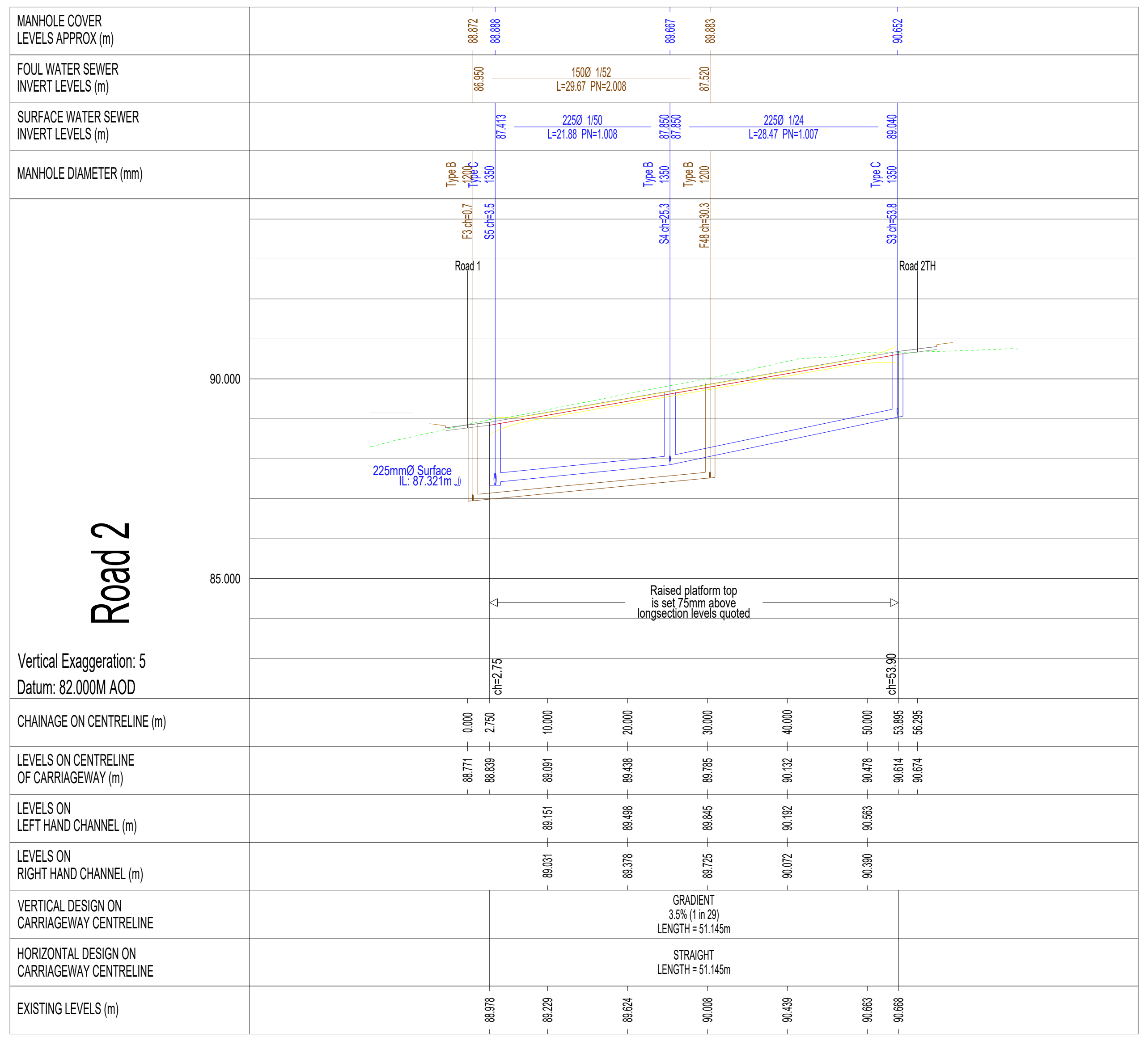
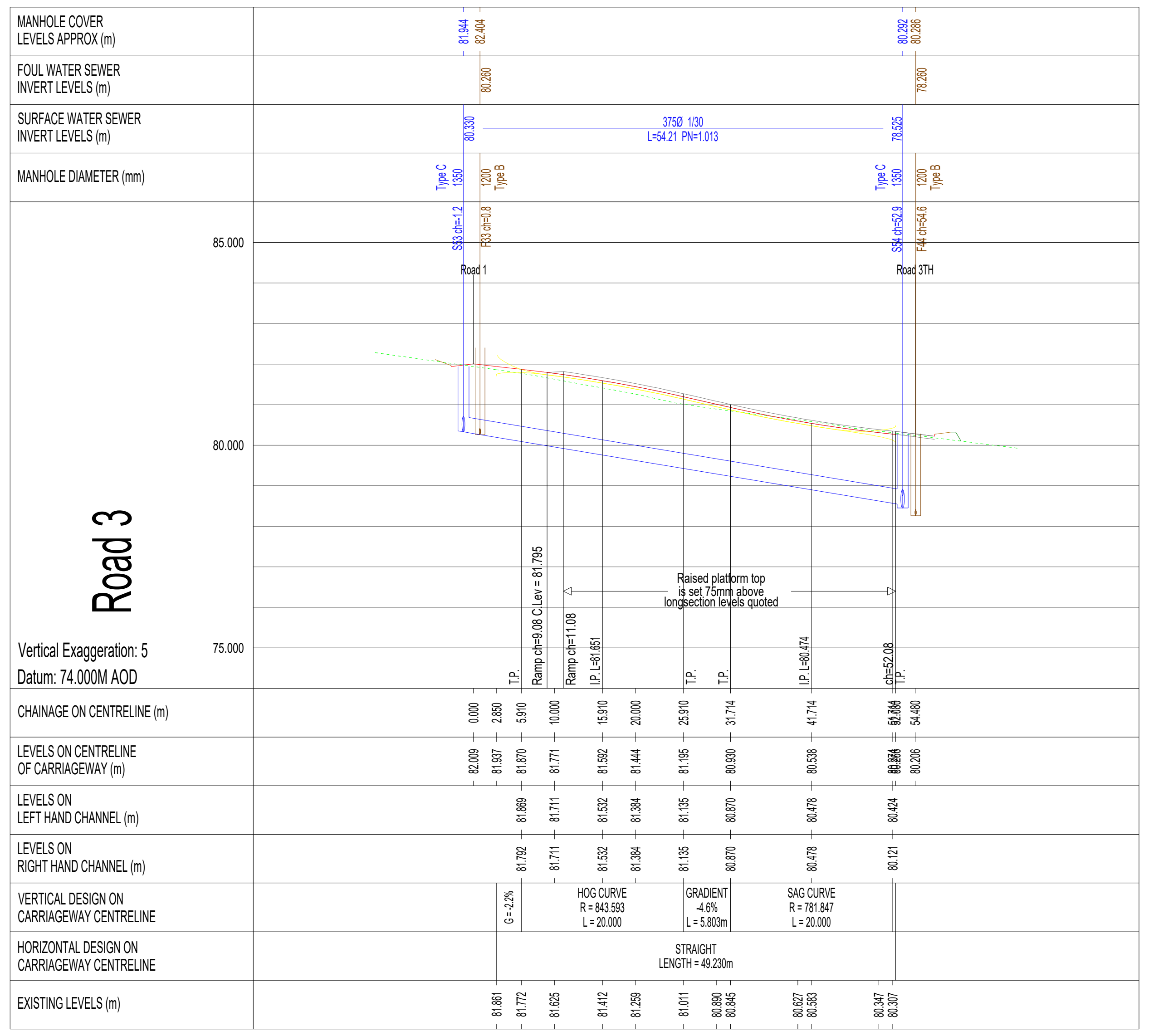
