ANNEX A

SUBMISSION OF PLANS FOR PLANNING PERMISSION
– REVIEW CHECKLIST

STORMWATER MANAGEMENT
PLAN SUBMISSION FOR PLANNING PERMISSION

To:

JABATAN PENGAIRAN DAN SALIRAN.....

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I hereby certify that the details in the plan(s), viz.....

.....

On Lot (s).....

Section .....

Jalan .....

Land Title No. .....

for.....

are in accordance with the Urban Stormwater Management Manual for Malaysia and I accept full responsibility accordingly.

I herewith enclosed the following:

1.	Relevant Site Plans	{ }
2.	Engineering Drawings	{ }
3.	Stormwater Management Report and Calculations	{ }
4.	Submittal Checklist	{ }

Signature: .....

Professional Engineer (M) and Seal

Name: .....

Address: .....

Registration No.: .....

Form: LUC/LSD-CHKLST

STORMWATER MANAGEMENT PLANS SUBMISSION FOR PLANNING PERMISSION

Project Title: _____ Engineering Firm: _____

Property Address: _____ Address: _____

_____ _____

Land Title No.: _____ Phone No.: _____

_____ Contact Person: _____

DID USE ONLY

Submittal Date: _____ Review Date & Initials: _____

Submission Acceptable/Approval/Rejected Date: _____ Approved/Rejected by: _____

Legend:

{ **/** } Complete
{ **x** } Incomplete/Incorrect
{ **na** } Not Applicable

This checklist has been developed to provide specific instructions to engineers. The purpose of this checklist is to expedite and facilitate the review process. This checklist gives the minimum requirements needed for review. All items are expected to be addressed in the first submittal, unless indicated otherwise. All items shall be checked as included or marked NA. Failure to do so will result in rejection of the submittal without review. Consultant shall review the entire check list, prior to first submittal, and check the box in the left-hand column ("Consultant's Initial Submission") to indicate compliance. Consultant must sign the first page.

TO THE CONSULTANT

Your submission for Landuse Coversion and/or Land Subdivision approval has been reviewed. The review was made per the following checklist. Please return the checklist and plans comment sheets with your resubmittal. If you do not address a checklist item, including comments on the plan sheets, explain your reasoning.

I, the undersigned, acknowledge by signature that these documents meet or exceed the design standards of the Department of Irrigation and Drainage Malaysia and that they were prepared under my supervision. I, the undersigned, further acknowledge that to the best of my knowledge and belief, the products resulting from these documents will function as intended.

_____ _____ _____

Consultant's Signature Professional Seal Date

_____ _____

Title Company Name

Consultant's Initial Submission		Items	SUBMISSION REQUIREMENTS	DID Remarks
		1	**GENERAL**	
{	}	1.1	Name of proposed project development and address.	
{	}	1.2	Name of developer with address, and telephone number on first sheet.	
{	}	1.3	Name, address and telephone number of engineering firm or individual who prepared the plans.	
{	}	1.4	Seal, signature and license number of a Malaysian Professional Engineer on all sheets.	
{	}	1.5	Name and signature of License Surveyor on plans prepared by the surveyor.	
		2	**SITE PLANS MINIMUM REQUIREMENTS**	
{	}	2.1	Location plan with appropriate scale. A map showing the general location of the project and the state boundary where the project is located.	
{	}	2.2	Key plan with 1:50,000 scale showing the general vicinity of the project within 10 km radius and the river/main drain catchment.	
{	}	2.3	Site plan with 1:3,000 or 1:6,000 scale showing the lot to be developed and the surrounding lots showing existing developments if any, standard sheet no, name of Mukim, district, rivers and streams, roads and infrastructure for rivers and drains.	
{	}	2.4	Topography Survey plan 1:500 or 1:1000 scale. The survey should be based on Ordinance Survey Datum and the datum (Bench Mark or Temporary Bench Mark) must be clearly shown. The contour line shall be at 0.5 m interval and site spot levels not more than 10m distance. (with extensions into adjoining properties to cover additional distance of 30 m for development < 10 hectares; 50 m for development 10 - 50 hectares; 100 m for development > 50 hectares).	
{	}	2.5	Proposed layout plan 1:500 or 1:1000 scale showing the proposed main drain reserves, existing outlet drain/river reserve (if applicable) .	
{	}	2.6	A similar plan as per item 2.5 but superimposed with existing topography survey.	
{	}	2.7	Plans of the river/main drains if the land is crossed by the river/ main drain. The plan comprises Cross-section Survey at every 20m intervals (at scale of 1:100 vertical, 1:100 horizontal) and Longitudinal Survey (at scale of 1:100 vertical, 1:1,000 horizontal) The survey should extend up to at least 150 m at upstream and downstream of the lot boundary.	
{	}	2.8	Hydrographic survey of existing pond/lakes/sea if applicable (1:500 or 1:1000 scale) with spots level at 10 m interval.	
{	}	2.9	All plans submission shall be in hardcopy and digital format in RSO or CASSINI coordinate.	

