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SYDNEY BROADCAST PROPERTY

EPPING PARK - EARLY WORKS PACKAGE PROJECT APPLICATION

STORMWATER MANAGEMENT STRATEGY, SERVICING STRATEGY & CIVIL WORKS REPORT

Appendix 4 - Flood Levels in Terrys Creek – Provided By Parramatta City Council



ST

AVE

AVE

SECOND

AVE

ST

PL

LN

85.37
85.28

1:100
1:20

83.59
83.44
83.49
83.33

MOBBS

81.87
81.63

80.70
80.46



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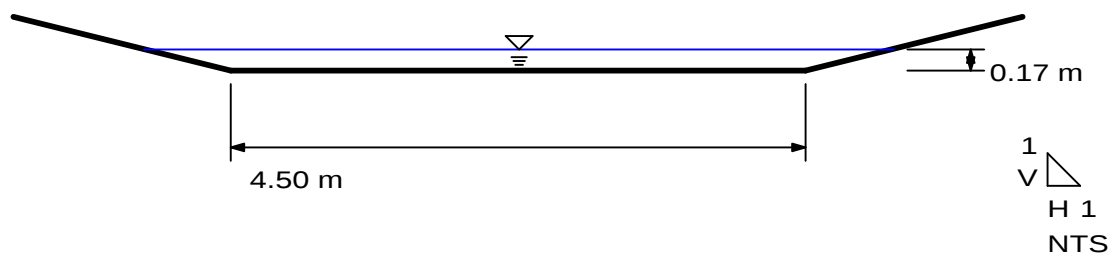
Appendix 5 - Manning's "n" Calculation to Determine Flood Hazard in Rehabilitated Drainage Channel

Cross Section

Cross Section for Trapezoidal Channel

Project Description	
Project File	I:\-0007 - ui programs\haestad\academic\fmw\parkland.fm2
Worksheet	Drainage Channel Through Catchment 12
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.030
Channel Slope	0.040000 m/m
Depth	0.17 m
Left Side Slope	4.000000 H : V
Right Side Slope	4.000000 H : V
Bottom Width	4.50 m
Discharge	1.70 m ³ /s





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Appendix 6 - Proposed Conditions Direct Rainfall Intensities (*Considering Climate Change*)

Calculation of Intensities based on IFD coefficients and applying a 30% increase for Climate Change

Location:-61 Mobbs Lane Epping-----

Latitude:-33° 46' 56"-----

Longtiude:-151° 04' 12"-----

IFD Coefficients-----

ARI in years	Coefficient A	Coefficient B	Coefficient C	Coefficient D	Coefficient E	Coefficient F	Coefficient G
2	3.56E+00	-5.71E-01	-2.44E-02	7.99E-03	-1.84E-04	-2.63E-04	1.13E-05
5	3.81E+00	-5.61E-01	-2.23E-02	7.43E-03	-2.77E-04	-2.05E-04	5.00E-06
20	4.07E+00	-5.52E-01	-2.05E-02	7.37E-03	-4.11E-04	-2.02E-04	8.84E-06
100	4.34E+00	-5.44E-01	-1.87E-02	7.30E-03	-5.51E-04	-1.99E-04	1.33E-05

2 Year Storm Intensities

Duration (min)	Duration (hr)	Log(e) Intensity	Intensity (mm/hr)	Intensity (post climate change) (mm/hr)
10	0.17	4.46	86.47	112.41
15	0.25	4.28	72.38	94.09
30	0.5	3.94	51.38	66.79
60	1	3.56	35.08	45.61
90	1.5	3.32	27.74	36.06
120	2	3.15	23.40	30.42
180	3	2.91	18.37	23.88
270	4.5	2.67	14.41	18.73
360	6	2.50	12.13	15.77
540	9	2.25	9.52	12.38

