

# PROPOSED ADDITIONS AND ALTERATIONS

## 16A CHISWICK ROAD, GREENACRE

### STORMWATER MANAGEMENT PLANS

#### LEGEND

	SW	STORMWATER DRAINAGE PIPE
	RWT	PIPE TO RAINWATER TANK
	OF	OVERFLOW PIPE FROM RAINWATER TANK
	AG	Ø100 SUBSOIL PIPE
	RM	RISING MAIN
	ESL	EXISTING STORMWATER LINE
	DP	PROPOSED DOWN PIPE
	KO	PROPOSED KERB OUTLET
	CO	CLEAN OUT
		STORMWATER PIT - SOLID COVER
		STORMWATER PIT - GRATED INLET
		KERB INLET PIT
	eDP	EXISTING DOWNPIPE
	eKO	EXISTING KERB OUTLET
	RL	PIT SURFACE LEVEL
	IL	INVERT LEVEL
	TK	TOP OF KERB
	TOW/BOW	TOP OF WALL / BOTTOM OF WALL
	FF	FIRST FLUSH DEVICE
	VD / VR	VERTICAL DROP (VD) / VERTICAL RISER (VR)
	DP	DOWNPIPE SPREADER
	RWO	RAINWATER OUTLET 300Ø
		GRATED DRAIN
	SWR	AUTHORITY SEWER LINE
	WTR	AUTHORITY WATER LINE
		OTHER AUTHORITY/SERVICES LINE
	OFP	OVERLAND FLOW PATH

#### FOOTPATH REINSTATEMENT NOTES

- REMOVE ALL SAND FILL WITHIN THE FOOTPATH AREA TO EXISTING SUBGRADE
- SUPPORT ALL AUTHORITY SERVICES TO STRUCTURAL ENGINEERS DETAILS DURING EXCAVATION
- REINSTATE FOOT PATH SUBGRADE
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION FROM A NATA REGISTERED TESTING AUTHORITY, MINIMUM THREE TESTS PER LAYER AS FOLLOWS:

- SELECT FILL	95% MODIFIED
- SELECT FILL (<300mm BELOW BASE COURSE)	98% MODIFIED
- BASE COURSE	100% MODIFIED

#### GENERAL NOTES

- THESE ENGINEERING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND OTHER CONSULTANTS DRAWINGS ON THE PROJECT. THESE DRAWINGS ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF ISSUE. AS THIS IS SUBJECT TO CHANGE OVER THE COURSE OF THE PROJECT, THE CONTRACTOR MUST REFER ANY OBSERVED DISCREPANCIES TO TCSM BEFORE BEGINNING ANY WORK ON THE AFFECTED ELEMENTS
- WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION (DA) PURPOSES, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES
- THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF THE DEVELOPMENT CONSENT, PLANNING CERTIFICATE AND CONSTRUCTION CERTIFICATE/CDC REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND, TCSM ENGINEERING CONSULTANTS MUST BE CONTACTED FOR REVIEW.
- ALL DIMENSIONS ARE IN MILLIMETERS AND ALL REDUCED LEVELS ARE IN METERS UNLESS NOTED OTHERWISE
- THE APPROVAL OF ANY SUBSTITUTION/ALTERATION SHALL BE SOUGHT FROM TCSM ENGINEERING CONSULTANTS
- CONTRACTOR TO COORDINATE ALL SERVICES TO AVOID CLASHES WITH PROPOSED/EXISTING ELEMENTS. WHERE CLASHES ARE UNAVOIDABLE, TCSM ENGINEERING CONSULTANTS ARE TO BE CONTACTED FOR DESIGN REVIEW

#### DRAINAGE NOTES

- LOCATION OF DOWN PIPES AND FLOOR WASTES ARE INDICATIVE ONLY. DOWN PIPE AND FLOOR WASTE SIZE, LOCATION AND QUANTITY TO BE DETERMINED BY CONTRACTOR IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS
- ALL GUTTERS SHALL BE FITTED WITH LEAF GUARDS AND SHOULD BE INSPECTED AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE DOWN PIPES
- ALL PIPES TO BE 100Ø MIN. AND ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED. PIPES TO BE LAID ON MINIMUM GRADE 1%
- MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm
- ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS
- BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL
- SILT ARRESTORS TO HAVE 900x900mm AND PITS TO HAVE 600x600 INTERNAL DIMENSIONS U.N.O
- HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS, SURFACE FLOW TO BE DIRECTED TO ALL GRATED SURFACE INLET PITS AND DRAINS
- PIT GRATES TO BE TYPE WELDLOK OR APPROVED EQUIVALENT. ALL TRENCH GRATES SHALL HAVE A MIN. CLEAR WIDTH OF 200mm.
- ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP AND MAINTAINED REGULARLY
- 100mm DIAMETER SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES
- PROVIDE CLEANING EYES TO ALL DOWN PIPES NOT DIRECTLY CONNECTED TO PITS
- ISOLATION JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS
- STORM WATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND SATISFACTION OF LOCAL COUNCIL
- ALL MILD STEEL FIXTURES INCLUDING GRATES, FRAMES, STEP IRONS, LADDERS AND ETC. SHALL BE HOT DIP GALVANIZED

