

### 3. 沈下・変形解析

#### 3.1 A-A' 断面の解析

##### (1) 検討位置

A-A' 断面の検討位置は図 3.1.1 に示すとおりであり、堤防（堤体盛土）に対する影響を把握することを目的とした。

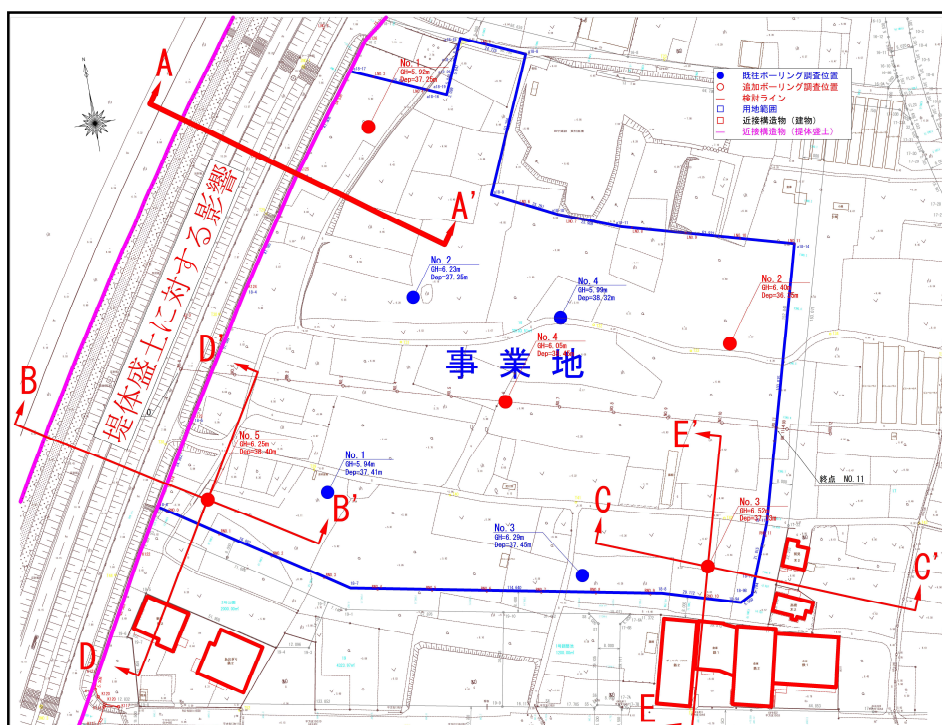


図 3.1.1 A-A' 断面の検討位置

## (2) 解析断面

地質調査結果などから、モデル化した断面は以下のとおりである。造成高については、2章2.4節で前述したとおり、GH=7.5m、7.1m、6.7mの3パターン行った。

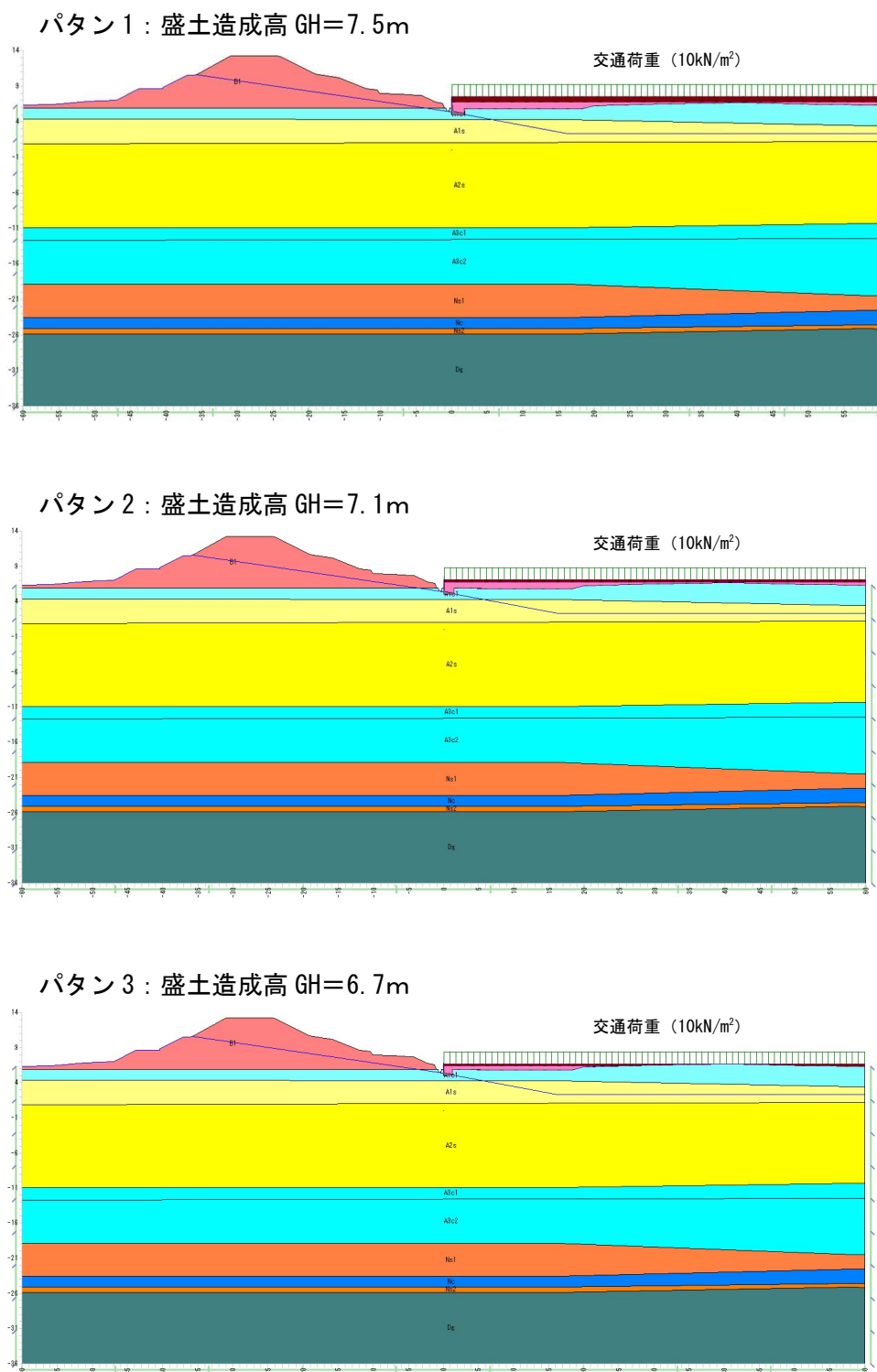


図 3.1.2 解析モデル断面図 (A-A' 断面)

### (3) パラメータ

A-A' 断面で使用した地盤パラメータを以下に示す。

なお、地盤パラメータは3パターン共通である。

表 3.1.1 地盤パラメータ (A-A' 断面定数：3パターン共通)

| 地層    |   |       | 構成モデル             | 湿潤単位<br>体積重量<br>$\gamma_s$<br>(kN/m <sup>3</sup> ) | 弾性係数<br>E<br>(kN/m <sup>2</sup> ) | ポアソン<br>比<br>$\nu$ | 静止<br>土圧係数 | 透水係数<br>k (cm/s) | 粘着力<br>c<br>(kN/m <sup>2</sup> ) | 内部摩擦<br>角<br>$\phi$ (°) | 降伏応力<br>$\sigma_y$<br>(kN/m <sup>2</sup> ) | パラメータ<br>$\beta$ | 硬化係数<br>H |
|-------|---|-------|-------------------|--|-----------------------------------|--------------------|------------|------------------|----------------------------------|-------------------------|--|------------------|-----------|
| 地層名   | 色 | 土質名   |                   |  |                                   |                    |            |                  |                                  |                         |  |                  |           |
| B1    |   | B1    | Drucker-Prager弾塑性 | 18   | 14000                             | 0.35               | 0.5        | 1.00E-03         | 0                                | 30                      | 0  | 0.9798           | 0         |
| A1c1  |   | A1c1  | Drucker-Prager弾塑性 | 18.4   | 1930                              | 0.4                | 0.5        | 1.00E-07         | 36                               | 0                       | 72   | 0                | 0         |
| A1s   |   | A1s   | Drucker-Prager弾塑性 | 17   | 4900                              | 0.3                | 0.5        | 2.85E-03         | 0                                | 26                      | 0  | 0.8384           | 0         |
| A2s   |   | A2s   | Drucker-Prager弾塑性 | 18   | 11900                             | 0.3                | 0.5        | 1.61E-02         | 0                                | 33                      | 0  | 1.0867           | 0         |
| A3c1  |   | A3c1  | Drucker-Prager弾塑性 | 17.4   | 1530                              | 0.4                | 0.5        | 6.16E-06         | 32                               | 0                       | 64   | 0                | 0         |
| A3c2  |   | A3c2  | Drucker-Prager弾塑性 | 17   | 11560                             | 0.4                | 0.5        | 1.00E-07         | 74                               | 0                       | 148  | 0                | 0         |
| Ns1   |   | Ns1   | Drucker-Prager弾塑性 | 19   | 9100                              | 0.4                | 0.5        | 7.79E-06         | 0                                | 31                      | 0  | 1.0154           | 0         |
| Nc    |   | Nc    | Drucker-Prager弾塑性 | 18   | 11200                             | 0.4                | 0.5        | 1.00E-07         | 100                              | 0                       | 200  | 0                | 0         |
| Ns2   |   | Ns2   | Drucker-Prager弾塑性 | 18   | 13300                             | 0.3                | 0.5        | 1.00E-04         | 0                                | 34                      | 0  | 1.1224           | 0         |
| Dg    |   | Dg    | Drucker-Prager弾塑性 | 20   | 38500                             | 0.3                | 0.5        | 1.00E-04         | 0                                | 48                      | 0  | 1.6132           | 0         |
| 擁壁    |   | 擁壁    | 弾性体               | 23.5   | 1000000                           | 0.4                | 0.5        | 1.00E-09         |                                  |                         |  |                  |           |
| 改良フケ土 |   | 改良フケ土 | Drucker-Prager弾塑性 | 14.2   | 140000                            | 0.4                | 0.5        | 1.00E-05         | 495                              | 0                       | 990  | 0                | 0         |
| 覆土    |   | 覆土    | Drucker-Prager弾塑性 | 20   | 140000                            | 0.3                | 0.5        | 1.00E-04         | 495                              | 0                       | 990  | 0                | 0         |

### (4) A-A' 断面パターン1の解析結果

メッシュ変位図：供用（交通荷重）

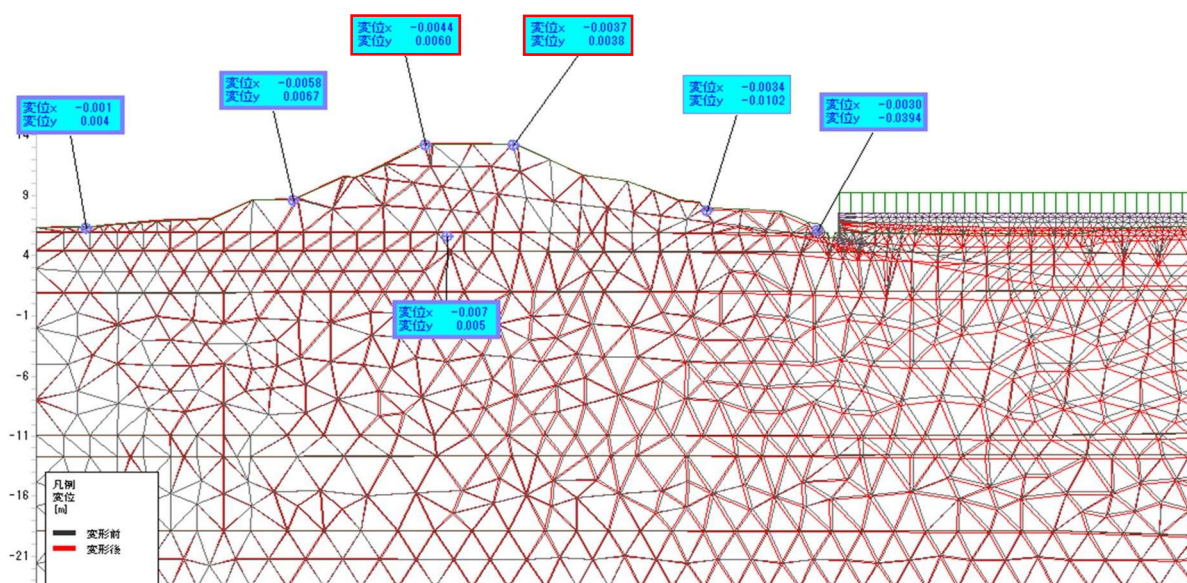


図 3.1.3 メッシュ変位図 (パターン1：供用時)