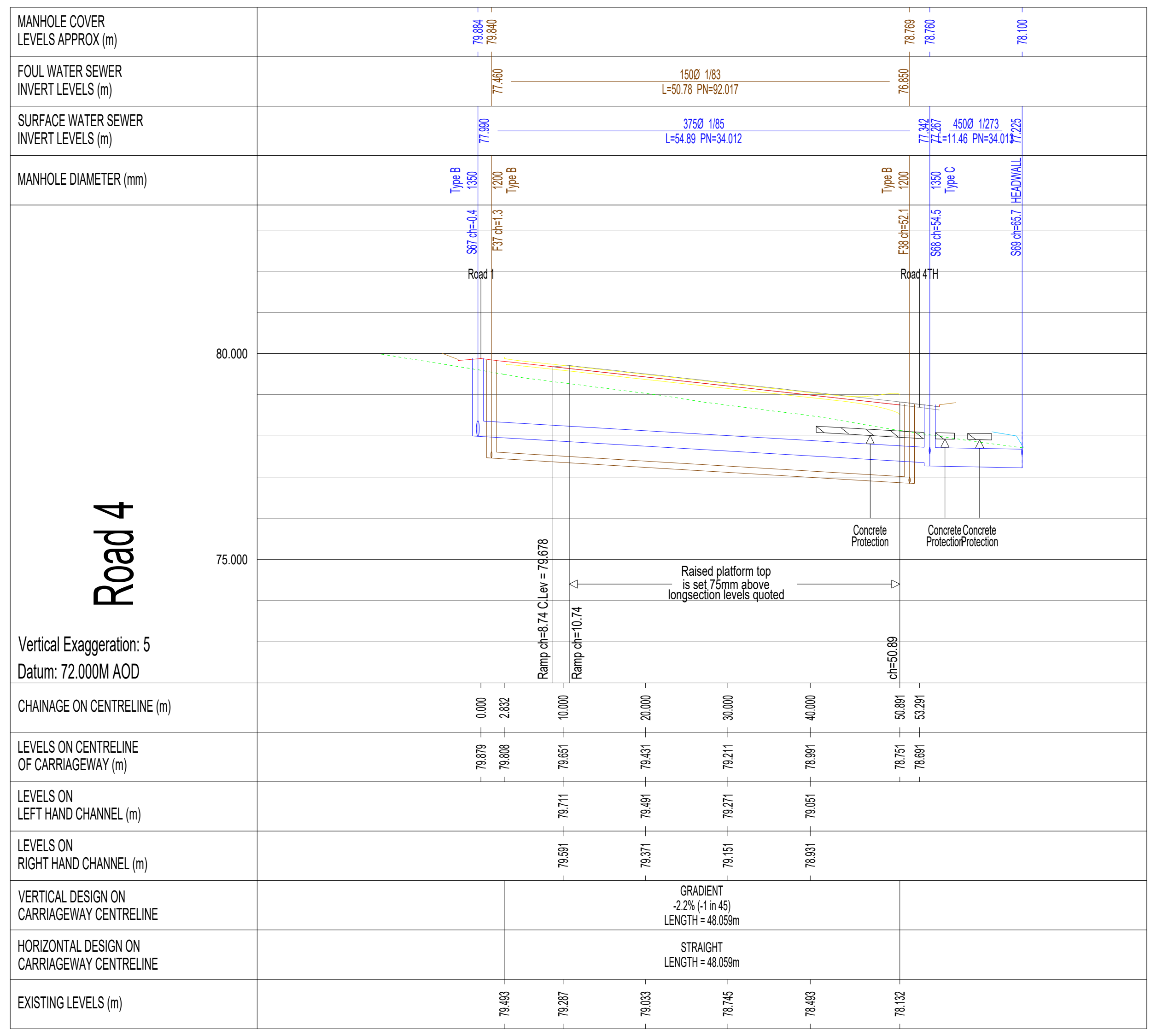
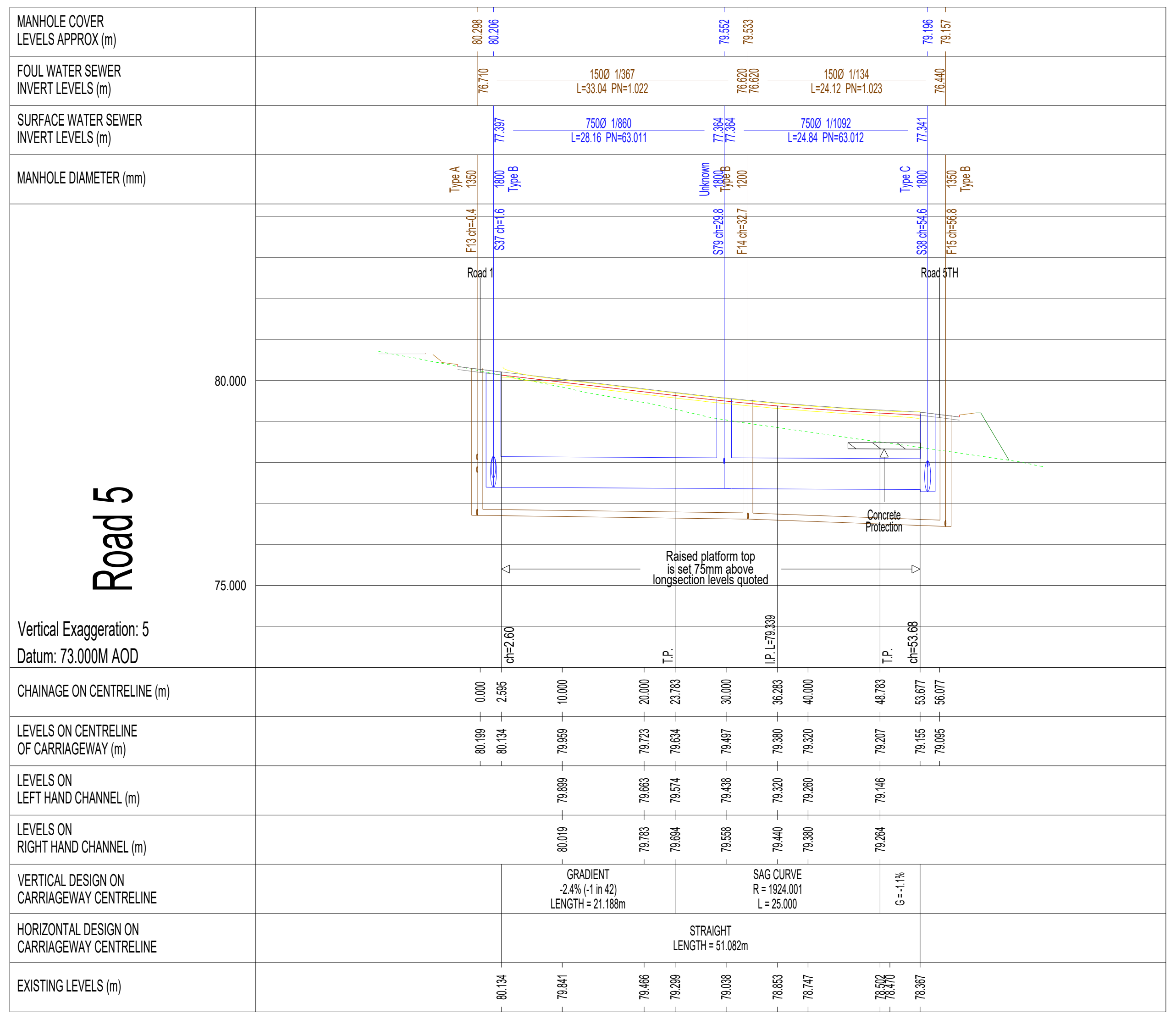
