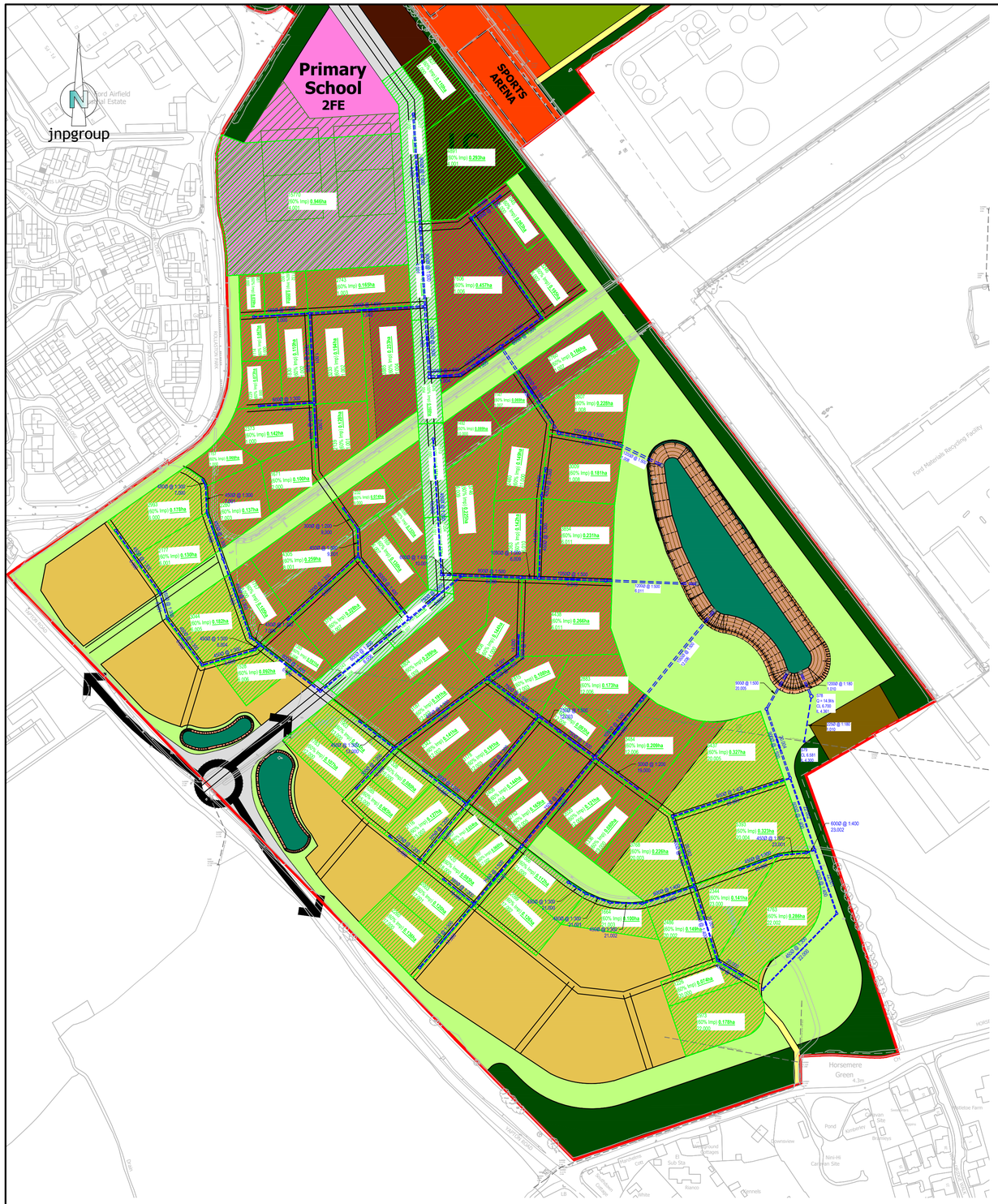

Southern Catchment Impermeable Areas with 10% Urban Creep to Parcels			
Pipe No.	Parcels with 10% urban creep (m²)	Spine Road (ha)	Total (ha)
1.000	0.237	0.000	0.237
2.000	0.110	0.000	0.110
1.001	0.141	0.000	0.141
3.000	0.117	0.000	0.117
1.002	0.409	0.000	0.409
4.000	0.121	0.248	0.369
4.001	1.363	0.158	1.521
1.003	0.182	0.000	0.182
1.004	0.256	0.168	0.424
1.005	0.000	0.000	0.000
5.000	0.069	0.000	0.069
5.001	0.000	0.000	0.000
5.002	0.215	0.000	0.215
1.006	0.503	0.000	0.503
1.007	0.259	0.000	0.259
1.008	0.450	0.000	0.450
6.000	0.196	0.000	0.196
6.001	0.143	0.000	0.143
6.002	0.000	0.000	0.000
6.003	0.000	0.000	0.000
6.004	0.000	0.000	0.000
7.000	0.076	0.000	0.076
7.001	0.000	0.000	0.000
7.002	0.000	0.000	0.000
7.003	0.151	0.000	0.151
7.004	0.000	0.000	0.000
6.005	0.200	0.000	0.200
6.006	0.190	0.124	0.314
8.000	0.116	0.000	0.116
9.000	0.081	0.000	0.081
9.001	0.000	0.000	0.000
8.001	0.285	0.000	0.285
6.007	0.394	0.117	0.511
10.000	0.098	0.151	0.249
10.001	0.168	0.120	0.288
6.008	0.000	0.000	0.000
6.009	0.565	0.000	0.565
11.000	0.164	0.000	0.164
11.001	0.000	0.000	0.000
6.010	0.156	0.000	0.156
6.011	0.547	0.000	0.547
Overall Total =			9.048

Southern Catchment Impermeable Areas with 10% Urban Creep to Parcels			
Pipe No.	Parcels with 10% urban creep (m²)	Spine Road (ha)	Total (ha)
12.000	0.118	0.000	0.118
13.000	0.125	0.000	0.125
12.001	0.000	0.000	0.000
14.000	0.158	0.000	0.158
14.001	0.000	0.000	0.000
12.002	0.365	0.000	0.365
15.000	0.072	0.000	0.072
15.001	0.000	0.000	0.000
16.000	0.088	0.000	0.088
15.002	0.199	0.000	0.199
12.003	0.329	0.000	0.329
12.004	0.158	0.000	0.158
17.000	0.150	0.000	0.150
18.000	0.094	0.000	0.094
17.001	0.132	0.000	0.132
17.002	0.211	0.000	0.211
19.000	0.088	0.000	0.088
12.005	0.417	0.000	0.417
12.006	0.420	0.000	0.420
20.000	0.081	0.000	0.081
20.001	0.000	0.000	0.000
21.000	0.123	0.000	0.123
21.001	0.000	0.000	0.000
21.002	0.000	0.000	0.000
21.003	0.110	0.000	0.110
20.002	0.164	0.000	0.164
20.003	0.249	0.000	0.249
22.000	0.196	0.000	0.196
22.001	0.000	0.000	0.000
23.000	0.155	0.000	0.155
23.001	0.000	0.000	0.000
23.002	0.000	0.000	0.000
22.002	0.315	0.000	0.315
20.004	0.355	0.000	0.355
20.005	0.360	0.000	0.360
1.009	0.000	0.000	0.000
1.010	0.000	0.000	0.000
Overall Total =			5.232

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Rev.	Date	Amendment	By	Chk.

Status: Indicative

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Tel: 01926 889955 E-mail: leamingtonspa@jnpgroup.co.uk

Client: Wates, Redrow

Job: Ford Airfield

Title: Southern Parcels Surface Water Drainage Areas With Urban Creep

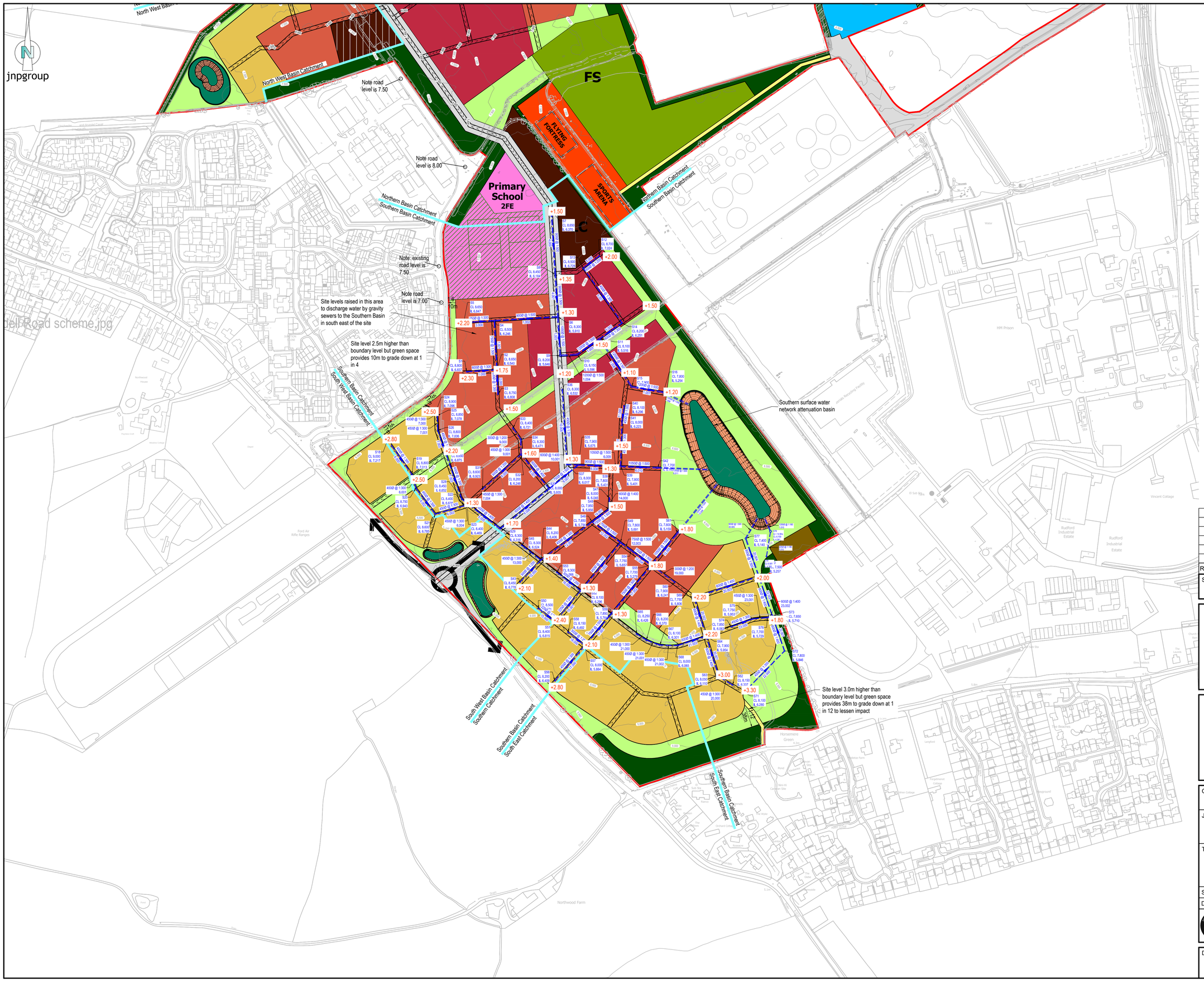
Scale 1:2000 @ A1 | Date November 2020

Drawn by IS | Checked by | Approved by

Accredited Contractor

Drawing No. C85228-D184 | Rev. -

QA Ref: QD019 Rev D



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Legend

	Site boundary
+1.00	Proposed level difference between existing and proposed ground levels
6.00	Existing ground contour
8.00 >>>>>	Proposed road contours

Rev.	Date	Amendment	By	Chk.