5 Year Storm Intensities

Duration (min)	Duration (hr)	Log(e) Intensity	Intensity (mm/hr)	Intensity (post climate change) (mm/hr)
10	0.17	4.70	110.23	143.30
15	0.25	4.53	92.38	120.09
30	0.5	4.19	65.80	85.54
60	1	3.81	45.20	58.76
90	1.5	3.58	35.89	46.66
120	2	3.41	30.39	39.51
180	3	3.18	23.98	31.17
270	4.5	2.94	18.91	24.58
360	6	2.77	15.97	20.76
540	9	2.53	12.60	16.38

20 Year Storm Intensities

Duration (min)	Duration (hr)	Log(e) Intensity	Intensity (mm/hr)	Intensity (post climate change) (mm/hr)
10	0.17	4.96	141.89	184.45
15	0.25	4.78	119.13	154.87
30	0.5	4.44	85.18	110.73
60	1	4.07	58.82	76.47
90	1.5	3.85	46.89	60.96
120	2	3.68	39.83	51.77
180	3	3.45	31.58	41.05
270	4.5	3.22	25.02	32.53
360	6	3.05	21.22	27.58
540	9	2.82	16.82	21.86

100 Year Storm Intensities

Duration (min)	Duration (hr)	Log(e) Intensity	Intensity (mm/hr)	Intensity (post climate change) (mm/hr)
10	0.17	5.21	183.20	238.15
15	0.25	5.04	154.04	200.26
30	0.5	4.70	110.49	143.63
60	1	4.34	76.65	99.64
90	1.5	4.12	61.31	79.70
120	2	3.96	52.21	67.87
180	3	3.73	41.57	54.04
270	4.5	3.50	33.08	43.01
360	6	3.34	28.14	36.58
540	9	3.11	22.40	29.12