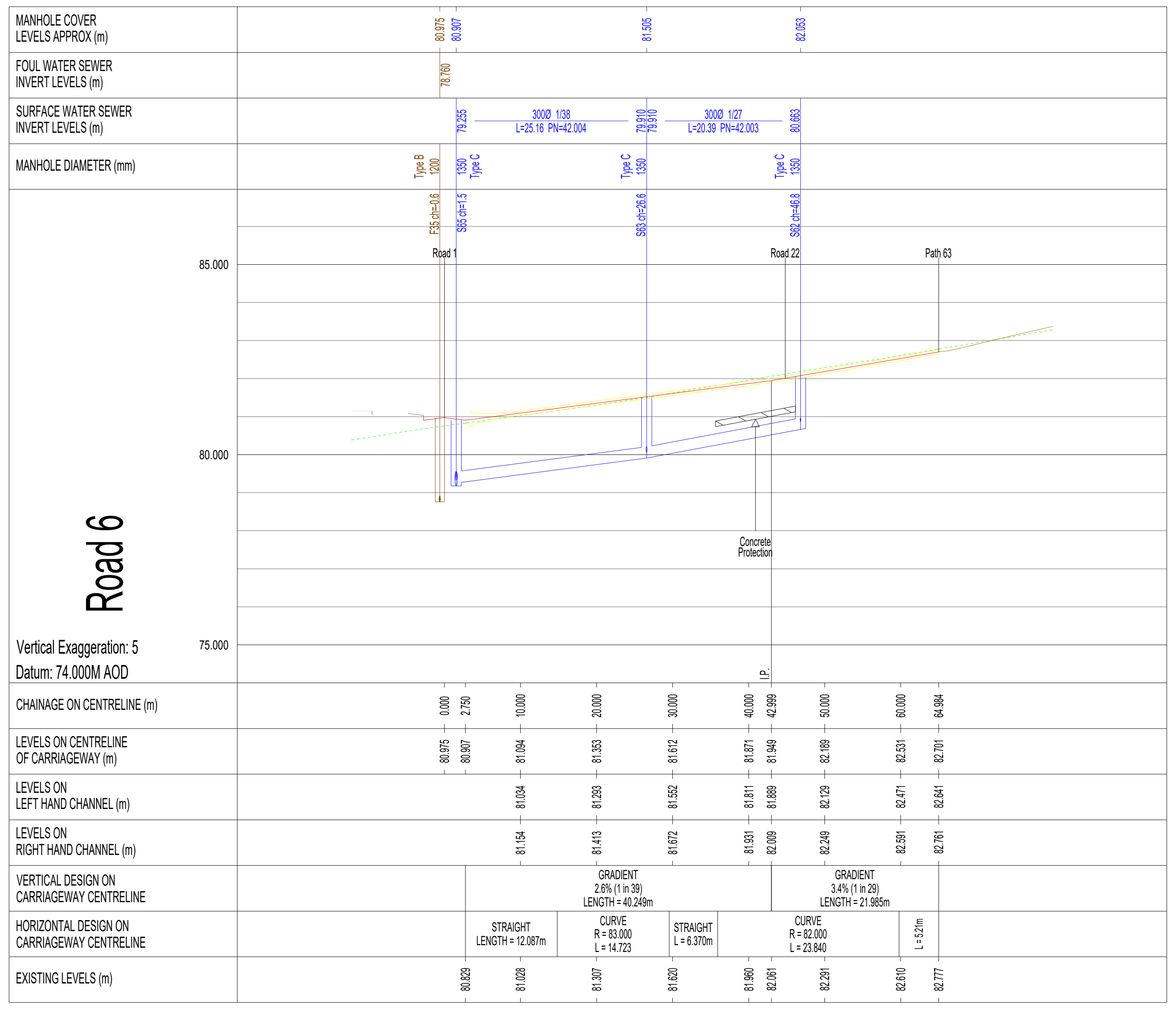
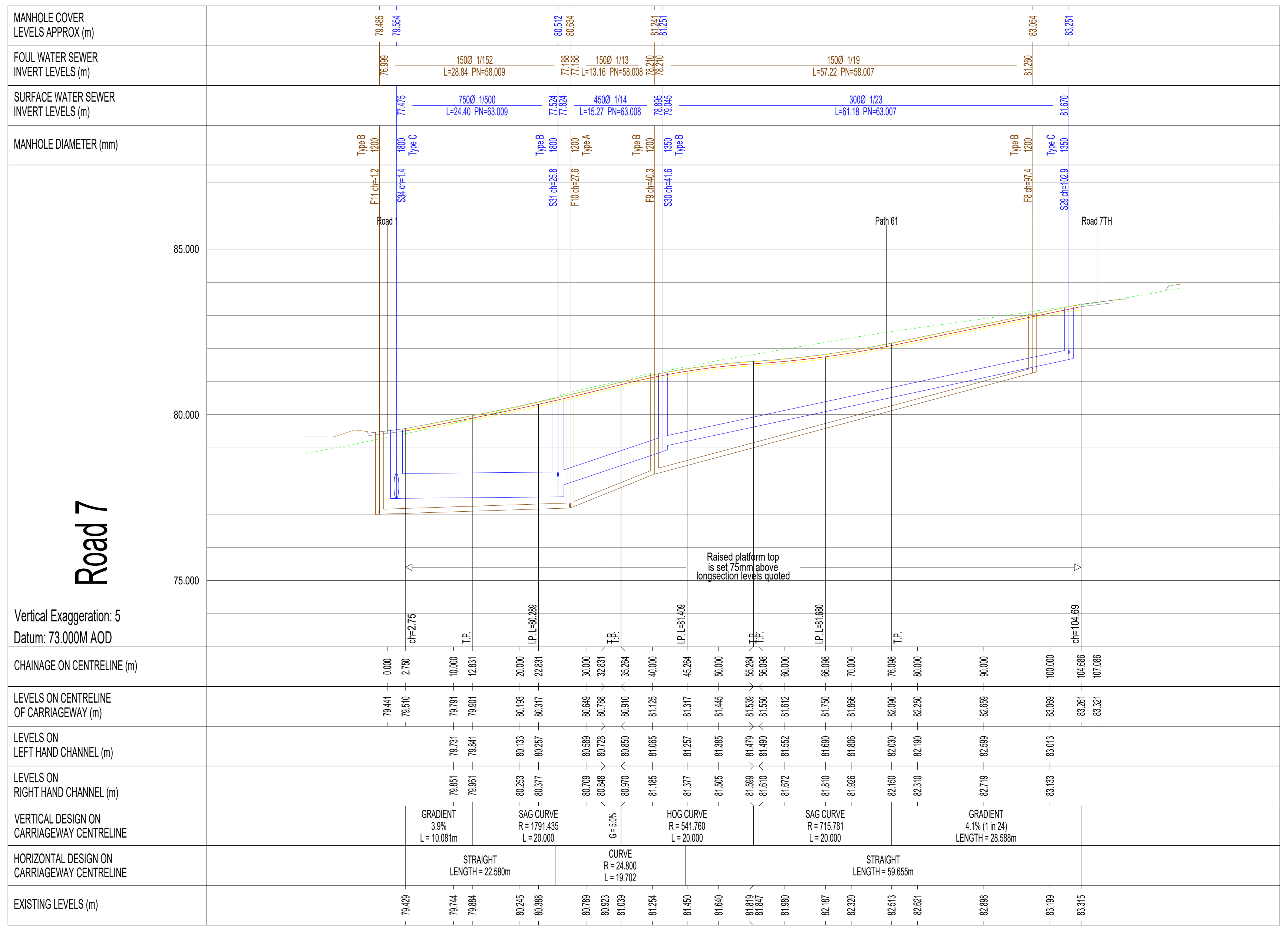