Status: Indicative

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Tel: 01494 771221 E-mail: chesham@jnpgroup.co.uk

Client: Wates, Redrow

Job: Ford Airfield

Title: Southern Parcels
Indicative Proposed Ground Levels
Onsite Gravity Sewer Discharging to the Offsite Private Sewer

Scale 1:2500 @ A1 | Date December 2020

Drawn by IS | Checked by | Approved by

BMTRADA UKAS 012 CHAS Accredited Contractor Constructionline Supplier No. 00002

Drawing No. C85228-D185 | Rev. -

QA Ref: QD019 Rev D

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Legend

	Site boundary
+1.00	Proposed level difference between existing and proposed ground levels
6.00	Existing ground contour
8.00 >>>>>	Proposed road contours

Rev.	Date	Amendment	By	Chk.
E	16.12.20	North West Levels revised	IS	AM
D	10.02.20	Basins revised due to groundwater monitoring results	IS	AM
C	19.12.19	Site boundary revised	IS	AM
B	24.10.19	Land use plan updated	IS	AM
A	11.07.19	Proposed road levels revised to suit updated site layout	IS	AM

Status: Indicative

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Client: Wates, Redrow

Job: Ford Airfield

Title: Indicative Proposed Ground Levels Sheet 2 of 2

Scale 1:2500 @ A1 | Date April 2019

Drawn by IS | Checked by | Approved by

BMTRADA Registered Firm | UKAS Quality Management 012 | CHAS Accredited Contractor | Constructionline Pre-Qualified Supplier No. 00002

Drawing No. C85228-D111 | Rev. E

QA Ref: QD019 Rev D

ARUN DISTRICT COUNCIL FAERNOUT

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Pipe Sizes Standard Manhole Sizes STANDARD

FEH Rainfall Model

Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 500450 103100 TQ 00450 03100
Data Type	Catchment
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	2.541	4-8	8.961	8-12	2.725	12-16	0.053

Total Area Contributing (ha) = 14.280

Total Pipe Volume (m^3) = 1724.892

Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design

Network Results Table

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	44.108	0.147	300.0	0.237	5.00	0.0	0.600	o	600	Pipe/Conduit	
2.000	35.452	0.118	300.0	0.110	5.00	0.0	0.600	o	600	Pipe/Conduit	
1.001	71.950	0.144	500.0	0.141	0.00	0.0	0.600	o	750	Pipe/Conduit	
3.000	45.173	0.151	300.0	0.117	5.00	0.0	0.600	o	450	Pipe/Conduit	
1.002	93.005	0.186	500.0	0.409	0.00	0.0	0.600	o	900	Pipe/Conduit	
4.000	92.846	0.186	500.0	0.369	5.00	0.0	0.600	o	900	Pipe/Conduit	
4.001	62.193	0.124	500.0	1.521	0.00	0.0	0.600	o	900	Pipe/Conduit	
1.003	56.802	0.114	500.0	0.182	0.00	0.0	0.600	o	1050	Pipe/Conduit	
1.004	24.936	0.050	500.0	0.424	0.00	0.0	0.600	o	1200	Pipe/Conduit	
1.005	39.790	0.080	500.0	0.000	0.00	0.0	0.600	o	1200	Pipe/Conduit	
5.000	29.276	0.146	200.0	0.069	5.00	0.0	0.600	o	300	Pipe/Conduit	
5.001	98.200	0.327	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.52	6.837	0.237	0.0	0.0	0.0	1.40	396.0	32.1
2.000	50.00	5.42	6.808	0.110	0.0	0.0	0.0	1.40	396.0	14.9
1.001	50.00	6.49	6.540	0.488	0.0	0.0	0.0	1.24	549.9	66.1
3.000	50.00	5.64	6.847	0.117	0.0	0.0	0.0	1.17	185.8	15.8
1.002	50.00	7.60	6.246	1.014	0.0	0.0	0.0	1.39	887.1	137.3
4.000	50.00	6.11	6.370	0.369	0.0	0.0	0.0	1.39	887.1	50.0
4.001	50.00	6.85	6.184	1.890	0.0	0.0	0.0	1.39	887.1	255.9
1.003	50.00	8.22	5.910	3.086	0.0	0.0	0.0	1.53	1328.5	417.9
1.004	50.00	8.47	5.646	3.510	0.0	0.0	0.0	1.67	1884.5	475.3
1.005	50.00	8.86	5.596	3.510	0.0	0.0	0.0	1.67	1884.5	475.3
5.000	50.00	5.44	7.024	0.069	0.0	0.0	0.0	1.11	78.3	9.3
5.001	50.00	6.84	6.728	0.069	0.0	0.0	0.0	1.17	185.8	9.3

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
5.002	40.351	0.135	300.0	0.215	0.00	0.0	0.600	o	600	Pipe/Conduit	
1.006	84.172	0.168	500.0	0.503	0.00	0.0	0.600	o	1200	Pipe/Conduit	
1.007	46.970	0.094	500.0	0.259	0.00	0.0	0.600	o	1200	Pipe/Conduit	
1.008	152.180	0.304	500.0	0.450	0.00	0.0	0.600	o	1200	Pipe/Conduit	
6.000	61.301	0.204	300.0	0.196	5.00	0.0	0.600	o	450	Pipe/Conduit	
6.001	21.126	0.070	300.0	0.143	0.00	0.0	0.600	o	450	Pipe/Conduit	
6.002	47.304	0.158	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
6.003	43.954	0.147	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
6.004	5.796	0.019	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
7.000	5.403	0.018	300.0	0.076	5.00	0.0	0.600	o	450	Pipe/Conduit	
7.001	21.495	0.072	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
7.002	39.374	0.131	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
7.003	66.932	0.223	300.0	0.151	0.00	0.0	0.600	o	450	Pipe/Conduit	
7.004	9.913	0.033	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
6.005	61.147	0.153	400.0	0.200	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.002	50.00	7.32	6.251	0.284	0.0	0.0	0.0	1.40	396.0	38.5
1.006	49.11	9.71	5.516	4.297	0.0	0.0	0.0	1.67	1884.5	571.5
1.007	47.85	10.18	5.348	4.556	0.0	0.0	0.0	1.67	1884.5	590.5
1.008	44.26	11.70	5.254	5.006	0.0	0.0	0.0	1.67	1884.5	600.0
6.000	50.00	5.87	7.217	0.196	0.0	0.0	0.0	1.17	185.8	26.5
6.001	50.00	6.18	7.013	0.339	0.0	0.0	0.0	1.17	185.8	45.9
6.002	50.00	6.85	6.943	0.339	0.0	0.0	0.0	1.17	185.8	45.9
6.003	50.00	7.48	6.785	0.339	0.0	0.0	0.0	1.17	185.8	45.9
6.004	50.00	7.56	6.638	0.339	0.0	0.0	0.0	1.17	185.8	45.9
7.000	50.00	5.08	7.096	0.076	0.0	0.0	0.0	1.17	185.8	10.3
7.001	50.00	5.38	7.078	0.076	0.0	0.0	0.0	1.17	185.8	10.3
7.002	50.00	5.95	7.006	0.076	0.0	0.0	0.0	1.17	185.8	10.3
7.003	50.00	6.90	6.875	0.227	0.0	0.0	0.0	1.17	185.8	30.7
7.004	50.00	7.04	6.652	0.227	0.0	0.0	0.0	1.17	185.8	30.7
6.005	50.00	8.40	6.469	0.766	0.0	0.0	0.0	1.21	342.5	103.7

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
6.006	92.312	0.231	400.0	0.314	0.00	0.0	0.600	o	600	Pipe/Conduit	
8.000	75.944	0.380	200.0	0.116	5.00	0.0	0.600	o	300	Pipe/Conduit	
9.000	20.066	0.100	200.0	0.081	5.00	0.0	0.600	o	300	Pipe/Conduit	
9.001	21.835	0.073	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
8.001	65.054	0.163	400.0	0.285	0.00	0.0	0.600	o	600	Pipe/Conduit	
6.007	55.098	0.110	500.0	0.511	0.00	0.0	0.600	o	750	Pipe/Conduit	
10.000	109.389	0.365	300.0	0.249	5.00	0.0	0.600	o	450	Pipe/Conduit	
10.001	16.771	0.042	400.0	0.288	0.00	0.0	0.600	o	600	Pipe/Conduit	
6.008	46.882	0.094	500.0	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit	
6.009	14.925	0.030	500.0	0.565	0.00	0.0	0.600	o	1050	Pipe/Conduit	
11.000	21.777	0.073	300.0	0.164	5.00	0.0	0.600	o	450	Pipe/Conduit	
11.001	66.672	0.222	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
6.006	49.21	9.67	6.316	1.080	0.0	0.0	0.0	1.21	342.5	143.9
8.000	50.00	6.14	6.923	0.116	0.0	0.0	0.0	1.11	78.3	15.7
9.000	50.00	5.30	6.721	0.081	0.0	0.0	0.0	1.11	78.3	11.0
9.001	50.00	5.61	6.471	0.081	0.0	0.0	0.0	1.17	185.8	11.0
8.001	50.00	7.04	6.248	0.482	0.0	0.0	0.0	1.21	342.5	65.3
6.007	47.26	10.41	5.935	2.073	0.0	0.0	0.0	1.24	549.9	265.3
10.000	50.00	6.56	6.532	0.249	0.0	0.0	0.0	1.17	185.8	33.7
10.001	50.00	6.79	6.017	0.537	0.0	0.0	0.0	1.21	342.5	72.7
6.008	45.90	10.97	5.675	2.610	0.0	0.0	0.0	1.39	887.1	324.4
6.009	45.52	11.13	5.431	3.175	0.0	0.0	0.0	1.53	1328.5	391.4
11.000	50.00	5.31	6.296	0.164	0.0	0.0	0.0	1.17	185.8	22.2
11.001	50.00	6.26	6.223	0.164	0.0	0.0	0.0	1.17	185.8	22.2

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
6.010	53.809	0.108	500.0	0.156	0.00	0.0	0.600	o	1050	Pipe/Conduit	
6.011	96.483	0.193	500.0	0.547	0.00	0.0	0.600	o	1200	Pipe/Conduit	
12.000	44.400	0.222	200.0	0.118	5.00	0.0	0.600	o	300	Pipe/Conduit	
13.000	35.411	0.118	300.0	0.125	5.00	0.0	0.600	o	450	Pipe/Conduit	
12.001	93.560	0.312	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
14.000	16.181	0.040	400.0	0.158	5.00	0.0	0.600	o	600	Pipe/Conduit	
14.001	30.832	0.062	500.0	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
12.002	51.324	0.103	500.0	0.365	0.00	0.0	0.600	o	750	Pipe/Conduit	
15.000	31.268	0.156	200.0	0.072	5.00	0.0	0.600	o	225	Pipe/Conduit	
15.001	58.869	0.294	200.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
16.000	43.992	0.220	200.0	0.088	5.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
6.010	44.22	11.72	5.401	3.495	0.0	0.0	0.0	1.53	1328.5	418.5
6.011	42.26	12.68	5.143	4.042	0.0	0.0	0.0	1.67	1884.5	462.6
12.000	50.00	5.67	6.778	0.118	0.0	0.0	0.0	1.11	78.3	16.0
13.000	50.00	5.51	6.524	0.125	0.0	0.0	0.0	1.17	185.8	16.9
12.001	50.00	7.00	6.406	0.243	0.0	0.0	0.0	1.17	185.8	32.9
14.000	50.00	5.22	6.046	0.158	0.0	0.0	0.0	1.21	342.5	21.4
14.001	50.00	5.64	5.856	0.158	0.0	0.0	0.0	1.24	549.9	21.4
12.002	50.00	7.69	5.794	0.766	0.0	0.0	0.0	1.24	549.9	103.7
15.000	50.00	5.57	6.971	0.072	0.0	0.0	0.0	0.92	36.6	9.7
15.001	50.00	6.63	6.815	0.072	0.0	0.0	0.0	0.92	36.6	9.7
16.000	50.00	5.66	6.666	0.088	0.0	0.0	0.0	1.11	78.3	11.9

