

Printing Input Parameters.....

| parameters | unit | values | Unnamed: 3 | Unnamed: 4 | Unnamed: 5 | Unnamed: 6 | Unnamed: 7 | Unnamed: 8 |
|-----------------------------|------------|--------|--------------------|------------|------------|------------|------------|------------|
| Basin Area | sq mile | 6.725 | nan | nan | nan | nan | nan | nan |
| Avg_GL | feet-PWD | 5.248 | nan | nan | nan | nan | nan | nan |
| Highest Water Level | feet-PWD | 12.956 | nan | nan | nan | nan | nan | nan |
| Lowest Water Level | feet-PWD | -4.92 | 17.875999999999999 | nan | nan | nan | nan | nan |
| Moonsoon Lowest Water Level | feet-PWD | -4.592 | nan | nan | nan | nan | nan | nan |
| Embankment Crest | feet-PWD | 18.04 | nan | nan | nan | nan | nan | nan |
| Embankment Top Width | feet-PWD | 19.68 | nan | nan | nan | nan | nan | nan |
| C/S Slope (1:N) | nan | 2.0 | nan | nan | nan | nan | nan | nan |
| R/S Slope | nan | 3.0 | nan | nan | nan | nan | nan | nan |
| Invert Level | feet-PWD | -4.92 | nan | nan | nan | nan | nan | nan |
| Discharge/sq mile | cfs/sqmile | 54.0 | nan | nan | nan | nan | nan | nan |
| No Vent | nan | 3.0 | nan | nan | nan | nan | nan | nan |
| Vent Width | feet | 5.0 | nan | nan | nan | nan | nan | nan |
| Vent Height | feet | 6.0 | nan | nan | nan | nan | nan | nan |
| Pier_width | inch | 15.0 | nan | nan | nan | nan | nan | nan |
| Abutment_width | inch | 18.0 | nan | nan | nan | nan | nan | nan |
| flare_Angle_min | degree | 8.0 | nan | nan | nan | nan | nan | nan |
| flare_Angle_max | degree | 12.0 | nan | nan | nan | nan | nan | nan |
| glacis_drop_min | feet | 3.0 | nan | nan | nan | nan | nan | nan |
| glacis_drop_max | feet | 4.0 | nan | nan | nan | nan | nan | nan |
| Barrel Length | feet | 32.0 | nan | nan | nan | nan | nan | nan |
| cutoff_depth_min | min | 9.84 | nan | nan | nan | nan | nan | nan |

| | | | | | | | | |
|-----------------------------|---------|--------|-----|-----|-----|-----|-----|-----|
| cutoff_depth_max | max | 21.32 | nan | nan | nan | nan | nan | nan |
| Laycey's Silt Factor | nan | 0.4 | nan | nan | nan | nan | nan | nan |
| maximum head difference | feet | 17.876 | nan | nan | nan | nan | nan | nan |
| Allowable Exit Gradient | nan | 0.143 | nan | nan | nan | nan | nan | nan |
| maximum_floor_thickness | feet | 3.28 | nan | nan | nan | nan | nan | nan |
| Top_slab_thickness | inch | 20.0 | nan | nan | nan | nan | nan | nan |
| unit weight of fill soil | pcf | 120.0 | nan | nan | nan | nan | nan | nan |
| friction Angle of fill soil | degree | 30.0 | nan | nan | nan | nan | nan | nan |
| surcharge height | feet | 1.0 | nan | nan | nan | nan | nan | nan |
| return wall level | fee-pwd | 12.956 | nan | nan | nan | nan | nan | nan |

Printing Stilling Basin Calculation in FPS unit.....

| Q | FAngle | g_drop | Bc | q | dc | vc | B1 | q1 | d1 | v1 | B2 | q2 | d2 | v2 | Fr1 | LJ | Eff | Del_E | Del_E(%) |
|---------|--------|--------|------|--------|-------|--------|--------|--------|-------|--------|--------|--------|-------|-------|-------|--------|------|-------|----------|
| 1311.53 | 8.0 | 3.0 | 17.5 | 74.945 | 5.587 | 13.413 | 20.03 | 65.479 | 2.783 | 23.532 | 31.099 | 42.173 | 8.49 | 4.967 | 2.486 | 39.381 | 82.7 | 1.967 | 17.3 |
| 1311.53 | 8.0 | 4.0 | 17.5 | 74.945 | 5.587 | 13.413 | 20.873 | 62.834 | 2.49 | 25.239 | 33.03 | 39.707 | 8.758 | 4.534 | 2.819 | 43.251 | 77.2 | 2.824 | 22.8 |
| 1311.53 | 9.0 | 3.0 | 17.5 | 74.945 | 5.587 | 13.413 | 20.351 | 64.446 | 2.73 | 23.603 | 32.853 | 39.921 | 8.45 | 4.724 | 2.517 | 39.467 | 82.2 | 2.028 | 17.8 |
| 1311.53 | 9.0 | 4.0 | 17.5 | 74.945 | 5.587 | 13.413 | 21.301 | 61.571 | 2.432 | 25.312 | 34.994 | 37.478 | 8.697 | 4.309 | 2.86 | 43.227 | 76.5 | 2.906 | 23.5 |
| 1311.53 | 10.0 | 3.0 | 17.5 | 74.945 | 5.587 | 13.413 | 20.674 | 63.439 | 2.68 | 23.672 | 34.618 | 37.886 | 8.41 | 4.505 | 2.548 | 39.54 | 81.7 | 2.087 | 18.3 |
| 1311.53 | 10.0 | 4.0 | 17.5 | 74.945 | 5.587 | 13.413 | 21.732 | 60.351 | 2.378 | 25.381 | 36.963 | 35.482 | 8.637 | 4.108 | 2.901 | 43.191 | 75.9 | 2.986 | 24.1 |
| 1311.53 | 11.0 | 3.0 | 17.5 | 74.945 | 5.587 | 13.413 | 20.999 | 62.457 | 2.631 | 23.738 | 36.394 | 36.037 | 8.37 | 4.305 | 2.579 | 39.602 | 81.1 | 2.146 | 18.9 |
| 1311.53 | 11.0 | 4.0 | 17.5 | 74.945 | 5.587 | 13.413 | 22.165 | 59.171 | 2.325 | 25.448 | 38.938 | 33.683 | 8.578 | 3.927 | 2.941 | 43.144 | 75.3 | 3.064 | 24.7 |
| 1311.53 | 12.0 | 3.0 | 17.5 | 74.945 | 5.587 | 13.413 | 21.326 | 61.499 | 2.584 | 23.802 | 38.183 | 34.349 | 8.33 | 4.123 | 2.61 | 39.652 | 80.6 | 2.204 | 19.4 |
| 1311.53 | 12.0 | 4.0 | 17.5 | 74.945 | 5.587 | 13.413 | 22.601 | 58.029 | 2.275 | 25.512 | 40.918 | 32.053 | 8.519 | 3.762 | 2.981 | 43.087 | 74.6 | 3.142 | 25.4 |

Printing Stilling Basin Calculation in MKS unit.....

| Q | FAngle | g_drop | Bc | q | dc | vc | B1 | q1 | d1 | v1 | B2 | q2 | d2 | v2 | Fr1 | LJ | Eff | Del_E | Del_E(%) |
|-------|--------|--------|------|------|-----|------|------|------|------|------|-------|------|------|------|-------|------|------|-------|----------|
| 37.15 | 8.0 | 0.91 | 5.34 | 6.97 | 1.7 | 4.09 | 6.11 | 6.09 | 0.85 | 7.17 | 9.48 | 3.92 | 2.59 | 1.51 | 2.486 | 13.0 | 82.7 | 0.6 | 17.3 |
| 37.15 | 8.0 | 1.22 | 5.34 | 6.97 | 1.7 | 4.09 | 6.36 | 5.84 | 0.76 | 7.69 | 10.07 | 3.69 | 2.67 | 1.38 | 2.819 | 14.0 | 77.2 | 0.86 | 22.8 |
| 37.15 | 9.0 | 0.91 | 5.34 | 6.97 | 1.7 | 4.09 | 6.2 | 5.99 | 0.83 | 7.2 | 10.02 | 3.71 | 2.58 | 1.44 | 2.517 | 13.0 | 82.2 | 0.62 | 17.8 |
| 37.15 | 9.0 | 1.22 | 5.34 | 6.97 | 1.7 | 4.09 | 6.49 | 5.72 | 0.74 | 7.72 | 10.67 | 3.48 | 2.65 | 1.31 | 2.86 | 14.0 | 76.5 | 0.89 | 23.5 |
| 37.15 | 10.0 | 0.91 | 5.34 | 6.97 | 1.7 | 4.09 | 6.3 | 5.9 | 0.82 | 7.22 | 10.55 | 3.52 | 2.56 | 1.37 | 2.548 | 13.0 | 81.7 | 0.64 | 18.3 |
| 37.15 | 10.0 | 1.22 | 5.34 | 6.97 | 1.7 | 4.09 | 6.63 | 5.61 | 0.73 | 7.74 | 11.27 | 3.3 | 2.63 | 1.25 | 2.901 | 14.0 | 75.9 | 0.91 | 24.1 |
| 37.15 | 11.0 | 0.91 | 5.34 | 6.97 | 1.7 | 4.09 | 6.4 | 5.8 | 0.8 | 7.24 | 11.1 | 3.35 | 2.55 | 1.31 | 2.579 | 13.0 | 81.1 | 0.65 | 18.9 |
| 37.15 | 11.0 | 1.22 | 5.34 | 6.97 | 1.7 | 4.09 | 6.76 | 5.5 | 0.71 | 7.76 | 11.87 | 3.13 | 2.62 | 1.2 | 2.941 | 14.0 | 75.3 | 0.93 | 24.7 |
| 37.15 | 12.0 | 0.91 | 5.34 | 6.97 | 1.7 | 4.09 | 6.5 | 5.72 | 0.79 | 7.26 | 11.64 | 3.19 | 2.54 | 1.26 | 2.61 | 13.0 | 80.6 | 0.67 | 19.4 |
| 37.15 | 12.0 | 1.22 | 5.34 | 6.97 | 1.7 | 4.09 | 6.89 | 5.39 | 0.69 | 7.78 | 12.48 | 2.98 | 2.6 | 1.15 | 2.981 | 14.0 | 74.6 | 0.96 | 25.4 |

