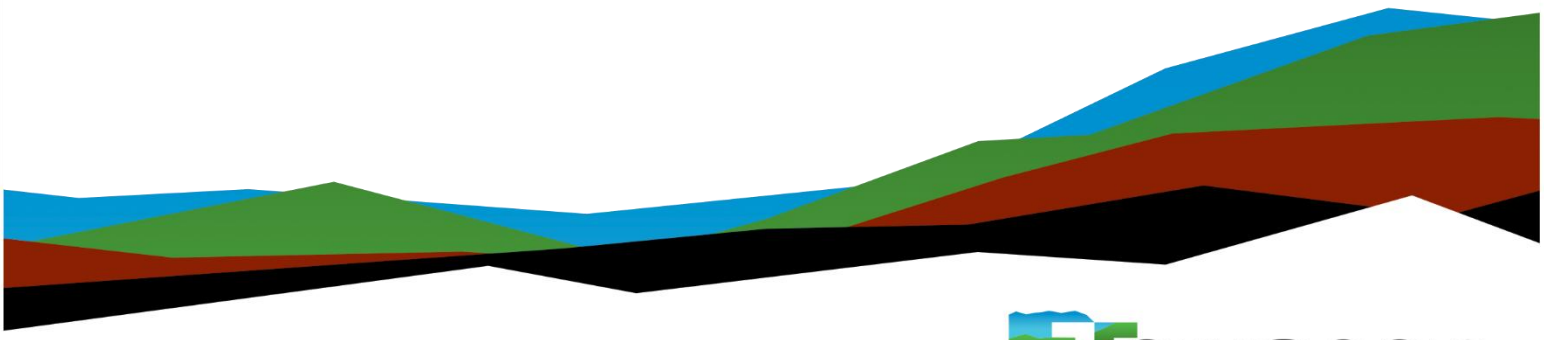
CR-5 Over Mahoning Valley Railway Company-PID No.115174

Structure Foundation Report

October 29, 2026 | Terracon Project No. 1000031877

Prepared for:

Burgess & Niple Inc
100 W Erie Street
Painesville, OH 44077



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October 29, 2026

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Attn: Mr. Jeff Ackerman, P.E.
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Re: Structure Foundation Report
CR-5 Over Mahoning Valley Railway Company-PID No.115174
County Road 5
Hopedale, Harrison Co., Ohio
Terracon Project No. 1000031877

Dear Mr. Ackerman:

We have completed the Structure Foundation Report for the above referenced project in general accordance with Terracon Proposal No. PN6235009 dated January 23, 2023, and revised on February 16, 2023 and the Supplemental Change Order Dated April 12, 2024. This report presents the findings of the subsurface exploration, laboratory testing results, and the results of our foundation analyses performed for the proposed replacement of the existing County Road 5 bridge structure located in Hopedale, Ohio.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

Daniel R. Pratt, P.E., P.G.
Operations Manager

Prasad S. Rege, P.E.
Senior Principal



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APPENDIX A – FIELD EXPLORATION AND INFORMATION
APPENDIX B – EXPLORATION RESULTS
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Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

Refer to each individual Attachment for a listing of contents.

Executive Summary

This report presents the findings of the geotechnical exploration performed for the proposed replacement of the existing bridge structure located along County Road 5 over the Mahoning Valley Railway Company tracks in Hopedale, Ohio. The existing structure is a five-span rolled steel beam bridge built in the 1940s. The existing abutments are supported by two pedestals with spread footings bearing on rock, and the existing piers are cap-and-column substructures founded on rock-supported spread footings. An active railroad runs generally north-south beneath the existing bridge.

The proposed replacement bridge structure consists of a single-span bridge with continuous steel girders and a composite reinforced concrete deck. The bridge will be supported on reinforced concrete abutments founded on HP12x53 steel piles installed within concrete-filled prebored holes socketed into bedrock. The prebored holes are planned to extend a minimum of 16 feet into bedrock and are intended to develop axial resistance through rock socket side resistance, with tip resistance neglected. The selected foundation system was developed following evaluation of alternative foundation types and in consideration of ODOT review comments.

A total of two (2) borings, designated B-001-0-23 and B-002-0-23, were performed on June 28 and 29, 2023 to depths of approximately 59.4 feet and 58.9 feet below existing grade, respectively. In addition, a geophysical exploration consisting of Multi-Channel Analysis of Surface Waves (MASW) and P-wave seismic methods was completed to supplement the subsurface investigation and assist in interpretation of bedrock elevations between boring locations.

The borings encountered fill materials consisting primarily of silty clay, sand, and granular fill underlain by native cohesive soils. Bedrock consisting of highly weathered to moderately weathered shale was encountered at depths of approximately 26 to 27 feet below existing grade and extended to the termination depths of the borings. Groundwater was not encountered during drilling or upon completion of drilling activities.

Geotechnical recommendations presented herein include characterization of the shale bedrock, design parameters for lateral foundation analyses, and geotechnical resistance parameters for the concrete-filled prebored hole foundation system. Recommendations are based on the subsurface conditions encountered during the exploration and the interpreted subsurface conditions between exploration locations

This summary should be used in conjunction with the entire report for design purposes. Details and limitations associated with the exploration, interpretation, analyses, and recommendations are contained in the body of this report and should be reviewed in their entirety.

Introduction

A structure foundation exploration has been completed for the proposed replacement of the existing bridge structure located along County Road 5 over the Mahoning Valley Railway Company tracks in Hopedale, Ohio. The existing structure is a five-span rolled steel beam bridge constructed in the 1940s. The existing abutments are supported by two pedestals founded on spread footings bearing on rock, and the existing piers are cap-and-column substructures founded on spread footings bearing on rock. An active railroad runs generally north-south beneath the existing bridge structure.

The proposed replacement bridge structure consists of a single-span bridge with continuous steel girders and a composite reinforced concrete deck. The bridge will be supported on reinforced concrete abutments founded on HP12x53 steel piles installed within concrete-filled prebored holes socketed into bedrock. The current foundation system was developed following evaluation of alternative foundation types and is consistent with the revised bridge plans. The foundation system derives resistance through rock socket side resistance, with tip resistance neglected.

Slope stability of the existing slopes associated with this project was not included in our scope. Our scope was limited to the bridge structure foundations only.

Site Location and Description

Item	Description
Location	The project is located at County Road 5 in Hopedale, Ohio. Latitude / Longitude: 40.3263, -80.8849 (approximate) See **Site Location**
Existing Structure	The existing structure is a five-span rolled steel beam bridge over the Mahoning Valley Railway Company tracks running north-south under the bridge structure.
Existing topography (Based on Google Earth ™)	The existing bridge's surface elevations at the west and east abutments are approximately EL 1212 feet and EL 1213 feet, respectively. The surface elevation of the railroad under the bridge structure is approximately EL 1164 feet. Based on Google Earth, the existing slope height is about 45 to 47 feet, and the side slopes of the west and east abutment embankments appear to be approximately 1.7H:1V and 2.4H:1V.

Project Description

Item	Description
Proposed Structure	The proposed replacement bridge structure is a single-span bridge consisting of continuous steel girders with a composite reinforced concrete deck. The structure will be supported on reinforced concrete abutments founded on HP12x53 steel piles installed within concrete-filled prebored holes socketed into bedrock. The prebored holes are planned to extend a minimum of 16 feet into bedrock and the foundation system derives resistance through rock socket side resistance, with tip resistance neglected. The bridge limits extend from STA 471+01.00 to STA 472+71.00 and include 30-foot-long approach slabs at each end of the structure. The new abutments will be constructed between the existing abutments and existing Piers 1 and 4. The bridge deck will include a 1-inch monolithic concrete wearing surface.
Grading / Slopes	Based on the provided drawings, we understand that the existing grades sloping down to the railroad will be maintained. We anticipate that the area between the new and existing abutments will be backfilled with fills up to approximately 13 feet.

General Geology

The project is located within the Muskingum-Pittsburgh Plateau of the Allegheny Plateau physiographic province of Ohio. The region is characterized as a moderately high to high relief dissected plateau having broad major valleys that contain outwash terraces and tributaries with lacustrine terraces. The region contains medium-grained bedrock sequences coarser than those in the Marietta plateau but finer than those in the Ironton plateau. Remnants of the ancient Teays-age drainage system are uncommon. The surficial geology in this region predominantly consists of Wisconsinan-age sand, gravel, and lacustrine silt and silt-loam colluvium.

Bedrock in the project area consists of the Pennsylvanian aged Conemaugh Group consisting of shale, siltstone, sandstone, mudstone, and lesser amounts of limestone and coal. During our field exploration, bedrock was encountered at the two bridge borings at depths of approximately 26 and 27 feet below the existing road surface.

According to the Ohio Department of Natural Resources (ODNR) Mines of Ohio Viewer, there are two active or temporarily inactive mines (D- 0424 and D-0717) located approximately 250 feet northeast of the site location.

Exploration

The exploration activities for this project consisted of a field exploration involving the advancement of two soil borings, a geophysical survey using the Multi-Channel Analysis of Surface Waves (MASW) and P-wave methods, and subsequent laboratory testing performed on samples obtained from the soil borings.

Field Exploration

Two (2) borings, designated as B-001-0-23 and B-002-0-23, were performed on June 28 and 29, 2023 to depths of approximately 59.4 feet and 58.9 feet below existing grades, respectively. The borings were performed in general accordance with the Ohio Department of Transportation (ODOT) Specifications for Geotechnical Explorations (SGE) (January 20, 2023) Type E1 bridge borings. The approximate locations of the borings are illustrated on the attached Exploration Plan (Appendix A) and summarized in the following table.

Boring Number	Elevation[1]	Latitude[2]	Longitude[2]	Depth (feet)[3]	Top of Rock Elevation at Boring	Top of Rock Depth[3]
B-001-0-23	1212	40.326216	-80.885384	59.4	1186.0	26
B-002-0-23	1213	40.326415	-80.884500	58.9	1186.0	27

1. Surface elevations were obtained from the provided site plan.
2. Boring coordinates were obtained using a handheld GPS unit.
3. Below ground surface

The borings were located in the field prior to drilling operations by Terracon personnel using a handheld recreational GPS unit. Ground surface elevations were obtained from the provided site plan. Boring coordinates and elevations presented in the preceding table, and on the boring logs presented in Appendix A are approximate. The location and elevation information should be considered accurate only to the degree implied by the means and methods used to define them. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

The borings were drilled with an ATV-mounted rotary drill rig, utilizing a 3¼-inch I.D. continuous flight hollow stem auger to advance the boreholes between sampling attempts. The split-barrel samples were obtained at the boring locations at intervals of 2.5 feet up to a depth of 30 feet below existing grades, and then at intervals of 5 feet to the boring termination depth.

Terracon's initial plan involved obtaining approximately 10 feet of rock core following bedrock encounter. Rock coring was performed in B-002-0-23; however, the highly weathered and weak nature of the shale bedrock limited recoverable rock core to approximately 2 feet. Refusal penetration resistance values were encountered at multiple intervals within the bedrock profile and are documented on the boring logs.

In the split-barrel sampling procedure, the number of blows required to advance a standard 2-inch O.D. split-barrel sampler the last 12 inches of the typical total 18-inch penetration by means of a 140-pound automatic hammer with a free fall of 30 inches, is the standard penetration resistance value (SPT-N). This value is corrected to an equivalent (60 percent) energy ratio (N_{60}) utilizing the hammer efficiency energy ratio.

Rock coring was performed using a NQ-size double tube-swivel core barrel. Percentage of recovery and rock quality designation (RQD) were calculated for the core samples and are noted at their depths of occurrence on the boring logs.

In the field, the samples recovered at the boring locations were examined and field logs were prepared indicating the conditions encountered at each location. Representative portions of soil samples obtained during the field exploration were preserved in sealable glass jars and recovered rock core was placed in partitioned boxes. The soil and rock samples were delivered to our laboratory for additional examination and testing.

Following the completion of drilling, the boreholes were sealed with bentonite grout.

Geophysical Exploration

The MASW geophysical exploration used a Geometrics Geode seismograph and a stationary linear array of twenty-four 4.5Hz geophones to collect MASW data. Four (4) lines were collected across the site, noted as red lines on Exhibit 1 in Appendix B. The geophone spacing was 5 feet along each line, for a total line length of 115 feet. MASW is performed by collecting surface waves created by a seismic source consisting of a sledgehammer striking an aluminum ground plate. Seismic source shots were taken every 10 feet along half of the line. The data is then processed using dispersion analysis software (SurfSeis, engineered by the Kansas Geological Survey) that extracts the fundamental-mode dispersion curve(s). The curves are inverted and modeled to yield a 1D shear-wave velocity profile along the array to a corresponding depth. Using subsets of 12 geophones, seven (7) 1D profiles are created along an array and then combined to yield a 2D profile. The profiles have data gaps at the beginning and end of each line based on the modeling limits when using 12 geophone gathers.

Laboratory Testing Program

As part of the testing program, samples were examined in the laboratory by a geotechnical engineer. Soil samples were classified in general accordance with ODOT SGE Section 600 Laboratory Testing based on the texture and plasticity of the soils.

Visual classification was performed on all recovered soil and rock samples. Atterberg limits, moisture content and grain size analysis testing were performed on selected soil samples to obtain accurate information. The results of lab testing are shown on the boring logs and presented in Appendix B of this report.

Findings

Boring logs have been prepared based on the information obtained from the field logs prepared at the time of drilling, the visual examination performed in the laboratory, and the laboratory testing results. Soil and rock classification was performed in general accordance with the current ODOT SGE. The following sections summarize the subsurface conditions encountered at the boring locations.

Soil Conditions

Borings B-001-0-23 and B-002-0-23 were conducted at the west (rear) and east (forward) abutments of the County Road 5 bridge, respectively. No distinctive surface materials were encountered in either B-001-0-23 or B-002-0-23 borings.

The borings encountered fill material consisting of medium stiff to stiff silty clay (A-6b), very dense gravel and stone fragments with sand (A-1b), very loose gravel and stone fragments with sand, silt and clay (A-2-6) and very dense fine sand (A-3) up to depths of approximately 13.5 to 18.5 feet below existing grades. The native soils consisted of very stiff silt and clay (A-6a), stiff to hard silty clay (A-6b), and very stiff clay (A-7-6). Underlying the native soils, bedrock consisting of highly weathered, very weak shale was encountered to the termination depths. Borings B-001-0-23 and B-002-0-23 were terminated in bedrock at a depth of 59.4 feet and 58.9 feet below existing grades, respectively.

Bedrock

Boring B-001-0-23 encountered bedrock at a depth of 26 feet below existing grade (about an elevation of 1186 feet) consisting of very weak to weak, severely to moderately weathered shale. Boring B-002-0-23 encountered bedrock at a depth of 27 feet below existing grade (about an elevation of 1186 feet) consisting of very weak, severely weathered shale.

At B-002-0-23, rock coring was attempted from approximately 40 to 42 feet below ground surface; however, the material was too weak to continue with the rock coring process. The underlying severely weathered shale was subsequently sampled using SPT methods, with recorded blow counts of 4-3-2. Based on the very weak, soil-like behavior of the recovered material, Sample SS-18 was treated as soil and mechanical classification testing was performed to further characterize the material.

Geophysical Findings

The cross-sectional images generated from the MASW testing are displayed on Exhibits 2 and 3 (Appendix B). The images are representations of the seismic velocities beneath each array. In general, low velocity zones (blue to light green on the color scale) are indicative of overburden soil and weathered rock. Higher velocity zones (yellow to red on the color scale) are indicative of increasingly competent bedrock. The borings from the geotechnical exploration were used to interpret the top of weathered shale bedrock (dashed black lines on the MASW profiles). Boring B-001-0-23 encountered weathered sandstone below the top of the shale. The top of sandstone bedrock is indicated with a dashed gray line on MASW Lines 1 and 2. The sandstone layer was not encountered in B-002-0-23, so it was not interpreted on MASW Lines 3 and 4. The seismic velocities from each line were sampled to produce a weighted average shear wave velocity. The plots and velocity data are presented on Exhibit 4 (Appendix B).

The interpreted top-of-bedrock surface was developed using the MASW results in conjunction with bedrock elevations encountered in the test borings. The interpreted bedrock surface generally slopes downward from the boring locations toward the existing valley. Based on the locations of the proposed abutments and the interpreted MASW profiles, the top of bedrock is estimated at approximately EL 1174.0 at the rear abutment and EL 1166.5 at the forward abutment. These elevations represent interpreted conditions at the proposed abutment locations and therefore differ from the top-of-bedrock elevation of approximately EL 1186.0 encountered at the test boring locations.

Foundation Location	Interpreted Top of Bedrock Elevation (ft)
Rear Abutment	1174.0
Forward Abutment	1166.5

The individual MASW profiles were also reconciled at common line intersections to provide a consistent interpretation of the bedrock surface. Elevations at the MASW line intersections represent conditions at those locations and should not be interpreted as the estimated top-of-bedrock elevations at the proposed abutments.

Geophysical Limitations

It should be noted that, as with any geophysical testing method, the processes rely on instrument signals to indicate physical conditions in the field. Signal information can be affected by on-site conditions beyond the control of the operator such as but not limited to, soil types, soil moisture, and/or ambient site activity. Heavy vehicular traffic immediately adjacent to the lines can interfere with the data collections. Interpretation of those signals is based on a combination of known factors combined with the experience of the operator and geophysical scientist evaluating the results. As with all geophysical methods, the results provide a level of confidence but should not be considered absolute.

Groundwater

Groundwater was not encountered in the borings during or after drilling. Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff, the level of water in the creek, and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Analysis and Recommendations

The proposed bridge will be supported on reinforced concrete abutments founded on HP12x53 steel piles installed within concrete-filled prebored holes extending into bedrock. Foundation alternatives evaluated during design development are summarized below.

Foundation alternatives evaluated during design development included spread footings, driven H-piles, drilled shafts socketed into bedrock, and H-piles installed within concrete-filled prebored holes. The evaluation considered the subsurface conditions, interpreted bedrock profile, foundation performance requirements, constructability, and project-specific constraints. The following sections summarize the alternatives evaluated and the foundation system selected for final design.

Spread Footing Recommendations

Spread footings are not included in the current foundation design and are therefore not recommended for this project. Based on discussions with the Owner, Designer, and ODOT reviewers, alternative foundation systems were evaluated, and the foundation design was revised. Consequently, spread footing analyses and recommendations have been removed from this report.

Driven Pile Recommendations

Driven piles are not included in the current foundation design and are therefore not recommended for this project. Following review of the Stage 1/Stage 2 submission, ODOT expressed concerns regarding the feasibility of driving piles to the previously proposed embedment depths in bedrock and recommended consideration of alternative foundation systems. In coordination with the Bridge Designer, the foundation system was revised to utilize HP12x53 piles installed in concrete-filled prebored holes. Accordingly, analyses and recommendations have been removed from this report.

Drilled Shaft Recommendations

Drilled shafts socketed into bedrock were evaluated as an alternative foundation system during design development. The evaluation considered the interpreted depth and variability of bedrock, axial and lateral foundation performance requirements, constructability, and project cost. Based on the completed evaluation by the project team, drilled shafts were not selected for final design. HP12x53 steel piles installed within concrete-filled prebored holes were selected for the proposed bridge foundations.

Concrete-Filled Prebored Hole Foundation Recommendations

HP12x53 steel piles installed within concrete-filled prebored holes extending into bedrock are recommended for support of the proposed bridge abutments. In accordance with GDM Section 1305.1, the axial resistance of piles installed in prebored holes in bedrock is typically governed by the structural resistance of the pile. However, due to the severely weathered, very weak, and laminated shale encountered at the site, a conservative geotechnical resistance evaluation was also performed to establish the recommended minimum rock embedment.

For this evaluation, axial resistance was calculated using side resistance developed within the weathered bedrock. Tip resistance was conservatively neglected. Based on this evaluation, a minimum prebored-hole embedment of 16 feet into bedrock is recommended. The 16-foot embedment provides adequate geotechnical resistance for the design axial loading while also providing a conservative foundation configuration for the variable and weathered bedrock conditions encountered at the site.

Concrete-Filled Prebored H-Pile Foundation Parameters

Parameter	Rear Abutment	Forward Abutment
Pile Section	HP12x53	
Interpreted Top of Bedrock Elevation [1]	1174.0 ft	1166.5 ft
Minimum Prebored Hole Diameter [2]	20 in	
Prebored Hole Diameter Used for Resistance Calculation [3]	18 in	
Minimum Embedment into Bedrock	16 ft	
Effective Side Resistance Length [4]	14 ft	
Nominal Unit Side Resistance, q_s [5]	6 ksf	
Side-Resistance Factor, φ_{qs}	0.55	
Factored Axial Load per Pile	215 kips	
Nominal Geotechnical Side Resistance [6]	396 kips	
Factored Geotechnical Side Resistance [6]	218 kips	
Tip Resistance Used in Evaluation	0 kips	

1. Interpreted top-of-bedrock elevations were developed from the MASW results in conjunction with the boring data at the corresponding proposed abutment locations.
2. The minimum prebored-hole diameter shall be at least 2 inches greater than the diagonal dimension of the HP12x53 pile. A nominal 20-inch minimum diameter is recommended.
3. Total nominal and factored side resistances were calculated using an 18-inch diameter, although the specified minimum constructed prebored-hole diameter is 20 inches. The 18-inch calculation diameter results in a conservative resistance evaluation.
4. The specified bedrock embedment is 16 feet. Side resistance over the upper 2 feet was conservatively neglected, resulting in an effective side-resistance length of 14 feet.
5. The nominal unit side resistance was developed for the severely weathered shale bedrock using the project-specific evaluation described herein. Tip resistance was conservatively neglected.
6. Total nominal and factored geotechnical side resistances are based on 14 feet of effective side-resistance length within the specified 16-foot bedrock embedment. Side resistance over the upper 2 feet of bedrock embedment was conservatively neglected.

The specified 16-foot bedrock embedment provides adequate geotechnical side resistance for the maximum factored axial load of 215 kips per pile based on the conservative evaluation described above. Final pile lengths should also satisfy the structural design,

lateral foundation requirements, minimum pile-length requirements, and field-verified bedrock elevations.

Recommended LPILE Parameters for Lateral Pile Analysis

LPILE parameters for each boring are provided in the following table to be used for lateral pile analysis. The soil parameters were estimated based on the test borings, laboratory test results, and our experience with these soil types. The portion of the concrete-filled prebored hole within 3 feet of finished grade should ignore any lateral soil resistance due to frost considerations.

The recommended lateral analysis profiles at the proposed abutments were developed using the subsurface conditions encountered in the nearby borings in conjunction with the interpreted top-of-bedrock elevations developed from the MASW survey. The interpreted bedrock surface slopes downward from the boring locations toward the existing valley. Soil strata were projected to the interpreted top-of-bedrock surface based on the available exploration data, while the underlying bedrock stratigraphy was generally projected laterally by elevation. Accordingly, the recommended lateral analysis profiles differ from the stratigraphy encountered directly at the boring locations.

Friction angles for cohesionless soils were assigned in accordance with AASHTO LRFD Table 10.4.6.2.4-1 and C10.4.6.2.4 and adjusted per ODOT BDM Table 400-3.

Rear Abutment Recommended LPILE Soil Parameters (Based on B-001-0-23)

Soil Layer[1]	Approximate Bottom Elevation of Layer (feet)	LPILE Model	Total Unit Weight (pcf)	Soil Friction Angle (degrees)	Undrained Cohesion (psf)	LPILE Parameter, k-value (pci)	LPILE Parameter ε_{50}
Granular Fill	1208.5	Sand (Reese)	110	Ignore			
	1206	Sand (Reese)	110	27	--	25	--
Cohesive Fill	1203.5	Soft Clay (Matlock)	120	--	500	30	0.02
Cohesive Fill, Silty Clay (A-6b), Silt and Clay (A-6a) and Clay (A-7-6)	1174.0	Stiff clay w/o Free Water (Reese)	130	--	2,500	1,000	0.005

1. **See test boring logs for more details on stratigraphy**

Rear Abutment Recommended LPILE Rock Parameters (Based on B-001-0-23)

Rock Layer[1]	Approximate Bottom Elevation of Layer (feet)	LPILE Model	Total Unit Weight (pcf)	RQD (%)	Uniaxial Compressive Strength (psi)	Initial Modulus of Rock Mass (psi)	Rock Strain Factor
Weathered Bedrock	1158.5	Weak Rock	145	10	127.8	50,000	0.0005
	1153.5				63.9		
	1152.6[2]				76.7		

1. **See test boring logs for more details on stratigraphy**
2. **Boring terminated within this layer**

Forward Abutment Recommended LPILE Soil Parameters (Based on B-002-0-23)

Soil Layer[1]	Approximate Bottom Elevation of Layer (feet)	LPILE Model	Total Unit Weight (pcf)	Soil Friction Angle (degrees)	Undrained Cohesion (psf)	LPILE Parameter, k-value (pci)	LPILE Parameter ε_{50}
Granular Fill	1209.5	Sand (Reese)	110	Ignore			
Cohesive Fill	1204.5	Soft Clay (Matlock)	120	--	500	30	0.02
	1197.0	Stiff clay w/o Free Water (Reese)	120	--	1,250	500	0.007
	1194.5	Soft Clay (Matlock)	120	--	500	30	0.02
Clay (A-7-6)	1166.5	Stiff clay w/o Free Water (Reese)	130	--	3,000	1,000	0.005

1. **See test boring logs for more details on stratigraphy**

Forward Abutment Recommended LPILE Rock Parameters (Based on B-002-0-23)

Rock Layer[1]	Approximate Bottom Elevation of Layer (feet)	LPILE Model	Total Unit Weight (pcf)	RQD (%)	Uniaxial Compressive Strength (psi)	Initial Modulus of Rock Mass (psi)	Rock Strain Factor
Weathered Bedrock	1159.5	Weak Rock	145	10	76.7	50,000	0.0005
	1154.5				191.7		
	1152.6[2]				76.7		

1. See test boring logs for more details on stratigraphy
2. Boring terminated within this layer

Group effects should be considered in the lateral analysis of the prebored H-pile foundations in accordance with AASHTO LRFD and applicable ODOT BDM requirements. Appropriate p-multipliers should be applied to account for group effects based on pile spacing, configuration, and direction of lateral loading.

Lateral Earth Pressure

Abutment retaining walls, and excavation support systems must be designed to withstand lateral earth pressures, as well as hydrostatic pressure, that may develop behind the structures. The magnitude of lateral earth pressure varies based on soil type, permissible wall movement, and type of backfill.

In order to minimize lateral earth pressures, the zone behind the structures should be effectively drained. For effective drainage, a zone of porous backfill (ODOT CMS Item 518.03) should be used directly behind the structures for a minimum thickness of 2 feet in accordance with ODOT CMS Item 518.05. The granular zone should be designed to drain to either weepholes or a pipe, to alleviate the build-up of hydrostatic pressures against the walls.

The type of backfill beyond the free-draining granular zone will govern the pressure to be used for structural design. Pressures of a relatively low magnitude will be generated by granular backfill materials, whereas cohesive backfill materials will result in the development of higher lateral pressures. Therefore, it is recommended that granular backfill be utilized whenever possible. Granular backfill behind structures should be placed and compacted in accordance with ODOT CMS Item 203.

Retaining walls that are fixed and unable to rotate or deflect will be subjected to at-rest earth pressure conditions. Earth pressure distributions should be based on the mobilization of active earth pressure conditions for retaining walls that are free to deflect or rotate. Retaining walls exerting a force on the soil (such as soil in front of the footing on the face side of the wall) are subject to a passive resistance. However, due to the potential for erosion, this passive resistance is typically ignored.

The tables presented below include the recommended unfactored and factored equivalent fluid unit weights for walls subject to the mobilization of both at-rest and active earth pressure conditions as described above. A load factor of 1.5 has been used for the determination of the factored equivalent fluid unit weights. The values presented in the following table assume a flat backslope behind the walls, and that the backfill material will not be subject to any additional load (such as uniformly distributed soil surcharge near the top and immediately behind the face of the wall). Two cases have been considered for backfill behind the wall: a two-foot-wide zone of granular porous backfill with filter fabric, and backfilling with a wedge of granular material.

For a two-foot-wide zone of granular porous backfill, the earth pressure was calculated assuming an angle of internal friction of 26 degrees, a moist soil unit weight of 125 pcf, and a soil/concrete interface friction angle of 18 degrees.

Wall Type	Pressure Distribution	Unfactored Equivalent Fluid Weight	Factored Equivalent Fluid Weight (pcf)	Earth Pressure Coefficient
Cantilever Retaining Wall – Free Head	Active	49	73.5	Ka = 0.39
Rigid Retaining Wall – Fixed Head	At-rest[1]	70	105	Ko = 0.56

1. Due to the fixity condition at the top of the wall, it is recommended that the triangular pressure distribution should be converted into uniform or rectangular pressure distribution along the height of the wall

For a wedge of granular material (assuming 2:1 backslope from bottom of backfill), the earth pressure was computed assuming an angle of internal friction of 32 degrees, a moist soil unit weight of 120 pcf, and a soil/concrete interface friction angle of 24 degrees.

Wall Type	Pressure Distribution	Unfactored Equivalent Fluid Weight	Factored Equivalent Fluid Weight (pcf)	Earth Pressure Coefficient
Cantilever Retaining Wall – Free Head	Active	36	54	Ka = 0.30
Rigid Retaining Wall – Fixed Head	At-rest[1]	60	81	Ko = 0.50

1. Due to the fixity condition at the top of the wall, it is recommended that the triangular pressure distribution should be converted into uniform or rectangular pressure distribution along the height of the wall

The earth pressure values presented in the preceding tables assume that provisions for positive gravity drainage will be provided, and that the abutments and walls will be backfilled with free-draining coarse aggregate, such as ODOT No. 57 stone.

We do not recommend using passive earth pressures in design of permanent retaining walls and/or bridge abutments due to the potential for erosion, or possibility of removal of the soils in front of the wall in the future.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration.

Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Attachments

APPENDIX A – FIELD EXPLORATION INFORMATION

Contents:

Site Location
Exploration Plan

Note: All attachments are one page unless noted above.

Site Location

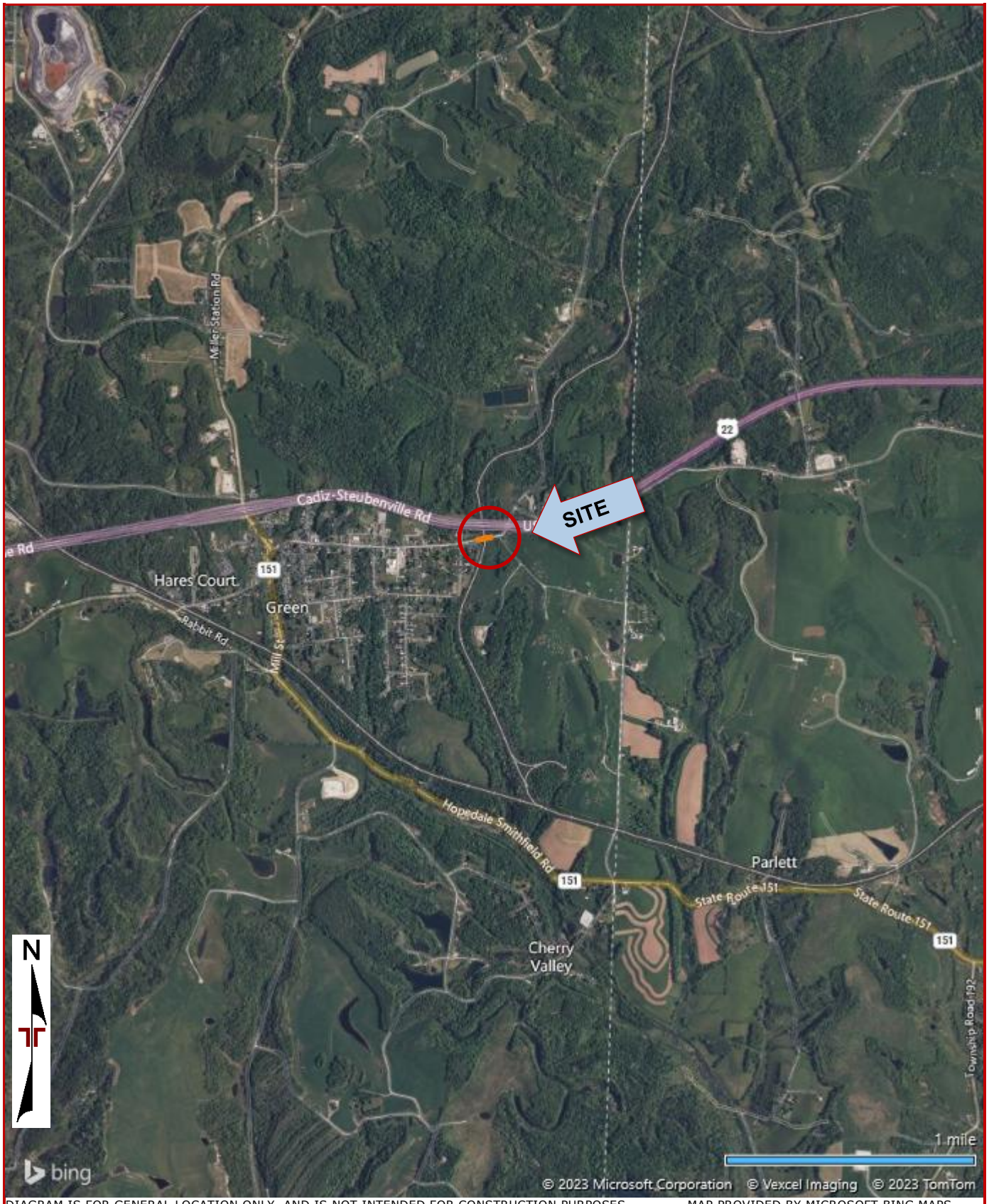


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

APPENDIX B – EXPLORATION RESULTS

Contents:

Boring Logs (B-001-0-23 and B-002-0-23)
Atterberg Limits
Grain Size Distribution (2 Pages)
Rock Core Photo
Geophysical Exhibits
- Exhibit 1: Geophysical Survey Plan
- Exhibit 2: MASW Lines 1 and 2
- Exhibit 3: MASW Line 3 and 4
- Exhibit 4: MASW Seismic Site Class

Note: All attachments are one page unless noted above.

PROJECT: HAS-CR5-6.12	DRILLING FIRM / OPERATOR: TERRACON / A. FAY	DRILL RIG: MOBILE B-57	STATION / OFFSET: 470+49, 16' RT.	EXPLORATION ID B-001-0-23
TYPE: BRIDGE	SAMPLING FIRM / LOGGER: TERRACON / S. SWYCK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: CR 5	
PID: 115174 SFN: 3431887	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 1/16/23	ELEVATION: 1212.0 (MSL) EOB: 59.42 ft.	PAGE 1 OF 1
START: 6/29/23 END: 6/29/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	LAT / LONG: 40.326216, -80.885384	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1212.0	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY DENSE, DARK BROWN, **FINE SAND**, LITTLE SILT, LITTLE GRAVEL, DAMP (FILL)		1	50/4"	-	50	SS-1	-	-	-	-	-	-	-	-	-	10	A-3 (V)	
	1208.5	2																
VERY LOOSE, TAN, **GRAVEL AND STONE FRAGMENTS WITH SAND, SILT, AND CLAY**, TRACE ROOTLETS, MOIST (FILL)		3	4 1 1	3	22	SS-2	-	-	-	-	-	-	-	-	-	19	A-2-6 (V)	
	1206.0	4																
MEDIUM STIFF TO STIFF, TAN, **SILTY CLAY**, LITTLE SAND, LITTLE GRAVEL, TRACE ROOTLETS, CONTAINS COAL FRAGMENTS, DAMP (FILL)		5	1 1 2	5	56	SS-3	0.75	16	6	5	33	40	38	20	18	19	A-6b (11)	
		6																
		7																
		8																
		9	2 2 3	8	56	SS-4	1.00	-	-	-	-	-	-	-	-	20	A-6b (V)	
		10																
		11																
		12	4 6 9	23	11	SS-5	-	-	-	-	-	-	-	-	-	19	A-6b (V)	
	1198.5	13																
VERY STIFF, TAN, **SILT AND CLAY**, TRACE SAND, TRACE GRAVEL, MOIST		14	3 5 10	23	56	SS-6	3.25	2	3	3	15	77	34	20	14	21	A-6a (10)	
	1196.0	15																
STIFF TO HARD, BROWN, **SILTY CLAY**, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST		16																
		17	3 4 7	17	94	SS-7	1.75	-	-	-	-	-	-	-	-	34	A-6b (V)	
		18																
		19			100	ST-8	-	2	3	6	43	46	40	23	17	20	A-6b (11)	
		20																
		21																
		22	3 6 27	50	78	SS-9	4.5+	-	-	-	-	-	-	-	-	10	A-6b (V)	
	1188.5	23																
VERY STIFF, LIGHT BROWN, **CLAY**, SOME SILT, LITTLE SAND, SOME GRAVEL, DAMP		24	8 10 18	42	67	SS-10	4.00	24	12	7	28	29	61	23	38	13	A-7-6 (15)	
	1186.0	25																
SHALE, TAN TO GRAY, SEVERELY TO HIGHLY WEATHERED, VERY WEAK, LAMINATED.		TR 26	32 50/3"	-	111	SS-11	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		27																
		28																
		29	43 50/4"	-	110	SS-12	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		30																
		31																
		32																
		33																
		34	27 50/3"	-	111	SS-13	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		35																
		36																
		37																
	1173.5	38																
SANDSTONE, GRAY, HIGHLY WEATHERED, WEAK, LAMINATED.		39	50/3"	-	100	SS-14	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		40																
		41																
		42																
		43																
		44	50/3"	-	100	SS-15	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		45																
		46																
		47																
	1163.5	48																
SHALE, GRAY, SEVERELY TO HIGHLY WEATHERED, VERY WEAK, LAMINATED.		49	28 50/3"	-	100	SS-15	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		50																
		51																
		52																
		53																
		54	50	-	100	SS-17	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		55																
		56																
		57																
		58																
	1152.6	EOB 59	27 50/5"	-	100	SS-18	-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: BORING COORDINATES FROM DRILLERS GPS, ELEVATION FROM GOOGLE EARTH.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 2 BAGS BENTONITE; 80 GAL. WATER

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/29/26 16:59 - C:\USERS\DRPRATT\ONEDRIVE - TERRACON CONSULTANTS INC\1000026624 CR-5 OVER MAHONING VALLEY RAILWAY CO.- PID NO. 115174 - CLE - 26 - PROPOSAL - GENERAL\07 WORKING FILES\05 LABORATORY\IN6235009 CR-5 OVER COLUMBU (ODOT).GPJ

PROJECT: HAS-CR5-6.12	DRILLING FIRM / OPERATOR: TERRACON / A. FAY	DRILL RIG: MOBILE B-57	STATION / OFFSET: 473+10, 17' LT.	EXPLORATION ID B-002-0-23
TYPE: BRIDGE	SAMPLING FIRM / LOGGER: TERRACON / S. SWYCK	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: CR 5	
PID: 115174 SFN: 3431887	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 1/16/23	ELEVATION: 1213.0 (MSL) EOB: 58.92 ft.	PAGE 1 OF 1
START: 6/28/23 END: 6/28/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	LAT / LONG: 40.326415, -80.884500	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY DENSE, BROWN AND BLACK, **GRAVEL AND STONE FRAGMENTS WITH SAND**, CONTAINS SLAG, BRICK AND COAL FRAGMENTS, MOIST (FILL)	1213.0		7 32 19	77	89	SS-1	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
MEDIUM STIFF, BROWN AND GRAY, **SILTY CLAY**, LITTLE SAND, LITTLE GRAVEL, CONTAINS COAL FRAGMENTS, PETROLEUM ODOR, DAMP (FILL)	1209.5		2 2 2	6	67	SS-2	1.00	-	-	-	-	-	-	-	-	23	A-6b (V)	
			1 2 2	6	56	SS-3	1.00	17	7	5	29	42	39	22	17	22	A-6b (10)	
STIFF, BROWN, **SILTY CLAY**, LITTLE SAND, TRACE GRAVEL, CONTAINS COAL FRAGMENTS, DAMP (FILL)	1204.5		1 2 4	9	78	SS-4	1.25	-	-	-	-	-	-	-	-	20	A-6b (V)	
			2 2 5	11	89	SS-5	1.25	-	-	-	-	-	-	-	-	20	A-6b (V)	
					100	ST-6	-	8	8	6	37	41	38	20	18	20	A-6b (11)	
			2 2 2	6	89	SS-7	1.50	-	-	-	-	-	-	-	-	19	A-6b (V)	
VERY STIFF, TAN, **CLAY**, LITTLE SAND, TRACE GRAVEL, DAMP	1194.5		3 4 7	17	89	SS-8	3.50	6	7	3	37	47	52	25	27	19	A-7-6 (17)	
			2 6 9	23	78	SS-9	2.75	-	-	-	-	-	-	-	-	24	A-7-6 (V)	
			3 5 9	21	78	SS-10	3.00	-	-	-	-	-	-	-	-	16	A-7-6 (V)	
	1186.0	TR	5 6 50/4"	-	63	SS-11A	-	-	-	-	-	-	-	-	-	10	A-7-6 (V)	
SHALE, BROWN TO TAN, SEVERELY TO HIGHLY WEATHERED, VERY WEAK, LAMINATED.						SS-11B	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			9 23 19	63	78	SS-12	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			13 35 50/3"	-	100	SS-13	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			49 50/3"	-	100	SS-14	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			45 50/3"	-	100	SS-15	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			50	-	100	SS-16	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	1173.0																	
SHALE, GRAY, SEVERELY TO HIGHLY WEATHERED, VERY WEAK, LAMINATED.			21		83	NQ2-R-17	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			4 3 2	8	78	SS-18	-	41	23	5	18	13	28	18	10	17	Rock (V)	
			50/5"	-	100	SS-19	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			22 50/5"	-	100	SS-20	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			40 50/2"	-	125	SS-21	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	1154.1	EOB	50/5"	-	120	SS-22	-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: BORING COORDINATES FROM DRILLERS GPS, ELEVATION FROM GOOGLE EARTH.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 2 BAGS BENTONITE; 80 GAL. WATER

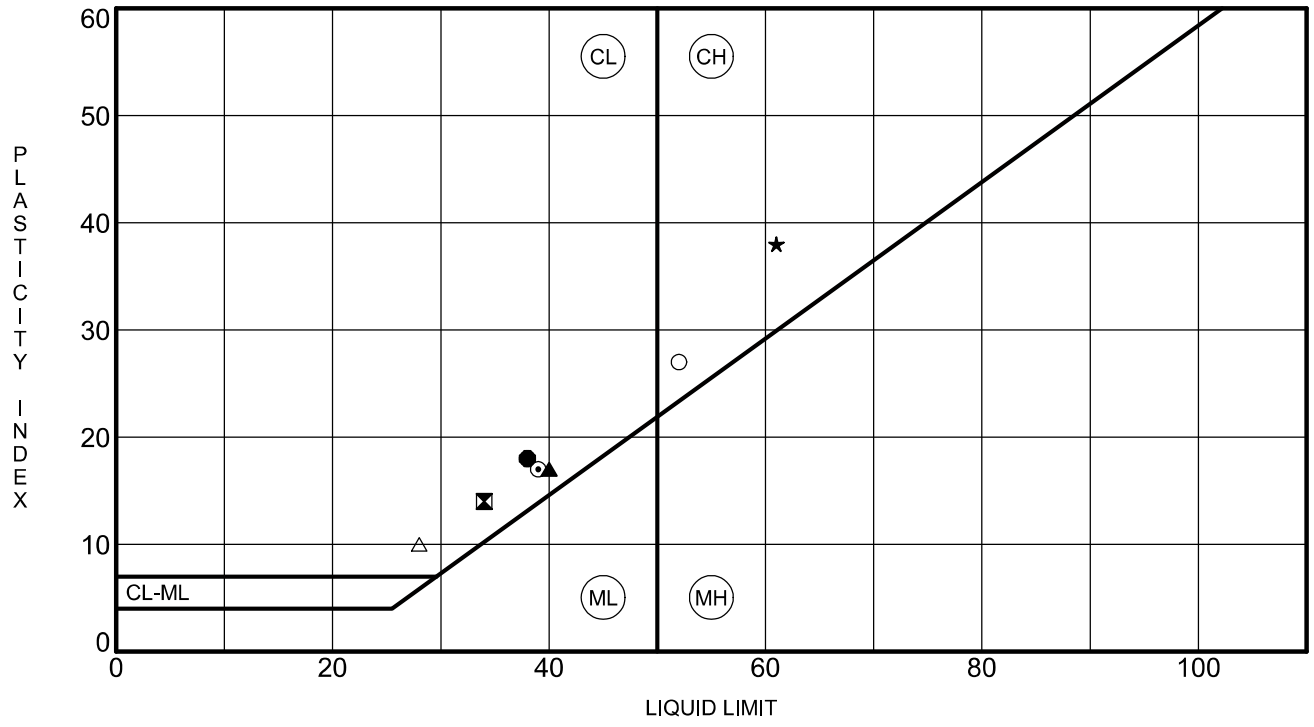
STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 10/29/26 16:59 - C:\USERS\DRPRATT\ONEDRIVE - TERRACON CONSULTANTS INC\1000026624 CR-5 OVER MAHONING VALLEY RAILWAY CO.- PID NO. 115174 - CLE - 26 - PROPOSAL - GENERAL\07 WORKING FILES\05 LABORATORY\N6235009 CR-5 OVER COLUMBU (ODOT).GPJ

ATTERBERG LIMITS' RESULTS

OHIO DEPARTMENT OF TRANSPORTION
OFFICE OF GEOTECHNICAL ENGINEERING

PROJECT HAS-CR5-6.12 **PID** 115174

OGE NUMBER N6235009 **PROJECT TYPE** STRUCTURE FOUNDATION



	Specimen Identification		LL	PL	PI	Fines	Classification
●	B-001-0-23	6.0	38	20	18	73	SILTY CLAY (A-6b)
⊠	B-001-0-23	13.5	34	20	14	92	SILT AND CLAY(A-6a)
▲	B-001-0-23	18.5	40	23	17	89	SILTY CLAY(A-6b)
★	B-001-0-23	23.5	61	23	38	57	CLAY(A-7-6)
⊙	B-002-0-23	6.0	39	22	17	71	SILTY CLAY (A-6b)
✿	B-002-0-23	13.5	38	20	18	78	SILTY CLAY (A-6b)
○	B-002-0-23	18.5	52	25	27	84	CLAY (A-7-6)
△	B-002-0-23	42.0	28	18	10	31	GRAVEL WITH SAND AND SILT (A-2-4)

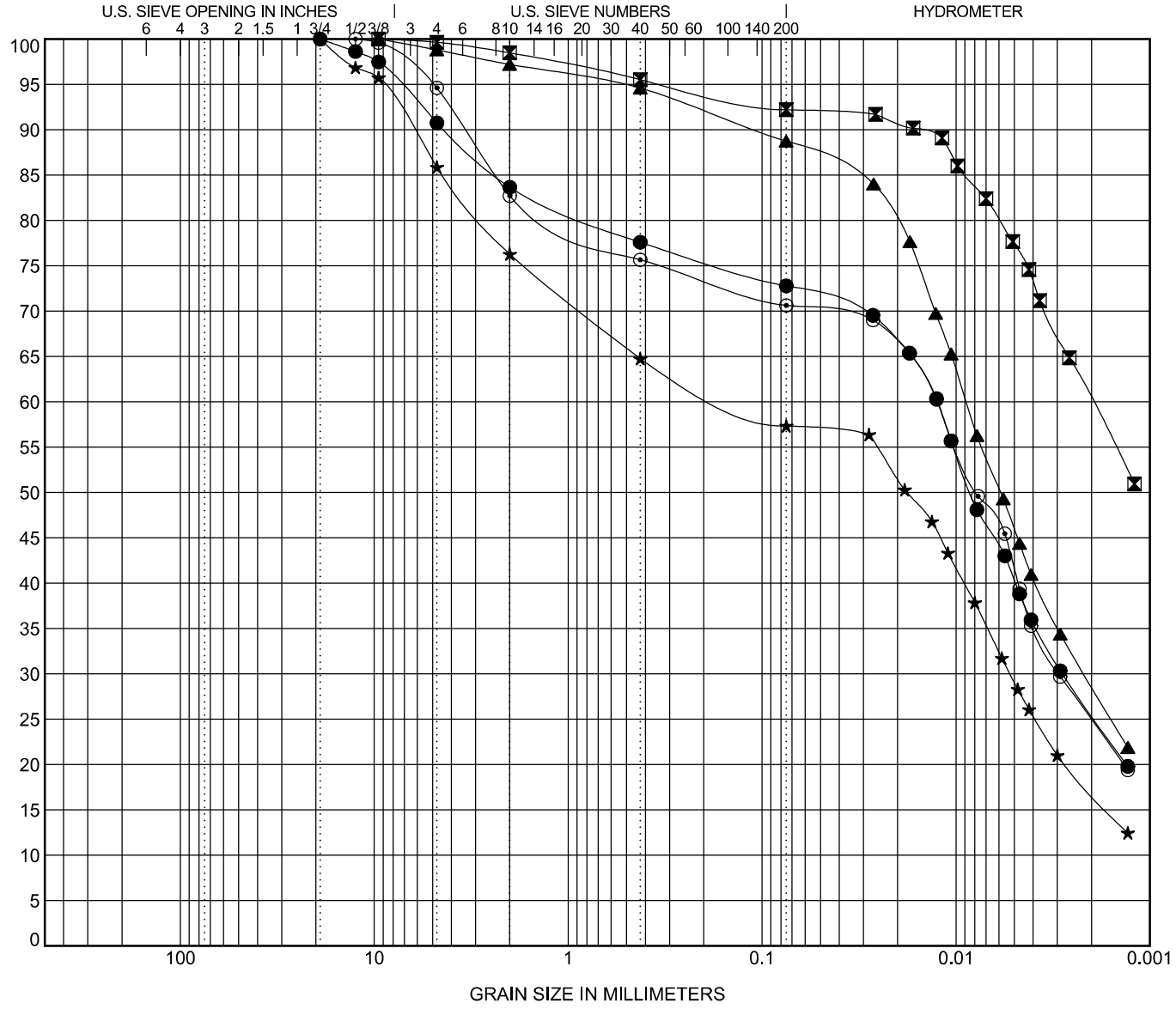
ATTERBERG LIMITS - OH DOT.GDT - 8/3/23 16:19 - C:\USERS\NKMANIKKAM\ONEDRIVE - TERRACON CONSULTANTS INC\RECORDINGS\DESKTOP\N6235009 CR-5 OVER COLUMBU (ODOT).GPJ

GRAIN SIZE DISTRIBUTION

OHIO DEPARTMENT OF TRANSPORTION
OFFICE OF GEOTECHNICAL ENGINEERING

PROJECT HAS-CR5-6.12 **PID** 115174

OGE NUMBER N6235009 **PROJECT TYPE** STRUCTURE FOUNDATION



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification			ODOT (Modified AASHTO) ~ USCS Classification	LL	PL	PI
●	B-001-0-23	6.0	**A-6b ~ LEAN CLAY with SAND(CL)**	38	20	18
⊠	B-001-0-23	13.5	**A-6a ~ LEAN CLAY(CL)**	34	20	14
▲	B-001-0-23	18.5	**A-6b ~ LEAN CLAY(CL)**	40	23	17
★	B-001-0-23	23.5	**A-7-6 ~ SANDY FAT CLAY(CH)**	61	23	38
⊙	B-002-0-23	6.0	**A-6b ~ LEAN CLAY with SAND(CL)**	39	22	17

Specimen Identification			D90	D50	D30	D10	%G	%CS	%FS	%M	%C	Cc	Cu
●	B-001-0-23	6.0	4.334	0.008	0.003		16	6	5	33	40		
⊠	B-001-0-23	13.5	0.016				2	3	3	15	77		
▲	B-001-0-23	18.5	0.109	0.006	0.002		2	3	6	43	46		
★	B-001-0-23	23.5	6.347	0.018	0.005		24	12	7	28	29		
⊙	B-002-0-23	6.0	3.395	0.008	0.003		17	7	5	29	42		

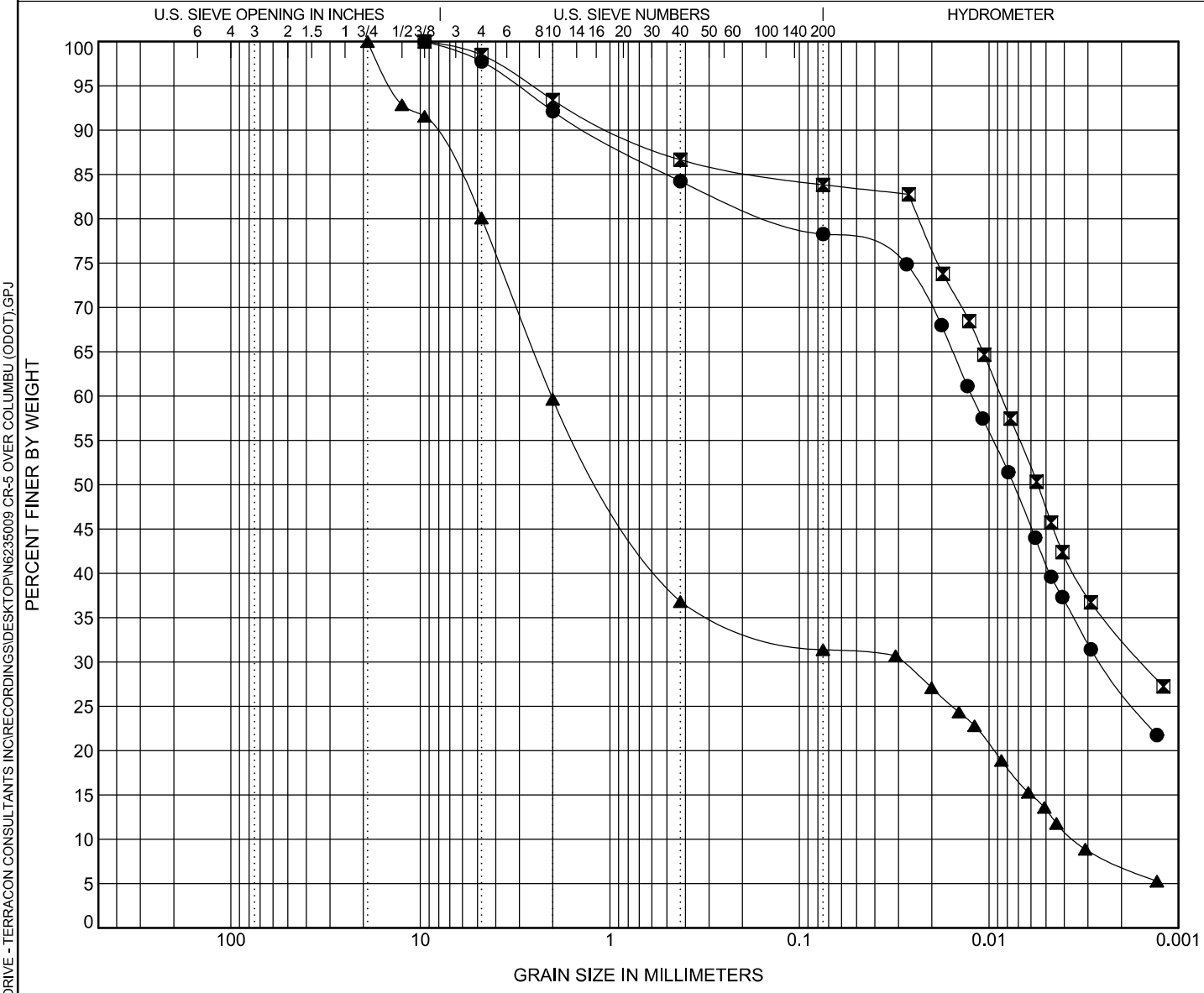
GRAIN SIZE - OH DOT.GDT - 8/3/23 16:20 - C:\USERS\NKMANIKKAM\ONEDRIVE - TERRACON CONSULTANTS INC\RECORDINGS\DESKTOP\N6235009 CR-5 OVER COLUMBU (ODOT).GPJ

GRAIN SIZE DISTRIBUTION

OHIO DEPARTMENT OF TRANSPORTION
OFFICE OF GEOTECHNICAL ENGINEERING

PROJECT HAS-CR5-6.12 **PID** 115174

OGE NUMBER N6235009 **PROJECT TYPE** STRUCTURE FOUNDATION



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification			ODOT (Modified AASHTO) ~ USCS Classification	LL	PL	PI
●	B-002-0-23	13.5	A-6b ~ LEAN CLAY with SAND(CL)	38	20	18
⊠	B-002-0-23	18.5	A-7-6 ~ FAT CLAY with SAND(CH)	52	25	27
▲	B-002-0-23	42.0	A-2-4 ~ CLAYEY SAND with GRAVEL(SC)	28	18	10

Specimen Identification			D90	D50	D30	D10	%G	%CS	%FS	%M	%C	Cc	Cu
●	B-002-0-23	13.5	1.316	0.007	0.003		8	8	6	37	41		
⊠	B-002-0-23	18.5	0.916	0.006	0.002		6	7	3	37	47		
▲	B-002-0-23	42.0	8.642	1.04	0.029	0.004	41	23	5	18	13	0.11	572.46

GRAIN SIZE - OH DOT.GDT - 8/3/23 16:20 - C:\USERS\NKMANIKKAM\ONEDRIVE - TERRACON CONSULTANTS INC\RECORDINGS\DESKTOP\N6235009 CR-5 OVER COLUMBU (ODOT).GPJ

N6235009 HAS-CR5-6.12 Bridge Replacement

N6235009: Rock Core for Boring B-002-0-23			
Run	Depth (ft)	Rec (in)	RQD %
1	40 ~ 42	20	21

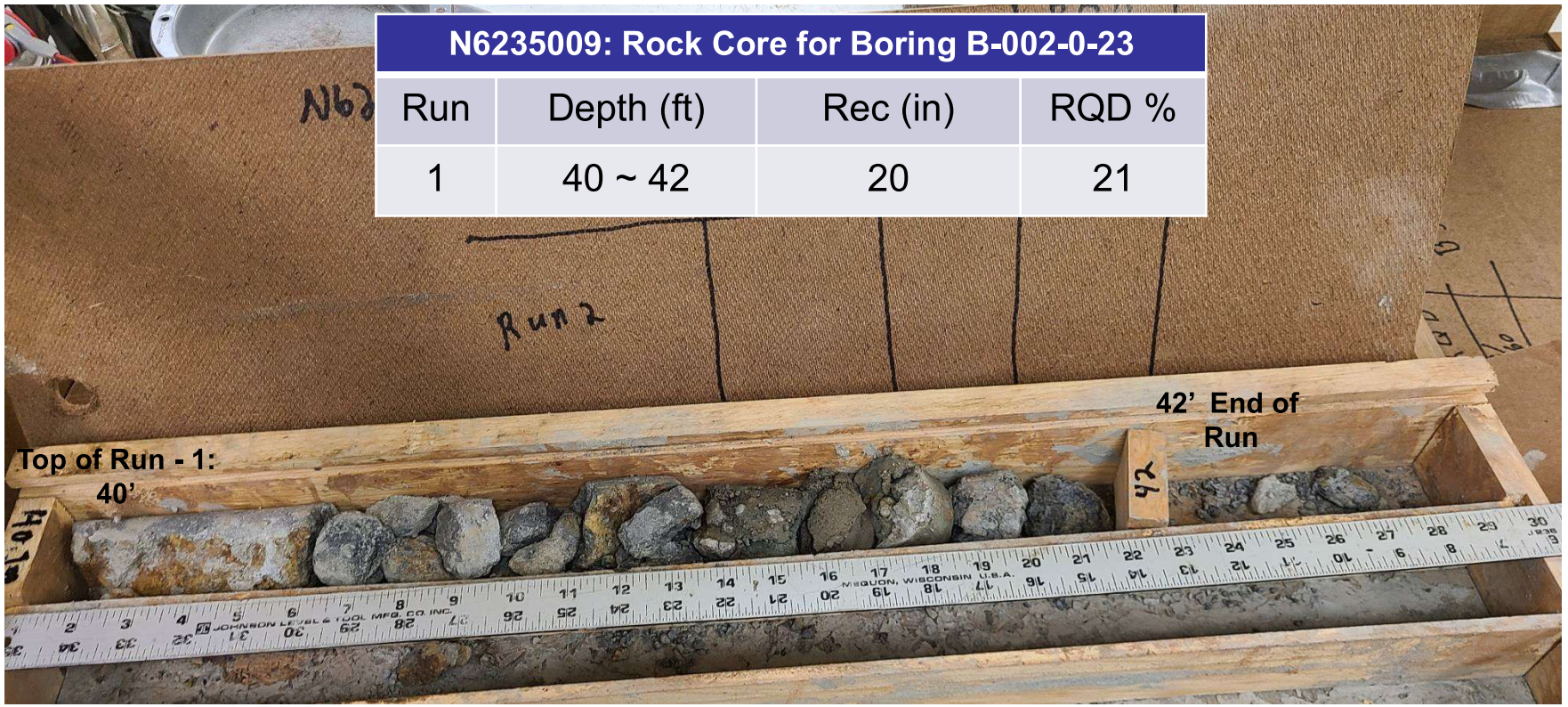


PHOTO 1: ROCK CORE OF BORING B-002-0-23, BOX 1 of 1

Project Manager: DW	Project No. N6235009	Terracon	ROCK CORE PHOTO OF BORING B-002-0-23 (Box 1 of 1)
Drawn by: NKM	Scale: N.T.S.	12460 Plaza Drive Parma, Ohio 43130	HAS-CR5-6.12 Bridge Replacement- PID 115174
Checked by: CAS	File Name: Rockcore Photos	PH. (216) 459-8378 FAX. (216) 459-8954	Geotechnical Investigation
Approved by: CAS	Date: 8/4/2023		Hopedale, Harrison County, Ohio



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DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	NKM
Drawn by:	KJS
Checked by:	SEB
Approved by:	CAS

Project No.	N6235009
Scale:	As Shown
File Name:	CR5-GPX
Date:	11/22/2023

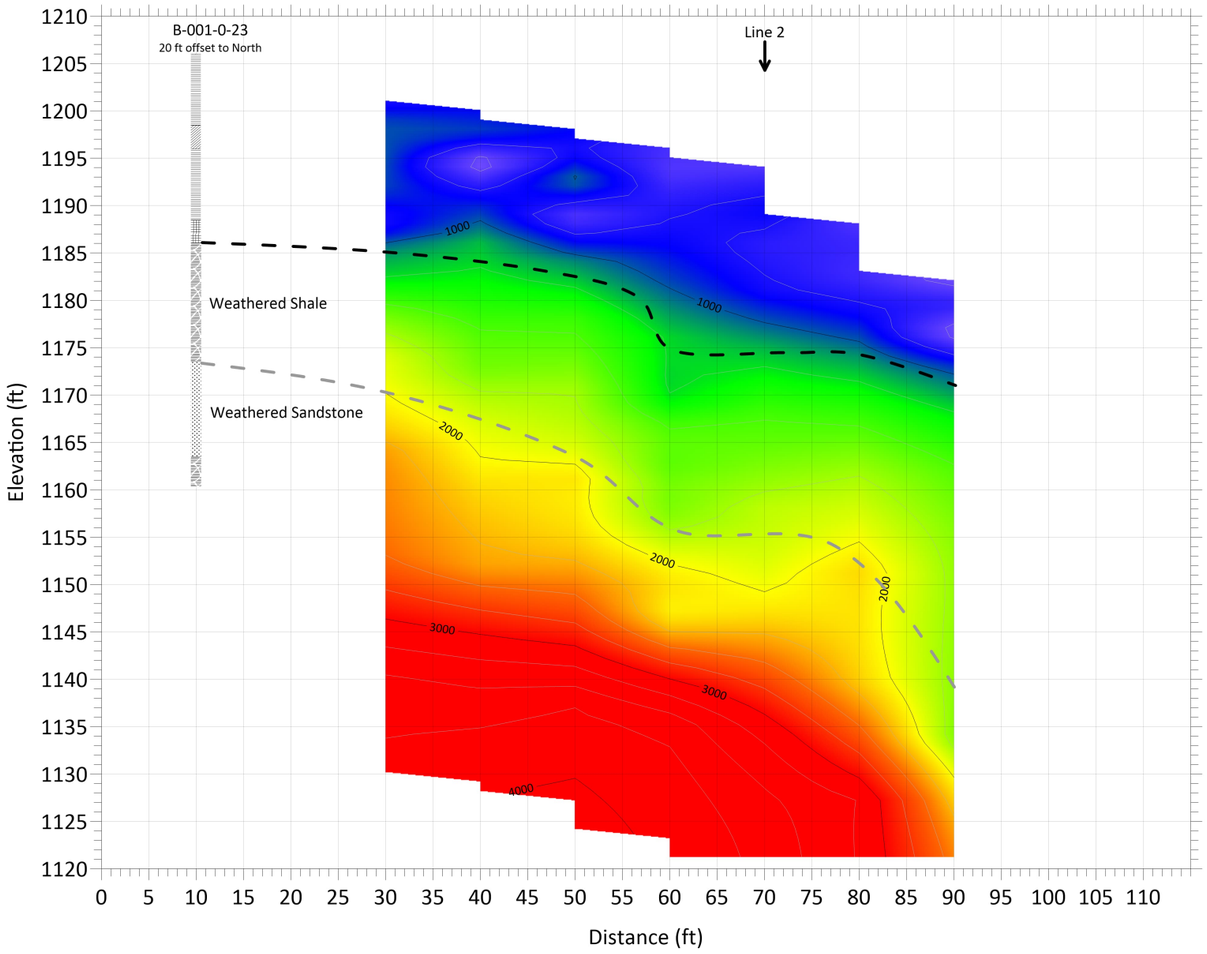
Terracon
Explore with us
611 Lunken Park Drive
Cincinnati, Ohio 45226

Geophysical Survey Plan

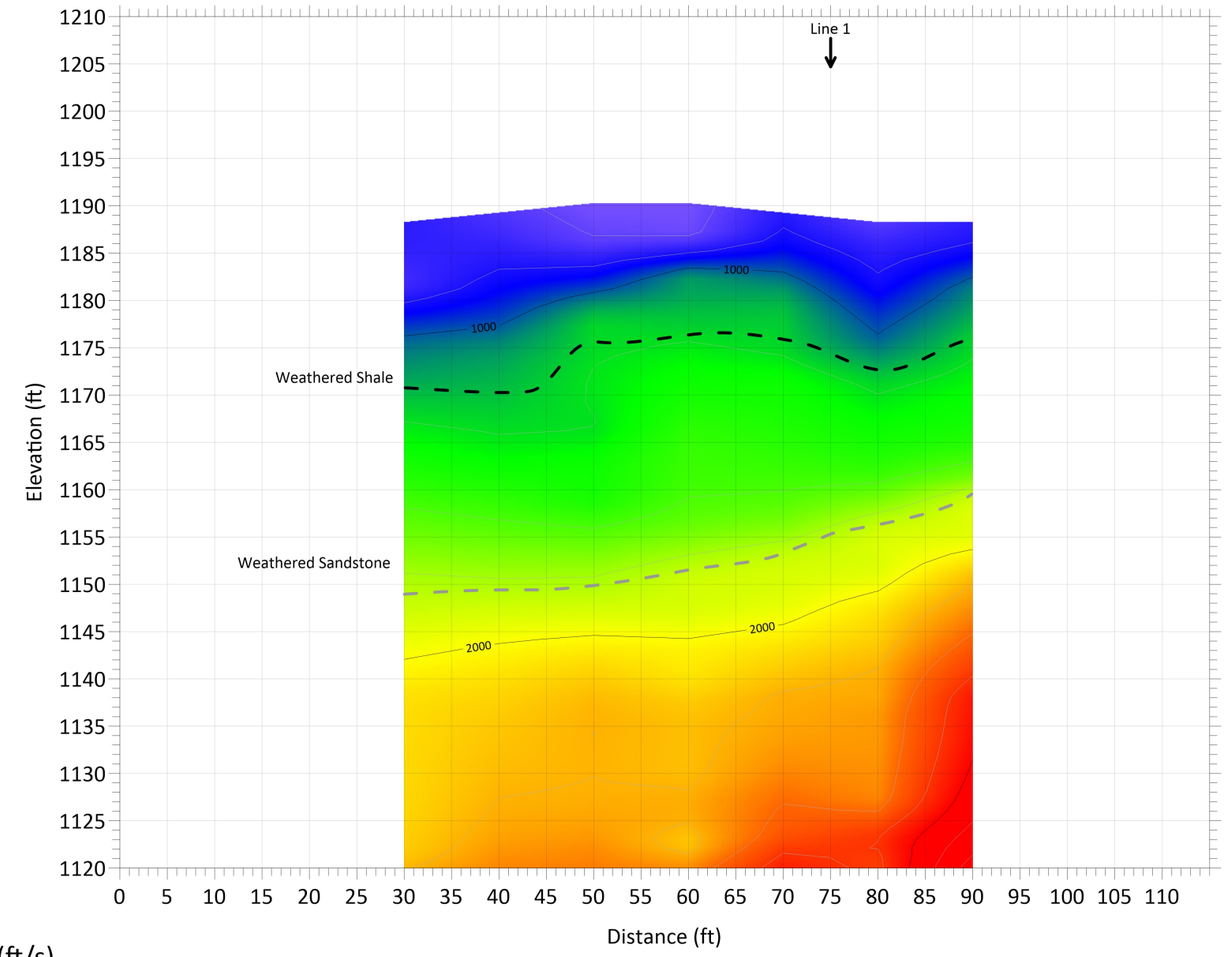
CR-5 Over Columbus and Ohio River Railroad
PID No. 115174
Hopedale, Ohio

EXHIBIT 1

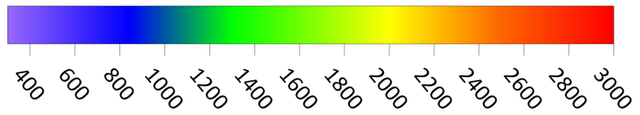
MASW Line 1 (W - E)



MASW Line 2 (N - S)



Vs (ft/s)