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
15.002	91.395	0.305	300.0	0.199	0.00	0.0	0.600	o	450	Pipe/Conduit	
12.003	19.607	0.039	500.0	0.329	0.00	0.0	0.600	o	750	Pipe/Conduit	
12.004	36.367	0.073	500.0	0.158	0.00	0.0	0.600	o	750	Pipe/Conduit	
17.000	67.408	0.225	300.0	0.150	5.00	0.0	0.600	o	450	Pipe/Conduit	
18.000	31.662	0.158	200.0	0.094	5.00	0.0	0.600	o	300	Pipe/Conduit	
17.001	59.991	0.120	500.0	0.132	0.00	0.0	0.600	o	750	Pipe/Conduit	
17.002	92.718	0.185	500.0	0.211	0.00	0.0	0.600	o	750	Pipe/Conduit	
19.000	42.425	0.212	200.0	0.088	5.00	0.0	0.600	o	300	Pipe/Conduit	
12.005	60.006	0.120	500.0	0.417	0.00	0.0	0.600	o	1050	Pipe/Conduit	
12.006	104.721	0.209	500.0	0.420	0.00	0.0	0.600	o	1050	Pipe/Conduit	
20.000	23.223	0.077	300.0	0.081	5.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
15.002	50.00	7.93	6.296	0.359	0.0	0.0	0.0	1.17	185.8	48.6
12.003	50.00	8.20	5.691	1.454	0.0	0.0	0.0	1.24	549.9	196.9
12.004	50.00	8.68	5.652	1.612	0.0	0.0	0.0	1.24	549.9	218.3
17.000	50.00	5.96	6.409	0.150	0.0	0.0	0.0	1.17	185.8	20.3
18.000	50.00	5.48	6.492	0.094	0.0	0.0	0.0	1.11	78.3	12.7
17.001	50.00	6.76	5.884	0.376	0.0	0.0	0.0	1.24	549.9	50.9
17.002	50.00	8.01	5.764	0.587	0.0	0.0	0.0	1.24	549.9	79.5
19.000	50.00	5.64	6.241	0.088	0.0	0.0	0.0	1.11	78.3	11.9
12.005	50.00	9.34	5.279	2.704	0.0	0.0	0.0	1.53	1328.5	366.2
12.006	47.10	10.47	5.159	3.124	0.0	0.0	0.0	1.53	1328.5	398.5
20.000	50.00	5.33	6.337	0.081	0.0	0.0	0.0	1.17	185.8	11.0

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
20.001	62.407	0.156	400.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
21.000	16.883	0.056	300.0	0.123	5.00	0.0	0.600	o	450	Pipe/Conduit	
21.001	20.833	0.069	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
21.002	25.903	0.086	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
21.003	44.209	0.111	400.0	0.110	0.00	0.0	0.600	o	600	Pipe/Conduit	
20.002	59.022	0.148	400.0	0.164	0.00	0.0	0.600	o	600	Pipe/Conduit	
20.003	99.499	0.249	400.0	0.249	0.00	0.0	0.600	o	600	Pipe/Conduit	
22.000	85.219	0.284	300.0	0.196	5.00	0.0	0.600	o	450	Pipe/Conduit	
22.001	54.240	0.136	400.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
23.000	33.132	0.110	300.0	0.155	5.00	0.0	0.600	o	450	Pipe/Conduit	
23.001	22.060	0.074	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
23.002	7.470	0.019	400.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
22.002	61.064	0.153	400.0	0.315	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
20.001	50.00	6.19	6.110	0.081	0.0	0.0	0.0	1.21	342.5	11.0
21.000	50.00	5.24	6.426	0.123	0.0	0.0	0.0	1.17	185.8	16.7
21.001	50.00	5.54	6.370	0.123	0.0	0.0	0.0	1.17	185.8	16.7
21.002	50.00	5.91	6.301	0.123	0.0	0.0	0.0	1.17	185.8	16.7
21.003	50.00	6.52	6.065	0.233	0.0	0.0	0.0	1.21	342.5	31.6
20.002	50.00	7.33	5.954	0.478	0.0	0.0	0.0	1.21	342.5	64.7
20.003	50.00	8.70	5.806	0.727	0.0	0.0	0.0	1.21	342.5	98.4
22.000	50.00	6.22	6.280	0.196	0.0	0.0	0.0	1.17	185.8	26.5
22.001	50.00	6.96	5.846	0.196	0.0	0.0	0.0	1.21	342.5	26.5
23.000	50.00	5.47	6.063	0.155	0.0	0.0	0.0	1.17	185.8	21.0
23.001	50.00	5.79	5.953	0.155	0.0	0.0	0.0	1.17	185.8	21.0
23.002	50.00	5.89	5.729	0.155	0.0	0.0	0.0	1.21	342.5	21.0
22.002	50.00	7.80	5.710	0.666	0.0	0.0	0.0	1.21	342.5	90.2

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Network Design Table for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
20.004	58.745	0.117	500.0	0.355	0.00	0.0	0.600	o	900	Pipe/Conduit	
20.005	94.892	0.190	500.0	0.360	0.00	0.0	0.600	o	900	Pipe/Conduit	
1.009	52.002	0.289	180.0	0.000	0.00	0.0	0.600	o	1200	Pipe/Conduit	
1.010	11.000	0.061	180.0	0.000	0.00	0.0	0.600	o	1200	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
20.004	49.98	9.40	5.257	1.748	0.0	0.0	0.0	1.39	887.1	236.6
20.005	46.95	10.53	5.140	2.108	0.0	0.0	0.0	1.39	887.1	268.0
1.009	41.67	12.99	4.650	14.280	0.0	0.0	0.0	2.79	3150.4	1611.4
1.010	41.54	13.06	4.361	14.280	0.0	0.0	0.0	2.79	3150.4	1611.4

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Manhole Schedules for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
1	8.800	1.963	Open Manhole	1500	1.000	6.837	600				
3	8.750	1.942	Open Manhole	1500	2.000	6.808	600				
2	8.650	2.110	Open Manhole	1800	1.001	6.540	750	1.000	6.690	600	
								2.000	6.690	600	
5	8.650	1.803	Open Manhole	1500	3.000	6.847	450				
4	8.500	2.254	Open Manhole	1800	1.002	6.246	900	1.001	6.396	750	
								3.000	6.696	450	
7	8.650	2.280	Open Manhole	1800	4.000	6.370	900				
8	8.450	2.266	Open Manhole	1800	4.001	6.184	900	4.000	6.184	900	
6	8.300	2.390	Open Manhole	2100	1.003	5.910	1050	1.002	6.060	900	
								4.001	6.060	900	
9	8.200	2.554	Open Manhole	2100	1.004	5.646	1200	1.003	5.796	1050	
10	8.150	2.554	Open Manhole	2100	1.005	5.596	1200	1.004	5.596	1200	
12	8.700	1.676	Open Manhole	1200	5.000	7.024	300				
13	8.500	1.772	Open Manhole	1500	5.001	6.728	450	5.000	6.878	300	
14	8.200	1.949	Open Manhole	1500	5.002	6.251	600	5.001	6.401	450	
11	8.100	2.584	Open Manhole	2100	1.006	5.516	1200	1.005	5.516	1200	
								5.002	6.116	600	
15	7.900	2.552	Open Manhole	2100	1.007	5.348	1200	1.006	5.348	1200	
16	7.800	2.546	Open Manhole	2100	1.008	5.254	1200	1.007	5.254	1200	
18	9.000	1.783	Open Manhole	1500	6.000	7.217	450				
19	8.800	1.787	Open Manhole	1500	6.001	7.013	450	6.000	7.013	450	
20	8.750	1.807	Open Manhole	1500	6.002	6.943	450	6.001	6.943	450	
21	8.600	1.815	Open Manhole	1500	6.003	6.785	450	6.002	6.785	450	
22	8.400	1.762	Open Manhole	1500	6.004	6.638	450	6.003	6.638	450	
24	8.900	1.804	Open Manhole	1500	7.000	7.096	450				
25	8.850	1.772	Open Manhole	1500	7.001	7.078	450	7.000	7.078	450	
26	8.800	1.794	Open Manhole	1500	7.002	7.006	450	7.001	7.006	450	
27	8.650	1.775	Open Manhole	1500	7.003	6.875	450	7.002	6.875	450	
28	8.450	1.798	Open Manhole	1500	7.004	6.652	450	7.003	6.652	450	
23	8.400	1.931	Open Manhole	1500	6.005	6.469	600	6.004	6.619	450	
								7.004	6.619	450	
29	8.300	1.984	Open Manhole	1500	6.006	6.316	600	6.005	6.316	600	

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Manhole Schedules for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
31	8.600	1.677	Open Manhole	1200	8.000	6.923	300				
33	8.400	1.679	Open Manhole	1200	9.000	6.721	300				
34	8.300	1.829	Open Manhole	1500	9.001	6.471	450	9.000	6.621	300	
32	8.200	1.952	Open Manhole	1500	8.001	6.248	600	8.000	6.543	300	
								9.001	6.398	450	
30	8.000	2.065	Open Manhole	1800	6.007	5.935	750	6.006	6.085	600	
								8.001	6.085	600	
36	8.300	1.768	Open Manhole	1500	10.000	6.532	450				
37	8.000	1.983	Open Manhole	1500	10.001	6.017	600	10.000	6.167	450	
35	7.900	2.225	Open Manhole	1800	6.008	5.675	900	6.007	5.825	750	
								10.001	5.975	600	
38	7.800	2.369	Open Manhole	2100	6.009	5.431	1050	6.008	5.581	900	
40	8.100	1.804	Open Manhole	1500	11.000	6.296	450				
41	8.000	1.777	Open Manhole	1500	11.001	6.223	450	11.000	6.223	450	
39	7.800	2.399	Open Manhole	2100	6.010	5.401	1050	6.009	5.401	1050	
								11.001	6.001	450	
42	7.700	2.557	Open Manhole	2100	6.011	5.143	1200	6.010	5.293	1050	
43	8.450	1.672	Open Manhole	1200	12.000	6.778	300				
45	8.300	1.776	Open Manhole	1500	13.000	6.524	450				
44	8.200	1.794	Open Manhole	1500	12.001	6.406	450	12.000	6.556	300	
								13.000	6.406	450	
47	8.000	1.954	Open Manhole	1500	14.000	6.046	600				
48	7.950	2.094	Open Manhole	1800	14.001	5.856	750	14.000	6.006	600	
46	7.850	2.056	Open Manhole	1800	12.002	5.794	750	12.001	6.094	450	
								14.001	5.794	750	
50	8.500	1.529	Open Manhole	1200	15.000	6.971	225				
51	8.400	1.585	Open Manhole	1200	15.001	6.815	225	15.000	6.815	225	
53	8.300	1.634	Open Manhole	1200	16.000	6.666	300				
52	8.100	1.804	Open Manhole	1500	15.002	6.296	450	15.001	6.521	225	
								16.000	6.446	300	
49	7.800	2.109	Open Manhole	1800	12.003	5.691	750	12.002	5.691	750	
								15.002	5.991	450	
54	7.750	2.098	Open Manhole	1800	12.004	5.652	750	12.003	5.652	750	

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Manhole Schedules for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
56	8.200	1.791	Open Manhole	1500	17.000	6.409	450				
58	8.150	1.658	Open Manhole	1200	18.000	6.492	300				
57	8.000	2.116	Open Manhole	1800	17.001	5.884	750	17.000	6.184	450	
								18.000	6.334	300	
59	7.850	2.086	Open Manhole	1800	17.002	5.764	750	17.001	5.764	750	
60	7.900	1.659	Open Manhole	1200	19.000	6.241	300				
55	7.700	2.421	Open Manhole	2100	12.005	5.279	1050	12.004	5.579	750	
								17.002	5.579	750	
								19.000	6.029	300	
61	7.600	2.441	Open Manhole	2100	12.006	5.159	1050	12.005	5.159	1050	
62	8.150	1.813	Open Manhole	1500	20.000	6.337	450				
63	8.050	1.940	Open Manhole	1500	20.001	6.110	600	20.000	6.260	450	
65	8.250	1.824	Open Manhole	1500	21.000	6.426	450				
66	8.200	1.830	Open Manhole	1500	21.001	6.370	450	21.000	6.370	450	
67	8.100	1.799	Open Manhole	1500	21.002	6.301	450	21.001	6.301	450	
68	8.000	1.935	Open Manhole	1500	21.003	6.065	600	21.002	6.215	450	
64	7.900	1.946	Open Manhole	1500	20.002	5.954	600	20.001	5.954	600	
								21.003	5.954	600	
69	7.750	1.944	Open Manhole	1500	20.003	5.806	600	20.002	5.806	600	
71	8.100	1.820	Open Manhole	1500	22.000	6.280	450				
72	7.800	1.954	Open Manhole	1500	22.001	5.846	600	22.000	5.996	450	
74	7.850	1.787	Open Manhole	1500	23.000	6.063	450				
75	7.750	1.797	Open Manhole	1500	23.001	5.953	450	23.000	5.953	450	
76	7.700	1.971	Open Manhole	1500	23.002	5.729	600	23.001	5.879	450	
73	7.650	1.940	Open Manhole	1500	22.002	5.710	600	22.001	5.710	600	
								23.002	5.710	600	
70	7.500	2.243	Open Manhole	1800	20.004	5.257	900	20.003	5.557	600	
								22.002	5.557	600	
77	7.400	2.260	Open Manhole	1800	20.005	5.140	900	20.004	5.140	900	
17	6.900	2.250	Open Manhole	2100	1.009	4.650	1200	1.008	4.950	1200	300
								6.011	4.950	1200	300
								12.006	4.950	1050	150
								20.005	4.950	900	