Road 2
Vertical Exaggeration: 5
Datum: 82.000M AOD
MANHOLE COVER LEVELS APPROX (m): 88.872 88.888 89.667 89.883 90.652
FOUL WATER SEWER INVERT LEVELS (m): 86.950 150Ø 1/52 L=29.67 PN=2.008 87.520
SURFACE WATER SEWER INVERT LEVELS (m): 87.413 225Ø 1/50 L=21.88 PN=1.008 87.850 87.850 225Ø 1/24 L=28.47 PN=1.007 89.040
MANHOLE DIAMETER (mm): Type B 1200 Type C 1350 Type B 1350 Type B 1200 Type C 1350
F3 ch=0.7 S5 ch=3.5 S4 ch=25.3 F48 ch=30.3 S3 ch=53.8
Road 1
Road 2TH
90.000
85.000
225mmØ Surface IL: 87.321m
Raised platform top is set 75mm above longsection levels quoted
ch=2.75
ch=53.90
CHAINAGE ON CENTRELINE (m): 0.000 2.750 10.000 20.000 30.000 40.000 50.000 53.895 56.295
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 88.771 88.839 89.091 89.438 89.785 90.132 90.478 90.614 90.674
LEVELS ON LEFT HAND CHANNEL (m): 89.151 89.498 89.845 90.192 90.563
LEVELS ON RIGHT HAND CHANNEL (m): 89.031 89.378 89.725 90.072 90.390
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT 3.5% (1 in 29) LENGTH = 51.145m
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 51.145m
EXISTING LEVELS (m): 88.978 89.229 89.624 90.008 90.439 90.663 90.668