Printing Basin Selection Data.....

| Parmeter Name | Unit | Values |
|----------------|----------|--------|
| Discharge/ft | cfs/ft | 74.945 |
| Flare Angle | Degree | 12.0 |
| Glasis_Drop | Feet | 4.0 |
| Exit Velocity | Feet/sec | 3.76 |
| Fr1 | | 2.98 |
| Jump_Length | Feet | 43.09 |
| Energy Loss(%) | % | 25.4 |
| Floor Length | Feet | 156.0 |
| Point_1 | Feet | 0.0 |
| Point_2 | Feet | 62.0 |
| Point_3 | Feet | 94.0 |
| Point_4 | Feet | 156.0 |

Printing Seepage Calculation Data.....

| locations | uncorrected | mc_corr | t_corr | corrected |
|-----------|-------------|---------------------|--------|-----------|
| Phi_E | 32.48 | -1.4943471474607308 | 1.54 | 32.43 |
| Phi_C1 | 67.52 | 1.4943471474607308 | 1.54 | 70.56 |

Printing thickness calcualtion data.....

| location | p(%) | p(feet) | th_min(feet) |
|----------|-------|---------|--------------|
| 1.0 | 70.56 | 12.61 | 0.0 |
| 2.0 | 55.41 | 9.91 | 0.0 |
| 3.0 | 47.58 | 8.51 | 6.08 |
| 4.0 | 32.43 | 5.8 | 4.14 |

Printing Detiled thickness calcaultion data.....

| dist | P% | Hw | Bi | -WwL | Net(Hw) | t_req |
|------|--------------------|------|-------|------|---------|-------|
| 0.0 | 32.43 | 5.8 | 31.0 | 2.06 | 3.74 | 2.67 |
| 3.0 | 33.16326923076923 | 5.93 | 30.35 | 2.11 | 3.82 | 2.73 |
| 6.0 | 33.89653846153846 | 6.06 | 29.69 | 2.15 | 3.91 | 2.79 |
| 9.0 | 34.62980769230769 | 6.19 | 29.04 | 2.2 | 3.99 | 2.85 |
| 12.0 | 35.363076923076925 | 6.32 | 28.39 | 2.25 | 4.07 | 2.91 |
| 15.0 | 36.096346153846156 | 6.45 | 27.73 | 2.3 | 4.15 | 2.96 |
| 18.0 | 36.82961538461539 | 6.58 | 27.08 | 2.36 | 4.22 | 3.01 |
| 21.0 | 37.56288461538462 | 6.71 | 26.43 | 2.42 | 4.29 | 3.06 |
| 24.0 | 38.29615384615384 | 6.85 | 25.77 | 2.48 | 4.37 | 3.12 |
| 27.0 | 39.02942307692308 | 6.98 | 25.12 | 2.54 | 4.44 | 3.17 |
| 30.0 | 39.762692307692305 | 7.11 | 24.47 | 2.61 | 4.5 | 3.21 |
| 33.0 | 40.495961538461536 | 7.24 | 23.81 | 2.68 | 4.56 | 3.26 |
| 36.0 | 41.22923076923077 | 7.37 | 23.16 | 2.76 | 4.61 | 3.29 |
| 39.0 | 41.9625 | 7.5 | 22.51 | 2.84 | 4.66 | 3.33 |
| 42.0 | 42.69576923076923 | 7.63 | 21.85 | 2.92 | 4.71 | 3.36 |
| 45.0 | 43.42903846153846 | 7.76 | 21.2 | 3.01 | 4.75 | 3.39 |
| 48.0 | 44.16230769230769 | 7.89 | 20.55 | 3.11 | 4.78 | 3.41 |
| 51.0 | 44.89557692307692 | 8.03 | 19.9 | 3.21 | 4.82 | 3.44 |
| 54.0 | 45.628846153846155 | 8.16 | 19.24 | 3.32 | 4.84 | 3.46 |
| 57.0 | 46.362115384615386 | 8.29 | 18.59 | 3.44 | 4.85 | 3.46 |
| 60.0 | 47.09538461538462 | 8.42 | 17.94 | 3.56 | 4.86 | 3.47 |

Printing Input Data for Load Calculations.....

| Parameter Name | Unit | Parameter Value | Detail Name |
|------------------------|----------|-----------------|---|
| VW | feet | 5.0 | Vent Inner Span/width |
| VH | feet | 6.0 | Vent Height |
| NV | nos | 3.0 | No of Vents |
| Tt | inch | 20.0 | Top Slab thicjness |
| Ts | inch | 18.0 | Abutmet Thicknes |
| Tb | inch | 41.64 | Bottom Slab Thicknes |
| Tp | inch | 15.0 | Pier Thicknes |
| gamma_s | pcf | 120.0 | Soil Fill Unit Wieght |
| phi | degree | 30.0 | friction angle of back fill soil |
| H | feet | 1.0 | Height of srcharge above pier |
| MPF | unitless | 1.2 | Multiple Presnce Factor |
| IM | unitless | 1.3 | Impact factor for Dynamic Loading |
| INVERT_LEVEL | ft-pwd | -4.92 | Invert Level of Regulator |
| EMBANKMENT_CREST_LEVEL | ft-pwd | 18.04 | Emnakment Crest Level |
| h_prime | ft | 3.0 | Additional Surcharge load above Embankemt |

Printing Barrel Load.....

| Notations | LoadName | LoadUnits | LoadType | Load_Value_Maximum | Load_Value_Minimum |
|-----------|-------------------------|-----------|-------------|--------------------|--------------------|
| TSL | Load on Top Slab | klf | UDL | -2.128 | -2.128 |
| BSL | Load on Bottom Slab | klf | UDL | 2.369 | 2.369 |
| SWL+ | Load on Left Side Wall | klf | Trapizoidal | 1.1576 | 1.671699999999997 |
| SWL(-) | Load on Right Side Wall | klf | Trapizoidal | -1.1576 | -1.671699999999997 |

Wrtitng Node Info.....

| JointNo | Marker | Xcoordiante | Ycoordinate | R_x | R_y | R_rotation |
|---------|--------|-------------|-------------|-----|-----|------------|
| 1 | A | 0.0 | 102.82 | 1 | 1 | 0 |
| 2 | B | 76.5 | 102.82 | 1 | 1 | 0 |
| 3 | C | 151.5 | 102.82 | 1 | 1 | 0 |
| 4 | D | 228.0 | 102.82 | 1 | 1 | 0 |
| 5 | E | 0.0 | 0.0 | 1 | 1 | 0 |
| 6 | F | 76.5 | 0.0 | 1 | 1 | 0 |
| 7 | G | 151.5 | 0.0 | 1 | 1 | 0 |
| 8 | H | 228.0 | 0.0 | 1 | 1 | 0 |

Writing Member Info.....