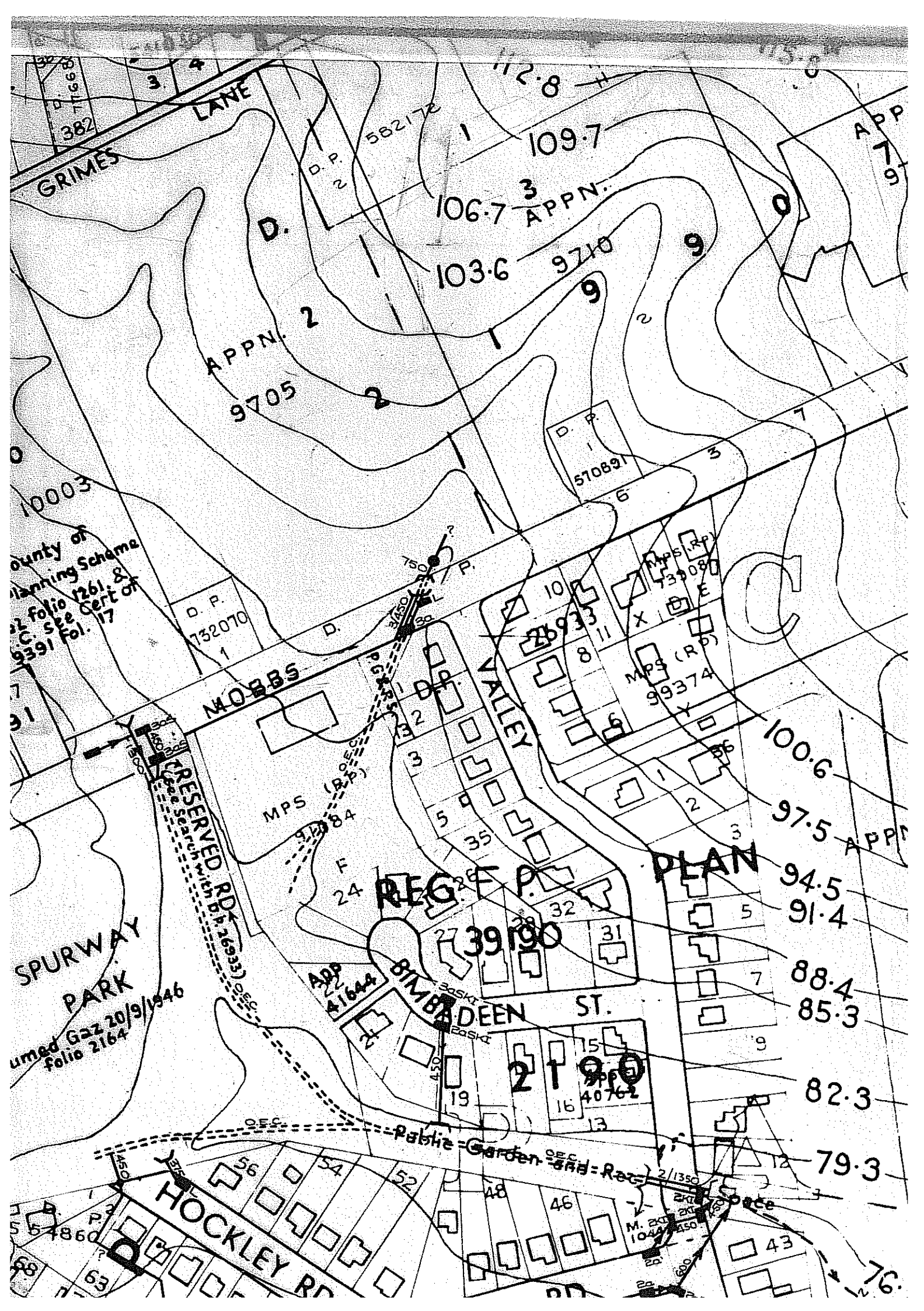


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STORMWATER MANAGEMENT STRATEGY, SERVICING STRATEGY & CIVIL WORKS REPORT

Appendix 7 - Drainage Infrastructure Nearby 61 Mobbs Lane Epping – Provided by Parramatta City Council





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Appendix 8 - Sydney Water Pre-Feasibility Study



10 September 2007

Case Number: 108814
V 1

Patterson Britton & Partners Pty Ltd
c/- Qalcheck Pty Ltd

Dear Applicant

FEASIBILITY LETTER

Developer: **Patterson Britton & Partners Pty Ltd**
Development: **Redevelopment of Channel 7 Studios, Mobbs Lane Epping.**

Your attention is drawn to the requirements in this letter that may apply should you proceed to obtain development consent and then are required to apply to Sydney Water for a Section 73 Subdivider/ Developer Compliance Certificate (the Certificate) for your proposed development.

Because of the tentative nature of this application, after you receive that consent, you would need to make **a fresh application to Sydney Water for that Certificate by engaging your current or another authorised Water Servicing Coordinator (the Coordinator).**

The advice provided in this letter is valid for today's date only.

Since you have not yet obtained development consent, this letter contains Sydney Water's anticipated requirements. It is not an approval to execute any work.

You must engage your current or another authorised Coordinator to manage the design and construction of the sewer works that you must provide, at your cost, to service your development.

For a list of authorised Coordinators, see www.sydneywater.com.au and refer to *e-Developer* under *Your Business*, or call 13 20 92. Coordinators may provide you with **a quote or advice regarding costs for their and other supplier's services/ works as well as other Sydney Water costs.**

The Coordinator generally will be the single point of contact between you and Sydney Water and can answer any questions in the first instance you may have on Sydney Water's developer process and developer charges.

SUMMARY OF REQUIREMENTS TO OBTAIN A CERTIFICATE:

You must:

- 1. Engage a Coordinator prior to signing an Agreement.**
- 2. Sign both copies of the Agreement and lodge with the Coordinator.**
- 3. Consequent to signing the Agreement, build Sewer works at your cost, pay associated charges and note advice on existing service availability.**
- 4. Pay a total of \$11,307 in charges identified in Section 4.**

DETAILED REQUIREMENTS

1. Water Servicing Coordinator.

You must engage an authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your development.

2. Major Works Agreement.

After you engage a Coordinator, you will need to sign and lodge **both copies** of the enclosed Major Works Agreement with your nominated Coordinator. The agreement identifies the responsibilities of Sydney Water, the Coordinator and you (the Developer) for your development's water/sewer construction. After execution by Sydney Water, one copy will be returned to your authorised Coordinator.