供用（交通荷重）時は、造成によって側方に変位が生じるものの、堤防敷の変位量は極めて小さい。堤防自体がカウンターウェイトとして作用している。

堤防範囲の最大隆起量は6.9 mm、最大沈下量は39.9 mmである。堤防天端の変位は、鉛直で3.8 mm～6.0 mmの隆起である。水平では川側に3.7 mm～4.4 mm変位する。

次頁より各ステップの解析結果および地表面の沈下量の詳細を示す。

A-A' 断面 (パターン1の解析結果図一覧)

施工段階は、①現地形、②掘削、③造成後、④供用 (交通荷重) の順で変形・沈下状況を整理した。

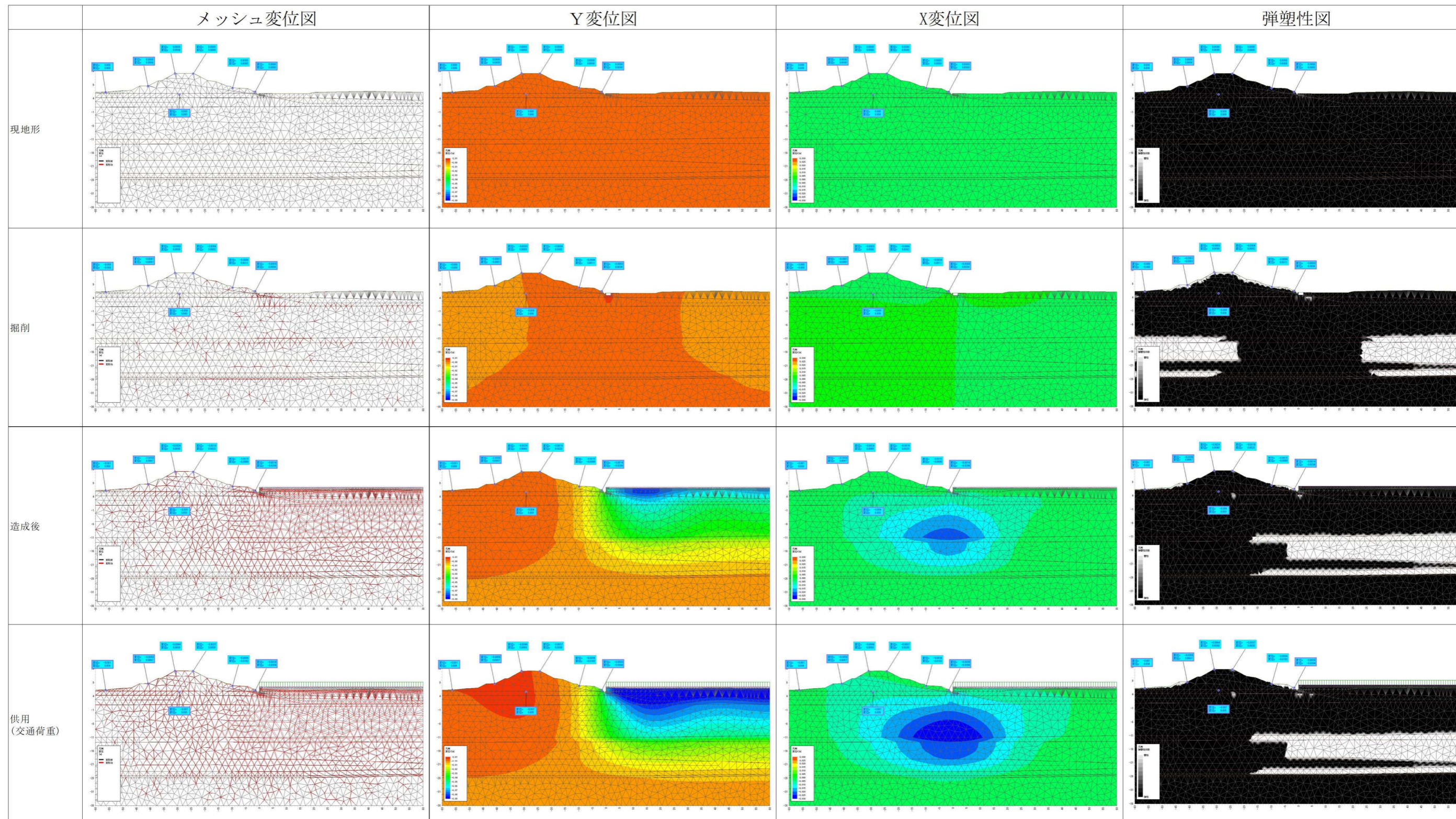


図 3.1.4 解析結果図一覧 (パターン1)

A-A' 断面 (パターン1の解析結果: 地表面の変形・沈下量)

A-A' 断面  
GH=7.50m

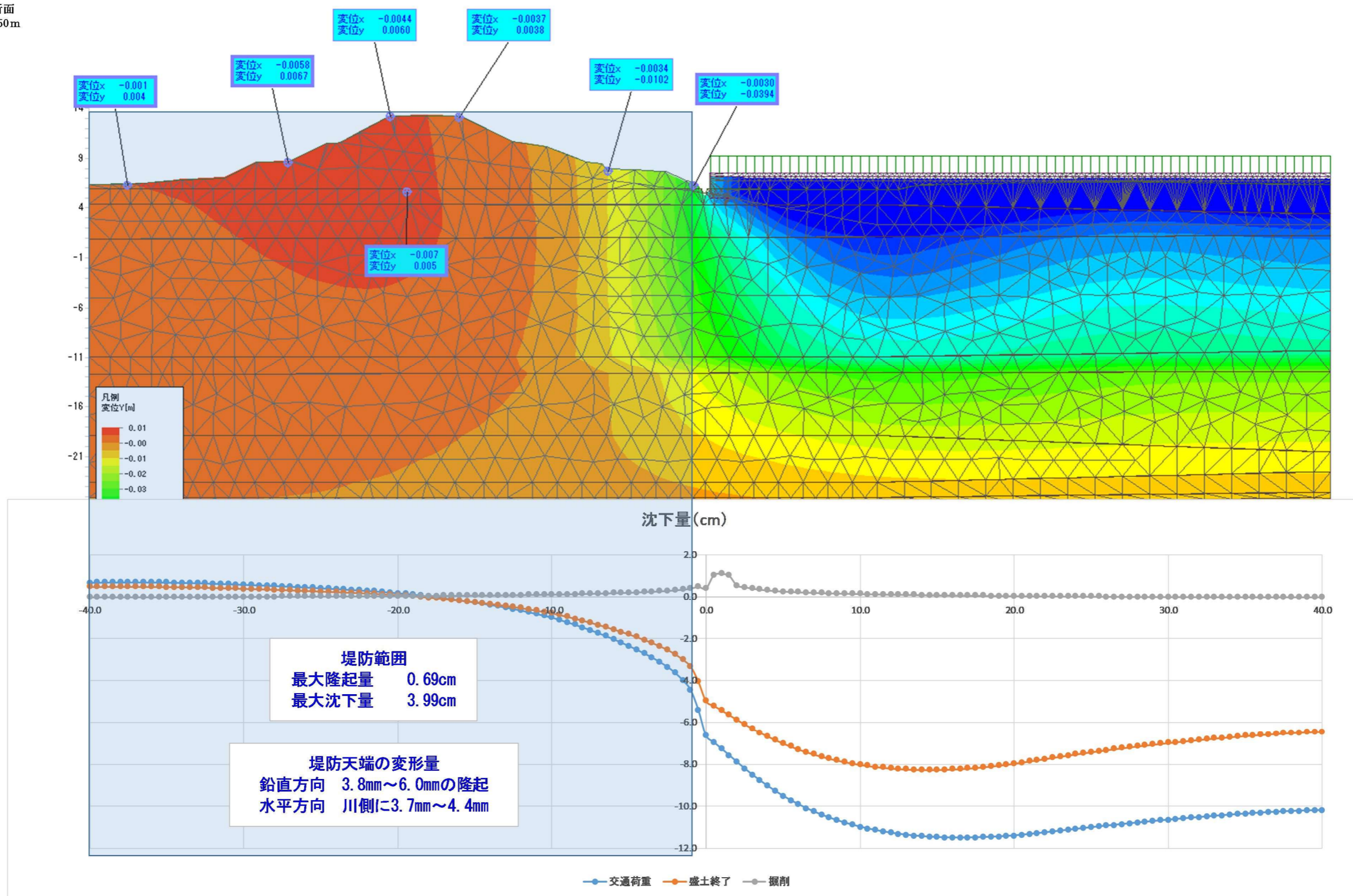


図 3.1.5 解析結果図 (パターン1の解析結果: 地表面の変形・沈下量)

表 3.1.2 パタン1 (各施工段階における沈下量)