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Manhole Schedules for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
78	6.700	2.339	Open Manhole	2100	1.010	4.361	1200	1.009	4.361	1200	
79	6.581	2.281	Open Manhole	2100		OUTFALL		1.010	4.300	1200	

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	600	1	8.800	6.837	1.363	Open Manhole	1500
2.000	o	600	3	8.750	6.808	1.342	Open Manhole	1500
1.001	o	750	2	8.650	6.540	1.360	Open Manhole	1800
3.000	o	450	5	8.650	6.847	1.353	Open Manhole	1500
1.002	o	900	4	8.500	6.246	1.354	Open Manhole	1800
4.000	o	900	7	8.650	6.370	1.380	Open Manhole	1800
4.001	o	900	8	8.450	6.184	1.366	Open Manhole	1800
1.003	o	1050	6	8.300	5.910	1.340	Open Manhole	2100
1.004	o	1200	9	8.200	5.646	1.354	Open Manhole	2100
1.005	o	1200	10	8.150	5.596	1.354	Open Manhole	2100
5.000	o	300	12	8.700	7.024	1.376	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	44.108	300.0	2	8.650	6.690	1.360	Open Manhole	1800
2.000	35.452	300.0	2	8.650	6.690	1.360	Open Manhole	1800
1.001	71.950	500.0	4	8.500	6.396	1.354	Open Manhole	1800
3.000	45.173	300.0	4	8.500	6.696	1.354	Open Manhole	1800
1.002	93.005	500.0	6	8.300	6.060	1.340	Open Manhole	2100
4.000	92.846	500.0	8	8.450	6.184	1.366	Open Manhole	1800
4.001	62.193	500.0	6	8.300	6.060	1.340	Open Manhole	2100
1.003	56.802	500.0	9	8.200	5.796	1.354	Open Manhole	2100
1.004	24.936	500.0	10	8.150	5.596	1.354	Open Manhole	2100
1.005	39.790	500.0	11	8.100	5.516	1.384	Open Manhole	2100
5.000	29.276	200.0	13	8.500	6.878	1.322	Open Manhole	1500

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
5.001	o	450	13	8.500	6.728	1.322	Open Manhole	1500
5.002	o	600	14	8.200	6.251	1.349	Open Manhole	1500
1.006	o	1200	11	8.100	5.516	1.384	Open Manhole	2100
1.007	o	1200	15	7.900	5.348	1.352	Open Manhole	2100
1.008	o	1200	16	7.800	5.254	1.346	Open Manhole	2100
6.000	o	450	18	9.000	7.217	1.333	Open Manhole	1500
6.001	o	450	19	8.800	7.013	1.337	Open Manhole	1500
6.002	o	450	20	8.750	6.943	1.357	Open Manhole	1500
6.003	o	450	21	8.600	6.785	1.365	Open Manhole	1500
6.004	o	450	22	8.400	6.638	1.312	Open Manhole	1500
7.000	o	450	24	8.900	7.096	1.354	Open Manhole	1500
7.001	o	450	25	8.850	7.078	1.322	Open Manhole	1500
7.002	o	450	26	8.800	7.006	1.344	Open Manhole	1500
7.003	o	450	27	8.650	6.875	1.325	Open Manhole	1500
7.004	o	450	28	8.450	6.652	1.348	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
5.001	98.200	300.0	14	8.200	6.401	1.349	Open Manhole	1500
5.002	40.351	300.0	11	8.100	6.116	1.384	Open Manhole	2100
1.006	84.172	500.0	15	7.900	5.348	1.352	Open Manhole	2100
1.007	46.970	500.0	16	7.800	5.254	1.346	Open Manhole	2100
1.008	152.180	500.0	17	6.900	4.950	0.750	Open Manhole	2100
6.000	61.301	300.0	19	8.800	7.013	1.337	Open Manhole	1500
6.001	21.126	300.0	20	8.750	6.943	1.357	Open Manhole	1500
6.002	47.304	300.0	21	8.600	6.785	1.365	Open Manhole	1500
6.003	43.954	300.0	22	8.400	6.638	1.312	Open Manhole	1500
6.004	5.796	300.0	23	8.400	6.619	1.331	Open Manhole	1500
7.000	5.403	300.0	25	8.850	7.078	1.322	Open Manhole	1500
7.001	21.495	300.0	26	8.800	7.006	1.344	Open Manhole	1500
7.002	39.374	300.0	27	8.650	6.875	1.325	Open Manhole	1500
7.003	66.932	300.0	28	8.450	6.652	1.348	Open Manhole	1500
7.004	9.913	300.0	23	8.400	6.619	1.331	Open Manhole	1500

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
6.005	o	600	23	8.400	6.469	1.331	Open Manhole	1500
6.006	o	600	29	8.300	6.316	1.384	Open Manhole	1500
8.000	o	300	31	8.600	6.923	1.377	Open Manhole	1200
9.000	o	300	33	8.400	6.721	1.379	Open Manhole	1200
9.001	o	450	34	8.300	6.471	1.379	Open Manhole	1500
8.001	o	600	32	8.200	6.248	1.352	Open Manhole	1500
6.007	o	750	30	8.000	5.935	1.315	Open Manhole	1800
10.000	o	450	36	8.300	6.532	1.318	Open Manhole	1500
10.001	o	600	37	8.000	6.017	1.383	Open Manhole	1500
6.008	o	900	35	7.900	5.675	1.325	Open Manhole	1800
6.009	o	1050	38	7.800	5.431	1.319	Open Manhole	2100

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
6.005	61.147	400.0	29	8.300	6.316	1.384	Open Manhole	1500
6.006	92.312	400.0	30	8.000	6.085	1.315	Open Manhole	1800
8.000	75.944	200.0	32	8.200	6.543	1.357	Open Manhole	1500
9.000	20.066	200.0	34	8.300	6.621	1.379	Open Manhole	1500
9.001	21.835	300.0	32	8.200	6.398	1.352	Open Manhole	1500
8.001	65.054	400.0	30	8.000	6.085	1.315	Open Manhole	1800
6.007	55.098	500.0	35	7.900	5.825	1.325	Open Manhole	1800
10.000	109.389	300.0	37	8.000	6.167	1.383	Open Manhole	1500
10.001	16.771	400.0	35	7.900	5.975	1.325	Open Manhole	1800
6.008	46.882	500.0	38	7.800	5.581	1.319	Open Manhole	2100
6.009	14.925	500.0	39	7.800	5.401	1.349	Open Manhole	2100

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
11.000	o	450	40	8.100	6.296	1.354	Open Manhole	1500
11.001	o	450	41	8.000	6.223	1.327	Open Manhole	1500
6.010	o	1050	39	7.800	5.401	1.349	Open Manhole	2100
6.011	o	1200	42	7.700	5.143	1.357	Open Manhole	2100
12.000	o	300	43	8.450	6.778	1.372	Open Manhole	1200
13.000	o	450	45	8.300	6.524	1.326	Open Manhole	1500
12.001	o	450	44	8.200	6.406	1.344	Open Manhole	1500
14.000	o	600	47	8.000	6.046	1.354	Open Manhole	1500
14.001	o	750	48	7.950	5.856	1.344	Open Manhole	1800
12.002	o	750	46	7.850	5.794	1.306	Open Manhole	1800

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
11.000	21.777	300.0	41	8.000	6.223	1.327	Open Manhole	1500
11.001	66.672	300.0	39	7.800	6.001	1.349	Open Manhole	2100
6.010	53.809	500.0	42	7.700	5.293	1.357	Open Manhole	2100
6.011	96.483	500.0	17	6.900	4.950	0.750	Open Manhole	2100
12.000	44.400	200.0	44	8.200	6.556	1.344	Open Manhole	1500
13.000	35.411	300.0	44	8.200	6.406	1.344	Open Manhole	1500
12.001	93.560	300.0	46	7.850	6.094	1.306	Open Manhole	1800
14.000	16.181	400.0	48	7.950	6.006	1.344	Open Manhole	1800
14.001	30.832	500.0	46	7.850	5.794	1.306	Open Manhole	1800
12.002	51.324	500.0	49	7.800	5.691	1.359	Open Manhole	1800

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
15.000	o	225	50	8.500	6.971	1.304	Open Manhole	1200
15.001	o	225	51	8.400	6.815	1.360	Open Manhole	1200
16.000	o	300	53	8.300	6.666	1.334	Open Manhole	1200
15.002	o	450	52	8.100	6.296	1.354	Open Manhole	1500
12.003	o	750	49	7.800	5.691	1.359	Open Manhole	1800
12.004	o	750	54	7.750	5.652	1.348	Open Manhole	1800
17.000	o	450	56	8.200	6.409	1.341	Open Manhole	1500
18.000	o	300	58	8.150	6.492	1.358	Open Manhole	1200
17.001	o	750	57	8.000	5.884	1.366	Open Manhole	1800
17.002	o	750	59	7.850	5.764	1.336	Open Manhole	1800
19.000	o	300	60	7.900	6.241	1.359	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
15.000	31.268	200.0	51	8.400	6.815	1.360	Open Manhole	1200
15.001	58.869	200.0	52	8.100	6.521	1.354	Open Manhole	1500
16.000	43.992	200.0	52	8.100	6.446	1.354	Open Manhole	1500
15.002	91.395	300.0	49	7.800	5.991	1.359	Open Manhole	1800
12.003	19.607	500.0	54	7.750	5.652	1.348	Open Manhole	1800
12.004	36.367	500.0	55	7.700	5.579	1.371	Open Manhole	2100
17.000	67.408	300.0	57	8.000	6.184	1.366	Open Manhole	1800
18.000	31.662	200.0	57	8.000	6.334	1.366	Open Manhole	1800
17.001	59.991	500.0	59	7.850	5.764	1.336	Open Manhole	1800
17.002	92.718	500.0	55	7.700	5.579	1.371	Open Manhole	2100
19.000	42.425	200.0	55	7.700	6.029	1.371	Open Manhole	2100

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
12.005	o	1050	55	7.700	5.279	1.371	Open Manhole	2100
12.006	o	1050	61	7.600	5.159	1.391	Open Manhole	2100
20.000	o	450	62	8.150	6.337	1.363	Open Manhole	1500
20.001	o	600	63	8.050	6.110	1.340	Open Manhole	1500
21.000	o	450	65	8.250	6.426	1.374	Open Manhole	1500
21.001	o	450	66	8.200	6.370	1.380	Open Manhole	1500
21.002	o	450	67	8.100	6.301	1.349	Open Manhole	1500
21.003	o	600	68	8.000	6.065	1.335	Open Manhole	1500
20.002	o	600	64	7.900	5.954	1.346	Open Manhole	1500
20.003	o	600	69	7.750	5.806	1.344	Open Manhole	1500
22.000	o	450	71	8.100	6.280	1.370	Open Manhole	1500
22.001	o	600	72	7.800	5.846	1.354	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
12.005	60.006	500.0	61	7.600	5.159	1.391	Open Manhole	2100
12.006	104.721	500.0	17	6.900	4.950	0.900	Open Manhole	2100
20.000	23.223	300.0	63	8.050	6.260	1.340	Open Manhole	1500
20.001	62.407	400.0	64	7.900	5.954	1.346	Open Manhole	1500
21.000	16.883	300.0	66	8.200	6.370	1.380	Open Manhole	1500
21.001	20.833	300.0	67	8.100	6.301	1.349	Open Manhole	1500
21.002	25.903	300.0	68	8.000	6.215	1.335	Open Manhole	1500
21.003	44.209	400.0	64	7.900	5.954	1.346	Open Manhole	1500
20.002	59.022	400.0	69	7.750	5.806	1.344	Open Manhole	1500
20.003	99.499	400.0	70	7.500	5.557	1.343	Open Manhole	1800
22.000	85.219	300.0	72	7.800	5.996	1.354	Open Manhole	1500
22.001	54.240	400.0	73	7.650	5.710	1.340	Open Manhole	1500