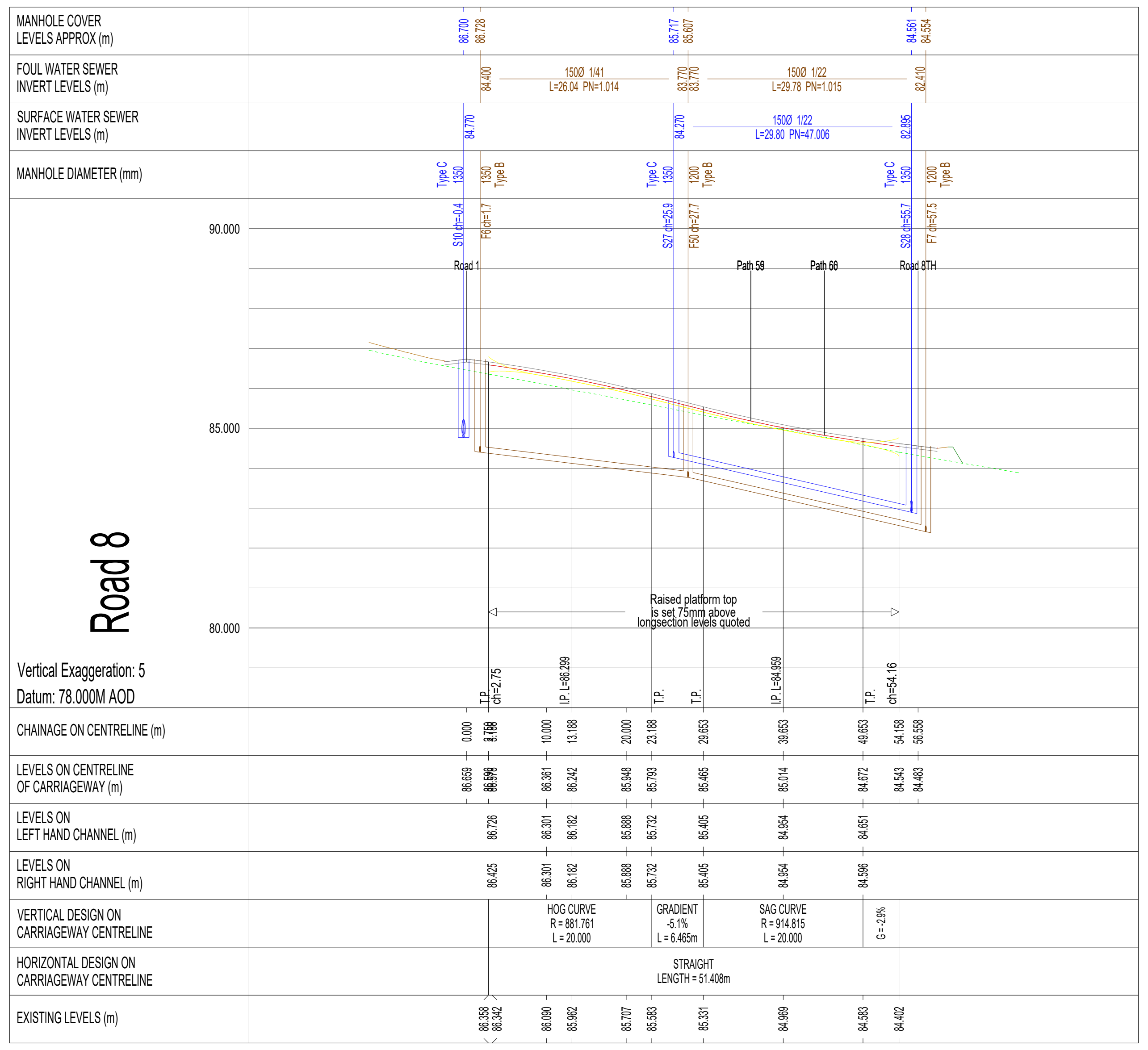

Road 3
Vertical Exaggeration: 5
Datum: 74.000M AOD
MANHOLE COVER LEVELS APPROX (m): 81.944 82.404 80.292 80.286
FOUL WATER SEWER INVERT LEVELS (m): 80.260 78.260
SURFACE WATER SEWER INVERT LEVELS (m): 80.330 375Ø 1/30 L=54.21 PN=1.013 78.525
MANHOLE DIAMETER (mm): Type C 1350 1200 Type B Type C 1350 1200 Type B
S53 ch=-1.2 F33 ch=0.8 S54 ch=52.9 F44 ch=54.6
Road 1
Road 3TH
85.000
80.000
75.000
Raised platform top is set 75mm above longsection levels quoted
T.P.
Ramp ch=9.08 C.Lev = 81.795
Ramp ch=11.08
I.P. L=81.651
T.P.
T.P.
I.P. L=80.474
ch=52.08
T.P.
CHAINAGE ON CENTRELINE (m): 0.000 2.850 5.910 10.000 15.910 20.000 25.910 31.714 41.714 54.480
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 82.009 81.937 81.870 81.771 81.592 81.444 81.195 80.930 80.538 80.206
LEVELS ON LEFT HAND CHANNEL (m): 81.869 81.711 81.532 81.384 81.135 80.870 80.478 80.424
LEVELS ON RIGHT HAND CHANNEL (m): 81.792 81.711 81.532 81.384 81.135 80.870 80.478 80.121
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: G = -2.2% HOG CURVE R = 843.593 L = 20.000 GRADIENT -4.6% L = 5.803m SAG CURVE R = 781.847 L = 20.000
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 49.230m
EXISTING LEVELS (m): 81.861 81.772 81.625 81.412 81.259 81.011 80.890 80.845 80.627 80.583 80.347 80.307