Note: The authorisation of the Coordinator must be current at all times throughout the project.

3. Water and Sewer works.

Further investigation into specific requirements may occur if Parramatta Council approves rezoning of the site.

Water:

The proposed development of 650 dwellings would be adequately served by the 375mm CICL watermain in Mobbs Lane.

Assessment of any firefighting capability of Sydney Water main is not part of the Section 73 Certificate system capability assessment which is for predicted normal domestic supply only. Firefighting capability assessment is the responsibility of the applicant. Sydney Water can assist only by indicating modelled pressures at flows nominated by the applicant (provided that such flows do not exceed water supply capability) on a standard pressure enquiry form submitted with the scheduled fee.

It is expected that demand management initiatives would be undertaken that are in line with Planning NSW BASIX directives.

Sewer:

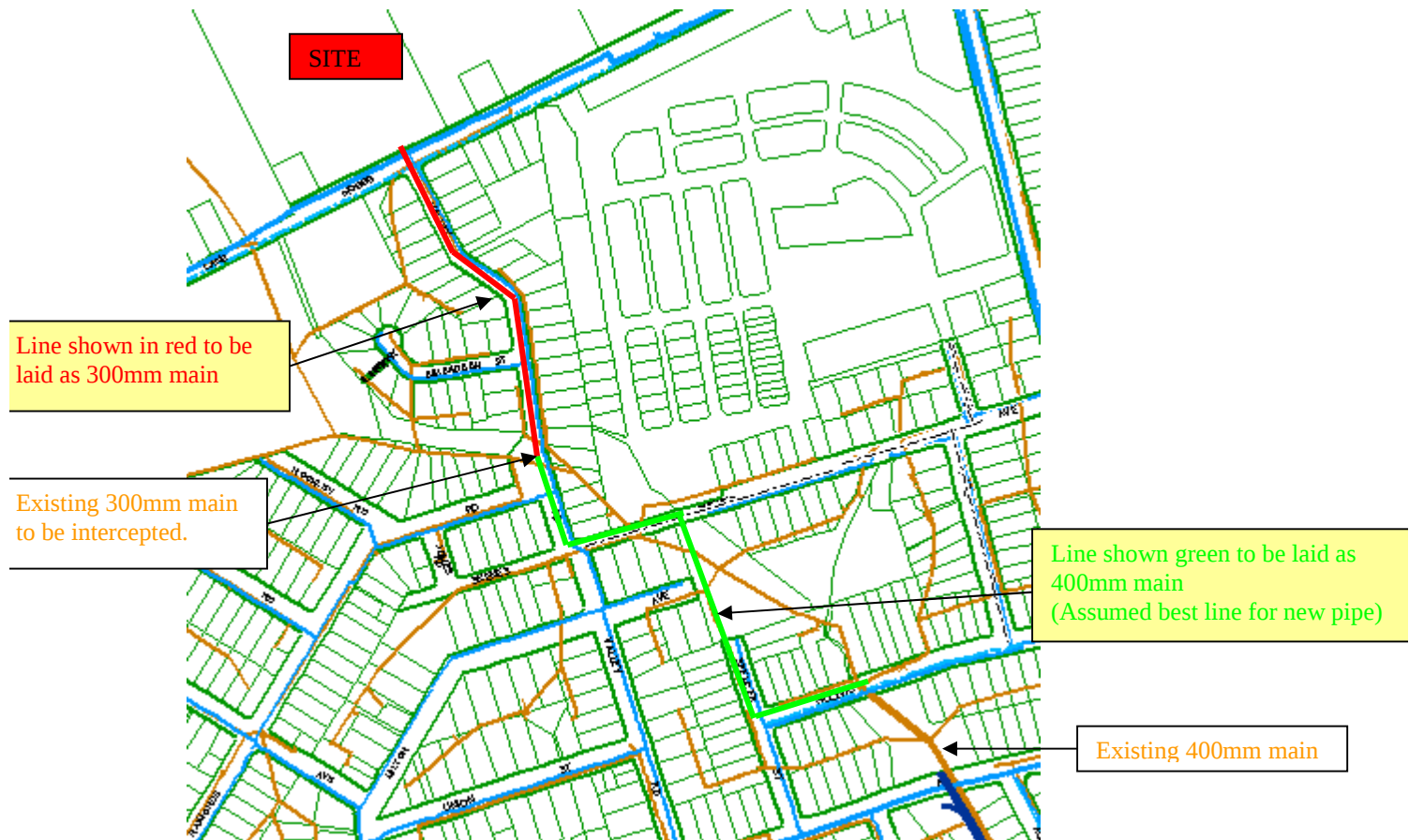
The development is located within the West Lane Cove catchment. **Analysis of the catchment sewers indicates that there would still be insufficient capacity for the planned 650 lot development.** (When compared with the previous application for 900 dwellings. – CN 62912) The original design of the sewers would have allocated a small nominal demand for the 11 ha site.