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PIPELINE SCHEDULES for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	o	450	74	7.850	6.063	1.337	Open Manhole	1500
23.001	o	450	75	7.750	5.953	1.347	Open Manhole	1500
23.002	o	600	76	7.700	5.729	1.371	Open Manhole	1500
22.002	o	600	73	7.650	5.710	1.340	Open Manhole	1500
20.004	o	900	70	7.500	5.257	1.343	Open Manhole	1800
20.005	o	900	77	7.400	5.140	1.360	Open Manhole	1800
1.009	o	1200	17	6.900	4.650	1.050	Open Manhole	2100
1.010	o	1200	78	6.700	4.361	1.139	Open Manhole	2100

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
23.000	33.132	300.0	75	7.750	5.953	1.347	Open Manhole	1500
23.001	22.060	300.0	76	7.700	5.879	1.371	Open Manhole	1500
23.002	7.470	400.0	73	7.650	5.710	1.340	Open Manhole	1500
22.002	61.064	400.0	70	7.500	5.557	1.343	Open Manhole	1800
20.004	58.745	500.0	77	7.400	5.140	1.360	Open Manhole	1800
20.005	94.892	500.0	17	6.900	4.950	1.050	Open Manhole	2100
1.009	52.002	180.0	78	6.700	4.361	1.139	Open Manhole	2100
1.010	11.000	180.0	79	6.581	4.300	1.081	Open Manhole	2100

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Area Summary for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.237	0.237	0.237
2.000	-	-	100	0.110	0.110	0.110
1.001	-	-	100	0.141	0.141	0.141
3.000	-	-	100	0.117	0.117	0.117
1.002	-	-	100	0.409	0.409	0.409
4.000	-	-	100	0.369	0.369	0.369
4.001	-	-	100	1.521	1.521	1.521
1.003	-	-	100	0.182	0.182	0.182
1.004	-	-	100	0.424	0.424	0.424
1.005	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.069	0.069	0.069
5.001	-	-	100	0.000	0.000	0.000
5.002	-	-	100	0.215	0.215	0.215
1.006	-	-	100	0.503	0.503	0.503
1.007	-	-	100	0.259	0.259	0.259
1.008	-	-	100	0.450	0.450	0.450
6.000	-	-	100	0.196	0.196	0.196
6.001	-	-	100	0.143	0.143	0.143
6.002	-	-	100	0.000	0.000	0.000
6.003	-	-	100	0.000	0.000	0.000
6.004	-	-	100	0.000	0.000	0.000
7.000	-	-	100	0.076	0.076	0.076
7.001	-	-	100	0.000	0.000	0.000
7.002	-	-	100	0.000	0.000	0.000
7.003	-	-	100	0.151	0.151	0.151
7.004	-	-	100	0.000	0.000	0.000
6.005	-	-	100	0.200	0.200	0.200
6.006	-	-	100	0.314	0.314	0.314
8.000	-	-	100	0.116	0.116	0.116
9.000	-	-	100	0.081	0.081	0.081
9.001	-	-	100	0.000	0.000	0.000
8.001	-	-	100	0.285	0.285	0.285
6.007	-	-	100	0.511	0.511	0.511
10.000	-	-	100	0.249	0.249	0.249
10.001	-	-	100	0.288	0.288	0.288
6.008	-	-	100	0.000	0.000	0.000
6.009	-	-	100	0.565	0.565	0.565
11.000	-	-	100	0.164	0.164	0.164
11.001	-	-	100	0.000	0.000	0.000
6.010	-	-	100	0.156	0.156	0.156
6.011	-	-	100	0.547	0.547	0.547
12.000	-	-	100	0.118	0.118	0.118
13.000	-	-	100	0.125	0.125	0.125
12.001	-	-	100	0.000	0.000	0.000
14.000	-	-	100	0.158	0.158	0.158

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Area Summary for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
14.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.365	0.365	0.365
15.000	-	-	100	0.072	0.072	0.072
15.001	-	-	100	0.000	0.000	0.000
16.000	-	-	100	0.088	0.088	0.088
15.002	-	-	100	0.199	0.199	0.199
12.003	-	-	100	0.329	0.329	0.329
12.004	-	-	100	0.158	0.158	0.158
17.000	-	-	100	0.150	0.150	0.150
18.000	-	-	100	0.094	0.094	0.094
17.001	-	-	100	0.132	0.132	0.132
17.002	-	-	100	0.211	0.211	0.211
19.000	-	-	100	0.088	0.088	0.088
12.005	-	-	100	0.417	0.417	0.417
12.006	-	-	100	0.420	0.420	0.420
20.000	-	-	100	0.081	0.081	0.081
20.001	-	-	100	0.000	0.000	0.000
21.000	-	-	100	0.123	0.123	0.123
21.001	-	-	100	0.000	0.000	0.000
21.002	-	-	100	0.000	0.000	0.000
21.003	-	-	100	0.110	0.110	0.110
20.002	-	-	100	0.164	0.164	0.164
20.003	-	-	100	0.249	0.249	0.249
22.000	-	-	100	0.196	0.196	0.196
22.001	-	-	100	0.000	0.000	0.000
23.000	-	-	100	0.155	0.155	0.155
23.001	-	-	100	0.000	0.000	0.000
23.002	-	-	100	0.000	0.000	0.000
22.002	-	-	100	0.315	0.315	0.315
20.004	-	-	100	0.355	0.355	0.355
20.005	-	-	100	0.360	0.360	0.360
1.009	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				14.280	14.280	14.280

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Network Classifications for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
1.000	1	600	1.360	1.363	Unclassified	1500	0	1.363	Unclassified
2.000	3	600	1.342	1.360	Unclassified	1500	0	1.342	Unclassified
1.001	2	750	1.354	1.360	Unclassified	1800	0	1.360	Unclassified
3.000	5	450	1.353	1.354	Unclassified	1500	0	1.353	Unclassified
1.002	4	900	1.340	1.354	Unclassified	1800	0	1.354	Unclassified
4.000	7	900	1.366	1.380	Unclassified	1800	0	1.380	Unclassified
4.001	8	900	1.340	1.366	Unclassified	1800	0	1.366	Unclassified
1.003	6	1050	1.340	1.354	Unclassified	2100	0	1.340	Unclassified
1.004	9	1200	1.354	1.354	Unclassified	2100	0	1.354	Unclassified
1.005	10	1200	1.354	1.384	Unclassified	2100	0	1.354	Unclassified
5.000	12	300	1.322	1.376	Unclassified	1200	0	1.376	Unclassified
5.001	13	450	1.322	1.349	Unclassified	1500	0	1.322	Unclassified
5.002	14	600	1.349	1.384	Unclassified	1500	0	1.349	Unclassified
1.006	11	1200	1.352	1.384	Unclassified	2100	0	1.384	Unclassified
1.007	15	1200	1.346	1.352	Unclassified	2100	0	1.352	Unclassified
1.008	16	1200	0.750	1.346	Unclassified	2100	0	1.346	Unclassified
6.000	18	450	1.333	1.337	Unclassified	1500	0	1.333	Unclassified
6.001	19	450	1.337	1.357	Unclassified	1500	0	1.337	Unclassified
6.002	20	450	1.357	1.365	Unclassified	1500	0	1.357	Unclassified
6.003	21	450	1.312	1.365	Unclassified	1500	0	1.365	Unclassified
6.004	22	450	1.312	1.331	Unclassified	1500	0	1.312	Unclassified
7.000	24	450	1.322	1.354	Unclassified	1500	0	1.354	Unclassified
7.001	25	450	1.322	1.344	Unclassified	1500	0	1.322	Unclassified
7.002	26	450	1.325	1.344	Unclassified	1500	0	1.344	Unclassified
7.003	27	450	1.325	1.348	Unclassified	1500	0	1.325	Unclassified
7.004	28	450	1.331	1.348	Unclassified	1500	0	1.348	Unclassified
6.005	23	600	1.331	1.384	Unclassified	1500	0	1.331	Unclassified
6.006	29	600	1.315	1.384	Unclassified	1500	0	1.384	Unclassified
8.000	31	300	1.357	1.377	Unclassified	1200	0	1.377	Unclassified
9.000	33	300	1.379	1.379	Unclassified	1200	0	1.379	Unclassified
9.001	34	450	1.352	1.379	Unclassified	1500	0	1.379	Unclassified
8.001	32	600	1.315	1.352	Unclassified	1500	0	1.352	Unclassified
6.007	30	750	1.315	1.325	Unclassified	1800	0	1.315	Unclassified
10.000	36	450	1.318	1.383	Unclassified	1500	0	1.318	Unclassified
10.001	37	600	1.325	1.383	Unclassified	1500	0	1.383	Unclassified
6.008	35	900	1.319	1.325	Unclassified	1800	0	1.325	Unclassified
6.009	38	1050	1.319	1.349	Unclassified	2100	0	1.319	Unclassified
11.000	40	450	1.327	1.354	Unclassified	1500	0	1.354	Unclassified
11.001	41	450	1.327	1.349	Unclassified	1500	0	1.327	Unclassified
6.010	39	1050	1.349	1.357	Unclassified	2100	0	1.349	Unclassified
6.011	42	1200	0.750	1.357	Unclassified	2100	0	1.357	Unclassified
12.000	43	300	1.344	1.372	Unclassified	1200	0	1.372	Unclassified
13.000	45	450	1.326	1.344	Unclassified	1500	0	1.326	Unclassified

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Network Classifications for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
12.001	44	450	1.306	1.344	Unclassified	1500	0	1.344	Unclassified
14.000	47	600	1.344	1.354	Unclassified	1500	0	1.354	Unclassified
14.001	48	750	1.306	1.344	Unclassified	1800	0	1.344	Unclassified
12.002	46	750	1.306	1.359	Unclassified	1800	0	1.306	Unclassified
15.000	50	225	1.304	1.360	Unclassified	1200	0	1.304	Unclassified
15.001	51	225	1.354	1.360	Unclassified	1200	0	1.360	Unclassified
16.000	53	300	1.334	1.354	Unclassified	1200	0	1.334	Unclassified
15.002	52	450	1.354	1.359	Unclassified	1500	0	1.354	Unclassified
12.003	49	750	1.348	1.359	Unclassified	1800	0	1.359	Unclassified
12.004	54	750	1.348	1.371	Unclassified	1800	0	1.348	Unclassified
17.000	56	450	1.341	1.366	Unclassified	1500	0	1.341	Unclassified
18.000	58	300	1.358	1.366	Unclassified	1200	0	1.358	Unclassified
17.001	57	750	1.336	1.366	Unclassified	1800	0	1.366	Unclassified
17.002	59	750	1.336	1.371	Unclassified	1800	0	1.336	Unclassified
19.000	60	300	1.359	1.371	Unclassified	1200	0	1.359	Unclassified
12.005	55	1050	1.371	1.391	Unclassified	2100	0	1.371	Unclassified
12.006	61	1050	0.900	1.391	Unclassified	2100	0	1.391	Unclassified
20.000	62	450	1.340	1.363	Unclassified	1500	0	1.363	Unclassified
20.001	63	600	1.340	1.346	Unclassified	1500	0	1.340	Unclassified
21.000	65	450	1.374	1.380	Unclassified	1500	0	1.374	Unclassified
21.001	66	450	1.349	1.380	Unclassified	1500	0	1.380	Unclassified
21.002	67	450	1.335	1.349	Unclassified	1500	0	1.349	Unclassified
21.003	68	600	1.335	1.346	Unclassified	1500	0	1.335	Unclassified
20.002	64	600	1.344	1.346	Unclassified	1500	0	1.346	Unclassified
20.003	69	600	1.343	1.344	Unclassified	1500	0	1.344	Unclassified
22.000	71	450	1.354	1.370	Unclassified	1500	0	1.370	Unclassified
22.001	72	600	1.340	1.354	Unclassified	1500	0	1.354	Unclassified
23.000	74	450	1.337	1.347	Unclassified	1500	0	1.337	Unclassified
23.001	75	450	1.347	1.371	Unclassified	1500	0	1.347	Unclassified
23.002	76	600	1.340	1.371	Unclassified	1500	0	1.371	Unclassified
22.002	73	600	1.340	1.343	Unclassified	1500	0	1.340	Unclassified
20.004	70	900	1.343	1.360	Unclassified	1800	0	1.343	Unclassified
20.005	77	900	1.050	1.360	Unclassified	1800	0	1.360	Unclassified
1.009	17	1200	1.050	1.139	Unclassified	2100	0	1.050	Unclassified
1.010	78	1200	1.081	1.139	Unclassified	2100	0	1.139	Unclassified