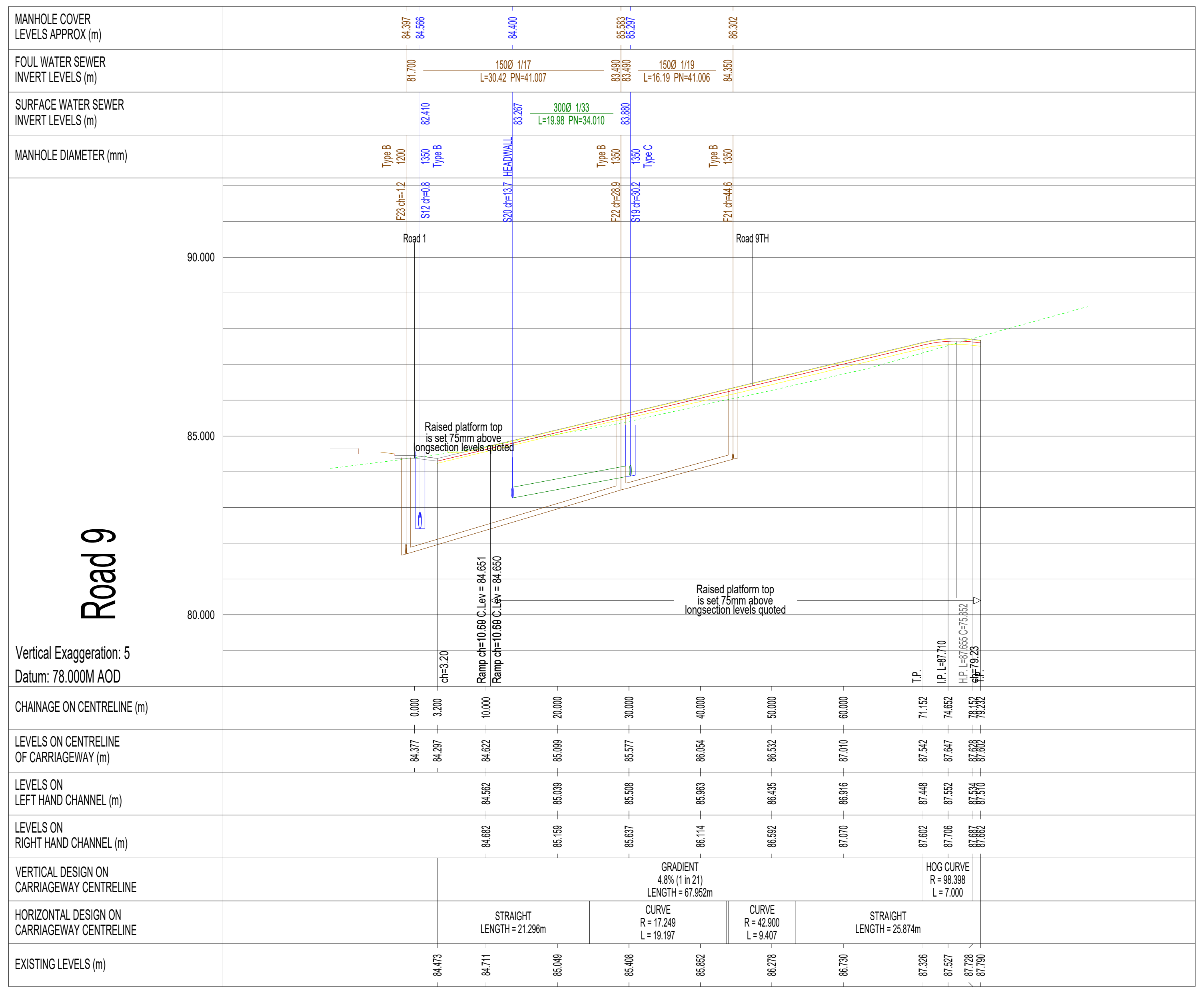

Road 4
Vertical Exaggeration: 5
Datum: 72.000M AOD
MANHOLE COVER LEVELS APPROX (m): 79.884 79.840 78.769 78.760 78.100
FOUL WATER SEWER INVERT LEVELS (m): 77.460 150Ø 1/83 L=50.78 PN=92.017 76.850
SURFACE WATER SEWER INVERT LEVELS (m): 77.990 375Ø 1/85 L=54.89 PN=34.012 77.342 77.267 450Ø 1/273 L=11.46 PN=34.013 77.225
MANHOLE DIAMETER (mm): Type B 1350 1200 Type B Type B 1200 1350 Type C HEADWALL
S67 ch=-0.4 F37 ch=1.3 F38 ch=52.1 S68 ch=54.5 S69 ch=65.7
Road 1
Road 4TH
80.000
75.000
Concrete Protection
Concrete Protection
Concrete Protection
Raised platform top is set 75mm above longsection levels quoted
Ramp ch=8.74 C.Lev = 79.678
Ramp ch=10.74
ch=50.89
CHAINAGE ON CENTRELINE (m): 0.000 2.832 10.000 20.000 30.000 40.000 50.891 53.291
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 79.879 79.808 79.651 79.431 79.211 78.991 78.751 78.691
LEVELS ON LEFT HAND CHANNEL (m): 79.711 79.491 79.271 79.051
LEVELS ON RIGHT HAND CHANNEL (m): 79.591 79.371 79.151 78.931
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT -2.2% (-1 in 45) LENGTH = 48.059m
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 48.059m
EXISTING LEVELS (m): 79.493 79.287 79.033 78.745 78.493 78.132

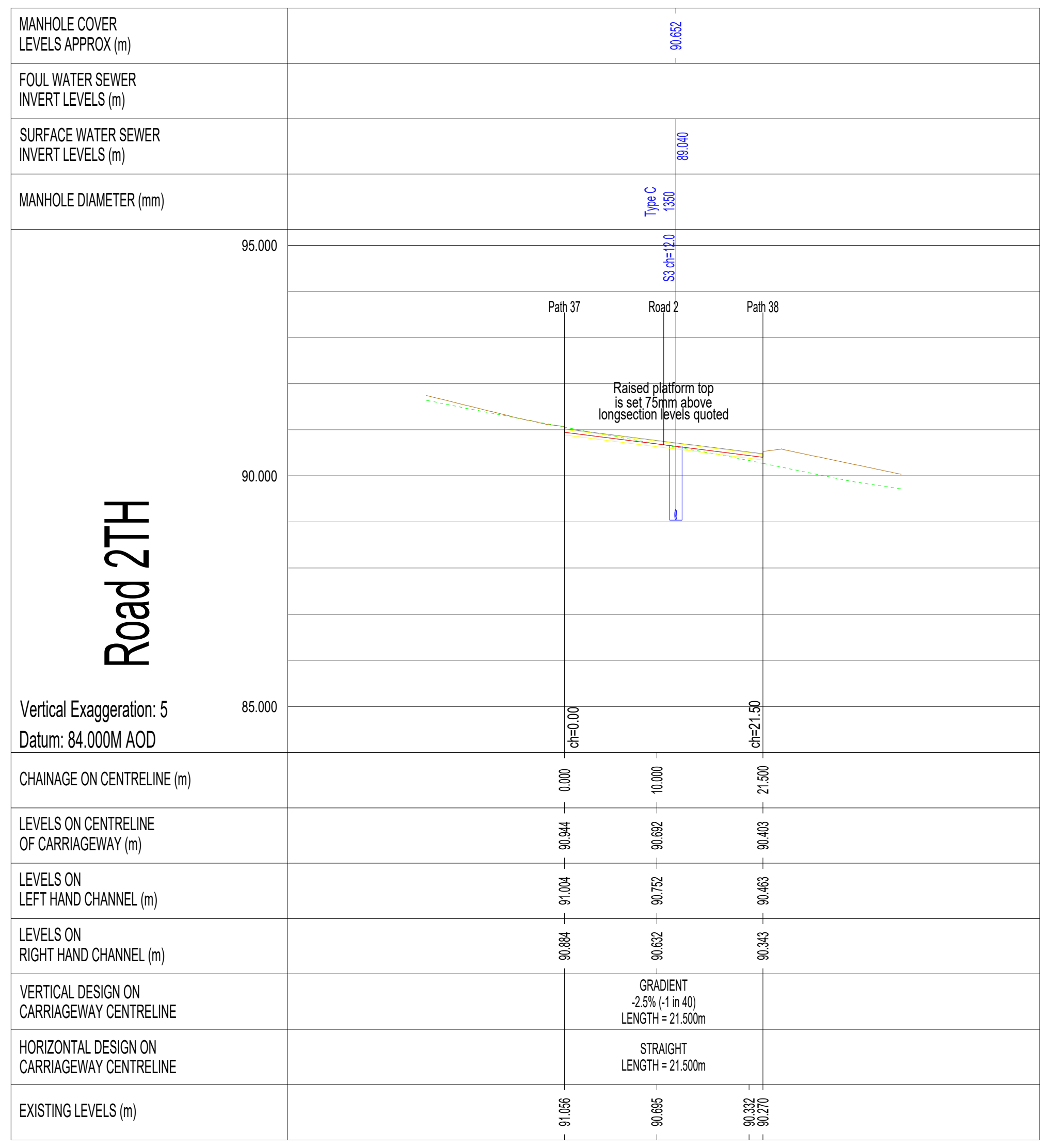

Road 5
Vertical Exaggeration: 5
Datum: 73.000M AOD
MANHOLE COVER LEVELS APPROX (m): 80.298 80.206 79.552 79.533 79.196 79.157
FOUL WATER SEWER INVERT LEVELS (m): 76.710 150Ø 1/367 L=33.04 PN=1.022 76.620 76.620 150Ø 1/134 L=24.12 PN=1.023 76.440
SURFACE WATER SEWER INVERT LEVELS (m): 77.397 750Ø 1/860 L=28.16 PN=63.011 77.364 77.364 750Ø 1/1092 L=24.84 PN=63.012 77.341
MANHOLE DIAMETER (mm): Type A 1350 1800 Type B Unknown 1800 Type B 1200 Type C 1800 1350 Type B
F13 ch=-0.4 S37 ch=1.6 S79 ch=29.8 F14 ch=32.7 S38 ch=54.6 F15 ch=56.8
Road 1
Road 5TH
80.000
75.000
Concrete Protection
Raised platform top is set 75mm above longsection levels quoted
ch=2.60
T.P.
I.P. L=79.339
T.P.
ch=53.68
CHAINAGE ON CENTRELINE (m): 0.000 2.595 10.000 20.000 23.783 30.000 36.283 40.000 48.783 53.677 56.077
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 80.199 80.134 79.959 79.723 79.634 79.497 79.380 79.320 79.207 79.155 79.095
LEVELS ON LEFT HAND CHANNEL (m): 79.899 79.663 79.574 79.438 79.320 79.260 79.146
LEVELS ON RIGHT HAND CHANNEL (m): 80.019 79.783 79.694 79.558 79.440 79.380 79.264
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT -2.4% (-1 in 42) LENGTH = 21.188m SAG CURVE R = 1924.001 L = 25.000 G = -1.1%
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 51.082m
EXISTING LEVELS (m): 80.134 79.841 79.466 79.299 79.038 78.853 78.747 78.502 78.470 78.367


