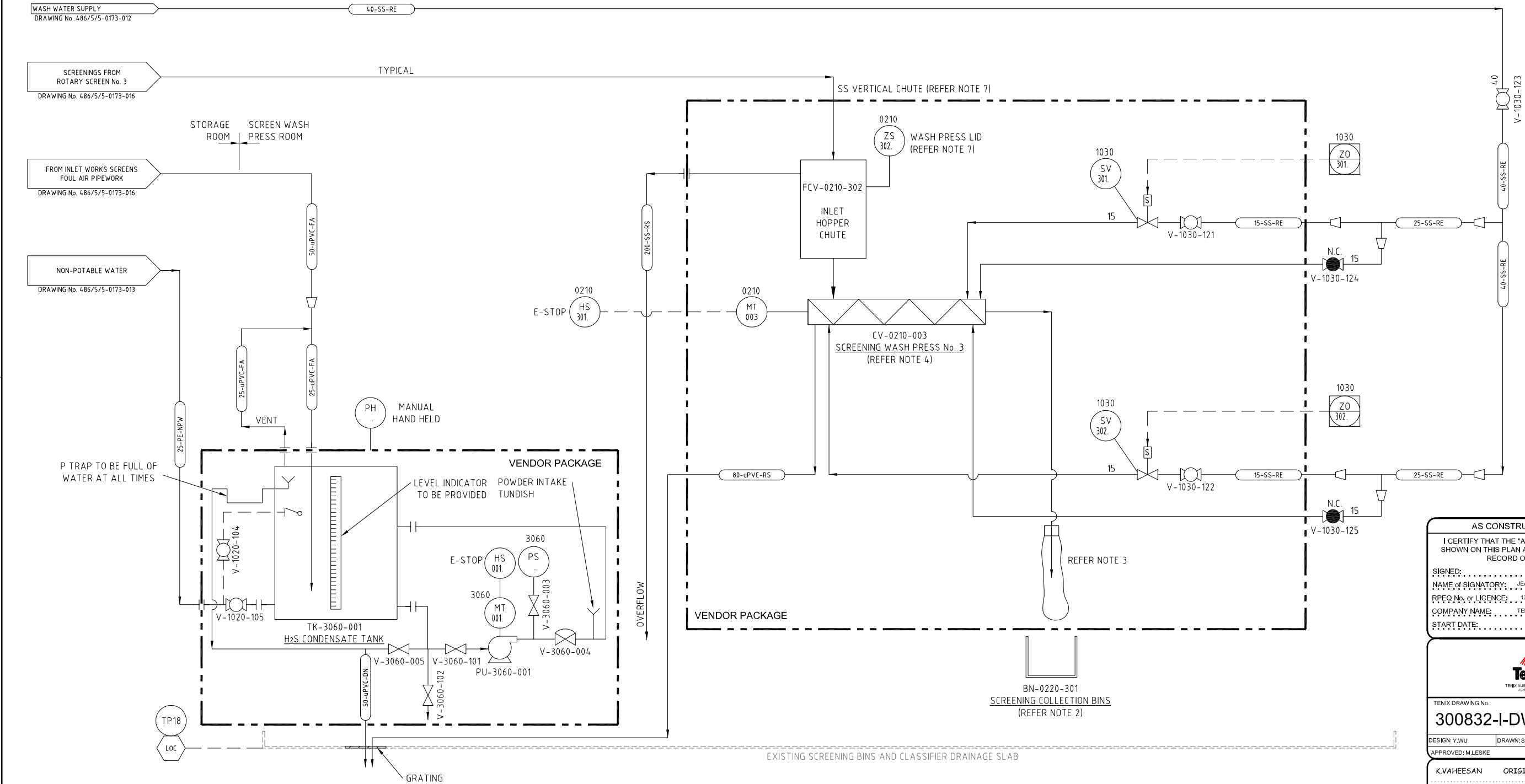
						FUNDING		DRAFTED	ORIGINAL SIGNED S.BAYAN 01.10.13	ORIGINAL SIGNED Y.WU 01.10.13		ORIGINAL SIGNED	
A	01.10.13	AS CONSTRUCTED	SB	YW	13594	ORIG. JML	DESIGN W.O. No.	300832	DRAFTING CHECK	ORIGINAL SIGNED Y.WU 01.10.13	DESIGN	R.P.E.Q. No.	
O	23.04.13	FOR CONSTRUCTION	RS	JML	1068	AH	CONSTRUCTION W.O. No.	BW 70146-WD16	CAD FILE	550173013.dwg	ORIGINAL SIGNED J.LAURILLARD	13549	01.10.13
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	185/255/863/49	DESIGN CHECK	R.P.E.Q. No.	DATE
												APPROVED BY (CONSULTANT)	SIGNATURE