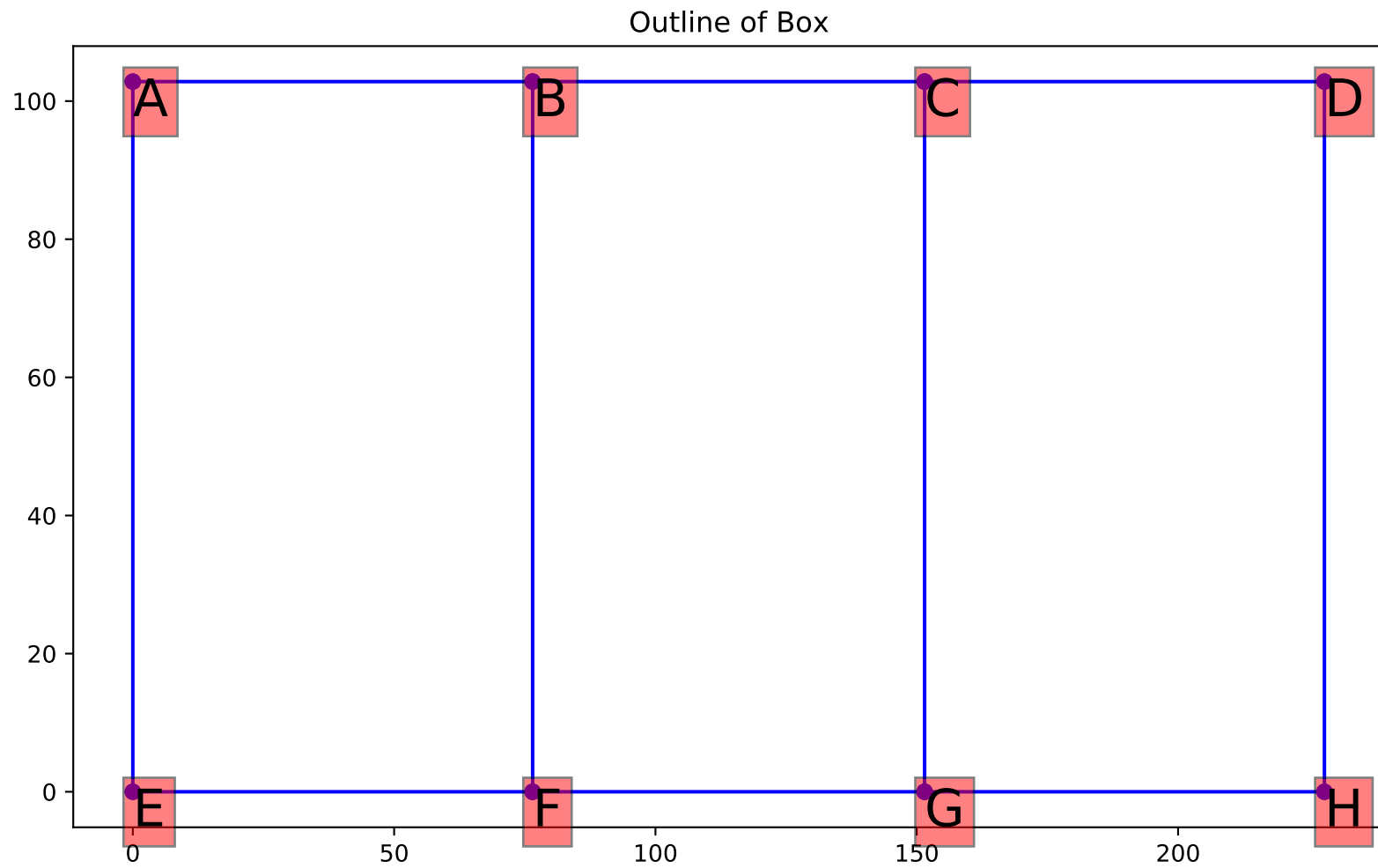
| MemberNo | joint_i | joint_k | Area | I | E |
|----------|---------|---------|--------|--------------|--------|
| 1.0 | 1.0 | 2.0 | 240.0 | 8000.0 | 3122.0 |
| 2.0 | 2.0 | 3.0 | 240.0 | 8000.0 | 3122.0 |
| 3.0 | 3.0 | 4.0 | 240.0 | 8000.0 | 3122.0 |
| 4.0 | 5.0 | 6.0 | 499.68 | 72199.162944 | 3122.0 |
| 5.0 | 6.0 | 7.0 | 499.68 | 72199.162944 | 3122.0 |
| 6.0 | 7.0 | 8.0 | 499.68 | 72199.162944 | 3122.0 |
| 7.0 | 1.0 | 5.0 | 1.5 | 5832.0 | 3122.0 |
| 8.0 | 2.0 | 6.0 | 180.0 | 3375.0 | 3122.0 |
| 9.0 | 3.0 | 7.0 | 180.0 | 3375.0 | 3122.0 |
| 10.0 | 4.0 | 8.0 | 1.5 | 5832.0 | 3122.0 |

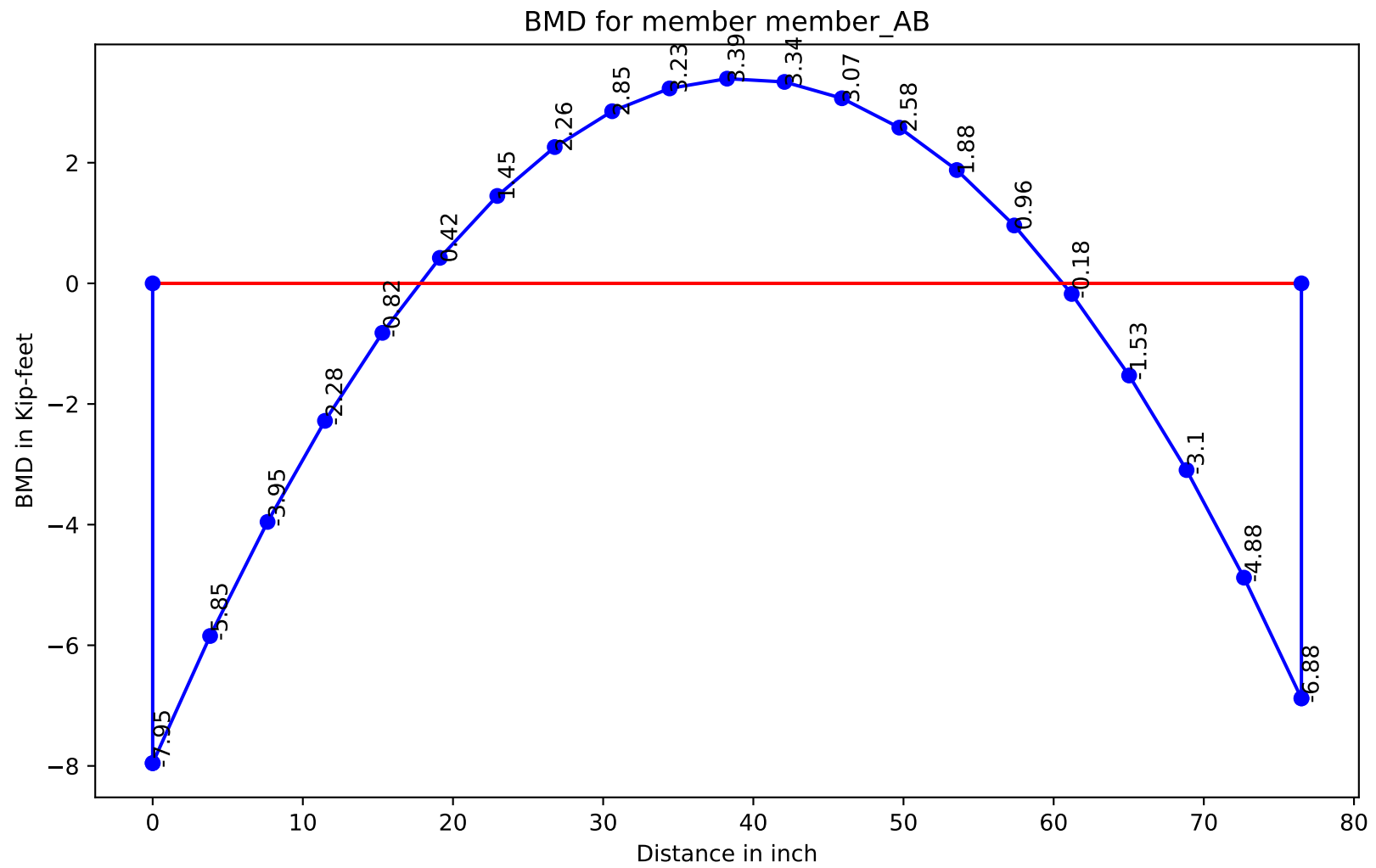
Writing Member Load Info.....

