

STORMWATER MANAGEMENT STRATEGY

for

42 Honeysuckle Drive, Newcastle

Job No: NL171278



Job No: NL171278
Revision: D
Date: 14/05/2019

	BY	DATE
Prepared	SC	14/05/2019
Checked	CP	14/05/2019
Admin	LD	14/05/2019



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1. Introduction

Northrop Consulting Engineers have prepared a stormwater management strategy for the proposed development of 42 Honeysuckle Dr, Newcastle (Lot 22 DP 1072217). The existing site in total is approximately 3728m², and is currently undeveloped land containing an existing fill pad, herein known as 'the site'.

The existing site contains a flat fill pad which currently drains away from a central point in the pad towards the northern, southern and western boundaries. The northern boundary drains to two existing council stormwater pits, the southern boundary drains to the redundant Newcastle rail corridor and the western boundary drains across a small parcel of undeveloped land towards an existing floodway known as Cottage Creek Floodway. A retaining wall present on the eastern boundary currently inhibits flows from entering the adjacent lot.

The site is generally elevated in comparison to the adjacent Honeysuckle Dr roadway. The existing site levels vary between approximately 4.0m AHD at the ridge point, to approximately 2.0m-2.4m AHD at the boundary.

The existing Council owned stormwater line that currently fronts the site in Honeysuckle Dr drains to the North across Honeysuckle Dr and into Throsby Basin. Additionally, an existing 450mm diameter stormwater pipe runs from the site directly into Cottage Creek via part Lot 4 DP 1238761. Council have confirmed that the existing pipe is a suitable connection point, as included in Appendix D.

The proposed development consists primarily of a mixed-use ground floor level which covers the majority of the site, four hotel levels and four serviced apartment levels above. The proposed development includes a multi-level above ground car park incorporated into the first 5 levels. In addition to this there is a communal courtyard, a pool, various lobby and storage rooms and external landscaping.

The development also includes a new vehicular access point to Honeysuckle Drive, a drop-off zone on Honeysuckle Dr and various pedestrian access points. A concept design plan of the ground floor is included as an attachment to this correspondence.

This stormwater design has been developed in accordance with City of Newcastle (CN) Development Control Plan (DCP) 2012 and the CN Technical Manual (2013). This report intends to discuss stormwater issues relating to the site at a level appropriate for a Development Application submission and should be read in conjunction with Northrop drawing NL171278 CC-02-C4.0.

2. Proposed Stormwater Management Strategy

The proposed stormwater management strategy for the 0.37ha development site can be summarised as follows:

- Runoff from new roof areas will be collected and diverted to an above ground re-use tank of minimum 7m³ storage volume. This will enable the re-use of water through podium level landscape irrigation;
- All downpipes reporting to the tank will be connected to a first flush device located prior to the tank inlet;
- Overflow from the re-use tank and runoff from the podium level will be collected and conveyed through a proprietary water quality treatment system or sand filter, before connecting to the existing stormwater line in that discharges directly into Cottage Creek;
- Approximately 505m² of pedestrian pavement and landscaping from various parts of the site will bypass the treatment system; and

- Pit and pipe networks shall be designed to convey all storms up to and including the 1% Annual Exceedance Probability (AEP) event.

Site Data

- Site Area: 3,728 m²;
- Roof Area: 1,919 m²;
- Landscaped Area: 971 m²;
- Other Impervious Area: 838 m²;
- Site Impervious Fraction: 74%;
- Treated Catchment: 3,223 m²; and
- Un-treated Catchment: 505 m².

3. Stormwater Quantity Assessment

As per discussions with Councils Senior Development Officer Rajnesh Prakash, no detention storage has been proposed for this development due to the close proximity of the site to the harbour (Throsby Basin). However, re-use storage volume is proposed to be provided (see Section 4 below for detail).

4. Stormwater Quality Assessment

In order to minimise any adverse impacts upon the ecology of the downstream watercourses; stormwater treatment devices have been incorporated into the design of the development. Two options have been considered, being either a sand filter or proprietary treatment device.

Section 4.3.3 of Council's Technical Manual – Stormwater and Water Efficiency for Development provides the requirements for a sand filter solution. Based on a contributing catchment area of 3,223m², a sand filter with an area of at least 26m² would be required.