#### DRAINAGE NOTES (CONT.)

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- EXISTING STORM WATER PIPES AND DOWN PIPES TO BE RETAINED (IF ANY) SHALL HAVE THEIR CONDITION AND/OR STATE OF REPAIR ASSESSED BY A QUALIFIED PLUMBER, AND SHALL BE REPLACED WHERE DEEMED NECESSARY. CONNECTION MAY BE MADE INTO EXISTING SYSTEMS THAT ARE FOUND TO BE IN GOOD CONDITION.
- IF AN EXISTING STORM WATER SYSTEM IS CONNECTED TO THE SEWER, CONTRACTOR IS TO RECTIFY THE STORM WATER DESIGN AND CREATE A NEW CONNECTION AS PER COUNCIL AND AUSTRALIAN STANDARD SPECIFICATIONS. CONTRACTOR MUST CONTACT TCSM ENGINEERING CONSULTANTS PRIOR TO THE COMMENCEMENT OF ANY WORKS
- CONTRACTOR TO ENSURE LOCATION OF ANY NEW DWELLINGS/STRUCTURES DO NOT ADVERSELY IMPACT EXISTING STORM WATER SYSTEMS. ANY CLASHES/DISCREPANCIES ARE TO BE REFERRED TO TCSM ENGINEERING CONSULTANTS FOR REVIEW AND DECISION
- FINISHED GROUND LEVELS SHOULD BE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS. DISCREPANCIES BETWEEN THESE LEVELS AND THE SURFACE LEVELS SHOWN FOR DRAINAGE STRUCTURES SHOWN ON THESE DRAWINGS SHOULD BE REFERRED TO THE ENGINEER FOR ADVICE
- THE HEIGHT OF ANY SLAB-ON-GROUND ABOVE EXTERNAL FINISHED SURFACES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL DOCUMENTATION, BUT MUST NOT BE LESS THAN 50mm ABOVE IMPERMEABLE (PAVED/CONCRETE) AREAS THAT SLOPE AWAY FROM THE BUILDING (50mm OVER THE FIRST 1m FROM THE BUILDING), 100mm ABOVE SANDY/WELL-DRAINED AREAS, OR 150mm IN ANY OTHER CASE. THE GROUND BENEATH SUSPENDED FLOORS MUST BE HIGHER THAN THE ADJACENT EXTERNAL FINISHED GROUND LEVEL, AND GRADED TO PREVENT PONDING UNDER THE BUILDING
- DOWNPIPE SPREADERS NOT BE TO BE USED OVER TILE ROOFS UNLESS SARKING IS PROVIDED UNDER TILES. IF REQUIRED, TILES SHOULD BE REMOVED AND ROOF SARKED AS REQUIRED BY BUILDER.
- DOWNPIPE SPREADERS USED OVER CORRUGATED METAL ROOFS REQUIRE A MINIMUM WIDTH OF 1800mm ON EITHER SIDE OF THE POINT OF DISCHARGE TO BE SEALED FOR THE FULL LENGTH OF SIDE LAPS
- ALL RAINWATER TANK INLET PIPES TO FITTED WITH A FIRST FLUSH DEVICE
- RAINWATER TANK SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3:2:1998 AND COUNCIL SPECIFICATIONS
- PRIOR TO THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR IS TO CARRY OUT A "BEFORE YOU DIG", IDENTIFY, LOCATE ANY EXISTING SERVICES, AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES. ANY DAMAGE TO EXISTING SERVICES IS TO BE RECTIFIED AT THE CONTRACTORS EXPENSE. SERVICES SHOWN ON THE STORMWATER DRAWINGS ARE INDICATIVE ONLY AND NOT ALL SERVICES MAY BE SHOWN.
- PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP