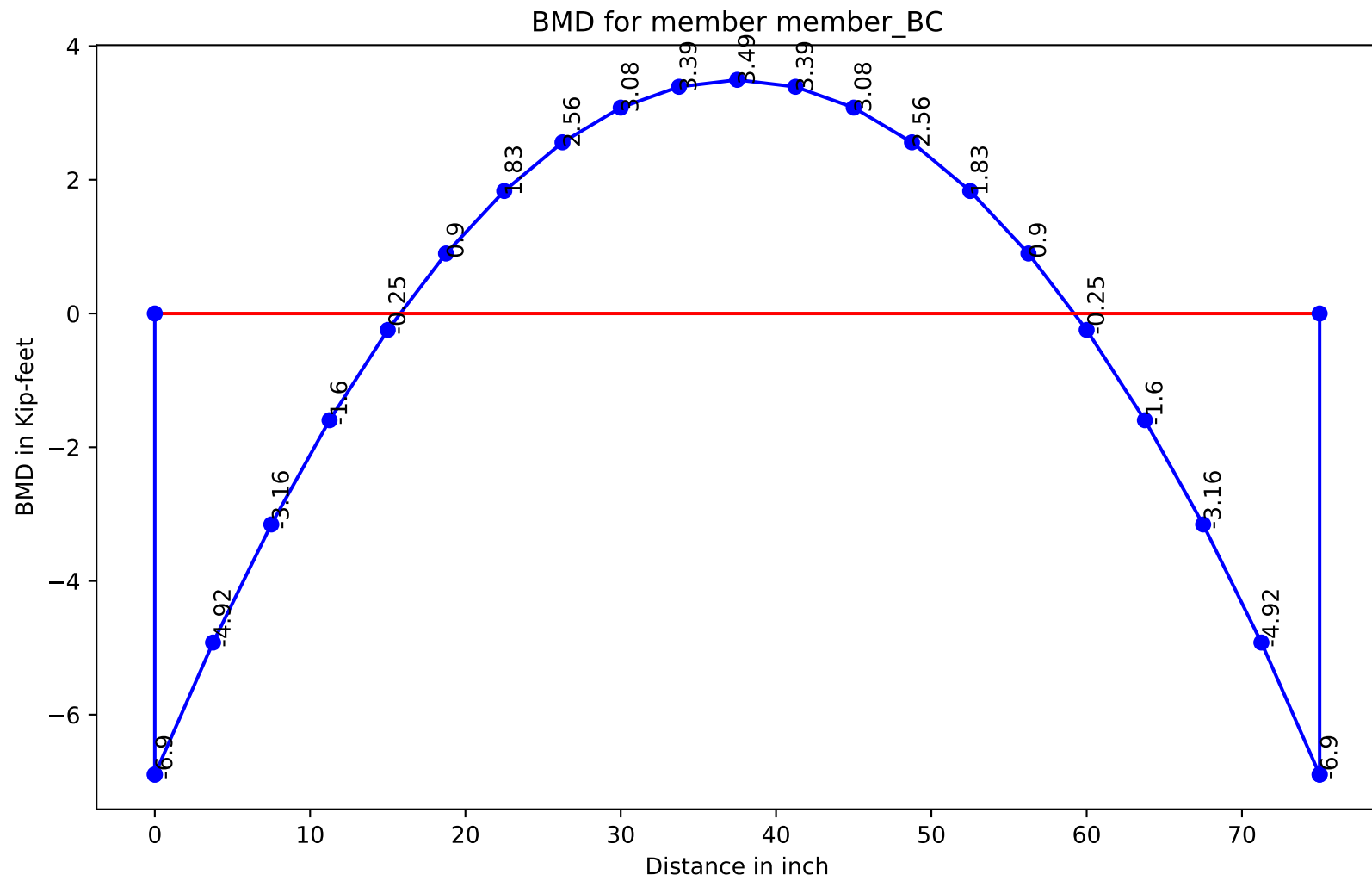
| load_value | application_point | Type | memberNo | w2 |
|---------------------|-------------------|------|----------|---------------------|
| -0.1773333333333334 | 0.0 | 3.0 | 1.0 | -0.1773333333333334 |
| -0.1773333333333334 | 0.0 | 3.0 | 2.0 | -0.1773333333333334 |
| -0.1773333333333334 | 0.0 | 3.0 | 3.0 | -0.1773333333333334 |
| 0.1974166666666668 | 0.0 | 3.0 | 4.0 | 0.1974166666666668 |
| 0.1974166666666668 | 0.0 | 3.0 | 5.0 | 0.1974166666666668 |
| 0.1974166666666668 | 0.0 | 3.0 | 6.0 | 0.1974166666666668 |
| 0.0964666666666666 | 0.0 | 7.0 | 7.0 | 0.1393083333333333 |
| -0.0964666666666666 | 0.0 | 7.0 | 10.0 | -0.1393083333333333 |

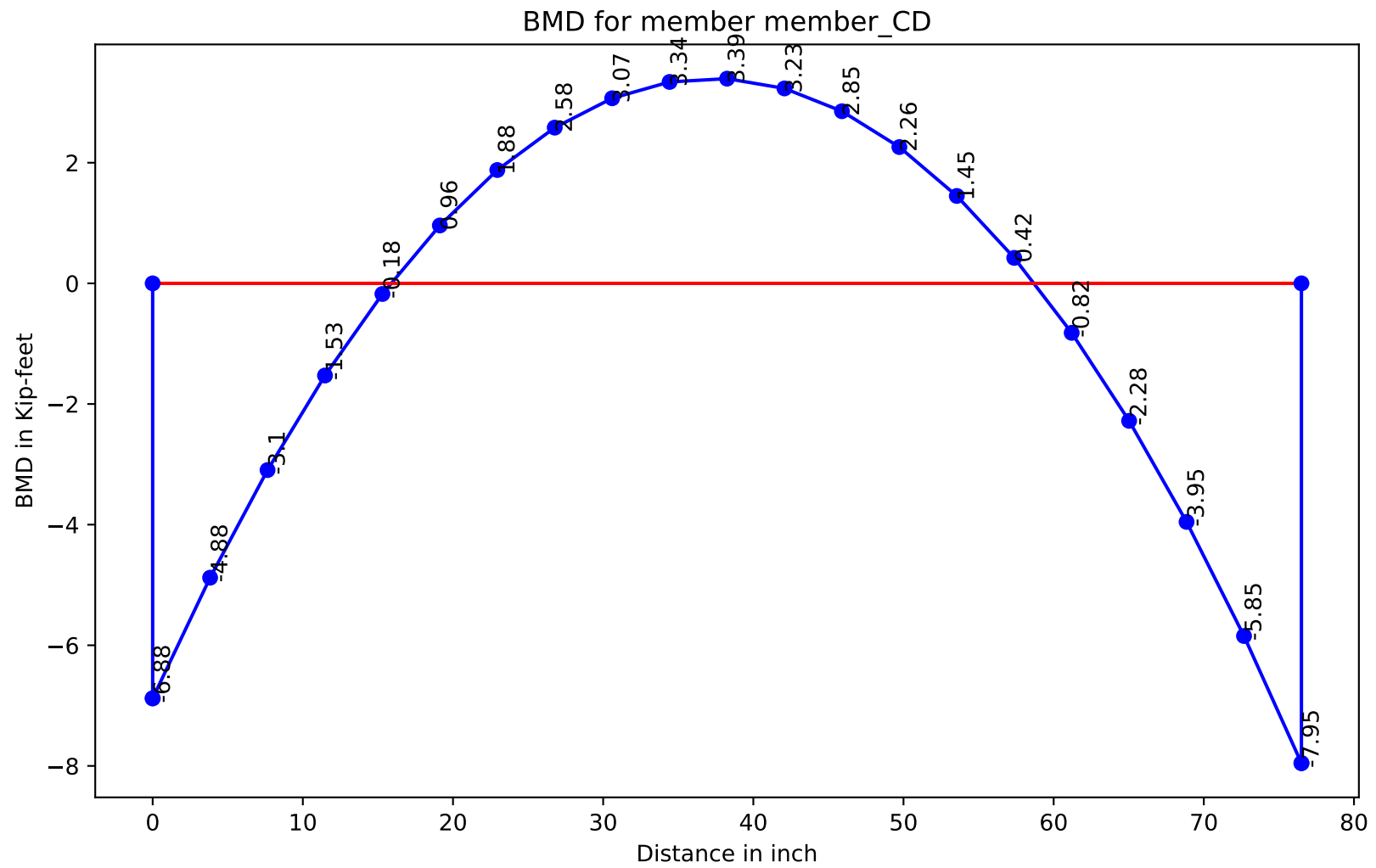
Wrting Joint Load Info.....

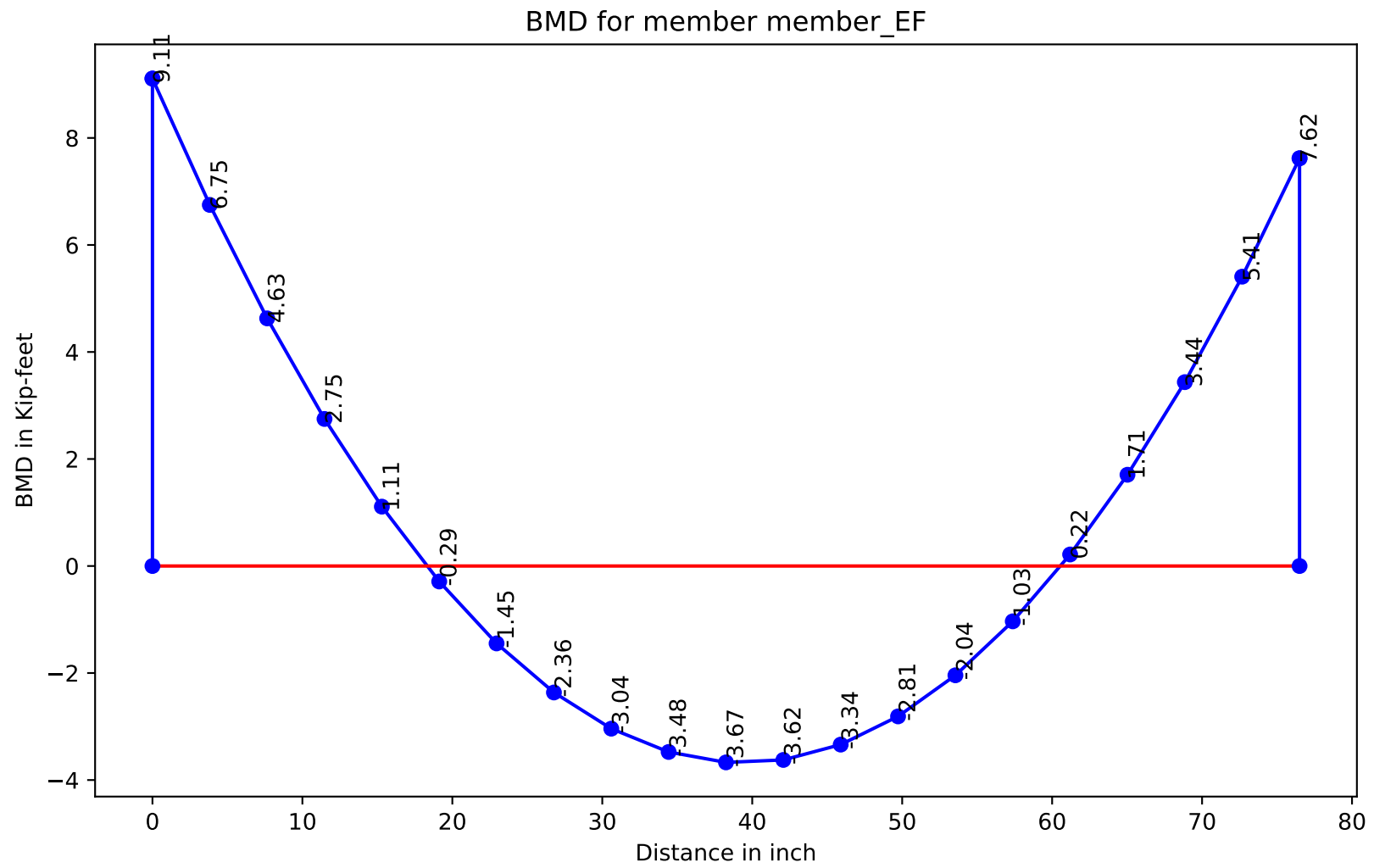
| JointNo | xvalue | yvalue | mvalue |
|---------|--------|--------|--------|
| 0 | 0 | 0 | 0 |