ASSET/PROJECT
WACOL WATER
RECLAMATION PLANT
INLET WORKS UPGRADE

DRAWING TITLE **P&ID**
POTABLE WATER
SUPPLY SYSTEM

NOTES:

- 1. REFER DRG. 486/5/5-0173-003 FOR GENERAL NOTES.
- 2. SCREENINGS COLLECTION BINS PROVIDED BY Q.U.U.
- 3. LONGOPAC OR EQUIVALENT ENDLESS BAGGING UNIT FOR EACH SCREENINGS WASH PRESS.
- 4. 3 x SCREENINGS WASH PRESSES (EACH WITH CAPACITY 2m3/HR , 2.2kW)
- 5. POSITION SAFETY SWITCH TURNS OFF SCREENINGS WASH PRESS MOTOR IF LID OF SCREENINGS WASH PRESS IS OPENED.
- 6. EACH SCREENINGS WASH PRESS PROVIDED WITH EMOTRON ELECTRONIC SHEAR PIN.
- 7. SAFETY SWITH ZS-302 HARD-WIRED INTERLOCKED TO SCREENINGS WASH PRESS MOTOR (TYPICAL).



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE:

NAME of SIGNATORY: JEAN MARC LAURILLARD

RPEQ No. or LICENCE: 13594

COMPANY NAME: TENIX

START DATE: FINISH DATE: 01.10.2013

TENIX

TENIX AUSTRALIA PTY LTD
ACR 000 000 004

TENIX DRAWING No. 300832-I-DWG-5006 REV. 1

DESIGN: Y.WU DRAWN: S.BAYAN CHECK: J.LAURILLARD

APPROVED: M.LESKE DATE: 01.10.13

K.VAHEESAN ORIGINAL SIGNED

NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

QUEENSLAND UrbanUtilities

SHEET No. OF

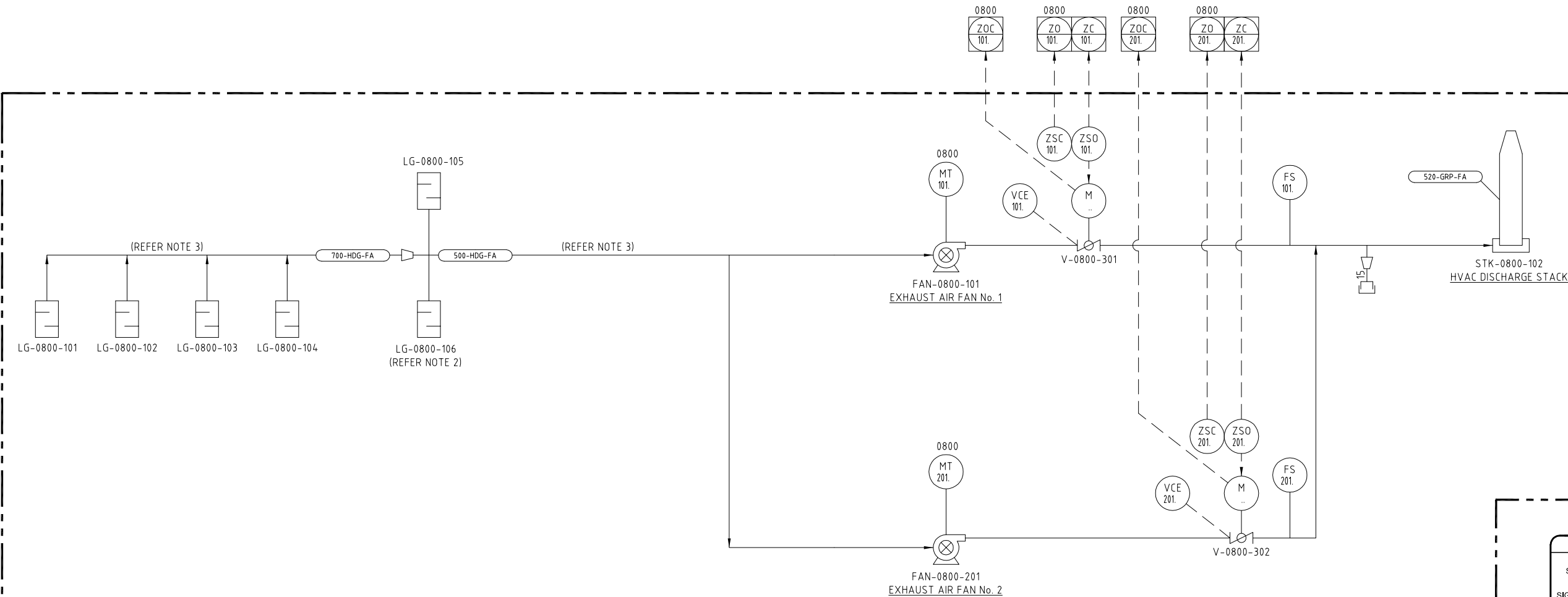
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0173-014 A