Similarly, Council's DCP 7.06 (2012) identifies the level of stormwater quality treatment to be provided for the proposed development (refer to Treatment Targets in Table 1). The performance of the proposed proprietary stormwater management strategy was assessed against these targets using the conceptual software MUSIC (Version 6.2.1). The MUSIC model was developed using recommended parameters presented in the document "Draft NSW MUSIC Modelling Guidelines" (WBM, 2010) as recommended in the CN Technical Manual (2013) and MUSIC LINK.

The catchment area was broken down into three sub-catchments to effectively simulate the proposed treatment measures along the treatment train. A schematic of the MUSIC model can be seen below in Figure 1. A catchment plan is included in Appendix C.



- Primary treatment provided via a rainwater tank and gross pollutant trap (SPEL Ecoceptor or approved equivalent); and
- Tertiary treatment is provided by a proprietary cartridge treatment system SPEL Hydrosystem SHS.1000 or approved equivalent).

A 7kL above ground rainwater tank will be located on the podium level. It has been assumed within the MUSIC model that 100% of the roof areas will be connected to the tank.

The proposed system satisfies 94% of re-use demand which is considered an acceptable design outcome, and accords to the CN DCP 2012.

The results from the MUSIC modelling are presented in Table 1.

Table 1 – MUSIC Model Result Summary (outlet node)

	Source Load (kg/yr)	Residual Loads (kg/yr)	Percentage Reduction	Target Objectives
Total Suspended Solids (TSS)	253	33.5	86.8 %	85 %
Total Phosphorous (TP)	0.746	0.208	72.2 %	65 %
Total Nitrogen (TN)	7.74	4.05	47.7 %	45 %
Gross Pollutants	89.2	6.64	92.6 %	90 %

Table 1 shows that the proposed stormwater management strategy is predicted to achieve the load reduction targets set out in the CN DCP 2012, as estimated by MUSIC.

A MUSIC-link report has been included in Appendix B. The Music Model can be provided upon request.

5. Stream Erosion Index Determination

The Stream Erosion Index (SEI) has not been quantified for this development due to the close proximity to the harbour. We note the proposed system will connect to in-ground stormwater infrastructure which drain directly to the harbour, therefore the SEI calculation has been deemed irrelevant in this application.

6. Conclusions

Given the results of the above investigations, it is reasoned that the development meets CN's requirements. In particular:

- No detention storage is proposed due to the close proximity to the harbour;
- The treatment of stormwater runoff for waterborne pollutants is achieved through the proposed treatment train. This includes the use of a rainwater tank, a proprietary gross pollutant trap or and cartridge treatment system or sand filter; and
- The stream erosion index for the site was not quantified due to the site discharging to an existing stormwater network which connects directly to the harbour.

APPENDIX A – CONCEPT DESIGN PLAN



LEGEND

- DENITES SITE BOUNDARY.
- DENITES APPROXIMATE EXTENT OF PROPOSED BUILDING. REFER TO ARCHITECT'S DRAWINGS FOR DETAILS.
- DENITES EXTENT OF PROPOSED VEHICULAR CONCRETE SLAB. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR DETAILS.
- DENITES EXTENT OF PROPOSED MEDIAN KERB. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR DETAILS.
- DENITES EXTENT OF PROPOSED CONCRETE FOOTPATH PAVEMENT. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR DETAILS.
- DENITES EXTENT OF EXTERNAL FOOTPATH PAVEMENT.
- DENITES EXTENT OF LANDSCAPED AREA. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS.
- DENITES PROPOSED FINISHED FLOOR LEVEL.
- DENITES PROPOSED FINISHED SURFACE LEVEL.
- DENITES EXISTING SURFACE LEVEL.
- DENITES DIRECTION OF FALL IN PROPOSED FINISHED SURFACE LEVEL.
- DENITES VERTICAL RISER FROM UPPER LEVELS. REFER TO HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.
- DENITES RAMP. REFER TO ARCHITECT'S DRAWINGS FOR DETAILS.
- DENITES EXISTING RETAINING WALL.
- DENITES PROPOSED RETAINING WALL.
- DENITES PROPOSED RETAINING WALL. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR DETAILS.
- DENITES SUBSOIL LINE.
- DENITES PROPOSED KERB INLET PIT.
- DENITES EXISTING KERB INLET PIT.
- DENITES WATER QUALITY FILTER SYSTEM - SPIL HYDROSYS™ SHS1500 OR APPROVED EQUIVALENT.
- DENITES GPT - SPIL EXCEPTOR 2000 SERIES OR APPROVED EQUIVALENT.
- DENITES, CAST IN SITU STORMWATER GRATED INLET PIT AND COVER LEVEL.
- GRA'D TRENCH DRAIN.
- DENITES KERB ONLY, REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- DENOTES THICKENED EDGE.
- DENOTES PROPOSED ALTERNATE WATER QUALITY TREATMENT DEVICE. SAND FILTER AREA TO BE MINIMUM 26m² TO COUNCIL DCP REQUIREMENTS.