Road 6
Vertical Exaggeration: 5
Datum: 74.000M AOD
MANHOLE COVER LEVELS APPROX (m): 80.975 80.907 81.505 82.053
FOUL WATER SEWER INVERT LEVELS (m): 78.760
SURFACE WATER SEWER INVERT LEVELS (m): 79.255 300Ø 1/38 L=25.16 PN=42.004 79.910 79.910 300Ø 1/27 L=20.39 PN=42.003 80.663
MANHOLE DIAMETER (mm): Type B 1200 1350 Type C Type C 1350 Type C 1350
F35 ch=-0.6 S65 ch=1.5 S63 ch=26.6 S62 ch=46.8
Road 1
Road 22
Path 63
85.000
80.000
75.000
Concrete Protection
I.P.
CHAINAGE ON CENTRELINE (m): 0.000 2.750 10.000 20.000 30.000 40.000 42.999 50.000 60.000 64.984
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 80.975 80.907 81.094 81.353 81.612 81.871 81.949 82.189 82.531 82.701
LEVELS ON LEFT HAND CHANNEL (m): 81.034 81.293 81.552 81.811 81.889 82.129 82.471 82.641
LEVELS ON RIGHT HAND CHANNEL (m): 81.154 81.413 81.672 81.931 82.009 82.249 82.591 82.761
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT 2.6% (1 in 39) LENGTH = 40.249m GRADIENT 3.4% (1 in 29) LENGTH = 21.985m
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 12.087m CURVE R = 83.000 L = 14.723 STRAIGHT L = 6.370m CURVE R = 82.000 L = 23.840 L = 5.21m
EXISTING LEVELS (m): 80.829 81.028 81.307 81.620 81.960 82.061 82.291 82.610 82.777


Road 7
Vertical Exaggeration: 5
Datum: 73.000M AOD
MANHOLE COVER LEVELS APPROX (m): 79.485 79.554 80.512 80.634 81.241 81.251 83.054 83.251
FOUL WATER SEWER INVERT LEVELS (m): 76.999 150Ø 1/152 L=28.84 PN=58.009 77.188 77.188 150Ø 1/13 L=13.16 PN=58.008 78.210 78.210 150Ø 1/19 L=57.22 PN=58.007 81.260
SURFACE WATER SEWER INVERT LEVELS (m): 77.475 750Ø 1/500 L=24.40 PN=63.009 77.524 77.824 450Ø 1/14 L=15.27 PN=63.008 78.895 79.045 300Ø 1/23 L=61.18 PN=63.007 81.670
MANHOLE DIAMETER (mm): Type B 1200 1800 Type C Type B 1800 1200 Type A Type B 1200 1350 Type B Type B 1200 Type C 1350
F11 ch=-1.2 S34 ch=1.4 S31 ch=25.8 F10 ch=27.6 F9 ch=40.3 S30 ch=41.6 F8 ch=97.4 S29 ch=102.9
Road 1
Path 61
Road 7TH
85.000
80.000
75.000
Raised platform top is set 75mm above longsection levels quoted
ch=2.75
T.P.
I.P. L=80.289
T.P.
T.P.
I.P. L=81.409
T.P.
T.P.
I.P. L=81.680
T.P.
ch=104.69
CHAINAGE ON CENTRELINE (m): 0.000 2.750 10.000 12.831 20.000 22.831 30.000 32.831 35.264 40.000 45.264 50.000 55.264 56.098 60.000 66.098 70.000 76.098 80.000 90.000 100.000 104.686 107.086
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 79.441 79.510 79.791 79.901 80.193 80.317 80.649 80.788 80.910 81.125 81.317 81.445 81.539 81.550 81.612 81.750 81.866 82.090 82.250 82.659 83.069 83.261 83.321
LEVELS ON LEFT HAND CHANNEL (m): 79.731 79.841 80.133 80.257 80.589 80.728 80.850 81.065 81.257 81.385 81.479 81.490 81.552 81.690 81.806 82.030 82.190 82.599 83.013
LEVELS ON RIGHT HAND CHANNEL (m): 79.851 79.961 80.253 80.377 80.709 80.848 80.970 81.185 81.377 81.505 81.599 81.610 81.672 81.810 81.926 82.150 82.310 82.719 83.133
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT 3.9% L = 10.081m SAG CURVE R = 1791.435 L = 20.000 G = 5.0% HOG CURVE R = 541.760 L = 20.000 SAG CURVE R = 715.781 L = 20.000 GRADIENT 4.1% (1 in 24) LENGTH = 28.588m
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 22.580m CURVE R = 24.800 L = 19.702 STRAIGHT LENGTH = 59.655m
EXISTING LEVELS (m): 79.429 79.744 79.884 80.245 80.388 80.789 80.923 81.039 81.254 81.450 81.640 81.819 81.847 81.980 82.187 82.320 82.513 82.621 82.898 83.199 83.315


Road 8
Vertical Exaggeration: 5
Datum: 78.000M AOD
MANHOLE COVER LEVELS APPROX (m): 86.700 86.728 85.717 85.607 84.561 84.554
FOUL WATER SEWER INVERT LEVELS (m): 84.400 150Ø 1/41 L=26.04 PN=1.014 83.770 83.770 150Ø 1/22 L=29.78 PN=1.015 82.410
SURFACE WATER SEWER INVERT LEVELS (m): 84.770 84.270 150Ø 1/22 L=29.80 PN=47.006 82.895
MANHOLE DIAMETER (mm): Type C 1350 1350 Type B Type C 1350 1200 Type B Type C 1350 1200 Type B
S10 ch=-0.4 F6 ch=1.7 S27 ch=25.9 F50 ch=27.7 S28 ch=55.7 F7 ch=57.5
Road 1
Path 59
Path 60
Road 8TH
90.000
85.000
80.000
Raised platform top is set 75mm above longsection levels quoted
T.P.
ch=2.75
I.P. L=86.299
T.P.
T.P.
I.P. L=84.959
T.P.
ch=54.16
CHAINAGE ON CENTRELINE (m): 0.000 3.158 10.000 13.188 20.000 23.188 29.653 39.653 49.653 54.158 56.558
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 86.659 86.578 86.361 86.242 85.948 85.793 85.465 85.014 84.672 84.543 84.483
LEVELS ON LEFT HAND CHANNEL (m): 86.726 86.301 86.182 85.888 85.732 85.405 84.954 84.651
LEVELS ON RIGHT HAND CHANNEL (m): 86.425 86.301 86.182 85.888 85.732 85.405 84.954 84.596
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: HOG CURVE R = 881.761 L = 20.000 GRADIENT -5.1% L = 6.465m SAG CURVE R = 914.815 L = 20.000 G = -2.9%
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 51.408m
EXISTING LEVELS (m): 86.358 86.342 86.090 85.962 85.707 85.583 85.331 84.969 84.583 84.402