Free Flowing Outfall Details for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

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Free Flowing Outfall Details for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.010	79	6.581	4.300	4.300	2100	0

Simulation Criteria for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs 0	Number of Offline Controls 0	Number of Time/Area Diagrams 0
Number of Online Controls 1	Number of Storage Structures 1	Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 500450 103100 TQ 00450 03100
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	30

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Online Controls for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Hydro-Brake® Optimum Manhole: 78, DS/PN: 1.010, Volume (m³): 64.5

Unit Reference	MD-SHE-0160-1490-1964-1490
Design Head (m)	1.964
Design Flow (l/s)	14.9
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	160
Invert Level (m)	4.361
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.964	14.9	Kick-Flo®	1.201	11.8
Flush-Flo™	0.576	14.9	Mean Flow over Head Range	-	13.0

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.7	1.200	11.9	3.000	18.2	7.000	27.3
0.200	12.5	1.400	12.7	3.500	19.6	7.500	28.3
0.300	13.9	1.600	13.5	4.000	20.9	8.000	29.2
0.400	14.5	1.800	14.3	4.500	22.1	8.500	30.0
0.500	14.8	2.000	15.0	5.000	23.3	9.000	30.9
0.600	14.9	2.200	15.7	5.500	24.3	9.500	31.7
0.800	14.6	2.400	16.4	6.000	25.4		
1.000	13.8	2.600	17.0	6.500	26.4		

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Storage Structures for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Tank or Pond Manhole: 78, DS/PN: 1.010

Invert Level (m) 4.650

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	5936.0	1.850	11813.0

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH
FEH Rainfall Version 2013
Site Location GB 500450 103100 TQ 00450 03100
Data Type Catchment
Cv (Summer) 0.750
Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1	15 Winter	2	+0%					6.975
2.000	3	15 Winter	2	+0%					6.901
1.001	2	15 Winter	2	+0%					6.743
3.000	5	15 Winter	2	+0%					6.951
1.002	4	15 Winter	2	+0%	100/30 Winter				6.515
4.000	7	15 Winter	2	+0%	100/30 Winter				6.595
4.001	8	15 Winter	2	+0%	100/15 Summer				6.546
1.003	6	15 Winter	2	+0%	100/15 Summer				6.350
1.004	9	15 Winter	2	+0%	100/15 Winter				6.158
1.005	10	15 Winter	2	+0%	100/15 Winter				6.089
5.000	12	15 Winter	2	+0%					7.106
5.001	13	15 Winter	2	+0%					6.804

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	-0.462	0.000	0.12		40.6	OK	
2.000	3	-0.507	0.000	0.06		18.7	OK	
1.001	2	-0.547	0.000	0.16		76.7	OK	
3.000	5	-0.346	0.000	0.12		20.2	OK	
1.002	4	-0.631	0.000	0.18		142.6	OK	
4.000	7	-0.675	0.000	0.07		58.0	OK	
4.001	8	-0.538	0.000	0.33		248.2	OK	
1.003	6	-0.610	0.000	0.36		391.5	OK	
1.004	9	-0.688	0.000	0.35		419.6	OK	
1.005	10	-0.707	0.000	0.30		414.5	OK	
5.000	12	-0.218	0.000	0.17		11.8	OK	
5.001	13	-0.374	0.000	0.07		11.9	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
5.002	14	15 Winter	2	+0%	100/15 Winter				6.391
1.006	11	15 Winter	2	+0%	100/15 Winter				5.991
1.007	15	15 Winter	2	+0%	100/15 Winter				5.833
1.008	16	15 Winter	2	+0%	100/15 Summer				5.689
6.000	18	15 Winter	2	+0%	100/15 Summer				7.353
6.001	19	15 Winter	2	+0%	100/15 Summer				7.195
6.002	20	15 Winter	2	+0%	100/15 Summer				7.112
6.003	21	15 Winter	2	+0%	100/15 Summer				6.953
6.004	22	15 Winter	2	+0%	100/15 Summer				6.845
7.000	24	15 Winter	2	+0%	100/15 Winter				7.198
7.001	25	15 Winter	2	+0%	100/15 Winter				7.167
7.002	26	15 Winter	2	+0%	100/15 Winter				7.093
7.003	27	15 Winter	2	+0%	100/15 Summer				7.009
7.004	28	15 Winter	2	+0%	100/15 Summer				6.803
6.005	23	15 Winter	2	+0%	100/15 Summer				6.708
6.006	29	15 Winter	2	+0%	100/15 Summer				6.578
8.000	31	15 Winter	2	+0%	100/15 Summer				7.028
9.000	33	15 Winter	2	+0%	100/15 Summer				6.813
9.001	34	15 Winter	2	+0%	100/15 Summer				6.563
8.001	32	15 Winter	2	+0%	100/15 Summer				6.447
6.007	30	15 Winter	2	+0%	100/15 Summer				6.311
10.000	36	15 Winter	2	+0%	100/15 Winter				6.682
10.001	37	15 Winter	2	+0%	100/15 Summer				6.263
6.008	35	15 Winter	2	+0%	100/15 Summer				6.115
6.009	38	15 Winter	2	+0%	100/15 Summer				6.006
11.000	40	15 Winter	2	+0%	100/15 Winter				6.427
11.001	41	15 Winter	2	+0%	100/15 Winter				6.343
6.010	39	15 Winter	2	+0%	100/15 Summer				5.828
6.011	42	15 Winter	2	+0%	100/15 Summer				5.557
12.000	43	15 Winter	2	+0%	100/15 Winter				6.886
13.000	45	15 Winter	2	+0%	100/15 Winter				6.636
12.001	44	15 Winter	2	+0%	100/15 Winter				6.552
14.000	47	15 Winter	2	+0%	100/15 Summer				6.186
14.001	48	15 Winter	2	+0%	100/15 Summer				6.137
12.002	46	15 Winter	2	+0%	100/15 Summer				6.135
15.000	50	15 Winter	2	+0%	100/15 Summer				7.065
15.001	51	15 Winter	2	+0%	100/15 Summer				6.906
16.000	53	15 Winter	2	+0%	100/15 Summer				6.759
15.002	52	15 Winter	2	+0%	100/15 Summer				6.468
12.003	49	15 Winter	2	+0%	100/15 Summer				6.091
12.004	54	15 Winter	2	+0%	100/15 Summer				6.012
17.000	56	15 Winter	2	+0%	100/30 Winter				6.525
18.000	58	15 Winter	2	+0%	100/30 Winter				6.589

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
5.002	14	-0.460	0.000	0.12		41.2	OK	
1.006	11	-0.725	0.000	0.30		466.3	OK	
1.007	15	-0.715	0.000	0.33		467.4	OK	
1.008	16	-0.765	0.000	0.27		465.0	OK	
6.000	18	-0.314	0.000	0.19		32.4	OK	
6.001	19	-0.268	0.000	0.34		51.6	OK	
6.002	20	-0.281	0.000	0.30		50.5	OK	
6.003	21	-0.282	0.000	0.30		49.3	OK	
6.004	22	-0.243	0.000	0.43		48.5	OK	
7.000	24	-0.348	0.000	0.11		13.0	OK	
7.001	25	-0.361	0.000	0.09		13.0	OK	
7.002	26	-0.363	0.000	0.08		12.6	OK	
7.003	27	-0.316	0.000	0.19		32.0	OK	
7.004	28	-0.299	0.000	0.25		31.8	OK	
6.005	23	-0.361	0.000	0.31		96.5	OK	
6.006	29	-0.338	0.000	0.38		121.2	OK	
8.000	31	-0.195	0.000	0.26		19.8	OK	
9.000	33	-0.208	0.000	0.20		13.7	OK	
9.001	34	-0.358	0.000	0.09		13.9	OK	
8.001	32	-0.401	0.000	0.23		71.9	OK	
6.007	30	-0.374	0.000	0.50		233.3	OK	
10.000	36	-0.300	0.000	0.22		39.1	OK	
10.001	37	-0.354	0.000	0.35		79.0	OK	
6.008	35	-0.460	0.000	0.40		287.6	OK	
6.009	38	-0.475	0.000	0.58		342.0	OK	
11.000	40	-0.319	0.000	0.18		27.7	OK	
11.001	41	-0.330	0.000	0.16		27.9	OK	
6.010	39	-0.623	0.000	0.34		366.0	OK	
6.011	42	-0.786	0.000	0.25		409.3	OK	
12.000	43	-0.192	0.000	0.28		20.3	OK	
13.000	45	-0.338	0.000	0.13		21.0	OK	
12.001	44	-0.304	0.000	0.23		40.6	OK	
14.000	47	-0.460	0.000	0.12		26.8	OK	
14.001	48	-0.469	0.000	0.06		23.9	OK	
12.002	46	-0.409	0.000	0.22		102.9	OK	
15.000	50	-0.131	0.000	0.35		12.1	OK	
15.001	51	-0.134	0.000	0.34		12.2	OK	
16.000	53	-0.207	0.000	0.21		15.2	OK	
15.002	52	-0.278	0.000	0.30		53.2	OK	
12.003	49	-0.350	0.000	0.55		188.6	OK	
12.004	54	-0.390	0.000	0.46		203.9	OK	
17.000	56	-0.334	0.000	0.15		25.9	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	58	-0.203	0.000	0.22		16.0	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
17.001	57	15 Winter	2	+0%	100/15 Winter				6.081
17.002	59	15 Winter	2	+0%	100/15 Winter				5.971
19.000	60	15 Winter	2	+0%	100/15 Winter				6.334
12.005	55	15 Winter	2	+0%	100/15 Summer				5.710
12.006	61	15 Winter	2	+0%	100/15 Summer				5.561
20.000	62	15 Winter	2	+0%	100/30 Winter				6.428
20.001	63	15 Winter	2	+0%	100/30 Winter				6.208
21.000	65	15 Winter	2	+0%					6.540
21.001	66	15 Winter	2	+0%	100/30 Winter				6.481
21.002	67	15 Winter	2	+0%	100/30 Winter				6.409
21.003	68	15 Winter	2	+0%	100/15 Winter				6.223
20.002	64	15 Winter	2	+0%	100/15 Winter				6.148
20.003	69	15 Winter	2	+0%	100/15 Summer				6.026
22.000	71	15 Winter	2	+0%	100/15 Winter				6.414
22.001	72	15 Winter	2	+0%	100/15 Winter				6.005
23.000	74	15 Winter	2	+0%	100/15 Winter				6.186
23.001	75	15 Winter	2	+0%	100/15 Summer				6.077
23.002	76	15 Winter	2	+0%	100/15 Summer				5.947
22.002	73	15 Winter	2	+0%	100/15 Summer				5.942
20.004	70	15 Winter	2	+0%	100/15 Summer				5.626
20.005	77	15 Winter	2	+0%	100/15 Summer				5.488
1.009	17	15 Winter	2	+0%	30/30 Winter				5.336
1.010	78	1440 Winter	2	+0%	30/1440 Winter				5.191