NOTES

- REFER TO ARCHITECTURAL PLANS FOR RAMP GRADES AND CARPARK SETOUT DETAILS.
- REFER TO ARCHITECTURAL PLANS FOR FINISHED SURFACE LEVELS.
- ALL PIT LIDS TO BE CLASS 'D' WITH HEEL PROOF AND SLIP RESISTANT GRATES UNO.

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT	DRAWING TITLE	JOB NUMBER	REVISION		
A	FOR DESIGN COORDINATION	CH	CP	CP	0905.19	DOMAGROUP BATESSMART.	 ALL SETOUT TO ARCHITECT'S DRAWINGS. DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHIP DRAWINGS OR COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. PLANS 1:150 	 Newcastle Suite 4, 215 Pacific Hwy, Charlestown NSW 2280 P.O. Box 160, Charlestown NSW 2280 Ph (02) 4943 1777 Fax (02) 4943 1577 Email: newcastle@northrop.com.au ABRN #1 034 53 100	PROPOSED DEVELOPMENT 42 HONEYSUCKLE DRIVE, NEWCASTLE N.S.W. 2300	CIVIL WORKS PLAN GROUND LEVEL	NL171278	CSK1.00	C
B	ISSUE FOR APPROVAL	LS	CS	CP	1305.19								
C	ISSUE FOR APPROVAL	LS	CS	CP	16.05.19								
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED							THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.						

NOT FOR CONSTRUCTION

APPENDIX B – MUSIC-LINK REPORT

MUSIC-*link* Report

Project Details		Company Details	
Project:	NL171278 - 42 Honeysuckle Drive	Company:	Northrop Consulting Engineers
Report Export Date:	1/05/2019	Contact:	Sophie Croft
Catchment Name:	NL171278_music_v2.SC	Address:	Level 1, 215 Pacific Highway Charlestown 2290
Catchment Area:	0.373ha	Phone:	02 4943 1777
Impervious Area*:	73.84%	Email:	scroft@northrop.com.au
Rainfall Station:	61078 WILLIAMTOWN		
Modelling Time-step:	6 Minutes		
Modelling Period:	1/01/1995 - 31/12/2008 11:54:00 PM		
Mean Annual Rainfall:	1125mm		
Evapotranspiration:	1735mm		
MUSIC Version:	6.3.0		
MUSIC-link data Version:	6.31		
Study Area:	Newcastle		
Scenario:	Newcastle		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node: Post-Development Node	Reduction	Node Type	Number	Node Type	Number
Flow	3.22%	Rain Water Tank Node	1	Urban Source Node	3
TSS	86.8%	Buffer Node	1		
TP	72.2%	Generic Node	2		
TN	47.7%				
GP	92.6%				

Comments

Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Buffer	Buffer	Proportion of upstream impervious area treated	None	None	1
Post	Post-Development Node	% Load Reduction	None	None	3.22
Post	Post-Development Node	GP % Load Reduction	90	None	92.6
Post	Post-Development Node	TN % Load Reduction	45	None	47.7
Post	Post-Development Node	TP % Load Reduction	65	None	72.2
Post	Post-Development Node	TSS % Load Reduction	85	None	86.8
Rain	Rainwater Tank	% Reuse Demand Met	70	None	94.1481
Urban	By-pass Landscape - 505m2	Area Impervious (ha)	None	None	0.014
Urban	By-pass Landscape - 505m2	Area Pervious (ha)	None	None	0.036
Urban	By-pass Landscape - 505m2	Total Area (ha)	None	None	0.051
Urban	Landscape - 1304m2	Area Impervious (ha)	None	None	0.069
Urban	Landscape - 1304m2	Area Pervious (ha)	None	None	0.060
Urban	Landscape - 1304m2	Total Area (ha)	None	None	0.13
Urban	Roof - 1919m2	Area Impervious (ha)	None	None	0.192
Urban	Roof - 1919m2	Area Pervious (ha)	None	None	0
Urban	Roof - 1919m2	Total Area (ha)	None	None	0.192