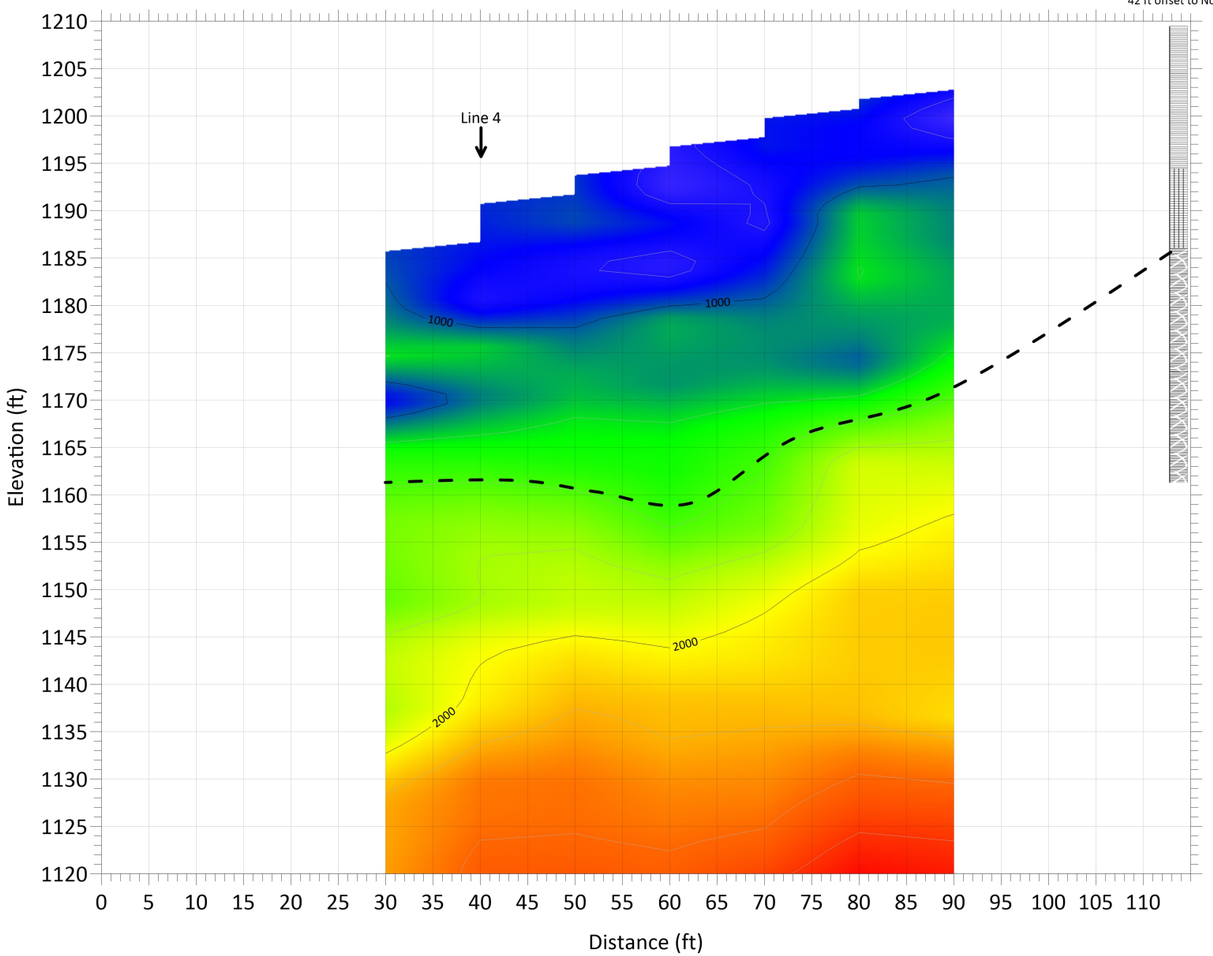


Interpreted Top of Bedrock

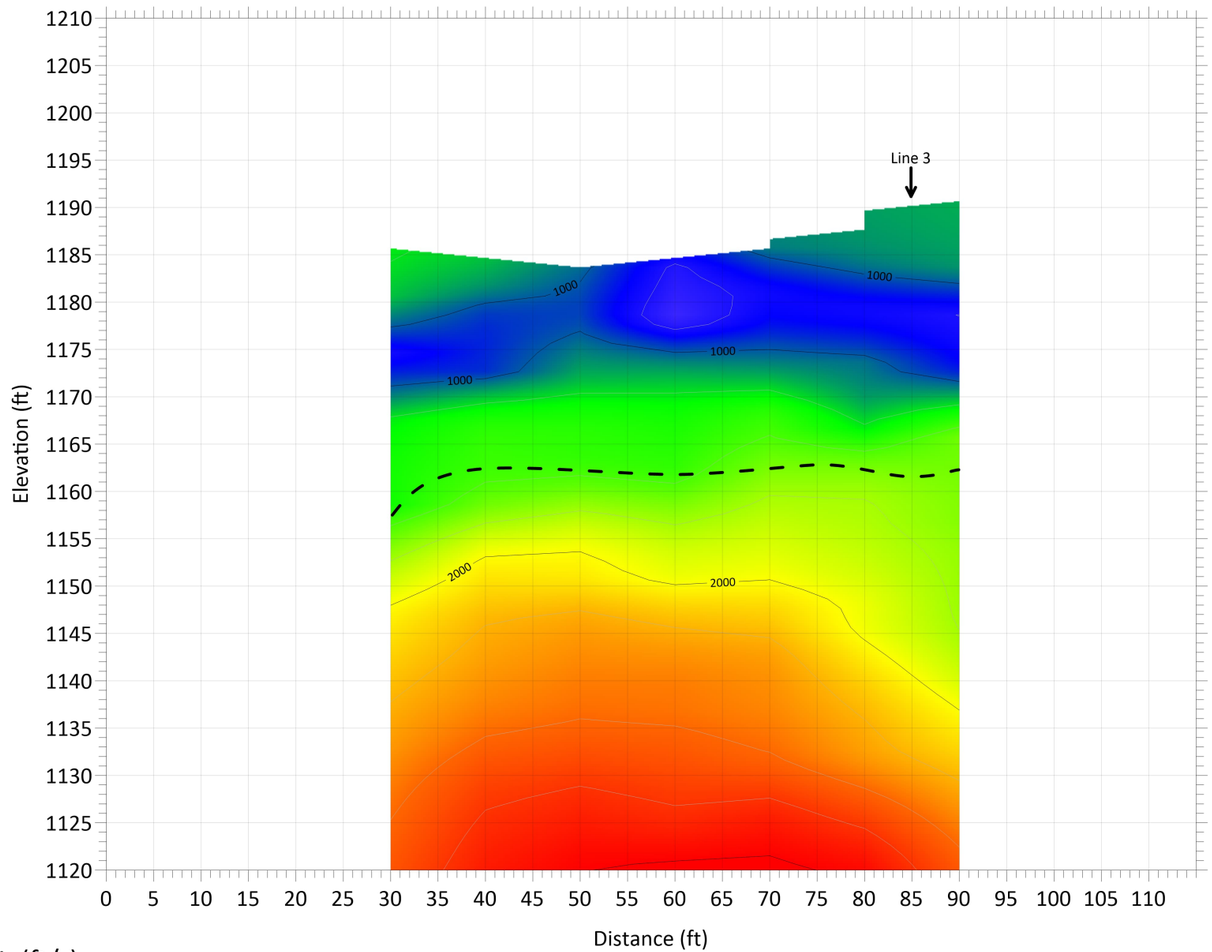
Project Manager: NKM	Project No. N6235009	Terracon Explore with us 611 Lunken Park Drive Cincinnati, Ohio 45226	MASW Profiles CR-5 Over Columbus and Ohio River Railroad PID No. 115174 Hopedale, Ohio
Drawn by: KJS	Scale: As Shown		
Checked by: SEB	File Name: CR5-GPX		
Approved by: CAS	Date: 11/22/2023		

EXHIBIT 2

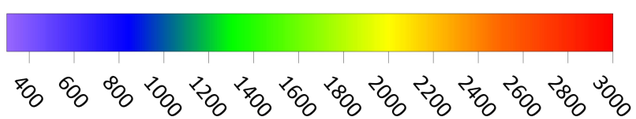
MASW Line 3 (W - E)



MASW Line 4 (N - S)



Vs (ft/s)

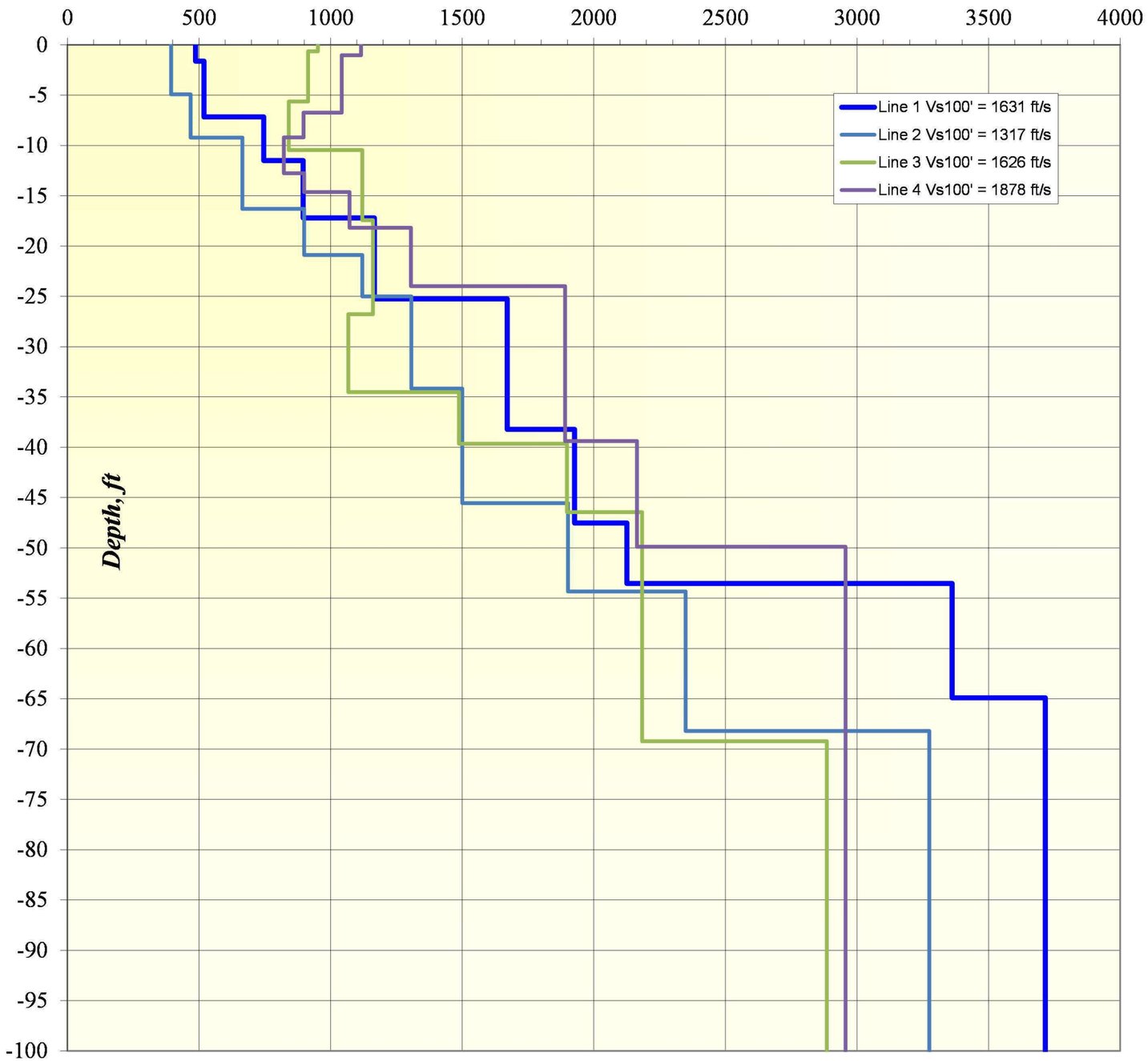


Interpreted Top of Bedrock

Project Manager: NKM	Project No. N6235009	Terracon Explore with us 611 Lunken Park Drive Cincinnati, Ohio 45226	MASW Profiles CR-5 Over Columbus and Ohio River Railroad PID No. 115174 Hopedale, Ohio
Drawn by: KJS	Scale: As Shown		
Checked by: SEB	File Name: CR5-GPX		
Approved by: CAS	Date: 11/22/2023		

EXHIBIT 3

Vs Model



Line 1: 1,631 ft/s

Depth Interval (ft)			Vs (ft/s)
0	to	-2	487
-2	to	-7	520
-7	to	-12	746
-12	to	-17	896
-17	to	-25	1167
-25	to	-38	1671
-38	to	-48	1927
-48	to	-54	2126
-54	to	-65	3361
-65	to	-100	3716

Line 2: 1,317 ft/s

Depth Interval (ft)			Vs (ft/s)
0	to	-5	395
-5	to	-9	468
-9	to	-16	665
-16	to	-21	900
-21	to	-25	1121
-25	to	-34	1307
-34	to	-46	1501
-46	to	-54	1902
-54	to	-68	2349
-68	to	-100	3275

Line 3: 1,626 ft/s

Depth Interval (ft)			Vs (ft/s)
0	to	-1	952
-1	to	-6	915
-6	to	-10	842
-10	to	-17	1121
-17	to	-27	1161
-27	to	-35	1067
-35	to	-40	1488
-40	to	-46	1898
-46	to	-69	2184
-69	to	-100	2886

Line 4: 1,878 ft/s

Depth Interval (ft)			Vs (ft/s)
0	to	-1	1116
-1	to	-7	1043
-7	to	-9	898
-9	to	-13	822
-13	to	-15	900
-15	to	-18	1073
-18	to	-24	1306
-24	to	-39	1891
-39	to	-50	2164
-50	to	-100	2957

Project Manager:	NKM
Drawn by:	KJS
Checked by:	SEB
Approved by:	CAS
Project No.	N6235009
Scale:	As Shown
File Name:	CR5-GPX
Date:	11/22/2023

Terracon
Explore with us
611 Lunken Park Drive
Cincinnati, Ohio 45226

MASW Seismic Site Class

CR-5 Over Columbus and Ohio River Railroad
PID No. 115174
Hopedale, Ohio

EXHIBIT 4

APPENDIX C – SUPPORTING INFORMATION

Contents:

ODOT Quick Reference for Visual Description of Soils
ODOT Classification of Soils
Calculations

Note: All attachments are one page unless noted above.

APPENDIX A.1 - ODOT Quick Reference for Visual Description of Soils

1) STRENGTH OF SOIL:

Non-Cohesive (granular) Soils - Compactness	
Description	**Blows Per Ft.**
Very Loose	≤ 4
Loose	5 – 10
Medium Dense	11 – 30
Dense	31 – 50
Very Dense	> 50

2) COLOR :

If a color is a uniform color throughout, the term is single, modified by an adjective such as light or dark. If the predominate color is shaded by a secondary color, the secondary color precedes the primary color. If two major and distinct colors are swirled throughout the soil, the colors are modified by the term "mottled"

3) PRIMARY COMPONENT

Use **DESCRIPTION** from ODOT Soil Classification Chart on Back

Cohesive (fine grained) Soils - Consistency

Description	Qu (TSF)	Blows Per Ft.	Hand Manipulation
Very Soft	<0.25	<2	Easily penetrates 2" by fist
Soft	0.25-0.5	2 - 4	Easily penetrates 2" by thumb
Medium Stiff	0.5-1.0	5 - 8	Penetrates by thumb with moderate effort
Stiff	1.0-2.0	9 - 15	Readily indents by thumb, but not penetrate
Very Stiff	2.0-4.0	16 - 30	Readily indents by thumbnail
Hard	>4.0	>30	Indent with difficulty by thumbnail

4) COMPONENT MODIFIERS:

Description	Percentage By Weight
Trace	0% - 10%
Little	10% - 20%
Some	20% - 35%
"And"	35% -50%

5) Soil Organic Content

Description	% by Weight
Slightly Organic	2% - 4%
Moderately Organic	4% - 10%
Highly Organic	> 10%

6) Relative Visual Moisture

Description	Criteria	
	Cohesive Soil	**Non-cohesive Soils**
Dry	Powdery; Cannot be rolled; Water content well below the plastic limit	No moisture present
Damp	Leaves very little moisture when pressed between fingers; Crumbles at or before rolled to $^1/_8$"; Water content below plastic limit	Internal moisture, but no to little surface moisture
Moist	Leaves small amounts of moisture when pressed between fingers; Rolled to $^1/_8$" or smaller before crumbling; Water content above plastic limit to -3% of the liquid limit	Free water on surface, moist (shiny) appearance
Wet	Very mushy; Rolled multiple times to $^1/_8$" or smaller before crumbles; Near or above the liquid limit	Voids filled with free water, can be poured from split spoon.

CLASSIFICATION OF SOILS

Ohio Department of Transportation

(The classification of a soil is found by proceeding from top to bottom of the chart.
The first classification that the test data fits is the correct classification.)

SYMBOL	DESCRIPTION	Classifcation AASHTO	Classifcation OHIO	$LL_0/LL \times 100$*	% Pass #40	% Pass #200	Liquid Limit (LL)	Plastic Index (PI)	Group Index Max.	REMARKS
	Gravel and/or Stone Fragments	A-1-a			30 Max.	15 Max.		6 Max.	0	Min. of 50% combined gravel, cobble and boulder sizes
	Gravel and/or Stone Fragments with Sand	A-1-b			50 Max.	25 Max.		6 Max.	0	
	Fine Sand	A-3			51 Min.	10 Max.	NON-PLASTIC		0	
	Coarse and Fine Sand	--	A-3a			35 Max.		6 Max.	0	Min. of 50% combined coarse and fine sand sizes
	Gravel and/or Stone Fragments with Sand and Silt	A-2-4				35 Max.	40 Max.	10 Max.	0	
		A-2-5					41 Min.			
	Gravel and/or Stone Fragments with Sand, Silt and Clay	A-2-6				35 Max.	40 Max.	11 Min.	4	
		A-2-7					41 Min.			
	Sandy Silt	A-4	A-4a	76 Min.		36 Min.	40 Max.	10 Max.	8	Less than 50% silt sizes
	Silt	A-4	A-4b	76 Min.		50 Min.	40 Max.	10 Max.	8	50% or more silt sizes
	Elastic Silt and Clay	A-5		76 Min.		36 Min.	41 Min.	10 Max.	12	
	Silt and Clay	A-6	A-6a	76 Min.		36 Min.	40 Max.	11 - 15	10	
	Silty Clay	A-6	A-6b	76 Min.		36 Min.	40 Max.	16 Min.	16	
	Elastic Clay	A-7-5		76 Min.		36 Min.	41 Min.	$\leq$LL-30	20	
	Clay	A-7-6		76 Min.		36 Min.	41 Min.	>LL-30	20	
	Organic Silt	A-8	A-8a	75 Max.		36 Min.				W/o organics would classify as A-4a or A-4b
	Organic Clay	A-8	A-8b	75 Max.		36 Min.				W/o organics would classify as A-5, A-6a, A-6b, A-7-5 or A-7-6

MATERIAL CLASSIFIED BY VISUAL INSPECTION

 Sod and Topsoil

 Pavement or Base

 Uncontrolled Fill (Describe)

 Bouldery Zone



Peat

* Only perform the oven-dried liquid limit test and this calculation if organic material is present in the sample.

APPENDIX A.2 – ODOT Quick Reference Guide for Rock Description

1: ROCK TYPE: Common rock types are: Claystone; Coal; Dolomite; Limestone; Sandstone; Siltstone; & Shale.

2: COLOR: To be determined when rock is wet. When using the GSA Color charts use only Name, not code.

3: WEATHERING

Description	Field Parameter
Unweathered	No evidence of any chemical or mechanical alternation of the rock mass. Mineral crystals have a bright appearance with no discoloration. Fractures show little or no staining on surfaces.
Slightly weathered	Slight discoloration of the rock surface with minor alterations along discontinuities. Less than 10% of the rock volume presents alteration.
Moderately weathered	Portions of the rock mass are discolored as evident by a dull appearance. Surfaces may have a pitted appearance with weathering "halos" evident. Isolated zones of varying rock strengths due to alteration may be present. 10 to 15% of the rock volume presents alterations.
Highly weathered	Entire rock mass appears discolored and dull. Some pockets of slightly too moderately weathered rock may be present and some areas of severely weathered materials may be present.
Severely weathered	Majority of the rock mass reduced to a soil-like state with relic rock structure discernable. Zones of more resistant rock may be present, but the material can generally be molded and crumbled by hand pressures.

4: TEXTURE

Component		Grain Diameter
Boulder		>12"
Cobble		3"-12"
Gravel		0.08"-3"
Sand	Coarse	0.02"-0.08"
	Medium	0.01"-0.02"
	Fine	0.005"-0.01"
	Very Fine	0.003"-0.005"

5: RELATIVE STRENGTH

Description	Field Parameter
Very Weak	Core can be carved with a knife and scratched by fingernail. Can be excavated readily with a point of a pick. Pieces 1 inch or more in thickness can be broken by finger pressure.
Weak	Core can be grooved or gouged readily by a knife or pick. Can be excavated in small fragments by moderate blows of a pick point. Small, thin pieces can be broken by finger pressure.
Slightly Strong	Core can be grooved or gouged 0.05 inch deep by firm pressure of a knife or pick point. Can be excavated in small chips to pieces about 1-inch maximum size by hard blows of the point of a geologist's pick.
Moderately Strong	Core can be scratched with a knife or pick. Grooves or gouges to ¼" deep can be excavated by hand blows of a geologist's pick. Requires moderate hammer blows to detach hand specimen.
Strong	Core can be scratched with a knife or pick only with difficulty. Requires hard hammer blows to detach hand specimen. Sharp and resistant edges are present on hand specimen.
Very Strong	Core cannot be scratched by a knife or sharp pick. Breaking of hand specimens requires hard repeated blows of the geologist hammer.
Extremely strong	Core cannot be scratched by a knife or sharp pick. Chipping of hand specimens requires hard repeated blows of the geologist hammer.

6: BEDDING

Description	Thickness
Very Thick	>36"
Thick	18" – 36"
Medium	10" – 18"
Thin	2" – 10"
Very Thin	0.4" – 2"
Laminated	0.1" – 0.4"
Thinly Laminated	<0.1"

7: DESCRIPTORS

Arenaceous – sandy	Argillaceous - clayey	Brecciated – contains angular to subangular gravel
Calcareous - contains calcium carbonate	Carbonaceous - contains carbon	Cherty- contains chert fragments
Conglomeritic - contains rounded to subrounded gravel	Crystalline – contains crystalline structure	Dolomitic- contains calcium/magnesium carbonate
Ferriferous – contains iron	Fissile – thin planner partings	Fossiliferous – contains fossils
Friable – easily broken down	Micaceous – contains mica	Pyritic – contains pyrite
Siliceous – contains silica	Stylolitic – contain stylotites (suture like structure)	Vuggy – contains openings

APPENDIX A.2 – ODOT Quick Reference Guide for Rock Description

8: DISCONTINUITIES

a: Discontinuity Types

Type	Parameters
Fault	Fracture which expresses displacement parallel to the surface that does not result in a polished surface.
Joint	Planar fracture that does not express displacement. Generally occurs at regularly spaced intervals.
Shear	Fracture which expresses displacement parallel to the surface that results in polished surfaces or slickensides.
Bedding	A surface produced along a bedding plane.
Contact	A surface produced along a contact plane. (generally not seen in Ohio)

b: Degree of Fracturing

Description	Spacing
Unfractured	> 10 ft.
Intact	3 ft. – 10 ft.
Slightly fractured	1 ft. – 3 ft.
Moderately fractured	4 in. – 12 in.
Fractured	2 in. – 4 in.
Highly fractured	< 2 in.

c: Aperture Width

Description	Spacing
Open	> 0.2 in.
Narrow	0.05 in. - 0.2 in.
Tight	<0.05 in.

d: Surface Roughness

Description	Criteria
Very Rough	Near vertical steps and ridges occur on the discontinuity surface.
Slightly Rough	Asperities on the discontinuity surface are distinguishable and can be felt.
Slickensided	Surface has a smooth, glassy finish with visual evidence of striation.

11: RECOVERY

$Run\ \text{Recovery} = \left(\frac{R_R}{L_R}\right) * 100$	$Unit\ \text{Recovery} = \left(\frac{R_U}{L_U}\right) * 100$
L_R = Run Length R_R – Run Recovery	L_U = Rock Unit Length R_U – Rock Unit Recovery

9: GSI DESCRIPTION

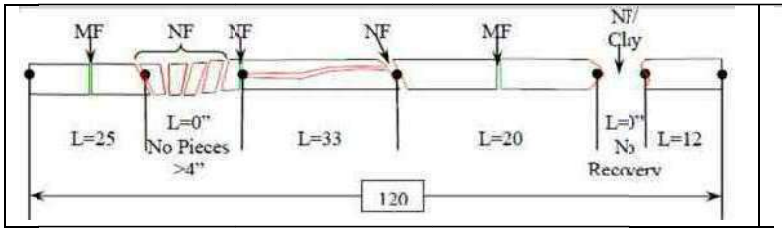
a: Structure

Description	Parameters
Intact or Massive	Intact rock with few widely spaced discontinuities
Blocky	Well interlocked undisturbed rock mass consisting of cubical blocks formed by three interesting discontinuity sets
Very Blocky	Interlocked, partially disturbed mass with multi-faceted angular blocks formed by 4 or more joint sets
Blocky/Disturbed/ Seamy	Angular blocks formed by many intersecting discontinuity sets, Persistence of bedding planes
Disintegrated	Poorly interlocked, heavily broken rock mass with mixture of angular and rounded rock pieces
Laminated/Sheared	Lack of blockiness due to close spacing of weak shear planes

b: Surface Condition

Description	Parameters
Very Good	Very rough, fresh unweathered surfaces
Good	Rough, slightly weathered, iron stained surface
Fair	Smooth, moderately weathered and altered surfaces
Poor	Slickensided, highly weathered surface with compact coatings or fillings or angular fragments
Very Poor	Slickensided, highly weathered surfaces with soft clay coating or fillings

10: RQD



$$RQD = \left(\frac{\sum Length\ of\ Pieces > 4inches}{Total\ Length\ of\ Core}\right) * 100$$

$$RQD = \left(\frac{25+33-20+12}{120}\right) * 100 = 75\%$$

SHAFT CAPACITY DETERMIANTION (AASHTO LRFD)

UCS obtained via Modified Standard Penetration Test-Based Drilled Shaft Design Method for Weak Rocks (Stark et. al., 2017)

$$N_{\text{rate}} = \left(\frac{\Delta\text{Cumulative MSPT Blow count}}{\Delta\text{Cumulative Penetnration}}\right) \qquad \text{UCS (ksf)} = 0.092 * (N_{rate})_{90}$$

B-001-0-23	Blows	Penetration (in)	N_{rate} (bpf)	UCS (ksf)
SS-13	50	3	200	18.4
SS-14	50	3	200	18.4
SS-15	50	3	200	18.4
			Weighted Average:	18.4

AASHTO LRFD 10.8.3.5.4c Tip Resistance in Rock

$$q_p = 2.5 q_u \qquad (10.8.3.5.4c\text{-}1)$$

q_u at bearing depth B-001-0-23	18.4	ksf
nominal q_p	46.0	ksf

AASHTO LRFD 10.8.3.5.4b Side Resistance in Rock

$$\frac{q_s}{p_a} = C\sqrt{\frac{q_u}{p_a}} \qquad (10.8.3.5.4b\text{-}1)$$

where:

p_a = atmospheric pressure taken as 2.12 ksf
C = regression coefficient taken as 1.0 for normal conditions
q_u = uniaxial compressive strength of rock (ksf)

C	1.0	dim
q_u (weighted average along embedment length)	18.4	ksf
p_a	2.12	ksf
nominal q_s	6.0	ksf

AASHTO LRFD 10.8.3.5 Nominal Axial Compression Resistance of Single Drilled Shafts

$$R_R = \varphi R_n = \varphi_{qp} R_p + \varphi_{qs} R_s \qquad (10.8.3.5\text{-}1)$$

$$R_S = q_S A_S \qquad (10.8.3.5\text{-}3)$$

q_s	6.0	ksf	
A_s	66	sf	
Pre-Bored Hole Diameter, D	1.5	ft	from B&N lateral analysis
Pre-Bored Hole Effective Rock Embedement, H	14	ft	from B&N lateral analysis
Nominal shaft side resistance, R_S	396	kips	
Resistance factor for shaft side resistance, ϕ_{qs}	0.55	dim	
Factored resistance of drilled shaft, R_R	218	kips	

SHAFT CAPACITY DETERMIANTION (AASHTO LRFD)

UCS obtained via Modified Standard Penetration Test-Based Drilled Shaft Design Method for Weak Rocks (Stark et. al., 2017)

$$N_{\text{rate}} = \left(\frac{\Delta\text{Cumulative MSPT Blow count}}{\Delta\text{Cumulative Penetnration}}\right) \qquad \text{UCS (ksf)} = 0.092 * (N_{rate})_{90}$$

B-002-0-23	Blows	Penetration (in)	N_{rate} (bpf)	UCS (ksf)
SS-17	50	5	120	11.04
SS-18	50	5	120	11.04
SS-19	50	2	300	27.6
SS-20	50	5	120	11.04
			Weighted Average:	16.2

AASHTO LRFD 10.8.3.5.4c Tip Resistance in Rock

$$q_p = 2.5q_u \qquad (10.8.3.5.4c\text{-}1)$$

q_u at bearing depth B-002-0-23	11.0	ksf
nominal q_p	27	ksf

AASHTO LRFD 10.8.3.5.4b Side Resistance in Rock

$$\frac{q_s}{p_a} = C\sqrt{\frac{q_u}{p_a}} \qquad (10.8.3.5.4b\text{-}1)$$

where:

p_a = atmospheric pressure taken as 2.12 ksf
C = regression coefficient taken as 1.0 for normal conditions
q_u = uniaxial compressive strength of rock (ksf)

C	1.0	dim
q_u (weighted average along embedment length)	16.2	ksf
p_a	2.12	ksf
nominal q_s	6.0	ksf

AASHTO LRFD 10.8.3.5 Nominal Axial Compression Resistance of Single Drilled Shafts

$$R_R = \varphi R_n = \varphi_{qp} R_p + \varphi_{qs} R_s \qquad (10.8.3.5\text{-}1)$$

$$R_S = q_S A_S \qquad (10.8.3.5\text{-}3)$$

q_s	6.0	ksf	
A_s	66	sf	
Pre-Bored Hole Diameter, D	1.5	ft	from B&N lateral analysis
Pre-Bored Hole Effective Rock Embedement, H	14	ft	from B&N lateral analysis
Nominal shaft side resistance, R_S	396	kips	
Resistance factor for shaft side resistance, ϕ_{qs}	0.55	dim	
Factored resistance of drilled shaft, R_R	218	kips	

Prebored Pile Calculations

Estimated Pile Lengths

DESIGN ASSUMPTIONS

1 *DUE TO THE EXISTING SHALE BEING SEVERELY TO HIGHLY WEATHERED, BEING VERY WEAK AND LAMINATED, AND HAVING POOR UNCONFINED COMPRESSIVE STRENGTH, ANALYZE THE PREBORED PILES LIKE DRILLED SHAFTS TO ENSURE ADEQUATE GEOTECHNICAL RESISTANCE. TIP RESISTANCE WAS IGNORED DUE TO ITS RELATIVELY LOW VALUE.*

DETERMINE H-PILE ROCK PREBORE LENGTH

305.4.2 ROCK-SOCKETED DRILLED SHAFTS

For competent bedrock with a minimum rock socket length equal to 1.5 times the rock socket diameter, use *LRFD Eq. 10.8.3.5.4c-1* to evaluate the nominal unit tip resistance of the bedrock.

For all other rock, provide a justification in the Foundation Report and evaluate the nominal unit tip resistance of the rock mass through Geological Strength Index (GSI) and *LRFD Eq. 10.8.3.5.4c-2*.

Neglect side resistance for rock sockets with a length less than 1.5 times the rock socket diameter. Otherwise, neglect the contribution to skin friction provided by the top 2-ft of the rock socket.

C305.4.2

Competent bedrock is defined as rock that does not contain adverse jointing, open solution cavities, or joints that are filled with weathered material that would affect the bearing resistance of the rock, within a distance equal to two socket diameters below the tip of the drilled shaft rock socket.

Table 305-1

Method/Soil/Condition		Resistance Factors			
		Driven Piles	Drilled Shafts	Micro-Piles	CFA Piles
Nominal Axial Compressive Resistance of Single Elements, φ_{stat}	Side resistance in clay	0.35	0.45	0.55	0.45
	Tip resistance in clay	0.35	0.40	N/A	0.40
	Side resistance in sand	0.45	0.55	0.55	0.50
	Tip resistance in sand	0.45	0.50	N/A	0.45
	Side resistance in cohesive IGMs	N/A	0.60	0.55	0.50
	Tip resistance in cohesive IGMs	0.45	0.55	N/A	0.45
	Side resistance in rock	N/A	0.55	N/A	0.50
	Tip resistance in rock	0.45	0.50	0.50	0.45

1306.3.2 Deflection and Mobilization of Resistance

Drilled shafts are constructed in an at-rest condition with respect to earth pressure, and initially have no mobilized resistance in side friction or bearing pressure. Drilled shafts depend on vertical and horizontal deflections to develop soil reactions and generate geotechnical resistance. This means that unlike driven piles (which have locked-in driving stresses), friction drilled shafts must vertically deflect typically around 2% to 4% of their nominal diameter to develop their maximum (ultimate or nominal) resistance. Downdrag can result in additional vertical deflection even before the geotechnical resistance begins to develop. For this reason, considerations of settlement and deflection of friction drilled shafts is often critical to their use as structure foundations.

Rock-socketed drilled shafts do not deflect much to develop their maximum vertical resistance; the deflection in the rock is typically only a fraction of an inch. Therefore, rock-socketed drilled shaft foundations are preferred to friction drilled shafts.

For both kinds of drilled shaft, it takes considerably more vertical deflection to develop the maximum tip resistance than it does to develop the maximum side resistance (generally on the order of 10 times). In fact, the side resistance will exceed the maximum, and a shear failure will occur on the sides of the shaft before the maximum tip resistance can be achieved. Therefore, for friction drilled shafts, it is important to consider the relative deflection versus load to mobilize the maximum combined value in accordance with AASHTO LRFD Article 10.8.2.2.2 and Figures

10.8.2.2.2-1 through 10.8.2.2.2-4. Use the maximum combined value (at the same value of deflection) as the nominal drilled shaft vertical (axial) geotechnical resistance in the Strength Limit State, and report the nominal and factored resistances of the two components of resistance (side and tip) for the drilled shaft at that value of deflection for inclusion in the plans.

A vertical deflection beyond 5% of the drilled shaft diameter is considered geotechnical failure. If the combined nominal resistance is still increasing at a deflection of 5% of the drilled shaft diameter (e.g., tip resistance in coarse granular soils), limit the value of nominal resistance to that at 5% deflection.

For rock-socketed drilled shafts, typically utilize only the tip resistance or side resistance, but not both, in accordance with Section 1306.1.2. If using both components of resistance, use the full calculated side resistance in accordance with section 1306.4.2, but do one of the following three options:

DETERMINE H-PILE ROCK PREBORE LENGTH

$R_R = \varphi_{Rn} = \varphi_{qp}R_P + \varphi_{qs}R_S$ .....(C305.4.1-2)

In which:

R_n = Nominal resistance in axial compression (kips)

R_P = Nominal drilled shaft tip resistance (kips)

φ_{qp} = Resistance factor for tip resistance

R_S = Nominal drilled shaft side resistance (kips)

φ_{qs} = Resistance factor for shaft side resistance

CALCULATE H, THE PREBORED HOLE LENGTH INTO ROCK.

FROM ANALYSIS, THE MAXIMUM FACTORED PILE LOAD = 215 *K*

φqp = 0.5

Rp = 0 *K* *(IGNORED PER GDM 1306.4.2)*

*Rs = φqs*π*D*qs *H*

Rs = 215 *K* *(SINCE Rp = 0)*

qs = 6 *KSF*

D = 1.5 *FT*

φqs = 0.55

H = 13.83 *FT*

H ADJUSTED = 15.83 *FT* *(ADD 2 FEET SINCE THIS IS IGNORED PER 305.4.2)*

ROCK SOCKET LENGTH = 16 *FT*

DETERMINE PILE ESTIMATED LENGTHS

REAR ABUTMENT

BOTTOM OF FOOTING EL. =	*1191*	
PILE CUTOFF EL. =	*1192*	
ESTIMATED TOP OF ROCK EL. =	*1174*	*(FROM GEOPHYSICAL DATA)*
BOTTOM OF ROCK SOCKET EL. =	*1158*	
PILE LENGTH =	*34 FT*	
ESTIMATED PILE LENGTH =	*35 FT*	

FORWARD ABUTMENT

BOTTOM OF FOOTING EL. =	*1191*	
PILE CUTOFF EL. =	*1192*	
ESTIMATED TOP OF ROCK EL. =	*1166.5*	*(FROM GEOPHYSICAL DATA)*
BOTTOM OF ROCK SOCKET EL. =	*1151*	
PILE LENGTH =	*42 FT*	
ESTIMATED PILE LENGTH =	*45 FT*	

Group Inputs

P-multipliers

PILE SIZE = HP 12X53 with 18" prebored hole
EQUIVALENT PILE DIAMETER (B) = 18 IN

PILE ROW 1 LATERAL SPACING = 5 FT = 3.33 B
PILE ROW 2 LATERAL SPACING = 5 FT = 3.33 B
PILE ROW 3 LATERAL SPACING = 10 FT = 6.67 B

ROW 1 TO ROW 2 SPACING = 4 FT = 2.67 B
ROW 2 TO ROW 3 SPACING = 4 FT = 2.67 B

Table 10.7.2.4-1—Pile P-Multipliers, P_m, for Multiple Row Shading (averaged from Hannigan et al., 2006)

Pile *CTC* spacing (in the direction of loading)	*P*-Multipliers, P_m		
	Row 1	Row 2	Row 3 and higher
3*B*	0.8	0.4	0.3
5*B*	1.0	0.85	0.7

ROW 1 LATERAL Pm FACTOR = 0.83
ROW 2 LATERAL Pm FACTOR = 0.83
ROW 3 LATERAL Pm FACTOR = 1.00

ROW 1 TO 2 Pm FACTOR = 0.33
ROW 2 TO 3 Pm FACTOR = 0.23

ROW 1 BLENDED Pm FACTOR = **0.83**
ROW 2 BLENDED Pm FACTOR = **0.27**
ROW 3 BLENDED Pm FACTOR = **0.23**

Pm FACTORS ONLY APPLY TO SOIL OVERBURDEN AREA PER ODOT BDM 305.1.2. USE 1 FOR PORTIONS OF ALL PILES IN ROCK.

Rear Abutment Loads

		(vertical) Fx (lb)	(horizontal) Fy (lb)	Mz (lb*in)	Xc (ft)	Xy (ft)
Case 1	Construction 1	615000	165000	0	0	-0.11
Case 2	Strength 1 (maxVmaxH), (Contraction)	3002100	385300	0	0	1.16
Case 3	Strength 1 (minVmaxH), (Contraction)	1529900	385300	0	0	1.22
Case 4	Service 1, (Contraction)	2132900	325000	0	0	1.52
Case 5	Strength 1 (maxVmaxH), (Expansion)	3002100	342700	0	0	0.99
Case 6	Strength 1 (minVmaxH), (Expansion)	1529900	342700	0	0	0.88
Case 7	Service 1, (Expansion)	2132900	239700	0	0	1.03

(Construction 1 indicates a phased load case where the abutments are backfilled prior to superstructure placement.)

Forward Abutment Loads

		(vertical) Fx (lb)	(horizontal) Fy (lb)	Mz (lb*in)	Xc (ft)	Xy (ft)
Case 1	Construction 1	669800	195600	0	0	0.07
Case 2	Strength 1 (maxVmaxH), (Contraction)	3071800	427500	0	0	1.24
Case 3	Strength 1 (minVmaxH), (Contraction)	1583700	427500	0	0	1.40
Case 4	Service 1, (Contraction)	2185600	352900	0	0	1.62
Case 5	Strength 1 (maxVmaxH), (Expansion)	3071800	384900	0	0	1.06
Case 6	Strength 1 (minVmaxH), (Expansion)	1583700	384900	0	0	1.04
Case 7	Service 1, (Expansion)	2185600	267700	0	0	1.10

(Construction 1 indicates a phased load case where the abutments are backfilled prior to superstructure placement.)

Distributed Loads

		Direction (0=local, 1=global)	Pile/Set	End	Incr	Set	Factor
Case 1	Construction 1	1	1	18	1	1	1
Case 2	Strength 1 (maxVmaxH), (Contraction)	1	1	18	1	2	1
Case 3	Strength 1 (minVmaxH), (Contraction)	1	1	18	1	2	1
Case 4	Service 1, (Contraction)	1	1	18	1	3	1
Case 5	Strength 1 (maxVmaxH), (Expansion)	1	1	18	1	2	1
Case 6	Strength 1 (minVmaxH), (Expansion)	1	1	18	1	2	1
Case 7	Service 1, (Expansion)	1	1	18	1	3	1

		Distance from Pile Head (ft)	Load per Unit Length (lb/in)	set
Case 1	Construction 1, (Contraction)	0	96	1
		17	96	
Case 2	Strength 1 (maxVmaxH), (Contraction)	0	106	2
		17	106	
Case 3	Strength 1 (minVmaxH), (Contraction)	0	106	2
		17	106	
Case 4	Service 1, (Contraction)	0	70	3
		17	70	
Case 5	Strength 1 (maxVmaxH), (Expansion)	0	106	2
		17	106	
Case 6	Strength 1 (minVmaxH), (Expansion)	0	106	2
		17	106	
Case 7	Service 1, (Expansion)	0	70	3
		17	70	

Distance from Pile Head should be 17 for Rear Abutment and 24 for Forward Abutment. This limits overburden to the top of rock.

Rear Abutment – Fixed Group Outputs

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================================================================================

                  GROUP Version 2022.12.10

                    License ID : 500128013

                  License Type : (Network License)

                   Analysis of A Group of Piles
                Subjected to Axial and Lateral Loading

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================================================================================

     This model was prepared by:
     Keith Almasi



     Path to file locations      :
P:\PR61289\115174\400-Engineering\Structures\EngData\Stage 2\Design
Comps\Abutments\Group\Abutment Stage 3 - Revised\
     Name of input data file     : CR5 Rear Abutment Fixed.gp12d
     Name of output echo file    : CR5 Rear Abutment Fixed.gp12e
     Name of output results file : CR5 Rear Abutment Fixed.gp12o
     Name of output summary file : CR5 Rear Abutment Fixed.gp12t
     Name of plot output file    : CR5 Rear Abutment Fixed.gp12p
     Name of runtime file        : CR5 Rear Abutment Fixed.gp12r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  October 21, 2026     Time:  12:17:45



                  *****     COMPUTATION RESULTS     *****



     CR5 over MVRY Abutment
```

***** LOAD CASES RESULTS *****

LOAD CASE : 1
CASE NAME : Constr 1

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
6.15000E+05	1.65000E+05	8.05652E+05

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0145715	0.0612535	-6.60128E-06

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.014888	0.061253	-6.6013E-06	3.4777E+04	1.8566E+04	5.6663E+05	1.5220E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.014888	0.061253	-6.6013E-06	3.4777E+04	1.8566E+04	5.6663E+05	1.5220E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x FT	DISPL. y-DIR IN	BENDING MOMENT LBS-IN	SHEAR FORCE LBS	SOIL REACTION LBS/IN	TOTAL FLEXURAL STRESS LBS-IN**2	RIGIDITY LBS-IN**2
0.0000	6.1253E-02	-5.6663E+05	1.8566E+04	281.03	1.5220E+04	1.1397E+10
0.3300	6.0838E-02	-4.9454E+05	1.7811E+04	292.44	1.3569E+04	1.1397E+10
0.6600	5.9741E-02	-4.2551E+05	1.7012E+04	302.94	1.1988E+04	1.1397E+10
0.9900	5.8059E-02	-3.5971E+05	1.6174E+04	312.53	1.0481E+04	1.1397E+10
1.3200	5.5882E-02	-2.9728E+05	1.5299E+04	321.17	9051.6	1.1397E+10
1.6500	5.3297E-02	-2.3837E+05	1.4392E+04	328.86	7702.6	1.1397E+10
1.9800	5.0383E-02	-1.8310E+05	1.3457E+04	335.57	6436.9	1.1397E+10
2.3100	4.7217E-02	-1.3158E+05	1.2497E+04	341.28	5257.0	1.1397E+10
2.6400	4.3870E-02	-8.3902E+04	1.1516E+04	345.96	4165.1	1.1397E+10

2.9700	4.0408E-02	-4.0137E+04	1.0519E+04	349.58	3162.8	1.1397E+10
3.3000	3.6890E-02	-347.02	9510.0	352.11	2251.6	1.1397E+10
3.6300	3.3372E-02	3.5427E+04	8493.0	353.52	3055.0	1.1397E+10
3.9600	2.9903E-02	6.7160E+04	7472.7	353.78	3781.7	1.1397E+10
4.2900	2.6526E-02	9.4848E+04	6453.7	352.85	4415.8	1.1397E+10
4.6200	2.3280E-02	1.1850E+05	5440.9	350.69	4957.5	1.1397E+10
4.9500	2.0197E-02	1.3816E+05	4439.1	347.26	5407.6	1.1397E+10
5.2800	1.7303E-02	1.5387E+05	3453.5	342.53	5767.4	1.1397E+10
5.6100	1.4622E-02	1.6571E+05	2489.3	336.44	6038.5	1.1397E+10
5.9400	1.2168E-02	1.7376E+05	1552.0	328.95	6223.0	1.1397E+10
6.2700	9.9541E-03	1.7816E+05	647.20	320.00	6323.7	1.1397E+10
6.6000	7.9848E-03	1.7903E+05	-219.09	309.52	6343.7	1.1397E+10
6.9300	6.2619E-03	1.7655E+05	-1040.8	297.46	6286.9	1.1397E+10
7.2600	4.7820E-03	1.7090E+05	-1811.3	283.71	6157.5	1.1397E+10
7.5900	3.5371E-03	1.6230E+05	-2523.9	268.18	5960.5	1.1397E+10
7.9200	2.5156E-03	1.5099E+05	-3171.1	250.72	5701.5	1.1397E+10
8.2500	1.7019E-03	1.3725E+05	-3745.1	231.17	5386.8	1.1397E+10
8.5800	1.0770E-03	1.2138E+05	-4236.9	209.22	5023.4	1.1397E+10
8.9100	6.1915E-04	1.0373E+05	-4636.0	184.36	4619.2	1.1397E+10
9.2400	3.0400E-04	8.4691E+04	-4928.5	155.37	4183.2	1.1397E+10
9.5700	1.0538E-04	6.4716E+04	-5089.5	117.95	3725.7	1.1397E+10
9.9000	-4.1888E-06	4.4393E+04	-4600.9	-172.75	3260.3	1.1397E+10
10.230	-5.2678E-05	2.8282E+04	-3650.1	-115.45	2891.4	1.1397E+10
10.560	-6.2252E-05	1.5486E+04	-2803.6	-120.07	2598.3	1.1397E+10
10.890	-5.0519E-05	6077.8	-1957.1	-115.47	2382.9	1.1397E+10
11.220	-3.0422E-05	-14.861	-1143.0	-103.68	2244.0	

1.1397E+10
11.550 -1.0346E-05 -2976.2 -393.30 -82.962 2311.8
1.1397E+10
11.880 5.6349E-06 -3131.1 29.297 61.527 2315.4
1.1397E+10
12.210 1.7308E-05 -2745.2 115.95 86.708 2306.5
1.1397E+10
12.540 2.5203E-05 -2213.4 134.38 95.986 2294.4
1.1397E+10
12.870 3.0053E-05 -1681.4 125.94 100.27 2282.2
1.1397E+10
13.200 3.2590E-05 -1216.2 105.58 102.01 2271.5
1.1397E+10
13.530 3.3453E-05 -845.28 81.192 102.31 2263.0
1.1397E+10
13.860 3.3153E-05 -573.19 57.226 101.80 2256.8
1.1397E+10
14.190 3.2064E-05 -392.01 36.068 100.89 2252.6
1.1397E+10
14.520 3.0436E-05 -287.44 18.835 99.816 2250.3
1.1397E+10
14.850 2.8412E-05 -242.71 5.9441 98.695 2249.2
1.1397E+10
15.180 2.6055E-05 -240.21 -2.4078 97.523 2249.2
1.1397E+10
15.510 2.3367E-05 -261.60 -5.8027 96.191 2249.7
1.1397E+10
15.840 2.0319E-05 -285.97 -1.0158 93.391 2250.2
1.1397E+10
16.170 1.6878E-05 -269.42 16.688 89.667 2249.8
1.1397E+10
16.500 1.3065E-05 -153.55 51.481 84.760 2247.2
1.1397E+10
16.830 9.0420E-06 138.58 109.40 77.987 2246.8
1.1397E+10
17.160 5.2092E-06 713.17 86.160 29.750 2260.0
1.1397E+10
17.490 2.3577E-06 821.20 -6.2538 16.923 2262.5
1.1397E+10
17.820 6.3619E-07 663.80 -50.651 5.4995 2258.9
1.1397E+10
18.150 -1.7200E-07 420.13 -58.096 -1.7392 2253.3
1.1397E+10
18.480 -4.0212E-07 203.72 -45.435 -4.6557 2248.3
1.1397E+10
18.810 -3.5193E-07 60.297 -27.127 -4.5908 2245.1
1.1397E+10
19.140 -2.1878E-07 -11.134 -11.751 -3.1748 2243.9
1.1397E+10
19.470 -1.0095E-07 -32.778 -2.2711 -1.6130 2244.4
1.1397E+10

```
       19.800 -2.8222E-08     -29.127      1.8974     -0.4923      2244.3
1.1397E+10
       20.130  4.4309E-09     -17.754      2.7063  8.3794E-02      2244.1
1.1397E+10
       20.460  1.2655E-08     -7.6946      2.0298      0.2579      2243.8
1.1397E+10
       20.790  1.0291E-08     -1.6785      1.0741      0.2248      2243.7
1.1397E+10
       21.120  5.6181E-09      0.8125      0.3697      0.1310      2243.7
1.1397E+10
       21.450  2.0630E-09      1.2496  9.1571E-03  5.1116E-02      2243.7
1.1397E+10
       21.780  2.2727E-10      0.8852     -0.1033  5.6818E-03      2243.7
1.1397E+10
       22.110 -3.9047E-10      0.4316 -9.5224E-02 -9.7617E-03      2243.7
1.1397E+10
       22.440 -4.1438E-10      0.1310 -5.5384E-02 -1.0360E-02      2243.7
1.1397E+10
       22.770 -2.5801E-10 -7.0720E-03 -2.2101E-02 -6.4502E-03      2243.7
1.1397E+10
       23.100 -1.1137E-10 -4.4023E-02 -3.8171E-03 -2.7842E-03      2243.7
1.1397E+10
       23.430 -2.5297E-11 -3.7311E-02  2.9478E-03 -6.3242E-04      2243.7
1.1397E+10
       23.760  9.4349E-12 -2.0681E-02  3.7329E-03  2.3587E-04      2243.7
1.1397E+10
       24.090  1.5711E-11 -7.7477E-03  2.4882E-03  3.9279E-04      2243.7
1.1397E+10
       24.420  1.1328E-11 -9.7409E-04  1.1498E-03  2.8319E-04      2243.7
1.1397E+10
       24.750  5.6035E-12  1.3587E-03  3.1167E-04  1.4009E-04      2243.7
1.1397E+10
       25.080  1.7488E-12  1.4946E-03 -5.2270E-05  4.3720E-05      2243.7
1.1397E+10
       25.410 -4.9300E-14  9.4492E-04 -1.3640E-04 -1.2325E-06      2243.7
1.1397E+10
       25.740 -5.4726E-13  4.1447E-04 -1.0687E-04 -1.3682E-05      2243.7
1.1397E+10
       26.070 -4.7494E-13  9.8551E-05 -5.6267E-05 -1.1873E-05      2243.7
1.1397E+10
       26.400 -2.6702E-13 -3.1177E-05 -1.9540E-05 -6.6754E-06      2243.7
1.1397E+10
       26.730 -1.0199E-13 -5.6222E-05 -1.2743E-06 -2.5498E-06      2243.7
1.1397E+10
       27.060 -1.4327E-14 -4.1278E-05  4.4836E-06 -3.5818E-07      2243.7
1.1397E+10
       27.390  1.6542E-14 -2.0716E-05  4.3739E-06  4.1355E-07      2243.7
1.1397E+10
       27.720  1.8907E-14 -6.6380E-06  2.6192E-06  4.7268E-07      2243.7
1.1397E+10
       28.050  1.2139E-14  2.7958E-08  1.0824E-06  3.0347E-07      2243.7
```

```
1.1397E+10
       28.380  5.4090E-15  1.9350E-06  2.1377E-07  1.3523E-07      2243.7
1.1397E+10
       28.710  1.3416E-15  1.7214E-06 -1.2039E-07  3.3540E-08      2243.7
1.1397E+10
       29.040 -3.5732E-16  9.8176E-07 -1.6911E-07 -8.9331E-09      2243.7
1.1397E+10
       29.370 -7.0539E-16  3.8215E-07 -1.1650E-07 -1.7635E-08      2243.7
1.1397E+10
       29.700 -5.2765E-16  5.9069E-08 -5.5466E-08 -1.3191E-08      2243.7
1.1397E+10
       30.030 -2.6863E-16 -5.7157E-08 -1.6051E-08 -6.7156E-09      2243.7
1.1397E+10
       30.360 -8.8249E-17 -6.8069E-08  1.6145E-09 -2.2062E-09      2243.7
1.1397E+10
       30.690 -1.5317E-18 -4.4380E-08  6.0587E-09 -3.8292E-11      2243.7
1.1397E+10
       31.020  2.4122E-17 -2.0088E-08  4.9404E-09  6.0305E-10      2243.7
1.1397E+10
       31.350  2.2136E-17 -5.2522E-09  2.6507E-09  5.5340E-10      2243.7
1.1397E+10
       31.680  1.2923E-17  9.0566E-10  9.1524E-10  3.2308E-10      2243.7
1.1397E+10
       32.010  4.9564E-18  1.9971E-09  3.0207E-11  1.2391E-10      2243.7
1.1397E+10
       32.340 -2.6246E-19  1.1454E-09 -2.0214E-10 -6.5615E-12      2243.7
1.1397E+10
       32.670 -3.9054E-18  3.9645E-10 -1.4465E-10 -2.2478E-11      2243.7
1.1397E+10
       33.000 -7.0028E-18      0.0000  3.8796E-26 -5.0576E-11      2243.7
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.014571    0.061253 -6.6013E-06  3.4045E+04      3728.5  2.1092E+05
     7026.6


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------
```

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.014571	0.061253	-6.6013E-06	3.4045E+04	3728.5	2.1092E+05	7026.6

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	6.1253E-02	-2.1092E+05	3728.5	91.420	7026.6	1.1397E+10
0.3300	6.1082E-02	-1.9611E+05	3739.1	95.228	6687.5	1.1397E+10
0.6600	6.0641E-02	-1.8128E+05	3734.9	98.920	6347.9	1.1397E+10
0.9900	5.9951E-02	-1.6649E+05	3716.2	102.49	6009.2	1.1397E+10
1.3200	5.9031E-02	-1.5179E+05	3683.7	105.93	5672.6	1.1397E+10
1.6500	5.7903E-02	-1.3725E+05	3637.9	109.24	5339.5	1.1397E+10
1.9800	5.6585E-02	-1.2290E+05	3579.2	112.41	5010.9	1.1397E+10
2.3100	5.5099E-02	-1.0880E+05	3508.2	115.43	4688.1	1.1397E+10
2.6400	5.3463E-02	-9.5008E+04	3425.6	118.30	4372.2	1.1397E+10
2.9700	5.1696E-02	-8.1557E+04	3331.8	121.02	4064.2	1.1397E+10
3.3000	4.9817E-02	-6.8495E+04	3227.7	123.58	3765.0	1.1397E+10
3.6300	4.7844E-02	-5.5863E+04	3113.7	125.97	3475.7	1.1397E+10
3.9600	4.5793E-02	-4.3698E+04	2990.7	128.19	3197.1	1.1397E+10
4.2900	4.3683E-02	-3.2035E+04	2859.1	130.24	2930.1	1.1397E+10
4.6200	4.1529E-02	-2.0908E+04	2719.9	132.10	2675.2	1.1397E+10
4.9500	3.9346E-02	-1.0346E+04	2573.6	133.78	2433.4	1.1397E+10

5.2800	3.7148E-02	-375.95	2421.0	135.28	2205.0
1.1397E+10					
5.6100	3.4950E-02	8978.1	2262.9	136.58	2402.0
1.1397E+10					
5.9400	3.2765E-02	1.7695E+04	2100.0	137.68	2601.7
1.1397E+10					
6.2700	3.0604E-02	2.5758E+04	1933.2	138.58	2786.3
1.1397E+10					
6.6000	2.8478E-02	3.3152E+04	1763.2	139.28	2955.6
1.1397E+10					
6.9300	2.6398E-02	3.9866E+04	1590.8	139.78	3109.4
1.1397E+10					
7.2600	2.4373E-02	4.5891E+04	1416.9	140.06	3247.4
1.1397E+10					
7.5900	2.2410E-02	5.1223E+04	1242.3	140.12	3369.5
1.1397E+10					
7.9200	2.0519E-02	5.5861E+04	1067.9	139.97	3475.7
1.1397E+10					
8.2500	1.8704E-02	5.9807E+04	894.49	139.60	3566.0
1.1397E+10					
8.5800	1.6972E-02	6.3066E+04	723.02	139.00	3640.7
1.1397E+10					
8.9100	1.5326E-02	6.5648E+04	554.36	138.18	3699.8
1.1397E+10					
9.2400	1.3770E-02	6.7566E+04	389.39	137.13	3743.7
1.1397E+10					
9.5700	1.2308E-02	6.8835E+04	229.03	135.86	3772.8
1.1397E+10					
9.9000	1.0940E-02	6.9476E+04	74.184	134.35	3787.5
1.1397E+10					
10.230	9.6682E-03	6.9512E+04	-74.238	132.61	3788.3
1.1397E+10					
10.560	8.4917E-03	6.8971E+04	-215.31	130.64	3775.9
1.1397E+10					
10.890	7.4101E-03	6.7884E+04	-348.13	128.44	3751.0
1.1397E+10					
11.220	6.4220E-03	6.6285E+04	-471.75	126.00	3714.4
1.1397E+10					
11.550	5.5250E-03	6.4212E+04	-585.28	123.34	3666.9
1.1397E+10					
11.880	4.7164E-03	6.1707E+04	-687.80	120.44	3609.6
1.1397E+10					
12.210	3.9927E-03	5.8817E+04	-778.39	117.32	3543.4
1.1397E+10					
12.540	3.3499E-03	5.5589E+04	-856.18	113.97	3469.5
1.1397E+10					
12.870	2.7836E-03	5.2077E+04	-920.28	110.40	3389.0
1.1397E+10					
13.200	2.2890E-03	4.8336E+04	-969.83	106.62	3303.4
1.1397E+10					
13.530	1.8608E-03	4.4427E+04	-1004.0	102.62	3213.8

1.1397E+10
13.860 1.4938E-03 4.0412E+04 -1021.9 98.419 3121.9
1.1397E+10
14.190 1.1824E-03 3.6357E+04 -1022.7 94.010 3029.0
1.1397E+10
14.520 9.2107E-04 3.2332E+04 -1005.7 89.396 2936.8
1.1397E+10
14.850 7.0418E-04 2.8408E+04 -970.00 84.573 2847.0
1.1397E+10
15.180 5.2638E-04 2.4663E+04 -914.75 79.526 2761.2
1.1397E+10
15.510 3.8252E-04 2.1174E+04 -839.02 74.224 2681.3
1.1397E+10
15.840 2.6779E-04 1.8026E+04 -740.11 67.825 2609.2
1.1397E+10
16.170 1.7786E-04 1.5320E+04 -615.03 60.998 2547.3
1.1397E+10
16.500 1.0901E-04 1.3161E+04 -462.07 53.751 2497.8
1.1397E+10
16.830 5.8275E-05 1.1664E+04 -278.87 45.726 2463.5
1.1397E+10
17.160 2.3585E-05 1.0955E+04 -446.03 134.70 2447.3
1.1397E+10
17.490 3.9684E-06 8133.3 -769.13 28.485 2382.7
1.1397E+10
17.820 -4.4572E-06 4864.5 -749.24 -38.530 2307.8
1.1397E+10
18.150 -6.1895E-06 2199.7 -549.04 -62.583 2246.8
1.1397E+10
18.480 -4.8951E-06 516.19 -312.91 -56.675 2208.2
1.1397E+10
18.810 -2.8905E-06 -278.61 -126.03 -37.705 2202.8
1.1397E+10
19.140 -1.2692E-06 -482.12 -14.910 -18.418 2207.5
1.1397E+10
19.470 -3.1132E-07 -396.79 31.406 -4.9743 2205.5
1.1397E+10
19.800 1.0063E-07 -233.43 37.780 1.7554 2201.8
1.1397E+10
20.130 1.9140E-07 -97.589 27.137 3.6195 2198.7
1.1397E+10
20.460 1.4789E-07 -18.504 14.004 3.0136 2196.9
1.1397E+10
20.790 7.8918E-08 13.324 4.6234 1.7239 2196.7
1.1397E+10
21.120 2.8281E-08 18.117 -9.5318E-02 0.6593 2196.8
1.1397E+10
21.450 2.5726E-09 12.571 -1.5269 6.3744E-02 2196.7
1.1397E+10
21.780 -5.8382E-09 6.0255 -1.3641 -0.1460 2196.6
1.1397E+10

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       22.110 -5.9582E-09      1.7681     -0.7802     -0.1490      2196.5
1.1397E+10
       22.440 -3.6454E-09     -0.1535     -0.3048 -9.1135E-02      2196.4
1.1397E+10
       22.770 -1.5437E-09     -0.6459 -4.7926E-02 -3.8593E-02      2196.4
1.1397E+10
       23.100 -3.3082E-10     -0.5331  4.4865E-02 -8.2704E-03      2196.4
1.1397E+10
       23.430  1.4852E-10     -0.2907  5.3889E-02  3.7129E-03      2196.4
1.1397E+10
       23.760  2.2793E-10     -0.1064  3.5255E-02  5.6982E-03      2196.4
1.1397E+10
       24.090  1.6098E-10 -1.1438E-02  1.6004E-02  4.0245E-03      2196.4
1.1397E+10
       24.420  7.8296E-11  2.0384E-02  4.1594E-03  1.9574E-03      2196.4
1.1397E+10
       24.750  2.3658E-11  2.1510E-02 -8.8729E-04  5.9145E-04      2196.4
1.1397E+10
       25.080 -1.3839E-12  1.3359E-02 -1.9899E-03 -3.4598E-05      2196.4
1.1397E+10
       25.410 -8.0442E-12  5.7510E-03 -1.5232E-03 -2.0111E-04      2196.4
1.1397E+10
       25.740 -6.7915E-12  1.2961E-03 -7.8879E-04 -1.6979E-04      2196.4
1.1397E+10
       26.070 -3.7554E-12 -4.9639E-04 -2.6673E-04 -9.3884E-05      2196.4
1.1397E+10
       26.400 -1.4023E-12 -8.1659E-04 -1.1427E-05 -3.5056E-05      2196.4
1.1397E+10
       26.730 -1.7273E-13 -5.8701E-04  6.6535E-05 -4.3183E-06      2196.4
1.1397E+10
       27.060  2.4910E-13 -2.8969E-04  6.2755E-05  6.2275E-06      2196.4
1.1397E+10
       27.390  2.7234E-13 -9.0008E-05  3.6943E-05  6.8085E-06      2196.4
1.1397E+10
       27.720  1.7173E-13  2.9079E-06  1.4962E-05  4.2933E-06      2196.4
1.1397E+10
       28.050  7.5126E-14  2.8498E-05  2.7425E-06  1.8782E-06      2196.4
1.1397E+10
       28.380  1.7732E-14  2.4634E-05 -1.8540E-06  4.4329E-07      2196.4
1.1397E+10
       28.710 -5.7687E-15  1.3817E-05 -2.4461E-06 -1.4422E-07      2196.4
1.1397E+10
       29.040 -1.0258E-14  5.2610E-06 -1.6528E-06 -2.5645E-07      2196.4
1.1397E+10
       29.370 -7.5084E-15  7.2651E-07 -7.7339E-07 -1.8771E-07      2196.4
1.1397E+10
       29.700 -3.7592E-15 -8.6443E-07 -2.1564E-07 -9.3979E-08      2196.4
1.1397E+10
       30.030 -1.1994E-15 -9.8158E-07  2.9806E-08 -2.9984E-08      2196.4
1.1397E+10
       30.360  9.8639E-18 -6.2850E-07  8.8686E-08  2.4660E-10      2196.4
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1.1397E+10
       30.690  3.5431E-16 -2.7925E-07  7.0659E-08  8.8577E-09      2196.4
1.1397E+10
       31.020  3.1453E-16 -6.8886E-08  3.7552E-08  7.8631E-09      2196.4
1.1397E+10
       31.350  1.7996E-16  1.8171E-08  1.3075E-08  4.4990E-09      2196.4
1.1397E+10
       31.680  7.0397E-17  3.4675E-08  6.8220E-10  1.7599E-09      2196.4
1.1397E+10
       32.010  8.5449E-18  2.3580E-08 -3.2254E-09  2.1362E-10      2196.4
1.1397E+10
       32.340 -2.0863E-17  9.1331E-09 -2.6157E-09 -5.2157E-10      2196.4
1.1397E+10
       32.670 -3.7704E-17  2.8651E-09 -1.1533E-09 -2.1701E-10      2196.4
1.1397E+10
       33.000 -5.0603E-17  8.9582E-24 -1.5490E-24 -3.6547E-10      2196.4
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.014255    0.061253 -6.6013E-06  3.3312E+04      2234.2  1.6299E+05
     5881.7


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.014255    0.061253 -6.6013E-06  3.3312E+04      2234.2  1.6299E+05
     5881.7


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
```

RIGIDITY

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	6.1253E-02	-1.6299E+05	2234.2	77.876	5881.7	1.1397E+10
0.3300	6.1115E-02	-1.5399E+05	2299.5	81.131	5675.7	1.1397E+10
0.6600	6.0765E-02	-1.4476E+05	2352.1	84.308	5464.2	1.1397E+10
0.9900	6.0216E-02	-1.3533E+05	2392.3	87.402	5248.4	1.1397E+10
1.3200	5.9480E-02	-1.2577E+05	2420.4	90.408	5029.3	1.1397E+10
1.6500	5.8572E-02	-1.1611E+05	2436.8	93.321	4808.1	1.1397E+10
1.9800	5.7503E-02	-1.0640E+05	2441.8	96.138	4585.9	1.1397E+10
2.3100	5.6289E-02	-9.6693E+04	2435.9	98.853	4363.5	1.1397E+10
2.6400	5.4941E-02	-8.7024E+04	2419.4	101.46	4142.1	1.1397E+10
2.9700	5.3473E-02	-7.7437E+04	2392.8	103.96	3922.5	1.1397E+10
3.3000	5.1899E-02	-6.7971E+04	2356.6	106.34	3705.8	1.1397E+10
3.6300	5.0232E-02	-5.8665E+04	2311.2	108.61	3492.6	1.1397E+10
3.9600	4.8483E-02	-4.9553E+04	2257.0	110.76	3284.0	1.1397E+10
4.2900	4.6667E-02	-4.0671E+04	2194.5	112.77	3080.6	1.1397E+10
4.6200	4.4794E-02	-3.2050E+04	2124.4	114.66	2883.1	1.1397E+10
4.9500	4.2878E-02	-2.3720E+04	2047.0	116.42	2692.4	1.1397E+10
5.2800	4.0928E-02	-1.5709E+04	1962.9	118.04	2508.9	1.1397E+10
5.6100	3.8958E-02	-8042.7	1872.7	119.52	2333.4	1.1397E+10
5.9400	3.6976E-02	-745.19	1776.9	120.86	2166.2	1.1397E+10
6.2700	3.4993E-02	6162.6	1676.1	122.05	2290.3	1.1397E+10
6.6000	3.3018E-02	1.2662E+04	1570.9	123.09	2439.1	1.1397E+10
6.9300	3.1061E-02	1.8735E+04	1461.9	123.98	2578.2	1.1397E+10
7.2600	2.9130E-02	2.4369E+04	1349.6	124.71	2707.3	1.1397E+10

7.5900	2.7233E-02	2.9552E+04	1234.8	125.29	2825.9
1.1397E+10					
7.9200	2.5376E-02	3.4274E+04	1118.0	125.71	2934.1
1.1397E+10					
8.2500	2.3566E-02	3.8528E+04	999.81	125.96	3031.5
1.1397E+10					
8.5800	2.1809E-02	4.2311E+04	881.00	126.05	3118.1
1.1397E+10					
8.9100	2.0110E-02	4.5621E+04	762.18	125.97	3193.9
1.1397E+10					
9.2400	1.8474E-02	4.8458E+04	644.02	125.71	3258.9
1.1397E+10					
9.5700	1.6905E-02	5.0828E+04	527.20	125.29	3313.2
1.1397E+10					
9.9000	1.5406E-02	5.2736E+04	412.42	124.68	3356.9
1.1397E+10					
10.230	1.3979E-02	5.4192E+04	300.37	123.90	3390.2
1.1397E+10					
10.560	1.2627E-02	5.5208E+04	191.78	122.94	3413.5
1.1397E+10					
10.890	1.1351E-02	5.5798E+04	87.362	121.80	3427.0
1.1397E+10					
11.220	1.0151E-02	5.5982E+04	-12.146	120.46	3431.2
1.1397E+10					
11.550	9.0290E-03	5.5779E+04	-105.99	118.94	3426.6
1.1397E+10					
11.880	7.9834E-03	5.5215E+04	-193.42	117.22	3413.6
1.1397E+10					
12.210	7.0138E-03	5.4315E+04	-273.64	115.30	3393.0
1.1397E+10					
12.540	6.1188E-03	5.3110E+04	-345.86	113.17	3365.4
1.1397E+10					
12.870	5.2970E-03	5.1633E+04	-409.24	110.84	3331.6
1.1397E+10					
13.200	4.5462E-03	4.9921E+04	-462.93	108.28	3292.4
1.1397E+10					
13.530	3.8641E-03	4.8014E+04	-506.04	105.49	3248.7
1.1397E+10					
13.860	3.2481E-03	4.5956E+04	-537.60	102.45	3201.6
1.1397E+10					
14.190	2.6953E-03	4.3795E+04	-556.62	99.150	3152.1
1.1397E+10					
14.520	2.2027E-03	4.1583E+04	-561.98	95.557	3101.5
1.1397E+10					
14.850	1.7674E-03	3.9375E+04	-552.47	91.640	3050.9
1.1397E+10					
15.180	1.3862E-03	3.7234E+04	-526.71	87.352	3001.9
1.1397E+10					
15.510	1.0563E-03	3.5227E+04	-483.12	82.632	2955.9
1.1397E+10					
15.840	7.7485E-04	3.3428E+04	-418.05	76.506	2914.7

1.1397E+10
16.170 5.3939E-04 3.1934E+04 -327.37 69.697 2880.5
1.1397E+10
16.500 3.4787E-04 3.0850E+04 -208.45 62.239 2855.7
1.1397E+10
16.830 1.9880E-04 3.0294E+04 -58.103 53.829 2842.9
1.1397E+10
17.160 9.1414E-05 3.0398E+04 -715.81 374.35 2845.3
1.1397E+10
17.490 2.5852E-05 2.4631E+04 -1824.4 185.56 2713.2
1.1397E+10
17.820 -5.8194E-06 1.5952E+04 -2092.2 -50.306 2514.5
1.1397E+10
18.150 -1.5542E-05 8061.4 -1681.5 -157.15 2333.8
1.1397E+10
18.480 -1.4173E-05 2634.8 -1045.4 -164.09 2209.5
1.1397E+10
18.810 -9.1782E-06 -218.63 -483.48 -119.72 2154.2
1.1397E+10
19.140 -4.4843E-06 -1194.6 -117.58 -65.073 2176.5
1.1397E+10
19.470 -1.4342E-06 -1150.1 56.638 -22.916 2175.5
1.1397E+10
19.800 3.3412E-08 -746.19 100.86 0.5828 2166.3
1.1397E+10
20.130 4.7433E-07 -351.38 81.943 8.9700 2157.2
1.1397E+10
20.460 4.3175E-07 -97.223 46.762 8.7982 2151.4
1.1397E+10
20.790 2.5541E-07 18.974 18.294 5.5793 2149.6
1.1397E+10
21.120 1.0517E-07 47.677 2.3927 2.4517 2150.3
1.1397E+10
21.450 2.0538E-08 37.932 -3.4693 0.5089 2150.1
1.1397E+10
21.780 -1.1906E-08 20.204 -3.8876 -0.2977 2149.6
1.1397E+10
22.110 -1.6551E-08 7.1434 -2.4789 -0.4138 2149.3
1.1397E+10
22.440 -1.1367E-08 0.5710 -1.0970 -0.2842 2149.2
1.1397E+10
22.770 -5.3970E-09 -1.5450 -0.2672 -0.1349 2149.2
1.1397E+10
23.100 -1.5530E-09 -1.5452 7.6859E-02 -3.8824E-02 2149.2
1.1397E+10
23.430 1.6493E-10 -0.9365 0.1456 4.1231E-03 2149.2
1.1397E+10
23.760 5.9425E-10 -0.3924 0.1080 1.4856E-02 2149.2
1.1397E+10
24.090 4.8367E-10 -8.1243E-02 5.4631E-02 1.2092E-02 2149.2
1.1397E+10