Consultant's Initial Submission		Items	SUBMISSION REQUIREMENTS	DID Remarks
{	}	3	**STORMWATER MANAGEMENT REPORT MINIMUM REQUIREMENTS**	
			A loose leaf binder containing the stormwater management report. The report shall include the minimum coverage of the following information:	
		3.1	**Project Location and Site Descriptions**	
		A	***Report Requirements;***	
{	}	1	Description of the location of the proposed development. Include a description of the site and a reference to adjacent properties and landmarks.	
		2	Description of the site such as	
{	}		– general topography (slopes and slope lengths within the site)	
{	}		– vegetation	
{	}		– extent and nature of existing development	
{	}		– drainage patterns	
{	}		– critical areas within and in the vicinity of the proposed development site that have potential for serious stormwater problems	
{	}	3	Identification of features such as streams, lakes, residential and commercial areas, reserves, parks and roads that might be affected by the proposed development from the perspective of water management.	
		B	***Mapping Requirements***	
{	}	1	Provide location plan showing: - legal land description; and - adjacent properties (streams, lakes, residential and commercial areas, reserves, parks and roadways).	
{	}	2	Show the kinds of development on adjacent properties.	
{	}	3	Provide a plan showing the river and basin boundary where the project is located.	
{	}	4	Provide land survey plan showing	
{	}		– existing topography showing contours of the site	
{	}		– existing drainage pattern and flowpaths (together with flow direction) through out the site	
{	}		– any other main features such as drains, culverts, bridges, building, roads, lakes, ponds, or any other services with their invert level and soffit levels in detail.	
{	}	5	Show critical features/areas within or near the development such as:	
{	}		– Public Water Supply / Raw Water Intake	
{	}		– Reservoir	
{	}		– Swimming Beach	
{	}		– Recreational/Tourism area	
{	}		– Flood prone area	
{	}		– Fishing area/aquaculture	
{	}		– Mangrove Forest	

Consultant's Initial Submission		Items	SUBMISSION REQUIREMENTS	DID Remarks
		3.2	**Proposed Project Development**	
		A	***Report Requirements;***	
{	}	1	The total project area that will be developed in Ha.	
{	}	2	Provide a general description of the proposed development, which should include the breakdown details of project components, the development area in Ha of each component and percentage to total development area.	
{	}	3	The proposed project implementation periods and stages/ phases of project development with timing and duration.	
		B	***Mapping Requirements***	
{	}	1	Show the boundary of each project component, the area in Ha and their project development stages/phases.	
{	}	2	Show the limits of clearing and grading for each phase of the development. Each boundary line should be identified as to the timing and duration of disturbances.	
{	}	3	Proposed layout plan with 1:500 or 1:1000 scale which clearly shows the proposed main drain reserve, outlet drain reserve and river reserve (if applicable).	
{	}	4	Proposed layout plan of 1:500 or 1:1000 scale superimposed with topography survey details.	
{	}	5	For sites involving existing Mangrove Forest along the river within the project area, the adequate set-back or area reserved for the Mangrove Land Forest shall be provided according to the following criteria:	
{	}		– distance 100 m for recreation development	
{	}		– distance 500 m for housing development	
{	}		– distance 1000 m for industrial development	
{	}	6	For the area which there are existing sea shore within the project area, the adequate set-back or area reserved shall be provided according to the following criteria:	
{	}		– Distance 60 m from the sand beach, measured from Mean High Water Spring (MHWS) during high tide at the sea towards the land.	
{	}		– Distance 400 m from the muddy sea shore with mangrove forest measured from seaward edge of mangrove forest towards the land.	
{	}		– There won't be any development allowed within the mangrove forest area or the reserved area for it as published in the Akta Perhutanan Negara 1984.	