Only certain parameters are reported when they pass validation



THE CITY OF NEWCASTLE



APPENDIX C – CATCHMENT PLAN

Check **all** dimensions and site conditions prior to commencement of any work.
Do not purchase or ordering of any materials, fittings, plant, services or equipment
and the preparation of shop drawings and or the fabrication of any components

Do not scale drawings - refer to figured dimensions only. Any discrepancies should
immediately be referred to the architect for clarification.

All drawings may not be reproduced or distributed without prior permission from
the architect.

Legend - General Arrangement Plans

	Refer to A20-A00 for Materials and Products schedule for code references.
	Door Code #
	Window Code #
	Property Boundary
	Penetration Void/Zone
	TGSIs
	Feature Wall - Ventilated (GF Level Only)
	Planting Zone - Refer to L-Arch Documents

NOTE:

Typical ceiling heights:
-Halls, stairs, kitchen and living areas 2.7m clear
-Bed areas 2.4m clear
-Bulkhead locations below above heights to be confirmed

Refer to AD.05-series for Wall Types
Refer to AD.30 and AD.31-series for Window and Door Types

	Typical Cloud - Recorded change
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 Reversed Cactus • Design under review as noted

Sl	Sl No	Issued For	Comments	OT	OT
1	2700	ISSUED FOR COORDINATION			
2	3112	ISSUED FOR COORDINATION			
3	2706	ISSUED FOR 60% TENDER			
4	3206	ISSUED FOR 50% TENDER			
5	1101	ISSUED FOR 10% TENDER			
6	3203	ISSUED FOR COORDINATION			
7	1206	ISSUED FOR COORDINATION			
8	1405	ISSUED FOR COORDINATION			
9	2406	ISSUED FOR 10% TENDER			
10	1205	ISSUED FOR COORDINATION			
Revision	Date	Description	Initial	Checked	

42 Honeysuckle Drive
42 Honeysuckle Drive,
Newcastle

General Arrangement Plan
Level 05

8485 CONSTRUCTION DOCUMENTATION

Scale 1 : 100 @ A0

Drawn	Author	Checked	Checker
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Project File: 812106

Print Date: 25/02/2019 10:43:00 AM

42=ORENSUPRUPFR_ARCH

Drawing no.	Revision
AD 03 107	10

Melbourne 1 Nicholson Street
Melbourne VIC 3000 Australia

Tel: 03 8664 8200 F: 03 8664 8300
email: me@balestern.com.au
<http://www.balestern.com.au>