| 10m範囲の相<br>対沈下量 | 沈下量 (cm) |        |        |        |
|-----------------|----------|--------|--------|--------|
|                 | 位置 Y(m)  | 交通荷重   | 竣工時    | 掘削     |
| -0.1            | -60.0    | 0.495  | 0.348  | -0.019 |
| -0.1            | -59.5    | 0.496  | 0.349  | -0.019 |
| -0.1            | -59.0    | 0.497  | 0.350  | -0.019 |
| -0.1            | -58.5    | 0.498  | 0.350  | -0.019 |
| -0.1            | -58.0    | 0.499  | 0.351  | -0.019 |
| -0.1            | -57.5    | 0.500  | 0.352  | -0.019 |
| -0.1            | -57.0    | 0.500  | 0.352  | -0.019 |
| -0.1            | -56.5    | 0.500  | 0.352  | -0.019 |
| -0.1            | -56.0    | 0.501  | 0.353  | -0.019 |
| -0.1            | -55.5    | 0.503  | 0.354  | -0.019 |
| -0.1            | -55.0    | 0.507  | 0.357  | -0.019 |
| -0.1            | -54.5    | 0.512  | 0.360  | -0.019 |
| -0.1            | -54.0    | 0.517  | 0.363  | -0.019 |
| -0.1            | -53.5    | 0.521  | 0.366  | -0.019 |
| -0.1            | -53.0    | 0.525  | 0.369  | -0.019 |
| -0.1            | -52.5    | 0.530  | 0.372  | -0.019 |
| -0.1            | -52.0    | 0.535  | 0.375  | -0.019 |
| -0.1            | -51.5    | 0.539  | 0.378  | -0.019 |
| -0.1            | -51.0    | 0.543  | 0.381  | -0.019 |
| -0.1            | -50.5    | 0.546  | 0.383  | -0.019 |
| -0.1            | -50.0    | 0.549  | 0.385  | -0.019 |
| -0.1            | -49.5    | 0.553  | 0.387  | -0.020 |
| -0.06           | -49.0    | 0.553  | 0.389  | -0.020 |
| -0.06           | -48.5    | 0.557  | 0.391  | -0.020 |
| -0.06           | -48.0    | 0.560  | 0.394  | -0.020 |
| -0.06           | -47.5    | 0.564  | 0.397  | -0.020 |
| -0.07           | -47.0    | 0.569  | 0.401  | -0.020 |
| -0.08           | -46.5    | 0.574  | 0.407  | -0.020 |
| -0.09           | -46.0    | 0.588  | 0.414  | -0.020 |
| -0.10           | -45.5    | 0.598  | 0.420  | -0.020 |
| -0.10           | -45.0    | 0.608  | 0.427  | -0.020 |
| -0.11           | -44.5    | 0.618  | 0.433  | -0.020 |
| -0.11           | -44.0    | 0.628  | 0.440  | -0.020 |
| -0.12           | -43.5    | 0.636  | 0.445  | -0.019 |
| -0.12           | -43.0    | 0.643  | 0.450  | -0.019 |
| -0.12           | -42.5    | 0.650  | 0.455  | -0.019 |
| -0.12           | -42.0    | 0.657  | 0.459  | -0.019 |
| -0.12           | -41.5    | 0.663  | 0.464  | -0.019 |
| -0.13           | -41.0    | 0.669  | 0.468  | -0.019 |
| -0.13           | -40.5    | 0.675  | 0.472  | -0.019 |
| -0.13           | -40.0    | 0.679  | 0.474  | -0.018 |
| -0.13           | -39.5    | 0.683  | 0.477  | -0.018 |
| -0.13           | -39.0    | 0.687  | 0.479  | -0.018 |
| -0.13           | -38.5    | 0.690  | 0.480  | -0.017 |
| -0.13           | -38.0    | 0.694  | 0.480  | -0.016 |
| -0.13           | -37.5    | 0.692  | 0.479  | -0.015 |
| -0.12           | -37.0    | 0.692  | 0.479  | -0.015 |
| -0.11           | -36.5    | 0.693  | 0.478  | -0.014 |
| -0.10           | -36.0    | 0.691  | 0.477  | -0.013 |
| -0.09           | -35.5    | 0.688  | 0.474  | -0.012 |
| -0.08           | -35.0    | 0.684  | 0.471  | -0.011 |
| -0.07           | -34.5    | 0.679  | 0.466  | -0.010 |
| -0.06           | -34.0    | 0.673  | 0.461  | -0.009 |
| -0.06           | -33.5    | 0.664  | 0.453  | -0.007 |
| -0.05           | -33.0    | 0.654  | 0.445  | -0.006 |
| -0.05           | -32.5    | 0.645  | 0.437  | -0.005 |
| -0.06           | -32.0    | 0.637  | 0.427  | -0.003 |
| -0.07           | -31.5    | 0.629  | 0.417  | -0.002 |
| -0.09           | -31.0    | 0.607  | 0.407  | 0.000  |
| -0.10           | -30.5    | 0.594  | 0.397  | 0.001  |
| -0.11           | -30.0    | 0.580  | 0.386  | 0.003  |
| -0.13           | -29.5    | 0.566  | 0.375  | 0.004  |
| -0.14           | -29.0    | 0.553  | 0.364  | 0.006  |
| -0.16           | -28.5    | 0.537  | 0.353  | 0.007  |
| -0.17           | -28.0    | 0.522  | 0.341  | 0.009  |
| -0.19           | -27.5    | 0.506  | 0.328  | 0.011  |
| -0.20           | -27.0    | 0.489  | 0.315  | 0.012  |
| -0.22           | -26.5    | 0.471  | 0.301  | 0.014  |
| -0.24           | -26.0    | 0.453  | 0.288  | 0.015  |
| -0.26           | -25.5    | 0.433  | 0.273  | 0.017  |
| -0.27           | -25.0    | 0.413  | 0.257  | 0.019  |
| -0.29           | -24.5    | 0.393  | 0.242  | 0.021  |
| -0.30           | -24.0    | 0.374  | 0.228  | 0.022  |
| -0.31           | -23.5    | 0.353  | 0.212  | 0.024  |
| -0.32           | -23.0    | 0.332  | 0.197  | 0.026  |
| -0.34           | -22.5    | 0.310  | 0.180  | 0.028  |
| -0.35           | -22.0    | 0.287  | 0.163  | 0.030  |
| -0.36           | -21.5    | 0.263  | 0.145  | 0.032  |
| -0.37           | -21.0    | 0.235  | 0.124  | 0.034  |
| -0.39           | -20.5    | 0.207  | 0.103  | 0.036  |
| -0.40           | -20.0    | 0.176  | 0.080  | 0.038  |
| -0.42           | -19.5    | 0.144  | 0.056  | 0.041  |
| -0.45           | -19.0    | 0.108  | 0.029  | 0.043  |
| -0.47           | -18.5    | 0.066  | -0.002 | 0.046  |
| -0.50           | -18.0    | 0.024  | -0.034 | 0.049  |
| -0.53           | -17.5    | -0.018 | -0.065 | 0.052  |
| -0.56           | -17.0    | -0.066 | -0.101 | 0.055  |
| -0.59           | -16.5    | -0.115 | -0.137 | 0.059  |
| -0.62           | -16.0    | -0.163 | -0.173 | 0.062  |
| -0.65           | -15.5    | -0.214 | -0.210 | 0.065  |
| -0.68           | -15.0    | -0.266 | -0.249 | 0.069  |
| -0.72           | -14.5    | -0.322 | -0.291 | 0.072  |
| -0.75           | -14.0    | -0.380 | -0.333 | 0.076  |
| -0.80           | -13.5    | -0.443 | -0.380 | 0.080  |
| -0.84           | -13.0    | -0.507 | -0.428 | 0.084  |
| -0.89           | -12.5    | -0.578 | -0.480 | 0.089  |
| -0.94           | -12.0    | -0.651 | -0.534 | 0.093  |
| -1.00           | -11.5    | -0.733 | -0.595 | 0.098  |
| -1.05           | -11.0    | -0.817 | -0.657 | 0.104  |
| -1.11           | -10.5    | -0.902 | -0.720 | 0.109  |
| -1.17           | -10.0    | -0.989 | -0.784 | 0.114  |
| -1.25           | -9.5     | -1.101 | -0.867 | 0.121  |
| -1.33           | -9.0     | -1.233 | -0.959 | 0.128  |
| -1.40           | -8.5     | -1.331 | -1.038 | 0.135  |
| -1.49           | -8.0     | -1.461 | -1.134 | 0.144  |
| -1.57           | -7.5     | -1.590 | -1.230 | 0.152  |
| -1.66           | -7.0     | -1.728 | -1.332 | 0.161  |
| -1.76           | -6.5     | -1.874 | -1.440 | 0.171  |
| -1.88           | -6.0     | -2.029 | -1.548 | 0.181  |
| -1.97           | -5.5     | -2.185 | -1.668 | 0.193  |
| -2.08           | -5.0     | -2.348 | -1.788 | 0.205  |
| -2.20           | -4.5     | -2.521 | -1.916 | 0.218  |
| -2.33           | -4.0     | -2.708 | -2.054 | 0.234  |
| -2.46           | -3.5     | -2.898 | -2.194 | 0.249  |
| -2.61           | -3.0     | -3.115 | -2.354 | 0.269  |
| -2.77           | -2.5     | -3.348 | -2.527 | 0.291  |
| -2.98           | -2.0     | -3.635 | -2.736 | 0.318  |
| -3.26           | -1.5     | -3.994 | -2.996 | 0.352  |
| -3.63           | -1.0     | -4.451 | -3.320 | 0.396  |
| -4.51           | -0.5     | -5.406 | -4.040 | 0.458  |

| 10m範囲の相<br>対沈下量 | 沈下量 (cm) |         |        |        |
|-----------------|----------|---------|--------|--------|
|                 | 位置 Y(m)  | 交通荷重    | 竣工時    | 掘削     |
| -5.67           | 0.0      | -6.658  | -4.977 | -0.414 |
| -5.86           | 0.5      | -6.961  | -5.195 | 1.047  |
| -6.06           | 1.0      | -7.270  | -5.415 | 1.108  |
| -6.25           | 1.5      | -7.582  | -5.636 | 1.021  |
| -6.44           | 2.0      | -7.899  | -5.861 | 0.553  |
| -6.66           | 2.5      | -8.211  | -6.084 | 0.473  |
| -6.78           | 3.0      | -8.504  | -6.292 | 0.402  |
| -6.91           | 3.5      | -8.781  | -6.488 | 0.349  |
| -7.02           | 4.0      | -9.043  | -6.675 | 0.312  |
| -7.10           | 4.5      | -9.287  | -6.848 | 0.283  |
| -7.17           | 5.0      | -9.514  | -7.010 | 0.266  |
| -7.20           | 5.5      | -9.724  | -7.158 | 0.241  |
| -7.21           | 6.0      | -9.917  | -7.295 | 0.224  |
| -7.20           | 6.5      | -10.095 | -7.419 | 0.210  |
| -7.14           | 7.0      | -10.258 | -7.534 | 0.197  |
| -7.06           | 7.5      | -10.410 | -7.640 | 0.183  |
| -6.91           | 8.0      | -10.545 | -7.733 | 0.174  |
| -6.68           | 8.5      | -10.672 | -7.821 | 0.163  |
| -6.33           | 9.0      | -10.783 | -7.895 | 0.156  |
| -5.48           | 9.5      | -10.889 | -7.966 | 0.148  |
| -4.33           | 10.0     | -10.980 | -8.025 | 0.140  |
| -4.10           | 10.5     | -11.065 | -8.078 | 0.133  |
| -3.87           | 11.0     | -11.141 | -8.126 | 0.126  |
| -3.62           | 11.5     | -11.206 | -8.165 | 0.119  |
| -3.37           | 12.0     | -11.267 | -8.199 | 0.113  |
| -3.11           | 12.5     | -11.317 | -8.225 | 0.107  |
| -2.86           | 13.0     | -11.363 | -8.246 | 0.101  |
| -2.62           | 13.5     | -11.406 | -8.260 | 0.095  |
| -2.39           | 14.0     | -11.430 | -8.268 | 0.090  |
| -2.17           | 14.5     | -11.456 | -8.272 | 0.084  |
| -1.96           | 15.0     | -11.473 | -8.268 | 0.079  |
| -1.76           | 15.5     | -11.487 | -8.260 | 0.074  |
| -1.58           | 16.0     | -11.494 | -8.246 | 0.070  |
| -1.40           | 16.5     | -11.496 | -8.227 | 0.065  |
| -1.24           | 17.0     | -11.493 | -8.203 | 0.061  |
| -1.09           | 17.5     | -11.485 | -8.174 | 0.057  |
| -0.95           | 18.0     | -11.473 | -8.140 | 0.053  |
| -0.82           | 18.5     | -11.459 | -8.103 | 0.049  |
| -0.71           | 19.0     | -11.442 | -8.063 | 0.046  |
| -0.61           | 19.5     | -11.421 | -8.019 | 0.042  |
| -0.52           | 20.0     | -11.395 | -7.971 | 0.039  |
| -0.43           | 20.5     | -11.363 | -7.918 | 0.036  |
| -0.36           | 21       | -11.327 | -7.863 | 0.033  |
| -0.29           | 21.5     | -11.289 | -7.806 | 0.030  |
| -0.23           | 22       | -11.249 | -7.750 | 0.027  |
| -0.29           | 22.5     | -11.209 | -7.693 | 0.023  |
| -0.33           | 23       | -11.168 | -7.638 | 0.022  |
| -0.37           | 23.5     | -11.127 | -7.583 | 0.020  |
| -0.41           | 24       | -11.086 | -7.530 | 0.017  |
| -0.45           | 24.5     | -11.046 | -7.478 | 0.015  |
| -0.49           | 25       | -11.006 | -7.427 | 0.013  |
| -0.53           | 25.5     | -10.967 | -7.378 | 0.011  |
| -0.57           | 26       | -10.929 | -7.331 | 0.009  |
| -0.60           | 26.5     | -10.892 | -7.284 | 0.007  |
| -0.64           | 27       | -10.855 | -7.239 | 0.006  |
| -0.68           | 27.5     | -10.819 | -7.195 | 0.004  |
| -0.69           | 28       | -10.783 | -7.152 | 0.002  |
| -0.71           | 28.5     | -10.749 | -7.110 | 0.001  |
| -0.73           | 29       | -10.714 | -7.069 | 0.000  |
| -0.74           | 29.5     | -10.681 | -7.030 | -0.002 |
| -0.75           | 30       | -10.648 | -6.991 | -0.003 |
| -0.75           | 30.5     | -10.616 | -6.953 | -0.004 |
| -0.74           | 31       | -10.584 | -6.916 | -0.005 |
| -0.74           | 31.5     | -10.553 | -6.880 | -0.006 |
| -0.73           | 32       | -10.523 | -6.845 | -0.007 |
| -0.72           | 32.5     | -10.493 | -6.811 | -0.008 |
| -0.71           | 33       | -10.464 | -6.778 | -0.009 |
| -0.69           | 33.5     | -10.436 | -6.746 | -0.010 |
| -0.68           | 34       | -10.409 | -6.715 | -0.010 |
| -0.66           | 34.5     | -10.383 | -6.684 | -0.011 |
| -0.65           | 35       | -10.358 | -6.655 | -0.012 |
| -0.63           | 35.5     | -10.333 | -6.627 | -0.013 |
| -0.62           | 36       | -10.310 | -6.601 | -0.013 |
| -0.60           | 36.5     | -10.289 | -6.575 | -0.013 |
| -0.59           | 37       | -10.269 | -6.552 | -0.014 |
| -0.57           | 37.5     | -10.250 | -6.530 | -0.014 |
| -0.55           | 38       | -10.234 | -6.510 | -0.015 |
| -0.53           | 38.5     | -10.220 | -6.493 | -0.015 |
| -0.51           | 39       | -10.208 | -6.478 | -0.015 |
| -0.48           | 39.5     | -10.199 | -6.466 | -0.016 |
| -0.46           | 40       | -10.192 | -6.457 | -0.016 |
| -0.43           | 40.5     | -10.188 | -6.452 | -0.016 |
| -0.40           | 41       | -10.187 | -6.450 | -0.016 |
| -0.37           | 41.5     | -10.188 | -6.450 | -0.016 |
| -0.34           | 42       | -10.192 | -6.455 | -0.017 |
| -0.31           | 42.5     | -10.198 | -6.462 | -0.017 |
| -0.28           | 43       | -10.207 | -6.473 | -0.017 |
| -0.25           | 43.5     | -10.218 | -6.486 | -0.017 |
| -0.22           | 44       | -10.231 | -6.501 | -0.017 |
| -0.20           | 44.5     | -10.247 | -6.518 | -0.017 |
| -0.17           | 45       | -10.264 | -6.538 | -0.017 |
| -0.15           | 45.5     | -10.282 | -6.558 | -0.017 |
| -0.12           | 46       | -10.302 | -6.580 | -0.017 |
| -0.11           | 46.5     | -10.322 | -6.603 | -0.017 |
| -0.10           | 47       | -10.344 | -6.627 | -0.017 |
| -0.18           | 47.5     | -10.365 | -6.651 | -0.017 |
| -0.20           | 48       | -10.388 | -6.676 | -0.017 |
| -0.22           | 48.5     | -10.410 | -6.700 | -0.017 |
| -0.25           | 49       | -10.433 | -6.725 | -0.017 |
| -0.27           | 49.5     | -10.456 | -6.750 | -0.017 |
| -0.29           | 50       | -10.478 | -6.774 | -0.017 |
| -0.31           | 50.5     | -10.501 | -6.798 | -0.017 |
| -0.34           | 51       | -10.523 | -6.822 | -0.017 |
| -0.36           | 51.5     | -10.544 | -6.845 | -0.017 |
| -0.37           | 52       | -10.565 | -6.868 | -0.017 |
| -0.39           | 52.5     | -10.586 | -6.889 | -0.017 |
| -0.40           | 53       | -10.606 | -6.910 | -0.017 |
| -0.41           | 53.5     | -10.625 | -6.930 | -0.017 |
| -0.41</         |          |         |        |        |

