



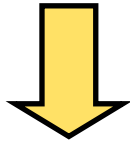
STORMWATER CHECKLIST

To accompany any development application, modification application or Section 8.3 application.

TYPE OF DEVELOPMENT

MINOR DEVELOPMENTS NO OSD

May include single and secondary dwellings, alterations and additions with No OSD.



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MAJOR DEVELOPMENTS with OSD

May include duplexes, townhouses, residential flat buildings, commercial premises, major developments.



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STORMWATER CHECKLIST

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Minor Developments - No OSD

Stormwater Drainer/ Plumber (or Engineer's) Details & Declaration

This form is to be completed by a Licensed Drainer/Plumber (or a Registered Stormwater Engineer).

Company Details

Company & ABN:

Engineering Details:

Registered Engineer Reference (NPER) if held:

Licence no & ABN:

Family Name:

Full Given Name(s):

Postal Address

Suburb:

Postcode:

Contact Details

Office phone:

Mobile:

Fax:

Email:

	ITEMS	Yes (✓)	No N/A (✓)
1.	A true diagram or drawing of the stormwater system is attached.		
2.	I am the Licensed Stormwater Drainer /Plumber (or Engineer) responsible for designing the stormwater system associated with this development proposal AND		
3.	I certify that this proposal will meet accepted standards of good stormwater practice, Council and Australian Standards and will not cause nuisance or adversely affect this or other properties, AND		
4.	There is no Council drainage line within or adjacent to this property, AND		
5.	In my opinion, the existing stormwater drainage system is adequate to receive the stormwater from this new development OR I have proposed a new stormwater drainage system which will be adequate for the total site drainage needs from the existing and new development.		
6.	A charged system is proposed – a minimum 1.6m hydraulic head is provided.		
7.	Drainage is proposed to connect to an existing system – an indicative plan of the existing system is provided.		
8.	Absorption trenches are proposed – the design capacity and clearance from structures and boundaries comply with Council's Design Guidelines.		

Stormwater Drainer / Plumber or Engineer's Signature:

date:



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Major Developments - OSD required

This portion of the form is to be completed by a registered and practising stormwater engineer.

Registered Stormwater Design Engineer's Details

Company & ABN:

Registered Stormwater Design Engineer Reference (NPER):

Is the Engineer accredited to carry out Design of Stormwater & OSD Systems: **Y/N**

Full Given Name(s):

Suburb:

Postcode:

Office phone:

Mobile:

Registered Stormwater Design Engineer's Checklist

	ITEMS	Yes (✓)	No N/A (✓)
1.	<p>Registered Stormwater/Flood Design Engineer</p> <p>Name, Signature, and Registration of the Stormwater/Flood Design Engineer are clearly indicated on the submitted design documentation.</p>		
2.	<p>Construction of New Stormwater Infrastructure</p> <p>If construction of new stormwater infrastructure within the road network or public space is proposed, design details including pipeline long-sections is provided.</p>		
3.	<p>Flood Prone Land</p> <p>The site is (wholly or partly) affected by flood. This could be indicated on a current s149 s10.7 planning certificate or other source of information AND:</p> <p>Flood Level information has been obtained from Council by completing a Flood Enquiry Application form. This is attached.</p> <p>5% AEP (20 year ARI), 1% AEP (100 year ARI) and PMF (where information available) flood inundation extent line and levels (to m AHD) are clearly indicated on submitted Plan No.</p> <p>1% AEP, 5% AEP and PMF (where information available) flood inundation extent and levels are clearly marked on the engineering plans.</p> <p>AND/OR: There is a Council stormwater pipe, channel or watercourse traversing the site or within close proximity to the site AND an upstream catchment Overland Flow Assessment Report is attached for a 5% AEP (1 in 20 year ARI) and 1% AEP (1 in 100 year ARI) storm event flow running through site (including hydrological and hydraulic calculations). This information is attached as Attachment - B Overland flow paths within the site are identified on Plan No.</p> <p>Note: The applicant's engineer shall obtain the latest flood assessment guidelines from Council prior to preparing the flood risk management report.</p>		