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       24.420  2.6130E-10  4.0294E-02  1.7755E-02  6.5324E-03      2149.2
1.1397E+10
       24.750  9.4370E-11  5.9390E-02  1.4956E-04  2.3592E-03      2149.2
1.1397E+10
       25.080  9.1595E-12  4.1487E-02 -4.9751E-03  2.2899E-04      2149.2
1.1397E+10
       25.410 -1.8967E-11  1.9991E-02 -4.4897E-03 -4.7418E-04      2149.2
1.1397E+10
       25.740 -1.9588E-11  5.9298E-03 -2.5812E-03 -4.8970E-04      2149.2
1.1397E+10
       26.070 -1.2049E-11 -4.5225E-04 -1.0151E-03 -3.0124E-04      2149.2
1.1397E+10
       26.400 -5.1332E-12 -2.1104E-03 -1.6458E-04 -1.2833E-04      2149.2
1.1397E+10
       26.730 -1.1208E-12 -1.7561E-03  1.4499E-04 -2.8020E-05      2149.2
1.1397E+10
       27.060  4.7527E-13 -9.6230E-04  1.7694E-04  1.1882E-05      2149.2
1.1397E+10
       27.390  7.4728E-13 -3.5477E-04  1.1643E-04  1.8682E-05      2149.2
1.1397E+10
       27.720  5.3114E-13 -4.0195E-05  5.3146E-05  1.3279E-05      2149.2
1.1397E+10
       28.050  2.5970E-13  6.6157E-05  1.3999E-05  6.4924E-06      2149.2
1.1397E+10
       28.380  7.9279E-14  7.0695E-05 -2.7799E-06  1.9820E-06      2149.2
1.1397E+10
       28.710 -3.8679E-15  4.4149E-05 -6.5127E-06 -9.6698E-08      2149.2
1.1397E+10
       29.040 -2.6269E-14  1.9117E-05 -5.0210E-06 -6.5671E-07      2149.2
1.1397E+10
       29.370 -2.2365E-14  4.3831E-06 -2.6136E-06 -5.5913E-07      2149.2
1.1397E+10
       29.700 -1.2431E-14 -1.5832E-06 -8.9122E-07 -3.1077E-07      2149.2
1.1397E+10
       30.030 -4.6749E-15 -2.6760E-06 -4.4482E-08 -1.1687E-07      2149.2
1.1397E+10
       30.360 -6.0103E-16 -1.9359E-06  2.1668E-07 -1.5026E-08      2149.2
1.1397E+10
       30.690  8.0923E-16 -9.6006E-07  2.0637E-07  2.0231E-08      2149.2
1.1397E+10
       31.020  8.9851E-16 -3.0145E-07  1.2184E-07  2.2463E-08      2149.2
1.1397E+10
       31.350  5.7301E-16  4.9276E-09  4.9001E-08  1.4325E-08      2149.2
1.1397E+10
       31.680  2.5429E-16  8.6660E-08  8.0492E-09  6.3573E-09      2149.2
1.1397E+10
       32.010  5.4816E-17  6.8694E-08 -7.2518E-09  1.3704E-09      2149.2
1.1397E+10
       32.340 -5.0143E-17  2.9236E-08 -7.4831E-09 -1.2536E-09      2149.2
1.1397E+10
       32.670 -1.1487E-16  9.4340E-09 -3.6919E-09 -6.6117E-10      2149.2
```

```
1.1397E+10
       33.000 -1.6663E-16 -3.5833E-23  1.6297E-24 -1.2034E-09      2149.2
1.1397E+10



     LOAD CASE :     2
     CASE NAME : Strength I (maxVmaxH), Contraction

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR

                1           1.0000       1.0000
                2           1.0000       1.0000
                3           1.0000       1.0000



     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                3.00210E+06       3.85300E+05      -4.17202E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                    0.15969           0.41330      -2.75065E-03


          NUMBER OF ITERATIONS =   8



     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE


       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
```

```
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.2917      0.4133 -2.7506E-03  1.9818E+05  4.0081E+04  1.2513E+06
 4.1442E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

            0.2917      0.4133 -2.7506E-03  1.9818E+05  4.0081E+04  1.2513E+06
 4.1442E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.4133 -1.2513E+06  4.0081E+04      452.94  4.1442E+04
1.1397E+10
       0.3300      0.4016 -1.0930E+06  3.8676E+04      468.75  3.7816E+04
1.1397E+10
       0.6600      0.3883 -9.4006E+05  3.7209E+04      483.73  3.4314E+04
1.1397E+10
       0.9900      0.3737 -7.9279E+05  3.5686E+04      497.85  3.0941E+04
1.1397E+10
       1.3200      0.3581 -6.5145E+05  3.4108E+04      511.08  2.7704E+04
1.1397E+10
       1.6500      0.3416 -5.1628E+05  3.2479E+04      523.38  2.4609E+04
1.1397E+10
       1.9800      0.3243 -3.8752E+05  3.0804E+04      534.70  2.1660E+04
1.1397E+10
       2.3100      0.3065 -2.6537E+05  2.9086E+04      545.03  1.8863E+04
1.1397E+10
       2.6400      0.2884 -1.5003E+05  2.7329E+04      554.32  1.6222E+04
1.1397E+10
       2.9700      0.2700 -4.1690E+04  2.5537E+04      562.53  1.3740E+04
1.1397E+10
       3.3000      0.2516  5.9506E+04  2.3715E+04      569.64  1.4148E+04
```

1.1397E+10
3.6300 0.2333 1.5342E+05 2.1868E+04 575.60 1.6299E+04
1.1397E+10
3.9600 0.2152 2.3992E+05 1.9998E+04 580.38 1.8280E+04
1.1397E+10
4.2900 0.1974 3.1892E+05 1.8113E+04 583.94 2.0089E+04
1.1397E+10
4.6200 0.1800 3.9034E+05 1.6216E+04 586.25 2.1725E+04
1.1397E+10
4.9500 0.1632 4.5412E+05 1.4312E+04 587.25 2.3185E+04
1.1397E+10
5.2800 0.1470 5.1023E+05 1.2407E+04 586.93 2.4470E+04
1.1397E+10
5.6100 0.1316 5.5865E+05 1.0506E+04 585.22 2.5579E+04
1.1397E+10
5.9400 0.1168 5.9942E+05 8614.1 582.09 2.6513E+04
1.1397E+10
6.2700 0.1030 6.3255E+05 6737.9 577.49 2.7272E+04
1.1397E+10
6.6000 8.9930E-02 6.5811E+05 4882.9 571.37 2.7857E+04
1.1397E+10
6.9300 7.7815E-02 6.7620E+05 3055.3 563.68 2.8271E+04
1.1397E+10
7.2600 6.6630E-02 6.8693E+05 1261.4 554.35 2.8517E+04
1.1397E+10
7.5900 5.6390E-02 6.9044E+05 -492.26 543.32 2.8597E+04
1.1397E+10
7.9200 4.7100E-02 6.8690E+05 -2198.7 530.51 2.8516E+04
1.1397E+10
8.2500 3.8756E-02 6.7652E+05 -3850.7 515.83 2.8278E+04
1.1397E+10
8.5800 3.1342E-02 6.5953E+05 -5440.6 499.17 2.7889E+04
1.1397E+10
8.9100 2.4836E-02 6.3619E+05 -6960.3 480.39 2.7355E+04
1.1397E+10
9.2400 1.9205E-02 6.0681E+05 -8401.2 459.31 2.6682E+04
1.1397E+10
9.5700 1.4409E-02 5.7172E+05 -9753.5 435.68 2.5878E+04
1.1397E+10
9.9000 1.0400E-02 5.3130E+05 -1.1006E+04 409.12 2.4953E+04
1.1397E+10
10.230 7.1213E-03 4.8599E+05 -1.2147E+04 379.00 2.3915E+04
1.1397E+10
10.560 4.5117E-03 4.3626E+05 -1.3159E+04 344.19 2.2776E+04
1.1397E+10
10.890 2.5024E-03 3.8268E+05 -1.4019E+04 302.17 2.1549E+04
1.1397E+10
11.220 1.0196E-03 3.2592E+05 -1.4683E+04 245.14 2.0250E+04
1.1397E+10
11.550 -1.4669E-05 2.6689E+05 -1.4496E+04 -127.49 1.8898E+04
1.1397E+10

```
       11.880 -6.8176E-04  2.1145E+05 -1.3364E+04     -232.42  1.7628E+04
1.1397E+10
       12.210 -1.0579E-03  1.6126E+05 -1.1962E+04     -263.48  1.6479E+04
1.1397E+10
       12.540 -1.2122E-03  1.1681E+05 -1.0472E+04     -277.31  1.5461E+04
1.1397E+10
       12.870 -1.2057E-03  7.8347E+04     -8945.0     -281.84  1.4580E+04
1.1397E+10
       13.200 -1.0915E-03  4.5943E+04     -7413.2     -279.83  1.3838E+04
1.1397E+10
       13.530 -9.1399E-04  1.9577E+04     -5899.7     -272.54  1.3234E+04
1.1397E+10
       13.860 -7.0959E-04     -858.22     -4424.4     -260.55  1.2805E+04
1.1397E+10
       14.190 -5.0636E-04 -1.5545E+04     -3005.6     -244.02  1.3142E+04
1.1397E+10
       14.520 -3.2452E-04 -2.4739E+04     -1661.8     -222.70  1.3352E+04
1.1397E+10
       14.850 -1.7672E-04 -2.8772E+04     -413.95     -195.52  1.3445E+04
1.1397E+10
       15.180 -6.8510E-05 -2.8068E+04      707.33     -158.79  1.3428E+04
1.1397E+10
       15.510  1.0795E-06 -2.3205E+04      1380.8      30.671  1.3317E+04
1.1397E+10
       15.840  3.8741E-05 -1.7154E+04      1471.4      135.56  1.3179E+04
1.1397E+10
       16.170  5.2799E-05 -1.1562E+04      1329.3      148.22  1.3050E+04
1.1397E+10
       16.500  5.0948E-05     -6628.6      1163.0      147.75  1.2937E+04
1.1397E+10
       16.830  3.9977E-05     -2348.2      1013.8      139.62  1.2839E+04
1.1397E+10
       17.160  2.5776E-05      1405.6      655.74      147.21  1.2818E+04
1.1397E+10
       17.490  1.3508E-05      2850.5      172.30      96.955  1.2851E+04
1.1397E+10
       17.820  5.1620E-06      2774.3     -108.03      44.622  1.2849E+04
1.1397E+10
       18.150  6.3346E-07      1997.5     -209.06      6.4050  1.2831E+04
1.1397E+10
       18.480 -1.1466E-06      1119.7     -195.46     -13.275  1.2811E+04
1.1397E+10
       18.810 -1.3860E-06      449.86     -133.37     -18.080  1.2796E+04
1.1397E+10
       19.140 -1.0064E-06      63.382     -68.659     -14.605  1.2787E+04
1.1397E+10
       19.470 -5.3966E-07     -94.088     -22.669     -8.6225  1.2788E+04
1.1397E+10
       19.800 -2.0232E-07     -116.32      1.3916     -3.5294  1.2788E+04
1.1397E+10
       20.130 -2.5037E-08     -83.168      9.3173     -0.4735  1.2788E+04
```

1.1397E+10
20.460 3.7814E-08 -42.572 8.7291 0.7706 1.2787E+04
1.1397E+10
20.790 4.2088E-08 -14.047 5.3830 0.9194 1.2786E+04
1.1397E+10
21.120 2.7034E-08 6.3456E-02 2.3148 0.6302 1.2786E+04
1.1397E+10
21.450 1.2068E-08 4.2917 0.4749 0.2990 1.2786E+04
1.1397E+10
21.780 3.0066E-09 3.8296 -0.2660 7.5164E-02 1.2786E+04
1.1397E+10
22.110 -7.8551E-10 2.1878 -0.3759 -1.9638E-02 1.2786E+04
1.1397E+10
22.440 -1.5672E-09 0.8534 -0.2594 -3.9181E-02 1.2786E+04
1.1397E+10
22.770 -1.1747E-09 0.1332 -0.1237 -2.9368E-02 1.2786E+04
1.1397E+10
23.100 -5.9895E-10 -0.1265 -3.5912E-02 -1.4974E-02 1.2786E+04
1.1397E+10
23.430 -1.9728E-10 -0.1514 3.5016E-03 -4.9320E-03 1.2786E+04
1.1397E+10
23.760 -3.9717E-12 -9.8927E-02 1.3464E-02 -9.9291E-05 1.2786E+04
1.1397E+10
24.090 5.3220E-11 -4.4844E-02 1.1026E-02 1.3305E-03 1.2786E+04
1.1397E+10
24.420 4.8710E-11 -1.1613E-02 5.9803E-03 1.2178E-03 1.2786E+04
1.1397E+10
24.750 2.8221E-11 2.5251E-03 2.1722E-03 7.0552E-04 1.2786E+04
1.1397E+10
25.080 1.1206E-11 5.5986E-03 2.2057E-04 2.8016E-04 1.2786E+04
1.1397E+10
25.410 1.8950E-12 4.2773E-03 -4.2794E-04 4.7375E-05 1.2786E+04
1.1397E+10
25.740 -1.5310E-12 2.2118E-03 -4.4595E-04 -3.8276E-05 1.2786E+04
1.1397E+10
26.070 -1.9137E-12 7.4606E-04 -2.7544E-04 -4.7843E-05 1.2786E+04
1.1397E+10
26.400 -1.2699E-12 3.0324E-05 -1.1785E-04 -3.1746E-05 1.2786E+04
1.1397E+10
26.730 -5.8427E-13 -1.8758E-04 -2.6072E-05 -1.4607E-05 1.2786E+04
1.1397E+10
27.060 -1.5679E-13 -1.7638E-04 1.0611E-05 -3.9198E-06 1.2786E+04
1.1397E+10
27.390 2.7996E-14 -1.0367E-04 1.6986E-05 6.9990E-07 1.2786E+04
1.1397E+10
27.720 7.0140E-14 -4.1900E-05 1.2128E-05 1.7535E-06 1.2786E+04
1.1397E+10
28.050 5.4634E-14 -7.6169E-06 5.9521E-06 1.3658E-06 1.2786E+04
1.1397E+10
28.380 2.8646E-14 5.2493E-06 1.8297E-06 7.1616E-07 1.2786E+04
1.1397E+10

```
       28.710  9.8819E-15  6.8836E-06 -7.7410E-08  2.4705E-07  1.2786E+04
1.1397E+10
       29.040  5.8889E-16  4.6418E-06 -5.9572E-07  1.4722E-08  1.2786E+04
1.1397E+10
       29.370 -2.3173E-15  2.1679E-06 -5.1016E-07 -5.7933E-08  1.2786E+04
1.1397E+10
       29.700 -2.2407E-15  6.0189E-07 -2.8454E-07 -5.6016E-08  1.2786E+04
1.1397E+10
       30.030 -1.3358E-15 -8.5846E-08 -1.0750E-07 -3.3395E-08  1.2786E+04
1.1397E+10
       30.360 -5.4908E-16 -2.4987E-07 -1.4202E-08 -1.3727E-08  1.2786E+04
1.1397E+10
       30.690 -1.0617E-16 -1.9857E-07  1.8233E-08 -2.6542E-09  1.2786E+04
1.1397E+10
       31.020  6.3537E-17 -1.0558E-07  2.0344E-08  1.5884E-09  1.2786E+04
1.1397E+10
       31.350  8.7962E-17 -3.7483E-08  1.2844E-08  2.1991E-09  1.2786E+04
1.1397E+10
       31.680  6.0813E-17 -3.8563E-09  5.4800E-09  1.5203E-09  1.2786E+04
1.1397E+10
       32.010  2.8358E-17  5.9304E-09  1.0660E-09  7.0895E-10  1.2786E+04
1.1397E+10
       32.340  4.0626E-18  4.5980E-09 -5.3877E-10  1.0156E-10  1.2786E+04
1.1397E+10
       32.670 -1.3906E-17  1.6717E-09 -5.8139E-10 -8.0038E-11  1.2786E+04
1.1397E+10
       33.000 -2.9575E-17      0.0000 -5.8090E-25 -2.1360E-10  1.2786E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.1597      0.4133 -2.7506E-03  1.9445E+05  1.0407E+04  3.9455E+05
 2.1580E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.1597 0.4133 -2.7506E-03 1.9445E+05 1.0407E+04 3.9455E+05
2.1580E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.4133	-3.9455E+05	1.0407E+04	147.34	2.1580E+04	1.1397E+10
0.3300	0.4021	-3.5149E+05	1.0233E+04	152.54	2.0594E+04	1.1397E+10
0.6600	0.3905	-3.0907E+05	1.0038E+04	157.58	1.9623E+04	1.1397E+10
0.9900	0.3784	-2.6738E+05	9824.4	162.46	1.8668E+04	1.1397E+10
1.3200	0.3660	-2.2649E+05	9591.6	167.16	1.7732E+04	1.1397E+10
1.6500	0.3532	-1.8651E+05	9340.4	171.69	1.6816E+04	1.1397E+10
1.9800	0.3402	-1.4751E+05	9071.6	176.04	1.5923E+04	1.1397E+10
2.3100	0.3270	-1.0957E+05	8786.1	180.19	1.5054E+04	1.1397E+10
2.6400	0.3136	-7.2756E+04	8484.4	184.15	1.4211E+04	1.1397E+10
2.9700	0.3002	-3.7152E+04	8167.5	187.90	1.3396E+04	1.1397E+10
3.3000	0.2867	-2823.4	7836.2	191.45	1.2610E+04	1.1397E+10
3.6300	0.2731	3.0166E+04	7491.2	194.78	1.3236E+04	1.1397E+10
3.9600	0.2597	6.1756E+04	7133.5	197.89	1.3959E+04	1.1397E+10
4.2900	0.2463	9.1888E+04	6763.9	200.77	1.4649E+04	1.1397E+10
4.6200	0.2330	1.2051E+05	6383.3	203.42	1.5305E+04	1.1397E+10
4.9500	0.2199	1.4757E+05	5992.7	205.83	1.5924E+04	1.1397E+10
5.2800	0.2070	1.7303E+05	5593.1	208.00	1.6507E+04	1.1397E+10
5.6100	0.1944	1.9684E+05	5185.4	209.91	1.7053E+04	

1.1397E+10
5.9400 0.1820 2.1896E+05 4770.6 211.57 1.7559E+04
1.1397E+10
6.2700 0.1699 2.3938E+05 4349.8 212.96 1.8027E+04
1.1397E+10
6.6000 0.1581 2.5805E+05 3924.1 214.08 1.8454E+04
1.1397E+10
6.9300 0.1467 2.7496E+05 3494.4 214.93 1.8842E+04
1.1397E+10
7.2600 0.1357 2.9009E+05 3061.9 215.49 1.9188E+04
1.1397E+10
7.5900 0.1251 3.0342E+05 2627.8 215.77 1.9493E+04
1.1397E+10
7.9200 0.1149 3.1495E+05 2193.1 215.75 1.9757E+04
1.1397E+10
8.2500 0.1051 3.2467E+05 1759.1 215.44 1.9980E+04
1.1397E+10
8.5800 9.5777E-02 3.3260E+05 1327.0 214.81 2.0162E+04
1.1397E+10
8.9100 8.6909E-02 3.3872E+05 897.97 213.87 2.0302E+04
1.1397E+10
9.2400 7.8506E-02 3.4307E+05 473.28 212.62 2.0401E+04
1.1397E+10
9.5700 7.0575E-02 3.4565E+05 54.226 211.03 2.0460E+04
1.1397E+10
9.9000 6.3120E-02 3.4649E+05 -357.89 209.11 2.0480E+04
1.1397E+10
10.230 5.6142E-02 3.4562E+05 -761.73 206.85 2.0460E+04
1.1397E+10
10.560 4.9639E-02 3.4308E+05 -1155.9 204.24 2.0402E+04
1.1397E+10
10.890 4.3608E-02 3.3890E+05 -1539.0 201.27 2.0306E+04
1.1397E+10
11.220 3.8044E-02 3.3314E+05 -1909.7 197.93 2.0174E+04
1.1397E+10
11.550 3.2938E-02 3.2585E+05 -2266.4 194.22 2.0007E+04
1.1397E+10
11.880 2.8280E-02 3.1709E+05 -2607.6 190.12 1.9806E+04
1.1397E+10
12.210 2.4058E-02 3.0692E+05 -2931.8 185.62 1.9574E+04
1.1397E+10
12.540 2.0259E-02 2.9543E+05 -3237.4 180.72 1.9310E+04
1.1397E+10
12.870 1.6867E-02 2.8268E+05 -3522.7 175.39 1.9019E+04
1.1397E+10
13.200 1.3863E-02 2.6877E+05 -3786.1 169.63 1.8700E+04
1.1397E+10
13.530 1.1229E-02 2.5379E+05 -4025.8 163.41 1.8357E+04
1.1397E+10
13.860 8.9443E-03 2.3785E+05 -4239.8 156.71 1.7992E+04
1.1397E+10

```
       14.190  6.9869E-03  2.2104E+05     -4426.4      149.51  1.7607E+04
1.1397E+10
       14.520  5.3337E-03  2.0349E+05     -4583.4      141.79  1.7205E+04
1.1397E+10
       14.850  3.9604E-03  1.8533E+05     -4708.7      133.49  1.6789E+04
1.1397E+10
       15.180  2.8421E-03  1.6668E+05     -4799.9      124.57  1.6362E+04
1.1397E+10
       15.510  1.9532E-03  1.4770E+05     -4854.4      114.94  1.5927E+04
1.1397E+10
       15.840  1.2675E-03  1.2854E+05     -4866.8      103.32  1.5489E+04
1.1397E+10
       16.170  7.5862E-04  1.0939E+05     -4831.2      90.729  1.5050E+04
1.1397E+10
       16.500  4.0029E-04  9.0447E+04     -4743.8      77.137  1.4616E+04
1.1397E+10
       16.830  1.6641E-04  7.1933E+04     -4598.8      61.636  1.4192E+04
1.1397E+10
       17.160  3.1511E-05  5.4096E+04     -4867.3      179.96  1.3784E+04
1.1397E+10
       17.490 -2.8959E-05  3.3422E+04     -4812.1     -207.86  1.3310E+04
1.1397E+10
       17.820 -4.3443E-05  1.5999E+04     -3657.0     -375.54  1.2911E+04
1.1397E+10
       18.150 -3.5914E-05      4460.1     -2194.4     -363.13  1.2647E+04
1.1397E+10
       18.480 -2.2248E-05     -1385.2     -965.39     -257.58  1.2577E+04
1.1397E+10
       18.810 -1.0488E-05     -3190.8     -184.51     -136.81  1.2618E+04
1.1397E+10
       19.140 -3.1179E-06     -2850.2      175.95     -45.244  1.2610E+04
1.1397E+10
       19.470  3.3013E-07     -1799.3      255.09      5.2748  1.2586E+04
1.1397E+10
       19.800  1.3024E-06     -830.74      199.66      22.719  1.2564E+04
1.1397E+10
       20.130  1.1316E-06     -218.18      112.31      21.399  1.2550E+04
1.1397E+10
       20.460  6.6057E-07      58.858      43.284      13.461  1.2546E+04
1.1397E+10
       20.790  2.7054E-07      124.79      4.9300      5.9098  1.2548E+04
1.1397E+10
       21.120  5.2227E-08      98.022     -9.1821      1.2175  1.2547E+04
1.1397E+10
       21.450 -3.1215E-08      52.131     -10.061     -0.7734  1.2546E+04
1.1397E+10
       21.780 -4.2928E-08      18.355     -6.4049     -1.0732  1.2545E+04
1.1397E+10
       22.110 -2.9386E-08      1.4041     -2.8253     -0.7346  1.2545E+04
1.1397E+10
       22.440 -1.3911E-08     -4.0269     -0.6821     -0.3478  1.2545E+04
```

1.1397E+10
22.770 -3.9773E-09 -4.0032 0.2034 -9.9433E-02 1.2545E+04
1.1397E+10
23.100 4.4826E-10 -2.4192 0.3780 1.1206E-02 1.2545E+04
1.1397E+10
23.430 1.5452E-09 -1.0102 0.2794 3.8629E-02 1.2545E+04
1.1397E+10
23.760 1.2520E-09 -0.2068 0.1409 3.1301E-02 1.2545E+04
1.1397E+10
24.090 6.7440E-10 0.1059 4.5547E-02 1.6860E-02 1.2545E+04
1.1397E+10
24.420 2.4247E-10 0.1542 1.6134E-04 6.0618E-03 1.2545E+04
1.1397E+10
24.750 2.2651E-11 0.1073 -1.2962E-02 5.6627E-04 1.2545E+04
1.1397E+10
25.080 -4.9530E-11 5.1546E-02 -1.1632E-02 -1.2382E-03 1.2545E+04
1.1397E+10
25.410 -5.0786E-11 1.5193E-02 -6.6662E-03 -1.2697E-03 1.2545E+04
1.1397E+10
25.740 -3.1139E-11 -1.2540E-03 -2.6109E-03 -7.7847E-04 1.2545E+04
1.1397E+10
26.070 -1.3217E-11 -5.4927E-03 -4.1526E-04 -3.3042E-04 1.2545E+04
1.1397E+10
26.400 -2.8523E-12 -4.5484E-03 3.8016E-04 -7.1307E-05 1.2545E+04
1.1397E+10
26.730 1.2540E-12 -2.4846E-03 4.5927E-04 3.1350E-05 1.2545E+04
1.1397E+10
27.060 1.9416E-12 -9.1186E-04 3.0109E-04 4.8539E-05 1.2545E+04
1.1397E+10
27.390 1.3745E-12 -1.0002E-04 1.3695E-04 3.4362E-05 1.2545E+04
1.1397E+10
27.720 6.6976E-13 1.7301E-04 3.5757E-05 1.6744E-05 1.2545E+04
1.1397E+10
28.050 2.0309E-13 1.8341E-04 -7.4491E-06 5.0774E-06 1.2545E+04
1.1397E+10
28.380 -1.1210E-14 1.1414E-04 -1.6947E-05 -2.8026E-07 1.2545E+04
1.1397E+10
28.710 -6.8462E-14 4.9239E-05 -1.3004E-05 -1.7116E-06 1.2545E+04
1.1397E+10
29.040 -5.7964E-14 1.1163E-05 -6.7455E-06 -1.4491E-06 1.2545E+04
1.1397E+10
29.370 -3.2106E-14 -4.1918E-06 -2.2870E-06 -8.0265E-07 1.2545E+04
1.1397E+10
29.700 -1.2016E-14 -6.9588E-06 -1.0294E-07 -3.0040E-07 1.2545E+04
1.1397E+10
30.030 -1.5004E-15 -5.0131E-06 5.6611E-07 -3.7510E-08 1.2545E+04
1.1397E+10
30.360 2.1173E-15 -2.4779E-06 5.3558E-07 5.2932E-08 1.2545E+04
1.1397E+10
30.690 2.3255E-15 -7.7209E-07 3.1566E-07 5.8138E-08 1.2545E+04
1.1397E+10

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       31.020  1.4714E-15  2.2226E-08  1.2771E-07  3.6786E-08  1.2545E+04
1.1397E+10
       31.350  6.4791E-16  2.3968E-07  2.2799E-08  1.6198E-08  1.2545E+04
1.1397E+10
       31.680  1.5418E-16  2.0305E-07 -1.6904E-08  3.8544E-09  1.2545E+04
1.1397E+10
       32.010 -6.0176E-17  1.0593E-07 -2.1557E-08 -1.5044E-09  1.2545E+04
1.1397E+10
       32.340 -1.2877E-16  3.2372E-08 -1.2204E-08 -3.2194E-09  1.2545E+04
1.1397E+10
       32.670 -1.5283E-16  9.2906E-09 -4.0883E-09 -8.7962E-10  1.2545E+04
1.1397E+10
       33.000 -1.6410E-16      0.0000  5.5924E-24 -1.1852E-09  1.2545E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.027663      0.4133 -2.7506E-03  6.3433E+04      7972.2  2.9182E+05
 1.0775E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.027663      0.4133 -2.7506E-03  6.3433E+04      7972.2  2.9182E+05
 1.0775E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
```

**********	**********	**********	**********	**********	**********	**********
0.0000	0.4133	-2.9182E+05	7972.2	125.51	1.0775E+04	1.1397E+10
0.3300	0.4022	-2.5970E+05	7886.1	129.95	1.0040E+04	1.1397E+10
0.6600	0.3908	-2.2793E+05	7782.8	134.26	9312.3	1.1397E+10
0.9900	0.3790	-1.9659E+05	7662.6	138.44	8594.5	1.1397E+10
1.3200	0.3670	-1.6574E+05	7526.1	142.49	7888.0	1.1397E+10
1.6500	0.3547	-1.3544E+05	7373.8	146.41	7194.2	1.1397E+10
1.9800	0.3422	-1.0577E+05	7206.4	150.18	6514.7	1.1397E+10
2.3100	0.3297	-7.6779E+04	7024.2	153.80	5850.8	1.1397E+10
2.6400	0.3170	-4.8532E+04	6828.0	157.28	5203.9	1.1397E+10
2.9700	0.3042	-2.1085E+04	6618.4	160.60	4575.3	1.1397E+10
3.3000	0.2914	5507.5	6396.0	163.75	4218.6	1.1397E+10
3.6300	0.2786	3.1194E+04	6161.3	166.74	4806.8	1.1397E+10
3.9600	0.2659	5.5925E+04	5915.2	169.56	5373.2	1.1397E+10
4.2900	0.2532	7.9655E+04	5658.3	172.21	5916.6	1.1397E+10
4.6200	0.2406	1.0234E+05	5391.2	174.68	6436.1	1.1397E+10
4.9500	0.2282	1.2394E+05	5114.7	176.96	6930.7	1.1397E+10
5.2800	0.2160	1.4441E+05	4829.5	179.06	7399.6	1.1397E+10
5.6100	0.2039	1.6373E+05	4536.5	180.96	7842.0	1.1397E+10
5.9400	0.1921	1.8186E+05	4236.3	182.66	8257.1	1.1397E+10
6.2700	0.1805	1.9876E+05	3929.7	184.16	8644.3	1.1397E+10
6.6000	0.1692	2.1443E+05	3617.6	185.46	9003.1	1.1397E+10
6.9300	0.1582	2.2883E+05	3300.8	186.55	9332.9	1.1397E+10
7.2600	0.1475	2.4195E+05	2980.1	187.41	9633.3	1.1397E+10
7.5900	0.1372	2.5377E+05	2656.4	188.06	9904.0	1.1397E+10
7.9200	0.1272	2.6428E+05	2330.6	188.49	1.0145E+04	

1.1397E+10
8.2500 0.1175 2.7347E+05 2003.6 188.68 1.0355E+04
1.1397E+10
8.5800 0.1082 2.8135E+05 1676.3 188.63 1.0536E+04
1.1397E+10
8.9100 9.9362E-02 2.8790E+05 1349.6 188.35 1.0686E+04
1.1397E+10
9.2400 9.0877E-02 2.9314E+05 1024.6 187.82 1.0806E+04
1.1397E+10
9.5700 8.2796E-02 2.9707E+05 702.09 187.04 1.0896E+04
1.1397E+10
9.9000 7.5123E-02 2.9970E+05 383.23 186.00 1.0956E+04
1.1397E+10
10.230 6.7862E-02 3.0105E+05 68.998 184.70 1.0987E+04
1.1397E+10
10.560 6.1016E-02 3.0114E+05 -239.54 183.13 1.0989E+04
1.1397E+10
10.890 5.4584E-02 2.9999E+05 -541.31 181.28 1.0963E+04
1.1397E+10
11.220 4.8565E-02 2.9764E+05 -835.20 179.15 1.0909E+04
1.1397E+10
11.550 4.2956E-02 2.9412E+05 -1120.1 176.72 1.0828E+04
1.1397E+10
11.880 3.7751E-02 2.8946E+05 -1394.7 174.00 1.0721E+04
1.1397E+10
12.210 3.2944E-02 2.8370E+05 -1658.0 170.96 1.0590E+04
1.1397E+10
12.540 2.8528E-02 2.7691E+05 -1908.6 167.61 1.0434E+04
1.1397E+10
12.870 2.4492E-02 2.6912E+05 -2145.2 163.91 1.0256E+04
1.1397E+10
13.200 2.0828E-02 2.6041E+05 -2366.6 159.87 1.0056E+04
1.1397E+10
13.530 1.7521E-02 2.5082E+05 -2571.2 155.47 9836.5
1.1397E+10
13.860 1.4559E-02 2.4044E+05 -2757.6 150.68 9598.8
1.1397E+10
14.190 1.1929E-02 2.2934E+05 -2924.3 145.48 9344.5
1.1397E+10
14.520 9.6135E-03 2.1760E+05 -3069.4 139.84 9075.6
1.1397E+10
14.850 7.5977E-03 2.0530E+05 -3191.3 133.72 8794.1
1.1397E+10
15.180 5.8645E-03 1.9256E+05 -3287.9 127.07 8502.2
1.1397E+10
15.510 4.3962E-03 1.7947E+05 -3357.0 119.83 8202.4
1.1397E+10
15.840 3.1748E-03 1.6614E+05 -3393.5 110.62 7897.2
1.1397E+10
16.170 2.1820E-03 1.5273E+05 -3391.9 100.57 7590.1
1.1397E+10

16.500	1.3994E-03	1.3939E+05	-3349.1	89.800	7284.6	1.1397E+10
16.830	8.0852E-04	1.2629E+05	-3261.6	78.023	6984.7	1.1397E+10
17.160	3.9145E-04	1.1362E+05	-4298.4	551.58	6694.5	1.1397E+10
17.490	1.3072E-04	9.2292E+04	-6425.0	522.50	6206.0	1.1397E+10
17.820	-3.0207E-06	6.2761E+04	-7407.9	-26.112	5529.8	1.1397E+10
18.150	-5.0408E-05	3.3634E+04	-6347.0	-509.68	4862.7	1.1397E+10
18.480	-5.1517E-05	1.2496E+04	-4156.9	-596.45	4378.6	1.1397E+10
18.810	-3.5433E-05	710.19	-2060.7	-462.20	4108.7	1.1397E+10
19.140	-1.8372E-05	-3827.3	-617.72	-266.59	4180.1	1.1397E+10
19.470	-6.5765E-06	-4184.0	118.19	-105.08	4188.3	1.1397E+10
19.800	-5.3826E-07	-2892.4	344.83	-9.3896	4158.7	1.1397E+10
20.130	1.5201E-06	-1453.4	306.50	28.747	4125.8	1.1397E+10
20.460	1.5787E-06	-465.07	185.89	32.170	4103.1	1.1397E+10
20.790	9.9733E-07	18.836	79.053	21.786	4092.9	1.1397E+10
21.120	4.4190E-07	161.10	15.521	10.301	4096.2	1.1397E+10
21.450	1.0813E-07	141.82	-10.180	2.6792	4095.7	1.1397E+10
21.780	-3.0511E-08	80.503	-13.975	-0.7628	4094.3	1.1397E+10
22.110	-5.8383E-08	31.145	-9.5747	-1.4596	4093.2	1.1397E+10
22.440	-4.3401E-08	4.6720	-4.5364	-1.0850	4092.6	1.1397E+10
22.770	-2.1992E-08	-4.7859	-1.2994	-0.5498	4092.6	1.1397E+10
23.100	-7.1670E-09	-5.6218	0.1439	-0.1792	4092.6	1.1397E+10
23.430	-7.7747E-11	-3.6475	0.5025	-1.9437E-03	4092.6	1.1397E+10
23.760	1.9928E-09	-1.6424	0.4077	4.9819E-02	4092.5	1.1397E+10
24.090	1.8034E-09	-0.4184	0.2198	4.5086E-02	4092.5	1.1397E+10
24.420	1.0385E-09	9.8654E-02	7.9147E-02	2.5961E-02	4092.5	1.1397E+10
24.750	4.0921E-10	0.2086	7.4875E-03	1.0230E-02	4092.5	

1.1397E+10
25.080 6.6935E-11 0.1580 -1.6082E-02 1.6734E-03 4092.5
1.1397E+10
25.410 -5.7924E-11 8.1219E-02 -1.6528E-02 -1.4481E-03 4092.5
1.1397E+10
25.740 -7.1031E-11 2.7123E-02 -1.0145E-02 -1.7758E-03 4092.5
1.1397E+10
26.070 -4.6818E-11 8.7156E-04 -4.3113E-03 -1.1704E-03 4092.5
1.1397E+10
26.400 -2.1406E-11 -7.0254E-03 -9.3420E-04 -5.3514E-04 4092.5
1.1397E+10
26.730 -5.6604E-12 -6.5299E-03 4.0558E-04 -1.4151E-04 4092.5
1.1397E+10
27.060 1.1003E-12 -3.8147E-03 6.3130E-04 2.7507E-05 4092.5
1.1397E+10
27.390 2.6121E-12 -1.5305E-03 4.4753E-04 6.5303E-05 4092.5
1.1397E+10
27.720 2.0180E-12 -2.7029E-04 2.1834E-04 5.0451E-05 4092.5
1.1397E+10
28.050 1.0520E-12 1.9882E-04 6.6372E-05 2.6301E-05 4092.5
1.1397E+10
28.380 3.5961E-13 2.5547E-04 -3.5050E-06 8.9902E-06 4092.5
1.1397E+10
28.710 1.8688E-14 1.7113E-04 -2.2231E-05 4.6720E-07 4092.5
1.1397E+10
29.040 -8.6771E-14 7.9436E-05 -1.8860E-05 -2.1693E-06 4092.5
1.1397E+10
29.370 -8.2931E-14 2.1758E-05 -1.0460E-05 -2.0733E-06 4092.5
1.1397E+10
29.700 -4.9154E-14 -3.4105E-06 -3.9219E-06 -1.2288E-06 4092.5
1.1397E+10
30.030 -2.0069E-14 -9.3080E-06 -4.9537E-07 -5.0173E-07 4092.5
1.1397E+10
30.360 -3.7919E-15 -7.3367E-06 6.8576E-07 -9.4799E-08 4092.5
1.1397E+10
30.690 2.3905E-15 -3.8782E-06 7.5513E-07 5.9763E-08 4092.5
1.1397E+10
31.020 3.2368E-15 -1.3565E-06 4.7658E-07 8.0920E-08 4092.5
1.1397E+10
31.350 2.2166E-15 -1.0372E-07 2.0663E-07 5.5414E-08 4092.5
1.1397E+10
31.680 1.0536E-15 2.8013E-07 4.4762E-08 2.6340E-08 4092.5
1.1397E+10
32.010 2.7606E-16 2.5092E-07 -2.1056E-08 6.9016E-09 4092.5
1.1397E+10
32.340 -1.5622E-16 1.1345E-07 -2.6988E-08 -3.9054E-09 4092.5
1.1397E+10
32.670 -4.3240E-16 3.7212E-08 -1.4328E-08 -2.4887E-09 4092.5
1.1397E+10
33.000 -6.5738E-16 0.0000 4.5829E-23 -4.7477E-09 4092.5
1.1397E+10

LOAD CASE : 3
CASE NAME : Strength I (minVmaxH), Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.52990E+06	3.85300E+05	-2.23138E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0393217	0.28557	-6.73306E-04

NUMBER OF ITERATIONS = 8

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN

STRESS, LB/IN**2

0.071640 0.2856 -6.7331E-04 1.2457E+05 3.8929E+04 1.4258E+06
4.0689E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.071640 0.2856 -6.7331E-04 1.2457E+05 3.8929E+04 1.4258E+06
4.0689E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	RIGIDITY LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2856	-1.4258E+06	3.8929E+04	412.95	4.0689E+04	1.1397E+10
0.3300	0.2819	-1.2736E+06	3.7681E+04	429.08	3.7204E+04	1.1397E+10
0.6600	0.2765	-1.1263E+06	3.6371E+04	444.37	3.3829E+04	1.1397E+10
0.9900	0.2696	-9.8401E+05	3.5003E+04	458.80	3.0572E+04	1.1397E+10
1.3200	0.2613	-8.4713E+05	3.3579E+04	472.34	2.7437E+04	1.1397E+10
1.6500	0.2518	-7.1585E+05	3.2103E+04	484.96	2.4431E+04	1.1397E+10
1.9800	0.2413	-5.9039E+05	3.0580E+04	496.62	2.1557E+04	1.1397E+10
2.3100	0.2301	-4.7095E+05	2.9012E+04	507.30	1.8822E+04	1.1397E+10
2.6400	0.2182	-3.5773E+05	2.7403E+04	516.95	1.6229E+04	1.1397E+10
2.9700	0.2058	-2.5089E+05	2.5759E+04	525.56	1.3783E+04	1.1397E+10
3.3000	0.1930	-1.5058E+05	2.4083E+04	533.08	1.1486E+04	1.1397E+10
3.6300	0.1801	-5.6951E+04	2.2379E+04	539.47	9341.3	1.1397E+10

3.9600	0.1670	2.9893E+04	2.0652E+04	544.72	8721.6	1.1397E+10
4.2900	0.1540	1.0985E+05	1.8906E+04	548.77	1.0553E+04	1.1397E+10
4.6200	0.1412	1.8285E+05	1.7147E+04	551.60	1.2224E+04	1.1397E+10
4.9500	0.1286	2.4883E+05	1.5380E+04	553.17	1.3735E+04	1.1397E+10
5.2800	0.1163	3.0775E+05	1.3608E+04	553.44	1.5085E+04	1.1397E+10
5.6100	0.1045	3.5961E+05	1.1839E+04	552.37	1.6272E+04	1.1397E+10
5.9400	9.3168E-02	4.0440E+05	1.0076E+04	549.92	1.7298E+04	1.1397E+10
6.2700	8.2392E-02	4.4216E+05	8325.6	546.04	1.8163E+04	1.1397E+10
6.6000	7.2224E-02	4.7295E+05	6593.7	540.68	1.8868E+04	1.1397E+10
6.9300	6.2707E-02	4.9684E+05	4885.9	533.80	1.9415E+04	1.1397E+10
7.2600	5.3874E-02	5.1393E+05	3208.6	525.34	1.9806E+04	1.1397E+10
7.5900	4.5748E-02	5.2436E+05	1568.0	515.24	2.0045E+04	1.1397E+10
7.9200	3.8343E-02	5.2828E+05	-29.161	503.41	2.0135E+04	1.1397E+10
8.2500	3.1665E-02	5.2588E+05	-1575.9	489.78	2.0080E+04	1.1397E+10
8.5800	2.5711E-02	5.1738E+05	-3065.0	474.26	1.9885E+04	1.1397E+10
8.9100	2.0468E-02	5.0300E+05	-4488.5	456.70	1.9556E+04	1.1397E+10
9.2400	1.5918E-02	4.8305E+05	-5838.1	436.94	1.9099E+04	1.1397E+10
9.5700	1.2032E-02	4.5782E+05	-7104.8	414.77	1.8521E+04	1.1397E+10
9.9000	8.7766E-03	4.2767E+05	-8278.1	389.85	1.7831E+04	1.1397E+10
10.230	6.1092E-03	3.9299E+05	-9346.4	361.65	1.7037E+04	1.1397E+10
10.560	3.9827E-03	3.5424E+05	-1.0295E+04	329.26	1.6149E+04	1.1397E+10
10.890	2.3435E-03	3.1193E+05	-1.1103E+04	290.77	1.5180E+04	1.1397E+10
11.220	1.1335E-03	2.6666E+05	-1.1736E+04	241.09	1.4144E+04	1.1397E+10
11.550	2.9048E-04	2.1924E+05	-1.2101E+04	155.56	1.3058E+04	1.1397E+10
11.880	-2.5092E-04	1.7099E+05	-1.1544E+04	-224.90	1.1953E+04	1.1397E+10
12.210	-5.5705E-04	1.2791E+05	-1.0200E+04	-242.18	1.0966E+04	

1.1397E+10
12.540 -6.8718E-04 9.0264E+04 -8799.7 -252.98 1.0104E+04
1.1397E+10
12.870 -6.9311E-04 5.8233E+04 -7373.8 -255.18 9370.6
1.1397E+10
13.200 -6.1892E-04 3.1855E+04 -5951.8 -250.97 8766.6
1.1397E+10
13.530 -5.0089E-04 1.1070E+04 -4557.1 -241.42 8290.6
1.1397E+10
13.860 -3.6764E-04 -4268.4 -3209.9 -226.99 8134.8
1.1397E+10
14.190 -2.4025E-04 -1.4385E+04 -1929.7 -207.59 8366.5
1.1397E+10
14.520 -1.3266E-04 -1.9581E+04 -737.92 -182.31 8485.5
1.1397E+10
14.850 -5.2015E-05 -2.0252E+04 334.82 -147.47 8500.9
1.1397E+10
15.180 7.6722E-07 -1.6946E+04 971.55 37.892 8425.1
1.1397E+10
15.510 3.0233E-05 -1.2568E+04 1056.3 131.33 8324.9
1.1397E+10
15.840 4.2407E-05 -8585.3 930.30 144.28 8233.7
1.1397E+10
16.170 4.2767E-05 -5201.5 776.79 145.25 8156.2
1.1397E+10
16.500 3.5971E-05 -2432.3 632.46 139.64 8092.8
1.1397E+10
16.830 2.5827E-05 -190.30 520.34 128.99 8041.4
1.1397E+10
17.160 1.5422E-05 1691.3 300.42 88.079 8075.8
1.1397E+10
17.490 7.3444E-06 2191.4 21.650 52.716 8087.2
1.1397E+10
17.820 2.2816E-06 1864.4 -121.78 19.723 8079.8
1.1397E+10
18.150 -2.1587E-07 1227.8 -156.51 -2.1827 8065.2
1.1397E+10
18.480 -1.0240E-06 625.24 -128.72 -11.855 8051.4
1.1397E+10
18.810 -9.7176E-07 208.47 -80.144 -12.676 8041.8
1.1397E+10
19.140 -6.3272E-07 -9.5516 -36.866 -9.1814 8037.3
1.1397E+10
19.470 -3.0681E-07 -83.593 -8.9807 -4.9022 8039.0
1.1397E+10
19.800 -9.5932E-08 -80.746 4.0391 -1.6735 8038.9
1.1397E+10
20.130 3.8481E-09 -51.642 7.2085 7.2771E-02 8038.2
1.1397E+10
20.460 3.2572E-08 -23.670 5.7502 0.6637 8037.6
1.1397E+10

20.790	2.8726E-08	-6.1033	3.1936	0.6275	8037.2	1.1397E+10
21.120	1.6483E-08	1.6245	1.1903	0.3842	8037.1	1.1397E+10
21.450	6.4750E-09	3.3266	0.1118	0.1604	8037.1	1.1397E+10
21.780	1.0441E-09	2.5123	-0.2575	2.6103E-02	8037.1	1.1397E+10
22.110	-9.2997E-10	1.2882	-0.2631	-2.3249E-02	8037.1	1.1397E+10
22.440	-1.1316E-09	0.4284	-0.1611	-2.8291E-02	8037.1	1.1397E+10
22.770	-7.4382E-10	1.2232E-02	-6.8265E-02	-1.8595E-02	8037.1	1.1397E+10
23.100	-3.3918E-10	-0.1123	-1.4657E-02	-8.4794E-03	8037.1	1.1397E+10
23.430	-8.9111E-11	-0.1039	6.5436E-03	-2.2278E-03	8037.1	1.1397E+10
23.760	1.7953E-11	-6.0562E-02	1.0066E-02	4.4883E-04	8037.1	1.1397E+10
24.090	4.1688E-11	-2.4223E-02	7.1137E-03	1.0422E-03	8037.1	1.1397E+10
24.420	3.2093E-11	-4.2229E-03	3.4616E-03	8.0233E-04	8037.1	1.1397E+10
24.750	1.6688E-11	3.1958E-03	1.0469E-03	4.1721E-04	8037.1	1.1397E+10
25.080	5.6807E-12	4.0715E-03	-6.0416E-05	1.4202E-04	8037.1	1.1397E+10
25.410	2.7516E-13	2.7194E-03	-3.5523E-04	6.8790E-06	8037.1	1.1397E+10
25.740	-1.3887E-12	1.2589E-03	-3.0011E-04	-3.4718E-05	8037.1	1.1397E+10
26.070	-1.3204E-12	3.4269E-04	-1.6601E-04	-3.3009E-05	8037.1	1.1397E+10
26.400	-7.8050E-13	-5.5972E-05	-6.2020E-05	-1.9513E-05	8037.1	1.1397E+10
26.730	-3.1765E-13	-1.4864E-04	-7.6614E-06	-7.9413E-06	8037.1	1.1397E+10
27.060	-5.9320E-14	-1.1674E-04	1.0999E-05	-1.4830E-06	8037.1	1.1397E+10
27.390	3.8387E-14	-6.1569E-05	1.2035E-05	9.5967E-07	8037.1	1.1397E+10
27.720	5.1378E-14	-2.1436E-05	7.5916E-06	1.2845E-06	8037.1	1.1397E+10
28.050	3.4875E-14	-1.4428E-06	3.3221E-06	8.7187E-07	8037.1	1.1397E+10
28.380	1.6386E-14	4.8788E-06	7.8469E-07	4.0965E-07	8037.1	1.1397E+10
28.710	4.6100E-15	4.7757E-06	-2.5460E-07	1.1525E-07	8037.1	1.1397E+10
29.040	-5.9481E-16	2.8645E-06	-4.5335E-07	-1.4870E-08	8037.1	

```
1.1397E+10
       29.370 -1.8582E-15  1.1860E-06 -3.3193E-07 -4.6454E-08      8037.1
1.1397E+10
       29.700 -1.4896E-15  2.3576E-07 -1.6621E-07 -3.7241E-08      8037.1
1.1397E+10
       30.030 -7.9670E-16 -1.3054E-07 -5.3041E-08 -1.9917E-08      8037.1
1.1397E+10
       30.360 -2.8338E-16 -1.8447E-07  4.2333E-10 -7.0846E-09      8037.1
1.1397E+10
       30.690 -2.3894E-17 -1.2728E-07  1.5634E-08 -5.9736E-10      8037.1
1.1397E+10
       31.020  6.0466E-17 -6.0697E-08  1.3823E-08  1.5117E-09      8037.1
1.1397E+10
       31.350  6.1311E-17 -1.7810E-08  7.7953E-09  1.5328E-09      8037.1
1.1397E+10
       31.680  3.7651E-17  1.0445E-09  2.8967E-09  9.4128E-10      8037.1
1.1397E+10
       32.010  1.5428E-17  5.1376E-09  2.6921E-10  3.8571E-10      8037.1
1.1397E+10
       32.340  2.7454E-19  3.1813E-09 -5.0808E-10  6.8634E-12      8037.1
1.1397E+10
       32.670 -1.0502E-17  1.1168E-09 -4.0199E-10 -6.0445E-11      8037.1
1.1397E+10
       33.000 -1.9742E-17      0.0000 -3.1226E-25 -1.4258E-10      8037.1
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.039322      0.2856 -6.7331E-04  8.4524E+04  1.1165E+04  6.1469E+05
 1.9530E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.039322      0.2856 -6.7331E-04  8.4524E+04  1.1165E+04  6.1469E+05
 1.9530E+04
```

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	FLEXURAL RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2856	-6.1469E+05	1.1165E+04	134.33	1.9530E+04	1.1397E+10
0.3300	0.2825	-5.7044E+05	1.1043E+04	139.65	1.8517E+04	1.1397E+10
0.6600	0.2786	-5.2664E+05	1.0899E+04	144.83	1.7514E+04	1.1397E+10
0.9900	0.2740	-4.8340E+05	1.0735E+04	149.86	1.6523E+04	1.1397E+10
1.3200	0.2687	-4.4079E+05	1.0552E+04	154.74	1.5547E+04	1.1397E+10
1.6500	0.2629	-3.9889E+05	1.0350E+04	159.47	1.4588E+04	1.1397E+10
1.9800	0.2565	-3.5778E+05	1.0129E+04	164.03	1.3647E+04	1.1397E+10
2.3100	0.2495	-3.1754E+05	9890.5	168.41	1.2725E+04	1.1397E+10
2.6400	0.2422	-2.7824E+05	9635.0	172.62	1.1825E+04	1.1397E+10
2.9700	0.2345	-2.3995E+05	9363.2	176.65	1.0948E+04	1.1397E+10
3.3000	0.2264	-2.0275E+05	9075.9	180.48	1.0096E+04	1.1397E+10
3.6300	0.2181	-1.6669E+05	8773.7	184.11	9270.4	1.1397E+10
3.9600	0.2095	-1.3183E+05	8457.6	187.55	8472.2	1.1397E+10
4.2900	0.2007	-9.8239E+04	8128.3	190.77	7702.9	1.1397E+10
4.6200	0.1919	-6.5964E+04	7786.7	193.77	6963.8	1.1397E+10
4.9500	0.1829	-3.5058E+04	7433.6	196.55	6256.0	1.1397E+10
5.2800	0.1739	-5568.4	7069.9	199.11	5580.7	1.1397E+10
5.6100	0.1648	2.2462E+04	6696.7	201.43	5967.5	1.1397E+10
5.9400	0.1558	4.8993E+04	6314.6	203.51	6575.1	1.1397E+10

6.2700	0.1469	7.3990E+04	5924.9	205.34	7147.6
1.1397E+10					
6.6000	0.1380	9.7420E+04	5528.4	206.92	7684.1
1.1397E+10					
6.9300	0.1294	1.1926E+05	5126.1	208.25	8184.2
1.1397E+10					
7.2600	0.1208	1.3948E+05	4719.1	209.31	8647.2
1.1397E+10					
7.5900	0.1125	1.5806E+05	4308.4	210.10	9072.8
1.1397E+10					
7.9200	0.1043	1.7499E+05	3895.1	210.62	9460.6
1.1397E+10					
8.2500	9.6463E-02	1.9026E+05	3480.4	210.85	9810.3
1.1397E+10					
8.5800	8.8841E-02	2.0387E+05	3065.3	210.80	1.0122E+04
1.1397E+10					
8.9100	8.1499E-02	2.1580E+05	2651.0	210.45	1.0395E+04
1.1397E+10					
9.2400	7.4453E-02	2.2608E+05	2238.7	209.80	1.0630E+04
1.1397E+10					
9.5700	6.7719E-02	2.3470E+05	1829.5	208.84	1.0828E+04
1.1397E+10					
9.9000	6.1308E-02	2.4168E+05	1424.8	207.57	1.0988E+04
1.1397E+10					
10.230	5.5229E-02	2.4704E+05	1025.7	205.98	1.1111E+04
1.1397E+10					
10.560	4.9490E-02	2.5080E+05	633.57	204.06	1.1197E+04
1.1397E+10					
10.890	4.4097E-02	2.5300E+05	249.71	201.81	1.1247E+04
1.1397E+10					
11.220	3.9051E-02	2.5366E+05	-124.54	199.21	1.1262E+04
1.1397E+10					
11.550	3.4354E-02	2.5283E+05	-487.79	196.25	1.1243E+04
1.1397E+10					
11.880	3.0006E-02	2.5056E+05	-838.62	192.94	1.1191E+04
1.1397E+10					
12.210	2.6002E-02	2.4690E+05	-1175.6	189.24	1.1107E+04
1.1397E+10					
12.540	2.2337E-02	2.4190E+05	-1497.2	185.17	1.0993E+04
1.1397E+10					
12.870	1.9006E-02	2.3563E+05	-1801.8	180.69	1.0849E+04
1.1397E+10					
13.200	1.5999E-02	2.2817E+05	-2087.9	175.80	1.0678E+04
1.1397E+10					
13.530	1.3306E-02	2.1958E+05	-2353.8	170.48	1.0482E+04
1.1397E+10					
13.860	1.0915E-02	2.0995E+05	-2597.7	164.71	1.0261E+04
1.1397E+10					
14.190	8.8123E-03	1.9938E+05	-2817.8	158.46	1.0019E+04
1.1397E+10					
14.520	6.9844E-03	1.8797E+05	-3012.2	151.70	9757.8

1.1397E+10
14.850 5.4151E-03 1.7581E+05 -3178.7 144.39 9479.4
1.1397E+10
15.180 4.0878E-03 1.6304E+05 -3315.0 136.47 9186.8
1.1397E+10
15.510 2.9848E-03 1.4976E+05 -3418.7 127.88 8882.9
1.1397E+10
15.840 2.0878E-03 1.3613E+05 -3484.1 117.15 8570.7
1.1397E+10
16.170 1.3782E-03 1.2231E+05 -3505.1 105.48 8254.1
1.1397E+10
16.500 8.3683E-04 1.0848E+05 -3478.3 92.966 7937.3
1.1397E+10
16.830 4.4473E-04 9.4838E+04 -3399.4 79.176 7625.0
1.1397E+10
17.160 1.8312E-04 8.1608E+04 -4254.0 458.43 7322.0
1.1397E+10
17.490 3.3798E-05 6.1181E+04 -5642.0 242.59 6854.2
1.1397E+10
17.820 -3.1341E-05 3.6942E+04 -5585.9 -270.93 6299.2
1.1397E+10
18.150 -4.5650E-05 1.6947E+04 -4135.5 -461.57 5841.3
1.1397E+10
18.480 -3.6640E-05 4189.0 -2381.7 -424.21 5549.1
1.1397E+10
18.810 -2.1866E-05 -1917.7 -977.03 -285.23 5497.1
1.1397E+10
19.140 -9.7304E-06 -3551.4 -132.71 -141.20 5534.5
1.1397E+10
19.470 -2.4816E-06 -2970.4 225.37 -39.651 5521.2
1.1397E+10
19.800 6.8011E-07 -1767.3 280.39 11.864 5493.6
1.1397E+10
20.130 1.4101E-06 -750.06 204.10 26.667 5470.3
1.1397E+10
20.460 1.1081E-06 -150.91 106.59 22.580 5456.6
1.1397E+10
20.790 5.9839E-07 94.180 35.998 13.072 5455.3
1.1397E+10
21.120 2.1830E-07 134.27 4.0052E-02 5.0888 5456.2
1.1397E+10
21.450 2.2957E-08 94.546 -11.162 0.5688 5455.3
1.1397E+10
21.780 -4.2296E-08 45.889 -10.195 -1.0574 5454.2
1.1397E+10
22.110 -4.4409E-08 13.809 -5.9028 -1.1102 5453.5
1.1397E+10
22.440 -2.7521E-08 -0.8620 -2.3423 -0.6880 5453.2
1.1397E+10
22.770 -1.1819E-08 -4.7440 -0.3949 -0.2955 5453.3
1.1397E+10

```
       23.100 -2.6443E-09     -3.9920      0.3210 -6.6108E-02      5453.2
1.1397E+10
       23.430  1.0374E-09     -2.2029      0.4005  2.5935E-02      5453.2
1.1397E+10
       23.760  1.6881E-09     -0.8202      0.2656  4.2202E-02      5453.2
1.1397E+10
       24.090  1.2103E-09 -9.9184E-02      0.1222  3.0256E-02      5453.2
1.1397E+10
       24.420  5.9595E-10      0.1474  3.2745E-02  1.4899E-02      5453.2
1.1397E+10
       24.750  1.8440E-10      0.1602 -5.8824E-03  4.6099E-03      5453.2
1.1397E+10
       25.080 -6.6738E-12      0.1008 -1.4680E-02 -1.6684E-04      5453.2
1.1397E+10
       25.410 -5.9024E-11  4.4000E-02 -1.1428E-02 -1.4756E-03      5453.2
1.1397E+10
       25.740 -5.0834E-11  1.0315E-02 -5.9897E-03 -1.2708E-03      5453.2
1.1397E+10
       26.070 -2.8450E-11 -3.4410E-03 -2.0651E-03 -7.1124E-04      5453.2
1.1397E+10
       26.400 -1.0800E-11 -6.0437E-03 -1.2225E-04 -2.7001E-04      5453.2
1.1397E+10
       26.730 -1.4667E-12 -4.4115E-03  4.8496E-04 -3.6668E-05      5453.2
1.1397E+10
       27.060  1.7968E-12 -2.2039E-03  4.6862E-04  4.4921E-05      5453.2
1.1397E+10
       27.390  2.0280E-12 -7.0034E-04  2.7930E-04  5.0700E-05      5453.2
1.1397E+10
       27.720  1.2955E-12  8.2069E-06  1.1478E-04  3.2388E-05      5453.2
1.1397E+10
       28.050  5.7436E-13  2.0885E-04  2.2222E-05  1.4359E-05      5453.2
1.1397E+10
       28.380  1.4056E-13  1.8431E-04 -1.3166E-05  3.5141E-06      5453.2
1.1397E+10
       28.710 -3.9638E-14  1.0463E-04 -1.8162E-05 -9.9096E-07      5453.2
1.1397E+10
       29.040 -7.5874E-14  4.0482E-05 -1.2444E-05 -1.8969E-06      5453.2
1.1397E+10
       29.370 -5.6408E-14  6.0750E-06 -5.8961E-06 -1.4102E-06      5453.2
1.1397E+10
       29.700 -2.8584E-14 -6.2187E-06 -1.6890E-06 -7.1460E-07      5453.2
1.1397E+10
       30.030 -9.3160E-15 -7.3057E-06  1.8707E-07 -2.3290E-07      5453.2
1.1397E+10
       30.360 -1.0035E-16 -4.7396E-06  6.5318E-07 -2.5089E-09      5453.2
1.1397E+10
       30.690  2.5939E-15 -2.1336E-06  5.2974E-07  6.4848E-08      5453.2
1.1397E+10
       31.020  2.3525E-15 -5.4422E-07  2.8489E-07  5.8813E-08      5453.2
1.1397E+10
       31.350  1.3623E-15  1.2291E-07  1.0101E-07  3.4058E-08      5453.2
```

1.1397E+10
31.680 5.4124E-16 2.5593E-07 6.7830E-09 1.3531E-08 5453.2
1.1397E+10
32.010 7.2301E-17 1.7674E-07 -2.3587E-08 1.8075E-09 5453.2
1.1397E+10
32.340 -1.5346E-16 6.9179E-08 -1.9570E-08 -3.8364E-09 5453.2
1.1397E+10
32.670 -2.8403E-16 2.1773E-08 -8.7372E-09 -1.6347E-09 5453.2
1.1397E+10
33.000 -3.8464E-16 0.0000 -6.9361E-24 -2.7780E-09 5453.2
1.1397E+10

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

7.0030E-03 0.2856 -6.7331E-04 1.6553E+04 8660.6 5.2036E+05
1.2985E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

7.0030E-03 0.2856 -6.7331E-04 1.6553E+04 8660.6 5.2036E+05
1.2985E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL
FLEXURAL
y-DIR MOMENT FORCE REACTION STRESS
RIGIDITY
FT IN LBS-IN LBS LBS/IN LBS-IN**2
LBS-IN**2
********** ********** ********** ********** ********** **********
****
0.0000 0.2856 -5.2036E+05 8660.6 114.43 1.2985E+04

1.1397E+10
0.3300 0.2825 -4.8608E+05 8618.3 118.97 1.2200E+04
1.1397E+10
0.6600 0.2789 -4.5199E+05 8558.1 123.40 1.1419E+04
1.1397E+10
0.9900 0.2745 -4.1817E+05 8480.7 127.72 1.0644E+04
1.1397E+10
1.3200 0.2696 -3.8467E+05 8386.4 131.93 9877.3
1.1397E+10
1.6500 0.2642 -3.5158E+05 8275.6 136.02 9119.3
1.1397E+10
1.9800 0.2583 -3.1894E+05 8148.9 139.98 8372.0
1.1397E+10
2.3100 0.2520 -2.8684E+05 8006.7 143.81 7636.7
1.1397E+10
2.6400 0.2452 -2.5531E+05 7849.7 147.51 6914.8
1.1397E+10
2.9700 0.2382 -2.2444E+05 7678.3 151.06 6207.7
1.1397E+10
3.3000 0.2308 -1.9426E+05 7493.1 154.47 5516.7
1.1397E+10
3.6300 0.2231 -1.6484E+05 7294.7 157.73 4843.0
1.1397E+10
3.9600 0.2152 -1.3623E+05 7083.7 160.83 4187.7
1.1397E+10
4.2900 0.2071 -1.0848E+05 6860.7 163.77 3552.1
1.1397E+10
4.6200 0.1989 -8.1624E+04 6626.4 166.55 2937.2
1.1397E+10
4.9500 0.1906 -5.5720E+04 6381.5 169.15 2344.0
1.1397E+10
5.2800 0.1821 -3.0805E+04 6126.6 171.58 1773.4
1.1397E+10
5.6100 0.1737 -6917.9 5862.4 173.83 1226.4
1.1397E+10
5.9400 0.1652 1.5906E+04 5589.7 175.90 1432.2
1.1397E+10
6.2700 0.1568 3.7633E+04 5309.2 177.77 1929.8
1.1397E+10
6.6000 0.1484 5.8233E+04 5021.7 179.45 2401.5
1.1397E+10
6.9300 0.1401 7.7681E+04 4727.8 180.94 2846.9
1.1397E+10
7.2600 0.1318 9.5951E+04 4428.6 182.21 3265.3
1.1397E+10
7.5900 0.1238 1.1302E+05 4124.7 183.28 3656.3
1.1397E+10
7.9200 0.1158 1.2888E+05 3816.9 184.14 4019.5
1.1397E+10
8.2500 0.1081 1.4351E+05 3506.3 184.77 4354.5
1.1397E+10

8.5800	0.1006	1.5691E+05	3193.5	185.18	4661.2
1.1397E+10					
8.9100	9.3231E-02	1.6905E+05	2879.6	185.36	4939.4
1.1397E+10					
9.2400	8.6134E-02	1.7995E+05	2565.4	185.31	5189.0
1.1397E+10					
9.5700	7.9284E-02	1.8960E+05	2252.0	185.01	5410.0
1.1397E+10					
9.9000	7.2695E-02	1.9801E+05	1940.2	184.46	5602.5
1.1397E+10					
10.230	6.6379E-02	2.0518E+05	1631.1	183.67	5766.8
1.1397E+10					
10.560	6.0345E-02	2.1113E+05	1325.6	182.61	5903.0
1.1397E+10					
10.890	5.4602E-02	2.1588E+05	1024.9	181.28	6011.7
1.1397E+10					
11.220	4.9155E-02	2.1943E+05	729.95	179.67	6093.2
1.1397E+10					
11.550	4.4011E-02	2.2183E+05	441.94	177.78	6148.1
1.1397E+10					
11.880	3.9171E-02	2.2310E+05	162.01	175.60	6177.1
1.1397E+10					
12.210	3.4639E-02	2.2327E+05	-108.67	173.11	6181.0
1.1397E+10					
12.540	3.0414E-02	2.2238E+05	-368.85	170.30	6160.7
1.1397E+10					
12.870	2.6495E-02	2.2048E+05	-617.25	167.16	6117.2
1.1397E+10					
13.200	2.2879E-02	2.1762E+05	-852.52	163.67	6051.6
1.1397E+10					
13.530	1.9563E-02	2.1385E+05	-1073.2	159.81	5965.2
1.1397E+10					
13.860	1.6541E-02	2.0922E+05	-1277.9	155.56	5859.4
1.1397E+10					
14.190	1.3807E-02	2.0382E+05	-1465.0	150.90	5735.6
1.1397E+10					
14.520	1.1353E-02	1.9771E+05	-1632.6	145.78	5595.6
1.1397E+10					
14.850	9.1711E-03	1.9097E+05	-1779.0	140.17	5441.2
1.1397E+10					
15.180	7.2522E-03	1.8369E+05	-1902.2	134.02	5274.5
1.1397E+10					
15.510	5.5860E-03	1.7596E+05	-1999.7	127.25	5097.6
1.1397E+10					
15.840	4.1619E-03	1.6790E+05	-2066.4	118.40	4913.0
1.1397E+10					
16.170	2.9688E-03	1.5964E+05	-2096.2	108.66	4723.8
1.1397E+10					
16.500	1.9954E-03	1.5133E+05	-2086.0	98.182	4533.6
1.1397E+10					
16.830	1.2302E-03	1.4315E+05	-2032.3	86.725	4346.1

1.1397E+10
17.160 6.6192E-04 1.3526E+05 -3241.7 630.07 4165.5
1.1397E+10
17.490 2.7980E-04 1.1749E+05 -5749.1 636.31 3758.5
1.1397E+10
17.820 5.9328E-05 8.9737E+04 -7988.7 494.79 3123.0
1.1397E+10
18.150 -3.7669E-05 5.4223E+04 -8214.2 -380.88 2309.7
1.1397E+10
18.480 -6.0058E-05 2.4682E+04 -6083.3 -695.34 1633.2
1.1397E+10
18.810 -4.8486E-05 6043.6 -3454.3 -632.47 1206.3
1.1397E+10
19.140 -2.8598E-05 -2676.6 -1380.3 -414.99 1129.2
1.1397E+10
19.470 -1.2394E-05 -4889.0 -166.52 -198.03 1179.9
1.1397E+10
19.800 -2.9161E-06 -3995.8 326.30 -50.869 1159.5
1.1397E+10
20.130 1.0636E-06 -2304.9 387.19 20.114 1120.7
1.1397E+10
20.460 1.8719E-06 -929.37 271.84 38.145 1089.2
1.1397E+10
20.790 1.4014E-06 -151.97 135.70 30.612 1071.4
1.1397E+10
21.120 7.2176E-07 145.39 41.774 16.825 1071.3
1.1397E+10
21.450 2.4219E-07 178.90 -3.4210 6.0010 1072.0
1.1397E+10
21.780 8.7895E-09 118.31 -15.738 0.2197 1070.7
1.1397E+10
22.110 -6.1832E-08 54.262 -13.112 -1.5458 1069.2
1.1397E+10
22.440 -5.7792E-08 14.456 -7.1911 -1.4448 1068.3
1.1397E+10
22.770 -3.3862E-08 -2.6924 -2.6542 -0.8465 1068.0
1.1397E+10
23.100 -1.3635E-08 -6.5660 -0.3031 -0.3409 1068.1
1.1397E+10
23.430 -2.4438E-09 -5.0937 0.4928 -6.1094E-02 1068.1
1.1397E+10
23.760 1.7393E-09 -2.6634 0.5277 4.3481E-02 1068.0
1.1397E+10
24.090 2.2576E-09 -0.9148 0.3298 5.6441E-02 1068.0
1.1397E+10
24.420 1.5174E-09 -5.1250E-02 0.1429 3.7934E-02 1067.9
1.1397E+10
24.750 7.0656E-10 0.2174 3.2864E-02 1.7664E-02 1068.0
1.1397E+10
25.080 1.9490E-10 0.2091 -1.1758E-02 4.8726E-03 1068.0
1.1397E+10

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       25.410 -2.9104E-11      0.1243 -1.9965E-02 -7.2761E-04      1067.9
1.1397E+10
       25.740 -8.2093E-11  5.0936E-02 -1.4461E-02 -2.0523E-03      1067.9
1.1397E+10
       26.070 -6.4998E-11  9.7611E-03 -7.1801E-03 -1.6250E-03      1067.9
1.1397E+10
       26.400 -3.4472E-11 -5.9318E-03 -2.2564E-03 -8.6180E-04      1067.9
1.1397E+10
       26.730 -1.2108E-11 -8.1103E-03  4.9303E-05 -3.0269E-04      1067.9
1.1397E+10
       27.060 -9.0258E-13 -5.5419E-03  6.9331E-04 -2.2564E-05      1067.9
1.1397E+10
       27.390  2.6771E-12 -2.6196E-03  6.0547E-04  6.6927E-05      1067.9
1.1397E+10
       27.720  2.6524E-12 -7.4667E-04  3.4166E-04  6.6310E-05      1067.9
1.1397E+10
       28.050  1.6003E-12  8.6391E-05  1.3115E-04  4.0008E-05      1067.9
1.1397E+10
       28.380  6.6713E-13  2.9206E-04  1.8909E-05  1.6678E-05      1067.9
1.1397E+10
       28.710  1.3579E-13  2.3617E-04 -2.0836E-05  3.3947E-06      1067.9
1.1397E+10
       29.040 -7.0594E-14  1.2705E-04 -2.4063E-05 -1.7648E-06      1067.9
1.1397E+10
       29.370 -1.0217E-13  4.5596E-05 -1.5512E-05 -2.5542E-06      1067.9
1.1397E+10
       29.700 -7.1001E-14  4.1967E-06 -6.9398E-06 -1.7750E-06      1067.9
1.1397E+10
       30.030 -3.4062E-14 -9.3677E-06 -1.7391E-06 -8.5154E-07      1067.9
1.1397E+10
       30.360 -1.0011E-14 -9.5784E-06  4.4246E-07 -2.5028E-07      1067.9
1.1397E+10
       30.690  8.5960E-16 -5.8639E-06  8.9548E-07  2.1490E-08      1067.9
1.1397E+10
       31.020  3.6621E-15 -2.4864E-06  6.7165E-07  9.1553E-08      1067.9
1.1397E+10
       31.350  3.0435E-15 -5.4451E-07  3.3972E-07  7.6088E-08      1067.9
1.1397E+10
       31.680  1.6757E-15  2.0422E-07  1.0612E-07  4.1892E-08      1067.9
1.1397E+10
       32.010  5.8883E-16  2.9602E-07 -5.9706E-09  1.4721E-08      1067.9
1.1397E+10
       32.340 -9.0715E-17  1.5696E-07 -3.0627E-08 -2.2679E-09      1067.9
1.1397E+10
       32.670 -5.5429E-16  5.3467E-08 -1.9820E-08 -3.1902E-09      1067.9
1.1397E+10
       33.000 -9.4430E-16 -2.8666E-22  2.6202E-23 -6.8199E-09      1067.9
1.1397E+10
```

LOAD CASE : 4
CASE NAME : Service I, Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
2.13290E+06	3.25000E+05	-3.87967E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0647948	0.19935	-1.04587E-03

NUMBER OF ITERATIONS = 8

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1150	0.1993	-1.0459E-03	1.6741E+05	3.1767E+04	9.6396E+05	