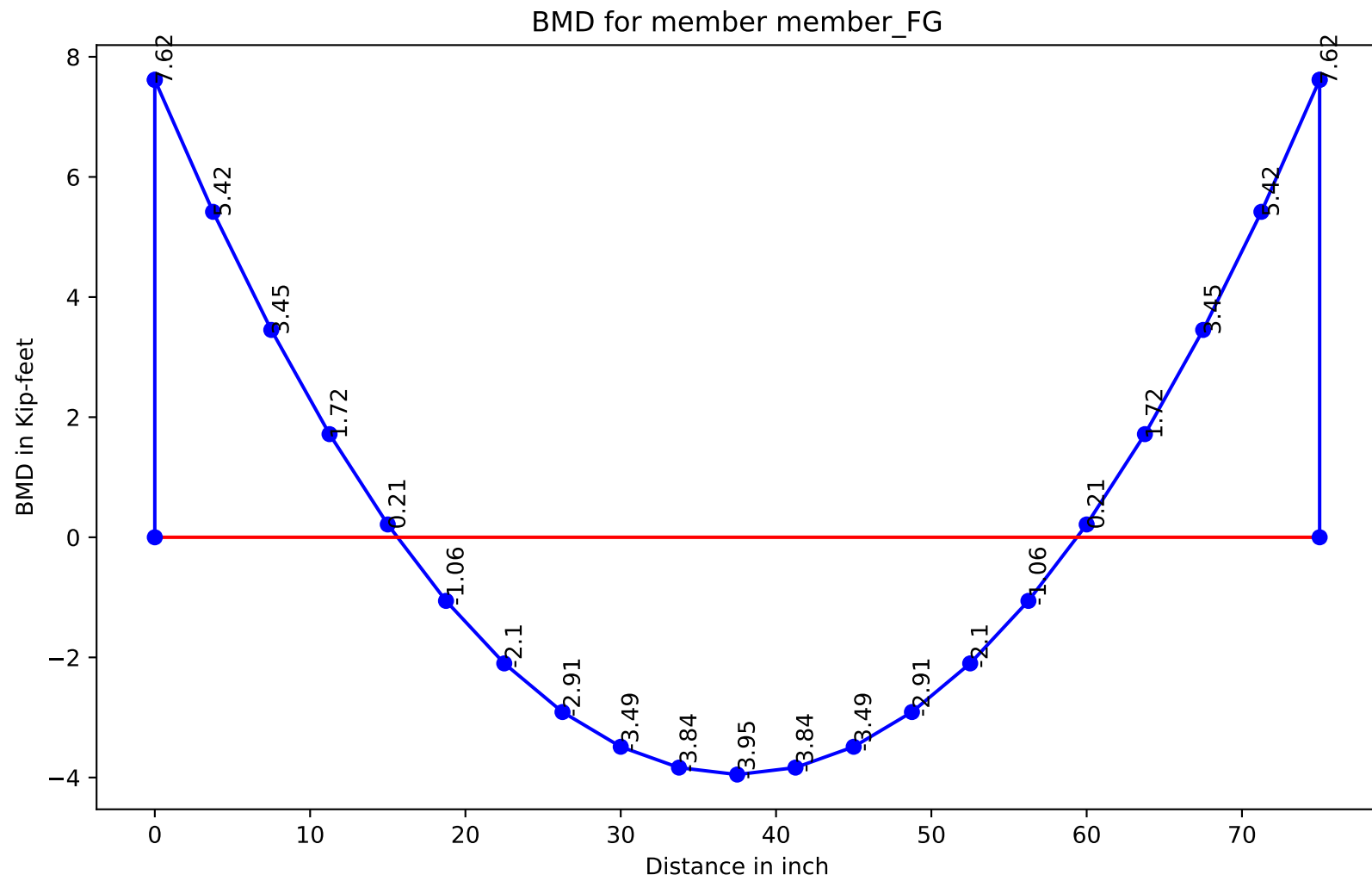




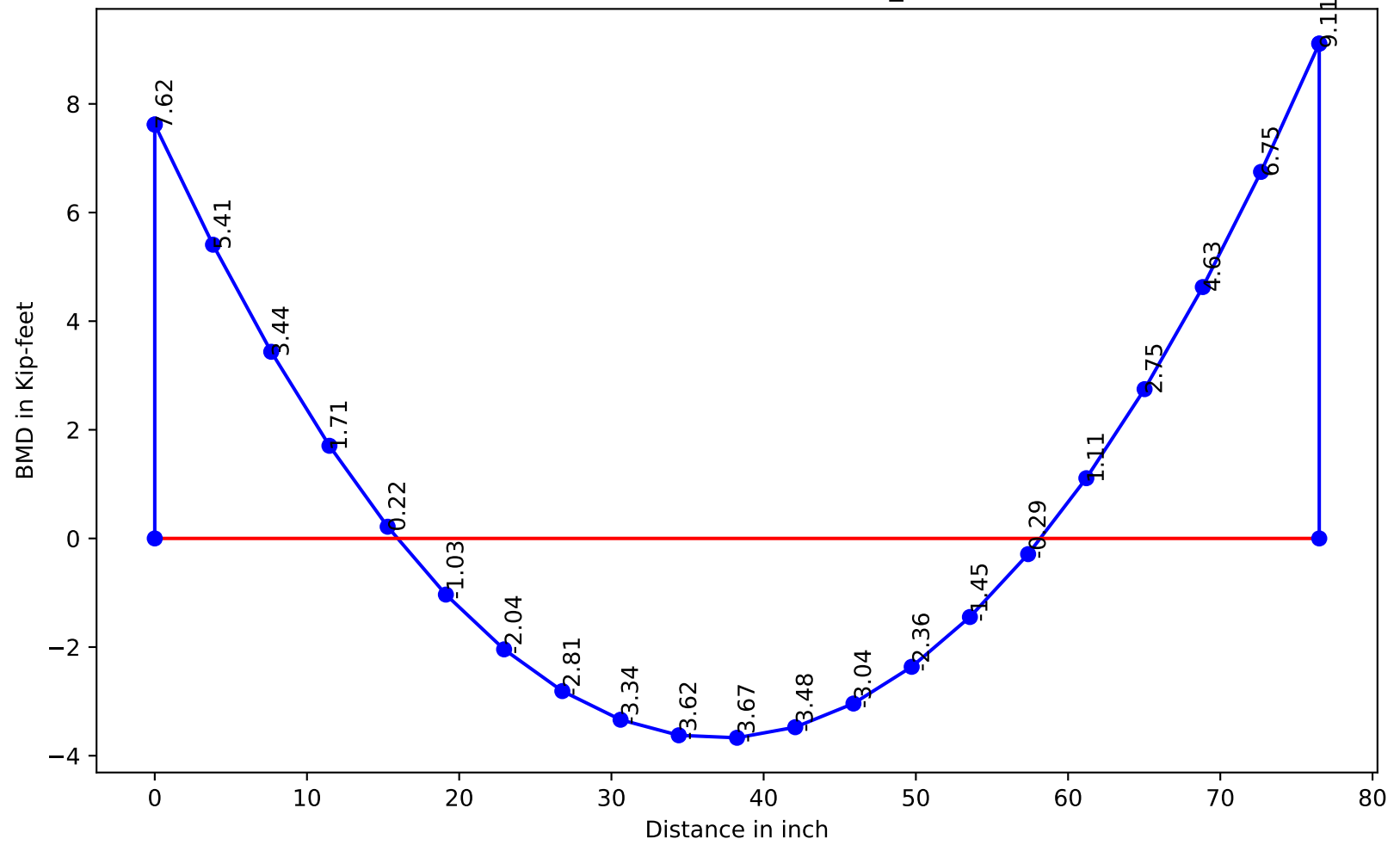




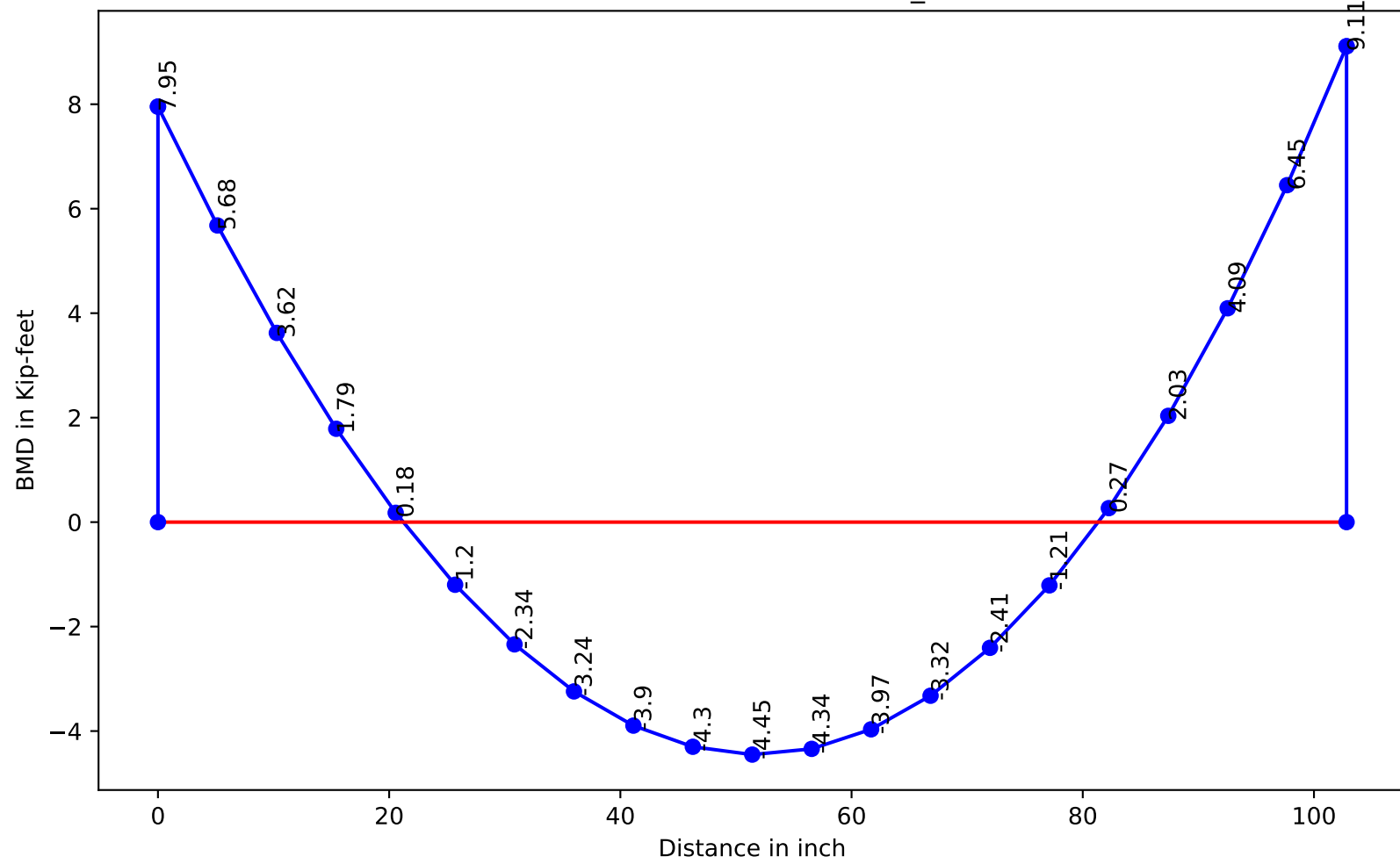


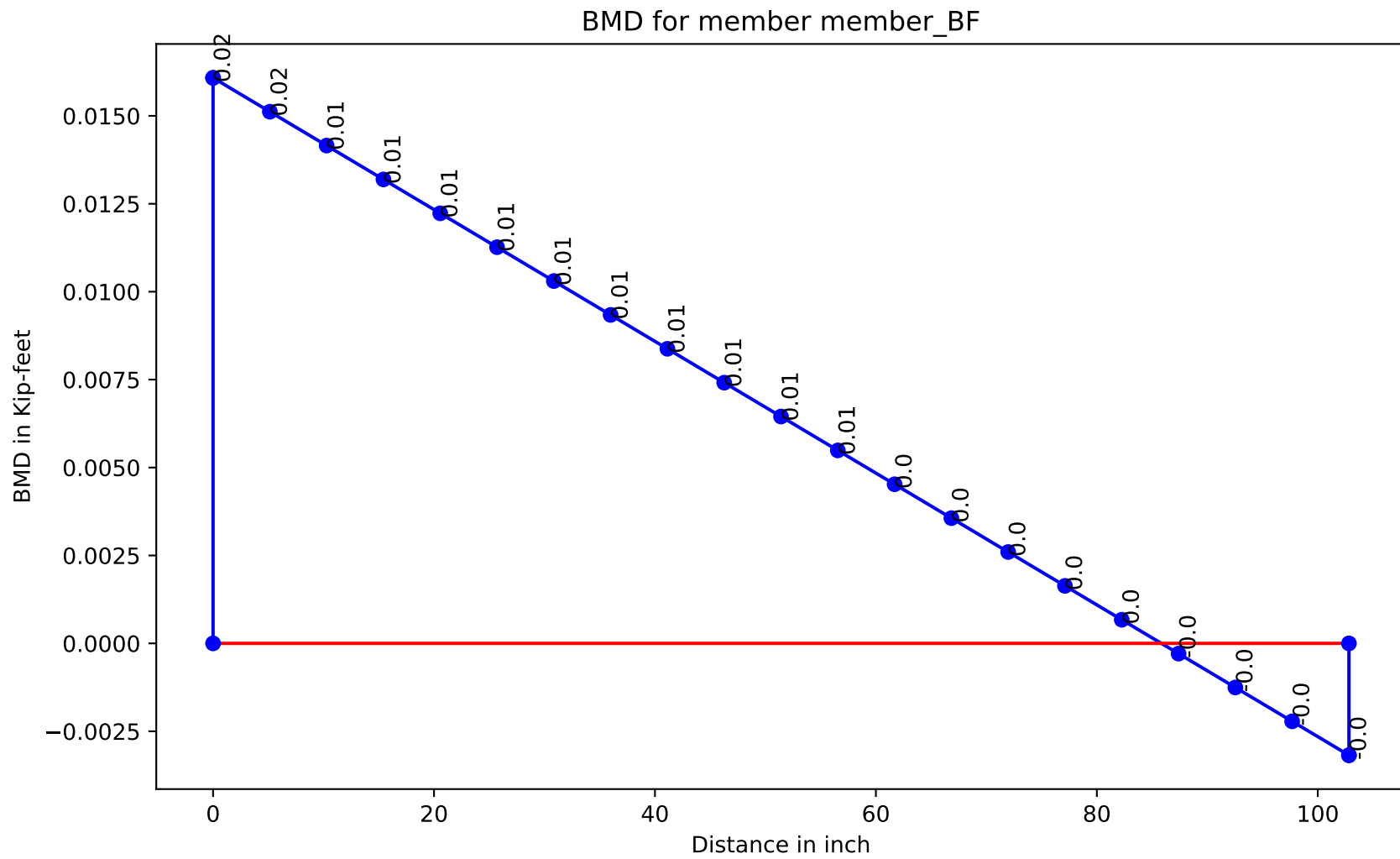


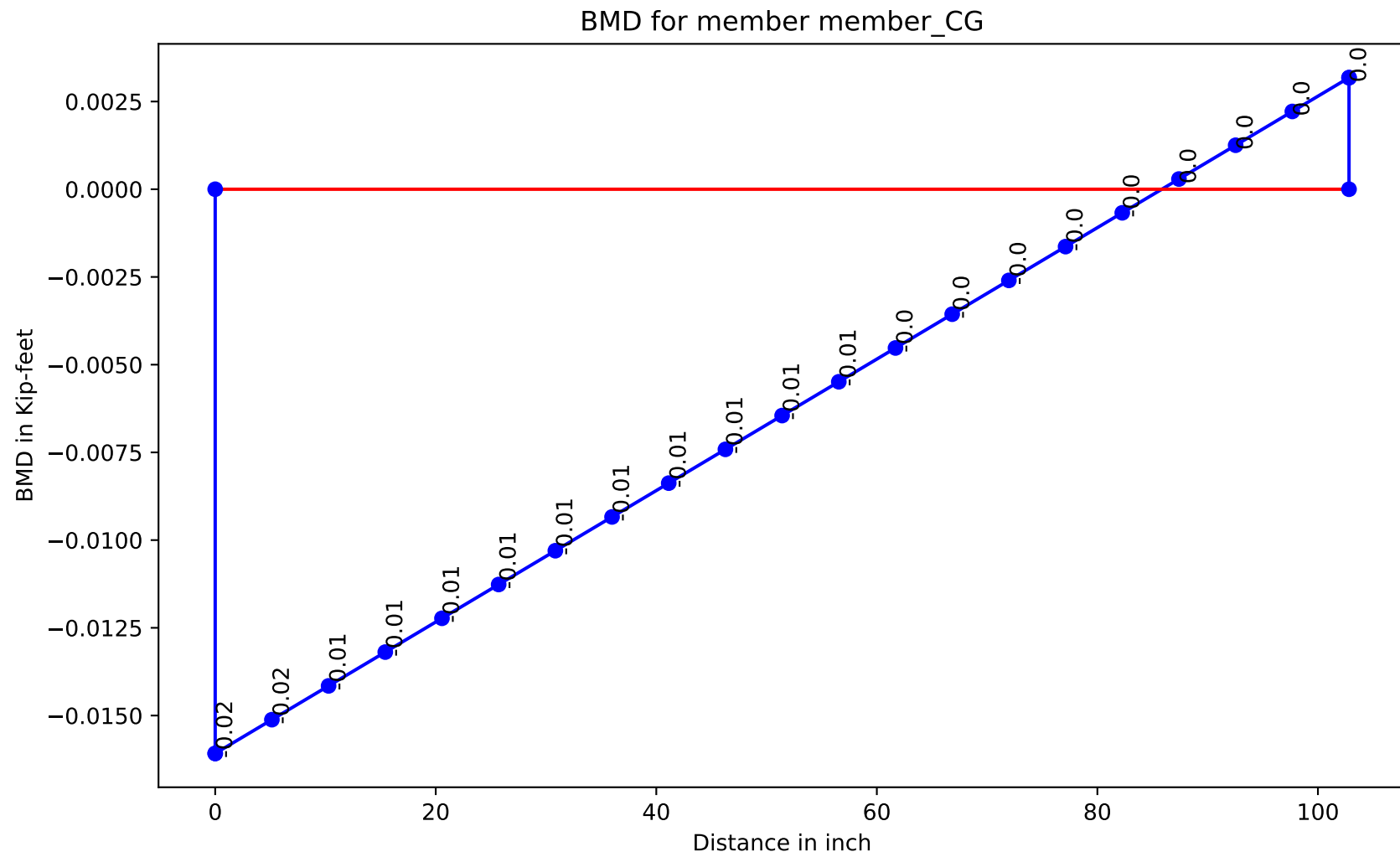
BMD for member member_GH

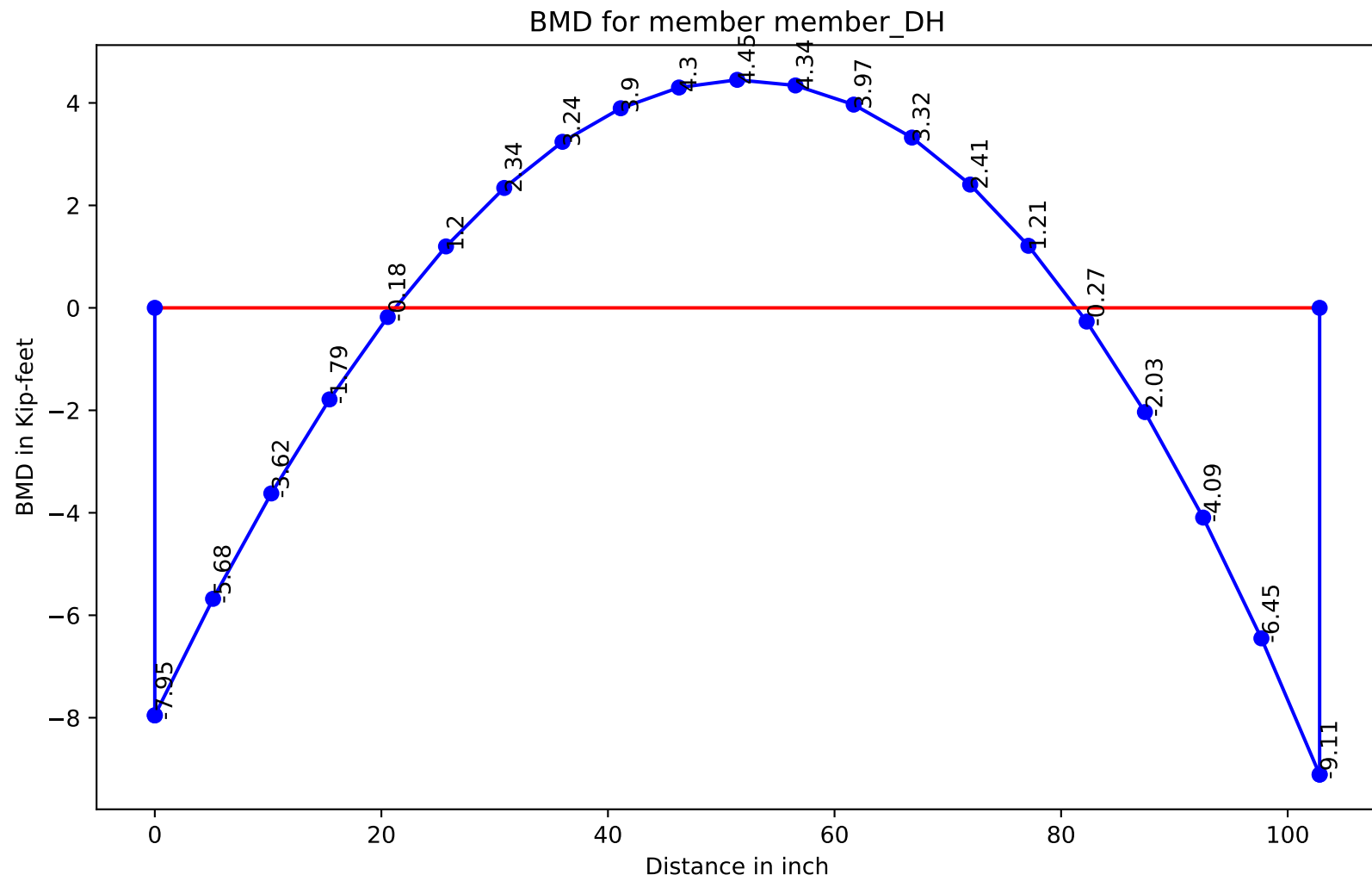


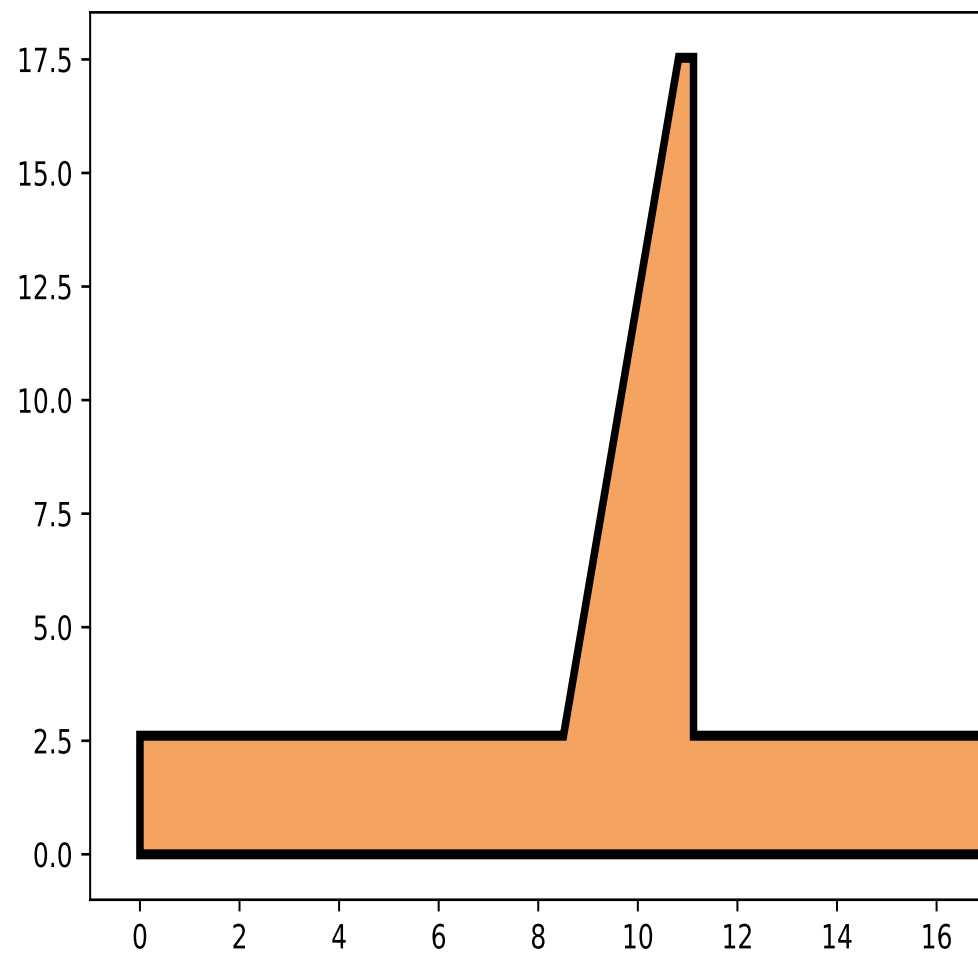
BMD for member member_AE











Printing Earth Pressure Calculation for CASE(B) After Construction

| component | area | PV | PH | Arm_V | Arm_H | M |
|-----------|--------------------|---------------------|-----------------|--------------------|-------------------|--------------------|
| C1 | 4.4772 | -671.5799999999999 | 0.0 | -5.970360000000001 | 0.0 | 4009.5743688000002 |
| C2 | 17.2499054 | -2587.48581 | 0.0 | -6.890926666666669 | 0.0 | 17830.174967750605 |
| C3 | 44.238907258 | -6635.8360887 | 0.0 | -8.46937 | 0.0 | 56201.351094553116 |
| S1 | 17.2499054 | -1897.489594 | 0.0 | -6.890926666666669 | 0.0 | 13075.46164301711 |
| S2 | 126.95369231999999 | -13964.906155199998 | 0.0 | -12.6854 | 0.0 | 177150.42054117404 |
| SH | 0.0 | 0.0 | 5581.1390569935 | 0.0 | 7.586366666666667 | -42340.56730400692 |