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<p>4.</p>	<p>Private Easements</p> <p>Existing easement - drainage is proposed through adjoining private properties.</p> <p>The site already benefits from an existing drainage easement AND an up to date Certificate of Title has been provided to confirm this benefit. AND an engineer or licensed plumber has certified that the proposed system (including connection to Council's stormwater system) is adequate and operational. Written confirmation of this is attached inclusive of calculations to demonstrate sufficient capacity.</p> <p>OR,</p> <p>New easement - drainage proposed through adjoining private properties.</p> <p>A new easement(s) over downstream property/ies is required to enable the site and/or the OSD system to be drained by gravity AND this is indicated on submitted Plan No.</p> <p>The permission of all affected downstream property owners has been obtained for such easement(s) AND written approval of this is attached.</p> <p>An engineer (or licensed plumber) has certified that the proposed system (including connection to Council's stormwater system) is adequate and operational. Written confirmation of this is attached.</p> <p><u>Either of the following to is be provided with any application proposing a new private easement:</u></p> <ul style="list-style-type: none"> - Evidence of agreement for easement with neighbouring properties in principle or, - Evidence of notification to neighbour about the easement. 		
<p>5.</p>	<p>Stormwater Design Preparation and Documents:</p> <p>A site inspection was undertaken in preparation of the stormwater system design.</p> <p>A survey by a Registered Surveyor has been prepared to AHD and is attached.</p> <ul style="list-style-type: none"> • The stormwater system and OSD system are designed in accordance with: <ul style="list-style-type: none"> • Councils Current Stormwater Disposal Policy and other relevant Policies • Council's Current Development Design Guidelines, Policies and Engineering Specifications and DCP 2011. • Upper Parramatta River Catchment Trust On Site Detention Handbook (Ed 3 or 4) (unless overridden by Council's Policies) • Current Australian Standards and National Construction Codes. • Stormwater designs are consistent with architectural and landscape designs for the development and correspond with levels, building locations, requirements of any Flood/Overland Flow Assessment, trees to be retained or planted, utilities, services and easements. • Stormwater designs adequately incorporate Water Sensitive Urban Design Principles and are generally in accordance with Council's DCP 2011, Current Development Design Guidelines and Current WSUD Technical Guidelines for Western Sydney, and/or other current approved references. • The submitted stormwater plans: <ul style="list-style-type: none"> • are based on a Survey Plan prepared by a registered surveyor • provide spot levels to mAHD and contours (with extensions into adjoining properties) • provide location of any existing easements • provide locations of existing trees and structures • are to a 1:100 scale. 		
<p>6.</p>	<p>On Site Retention (OSR) and Water Sensitive Urban Design (WSUD):</p> <p>If the proposal includes 5 or more dwellings, site is greater than 2000m² and WSUD/OSR requirements of Council's DCP 2011 have been addressed.</p> <p>Full details of the OSR/WSUD system are attached e.g. MUSIC modelling has been provided.</p>		



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7.	<p>The site immediately drains to a Council Reserve or other Council land and Council does not accept a piped drainage line across this land. As a result OSD is not proposed and an OSR/WSUD system is proposed instead.</p> <p>Full details of the OSR/WSUD system are attached.</p> <p>Note: The applicant's engineer shall obtain the latest WSUD/OSR guidelines from Council prior to preparing Stormwater Management Plans. A pre-lodgement meeting may be appropriate.</p>		
8.	<p>The site immediately drains to a floodway and OSD here is predicted to adversely affect mainstream flooding. A demonstration of this is attached. As a result OSD is not proposed and an OSR/WSUD system is proposed instead.</p> <p>Full details of the OSR/WSUD system are attached.</p>		
9.	<p>For Development Requiring OSD</p> <p>Residential Development (Duplexes) The OSD system comprises below ground tanks as required for residential development.</p> <p>Non residential development only: The depth of above ground detention basins does not exceed 300mm in landscaped areas and 150mm over impervious surfaces.</p>		
10.	<p>OSD Design</p> <p>The OSD design (DWG Nos) is generally consistent with the requirements of the Upper Parramatta River Catchment Trust On Site Detention Handbook (Ed 3 or 4) and showing the following details:</p> <ul style="list-style-type: none"> • Site layout showing all buildings, pathways, roadways and landscaped areas; • Areas to be drained to OSD • Location, levels and extent of all detention tanks, pits and pipes • Location and levels of all collecting stormwater system including downpipes, surface collection pits, grated drains and Water Sensitive Urban Design (WSUD) and OSR features • Areas of the site that by-pass detention system/s • Location of any other constraints, e.g. easements, Sydney Water Assets (water/ sewer pipes) & Electricity Overhead Cables; • An overland emergency surcharge path has been provided for the OSD system. • Overland flow from local upstream catchment is not being drained into the OSD system, but is being intercepted and discharged independently including any swales (and calculations) required to effect this. • Where OSD is beneath the driveway, that it doesn't conflict with the proposed driveway profile. <p>OSD storage tank detail designs (or OSD storage basins for non-residential development) and surface collection pits include:</p> <ul style="list-style-type: none"> • All design dimensions including levels and inverts to AHD and OSD volumes • Plan view, Cross-Sectional and Long-Section details with all relevant levels including all necessary elements that have been provided for each proposed OSD tank. • Discharge Control Pit/s • Safe and practical maintenance access. • All ancillary elements including (but not restricted to) orifice plate, trash screen, step irons, warning hazard sign, hinged lockable grated access covers, non-return flap valve. <p>The above details are shown on A1 or A3 size plans with a scale of 1:100 and/or 1:50</p> <p>The OSD storage volume has been calculated using the Upper Parramatta River Catchment Trust On Site Detention Handbook (3rd or 4th edition) calculation sheet.</p> <p>The completed Design Summary Calculation Sheet has been signed by the Stormwater Design Engineer and attached as Attachment - C.</p> <p>The areas of the site (including roofs) to be drained to any rainwater collection system and to the OSD system have been determined and are clearly indicated on Plan No.</p>		