3.2876E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN STRESS,LBS/IN**2

0.1150 0.1993 -1.0459E-03 1.6741E+05 3.1767E+04 9.6396E+05 3.2876E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1993	-9.6396E+05	3.1767E+04	377.46	3.2876E+04	1.1397E+10
0.3300	0.1945	-8.3977E+05	3.0523E+04	391.07	3.0032E+04	1.1397E+10
0.6600	0.1886	-7.2042E+05	2.9226E+04	403.82	2.7299E+04	1.1397E+10
0.9900	0.1816	-6.0614E+05	2.7881E+04	415.67	2.4681E+04	1.1397E+10
1.3200	0.1738	-4.9714E+05	2.6490E+04	426.60	2.2185E+04	1.1397E+10
1.6500	0.1654	-3.9362E+05	2.5058E+04	436.57	1.9814E+04	1.1397E+10
1.9800	0.1564	-2.9575E+05	2.3589E+04	445.54	1.7573E+04	1.1397E+10
2.3100	0.1469	-2.0371E+05	2.2086E+04	453.49	1.5465E+04	1.1397E+10
2.6400	0.1372	-1.1763E+05	2.0554E+04	460.37	1.3494E+04	1.1397E+10
2.9700	0.1274	-3.7646E+04	1.8997E+04	466.15	1.1662E+04	1.1397E+10
3.3000	0.1175	3.6134E+04	1.7419E+04	470.80	1.1628E+04	1.1397E+10
3.6300	0.1076	1.0362E+05	1.5825E+04	474.28	1.3173E+04	1.1397E+10
3.9600	9.7891E-02	1.6474E+05	1.4219E+04	476.54	1.4573E+04	1.1397E+10
4.2900	8.8398E-02	2.1945E+05	1.2607E+04	477.56	1.5826E+04	

1.1397E+10
4.6200 7.9207E-02 2.6772E+05 1.0994E+04 477.28 1.6931E+04
1.1397E+10
4.9500 7.0384E-02 3.0954E+05 9384.2 475.67 1.7889E+04
1.1397E+10
5.2800 6.1987E-02 3.4492E+05 7783.7 472.67 1.8699E+04
1.1397E+10
5.6100 5.4065E-02 3.7392E+05 6197.8 468.24 1.9363E+04
1.1397E+10
5.9400 4.6657E-02 3.9658E+05 4632.5 462.33 1.9882E+04
1.1397E+10
6.2700 3.9795E-02 4.1299E+05 3093.7 454.87 2.0258E+04
1.1397E+10
6.6000 3.3501E-02 4.2328E+05 1587.6 445.79 2.0494E+04
1.1397E+10
6.9300 2.7790E-02 4.2758E+05 120.78 435.01 2.0592E+04
1.1397E+10
7.2600 2.2667E-02 4.2605E+05 -1299.8 422.45 2.0557E+04
1.1397E+10
7.5900 1.8130E-02 4.1890E+05 -2666.9 407.98 2.0394E+04
1.1397E+10
7.9200 1.4169E-02 4.0635E+05 -3972.5 391.45 2.0106E+04
1.1397E+10
8.2500 1.0768E-02 3.8867E+05 -5208.3 372.67 1.9701E+04
1.1397E+10
8.5800 7.9011E-03 3.6615E+05 -6364.6 351.33 1.9186E+04
1.1397E+10
8.9100 5.5383E-03 3.3914E+05 -7430.4 326.97 1.8567E+04
1.1397E+10
9.2400 3.6421E-03 3.0802E+05 -8392.2 298.78 1.7854E+04
1.1397E+10
9.5700 2.1697E-03 2.7324E+05 -9231.5 265.12 1.7058E+04
1.1397E+10
9.9000 1.0733E-03 2.3533E+05 -9918.2 221.69 1.6190E+04
1.1397E+10
10.230 3.0073E-04 1.9500E+05 -1.0375E+04 149.02 1.5266E+04
1.1397E+10
10.560 -2.0358E-04 1.5338E+05 -9988.4 -204.28 1.4313E+04
1.1397E+10
10.890 -4.9685E-04 1.1602E+05 -8872.3 -219.36 1.3457E+04
1.1397E+10
11.220 -6.3047E-04 8.3180E+04 -7704.5 -230.46 1.2705E+04
1.1397E+10
11.550 -6.4965E-04 5.5029E+04 -6508.5 -233.59 1.2061E+04
1.1397E+10
11.880 -5.9311E-04 3.1626E+04 -5311.8 -230.82 1.1525E+04
1.1397E+10
12.210 -4.9305E-04 1.2933E+04 -4135.6 -223.23 1.1097E+04
1.1397E+10
12.540 -3.7520E-04 -1164.1 -2998.0 -211.30 1.0827E+04
1.1397E+10

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       12.870 -2.5895E-04 -1.0850E+04     -1916.0     -195.15  1.1049E+04
1.1397E+10
       13.200 -1.5763E-04 -1.6375E+04     -907.13     -174.39  1.1175E+04
1.1397E+10
       13.530 -7.8841E-05 -1.8065E+04      7.6785     -147.63  1.1214E+04
1.1397E+10
       13.860 -2.4908E-05 -1.6337E+04      792.10     -108.54  1.1174E+04
1.1397E+10
       14.190  6.5475E-06 -1.1805E+04      1080.4      102.92  1.1071E+04
1.1397E+10
       14.520  2.1759E-05     -7787.6      918.43      118.89  1.0979E+04
1.1397E+10
       14.850  2.6256E-05     -4534.7      715.57      123.56  1.0904E+04
1.1397E+10
       15.180  2.4512E-05     -2120.8      507.75      121.40  1.0849E+04
1.1397E+10
       15.510  1.9851E-05     -512.27      316.86      115.02  1.0812E+04
1.1397E+10
       15.840  1.4485E-05      390.44      159.30      104.56  1.0809E+04
1.1397E+10
       16.170  9.6562E-06      751.12      46.955      92.183  1.0818E+04
1.1397E+10
       16.500  5.8609E-06      763.76     -14.530      78.869  1.0818E+04
1.1397E+10
       16.830  3.1164E-06      637.14     -21.553      64.678  1.0815E+04
1.1397E+10
       17.160  1.2486E-06      593.84     -25.134      7.1311  1.0814E+04
1.1397E+10
       17.490  1.9793E-07      438.57     -42.066      1.4207  1.0810E+04
1.1397E+10
       17.820 -2.4932E-07      260.93     -40.612     -2.1552  1.0806E+04
1.1397E+10
       18.150 -3.3755E-07      117.01     -29.587     -3.4130  1.0803E+04
1.1397E+10
       18.480 -2.6477E-07      26.598     -16.760     -3.0654  1.0801E+04
1.1397E+10
       18.810 -1.5540E-07     -15.753     -6.6766     -2.0271  1.0801E+04
1.1397E+10
       19.140 -6.7700E-08     -26.314     -0.7179     -0.9824  1.0801E+04
1.1397E+10
       19.470 -1.6208E-08     -21.462      1.7400     -0.2590  1.0801E+04
1.1397E+10
       19.800  5.7517E-09     -12.545      2.0541      0.1003  1.0801E+04
1.1397E+10
       20.130  1.0451E-08     -5.1982      1.4642      0.1976  1.0800E+04
1.1397E+10
       20.460  7.9972E-09     -0.9493      0.7502      0.1630  1.0800E+04
1.1397E+10
       20.790  4.2376E-09      0.7443      0.2442  9.2569E-02  1.0800E+04
1.1397E+10
       21.120  1.5021E-09      0.9860 -8.4017E-03  3.5016E-02  1.0800E+04
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1.1397E+10
21.450 1.2333E-10 0.6784 -8.3785E-02 3.0558E-03 1.0800E+04
1.1397E+10
21.780 -3.2202E-10 0.3227 -7.3895E-02 -8.0506E-03 1.0800E+04
1.1397E+10
22.110 -3.2330E-10 9.3238E-02 -4.1951E-02 -8.0826E-03 1.0800E+04
1.1397E+10
22.440 -1.9630E-10 -9.5373E-03 -1.6231E-02 -4.9074E-03 1.0800E+04
1.1397E+10
22.770 -8.2411E-11 -3.5354E-02 -2.4352E-03 -2.0603E-03 1.0800E+04
1.1397E+10
23.100 -1.7171E-11 -2.8854E-02 2.4941E-03 -4.2928E-04 1.0800E+04
1.1397E+10
23.430 8.3672E-12 -1.5616E-02 2.9299E-03 2.0918E-04 1.0800E+04
1.1397E+10
23.760 1.2420E-11 -5.6538E-03 1.9010E-03 3.1049E-04 1.0800E+04
1.1397E+10
24.090 8.6925E-12 -5.5975E-04 8.5595E-04 2.1731E-04 1.0800E+04
1.1397E+10
24.420 4.1953E-12 1.1266E-03 2.1800E-04 1.0488E-04 1.0800E+04
1.1397E+10
24.750 1.2483E-12 1.1680E-03 -5.1465E-05 3.1209E-05 1.0800E+04
1.1397E+10
25.080 -9.1504E-14 7.1976E-04 -1.0873E-04 -2.2876E-06 1.0800E+04
1.1397E+10
25.410 -4.4101E-13 3.0719E-04 -8.2369E-05 -1.1025E-05 1.0800E+04
1.1397E+10
25.740 -3.6783E-13 6.7443E-05 -4.2332E-05 -9.1957E-06 1.0800E+04
1.1397E+10
26.070 -2.0185E-13 -2.8118E-05 -1.4133E-05 -5.0463E-06 1.0800E+04
1.1397E+10
26.400 -7.4565E-14 -4.4538E-05 -4.5024E-07 -1.8641E-06 1.0800E+04
1.1397E+10
26.730 -8.5597E-15 -3.1716E-05 3.6644E-06 -2.1399E-07 1.0800E+04
1.1397E+10
27.060 1.3806E-14 -1.5531E-05 3.4047E-06 3.4515E-07 1.0800E+04
1.1397E+10
27.390 1.4803E-14 -4.7544E-06 1.9886E-06 3.7007E-07 1.0800E+04
1.1397E+10
27.720 9.2574E-15 2.1970E-07 7.9761E-07 2.3144E-07 1.0800E+04
1.1397E+10
28.050 4.0145E-15 1.5645E-06 1.4065E-07 1.0036E-07 1.0800E+04
1.1397E+10
28.380 9.2413E-16 1.3351E-06 -1.0381E-07 2.3103E-08 1.0800E+04
1.1397E+10
28.710 -3.2923E-16 7.4306E-07 -1.3325E-07 -8.2308E-09 1.0800E+04
1.1397E+10
29.040 -5.6019E-16 2.7995E-07 -8.9228E-08 -1.4005E-08 1.0800E+04
1.1397E+10
29.370 -4.0594E-16 3.6392E-08 -4.1404E-08 -1.0149E-08 1.0800E+04
1.1397E+10

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       29.700 -2.0162E-16 -4.8030E-08 -1.1330E-08 -5.0406E-09  1.0800E+04
1.1397E+10
       30.030 -6.3392E-17 -5.3397E-08  1.7885E-09 -1.5848E-09  1.0800E+04
1.1397E+10
       30.360  1.3689E-18 -3.3899E-08  4.8586E-09  3.4222E-11  1.0800E+04
1.1397E+10
       30.690  1.9486E-17 -1.4931E-08  3.8263E-09  4.8715E-10  1.0800E+04
1.1397E+10
       31.020  1.7059E-17 -3.5978E-09  2.0173E-09  4.2649E-10  1.0800E+04
1.1397E+10
       31.350  9.6825E-18  1.0478E-09  6.9355E-10  2.4206E-10  1.0800E+04
1.1397E+10
       31.680  3.7473E-18  1.8973E-09  2.8768E-11  9.3683E-11  1.0800E+04
1.1397E+10
       32.010  4.2266E-19  1.2772E-09 -1.7765E-10  1.0567E-11  1.0800E+04
1.1397E+10
       32.340 -1.1446E-18  4.9114E-10 -1.4191E-10 -2.8616E-11  1.0800E+04
1.1397E+10
       32.670 -2.0362E-18  1.5370E-10 -6.2046E-11 -1.1719E-11  1.0800E+04
1.1397E+10
       33.000 -2.7162E-18      0.0000  8.6181E-26 -1.9617E-11  1.0800E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.064795      0.1993 -1.0459E-03  1.1781E+05  1.0024E+04  4.0172E+05
 1.6800E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.064795      0.1993 -1.0459E-03  1.1781E+05  1.0024E+04  4.0172E+05
 1.6800E+04


        * EFFECTS FOR LATERALLY LOADED PILE *
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x	DISPL.	BENDING	SHEAR	SOIL	TOTAL FLEXURAL
	y-DIR	MOMENT	FORCE	REACTION	STRESS RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2 LBS-IN**2
0.0000	0.1993	-4.0172E+05	1.0024E+04	122.79	1.6800E+04 1.1397E+10
0.3300	0.1949	-3.6192E+05	9806.1	127.28	1.5889E+04 1.1397E+10
0.6600	0.1900	-3.2296E+05	9570.7	131.61	1.4997E+04 1.1397E+10
0.9900	0.1847	-2.8491E+05	9318.5	135.78	1.4125E+04 1.1397E+10
1.3200	0.1789	-2.4785E+05	9050.1	139.77	1.3277E+04 1.1397E+10
1.6500	0.1728	-2.1184E+05	8766.2	143.59	1.2452E+04 1.1397E+10
1.9800	0.1664	-1.7695E+05	8467.6	147.22	1.1653E+04 1.1397E+10
2.3100	0.1598	-1.4324E+05	8155.1	150.65	1.0881E+04 1.1397E+10
2.6400	0.1530	-1.1077E+05	7829.3	153.88	1.0138E+04 1.1397E+10
2.9700	0.1460	-7.9605E+04	7491.1	156.91	9423.8 1.1397E+10
3.3000	0.1389	-4.9786E+04	7141.4	159.72	8740.9 1.1397E+10
3.6300	0.1317	-2.1367E+04	6781.0	162.31	8090.1 1.1397E+10
3.9600	0.1246	5608.6	6410.8	164.67	7729.2 1.1397E+10
4.2900	0.1174	3.1098E+04	6031.6	166.80	8312.9 1.1397E+10
4.6200	0.1102	5.5065E+04	5644.6	168.69	8861.8 1.1397E+10
4.9500	0.1032	7.7476E+04	5250.5	170.33	9375.0 1.1397E+10
5.2800	9.6236E-02	9.8300E+04	4850.5	171.71	9851.9 1.1397E+10
5.6100	8.9419E-02	1.1751E+05	4445.5	172.83	1.0292E+04 1.1397E+10
5.9400	8.2764E-02	1.3510E+05	4036.6	173.69	1.0695E+04 1.1397E+10
6.2700	7.6294E-02	1.5103E+05	3624.8	174.27	1.1059E+04 1.1397E+10
6.6000	7.0032E-02	1.6530E+05	3211.3	174.57	1.1386E+04

1.1397E+10
6.9300 6.3998E-02 1.7791E+05 2797.2 174.58 1.1675E+04
1.1397E+10
7.2600 5.8208E-02 1.8885E+05 2383.6 174.30 1.1926E+04
1.1397E+10
7.5900 5.2679E-02 1.9812E+05 1971.7 173.71 1.2138E+04
1.1397E+10
7.9200 4.7422E-02 2.0574E+05 1562.8 172.81 1.2312E+04
1.1397E+10
8.2500 4.2448E-02 2.1171E+05 1158.1 171.60 1.2449E+04
1.1397E+10
8.5800 3.7765E-02 2.1605E+05 758.81 170.05 1.2548E+04
1.1397E+10
8.9100 3.3380E-02 2.1878E+05 366.31 168.18 1.2611E+04
1.1397E+10
9.2400 2.9295E-02 2.1995E+05 -18.066 165.95 1.2638E+04
1.1397E+10
9.5700 2.5514E-02 2.1957E+05 -392.94 163.38 1.2629E+04
1.1397E+10
9.9000 2.2034E-02 2.1769E+05 -756.89 160.44 1.2586E+04
1.1397E+10
10.230 1.8854E-02 2.1436E+05 -1108.5 157.12 1.2510E+04
1.1397E+10
10.560 1.5969E-02 2.0963E+05 -1446.1 153.41 1.2401E+04
1.1397E+10
10.890 1.3372E-02 2.0355E+05 -1768.3 149.30 1.2262E+04
1.1397E+10
11.220 1.1055E-02 1.9620E+05 -2073.4 144.77 1.2094E+04
1.1397E+10
11.550 9.0085E-03 1.8764E+05 -2359.6 139.80 1.1898E+04
1.1397E+10
11.880 7.2200E-03 1.7796E+05 -2625.3 134.37 1.1676E+04
1.1397E+10
12.210 5.6764E-03 1.6724E+05 -2868.5 128.44 1.1431E+04
1.1397E+10
12.540 4.3628E-03 1.5558E+05 -3087.1 121.98 1.1164E+04
1.1397E+10
12.870 3.2634E-03 1.4308E+05 -3279.0 114.93 1.0877E+04
1.1397E+10
13.200 2.3608E-03 1.2985E+05 -3441.6 107.22 1.0574E+04
1.1397E+10
13.530 1.6369E-03 1.1601E+05 -3572.2 98.723 1.0258E+04
1.1397E+10
13.860 1.0726E-03 1.0171E+05 -3667.2 89.240 9929.9
1.1397E+10
14.190 6.4822E-04 8.7085E+04 -3721.9 78.394 9595.1
1.1397E+10
14.520 3.4369E-04 7.2317E+04 -3729.3 65.346 9256.9
1.1397E+10
14.850 1.3866E-04 5.7609E+04 -3675.8 47.654 8920.0
1.1397E+10

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       15.180  1.2901E-05  4.3243E+04     -3516.2      11.726      8591.1
1.1397E+10
       15.510 -5.3360E-05  2.9784E+04     -3074.2     -94.966      8282.8
1.1397E+10
       15.840 -7.8641E-05  1.8906E+04     -2469.7     -70.331      8033.7
1.1397E+10
       16.170 -7.7908E-05  1.0226E+04     -1926.0     -64.265      7834.9
1.1397E+10
       16.500 -6.3104E-05      3650.5     -1405.6     -58.550      7684.4
1.1397E+10
       16.830 -4.3277E-05     -910.13     -909.79     -51.869      7621.6
1.1397E+10
       17.160 -2.4702E-05     -3559.5     -389.16     -141.08      7682.3
1.1397E+10
       17.490 -1.1025E-05     -3996.1      46.869     -79.138      7692.3
1.1397E+10
       17.820 -2.8467E-06     -3190.9      252.29     -24.608      7673.8
1.1397E+10
       18.150  9.4139E-07     -1999.4      282.16      9.5185      7646.5
1.1397E+10
       18.480  1.9785E-06     -956.74      217.96      22.907      7622.7
1.1397E+10
       18.810  1.6992E-06     -273.18      128.72      22.166      7607.0
1.1397E+10
       19.140  1.0441E-06      62.827      54.832      15.151      7602.2
1.1397E+10
       19.470  4.7537E-07      161.23      9.7948      7.5953      7604.4
1.1397E+10
       19.800  1.2851E-07      140.51     -9.6826      2.2417      7604.0
1.1397E+10
       20.130 -2.5026E-08      84.608     -13.184     -0.4733      7602.7
1.1397E+10
       20.460 -6.2142E-08      36.114     -9.7397     -1.2663      7601.6
1.1397E+10
       20.790 -4.9568E-08      7.4718     -5.0885     -1.0828      7600.9
1.1397E+10
       21.120 -2.6713E-08     -4.1916     -1.7117     -0.6227      7600.9
1.1397E+10
       21.450 -9.6254E-09     -6.0892 -6.4753E-03     -0.2385      7600.9
1.1397E+10
       21.780 -9.1623E-10     -4.2459      0.5111 -2.2906E-02      7600.9
1.1397E+10
       22.110  1.9508E-09     -2.0427      0.4599  4.8770E-02      7600.8
1.1397E+10
       22.440  2.0072E-09     -0.6039      0.2640  5.0180E-02      7600.8
1.1397E+10
       22.770  1.2326E-09  4.8002E-02      0.1036  3.0816E-02      7600.8
1.1397E+10
       23.100  5.2413E-10      0.2167  1.6631E-02  1.3103E-02      7600.8
1.1397E+10
       23.430  1.1376E-10      0.1799 -1.4944E-02  2.8439E-03      7600.8
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1.1397E+10
23.760 -4.9146E-11 9.8398E-02 -1.8142E-02 -1.2286E-03 7600.8
1.1397E+10
24.090 -7.6659E-11 3.6192E-02 -1.1915E-02 -1.9165E-03 7600.8
1.1397E+10
24.420 -5.4374E-11 4.0332E-03 -5.4287E-03 -1.3593E-03 7600.8
1.1397E+10
24.750 -2.6539E-11 -6.8094E-03 -1.4235E-03 -6.6347E-04 7600.8
1.1397E+10
25.080 -8.0738E-12 -7.2466E-03 2.8980E-04 -2.0184E-04 7600.8
1.1397E+10
25.410 4.2048E-13 -4.5174E-03 6.6863E-04 1.0512E-05 7600.8
1.1397E+10
25.740 2.6990E-12 -1.9523E-03 5.1422E-04 6.7476E-05 7600.8
1.1397E+10
26.070 2.2913E-12 -4.4504E-04 2.6719E-04 5.7283E-05 7600.8
1.1397E+10
26.400 1.2713E-12 1.6402E-04 9.0843E-05 3.1782E-05 7600.8
1.1397E+10
26.730 4.7690E-13 2.7465E-04 4.3083E-06 1.1923E-05 7600.8
1.1397E+10
27.060 6.0429E-14 1.9828E-04 -2.2290E-05 1.5107E-06 7600.8
1.1397E+10
27.390 -8.3218E-14 9.8187E-05 -2.1161E-05 -2.0805E-06 7600.8
1.1397E+10
27.720 -9.1767E-14 3.0701E-05 -1.2500E-05 -2.2942E-06 7600.8
1.1397E+10
28.050 -5.8072E-14 -8.1363E-07 -5.0827E-06 -1.4518E-06 7600.8
1.1397E+10
28.380 -2.5498E-14 -9.5614E-06 -9.4594E-07 -6.3744E-07 7600.8
1.1397E+10
28.710 -6.0786E-15 -8.3116E-06 6.1708E-07 -1.5197E-07 7600.8
1.1397E+10
29.040 1.9040E-15 -4.6774E-06 8.2372E-07 4.7601E-08 7600.8
1.1397E+10
29.370 3.4509E-15 -1.7888E-06 5.5865E-07 8.6273E-08 7600.8
1.1397E+10
29.700 2.5365E-15 -2.5291E-07 2.6228E-07 6.3412E-08 7600.8
1.1397E+10
30.030 1.2740E-15 2.8865E-07 7.3657E-08 3.1850E-08 7600.8
1.1397E+10
30.360 4.0874E-16 3.3070E-07 -9.6393E-09 1.0218E-08 7600.8
1.1397E+10
30.690 -1.5170E-18 2.1246E-07 -2.9797E-08 -3.7925E-11 7600.8
1.1397E+10
31.020 -1.1944E-16 9.4774E-08 -2.3809E-08 -2.9861E-09 7600.8
1.1397E+10
31.350 -1.0697E-16 2.3901E-08 -1.2602E-08 -2.6742E-09 7600.8
1.1397E+10
31.680 -6.1605E-17 -5.0400E-09 -4.2575E-09 -1.5401E-09 7600.8
1.1397E+10

```
       32.010 -2.3177E-17 -9.8287E-09 -6.0852E-11 -5.7942E-10      7600.8
1.1397E+10
       32.340  1.7271E-18 -5.5294E-09  1.0009E-09  4.3178E-11      7600.8
1.1397E+10
       32.670  1.9023E-17 -1.9064E-09  6.9864E-10  1.0949E-10      7600.8
1.1397E+10
       33.000  3.3696E-17 -4.4791E-24 -7.3509E-25  2.4336E-10      7600.8
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.014593      0.1993 -1.0459E-03  3.4095E+04      8115.3  3.3640E+05
     9903.5


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.014593      0.1993 -1.0459E-03  3.4095E+04      8115.3  3.3640E+05
     9903.5


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.1993 -3.3640E+05      8115.3      104.60      9903.5
1.1397E+10
       0.3300      0.1950 -3.0439E+05      7970.7      108.43      9170.4
1.1397E+10
```

0.6600	0.1902	-2.7296E+05	7811.1	112.14	8450.7
1.1397E+10					
0.9900	0.1850	-2.4219E+05	7637.2	115.72	7745.9
1.1397E+10					
1.3200	0.1795	-2.1211E+05	7449.3	119.17	7057.2
1.1397E+10					
1.6500	0.1737	-1.8280E+05	7248.1	122.48	6385.9
1.1397E+10					
1.9800	0.1677	-1.5430E+05	7034.0	125.64	5733.3
1.1397E+10					
2.3100	0.1614	-1.2667E+05	6807.7	128.66	5100.6
1.1397E+10					
2.6400	0.1550	-9.9956E+04	6569.7	131.52	4488.7
1.1397E+10					
2.9700	0.1484	-7.4198E+04	6320.8	134.21	3898.8
1.1397E+10					
3.3000	0.1417	-4.9443E+04	6061.5	136.75	3331.9
1.1397E+10					
3.6300	0.1350	-2.5734E+04	5792.5	139.11	2789.0
1.1397E+10					
3.9600	0.1282	-3106.3	5514.5	141.30	2270.8
1.1397E+10					
4.2900	0.1215	1.8403E+04	5228.2	143.30	2621.1
1.1397E+10					
4.6200	0.1147	3.8762E+04	4934.3	145.12	3087.3
1.1397E+10					
4.9500	0.1080	5.7941E+04	4633.6	146.75	3526.5
1.1397E+10					
5.2800	0.1014	7.5914E+04	4326.8	148.19	3938.1
1.1397E+10					
5.6100	9.4873E-02	9.2657E+04	4014.7	149.42	4321.6
1.1397E+10					
5.9400	8.8485E-02	1.0815E+05	3698.2	150.44	4676.4
1.1397E+10					
6.2700	8.2246E-02	1.2238E+05	3378.0	151.26	5002.2
1.1397E+10					
6.6000	7.6175E-02	1.3532E+05	3055.0	151.86	5298.7
1.1397E+10					
6.9300	7.0291E-02	1.4698E+05	2730.1	152.24	5565.6
1.1397E+10					
7.2600	6.4609E-02	1.5734E+05	2404.2	152.39	5802.9
1.1397E+10					
7.5900	5.9143E-02	1.6640E+05	2078.0	152.31	6010.4
1.1397E+10					
7.9200	5.3907E-02	1.7416E+05	1752.7	152.00	6188.1
1.1397E+10					
8.2500	4.8910E-02	1.8063E+05	1429.1	151.44	6336.3
1.1397E+10					
8.5800	4.4161E-02	1.8581E+05	1108.2	150.64	6455.0
1.1397E+10					
8.9100	3.9669E-02	1.8972E+05	790.93	149.58	6544.5

1.1397E+10
9.2400 3.5437E-02 1.9238E+05 478.40 148.26 6605.2
1.1397E+10
9.5700 3.1470E-02 1.9379E+05 171.60 146.68 6637.6
1.1397E+10
9.9000 2.7769E-02 1.9400E+05 -128.40 144.83 6642.3
1.1397E+10
10.230 2.4336E-02 1.9302E+05 -420.51 142.70 6619.9
1.1397E+10
10.560 2.1168E-02 1.9089E+05 -703.62 140.28 6571.2
1.1397E+10
10.890 1.8263E-02 1.8765E+05 -976.59 137.58 6497.1
1.1397E+10
11.220 1.5616E-02 1.8335E+05 -1238.2 134.57 6398.4
1.1397E+10
11.550 1.3221E-02 1.7802E+05 -1487.3 131.25 6276.4
1.1397E+10
11.880 1.1071E-02 1.7172E+05 -1722.7 127.61 6132.2
1.1397E+10
12.210 9.1577E-03 1.6451E+05 -1943.0 123.64 5967.1
1.1397E+10
12.540 7.4705E-03 1.5646E+05 -2146.9 119.33 5782.6
1.1397E+10
12.870 5.9986E-03 1.4762E+05 -2333.0 114.66 5580.2
1.1397E+10
13.200 4.7299E-03 1.3807E+05 -2499.8 109.62 5361.6
1.1397E+10
13.530 3.6511E-03 1.2790E+05 -2646.0 104.18 5128.6
1.1397E+10
13.860 2.7482E-03 1.1718E+05 -2769.7 98.322 4883.2
1.1397E+10
14.190 2.0067E-03 1.0602E+05 -2869.4 92.005 4627.6
1.1397E+10
14.520 1.4109E-03 9.4504E+04 -2943.0 85.182 4363.9
1.1397E+10
14.850 9.4527E-04 8.2746E+04 -2988.5 77.781 4094.6
1.1397E+10
15.180 5.9345E-04 7.0863E+04 -3003.3 69.682 3822.5
1.1397E+10
15.510 3.3913E-04 5.8981E+04 -2984.1 60.657 3550.4
1.1397E+10
15.840 1.6597E-04 4.7243E+04 -2925.3 49.610 3281.6
1.1397E+10
16.170 5.7813E-05 3.5823E+04 -2816.7 35.555 3020.0
1.1397E+10
16.500 -1.0545E-06 2.4941E+04 -2602.6 -3.6857 2770.8
1.1397E+10
16.830 -2.5605E-05 1.5213E+04 -2241.0 -38.945 2548.0
1.1397E+10
17.160 -2.9223E-05 7193.4 -1694.8 -166.90 2364.4
1.1397E+10

17.490	-2.2943E-05	1790.4	-1038.3	-164.68	2240.7	1.1397E+10
17.820	-1.4200E-05	-1030.2	-469.15	-122.75	2223.2	1.1397E+10
18.150	-6.8746E-06	-1925.8	-88.467	-69.510	2243.8	1.1397E+10
18.480	-2.1988E-06	-1731.3	99.567	-25.457	2239.3	1.1397E+10
18.810	9.4966E-08	-1137.5	147.52	1.2388	2225.7	1.1397E+10
19.140	8.2359E-07	-563.04	121.40	11.951	2212.5	1.1397E+10
19.470	7.7750E-07	-175.99	73.143	12.423	2203.7	1.1397E+10
19.800	4.8925E-07	16.261	31.647	8.5348	2200.0	1.1397E+10
20.130	2.2339E-07	74.672	6.3834	4.2245	2201.4	1.1397E+10
20.460	6.0266E-08	66.833	-4.4127	1.2281	2201.2	1.1397E+10
20.790	-1.0899E-08	39.732	-6.3729	-0.2381	2200.6	1.1397E+10
21.120	-2.7396E-08	16.362	-4.6370	-0.6386	2200.0	1.1397E+10
21.450	-2.1379E-08	3.0067	-2.3237	-0.5297	2199.7	1.1397E+10
21.780	-1.1225E-08	-2.0422	-0.7192	-0.2806	2199.7	1.1397E+10
22.110	-3.8809E-09	-2.6904	2.8487E-02	-9.7023E-02	2199.7	1.1397E+10
22.440	-2.3884E-10	-1.8170	0.2324	-5.9710E-03	2199.7	1.1397E+10
22.770	9.0322E-10	-0.8498	0.1995	2.2581E-02	2199.7	1.1397E+10
23.100	8.7600E-10	-0.2367	0.1115	2.1900E-02	2199.7	1.1397E+10
23.430	5.2304E-10	3.2944E-02	4.2205E-02	1.3076E-02	2199.7	1.1397E+10
23.760	2.1542E-10	9.7560E-02	5.6510E-03	5.3856E-03	2199.7	1.1397E+10
24.090	4.2038E-11	7.7717E-02	-7.0934E-03	1.0510E-03	2199.7	1.1397E+10
24.420	-2.4413E-11	4.1389E-02	-7.9658E-03	-6.1032E-04	2199.7	1.1397E+10
24.750	-3.3915E-11	1.4630E-02	-5.0786E-03	-8.4789E-04	2199.7	1.1397E+10
25.080	-2.3288E-11	1.1667E-03	-2.2470E-03	-5.8220E-04	2199.6	1.1397E+10
25.410	-1.1055E-11	-3.1669E-03	-5.4699E-04	-2.7638E-04	2199.7	1.1397E+10
25.740	-3.1800E-12	-3.1661E-03	1.5766E-04	-7.9501E-05	2199.7	

```
1.1397E+10
       26.070  3.3883E-13 -1.9186E-03  2.9830E-04  8.4706E-06      2199.7
1.1397E+10
       26.400  1.2178E-12 -8.0373E-04  2.2125E-04  3.0446E-05      2199.6
1.1397E+10
       26.730  9.9098E-13 -1.6631E-04  1.1191E-04  2.4774E-05      2199.6
1.1397E+10
       27.060  5.3528E-13  8.2626E-05  3.6361E-05  1.3382E-05      2199.6
1.1397E+10
       27.390  1.9328E-13  1.2170E-04  2.9724E-07  4.8319E-06      2199.6
1.1397E+10
       27.720  1.8723E-14  8.4998E-05 -1.0197E-05  4.6808E-07      2199.6
1.1397E+10
       28.050 -3.8879E-14  4.0950E-05 -9.1991E-06 -9.7197E-07      2199.6
1.1397E+10
       28.380 -4.0136E-14  1.2143E-05 -5.2878E-06 -1.0034E-06      2199.6
1.1397E+10
       28.710 -2.4685E-14 -9.2999E-07 -2.0792E-06 -6.1713E-07      2199.6
1.1397E+10
       29.040 -1.0514E-14 -4.3252E-06 -3.3678E-07 -2.6286E-07      2199.6
1.1397E+10
       29.370 -2.2944E-15 -3.5981E-06  2.9725E-07 -5.7361E-08      2199.6
1.1397E+10
       29.700  9.7471E-16 -1.9713E-06  3.6257E-07  2.4368E-08      2199.6
1.1397E+10
       30.030  1.5314E-15 -7.2663E-07  2.3852E-07  3.8285E-08      2199.6
1.1397E+10
       30.360  1.0883E-15 -8.2245E-08  1.0885E-07  2.7207E-08      2199.6
1.1397E+10
       30.690  5.3200E-16  1.3549E-07  2.8646E-08  1.3300E-08      2199.6
1.1397E+10
       31.020  1.6216E-16  1.4466E-07 -5.7153E-09  4.0539E-09      2199.6
1.1397E+10
       31.350 -8.6462E-18  9.0247E-08 -1.3314E-08 -2.1615E-10      2199.6
1.1397E+10
       31.680 -5.5274E-17  3.9220E-08 -1.0150E-08 -1.3819E-09      2199.6
1.1397E+10
       32.010 -4.7938E-17  9.8604E-09 -5.0410E-09 -1.1984E-09      2199.6
1.1397E+10
       32.340 -2.7034E-17 -7.0582E-10 -1.3299E-09 -6.7586E-10      2199.6
1.1397E+10
       32.670 -7.1021E-18 -6.7343E-10  8.9286E-11 -4.0877E-11      2199.6
1.1397E+10
       33.000  1.1904E-17  4.4791E-24 -2.1591E-25  8.5971E-11      2199.6
1.1397E+10


     LOAD CASE :     5
     CASE NAME : Strength I (maxVmaxH), Expansion
```

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
3.00210E+06	3.42700E+05	-3.55259E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.12017	0.29214	-1.51323E-03

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1928	0.2921	-1.5132E-03	1.9957E+05	3.5757E+04	1.1693E+06	3.9654E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN STRESS,LBS/IN**2

0.1928 0.2921 -1.5132E-03 1.9957E+05 3.5757E+04 1.1693E+06 3.9654E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2921	-1.1693E+06	3.5757E+04	415.31	3.9654E+04	1.1397E+10
0.3300	0.2853	-1.0288E+06	3.4502E+04	430.37	3.6436E+04	1.1397E+10
0.6600	0.2771	-8.9310E+05	3.3189E+04	444.61	3.3328E+04	1.1397E+10
0.9900	0.2677	-7.6244E+05	3.1822E+04	458.00	3.0336E+04	1.1397E+10
1.3200	0.2572	-6.3709E+05	3.0403E+04	470.49	2.7465E+04	1.1397E+10
1.6500	0.2458	-5.1728E+05	2.8937E+04	482.06	2.4722E+04	1.1397E+10
1.9800	0.2338	-4.0323E+05	2.7427E+04	492.67	2.2110E+04	1.1397E+10
2.3100	0.2211	-2.9513E+05	2.5877E+04	502.29	1.9634E+04	1.1397E+10
2.6400	0.2081	-1.9316E+05	2.4290E+04	510.87	1.7299E+04	1.1397E+10
2.9700	0.1948	-9.7489E+04	2.2672E+04	518.40	1.5108E+04	1.1397E+10
3.3000	0.1813	-8258.8	2.1026E+04	524.82	1.3065E+04	1.1397E+10
3.6300	0.1679	7.4406E+04	1.9357E+04	530.12	1.4579E+04	1.1397E+10
3.9600	0.1545	1.5040E+05	1.7670E+04	534.24	1.6320E+04	1.1397E+10
4.2900	0.1414	2.1964E+05	1.5968E+04	537.16	1.7905E+04	1.1397E+10
4.6200	0.1286	2.8205E+05	1.4257E+04	538.83	1.9335E+04	1.1397E+10

```
       4.9500      0.1161  3.3760E+05  1.2543E+04      539.22  2.0607E+04
1.1397E+10
       5.2800      0.1041  3.8627E+05  1.0829E+04      538.28  2.1721E+04
1.1397E+10
       5.6100  9.2666E-02  4.2805E+05      9121.6      535.98  2.2678E+04
1.1397E+10
       5.9400  8.1800E-02  4.6296E+05      7426.2      532.27  2.3478E+04
1.1397E+10
       6.2700  7.1570E-02  4.9107E+05      5748.5      527.09  2.4121E+04
1.1397E+10
       6.6000  6.2017E-02  5.1244E+05      4094.2      520.40  2.4611E+04
1.1397E+10
       6.9300  5.3168E-02  5.2717E+05      2469.5      512.14  2.4948E+04
1.1397E+10
       7.2600  4.5045E-02  5.3539E+05      880.81      502.24  2.5136E+04
1.1397E+10
       7.5900  3.7659E-02  5.3724E+05     -665.30      490.62  2.5179E+04
1.1397E+10
       7.9200  3.1011E-02  5.3292E+05     -2161.9      477.21  2.5080E+04
1.1397E+10
       8.2500  2.5097E-02  5.2263E+05     -3601.5      461.89  2.4844E+04
1.1397E+10
       8.5800  1.9902E-02  5.0661E+05     -4976.5      444.53  2.4477E+04
1.1397E+10
       8.9100  1.5405E-02  4.8515E+05     -6278.3      424.95  2.3986E+04
1.1397E+10
       9.2400  1.1574E-02  4.5855E+05     -7497.7      402.91  2.3377E+04
1.1397E+10
       9.5700  8.3749E-03  4.2717E+05     -8624.2      378.03  2.2658E+04
1.1397E+10
       9.9000  5.7632E-03  3.9140E+05     -9645.4      349.74  2.1839E+04
1.1397E+10
       10.230  3.6902E-03  3.5171E+05 -1.0546E+04      316.94  2.0930E+04
1.1397E+10
       10.560  2.1010E-03  3.0861E+05 -1.1302E+04      277.29  1.9943E+04
1.1397E+10
       10.890  9.3650E-04  2.6275E+05 -1.1875E+04      223.88  1.8893E+04
1.1397E+10
       11.220  1.3351E-04  2.1496E+05 -1.2113E+04      108.22  1.7798E+04
1.1397E+10
       11.550 -3.7371E-04  1.6707E+05 -1.1462E+04     -224.84  1.6702E+04
1.1397E+10
       11.880 -6.5106E-04  1.2433E+05 -1.0113E+04     -244.64  1.5723E+04
1.1397E+10
       12.210 -7.5732E-04  8.7056E+04     -8706.1     -253.88  1.4869E+04
1.1397E+10
       12.540 -7.4381E-04  5.5399E+04     -7278.3     -255.21  1.4144E+04
1.1397E+10
       12.870 -6.5407E-04  2.9391E+04     -5857.1     -250.56  1.3549E+04
1.1397E+10
       13.200 -5.2389E-04      8966.3     -4464.4     -240.85  1.3081E+04
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1.1397E+10
13.530 -3.8137E-04 -6021.5 -3119.3 -226.46 1.3013E+04
1.1397E+10
13.860 -2.4714E-04 -1.5794E+04 -1840.7 -207.29 1.3237E+04
1.1397E+10
14.190 -1.3463E-04 -2.0649E+04 -649.28 -182.46 1.3348E+04
1.1397E+10
14.520 -5.0546E-05 -2.0976E+04 426.19 -148.71 1.3356E+04
1.1397E+10
14.850 4.6812E-06 -1.7302E+04 1020.3 60.638 1.3272E+04
1.1397E+10
15.180 3.6102E-05 -1.2912E+04 1059.9 131.37 1.3171E+04
1.1397E+10
15.510 4.9757E-05 -8916.3 928.78 146.86 1.3080E+04
1.1397E+10
15.840 5.1144E-05 -5559.0 762.10 149.32 1.3003E+04
1.1397E+10
16.170 4.4882E-05 -2879.5 598.84 145.13 1.2941E+04
1.1397E+10
16.500 3.4658E-05 -812.89 461.11 136.43 1.2894E+04
1.1397E+10
16.830 2.3316E-05 776.80 365.61 123.80 1.2893E+04
1.1397E+10
17.160 1.3042E-05 2087.1 182.88 74.485 1.2923E+04
1.1397E+10
17.490 5.6403E-06 2228.7 -44.761 40.485 1.2927E+04
1.1397E+10
17.820 1.3049E-06 1734.9 -147.26 11.281 1.2915E+04
1.1397E+10
18.150 -6.4323E-07 1063.7 -156.71 -6.5038 1.2900E+04
1.1397E+10
18.480 -1.1278E-06 494.23 -117.98 -13.057 1.2887E+04
1.1397E+10
18.810 -9.3231E-07 129.36 -68.050 -12.161 1.2878E+04
1.1397E+10
19.140 -5.5884E-07 -44.837 -27.914 -8.1093 1.2877E+04
1.1397E+10
19.470 -2.4706E-07 -91.853 -4.0413 -3.9474 1.2878E+04
1.1397E+10
19.800 -6.1663E-08 -76.943 5.9044 -1.0757 1.2877E+04
1.1397E+10
20.130 1.7861E-08 -45.143 7.3655 0.3378 1.2877E+04
1.1397E+10
20.460 3.5272E-08 -18.628 5.2736 0.7188 1.2876E+04
1.1397E+10
20.790 2.7052E-08 -3.3784 2.6804 0.5909 1.2876E+04
1.1397E+10
21.120 1.4183E-08 2.6051 0.8557 0.3306 1.2876E+04
1.1397E+10
21.450 4.8987E-09 3.4032 -3.9252E-02 0.1214 1.2876E+04
1.1397E+10

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       21.780  2.9701E-10      2.2970     -0.2943  7.4254E-03  1.2876E+04
1.1397E+10
       22.110 -1.1442E-09      1.0737     -0.2523 -2.8605E-02  1.2876E+04
1.1397E+10
       22.440 -1.1081E-09      0.2986     -0.1409 -2.7703E-02  1.2875E+04
1.1397E+10
       22.770 -6.6116E-10 -4.2051E-02 -5.3280E-02 -1.6529E-02  1.2875E+04
1.1397E+10
       23.100 -2.7205E-10     -0.1235 -7.0864E-03 -6.8012E-03  1.2875E+04
1.1397E+10
       23.430 -5.2895E-11 -9.8296E-02  8.9984E-03 -1.3224E-03  1.2875E+04
1.1397E+10
       23.760  3.1009E-11 -5.2311E-02  1.0082E-02  7.7523E-04  1.2875E+04
1.1397E+10
       24.090  4.2936E-11 -1.8468E-02  6.4214E-03  1.0734E-03  1.2875E+04
1.1397E+10
       24.420  2.9452E-11 -1.4534E-03  2.8381E-03  7.3631E-04  1.2875E+04
1.1397E+10
       24.750  1.3968E-11  4.0155E-03  6.8883E-04  3.4921E-04  1.2875E+04
1.1397E+10
       25.080  4.0092E-12  4.0072E-03 -2.0105E-04  1.0023E-04  1.2875E+04
1.1397E+10
       25.410 -4.3621E-13  2.4260E-03 -3.7791E-04 -1.0905E-05  1.2875E+04
1.1397E+10
       25.740 -1.5436E-12  1.0152E-03 -2.7992E-04 -3.8589E-05  1.2875E+04
1.1397E+10
       26.070 -1.2541E-12  2.0924E-04 -1.4143E-04 -3.1352E-05  1.2875E+04
1.1397E+10
       26.400 -6.7668E-13 -1.0512E-04 -4.5859E-05 -1.6917E-05  1.2875E+04
1.1397E+10
       26.730 -2.4393E-13 -1.5416E-04 -2.8911E-07 -6.0982E-06  1.2875E+04
1.1397E+10
       27.060 -2.3291E-14 -1.0754E-04  1.2938E-05 -5.8228E-07  1.2875E+04
1.1397E+10
       27.390  4.9375E-14 -5.1753E-05  1.1647E-05  1.2344E-06  1.2875E+04
1.1397E+10
       27.720  5.0833E-14 -1.5310E-05  6.6867E-06  1.2708E-06  1.2875E+04
1.1397E+10
       28.050  3.1225E-14  1.2090E-06  2.6248E-06  7.8062E-07  1.2875E+04
1.1397E+10
       28.380  1.3280E-14  5.4862E-06  4.2183E-07  3.3200E-07  1.2875E+04
1.1397E+10
       28.710  2.8842E-15  4.5555E-06 -3.7831E-07  7.2104E-08  1.2875E+04
1.1397E+10
       29.040 -1.2437E-15  2.4929E-06 -4.5951E-07 -3.1094E-08  1.2875E+04
1.1397E+10
       29.370 -1.9416E-15  9.1718E-07 -3.0183E-07 -4.8540E-08  1.2875E+04
1.1397E+10
       29.700 -1.3775E-15  1.0240E-07 -1.3754E-07 -3.4436E-08  1.2875E+04
1.1397E+10
       30.030 -6.7242E-16 -1.7238E-07 -3.6070E-08 -1.6810E-08  1.2875E+04
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1.1397E+10
30.360 -2.0457E-16 -1.8351E-07 7.3409E-09 -5.1142E-09 1.2875E+04
1.1397E+10
30.690 1.0787E-17 -1.1438E-07 1.6933E-08 2.6968E-10 1.2875E+04
1.1397E+10
31.020 6.8766E-17 -4.9449E-08 1.2995E-08 1.7191E-09 1.2875E+04
1.1397E+10
31.350 5.8705E-17 -1.1465E-08 6.6855E-09 1.4676E-09 1.2875E+04
1.1397E+10
31.680 3.2868E-17 3.5072E-09 2.1527E-09 8.2170E-10 1.2875E+04
1.1397E+10
32.010 1.1857E-17 5.5932E-09 -6.1199E-11 2.9642E-10 1.2875E+04
1.1397E+10
32.340 -1.4581E-18 3.0293E-09 -5.7594E-10 -3.6452E-11 1.2875E+04
1.1397E+10
32.670 -1.0605E-17 1.0362E-09 -3.8292E-10 -6.1037E-11 1.2875E+04
1.1397E+10
33.000 -1.8326E-17 -2.2395E-24 -8.8469E-25 -1.3235E-10 1.2875E+04
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.1202 0.2921 -1.5132E-03 1.7251E+05 9260.8 4.1998E+05
2.0748E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.1202 0.2921 -1.5132E-03 1.7251E+05 9260.8 4.1998E+05
2.0748E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL

FLEXURAL

	y-DIR	MOMENT	FORCE	REACTION	STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2921	-4.1998E+05	9260.8	135.10	2.0748E+04	1.1397E+10
0.3300	0.2859	-3.8245E+05	9135.7	140.06	1.9888E+04	1.1397E+10
0.6600	0.2791	-3.4537E+05	8991.3	144.88	1.9039E+04	1.1397E+10
0.9900	0.2718	-3.0881E+05	8828.1	149.55	1.8202E+04	1.1397E+10
1.3200	0.2641	-2.7286E+05	8646.7	154.06	1.7379E+04	1.1397E+10
1.6500	0.2560	-2.3761E+05	8447.7	158.41	1.6571E+04	1.1397E+10
1.9800	0.2476	-2.0311E+05	8231.9	162.59	1.5781E+04	1.1397E+10
2.3100	0.2389	-1.6946E+05	7999.9	166.58	1.5011E+04	1.1397E+10
2.6400	0.2300	-1.3671E+05	7752.5	170.40	1.4261E+04	1.1397E+10
2.9700	0.2208	-1.0495E+05	7490.3	174.02	1.3533E+04	1.1397E+10
3.3000	0.2116	-7.4223E+04	7214.1	177.45	1.2830E+04	1.1397E+10
3.6300	0.2022	-4.4601E+04	6924.8	180.68	1.2151E+04	1.1397E+10
3.9600	0.1928	-1.6140E+04	6623.1	183.69	1.1500E+04	1.1397E+10
4.2900	0.1834	1.1107E+04	6309.9	186.50	1.1384E+04	1.1397E+10
4.6200	0.1740	3.7089E+04	5986.0	189.08	1.1979E+04	1.1397E+10
4.9500	0.1646	6.1759E+04	5652.3	191.43	1.2544E+04	1.1397E+10
5.2800	0.1553	8.5075E+04	5309.8	193.56	1.3078E+04	1.1397E+10
5.6100	0.1461	1.0700E+05	4959.3	195.44	1.3580E+04	1.1397E+10
5.9400	0.1371	1.2749E+05	4601.9	197.09	1.4050E+04	1.1397E+10
6.2700	0.1282	1.4653E+05	4238.4	198.48	1.4486E+04	1.1397E+10
6.6000	0.1196	1.6408E+05	3869.9	199.62	1.4887E+04	1.1397E+10
6.9300	0.1112	1.8012E+05	3497.5	200.49	1.5255E+04	1.1397E+10

7.2600	0.1030	1.9464E+05	3122.1	201.11	1.5587E+04
1.1397E+10					
7.5900	9.5087E-02	2.0762E+05	2744.8	201.44	1.5885E+04
1.1397E+10					
7.9200	8.7466E-02	2.1906E+05	2366.7	201.50	1.6147E+04
1.1397E+10					
8.2500	8.0146E-02	2.2895E+05	1989.0	201.28	1.6373E+04
1.1397E+10					
8.5800	7.3141E-02	2.3728E+05	1612.7	200.76	1.6564E+04
1.1397E+10					
8.9100	6.6463E-02	2.4408E+05	1239.0	199.95	1.6720E+04
1.1397E+10					
9.2400	6.0121E-02	2.4934E+05	869.16	198.84	1.6840E+04
1.1397E+10					
9.5700	5.4121E-02	2.5309E+05	504.33	197.42	1.6926E+04
1.1397E+10					
9.9000	4.8470E-02	2.5535E+05	145.75	195.68	1.6978E+04
1.1397E+10					
10.230	4.3171E-02	2.5614E+05	-205.32	193.62	1.6996E+04
1.1397E+10					
10.560	3.8223E-02	2.5549E+05	-547.58	191.24	1.6981E+04
1.1397E+10					
10.890	3.3627E-02	2.5344E+05	-879.72	188.51	1.6934E+04
1.1397E+10					
11.220	2.9380E-02	2.5005E+05	-1200.4	185.45	1.6856E+04
1.1397E+10					
11.550	2.5477E-02	2.4534E+05	-1508.2	182.03	1.6749E+04
1.1397E+10					
11.880	2.1912E-02	2.3939E+05	-1801.8	178.25	1.6612E+04
1.1397E+10					
12.210	1.8676E-02	2.3225E+05	-2079.7	174.10	1.6449E+04
1.1397E+10					
12.540	1.5759E-02	2.2398E+05	-2340.4	169.57	1.6259E+04
1.1397E+10					
12.870	1.3151E-02	2.1466E+05	-2582.4	164.65	1.6046E+04
1.1397E+10					
13.200	1.0838E-02	2.0438E+05	-2804.2	159.33	1.5810E+04
1.1397E+10					
13.530	8.8064E-03	1.9320E+05	-3004.0	153.58	1.5554E+04
1.1397E+10					
13.860	7.0405E-03	1.8124E+05	-3180.2	147.40	1.5280E+04
1.1397E+10					
14.190	5.5239E-03	1.6858E+05	-3331.0	140.76	1.4991E+04
1.1397E+10					
14.520	4.2394E-03	1.5534E+05	-3454.5	133.64	1.4687E+04
1.1397E+10					
14.850	3.1685E-03	1.4163E+05	-3548.8	125.99	1.4373E+04
1.1397E+10					
15.180	2.2926E-03	1.2757E+05	-3611.7	117.78	1.4051E+04
1.1397E+10					
15.510	1.5921E-03	1.1330E+05	-3640.8	108.93	1.3725E+04

1.1397E+10
15.840 1.0476E-03 9.8950E+04 -3631.2 98.206 1.3396E+04
1.1397E+10
16.170 6.3922E-04 8.4702E+04 -3577.4 86.616 1.3070E+04
1.1397E+10
16.500 3.4737E-04 7.0738E+04 -3475.9 74.141 1.2750E+04
1.1397E+10
16.830 1.5286E-04 5.7256E+04 -3321.9 60.052 1.2441E+04
1.1397E+10
17.160 3.7125E-05 4.4482E+04 -3650.7 212.02 1.2149E+04
1.1397E+10
17.490 -1.7404E-05 2.8372E+04 -3823.2 -124.92 1.1780E+04
1.1397E+10
17.820 -3.2894E-05 1.4215E+04 -3012.8 -284.35 1.1455E+04
1.1397E+10
18.150 -2.8826E-05 4512.7 -1872.7 -291.46 1.1233E+04
1.1397E+10
18.480 -1.8549E-05 -619.65 -870.38 -214.75 1.1144E+04
1.1397E+10
18.810 -9.1239E-06 -2384.2 -209.52 -119.02 1.1185E+04
1.1397E+10
19.140 -2.9797E-06 -2281.8 111.74 -43.239 1.1182E+04
1.1397E+10
19.470 2.4944E-08 -1500.8 196.57 0.3985 1.1164E+04
1.1397E+10
19.800 9.6465E-07 -725.64 162.46 16.828 1.1147E+04
1.1397E+10
20.130 9.0591E-07 -214.23 95.219 17.132 1.1135E+04
1.1397E+10
20.460 5.5241E-07 28.565 39.009 11.257 1.1131E+04
1.1397E+10
20.790 2.3821E-07 94.832 6.4173 5.2035 1.1132E+04
1.1397E+10
21.120 5.4491E-08 79.477 -6.4007 1.2702 1.1132E+04
1.1397E+10
21.450 -1.9871E-08 44.183 -7.9410 -0.4924 1.1131E+04
1.1397E+10
21.780 -3.3441E-08 16.599 -5.3108 -0.8360 1.1130E+04
1.1397E+10
22.110 -2.4170E-08 2.1222 -2.4590 -0.6043 1.1130E+04
1.1397E+10
22.440 -1.1980E-08 -2.8799 -0.6696 -0.2995 1.1130E+04
1.1397E+10
22.770 -3.7522E-09 -3.1846 0.1091 -9.3804E-02 1.1130E+04
1.1397E+10
23.100 9.3742E-11 -2.0176 0.2902 2.3436E-03 1.1130E+04
1.1397E+10
23.430 1.1635E-09 -0.8869 0.2280 2.9087E-02 1.1130E+04
1.1397E+10
23.760 1.0129E-09 -0.2121 0.1203 2.5323E-02 1.1130E+04
1.1397E+10

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       24.090  5.7052E-10  6.5644E-02  4.1877E-02  1.4263E-02  1.1130E+04
1.1397E+10
       24.420  2.1844E-10      0.1197  2.8235E-03  5.4610E-03  1.1130E+04
1.1397E+10
       24.750  3.1063E-11  8.8099E-02 -9.5270E-03  7.7658E-04  1.1130E+04
1.1397E+10
       25.080 -3.5094E-11  4.4295E-02 -9.3274E-03 -8.7736E-04  1.1130E+04
1.1397E+10
       25.410 -4.0305E-11  1.4238E-02 -5.5951E-03 -1.0076E-03  1.1130E+04
1.1397E+10
       25.740 -2.5925E-11 -2.0422E-05 -2.3168E-03 -6.4812E-04  1.1130E+04
1.1397E+10
       26.070 -1.1573E-11 -4.1154E-03 -4.6060E-04 -2.8932E-04  1.1130E+04
1.1397E+10
       26.400 -2.8835E-12 -3.6724E-03  2.5499E-04 -7.2087E-05  1.1130E+04
1.1397E+10
       26.730  7.5304E-13 -2.0980E-03  3.6044E-04  1.8826E-05  1.1130E+04
1.1397E+10
       27.060  1.5028E-12 -8.1841E-04  2.4878E-04  3.7570E-05  1.1130E+04
1.1397E+10
       27.390  1.1265E-12 -1.2775E-04  1.1863E-04  2.8162E-05  1.1130E+04
1.1397E+10
       27.720  5.7436E-13  1.2133E-04  3.4442E-05  1.4359E-05  1.1130E+04
1.1397E+10
       28.050  1.8920E-13  1.4520E-04 -3.3540E-06  4.7300E-06  1.1130E+04
1.1397E+10
       28.380  3.8252E-15  9.4862E-05 -1.2909E-05  9.5630E-08  1.1130E+04
1.1397E+10
       28.710 -5.1025E-14  4.3003E-05 -1.0572E-05 -1.2756E-06  1.1130E+04
1.1397E+10
       29.040 -4.6706E-14  1.1138E-05 -5.7347E-06 -1.1676E-06  1.1130E+04
1.1397E+10
       29.370 -2.7062E-14 -2.4199E-06 -2.0832E-06 -6.7654E-07  1.1130E+04
1.1397E+10
       29.700 -1.0747E-14 -5.3677E-06 -2.1171E-07 -2.6867E-07  1.1130E+04
1.1397E+10
       30.030 -1.8181E-15 -4.1010E-06  4.1026E-07 -4.5452E-08  1.1130E+04
1.1397E+10
       30.360  1.4681E-15 -2.1205E-06  4.2758E-07  3.6703E-08  1.1130E+04
1.1397E+10
       30.690  1.8365E-15 -7.1515E-07  2.6400E-07  4.5914E-08  1.1130E+04
1.1397E+10
       31.020  1.2210E-15 -2.9591E-08  1.1266E-07  3.0524E-08  1.1130E+04
1.1397E+10
       31.350  5.6468E-16  1.7731E-07  2.4268E-08  1.4117E-08  1.1130E+04
1.1397E+10
       31.680  1.5236E-16  1.6279E-07 -1.1225E-08  3.8089E-09  1.1130E+04
1.1397E+10
       32.010 -3.5969E-17  8.8510E-08 -1.6987E-08 -8.9923E-10  1.1130E+04
1.1397E+10
       32.340 -1.0251E-16  2.8305E-08 -1.0132E-08 -2.5628E-09  1.1130E+04
```

```
1.1397E+10
       32.670 -1.3011E-16  8.2822E-09 -3.5748E-09 -7.4883E-10  1.1130E+04
1.1397E+10
       33.000 -1.4630E-16  3.5833E-23  3.3645E-24 -1.0566E-09  1.1130E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.047533      0.2921 -1.5132E-03  9.9378E+04      6894.0  3.3094E+05
 1.3990E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.047533      0.2921 -1.5132E-03  9.9378E+04      6894.0  3.3094E+05
 1.3990E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.2921 -3.3094E+05      6894.0      115.09  1.3990E+04
1.1397E+10
       0.3300      0.2859 -3.0310E+05      6849.7      119.32  1.3353E+04
1.1397E+10
       0.6600      0.2793 -2.7542E+05      6788.7      123.45  1.2719E+04
1.1397E+10
       0.9900      0.2723 -2.4797E+05      6711.7      127.45  1.2090E+04
```

1.1397E+10
1.3200 0.2649 -2.2083E+05 6619.1 131.34 1.1469E+04
1.1397E+10
1.6500 0.2573 -1.9406E+05 6511.2 135.11 1.0855E+04
1.1397E+10
1.9800 0.2493 -1.6771E+05 6388.8 138.74 1.0252E+04
1.1397E+10
2.3100 0.2412 -1.4186E+05 6252.2 142.24 9660.1
1.1397E+10
2.6400 0.2328 -1.1655E+05 6102.0 145.60 9080.6
1.1397E+10
2.9700 0.2243 -9.1854E+04 5938.8 148.81 8515.0
1.1397E+10
3.3000 0.2157 -6.7813E+04 5763.2 151.88 7964.4
1.1397E+10
3.6300 0.2069 -4.4482E+04 5575.8 154.79 7430.1
1.1397E+10
3.9600 0.1981 -2.1911E+04 5377.1 157.54 6913.2
1.1397E+10
4.2900 0.1893 -144.34 5167.9 160.13 6414.8
1.1397E+10
4.6200 0.1805 2.0773E+04 4948.8 162.55 6887.2
1.1397E+10
4.9500 0.1717 4.0801E+04 4720.4 164.79 7345.8
1.1397E+10
5.2800 0.1629 5.9902E+04 4483.5 166.87 7783.2
1.1397E+10
5.6100 0.1543 7.8040E+04 4238.7 168.75 8198.6
1.1397E+10
5.9400 0.1457 9.5183E+04 3986.8 170.46 8591.2
1.1397E+10
6.2700 0.1373 1.1130E+05 3728.6 171.97 8960.4
1.1397E+10
6.6000 0.1290 1.2637E+05 3464.7 173.29 9305.5
1.1397E+10
6.9300 0.1209 1.4037E+05 3196.1 174.41 9626.0
1.1397E+10
7.2600 0.1130 1.5327E+05 2923.4 175.32 9921.5
1.1397E+10
7.5900 0.1054 1.6507E+05 2647.5 176.03 1.0192E+04
1.1397E+10
7.9200 9.7897E-02 1.7575E+05 2369.2 176.52 1.0436E+04
1.1397E+10
8.2500 9.0677E-02 1.8529E+05 2089.4 176.80 1.0655E+04
1.1397E+10
8.5800 8.3711E-02 1.9370E+05 1808.9 176.85 1.0847E+04
1.1397E+10
8.9100 7.7013E-02 2.0098E+05 1528.7 176.68 1.1014E+04
1.1397E+10
9.2400 7.0590E-02 2.0712E+05 1249.6 176.27 1.1155E+04
1.1397E+10

9.5700	6.4453E-02	2.1212E+05	972.56	175.63	1.1269E+04	1.1397E+10
9.9000	5.8608E-02	2.1601E+05	698.58	174.74	1.1358E+04	1.1397E+10
10.230	5.3060E-02	2.1879E+05	428.60	173.61	1.1422E+04	1.1397E+10
10.560	4.7813E-02	2.2048E+05	163.62	172.22	1.1461E+04	1.1397E+10
10.890	4.2869E-02	2.2110E+05	-95.348	170.57	1.1475E+04	1.1397E+10
11.220	3.8230E-02	2.2067E+05	-347.25	168.65	1.1465E+04	1.1397E+10
11.550	3.3894E-02	2.1924E+05	-591.02	166.46	1.1432E+04	1.1397E+10
11.880	2.9860E-02	2.1682E+05	-825.54	163.98	1.1377E+04	1.1397E+10
12.210	2.6124E-02	2.1347E+05	-1049.7	161.21	1.1300E+04	1.1397E+10
12.540	2.2682E-02	2.0922E+05	-1262.2	158.14	1.1203E+04	1.1397E+10
12.870	1.9527E-02	2.0413E+05	-1462.0	154.75	1.1086E+04	1.1397E+10
13.200	1.6654E-02	1.9824E+05	-1647.7	151.04	1.0951E+04	1.1397E+10
13.530	1.4053E-02	1.9162E+05	-1818.0	146.97	1.0800E+04	1.1397E+10
13.860	1.1716E-02	1.8434E+05	-1971.5	142.55	1.0633E+04	1.1397E+10
14.190	9.6330E-03	1.7645E+05	-2106.7	137.73	1.0452E+04	1.1397E+10
14.520	7.7925E-03	1.6804E+05	-2222.0	132.49	1.0260E+04	1.1397E+10
14.850	6.1832E-03	1.5919E+05	-2315.6	126.80	1.0057E+04	1.1397E+10
15.180	4.7929E-03	1.5000E+05	-2385.7	120.60	9846.6	1.1397E+10
15.510	3.6091E-03	1.4056E+05	-2430.2	113.83	9630.3	1.1397E+10
15.840	2.6186E-03	1.3097E+05	-2444.0	105.18	9410.7	1.1397E+10
16.170	1.8083E-03	1.2138E+05	-2422.0	95.705	9191.1	1.1397E+10
16.500	1.1650E-03	1.1193E+05	-2361.1	85.515	8974.8	1.1397E+10
16.830	6.7579E-04	1.0279E+05	-2257.8	74.317	8765.4	1.1397E+10
17.160	3.2797E-04	9.4132E+04	-3234.5	524.96	8567.2	1.1397E+10
17.490	1.0966E-04	7.7229E+04	-5255.2	495.60	8180.1	1.1397E+10
17.820	-2.3781E-06	5.2544E+04	-6195.8	-20.557	7614.7	

1.1397E+10
18.150 -4.2122E-05 2.8174E+04 -5311.8 -425.90 7056.7
1.1397E+10
18.480 -4.3100E-05 1.0478E+04 -3480.5 -499.00 6651.4
1.1397E+10
18.810 -2.9661E-05 606.61 -1726.4 -386.91 6425.3
1.1397E+10
19.140 -1.5387E-05 -3197.8 -518.27 -223.28 6484.7
1.1397E+10
19.470 -5.5128E-06 -3500.5 98.222 -88.082 6491.6
1.1397E+10
19.800 -4.5537E-07 -2421.4 288.35 -7.9437 6466.9
1.1397E+10
20.130 1.2703E-06 -1217.4 256.51 24.024 6439.3
1.1397E+10
20.460 1.3210E-06 -389.98 155.65 26.918 6420.4
1.1397E+10
20.790 8.3499E-07 15.378 66.236 18.240 6411.8
1.1397E+10
21.120 3.7018E-07 134.70 13.035 8.6293 6414.5
1.1397E+10
21.450 9.0715E-08 118.69 -8.5014 2.2477 6414.2
1.1397E+10
21.780 -2.5440E-08 67.412 -11.693 -0.6360 6413.0
1.1397E+10
22.110 -4.8841E-08 26.098 -8.0158 -1.2210 6412.1
1.1397E+10
22.440 -3.6332E-08 3.9280 -3.7997 -0.9083 6411.5
1.1397E+10
22.770 -1.8419E-08 -3.9989 -1.0896 -0.4605 6411.5
1.1397E+10
23.100 -6.0077E-09 -4.7044 0.1195 -0.1502 6411.6
1.1397E+10
23.430 -6.9529E-11 -3.0540 0.4204 -1.7382E-03 6411.5
1.1397E+10
23.760 1.6665E-09 -1.3759 0.3413 4.1664E-02 6411.5
1.1397E+10
24.090 1.5095E-09 -0.3509 0.1841 3.7738E-02 6411.5
1.1397E+10
24.420 8.6962E-10 8.2243E-02 6.6327E-02 2.1740E-02 6411.5
1.1397E+10
24.750 3.4288E-10 0.1745 6.3085E-03 8.5720E-03 6411.5
1.1397E+10
25.080 5.6224E-11 0.1323 -1.3447E-02 1.4056E-03 6411.5
1.1397E+10
25.410 -4.8411E-11 6.8026E-02 -1.3834E-02 -1.2103E-03 6411.5
1.1397E+10
25.740 -5.9447E-11 2.2734E-02 -8.4949E-03 -1.4862E-03 6411.5
1.1397E+10
26.070 -3.9201E-11 7.4487E-04 -3.6119E-03 -9.8004E-04 6411.5
1.1397E+10

```
       26.400 -1.7932E-11 -5.8759E-03 -7.8378E-04 -4.4829E-04      6411.5
1.1397E+10
       26.730 -4.7465E-12 -5.4661E-03  3.3879E-04 -1.1866E-04      6411.5
1.1397E+10
       27.060  9.1743E-13 -3.1946E-03  5.2833E-04  2.2936E-05      6411.5
1.1397E+10
       27.390  2.1858E-12 -1.2824E-03  3.7472E-04  5.4644E-05      6411.5
1.1397E+10
       27.720  1.6896E-12 -2.2694E-04  1.8289E-04  4.2240E-05      6411.5
1.1397E+10
       28.050  8.8116E-13  1.6618E-04  5.5635E-05  2.2029E-05      6411.5
1.1397E+10
       28.380  3.0138E-13  2.1383E-04 -2.9004E-06  7.5344E-06      6411.5
1.1397E+10
       28.710  1.5810E-14  1.4330E-04 -1.8601E-05  3.9526E-07      6411.5
1.1397E+10
       29.040 -7.2590E-14  6.6545E-05 -1.5791E-05 -1.8147E-06      6411.5
1.1397E+10
       29.370 -6.9428E-14  1.8243E-05 -8.7607E-06 -1.7357E-06      6411.5
1.1397E+10
       29.700 -4.1166E-14 -2.8429E-06 -3.2863E-06 -1.0291E-06      6411.5
1.1397E+10
       30.030 -1.6815E-14 -7.7895E-06 -4.1622E-07 -4.2037E-07      6411.5
1.1397E+10
       30.360 -3.1818E-15 -6.1431E-06  5.7361E-07 -7.9545E-08      6411.5
1.1397E+10
       30.690  1.9987E-15 -3.2484E-06  6.3218E-07  4.9968E-08      6411.5
1.1397E+10
       31.020  2.7096E-15 -1.1368E-06  3.9912E-07  6.7739E-08      6411.5
1.1397E+10
       31.350  1.8562E-15 -8.7397E-08  1.7311E-07  4.6405E-08      6411.5
1.1397E+10
       31.680  8.8260E-16  2.3435E-07  3.7537E-08  2.2065E-08      6411.5
1.1397E+10
       32.010  2.3144E-16  2.1006E-07 -1.7608E-08  5.7861E-09      6411.5
1.1397E+10
       32.340 -1.3068E-16  9.5001E-08 -2.2596E-08 -3.2671E-09      6411.5
1.1397E+10
       32.670 -3.6209E-16  3.1162E-08 -1.2000E-08 -2.0840E-09      6411.5
1.1397E+10
       33.000 -5.5063E-16 -7.1666E-23  2.6011E-24 -3.9767E-09      6411.5
1.1397E+10



     LOAD CASE :     6
     CASE NAME : Strength I (minVmaxH), Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
```

ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.52990E+06	3.42700E+05	-1.61197E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0384595	0.22901	-4.51022E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.060109	0.2290	-4.5102E-04	1.1318E+05	3.5128E+04	1.2606E+06	3.6171E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

```
       DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

         0.060109      0.2290 -4.5102E-04  1.1318E+05  3.5128E+04  1.2606E+06
 3.6171E+04


       * EFFECTS FOR LATERALLY LOADED PILE *


       x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
      FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
      0.0000      0.2290 -1.2606E+06  3.5128E+04      390.78  3.6171E+04
1.1397E+10
      0.3300      0.2264 -1.1234E+06  3.3970E+04      406.16  3.3030E+04
1.1397E+10
      0.6600      0.2222 -9.9080E+05  3.2753E+04      420.70  2.9992E+04
1.1397E+10
      0.9900      0.2166 -8.6294E+05  3.1479E+04      434.38  2.7064E+04
1.1397E+10
      1.3200      0.2098 -7.4009E+05  3.0154E+04      447.16  2.4251E+04
1.1397E+10
      1.6500      0.2021 -6.2248E+05  2.8779E+04      459.01  2.1557E+04
1.1397E+10
      1.9800      0.1935 -5.1030E+05  2.7360E+04      469.90  1.8988E+04
1.1397E+10
      2.3100      0.1841 -4.0376E+05  2.5899E+04      479.81  1.6548E+04
1.1397E+10
      2.6400      0.1742 -3.0301E+05  2.4401E+04      488.70  1.4241E+04
1.1397E+10
      2.9700      0.1639 -2.0821E+05  2.2870E+04      496.54  1.2070E+04
1.1397E+10
      3.3000      0.1534 -1.1951E+05  2.1310E+04      503.29  1.0039E+04
1.1397E+10
      3.6300      0.1426 -3.7021E+04  1.9726E+04      508.93      8149.9
1.1397E+10
      3.9600      0.1318  3.9157E+04  1.8121E+04      513.41      8198.8
1.1397E+10
      4.2900      0.1211  1.0894E+05  1.6502E+04      516.71      9796.9
1.1397E+10
      4.6200      0.1105  1.7227E+05  1.4871E+04      518.79  1.1247E+04
1.1397E+10
      4.9500      0.1001  2.2909E+05  1.3235E+04      519.61  1.2548E+04
1.1397E+10
      5.2800  9.0058E-02  2.7939E+05  1.1598E+04      519.13  1.3700E+04
```