#### LYSAGHT GUTTER AREAS AND DOWNPIPES

		MINIMUM STANDARD DOWNPIPE SIZES TO SUIT GUTTERS (GUTTER GRADIENT > 1:500)		
PROFILE	SLOTTED (YES/NO)	EFFECTIVE CROSS SECTIONAL AREA*	ROUND (DIAMETER)	RECTANGULAR/ SQUARE
QUAD HI-FRONT	YES	5255mm <sup>2</sup>	90mm	100mm x 50mm
	NO	5809mm <sup>2</sup>	90mm	100mm x 50mm
QUAD LO-FRONT	NO	6165mm <sup>2</sup>	90mm	100mm x 50mm
	YES	7600mm <sup>2</sup>	100mm	100mm x 75mm
SHEERLINE	NO	8370mm <sup>2</sup>	xxx	100mm x 75mm
	YES	6244mm <sup>2</sup>	90mm	100mm x 50mm
TRIMLINE	NO	7800mm <sup>2</sup>	100mm	100mm x 75mm
	YES	4675mm <sup>2</sup>	90mm	100mm x 50mm
150 HALF ROUND	NO	7042mm <sup>2</sup>	100mm	100mm x 75mm
	YES	4602mm <sup>2</sup>	90mm	100mm x 50mm
150 HALF ROUND FLAT BACK	NO	6914mm <sup>2</sup>	100mm	100mm x 75mm
	NO	14500mm <sup>2</sup>	xxx	xxx
HALF ROUND 200	NO	24500mm <sup>2</sup>	xxx	xxx
HALF ROUND 250	NO	35300mm <sup>2</sup>	xxx	xxx
HALF ROUND 300	NO			
# VALUES CALCULATED IN ACCORDANCE WITH AS/NZS 3500.3				
xxx NON-STANDARD DOWNPIPE AND POP/NOZZLE REQUIRED TO SUIT				
N.B NON STANDARD NOZZLE/POP IS REQUIRED TO SUIT RECTANGULAR DOWNPIPE				

#### ABBREVIATIONS

DIA or Ø	DIAMETER	NGL	NATURAL GROUND LEVEL
CH	CHAINAGE	OFF	OVERLAND FLOW PATH
CL	CENTER LINE	OSD	ON-SITE DETENTION
CO	CLEAN OUT	RCP	REINFORCED CONCRETE PIPE
DD	DISH DRAIN	RL	REDUCED LEVEL
DDO	DISH DRAIN OUTLET	RTW	RETAINING WALL
DP	DOWN PIPE	RWT	RAINWATER TANK
e	EXISTING	SMH	SEWER MAN HOLE
FFL	FINISHED FLOOR LEVEL	SW	STORMWATER
GD	GRATED DRAIN	SWP	STORMWATER PIPE
GSIP	GRATED SURFACE INLET PIT	TWL	TOP WATER LEVEL
IL	INVERT LEVEL	uPVC	UNPLASTICISED
TOK	TOP OF KERB	UNO	UNLESS NOTED OTHERWISE
BOK	BOTTOM OF KERB	FF	FIRST FLUSH
BOW	BOTTOM OF WALL	TYP	TYPICAL
TOW	TOP OF WALL	BM	BENCH MARK
KO	KERB OUTLET		
K&G	KERB & GUTTER		
NSOP	NOT SHOWN ON PLAN		

APPROVAL FROM ALL RELEVANT PARTIES/AUTHORITIES IS TO BE OBTAINED PRIOR TO THE COMMENCEMENT OF ANY WORKS. THIS INCLUDES ANY PARTIES THAT MAY BE INVOLVED AT ANY STAGE BEFORE, DURING OR AFTER THE PROPOSED WORKS. ALL NECESSARY APPLICATIONS TO ANY AUTHORITIES (INCLUDING COUNCIL) ARE TO BE MADE PRIOR TO THE COMMENCEMENT OF WORKS, WITH ALL FEEDBACK COMMUNICATED ACCORDINGLY SO THAT THE ENGINEERING DOCUMENTATION MAY BE ADJUSTED IF REQUIRED TO REFLECT ANY ADDITIONAL REQUIREMENTS.