						FUNDING		DRAFTED	ORIGINAL SIGNED S.BAYAN	01.10.13	ORIGINAL SIGNED Y.WU	01.10.13	ORIGINAL SIGNED	ASSET/PROJECT		DRAWING TITLE	
A	01.10.13	AS CONSTRUCTED	SB	YW	13594	ORIG. JML	DESIGN W.O. No.	300832	DRAFTING CHECK	ORIGINAL SIGNED Y.WU	01.10.13	DESIGN	R.P.E.Q. No.	WACOL WATER RECLAMATION PLANT		P&ID SCREENINGS ROOM	
0	23.04.13	FOR CONSTRUCTION	RS	JML	1068	AH	CONSTRUCTION W.O. No.	BW 70146-WD16	CAD FILE	550173014.dwg		ORIGINAL SIGNED J.LAURILLARD	13549	01.10.13	M.LESKE	WASH PRESS	
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	185/255/863/49	DESIGN CHECK	R.P.E.Q. No.	DATE	APPROVED BY (CONSULTANT)	SIGNATURE	Nos. 1, 2 & 3	

NOTES:

1. REFER DRG. 486/5/5-0173-003 FOR GENERAL NOTES.
2. "LG" REFERS TO ADJUSTABLE 316 SS LOUVRE DAMPERS COMES WITH ADJUSTABLE VOLUME CONTROL.
3. THE CONSTRUCTION MATERIAL OF THE MAIN DUCT IS H.D.G.



VENDOR PACKAGE

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE:

NAME of SIGNATORY: JEAN MARC LAURILLARD

RPEQ No. or LICENCE: 13594

COMPANY NAME: TENIX

START DATE: FINISH DATE: 01.10.2013



TENIX DRAWING No.		REV.
300832-I-DWG-5007		1
DESIGN: Y.WU	DRAWN: S.BAYAN	CHECK: J.LAURILLARD
APPROVED: M.LESKE	DATE: 01.10.2013	