1.1397E+10
5.6100 8.0398E-02 3.2318E+05 9965.5 517.32 1.4703E+04
1.1397E+10
5.9400 7.1182E-02 3.6046E+05 8343.0 514.12 1.5557E+04
1.1397E+10
6.2700 6.2462E-02 3.9128E+05 6736.0 509.50 1.6263E+04
1.1397E+10
6.6000 5.4280E-02 4.1572E+05 5150.1 503.41 1.6822E+04
1.1397E+10
6.9300 4.6670E-02 4.3386E+05 3591.5 495.80 1.7238E+04
1.1397E+10
7.2600 3.9658E-02 4.4582E+05 2066.1 486.60 1.7512E+04
1.1397E+10
7.5900 3.3259E-02 4.5174E+05 580.38 475.75 1.7647E+04
1.1397E+10
7.9200 2.7481E-02 4.5179E+05 -858.94 463.18 1.7648E+04
1.1397E+10
8.2500 2.2325E-02 4.4618E+05 -2244.9 448.79 1.7520E+04
1.1397E+10
8.5800 1.7783E-02 4.3511E+05 -3570.0 432.48 1.7266E+04
1.1397E+10
8.9100 1.3840E-02 4.1886E+05 -4826.5 414.10 1.6894E+04
1.1397E+10
9.2400 1.0472E-02 3.9771E+05 -6005.7 393.47 1.6410E+04
1.1397E+10
9.5700 7.6526E-03 3.7200E+05 -7098.2 370.31 1.5821E+04
1.1397E+10
9.9000 5.3446E-03 3.4208E+05 -8093.3 344.22 1.5136E+04
1.1397E+10
10.230 3.5073E-03 3.0837E+05 -8977.7 314.48 1.4364E+04
1.1397E+10
10.560 2.0943E-03 2.7134E+05 -9734.4 279.67 1.3516E+04
1.1397E+10
10.890 1.0546E-03 2.3155E+05 -1.0336E+04 236.27 1.2605E+04
1.1397E+10
11.220 3.3357E-04 1.8968E+05 -1.0721E+04 170.01 1.1646E+04
1.1397E+10
11.550 -1.2652E-04 1.4677E+05 -1.0249E+04 -196.30 1.0663E+04
1.1397E+10
11.880 -3.8466E-04 1.0859E+05 -9016.4 -214.25 9788.8
1.1397E+10
12.210 -4.9340E-04 7.5404E+04 -7724.4 -226.25 9028.9
1.1397E+10
12.540 -4.9838E-04 4.7421E+04 -6404.2 -228.54 8388.0
1.1397E+10
12.870 -4.3812E-04 2.4676E+04 -5088.4 -224.00 7867.2
1.1397E+10
13.200 -3.4390E-04 7103.1 -3801.7 -213.85 7464.7
1.1397E+10
13.530 -2.3991E-04 -5455.5 -2565.6 -198.45 7427.0
1.1397E+10

13.860	-1.4343E-04	-1.3239E+04	-1401.8	-177.30	7605.3	1.1397E+10
14.190	-6.5158E-05	-1.6578E+04	-338.18	-147.90	7681.7	1.1397E+10
14.520	-9.7005E-06	-1.5933E+04	557.58	-92.500	7666.9	1.1397E+10
14.850	2.3835E-05	-1.2172E+04	922.96	119.97	7580.8	1.1397E+10
15.180	4.0623E-05	-8628.4	829.72	139.12	7499.7	1.1397E+10
15.510	4.5538E-05	-5603.0	685.94	145.49	7430.4	1.1397E+10
15.840	4.2745E-05	-3196.0	532.80	143.85	7375.3	1.1397E+10
16.170	3.5553E-05	-1382.1	395.30	137.59	7333.7	1.1397E+10
16.500	2.6461E-05	-63.326	289.37	127.91	7303.5	1.1397E+10
16.830	1.7280E-05	911.82	228.09	115.04	7323.0	1.1397E+10
17.160	9.3551E-06	1745.1	104.41	53.428	7342.0	1.1397E+10
17.490	3.8308E-06	1740.3	-55.820	27.496	7341.9	1.1397E+10
17.820	7.0099E-07	1304.0	-122.26	6.0597	7331.9	1.1397E+10
18.150	-6.3458E-07	772.47	-121.55	-6.4163	7319.8	1.1397E+10
18.480	-9.0728E-07	341.45	-88.052	-10.504	7309.9	1.1397E+10
18.810	-7.1017E-07	75.105	-48.911	-9.2638	7303.8	1.1397E+10
19.140	-4.0972E-07	-45.981	-18.797	-5.9455	7303.1	1.1397E+10
19.470	-1.7253E-07	-73.826	-1.5666	-2.7567	7303.8	1.1397E+10
19.800	-3.6925E-08	-58.431	5.1670	-0.6441	7303.4	1.1397E+10
20.130	1.8284E-08	-32.925	5.7578	0.3458	7302.8	1.1397E+10
20.460	2.8189E-08	-12.837	3.9358	0.5744	7302.4	1.1397E+10
20.790	2.0432E-08	-1.7540	1.9147	0.4463	7302.1	1.1397E+10
21.120	1.0262E-08	2.3295	0.5573	0.2392	7302.1	1.1397E+10
21.450	3.2971E-09	2.6613	-7.8165E-02	8.1696E-02	7302.1	1.1397E+10
21.780	-6.0418E-12	1.7116	-0.2396	-1.5105E-04	7302.1	1.1397E+10
22.110	-9.5415E-10	0.7640	-0.1921	-2.3854E-02	7302.1	

1.1397E+10
22.440 -8.5105E-10 0.1903 -0.1027 -2.1276E-02 7302.1
1.1397E+10
22.770 -4.8609E-10 -4.9737E-02 -3.6548E-02 -1.2152E-02 7302.1
1.1397E+10
23.100 -1.8956E-10 -9.9218E-02 -3.1031E-03 -4.7391E-03 7302.1
1.1397E+10
23.430 -2.9554E-11 -7.4366E-02 7.7432E-03 -7.3885E-04 7302.1
1.1397E+10
23.760 2.8132E-11 -3.7916E-02 7.8136E-03 7.0331E-04 7302.1
1.1397E+10
24.090 3.3648E-11 -1.2490E-02 4.7554E-03 8.4120E-04 7302.1
1.1397E+10
24.420 2.1979E-11 -2.5257E-04 2.0019E-03 5.4946E-04 7302.1
1.1397E+10
24.750 9.9616E-12 3.3682E-03 4.2089E-04 2.4904E-04 7302.1
1.1397E+10
25.080 2.5791E-12 3.0831E-03 -1.9988E-04 6.4477E-05 7302.1
1.1397E+10
25.410 -5.6134E-13 1.7864E-03 -2.9975E-04 -1.4034E-05 7302.1
1.1397E+10
25.740 -1.2438E-12 7.0944E-04 -2.1040E-04 -3.1096E-05 7302.1
1.1397E+10
26.070 -9.5018E-13 1.2006E-04 -1.0179E-04 -2.3755E-05 7302.1
1.1397E+10
26.400 -4.9133E-13 -9.6838E-05 -3.0438E-05 -1.2283E-05 7302.1
1.1397E+10
26.730 -1.6572E-13 -1.2110E-04 2.0864E-06 -4.1431E-06 7302.1
1.1397E+10
27.060 -6.7381E-15 -8.0368E-05 1.0623E-05 -1.6845E-07 7302.1
1.1397E+10
27.390 4.1664E-14 -3.6985E-05 8.8944E-06 1.0416E-06 7302.1
1.1397E+10
27.720 3.9177E-14 -9.9303E-06 4.8927E-06 9.7943E-07 7302.1
1.1397E+10
28.050 2.3027E-14 1.7670E-06 1.8136E-06 5.7567E-07 7302.1
1.1397E+10
28.380 9.3073E-15 4.4368E-06 2.1308E-07 2.3268E-07 7302.1
1.1397E+10
28.710 1.6927E-15 3.4570E-06 -3.3142E-07 4.2317E-08 7302.1
1.1397E+10
29.040 -1.1653E-15 1.8131E-06 -3.5753E-07 -2.9133E-08 7302.1
1.1397E+10
29.370 -1.5286E-15 6.2573E-07 -2.2418E-07 -3.8215E-08 7302.1
1.1397E+10
29.700 -1.0309E-15 3.7557E-08 -9.7486E-08 -2.5773E-08 7302.1
1.1397E+10
30.030 -4.8154E-16 -1.4647E-07 -2.2620E-08 -1.2038E-08 7302.1
1.1397E+10
30.360 -1.3371E-16 -1.4169E-07 7.8350E-09 -3.3428E-09 7302.1
1.1397E+10

```
       30.690  1.9153E-17 -8.4475E-08  1.3506E-08  4.7884E-10      7302.1
1.1397E+10
       31.020  5.5786E-17 -3.4751E-08  9.7961E-09  1.3947E-09      7302.1
1.1397E+10
       31.350  4.4604E-17 -6.8924E-09  4.8268E-09  1.1151E-09      7302.1
1.1397E+10
       31.680  2.3937E-17  3.4810E-09  1.4340E-09  5.9844E-10      7302.1
1.1397E+10
       32.010  8.0610E-18  4.4693E-09 -1.4989E-10  2.0153E-10      7302.1
1.1397E+10
       32.340 -1.6659E-18  2.2967E-09 -4.6645E-10 -4.1648E-11      7302.1
1.1397E+10
       32.670 -8.2327E-18  7.7691E-10 -2.9017E-10 -4.7384E-11      7302.1
1.1397E+10
       33.000 -1.3730E-17 -4.4791E-24 -1.5217E-25 -9.9164E-11      7302.1
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.038459      0.2290 -4.5102E-04  8.2964E+04      9660.6  5.3632E+05
 1.7635E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.038459      0.2290 -4.5102E-04  8.2964E+04      9660.6  5.3632E+05
 1.7635E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
```

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2290	-5.3632E+05	9660.6	127.12	1.7635E+04	1.1397E+10
0.3300	0.2269	-4.9805E+05	9566.9	132.20	1.6758E+04	1.1397E+10
0.6600	0.2240	-4.6013E+05	9453.4	137.14	1.5890E+04	1.1397E+10
0.9900	0.2205	-4.2265E+05	9320.6	141.94	1.5032E+04	1.1397E+10
1.3200	0.2165	-3.8569E+05	9169.0	146.60	1.4185E+04	1.1397E+10
1.6500	0.2119	-3.4932E+05	8999.3	151.10	1.3352E+04	1.1397E+10
1.9800	0.2068	-3.1361E+05	8812.1	155.44	1.2534E+04	1.1397E+10
2.3100	0.2013	-2.7865E+05	8608.1	159.61	1.1734E+04	1.1397E+10
2.6400	0.1955	-2.4449E+05	8387.9	163.61	1.0952E+04	1.1397E+10
2.9700	0.1892	-2.1121E+05	8152.2	167.43	1.0189E+04	1.1397E+10
3.3000	0.1827	-1.7887E+05	7901.7	171.06	9448.8	1.1397E+10
3.6300	0.1760	-1.4753E+05	7637.3	174.50	8731.1	1.1397E+10
3.9600	0.1690	-1.1725E+05	7359.6	177.74	8037.6	1.1397E+10
4.2900	0.1619	-8.8075E+04	7069.5	180.78	7369.5	1.1397E+10
4.6200	0.1547	-6.0065E+04	6767.8	183.60	6728.1	1.1397E+10
4.9500	0.1473	-3.3266E+04	6455.3	186.21	6114.3	1.1397E+10
5.2800	0.1400	-7720.4	6133.0	188.59	5529.3	1.1397E+10
5.6100	0.1326	1.6531E+04	5801.6	190.75	5731.1	1.1397E+10
5.9400	0.1252	3.9451E+04	5462.2	192.68	6256.0	1.1397E+10
6.2700	0.1179	6.1007E+04	5115.6	194.36	6749.6	1.1397E+10
6.6000	0.1107	8.1171E+04	4762.9	195.80	7211.4	1.1397E+10
6.9300	0.1036	9.9918E+04	4404.9	196.99	7640.7	1.1397E+10
7.2600	9.6639E-02	1.1723E+05	4042.7	197.92	8037.1	1.1397E+10
7.5900	8.9832E-02	1.3308E+05	3677.4	198.60	8400.1	

1.1397E+10
7.9200 8.3207E-02 1.4746E+05 3309.9 199.00 8729.6
1.1397E+10
8.2500 7.6786E-02 1.6038E+05 2941.4 199.13 9025.2
1.1397E+10
8.5800 7.0585E-02 1.7181E+05 2572.9 198.98 9287.1
1.1397E+10
8.9100 6.4621E-02 1.8176E+05 2205.5 198.55 9515.0
1.1397E+10
9.2400 5.8906E-02 1.9024E+05 1840.5 197.82 9709.3
1.1397E+10
9.5700 5.3454E-02 1.9726E+05 1478.9 196.80 9870.0
1.1397E+10
9.9000 4.8273E-02 2.0284E+05 1121.9 195.48 9997.7
1.1397E+10
10.230 4.3371E-02 2.0699E+05 770.80 193.84 1.0093E+04
1.1397E+10
10.560 3.8754E-02 2.0973E+05 426.79 191.89 1.0156E+04
1.1397E+10
10.890 3.4425E-02 2.1111E+05 91.154 189.62 1.0187E+04
1.1397E+10
11.220 3.0387E-02 2.1115E+05 -234.83 187.02 1.0188E+04
1.1397E+10
11.550 2.6639E-02 2.0990E+05 -549.82 184.07 1.0159E+04
1.1397E+10
11.880 2.3180E-02 2.0739E+05 -852.47 180.78 1.0102E+04
1.1397E+10
12.210 2.0007E-02 2.0369E+05 -1141.4 177.13 1.0017E+04
1.1397E+10
12.540 1.7114E-02 1.9886E+05 -1415.1 173.12 9906.5
1.1397E+10
12.870 1.4494E-02 1.9294E+05 -1672.2 168.72 9771.1
1.1397E+10
13.200 1.2140E-02 1.8603E+05 -1911.1 163.94 9612.6
1.1397E+10
13.530 1.0042E-02 1.7818E+05 -2130.3 158.74 9432.9
1.1397E+10
13.860 8.1891E-03 1.6948E+05 -2328.0 153.12 9233.8
1.1397E+10
14.190 6.5693E-03 1.6003E+05 -2502.5 147.04 9017.3
1.1397E+10
14.520 5.1698E-03 1.4991E+05 -2652.1 140.49 8785.6
1.1397E+10
14.850 3.9765E-03 1.3924E+05 -2774.7 133.42 8541.2
1.1397E+10
15.180 2.9747E-03 1.2812E+05 -2868.1 125.78 8286.5
1.1397E+10
15.510 2.1493E-03 1.1667E+05 -2930.1 117.51 8024.5
1.1397E+10
15.840 1.4844E-03 1.0504E+05 -2955.3 107.25 7757.9
1.1397E+10

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       16.170  9.6402E-04  9.3366E+04     -2938.2      96.107      7490.7
1.1397E+10
       16.500  5.7211E-04  8.1841E+04     -2875.3      84.129      7226.7
1.1397E+10
       16.830  2.9281E-04  7.0649E+04     -2762.4      70.838      6970.5
1.1397E+10
       17.160  1.1072E-04  6.0001E+04     -3483.6      399.38      6726.6
1.1397E+10
       17.490  1.1183E-05  4.3083E+04     -4433.3      80.270      6339.2
1.1397E+10
       17.820 -2.9072E-05  2.4901E+04     -4094.6     -251.31      5922.8
1.1397E+10
       18.150 -3.5066E-05  1.0657E+04     -2895.0     -354.55      5596.6
1.1397E+10
       18.480 -2.6395E-05      1972.5     -1587.9     -305.59      5397.7
1.1397E+10
       18.810 -1.5010E-05     -1920.5     -595.16     -195.80      5396.5
1.1397E+10
       19.140 -6.2676E-06     -2742.9     -27.401     -90.950      5415.3
1.1397E+10
       19.470 -1.2993E-06     -2138.7      193.78     -20.760      5401.5
1.1397E+10
       19.800  7.2637E-07     -1208.7      209.80      12.671      5380.2
1.1397E+10
       20.130  1.0890E-06     -477.23      143.94      20.594      5363.5
1.1397E+10
       20.460  7.9495E-07     -68.699      71.085      16.199      5354.1
1.1397E+10
       20.790  4.0639E-07      85.814      21.433      8.8774      5354.5
1.1397E+10
       21.120  1.3591E-07      101.11     -2.4172      3.1682      5354.8
1.1397E+10
       21.450  4.5397E-09      66.703     -8.9129      0.1125      5354.1
1.1397E+10
       21.780 -3.5049E-08      30.529     -7.4007     -0.8762      5353.2
1.1397E+10
       22.110 -3.2632E-08      8.0925     -4.0504     -0.8158      5352.7
1.1397E+10
       22.440 -1.9081E-08     -1.5517     -1.4906     -0.4770      5352.6
1.1397E+10
       22.770 -7.6638E-09     -3.7155     -0.1668     -0.1916      5352.6
1.1397E+10
       23.100 -1.3593E-09     -2.8743      0.2798 -3.3984E-02      5352.6
1.1397E+10
       23.430  9.9028E-10     -1.4998      0.2981  2.4757E-02      5352.6
1.1397E+10
       23.760  1.2762E-09     -0.5134      0.1859  3.1906E-02      5352.5
1.1397E+10
       24.090  8.5571E-10 -2.7332E-02  8.0389E-02  2.1393E-02      5352.5
1.1397E+10
       24.420  3.9758E-10      0.1233  1.8352E-02  9.9394E-03      5352.5
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1.1397E+10
24.750 1.0912E-10 0.1181 -6.7292E-03 2.7279E-03 5352.5
1.1397E+10
25.080 -1.6876E-11 7.0052E-02 -1.1295E-02 -4.2190E-04 5352.5
1.1397E+10
25.410 -4.6481E-11 2.8634E-02 -8.1589E-03 -1.1620E-03 5352.5
1.1397E+10
25.740 -3.6687E-11 5.4350E-03 -4.0421E-03 -9.1718E-04 5352.5
1.1397E+10
26.070 -1.9415E-11 -3.3816E-03 -1.2650E-03 -4.8538E-04 5352.5
1.1397E+10
26.400 -6.7962E-12 -4.5863E-03 3.2469E-05 -1.6991E-04 5352.5
1.1397E+10
26.730 -4.8760E-13 -3.1260E-03 3.9302E-04 -1.2190E-05 5352.5
1.1397E+10
27.060 1.5198E-12 -1.4743E-03 3.4192E-04 3.7994E-05 5352.5
1.1397E+10
27.390 1.4986E-12 -4.1816E-04 1.9251E-04 3.7466E-05 5352.5
1.1397E+10
27.720 9.0212E-13 5.0475E-05 7.3675E-05 2.2553E-05 5352.5
1.1397E+10
28.050 3.7507E-13 1.6544E-04 1.0454E-05 9.3767E-06 5352.5
1.1397E+10
28.380 7.5642E-14 1.3334E-04 -1.1856E-05 1.8910E-06 5352.5
1.1397E+10
28.710 -4.0317E-14 7.1570E-05 -1.3605E-05 -1.0079E-06 5352.5
1.1397E+10
29.040 -5.7800E-14 2.5600E-05 -8.7480E-06 -1.4450E-06 5352.5
1.1397E+10
29.370 -4.0059E-14 2.2864E-06 -3.9039E-06 -1.0015E-06 5352.5
1.1397E+10
29.700 -1.9172E-14 -5.3226E-06 -9.7200E-07 -4.7930E-07 5352.5
1.1397E+10
30.030 -5.6084E-15 -5.4147E-06 2.5462E-07 -1.4021E-07 5352.5
1.1397E+10
30.360 5.0482E-16 -3.3076E-06 5.0725E-07 1.2621E-08 5352.5
1.1397E+10
30.690 2.0670E-15 -1.3979E-06 3.7994E-07 5.1675E-08 5352.5
1.1397E+10
31.020 1.7057E-15 -2.9851E-07 1.9319E-07 4.2643E-08 5352.5
1.1397E+10
31.350 9.3368E-16 1.3224E-07 6.2544E-08 2.3342E-08 5352.5
1.1397E+10
31.680 3.4360E-16 1.9695E-07 -6.8153E-10 8.5900E-09 5352.5
1.1397E+10
32.010 2.4511E-17 1.2692E-07 -1.8903E-08 6.1278E-10 5352.5
1.1397E+10
32.340 -1.1994E-16 4.7272E-08 -1.4179E-08 -2.9986E-09 5352.5
1.1397E+10
32.670 -1.9935E-16 1.4640E-08 -5.9701E-09 -1.1474E-09 5352.5
1.1397E+10

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       33.000 -2.5862E-16 -3.5833E-23 -1.1422E-24 -1.8678E-09      5352.5
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.016810      0.2290 -4.5102E-04  3.9219E+04      7294.2  4.5023E+05
 1.2841E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.016810      0.2290 -4.5102E-04  3.9219E+04      7294.2  4.5023E+05
 1.2841E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.2290 -4.5023E+05      7294.2      108.29  1.2841E+04
1.1397E+10
       0.3300      0.2269 -4.2128E+05      7276.6      112.62  1.2178E+04
1.1397E+10
       0.6600      0.2242 -3.9241E+05      7242.0      116.85  1.1517E+04
1.1397E+10
       0.9900      0.2210 -3.6369E+05      7190.8      120.98  1.0859E+04
1.1397E+10
       1.3200      0.2173 -3.3519E+05      7123.5      125.00  1.0206E+04
1.1397E+10
```

1.6500	0.2131	-3.0696E+05	7040.6	128.90	9559.9	1.1397E+10
1.9800	0.2085	-2.7908E+05	6942.4	132.68	8921.4	1.1397E+10
2.3100	0.2035	-2.5160E+05	6829.5	136.34	8292.1	1.1397E+10
2.6400	0.1982	-2.2459E+05	6702.4	139.86	7673.4	1.1397E+10
2.9700	0.1926	-1.9809E+05	6561.6	143.25	7066.6	1.1397E+10
3.3000	0.1867	-1.7216E+05	6407.7	146.49	6473.0	1.1397E+10
3.6300	0.1805	-1.4687E+05	6241.2	149.59	5893.6	1.1397E+10
3.9600	0.1742	-1.2224E+05	6062.7	152.54	5329.8	1.1397E+10
4.2900	0.1677	-9.8346E+04	5872.9	155.34	4782.4	1.1397E+10
4.6200	0.1610	-7.5215E+04	5672.3	157.97	4252.7	1.1397E+10
4.9500	0.1542	-5.2895E+04	5461.6	160.44	3741.6	1.1397E+10
5.2800	0.1474	-3.1426E+04	5241.5	162.74	3249.9	1.1397E+10
5.6100	0.1405	-1.0845E+04	5012.6	164.86	2778.6	1.1397E+10
5.9400	0.1337	8813.3	4775.6	166.81	2732.1	1.1397E+10
6.2700	0.1268	2.7518E+04	4531.4	168.57	3160.4	1.1397E+10
6.6000	0.1199	4.5239E+04	4280.5	170.14	3566.3	1.1397E+10
6.9300	0.1132	6.1953E+04	4023.7	171.53	3949.0	1.1397E+10
7.2600	0.1065	7.7635E+04	3761.9	172.71	4308.2	1.1397E+10
7.5900	9.9887E-02	9.2268E+04	3495.8	173.69	4643.3	1.1397E+10
7.9200	9.3430E-02	1.0583E+05	3226.2	174.47	4953.9	1.1397E+10
8.2500	8.7119E-02	1.1832E+05	2953.9	175.04	5239.9	1.1397E+10
8.5800	8.0971E-02	1.2972E+05	2679.8	175.39	5500.9	1.1397E+10
8.9100	7.5001E-02	1.4002E+05	2404.8	175.51	5736.8	1.1397E+10
9.2400	6.9223E-02	1.4922E+05	2129.7	175.42	5947.6	1.1397E+10
9.5700	6.3652E-02	1.5733E+05	1855.5	175.09	6133.3	1.1397E+10
9.9000	5.8296E-02	1.6435E+05	1583.0	174.52	6293.9	

1.1397E+10
10.230 5.3167E-02 1.7028E+05 1313.3 173.71 6429.8
1.1397E+10
10.560 4.8272E-02 1.7514E+05 1047.3 172.64 6541.1
1.1397E+10
10.890 4.3618E-02 1.7895E+05 786.00 171.33 6628.3
1.1397E+10
11.220 3.9210E-02 1.8172E+05 530.44 169.74 6691.8
1.1397E+10
11.550 3.5052E-02 1.8349E+05 281.70 167.89 6732.2
1.1397E+10
11.880 3.1147E-02 1.8427E+05 40.851 165.75 6750.2
1.1397E+10
12.210 2.7495E-02 1.8411E+05 -190.96 163.32 6746.4
1.1397E+10
12.540 2.4097E-02 1.8303E+05 -412.55 160.59 6721.9
1.1397E+10
12.870 2.0950E-02 1.8110E+05 -622.71 157.55 6677.5
1.1397E+10
13.200 1.8053E-02 1.7834E+05 -820.15 154.17 6614.4
1.1397E+10
13.530 1.5401E-02 1.7482E+05 -1003.5 150.45 6533.7
1.1397E+10
13.860 1.2990E-02 1.7059E+05 -1171.4 146.35 6436.9
1.1397E+10
14.190 1.0813E-02 1.6572E+05 -1322.3 141.86 6325.4
1.1397E+10
14.520 8.8642E-03 1.6028E+05 -1454.6 136.94 6200.8
1.1397E+10
14.850 7.1360E-03 1.5434E+05 -1566.5 131.56 6064.8
1.1397E+10
15.180 5.6202E-03 1.4800E+05 -1656.0 125.65 5919.6
1.1397E+10
15.510 4.3080E-03 1.4134E+05 -1721.0 119.16 5767.0
1.1397E+10
15.840 3.1903E-03 1.3446E+05 -1756.4 110.72 5609.6
1.1397E+10
16.170 2.2576E-03 1.2751E+05 -1756.6 101.42 5450.3
1.1397E+10
16.500 1.5004E-03 1.2062E+05 -1718.7 91.402 5292.5
1.1397E+10
16.830 9.0908E-04 1.1395E+05 -1639.1 80.426 5139.8
1.1397E+10
17.160 4.7459E-04 1.0768E+05 -2737.9 580.49 4996.1
1.1397E+10
17.490 1.8826E-04 9.2294E+04 -5032.6 578.45 4643.9
1.1397E+10
17.820 2.8914E-05 6.7836E+04 -6672.8 249.95 4083.8
1.1397E+10
18.150 -3.7090E-05 3.9455E+04 -6425.1 -375.02 3433.8
1.1397E+10

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       18.480 -4.8807E-05  1.6952E+04     -4563.8     -565.07      2918.5
1.1397E+10
       18.810 -3.7198E-05      3309.9     -2484.1     -485.23      2606.1
1.1397E+10
       19.140 -2.1036E-05     -2723.4     -918.98     -305.25      2592.6
1.1397E+10
       19.470 -8.6204E-06     -3969.6     -41.868     -137.74      2621.2
1.1397E+10
       19.800 -1.6670E-06     -3055.7      288.43     -29.079      2600.2
1.1397E+10
       20.130  1.0820E-06     -1685.7      305.49      20.462      2568.9
1.1397E+10
       20.460  1.5116E-06     -636.37      203.99      30.803      2544.8
1.1397E+10
       20.790  1.0656E-06     -70.089      96.909      23.277      2531.9
1.1397E+10
       21.120  5.2311E-07      131.18      26.676      12.194      2533.3
1.1397E+10
       21.450  1.6116E-07      141.22     -5.3749      3.9931      2533.5
1.1397E+10
       21.780 -6.4816E-09      88.635     -12.960     -0.1620      2532.3
1.1397E+10
       22.110 -5.2164E-08      38.584     -10.057     -1.3041      2531.1
1.1397E+10
       22.440 -4.4758E-08      8.9814     -5.2598     -1.1189      2530.5
1.1397E+10
       22.770 -2.4993E-08     -3.0748     -1.8071     -0.6248      2530.3
1.1397E+10
       23.100 -9.4597E-09     -5.3325     -0.1017     -0.2365      2530.4
1.1397E+10
       23.430 -1.2632E-09     -3.8812      0.4291 -3.1581E-02      2530.3
1.1397E+10
       23.760  1.5929E-09     -1.9346      0.4128  3.9822E-02      2530.3
1.1397E+10
       24.090  1.7872E-09     -0.6123      0.2455  4.4679E-02      2530.3
1.1397E+10
       24.420  1.1390E-09  9.4200E-03      0.1006  2.8474E-02      2530.3
1.1397E+10
       24.750  5.0374E-10      0.1846  1.9295E-02  1.2593E-02      2530.3
1.1397E+10
       25.080  1.2250E-10      0.1623 -1.1704E-02  3.0625E-03      2530.3
1.1397E+10
       25.410 -3.5459E-11  9.1920E-02 -1.6012E-02 -8.8647E-04      2530.3
1.1397E+10
       25.740 -6.6940E-11  3.5463E-02 -1.0944E-02 -1.6735E-03      2530.3
1.1397E+10
       26.070 -4.9626E-11  5.2466E-03 -5.1738E-03 -1.2406E-03      2530.3
1.1397E+10
       26.400 -2.5093E-11 -5.5149E-03 -1.4752E-03 -6.2732E-04      2530.3
1.1397E+10
       26.730 -8.1478E-12 -6.4386E-03  1.7020E-04 -2.0370E-04      2530.3
```

```
1.1397E+10
       27.060 -6.2108E-14 -4.1678E-03  5.7660E-04 -1.5527E-06      2530.3
1.1397E+10
       27.390  2.2889E-12 -1.8724E-03  4.6637E-04  5.7223E-05      2530.3
1.1397E+10
       27.720  2.0636E-12 -4.7426E-04  2.5092E-04  5.1591E-05      2530.3
1.1397E+10
       28.050  1.1858E-12  1.1489E-04  9.0068E-05  2.9645E-05      2530.3
1.1397E+10
       28.380  4.6604E-13  2.3915E-04  8.3020E-06  1.1651E-05      2530.3
1.1397E+10
       28.710  7.5332E-14  1.8068E-04 -1.8496E-05  1.8833E-06      2530.3
1.1397E+10
       29.040 -6.6769E-14  9.2677E-05 -1.8920E-05 -1.6692E-06      2530.3
1.1397E+10
       29.370 -8.1352E-14  3.0842E-05 -1.1588E-05 -2.0338E-06      2530.3
1.1397E+10
       29.700 -5.3499E-14  8.9957E-07 -4.9129E-06 -1.3375E-06      2530.3
1.1397E+10
       30.030 -2.4407E-14 -8.0697E-06 -1.0565E-06 -6.1018E-07      2530.3
1.1397E+10
       30.360 -6.4189E-15 -7.4700E-06  4.6935E-07 -1.6047E-07      2530.3
1.1397E+10
       30.690  1.2910E-15 -4.3535E-06  7.2318E-07  3.2275E-08      2530.3
1.1397E+10
       31.020  3.0108E-15 -1.7428E-06  5.1024E-07  7.5269E-08      2530.3
1.1397E+10
       31.350  2.3325E-15 -3.1239E-07  2.4575E-07  5.8313E-08      2530.3
1.1397E+10
       31.680  1.2245E-15  2.0359E-07  6.9676E-08  3.0612E-08      2530.3
1.1397E+10
       32.010  3.9654E-16  2.3952E-07 -1.0563E-08  9.9134E-09      2530.3
1.1397E+10
       32.340 -1.0183E-16  1.1998E-07 -2.5151E-08 -2.5457E-09      2530.3
1.1397E+10
       32.670 -4.3511E-16  4.0357E-08 -1.5152E-08 -2.5043E-09      2530.3
1.1397E+10
       33.000 -7.1285E-16      0.0000 -2.1911E-23 -5.1484E-09      2530.3
1.1397E+10



     LOAD CASE :     7
     CASE NAME : Service I, Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR
```

1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
2.13290E+06	2.39700E+05	-2.64082E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0633837	0.11335	-5.94744E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.091931	0.1133	-5.9474E-04	1.4462E+05	2.4135E+04	6.7713E+05	2.4837E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2

```
          0.091931      0.1133 -5.9474E-04  1.4462E+05  2.4135E+04  6.7713E+05
 2.4837E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.1133 -6.7713E+05  2.4135E+04      327.78  2.4837E+04
1.1397E+10
       0.3300      0.1105 -5.8317E+05  2.3091E+04      339.52  2.2685E+04
1.1397E+10
       0.6600      0.1069 -4.9332E+05  2.2003E+04      350.39  2.0628E+04
1.1397E+10
       0.9900      0.1026 -4.0776E+05  2.0873E+04      360.35  1.8668E+04
1.1397E+10
       1.3200  9.7739E-02 -3.2668E+05  1.9705E+04      369.38  1.6812E+04
1.1397E+10
       1.6500  9.2426E-02 -2.5023E+05  1.8503E+04      377.44  1.5061E+04
1.1397E+10
       1.9800  8.6769E-02 -1.7855E+05  1.7272E+04      384.50  1.3419E+04
1.1397E+10
       2.3100  8.0866E-02 -1.1176E+05  1.6015E+04      390.52  1.1890E+04
1.1397E+10
       2.6400  7.4810E-02 -4.9983E+04  1.4735E+04      395.48  1.0475E+04
1.1397E+10
       2.9700  6.8684E-02      6703.3  1.3439E+04      399.34      9483.8
1.1397E+10
       3.3000  6.2568E-02  5.8224E+04  1.2129E+04      402.05  1.0664E+04
1.1397E+10
       3.6300  5.6532E-02  1.0453E+05  1.0811E+04      403.59  1.1724E+04
1.1397E+10
       3.9600  5.0640E-02  1.4558E+05      9489.8      403.91  1.2664E+04
1.1397E+10
       4.2900  4.4948E-02  1.8136E+05      8169.3      402.98  1.3484E+04
1.1397E+10
       4.6200  3.9506E-02  2.1189E+05      6855.2      400.74  1.4183E+04
1.1397E+10
       4.9500  3.4355E-02  2.3718E+05      5552.6      397.15  1.4762E+04
1.1397E+10
       5.2800  2.9531E-02  2.5731E+05      4266.9      392.16  1.5223E+04
1.1397E+10
       5.6100  2.5061E-02  2.7232E+05      3003.9      385.71  1.5567E+04
1.1397E+10
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5.9400	2.0965E-02	2.8234E+05	1769.5	377.74	1.5796E+04	1.1397E+10
6.2700	1.7258E-02	2.8747E+05	569.78	368.17	1.5913E+04	1.1397E+10
6.6000	1.3946E-02	2.8786E+05	-588.70	356.92	1.5923E+04	1.1397E+10
6.9300	1.1031E-02	2.8370E+05	-1699.1	343.87	1.5827E+04	1.1397E+10
7.2600	8.5053E-03	2.7519E+05	-2753.9	328.89	1.5632E+04	1.1397E+10
7.5900	6.3588E-03	2.6257E+05	-3745.2	311.78	1.5343E+04	1.1397E+10
7.9200	4.5735E-03	2.4610E+05	-4664.0	292.26	1.4966E+04	1.1397E+10
8.2500	3.1268E-03	2.2610E+05	-5499.9	269.90	1.4508E+04	1.1397E+10
8.5800	1.9913E-03	2.0291E+05	-6240.0	243.88	1.3977E+04	1.1397E+10
8.9100	1.1349E-03	1.7696E+05	-6866.5	212.54	1.3383E+04	1.1397E+10
9.2400	5.2203E-04	1.4874E+05	-7349.1	171.21	1.2737E+04	1.1397E+10
9.5700	1.1382E-04	1.1891E+05	-7600.7	95.832	1.2053E+04	1.1397E+10
9.9000	-1.3078E-04	8.8641E+04	-7123.2	-196.99	1.1360E+04	1.1397E+10
10.230	-2.5342E-04	6.2545E+04	-6081.8	-188.96	1.0763E+04	1.1397E+10
10.560	-2.9000E-04	4.0496E+04	-5053.0	-190.65	1.0258E+04	1.1397E+10
10.890	-2.7085E-04	2.2528E+04	-4027.1	-187.47	9846.2	1.1397E+10
11.220	-2.2071E-04	8591.9	-3023.1	-179.60	9527.1	1.1397E+10
11.550	-1.5875E-04	-1431.4	-2059.0	-167.31	9363.1	1.1397E+10
11.880	-9.8761E-05	-7732.9	-1152.7	-150.40	9507.4	1.1397E+10
12.210	-4.9409E-05	-1.0577E+04	-324.95	-127.66	9572.5	1.1397E+10
12.540	-1.4610E-05	-1.0319E+04	389.27	-93.059	9566.6	1.1397E+10
12.870	5.9910E-06	-7501.6	682.05	85.194	9502.1	1.1397E+10
13.200	1.6270E-05	-4921.4	587.11	102.75	9443.0	1.1397E+10
13.530	1.9778E-05	-2853.7	450.56	106.21	9395.7	1.1397E+10
13.860	1.9359E-05	-1353.4	312.17	103.68	9361.3	1.1397E+10
14.190	1.7078E-05	-380.98	190.18	97.923	9339.0	

1.1397E+10
14.520 1.4273E-05 153.62 93.959 90.675 9333.8
1.1397E+10
14.850 1.1679E-05 363.96 26.548 83.371 9338.6
1.1397E+10
15.180 9.5855E-06 364.55 -14.030 77.123 9338.7
1.1397E+10
15.510 7.9940E-06 253.38 -33.104 72.511 9336.1
1.1397E+10
15.840 6.7511E-06 102.77 -35.439 68.668 9332.7
1.1397E+10
16.170 5.6496E-06 -26.956 -24.115 65.613 9330.9
1.1397E+10
16.500 4.5111E-06 -87.891 -0.6247 62.523 9332.3
1.1397E+10
16.830 3.2516E-06 -31.557 37.369 58.288 9331.0
1.1397E+10
17.160 1.9486E-06 208.44 38.524 11.129 9335.1
1.1397E+10
17.490 9.3251E-07 273.89 3.2357 6.6934 9336.6
1.1397E+10
17.820 2.9325E-07 234.31 -15.036 2.5350 9335.7
1.1397E+10
18.150 -2.3621E-08 154.94 -19.583 -0.2388 9333.9
1.1397E+10
18.480 -1.2731E-07 79.276 -16.191 -1.4739 9332.1
1.1397E+10
18.810 -1.2191E-07 26.714 -10.124 -1.5903 9330.9
1.1397E+10
19.140 -7.9759E-08 -0.9152 -4.6840 -1.1574 9330.3
1.1397E+10
19.470 -3.8866E-08 -10.395 -1.1628 -0.6210 9330.5
1.1397E+10
19.800 -1.2275E-08 -10.134 0.4907 -0.2141 9330.5
1.1397E+10
20.130 3.7102E-10 -6.5137 0.9008 7.0164E-03 9330.5
1.1397E+10
20.460 4.0548E-09 -3.0019 0.7233 8.2628E-02 9330.4
1.1397E+10
20.790 3.6081E-09 -0.7853 0.4037 7.8816E-02 9330.3
1.1397E+10
21.120 2.0809E-09 0.1956 0.1516 4.8507E-02 9330.3
1.1397E+10
21.450 8.2270E-10 0.4157 1.5183E-02 2.0385E-02 9330.3
1.1397E+10
21.780 1.3654E-10 0.3161 -3.1937E-02 3.4134E-03 9330.3
1.1397E+10
22.110 -1.1470E-10 0.1629 -3.3018E-02 -2.8676E-03 9330.3
1.1397E+10
22.440 -1.4181E-10 5.4635E-02 -2.0320E-02 -3.5452E-03 9330.3
1.1397E+10

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       22.770 -9.3738E-11  1.9571E-03 -8.6607E-03 -2.3434E-03      9330.3
1.1397E+10
       23.100 -4.2974E-11 -1.3972E-02 -1.8935E-03 -1.0744E-03      9330.3
1.1397E+10
       23.430 -1.1436E-11 -1.3051E-02  7.9982E-04 -2.8590E-04      9330.3
1.1397E+10
       23.760  2.1450E-12 -7.6442E-03  1.2597E-03  5.3625E-05      9330.3
1.1397E+10
       24.090  5.2078E-12 -3.0767E-03  8.9574E-04  1.3020E-04      9330.3
1.1397E+10
       24.420  4.0374E-12 -5.5018E-04  4.3811E-04  1.0093E-04      9330.3
1.1397E+10
       24.750  2.1099E-12  3.9359E-04  1.3381E-04  5.2748E-05      9330.3
1.1397E+10
       25.080  7.2403E-13  5.1009E-04 -6.4690E-06  1.8101E-05      9330.3
1.1397E+10
       25.410  3.9971E-14  3.4265E-04 -4.4287E-05  9.9927E-07      9330.3
1.1397E+10
       25.740 -1.7262E-13  1.5947E-04 -3.7721E-05 -4.3154E-06      9330.3
1.1397E+10
       26.070 -1.6578E-13  4.3931E-05 -2.0970E-05 -4.1445E-06      9330.3
1.1397E+10
       26.400 -9.8500E-14 -6.6238E-06 -7.8882E-06 -2.4625E-06      9330.3
1.1397E+10
       26.730 -4.0332E-14 -1.8562E-05 -1.0160E-06 -1.0083E-06      9330.3
1.1397E+10
       27.060 -7.7041E-15 -1.4684E-05  1.3618E-06 -1.9260E-07      9330.3
1.1397E+10
       27.390  4.7201E-15 -7.7828E-06  1.5095E-06  1.1800E-07      9330.3
1.1397E+10
       27.720  6.4356E-15 -2.7307E-06  9.5728E-07  1.6089E-07      9330.3
1.1397E+10
       28.050  4.3937E-15 -2.0112E-07  4.2123E-07  1.0984E-07      9330.3
1.1397E+10
       28.380  2.0751E-15  6.0602E-07  1.0102E-07  5.1878E-08      9330.3
1.1397E+10
       28.710  5.9037E-16  5.9952E-07 -3.0920E-08  1.4759E-08      9330.3
1.1397E+10
       29.040 -6.9465E-17  3.6145E-07 -5.6704E-08 -1.7366E-09      9330.3
1.1397E+10
       29.370 -2.3197E-16  1.5054E-07 -4.1783E-08 -5.7992E-09      9330.3
1.1397E+10
       29.700 -1.8734E-16  3.0541E-08 -2.1028E-08 -4.6835E-09      9330.3
1.1397E+10
       30.030 -1.0069E-16 -1.6019E-08 -6.7701E-09 -2.5173E-09      9330.3
1.1397E+10
       30.360 -3.6081E-17 -2.3101E-08  2.2940E-14 -9.0202E-10      9330.3
1.1397E+10
       30.690 -3.2570E-18 -1.6033E-08  1.9472E-09 -8.1426E-11      9330.3
1.1397E+10
       31.020  7.5064E-18 -7.6850E-09  1.7369E-09  1.8766E-10      9330.3
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1.1397E+10
       31.350  7.6957E-18 -2.2783E-09  9.8440E-10  1.9239E-10      9330.3
1.1397E+10
       31.680  4.7503E-18  1.1188E-10  3.6832E-10  1.1876E-10      9330.3
1.1397E+10
       32.010  1.9589E-18  6.3969E-10  3.6219E-11  4.8971E-11      9330.3
1.1397E+10
       32.340  4.7569E-20  3.9942E-10 -6.3099E-11  1.1892E-12      9330.3
1.1397E+10
       32.670 -1.3141E-18  1.4042E-10 -5.0478E-11 -7.5636E-12      9330.3
1.1397E+10
       33.000 -2.4826E-18 -5.5989E-25 -8.5449E-27 -1.7930E-11      9330.3
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.063384      0.1133 -5.9474E-04  1.1642E+05      7005.8  2.6976E+05
 1.3689E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.063384      0.1133 -5.9474E-04  1.1642E+05      7005.8  2.6976E+05
 1.3689E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
```

****

0.0000	0.1133	-2.6976E+05	7005.8	106.63	1.3689E+04	1.1397E+10
0.3300	0.1108	-2.4201E+05	6853.0	110.52	1.3053E+04	1.1397E+10
0.6600	0.1079	-2.1486E+05	6685.2	114.26	1.2431E+04	1.1397E+10
0.9900	0.1048	-1.8836E+05	6502.8	117.84	1.1824E+04	1.1397E+10
1.3200	0.1013	-1.6259E+05	6306.6	121.26	1.1234E+04	1.1397E+10
1.6500	9.7684E-02	-1.3759E+05	6097.2	124.50	1.0662E+04	1.1397E+10
1.9800	9.3842E-02	-1.1342E+05	5875.3	127.57	1.0108E+04	1.1397E+10
2.3100	8.9845E-02	-9.0143E+04	5641.7	130.44	9575.2	1.1397E+10
2.6400	8.5723E-02	-6.7796E+04	5397.0	133.13	9063.4	1.1397E+10
2.9700	8.1508E-02	-4.6429E+04	5142.0	135.62	8574.1	1.1397E+10
3.3000	7.7229E-02	-2.6082E+04	4877.7	137.90	8108.1	1.1397E+10
3.6300	7.2914E-02	-6796.9	4604.7	139.97	7666.5	1.1397E+10
3.9600	6.8590E-02	1.1392E+04	4323.9	141.83	7771.7	1.1397E+10
4.2900	6.4282E-02	2.8453E+04	4036.3	143.46	8162.4	1.1397E+10
4.6200	6.0013E-02	4.4358E+04	3742.6	144.85	8526.7	1.1397E+10
4.9500	5.5804E-02	5.9082E+04	3443.9	146.01	8863.8	1.1397E+10
5.2800	5.1677E-02	7.2604E+04	3141.0	146.93	9173.5	1.1397E+10
5.6100	4.7650E-02	8.4908E+04	2835.1	147.60	9455.3	1.1397E+10
5.9400	4.3740E-02	9.5982E+04	2527.0	148.01	9708.9	1.1397E+10
6.2700	3.9962E-02	1.0582E+05	2217.7	148.17	9934.1	1.1397E+10
6.6000	3.6330E-02	1.1441E+05	1908.4	148.05	1.0131E+04	1.1397E+10
6.9300	3.2854E-02	1.2176E+05	1600.1	147.66	1.0299E+04	1.1397E+10
7.2600	2.9547E-02	1.2787E+05	1293.9	146.98	1.0439E+04	1.1397E+10
7.5900	2.6415E-02	1.3276E+05	991.00	146.02	1.0551E+04	1.1397E+10
7.9200	2.3466E-02	1.3643E+05	692.46	144.76	1.0635E+04	1.1397E+10

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       8.2500  2.0705E-02  1.3891E+05      399.51      143.20  1.0692E+04
1.1397E+10
       8.5800  1.8135E-02  1.4021E+05      113.36      141.32  1.0722E+04
1.1397E+10
       8.9100  1.5757E-02  1.4038E+05     -164.75      139.13  1.0726E+04
1.1397E+10
       9.2400  1.3573E-02  1.3944E+05     -433.53      136.61  1.0704E+04
1.1397E+10
       9.5700  1.1581E-02  1.3743E+05     -691.67      133.76  1.0658E+04
1.1397E+10
       9.9000  9.7781E-03  1.3440E+05     -937.83      130.56  1.0589E+04
1.1397E+10
       10.230  8.1599E-03  1.3040E+05     -1170.6      127.00  1.0497E+04
1.1397E+10
       10.560  6.7212E-03  1.2549E+05     -1388.6      123.08  1.0385E+04
1.1397E+10
       10.890  5.4551E-03  1.1972E+05     -1590.2      118.77  1.0252E+04
1.1397E+10
       11.220  4.3537E-03  1.1317E+05     -1774.0      114.07  1.0102E+04
1.1397E+10
       11.550  3.4081E-03  1.0591E+05     -1938.4      108.95      9936.2
1.1397E+10
       11.880  2.6081E-03  9.8020E+04     -2081.6      103.39      9755.5
1.1397E+10
       12.210  1.9431E-03  8.9592E+04     -2201.9      97.365      9562.5
1.1397E+10
       12.540  1.4013E-03  8.0721E+04     -2297.3      90.839      9359.4
1.1397E+10
       12.870  9.7058E-04  7.1511E+04     -2365.8      83.758      9148.5
1.1397E+10
       13.200  6.3826E-04  6.2073E+04     -2405.1      76.046      8932.3
1.1397E+10
       13.530  3.9135E-04  5.2530E+04     -2412.2      67.569      8713.8
1.1397E+10
       13.860  2.1671E-04  4.3017E+04     -2383.8      58.075      8495.9
1.1397E+10
       14.190  1.0127E-04  3.3684E+04     -2314.5      46.950      8282.2
1.1397E+10
       14.520  3.2166E-05  2.4707E+04     -2193.7      32.020      8076.6
1.1397E+10
       14.850 -2.9372E-06  1.6322E+04     -1946.1     -17.067      7884.6
1.1397E+10
       15.180 -1.5583E-05      9299.6     -1548.0     -44.005      7723.8
1.1397E+10
       15.510 -1.5432E-05      4063.5     -1105.7     -39.353      7603.9
1.1397E+10
       15.840 -9.6911E-06      541.51     -684.48     -33.403      7523.2
1.1397E+10
       16.170 -3.2047E-06     -1359.0     -294.92     -23.344      7541.9
1.1397E+10
       16.500  1.4118E-06     -1795.5     -25.843      27.447      7551.9
```

1.1397E+10
16.830 3.5578E-06 -1564.5 141.48 28.044 7546.6
1.1397E+10
17.160 3.5511E-06 -675.23 184.40 20.281 7526.3
1.1397E+10
17.490 2.6153E-06 -103.91 107.08 18.772 7513.2
1.1397E+10
17.820 1.5366E-06 173.06 43.608 13.283 7514.8
1.1397E+10
18.150 6.9599E-07 241.69 3.3741 7.0372 7516.4
1.1397E+10
18.480 1.8794E-07 199.94 -14.868 2.1759 7515.4
1.1397E+10
18.810 -4.5006E-08 124.03 -18.014 -0.5871 7513.7
1.1397E+10
19.140 -1.0730E-07 57.302 -13.769 -1.5570 7512.1
1.1397E+10
19.470 -9.0748E-08 14.985 -7.8147 -1.4499 7511.2
1.1397E+10
19.800 -5.3578E-08 -4.5965 -3.0932 -0.9346 7510.9
1.1397E+10
20.130 -2.2732E-08 -9.5211 -0.3915 -0.4299 7511.0
1.1397E+10
20.460 -4.9864E-09 -7.7028 0.6609 -0.1016 7511.0
1.1397E+10
20.790 2.1603E-09 -4.2899 0.7686 4.7190E-02 7510.9
1.1397E+10
21.120 3.4043E-09 -1.6163 0.5181 7.9359E-02 7510.9
1.1397E+10
21.450 2.4244E-09 -0.1869 0.2420 6.0072E-02 7510.8
1.1397E+10
21.780 1.1873E-09 0.3004 6.4271E-02 2.9682E-02 7510.8
1.1397E+10
22.110 3.6353E-10 0.3223 -1.2494E-02 9.0882E-03 7510.8
1.1397E+10
22.440 -1.6727E-11 0.2016 -2.9661E-02 -4.1818E-04 7510.8
1.1397E+10
22.770 -1.1956E-10 8.7462E-02 -2.2915E-02 -2.9889E-03 7510.8
1.1397E+10
23.100 -1.0204E-10 2.0152E-02 -1.1946E-02 -2.5511E-03 7510.8
1.1397E+10
23.430 -5.6800E-11 -7.1555E-03 -4.0830E-03 -1.4200E-03 7510.8
1.1397E+10
23.760 -2.1404E-11 -1.2194E-02 -2.1188E-04 -5.3510E-04 7510.8
1.1397E+10
24.090 -2.7858E-12 -8.8399E-03 9.8551E-04 -6.9645E-05 7510.8
1.1397E+10
24.420 3.6691E-12 -4.3919E-03 9.4179E-04 9.1727E-05 7510.8
1.1397E+10
24.750 4.0809E-12 -1.3817E-03 5.5816E-04 1.0202E-04 7510.8
1.1397E+10

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       25.080  2.5916E-12  2.8847E-05  2.2787E-04  6.4791E-05      7510.8
1.1397E+10
       25.410  1.1420E-12  4.2337E-04  4.3053E-05  2.8551E-05      7510.8
1.1397E+10
       25.740  2.7498E-13  3.7009E-04 -2.7090E-05  6.8746E-06      7510.8
1.1397E+10
       26.070 -8.2851E-14  2.0895E-04 -3.6601E-05 -2.0713E-06      7510.8
1.1397E+10
       26.400 -1.5318E-13  8.0263E-05 -2.4918E-05 -3.8294E-06      7510.8
1.1397E+10
       26.730 -1.1306E-13  1.1610E-05 -1.1739E-05 -2.8266E-06      7510.8
1.1397E+10
       27.060 -5.6977E-14 -1.2719E-05 -3.3217E-06 -1.4244E-06      7510.8
1.1397E+10
       27.390 -1.8390E-14 -1.4709E-05  4.0899E-07 -4.5976E-07      7510.8
1.1397E+10
       27.720 -4.1522E-17 -9.4863E-06  1.3214E-06 -1.0380E-09      7510.8
1.1397E+10
       28.050  5.2547E-15 -4.2462E-06  1.0633E-06  1.3137E-07      7510.8
1.1397E+10
       28.380  4.7084E-15 -1.0654E-06  5.7013E-07  1.1771E-07      7510.8
1.1397E+10
       28.710  2.6962E-15  2.6959E-07  2.0360E-07  6.7406E-08      7510.8
1.1397E+10
       29.040  1.0550E-15  5.4753E-07  1.7917E-08  2.6374E-08      7510.8
1.1397E+10
       29.370  1.6705E-16  4.1179E-07 -4.2572E-08  4.1763E-09      7510.8
1.1397E+10
       29.700 -1.5426E-16  2.1049E-07 -4.3205E-08 -3.8566E-09      7510.8
1.1397E+10
       30.030 -1.8595E-16  6.9644E-08 -2.6365E-08 -4.6487E-09      7510.8
1.1397E+10
       30.360 -1.2181E-16  1.6813E-09 -1.1131E-08 -3.0452E-09      7510.8
1.1397E+10
       30.690 -5.5354E-17 -1.8528E-08 -2.3614E-09 -1.3838E-09      7510.8
1.1397E+10
       31.020 -1.4394E-17 -1.7034E-08  1.0911E-09 -3.5985E-10      7510.8
1.1397E+10
       31.350  3.1288E-18 -9.8936E-09  1.6487E-09  7.8219E-11      7510.8
1.1397E+10
       31.680  7.0384E-18 -3.9784E-09  1.1454E-09  1.7596E-10      7510.8
1.1397E+10
       32.010  5.4740E-18 -8.2200E-10  5.2607E-10  1.3685E-10      7510.8
1.1397E+10
       32.340  2.7786E-18  1.8854E-10  1.1757E-10  6.9464E-11      7510.8
1.1397E+10
       32.670  3.4253E-19  1.0973E-10 -2.3874E-11  1.9714E-12      7510.8
1.1397E+10
       33.000 -1.9425E-18      0.0000  8.2231E-26 -1.4029E-11      7510.8
1.1397E+10
```

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.034836	0.1133	-5.9474E-04	7.6409E+04	5427.8	2.2129E+05	9997.4

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.034836	0.1133	-5.9474E-04	7.6409E+04	5427.8	2.2129E+05	9997.4

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1133	-2.2129E+05	5427.8	90.830	9997.4	1.1397E+10
0.3300	0.1108	-1.9977E+05	5338.8	94.151	9504.5	1.1397E+10
0.6600	0.1081	-1.7860E+05	5236.8	97.358	9019.8	1.1397E+10
0.9900	0.1050	-1.5785E+05	5122.3	100.45	8544.5	1.1397E+10
1.3200	0.1018	-1.3756E+05	4995.9	103.41	8079.8	1.1397E+10
1.6500	9.8351E-02	-1.1777E+05	4858.0	106.24	7626.7	1.1397E+10
1.9800	9.4755E-02	-9.8544E+04	4709.2	108.93	7186.4	

1.1397E+10
2.3100 9.1023E-02 -7.9915E+04 4550.0 111.48 6759.8
1.1397E+10
2.6400 8.7180E-02 -6.1929E+04 4380.9 113.89 6347.9
1.1397E+10
2.9700 8.3253E-02 -4.4625E+04 4202.7 116.14 5951.6
1.1397E+10
3.3000 7.9264E-02 -2.8039E+04 4015.8 118.24 5571.8
1.1397E+10
3.6300 7.5237E-02 -1.2207E+04 3820.9 120.17 5209.2
1.1397E+10
3.9600 7.1193E-02 2839.4 3618.8 121.94 4994.7
1.1397E+10
4.2900 6.7153E-02 1.7071E+04 3409.9 123.54 5320.6
1.1397E+10
4.6200 6.3136E-02 3.0461E+04 3195.0 124.97 5627.2
1.1397E+10
4.9500 5.9161E-02 4.2987E+04 2974.9 126.21 5914.1
1.1397E+10
5.2800 5.5246E-02 5.4626E+04 2750.2 127.27 6180.6
1.1397E+10
5.6100 5.1405E-02 6.5361E+04 2521.7 128.14 6426.5
1.1397E+10
5.9400 4.7655E-02 7.5178E+04 2290.2 128.81 6651.3
1.1397E+10
6.2700 4.4008E-02 8.4064E+04 2056.3 129.29 6854.8
1.1397E+10
6.6000 4.0476E-02 9.2012E+04 1821.0 129.57 7036.8
1.1397E+10
6.9300 3.7071E-02 9.9017E+04 1585.0 129.63 7197.2
1.1397E+10
7.2600 3.3803E-02 1.0508E+05 1349.1 129.49 7335.9
1.1397E+10
7.5900 3.0679E-02 1.1019E+05 1114.3 129.13 7453.1
1.1397E+10
7.9200 2.7706E-02 1.1437E+05 881.28 128.54 7548.7
1.1397E+10
8.2500 2.4891E-02 1.1761E+05 651.05 127.73 7623.0
1.1397E+10
8.5800 2.2238E-02 1.1994E+05 424.49 126.69 7676.4
1.1397E+10
8.9100 1.9750E-02 1.2137E+05 202.52 125.42 7709.0
1.1397E+10
9.2400 1.7429E-02 1.2191E+05 -13.929 123.90 7721.5
1.1397E+10
9.5700 1.5275E-02 1.2160E+05 -223.88 122.14 7714.3
1.1397E+10
9.9000 1.3289E-02 1.2045E+05 -426.35 120.12 7688.1
1.1397E+10
10.230 1.1469E-02 1.1851E+05 -620.34 117.85 7643.7
1.1397E+10

10.560	9.8114E-03	1.1581E+05	-804.81	115.32	7581.7
1.1397E+10					
10.890	8.3134E-03	1.1238E+05	-978.71	112.51	7503.2
1.1397E+10					
11.220	6.9700E-03	1.0827E+05	-1141.0	109.43	7409.2
1.1397E+10					
11.550	5.7757E-03	1.0354E+05	-1290.5	106.07	7300.7
1.1397E+10					
11.880	4.7237E-03	9.8224E+04	-1426.1	102.42	7179.1
1.1397E+10					
12.210	3.8070E-03	9.2393E+04	-1546.6	98.469	7045.5
1.1397E+10					
12.540	3.0173E-03	8.6105E+04	-1650.9	94.209	6901.5
1.1397E+10					
12.870	2.3462E-03	7.9429E+04	-1737.7	89.628	6748.6
1.1397E+10					
13.200	1.7843E-03	7.2436E+04	-1805.7	84.715	6588.5
1.1397E+10					
13.530	1.3221E-03	6.5206E+04	-1853.6	79.453	6422.9
1.1397E+10					
13.860	9.4960E-04	5.7820E+04	-1879.9	73.823	6253.8
1.1397E+10					
14.190	6.5667E-04	5.0368E+04	-1883.1	67.800	6083.1
1.1397E+10					
14.520	4.3304E-04	4.2945E+04	-1861.6	61.349	5913.1
1.1397E+10					
14.850	2.6851E-04	3.5653E+04	-1813.6	54.418	5746.1
1.1397E+10					
15.180	1.5302E-04	2.8602E+04	-1737.1	46.918	5584.7
1.1397E+10					
15.510	7.6899E-05	2.1910E+04	-1629.3	38.666	5431.4
1.1397E+10					
15.840	3.0921E-05	1.5707E+04	-1485.7	28.808	5289.4
1.1397E+10					
16.170	6.5553E-06	1.0149E+04	-1296.0	15.368	5162.1
1.1397E+10					
16.500	-3.8464E-06	5445.6	-970.36	-39.834	5054.4
1.1397E+10					
16.830	-6.7552E-06	2464.4	-563.46	-25.673	4986.1
1.1397E+10					
17.160	-6.2731E-06	983.24	-303.09	-35.827	4952.2
1.1397E+10					
17.490	-4.4382E-06	63.773	-169.08	-31.856	4931.1
1.1397E+10					
17.820	-2.5155E-06	-356.14	-62.947	-21.745	4937.8
1.1397E+10					
18.150	-1.0828E-06	-435.02	1.7859	-10.948	4939.6
1.1397E+10					
18.480	-2.4869E-07	-342.17	29.164	-2.8792	4937.5
1.1397E+10					
18.810	1.1463E-07	-204.13	31.905	1.4952	4934.3

1.1397E+10
19.140 1.9707E-07 -89.517 23.282 2.8597 4931.7
1.1397E+10
19.470 1.5634E-07 -19.739 12.674 2.4979 4930.1
1.1397E+10
19.800 8.8446E-08 10.869 4.6733 1.5429 4929.9
1.1397E+10
20.130 3.5511E-08 17.282 0.2887 0.6715 4930.0
1.1397E+10
20.460 6.3552E-09 13.162 -1.2974 0.1295 4929.9
1.1397E+10
20.790 -4.6898E-09 7.0102 -1.3509 -0.1024 4929.8
1.1397E+10
21.120 -6.0891E-09 2.4638 -0.8671 -0.1419 4929.7
1.1397E+10
21.450 -4.0985E-09 0.1431 -0.3849 -0.1016 4929.6
1.1397E+10
21.780 -1.9110E-09 -0.5852 -8.9265E-02 -4.7775E-02 4929.7
1.1397E+10
22.110 -5.2867E-10 -0.5642 3.1498E-02 -1.3217E-02 4929.7
1.1397E+10
22.440 7.7369E-11 -0.3359 5.3838E-02 1.9342E-03 4929.7
1.1397E+10
22.770 2.2127E-10 -0.1378 3.9055E-02 5.5318E-03 4929.6
1.1397E+10
23.100 1.7550E-10 -2.6560E-02 1.9415E-02 4.3876E-03 4929.6
1.1397E+10
23.430 9.3190E-11 1.5926E-02 6.1144E-03 2.3297E-03 4929.6
1.1397E+10
23.760 3.2790E-11 2.1877E-02 -1.2159E-04 8.1975E-04 4929.6
1.1397E+10
24.090 2.4920E-12 1.4970E-02 -1.8681E-03 6.2301E-05 4929.6
1.1397E+10
24.420 -7.2079E-12 7.0850E-03 -1.6346E-03 -1.8020E-04 4929.6
1.1397E+10
24.750 -7.1592E-12 2.0247E-03 -9.2346E-04 -1.7898E-04 4929.6
1.1397E+10
25.080 -4.3247E-12 -2.2901E-04 -3.5500E-04 -1.0812E-04 4929.6
1.1397E+10
25.410 -1.8052E-12 -7.8729E-04 -5.1572E-05 -4.5131E-05 4929.6
1.1397E+10
25.740 -3.6907E-13 -6.3776E-04 5.6057E-05 -9.2267E-06 4929.6
1.1397E+10
26.070 1.8959E-13 -3.4347E-04 6.4941E-05 4.7396E-06 4929.6
1.1397E+10
26.400 2.7564E-13 -1.2347E-04 4.1913E-05 6.8911E-06 4929.6
1.1397E+10
26.730 1.9181E-13 -1.1524E-05 1.8774E-05 4.7952E-06 4929.6
1.1397E+10
27.060 9.2119E-14 2.5229E-05 4.7192E-06 2.3030E-06 4929.6
1.1397E+10

```
       27.390  2.7141E-14  2.5865E-05 -1.1841E-06  6.7852E-07      4929.6
1.1397E+10
       27.720 -2.2490E-15  1.5858E-05 -2.4163E-06 -5.6225E-08      4929.6
1.1397E+10
       28.050 -9.8197E-15  6.7307E-06 -1.8189E-06 -2.4549E-07      4929.6
1.1397E+10
       28.380 -8.1294E-15  1.4527E-06 -9.3037E-07 -2.0324E-07      4929.6
1.1397E+10
       28.710 -4.4403E-15 -6.3831E-07 -3.0817E-07 -1.1101E-07      4929.6
1.1397E+10
       29.040 -1.6294E-15 -9.8851E-07 -7.7273E-09 -4.0734E-08      4929.6
1.1397E+10
       29.370 -1.7862E-16 -6.9983E-07  8.1769E-08 -4.4656E-09      4929.6
1.1397E+10
       29.700  3.0920E-16 -3.4105E-07  7.5305E-08  7.7300E-09      4929.6
1.1397E+10
       30.030  3.2776E-16 -1.0345E-07  4.3776E-08  8.1939E-09      4929.6
1.1397E+10
       30.360  2.0397E-16  5.6624E-09  1.7455E-08  5.0992E-09      4929.6
1.1397E+10
       30.690  8.7973E-17  3.4813E-08  3.0043E-09  2.1993E-09      4929.6
1.1397E+10
       31.020  1.9878E-17  2.9471E-08 -2.3343E-09  4.9694E-10      4929.6
1.1397E+10
       31.350 -7.6681E-18  1.6332E-08 -2.9387E-09 -1.9170E-10      4929.6
1.1397E+10
       31.680 -1.2742E-17  6.1984E-09 -1.9284E-09 -3.1855E-10      4929.6
1.1397E+10
       32.010 -9.2869E-18  1.0593E-09 -8.3800E-10 -2.3217E-10      4929.6
1.1397E+10
       32.340 -4.3744E-18 -4.3914E-10 -1.6176E-10 -1.0936E-10      4929.6
1.1397E+10
       32.670 -6.6196E-20 -2.2257E-10  5.5527E-11 -3.8099E-13      4929.6
1.1397E+10
       33.000  3.9358E-18  1.1198E-24  2.8206E-25  2.8425E-11      4929.6
1.1397E+10
```

Rear Abutment – Pinned Group Outputs

```
================================================================================

                  GROUP Version 2022.12.10

                    License ID : 500128013

                  License Type : (Network License)

                   Analysis of A Group of Piles
                Subjected to Axial and Lateral Loading

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================================================================================


     This model was prepared by:
     Keith Almasi



     Path to file locations      :
P:\PR61289\115174\400-Engineering\Structures\EngData\Stage 2\Design
Comps\Abutments\Group\Abutment Stage 3 - Revised\
     Name of input data file     : CR5 Rear Abutment Pinned.gp12d
     Name of output echo file    : CR5 Rear Abutment Pinned.gp12e
     Name of output results file : CR5 Rear Abutment Pinned.gp12o
     Name of output summary file : CR5 Rear Abutment Pinned.gp12t
     Name of plot output file    : CR5 Rear Abutment Pinned.gp12p
     Name of runtime file        : CR5 Rear Abutment Pinned.gp12r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  October 21, 2026     Time:  12:20:08



                  *****     COMPUTATION RESULTS     *****



     CR5 over MVRY Abutment
```

***** LOAD CASES RESULTS *****

LOAD CASE : 1
CASE NAME : Constr 1

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
6.15000E+05	1.65000E+05	8.05652E+05

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0154436	0.19589	1.02408E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.010528	0.1959	1.0241E-04	2.4700E+04	1.7365E+04	0.0000	1593.5

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.010528	0.1959	1.0241E-04	2.4700E+04	1.7365E+04	0.0000	1593.5

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1959	0.0000	1.7365E+04	375.82	1593.5	1.1397E+10
0.3300	0.1825	6.6903E+04	1.6239E+04	384.87	3125.7	1.1397E+10
0.6600	0.1692	1.2927E+05	1.5079E+04	393.01	4554.0	1.1397E+10
0.9900	0.1561	1.8698E+05	1.3889E+04	400.21	5875.6	1.1397E+10
1.3200	0.1433	2.3991E+05	1.2672E+04	406.42	7087.7	1.1397E+10
1.6500	0.1308	2.8797E+05	1.1432E+04	411.61	8188.3	1.1397E+10
1.9800	0.1186	3.3107E+05	1.0174E+04	415.74	9175.2	1.1397E+10
2.3100	0.1070	3.6914E+05	8902.1	418.78	1.0047E+04	1.1397E+10
2.6400	9.5819E-02	4.0214E+05	7620.1	420.69	1.0803E+04	1.1397E+10

```
       2.9700  8.5215E-02  4.3003E+05      6332.9      421.42  1.1441E+04
1.1397E+10
       3.3000  7.5202E-02  4.5280E+05      5045.2      420.94  1.1963E+04
1.1397E+10
       3.6300  6.5812E-02  4.7046E+05      3761.9      419.19  1.2368E+04
1.1397E+10
       3.9600  5.7070E-02  4.8304E+05      2488.1      416.14  1.2656E+04
1.1397E+10
       4.2900  4.8992E-02  4.9059E+05      1229.1      411.73  1.2828E+04
1.1397E+10
       4.6200  4.1589E-02  4.9316E+05     -9.6297      405.90  1.2887E+04
1.1397E+10
       4.9500  3.4865E-02  4.9086E+05     -1222.4      398.60  1.2835E+04
1.1397E+10
       5.2800  2.8816E-02  4.8380E+05     -2403.1      389.74  1.2673E+04
1.1397E+10
       5.6100  2.3433E-02  4.7211E+05     -3545.6      379.25  1.2405E+04
1.1397E+10
       5.9400  1.8700E-02  4.5596E+05     -4643.0      367.03  1.2035E+04
1.1397E+10
       6.2700  1.4594E-02  4.3555E+05     -5688.4      352.93  1.1568E+04
1.1397E+10
       6.6000  1.1087E-02  4.1110E+05     -6673.9      336.80  1.1008E+04
1.1397E+10
       6.9300  8.1456E-03  3.8286E+05     -7591.0      318.38  1.0361E+04
1.1397E+10
       7.2600  5.7312E-03  3.5111E+05     -8429.9      297.29      9634.2
1.1397E+10
       7.5900  3.7999E-03  3.1620E+05     -9178.6      272.88      8834.7
1.1397E+10
       7.9200  2.3037E-03  2.7850E+05     -9821.6      243.87      7971.4
1.1397E+10
       8.2500  1.1906E-03  2.3848E+05 -1.0334E+04      207.14      7054.8
1.1397E+10
       8.5800  4.0574E-04  1.9670E+05 -1.0663E+04      150.74      6098.1
1.1397E+10
       8.9100 -1.0852E-04  1.5406E+05 -1.0131E+04     -227.18      5121.6
1.1397E+10
       9.2400 -4.1081E-04  1.1648E+05     -8913.7     -195.82      4261.0
1.1397E+10
       9.5700 -5.5283E-04  8.3472E+04     -7736.0     -206.97      3505.1
1.1397E+10
       9.9000 -5.7999E-04  5.5214E+04     -6528.6     -210.82      2858.0
1.1397E+10
       10.230 -5.3119E-04  3.1765E+04     -5317.0     -209.11      2321.0
1.1397E+10
       10.560 -4.3868E-04  1.3100E+04     -4121.3     -202.79      1893.5
1.1397E+10
       10.890 -3.2814E-04     -880.61     -2958.9     -192.28      1613.7
1.1397E+10
       11.220 -2.1882E-04 -1.0340E+04     -1846.6     -177.49      1830.3
```