### (5) A-A' 断面パターン2の解析結果

メッシュ変位図：供用（交通荷重）

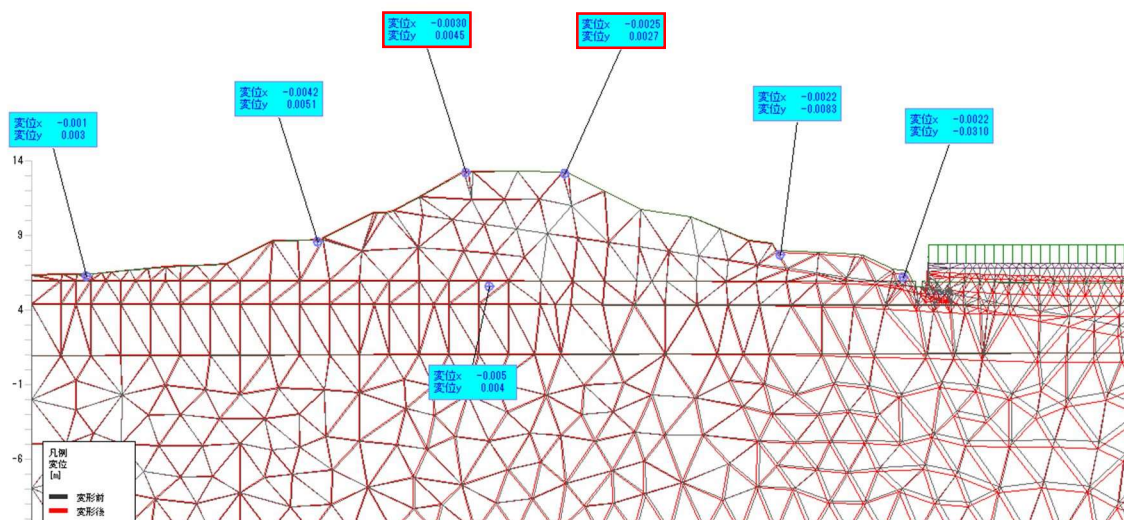


図 3.1.6 メッシュ変位図（パターン2：供用時）

供用（交通荷重）時は、造成によって側方に変位が生じるものの、堤防敷の変位量は極めて小さい。堤防自体がカウンターウェイトとして作用している。

堤防範囲の最大隆起量は 5.3 mm、最大沈下量は 31.4 mm である。堤防天端の変位は、鉛直で 2.7 mm～4.5mm の隆起である。水平では川側に 2.5 mm～3.0mm 変位する。

次頁に各ステップの解析結果と地表面の沈下量の詳細を示す。

A-A' 断面 (パターン2の解析結果図一覧)

施工段階は、①現地形、②造成後、③供用 (交通荷重) の順で変形・沈下状況を整理した。

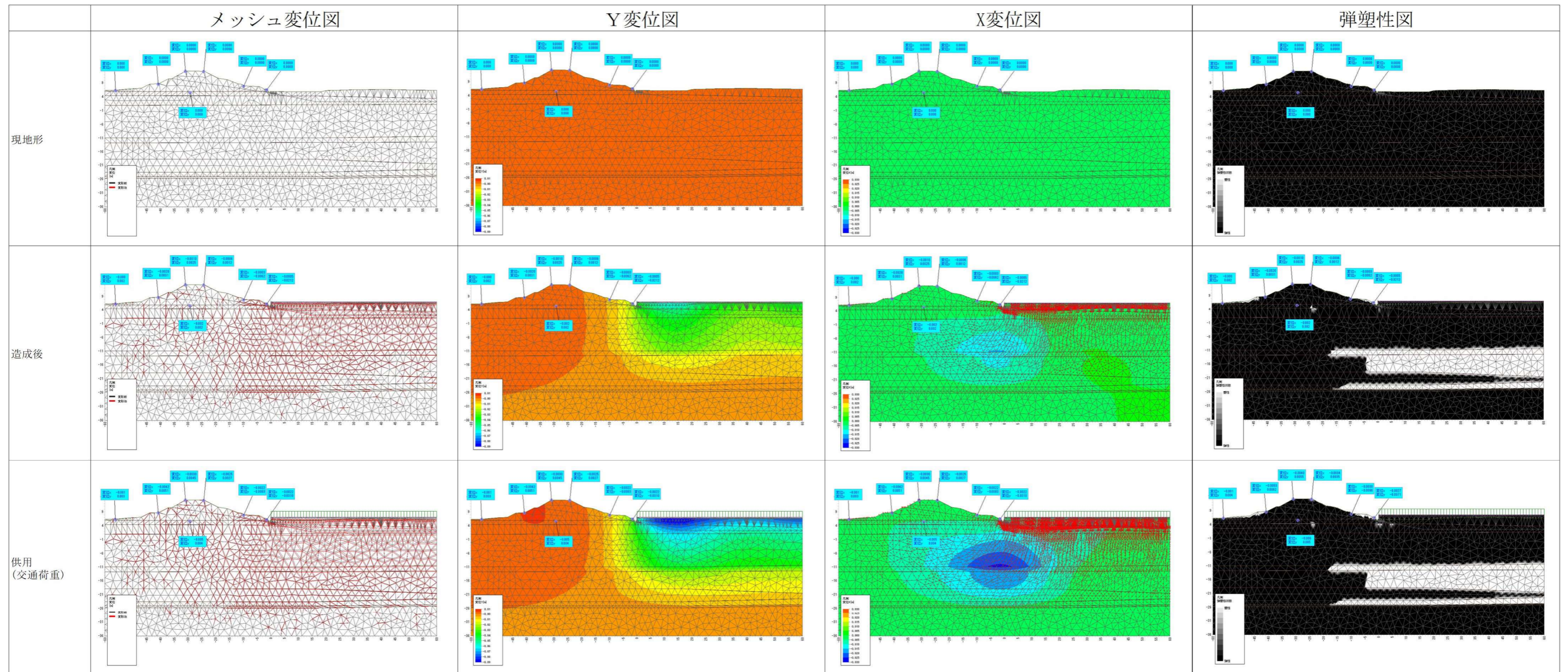


図 3.1.7 解析結果図一覧 (パターン2)



A-A' 断面 (パターン2の解析結果: 地表面の変形・沈下量)

A-A' 断面  
GH=7.10m

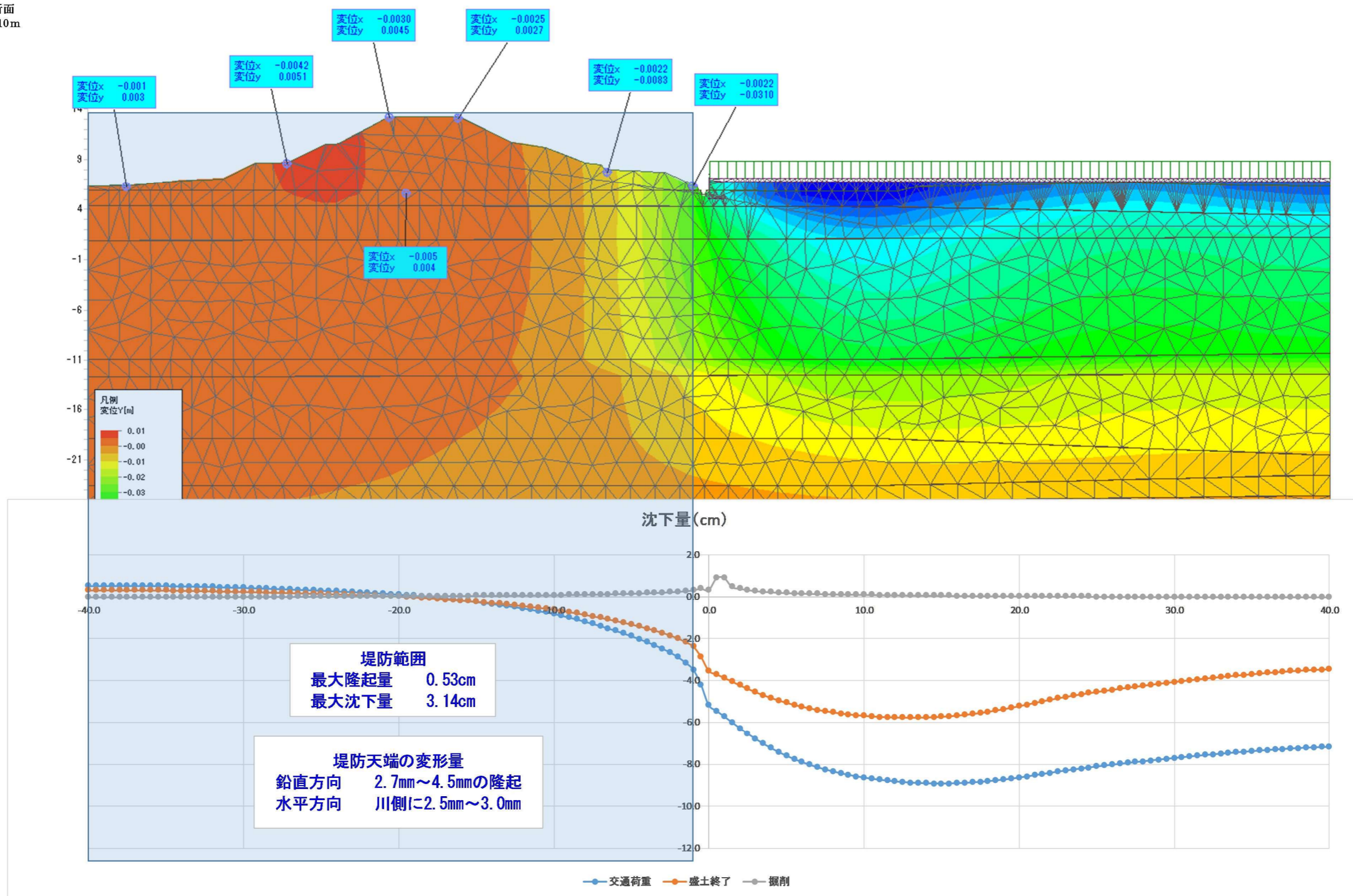


図 3.1.8 解析結果図 (パターン2の解析結果: 地表面の変形・沈下量)