The effect of the development if connected to the nearest sewer would result in Sydney Water Corporation breaching its Operating Licence.

Accordingly, the requirements would be:

- **The proposed 650 dwelling development will be required to connect to a new 400mm/300mm sewer main amplification as per the attached figure.**
- The downstream end of the new 400mm main will intersect the existing 400mm sewer in Holway Street. The upstream end of the new 400mm main will intersect the existing 300mm sewer in Valley Road. Flow in the existing 300mm sewer west of Valley Road will be diverted into the new 400mm main.

- A new 300mm sewer will be required from the new access chamber in Valley Road, up Valley Road to the proposed development in Mobbs Lane.
- Where possible, dwellings in the new subdivision must connect to this 300mm amplification.



At the Developer's own risk the Works may be carried out prior to the granting of Development Consent. In such cases you will be responsible for any adjustments to Sydney Water assets and the associated costs thereof necessitated by variation to the Consent.

*Note: If construction must take place on neighbouring properties, written consent on Sydney Water's **Permission to Enter** form must be obtained from the relevant property owners. Your Coordinator has copies of the form (also available on the Internet at the address as above) and can negotiate on your behalf.*

In providing these works to Sydney Water you will need to pay project management, survey, design and construction costs **directly to your suppliers**. These costs may include Sydney Water charges for:

- Water main shutdown and disinfection
- Connection of new mains to Sydney Water system(s)
- Design and construction audit fees
- **Contract administration on project finalisation**
- Creation or modification of Sydney Water interests in land (eg. easements)
- Further application fees for staged developments.

Your Coordinator can advise you about these costs and how these costs may be quoted.

4. Developer charges.

Development Servicing Plan (DSP)	Basis of Calculation	Charge (\$) for Applicable period (10/09/07-10/09/07)	Charge (\$) for Applicable Period - (*CPI adjusted)
Mobbs Hill Water DSP Area	Residential Development Density 66-81 dwellings per ha band; 650 dwellings @ \$25 = \$16,250 Less Credit of \$4,943 for previous payment/ use	\$11,307	
Lane Cove Sewer DSP Area	Residential No charges apply to this zone at present.	\$Nil	
Reticulation Recovery	Nil	\$Nil	
DEVELOPER CHARGES TOTAL: <i>[OFFICE USE- Invoice Charges total - Developer \$11,307]</i>		\$11,307	

Notes:

- If you do not pay the charges identified in column 3 of the above table by 30 June, the total will be adjusted for inflation (based on the weighted average of the capital cities CPI for the 12 months to the end of the previous March) from 1 July for the balance of the 12-month period. The charge from 1 July is shown in column 4 when the inflation figure is known.
- **DSP charges** are a contribution towards the cost of systems (eg treatment plants), which serve your development. They have been calculated using base developer charges that cannot be changed or waived by Sydney Water having been established in Plan(s), available on request, and registered with the Independent Pricing and Regulatory Tribunal (IPART) under its relevant Determination. For further details, and a copy of the IPART Act 1992 including section 31 that refers to arbitration rights, see the IPART web site **www.IPART.nsw.gov.au**. Costs of arbitration, if appropriate, are borne equally by you and Sydney Water irrespective of outcome.
- These charges are directly payable to Sydney Water. CASH or BANK CHEQUE payments ONLY at any Sydney Water Customer Service Centre.
- **You must pay any DSP charge before you will be given permission to connect your development to Sydney Water's water/sewer systems.**
- **Reticulation Recovery Charges** recover part of the cost of works that have been provided by Sydney Water or other developers that benefit your development. This charge has been calculated before your detailed designs are completed. If later design investigation shows your development will be connected to other main/s, the Reticulation Recovery charge may be varied and/or you may need to construct other works.