1.1397E+10
11.550 -1.2372E-04 -1.5510E+04 -802.80 -157.66 1948.7
1.1397E+10
11.880 -4.9969E-05 -1.6702E+04 146.71 -129.90 1976.0
1.1397E+10
12.210 8.0448E-07 -1.4351E+04 741.23 21.634 1922.2
1.1397E+10
12.540 3.1831E-05 -1.0834E+04 853.96 113.43 1841.6
1.1397E+10
12.870 4.7951E-05 -7589.3 755.05 128.52 1767.3
1.1397E+10
13.200 5.3628E-05 -4854.5 616.20 133.60 1704.7
1.1397E+10
13.530 5.2626E-05 -2709.1 467.40 133.55 1655.6
1.1397E+10
13.860 4.7896E-05 -1152.5 325.26 130.24 1619.9
1.1397E+10
14.190 4.1581E-05 -132.77 200.39 124.83 1596.6
1.1397E+10
14.520 3.5083E-05 434.83 99.152 118.29 1603.5
1.1397E+10
14.850 2.9183E-05 652.82 24.359 111.48 1608.5
1.1397E+10
15.180 2.4181E-05 628.02 -24.321 105.11 1607.9
1.1397E+10
15.510 2.0044E-05 460.42 -49.469 99.595 1604.1
1.1397E+10
15.840 1.6540E-05 236.42 -52.382 93.876 1598.9
1.1397E+10
16.170 1.3361E-05 45.715 -33.269 88.471 1594.6
1.1397E+10
16.500 1.0245E-05 -26.920 7.7703 82.802 1594.1
1.1397E+10
16.830 7.0922E-06 107.41 73.913 75.792 1596.0
1.1397E+10
17.160 4.0872E-06 558.62 67.706 23.342 1606.3
1.1397E+10
17.490 1.8507E-06 643.77 -4.8135 13.284 1608.3
1.1397E+10
17.820 5.0007E-07 520.59 -39.675 4.3228 1605.4
1.1397E+10
18.150 -1.3427E-07 329.60 -45.546 -1.3577 1601.1
1.1397E+10
18.480 -3.1511E-07 159.88 -35.634 -3.6483 1597.2
1.1397E+10
18.810 -2.7596E-07 47.377 -21.283 -3.5998 1594.6
1.1397E+10
19.140 -1.7162E-07 -8.6814 -9.2246 -2.4904 1593.7
1.1397E+10
19.470 -7.9225E-08 -25.686 -1.7872 -1.2658 1594.1
1.1397E+10

```
       19.800 -2.2172E-08     -22.840      1.4849     -0.3868      1594.0
1.1397E+10
       20.130  3.4543E-09     -13.928      2.1214  6.5325E-02      1593.8
1.1397E+10
       20.460  9.9170E-09     -6.0392      1.5919      0.2021      1593.7
1.1397E+10
       20.790  8.0701E-09     -1.3196      0.8428      0.1763      1593.6
1.1397E+10
       21.120  4.4075E-09      0.6356      0.2903      0.1027      1593.5
1.1397E+10
       21.450  1.6195E-09      0.9796  7.3919E-03  4.0127E-02      1593.5
1.1397E+10
       21.780  1.7922E-10      0.6942 -8.0931E-02  4.4805E-03      1593.5
1.1397E+10
       22.110 -3.0580E-10      0.3386 -7.4665E-02 -7.6449E-03      1593.5
1.1397E+10
       22.440 -3.2488E-10      0.1029 -4.3446E-02 -8.1220E-03      1593.5
1.1397E+10
       22.770 -2.0238E-10 -5.4675E-03 -1.7347E-02 -5.0595E-03      1593.5
1.1397E+10
       23.100 -8.7399E-11 -3.4495E-02 -3.0032E-03 -2.1850E-03      1593.5
1.1397E+10
       23.430 -1.9883E-11 -2.9257E-02  2.3073E-03 -4.9707E-04      1593.5
1.1397E+10
       23.760  7.3774E-12 -1.6224E-02  2.9263E-03  1.8443E-04      1593.5
1.1397E+10
       24.090  1.2315E-11 -6.0818E-03  1.9515E-03  3.0787E-04      1593.5
1.1397E+10
       24.420  8.8837E-12 -7.6759E-04  9.0222E-04  2.2209E-04      1593.5
1.1397E+10
       24.750  4.3966E-12  1.0639E-03  2.4484E-04  1.0991E-04      1593.5
1.1397E+10
       25.080  1.3733E-12  1.1718E-03 -4.0767E-05  3.4334E-05      1593.5
1.1397E+10
       25.410 -3.7600E-14  7.4115E-04 -1.0689E-04 -9.4000E-07      1593.5
1.1397E+10
       25.740 -4.2877E-13  3.2526E-04 -8.3802E-05 -1.0719E-05      1593.5
1.1397E+10
       26.070 -3.7240E-13  7.7449E-05 -4.4144E-05 -9.3100E-06      1593.5
1.1397E+10
       26.400 -2.0947E-13 -2.4367E-05 -1.5342E-05 -5.2367E-06      1593.5
1.1397E+10
       26.730 -8.0061E-14 -4.4064E-05 -1.0100E-06 -2.0015E-06      1593.5
1.1397E+10
       27.060 -1.1285E-14 -3.2371E-05  3.5117E-06 -2.8212E-07      1593.5
1.1397E+10
       27.390  1.2950E-14 -1.6254E-05  3.4292E-06  3.2376E-07      1593.5
1.1397E+10
       27.720  1.4822E-14 -5.2126E-06  2.0545E-06  3.7054E-07      1593.5
1.1397E+10
       28.050  9.5209E-15  1.7942E-08  8.4952E-07  2.3802E-07      1593.5
```

```
1.1397E+10
       28.380  4.2447E-15  1.5159E-06  1.6812E-07  1.0612E-07      1593.5
1.1397E+10
       28.710  1.0543E-15  1.3497E-06 -9.4175E-08  2.6356E-08      1593.5
1.1397E+10
       29.040 -2.7910E-16  7.7013E-07 -1.3255E-07 -6.9774E-09      1593.5
1.1397E+10
       29.370 -5.5280E-16  2.9996E-07 -9.1367E-08 -1.3820E-08      1593.5
1.1397E+10
       29.700 -4.1377E-16  4.6505E-08 -4.3522E-08 -1.0344E-08      1593.5
1.1397E+10
       30.030 -2.1075E-16 -4.4739E-08 -1.2608E-08 -5.2689E-09      1593.5
1.1397E+10
       30.360 -6.9296E-17 -5.3357E-08  1.2547E-09 -1.7324E-09      1593.5
1.1397E+10
       30.690 -1.2547E-18 -3.4807E-08  4.7470E-09 -3.1368E-11      1593.5
1.1397E+10
       31.020  1.8895E-17 -1.5763E-08  3.8738E-09  4.7237E-10      1593.5
1.1397E+10
       31.350  1.7355E-17 -4.1267E-09  2.0794E-09  4.3388E-10      1593.5
1.1397E+10
       31.680  1.0137E-17  7.0605E-10  7.1857E-10  2.5343E-10      1593.5
1.1397E+10
       32.010  3.8906E-18  1.5647E-09  2.4206E-11  9.7265E-11      1593.5
1.1397E+10
       32.340 -2.0295E-19  8.9802E-10 -1.5833E-10 -5.0739E-12      1593.5
1.1397E+10
       32.670 -3.0609E-18  3.1089E-10 -1.1340E-10 -1.7617E-11      1593.5
1.1397E+10
       33.000 -5.4910E-18      0.0000 -2.4795E-26 -3.9657E-11      1593.5
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.015444      0.1959  1.0241E-04  3.6060E+04      4414.7      0.0000
     2326.5


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------
```

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.015444	0.1959	1.0241E-04	3.6060E+04	4414.7	0.0000	2326.5

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1959	0.0000	4414.7	122.25	2326.5	1.1397E+10
0.3300	0.1872	1.7590E+04	4303.3	125.99	2729.3	1.1397E+10
0.6600	0.1785	3.4709E+04	4177.5	129.57	3121.3	1.1397E+10
0.9900	0.1699	5.1299E+04	4037.8	132.97	3501.2	1.1397E+10
1.3200	0.1613	6.7307E+04	3885.0	136.20	3867.8	1.1397E+10
1.6500	0.1529	8.2682E+04	3719.8	139.24	4219.9	1.1397E+10
1.9800	0.1445	9.7374E+04	3542.9	142.10	4556.4	1.1397E+10
2.3100	0.1363	1.1134E+05	3355.1	144.76	4876.2	1.1397E+10
2.6400	0.1283	1.2453E+05	3157.1	147.22	5178.4	1.1397E+10
2.9700	0.1204	1.3692E+05	2949.8	149.49	5462.0	1.1397E+10
3.3000	0.1127	1.4846E+05	2733.9	151.54	5726.3	1.1397E+10
3.6300	0.1052	1.5912E+05	2510.4	153.38	5970.4	1.1397E+10
3.9600	9.7890E-02	1.6887E+05	2279.9	155.00	6193.8	1.1397E+10
4.2900	9.0845E-02	1.7769E+05	2043.6	156.39	6395.8	1.1397E+10
4.6200	8.4043E-02	1.8556E+05	1802.1	157.56	6575.9	1.1397E+10
4.9500	7.7498E-02	1.9245E+05	1556.5	158.49	6733.6	1.1397E+10

5.2800	7.1216E-02	1.9835E+05	1307.6	159.18	6868.8
1.1397E+10					
5.6100	6.5208E-02	2.0325E+05	1056.6	159.63	6981.0
1.1397E+10					
5.9400	5.9480E-02	2.0714E+05	804.19	159.83	7070.1
1.1397E+10					
6.2700	5.4036E-02	2.1002E+05	551.56	159.77	7136.0
1.1397E+10					
6.6000	4.8882E-02	2.1189E+05	299.68	159.45	7178.9
1.1397E+10					
6.9300	4.4019E-02	2.1275E+05	49.586	158.86	7198.7
1.1397E+10					
7.2600	3.9448E-02	2.1262E+05	-197.64	158.00	7195.7
1.1397E+10					
7.5900	3.5171E-02	2.1151E+05	-440.93	156.87	7170.1
1.1397E+10					
7.9200	3.1184E-02	2.0943E+05	-679.16	155.45	7122.5
1.1397E+10					
8.2500	2.7486E-02	2.0641E+05	-911.20	153.74	7053.3
1.1397E+10					
8.5800	2.4071E-02	2.0247E+05	-1135.9	151.74	6963.1
1.1397E+10					
8.9100	2.0935E-02	1.9765E+05	-1352.1	149.44	6852.7
1.1397E+10					
9.2400	1.8071E-02	1.9198E+05	-1558.5	146.83	6722.8
1.1397E+10					
9.5700	1.5471E-02	1.8550E+05	-1754.0	143.90	6574.5
1.1397E+10					
9.9000	1.3127E-02	1.7826E+05	-1937.3	140.66	6408.8
1.1397E+10					
10.230	1.1027E-02	1.7032E+05	-2107.1	137.09	6226.8
1.1397E+10					
10.560	9.1624E-03	1.6172E+05	-2262.0	133.18	6029.9
1.1397E+10					
10.890	7.5200E-03	1.5253E+05	-2400.8	128.92	5819.4
1.1397E+10					
11.220	6.0874E-03	1.4281E+05	-2522.1	124.31	5597.0
1.1397E+10					
11.550	4.8513E-03	1.3265E+05	-2624.3	119.33	5364.2
1.1397E+10					
11.880	3.7977E-03	1.2211E+05	-2706.1	113.97	5122.9
1.1397E+10					
12.210	2.9121E-03	1.1129E+05	-2765.9	108.22	4875.0
1.1397E+10					
12.540	2.1797E-03	1.0026E+05	-2802.1	102.06	4622.6
1.1397E+10					
12.870	1.5852E-03	8.9142E+04	-2813.0	95.458	4367.9
1.1397E+10					
13.200	1.1134E-03	7.8024E+04	-2796.9	88.394	4113.3
1.1397E+10					
13.530	7.4894E-04	6.7021E+04	-2751.7	80.823	3861.3

1.1397E+10
13.860 4.7669E-04 5.6253E+04 -2675.5 72.685 3614.7
1.1397E+10
14.190 2.8183E-04 4.5847E+04 -2565.8 63.880 3376.4
1.1397E+10
14.520 1.5006E-04 3.5944E+04 -2419.5 54.230 3149.6
1.1397E+10
14.850 6.7751E-05 2.6693E+04 -2232.5 43.340 2937.7
1.1397E+10
15.180 2.2167E-05 1.8267E+04 -1997.6 30.049 2744.8
1.1397E+10
15.510 1.7158E-06 1.0874E+04 -1692.2 7.6859 2575.5
1.1397E+10
15.840 -3.7729E-06 4865.6 -1231.7 -48.258 2437.9
1.1397E+10
16.170 -2.5667E-06 1119.2 -698.01 -29.286 2352.1
1.1397E+10
16.500 1.7935E-07 -662.71 -287.06 13.735 2341.6
1.1397E+10
16.830 2.0136E-06 -1154.5 15.381 25.519 2352.9
1.1397E+10
17.160 2.2593E-06 -540.97 129.39 12.903 2338.8
1.1397E+10
17.490 1.7606E-06 -129.75 78.816 12.637 2329.4
1.1397E+10
17.820 1.0834E-06 83.295 35.250 9.3657 2328.4
1.1397E+10
18.150 5.2086E-07 149.47 6.2781 5.2665 2329.9
1.1397E+10
18.480 1.6395E-07 133.05 -7.9081 1.8982 2329.5
1.1397E+10
18.810 -9.8879E-09 86.857 -11.411 -0.1290 2328.4
1.1397E+10
19.140 -6.4219E-08 42.682 -9.3106 -0.9319 2327.4
1.1397E+10
19.470 -5.9823E-08 13.118 -5.5729 -0.9558 2326.8
1.1397E+10
19.800 -3.7377E-08 -1.4565 -2.3894 -0.6520 2326.5
1.1397E+10
20.130 -1.6934E-08 -5.8068 -0.4643 -0.3202 2326.6
1.1397E+10
20.460 -4.4814E-09 -5.1349 0.3506 -9.1320E-02 2326.6
1.1397E+10
20.790 9.0609E-10 -3.0306 0.4922 1.9793E-02 2326.5
1.1397E+10
21.120 2.1236E-09 -1.2366 0.3550 4.9503E-02 2326.5
1.1397E+10
21.450 1.6395E-09 -0.2189 0.1766 4.0624E-02 2326.5
1.1397E+10
21.780 8.5433E-10 0.1618 5.3846E-02 2.1358E-02 2326.5
1.1397E+10

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       22.110  2.9181E-10      0.2076 -2.8879E-03  7.2953E-03      2326.5
1.1397E+10
       22.440  1.4990E-11      0.1390 -1.8075E-02  3.7476E-04      2326.5
1.1397E+10
       22.770 -7.0568E-11  6.4495E-02 -1.5324E-02 -1.7642E-03      2326.5
1.1397E+10
       23.100 -6.7385E-11  1.7646E-02 -8.4950E-03 -1.6846E-03      2326.5
1.1397E+10
       23.430 -3.9921E-11 -2.7861E-03 -3.1833E-03 -9.9803E-04      2326.5
1.1397E+10
       23.760 -1.6291E-11 -7.5676E-03 -4.0084E-04 -4.0728E-04      2326.5
1.1397E+10
       24.090 -3.0736E-12 -5.9620E-03  5.5771E-04 -7.6840E-05      2326.5
1.1397E+10
       24.420  1.9405E-12 -3.1512E-03  6.1380E-04  4.8512E-05      2326.5
1.1397E+10
       24.750  2.6187E-12 -1.1009E-03  3.8812E-04  6.5468E-05      2326.5
1.1397E+10
       25.080  1.7822E-12 -7.7249E-05  1.7028E-04  4.4555E-05      2326.5
1.1397E+10
       25.410  8.3935E-13  2.4773E-04  4.0510E-05  2.0984E-05      2326.5
1.1397E+10
       25.740  2.3738E-13  2.4364E-04 -1.2789E-05  5.9345E-06      2326.5
1.1397E+10
       26.070 -2.9349E-14  1.4648E-04 -2.3086E-05 -7.3374E-07      2326.5
1.1397E+10
       26.400 -9.4535E-14  6.0812E-05 -1.6954E-05 -2.3634E-06      2326.5
1.1397E+10
       26.730 -7.6048E-14  1.2204E-05 -8.5101E-06 -1.9012E-06      2326.5
1.1397E+10
       27.060 -4.0767E-14 -6.5900E-06 -2.7277E-06 -1.0192E-06      2326.5
1.1397E+10
       27.390 -1.4555E-14 -9.4016E-06  1.0708E-08 -3.6387E-07      2326.5
1.1397E+10
       27.720 -1.2783E-15 -6.5067E-06  7.9445E-07 -3.1957E-08      2326.5
1.1397E+10
       28.050  3.0455E-15 -3.1102E-06  7.0697E-07  7.6137E-08      2326.5
1.1397E+10
       28.380  3.0898E-15 -9.0761E-07  4.0327E-07  7.7244E-08      2326.5
1.1397E+10
       28.710  1.8852E-15  8.3739E-08  1.5701E-07  4.7131E-08      2326.5
1.1397E+10
       29.040  7.9592E-16  3.3600E-07  2.4294E-08  1.9898E-08      2326.5
1.1397E+10
       29.370  1.6891E-16  2.7621E-07 -2.3465E-08  4.2227E-09      2326.5
1.1397E+10
       29.700 -7.8052E-17  1.5019E-07 -2.7962E-08 -1.9513E-09      2326.5
1.1397E+10
       30.030 -1.1836E-16  5.4757E-08 -1.8240E-08 -2.9591E-09      2326.5
1.1397E+10
       30.360 -8.3334E-17  5.7290E-09 -8.2556E-09 -2.0834E-09      2326.5
```

1.1397E+10
30.690 -4.0421E-17 -1.0630E-08 -2.1297E-09 -1.0105E-09 2326.5
1.1397E+10
31.020 -1.2133E-17 -1.1141E-08 4.7173E-10 -3.0333E-10 2326.5
1.1397E+10
31.350 8.2528E-19 -6.8949E-09 1.0315E-09 2.0632E-11 2326.5
1.1397E+10
31.680 4.2969E-18 -2.9721E-09 7.7793E-10 1.0742E-10 2326.5
1.1397E+10
32.010 3.6790E-18 -7.3377E-10 3.8313E-10 9.1974E-11 2326.5
1.1397E+10
32.340 2.0515E-18 6.2330E-11 9.9472E-11 5.1286E-11 2326.5
1.1397E+10
32.670 5.0971E-19 5.4169E-11 -7.8836E-12 2.9337E-12 2326.5
1.1397E+10
33.000 -9.5750E-19 -5.5989E-25 -5.5520E-27 -6.9153E-12 2326.5
1.1397E+10

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.020359 0.1959 1.0241E-04 4.7420E+04 3135.0 0.0000
3059.4

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.020359 0.1959 1.0241E-04 4.7420E+04 3135.0 0.0000
3059.4

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL
FLEXURAL
y-DIR MOMENT FORCE REACTION STRESS

RIGIDITY

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1959	0.0000	3135.0	104.14	3059.4	1.1397E+10
0.3300	0.1880	1.2726E+04	3096.2	107.44	3350.8	1.1397E+10
0.6600	0.1801	2.5271E+04	3044.6	110.62	3638.1	1.1397E+10
0.9900	0.1722	3.7586E+04	2980.7	113.66	3920.1	1.1397E+10
1.3200	0.1644	4.9621E+04	2905.0	116.57	4195.7	1.1397E+10
1.6500	0.1567	6.1330E+04	2818.1	119.35	4463.9	1.1397E+10
1.9800	0.1491	7.2669E+04	2720.4	121.98	4723.6	1.1397E+10
2.3100	0.1415	8.3596E+04	2612.6	124.47	4973.8	1.1397E+10
2.6400	0.1341	9.4071E+04	2495.2	126.82	5213.7	1.1397E+10
2.9700	0.1268	1.0406E+05	2368.8	129.00	5442.4	1.1397E+10
3.3000	0.1196	1.1352E+05	2234.1	131.04	5659.0	1.1397E+10
3.6300	0.1126	1.2242E+05	2091.6	132.91	5862.9	1.1397E+10
3.9600	0.1058	1.3074E+05	1942.0	134.62	6053.4	1.1397E+10
4.2900	9.9133E-02	1.3844E+05	1786.0	136.17	6229.8	1.1397E+10
4.6200	9.2668E-02	1.4551E+05	1624.3	137.54	6391.6	1.1397E+10
4.9500	8.6404E-02	1.5191E+05	1457.4	138.74	6538.2	1.1397E+10
5.2800	8.0348E-02	1.5763E+05	1286.1	139.76	6669.3	1.1397E+10
5.6100	7.4510E-02	1.6266E+05	1111.2	140.60	6784.4	1.1397E+10
5.9400	6.8895E-02	1.6698E+05	933.29	141.25	6883.3	1.1397E+10
6.2700	6.3510E-02	1.7057E+05	753.16	141.72	6965.7	1.1397E+10
6.6000	5.8359E-02	1.7344E+05	571.56	142.00	7031.3	1.1397E+10
6.9300	5.3448E-02	1.7558E+05	389.26	142.08	7080.3	1.1397E+10
7.2600	4.8778E-02	1.7698E+05	207.03	141.96	7112.4	1.1397E+10

7.5900	4.4351E-02	1.7765E+05	25.672	141.64	7127.7
1.1397E+10					
7.9200	4.0169E-02	1.7759E+05	-154.02	141.11	7126.4
1.1397E+10					
8.2500	3.6231E-02	1.7681E+05	-331.22	140.38	7108.6
1.1397E+10					
8.5800	3.2536E-02	1.7533E+05	-505.10	139.44	7074.6
1.1397E+10					
8.9100	2.9083E-02	1.7315E+05	-674.82	138.28	7024.7
1.1397E+10					
9.2400	2.5868E-02	1.7030E+05	-839.51	136.90	6959.4
1.1397E+10					
9.5700	2.2887E-02	1.6680E+05	-998.33	135.31	6879.2
1.1397E+10					
9.9000	2.0136E-02	1.6267E+05	-1150.4	133.49	6784.6
1.1397E+10					
10.230	1.7609E-02	1.5794E+05	-1294.8	131.44	6676.3
1.1397E+10					
10.560	1.5299E-02	1.5264E+05	-1430.6	129.16	6555.0
1.1397E+10					
10.890	1.3198E-02	1.4682E+05	-1556.9	126.65	6421.6
1.1397E+10					
11.220	1.1300E-02	1.4050E+05	-1672.9	123.91	6276.9
1.1397E+10					
11.550	9.5956E-03	1.3374E+05	-1777.5	120.93	6122.1
1.1397E+10					
11.880	8.0749E-03	1.2657E+05	-1869.8	117.70	5958.1
1.1397E+10					
12.210	6.7283E-03	1.1906E+05	-1948.9	114.24	5786.0
1.1397E+10					
12.540	5.5456E-03	1.1126E+05	-2013.8	110.53	5607.3
1.1397E+10					
12.870	4.5159E-03	1.0322E+05	-2063.5	106.57	5423.2
1.1397E+10					
13.200	3.6283E-03	9.5007E+04	-2097.0	102.36	5235.1
1.1397E+10					
13.530	2.8714E-03	8.6689E+04	-2113.3	97.893	5044.6
1.1397E+10					
13.860	2.2337E-03	7.8336E+04	-2111.5	93.171	4853.3
1.1397E+10					
14.190	1.7039E-03	7.0022E+04	-2090.4	88.189	4662.9
1.1397E+10					
14.520	1.2704E-03	6.1825E+04	-2049.1	82.939	4475.2
1.1397E+10					
14.850	9.2195E-04	5.3830E+04	-1986.4	77.414	4292.1
1.1397E+10					
15.180	6.4759E-04	4.6122E+04	-1901.3	71.600	4115.6
1.1397E+10					
15.510	4.3668E-04	3.8794E+04	-1792.6	65.472	3947.8
1.1397E+10					
15.840	2.7915E-04	3.1943E+04	-1657.5	58.309	3790.9

1.1397E+10
16.170 1.6557E-04 2.5680E+04 -1493.2 50.728 3647.5
1.1397E+10
16.500 8.7332E-05 2.0125E+04 -1298.0 42.690 3520.3
1.1397E+10
16.830 3.6781E-05 1.5405E+04 -1068.9 33.598 3412.2
1.1397E+10
17.160 7.4264E-06 1.1663E+04 -1029.4 42.413 3326.5
1.1397E+10
17.490 -5.8802E-06 7255.0 -1029.8 -42.206 3225.5
1.1397E+10
17.820 -9.2043E-06 3508.3 -788.65 -79.566 3139.7
1.1397E+10
18.150 -7.7013E-06 1009.0 -476.93 -77.869 3082.5
1.1397E+10
18.480 -4.8100E-06 -269.24 -212.49 -55.689 3065.6
1.1397E+10
18.810 -2.2891E-06 -674.17 -43.099 -29.860 3074.8
1.1397E+10
19.140 -6.9589E-07 -610.78 36.019 -10.098 3073.4
1.1397E+10
19.470 5.6941E-08 -389.00 54.212 0.9098 3068.3
1.1397E+10
19.800 2.7453E-07 -181.47 42.929 4.7890 3063.5
1.1397E+10
20.130 2.4243E-07 -49.018 24.369 4.5846 3060.5
1.1397E+10
20.460 1.4288E-07 11.541 9.5266 2.9116 3059.7
1.1397E+10
20.790 5.9213E-08 26.441 1.2006 1.2935 3060.0
1.1397E+10
21.120 1.1928E-08 21.056 -1.9111 0.2780 3059.9
1.1397E+10
21.450 -6.3862E-09 11.309 -2.1483 -0.1582 3059.6
1.1397E+10
21.780 -9.1399E-09 4.0425 -1.3826 -0.2285 3059.5
1.1397E+10
22.110 -6.3314E-09 0.3590 -0.6167 -0.1583 3059.4
1.1397E+10
22.440 -3.0289E-09 -0.8423 -0.1534 -7.5722E-02 3059.4
1.1397E+10
22.770 -8.8531E-10 -0.8561 4.0358E-02 -2.2133E-02 3059.4
1.1397E+10
23.100 8.0258E-11 -0.5228 8.0208E-02 2.0065E-03 3059.4
1.1397E+10
23.430 3.2647E-10 -0.2209 6.0075E-02 8.1618E-03 3059.4
1.1397E+10
23.760 2.6870E-10 -4.7028E-02 3.0614E-02 6.7174E-03 3059.4
1.1397E+10
24.090 1.4621E-10 2.1539E-02 1.0076E-02 3.6553E-03 3059.4
1.1397E+10

```
       24.420  5.3366E-11  3.2782E-02  1.9660E-04  1.3342E-03      3059.4
1.1397E+10
       24.750  5.6256E-12  2.3102E-02 -2.7235E-03  1.4064E-04      3059.4
1.1397E+10
       25.080 -1.0328E-11  1.1215E-02 -2.4907E-03 -2.5819E-04      3059.4
1.1397E+10
       25.410 -1.0849E-11  3.3764E-03 -1.4425E-03 -2.7123E-04      3059.4
1.1397E+10
       25.740 -6.7250E-12 -2.0934E-04 -5.7256E-04 -1.6813E-04      3059.4
1.1397E+10
       26.070 -2.8889E-12 -1.1586E-03 -9.6678E-05 -7.2221E-05      3059.4
1.1397E+10
       26.400 -6.4691E-13 -9.7532E-04  7.8342E-05 -1.6173E-05      3059.4
1.1397E+10
       26.730  2.5305E-13 -5.3832E-04  9.7838E-05  6.3263E-06      3059.4
1.1397E+10
       27.060  4.1231E-13 -2.0050E-04  6.4902E-05  1.0308E-05      3059.4
1.1397E+10
       27.390  2.9570E-13 -2.4301E-05  2.9856E-05  7.3924E-06      3059.4
1.1397E+10
       27.720  1.4565E-13  3.5972E-05  8.0091E-06  3.6412E-06      3059.4
1.1397E+10
       28.050  4.5090E-14  3.9143E-05 -1.4324E-06  1.1273E-06      3059.4
1.1397E+10
       28.380 -1.6081E-15  2.4634E-05 -3.5848E-06 -4.0204E-08      3059.4
1.1397E+10
       28.710 -1.4412E-14  1.0754E-05 -2.7918E-06 -3.6029E-07      3059.4
1.1397E+10
       29.040 -1.2418E-14  2.5236E-06 -1.4637E-06 -3.1045E-07      3059.4
1.1397E+10
       29.370 -6.9519E-15 -8.3893E-07 -5.0492E-07 -1.7380E-07      3059.4
1.1397E+10
       29.700 -2.6403E-15 -1.4759E-06 -3.0107E-08 -6.6008E-08      3059.4
1.1397E+10
       30.030 -3.5945E-16 -1.0777E-06  1.1838E-07 -8.9862E-09      3059.4
1.1397E+10
       30.360  4.3860E-16 -5.3847E-07  1.1446E-07  1.0965E-08      3059.4
1.1397E+10
       30.690  4.9574E-16 -1.7117E-07  6.8214E-08  1.2393E-08      3059.4
1.1397E+10
       31.020  3.1735E-16  1.7931E-09  2.7966E-08  7.9339E-09      3059.4
1.1397E+10
       31.350  1.4144E-16  5.0340E-08  5.2559E-09  3.5360E-09      3059.4
1.1397E+10
       31.680  3.4793E-17  4.3433E-08 -3.4677E-09  8.6984E-10      3059.4
1.1397E+10
       32.010 -1.2093E-17  2.2883E-08 -4.5914E-09 -3.0232E-10      3059.4
1.1397E+10
       32.340 -2.7493E-17  7.0726E-09 -2.6319E-09 -6.8733E-10      3059.4
1.1397E+10
       32.670 -3.3162E-17  2.0398E-09 -8.9306E-10 -1.9087E-10      3059.4
```

```
1.1397E+10
       33.000 -3.6024E-17  4.4791E-24 -3.7916E-26 -2.6017E-10      3059.4
1.1397E+10



     LOAD CASE :     2
     CASE NAME : Strength I (maxVmaxH), Contraction

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR

                1           1.0000       1.0000
                2           1.0000       1.0000
                3           1.0000       1.0000



     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                3.00210E+06       3.85300E+05      -4.17202E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                    0.11274           0.95396      -9.08771E-04


          NUMBER OF ITERATIONS =   7



     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE


       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
```

```
      ---------------------------------------

       DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

           0.1564      0.9540 -9.0877E-04  1.9393E+05  3.7323E+04  8.0688E-08
 1.2512E+04


      THE PILE COORDINATE SYSTEM (LOCAL AXES)
      ---------------------------------------

       DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

           0.1564      0.9540 -9.0877E-04  1.9393E+05  3.7323E+04  8.0688E-08
 1.2512E+04


       * EFFECTS FOR LATERALLY LOADED PILE *


       x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
      FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
      0.0000      0.9540 -8.0688E-08  3.7323E+04      558.29  1.2512E+04
1.1397E+10
      0.3300      0.9029  1.5416E+05  3.5501E+04      573.99  1.6042E+04
1.1397E+10
      0.6600      0.8520  3.0095E+05  3.3618E+04      588.73  1.9404E+04
1.1397E+10
      0.9900      0.8015  4.4008E+05  3.1680E+04      602.46  2.2590E+04
1.1397E+10
      1.3200      0.7516  5.7131E+05  2.9689E+04      615.15  2.5595E+04
1.1397E+10
      1.6500      0.7025  6.9441E+05  2.7649E+04      626.77  2.8414E+04
1.1397E+10
      1.9800      0.6544  8.0915E+05  2.5566E+04      637.28  3.1042E+04
1.1397E+10
      2.3100      0.6074  9.1535E+05  2.3444E+04      646.64  3.3474E+04
1.1397E+10
      2.6400      0.5616  1.0128E+06  2.1287E+04      654.83  3.5706E+04
1.1397E+10
      2.9700      0.5172  1.1014E+06  1.9099E+04      661.79  3.7735E+04
1.1397E+10
      3.3000      0.4744  1.1810E+06  1.6887E+04      667.50  3.9557E+04
```

1.1397E+10
3.6300 0.4331 1.2515E+06 1.4655E+04 671.92 4.1171E+04
1.1397E+10
3.9600 0.3936 1.3127E+06 1.2408E+04 675.01 4.2574E+04
1.1397E+10
4.2900 0.3559 1.3647E+06 1.0151E+04 676.71 4.3764E+04
1.1397E+10
4.6200 0.3201 1.4074E+06 7890.5 677.01 4.4742E+04
1.1397E+10
4.9500 0.2862 1.4407E+06 5631.7 675.84 4.5505E+04
1.1397E+10
5.2800 0.2543 1.4647E+06 3380.4 673.15 4.6055E+04
1.1397E+10
5.6100 0.2244 1.4795E+06 1142.9 668.91 4.6393E+04
1.1397E+10
5.9400 0.1966 1.4850E+06 -1074.6 663.04 4.6519E+04
1.1397E+10
6.2700 0.1708 1.4814E+06 -3265.5 655.49 4.6436E+04
1.1397E+10
6.6000 0.1470 1.4687E+06 -5423.1 646.19 4.6147E+04
1.1397E+10
6.9300 0.1253 1.4472E+06 -7540.2 635.05 4.5655E+04
1.1397E+10
7.2600 0.1055 1.4171E+06 -9609.3 621.99 4.4964E+04
1.1397E+10
7.5900 8.7703E-02 1.3784E+06 -1.1623E+04 606.88 4.4079E+04
1.1397E+10
7.9200 7.1791E-02 1.3316E+06 -1.3572E+04 589.60 4.3005E+04
1.1397E+10
8.2500 5.7712E-02 1.2768E+06 -1.5448E+04 569.95 4.1750E+04
1.1397E+10
8.5800 4.5390E-02 1.2143E+06 -1.7241E+04 547.69 4.0321E+04
1.1397E+10
8.9100 3.4738E-02 1.1447E+06 -1.8940E+04 522.47 3.8725E+04
1.1397E+10
9.2400 2.5661E-02 1.0681E+06 -2.0533E+04 493.77 3.6973E+04
1.1397E+10
9.5700 1.8054E-02 9.8527E+05 -2.2003E+04 460.72 3.5075E+04
1.1397E+10
9.9000 1.1803E-02 8.9657E+05 -2.3330E+04 421.71 3.3044E+04
1.1397E+10
10.230 6.7854E-03 8.0268E+05 -2.4485E+04 373.21 3.0894E+04
1.1397E+10
10.560 2.8722E-03 7.0439E+05 -2.5406E+04 304.30 2.8643E+04
1.1397E+10
10.890 -7.1849E-05 6.0279E+05 -2.4986E+04 -304.76 2.6316E+04
1.1397E+10
11.220 -2.1865E-03 5.0748E+05 -2.3361E+04 -303.58 2.4133E+04
1.1397E+10
11.550 -3.6028E-03 4.1845E+05 -2.1652E+04 -347.57 2.2095E+04
1.1397E+10

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       11.880 -4.4434E-03  3.3643E+05 -1.9808E+04     -371.83  2.0216E+04
1.1397E+10
       12.210 -4.8211E-03  2.6181E+05 -1.7889E+04     -385.66  1.8507E+04
1.1397E+10
       12.540 -4.8386E-03  1.9483E+05 -1.5928E+04     -392.42  1.6973E+04
1.1397E+10
       12.870 -4.5880E-03  1.3561E+05 -1.3952E+04     -393.73  1.5617E+04
1.1397E+10
       13.200 -4.1507E-03  8.4197E+04 -1.1979E+04     -390.48  1.4440E+04
1.1397E+10
       13.530 -3.5977E-03  4.0544E+04 -1.0028E+04     -383.18  1.3440E+04
1.1397E+10
       13.860 -2.9888E-03      4551.3     -8112.5     -372.14  1.2616E+04
1.1397E+10
       14.190 -2.3737E-03 -2.3945E+04     -6248.0     -357.52  1.3060E+04
1.1397E+10
       14.520 -1.7915E-03 -4.5165E+04     -4448.4     -339.37  1.3546E+04
1.1397E+10
       14.850 -1.2715E-03 -5.9390E+04     -2727.9     -317.60  1.3872E+04
1.1397E+10
       15.180 -8.3320E-04 -6.6956E+04     -1101.0     -292.04  1.4045E+04
1.1397E+10
       15.510 -4.8702E-04 -6.8262E+04      416.33     -262.29  1.4075E+04
1.1397E+10
       15.840 -2.3477E-04 -6.3775E+04      1801.2     -225.12  1.3972E+04
1.1397E+10
       16.170 -7.0259E-05 -5.4078E+04      3034.2     -185.60  1.3750E+04
1.1397E+10
       16.500  1.9840E-05 -3.9793E+04      3654.2      84.477  1.3423E+04
1.1397E+10
       16.830  5.5186E-05 -2.5161E+04      3636.1      136.63  1.3088E+04
1.1397E+10
       17.160  5.5912E-05 -1.1002E+04      2943.2      319.32  1.2764E+04
1.1397E+10
       17.490  4.1499E-05     -1847.8      1721.2      297.87  1.2554E+04
1.1397E+10
       17.820  2.4545E-05      2635.8      711.29      212.17  1.2572E+04
1.1397E+10
       18.150  1.1216E-05      3791.5      66.638      113.41  1.2598E+04
1.1397E+10
       18.480  3.1051E-06      3167.7     -229.10      35.951  1.2584E+04
1.1397E+10
       18.810 -6.4754E-07      1979.3     -283.55     -8.4468  1.2557E+04
1.1397E+10
       19.140 -1.6768E-06      922.89     -218.65     -24.332  1.2533E+04
1.1397E+10
       19.470 -1.4361E-06      247.76     -125.04     -22.946  1.2517E+04
1.1397E+10
       19.800 -8.5462E-07     -67.594     -50.089     -14.908  1.2513E+04
1.1397E+10
       20.130 -3.6609E-07     -149.15     -6.8627     -6.9232  1.2515E+04
```

1.1397E+10
20.460 -8.2787E-08 -122.10 10.186 -1.6870 1.2514E+04
1.1397E+10
20.790 3.2520E-08 -68.557 12.119 0.7104 1.2513E+04
1.1397E+10
21.120 5.3497E-08 -26.138 8.2436 1.2471 1.2512E+04
1.1397E+10
21.450 3.8509E-08 -3.2687 3.8851 0.9542 1.2512E+04
1.1397E+10
21.780 1.9024E-08 4.6387 1.0542 0.4756 1.2512E+04
1.1397E+10
22.110 5.9220E-09 5.0866 -0.1807 0.1480 1.2512E+04
1.1397E+10
22.440 -1.8155E-10 3.2114 -0.4648 -4.5387E-03 1.2512E+04
1.1397E+10
22.770 -1.8664E-09 1.4066 -0.3635 -4.6659E-02 1.2512E+04
1.1397E+10
23.100 -1.6159E-09 0.3330 -0.1911 -4.0397E-02 1.2512E+04
1.1397E+10
23.430 -9.0716E-10 -0.1071 -6.6204E-02 -2.2679E-02 1.2512E+04
1.1397E+10
23.760 -3.4581E-10 -0.1916 -4.1817E-03 -8.6453E-03 1.2512E+04
1.1397E+10
24.090 -4.8030E-11 -0.1404 1.5313E-02 -1.2008E-03 1.2512E+04
1.1397E+10
24.420 5.6582E-11 -7.0353E-02 1.4890E-02 1.4146E-03 1.2512E+04
1.1397E+10
24.750 6.4393E-11 -2.2482E-02 8.9018E-03 1.6098E-03 1.2512E+04
1.1397E+10
25.080 4.1271E-11 1.5156E-04 3.6714E-03 1.0318E-03 1.2512E+04
1.1397E+10
25.410 1.8357E-11 6.6048E-03 7.1981E-04 4.5892E-04 1.2512E+04
1.1397E+10
25.740 4.5308E-12 5.8596E-03 -4.1314E-04 1.1327E-04 1.2512E+04
1.1397E+10
26.070 -1.2329E-12 3.3365E-03 -5.7638E-04 -3.0822E-05 1.2512E+04
1.1397E+10
26.400 -2.4057E-12 1.2960E-03 -3.9627E-04 -6.0143E-05 1.2512E+04
1.1397E+10
26.730 -1.7954E-12 1.9817E-04 -1.8832E-04 -4.4885E-05 1.2512E+04
1.1397E+10
27.060 -9.1240E-13 -1.9581E-04 -5.4282E-05 -2.2810E-05 1.2512E+04
1.1397E+10
27.390 -2.9884E-13 -2.3203E-04 5.6750E-06 -7.4710E-06 1.2512E+04
1.1397E+10
27.720 -4.5403E-15 -1.5104E-04 2.0692E-05 -1.1351E-07 1.2512E+04
1.1397E+10
28.050 8.1936E-14 -6.8225E-05 1.6861E-05 2.0484E-06 1.2512E+04
1.1397E+10
28.380 7.4539E-14 -1.7514E-05 9.1157E-06 1.8635E-06 1.2512E+04
1.1397E+10

```
       28.710  4.3043E-14  3.9786E-06  3.2954E-06  1.0761E-06  1.2512E+04
1.1397E+10
       29.040  1.7021E-14  8.5959E-06  3.2217E-07  4.2553E-07  1.2512E+04
1.1397E+10
       29.370  2.8271E-15  6.5379E-06 -6.6033E-07  7.0677E-08  1.2512E+04
1.1397E+10
       29.700 -2.3714E-15  3.3699E-06 -6.8289E-07 -5.9284E-08  1.2512E+04
1.1397E+10
       30.030 -2.9330E-15  1.1306E-06 -4.2032E-07 -7.3326E-08  1.2512E+04
1.1397E+10
       30.360 -1.9391E-15  4.0843E-08 -1.7915E-07 -4.8478E-08  1.2512E+04
1.1397E+10
       30.690 -8.8901E-16 -2.8869E-07 -3.9157E-08 -2.2225E-08  1.2512E+04
1.1397E+10
       31.020 -2.3611E-16 -2.6961E-07  1.6537E-08 -5.9028E-09  1.2512E+04
1.1397E+10
       31.350  4.5817E-17 -1.5790E-07  2.5956E-08  1.1454E-09  1.2512E+04
1.1397E+10
       31.680  1.1049E-16 -6.4105E-08  1.8219E-08  2.7622E-09  1.2512E+04
1.1397E+10
       32.010  8.6955E-17 -1.3611E-08  8.4456E-09  2.1739E-09  1.2512E+04
1.1397E+10
       32.340  4.4693E-17  2.7963E-09  1.9290E-09  1.1173E-09  1.2512E+04
1.1397E+10
       32.670  6.2788E-18  1.6817E-09 -3.5490E-10  3.6138E-11  1.2512E+04
1.1397E+10
       33.000 -2.9822E-17      0.0000  2.7849E-25 -2.1538E-10  1.2512E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.1127      0.9540 -9.0877E-04  1.6518E+05  1.2047E+04      0.0000
 1.0657E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.1127 0.9540 -9.0877E-04 1.6518E+05 1.2047E+04 0.0000 1.0657E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.9540	0.0000	1.2047E+04	181.61	1.0657E+04	1.1397E+10
0.3300	0.9177	5.3099E+04	1.1736E+04	187.48	1.1873E+04	1.1397E+10
0.6600	0.8815	1.0491E+05	1.1402E+04	193.16	1.3059E+04	1.1397E+10
0.9900	0.8455	1.5533E+05	1.1046E+04	198.62	1.4214E+04	1.1397E+10
1.3200	0.8097	2.0426E+05	1.0669E+04	203.87	1.5334E+04	1.1397E+10
1.6500	0.7742	2.5161E+05	1.0271E+04	208.90	1.6419E+04	1.1397E+10
1.9800	0.7390	2.9729E+05	9854.2	213.71	1.7465E+04	1.1397E+10
2.3100	0.7042	3.4121E+05	9418.7	218.28	1.8471E+04	1.1397E+10
2.6400	0.6699	3.8330E+05	8965.4	222.62	1.9434E+04	1.1397E+10
2.9700	0.6361	4.2346E+05	8495.5	226.71	2.0354E+04	1.1397E+10
3.3000	0.6029	4.6164E+05	8009.9	230.56	2.1229E+04	1.1397E+10
3.6300	0.5704	4.9776E+05	7509.5	234.15	2.2056E+04	1.1397E+10
3.9600	0.5385	5.3176E+05	6995.5	237.48	2.2834E+04	1.1397E+10
4.2900	0.5073	5.6358E+05	6468.8	240.54	2.3563E+04	1.1397E+10
4.6200	0.4770	5.9316E+05	5930.5	243.32	2.4240E+04	1.1397E+10
4.9500	0.4474	6.2045E+05	5381.7	245.83	2.4865E+04	1.1397E+10
5.2800	0.4187	6.4540E+05	4823.6	248.06	2.5437E+04	1.1397E+10
5.6100	0.3909	6.6798E+05	4257.2	249.99	2.5954E+04	

1.1397E+10
5.9400 0.3640 6.8815E+05 3683.8 251.62 2.6416E+04
1.1397E+10
6.2700 0.3381 7.0589E+05 3104.5 252.95 2.6822E+04
1.1397E+10
6.6000 0.3131 7.2115E+05 2520.6 253.96 2.7172E+04
1.1397E+10
6.9300 0.2891 7.3394E+05 1933.3 254.66 2.7464E+04
1.1397E+10
7.2600 0.2661 7.4422E+05 1343.8 255.03 2.7700E+04
1.1397E+10
7.5900 0.2442 7.5200E+05 753.59 255.08 2.7878E+04
1.1397E+10
7.9200 0.2233 7.5727E+05 163.83 254.78 2.7999E+04
1.1397E+10
8.2500 0.2034 7.6003E+05 -424.06 254.14 2.8062E+04
1.1397E+10
8.5800 0.1846 7.6030E+05 -1008.7 253.14 2.8068E+04
1.1397E+10
8.9100 0.1668 7.5809E+05 -1588.7 251.78 2.8018E+04
1.1397E+10
9.2400 0.1501 7.5342E+05 -2162.6 250.05 2.7911E+04
1.1397E+10
9.5700 0.1344 7.4632E+05 -2728.9 247.95 2.7748E+04
1.1397E+10
9.9000 0.1197 7.3683E+05 -3286.0 245.46 2.7531E+04
1.1397E+10
10.230 0.1060 7.2498E+05 -3832.6 242.57 2.7259E+04
1.1397E+10
10.560 9.3367E-02 7.1082E+05 -4366.8 239.27 2.6935E+04
1.1397E+10
10.890 8.1683E-02 6.9441E+05 -4887.2 235.56 2.6559E+04
1.1397E+10
11.220 7.0954E-02 6.7582E+05 -5392.1 231.42 2.6133E+04
1.1397E+10
11.550 6.1155E-02 6.5510E+05 -5879.7 226.84 2.5659E+04
1.1397E+10
11.880 5.2258E-02 6.3234E+05 -6348.2 221.80 2.5138E+04
1.1397E+10
12.210 4.4231E-02 6.0762E+05 -6795.9 216.30 2.4572E+04
1.1397E+10
12.540 3.7039E-02 5.8103E+05 -7220.9 210.31 2.3963E+04
1.1397E+10
12.870 3.0647E-02 5.5267E+05 -7621.1 203.83 2.3313E+04
1.1397E+10
13.200 2.5016E-02 5.2265E+05 -7994.6 196.81 2.2626E+04
1.1397E+10
13.530 2.0104E-02 4.9109E+05 -8339.2 189.25 2.1903E+04
1.1397E+10
13.860 1.5867E-02 4.5812E+05 -8652.8 181.11 2.1148E+04
1.1397E+10

14.190	1.2261E-02	4.2386E+05	-8932.9	172.36	2.0363E+04	1.1397E+10
14.520	9.2382E-03	3.8846E+05	-9177.1	162.96	1.9553E+04	1.1397E+10
14.850	6.7498E-03	3.5209E+05	-9382.7	152.85	1.8720E+04	1.1397E+10
15.180	4.7458E-03	3.1490E+05	-9546.6	141.95	1.7868E+04	1.1397E+10
15.510	3.1751E-03	2.7707E+05	-9665.6	130.16	1.7002E+04	1.1397E+10
15.840	1.9856E-03	2.3880E+05	-9733.2	115.97	1.6125E+04	1.1397E+10
16.170	1.1247E-03	2.0032E+05	-9742.0	100.49	1.5244E+04	1.1397E+10
16.500	5.3938E-04	1.6188E+05	-9686.5	83.442	1.4364E+04	1.1397E+10
16.830	1.7683E-04	1.2376E+05	-9556.1	62.720	1.3491E+04	1.1397E+10
17.160	-1.5428E-05	8.6289E+04	-9296.0	-88.112	1.2633E+04	1.1397E+10
17.490	-8.8959E-05	5.0180E+04	-8136.5	-497.46	1.1806E+04	1.1397E+10
17.820	-9.3445E-05	2.1861E+04	-5949.5	-607.08	1.1157E+04	1.1397E+10
18.150	-6.7852E-05	3056.7	-3447.2	-656.73	1.0727E+04	1.1397E+10
18.480	-3.8053E-05	-5449.7	-1274.5	-440.57	1.0781E+04	1.1397E+10
18.810	-1.5752E-05	-7046.1	4.6457	-205.48	1.0818E+04	1.1397E+10
19.140	-3.1462E-06	-5418.7	501.89	-45.656	1.0781E+04	1.1397E+10
19.470	2.0038E-06	-3074.1	528.89	32.016	1.0727E+04	1.1397E+10
19.800	2.9241E-06	-1230.8	364.50	51.009	1.0685E+04	1.1397E+10
20.130	2.1509E-06	-187.22	182.97	40.676	1.0661E+04	1.1397E+10
20.460	1.1201E-06	218.57	57.236	22.824	1.0662E+04	1.1397E+10
20.790	3.8998E-07	266.38	-4.8237	8.5188	1.0663E+04	1.1397E+10
21.120	2.6411E-08	180.54	-22.910	0.6157	1.0661E+04	1.1397E+10
21.450	-8.8735E-08	85.013	-19.776	-2.1987	1.0659E+04	1.1397E+10
21.780	-8.6909E-08	23.940	-11.120	-2.1727	1.0657E+04	1.1397E+10
22.110	-5.2143E-08	-3.0659	-4.2372	-1.3036	1.0657E+04	1.1397E+10
22.440	-2.1595E-08	-9.6292	-0.5872	-0.5399	1.0657E+04	

1.1397E+10
22.770 -4.2967E-09 -7.7241 0.6945 -0.1074 1.0657E+04
1.1397E+10
23.100 2.3739E-09 -4.1327 0.7897 5.9347E-02 1.0657E+04
1.1397E+10
23.430 3.3581E-09 -1.4710 0.5060 8.3953E-02 1.0657E+04
1.1397E+10
23.760 2.3183E-09 -0.1256 0.2250 5.7958E-02 1.0657E+04
1.1397E+10
24.090 1.1057E-09 0.3111 5.5480E-02 2.7643E-02 1.0657E+04
1.1397E+10
24.420 3.2115E-10 0.3142 -1.5150E-02 8.0287E-03 1.0657E+04
1.1397E+10
24.750 -3.1142E-11 0.1913 -2.9505E-02 -7.7855E-04 1.0657E+04
1.1397E+10
25.080 -1.2025E-10 8.0556E-02 -2.2012E-02 -3.0062E-03 1.0657E+04
1.1397E+10
25.410 -9.8512E-11 1.6957E-02 -1.1183E-02 -2.4628E-03 1.0657E+04
1.1397E+10
25.740 -5.3446E-11 -8.0248E-03 -3.6611E-03 -1.3361E-03 1.0657E+04
1.1397E+10
26.070 -1.9421E-11 -1.2052E-02 -5.4185E-05 -4.8552E-04 1.0657E+04
1.1397E+10
26.400 -1.9784E-12 -8.4624E-03 1.0051E-03 -4.9459E-05 1.0657E+04
1.1397E+10
26.730 3.8202E-12 -4.0955E-03 9.1390E-04 9.5506E-05 1.0657E+04
1.1397E+10
27.060 3.9837E-12 -1.2253E-03 5.2760E-04 9.9593E-05 1.0657E+04
1.1397E+10
27.390 2.4612E-12 8.3351E-05 2.0858E-04 6.1531E-05 1.0657E+04
1.1397E+10
27.720 1.0534E-12 4.2709E-04 3.4598E-05 2.6336E-05 1.0657E+04
1.1397E+10
28.050 2.3330E-13 3.5774E-04 -2.9096E-05 5.8326E-06 1.0657E+04
1.1397E+10
28.380 -9.4616E-14 1.9684E-04 -3.5961E-05 -2.3654E-06 1.0657E+04
1.1397E+10
28.710 -1.5170E-13 7.2987E-05 -2.3769E-05 -3.7925E-06 1.0657E+04
1.1397E+10
29.040 -1.0836E-13 8.5923E-06 -1.0896E-05 -2.7090E-06 1.0657E+04
1.1397E+10
29.370 -5.3196E-14 -1.3323E-05 -2.8986E-06 -1.3299E-06 1.0657E+04
1.1397E+10
29.700 -1.6364E-14 -1.4380E-05 5.4462E-07 -4.0910E-07 1.0657E+04
1.1397E+10
30.030 6.8210E-16 -9.0184E-06 1.3209E-06 1.7052E-08 1.0657E+04
1.1397E+10
30.360 5.3195E-15 -3.9222E-06 1.0238E-06 1.3299E-07 1.0657E+04
1.1397E+10
30.690 4.5602E-15 -9.1057E-07 5.3475E-07 1.1401E-07 1.0657E+04
1.1397E+10

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       31.020  2.5481E-15  3.1346E-07  1.8289E-07  6.3701E-08  1.0657E+04
1.1397E+10
       31.350  9.6720E-16  5.3848E-07  8.8802E-09  2.4180E-08  1.0657E+04
1.1397E+10
       31.680  1.2725E-16  3.8419E-07 -4.5295E-08  3.1812E-09  1.0657E+04
1.1397E+10
       32.010 -1.8408E-16  1.7993E-07 -4.2482E-08 -4.6019E-09  1.0657E+04
1.1397E+10
       32.340 -2.4782E-16  4.7800E-08 -2.1103E-08 -6.1955E-09  1.0657E+04
1.1397E+10
       32.670 -2.4579E-16  1.2809E-08 -6.0349E-09 -1.4147E-09  1.0657E+04
1.1397E+10
       33.000 -2.2614E-16 -3.5833E-23  4.5941E-24 -1.6332E-09  1.0657E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.069121      0.9540 -9.0877E-04  1.2209E+05      9927.3      0.0000
     7876.5


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.069121      0.9540 -9.0877E-04  1.2209E+05      9927.3      0.0000
     7876.5


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
```

**********	**********	**********	**********	**********	**********	**********
0.0000	0.9540	0.0000	9927.3	154.71	7876.5	1.1397E+10
0.3300	0.9200	4.3083E+04	9724.3	159.81	8863.1	1.1397E+10
0.6600	0.8860	8.5314E+04	9501.5	164.75	9830.2	1.1397E+10
0.9900	0.8522	1.2661E+05	9259.4	169.52	1.0776E+04	1.1397E+10
1.3200	0.8185	1.6689E+05	8998.7	174.14	1.1698E+04	1.1397E+10
1.6500	0.7851	2.0607E+05	8720.1	178.57	1.2596E+04	1.1397E+10
1.9800	0.7519	2.4408E+05	8424.3	182.84	1.3466E+04	1.1397E+10
2.3100	0.7191	2.8084E+05	8111.9	186.92	1.4308E+04	1.1397E+10
2.6400	0.6867	3.1629E+05	7783.8	190.81	1.5120E+04	1.1397E+10
2.9700	0.6547	3.5035E+05	7440.6	194.52	1.5900E+04	1.1397E+10
3.3000	0.6232	3.8297E+05	7083.1	198.03	1.6647E+04	1.1397E+10
3.6300	0.5922	4.1408E+05	6712.1	201.34	1.7359E+04	1.1397E+10
3.9600	0.5618	4.4363E+05	6328.5	204.44	1.8036E+04	1.1397E+10
4.2900	0.5320	4.7155E+05	5932.9	207.34	1.8675E+04	1.1397E+10
4.6200	0.5029	4.9781E+05	5526.3	210.02	1.9277E+04	1.1397E+10
4.9500	0.4744	5.2236E+05	5109.5	212.49	1.9839E+04	1.1397E+10
5.2800	0.4466	5.4514E+05	4683.3	214.73	2.0361E+04	1.1397E+10
5.6100	0.4196	5.6613E+05	4248.8	216.75	2.0841E+04	1.1397E+10
5.9400	0.3934	5.8529E+05	3806.7	218.53	2.1280E+04	1.1397E+10
6.2700	0.3680	6.0258E+05	3358.0	220.08	2.1676E+04	1.1397E+10
6.6000	0.3434	6.1799E+05	2903.7	221.38	2.2029E+04	1.1397E+10
6.9300	0.3197	6.3148E+05	2444.7	222.43	2.2338E+04	1.1397E+10
7.2600	0.2968	6.4304E+05	1982.0	223.24	2.2603E+04	1.1397E+10
7.5900	0.2748	6.5265E+05	1516.7	223.78	2.2823E+04	1.1397E+10
7.9200	0.2538	6.6031E+05	1049.7	224.06	2.2998E+04	

1.1397E+10
8.2500 0.2336 6.6600E+05 582.16 224.08 2.3128E+04
1.1397E+10
8.5800 0.2143 6.6973E+05 115.09 223.81 2.3214E+04
1.1397E+10
8.9100 0.1960 6.7151E+05 -350.38 223.27 2.3254E+04
1.1397E+10
9.2400 0.1786 6.7132E+05 -813.14 222.44 2.3250E+04
1.1397E+10
9.5700 0.1621 6.6920E+05 -1272.0 221.32 2.3202E+04
1.1397E+10
9.9000 0.1465 6.6516E+05 -1725.9 219.90 2.3109E+04
1.1397E+10
10.230 0.1319 6.5922E+05 -2173.5 218.17 2.2973E+04
1.1397E+10
10.560 0.1181 6.5142E+05 -2613.6 216.12 2.2794E+04
1.1397E+10
10.890 0.1053 6.4177E+05 -3045.0 213.75 2.2574E+04
1.1397E+10
11.220 9.3314E-02 6.3033E+05 -3466.4 211.05 2.2311E+04
1.1397E+10
11.550 8.2216E-02 6.1713E+05 -3876.4 208.01 2.2009E+04
1.1397E+10
11.880 7.1966E-02 6.0223E+05 -4273.6 204.62 2.1668E+04
1.1397E+10
12.210 6.2546E-02 5.8569E+05 -4656.7 200.86 2.1289E+04
1.1397E+10
12.540 5.3931E-02 5.6756E+05 -5024.2 196.73 2.0874E+04
1.1397E+10
12.870 4.6097E-02 5.4790E+05 -5374.6 192.21 2.0424E+04
1.1397E+10
13.200 3.9017E-02 5.2681E+05 -5706.2 187.28 1.9941E+04
1.1397E+10
13.530 3.2661E-02 5.0435E+05 -6017.5 181.93 1.9427E+04
1.1397E+10
13.860 2.7000E-02 4.8062E+05 -6306.7 176.13 1.8883E+04
1.1397E+10
14.190 2.2000E-02 4.5570E+05 -6572.0 169.86 1.8312E+04
1.1397E+10
14.520 1.7627E-02 4.2971E+05 -6811.4 163.08 1.7717E+04
1.1397E+10
14.850 1.3845E-02 4.0275E+05 -7023.0 155.75 1.7100E+04
1.1397E+10
15.180 1.0618E-02 3.7495E+05 -7204.3 147.82 1.6463E+04
1.1397E+10
15.510 7.9061E-03 3.4642E+05 -7352.9 139.23 1.5810E+04
1.1397E+10
15.840 5.6712E-03 3.1732E+05 -7463.0 128.39 1.5143E+04
1.1397E+10
16.170 3.8728E-03 2.8781E+05 -7528.4 116.62 1.4467E+04
1.1397E+10

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       16.500  2.4704E-03  2.5808E+05     -7545.7      104.11  1.3787E+04
1.1397E+10
       16.830  1.4231E-03  2.2834E+05     -7511.3      90.531  1.3106E+04
1.1397E+10
       17.160  6.9005E-04  1.9881E+05     -8752.0      642.10  1.2429E+04
1.1397E+10
       17.490  2.3052E-04  1.5917E+05 -1.1236E+04      612.52  1.1522E+04
1.1397E+10
       17.820 -9.9943E-06  1.0990E+05 -1.2278E+04     -86.395  1.0393E+04
1.1397E+10
       18.150 -9.9290E-05  6.1972E+04 -1.0656E+04     -732.72      9295.7
1.1397E+10
       18.480 -1.0332E-04  2.5520E+04     -7537.3     -842.39      8460.9
1.1397E+10
       18.810 -7.2228E-05      2273.5     -4153.7     -866.50      7928.5
1.1397E+10
       19.140 -3.8012E-05     -7385.3     -1345.9     -551.59      8045.6
1.1397E+10
       19.470 -1.3957E-05     -8393.1      187.78     -223.00      8068.7
1.1397E+10
       19.800 -1.4504E-06     -5902.6      679.41     -25.301      8011.6
1.1397E+10
       20.130  2.9344E-06     -3014.2      619.63      55.493      7945.5
1.1397E+10
       20.460  3.1718E-06     -995.63      381.78      64.633      7899.3
1.1397E+10
       20.790  2.0392E-06      9.5979      165.61      44.545      7876.7
1.1397E+10
       21.120  9.1983E-07      316.29      34.957      21.442      7883.7
1.1397E+10
       21.450  2.3566E-07      286.68     -19.061      5.8392      7883.0
1.1397E+10
       21.780 -5.4051E-08      165.45     -27.947     -1.3513      7880.3
1.1397E+10
       22.110 -1.1612E-07      65.380     -19.523     -2.9031      7878.0
1.1397E+10
       22.440 -8.8233E-08      10.828     -9.4075     -2.2058      7876.7
1.1397E+10
       22.770 -4.5446E-08     -9.1357     -2.7904     -1.1362      7876.7
1.1397E+10
       23.100 -1.5229E-08     -11.281      0.2131     -0.3807      7876.7
1.1397E+10
       23.430 -5.3434E-10     -7.4538      0.9934 -1.3358E-02      7876.6
1.1397E+10
       23.760  3.9047E-09     -3.4159      0.8265  9.7617E-02      7876.5
1.1397E+10
       24.090  3.6436E-09     -0.9082      0.4529  9.1091E-02      7876.5
1.1397E+10
       24.420  2.1330E-09      0.1712      0.1669  5.3325E-02      7876.5
1.1397E+10
       24.750  8.5796E-10      0.4144  1.8891E-02  2.1449E-02      7876.5
```

1.1397E+10
25.080 1.5305E-10 0.3211 -3.1154E-02 3.8262E-03 7876.5
1.1397E+10
25.410 -1.1009E-10 0.1677 -3.3281E-02 -2.7523E-03 7876.5
1.1397E+10
25.740 -1.4244E-10 5.7527E-02 -2.0781E-02 -3.5609E-03 7876.5
1.1397E+10
26.070 -9.5626E-11 3.1504E-03 -8.9966E-03 -2.3906E-03 7876.5
1.1397E+10
26.400 -4.4482E-11 -1.3738E-02 -2.0613E-03 -1.1120E-03 7876.5
1.1397E+10
26.730 -1.2240E-11 -1.3185E-02 7.4648E-04 -3.0600E-04 7876.5
1.1397E+10
27.060 1.8598E-12 -7.8313E-03 1.2603E-03 4.6494E-05 7876.5
1.1397E+10
27.390 5.1843E-12 -3.2054E-03 9.1163E-04 1.2961E-04 7876.5
1.1397E+10
27.720 4.0985E-12 -6.1143E-04 4.5213E-04 1.0246E-04 7876.5
1.1397E+10
28.050 2.1713E-12 3.7587E-04 1.4178E-04 5.4282E-05 7876.5
1.1397E+10
28.380 7.6130E-13 5.1189E-04 -3.3814E-06 1.9033E-05 7876.5
1.1397E+10
28.710 5.5640E-14 3.4935E-04 -4.3820E-05 1.3910E-06 7876.5
1.1397E+10
29.040 -1.6934E-13 1.6494E-04 -3.8192E-05 -4.2334E-06 7876.5
1.1397E+10
29.370 -1.6736E-13 4.6897E-05 -2.1526E-05 -4.1840E-06 7876.5
1.1397E+10
29.700 -1.0085E-13 -5.5472E-06 -8.2490E-06 -2.5214E-06 7876.5
1.1397E+10
30.030 -4.1983E-14 -1.8451E-05 -1.1785E-06 -1.0496E-06 7876.5
1.1397E+10
30.360 -8.4989E-15 -1.4892E-05 1.3203E-06 -2.1247E-07 7876.5
1.1397E+10
30.690 4.4946E-15 -7.9993E-06 1.5186E-06 1.1236E-07 7876.5
1.1397E+10
31.020 6.4814E-15 -2.8671E-06 9.7525E-07 1.6204E-07 7876.5
1.1397E+10
31.350 4.5233E-15 -2.7538E-07 4.3051E-07 1.1308E-07 7876.5
1.1397E+10
31.680 2.1863E-15 5.4309E-07 9.8390E-08 5.4657E-08 7876.5
1.1397E+10
32.010 5.9651E-16 5.0435E-07 -3.9358E-08 1.4913E-08 7876.5
1.1397E+10
32.340 -2.9930E-16 2.3168E-07 -5.4070E-08 -7.4824E-09 7876.5
1.1397E+10
32.670 -8.7633E-16 7.6298E-08 -2.9268E-08 -5.0438E-09 7876.5
1.1397E+10
33.000 -1.3484E-15 2.8666E-22 4.0293E-24 -9.7383E-09 7876.5
1.1397E+10

LOAD CASE : 3
CASE NAME : Strength I (minVmaxH), Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.52990E+06	3.85300E+05	-2.23138E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0377401	0.90744	-2.30215E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN

STRESS, LB/IN**2

0.048790 0.9074 -2.3022E-04 1.0165E+05 3.7185E+04 0.0000
6558.2

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.048790 0.9074 -2.3022E-04 1.0165E+05 3.7185E+04 0.0000
6558.2

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.9074	0.0000	3.7185E+04	551.35	6558.2	1.1397E+10
0.3300	0.8586	1.4872E+05	3.5391E+04	566.83	9964.0	1.1397E+10
0.6600	0.8101	2.9020E+05	3.3537E+04	581.35	1.3204E+04	1.1397E+10
0.9900	0.7619	4.2417E+05	3.1628E+04	594.87	1.6272E+04	1.1397E+10
1.3200	0.7143	5.5043E+05	2.9668E+04	607.36	1.9163E+04	1.1397E+10
1.6500	0.6674	6.6874E+05	2.7660E+04	618.78	2.1873E+04	1.1397E+10
1.9800	0.6215	7.7892E+05	2.5608E+04	629.10	2.4396E+04	1.1397E+10
2.3100	0.5766	8.8079E+05	2.3519E+04	638.29	2.6729E+04	1.1397E+10
2.6400	0.5330	9.7419E+05	2.1395E+04	646.30	2.8868E+04	1.1397E+10
2.9700	0.4907	1.0590E+06	1.9242E+04	653.11	3.0810E+04	1.1397E+10
3.3000	0.4498	1.1350E+06	1.7064E+04	658.67	3.2551E+04	1.1397E+10
3.6300	0.4106	1.2023E+06	1.4867E+04	662.94	3.4091E+04	1.1397E+10

3.9600	0.3729	1.2606E+06	1.2656E+04	665.89	3.5427E+04	1.1397E+10
4.2900	0.3370	1.3100E+06	1.0436E+04	667.48	3.6558E+04	1.1397E+10
4.6200	0.3029	1.3504E+06	8211.9	667.67	3.7483E+04	1.1397E+10
4.9500	0.2707	1.3818E+06	5990.3	666.40	3.8202E+04	1.1397E+10
5.2800	0.2404	1.4042E+06	3776.6	663.63	3.8715E+04	1.1397E+10
5.6100	0.2120	1.4176E+06	1576.9	659.30	3.9023E+04	1.1397E+10
5.9400	0.1855	1.4222E+06	-602.40	653.37	3.9129E+04	1.1397E+10
6.2700	0.1610	1.4181E+06	-2755.0	645.78	3.9033E+04	1.1397E+10
6.6000	0.1385	1.4052E+06	-4874.0	636.44	3.8738E+04	1.1397E+10
6.9300	0.1179	1.3838E+06	-6952.4	625.28	3.8249E+04	1.1397E+10
7.2600	9.9159E-02	1.3541E+06	-8982.9	612.21	3.7569E+04	1.1397E+10
7.5900	8.2317E-02	1.3163E+06	-1.0958E+04	597.11	3.6703E+04	1.1397E+10
7.9200	6.7285E-02	1.2706E+06	-1.2868E+04	579.85	3.5656E+04	1.1397E+10
8.2500	5.4002E-02	1.2173E+06	-1.4706E+04	560.24	3.4435E+04	1.1397E+10
8.5800	4.2394E-02	1.1567E+06	-1.6461E+04	538.05	3.3046E+04	1.1397E+10
8.9100	3.2377E-02	1.0891E+06	-1.8122E+04	512.93	3.1499E+04	1.1397E+10
9.2400	2.3859E-02	1.0150E+06	-1.9677E+04	484.35	2.9803E+04	1.1397E+10
9.5700	1.6737E-02	9.3485E+05	-2.1110E+04	451.44	2.7967E+04	1.1397E+10
9.9000	1.0902E-02	8.4914E+05	-2.2401E+04	412.61	2.6004E+04	1.1397E+10
10.230	6.2347E-03	7.5850E+05	-2.3519E+04	364.27	2.3928E+04	1.1397E+10
10.560	2.6113E-03	6.6371E+05	-2.4405E+04	295.23	2.1758E+04	1.1397E+10
10.890	-9.8837E-05	5.6585E+05	-2.3974E+04	-301.09	1.9517E+04	1.1397E+10
11.220	-2.0304E-03	4.7431E+05	-2.2365E+04	-299.67	1.7420E+04	1.1397E+10
11.550	-3.3093E-03	3.8905E+05	-2.0676E+04	-341.15	1.5468E+04	1.1397E+10
11.880	-4.0530E-03	3.1076E+05	-1.8860E+04	-363.92	1.3675E+04	1.1397E+10
12.210	-4.3690E-03	2.3979E+05	-1.6974E+04	-376.58	1.2049E+04	

1.1397E+10
12.540 -4.3551E-03 1.7635E+05 -1.5052E+04 -382.32 1.0597E+04
1.1397E+10
12.870 -4.0986E-03 1.2055E+05 -1.3118E+04 -382.68 9318.8
1.1397E+10
13.200 -3.6762E-03 7.2389E+04 -1.1191E+04 -378.49 8216.0
1.1397E+10
13.530 -3.1542E-03 3.1820E+04 -9288.4 -370.24 7286.9
1.1397E+10
13.860 -2.5884E-03 -1285.6 -7426.4 -358.19 6587.6
1.1397E+10
14.190 -2.0244E-03 -2.7112E+04 -5619.4 -342.43 7179.1
1.1397E+10
14.520 -1.4977E-03 -4.5902E+04 -3882.2 -322.92 7609.4
1.1397E+10
14.850 -1.0341E-03 -5.7960E+04 -2230.2 -299.45 7885.5
1.1397E+10
15.180 -6.5033E-04 -6.3651E+04 -679.89 -271.51 8015.9
1.1397E+10
15.510 -3.5410E-04 -6.3413E+04 748.65 -237.97 8010.4
1.1397E+10
15.840 -1.4513E-04 -5.7773E+04 2022.7 -193.47 7881.3
1.1397E+10
16.170 -1.5657E-05 -4.7428E+04 3083.1 -130.09 7644.4
1.1397E+10
16.500 4.8561E-05 -3.3375E+04 3485.0 139.10 7322.5
1.1397E+10
16.830 6.6858E-05 -1.9835E+04 3324.9 153.74 7012.5
1.1397E+10
17.160 5.7862E-05 -7042.0 2576.1 330.46 6719.5
1.1397E+10
17.490 3.9177E-05 570.31 1365.0 281.20 6571.3
1.1397E+10
17.820 2.1276E-05 3772.9 444.10 183.92 6644.6
1.1397E+10
18.150 8.5672E-06 4090.7 -91.579 86.624 6651.9
1.1397E+10
18.480 1.4866E-06 3049.6 -297.17 17.211 6628.0
1.1397E+10
18.810 -1.3980E-06 1738.1 -295.14 -18.236 6598.0
1.1397E+10
19.140 -1.8910E-06 712.38 -204.70 -27.441 6574.5
1.1397E+10
19.470 -1.4038E-06 116.86 -105.96 -22.430 6560.9
1.1397E+10
19.800 -7.5587E-07 -126.94 -35.440 -13.186 6561.1
1.1397E+10
20.130 -2.8256E-07 -163.94 1.2477 -5.3435 6562.0
1.1397E+10
20.460 -3.4822E-08 -117.13 13.233 -0.7096 6560.9
1.1397E+10

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       20.790  5.1756E-08     -59.170      12.399      1.1306      6559.6
1.1397E+10
       21.120  5.6919E-08     -18.934      7.5335      1.3269      6558.6
1.1397E+10
       21.450  3.6030E-08      0.4969      3.1387      0.8927      6558.2
1.1397E+10
       21.780  1.5824E-08      5.9286      0.5878      0.3956      6558.3
1.1397E+10
       22.110  3.7755E-09      5.1558     -0.3823  9.4387E-02      6558.3
1.1397E+10
       22.440 -1.1789E-09      2.9022     -0.5109 -2.9472E-02      6558.3
1.1397E+10
       22.770 -2.1400E-09      1.1103     -0.3466 -5.3501E-02      6558.2
1.1397E+10
       23.100 -1.5735E-09      0.1573     -0.1628 -3.9337E-02      6558.2
1.1397E+10
       23.430 -7.9054E-10     -0.1789 -4.5745E-02 -1.9764E-02      6558.2
1.1397E+10
       23.760 -2.5380E-10     -0.2052  5.9492E-03 -6.3449E-03      6558.2
1.1397E+10
       24.090  6.4108E-13     -0.1319  1.8480E-02  1.6027E-05      6558.2
1.1397E+10
       24.420  7.3602E-11 -5.8843E-02  1.4805E-02  1.8401E-03      6558.2
1.1397E+10
       24.750  6.5599E-11 -1.4640E-02  7.9149E-03  1.6400E-03      6558.2
1.1397E+10
       25.080  3.7452E-11  3.8468E-03  2.8139E-03  9.3629E-04      6558.2
1.1397E+10
       25.410  1.4597E-11  7.6509E-03  2.3748E-04  3.6493E-04      6558.2
1.1397E+10
       25.740  2.2699E-12  5.7312E-03 -5.9744E-04  5.6747E-05      6558.2
1.1397E+10
       26.070 -2.1715E-12  2.9209E-03 -6.0231E-04 -5.4288E-05      6558.2
1.1397E+10
       26.400 -2.5940E-12  9.6145E-04 -3.6641E-04 -6.4850E-05      6558.2
1.1397E+10
       26.730 -1.6936E-12  1.8835E-05 -1.5418E-04 -4.2340E-05      6558.2
1.1397E+10
       27.060 -7.6727E-13 -2.5982E-04 -3.2364E-05 -1.9182E-05      6558.2
1.1397E+10
       27.390 -1.9843E-13 -2.3764E-04  1.5438E-05 -4.9608E-06      6558.2
1.1397E+10
       27.720  4.3428E-14 -1.3763E-04  2.3111E-05  1.0857E-06      6558.2
1.1397E+10
       28.050  9.5912E-14 -5.4631E-05  1.6213E-05  2.3978E-06      6558.2
1.1397E+10
       28.380  7.3227E-14 -9.2247E-06  7.8410E-06  1.8307E-06      6558.2
1.1397E+10
       28.710  3.7850E-14  7.4754E-06  2.3427E-06  9.4625E-07      6558.2
1.1397E+10
       29.040  1.2758E-14  9.3356E-06 -1.6241E-07  3.1895E-07      6558.2
```