表 3.1.3 パタン 2 (各施工段階における沈下量)

| 10m範囲の相<br>対沈下量 | 位置 X(m) | 交通荷重   | 沈下量 (cm) | 掘削     |
|-----------------|---------|--------|----------|--------|
|                 |         |        | 竣工終了     |        |
| -60.0           | 0.379   | 0.233  | -0.014   |        |
| 0.0             | -59.5   | 0.380  | 0.233    | -0.014 |
| 0.0             | -59.0   | 0.381  | 0.234    | -0.014 |
| 0.0             | -58.5   | 0.382  | 0.234    | -0.014 |
| 0.0             | -58.0   | 0.382  | 0.234    | -0.015 |
| 0.0             | -57.5   | 0.383  | 0.235    | -0.015 |
| -0.1            | -57.0   | 0.383  | 0.235    | -0.015 |
| -0.1            | -56.5   | 0.383  | 0.235    | -0.015 |
| -0.1            | -56.0   | 0.384  | 0.236    | -0.015 |
| -0.1            | -55.5   | 0.386  | 0.237    | -0.015 |
| -0.1            | -55.0   | 0.389  | 0.238    | -0.015 |
| -0.1            | -54.5   | 0.392  | 0.240    | -0.015 |
| -0.1            | -54.0   | 0.396  | 0.242    | -0.015 |
| -0.1            | -53.5   | 0.399  | 0.244    | -0.015 |
| -0.1            | -53.0   | 0.402  | 0.246    | -0.015 |
| -0.1            | -52.5   | 0.406  | 0.248    | -0.015 |
| -0.1            | -52.0   | 0.409  | 0.250    | -0.015 |
| -0.1            | -51.5   | 0.412  | 0.252    | -0.015 |
| -0.1            | -51.0   | 0.415  | 0.254    | -0.015 |
| -0.1            | -50.5   | 0.418  | 0.255    | -0.015 |
| -0.1            | -50.0   | 0.420  | 0.257    | -0.015 |
| -0.1            | -49.5   | 0.422  | 0.258    | -0.015 |
| -0.04           | -49.0   | 0.424  | 0.260    | -0.015 |
| -0.04           | -48.5   | 0.426  | 0.261    | -0.015 |
| -0.05           | -48.0   | 0.429  | 0.263    | -0.015 |
| -0.05           | -47.5   | 0.432  | 0.266    | -0.015 |
| -0.05           | -47.0   | 0.436  | 0.268    | -0.015 |
| -0.05           | -46.5   | 0.439  | 0.272    | -0.015 |
| -0.07           | -46.0   | 0.450  | 0.276    | -0.015 |
| -0.07           | -45.5   | 0.458  | 0.280    | -0.015 |
| -0.08           | -45.0   | 0.465  | 0.284    | -0.015 |
| -0.08           | -44.5   | 0.473  | 0.288    | -0.015 |
| -0.08           | -44.0   | 0.480  | 0.292    | -0.015 |
| -0.09           | -43.5   | 0.486  | 0.295    | -0.015 |
| -0.09           | -43.0   | 0.493  | 0.298    | -0.015 |
| -0.09           | -42.5   | 0.497  | 0.301    | -0.015 |
| -0.09           | -42.0   | 0.502  | 0.304    | -0.015 |
| -0.09           | -41.5   | 0.506  | 0.307    | -0.014 |
| -0.10           | -41.0   | 0.511  | 0.310    | -0.014 |
| -0.10           | -40.5   | 0.515  | 0.312    | -0.014 |
| -0.10           | -40.0   | 0.518  | 0.313    | -0.014 |
| -0.10           | -39.5   | 0.521  | 0.314    | -0.014 |
| -0.10           | -39.0   | 0.523  | 0.315    | -0.013 |
| -0.10           | -38.5   | 0.525  | 0.315    | -0.013 |
| -0.10           | -38.0   | 0.525  | 0.314    | -0.012 |
| -0.09           | -37.5   | 0.525  | 0.314    | -0.012 |
| -0.09           | -37.0   | 0.525  | 0.313    | -0.011 |
| -0.08           | -36.5   | 0.524  | 0.311    | -0.010 |
| -0.08           | -36.0   | 0.524  | 0.310    | -0.010 |
| -0.07           | -35.5   | 0.524  | 0.307    | -0.009 |
| -0.06           | -35.0   | 0.518  | 0.304    | -0.008 |
| -0.05           | -34.5   | 0.513  | 0.300    | -0.007 |
| -0.05           | -34.0   | 0.508  | 0.296    | -0.007 |
| -0.04           | -33.5   | 0.500  | 0.289    | -0.006 |
| -0.03           | -33.0   | 0.492  | 0.283    | -0.005 |
| -0.03           | -32.5   | 0.484  | 0.277    | -0.003 |
| -0.03           | -32.0   | 0.474  | 0.269    | -0.002 |
| -0.06           | -31.5   | 0.464  | 0.261    | -0.001 |
| -0.07           | -31.0   | 0.453  | 0.253    | 0.000  |
| -0.08           | -30.5   | 0.442  | 0.245    | 0.001  |
| -0.09           | -30.0   | 0.431  | 0.237    | 0.002  |
| -0.10           | -29.5   | 0.420  | 0.229    | 0.003  |
| -0.12           | -29.0   | 0.409  | 0.221    | 0.005  |
| -0.13           | -28.5   | 0.397  | 0.212    | 0.006  |
| -0.14           | -28.0   | 0.384  | 0.203    | 0.007  |
| -0.15           | -27.5   | 0.372  | 0.194    | 0.008  |
| -0.17           | -27.0   | 0.357  | 0.184    | 0.009  |
| -0.18           | -26.5   | 0.343  | 0.174    | 0.011  |
| -0.20           | -26.0   | 0.329  | 0.163    | 0.012  |
| -0.21           | -25.5   | 0.313  | 0.152    | 0.013  |
| -0.22           | -25.0   | 0.297  | 0.141    | 0.015  |
| -0.23           | -24.5   | 0.281  | 0.130    | 0.016  |
| -0.24           | -24.0   | 0.266  | 0.119    | 0.017  |
| -0.25           | -23.5   | 0.249  | 0.108    | 0.019  |
| -0.26           | -23.0   | 0.233  | 0.097    | 0.020  |
| -0.27           | -22.5   | 0.215  | 0.085    | 0.021  |
| -0.28           | -22.0   | 0.197  | 0.072    | 0.023  |
| -0.29           | -21.5   | 0.178  | 0.059    | 0.024  |
| -0.30           | -21.0   | 0.156  | 0.044    | 0.026  |
| -0.31           | -20.5   | 0.134  | 0.029    | 0.028  |
| -0.32           | -20.0   | 0.109  | 0.012    | 0.029  |
| -0.34           | -19.5   | 0.084  | -0.005   | 0.031  |
| -0.35           | -19.0   | 0.055  | -0.024   | 0.033  |
| -0.38           | -18.5   | 0.022  | -0.047   | 0.036  |
| -0.40           | -18.0   | -0.011 | -0.070   | 0.038  |
| -0.42           | -17.5   | -0.045 | -0.092   | 0.040  |
| -0.44           | -17.0   | -0.083 | -0.118   | 0.043  |
| -0.46           | -16.5   | -0.121 | -0.144   | 0.045  |
| -0.49           | -16.0   | -0.159 | -0.170   | 0.048  |
| -0.51           | -15.5   | -0.195 | -0.197   | 0.050  |
| -0.54           | -15.0   | -0.240 | -0.224   | 0.053  |
| -0.57           | -14.5   | -0.284 | -0.254   | 0.056  |
| -0.60           | -14.0   | -0.330 | -0.284   | 0.058  |
| -0.63           | -13.5   | -0.379 | -0.318   | 0.062  |
| -0.66           | -13.0   | -0.430 | -0.352   | 0.065  |
| -0.70           | -12.5   | -0.486 | -0.389   | 0.068  |
| -0.74           | -12.0   | -0.543 | -0.428   | 0.072  |
| -0.79           | -11.5   | -0.607 | -0.471   | 0.075  |
| -0.83           | -11.0   | -0.674 | -0.515   | 0.079  |
| -0.88           | -10.5   | -0.741 | -0.560   | 0.083  |
| -0.92           | -10.0   | -0.809 | -0.605   | 0.087  |
| -0.98           | -9.5    | -0.897 | -0.664   | 0.093  |
| -1.04           | -9.0    | -0.985 | -0.724   | 0.098  |
| -1.10           | -8.5    | -1.078 | -0.786   | 0.104  |
| -1.17           | -8.0    | -1.180 | -0.854   | 0.110  |
| -1.24           | -7.5    | -1.281 | -0.922   | 0.116  |
| -1.31           | -7.0    | -1.389 | -0.995   | 0.123  |
| -1.38           | -6.5    | -1.503 | -1.070   | 0.131  |
| -1.46           | -6.0    | -1.618 | -1.147   | 0.139  |
| -1.55           | -5.5    | -1.745 | -1.231   | 0.148  |
| -1.63           | -5.0    | -1.872 | -1.315   | 0.157  |
| -1.72           | -4.5    | -2.007 | -1.404   | 0.167  |
| -1.82           | -4.0    | -2.153 | -1.501   | 0.180  |
| -1.92           | -3.5    | -2.300 | -1.599   | 0.193  |
| -2.04           | -3.0    | -2.469 | -1.713   | 0.209  |
| -2.17           | -2.5    | -2.651 | -1.836   | 0.227  |
| -2.33           | -2.0    | -2.870 | -1.979   | 0.249  |
| -2.53           | -1.5    | -3.140 | -2.153   | 0.278  |
| -2.80           | -1.0    | -3.475 | -2.368   | 0.316  |
| -3.43           | -0.5    | -4.188 | -2.856   | 0.381  |