STORMWATER DRAINAGE PLAN

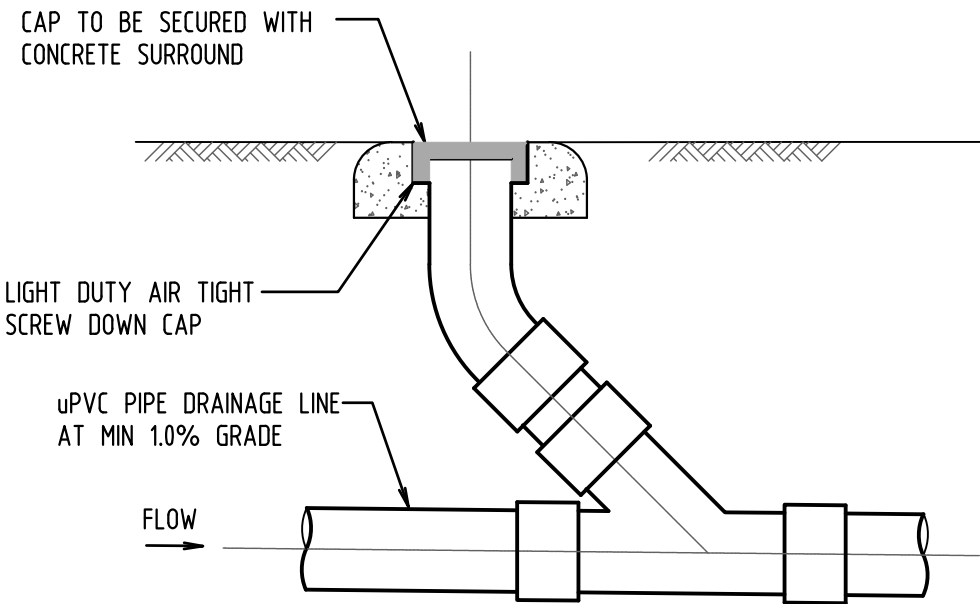
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DESIGN NOTES:

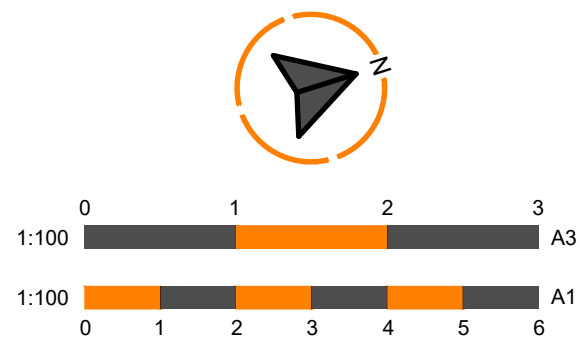
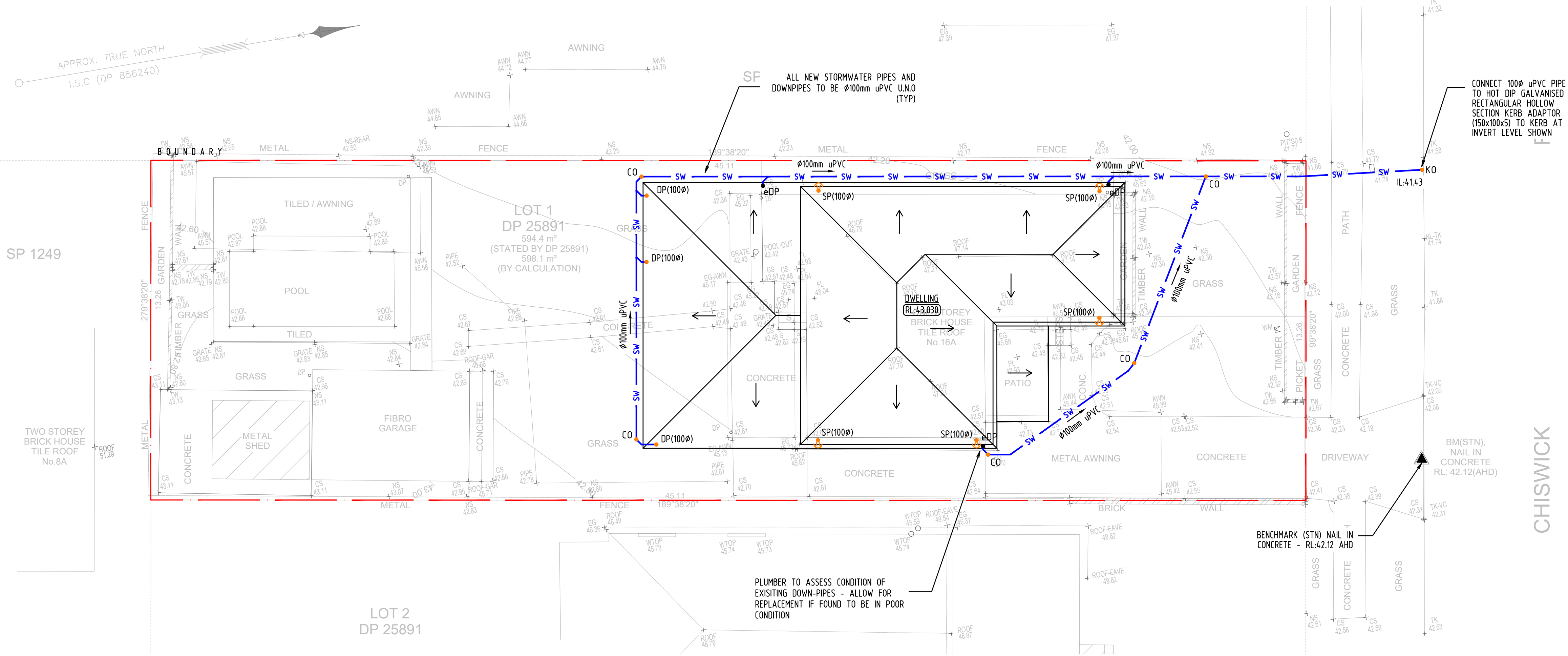
- THE SITE IS GOVERNED BY CANTERBURY BANKSTOWN COUNCIL & THE CANTERBURY BANKSTOWN DCP 2023
- THE PROPOSED DEVELOPMENT IS A ALTERATIONS & ADDITIONS
- THE TOTAL SITE AREA IS 598.2m<sup>2</sup> (BY CALC)
- THE PRE-DEVELOPMENT IMPERVIOUS AREA IS 342.2m<sup>2</sup> (57.2%)
- THE POST-DEVELOPMENT IMPERVIOUS AREA IS 342.2m<sup>2</sup> (57.2%)
- THE NET INCREASE IN IMPERVIOUS AREA IS 20.6m<sup>2</sup> (3.4%)
- IN ACCORDANCE WITH COUNCIL'S STORMWATER GUIDELINES, OSD IS NOT REQUIRED FOR SUBJECT DEVELOPMENT
- ENSURE THAT ALL STORMWATER PIPES ARE A MINIMUM OF 600mm AWAY FROM SYDNEY WATER ASSETS (TYP)
- INSTALL CLEAR OUTS FOR INSPECTION AND MAINTENANCE PURPOSES (TYP.)
- THE LOCATIONS OF DOWNPIPES SHOWN ON THIS DRAWINGS ARE INDICATIVE AND WILL NEED TO BE SITE VERIFIED BY THE BUILDER. ALL DOWNPIPES TO BE 100mm MIN. DIA. U.N.O