K.VAHEESAN ORIGINAL SIGNED

NAME SIGNATURE DATE

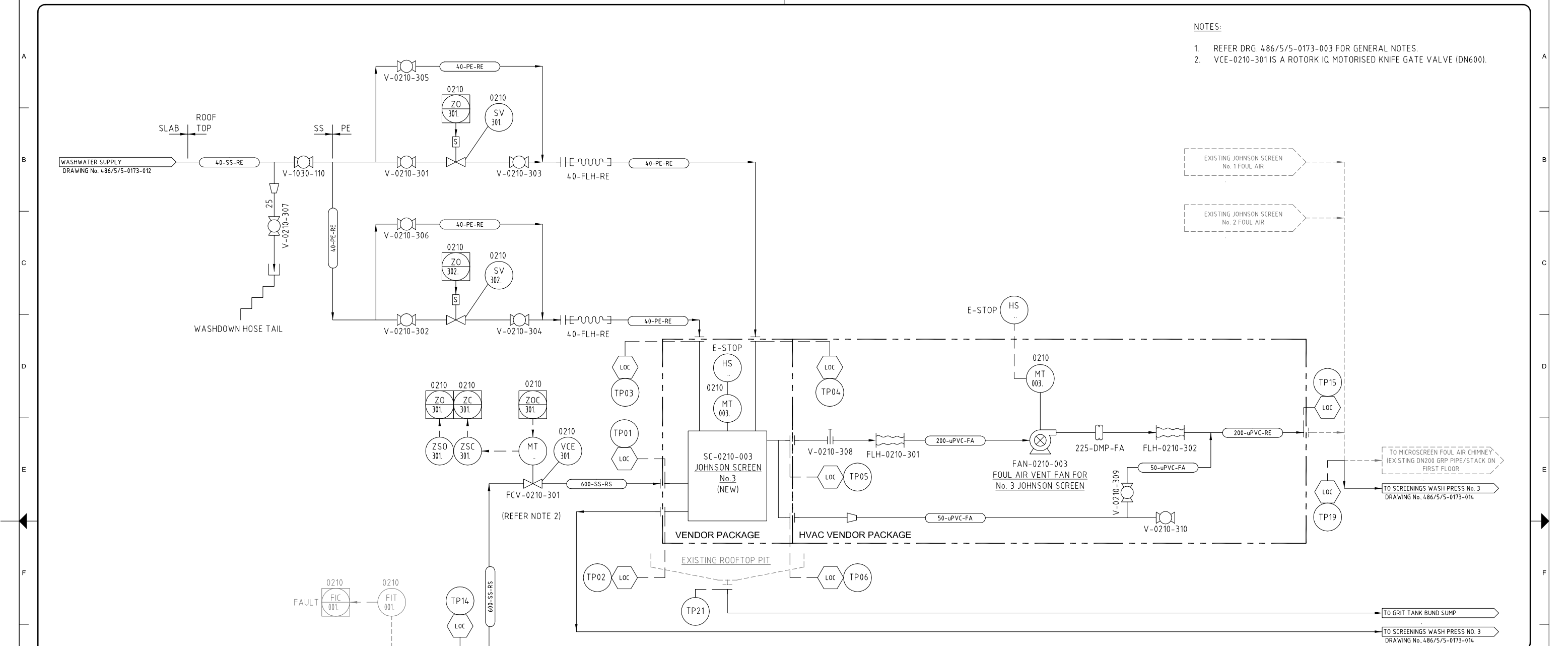
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



SHEET No.	OF	AMEND.
486/5/5-0173-015		A

AS CONSTRUCTED

AS CONSTRUCTED		SB	YW	13594	ORIG. JML	FUNDING		DRAFTED	ORIGINAL SIGNED S.BAYAN 01.10.13	ORIGINAL SIGNED Y.WU 01.10.13	ORIGINAL SIGNED Y.WU 01.10.13	ASSET/PROJECT	DRAWING TITLE	
0	23.04.13	FOR CONSTRUCTION	RS	JML	1068	AH	CONSTRUCTION W.O. No. BW 70146-WD16	CAD FILE	550173015.dwg	ORIGINAL SIGNED J.LAURILLARD 01.10.13	13549	WACOL WATER RECLAMATION PLANT INLET WORKS UPGRADE	P&ID SCREENINGS ROOM VENTILATION SYSTEM	
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. (✓) EXTERNAL ()	Q.U.U. FILE No.	185/255/863/49	DESIGN CHECK	R.P.E.Q. No. DATE	APPROVED BY (CONSULTANT) SIGNATURE		



NOTES:

1. REFER DRG. 486/5/5-0173-003 FOR GENERAL NOTES.
2. VCE-0210-301 IS A ROTORK IQ MOTORISED KNIFE GATE VALVE (DN600).

J							FUNDING		DRAFTED	ORIGINAL SIGNED S.BAYAN 01.10.13	ORIGINAL SIGNED Y.WU 01.10.13	ORIGINAL SIGNED	ASSET/PROJECT	DRAWING TITLE P&ID	SHEET No. OF		J		
	A	01.10.13	AS CONSTRUCTED	SB	YW	13594	ORIG. JML	DESIGN W.O. No.	300832	DRAFTING CHECK	ORIGINAL SIGNED Y.WU 01.10.13	DESIGN	R.P.E.Q. No.	WACOL WATER RECLAMATION PLANT INLET WORKS UPGRADE	P&ID INLETWORKS SCREEN No. 3	QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.			
	0	23.04.13	FOR CONSTRUCTION	RS	JML	1068	AH	CONSTRUCTION W.O. No.	BW 70146-WD16	CAD FILE	550173016.dwg	ORIGINAL SIGNED J.LAURILLARD 01.10.13	DESIGN CHECK			R.P.E.Q. No.	DATE	APPROVED BY (CONSULTANT)	SIGNATURE
	No.	DATE	AMENDMENT	DRAFTED	DESIGNED	R.P.E.Q. No.	APPROVED	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	185/255/863/49								