Printing Earth Pressure Calculation for CASE(C) During Operation

| component | area | PV | PH | Arm_V | Arm_H | M |
|-----------|--------------------|---------------------|--------------------|---------------------|---------|---------------------|
| C1 | 4.4772 | -671.5799999999999 | 0.0 | -5.970360000000001 | 0.0 | 4009.5743688000002 |
| C2 | 17.2499054 | -2587.48581 | 0.0 | -6.890926666666669 | 0.0 | 17830.174967750605 |
| C3 | 44.238907258 | -6635.8360887 | 0.0 | -8.46937 | 0.0 | 56201.351094553116 |
| S1 | 92.9418178960879 | -10223.599968569668 | 0.0 | -12.308687697668185 | 0.0 | 125839.09915901432 |
| S2 | 7.820049243956044 | -860.2054168351648 | 0.0 | -7.159210263557581 | 0.0 | 6158.391448974139 |
| S3 | 41.376491519999995 | -4965.1789824 | 0.0 | -12.6854 | 0.0 | 62985.281463336956 |
| S4 | 1.8323286385419457 | -219.8794366250335 | 0.0 | -8.180918465112123 | 0.0 | 1798.8157431841873 |
| W | 28.310231039999998 | -1766.558416896 | 0.0 | -2.91018 | 0.0 | 5141.002973682401 |
| U | 126.62893861799999 | 7901.6457697631995 | 0.0 | -8.46937 | 0.0 | -66921.96163305934 |
| P1 | 0.0 | 0.0 | 1828.382979456 | 0.0 | 10.8213 | -19785.480735587214 |
| P2 | 0.0 | 0.0 | 2723.665439088 | 0.0 | 3.73785 | -10180.65286149508 |
| P3 | 0.0 | 0.0 | 2274.7874273049597 | 0.0 | 2.4919 | -5668.542790101229 |
| P4 | 0.0 | 0.0 | 1886.3991272879998 | 0.0 | 2.4919 | -4700.717985288967 |

Printing Earth Pressure Calculation for CASE(B) After Construction

| dist | P | A_list | P/A | I | c | S | P*e | M/S | R |
|-------|---------|--------|--------|-------|-------|---------|---------|---------|---------|
| 0.0 | 25757.3 | 16.94 | 1520.5 | 405.1 | -8.47 | -47.83 | -7727.0 | 161.55 | 1682.05 |
| 8.51 | 25757.3 | 16.94 | 1520.5 | 405.1 | 0.04 | 10127.5 | -7727.0 | -0.76 | 1519.74 |
| 10.82 | 25757.3 | 16.94 | 1520.5 | 405.1 | 2.35 | 172.38 | -7727.0 | -44.83 | 1475.67 |
| 11.12 | 25757.3 | 16.94 | 1520.5 | 405.1 | 2.65 | 152.87 | -7727.0 | -50.55 | 1469.95 |
| 16.94 | 25757.3 | 16.94 | 1520.5 | 405.1 | 8.47 | 47.83 | -7727.0 | -161.55 | 1358.95 |

Printing Earth Pressure Calculation for CASE(C) During Operation

| dist | P | A_list | P/A | I | c | S | P*e | M/S | R |
|-------|----------|--------|---------|--------|-------|----------|----------|--------|---------|
| 0.0 | 20028.68 | 16.94 | 1182.42 | 405.01 | -8.47 | -47.82 | -3076.05 | 64.33 | 1246.74 |
| 8.51 | 20028.68 | 16.94 | 1182.42 | 405.01 | 0.04 | 10855.17 | -3076.05 | -0.28 | 1182.14 |
| 10.82 | 20028.68 | 16.94 | 1182.42 | 405.01 | 2.35 | 172.42 | -3076.05 | -17.84 | 1164.58 |
| 11.12 | 20028.68 | 16.94 | 1182.42 | 405.01 | 2.65 | 152.89 | -3076.05 | -20.12 | 1162.3 |
| 16.94 | 20028.68 | 16.94 | 1182.42 | 405.01 | 8.47 | 47.82 | -3076.05 | -64.33 | 1118.09 |

Stem Design Force.....

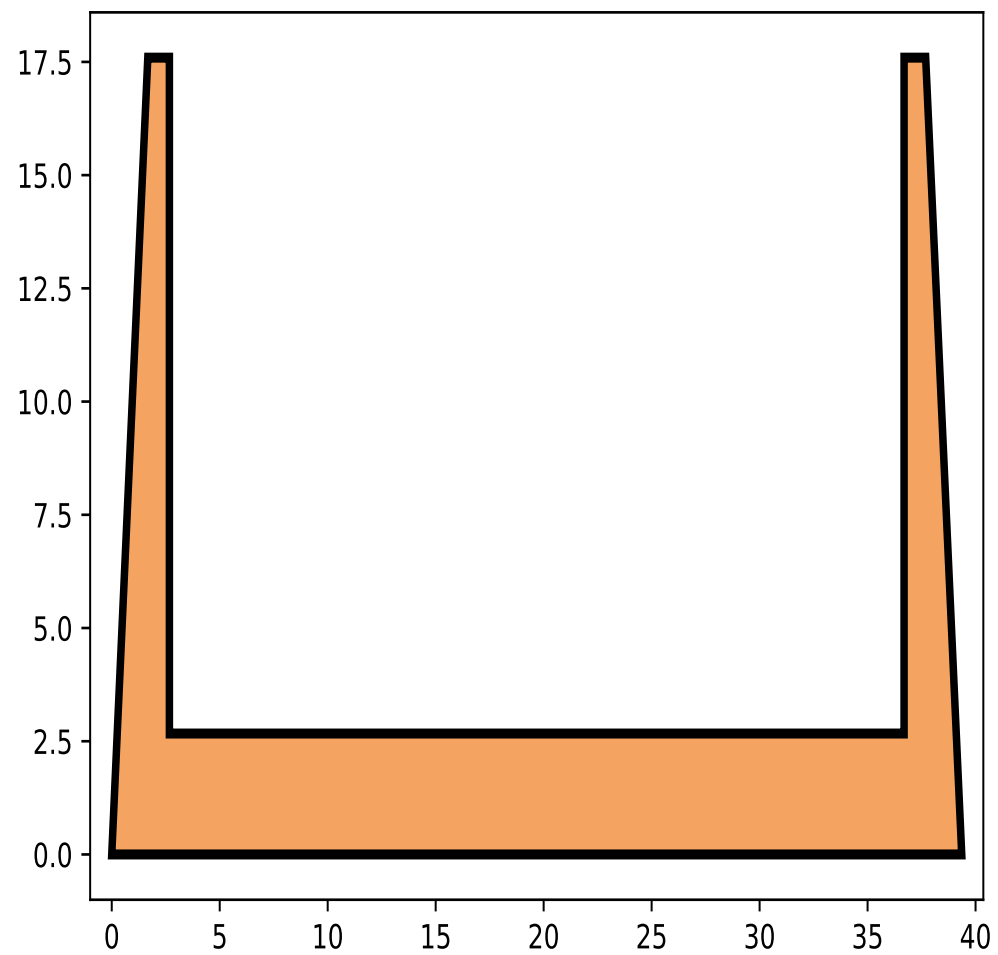
| Case | Desc | V | M |
|--------|--------------------|--------------------|--------------------|
| Case B | After Construction | 4042.4728344000005 | 20109.9548601952 |
| Case C | During Operation | 4563.5079264 | 20881.448491003288 |

Toe Design Force.....

| Case | Desc | V | M |
|--------|--------------------|---------------------|---------------------|
| Case B | After Construction | 5952.08490000000035 | 17007.2473590000015 |
| Case C | During Operation | 7070.855817600002 | 20451.39886221601 |

Heel Design Force.....

| Case | Desc | V | M |
|--------|--------------------|--------------------|---------------------|
| Case B | After Construction | -3680.574999999999 | -14681.304422416659 |
| Case C | During Operation | -7290.250466800002 | -14041.991366832677 |



Design Load Effects on Utype wing wall.....

| Description | Load Case | F | P | Mend | Mcl |
|---------------------|-----------|----------|---------|----------|----------|
| During Construction | A | 11989.67 | 0.0 | 0.0 | 34937.1 |
| After Construction | B | 13290.42 | 4042.47 | 20109.95 | 25889.98 |
| During Operation | C | 13207.28 | 3611.11 | 19184.5 | 18914.23 |
| During Maintenance | D | 7288.78 | 4581.17 | 20987.53 | 25012.41 |