| 10m範囲の相<br>対沈下量 | 位置 X(m) | 交通荷重   | 沈下量 (cm) | 掘削     |
|-----------------|---------|--------|----------|--------|
|                 |         |        | 竣工終了     |        |
| -4.37           | 0.0     | -5.176 | -3.530   | 0.331  |
| -4.55           | 0.5     | -5.446 | -3.699   | 0.894  |
| -4.74           | 1.0     | -5.720 | -3.870   | 0.910  |
| -4.92           | 1.5     | -5.998 | -4.044   | 0.478  |
| -5.10           | 2.0     | -6.283 | -4.224   | 0.398  |
| -5.27           | 2.5     | -6.546 | -4.990   | 0.332  |
| -5.41           | 3.0     | -6.795 | -4.547   | 0.283  |
| -5.52           | 3.5     | -7.026 | -4.692   | 0.250  |
| -5.62           | 4.0     | -7.237 | -4.826   | 0.225  |
| -5.69           | 4.5     | -7.431 | -4.948   | 0.206  |
| -5.73           | 5.0     | -7.606 | -5.058   | 0.189  |
| -5.76           | 5.5     | -7.765 | -5.158   | 0.171  |
| -5.76           | 6.0     | -7.908 | -5.248   | 0.164  |
| -5.74           | 6.5     | -8.038 | -5.328   | 0.153  |
| -5.69           | 7.0     | -8.154 | -5.409   | 0.144  |
| -5.61           | 7.5     | -8.269 | -5.484   | 0.136  |
| -5.48           | 8.0     | -8.354 | -5.521   | 0.128  |
| -5.30           | 8.5     | -8.439 | -5.571   | 0.121  |
| -5.04           | 9.0     | -8.516 | -5.614   | 0.115  |
| -4.40           | 9.5     | -8.585 | -5.652   | 0.109  |
| -3.47           | 10.0    | -8.647 | -5.685   | 0.103  |
| -3.26           | 10.5    | -8.701 | -5.712   | 0.098  |
| -3.03           | 11.0    | -8.749 | -5.734   | 0.093  |
| -2.79           | 11.5    | -8.792 | -5.751   | 0.088  |
| -2.55           | 12.0    | -8.829 | -5.764   | 0.083  |
| -2.31           | 12.5    | -8.860 | -5.772   | 0.079  |
| -2.09           | 13.0    | -8.885 | -5.775   | 0.074  |
| -1.88           | 13.5    | -8.904 | -5.772   | 0.070  |
| -1.68           | 14.0    | -8.918 | -5.764   | 0.066  |
| -1.50           | 14.5    | -8.926 | -5.751   | 0.062  |
| -1.32           | 15.0    | -8.928 | -5.732   | 0.058  |
| -1.16           | 15.5    | -8.924 | -5.708   | 0.055  |
| -1.02           | 16.0    | -8.915 | -5.677   | 0.051  |
| -0.89           | 16.5    | -8.899 | -5.641   | 0.048  |
| -0.77           | 17.0    | -8.878 | -5.598   | 0.046  |
| -0.67           | 17.5    | -8.852 | -5.549   | 0.042  |
| -0.57           | 18.0    | -8.819 | -5.494   | 0.039  |
| -0.49           | 18.5    | -8.783 | -5.435   | 0.036  |
| -0.41           | 19.0    | -8.744 | -5.371   | 0.034  |
| -0.34           | 19.5    | -8.699 | -5.301   | 0.031  |
| -0.28           | 20.0    | -8.649 | -5.227   | 0.029  |
| -0.23           | 20.5    | -8.594 | -5.149   | 0.026  |
| -0.19           | 21.0    | -8.537 | -5.070   | 0.024  |
| -0.15           | 21.5    | -8.479 | -4.994   | 0.022  |
| -0.11           | 22.0    | -8.422 | -4.920   | 0.020  |
| -0.06           | 22.5    | -8.367 | -4.849   | 0.018  |
| -0.01           | 23.0    | -8.314 | -4.782   | 0.016  |
| 0.06            | 23.5    | -8.264 | -4.719   | 0.014  |
| 0.11            | 24.0    | -8.215 | -4.659   | 0.013  |
| 0.16            | 24.5    | -8.168 | -4.601   | 0.011  |
| 0.21            | 25.0    | -8.123 | -4.546   | 0.009  |
| 0.24            | 25.5    | -8.079 | -4.493   | 0.008  |
| 0.28            | 26.0    | -8.037 | -4.442   | 0.006  |
| 0.30            | 26.5    | -7.995 | -4.391   | 0.005  |
| 0.33            | 27.0    | -7.953 | -4.342   | 0.004  |
| 0.34            | 27.5    | -7.913 | -4.294   | 0.003  |
| 0.35            | 28.0    | -7.873 | -4.246   | 0.001  |
| 0.35            | 28.5    | -7.833 | -4.200   | 0.000  |
| 0.35            | 29.0    | -7.794 | -4.154   | -0.001 |
| 0.34            | 29.5    | -7.756 | -4.109   | -0.002 |
| 0.33            | 30.0    | -7.719 | -4.066   | -0.003 |
| 0.31            | 30.5    | -7.682 | -4.023   | -0.003 |
| 0.29            | 31.0    | -7.646 | -3.982   | -0.004 |
| 0.27            | 31.5    | -7.611 | -3.943   | -0.005 |
| 0.25            | 32.0    | -7.577 | -3.904   | -0.006 |
| 0.23            | 32.5    | -7.544 | -3.866   | -0.006 |
| 0.20            | 33.0    | -7.512 | -3.829   | -0.007 |
| 0.18            | 33.5    | -7.481 | -3.795   | -0.008 |
| 0.17            | 34.0    | -7.450 | -3.761   | -0.008 |
| 0.15            | 34.5    | -7.421 | -3.727   | -0.009 |
| 0.13            | 35.0    | -7.393 | -3.693   | -0.009 |
| 0.11            | 35.5    | -7.365 | -3.664   | -0.010 |
| 0.10            | 36.0    | -7.338 | -3.634   | -0.010 |
| 0.08            | 36.5    | -7.313 | -3.605   | -0.010 |
| 0.06            | 37.0    | -7.289 | -3.578   | -0.011 |
| 0.05            | 37.5    | -7.267 | -3.552   | -0.011 |
| 0.03            | 38.0    | -7.246 | -3.527   | -0.011 |
| 0.01            | 38.5    | -7.227 | -3.505   | -0.011 |
| -0.01           | 39.0    | -7.211 | -3.486   | -0.012 |
| -0.02           | 39.5    | -7.199 | -3.470   | -0.012 |
| -0.03           | 40.0    | -7.190 | -3.458   | -0.012 |
| -0.04           | 40.5    | -7.184 | -3.450   | -0.013 |
| -0.05           | 41.0    | -7.182 | -3.446   | -0.012 |
| -0.06           | 41.5    | -7.183 | -3.447   | -0.012 |
| -0.07           | 42.0    | -7.187 | -3.453   | -0.012 |
| -0.08           | 42.5    | -7.196 | -3.463   | -0.013 |
| -0.09           | 43.0    | -7.207 | -3.477   | -0.013 |
| -0.10           | 43.5    | -7.222 | -3.494   | -0.013 |
| -0.11           | 44.0    | -7.238 | -3.512   | -0.013 |
| -0.12           | 44.5    | -7.257 | -3.533   | -0.013 |
| -0.13           | 45.0    | -7.277 | -3.556   | -0.013 |
| -0.14           | 45.5    | -7.299 | -3.580   | -0.013 |
| -0.15           | 46.0    | -7.324 | -3.604   | -0.013 |
| -0.16           | 46.5    | -7.345 | -3.630   | -0.013 |
| -0.17           | 47.0    | -7.368 | -3.656   | -0.013 |
| -0.18           | 47.5    | -7.393 | -3.682   | -0.013 |
| -0.19           | 48.0    | -7.417 | -3.709   | -0.013 |
| -0.20           | 48.5    | -7.442 | -3.736   | -0.013 |
| -0.21           | 49.0    | -7.467 | -3.763   | -0.013 |
| -0.22           | 49.5    | -7.492 | -3.789   | -0.013 |
| -0.23           | 50.0    | -7.516 | -3.815   | -0.013 |
| -0.24           | 50.5    | -7.540 | -3.841   | -0.013 |
| -0.25           | 51.0    | -7.563 | -3.866   | -0.013 |
| -0.26           | 51.5    | -7.586 | -3.891   | -0.013 |
| -0.27           | 52.0    | -7.608 | -3.914   | -0.013 |
| -0.28           | 52.5    | -7.630 | -3.937   | -0.013 |
| -0.29           | 53.0    | -7.651 | -3.959   | -0.013 |
| -0.30           | 53.5    | -7.671 | -3.980   | -0.013 |
| -0.31           | 54.0    |        |          |        |

## (6) A-A' 断面パターン3の解析結果

メッシュ変位図：供用（交通荷重）

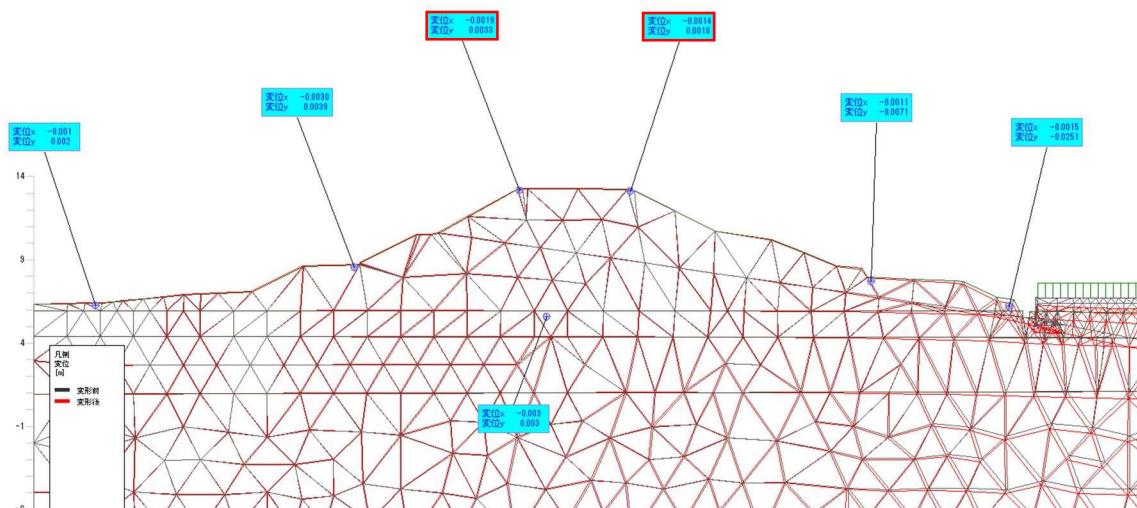


図 3.1.9 メッシュ変位図（パターン3：供用時）

供用（交通荷重）時は、造成によって側方に変位が生じるものの、堤防敷の変位量は極めて小さくなる。堤防自体がカウンターウェイトとして作用している。

堤防範囲の最大隆起量は 4.1 mm、最大沈下量は 25.5 mm である。堤防天端の変位は、鉛直で 1.8 mm～3.3mm の隆起である。水平では川側に 1.4 mm～1.9mm 変位する。

次頁に各ステップの解析結果と地表面の沈下量の詳細を示す。

A-A' 断面 (パタン3の解析結果図一覧)

施工段階は、①現地形、②造成後、③供用 (交通荷重) の順で変形・沈下状況を整理した。

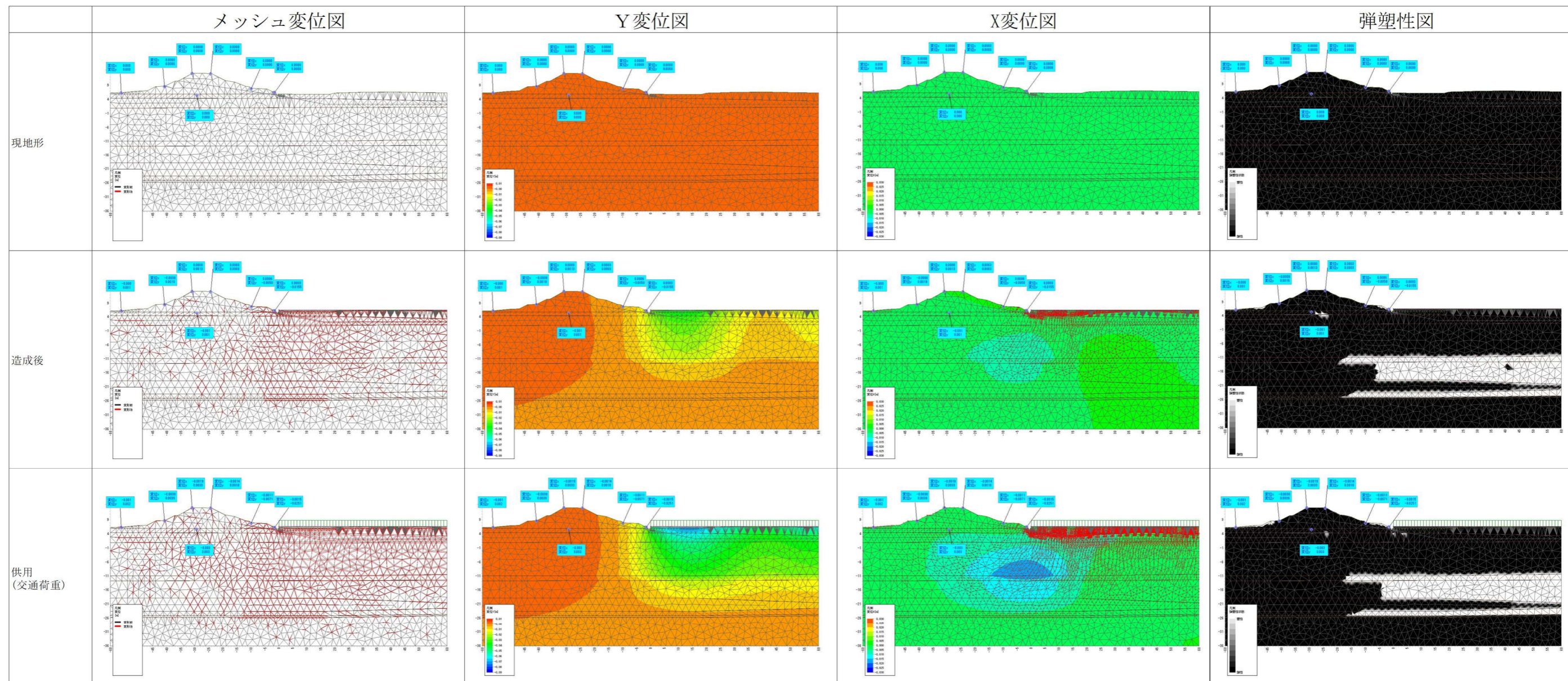


図 3.1.10 解析結果図一覧 (パタン3)

A-A' 断面 (パターン3の解析結果: 地表面の変形・沈下量)