1.1397E+10
29.370 5.1157E-16 6.1929E-06 -8.1926E-07 1.2789E-08 6558.2
1.1397E+10
29.700 -3.2139E-15 2.8487E-06 -6.8549E-07 -8.0349E-08 6558.2
1.1397E+10
30.030 -3.0198E-15 7.6417E-07 -3.7692E-07 -7.5495E-08 6558.2
1.1397E+10
30.360 -1.7742E-15 -1.3663E-07 -1.3962E-07 -4.4354E-08 6558.2
1.1397E+10
30.690 -7.1655E-16 -3.4186E-07 -1.6329E-08 -1.7914E-08 6558.2
1.1397E+10
31.020 -1.2931E-16 -2.6612E-07 2.5542E-08 -3.2327E-09 6558.2
1.1397E+10
31.350 9.1774E-17 -1.3965E-07 2.7400E-08 2.2943E-09 6558.2
1.1397E+10
31.680 1.2071E-16 -4.9138E-08 1.6882E-08 3.0177E-09 6558.2
1.1397E+10
32.010 8.2032E-17 -5.9436E-09 6.8461E-09 2.0508E-09 6558.2
1.1397E+10
32.340 3.5178E-17 5.0918E-09 1.0442E-09 8.7945E-10 6558.2
1.1397E+10
32.670 -4.6702E-18 2.3353E-09 -6.4389E-10 -2.6880E-11 6558.2
1.1397E+10
33.000 -4.1305E-17 0.0000 3.3725E-26 -2.9832E-10 6558.2
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.037740 0.9074 -2.3022E-04 8.1663E+04 1.2180E+04 0.0000
5268.6

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.037740 0.9074 -2.3022E-04 8.1663E+04 1.2180E+04 0.0000
5268.6

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	FLEXURAL RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.9074	0.0000	1.2180E+04	179.36	5268.6	1.1397E+10
0.3300	0.8730	5.0470E+04	1.1878E+04	185.16	6424.4	1.1397E+10
0.6600	0.8386	9.9692E+04	1.1553E+04	190.76	7551.6	1.1397E+10
0.9900	0.8044	1.4757E+05	1.1207E+04	196.16	8648.1	1.1397E+10
1.3200	0.7704	1.9403E+05	1.0840E+04	201.35	9711.9	1.1397E+10
1.6500	0.7366	2.3896E+05	1.0452E+04	206.32	1.0741E+04	1.1397E+10
1.9800	0.7032	2.8230E+05	1.0046E+04	211.07	1.1733E+04	1.1397E+10
2.3100	0.6702	3.2395E+05	9620.7	215.59	1.2687E+04	1.1397E+10
2.6400	0.6376	3.6385E+05	9178.2	219.88	1.3601E+04	1.1397E+10
2.9700	0.6055	4.0192E+05	8719.2	223.93	1.4473E+04	1.1397E+10
3.3000	0.5739	4.3810E+05	8244.6	227.73	1.5301E+04	1.1397E+10
3.6300	0.5430	4.7232E+05	7755.6	231.29	1.6085E+04	1.1397E+10
3.9600	0.5127	5.0453E+05	7252.9	234.58	1.6823E+04	1.1397E+10
4.2900	0.4831	5.3466E+05	6737.7	237.61	1.7513E+04	1.1397E+10
4.6200	0.4543	5.6266E+05	6211.1	240.37	1.8154E+04	1.1397E+10
4.9500	0.4262	5.8850E+05	5674.0	242.86	1.8746E+04	1.1397E+10
5.2800	0.3989	6.1212E+05	5127.7	245.06	1.9287E+04	1.1397E+10
5.6100	0.3725	6.3350E+05	4573.2	246.98	1.9776E+04	1.1397E+10
5.9400	0.3469	6.5259E+05	4011.7	248.61	2.0213E+04	1.1397E+10

6.2700	0.3222	6.6937E+05	3444.4	249.93	2.0598E+04
1.1397E+10					
6.6000	0.2985	6.8382E+05	2872.4	250.95	2.0929E+04
1.1397E+10					
6.9300	0.2757	6.9592E+05	2297.0	251.65	2.1206E+04
1.1397E+10					
7.2600	0.2539	7.0566E+05	1719.5	252.04	2.1429E+04
1.1397E+10					
7.5900	0.2330	7.1303E+05	1141.1	252.09	2.1597E+04
1.1397E+10					
7.9200	0.2131	7.1803E+05	563.09	251.82	2.1712E+04
1.1397E+10					
8.2500	0.1942	7.2066E+05	-13.135	251.20	2.1772E+04
1.1397E+10					
8.5800	0.1763	7.2093E+05	-586.23	250.24	2.1778E+04
1.1397E+10					
8.9100	0.1594	7.1886E+05	-1154.8	248.92	2.1731E+04
1.1397E+10					
9.2400	0.1434	7.1446E+05	-1717.4	247.24	2.1630E+04
1.1397E+10					
9.5700	0.1285	7.0778E+05	-2272.7	245.18	2.1477E+04
1.1397E+10					
9.9000	0.1145	6.9883E+05	-2819.0	242.75	2.1272E+04
1.1397E+10					
10.230	0.1015	6.8765E+05	-3354.9	239.92	2.1016E+04
1.1397E+10					
10.560	8.9423E-02	6.7430E+05	-3878.9	236.70	2.0711E+04
1.1397E+10					
10.890	7.8285E-02	6.5883E+05	-4389.2	233.06	2.0356E+04
1.1397E+10					
11.220	6.8053E-02	6.4129E+05	-4884.4	229.01	1.9955E+04
1.1397E+10					
11.550	5.8704E-02	6.2174E+05	-5362.6	224.52	1.9507E+04
1.1397E+10					
11.880	5.0210E-02	6.0027E+05	-5822.2	219.59	1.9015E+04
1.1397E+10					
12.210	4.2542E-02	5.7695E+05	-6261.4	214.20	1.8481E+04
1.1397E+10					
12.540	3.5668E-02	5.5187E+05	-6678.2	208.33	1.7907E+04
1.1397E+10					
12.870	2.9554E-02	5.2512E+05	-7070.9	201.97	1.7294E+04
1.1397E+10					
13.200	2.4162E-02	4.9681E+05	-7437.3	195.10	1.6646E+04
1.1397E+10					
13.530	1.9453E-02	4.6704E+05	-7775.5	187.69	1.5964E+04
1.1397E+10					
13.860	1.5387E-02	4.3594E+05	-8083.2	179.72	1.5252E+04
1.1397E+10					
14.190	1.1921E-02	4.0364E+05	-8358.1	171.15	1.4512E+04
1.1397E+10					
14.520	9.0102E-03	3.7027E+05	-8597.9	161.94	1.3748E+04

1.1397E+10
14.850 6.6089E-03 3.3598E+05 -8799.8 152.04 1.2963E+04
1.1397E+10
15.180 4.6699E-03 3.0093E+05 -8961.0 141.37 1.2160E+04
1.1397E+10
15.510 3.1450E-03 2.6529E+05 -9078.2 129.85 1.1344E+04
1.1397E+10
15.840 1.9851E-03 2.2925E+05 -9145.2 115.96 1.0518E+04
1.1397E+10
16.170 1.1406E-03 1.9302E+05 -9154.7 100.85 9688.9
1.1397E+10
16.500 5.6170E-04 1.5686E+05 -9101.5 84.319 8860.7
1.1397E+10
16.830 1.9863E-04 1.2102E+05 -8976.8 64.680 8039.9
1.1397E+10
17.160 2.0704E-06 8.5807E+04 -8918.4 11.824 7233.6
1.1397E+10
17.490 -7.6425E-05 5.0404E+04 -7993.2 -479.11 6422.9
1.1397E+10
17.820 -8.5568E-05 2.2508E+04 -5869.4 -593.52 5784.0
1.1397E+10
18.150 -6.3741E-05 3917.3 -3418.1 -644.49 5358.3
1.1397E+10
18.480 -3.6524E-05 -4567.4 -1304.8 -422.86 5373.2
1.1397E+10
18.810 -1.5591E-05 -6420.3 -64.808 -203.38 5415.6
1.1397E+10
19.140 -3.4924E-06 -5083.3 438.22 -50.678 5385.0
1.1397E+10
19.470 1.6119E-06 -2951.1 487.57 25.754 5336.2
1.1397E+10
19.800 2.6556E-06 -1222.3 344.85 46.326 5296.6
1.1397E+10
20.130 2.0176E-06 -219.86 177.58 38.155 5273.6
1.1397E+10
20.460 1.0771E-06 184.26 58.575 21.948 5272.8
1.1397E+10
20.790 3.9003E-07 244.18 -1.7519 8.5201 5274.2
1.1397E+10
21.120 3.8998E-08 170.47 -20.422 0.9091 5272.5
1.1397E+10
21.450 -7.7482E-08 82.481 -18.420 -1.9198 5270.5
1.1397E+10
21.780 -8.0473E-08 24.590 -10.636 -2.0118 5269.1
1.1397E+10
22.110 -4.9629E-08 -1.7559 -4.1957 -1.2407 5268.6
1.1397E+10
22.440 -2.1201E-08 -8.6450 -0.6896 -0.5300 5268.8
1.1397E+10
22.770 -4.6685E-09 -7.2214 0.5909 -0.1167 5268.7
1.1397E+10

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       23.100  1.9279E-09     -3.9667      0.7266  4.8198E-02      5268.7
1.1397E+10
       23.430  3.0665E-09     -1.4674      0.4794  7.6662E-02      5268.6
1.1397E+10
       23.760  2.1860E-09     -0.1701      0.2194  5.4649E-02      5268.6
1.1397E+10
       24.090  1.0714E-09      0.2702  5.8132E-02  2.6785E-02      5268.6
1.1397E+10
       24.420  3.2858E-10      0.2904 -1.1167E-02  8.2144E-03      5268.6
1.1397E+10
       24.750 -1.4617E-11      0.1818 -2.6707E-02 -3.6543E-04      5268.6
1.1397E+10
       25.080 -1.0761E-10  7.8950E-02 -2.0657E-02 -2.6903E-03      5268.6
1.1397E+10
       25.410 -9.1973E-11  1.8240E-02 -1.0778E-02 -2.2993E-03      5268.6
1.1397E+10
       25.740 -5.1238E-11 -6.4151E-03 -3.6889E-03 -1.2810E-03      5268.6
1.1397E+10
       26.070 -1.9330E-11 -1.0982E-02 -1.9576E-04 -4.8326E-04      5268.6
1.1397E+10
       26.400 -2.5334E-12 -7.9696E-03  8.8650E-04 -6.3336E-05      5268.6
1.1397E+10
       26.730  3.2979E-12 -3.9629E-03  8.4866E-04  8.2448E-05      5268.6
1.1397E+10
       27.060  3.6766E-12 -1.2487E-03  5.0342E-04  9.1914E-05      5268.6
1.1397E+10
       27.390  2.3370E-12  2.4235E-05  2.0574E-04  5.8426E-05      5268.6
1.1397E+10
       27.720  1.0309E-12  3.8097E-04  3.9031E-05  2.5772E-05      5268.6
1.1397E+10
       28.050  2.4888E-13  3.3353E-04 -2.4317E-05  6.2221E-06      5268.6
1.1397E+10
       28.380 -7.4182E-14  1.8848E-04 -3.2965E-05 -1.8546E-06      5268.6
1.1397E+10
       28.710 -1.3792E-13  7.2482E-05 -2.2466E-05 -3.4479E-06      5268.6
1.1397E+10
       29.040 -1.0192E-13  1.0549E-05 -1.0594E-05 -2.5480E-06      5268.6
1.1397E+10
       29.370 -5.1409E-14 -1.1428E-05 -3.0040E-06 -1.2852E-06      5268.6
1.1397E+10
       29.700 -1.6620E-14 -1.3249E-05  3.6347E-07 -4.1551E-07      5268.6
1.1397E+10
       30.030 -6.1991E-17 -8.5530E-06  1.1892E-06 -1.5498E-09      5268.6
1.1397E+10
       30.360  4.7280E-15 -3.8318E-06  9.5828E-07  1.1820E-07      5268.6
1.1397E+10
       30.690  4.2456E-15 -9.6376E-07  5.1409E-07  1.0614E-07      5268.6
1.1397E+10
       31.020  2.4372E-15  2.3994E-07  1.8329E-07  6.0930E-08      5268.6
1.1397E+10
       31.350  9.5889E-16  4.8814E-07  1.5181E-08  2.3972E-08      5268.6
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1.1397E+10
31.680 1.5223E-16 3.6036E-07 -3.9819E-08 3.8057E-09 5268.6
1.1397E+10
32.010 -1.5860E-16 1.7286E-07 -3.9504E-08 -3.9651E-09 5268.6
1.1397E+10
32.340 -2.3159E-16 4.7519E-08 -2.0189E-08 -5.7897E-09 5268.6
1.1397E+10
32.670 -2.3919E-16 1.2966E-08 -5.9999E-09 -1.3767E-09 5268.6
1.1397E+10
33.000 -2.2895E-16 0.0000 -5.8202E-24 -1.6536E-09 5268.6
1.1397E+10

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.026690 0.9074 -2.3022E-04 6.1674E+04 9936.0 0.0000
3978.9

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.026690 0.9074 -2.3022E-04 6.1674E+04 9936.0 0.0000
3978.9

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL
FLEXURAL
y-DIR MOMENT FORCE REACTION STRESS
RIGIDITY
FT IN LBS-IN LBS LBS/IN LBS-IN**2
LBS-IN**2
********** ********** ********** ********** ********** **********
****
0.0000 0.9074 0.0000 9936.0 152.78 3978.9

1.1397E+10
0.3300 0.8751 4.0974E+04 9740.7 157.82 4917.3
1.1397E+10
0.6600 0.8428 8.1132E+04 9525.9 162.70 5836.9
1.1397E+10
0.9900 0.8107 1.2039E+05 9292.0 167.42 6736.0
1.1397E+10
1.3200 0.7787 1.5868E+05 9039.7 171.98 7612.9
1.1397E+10
1.6500 0.7469 1.9592E+05 8769.8 176.36 8465.7
1.1397E+10
1.9800 0.7154 2.3204E+05 8482.8 180.57 9292.9
1.1397E+10
2.3100 0.6842 2.6697E+05 8179.5 184.60 1.0093E+04
1.1397E+10
2.6400 0.6533 3.0065E+05 7860.7 188.45 1.0864E+04
1.1397E+10
2.9700 0.6229 3.3301E+05 7526.9 192.11 1.1605E+04
1.1397E+10
3.3000 0.5930 3.6399E+05 7179.0 195.58 1.2314E+04
1.1397E+10
3.6300 0.5635 3.9353E+05 6817.8 198.85 1.2991E+04
1.1397E+10
3.9600 0.5346 4.2158E+05 6444.1 201.92 1.3633E+04
1.1397E+10
4.2900 0.5063 4.4810E+05 6058.6 204.78 1.4241E+04
1.1397E+10
4.6200 0.4786 4.7302E+05 5662.1 207.44 1.4812E+04
1.1397E+10
4.9500 0.4515 4.9632E+05 5255.6 209.88 1.5345E+04
1.1397E+10
5.2800 0.4251 5.1794E+05 4839.9 212.09 1.5840E+04
1.1397E+10
5.6100 0.3994 5.3786E+05 4415.8 214.09 1.6296E+04
1.1397E+10
5.9400 0.3745 5.5604E+05 3984.3 215.85 1.6713E+04
1.1397E+10
6.2700 0.3503 5.7244E+05 3546.2 217.38 1.7088E+04
1.1397E+10
6.6000 0.3270 5.8705E+05 3102.6 218.67 1.7423E+04
1.1397E+10
6.9300 0.3044 5.9985E+05 2654.3 219.72 1.7716E+04
1.1397E+10
7.2600 0.2827 6.1081E+05 2202.4 220.52 1.7967E+04
1.1397E+10
7.5900 0.2617 6.1992E+05 1747.8 221.06 1.8176E+04
1.1397E+10
7.9200 0.2417 6.2718E+05 1291.6 221.35 1.8342E+04
1.1397E+10
8.2500 0.2225 6.3257E+05 834.80 221.37 1.8465E+04
1.1397E+10

8.5800	0.2042	6.3610E+05	378.44	221.12	1.8546E+04
1.1397E+10					
8.9100	0.1868	6.3778E+05	-76.367	220.59	1.8584E+04
1.1397E+10					
9.2400	0.1702	6.3760E+05	-528.52	219.78	1.8580E+04
1.1397E+10					
9.5700	0.1545	6.3558E+05	-976.90	218.68	1.8534E+04
1.1397E+10					
9.9000	0.1397	6.3174E+05	-1420.3	217.28	1.8446E+04
1.1397E+10					
10.230	0.1257	6.2610E+05	-1857.6	215.58	1.8317E+04
1.1397E+10					
10.560	0.1127	6.1869E+05	-2287.6	213.57	1.8148E+04
1.1397E+10					
10.890	0.1004	6.0955E+05	-2708.9	211.24	1.7938E+04
1.1397E+10					
11.220	8.9041E-02	5.9870E+05	-3120.4	208.59	1.7690E+04
1.1397E+10					
11.550	7.8473E-02	5.8619E+05	-3520.8	205.59	1.7403E+04
1.1397E+10					
11.880	6.8712E-02	5.7207E+05	-3908.5	202.26	1.7080E+04
1.1397E+10					
12.210	5.9738E-02	5.5639E+05	-4282.4	198.56	1.6721E+04
1.1397E+10					
12.540	5.1529E-02	5.3921E+05	-4640.9	194.49	1.6327E+04
1.1397E+10					
12.870	4.4062E-02	5.2060E+05	-4982.5	190.04	1.5901E+04
1.1397E+10					
13.200	3.7312E-02	5.0062E+05	-5305.7	185.19	1.5444E+04
1.1397E+10					
13.530	3.1250E-02	4.7937E+05	-5608.8	179.92	1.4957E+04
1.1397E+10					
13.860	2.5848E-02	4.5691E+05	-5890.2	174.20	1.4443E+04
1.1397E+10					
14.190	2.1074E-02	4.3334E+05	-6148.1	168.02	1.3903E+04
1.1397E+10					
14.520	1.6897E-02	4.0877E+05	-6380.5	161.34	1.3340E+04
1.1397E+10					
14.850	1.3282E-02	3.8329E+05	-6585.3	154.12	1.2757E+04
1.1397E+10					
15.180	1.0195E-02	3.5703E+05	-6760.4	146.31	1.2155E+04
1.1397E+10					
15.510	7.5990E-03	3.3010E+05	-6903.2	137.83	1.1538E+04
1.1397E+10					
15.840	5.4571E-03	3.0264E+05	-7008.1	127.14	1.0910E+04
1.1397E+10					
16.170	3.7316E-03	2.7483E+05	-7068.8	115.52	1.0273E+04
1.1397E+10					
16.500	2.3843E-03	2.4685E+05	-7082.0	103.16	9632.0
1.1397E+10					
16.830	1.3766E-03	2.1889E+05	-7044.2	89.753	8991.7

1.1397E+10
17.160 6.7010E-04 1.9116E+05 -8273.7 637.16 8356.8
1.1397E+10
17.490 2.2663E-04 1.5343E+05 -1.0742E+04 609.70 7492.7
1.1397E+10
17.820 -5.7153E-06 1.0613E+05 -1.1852E+04 -49.405 6409.3
1.1397E+10
18.150 -9.2041E-05 5.9586E+04 -1.0330E+04 -719.34 5343.5
1.1397E+10
18.480 -9.6381E-05 2.4320E+04 -7266.7 -827.62 4535.9
1.1397E+10
18.810 -6.7257E-05 2031.5 -3944.0 -850.53 4025.5
1.1397E+10
19.140 -3.5338E-05 -6919.8 -1244.6 -512.80 4137.4
1.1397E+10
19.470 -1.2941E-05 -7829.1 180.12 -206.76 4158.2
1.1397E+10
19.800 -1.3153E-06 -5495.4 634.94 -22.945 4104.8
1.1397E+10
20.130 2.7485E-06 -2801.4 577.45 51.977 4043.1
1.1397E+10
20.460 2.9578E-06 -922.26 355.20 60.273 4000.1
1.1397E+10
20.790 1.8980E-06 11.806 153.76 41.462 3979.2
1.1397E+10
21.120 8.5457E-07 295.69 32.227 19.921 3985.7
1.1397E+10
21.450 2.1794E-07 267.15 -17.909 5.4001 3985.1
1.1397E+10
21.780 -5.1106E-08 153.91 -26.071 -1.2777 3982.5
1.1397E+10
22.110 -1.0839E-07 60.687 -18.176 -2.7097 3980.3
1.1397E+10
22.440 -8.2168E-08 9.9546 -8.7434 -2.0542 3979.2
1.1397E+10
22.770 -4.2252E-08 -8.5650 -2.5846 -1.0563 3979.1
1.1397E+10
23.100 -1.4120E-08 -10.519 0.2058 -0.3530 3979.2
1.1397E+10
23.430 -4.6240E-10 -6.9375 0.9276 -1.1560E-02 3979.1
1.1397E+10
23.760 3.6496E-09 -3.1736 0.7699 9.1241E-02 3979.0
1.1397E+10
24.090 3.3950E-09 -0.8403 0.4212 8.4874E-02 3979.0
1.1397E+10
24.420 1.9842E-09 0.1622 0.1549 4.9604E-02 3978.9
1.1397E+10
24.750 7.9651E-10 0.3867 1.7259E-02 1.9913E-02 3978.9
1.1397E+10
25.080 1.4097E-10 0.2990 -2.9147E-02 3.5242E-03 3978.9
1.1397E+10

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       25.410 -1.0320E-10      0.1559 -3.1016E-02 -2.5799E-03      3978.9
1.1397E+10
       25.740 -1.3280E-10  5.3346E-02 -1.9335E-02 -3.3199E-03      3978.9
1.1397E+10
       26.070 -8.8996E-11  2.8084E-03 -8.3561E-03 -2.2249E-03      3978.9
1.1397E+10
       26.400 -4.1330E-11 -1.2840E-02 -1.9050E-03 -1.0333E-03      3978.9
1.1397E+10
       26.730 -1.1332E-11 -1.2284E-02  7.0178E-04 -2.8330E-04      3978.9
1.1397E+10
       27.060  1.7643E-12 -7.2845E-03  1.1754E-03  4.4108E-05      3978.9
1.1397E+10
       27.390  4.8376E-12 -2.9760E-03  8.4858E-04  1.2094E-04      3978.9
1.1397E+10
       27.720  3.8160E-12 -5.6382E-04  4.2023E-04  9.5400E-05      3978.9
1.1397E+10
       28.050  2.0186E-12  3.5240E-04  1.3142E-04  5.0466E-05      3978.9
1.1397E+10
       28.380  7.0618E-13  4.7720E-04 -3.4617E-06  1.7655E-05      3978.9
1.1397E+10
       28.710  5.0314E-14  3.2510E-04 -4.0908E-05  1.2578E-06      3978.9
1.1397E+10
       29.040 -1.5823E-13  1.5326E-04 -3.5566E-05 -3.9558E-06      3978.9
1.1397E+10
       29.370 -1.5590E-13  4.3431E-05 -2.0017E-05 -3.8975E-06      3978.9
1.1397E+10
       29.700 -9.3809E-14 -5.2805E-06 -7.6565E-06 -2.3452E-06      3978.9
1.1397E+10
       30.030 -3.8985E-14 -1.7215E-05 -1.0832E-06 -9.7462E-07      3978.9
1.1397E+10
       30.360 -7.8472E-15 -1.3865E-05  1.2350E-06 -1.9618E-07      3978.9
1.1397E+10
       30.690  4.2132E-15 -7.4368E-06  1.4149E-06  1.0533E-07      3978.9
1.1397E+10
       31.020  6.0410E-15 -2.6599E-06  9.0728E-07  1.5102E-07      3978.9
1.1397E+10
       31.350  4.2090E-15 -2.5109E-07  3.9991E-07  1.0522E-07      3978.9
1.1397E+10
       31.680  2.0315E-15  5.0765E-07  9.1009E-08  5.0787E-08      3978.9
1.1397E+10
       32.010  5.5245E-16  4.6992E-07 -3.6895E-08  1.3811E-08      3978.9
1.1397E+10
       32.340 -2.7997E-16  2.1558E-07 -5.0383E-08 -6.9993E-09      3978.9
1.1397E+10
       32.670 -8.1577E-16  7.0979E-08 -2.7227E-08 -4.6952E-09      3978.9
1.1397E+10
       33.000 -1.2539E-15  2.8666E-22 -2.2603E-23 -9.0560E-09      3978.9
1.1397E+10
```

LOAD CASE : 4
CASE NAME : Service I, Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
2.13290E+06	3.25000E+05	-3.87967E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0634929	0.55251	-7.44321E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.099220	0.5525	-7.4432E-04	1.5182E+05	3.0280E+04	0.0000	

9794.9

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.099220	0.5525	-7.4432E-04	1.5182E+05	3.0280E+04	0.0000	9794.9

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.5525	0.0000	3.0280E+04	487.03	9794.9	1.1397E+10
0.3300	0.5197	1.2161E+05	2.8603E+04	499.97	1.2580E+04	1.1397E+10
0.6600	0.4871	2.3646E+05	2.6876E+04	511.94	1.5210E+04	1.1397E+10
0.9900	0.4549	3.4432E+05	2.5105E+04	522.90	1.7680E+04	1.1397E+10
1.3200	0.4231	4.4502E+05	2.3292E+04	532.82	1.9986E+04	1.1397E+10
1.6500	0.3919	5.3836E+05	2.1441E+04	541.65	2.2124E+04	1.1397E+10
1.9800	0.3614	6.2419E+05	1.9558E+04	549.36	2.4089E+04	1.1397E+10
2.3100	0.3318	7.0237E+05	1.7647E+04	555.92	2.5880E+04	1.1397E+10
2.6400	0.3032	7.7279E+05	1.5712E+04	561.28	2.7492E+04	1.1397E+10
2.9700	0.2757	8.3535E+05	1.3759E+04	565.40	2.8925E+04	1.1397E+10
3.3000	0.2492	8.8995E+05	1.1791E+04	568.24	3.0176E+04	1.1397E+10
3.6300	0.2241	9.3656E+05	9815.1	569.76	3.1243E+04	1.1397E+10
3.9600	0.2002	9.7514E+05	7835.8	569.92	3.2126E+04	1.1397E+10
4.2900	0.1776	1.0057E+06	5858.6	568.65	3.2826E+04	

1.1397E+10
4.6200 0.1564 1.0282E+06 3889.4 565.91 3.3341E+04
1.1397E+10
4.9500 0.1367 1.0427E+06 1934.0 561.65 3.3673E+04
1.1397E+10
5.2800 0.1183 1.0493E+06 -1.3505 555.80 3.3824E+04
1.1397E+10
5.6100 0.1015 1.0480E+06 -1910.2 548.28 3.3796E+04
1.1397E+10
5.9400 8.6032E-02 1.0391E+06 -3785.9 539.02 3.3590E+04
1.1397E+10
6.2700 7.2025E-02 1.0225E+06 -5621.2 527.92 3.3211E+04
1.1397E+10
6.6000 5.9424E-02 9.9858E+05 -7408.7 514.85 3.2663E+04
1.1397E+10
6.9300 4.8198E-02 9.6745E+05 -9140.3 499.68 3.1950E+04
1.1397E+10
7.2600 3.8303E-02 9.2939E+05 -1.0807E+04 482.21 3.1079E+04
1.1397E+10
7.5900 2.9686E-02 8.8467E+05 -1.2400E+04 462.16 3.0055E+04
1.1397E+10
7.9200 2.2287E-02 8.3362E+05 -1.3907E+04 439.15 2.8885E+04
1.1397E+10
8.2500 1.6035E-02 7.7660E+05 -1.5316E+04 412.53 2.7580E+04
1.1397E+10
8.5800 1.0852E-02 7.1405E+05 -1.6611E+04 381.23 2.6147E+04
1.1397E+10
8.9100 6.6504E-03 6.4647E+05 -1.7768E+04 343.02 2.4599E+04
1.1397E+10
9.2400 3.3388E-03 5.7447E+05 -1.8748E+04 292.14 2.2951E+04
1.1397E+10
9.5700 8.1768E-04 4.9887E+05 -1.9445E+04 200.02 2.1219E+04
1.1397E+10
9.9000 -1.0171E-03 4.2112E+05 -1.9086E+04 -241.44 1.9439E+04
1.1397E+10
10.230 -2.2724E-03 3.4817E+05 -1.7753E+04 -291.68 1.7768E+04
1.1397E+10
10.560 -3.0486E-03 2.8082E+05 -1.6270E+04 -317.58 1.6226E+04
1.1397E+10
10.890 -3.4385E-03 2.1949E+05 -1.4706E+04 -332.28 1.4821E+04
1.1397E+10
11.220 -3.5263E-03 1.6442E+05 -1.3098E+04 -339.86 1.3560E+04
1.1397E+10
11.550 -3.3879E-03 1.1575E+05 -1.1470E+04 -342.11 1.2446E+04
1.1397E+10
11.880 -3.0903E-03 7.3513E+04 -9842.7 -339.98 1.1478E+04
1.1397E+10
12.210 -2.6915E-03 3.7690E+04 -8231.0 -333.99 1.0658E+04
1.1397E+10
12.540 -2.2408E-03 8194.4 -6650.1 -324.44 9982.5
1.1397E+10

12.870	-1.7788E-03	-1.5117E+04	-5113.8	-311.45	1.0141E+04	1.1397E+10
13.200	-1.3377E-03	-3.2444E+04	-3635.9	-295.01	1.0538E+04	1.1397E+10
13.530	-9.4119E-04	-4.4041E+04	-2230.2	-274.92	1.0803E+04	1.1397E+10
13.860	-6.0528E-04	-5.0219E+04	-912.20	-250.73	1.0945E+04	1.1397E+10
14.190	-3.3847E-04	-5.1357E+04	299.59	-221.29	1.0971E+04	1.1397E+10
14.520	-1.4233E-04	-4.7916E+04	1378.1	-183.40	1.0892E+04	1.1397E+10
14.850	-1.2115E-05	-4.0492E+04	2277.4	-130.78	1.0722E+04	1.1397E+10
15.180	6.2385E-05	-2.9911E+04	2526.3	145.04	1.0480E+04	1.1397E+10
15.510	9.5730E-05	-2.0500E+04	2185.7	167.00	1.0264E+04	1.1397E+10
15.840	1.0087E-04	-1.2606E+04	1793.7	170.94	1.0084E+04	1.1397E+10
16.170	8.8662E-05	-6292.3	1403.1	166.36	9939.0	1.1397E+10
16.500	6.7797E-05	-1488.4	1041.6	156.23	9829.0	1.1397E+10
16.830	4.4884E-05	1963.6	729.27	141.50	9839.8	1.1397E+10
17.160	2.4674E-05	4293.9	308.69	140.91	9893.2	1.1397E+10
17.490	1.0371E-05	4413.7	-117.71	74.441	9895.9	1.1397E+10
17.820	2.1414E-06	3365.1	-301.75	18.511	9871.9	1.1397E+10
18.150	-1.4581E-06	2025.6	-309.21	-14.743	9841.3	1.1397E+10
18.480	-2.2705E-06	916.81	-227.97	-26.288	9815.9	1.1397E+10
18.810	-1.8215E-06	220.09	-128.88	-23.760	9799.9	1.1397E+10
19.140	-1.0696E-06	-104.07	-51.101	-15.521	9797.3	1.1397E+10
19.470	-4.6087E-07	-184.83	-5.7899	-7.3636	9799.1	1.1397E+10
19.800	-1.0648E-07	-150.08	12.468	-1.8575	9798.3	1.1397E+10
20.130	4.1412E-08	-86.161	14.595	0.7831	9796.8	1.1397E+10
20.460	7.0752E-08	-34.509	10.190	1.4418	9795.7	1.1397E+10
20.790	5.2609E-08	-5.4591	5.0597	1.1492	9795.0	1.1397E+10
21.120	2.6955E-08	5.5703	1.5401	0.6284	9795.0	

1.1397E+10
21.450 8.9656E-09 6.7450 -0.1439 0.2221 9795.0
1.1397E+10
21.780 2.5674E-10 4.4346 -0.5965 6.4184E-03 9795.0
1.1397E+10
22.110 -2.3504E-09 2.0226 -0.4928 -5.8761E-02 9794.9
1.1397E+10
22.440 -2.1746E-09 0.5317 -0.2688 -5.4366E-02 9794.9
1.1397E+10
22.770 -1.2673E-09 -0.1068 -9.8470E-02 -3.1682E-02 9794.9
1.1397E+10
23.100 -5.0690E-10 -0.2485 -1.0648E-02 -1.2672E-02 9794.9
1.1397E+10
23.430 -8.8385E-11 -0.1913 1.8818E-02 -2.2096E-03 9794.9
1.1397E+10
23.760 6.6866E-11 -9.9511E-02 1.9883E-02 1.6717E-03 9794.9
1.1397E+10
24.090 8.5197E-11 -3.3883E-02 1.2356E-02 2.1299E-03 9794.9
1.1397E+10
24.420 5.6905E-11 -1.6493E-03 5.3220E-03 1.4226E-03 9794.9
1.1397E+10
24.750 2.6345E-11 8.2760E-03 1.2012E-03 6.5861E-04 9794.9
1.1397E+10
25.080 7.1713E-12 7.8715E-03 -4.5788E-04 1.7928E-04 9794.9
1.1397E+10
25.410 -1.1713E-12 4.6538E-03 -7.5488E-04 -2.9282E-05 9794.9
1.1397E+10
25.740 -3.1104E-12 1.8944E-03 -5.4293E-04 -7.7761E-05 9794.9
1.1397E+10
26.070 -2.4430E-12 3.5401E-04 -2.6804E-04 -6.1075E-05 9794.9
1.1397E+10
26.400 -1.2884E-12 -2.2872E-04 -8.3334E-05 -3.2211E-05 9794.9
1.1397E+10
26.730 -4.4858E-13 -3.0629E-04 2.6478E-06 -1.1215E-05 9794.9
1.1397E+10
27.060 -3.0178E-14 -2.0794E-04 2.6346E-05 -7.5444E-07 9794.9
1.1397E+10
27.390 1.0211E-13 -9.7715E-05 2.2786E-05 2.5527E-06 9794.9
1.1397E+10
27.720 9.9946E-14 -2.7499E-05 1.2784E-05 2.4987E-06 9794.9
1.1397E+10
28.050 5.9947E-14 3.5404E-06 4.8693E-06 1.4987E-06 9794.9
1.1397E+10
28.380 2.4819E-14 1.1077E-05 6.7335E-07 6.2047E-07 9794.9
1.1397E+10
28.710 4.9323E-15 8.8817E-06 -7.9933E-07 1.2331E-07 9794.9
1.1397E+10
29.040 -2.7334E-15 4.7507E-06 -9.0818E-07 -6.8334E-08 9794.9
1.1397E+10
29.370 -3.8623E-15 1.6903E-06 -5.8169E-07 -9.6558E-08 9794.9
1.1397E+10

```
       29.700 -2.6655E-15  1.4373E-07 -2.5856E-07 -6.6638E-08      9794.9
1.1397E+10
       30.030 -1.2710E-15 -3.5790E-07 -6.3706E-08 -3.1774E-08      9794.9
1.1397E+10
       30.360 -3.6886E-16 -3.6117E-07  1.7466E-08 -9.2214E-09      9794.9
1.1397E+10
       30.690  3.6307E-17 -2.1976E-07  3.3927E-08  9.0767E-10      9794.9
1.1397E+10
       31.020  1.3909E-16 -9.2546E-08  2.5245E-08  3.4772E-09      9794.9
1.1397E+10
       31.350  1.1453E-16 -1.9835E-08  1.2691E-08  2.8633E-09      9794.9
1.1397E+10
       31.680  6.2682E-17  7.9793E-09  3.9191E-09  1.5670E-09      9794.9
1.1397E+10
       32.010  2.1812E-17  1.1218E-08 -2.6339E-10  5.4531E-10      9794.9
1.1397E+10
       32.340 -3.6219E-18  5.9033E-09 -1.1638E-09 -9.0548E-11      9794.9
1.1397E+10
       32.670 -2.0934E-17  2.0071E-09 -7.4597E-10 -1.2048E-10      9794.9
1.1397E+10
       33.000 -3.5483E-17 -4.4791E-24 -1.6554E-24 -2.5627E-10      9794.9
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.063493      0.5525 -7.4432E-04  1.1653E+05  1.0859E+04      0.0000
     7517.8


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.063493      0.5525 -7.4432E-04  1.1653E+05  1.0859E+04      0.0000
     7517.8


        * EFFECTS FOR LATERALLY LOADED PILE *
```

x	DISPL.	BENDING	SHEAR	SOIL	TOTAL FLEXURAL
	y-DIR	MOMENT	FORCE	REACTION	STRESS RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2 LBS-IN**2
**********	**********	**********	**********	**********	********** **********
0.0000	0.5525	0.0000	1.0859E+04	158.43	7517.8 1.1397E+10
0.3300	0.5288	4.5070E+04	1.0499E+04	163.35	8549.9 1.1397E+10
0.6600	0.5052	8.8669E+04	1.0120E+04	168.06	9548.4 1.1397E+10
0.9900	0.4817	1.3072E+05	9723.1	172.55	1.0511E+04 1.1397E+10
1.3200	0.4583	1.7113E+05	9308.5	176.83	1.1437E+04 1.1397E+10
1.6500	0.4352	2.0985E+05	8877.4	180.89	1.2323E+04 1.1397E+10
1.9800	0.4124	2.4679E+05	8430.7	184.71	1.3169E+04 1.1397E+10
2.3100	0.3900	2.8189E+05	7969.4	188.29	1.3973E+04 1.1397E+10
2.6400	0.3679	3.1510E+05	7494.3	191.63	1.4734E+04 1.1397E+10
2.9700	0.3463	3.4634E+05	7006.5	194.72	1.5449E+04 1.1397E+10
3.3000	0.3251	3.7558E+05	6507.0	197.55	1.6119E+04 1.1397E+10
3.6300	0.3044	4.0275E+05	5996.8	200.12	1.6741E+04 1.1397E+10
3.9600	0.2843	4.2782E+05	5477.0	202.42	1.7315E+04 1.1397E+10
4.2900	0.2648	4.5075E+05	4948.6	204.44	1.7840E+04 1.1397E+10
4.6200	0.2459	4.7149E+05	4412.8	206.17	1.8315E+04 1.1397E+10
4.9500	0.2277	4.9002E+05	3870.7	207.61	1.8740E+04 1.1397E+10
5.2800	0.2101	5.0632E+05	3323.5	208.75	1.9113E+04 1.1397E+10
5.6100	0.1933	5.2036E+05	2772.4	209.59	1.9434E+04 1.1397E+10
5.9400	0.1771	5.3212E+05	2218.6	210.11	1.9704E+04 1.1397E+10
6.2700	0.1617	5.4161E+05	1663.4	210.31	1.9921E+04 1.1397E+10
6.6000	0.1470	5.4880E+05	1108.0	210.18	2.0086E+04

1.1397E+10
6.9300 0.1331 5.5371E+05 553.83 209.71 2.0198E+04
1.1397E+10
7.2600 0.1199 5.5635E+05 2.2024 208.89 2.0259E+04
1.1397E+10
7.5900 0.1075 5.5671E+05 -545.49 207.72 2.0267E+04
1.1397E+10
7.9200 9.5911E-02 5.5482E+05 -1087.8 206.18 2.0224E+04
1.1397E+10
8.2500 8.5048E-02 5.5071E+05 -1623.3 204.26 2.0130E+04
1.1397E+10
8.5800 7.4942E-02 5.4441E+05 -2150.4 201.96 1.9985E+04
1.1397E+10
8.9100 6.5585E-02 5.3595E+05 -2667.6 199.25 1.9791E+04
1.1397E+10
9.2400 5.6965E-02 5.2538E+05 -3173.2 196.13 1.9549E+04
1.1397E+10
9.5700 4.9068E-02 5.1274E+05 -3665.7 192.58 1.9260E+04
1.1397E+10
9.9000 4.1877E-02 4.9810E+05 -4143.2 188.58 1.8925E+04
1.1397E+10
10.230 3.5371E-02 4.8153E+05 -4603.9 184.12 1.8545E+04
1.1397E+10
10.560 2.9528E-02 4.6308E+05 -5046.0 179.16 1.8123E+04
1.1397E+10
10.890 2.4322E-02 4.4285E+05 -5467.5 173.69 1.7659E+04
1.1397E+10
11.220 1.9725E-02 4.2092E+05 -5866.2 167.67 1.7157E+04
1.1397E+10
11.550 1.5708E-02 3.9739E+05 -6239.8 161.04 1.6618E+04
1.1397E+10
11.880 1.2237E-02 3.7237E+05 -6585.9 153.75 1.6045E+04
1.1397E+10
12.210 9.2787E-03 3.4598E+05 -6901.6 145.72 1.5441E+04
1.1397E+10
12.540 6.7963E-03 3.1835E+05 -7183.9 136.81 1.4808E+04
1.1397E+10
12.870 4.7520E-03 2.8961E+05 -7428.7 126.83 1.4150E+04
1.1397E+10
13.200 3.1062E-03 2.5994E+05 -7631.0 115.38 1.3471E+04
1.1397E+10
13.530 1.8180E-03 2.2952E+05 -7783.7 101.70 1.2774E+04
1.1397E+10
13.860 8.4564E-04 1.9856E+05 -7873.2 83.539 1.2065E+04
1.1397E+10
14.190 1.4648E-04 1.6736E+05 -7853.9 46.705 1.1350E+04
1.1397E+10
14.520 -3.2241E-04 1.3649E+05 -7514.6 -78.077 1.0644E+04
1.1397E+10
14.850 -6.0350E-04 1.0793E+05 -6909.1 -87.748 9989.4
1.1397E+10

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       15.180 -7.3608E-04  8.1820E+04     -6275.4     -92.314      9391.5
1.1397E+10
       15.510 -7.5609E-04  5.8245E+04     -5629.8     -93.744      8851.6
1.1397E+10
       15.840 -6.9595E-04  3.7228E+04     -4985.1     -91.820      8370.3
1.1397E+10
       16.170 -5.8459E-04  1.8742E+04     -4352.3     -87.813      7947.0
1.1397E+10
       16.500 -4.4745E-04      2728.8     -3738.5     -82.150      7580.3
1.1397E+10
       16.830 -3.0654E-04 -1.0899E+04     -3150.5     -74.848      7767.4
1.1397E+10
       17.160 -1.8064E-04 -2.2254E+04     -1917.0     -478.12      8027.4
1.1397E+10
       17.490 -8.5354E-05 -2.6108E+04      31.500     -505.98      8115.7
1.1397E+10
       17.820 -2.5992E-05 -2.2023E+04      1478.2     -224.69      8022.1
1.1397E+10
       18.150  3.0680E-06 -1.4411E+04      1861.7      31.021      7847.8
1.1397E+10
       18.480  1.2300E-05     -7282.7      1518.3      142.41      7684.6
1.1397E+10
       18.810  1.1511E-05     -2386.7      939.02      150.16      7572.4
1.1397E+10
       19.140  7.4385E-06      154.93      427.99      107.94      7521.3
1.1397E+10
       19.470  3.5791E-06      1003.9      101.03      57.186      7540.8
1.1397E+10
       19.800  1.1009E-06      955.87     -50.216      19.204      7539.7
1.1397E+10
       20.130 -6.2140E-08      606.58     -85.913     -1.1751      7531.7
1.1397E+10
       20.460 -3.9052E-07      275.61     -67.829     -7.9580      7524.1
1.1397E+10
       20.790 -3.3968E-07      69.400     -37.381     -7.4200      7519.4
1.1397E+10
       21.120 -1.9334E-07     -20.466     -13.765     -4.5070      7518.2
1.1397E+10
       21.450 -7.5164E-08     -39.652     -1.1539     -1.8624      7518.7
1.1397E+10
       21.780 -1.1546E-08     -29.626      3.1051     -0.2886      7518.5
1.1397E+10
       22.110  1.1309E-08     -15.069      3.1168      0.2827      7518.1
1.1397E+10
       22.440  1.3430E-08     -4.9434      1.8922      0.3358      7517.9
1.1397E+10
       22.770  8.7492E-09 -8.2155E-02      0.7944      0.2187      7517.8
1.1397E+10
       23.100  3.9553E-09      1.3490      0.1655  9.8882E-02      7517.8
1.1397E+10
       23.430  1.0175E-09      1.2294 -8.0673E-02  2.5438E-02      7517.8
```

1.1397E+10
23.760 -2.2869E-10 0.7106 -0.1197 -5.7173E-03 7517.8
1.1397E+10
24.090 -4.9720E-10 0.2814 -8.3789E-02 -1.2430E-02 7517.8
1.1397E+10
24.420 -3.7857E-10 4.6994E-02 -4.0439E-02 -9.4643E-03 7517.8
1.1397E+10
24.750 -1.9529E-10 -3.8958E-02 -1.2033E-02 -4.8822E-03 7517.8
1.1397E+10
25.080 -6.5610E-11 -4.8342E-02 8.8181E-04 -1.6402E-03 7517.8
1.1397E+10
25.410 -2.4455E-12 -3.1996E-02 4.2505E-03 -6.1139E-05 7517.8
1.1397E+10
25.740 1.6693E-11 -1.4687E-02 3.5453E-03 4.1734E-04 7517.8
1.1397E+10
26.070 1.5624E-11 -3.9199E-03 1.9456E-03 3.9059E-04 7517.8
1.1397E+10
26.400 9.1606E-12 7.2268E-04 7.1874E-04 2.2901E-04 7517.8
1.1397E+10
26.730 3.6917E-12 1.7739E-03 8.2553E-05 9.2293E-05 7517.8
1.1397E+10
27.060 6.6359E-13 1.3775E-03 -1.3303E-04 1.6590E-05 7517.8
1.1397E+10
27.390 -4.6919E-13 7.2073E-04 -1.4266E-04 -1.1730E-05 7517.8
1.1397E+10
27.720 -6.1030E-13 2.4779E-04 -8.9222E-05 -1.5257E-05 7517.8
1.1397E+10
28.050 -4.1046E-13 1.4081E-05 -3.8695E-05 -1.0261E-05 7517.8
1.1397E+10
28.380 -1.9124E-13 -5.8717E-05 -8.9104E-06 -4.7810E-06 7517.8
1.1397E+10
28.710 -5.2817E-14 -5.6531E-05 3.1705E-06 -1.3204E-06 7517.8
1.1397E+10
29.040 7.8235E-15 -3.3630E-05 5.3976E-06 1.9559E-07 7517.8
1.1397E+10
29.370 2.2191E-14 -1.3791E-05 3.9119E-06 5.5477E-07 7517.8
1.1397E+10
29.700 1.7582E-14 -2.6489E-06 1.9432E-06 4.3956E-07 7517.8
1.1397E+10
30.030 9.3292E-15 1.6005E-06 6.1105E-07 2.3323E-07 7517.8
1.1397E+10
30.360 3.2784E-15 2.1923E-06 -1.3023E-08 8.1960E-08 7517.8
1.1397E+10
30.690 2.4404E-16 1.4985E-06 -1.8738E-07 6.1010E-09 7517.8
1.1397E+10
31.020 -7.2853E-16 7.0869E-07 -1.6340E-07 -1.8213E-08 7517.8
1.1397E+10
31.350 -7.2597E-16 2.0442E-07 -9.1404E-08 -1.8149E-08 7517.8
1.1397E+10
31.680 -4.4214E-16 -1.5264E-08 -3.3583E-08 -1.1054E-08 7517.8
1.1397E+10

```
       32.010 -1.7932E-16 -6.1612E-08 -2.8201E-09 -4.4830E-09      7517.8
1.1397E+10
       32.340 -1.2671E-18 -3.7651E-08  6.1189E-09 -3.1677E-11      7517.8
1.1397E+10
       32.670  1.2498E-16 -1.3186E-08  4.7573E-09  7.1932E-10      7517.8
1.1397E+10
       33.000  2.3308E-16      0.0000  1.4354E-23  1.6834E-09      7517.8
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.027765      0.5525 -7.4432E-04  6.3619E+04      9256.6      0.0000
     4104.5


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.027765      0.5525 -7.4432E-04  6.3619E+04      9256.6      0.0000
     4104.5


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.5525      0.0000      9256.6      134.96      4104.5
1.1397E+10
       0.3300      0.5302  3.7568E+04      8990.9      139.24      4964.8
1.1397E+10
```

0.6600	0.5079	7.4047E+04	8708.6	143.35	5800.2	1.1397E+10
0.9900	0.4857	1.0937E+05	8410.3	147.30	6609.1	1.1397E+10
1.3200	0.4637	1.4347E+05	8096.7	151.07	7390.0	1.1397E+10
1.6500	0.4418	1.7629E+05	7768.6	154.67	8141.6	1.1397E+10
1.9800	0.4202	2.0776E+05	7426.5	158.08	8862.3	1.1397E+10
2.3100	0.3989	2.3783E+05	7071.3	161.31	9551.0	1.1397E+10
2.6400	0.3779	2.6645E+05	6703.7	164.35	1.0206E+04	1.1397E+10
2.9700	0.3573	2.9357E+05	6324.5	167.18	1.0828E+04	1.1397E+10
3.3000	0.3371	3.1914E+05	5934.4	169.82	1.1413E+04	1.1397E+10
3.6300	0.3174	3.4312E+05	5534.3	172.25	1.1962E+04	1.1397E+10
3.9600	0.2981	3.6546E+05	5125.0	174.47	1.2474E+04	1.1397E+10
4.2900	0.2793	3.8613E+05	4707.4	176.47	1.2947E+04	1.1397E+10
4.6200	0.2610	4.0510E+05	4282.2	178.25	1.3382E+04	1.1397E+10
4.9500	0.2433	4.2233E+05	3850.5	179.80	1.3776E+04	1.1397E+10
5.2800	0.2262	4.3781E+05	3413.1	181.12	1.4131E+04	1.1397E+10
5.6100	0.2096	4.5151E+05	2970.9	182.20	1.4444E+04	1.1397E+10
5.9400	0.1937	4.6340E+05	2525.0	183.03	1.4717E+04	1.1397E+10
6.2700	0.1785	4.7349E+05	2076.2	183.62	1.4948E+04	1.1397E+10
6.6000	0.1639	4.8175E+05	1625.6	183.95	1.5137E+04	1.1397E+10
6.9300	0.1499	4.8818E+05	1174.2	184.02	1.5284E+04	1.1397E+10
7.2600	0.1366	4.9278E+05	723.04	183.83	1.5390E+04	1.1397E+10
7.5900	0.1240	4.9555E+05	273.21	183.36	1.5453E+04	1.1397E+10
7.9200	0.1121	4.9650E+05	-174.21	182.61	1.5475E+04	1.1397E+10
8.2500	0.1009	4.9565E+05	-618.10	181.58	1.5455E+04	1.1397E+10
8.5800	9.0311E-02	4.9299E+05	-1057.3	180.25	1.5394E+04	1.1397E+10
8.9100	8.0435E-02	4.8857E+05	-1490.7	178.62	1.5293E+04	

1.1397E+10
9.2400 7.1231E-02 4.8240E+05 -1916.9 176.68 1.5152E+04
1.1397E+10
9.5700 6.2692E-02 4.7452E+05 -2334.9 174.42 1.4971E+04
1.1397E+10
9.9000 5.4805E-02 4.6496E+05 -2743.3 171.84 1.4752E+04
1.1397E+10
10.230 4.7558E-02 4.5375E+05 -3140.8 168.92 1.4496E+04
1.1397E+10
10.560 4.0935E-02 4.4096E+05 -3526.0 165.65 1.4203E+04
1.1397E+10
10.890 3.4919E-02 4.2663E+05 -3897.6 162.02 1.3875E+04
1.1397E+10
11.220 2.9490E-02 4.1082E+05 -4254.0 158.01 1.3513E+04
1.1397E+10
11.550 2.4626E-02 3.9360E+05 -4593.9 153.62 1.3118E+04
1.1397E+10
11.880 2.0304E-02 3.7502E+05 -4915.5 148.82 1.2693E+04
1.1397E+10
12.210 1.6498E-02 3.5518E+05 -5217.3 143.59 1.2238E+04
1.1397E+10
12.540 1.3180E-02 3.3416E+05 -5497.4 137.90 1.1757E+04
1.1397E+10
12.870 1.0323E-02 3.1203E+05 -5754.0 131.71 1.1250E+04
1.1397E+10
13.200 7.8944E-03 2.8892E+05 -5985.1 124.99 1.0721E+04
1.1397E+10
13.530 5.8636E-03 2.6492E+05 -6188.4 117.67 1.0171E+04
1.1397E+10
13.860 4.1974E-03 2.4014E+05 -6361.3 109.66 9603.9
1.1397E+10
14.190 2.8615E-03 2.1473E+05 -6500.9 100.81 9021.9
1.1397E+10
14.520 1.8211E-03 1.8881E+05 -6603.2 90.875 8428.3
1.1397E+10
14.850 1.0405E-03 1.6254E+05 -6663.0 79.321 7826.9
1.1397E+10
15.180 4.8351E-04 1.3612E+05 -6671.1 64.746 7221.7
1.1397E+10
15.510 1.1384E-04 1.0977E+05 -6601.5 40.118 6618.2
1.1397E+10
15.840 -1.0480E-04 8.3874E+04 -6286.0 -59.460 6025.3
1.1397E+10
16.170 -2.0804E-04 6.0003E+04 -5769.7 -61.283 5478.6
1.1397E+10
16.500 -2.2871E-04 3.8186E+04 -5250.2 -61.121 4979.0
1.1397E+10
16.830 -1.9684E-04 1.8421E+04 -4736.6 -58.279 4526.3
1.1397E+10
17.160 -1.3962E-04 666.71 -3583.2 -454.22 4119.7
1.1397E+10

17.490	-8.1491E-05	-9965.1	-1689.5	-502.22	4332.7	1.1397E+10
17.820	-3.7069E-05	-1.2720E+04	-60.591	-320.44	4395.8	1.1397E+10
18.150	-1.0150E-05	-1.0450E+04	777.08	-102.62	4343.8	1.1397E+10
18.480	2.3917E-06	-6568.5	925.44	27.691	4254.9	1.1397E+10
18.810	5.8952E-06	-3121.1	718.35	76.900	4176.0	1.1397E+10
19.140	5.1043E-06	-879.27	419.44	74.069	4124.6	1.1397E+10
19.470	3.1036E-06	201.06	174.59	49.589	4109.1	1.1397E+10
19.800	1.3795E-06	503.73	28.757	24.065	4116.0	1.1397E+10
20.130	3.4859E-07	428.98	-31.945	6.5922	4114.3	1.1397E+10
20.460	-9.2112E-08	250.82	-41.281	-1.8770	4110.2	1.1397E+10
20.790	-1.8770E-07	102.07	-29.447	-4.1002	4106.8	1.1397E+10
21.120	-1.4284E-07	17.607	-14.735	-3.3298	4104.9	1.1397E+10
21.450	-7.3762E-08	-14.640	-4.5233	-1.8277	4104.8	1.1397E+10
21.780	-2.4824E-08	-18.225	0.3243	-0.6206	4104.9	1.1397E+10
22.110	-9.6251E-10	-12.076	1.6007	-2.4063E-02	4104.8	1.1397E+10
22.440	6.2827E-09	-5.5494	1.3373	0.1571	4104.6	1.1397E+10
22.770	5.8922E-09	-1.4850	0.7347	0.1473	4104.5	1.1397E+10
23.100	3.4585E-09	0.2696	0.2718	8.6462E-02	4104.5	1.1397E+10
23.430	1.3956E-09	0.6682	3.1554E-02	3.4891E-02	4104.5	1.1397E+10
23.760	2.5223E-10	0.5197	-5.0016E-02	6.3058E-03	4104.5	1.1397E+10
24.090	-1.7615E-10	0.2722	-5.3782E-02	-4.4037E-03	4104.5	1.1397E+10
24.420	-2.3001E-10	9.3744E-02	-3.3677E-02	-5.7503E-03	4104.5	1.1397E+10
24.750	-1.5489E-10	5.4649E-03	-1.4624E-02	-3.8723E-03	4104.5	1.1397E+10
25.080	-7.2255E-11	-2.2090E-02	-3.3803E-03	-1.8064E-03	4104.5	1.1397E+10
25.410	-2.0009E-11	-2.1315E-02	1.1868E-03	-5.0024E-04	4104.5	1.1397E+10
25.740	2.9069E-12	-1.2695E-02	2.0334E-03	7.2672E-05	4104.5	

1.1397E+10
26.070 8.3556E-12 -5.2130E-03 1.4759E-03 2.0889E-04 4104.5
1.1397E+10
26.400 6.6316E-12 -1.0064E-03 7.3400E-04 1.6579E-04 4104.5
1.1397E+10
26.730 3.5228E-12 6.0056E-04 2.3136E-04 8.8071E-05 4104.5
1.1397E+10
27.060 1.2404E-12 8.2633E-04 -4.4233E-06 3.1010E-05 4104.5
1.1397E+10
27.390 9.4971E-14 5.6574E-04 -7.0525E-05 2.3743E-06 4104.5
1.1397E+10
27.720 -2.7204E-13 2.6787E-04 -6.1760E-05 -6.8009E-06 4104.5
1.1397E+10
28.050 -2.7046E-13 7.6629E-05 -3.4906E-05 -6.7616E-06 4104.5
1.1397E+10
28.380 -1.6346E-13 -8.5903E-06 -1.3427E-05 -4.0864E-06 4104.5
1.1397E+10
28.710 -6.8268E-14 -2.9727E-05 -1.9568E-06 -1.7067E-06 4104.5
1.1397E+10
29.040 -1.3983E-14 -2.4097E-05 2.1147E-06 -3.4957E-07 4104.5
1.1397E+10
29.370 7.1465E-15 -1.2984E-05 2.4531E-06 1.7866E-07 4104.5
1.1397E+10
29.700 1.0411E-14 -4.6707E-06 1.5840E-06 2.6027E-07 4104.5
1.1397E+10
30.030 7.2486E-15 -4.3870E-07 7.0982E-07 1.8121E-07 4104.5
1.1397E+10
30.360 3.4827E-15 9.5157E-07 1.7862E-07 8.7069E-08 4104.5
1.1397E+10
30.690 1.0262E-15 9.7638E-07 -4.4571E-08 2.5655E-08 4104.5
1.1397E+10
31.020 -8.6911E-17 5.9880E-07 -9.1065E-08 -2.1728E-09 4104.5
1.1397E+10
31.350 -3.7610E-16 2.5524E-07 -6.8146E-08 -9.4026E-09 4104.5
1.1397E+10
31.680 -3.1411E-16 5.9098E-08 -3.3981E-08 -7.8527E-09 4104.5
1.1397E+10
32.010 -1.7079E-16 -1.3903E-08 -9.9780E-09 -4.2699E-09 4104.5
1.1397E+10
32.340 -4.6612E-17 -1.9945E-08 7.8367E-10 -1.1653E-09 4104.5
1.1397E+10
32.670 5.0127E-17 -7.7105E-09 2.5197E-09 2.8851E-10 4104.5
1.1397E+10
33.000 1.3626E-16 0.0000 1.0056E-23 9.8408E-10 4104.5
1.1397E+10

LOAD CASE : 5
CASE NAME : Strength I (maxVmaxH), Expansion

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
3.00210E+06	3.42700E+05	-3.55259E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.11051	0.77132	-4.81570E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1336	0.7713	-4.8157E-04	1.8581E+05	3.3625E+04	0.0000	1.1988E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.1336	0.7713	-4.8157E-04	1.8581E+05	3.3625E+04	0.0000	1.1988E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.7713	0.0000	3.3625E+04	529.40	1.1988E+04	1.1397E+10
0.3300	0.7286	1.3777E+05	3.1919E+04	544.03	1.5143E+04	1.1397E+10
0.6600	0.6861	2.6863E+05	3.0157E+04	557.71	1.8140E+04	1.1397E+10
0.9900	0.6440	3.9234E+05	2.8343E+04	570.38	2.0973E+04	1.1397E+10
1.3200	0.6024	5.0867E+05	2.6481E+04	582.03	2.3637E+04	1.1397E+10
1.6500	0.5615	6.1740E+05	2.4575E+04	592.60	2.6127E+04	1.1397E+10
1.9800	0.5214	7.1835E+05	2.2630E+04	602.08	2.8439E+04	1.1397E+10
2.3100	0.4824	8.1133E+05	2.0649E+04	610.42	3.0568E+04	1.1397E+10
2.6400	0.4444	8.9619E+05	1.8637E+04	617.58	3.2511E+04	1.1397E+10
2.9700	0.4077	9.7281E+05	1.6599E+04	623.53	3.4266E+04	1.1397E+10
3.3000	0.3724	1.0411E+06	1.4541E+04	628.23	3.5829E+04	1.1397E+10
3.6300	0.3384	1.1008E+06	1.2466E+04	631.64	3.7198E+04	1.1397E+10
3.9600	0.3060	1.1521E+06	1.0380E+04	633.72	3.8372E+04	1.1397E+10
4.2900	0.2752	1.1948E+06	8289.0	634.43	3.9350E+04	1.1397E+10
4.6200	0.2460	1.2289E+06	6197.8	633.72	4.0131E+04	1.1397E+10

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       4.9500      0.2185  1.2544E+06      4112.4      631.55  4.0715E+04
1.1397E+10
       5.2800      0.1927  1.2714E+06      2038.5      627.86  4.1104E+04
1.1397E+10
       5.6100      0.1686  1.2798E+06     -17.675      622.60  4.1297E+04
1.1397E+10
       5.9400      0.1464  1.2799E+06     -2049.8      615.71  4.1298E+04
1.1397E+10
       6.2700      0.1259  1.2715E+06     -4051.2      607.12  4.1107E+04
1.1397E+10
       6.6000      0.1071  1.2551E+06     -6015.2      596.76  4.0730E+04
1.1397E+10
       6.9300  9.0082E-02  1.2306E+06     -7934.3      584.53  4.0169E+04
1.1397E+10
       7.2600  7.4745E-02  1.1982E+06     -9801.2      570.32  3.9428E+04
1.1397E+10
       7.5900  6.1056E-02  1.1583E+06 -1.1608E+04      554.01  3.8515E+04
1.1397E+10
       7.9200  4.8961E-02  1.1111E+06 -1.3345E+04      535.42  3.7433E+04
1.1397E+10
       8.2500  3.8395E-02  1.0568E+06 -1.5004E+04      514.32  3.6191E+04
1.1397E+10
       8.5800  2.9283E-02  9.9592E+05 -1.6573E+04      490.38  3.4795E+04
1.1397E+10
       8.9100  2.1541E-02  9.2872E+05 -1.8041E+04      463.12  3.3256E+04
1.1397E+10
       9.2400  1.5078E-02  8.5568E+05 -1.9393E+04      431.70  3.1584E+04
1.1397E+10
       9.5700  9.7914E-03  7.7731E+05 -2.0610E+04      394.63  2.9789E+04
1.1397E+10
       9.9000  5.5745E-03  6.9421E+05 -2.1661E+04      348.54  2.7886E+04
1.1397E+10
       10.230  2.3129E-03  6.0714E+05 -2.2492E+04      282.93  2.5892E+04
1.1397E+10
       10.560 -1.1340E-04  5.1713E+05 -2.2261E+04     -187.38  2.3831E+04
1.1397E+10
       10.890 -1.8281E-03  4.3160E+05 -2.0907E+04     -284.69  2.1872E+04
1.1397E+10
       11.220 -2.9490E-03  3.5208E+05 -1.9281E+04     -324.62  2.0051E+04
1.1397E+10
       11.550 -3.5854E-03  2.7922E+05 -1.7533E+04     -346.28  1.8382E+04
1.1397E+10
       11.880 -3.8377E-03  2.1338E+05 -1.5718E+04     -358.12  1.6875E+04
1.1397E+10
       12.210 -3.7963E-03  1.5477E+05 -1.3870E+04     -363.22  1.5532E+04
1.1397E+10
       12.540 -3.5420E-03  1.0348E+05 -1.2012E+04     -363.08  1.4358E+04
1.1397E+10
       12.870 -3.1454E-03  5.9512E+04 -1.0164E+04     -358.48  1.3351E+04
1.1397E+10
       13.200 -2.6668E-03  2.2816E+04     -8341.6     -349.87  1.2510E+04
```

1.1397E+10
13.530 -2.1568E-03 -6737.5 -6560.9 -337.47 1.2142E+04
1.1397E+10
13.860 -1.6561E-03 -2.9335E+04 -4836.7 -321.34 1.2660E+04
1.1397E+10
14.190 -1.1958E-03 -4.5223E+04 -3184.0 -301.38 1.3024E+04
1.1397E+10
14.520 -7.9772E-04 -5.4711E+04 -1618.6 -277.22 1.3241E+04
1.1397E+10
14.850 -4.7490E-04 -5.8176E+04 -158.84 -248.03 1.3320E+04
1.1397E+10
15.180 -2.3212E-04 -5.6074E+04 1171.1 -211.68 1.3272E+04
1.1397E+10
15.510 -6.6500E-05 -4.8976E+04 2326.6 -159.90 1.3110E+04
1.1397E+10
15.840 3.1733E-05 -3.7696E+04 2813.5 125.99 1.2851E+04
1.1397E+10
16.170 7.8098E-05 -2.6720E+04 2662.8 162.14 1.2600E+04
1.1397E+10
16.500 8.7699E-05 -1.6617E+04 2429.0 167.95 1.2368E+04
1.1397E+10
16.830 7.4435E-05 -7481.7 2195.9 161.78 1.2159E+04
1.1397E+10
17.160 5.0876E-05 780.97 1510.1 290.56 1.2006E+04
1.1397E+10
17.490 2.8393E-05 4487.0 531.29 203.80 1.2091E+04
1.1397E+10
17.820 1.2083E-05 4996.0 -79.033 104.45 1.2102E+04
1.1397E+10
18.150 2.6470E-06 3865.8 -338.83 26.764 1.2076E+04
1.1397E+10
18.480 -1.4696E-06 2315.0 -358.14 -17.015 1.2041E+04
1.1397E+10
18.810 -2.4010E-06 1030.3 -262.44 -31.319 1.2012E+04
1.1397E+10
19.140 -1.9146E-06 236.55 -145.41 -27.784 1.1993E+04
1.1397E+10
19.470 -1.1028E-06 -121.59 -55.511 -17.621 1.1991E+04
1.1397E+10
19.800 -4.5834E-07 -203.37 -4.7909 -7.9955 1.1993E+04
1.1397E+10
20.130 -9.3667E-08 -159.72 14.548 -1.7714 1.1992E+04
1.1397E+10
20.460 5.1243E-08 -88.249 15.987 1.0442 1.1990E+04
1.1397E+10
20.790 7.4729E-08 -33.131 10.687 1.6324 1.1989E+04
1.1397E+10
21.120 5.2629E-08 -3.6039 5.0262 1.2268 1.1988E+04
1.1397E+10
21.450 2.5569E-08 6.6854 1.3426 0.6336 1.1988E+04
1.1397E+10

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       21.780  7.7088E-09      7.0380     -0.2934      0.1927  1.1988E+04
1.1397E+10
       22.110 -4.6791E-10      4.3666     -0.6518 -1.1698E-02  1.1988E+04
1.1397E+10
       22.440 -2.6365E-09      1.8775     -0.4982 -6.5912E-02  1.1988E+04
1.1397E+10
       22.770 -2.2218E-09      0.4215     -0.2577 -5.5545E-02  1.1988E+04
1.1397E+10
       23.100 -1.2271E-09     -0.1635 -8.6949E-02 -3.0677E-02  1.1988E+04
1.1397E+10
       23.430 -4.5741E-10     -0.2674 -3.5659E-03 -1.1435E-02  1.1988E+04
1.1397E+10
       23.760 -5.5708E-11     -0.1920  2.1833E-02 -1.3927E-03  1.1988E+04
1.1397E+10
       24.090  8.1832E-11 -9.4628E-02  2.0540E-02  2.0458E-03  1.1988E+04
1.1397E+10
       24.420  8.9170E-11 -2.9331E-02  1.2076E-02  2.2293E-03  1.1988E+04
1.1397E+10
       24.750  5.6150E-11  1.0146E-03  4.8821E-03  1.4038E-03  1.1988E+04
1.1397E+10
       25.080  2.4526E-11  9.3472E-03  8.8869E-04  6.1315E-04  1.1988E+04
1.1397E+10
       25.410  5.7628E-12  8.0623E-03 -6.1060E-04  1.4407E-04  1.1988E+04
1.1397E+10
       25.740 -1.9069E-12  4.5162E-03 -8.0147E-04 -4.7673E-05  1.1988E+04
1.1397E+10
       26.070 -3.3627E-12  1.7164E-03 -5.4063E-04 -8.4066E-05  1.1988E+04
1.1397E+10
       26.400 -2.4567E-12  2.3451E-04 -2.5257E-04 -6.1418E-05  1.1988E+04
1.1397E+10
       26.730 -1.2281E-12 -2.8431E-04 -7.0167E-05 -3.0703E-05  1.1988E+04
1.1397E+10
       27.060 -3.9071E-13 -3.2160E-04  9.9651E-06 -9.7678E-06  1.1988E+04
1.1397E+10
       27.390  4.1938E-15 -2.0562E-04  2.9098E-05  1.0484E-07  1.1988E+04
1.1397E+10
       27.720  1.1618E-13 -9.1235E-05  2.3139E-05  2.9045E-06  1.1988E+04
1.1397E+10
       28.050  1.0263E-13 -2.2375E-05  1.2308E-05  2.5658E-06  1.1988E+04
1.1397E+10
       28.380  5.8298E-14  6.2561E-06  4.3421E-06  1.4574E-06  1.1988E+04
1.1397E+10
       28.710  2.2572E-14  1.2030E-05  3.3909E-07  5.6429E-07  1.1988E+04
1.1397E+10
       29.040  3.3982E-15  8.9519E-06 -9.4642E-07  8.4955E-08  1.1988E+04
1.1397E+10
       29.370 -3.4580E-15  4.5392E-06 -9.4346E-07 -8.6451E-08  1.1988E+04
1.1397E+10
       29.700 -4.0686E-15  1.4811E-06 -5.7089E-07 -1.0172E-07  1.1988E+04
1.1397E+10
       30.030 -2.6414E-15  1.7587E-08 -2.3875E-07 -6.6034E-08  1.1988E+04
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1.1397E+10
       30.360 -1.1899E-15 -4.1036E-07 -4.9099E-08 -2.9748E-08  1.1988E+04
1.1397E+10
       30.690 -3.0309E-16 -3.7171E-07  2.4805E-08 -7.5773E-09  1.1988E+04
1.1397E+10
       31.020  7.2279E-17 -2.1414E-07  3.6230E-08  1.8070E-09  1.1988E+04
1.1397E+10
       31.350  1.5300E-16 -8.4854E-08  2.5078E-08  3.8251E-09  1.1988E+04
1.1397E+10
       31.680  1.1697E-16 -1.5528E-08  1.1715E-08  2.9244E-09  1.1988E+04
1.1397E+10
       32.010  5.9580E-17  7.9435E-09  2.9752E-09  1.4895E-09  1.1988E+04
1.1397E+10
       32.340  1.3115E-17  8.0551E-09 -6.2318E-10  3.2787E-10  1.1988E+04
1.1397E+10
       32.670 -2.2266E-17  3.0231E-09 -1.0186E-09 -1.2816E-10  1.1988E+04
1.1397E+10
       33.000 -5.3488E-17  8.9582E-24 -6.9188E-25 -3.8630E-10  1.1988E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.1105      0.7713 -4.8157E-04  1.6298E+05  1.0511E+04      0.0000
 1.0515E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

            0.1105      0.7713 -4.8157E-04  1.6298E+05  1.0511E+04      0.0000
 1.0515E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
```