Consultant's Initial Submission		Items	SUBMISSION REQUIREMENTS	DID Remarks
		3.3	**Details of Stormwater Management Master Plan**	
		A	***Report Requirements;***	
{	}	1	Preliminary investigation and basic information about existing stormwater issues within the project area and at downstream of discharge points (receiving water) which shall include;	
{	}		– previous flood record	
{	}		– existing 100 year flood plains	
{	}		– maximum water level	
{	}		– flow regulating structure such as bridges, culverts, gates, etc.	
{	}		– stormwater pollution issues	
		2	Describe the pre-development drainage system, which shall include the followings;	
{	}		– Delineation of the drainage area.	
{	}		– Calculation of pre-development peak discharges for all drainage areas, including their time of concentration (tc) and design storm used.	
{	}		– Calculation of the carrying capacity of existing runoff conveyance system such as drains/culverts/bridges/ streams/rivers and others.	
{	}		– Existing drain/stream/river reserves.	
{	}	3	Describe the proposed post-development drainage and concept of stormwater control plans, which shall include the following information;	
{	}		– Delineation of the proposed drainage area, proposed drain types, sizes and proposed discharge points (outlets).	
{	}		– Calculation of post-development peak discharges for all drainage areas, including their time of concentration (tc) and design storm used.	
{	}		– Calculation of the carrying capacity of proposed runoff conveyance system such as drains/culverts/bridges/ streams/ rivers and others.	
{	}		– Proposed drain/stream/river reserve.	
{	}		– Proposed stormwater quantity control structures, their designated area (detention/retention ponds should at least comprise 3% of the project area) and their proposed locations.	
{	}		– Proposed stormwater quality control structures, their designated area and the proposed locations.	
{	}		– Preliminary calculation of proposed regulated flows resulting from the proposed control structures (at each of their outlets).	
			Mapping Requirements	
{	}	1	Topographic plans must show all existing drainage patterns and flowpaths (together with flow direction) throughout the site, their catchment boundary and catchment area in Ha.	
{	}	2	Show the existing 100 year flood plain boundary, maximum water level, special structures which regulate flow such as bridge, culvert, gate, etc. and stormwater pollution issues in the same topo plan.	

Consultant's Initial Submission	Items	SUBMISSION REQUIREMENTS	DID Remarks
{ }	3	Show the drainage sub-catchment and flow directions for each drainage area after development and show the changes resulting from the proposed earthwork grading. Include a contour plan of the finished grades at an appropriate scale (1:2000).	
{ }	4	Provide the preliminary stormwater management masterplan which clearly shows the location and sizes of proposed main drains and their outlets and other drainage and stormwater facilities such as swales, waterways, detention/retention pond, sediment forebay, wetlands, GPTs, wet/dry ponds, etc. and their proposed reserves.	
{ }	5	Show in a separate plan the calculated pre-development peak discharges, post-development peak discharges, proposed drainage carrying capacity, regulated flows after controls at all proposed control structures and at all proposed drainage outlet points, and the existing carrying capacity of the existing receiving water located immediately outside the project area.	

ADDITIONAL REQUIREMENTS

COMMENTS