A-A' 断面  
GH=6.70m

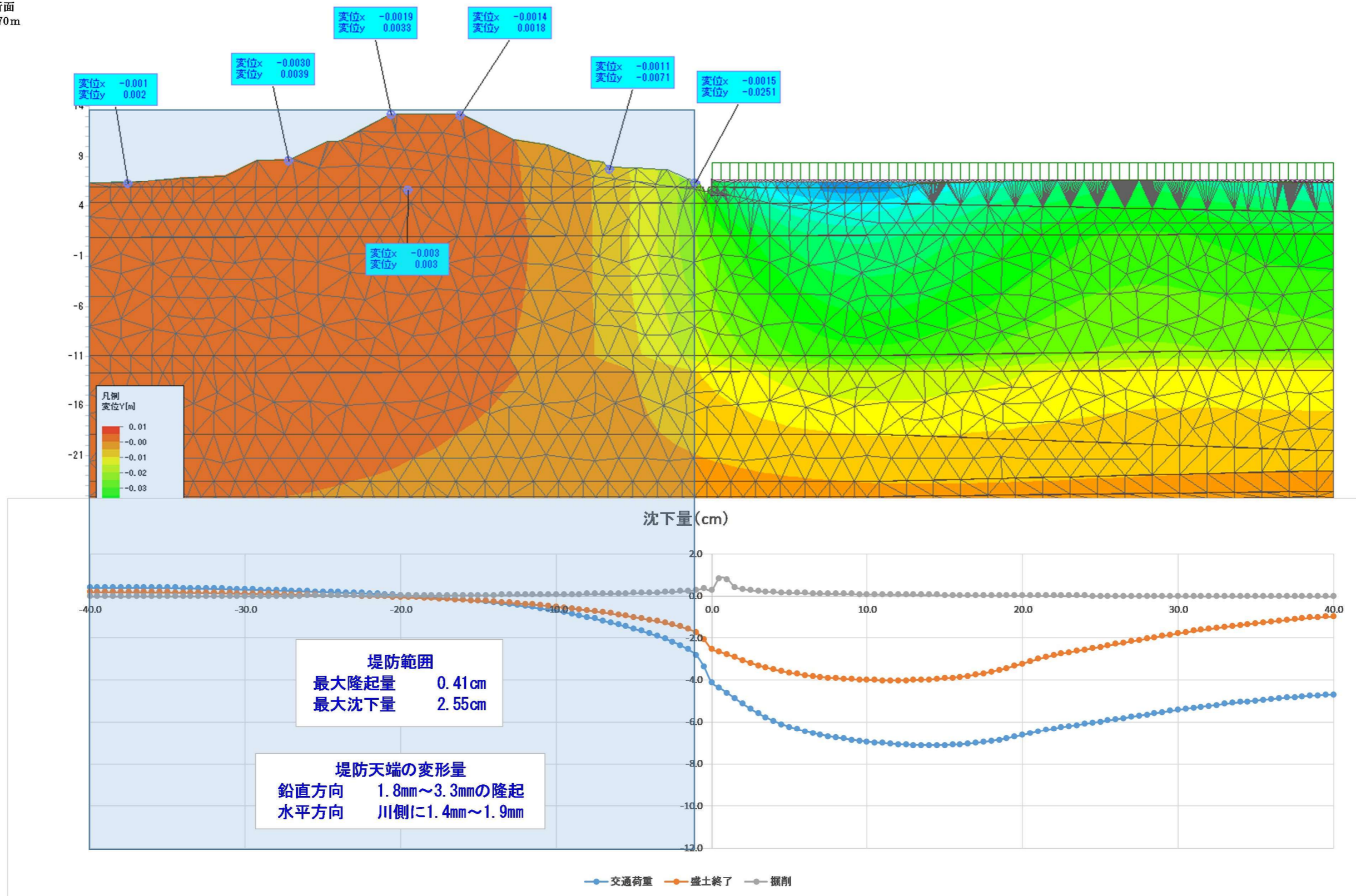


図 3.1.11 解析結果図 (パターン3の解析結果: 地表面の変形・沈下量)

表 3.1.4 パタン 3 (各施工段階における沈下量)