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10.	OSD Design (continued) The percentage of the total site area not draining to the OSD systems is% (to be not more than 15% - edition 3). This is <u>not</u> a 'drowned outlet'. Because the designed discharge flow rate is greater than 30l/s, a connection to the nearest Council stormwater pit has been shown with associated levels. Overland flow from adjacent properties has been intercepted and disposed separately without discharging into any proposed OSD system.		
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Registered Stormwater Design Engineer's Declaration

I confirm that, as the Registered Stormwater Design Engineer responsible for designing the stormwater system associated with this development proposal, that I have done so with a full understanding of the relevant Council requirements and have read, understood and completed this checklist accurately.

Registered Stormwater Design Engineer's Signature: _____ date: _____



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Digital 3D Model Requirements Checklist

- Any development 3 storeys or more
- Within the CBD only, any development involving alterations to external form

Model Format

The format of the model to be supplied to City of Parramatta Council should be a basic (.3DS).

The size of the file should not exceed 5MB.

A SketchUp File must be provided as well to check for consistency of data and detect possible corruption of the 3ds file.

1. Trimble Sketch Up (.skp)
2. General 3D format (.3ds)

Model Coordinates

The model must be orientated to north and centred to (0,0,0) coordinates.

- ◆ X – Axis: 0
- ◆ Y – Axis: 0
- ◆ Z – Axis: 0
- ◆ Model orientated to North Facing

Model Unit of Measure

Modelling units must be set in Meters (m), within 2 decimal places 00.00m

- ◆ Meters (m)

Model Details

Elements that are to be shown in the model should be, massing / shrink wrap of the building, with floor plates and all faces in the model normalised.

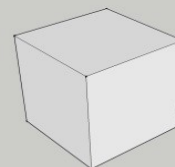
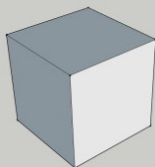
- ◆ Defining Features of Building
- ◆ Floor Plates
- ◆ Ground Plane Extends to Site Boundary
- ◆ All faces in the model to be **Normalised**

Elements in the model that should be **EXCLUDED**:

- ◆ All internal elements or modelling
- ◆ Duplicated line work
- ◆ Gaps or missing elements
- ◆ Camera positions deleted

(Faces in Blue = Not Normalised)

(Faces in White = **Normalised**)



Model Textures

Textures in the model must be sizes of powers of two, the format of the textures is to be (.jpg) (.png) (.tiff) and (.tga). All textures used in the model must be provided with the exception of colours.

- ◆ **512 x 512 pixels (preferred texture size)**
- ◆ 1024 x 1024 pixels
- ◆ 2048 x 2048 pixels
- ◆ 4096 x 4096 pixels



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Model Naming Convention

- 3D_StreetNumber_StreetName_Suburb_DA
- 3D_StreetNumber_StreetName_Suburb_S96

3D Model Acquisition Checklist

- SketchUp File (.skp)
- General .3ds File (.3ds)
- Model North facing
- Site Boundaries (Cadastre)
- Model centred to 0,0,0
- Model Unit (Meters) & 2 Decimal Places 00.00m
- Model with Defining Features of the Building Shown
- Ground Plane Extends to Site Boundary
- Floor Plates
- Faces in model all normalised
- Model texture supplied (if applicable)
- Model named according to naming convention

PARRA CERTIFICATION

“for all your building certification & inspection needs.”

Email: parracertification@cityofparramatta.nsw.gov.au

Phone: 9806 5684

Do you need a Construction Certificate?

- ⇒ Once your Development Application has been approved by Council, your next step may be to apply for a Construction Certificate and nominate a Principal Certifying Authority (PCA) to carry out inspections.
- ⇒ Did you know that legislation requires **you**, as the owner, **to appoint the PCA** and not your builder/architect?
- ⇒ City of Parramatta Council boasts a Certification Team with many years of combined experience in the industry. We take building regulation and customer service seriously and we are working hard to ensure that our residents and local businesses can have a real alternative to private certifiers.
- ⇒ We can offer you a complete package, from pre-Construction Certificate advice to the issuing of your Final Occupation Certificate, and everything in between.
- ⇒ Our strategic and practical experience will be used to ensure your project runs smoothly. We measure our successes on the success of your development.

If you have any further questions, no matter how big or small, please don't hesitate to contact Parra Certification on 9806 5684 or alternatively by email at: parracertification@cityofparramatta.nsw.gov.au