Road 9
Vertical Exaggeration: 5
Datum: 78.000M AOD
MANHOLE COVER LEVELS APPROX (m): 84.397 84.566 84.400 85.583 85.297 86.302
FOUL WATER SEWER INVERT LEVELS (m): 81.700 150Ø 1/17 L=30.42 PN=41.007 83.490 83.490 150Ø 1/19 L=16.19 PN=41.006 84.350
SURFACE WATER SEWER INVERT LEVELS (m): 82.410 83.267 300Ø 1/33 L=19.98 PN=34.010 83.880
MANHOLE DIAMETER (mm): Type B 1200 1350 Type B HEADWALL Type B 1350 1350 Type C Type B 1350
F23 ch=-1.2 S12 ch=0.8 S20 ch=13.7 F22 ch=28.9 S19 ch=30.2 F21 ch=44.6
Road 1
Road 9TH
90.000
85.000
80.000
Raised platform top is set 75mm above longsection levels quoted
Raised platform top is set 75mm above longsection levels quoted
ch=3.20
Ramp ch=10.69 C.Lev = 84.651
Ramp ch=10.69 C.Lev = 84.650
T.P.
I.P. L=87.710
H.P. L=87.655 C=75.852
ch=79.23
T.P.
CHAINAGE ON CENTRELINE (m): 0.000 3.200 10.000 20.000 30.000 40.000 50.000 60.000 71.152 74.652 78.152 79.232
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 84.377 84.297 84.622 85.099 85.577 86.054 86.532 87.010 87.542 87.647 87.628 87.602
LEVELS ON LEFT HAND CHANNEL (m): 84.562 85.039 85.508 85.963 86.435 86.916 87.448 87.552 87.534 87.510
LEVELS ON RIGHT HAND CHANNEL (m): 84.682 85.159 85.637 86.114 86.592 87.070 87.602 87.706 87.687 87.662
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT 4.8% (1 in 21) LENGTH = 67.952m HOG CURVE R = 98.398 L = 7.000
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 21.296m CURVE R = 17.249 L = 19.197 CURVE R = 42.900 L = 9.407 STRAIGHT LENGTH = 25.874m
EXISTING LEVELS (m): 84.473 84.711 85.049 85.408 85.852 86.278 86.730 87.326 87.527 87.728 87.790


Road 2TH
Vertical Exaggeration: 5
Datum: 84.000M AOD
MANHOLE COVER LEVELS APPROX (m): 90.652
FOUL WATER SEWER INVERT LEVELS (m)
SURFACE WATER SEWER INVERT LEVELS (m): 89.040
MANHOLE DIAMETER (mm): Type C 1350
S3 ch=12.0
Path 37
Road 2
Path 38
95.000
90.000
85.000
Raised platform top is set 75mm above longsection levels quoted
ch=0.00
ch=21.50
CHAINAGE ON CENTRELINE (m): 0.000 10.000 21.500
LEVELS ON CENTRELINE OF CARRIAGEWAY (m): 90.944 90.692 90.403
LEVELS ON LEFT HAND CHANNEL (m): 91.004 90.752 90.463
LEVELS ON RIGHT HAND CHANNEL (m): 90.884 90.632 90.343
VERTICAL DESIGN ON CARRIAGEWAY CENTRELINE: GRADIENT -2.5% (-1 in 40) LENGTH = 21.500m
HORIZONTAL DESIGN ON CARRIAGEWAY CENTRELINE: STRAIGHT LENGTH = 21.500m
EXISTING LEVELS (m): 91.056 90.695 90.332 90.270

GENERAL NOTES:

1. DO NOT SCALE THIS DRAWING. FOR DISCREPANCIES OR OMISSIONS CONTACT THE ENGINEER PRIOR TO WORK COMMENCING.

2. MATERIALS AND WORKMANSHIP ARE TO COMPLY IN ALL RESPECTS WITH CURRENT PROJECT SPECIFICATIONS, CURRENT CODES OF PRACTICE, AND BUILDING REGULATIONS.

3. THE COPYRIGHT OF THIS DRAWING IS VESTED IN THE ENGINEER AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN CONSENT.

4. THE CONTRACTOR IS TO CHECK AND VERIFY ALL BUILDING AND SITE DIMENSIONS, LEVELS AND SEWER INVERT LEVELS AT CONNECTION POINTS BEFORE WORK COMMENCES.

5. THIS DRAWING IS TO READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS ISSUED BY THE ENGINEER, ARCHITECT AND OTHER DESIGN DISCIPLINES.

DRAWING NOTES

1. This drawing is to be read in conjunction with relevant architectural and engineering drawings.

2. Roads footpaths and parking bays which form part of the highway to be adopted under Section 38 of the Highways Act 1980 shall comply with the relevant council highway specification.

3. Sewers to be adopted under Section 104 of the Water Industries Act 1991 shall comply with the Design and Construction Guidance (DCG) for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code").

4. All existing drainage invert levels, diameters and locations are to be checked by the Contractor prior to the commencement of any proposed drainage work. Any difference between actual and drawn details is to reported immediately.

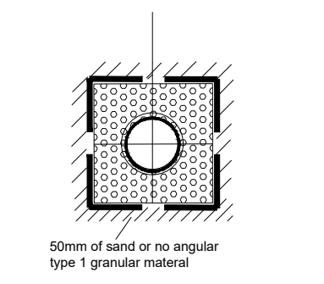
5. Positions of existing services/stautory undertakers apparatus adjacent to or crossing proposed sewers is to be checked by the Contractor prior to starting work.

6. A screen is to be fitted over outgoing pipe to the last new Surface and Foul manholes before entering the existing sewers in accordance with "Sewers for adoption" The screen shall only be removed once the site construction works have been completed.

7. Concrete surround only required on adoptable manholes where there is unstable ground and high water table. Final decision on surround requirements to be made between Drainage Authority and Developer.

8. Concrete cover to be used above pipes where cover depth is less than 1.2m.

Pollution protection when Foul laid above Storm
Impermeable Geotextile membrane to be wrapped around foul sewer where foul sewer is above storm to be laid as per manufactures recommendations.



Rev	Description	Date	By	Chkd
C	Amended to latest layout	23.05.25	RA	
B	Amended to latest road layout	16.04.25	JA	RAA
A	Amended to suit latest layout	27.02.25	JA	RAA

Bellway

Drg Status: Preliminary

Client Name: BELLWAY EAST MIDLANDS

Project Name: RATBY

Drawing Title: ROAD & SEWER SECTIONS

Scale:	Size:	First Issue Date:	Initial:	Chkd:
1:500	A0	December 2024	RAA	JA

Project No:	Drawing No:	Rev:
RED165	121	C

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