| 10m範囲の相<br>対沈下量 | 沈下量 (cm) |       |       |        |
|-----------------|----------|-------|-------|--------|
|                 | 位置 X(m)  | 交通荷重  | 竣工終了  | 掘削     |
| 0.0             | -59.0    | 0.296 | 0.149 | -0.013 |
| 0.0             | -59.5    | 0.297 | 0.150 | -0.013 |
| 0.0             | -60.0    | 0.298 | 0.150 | -0.013 |
| 0.0             | -60.5    | 0.298 | 0.150 | -0.013 |
| 0.0             | -61.0    | 0.299 | 0.150 | -0.013 |
| 0.0             | -61.5    | 0.299 | 0.150 | -0.013 |
| 0.0             | -62.0    | 0.299 | 0.151 | -0.013 |
| -0.1            | -62.5    | 0.300 | 0.152 | -0.013 |
| -0.1            | -63.0    | 0.300 | 0.153 | -0.013 |
| -0.1            | -63.5    | 0.301 | 0.153 | -0.013 |
| -0.1            | -64.0    | 0.301 | 0.154 | -0.013 |
| -0.1            | -64.5    | 0.302 | 0.154 | -0.013 |
| -0.1            | -65.0    | 0.302 | 0.155 | -0.013 |
| -0.1            | -65.5    | 0.303 | 0.155 | -0.013 |
| -0.1            | -66.0    | 0.303 | 0.156 | -0.013 |
| -0.1            | -66.5    | 0.304 | 0.156 | -0.013 |
| -0.1            | -67.0    | 0.304 | 0.157 | -0.013 |
| -0.1            | -67.5    | 0.305 | 0.157 | -0.013 |
| -0.1            | -68.0    | 0.305 | 0.158 | -0.013 |
| -0.1            | -68.5    | 0.306 | 0.158 | -0.013 |
| -0.1            | -69.0    | 0.306 | 0.159 | -0.013 |
| -0.1            | -69.5    | 0.307 | 0.159 | -0.013 |
| -0.1            | -70.0    | 0.307 | 0.160 | -0.013 |
| -0.1            | -70.5    | 0.308 | 0.160 | -0.013 |
| -0.1            | -71.0    | 0.308 | 0.161 | -0.013 |
| -0.1            | -71.5    | 0.309 | 0.161 | -0.013 |
| -0.1            | -72.0    | 0.309 | 0.162 | -0.013 |
| -0.1            | -72.5    | 0.310 | 0.162 | -0.013 |
| -0.1            | -73.0    | 0.310 | 0.163 | -0.013 |
| -0.1            | -73.5    | 0.311 | 0.163 | -0.013 |
| -0.1            | -74.0    | 0.311 | 0.164 | -0.013 |
| -0.1            | -74.5    | 0.312 | 0.164 | -0.013 |
| -0.1            | -75.0    | 0.312 | 0.165 | -0.013 |
| -0.1            | -75.5    | 0.313 | 0.165 | -0.013 |
| -0.1            | -76.0    | 0.313 | 0.166 | -0.013 |
| -0.1            | -76.5    | 0.314 | 0.166 | -0.013 |
| -0.1            | -77.0    | 0.314 | 0.167 | -0.013 |
| -0.1            | -77.5    | 0.315 | 0.167 | -0.013 |
| -0.1            | -78.0    | 0.315 | 0.168 | -0.013 |
| -0.1            | -78.5    | 0.316 | 0.168 | -0.013 |
| -0.1            | -79.0    | 0.316 | 0.169 | -0.013 |
| -0.1            | -79.5    | 0.317 | 0.169 | -0.013 |
| -0.1            | -80.0    | 0.317 | 0.170 | -0.013 |
| -0.1            | -80.5    | 0.318 | 0.170 | -0.013 |
| -0.1            | -81.0    | 0.318 | 0.171 | -0.013 |
| -0.1            | -81.5    | 0.319 | 0.171 | -0.013 |
| -0.1            | -82.0    | 0.319 | 0.172 | -0.013 |
| -0.1            | -82.5    | 0.320 | 0.172 | -0.013 |
| -0.1            | -83.0    | 0.320 | 0.173 | -0.013 |
| -0.1            | -83.5    | 0.321 | 0.173 | -0.013 |
| -0.1            | -84.0    | 0.321 | 0.174 | -0.013 |
| -0.1            | -84.5    | 0.322 | 0.174 | -0.013 |
| -0.1            | -85.0    | 0.322 | 0.175 | -0.013 |
| -0.1            | -85.5    | 0.323 | 0.175 | -0.013 |
| -0.1            | -86.0    | 0.323 | 0.176 | -0.013 |
| -0.1            | -86.5    | 0.324 | 0.176 | -0.013 |
| -0.1            | -87.0    | 0.324 | 0.177 | -0.013 |
| -0.1            | -87.5    | 0.325 | 0.177 | -0.013 |
| -0.1            | -88.0    | 0.325 | 0.178 | -0.013 |
| -0.1            | -88.5    | 0.326 | 0.178 | -0.013 |
| -0.1            | -89.0    | 0.326 | 0.179 | -0.013 |
| -0.1            | -89.5    | 0.327 | 0.179 | -0.013 |
| -0.1            | -90.0    | 0.327 | 0.180 | -0.013 |
| -0.1            | -90.5    | 0.328 | 0.180 | -0.013 |
| -0.1            | -91.0    | 0.328 | 0.181 | -0.013 |
| -0.1            | -91.5    | 0.329 | 0.181 | -0.013 |
| -0.1            | -92.0    | 0.329 | 0.182 | -0.013 |
| -0.1            | -92.5    | 0.330 | 0.182 | -0.013 |
| -0.1            | -93.0    | 0.330 | 0.183 | -0.013 |
| -0.1            | -93.5    | 0.331 | 0.183 | -0.013 |
| -0.1            | -94.0    | 0.331 | 0.184 | -0.013 |
| -0.1            | -94.5    | 0.332 | 0.184 | -0.013 |
| -0.1            | -95.0    | 0.332 | 0.185 | -0.013 |
| -0.1            | -95.5    | 0.333 | 0.185 | -0.013 |
| -0.1            | -96.0    | 0.333 | 0.186 | -0.013 |
| -0.1            | -96.5    | 0.334 | 0.186 | -0.013 |
| -0.1            | -97.0    | 0.334 | 0.187 | -0.013 |
| -0.1            | -97.5    | 0.335 | 0.187 | -0.013 |
| -0.1            | -98.0    | 0.335 | 0.188 | -0.013 |
| -0.1            | -98.5    | 0.336 | 0.188 | -0.013 |
| -0.1            | -99.0    | 0.336 | 0.189 | -0.013 |
| -0.1            | -99.5    | 0.337 | 0.189 | -0.013 |
| -0.1            | -100.0   | 0.337 | 0.190 | -0.013 |
| -0.1            | -100.5   | 0.338 | 0.190 | -0.013 |
| -0.1            | -101.0   | 0.338 | 0.191 | -0.013 |
| -0.1            | -101.5   | 0.339 | 0.191 | -0.013 |
| -0.1            | -102.0   | 0.339 | 0.192 | -0.013 |
| -0.1            | -102.5   | 0.340 | 0.192 | -0.013 |
| -0.1            | -103.0   | 0.340 | 0.193 | -0.013 |
| -0.1            | -103.5   | 0.341 | 0.193 | -0.013 |
| -0.1            | -104.0   | 0.341 | 0.194 | -0.013 |
| -0.1            | -104.5   | 0.342 | 0.194 | -0.013 |
| -0.1            | -105.0   | 0.342 | 0.195 | -0.013 |
| -0.1            | -105.5   | 0.343 | 0.195 | -0.013 |
| -0.1            | -106.0   | 0.343 | 0.196 | -0.013 |
| -0.1            | -106.5   | 0.344 | 0.196 | -0.013 |
| -0.1            | -107.0   | 0.344 | 0.197 | -0.013 |
| -0.1            | -107.5   | 0.345 | 0.197 | -0.013 |
| -0.1            | -108.0   | 0.345 | 0.198 | -0.013 |
| -0.1            | -108.5   | 0.346 | 0.198 | -0.013 |
| -0.1            | -109.0   | 0.346 | 0.199 | -0.013 |
| -0.1            | -109.5   | 0.347 | 0.199 | -0.013 |
| -0.1            | -110.0   | 0.347 | 0.200 | -0.013 |
| -0.1            | -110.5   | 0.348 | 0.200 | -0.013 |
| -0.1            | -111.0   | 0.348 | 0.201 | -0.013 |
| -0.1            | -111.5   | 0.349 | 0.201 | -0.013 |
| -0.1            | -112.0   | 0.349 | 0.202 | -0.013 |
| -0.1            | -112.5   | 0.350 | 0.202 | -0.013 |
| -0.1            | -113.0   | 0.350 | 0.203 | -0.013 |
| -0.1            | -113.5   | 0.351 | 0.203 | -0.013 |
| -0.1            | -114.0   | 0.351 | 0.204 | -0.013 |
| -0.1            | -114.5   | 0.352 | 0.204 | -0.013 |
| -0.1            | -115.0   | 0.352 | 0.205 | -0.013 |
| -0.1            | -115.5   | 0.353 | 0.205 | -0.013 |
| -0.1            | -116.0   | 0.353 | 0.206 | -0.013 |
| -0.1            | -116.5   | 0.354 | 0.206 | -0.013 |
| -0.1            | -117.0   | 0.354 | 0.207 | -0.013 |
| -0.1            | -117.5   | 0.355 | 0.207 | -0.013 |
| -0.1            | -118.0   | 0.355 | 0.208 | -0.013 |
| -0.1            | -118.5   | 0.356 | 0.208 | -0.013 |
| -0.1            | -119.0   | 0.356 | 0.209 | -0.013 |
| -0.1            | -119.5   | 0.357 | 0.209 | -0.013 |
| -0.1            | -120.0   | 0.357 | 0.210 | -0.013 |
| -0.1            | -120.5   | 0.358 | 0.210 | -0.013 |
| -0.1            | -121.0   | 0.358 | 0.211 | -0.013 |
| -0.1            | -121.5   | 0.359 | 0.211 | -0.013 |
| -0.1            | -122.0   | 0.359 | 0.212 | -0.013 |
| -0.1            | -122.5   | 0.360 | 0.212 | -0.013 |
| -0.1            | -123.0   | 0.360 | 0.213 | -0.013 |
| -0.1            | -123.5   | 0.361 | 0.213 | -0.013 |
| -0.1            | -124.0   | 0.361 | 0.214 | -0.013 |
| -0.1            | -124.5   | 0.362 | 0.214 | -0.013 |
| -0.1            | -125.0   | 0.362 | 0.215 | -0.013 |
| -0.1            | -125.5   | 0.363 | 0.215 | -0.013 |
| -0.1            | -126.0   | 0.363 | 0.216 | -0.013 |
| -0.1            | -126.5   | 0.364 | 0.216 | -0.013 |
| -0.1            | -127.0   | 0.364 | 0.217 | -0.013 |
| -0.1            | -127.5   | 0.365 | 0.217 | -0.013 |
| -0.1            | -128.0   | 0.365 | 0.218 | -0.013 |
| -0.1            | -128.5   | 0.366 | 0.218 | -0.013 |
| -0.1            | -129.0   | 0.366 | 0.219 | -0.013 |
| -0.1            | -129.5   | 0.367 | 0.219 | -0.013 |
| -0.1            | -130.0   | 0.367 | 0.220 | -0.013 |
| -0.1            | -130.5   | 0.368 | 0.220 | -0.013 |
| -0.1            | -131.0   | 0.368 | 0.221 | -0.013 |
| -0.1            | -131.5   | 0.369 | 0.221 | -0.013 |
| -0.1            | -132.0   | 0.369 | 0.222 | -0.013 |
| -0.1            | -132.5   | 0.370 | 0.222 | -0.013 |
| -0.1            | -133.0   | 0.370 | 0.223 | -0.013 |
| -0.1            | -133.5   | 0.371 | 0.223 | -0.013 |
| -0.1            | -134.0   | 0.371 | 0.224 | -0.013 |
| -0.1            | -134.5   | 0.372 | 0.224 | -0.013 |
| -0.1            | -135.0   | 0.372 | 0.225 | -0.013 |
| -0.1            | -135.5   | 0.373 | 0.225 | -0.013 |
| -0.1            | -136.0   | 0.373 | 0.226 | -0.013 |
| -0.1            | -136.5   | 0.374 | 0.226 | -0.013 |
| -0.1            | -137.0   | 0.374 | 0.227 | -0.013 |
| -0.1            | -137.5   | 0.375 | 0.227 | -0.013 |
| -0.1            | -138.0   | 0.375 | 0.228 | -0.013 |
| -0.1            | -138.5   | 0.376 | 0.228 | -0.013 |
| -0.1            | -139.0   | 0.376 | 0.229 | -0.013 |
| -0.1            | -139.5   | 0.377 | 0.229 | -0.013 |
| -0.1            | -140.0   | 0.377 | 0.230 | -0.013 |
| -0.1            | -140.5   | 0.378 | 0.230 | -0.013 |
| -0.1            | -141.0   | 0.378 | 0.231 | -0.013 |
| -0.1            | -141.5   | 0.379 | 0.231 | -0.013 |
| -0.1            | -142.0   | 0.379 | 0.232 | -0.013 |
| -0.1            | -142.5   | 0.380 | 0.232 | -0.013 |
| -0.1            | -143.0   | 0.380 | 0.233 | -0.013 |
| -0.1            | -143.5   | 0.381 | 0.233 | -0.013 |
| -0.1            | -144.0   | 0.381 | 0.234 | -0.013 |
| -0.1            | -144.5   | 0.382 | 0.234 | -0.013 |
| -0.1            | -145.0   | 0.382 | 0.235 | -0.013 |
| -0.1            | -145.5   | 0.383 | 0.235 | -0.013 |
| -0.1            | -146.0   | 0.383 | 0.236 | -0.013 |
| -0.1            | -146.5   | 0.384 | 0.236 | -0.013 |
| -0.1            | -147.0   | 0.384 | 0.237 | -0.013 |
| -0.1            | -147.5   | 0.385 | 0.237 | -0.013 |
| -0.1            | -148.0   | 0.385 | 0.238 | -0.013 |
| -0.1            | -148.5   | 0.386 | 0.238 | -0.013 |
| -0.1            | -149.0   | 0.386 | 0.239 | -0.013 |
| -0.1            | -149.5   | 0.387 | 0.239 | -0.013 |
| -0.1            | -150.0   | 0.387 | 0.240 | -0.013 |
| -0.1            | -150.5   | 0.388 | 0.240 | -0.013 |
| -0.1            | -151.0   | 0.388 | 0.241 | -0.013 |
| -0.1            | -151.5   | 0.389 | 0.241 | -0.013 |
| -0.1            | -152.0   | 0.389 | 0.242 | -0.013 |
| -0.1            | -152.5   | 0.390 | 0.242 | -0.013 |
| -0.1            | -153.0   | 0.390 | 0.243 | -0.013 |
| -0.1            | -153.5   | 0.391 | 0.243 | -0.013 |
| -0.1            | -154.0   | 0.391 | 0.244 | -0.013 |
| -0.1            | -154.5   | 0.392 | 0.244 | -0.013 |
| -0.1            | -155.0   | 0.392 | 0.245 | -0.013 |
| -0.1            | -155.5   | 0.393 | 0.245 | -0.013 |
| -0.1            | -156.0   | 0.393 | 0.246 | -0.013 |
| -0.1            | -156.5   | 0.394 | 0.246 | -0.013 |
| -0.1            | -157.0   | 0.394 | 0.247 | -0.013 |
| -0.1            | -157.5   | 0.395 | 0.247 | -0.013 |
| -0.1            | -158.0   | 0.395 | 0.248 | -0.013 |
| -0.1            | -158.5   | 0.396 | 0.248 | -0.013 |
| -0.1            | -159.0   | 0.396 | 0.249 | -0.013 |
| -0.1            | -159.5   | 0.397 | 0.249 | -0.013 |
| -0.1            | -160.0   | 0.397 | 0.250 | -0.013 |
| -0.1            | -160.5   | 0.398 | 0.250 | -0.013 |
| -0.1            | -161.0   | 0.398 | 0.251 | -0.013 |
| -0.1            | -161.5   | 0.399 | 0.251 | -0.013 |
| -0.1            | -162.0   | 0.399 | 0.252 | -0.013 |
| -0.1            | -162.5   | 0.400 | 0.252 | -0.013 |
| -0.1            | -163.0   | 0.400 | 0.253 | -0.013 |
| -0.1            | -163.5   | 0.401 | 0.253 | -0.013 |
| -0.1            | -164.0   | 0.401 | 0.254 | -0.013 |
| -0.1            | -164.5   | 0.402 | 0.254 | -0.013 |
| -0.1            | -165.0   | 0.402 | 0.255 | -0.013 |
| -0.1            | -165.5   | 0.403 | 0.255 | -0.013 |
| -0.1            | -166.0   | 0.403 | 0.256 | -0.013 |
| -0.1            | -166.5   | 0.404 | 0.256 | -0.013 |
| -0.1            | -167.0   | 0.404 | 0.257 | -0.013 |
| -0.1            | -167.5   | 0.405 | 0.257 | -0.013 |
| -0.1            | -168.0   | 0.405 | 0.258 | -0.013 |
| -0.1            | -168.5   | 0.406 | 0.258 | -0.013 |
| -0.1            | -169.0   | 0.406 | 0.259 | -0.013 |
| -0.1            | -169.5   | 0.407 | 0.259 | -0.013 |
| -0.1            | -170.0   | 0.407 | 0.260 | -0.013 |
| -0.1            | -170.5   | 0.408 | 0.260 | -0.013 |
| -0.1            | -171.0   | 0.408 | 0.261 | -0.013 |
| -0.1            | -171.5   | 0.409 | 0.261 | -0.013 |
| -0.1            | -172.0   | 0.409 | 0.262 | -0.013 |
| -0.1            | -172.5   | 0.410 | 0.262 | -0.013 |
| -0.1            | -173.0   | 0.410 | 0.263 | -0.013 |
| -0.1            | -173.5   | 0.411 | 0.263 | -0.013 |
| -0.1            | -174.0   | 0.411 | 0.264 | -0.013 |
| -0.1            | -174.5   | 0.412 | 0.264 |        |

### 3.2 B-B' 断面の解析

#### (1) 検討位置

B-B' 断面の検討位置は図 3.2.1 に示すとおりであり、堤防（堤体盛土）に対する影響を把握することを目的とした。

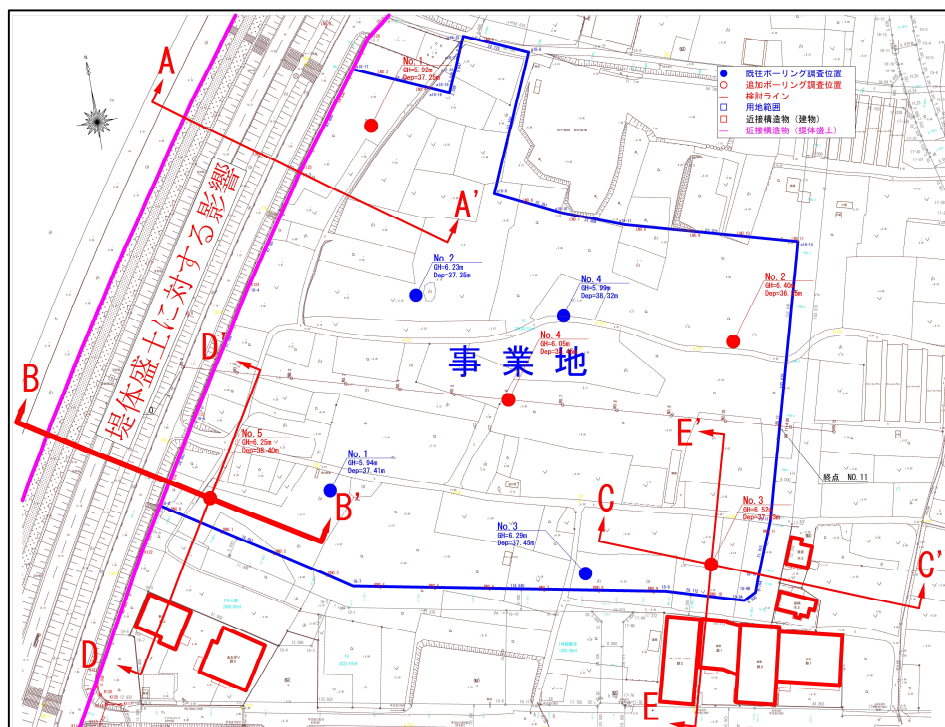


図 3.2.1 B-B' 断面の検討位置