Stamping and approval of your engineering and building plans.

You are reminded that all building plans must be stamped and approved at:

- a Quick Check agency (for an agency list see www.sydneywater.com.au, refer to *Your Business* then see *Building & Renovating* under the heading *Building & Developing* or call 13 20 92); or
- a Sydney Water Customer Service Centre.

Approval is required as construction/building works (eg earthworks, roadworks, drainage, landscaping, excavation, foundation works) may impact on existing Sydney Water assets (eg water and sewer mains). Approval of the plans may take up to 21 days and the results may affect these activities.

Note: If any work on our assets is carried out without that approval, then Sydney Water will take action to have work on the site cease and apply the provisions of Section 44 of the Sydney Water Act 1994.

POSSIBLE FUTURE COSTS

Requirements in this Notice relate to your Certificate application and may not cover all aspects of Sydney Water's involvement with your development. During design and construction of your development other Sydney Water fees/requirements may be necessary, including:

- construction/building plan stamping fees including fees to ensure the protection of Sydney Water assets
- plumbing and drainage inspection costs for private service lines (including property service connection and inspection fees)
- install backflow prevention devices for certain commercial/industrial connections
- trade waste requirements when constructing a building
- council fire fighting requirements (if not catered for by your current Sydney Water main). You should investigate fire fighting facility requirements for your development as soon as possible, including a standard pressure inquiry to Sydney Water if needed.

END OF NOTICE



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Appendix 9 - Jemena Gas Network Correspondence

17 February 2009

Worley Parsons P/L
L 12, 141 Walker St
NTH SYDNEY NSW 2060
Att. S. Porter

**PROPOSED SUB-DIVISION OF
61 MOBBS LANE, EPPING(EX-ATN 7 STUDIOS)**

Dear Sean,

Natural Gas is available adjacent to the above subdivision and could be extended to supply any proposed development at this site depending upon it's commercial viability.

Currently there is a 75mm nylon medium pressure gas main (210kPa) along Midson Rd. This can be utilised to supply standard residential housing development on the proposed site, however capacity is not reserved for any individual project. The standard inclusions are natural gas hot water, cooking and heating in each dwelling.

Jemena encourages the use of shared trenching within the proposed site. Supply of infrastructure to any other appliance types will be assessed upon known load profiles and may require external power generating organisations to engage an Energy Retailer. Costs associated with supply of infrastructure could be formalised once detailed information is supplied to Jemena.

We appreciate the opportunity to be involved in the forward planning of this development and would like to pursue the potential for the connection to the natural gas network. Thank you for your inquiry. If further information or assistance is required, please do not hesitate to contact me on (02) 9270 4695

Yours faithfully,

Neale Hilton

Network Development Manager



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Appendix 10 - RTA Approval Letter

88142107



RDC 2005-1851c

Andrew Popoff

McLachlan Lister Pty Limited
Level 1
1 Hickson Road
The Rocks NSW 2000

Attention: Alistair Mein

**THE PARKLANDS (CHANNEL SEVEN) CONCEPT PLAN (MPA NO. 05_0086)
- FINAL CONCEPT DESIGNS FOR MARSDEN ROAD / MOBBS LANE AND
MIDSON ROAD / MOBBS LANE INTERSECTIONS.**

Dear Alistair,

I refer to your letter dated 26 March 2008 which included revised concept designs (Ref: 5316-05-01; Figure 1, 2, 3, 4 and 5; Dated: 26/03/2008) that were submitted to the Roads and Traffic Authority (RTA) for "in principle" approval in order to address several outstanding design issues.