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
17.001	57	-0.553	0.000	0.12		58.3	OK	
17.002	59	-0.543	0.000	0.17		82.4	OK	
19.000	60	-0.207	0.000	0.21		15.1	OK	
12.005	55	-0.619	0.000	0.30		327.7	OK	
12.006	61	-0.648	0.000	0.30		355.2	OK	
20.000	62	-0.359	0.000	0.09		13.7	OK	
20.001	63	-0.502	0.000	0.04		13.1	OK	
21.000	65	-0.336	0.000	0.14		20.9	OK	
21.001	66	-0.339	0.000	0.14		20.9	OK	
21.002	67	-0.342	0.000	0.13		20.7	OK	
21.003	68	-0.442	0.000	0.12		35.0	OK	
20.002	64	-0.406	0.000	0.21		64.7	OK	
20.003	69	-0.380	0.000	0.28		89.9	OK	
22.000	71	-0.316	0.000	0.19		33.2	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
22.001	72	-0.441	0.000	0.11		32.4	OK	
23.000	74	-0.327	0.000	0.16		26.2	OK	
23.001	75	-0.326	0.000	0.17		25.5	OK	
23.002	76	-0.382	0.000	0.14		25.3	OK	
22.002	73	-0.368	0.000	0.32		96.6	OK	
20.004	70	-0.531	0.000	0.29		218.3	OK	
20.005	77	-0.552	0.000	0.31		242.1	OK	
1.009	17	-0.514	0.000	0.62		1336.7	OK	
1.010	78	-0.370	0.000	0.01		14.9	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH
FEH Rainfall Version 2013
Site Location GB 500450 103100 TQ 00450 03100
Data Type Catchment
Cv (Summer) 0.750
Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1	15 Winter	30	+0%					7.044
2.000	3	15 Winter	30	+0%					6.953
1.001	2	15 Winter	30	+0%					6.854
3.000	5	15 Winter	30	+0%					7.003
1.002	4	15 Winter	30	+0%	100/30 Winter				6.707
4.000	7	15 Winter	30	+0%	100/30 Winter				6.799
4.001	8	15 Winter	30	+0%	100/15 Summer				6.776
1.003	6	15 Winter	30	+0%	100/15 Summer				6.612
1.004	9	15 Winter	30	+0%	100/15 Winter				6.417
1.005	10	15 Winter	30	+0%	100/15 Winter				6.340
5.000	12	15 Winter	30	+0%					7.149
5.001	13	15 Winter	30	+0%					6.842

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	-0.393	0.000	0.25		85.7	OK	
2.000	3	-0.455	0.000	0.12		39.7	OK	
1.001	2	-0.436	0.000	0.34		164.2	OK	
3.000	5	-0.294	0.000	0.26		43.3	OK	
1.002	4	-0.439	0.000	0.39		304.4	OK	
4.000	7	-0.471	0.000	0.16		123.9	OK	
4.001	8	-0.308	0.000	0.72		542.2	OK	
1.003	6	-0.348	0.000	0.77		827.4	OK	
1.004	9	-0.429	0.000	0.72		864.8	OK	
1.005	10	-0.456	0.000	0.62		852.1	OK	
5.000	12	-0.175	0.000	0.35		25.2	OK	
5.001	13	-0.336	0.000	0.13		23.7	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
5.002	14	15 Winter	30	+0%	100/15 Winter				6.480
1.006	11	30 Winter	30	+0%	100/15 Winter				6.240
1.007	15	30 Winter	30	+0%	100/15 Winter				6.113
1.008	16	30 Winter	30	+0%	100/15 Summer				6.001
6.000	18	15 Winter	30	+0%	100/15 Summer				7.422
6.001	19	15 Winter	30	+0%	100/15 Summer				7.312
6.002	20	15 Winter	30	+0%	100/15 Summer				7.220
6.003	21	15 Winter	30	+0%	100/15 Summer				7.064
6.004	22	15 Winter	30	+0%	100/15 Summer				6.982
7.000	24	15 Winter	30	+0%	100/15 Winter				7.248
7.001	25	15 Winter	30	+0%	100/15 Winter				7.213
7.002	26	15 Winter	30	+0%	100/15 Winter				7.148
7.003	27	15 Winter	30	+0%	100/15 Summer				7.093
7.004	28	15 Winter	30	+0%	100/15 Summer				6.898
6.005	23	15 Winter	30	+0%	100/15 Summer				6.867
6.006	29	15 Winter	30	+0%	100/15 Summer				6.761
8.000	31	15 Winter	30	+0%	100/15 Summer				7.087
9.000	33	15 Winter	30	+0%	100/15 Summer				6.861
9.001	34	15 Winter	30	+0%	100/15 Summer				6.656
8.001	32	15 Winter	30	+0%	100/15 Summer				6.649
6.007	30	15 Winter	30	+0%	100/15 Summer				6.622
10.000	36	15 Winter	30	+0%	100/15 Winter				6.764
10.001	37	15 Winter	30	+0%	100/15 Summer				6.427
6.008	35	15 Winter	30	+0%	100/15 Summer				6.392
6.009	38	15 Winter	30	+0%	100/15 Summer				6.289
11.000	40	15 Winter	30	+0%	100/15 Winter				6.494
11.001	41	15 Winter	30	+0%	100/15 Winter				6.406
6.010	39	30 Winter	30	+0%	100/15 Summer				6.081
6.011	42	30 Winter	30	+0%	100/15 Summer				5.951
12.000	43	15 Winter	30	+0%	100/15 Winter				6.946
13.000	45	15 Winter	30	+0%	100/15 Winter				6.700
12.001	44	15 Winter	30	+0%	100/15 Winter				6.629
14.000	47	15 Winter	30	+0%	100/15 Summer				6.449
14.001	48	15 Winter	30	+0%	100/15 Summer				6.441
12.002	46	15 Winter	30	+0%	100/15 Summer				6.436
15.000	50	15 Winter	30	+0%	100/15 Summer				7.122
15.001	51	15 Winter	30	+0%	100/15 Summer				6.959
16.000	53	15 Winter	30	+0%	100/15 Summer				6.807
15.002	52	15 Winter	30	+0%	100/15 Summer				6.587
12.003	49	15 Winter	30	+0%	100/15 Summer				6.409
12.004	54	15 Winter	30	+0%	100/15 Summer				6.203
17.000	56	15 Winter	30	+0%	100/30 Winter				6.585
18.000	58	15 Winter	30	+0%	100/30 Winter				6.641

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
5.002	14	-0.371	0.000	0.30		102.8	OK	
1.006	11	-0.476	0.000	0.59		934.6	OK	
1.007	15	-0.435	0.000	0.66		931.1	OK	
1.008	16	-0.453	0.000	0.55		926.0	OK	
6.000	18	-0.245	0.000	0.40		69.5	OK	
6.001	19	-0.151	0.000	0.77		116.6	OK	
6.002	20	-0.173	0.000	0.68		114.1	OK	
6.003	21	-0.171	0.000	0.65		108.0	OK	
6.004	22	-0.106	0.000	0.94		105.7	OK	
7.000	24	-0.298	0.000	0.25		28.0	OK	
7.001	25	-0.315	0.000	0.18		27.8	OK	
7.002	26	-0.308	0.000	0.17		27.5	OK	
7.003	27	-0.232	0.000	0.44		76.1	OK	
7.004	28	-0.204	0.000	0.57		73.9	OK	
6.005	23	-0.202	0.000	0.66		203.8	OK	
6.006	29	-0.155	0.000	0.81		257.5	OK	
8.000	31	-0.136	0.000	0.56		41.9	OK	
9.000	33	-0.160	0.000	0.43		29.6	OK	
9.001	34	-0.265	0.000	0.19		29.3	OK	
8.001	32	-0.199	0.000	0.53		163.8	OK	
6.007	30	-0.063	0.000	1.00		470.6	OK	
10.000	36	-0.218	0.000	0.46		82.3	OK	
10.001	37	-0.190	0.000	0.80		181.0	OK	
6.008	35	-0.183	0.000	0.81		582.6	OK	
6.009	38	-0.192	0.000	1.20		705.5	OK	
11.000	40	-0.252	0.000	0.39		59.5	OK	
11.001	41	-0.267	0.000	0.34		59.3	OK	
6.010	39	-0.370	0.000	0.71		754.3	OK	
6.011	42	-0.392	0.000	0.50		805.0	OK	
12.000	43	-0.132	0.000	0.58		42.6	OK	
13.000	45	-0.274	0.000	0.28		45.0	OK	
12.001	44	-0.227	0.000	0.46		80.4	OK	
14.000	47	-0.197	0.000	0.25		54.4	OK	
14.001	48	-0.165	0.000	0.10		43.6	OK	
12.002	46	-0.108	0.000	0.41		189.1	OK	
15.000	50	-0.074	0.000	0.76		26.1	OK	
15.001	51	-0.081	0.000	0.70		24.8	OK	
16.000	53	-0.159	0.000	0.43		31.7	OK	
15.002	52	-0.159	0.000	0.67		117.9	OK	
12.003	49	-0.032	0.000	1.00		342.4	OK	
12.004	54	-0.199	0.000	0.87		384.7	OK	
17.000	56	-0.274	0.000	0.32		55.7	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	58	-0.151	0.000	0.48		34.4	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
17.001	57	15 Winter	30	+0%	100/15 Winter				6.198
17.002	59	15 Winter	30	+0%	100/15 Winter				6.097
19.000	60	15 Winter	30	+0%	100/15 Winter				6.382
12.005	55	30 Winter	30	+0%	100/15 Summer				5.980
12.006	61	30 Winter	30	+0%	100/15 Summer				5.927
20.000	62	15 Winter	30	+0%	100/30 Winter				6.472
20.001	63	15 Winter	30	+0%	100/30 Winter				6.298
21.000	65	15 Winter	30	+0%					6.599
21.001	66	15 Winter	30	+0%	100/30 Winter				6.538
21.002	67	15 Winter	30	+0%	100/30 Winter				6.464
21.003	68	15 Winter	30	+0%	100/15 Winter				6.330
20.002	64	15 Winter	30	+0%	100/15 Winter				6.272
20.003	69	15 Winter	30	+0%	100/15 Summer				6.164
22.000	71	15 Winter	30	+0%	100/15 Winter				6.482
22.001	72	15 Winter	30	+0%	100/15 Winter				6.120
23.000	74	15 Winter	30	+0%	100/15 Winter				6.249
23.001	75	15 Winter	30	+0%	100/15 Summer				6.149
23.002	76	15 Winter	30	+0%	100/15 Summer				6.090
22.002	73	15 Winter	30	+0%	100/15 Summer				6.084
20.004	70	30 Winter	30	+0%	100/15 Summer				5.941
20.005	77	30 Winter	30	+0%	100/15 Summer				5.917
1.009	17	30 Winter	30	+0%	30/30 Winter				5.883
1.010	78	10080 Winter	30	+0%	30/1440 Winter				5.589