Balee Smart Pty Ltd ABN 70 004 999 400

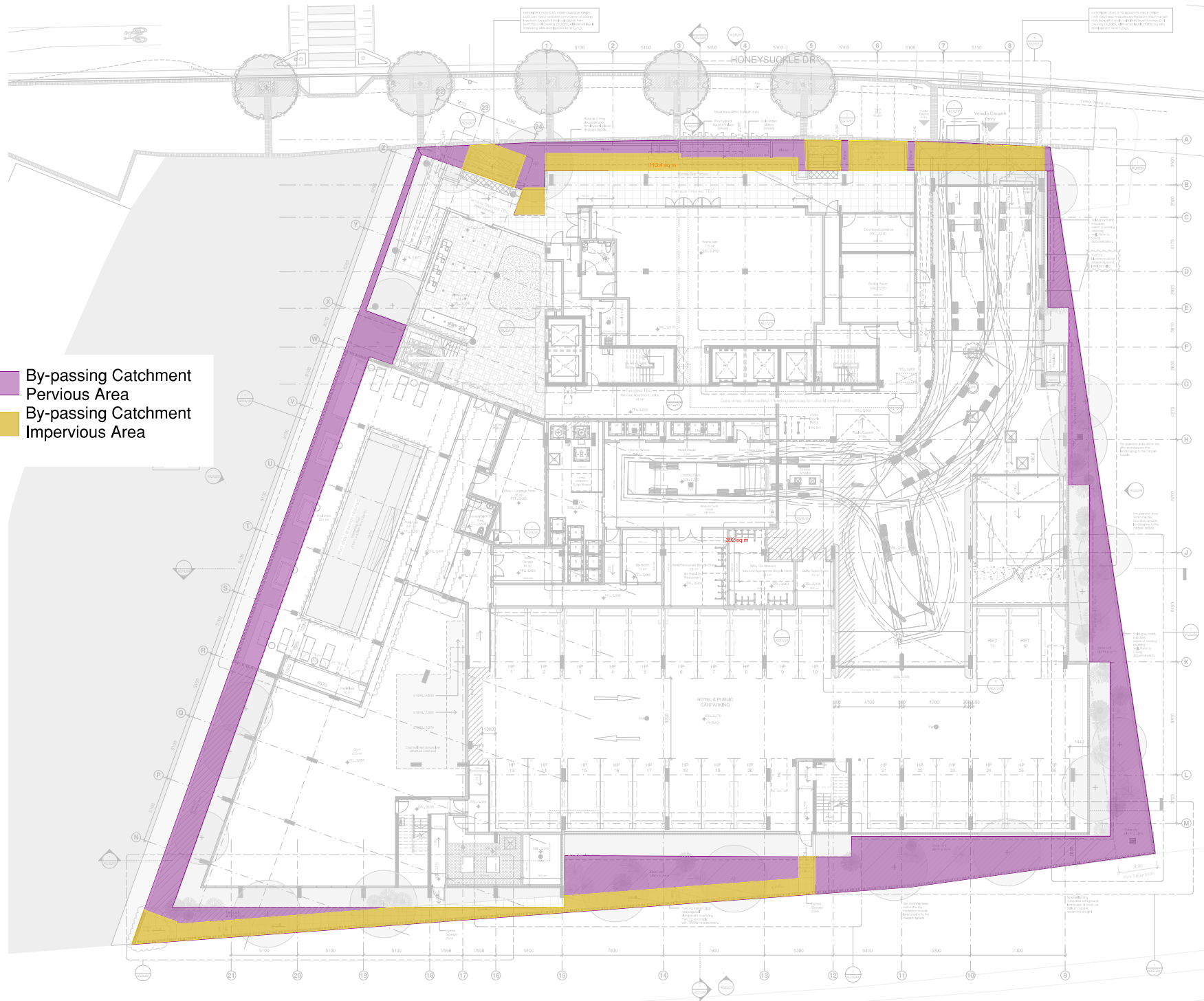
DATE: 04/07/2017

BALESMART

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26



By-passing Catchment
Pervious Area
By-passing Catchment
Impervious Area



Check all dimensions and the conditions prior to commencement of any work. The accuracy of existing data is not guaranteed. The accuracy of any work is the responsibility of the client. The accuracy of any work is the responsibility of the client. The accuracy of any work is the responsibility of the client.

Overall Parking Schedule	
Comments	Subtotal
Accessible (Total and Public)	8
Accessible (Impervious)	12
Impervious	12
Public	12
Visitor	12
Total Amount	56

Ground Floor - Canopies	
Comments	Subtotal
Total and Public	8
Impervious	12
Total Amount	20

Ground Floor - Motorbikes	
Comments	Subtotal
Motorbikes	1
Total Amount	1

Ground Floor - Bicycles	
Comments	Subtotal
Specialty Apartments - Floor	12
Specialty Apartments - Visitors - Floor	1
Total Amount	13

Legend - General Arrangement Plans

- Refer to AD.03.101 for Materials and Products schedule for code references.
- Door Code #
- Window Code #
- Property Boundary
- Perimeter Wall Zone
- Totals
- Feature Wall - Ventilated (10' Load Only)
- Flaming Zone - Refer to Lush Documents
- Filled Floor Level
- Standard Floor Level
- Public Floor Level

NOTES:

- General and layout details
- Refer to AD.03.101 for Materials and Products schedule for code references.
- Refer to AD.03.101 for Materials and Products schedule for code references.
- Refer to AD.03.101 for Materials and Products schedule for code references.