Reference is also made to your earlier correspondence dated 10 October 2007 which related to the timing for the installation of the proposed traffic signals at Marsden Road / Mobbs Lane.

The RTA has reviewed the submitted concept designs and provides "in principle" approval subject to the following:

1. The design of the proposed traffic control signals and associated civil works at the intersection of Marsden Road / Mobbs Lane shall be in accordance with the RTA's Road Design Guide and other Australian Codes of Practice. The certified copies of the design plans shall be submitted to the RTA for consideration and approval prior to the release of the construction certificate (*for the first stage of development*) by the Certifying Authority and commencement of road / signal works.

Revised Traffic Signal design plans for the intersection of Midson Road / Eastwood Avenue / Mobbs Lane must also be submitted to the RTA for formal acceptance prior to the commencement of road / signal works.

The RTA fees for administration, plan checking, civil / signal works inspections and project management shall be paid by the developer prior to the commencement of works.

The developer may be required to enter into a Works Authorisation Deed (WAD) for the abovementioned works. If required, please note that the Works Authorisation Deed (WAD) will need to be executed prior to the RTA's assessment of the detailed civil design plans.



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2. The developer shall be responsible for all public utility adjustment/relocation works, necessitated by the above work and as required by the various public utility authorities and/or their agents.
3. As part of the detailed design that the interface between new pavement and existing pavement is not to be in the wheel tracks of vehicles (ie: this may mean that extra pavement has to be removed so the interface is in the middle of a lane).
4. That the pedestrian crossing across the northern Marsden Road (leg) is not installed up front. However, the ducting, wiring, etc is done to facilitate future installation when required.
5. The proposed right turn bay from Marsden Road into Mobbs Lane should have the chevron linemarked area deleted in order to maximise the storage of this right turn bay.
6. As the narrowing of the footway along the western side of Marsden Road may somewhat restrict sight distances for vehicles leaving these properties, it is recommended that a "Driveways Ahead" sign be installed along Marsden Road for northbound traffic prior to the Illarangi Street intersection.
7. If the property at No 278 Marsden Road is still a vacant lot when the traffic signal / civil works occur at the Marsden Road / Mobbs Lane intersection, then the existing driveway crossing for this property should be relocated to the northern side of this lot when the SA kerb is reconstructed.

In addition, the following comments are provided with regard to the timing of the installation of the traffic signals at Marsden Road / Mobbs Lane:

8. The early provision of traffic signals at this intersection will improve the safety of a number of (Right-Through – from right) accidents that have occurred in the past. In addition, the early provision of traffic signals at this intersection would also facilitate the safe movement of construction related vehicles at this intersection.

Therefore, the certified copies of the civil / traffic signal design plans at the Marsden Road / Mobbs Lane intersection shall be submitted to the RTA for consideration and approval prior to the release of the construction certificate (*for the first stage of development*) by the Certifying Authority and commencement of road / signal works.

9. As stated previously, the Occupation Certificate (*for the first stage*) of the proposed development shall not be released until the traffic control signals at the intersection of Marsden Road / Mobbs Lane is fully constructed and operational.
10. As the traffic signals will be required to be operational prior to the nominated trigger points as stated in your correspondence:
 - The occupation of the childcare centre plus 150 dwellings, or
 - The occupation of 225 dwellings with no childcare centre.

The RTA would be willing to "halve" the total 10 year traffic signal operational / maintenance costs that you would be required to pay (which equates to \$35,860).

88142107

(Note: The total 10 year operational / maintenance cost is \$71,720 – per new signal site).

Note: The turn movements for buses (ie: left-in and left-out of the site) as depicted on Figure 3 show them encroaching over the right turn bays within Mobbs Lane. This issue will need to be addressed to the satisfaction of Council.

Any inquiries in relation to this matter can be directed to the RTA's Land Use & Transport Planner, Andrew Popoff on telephone 8849 2180 or facsimile 8849 2918.

Yours sincerely,



Ken Moon

Land Use Planning & Assessment Manager
Transport Planning, Sydney Region

16 April 2008