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
17.001	57	-0.436	0.000	0.28		131.4	OK	
17.002	59	-0.417	0.000	0.37		182.1	OK	
19.000	60	-0.159	0.000	0.44		32.5	OK	
12.005	55	-0.349	0.000	0.57		622.4	OK	
12.006	61	-0.282	0.000	0.57		667.6	OK	
20.000	62	-0.315	0.000	0.19		29.5	OK	
20.001	63	-0.412	0.000	0.09		28.1	OK	
21.000	65	-0.277	0.000	0.31		44.9	OK	
21.001	66	-0.282	0.000	0.30		45.0	OK	
21.002	67	-0.287	0.000	0.28		44.2	OK	
21.003	68	-0.335	0.000	0.26		76.8	OK	
20.002	64	-0.282	0.000	0.47		145.0	OK	
20.003	69	-0.242	0.000	0.61		195.9	OK	
22.000	71	-0.248	0.000	0.39		68.4	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
22.001	72	-0.326	0.000	0.22		66.2	OK	
23.000	74	-0.264	0.000	0.35		56.1	OK	
23.001	75	-0.254	0.000	0.36		54.3	OK	
23.002	76	-0.239	0.000	0.31		56.7	OK	
22.002	73	-0.226	0.000	0.68		207.0	OK	
20.004	70	-0.216	0.000	0.54		402.9	OK	
20.005	77	-0.123	0.000	0.56		441.5	OK	
1.009	17	0.033	0.000	1.15		2469.8	SURCHARGED	
1.010	78	0.028	0.000	0.01		14.9	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH
FEH Rainfall Version 2013
Site Location GB 500450 103100 TQ 00450 03100
Data Type Catchment
Cv (Summer) 0.750
Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1	30 Winter	100	+40%					7.283
2.000	3	30 Winter	100	+40%					7.273
1.001	2	30 Winter	100	+40%					7.266
3.000	5	30 Winter	100	+40%					7.264
1.002	4	30 Winter	100	+40%	100/30 Winter				7.246
4.000	7	30 Winter	100	+40%	100/30 Winter				7.326
4.001	8	30 Winter	100	+40%	100/15 Summer				7.313
1.003	6	30 Winter	100	+40%	100/15 Summer				7.218
1.004	9	30 Winter	100	+40%	100/15 Winter				7.128
1.005	10	30 Winter	100	+40%	100/15 Winter				7.081
5.000	12	15 Winter	100	+40%					7.198
5.001	13	30 Winter	100	+40%					7.050

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	-0.154	0.000	0.36		122.1	OK	
2.000	3	-0.135	0.000	0.17		56.2	OK	
1.001	2	-0.024	0.000	0.45		221.0	OK	
3.000	5	-0.033	0.000	0.36		60.3	OK	
1.002	4	0.100	0.000	0.51		404.8	SURCHARGED	
4.000	7	0.056	0.000	0.23		178.3	SURCHARGED	
4.001	8	0.229	0.000	1.13		846.5	SURCHARGED	
1.003	6	0.258	0.000	1.10		1177.9	SURCHARGED	
1.004	9	0.282	0.000	1.02		1224.6	SURCHARGED	
1.005	10	0.285	0.000	0.86		1172.7	SURCHARGED	
5.000	12	-0.126	0.000	0.62		44.2	OK	
5.001	13	-0.128	0.000	0.19		34.3	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
5.002	14 30	Winter	100	+40%	100/15 Winter				7.039
1.006	11 30	Winter	100	+40%	100/15 Winter				7.025
1.007	15 30	Winter	100	+40%	100/15 Winter				6.901
1.008	16 30	Winter	100	+40%	100/15 Summer				6.814
6.000	18 15	Winter	100	+40%	100/15 Summer				8.014
6.001	19 15	Winter	100	+40%	100/15 Summer				7.955
6.002	20 15	Winter	100	+40%	100/15 Summer				7.883
6.003	21 30	Winter	100	+40%	100/15 Summer				7.755
6.004	22 30	Winter	100	+40%	100/15 Summer				7.678
7.000	24 30	Winter	100	+40%	100/15 Winter				7.720
7.001	25 30	Winter	100	+40%	100/15 Winter				7.716
7.002	26 30	Winter	100	+40%	100/15 Winter				7.711
7.003	27 30	Winter	100	+40%	100/15 Summer				7.707
7.004	28 30	Winter	100	+40%	100/15 Summer				7.670
6.005	23 30	Winter	100	+40%	100/15 Summer				7.655
6.006	29 30	Winter	100	+40%	100/15 Summer				7.561
8.000	31 30	Winter	100	+40%	100/15 Summer				7.428
9.000	33 30	Winter	100	+40%	100/15 Summer				7.373
9.001	34 30	Winter	100	+40%	100/15 Summer				7.344
8.001	32 30	Winter	100	+40%	100/15 Summer				7.337
6.007	30 30	Winter	100	+40%	100/15 Summer				7.293
10.000	36 30	Winter	100	+40%	100/15 Winter				7.162
10.001	37 30	Winter	100	+40%	100/15 Summer				7.095
6.008	35 30	Winter	100	+40%	100/15 Summer				7.064
6.009	38 30	Winter	100	+40%	100/15 Summer				6.929
11.000	40 30	Winter	100	+40%	100/15 Winter				6.918
11.001	41 30	Winter	100	+40%	100/15 Winter				6.898
6.010	39 30	Winter	100	+40%	100/15 Summer				6.869
6.011	42 30	Winter	100	+40%	100/15 Summer				6.737
12.000	43 30	Winter	100	+40%	100/15 Winter				7.118
13.000	45 30	Winter	100	+40%	100/15 Winter				7.063
12.001	44 30	Winter	100	+40%	100/15 Winter				7.042
14.000	47 30	Winter	100	+40%	100/15 Summer				7.003
14.001	48 30	Winter	100	+40%	100/15 Summer				6.994
12.002	46 30	Winter	100	+40%	100/15 Summer				6.987
15.000	50 15	Winter	100	+40%	100/15 Summer				7.582
15.001	51 15	Winter	100	+40%	100/15 Summer				7.387
16.000	53 15	Winter	100	+40%	100/15 Summer				7.191
15.002	52 15	Winter	100	+40%	100/15 Summer				7.093
12.003	49 30	Winter	100	+40%	100/15 Summer				6.952
12.004	54 30	Winter	100	+40%	100/15 Summer				6.893
17.000	56 30	Winter	100	+40%	100/30 Winter				6.869
18.000	58 30	Winter	100	+40%	100/30 Winter				6.876

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
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PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
5.002	14	0.188	0.000	0.43		144.1	SURCHARGED	
1.006	11	0.309	0.000	0.85		1334.7	SURCHARGED	
1.007	15	0.353	0.000	0.96		1366.2	SURCHARGED	
1.008	16	0.360	0.000	0.83		1407.9	SURCHARGED	
6.000	18	0.347	0.000	0.65		111.6	SURCHARGED	
6.001	19	0.492	0.000	1.16		175.5	SURCHARGED	
6.002	20	0.490	0.000	0.94		157.2	SURCHARGED	
6.003	21	0.520	0.000	0.76		126.9	SURCHARGED	
6.004	22	0.590	0.000	1.19		133.2	SURCHARGED	
7.000	24	0.174	0.000	0.34		39.0	SURCHARGED	
7.001	25	0.188	0.000	0.25		37.7	SURCHARGED	
7.002	26	0.255	0.000	0.25		41.7	SURCHARGED	
7.003	27	0.382	0.000	0.57		97.9	SURCHARGED	
7.004	28	0.568	0.000	0.78		100.6	SURCHARGED	
6.005	23	0.586	0.000	0.85		259.5	SURCHARGED	
6.006	29	0.645	0.000	1.12		354.6	SURCHARGED	
8.000	31	0.205	0.000	0.76		57.0	SURCHARGED	
9.000	33	0.352	0.000	0.59		40.5	SURCHARGED	
9.001	34	0.423	0.000	0.22		34.3	SURCHARGED	
8.001	32	0.489	0.000	0.65		201.4	SURCHARGED	
6.007	30	0.608	0.000	1.61		758.0	SURCHARGED	
10.000	36	0.180	0.000	0.68		120.9	SURCHARGED	
10.001	37	0.478	0.000	1.01		229.2	SURCHARGED	
6.008	35	0.489	0.000	1.32		942.7	SURCHARGED	
6.009	38	0.448	0.000	1.98		1164.7	SURCHARGED	
11.000	40	0.172	0.000	0.56		85.2	SURCHARGED	
11.001	41	0.225	0.000	0.47		80.4	SURCHARGED	
6.010	39	0.418	0.000	1.14		1206.6	SURCHARGED	
6.011	42	0.394	0.000	0.84		1347.0	SURCHARGED	
12.000	43	0.040	0.000	0.83		60.7	SURCHARGED	
13.000	45	0.089	0.000	0.39		63.4	SURCHARGED	
12.001	44	0.186	0.000	0.59		103.1	SURCHARGED	
14.000	47	0.357	0.000	0.35		78.1	SURCHARGED	
14.001	48	0.388	0.000	0.17		71.8	SURCHARGED	
12.002	46	0.443	0.000	0.68		318.1	SURCHARGED	
15.000	50	0.386	0.000	1.24		42.4	SURCHARGED	
15.001	51	0.347	0.000	1.06		37.5	SURCHARGED	
16.000	53	0.225	0.000	0.70		51.0	SURCHARGED	
15.002	52	0.347	0.000	1.00		176.2	SURCHARGED	
12.003	49	0.511	0.000	1.76		602.2	SURCHARGED	
12.004	54	0.491	0.000	1.50		661.3	SURCHARGED	
17.000	56	0.010	0.000	0.44		76.2	SURCHARGED	

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PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	58	0.084	0.000	0.68		48.9	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for JNP Surface Water Network 2 - Southern Parcel Rev F 2020.11.26

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
17.001	57	30 Winter	100	+40%	100/15 Winter				6.841
17.002	59	30 Winter	100	+40%	100/15 Winter				6.823
19.000	60	30 Winter	100	+40%	100/15 Winter				6.831
12.005	55	30 Winter	100	+40%	100/15 Summer				6.793
12.006	61	30 Winter	100	+40%	100/15 Summer				6.730
20.000	62	30 Winter	100	+40%	100/30 Winter				6.826
20.001	63	30 Winter	100	+40%	100/30 Winter				6.816
21.000	65	30 Winter	100	+40%					6.860
21.001	66	30 Winter	100	+40%	100/30 Winter				6.847
21.002	67	30 Winter	100	+40%	100/30 Winter				6.835
21.003	68	30 Winter	100	+40%	100/15 Winter				6.823
20.002	64	30 Winter	100	+40%	100/15 Winter				6.810
20.003	69	30 Winter	100	+40%	100/15 Summer				6.783
22.000	71	30 Winter	100	+40%	100/15 Winter				6.839
22.001	72	30 Winter	100	+40%	100/15 Winter				6.799
23.000	74	30 Winter	100	+40%	100/15 Winter				6.826
23.001	75	30 Winter	100	+40%	100/15 Summer				6.805
23.002	76	30 Winter	100	+40%	100/15 Summer				6.787
22.002	73	30 Winter	100	+40%	100/15 Summer				6.782
20.004	70	30 Winter	100	+40%	100/15 Summer				6.728
20.005	77	30 Winter	100	+40%	100/15 Summer				6.684
1.009	17	30 Winter	100	+40%	30/30 Winter				6.596
1.010	78	10080 Winter	100	+40%	30/1440 Winter				6.303

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
17.001	57	0.207	0.000	0.39		183.9	SURCHARGED	
17.002	59	0.309	0.000	0.48		240.1	SURCHARGED	
19.000	60	0.290	0.000	0.63		45.8	SURCHARGED	
12.005	55	0.464	0.000	0.86		927.1	SURCHARGED	
12.006	61	0.521	0.000	0.84		988.2	SURCHARGED	
20.000	62	0.039	0.000	0.27		42.1	SURCHARGED	
20.001	63	0.106	0.000	0.12		38.1	SURCHARGED	
21.000	65	-0.016	0.000	0.44		64.0	OK	
21.001	66	0.027	0.000	0.42		63.4	SURCHARGED	
21.002	67	0.084	0.000	0.40		62.4	SURCHARGED	
21.003	68	0.158	0.000	0.38		112.1	SURCHARGED	
20.002	64	0.256	0.000	0.65		199.6	SURCHARGED	
20.003	69	0.377	0.000	0.87		276.8	SURCHARGED	
22.000	71	0.109	0.000	0.56		98.5	SURCHARGED	

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PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
22.001	72	0.353	0.000	0.27		82.6	SURCHARGED	
23.000	74	0.313	0.000	0.49		79.6	SURCHARGED	
23.001	75	0.402	0.000	0.48		74.0	SURCHARGED	
23.002	76	0.458	0.000	0.38		69.2	SURCHARGED	
22.002	73	0.472	0.000	0.92		282.1	SURCHARGED	
20.004	70	0.571	0.000	0.76		560.9	SURCHARGED	
20.005	77	0.644	0.000	0.81		636.5	SURCHARGED	
1.009	17	0.746	0.000	1.94		4177.8	SURCHARGED	
1.010	78	0.742	0.000	0.01		14.9	SURCHARGED	

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