EXTERIOR DRAINAGE UNDER REVIEW
Hydraulic/Civil input required:
-Ramp landing.
External Perimeter Blockwork/ facade treatment under review

Typical Drainage Details

Item	Quantity	Unit	Value
1. 100mm deep concrete drainage	10	m	10
2. 100mm deep concrete drainage	10	m	10
3. 100mm deep concrete drainage	10	m	10
4. 100mm deep concrete drainage	10	m	10
5. 100mm deep concrete drainage	10	m	10
6. 100mm deep concrete drainage	10	m	10
7. 100mm deep concrete drainage	10	m	10
8. 100mm deep concrete drainage	10	m	10
9. 100mm deep concrete drainage	10	m	10
10. 100mm deep concrete drainage	10	m	10

**42 Honeysuckle Drive
42 Honeysuckle Drive,
Newcastle**

General Arrangement Plan
Ground Floor Plan

Scale: 1:100 @ A0

Author: [Name] Checked: [Name]

Project No: 421210

Revision: AD.03.101 A

Medium: [Medium] Drawn: [Name] By: [Name] Check: [Name]

Drawn: [Name] Check: [Name]

Scale: 1:100 @ A0

FOR CONSTRUCTION

BATESSMART

APPENDIX D – COUNCIL CONSULTATION

Chris Piper

From: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Sent: Monday, 13 May 2019 3:49 PM
To: Chris Piper
Cc: Rino Colaci; Elliott, Jordan
Subject: Re: 42 HD - Drainage Design Solution

Hi Chris

The submission for the drainage connect is acceptable, subject to the following;

Consultant has been done with City Asset Team and it is noted that the existing drainage pipe on the west which discharge to the creek will only service the development at 42 Honeysuckle Dr. The pipe seems to be a stub which may have been provided for this form of development for drainage connection and does not provide any form of public benefit or services any public assets.

CN therefore recommend that the drainage pipe is handed over to 42 Honeysuckle Dr and consultation done with HCCDC in regards to any easements for the drainage.

Thanks

Raj

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Rajnesh Prakash | Senior Development Officer - Engineering.

City of Newcastle | Governance

Regulatory, Planning & Assessment | Development Assessment

T: +61249742137 | M: +61478486327 | E: rprakash@ncc.nsw.gov.au



Newcastle - a smart, liveable, sustainable global city.

Cooperation | Respect | Excellence | Wellbeing

From: Chris Piper <cpiper@northrop.com.au>
Sent: Monday, May 13, 2019 2:42 pm
To: Rajnesh Prakash
Cc: Rino Colaci; Elliott, Jordan
Subject: RE: 42 HD - Drainage Design Solution

Thanks Raj!

Please see drawing attached to include outlet to Cottage Creek, as well as a photo of the outlet.

Thanks,

Chris Piper

Senior Civil Engineer | Group Manager

Northrop Consulting Engineers

T 02 4943 1777 M 0407 940 481

From: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Sent: Monday, 13 May 2019 9:52 AM
To: Chris Piper <CPiper@northrop.com.au>
Cc: Rino Colaci <Rino.Colaci@bloc.com.au>; Elliott, Jordan <Jordan.Elliott@app.com.au>
Subject: RE: 42 HD - Drainage Design Solution

Hi Chris

Have just looked at the plan.

Is there any plans and details for the outlet location to the Hunter Water Canal?

DOP will also require this detail.

Any chance if you can update the plan to include the outlet location.

Thanks

Raj

Rajnesh Prakash | Senior Development Officer - Engineering.

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From: Chris Piper <CPiper@northrop.com.au>
Sent: Friday, 10 May 2019 4:03 PM
To: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Cc: Rino Colaci <Rino.Colaci@bloc.com.au>; Elliott, Jordan <Jordan.Elliott@app.com.au>
Subject: 42 HD - Drainage Design Solution

Hi Raj,

Thanks again for your time this morning. As discussed, BLOC have progressed to construction of the originally proposed drainage outlet from 42HD, but have found relocation of the existing services prohibitively expensive. We have found an opportunity adjacent the site which would result in a better outcome, which involves connecting our outlet to an existing stormwater pipe that drains directly to cottage creek. The drawing attached is what I present today, and shows approximately what we are proposing. As we discussed, with the opportunity presented by the

lower connection point, we may also consider a sand filter option, in accordance with Council's DCP, in lieu of the proprietary treatment devices.

From our discussion, I understand that Council are in support of the alternate drainage solution.

Thanks,

Chris Piper

Senior Civil Engineer | Group Manager

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