LEGEND

- SW STORMWATER DRAINAGE PIPE
- RWT PIPE TO RAINWATER TANK
- OF OVERFLOW FROM RWT
- AG Ø100 SUBSOIL PIPE
- RM RISING MAIN
- ESL EXISTING STORMWATER LINE
- DP(100Ø) PROPOSED DOWN PIPE & SIZE
- KO PROPOSED KERB OUTLET
- CLEAN OUT
- CONC. COVER JUNCTION PIT
- GRATED INLET PIT
- KERB INLET PIT
- SWR SEWER LINE
- WTR WATER LINE
- OTHER SERVICES LINE
- eDP EXISTING DOWNPIPE
- eKO EXISTING KERB OUTLET
- RL PIT SURFACE LEVEL
- IL INVERT LEVEL
- TK TOP OF KERB
- VD VERTICAL DROP
- VR VERTICAL RISER
- SP(100Ø) DOWNPIPE SPREADER & SIZE
- RWO RAINWATER OUTLET 300Ø
- GRATED DRAIN
- OFD OVERLAND FLOW PATH
- TOW/BOW TOP/BOTTOM OF WALL



DETAIL  
CLEANING EYE  
SCALE 1:20





EROSION & SEDIMENT CONTROL PLAN

SCALE: 1:100

NOTES:

- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND ANY OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED AND RELATING TO THE DEVELOPMENT AT THE SUBJECT SITE
- THE CONTRACTOR MUST ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THIS SPECIFICATION
- ALL BUILDERS AND SUB-CONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMIZING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWN SLOPE LANDS AND WATERWAYS
- DURING WINDY CONDITIONS, LARGE, UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL
- FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE BY FILTERING THROUGH AN APPROVED STRUCTURE
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING HAVE BEEN REHABILITATED
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AFTER RAINFALL EVENTS TO ENSURE THEY HAVE OPERATED EFFECTIVELY AND REMAIN IN WORKING CONDITION
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITHIN ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY
- PROVIDE SILT FENCE/HAY BALE BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS (TYPICAL)
- ISOLATE EXISTING STORMWATER PITS WITH HAY BALES TO FILTER ALL INCOMING FLOWS
- DO NOT STOCK PILE EXCAVATED MATERIAL ON THE ROAD WAY

LEGEND

- FENCE LINE
- STOCK-PILE AREA
- RUBBLE ENTRY/EXIT
- GEO-TEXTILE SAUSAGE