FLEXURAL

	y-DIR	MOMENT	FORCE	REACTION	STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.7713	0.0000	1.0511E+04	172.21	1.0515E+04	1.1397E+10
0.3300	0.7413	4.5991E+04	1.0238E+04	177.74	1.1568E+04	1.1397E+10
0.6600	0.7114	9.0846E+04	9943.3	183.07	1.2595E+04	1.1397E+10
0.9900	0.6816	1.3447E+05	9628.0	188.20	1.3594E+04	1.1397E+10
1.3200	0.6520	1.7678E+05	9292.7	193.12	1.4563E+04	1.1397E+10
1.6500	0.6227	2.1768E+05	8938.4	197.83	1.5500E+04	1.1397E+10
1.9800	0.5936	2.5709E+05	8565.8	202.32	1.6402E+04	1.1397E+10
2.3100	0.5649	2.9494E+05	8176.0	206.58	1.7269E+04	1.1397E+10
2.6400	0.5366	3.3114E+05	7769.7	210.60	1.8098E+04	1.1397E+10
2.9700	0.5088	3.6562E+05	7348.0	214.39	1.8888E+04	1.1397E+10
3.3000	0.4814	3.9833E+05	6911.7	217.94	1.9637E+04	1.1397E+10
3.6300	0.4546	4.2919E+05	6461.9	221.24	2.0343E+04	1.1397E+10
3.9600	0.4284	4.5814E+05	5999.6	224.28	2.1007E+04	1.1397E+10
4.2900	0.4028	4.8514E+05	5525.7	227.05	2.1625E+04	1.1397E+10
4.6200	0.3779	5.1013E+05	5041.3	229.56	2.2197E+04	1.1397E+10
4.9500	0.3537	5.3307E+05	4547.6	231.80	2.2722E+04	1.1397E+10
5.2800	0.3303	5.5392E+05	4045.6	233.76	2.3200E+04	1.1397E+10
5.6100	0.3076	5.7264E+05	3536.3	235.43	2.3629E+04	1.1397E+10
5.9400	0.2856	5.8920E+05	3021.1	236.81	2.4008E+04	1.1397E+10
6.2700	0.2645	6.0358E+05	2500.9	237.89	2.4337E+04	1.1397E+10
6.6000	0.2442	6.1576E+05	1977.1	238.66	2.4616E+04	1.1397E+10
6.9300	0.2248	6.2571E+05	1450.9	239.12	2.4844E+04	1.1397E+10

7.2600	0.2062	6.3344E+05	923.44	239.27	2.5021E+04
1.1397E+10					
7.5900	0.1885	6.3894E+05	396.07	239.08	2.5147E+04
1.1397E+10					
7.9200	0.1717	6.4220E+05	-129.93	238.57	2.5222E+04
1.1397E+10					
8.2500	0.1558	6.4325E+05	-653.21	237.72	2.5246E+04
1.1397E+10					
8.5800	0.1407	6.4208E+05	-1172.4	236.52	2.5219E+04
1.1397E+10					
8.9100	0.1266	6.3872E+05	-1686.2	234.96	2.5142E+04
1.1397E+10					
9.2400	0.1133	6.3320E+05	-2193.1	233.04	2.5015E+04
1.1397E+10					
9.5700	0.1009	6.2554E+05	-2691.6	230.75	2.4840E+04
1.1397E+10					
9.9000	8.9300E-02	6.1579E+05	-3180.3	228.08	2.4617E+04
1.1397E+10					
10.230	7.8590E-02	6.0399E+05	-3657.7	225.02	2.4346E+04
1.1397E+10					
10.560	6.8710E-02	5.9018E+05	-4122.2	221.56	2.4030E+04
1.1397E+10					
10.890	5.9643E-02	5.7443E+05	-4572.1	217.68	2.3669E+04
1.1397E+10					
11.220	5.1366E-02	5.5679E+05	-5005.9	213.39	2.3266E+04
1.1397E+10					
11.550	4.3855E-02	5.3735E+05	-5421.8	208.66	2.2820E+04
1.1397E+10					
11.880	3.7084E-02	5.1618E+05	-5818.1	203.49	2.2336E+04
1.1397E+10					
12.210	3.1023E-02	4.9336E+05	-6192.9	197.84	2.1813E+04
1.1397E+10					
12.540	2.5640E-02	4.6900E+05	-6544.5	191.72	2.1255E+04
1.1397E+10					
12.870	2.0903E-02	4.4318E+05	-6870.9	185.10	2.0664E+04
1.1397E+10					
13.200	1.6776E-02	4.1603E+05	-7169.9	177.95	2.0042E+04
1.1397E+10					
13.530	1.3221E-02	3.8765E+05	-7439.6	170.25	1.9392E+04
1.1397E+10					
13.860	1.0199E-02	3.5818E+05	-7677.6	161.97	1.8717E+04
1.1397E+10					
14.190	7.6707E-03	3.2774E+05	-7881.6	153.06	1.8020E+04
1.1397E+10					
14.520	5.5930E-03	2.9650E+05	-8049.0	143.47	1.7305E+04
1.1397E+10					
14.850	3.9233E-03	2.6461E+05	-8176.9	133.12	1.6574E+04
1.1397E+10					
15.180	2.6176E-03	2.3223E+05	-8262.0	121.91	1.5833E+04
1.1397E+10					
15.510	1.6315E-03	1.9955E+05	-8300.8	109.66	1.5084E+04

1.1397E+10
15.840 9.1997E-04 1.6676E+05 -8286.1 94.943 1.4334E+04
1.1397E+10
16.170 4.3787E-04 1.3411E+05 -8209.4 78.289 1.3586E+04
1.1397E+10
16.500 1.4030E-04 1.0187E+05 -8058.5 57.499 1.2848E+04
1.1397E+10
16.830 -1.7097E-05 7.0365E+04 -7657.2 -48.140 1.2126E+04
1.1397E+10
17.160 -7.7677E-05 4.1261E+04 -6580.8 -389.49 1.1460E+04
1.1397E+10
17.490 -8.1484E-05 1.8256E+04 -4837.6 -490.95 1.0933E+04
1.1397E+10
17.820 -6.0173E-05 2944.8 -2835.6 -520.16 1.0582E+04
1.1397E+10
18.150 -3.4810E-05 -4209.8 -1108.8 -351.97 1.0611E+04
1.1397E+10
18.480 -1.5239E-05 -5844.0 -62.530 -176.43 1.0649E+04
1.1397E+10
18.810 -3.7093E-06 -4710.1 382.61 -48.385 1.0623E+04
1.1397E+10
19.140 1.3398E-06 -2816.4 439.92 19.441 1.0579E+04
1.1397E+10
19.470 2.5136E-06 -1226.9 321.91 40.162 1.0543E+04
1.1397E+10
19.800 1.9993E-06 -266.98 173.33 34.876 1.0521E+04
1.1397E+10
20.130 1.1176E-06 146.10 62.428 21.135 1.0518E+04
1.1397E+10
20.460 4.3699E-07 227.71 2.9488 8.9048 1.0520E+04
1.1397E+10
20.790 6.9674E-08 169.63 -17.696 1.5220 1.0519E+04
1.1397E+10
21.120 -6.4243E-08 87.638 -17.745 -1.4976 1.0517E+04
1.1397E+10
21.450 -7.7575E-08 29.114 -10.974 -1.9221 1.0515E+04
1.1397E+10
21.780 -5.0848E-08 0.7247 -4.6508 -1.2712 1.0515E+04
1.1397E+10
22.110 -2.3124E-08 -7.7299 -0.9892 -0.5781 1.0515E+04
1.1397E+10
22.440 -6.0356E-09 -7.1173 0.4542 -0.1509 1.0515E+04
1.1397E+10
22.770 1.2596E-09 -4.1369 0.6906 3.1489E-02 1.0515E+04
1.1397E+10
23.100 2.8626E-09 -1.6494 0.4865 7.1564E-02 1.0515E+04
1.1397E+10
23.430 2.1960E-09 -0.2838 0.2361 5.4901E-02 1.0515E+04
1.1397E+10
23.760 1.1390E-09 0.2210 7.1044E-02 2.8476E-02 1.0515E+04
1.1397E+10

```
       24.090  3.8611E-10      0.2792 -4.4504E-03  9.6529E-03  1.0515E+04
1.1397E+10
       24.420  1.7335E-11      0.1859 -2.4421E-02  4.3337E-04  1.0515E+04
1.1397E+10
       24.750 -9.5614E-11  8.5845E-02 -2.0546E-02 -2.3903E-03  1.0515E+04
1.1397E+10
       25.080 -9.0445E-11  2.3222E-02 -1.1336E-02 -2.2611E-03  1.0515E+04
1.1397E+10
       25.410 -5.3324E-11 -3.9468E-03 -4.2198E-03 -1.3331E-03  1.0515E+04
1.1397E+10
       25.740 -2.1633E-11 -1.0210E-02 -5.0945E-04 -5.4083E-04  1.0515E+04
1.1397E+10
       26.070 -3.9910E-12 -7.9897E-03  7.5896E-04 -9.9775E-05  1.0515E+04
1.1397E+10
       26.400  2.6581E-12 -4.2030E-03  8.2493E-04  6.6453E-05  1.0515E+04
1.1397E+10
       26.730  3.5242E-12 -1.4574E-03  5.1891E-04  8.8105E-05  1.0515E+04
1.1397E+10
       27.060  2.3849E-12 -9.3171E-05  2.2641E-04  5.9623E-05  1.0515E+04
1.1397E+10
       27.390  1.1175E-12  3.3611E-04  5.3037E-05  2.7937E-05  1.0515E+04
1.1397E+10
       27.720  3.1249E-13  3.2722E-04 -1.7747E-05  7.8124E-06  1.0515E+04
1.1397E+10
       28.050 -4.2264E-14  1.9574E-04 -3.1124E-05 -1.0566E-06  1.0515E+04
1.1397E+10
       28.380 -1.2770E-13  8.0788E-05 -2.2711E-05 -3.1924E-06  1.0515E+04
1.1397E+10
       28.710 -1.0197E-13  1.5881E-05 -1.1342E-05 -2.5493E-06  1.0515E+04
1.1397E+10
       29.040 -5.4393E-14 -9.0534E-06 -3.6021E-06 -1.3598E-06  1.0515E+04
1.1397E+10
       29.370 -1.9272E-14 -1.2661E-05  4.4288E-08 -4.8180E-07  1.0515E+04
1.1397E+10
       29.700 -1.5730E-15 -8.7113E-06  1.0761E-06 -3.9324E-08  1.0515E+04
1.1397E+10
       30.030  4.1400E-15 -4.1424E-06  9.4905E-07  1.0350E-07  1.0515E+04
1.1397E+10
       30.360  4.1532E-15 -1.1957E-06  5.3854E-07  1.0383E-07  1.0515E+04
1.1397E+10
       30.690  2.5211E-15  1.2309E-07  2.0817E-07  6.3028E-08  1.0515E+04
1.1397E+10
       31.020  1.0585E-15  4.5348E-07  3.0977E-08  2.6462E-08  1.0515E+04
1.1397E+10
       31.350  2.1977E-16  3.6881E-07 -3.2295E-08  5.4944E-09  1.0515E+04
1.1397E+10
       31.680 -1.1145E-16  1.9790E-07 -3.7657E-08 -2.7863E-09  1.0515E+04
1.1397E+10
       32.010 -1.7039E-16  7.0629E-08 -2.3706E-08 -4.2597E-09  1.0515E+04
1.1397E+10
       32.340 -1.3214E-16  1.0145E-08 -8.7309E-09 -3.3036E-09  1.0515E+04
```

1.1397E+10
32.670 -7.9939E-17 1.4653E-09 -1.2788E-09 -4.6010E-10 1.0515E+04
1.1397E+10
33.000 -2.5719E-17 4.4791E-24 -1.0707E-24 -1.8575E-10 1.0515E+04
1.1397E+10

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.087399 0.7713 -4.8157E-04 1.4014E+05 8437.4 0.0000
9041.4

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.087399 0.7713 -4.8157E-04 1.4014E+05 8437.4 0.0000
9041.4

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL
FLEXURAL
y-DIR MOMENT FORCE REACTION STRESS
RIGIDITY
FT IN LBS-IN LBS LBS/IN LBS-IN**2
LBS-IN**2
********** ********** ********** ********** ********** **********
****
0.0000 0.7713 0.0000 8437.4 146.70 9041.4
1.1397E+10
0.3300 0.7433 3.7026E+04 8266.7 151.51 9889.3
1.1397E+10
0.6600 0.7152 7.3332E+04 8077.3 156.16 1.0721E+04
1.1397E+10
0.9900 0.6873 1.0884E+05 7869.8 160.66 1.1534E+04

1.1397E+10
1.3200 0.6596 1.4346E+05 7644.8 164.99 1.2327E+04
1.1397E+10
1.6500 0.6320 1.7714E+05 7402.9 169.15 1.3098E+04
1.1397E+10
1.9800 0.6047 2.0979E+05 7145.0 173.14 1.3846E+04
1.1397E+10
2.3100 0.5776 2.4134E+05 6871.5 176.96 1.4568E+04
1.1397E+10
2.6400 0.5509 2.7174E+05 6583.3 180.59 1.5264E+04
1.1397E+10
2.9700 0.5246 3.0091E+05 6281.1 184.04 1.5933E+04
1.1397E+10
3.3000 0.4987 3.2881E+05 5965.6 187.30 1.6571E+04
1.1397E+10
3.6300 0.4732 3.5536E+05 5637.6 190.36 1.7179E+04
1.1397E+10
3.9600 0.4483 3.8052E+05 5297.9 193.23 1.7756E+04
1.1397E+10
4.2900 0.4238 4.0425E+05 4947.2 195.89 1.8299E+04
1.1397E+10
4.6200 0.3999 4.2648E+05 4586.4 198.34 1.8808E+04
1.1397E+10
4.9500 0.3766 4.4718E+05 4216.3 200.58 1.9282E+04
1.1397E+10
5.2800 0.3539 4.6632E+05 3837.7 202.61 1.9720E+04
1.1397E+10
5.6100 0.3319 4.8385E+05 3451.6 204.41 2.0122E+04
1.1397E+10
5.9400 0.3105 4.9974E+05 3058.8 205.98 2.0486E+04
1.1397E+10
6.2700 0.2898 5.1397E+05 2660.2 207.33 2.0812E+04
1.1397E+10
6.6000 0.2698 5.2651E+05 2256.7 208.43 2.1099E+04
1.1397E+10
6.9300 0.2506 5.3735E+05 1849.4 209.30 2.1347E+04
1.1397E+10
7.2600 0.2320 5.4645E+05 1439.1 209.92 2.1556E+04
1.1397E+10
7.5900 0.2143 5.5383E+05 1026.8 210.29 2.1725E+04
1.1397E+10
7.9200 0.1973 5.5946E+05 613.61 210.40 2.1854E+04
1.1397E+10
8.2500 0.1810 5.6335E+05 200.47 210.25 2.1943E+04
1.1397E+10
8.5800 0.1655 5.6549E+05 -211.55 209.84 2.1992E+04
1.1397E+10
8.9100 0.1509 5.6590E+05 -621.38 209.15 2.2001E+04
1.1397E+10
9.2400 0.1370 5.6458E+05 -1027.9 208.18 2.1971E+04
1.1397E+10

9.5700	0.1238	5.6155E+05	-1430.1	206.93	2.1901E+04	1.1397E+10
9.9000	0.1115	5.5682E+05	-1826.7	205.39	2.1793E+04	1.1397E+10
10.230	9.9871E-02	5.5044E+05	-2216.6	203.54	2.1647E+04	1.1397E+10
10.560	8.9035E-02	5.4241E+05	-2598.7	201.40	2.1463E+04	1.1397E+10
10.890	7.8946E-02	5.3279E+05	-2971.6	198.94	2.1243E+04	1.1397E+10
11.220	6.9590E-02	5.2160E+05	-3334.1	196.16	2.0987E+04	1.1397E+10
11.550	6.0952E-02	5.0890E+05	-3684.9	193.05	2.0696E+04	1.1397E+10
11.880	5.3014E-02	4.9474E+05	-4022.8	189.60	2.0371E+04	1.1397E+10
12.210	4.5756E-02	4.7917E+05	-4346.3	185.80	2.0015E+04	1.1397E+10
12.540	3.9158E-02	4.6226E+05	-4654.1	181.64	1.9628E+04	1.1397E+10
12.870	3.3196E-02	4.4407E+05	-4944.7	177.10	1.9211E+04	1.1397E+10
13.200	2.7845E-02	4.2468E+05	-5216.5	172.17	1.8767E+04	1.1397E+10
13.530	2.3079E-02	4.0418E+05	-5467.9	166.84	1.8297E+04	1.1397E+10
13.860	1.8868E-02	3.8264E+05	-5697.4	161.07	1.7804E+04	1.1397E+10
14.190	1.5184E-02	3.6016E+05	-5903.2	154.86	1.7289E+04	1.1397E+10
14.520	1.1996E-02	3.3684E+05	-6083.4	148.15	1.6755E+04	1.1397E+10
14.850	9.2707E-03	3.1281E+05	-6236.0	140.92	1.6205E+04	1.1397E+10
15.180	6.9760E-03	2.8816E+05	-6358.9	133.12	1.5640E+04	1.1397E+10
15.510	5.0779E-03	2.6303E+05	-6449.5	124.66	1.5065E+04	1.1397E+10
15.840	3.5417E-03	2.3756E+05	-6502.6	114.15	1.4482E+04	1.1397E+10
16.170	2.3324E-03	2.1192E+05	-6512.3	102.74	1.3894E+04	1.1397E+10
16.500	1.4146E-03	1.8628E+05	-6475.2	90.537	1.3307E+04	1.1397E+10
16.830	7.5316E-04	1.6085E+05	-6387.4	77.143	1.2725E+04	1.1397E+10
17.160	3.1303E-04	1.3585E+05	-7370.3	525.25	1.2152E+04	1.1397E+10
17.490	5.9826E-05	1.0258E+05	-9254.5	426.38	1.1391E+04	1.1397E+10
17.820	-5.2241E-05	6.2602E+04	-9204.6	-451.60	1.0475E+04	

1.1397E+10
18.150 -7.8172E-05 2.9696E+04 -6953.8 -685.20 9721.5
1.1397E+10
18.480 -6.3243E-05 7529.6 -4147.3 -732.21 9213.8
1.1397E+10
18.810 -3.7953E-05 -3156.1 -1717.2 -495.08 9113.7
1.1397E+10
19.140 -1.7007E-05 -6077.5 -248.35 -246.78 9180.6
1.1397E+10
19.470 -4.4219E-06 -5127.7 380.17 -70.652 9158.8
1.1397E+10
19.800 1.1073E-06 -3069.0 481.82 19.316 9111.7
1.1397E+10
20.130 2.4136E-06 -1312.7 353.20 45.644 9071.5
1.1397E+10
20.460 1.9138E-06 -271.83 185.61 38.999 9047.6
1.1397E+10
20.790 1.0400E-06 157.51 63.406 22.718 9045.0
1.1397E+10
21.120 3.8286E-07 230.56 0.7539 8.9249 9046.7
1.1397E+10
21.450 4.2996E-08 163.62 -19.027 1.0653 9045.2
1.1397E+10
21.780 -7.1742E-08 79.935 -17.585 -1.7935 9043.2
1.1397E+10
22.110 -7.6493E-08 24.362 -10.247 -1.9123 9042.0
1.1397E+10
22.440 -4.7723E-08 -1.2275 -4.0987 -1.1931 9041.4
1.1397E+10
22.770 -2.0643E-08 -8.1074 -0.7146 -0.5161 9041.6
1.1397E+10
23.100 -4.7173E-09 -6.8929 0.5407 -0.1179 9041.6
1.1397E+10
23.430 1.7238E-09 -3.8278 0.6889 4.3095E-02 9041.5
1.1397E+10
23.760 2.8981E-09 -1.4377 0.4601 7.2453E-02 9041.4
1.1397E+10
24.090 2.0942E-09 -0.1835 0.2130 5.2355E-02 9041.4
1.1397E+10
24.420 1.0378E-09 0.2497 5.7985E-02 2.5945E-02 9041.4
1.1397E+10
24.750 3.2495E-10 0.2760 -9.4723E-03 8.1238E-03 9041.4
1.1397E+10
25.080 -8.2027E-12 0.1748 -2.5151E-02 -2.0507E-04 9041.4
1.1397E+10
25.410 -1.0084E-10 7.6825E-02 -1.9754E-02 -2.5209E-03 9041.4
1.1397E+10
25.740 -8.7765E-11 1.8364E-02 -1.0418E-02 -2.1941E-03 9041.4
1.1397E+10
26.070 -4.9426E-11 -5.6937E-03 -3.6272E-03 -1.2356E-03 9041.4
1.1397E+10

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       26.400 -1.8921E-11 -1.0373E-02 -2.4400E-04 -4.7302E-04      9041.4
1.1397E+10
       26.730 -2.6883E-12 -7.6328E-03  8.2564E-04 -6.7208E-05      9041.4
1.1397E+10
       27.060  3.0417E-12 -3.8371E-03  8.0815E-04  7.6043E-05      9041.4
1.1397E+10
       27.390  3.4922E-12 -1.2331E-03  4.8472E-04  8.7305E-05      9041.4
1.1397E+10
       27.720  2.2460E-12  2.0073E-06  2.0068E-04  5.6149E-05      9041.4
1.1397E+10
       28.050  1.0025E-12  3.5663E-04  3.9884E-05  2.5062E-05      9041.4
1.1397E+10
       28.380  2.4971E-13  3.1817E-04 -2.2100E-05  6.2428E-06      9041.4
1.1397E+10
       28.710 -6.5284E-14  1.8175E-04 -3.1229E-05 -1.6321E-06      9041.4
1.1397E+10
       29.040 -1.3020E-13  7.0887E-05 -2.1552E-05 -3.2551E-06      9041.4
1.1397E+10
       29.370 -9.7588E-14  1.1059E-05 -1.0276E-05 -2.4397E-06      9041.4
1.1397E+10
       29.700 -4.9755E-14 -1.0514E-05 -2.9830E-06 -1.2439E-06      9041.4
1.1397E+10
       30.030 -1.6388E-14 -1.2578E-05  2.9103E-07 -4.0970E-07      9041.4
1.1397E+10
       30.360 -3.2803E-16 -8.2156E-06  1.1185E-06 -8.2008E-09      9041.4
1.1397E+10
       30.690  4.4277E-15 -3.7229E-06  9.1554E-07  1.1069E-07      9041.4
1.1397E+10
       31.020  4.0609E-15 -9.6520E-07  4.9535E-07  1.0152E-07      9041.4
1.1397E+10
       31.350  2.3661E-15  2.0060E-07  1.7721E-07  5.9153E-08      9041.4
1.1397E+10
       31.680  9.4734E-16  4.3875E-07  1.3195E-08  2.3683E-08      9041.4
1.1397E+10
       32.010  1.3224E-16  3.0542E-07 -4.0244E-08  3.3060E-09      9041.4
1.1397E+10
       32.340 -2.6262E-16  1.2018E-07 -3.3790E-08 -6.5656E-09      9041.4
1.1397E+10
       32.670 -4.9212E-16  3.7887E-08 -1.5182E-08 -2.8324E-09      9041.4
1.1397E+10
       33.000 -6.6949E-16  7.1666E-23 -2.0713E-23 -4.8352E-09      9041.4
1.1397E+10



     LOAD CASE :     6
     CASE NAME : Strength I (minVmaxH), Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
```

ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.52990E+06	3.42700E+05	-1.61197E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0388725	0.73638	-8.86726E-05

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.043129	0.7364	-8.8673E-05	9.1411E+04	3.3522E+04	0.0000	5897.5

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.043129	0.7364	-8.8673E-05	9.1411E+04	3.3522E+04	0.0000	5897.5

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.7364	0.0000	3.3522E+04	523.30	5897.5	1.1397E+10
0.3300	0.6955	1.3321E+05	3.1840E+04	537.74	8948.1	1.1397E+10
0.6600	0.6548	2.5964E+05	3.0104E+04	551.22	1.1843E+04	1.1397E+10
0.9900	0.6144	3.7905E+05	2.8316E+04	563.72	1.4578E+04	1.1397E+10
1.3200	0.5746	4.9123E+05	2.6481E+04	575.19	1.7147E+04	1.1397E+10
1.6500	0.5354	5.9600E+05	2.4602E+04	585.60	1.9546E+04	1.1397E+10
1.9800	0.4971	6.9317E+05	2.2685E+04	594.92	2.1771E+04	1.1397E+10
2.3100	0.4597	7.8258E+05	2.0732E+04	603.11	2.3819E+04	1.1397E+10
2.6400	0.4234	8.6410E+05	1.8750E+04	610.13	2.5686E+04	1.1397E+10
2.9700	0.3883	9.3761E+05	1.6742E+04	615.95	2.7369E+04	1.1397E+10
3.3000	0.3545	1.0030E+06	1.4714E+04	620.53	2.8867E+04	1.1397E+10
3.6300	0.3220	1.0602E+06	1.2669E+04	623.83	3.0177E+04	1.1397E+10
3.9600	0.2910	1.1091E+06	1.0615E+04	625.82	3.1298E+04	1.1397E+10
4.2900	0.2616	1.1498E+06	8555.2	626.43	3.2229E+04	1.1397E+10
4.6200	0.2337	1.1821E+06	6495.9	625.65	3.2969E+04	1.1397E+10
4.9500	0.2074	1.2062E+06	4442.5	623.41	3.3520E+04	1.1397E+10
5.2800	0.1828	1.2220E+06	2401.0	619.66	3.3882E+04	

1.1397E+10
5.6100 0.1599 1.2295E+06 377.35 614.36 3.4055E+04
1.1397E+10
5.9400 0.1387 1.2290E+06 -1622.1 607.44 3.4042E+04
1.1397E+10
6.2700 0.1192 1.2204E+06 -3590.8 598.84 3.3846E+04
1.1397E+10
6.6000 0.1013 1.2040E+06 -5521.9 588.48 3.3469E+04
1.1397E+10
6.9300 8.5114E-02 1.1798E+06 -7408.3 576.27 3.2916E+04
1.1397E+10
7.2600 7.0543E-02 1.1481E+06 -9242.5 562.10 3.2190E+04
1.1397E+10
7.5900 5.7552E-02 1.1091E+06 -1.1016E+04 545.84 3.1297E+04
1.1397E+10
7.9200 4.6087E-02 1.0631E+06 -1.2722E+04 527.33 3.0243E+04
1.1397E+10
8.2500 3.6084E-02 1.0103E+06 -1.4349E+04 506.34 2.9035E+04
1.1397E+10
8.5800 2.7472E-02 9.5116E+05 -1.5887E+04 482.55 2.7680E+04
1.1397E+10
8.9100 2.0169E-02 8.8596E+05 -1.7324E+04 455.47 2.6187E+04
1.1397E+10
9.2400 1.4084E-02 8.1518E+05 -1.8646E+04 424.31 2.4566E+04
1.1397E+10
9.5700 9.1214E-03 7.3929E+05 -1.9834E+04 387.56 2.2828E+04
1.1397E+10
9.9000 5.1757E-03 6.5890E+05 -2.0859E+04 341.94 2.0987E+04
1.1397E+10
10.230 2.1367E-03 5.7473E+05 -2.1665E+04 277.04 1.9059E+04
1.1397E+10
10.560 -1.1150E-04 4.8780E+05 -2.1421E+04 -187.99 1.7068E+04
1.1397E+10
10.890 -1.6885E-03 4.0542E+05 -2.0076E+04 -279.43 1.5182E+04
1.1397E+10
11.220 -2.7077E-03 3.2904E+05 -1.8473E+04 -317.99 1.3433E+04
1.1397E+10
11.550 -3.2742E-03 2.5926E+05 -1.6753E+04 -338.69 1.1835E+04
1.1397E+10
11.880 -3.4839E-03 1.9642E+05 -1.4971E+04 -349.73 1.0396E+04
1.1397E+10
12.210 -3.4234E-03 1.4070E+05 -1.3157E+04 -354.11 9119.7
1.1397E+10
12.540 -3.1693E-03 9.2187E+04 -1.1337E+04 -353.27 8008.6
1.1397E+10
12.870 -2.7883E-03 5.0859E+04 -9528.6 -347.98 7062.2
1.1397E+10
13.200 -2.3373E-03 1.6644E+04 -7749.3 -338.65 6278.6
1.1397E+10
13.530 -1.8635E-03 -1.0600E+04 -6014.6 -325.47 6140.2
1.1397E+10

13.860	-1.4042E-03	-3.1077E+04	-4339.7	-308.43	6609.1	1.1397E+10
14.190	-9.8771E-04	-4.5051E+04	-2740.4	-287.32	6929.2	1.1397E+10
14.520	-6.3319E-04	-5.2852E+04	-1233.9	-261.56	7107.8	1.1397E+10
14.850	-3.5140E-04	-5.4882E+04	158.62	-229.72	7154.3	1.1397E+10
15.180	-1.4511E-04	-5.1640E+04	1404.4	-187.47	7080.1	1.1397E+10
15.510	-9.8801E-06	-4.3790E+04	2390.3	-98.485	6900.3	1.1397E+10
15.840	6.5098E-05	-3.2728E+04	2695.3	156.47	6646.9	1.1397E+10
16.170	9.5045E-05	-2.2453E+04	2463.6	172.54	6411.6	1.1397E+10
16.500	9.4098E-05	-1.3219E+04	2200.1	172.55	6200.2	1.1397E+10
16.830	7.4963E-05	-5026.2	1954.8	163.36	6012.6	1.1397E+10
17.160	4.8913E-05	2267.3	1288.1	279.35	5949.4	1.1397E+10
17.490	2.5982E-05	5180.0	365.74	186.49	6016.1	1.1397E+10
17.820	1.0178E-05	5167.5	-177.73	87.987	6015.8	1.1397E+10
18.150	1.4852E-06	3774.6	-381.68	15.017	5983.9	1.1397E+10
18.480	-2.0145E-06	2145.7	-365.23	-23.323	5946.6	1.1397E+10
18.810	-2.5617E-06	882.34	-252.89	-33.416	5917.7	1.1397E+10
19.140	-1.8949E-06	142.84	-132.28	-27.497	5900.7	1.1397E+10
19.470	-1.0315E-06	-165.49	-45.208	-16.481	5901.2	1.1397E+10
19.800	-3.9588E-07	-215.35	1.0992	-6.9058	5902.4	1.1397E+10
20.130	-5.6537E-08	-156.88	16.890	-1.0692	5901.0	1.1397E+10
20.460	6.6951E-08	-81.621	16.305	1.3643	5899.3	1.1397E+10
20.790	7.8134E-08	-27.750	10.225	1.7068	5898.1	1.1397E+10
21.120	5.1133E-08	-0.6412	4.4850	1.1920	5897.5	1.1397E+10
21.450	2.3251E-08	7.7758	0.9842	0.5761	5897.6	1.1397E+10
21.780	6.0675E-09	7.1576	-0.4569	0.1517	5897.6	1.1397E+10
22.110	-1.2674E-09	4.1598	-0.6945	-3.1685E-02	5897.6	

1.1397E+10
22.440 -2.8787E-09 1.6583 -0.4892 -7.1967E-02 5897.5
1.1397E+10
22.770 -2.2082E-09 0.2852 -0.2374 -5.5204E-02 5897.5
1.1397E+10
23.100 -1.1453E-09 -0.2223 -7.1434E-02 -2.8632E-02 5897.5
1.1397E+10
23.430 -3.8822E-10 -0.2807 4.4740E-03 -9.7055E-03 5897.5
1.1397E+10
23.760 -1.7430E-11 -0.1869 2.4554E-02 -4.3574E-04 5897.5
1.1397E+10
24.090 9.6131E-11 -8.6310E-02 2.0658E-02 2.4033E-03 5897.5
1.1397E+10
24.420 9.0934E-11 -2.3347E-02 1.1398E-02 2.2734E-03 5897.5
1.1397E+10
24.750 5.3613E-11 3.9682E-03 4.2431E-03 1.3403E-03 5897.5
1.1397E+10
25.080 2.1752E-11 1.0265E-02 5.1260E-04 5.4379E-04 5897.5
1.1397E+10
25.410 4.0141E-12 8.0325E-03 -7.6280E-04 1.0035E-04 5897.5
1.1397E+10
25.740 -2.6713E-12 4.2256E-03 -8.2927E-04 -6.6783E-05 5897.5
1.1397E+10
26.070 -3.5426E-12 1.4654E-03 -5.2168E-04 -8.8564E-05 5897.5
1.1397E+10
26.400 -2.3976E-12 9.3805E-05 -2.2764E-04 -5.9940E-05 5897.5
1.1397E+10
26.730 -1.1235E-12 -3.3781E-04 -5.3350E-05 -2.8088E-05 5897.5
1.1397E+10
27.060 -3.1428E-13 -3.2892E-04 1.7821E-05 -7.8570E-06 5897.5
1.1397E+10
27.390 4.2398E-14 -1.9677E-04 3.1279E-05 1.0599E-06 5897.5
1.1397E+10
27.720 1.2833E-13 -8.1225E-05 2.2829E-05 3.2082E-06 5897.5
1.1397E+10
28.050 1.0249E-13 -1.5976E-05 1.1403E-05 2.5624E-06 5897.5
1.1397E+10
28.380 5.4681E-14 9.0936E-06 3.6228E-06 1.3670E-06 5897.5
1.1397E+10
28.710 1.9380E-14 1.2725E-05 -4.3221E-08 4.8450E-07 5897.5
1.1397E+10
29.040 1.5869E-15 8.7561E-06 -1.0811E-06 3.9672E-08 5897.5
1.1397E+10
29.370 -4.1582E-15 4.1645E-06 -9.5379E-07 -1.0396E-07 5897.5
1.1397E+10
29.700 -4.1732E-15 1.2026E-06 -5.4139E-07 -1.0433E-07 5897.5
1.1397E+10
30.030 -2.5333E-15 -1.2340E-07 -2.0942E-07 -6.3334E-08 5897.5
1.1397E+10
30.360 -1.0633E-15 -4.5623E-07 -3.1381E-08 -2.6583E-08 5897.5
1.1397E+10

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       30.690 -2.2104E-16 -3.7215E-07  3.2195E-08 -5.5260E-09      5897.5
1.1397E+10
       31.020  1.0919E-16 -2.0136E-07  3.7731E-08  2.7297E-09      5897.5
1.1397E+10
       31.350  1.6237E-16 -7.3347E-08  2.4290E-08  4.0591E-09      5897.5
1.1397E+10
       31.680  1.1462E-16 -8.9828E-09  1.0579E-08  2.8655E-09      5897.5
1.1397E+10
       32.010  5.4516E-17  1.0446E-08  2.2064E-09  1.3629E-09      5897.5
1.1397E+10
       32.340  8.7856E-18  8.5018E-09 -9.2702E-10  2.1964E-10      5897.5
1.1397E+10
       32.670 -2.5247E-17  3.1117E-09 -1.0742E-09 -1.4531E-10      5897.5
1.1397E+10
       33.000 -5.4998E-17  8.9582E-24 -1.5979E-24 -3.9721E-10      5897.5
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.038872      0.7364 -8.8673E-05  8.3711E+04  1.0598E+04      0.0000
     5400.7


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.038872      0.7364 -8.8673E-05  8.3711E+04  1.0598E+04      0.0000
     5400.7


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
```

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.7364	0.0000	1.0598E+04	170.23	5400.7	1.1397E+10
0.3300	0.7078	4.3857E+04	1.0333E+04	175.70	6405.1	1.1397E+10
0.6600	0.6793	8.6616E+04	1.0046E+04	180.97	7384.3	1.1397E+10
0.9900	0.6509	1.2819E+05	9739.4	186.04	8336.4	1.1397E+10
1.3200	0.6226	1.6849E+05	9412.8	190.91	9259.4	1.1397E+10
1.6500	0.5946	2.0745E+05	9067.4	195.57	1.0151E+04	1.1397E+10
1.9800	0.5669	2.4497E+05	8703.9	200.00	1.1011E+04	1.1397E+10
2.3100	0.5396	2.8099E+05	8323.3	204.22	1.1836E+04	1.1397E+10
2.6400	0.5126	3.1544E+05	7926.5	208.20	1.2625E+04	1.1397E+10
2.9700	0.4860	3.4825E+05	7514.3	211.96	1.3376E+04	1.1397E+10
3.3000	0.4599	3.7936E+05	7087.8	215.47	1.4088E+04	1.1397E+10
3.6300	0.4344	4.0871E+05	6647.8	218.73	1.4760E+04	1.1397E+10
3.9600	0.4094	4.3624E+05	6195.5	221.74	1.5391E+04	1.1397E+10
4.2900	0.3850	4.6191E+05	5731.7	224.50	1.5979E+04	1.1397E+10
4.6200	0.3613	4.8567E+05	5257.5	226.99	1.6523E+04	1.1397E+10
4.9500	0.3382	5.0747E+05	4774.0	229.21	1.7022E+04	1.1397E+10
5.2800	0.3158	5.2728E+05	4282.2	231.15	1.7476E+04	1.1397E+10
5.6100	0.2941	5.4507E+05	3783.4	232.81	1.7883E+04	1.1397E+10
5.9400	0.2732	5.6081E+05	3278.5	234.19	1.8244E+04	1.1397E+10
6.2700	0.2531	5.7447E+05	2768.7	235.27	1.8557E+04	1.1397E+10
6.6000	0.2337	5.8605E+05	2255.3	236.04	1.8822E+04	1.1397E+10
6.9300	0.2152	5.9551E+05	1739.4	236.51	1.9038E+04	1.1397E+10
7.2600	0.1975	6.0286E+05	1222.2	236.67	1.9207E+04	1.1397E+10
7.5900	0.1806	6.0809E+05	705.08	236.51	1.9326E+04	

1.1397E+10
7.9200 0.1645 6.1120E+05 189.23 236.02 1.9398E+04
1.1397E+10
8.2500 0.1493 6.1220E+05 -324.01 235.19 1.9421E+04
1.1397E+10
8.5800 0.1349 6.1111E+05 -833.31 234.03 1.9396E+04
1.1397E+10
8.9100 0.1214 6.0794E+05 -1337.3 232.51 1.9323E+04
1.1397E+10
9.2400 0.1087 6.0271E+05 -1834.6 230.64 1.9203E+04
1.1397E+10
9.5700 9.6824E-02 5.9547E+05 -2323.7 228.40 1.9037E+04
1.1397E+10
9.9000 8.5776E-02 5.8623E+05 -2803.2 225.78 1.8826E+04
1.1397E+10
10.230 7.5535E-02 5.7505E+05 -3271.6 222.79 1.8570E+04
1.1397E+10
10.560 6.6084E-02 5.6197E+05 -3727.4 219.40 1.8270E+04
1.1397E+10
10.890 5.7407E-02 5.4704E+05 -4169.0 215.61 1.7928E+04
1.1397E+10
11.220 4.9483E-02 5.3034E+05 -4594.7 211.40 1.7546E+04
1.1397E+10
11.550 4.2289E-02 5.1192E+05 -5002.9 206.76 1.7124E+04
1.1397E+10
11.880 3.5798E-02 4.9186E+05 -5391.8 201.69 1.6665E+04
1.1397E+10
12.210 2.9985E-02 4.7025E+05 -5759.8 196.16 1.6170E+04
1.1397E+10
12.540 2.4819E-02 4.4716E+05 -6104.9 190.16 1.5641E+04
1.1397E+10
12.870 2.0268E-02 4.2271E+05 -6425.4 183.67 1.5081E+04
1.1397E+10
13.200 1.6298E-02 3.9699E+05 -6719.1 176.66 1.4492E+04
1.1397E+10
13.530 1.2875E-02 3.7011E+05 -6984.0 169.12 1.3877E+04
1.1397E+10
13.860 9.9609E-03 3.4220E+05 -7217.9 161.02 1.3237E+04
1.1397E+10
14.190 7.5177E-03 3.1339E+05 -7418.5 152.30 1.2578E+04
1.1397E+10
14.520 5.5058E-03 2.8382E+05 -7583.3 142.93 1.1900E+04
1.1397E+10
14.850 3.8844E-03 2.5364E+05 -7709.5 132.84 1.1209E+04
1.1397E+10
15.180 2.6120E-03 2.2301E+05 -7794.2 121.93 1.0508E+04
1.1397E+10
15.510 1.6464E-03 1.9210E+05 -7833.8 110.04 9799.9
1.1397E+10
15.840 9.4511E-04 1.6110E+05 -7821.6 95.822 9090.1
1.1397E+10

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       16.170  4.6551E-04  1.3025E+05     -7749.9      79.937      8383.5
1.1397E+10
       16.500  1.6512E-04  9.9788E+04     -7609.1      60.978      7685.9
1.1397E+10
       16.830  2.0414E-06  7.0023E+04     -7330.0      10.072      7004.3
1.1397E+10
       17.160 -6.4695E-05  4.1753E+04     -6414.0     -366.73      6356.9
1.1397E+10
       17.490 -7.3981E-05  1.9230E+04     -4748.1     -474.61      5841.1
1.1397E+10
       17.820 -5.6807E-05      4147.7     -2836.1     -491.07      5495.7
1.1397E+10
       18.150 -3.3927E-05     -3234.7     -1184.5     -343.04      5474.8
1.1397E+10
       18.480 -1.5497E-05     -5237.3     -150.06     -179.42      5520.7
1.1397E+10
       18.810 -4.2736E-06     -4425.6      315.58     -55.747      5502.1
1.1397E+10
       19.140  8.6058E-07     -2739.3      401.23      12.488      5463.5
1.1397E+10
       19.470  2.2257E-06     -1248.4      306.09      35.562      5429.3
1.1397E+10
       19.800  1.8731E-06     -315.07      170.98      32.676      5407.9
1.1397E+10
       20.130  1.0870E-06      105.90      65.585      20.557      5403.1
1.1397E+10
       20.460  4.4662E-07      204.48      6.8622      9.1011      5405.4
1.1397E+10
       20.790  8.7581E-08      160.33     -14.946      1.9132      5404.4
1.1397E+10
       21.120 -5.0856E-08      86.153     -16.387     -1.1855      5402.7
1.1397E+10
       21.450 -7.0752E-08      30.558     -10.568     -1.7531      5401.4
1.1397E+10
       21.780 -4.8603E-08      2.4508     -4.6915     -1.2151      5400.8
1.1397E+10
       22.110 -2.3081E-08     -6.6025     -1.1431     -0.5770      5400.9
1.1397E+10
       22.440 -6.6439E-09     -6.6063      0.3283     -0.1661      5400.9
1.1397E+10
       22.770  7.0333E-10     -4.0047      0.6223  1.7583E-02      5400.8
1.1397E+10
       23.100  2.5404E-09     -1.6783      0.4618  6.3509E-02      5400.8
1.1397E+10
       23.430  2.0681E-09     -0.3477      0.2336  5.1703E-02      5400.7
1.1397E+10
       23.760  1.1174E-09      0.1722  7.5946E-02  2.7936E-02      5400.7
1.1397E+10
       24.090  4.0365E-10      0.2539  6.5185E-04  1.0091E-02      5400.7
1.1397E+10
       24.420  3.9228E-11      0.1774 -2.1270E-02  9.8070E-04      5400.7
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1.1397E+10
24.750 -8.1087E-11 8.5498E-02 -1.9198E-02 -2.0272E-03 5400.7
1.1397E+10
25.080 -8.3760E-11 2.5367E-02 -1.1039E-02 -2.0940E-03 5400.7
1.1397E+10
25.410 -5.1530E-11 -1.9292E-03 -4.3416E-03 -1.2883E-03 5400.7
1.1397E+10
25.740 -2.1955E-11 -9.0236E-03 -7.0414E-04 -5.4886E-04 5400.7
1.1397E+10
26.070 -4.7947E-12 -7.5099E-03 6.1995E-04 -1.1987E-04 5400.7
1.1397E+10
26.400 2.0319E-12 -4.1156E-03 7.5670E-04 5.0799E-05 5400.7
1.1397E+10
26.730 3.1957E-12 -1.5175E-03 4.9793E-04 7.9894E-05 5400.7
1.1397E+10
27.060 2.2716E-12 -1.7203E-04 2.2730E-04 5.6789E-05 5400.7
1.1397E+10
27.390 1.1107E-12 2.8289E-04 5.9875E-05 2.7768E-05 5400.7
1.1397E+10
27.720 3.3908E-13 3.0234E-04 -1.1889E-05 8.4770E-06 5400.7
1.1397E+10
28.050 -1.6541E-14 1.8882E-04 -2.7855E-05 -4.1351E-07 5400.7
1.1397E+10
28.380 -1.1235E-13 8.1767E-05 -2.1475E-05 -2.8088E-06 5400.7
1.1397E+10
28.710 -9.5658E-14 1.8748E-05 -1.1179E-05 -2.3914E-06 5400.7
1.1397E+10
29.040 -5.3167E-14 -6.7718E-06 -3.8117E-06 -1.3292E-06 5400.7
1.1397E+10
29.370 -1.9994E-14 -1.1447E-05 -1.9020E-07 -4.9985E-07 5400.7
1.1397E+10
29.700 -2.5715E-15 -8.2824E-06 9.2680E-07 -6.4288E-08 5400.7
1.1397E+10
30.030 3.4550E-15 -4.1087E-06 8.8307E-07 8.6376E-08 5400.7
1.1397E+10
30.360 3.8283E-15 -1.2890E-06 5.2255E-07 9.5707E-08 5400.7
1.1397E+10
30.690 2.4280E-15 2.9986E-08 2.1286E-07 6.0699E-08 5400.7
1.1397E+10
31.020 1.0689E-15 3.9710E-07 3.9766E-08 2.6723E-08 5400.7
1.1397E+10
31.350 2.5624E-16 3.4511E-07 -2.5830E-08 6.4061E-09 5400.7
1.1397E+10
31.680 -8.1575E-17 1.9262E-07 -3.4476E-08 -2.0394E-09 5400.7
1.1397E+10
32.010 -1.5436E-16 7.2095E-08 -2.2797E-08 -3.8589E-09 5400.7
1.1397E+10
32.340 -1.2794E-16 1.2072E-08 -8.8239E-09 -3.1985E-09 5400.7
1.1397E+10
32.670 -8.4912E-17 2.2040E-09 -1.5232E-09 -4.8871E-10 5400.7
1.1397E+10

33.000 -3.8852E-17 3.3593E-24 -8.5424E-26 -2.8060E-10   5400.7
1.1397E+10

* PILE GROUP *   3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.034616 0.7364 -8.8673E-05 7.6012E+04 8465.8 0.0000
4904.0

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.034616 0.7364 -8.8673E-05 7.6012E+04 8465.8 0.0000
4904.0

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.7364	0.0000	8465.8	145.01	4904.0	1.1397E+10
0.3300	0.7096	3.5252E+04	8301.9	149.76	5711.3	1.1397E+10
0.6600	0.6829	6.9815E+04	8119.5	154.37	6502.8	1.1397E+10
0.9900	0.6563	1.0361E+05	7919.1	158.81	7276.8	1.1397E+10
1.3200	0.6298	1.3657E+05	7701.5	163.09	8031.5	1.1397E+10

1.6500	0.6035	1.6862E+05	7467.3	167.21	8765.5	1.1397E+10
1.9800	0.5775	1.9969E+05	7217.0	171.16	9477.0	1.1397E+10
2.3100	0.5517	2.2972E+05	6951.5	174.94	1.0165E+04	1.1397E+10
2.6400	0.5263	2.5864E+05	6671.4	178.53	1.0827E+04	1.1397E+10
2.9700	0.5012	2.8640E+05	6377.4	181.95	1.1463E+04	1.1397E+10
3.3000	0.4764	3.1293E+05	6070.3	185.17	1.2070E+04	1.1397E+10
3.6300	0.4522	3.3820E+05	5750.8	188.20	1.2649E+04	1.1397E+10
3.9600	0.4283	3.6214E+05	5419.6	191.04	1.3197E+04	1.1397E+10
4.2900	0.4050	3.8470E+05	5077.6	193.68	1.3714E+04	1.1397E+10
4.6200	0.3822	4.0586E+05	4725.6	196.11	1.4198E+04	1.1397E+10
4.9500	0.3600	4.2555E+05	4364.4	198.33	1.4649E+04	1.1397E+10
5.2800	0.3384	4.4376E+05	3994.8	200.34	1.5066E+04	1.1397E+10
5.6100	0.3173	4.6043E+05	3617.6	202.13	1.5448E+04	1.1397E+10
5.9400	0.2969	4.7556E+05	3233.9	203.69	1.5795E+04	1.1397E+10
6.2700	0.2772	4.8910E+05	2844.3	205.03	1.6105E+04	1.1397E+10
6.6000	0.2581	5.0103E+05	2450.0	206.14	1.6378E+04	1.1397E+10
6.9300	0.2397	5.1135E+05	2051.7	207.00	1.6614E+04	1.1397E+10
7.2600	0.2221	5.2003E+05	1650.5	207.63	1.6813E+04	1.1397E+10
7.5900	0.2051	5.2705E+05	1247.3	208.00	1.6974E+04	1.1397E+10
7.9200	0.1889	5.3243E+05	843.16	208.13	1.7097E+04	1.1397E+10
8.2500	0.1734	5.3614E+05	439.00	207.99	1.7182E+04	1.1397E+10
8.5800	0.1586	5.3821E+05	35.896	207.60	1.7229E+04	1.1397E+10
8.9100	0.1446	5.3862E+05	-365.11	206.93	1.7239E+04	1.1397E+10
9.2400	0.1313	5.3739E+05	-762.93	205.99	1.7211E+04	1.1397E+10
9.5700	0.1187	5.3454E+05	-1156.5	204.77	1.7145E+04	1.1397E+10
9.9000	0.1069	5.3008E+05	-1544.6	203.26	1.7043E+04	

1.1397E+10
10.230 9.5849E-02 5.2405E+05 -1926.2 201.46 1.6905E+04
1.1397E+10
10.560 8.5489E-02 5.1646E+05 -2300.0 199.36 1.6731E+04
1.1397E+10
10.890 7.5839E-02 5.0735E+05 -2665.0 196.95 1.6523E+04
1.1397E+10
11.220 6.6888E-02 4.9676E+05 -3019.7 194.22 1.6280E+04
1.1397E+10
11.550 5.8620E-02 4.8474E+05 -3363.0 191.17 1.6005E+04
1.1397E+10
11.880 5.1019E-02 4.7134E+05 -3693.6 187.78 1.5698E+04
1.1397E+10
12.210 4.4066E-02 4.5660E+05 -4010.0 184.05 1.5360E+04
1.1397E+10
12.540 3.7742E-02 4.4059E+05 -4311.0 179.96 1.4994E+04
1.1397E+10
12.870 3.2024E-02 4.2337E+05 -4595.1 175.51 1.4599E+04
1.1397E+10
13.200 2.6889E-02 4.0502E+05 -4860.8 170.67 1.4179E+04
1.1397E+10
13.530 2.2311E-02 3.8561E+05 -5106.5 165.42 1.3735E+04
1.1397E+10
13.860 1.8263E-02 3.6523E+05 -5330.6 159.76 1.3268E+04
1.1397E+10
14.190 1.4718E-02 3.4397E+05 -5531.3 153.64 1.2781E+04
1.1397E+10
14.520 1.1646E-02 3.2192E+05 -5707.0 147.05 1.2276E+04
1.1397E+10
14.850 9.0177E-03 2.9920E+05 -5855.4 139.94 1.1756E+04
1.1397E+10
15.180 6.8006E-03 2.7592E+05 -5974.6 132.26 1.1223E+04
1.1397E+10
15.510 4.9631E-03 2.5219E+05 -6062.1 123.94 1.0679E+04
1.1397E+10
15.840 3.4727E-03 2.2816E+05 -6112.7 113.58 1.0129E+04
1.1397E+10
16.170 2.2962E-03 2.0398E+05 -6120.4 102.33 9575.3
1.1397E+10
16.500 1.4003E-03 1.7984E+05 -6082.0 90.299 9022.5
1.1397E+10
16.830 7.5192E-04 1.5593E+05 -5993.8 77.108 8474.9
1.1397E+10
17.160 3.1807E-04 1.3245E+05 -6980.9 527.45 7937.3
1.1397E+10
17.490 6.6470E-05 1.0069E+05 -8895.9 439.72 7209.9
1.1397E+10
17.820 -4.6581E-05 6.2026E+04 -8969.3 -402.67 6324.4
1.1397E+10
18.150 -7.4287E-05 2.9667E+04 -6831.9 -676.79 5583.4
1.1397E+10

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       18.480 -6.1172E-05      7918.5     -4089.6     -708.24      5085.3
1.1397E+10
       18.810 -3.7163E-05     -2724.9     -1727.4     -484.77      4966.4
1.1397E+10
       19.140 -1.6902E-05     -5766.0     -281.94     -245.27      5036.0
1.1397E+10
       19.470 -4.5755E-06     -4960.3      348.45     -73.106      5017.6
1.1397E+10
       19.800  9.2621E-07     -3007.7      461.20      16.157      4972.9
1.1397E+10
       20.130  2.2895E-06     -1308.1      343.49      43.297      4933.9
1.1397E+10
       20.460  1.8529E-06     -287.35      183.00      37.757      4910.6
1.1397E+10
       20.790  1.0209E-06      141.33      64.083      22.301      4907.2
1.1397E+10
       21.120  3.8336E-07      220.29      2.2330      8.9366      4909.0
1.1397E+10
       21.450  4.8952E-08      159.09     -17.863      1.2129      4907.6
1.1397E+10
       21.780 -6.6559E-08      78.852     -16.970     -1.6640      4905.8
1.1397E+10
       22.110 -7.3574E-08      24.698     -10.034     -1.8393      4904.6
1.1397E+10
       22.440 -4.6606E-08     -0.6150     -4.0846     -1.1652      4904.0
1.1397E+10
       22.770 -2.0485E-08     -7.6563     -0.7636     -0.5121      4904.2
1.1397E+10
       23.100 -4.8980E-09     -6.6660      0.4928     -0.1224      4904.1
1.1397E+10
       23.430  1.5167E-09     -3.7548      0.6602  3.7917E-02      4904.1
1.1397E+10
       23.760  2.7649E-09     -1.4378      0.4483  6.9124E-02      4904.0
1.1397E+10
       24.090  2.0348E-09     -0.2047      0.2107  5.0870E-02      4904.0
1.1397E+10
       24.420  1.0230E-09      0.2308  5.9308E-02  2.5576E-02      4904.0
1.1397E+10
       24.750  3.2887E-10      0.2652 -7.6120E-03  8.2216E-03      4904.0
1.1397E+10
       25.080 -4.4548E-13      0.1706 -2.3869E-02 -1.1137E-05      4904.0
1.1397E+10
       25.410 -9.5027E-11  7.6170E-02 -1.9143E-02 -2.3757E-03      4904.0
1.1397E+10
       25.740 -8.4804E-11  1.8990E-02 -1.0241E-02 -2.1201E-03      4904.0
1.1397E+10
       26.070 -4.8452E-11 -4.9445E-03 -3.6450E-03 -1.2113E-03      4904.0
1.1397E+10
       26.400 -1.8903E-11 -9.8835E-03 -3.1097E-04 -4.7257E-04      4904.0
1.1397E+10
       26.730 -2.9531E-12 -7.4109E-03  7.7090E-04 -7.3828E-05      4904.0
```

```
1.1397E+10
       27.060  2.7998E-12 -3.7797E-03  7.7849E-04  6.9995E-05      4904.0
1.1397E+10
       27.390  3.3521E-12 -1.2457E-03  4.7397E-04  8.3803E-05      4904.0
1.1397E+10
       27.720  2.1904E-12 -2.5810E-05  1.9961E-04  5.4760E-05      4904.0
1.1397E+10
       28.050  9.9316E-13  3.3538E-04  4.2026E-05  2.4829E-05      4904.0
1.1397E+10
       28.380  2.5738E-13  3.0718E-04 -1.9876E-05  6.4345E-06      4904.0
1.1397E+10
       28.710 -5.5738E-14  1.7804E-04 -2.9857E-05 -1.3934E-06      4904.0
1.1397E+10
       29.040 -1.2388E-13  7.0741E-05 -2.0966E-05 -3.0969E-06      4904.0
1.1397E+10
       29.370 -9.4679E-14  1.1995E-05 -1.0148E-05 -2.3670E-06      4904.0
1.1397E+10
       29.700 -4.8977E-14 -9.6340E-06 -3.0367E-06 -1.2244E-06      4904.0
1.1397E+10
       30.030 -1.6530E-14 -1.2061E-05  2.0591E-07 -4.1326E-07      4904.0
1.1397E+10
       30.360 -6.7967E-16 -8.0068E-06  1.0578E-06 -1.6992E-08      4904.0
1.1397E+10
       30.690  4.1541E-15 -3.6851E-06  8.8582E-07  1.0385E-07      4904.0
1.1397E+10
       31.020  3.9174E-15 -9.9149E-07  4.8628E-07  9.7936E-08      4904.0
1.1397E+10
       31.350  2.3166E-15  1.6639E-07  1.7769E-07  5.7914E-08      4904.0
1.1397E+10
       31.680  9.4462E-16  4.1608E-07  1.6267E-08  2.3615E-08      4904.0
1.1397E+10
       32.010  1.4517E-16  2.9539E-07 -3.7678E-08  3.6293E-09      4904.0
1.1397E+10
       32.340 -2.4783E-16  1.1776E-07 -3.2597E-08 -6.1957E-09      4904.0
1.1397E+10
       32.670 -4.7880E-16  3.7275E-08 -1.4873E-08 -2.7557E-09      4904.0
1.1397E+10
       33.000 -6.5848E-16  1.4333E-22 -2.5591E-23 -4.7557E-09      4904.0
1.1397E+10



     LOAD CASE :     7
     CASE NAME : Service I, Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR
```

```
              1           1.0000       1.0000
              2           1.0000       1.0000
              3           1.0000       1.0000


     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                2.13290E+06       2.39700E+05      -2.64082E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                  0.0632154           0.31228      -3.64219E-04


          NUMBER OF ITERATIONS =   7


     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE

       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.080698      0.3123 -3.6422E-04  1.3352E+05  2.2915E+04      0.0000
     8614.3


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.080698 0.3123 -3.6422E-04 1.3352E+05 2.2915E+04 0.0000
8614.3

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL.	BENDING	SHEAR	SOIL	TOTAL	FLEXURAL
	y-DIR	MOMENT	FORCE	REACTION	STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.3123	0.0000	2.2915E+04	422.29	8614.3	1.1397E+10
0.3300	0.2920	9.0689E+04	2.1499E+04	432.86	1.0691E+04	1.1397E+10
0.6600	0.2719	1.7567E+05	2.0043E+04	442.47	1.2637E+04	1.1397E+10
0.9900	0.2520	2.5478E+05	1.8551E+04	451.10	1.4449E+04	1.1397E+10
1.3200	0.2324	3.2786E+05	1.7027E+04	458.69	1.6123E+04	1.1397E+10
1.6500	0.2133	3.9479E+05	1.5475E+04	465.22	1.7655E+04	1.1397E+10
1.9800	0.1947	4.5545E+05	1.3899E+04	470.64	1.9045E+04	1.1397E+10
2.3100	0.1768	5.0975E+05	1.2304E+04	474.92	2.0288E+04	1.1397E+10
2.6400	0.1595	5.5760E+05	1.0694E+04	478.01	2.1384E+04	1.1397E+10
2.9700	0.1431	5.9895E+05	9075.0	479.87	2.2331E+04	1.1397E+10
3.3000	0.1274	6.3376E+05	7450.7	480.46	2.3128E+04	1.1397E+10
3.6300	0.1127	6.6202E+05	5826.8	479.72	2.3775E+04	1.1397E+10
3.9600	9.8801E-02	6.8373E+05	4208.4	477.62	2.4272E+04	1.1397E+10
4.2900	8.5880E-02	6.9893E+05	2601.2	474.09	2.4620E+04	1.1397E+10
4.6200	7.3921E-02	7.0765E+05	1010.9	469.08	2.4820E+04	1.1397E+10
4.9500	6.2935E-02	7.1000E+05	-556.42	462.52	2.4874E+04	1.1397E+10
5.2800	5.2927E-02	7.0605E+05	-2094.6	454.33	2.4783E+04	1.1397E+10
5.6100	4.3890E-02	6.9595E+05	-3596.9	444.41	2.4552E+04	1.1397E+10

```
       5.9400  3.5810E-02  6.7985E+05     -5056.3      432.67  2.4183E+04
1.1397E+10
       6.2700  2.8666E-02  6.5794E+05     -6465.3      418.96  2.3682E+04
1.1397E+10
       6.6000  2.2427E-02  6.3043E+05     -7815.8      403.09  2.3052E+04
1.1397E+10
       6.9300  1.7056E-02  5.9759E+05     -9098.6      384.81  2.2300E+04
1.1397E+10
       7.2600  1.2507E-02  5.5969E+05 -1.0304E+04      363.74  2.1432E+04
1.1397E+10
       7.5900  8.7278E-03  5.1709E+05 -1.1418E+04      339.24  2.0456E+04
1.1397E+10
       7.9200  5.6603E-03  4.7018E+05 -1.2427E+04      310.16  1.9382E+04
1.1397E+10
       8.2500  3.2398E-03  4.1941E+05 -1.3306E+04      273.97  1.8219E+04
1.1397E+10
       8.5800  1.3963E-03  3.6536E+05 -1.4013E+04      222.96  1.6981E+04
1.1397E+10
       8.9100  5.5541E-05  3.0885E+05 -1.4302E+04      63.251  1.5687E+04
1.1397E+10
       9.2400 -8.6027E-04  2.5239E+05 -1.3712E+04     -221.46  1.4394E+04
1.1397E+10
       9.5700 -1.4288E-03  2.0045E+05 -1.2499E+04     -251.24  1.3205E+04
1.1397E+10
       9.9000 -1.7216E-03  1.5351E+05 -1.1196E+04     -266.69  1.2130E+04
1.1397E+10
       10.230 -1.8031E-03  1.1182E+05     -9848.0     -274.19  1.1175E+04
1.1397E+10
       10.560 -1.7307E-03  7.5514E+04     -8481.2     -276.12  1.0344E+04
1.1397E+10
       10.890 -1.5545E-03  4.4619E+04     -7115.5     -273.62      9636.1
1.1397E+10
       11.220 -1.3169E-03  1.9104E+04     -5767.3     -267.27      9051.8
1.1397E+10
       11.550 -1.0529E-03     -1125.2     -4451.3     -257.38      8640.1
1.1397E+10
       11.880 -7.9055E-04 -1.6221E+04     -3181.3     -244.03      8985.8
1.1397E+10
       12.210 -5.5050E-04 -2.6389E+04     -1971.3     -227.12      9218.7
1.1397E+10
       12.540 -3.4675E-04 -3.1892E+04     -836.00     -206.24      9344.7
1.1397E+10
       12.870 -1.8688E-04 -3.3058E+04      206.42     -180.24      9371.4
1.1397E+10
       13.200 -7.2502E-05 -3.0294E+04      1128.2     -145.31      9308.1
1.1397E+10
       13.530  1.9493E-07 -2.4148E+04      1656.8      18.364      9167.3
1.1397E+10
       13.860  3.9666E-05 -1.7187E+04      1642.2      128.99      9007.9
1.1397E+10
       14.190  5.5488E-05 -1.1149E+04      1380.2      143.32      8869.7
```

1.1397E+10
14.520 5.5970E-05 -6258.1 1083.3 146.67 8757.7
1.1397E+10
14.850 4.7841E-05 -2568.5 784.82 144.06 8673.2
1.1397E+10
15.180 3.6178E-05 -39.729 505.00 137.26 8615.2
1.1397E+10
15.510 2.4460E-05 1434.2 258.72 127.12 8647.2
1.1397E+10
15.840 1.4715E-05 2012.2 61.044 112.72 8660.4
1.1397E+10
16.170 7.7396E-06 1919.9 -74.128 95.550 8658.3
1.1397E+10
16.500 3.4056E-06 1426.6 -135.80 75.596 8647.0
1.1397E+10
16.830 1.0346E-06 845.32 -108.05 50.391 8633.7
1.1397E+10
17.160 -1.7325E-07 571.35 -67.267 -0.9894 8627.4
1.1397E+10
17.490 -5.9499E-07 312.78 -56.852 -4.2707 8621.5
1.1397E+10
17.820 -5.8636E-07 121.13 -38.360 -5.0688 8617.1
1.1397E+10
18.150 -4.1106E-07 8.9489 -20.094 -4.1562 8614.5
1.1397E+10
18.480 -2.2344E-07 -38.062 -6.7430 -2.5869 8615.2
1.1397E+10
18.810 -8.8193E-08 -44.498 0.6570 -1.1504 8615.4
1.1397E+10
19.140 -1.4174E-08 -32.886 3.3421 -0.2057 8615.1
1.1397E+10
19.470 1.4596E-08 -18.043 3.2876 0.2332 8614.8
1.1397E+10
19.800 1.8539E-08 -6.8531 2.1855 0.3234 8614.5
1.1397E+10
20.130 1.3053E-08 -0.7336 1.0564 0.2468 8614.4
1.1397E+10
20.460 6.5575E-09 1.5152 0.3031 0.1336 8614.4
1.1397E+10
20.790 2.1468E-09 1.6682 -5.4371E-02 4.6896E-02 8614.4
1.1397E+10
21.120 3.1439E-11 1.0854 -0.1487 7.3288E-04 8614.4
1.1397E+10
21.450 -5.9047E-10 0.4910 -0.1212 -1.4630E-02 8614.3
1.1397E+10
21.780 -5.3679E-10 0.1259 -6.5620E-02 -1.3420E-02 8614.3
1.1397E+10
22.110 -3.0986E-10 -2.8746E-02 -2.3710E-02 -7.7465E-03 8614.3
1.1397E+10
22.440 -1.2248E-10 -6.1925E-02 -2.3094E-03 -3.0620E-03 8614.3
1.1397E+10

```
       22.770 -2.0307E-11 -4.7075E-02  4.7586E-03 -5.0768E-04      8614.3
1.1397E+10
       23.100  1.7094E-11 -2.4255E-02  4.9176E-03  4.2735E-04      8614.3
1.1397E+10
       23.430  2.1122E-11 -8.1328E-03  3.0260E-03  5.2804E-04      8614.3
1.1397E+10
       23.760  1.3959E-11 -2.8932E-04  1.2895E-03  3.4898E-04      8614.3
1.1397E+10
       24.090  6.3985E-12  2.0816E-03  2.8175E-04  1.5996E-04      8614.3
1.1397E+10
       24.420  1.7020E-12  1.9438E-03 -1.1922E-04  4.2550E-05      8614.3
1.1397E+10
       24.750 -3.1999E-13  1.1383E-03 -1.8763E-04 -7.9997E-06      8614.3
1.1397E+10
       25.080 -7.7575E-13  4.5804E-04 -1.3339E-04 -1.9394E-05      8614.3
1.1397E+10
       25.410 -6.0126E-13  8.1843E-05 -6.5232E-05 -1.5032E-05      8614.3
1.1397E+10
       25.740 -3.1417E-13 -5.8655E-05 -1.9918E-05 -7.8542E-06      8614.3
1.1397E+10
       26.070 -1.0778E-13 -7.5974E-05  9.6845E-07 -2.6945E-06      8614.3
1.1397E+10
       26.400 -5.9284E-15 -5.1026E-05  6.5971E-06 -1.4821E-07      8614.3
1.1397E+10
       26.730  2.5716E-14 -2.3744E-05  5.6176E-06  6.4289E-07      8614.3
1.1397E+10
       27.060  2.4690E-14 -6.5385E-06  3.1225E-06  6.1724E-07      8614.3
1.1397E+10
       27.390  1.4667E-14  9.8830E-07  1.1743E-06  3.6668E-07      8614.3
1.1397E+10
       27.720  6.0047E-15  2.7648E-06  1.5109E-07  1.5012E-07      8614.3
1.1397E+10
       28.050  1.1463E-15  2.1867E-06 -2.0288E-07  2.8657E-08      8614.3
1.1397E+10
       28.380 -7.0336E-16  1.1588E-06 -2.2481E-07 -1.7584E-08      8614.3
1.1397E+10
       28.710 -9.5849E-16  4.0651E-07 -1.4255E-07 -2.3962E-08      8614.3
1.1397E+10
       29.040 -6.5427E-16  2.9868E-08 -6.2715E-08 -1.6357E-08      8614.3
1.1397E+10
       29.370 -3.0897E-16 -9.0279E-08 -1.5035E-08 -7.7242E-09      8614.3
1.1397E+10
       29.700 -8.7876E-17 -8.9283E-08  4.6090E-09 -2.1969E-09      8614.3
1.1397E+10
       30.030  1.0366E-17 -5.3819E-08  8.4457E-09  2.5916E-10      8614.3
1.1397E+10
       30.360  3.4557E-17 -2.2409E-08  6.2220E-09  8.6394E-10      8614.3
1.1397E+10
       30.690  2.7915E-17 -4.5431E-09  3.1296E-09  6.9788E-10      8614.3
1.1397E+10
       31.020  1.5022E-17  2.3798E-09  1.0042E-09  3.7554E-10      8614.3
```

1.1397E+10
31.350 5.4027E-18 3.4132E-09 -6.7992E-12 1.3507E-10 8614.3
1.1397E+10
31.680 4.8003E-19 2.3279E-09 -2.9799E-10 1.2001E-11 8614.3
1.1397E+10
32.010 -1.2395E-18 1.0540E-09 -2.6040E-10 -3.0989E-11 8614.3
1.1397E+10
32.340 -1.5089E-18 2.6582E-10 -1.2435E-10 -3.7723E-11 8614.3
1.1397E+10
32.670 -1.4126E-18 6.9169E-11 -3.3558E-11 -8.1300E-12 8614.3
1.1397E+10
33.000 -1.2210E-18 -1.3997E-25 -3.3620E-26 -8.8184E-12 8614.3
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.063215 0.3123 -3.6422E-04 1.1625E+05 7708.8 0.0000
7500.1

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.063215 0.3123 -3.6422E-04 1.1625E+05 7708.8 0.0000
7500.1

* EFFECTS FOR LATERALLY LOADED PILE *

x DISPL. BENDING SHEAR SOIL TOTAL
FLEXURAL
y-DIR MOMENT FORCE REACTION STRESS
RIGIDITY
FT IN LBS-IN LBS LBS/IN LBS-IN**2
LBS-IN**2
********** ********** ********** ********** ********** **********

****
0.0000 0.3123 0.0000 7708.8 137.37 7500.1
1.1397E+10
0.3300 0.2979 3.1669E+04 7433.8 141.52 8225.3
1.1397E+10
0.6600 0.2836 6.2211E+04 7142.7 145.47 8924.8
1.1397E+10
0.9900 0.2693 9.1560E+04 6836.5 149.21 9596.9
1.1397E+10
1.3200 0.2552 1.1965E+05 6515.8 152.75 1.0240E+04
1.1397E+10
1.6500 0.2413 1.4643E+05 6181.5 156.08 1.0853E+04
1.1397E+10
1.9800 0.2275 1.7183E+05 5834.5 159.18 1.1435E+04
1.1397E+10
2.3100 0.2140 1.9581E+05 5475.6 162.06 1.1984E+04
1.1397E+10
2.6400 0.2008 2.1831E+05 5105.8 164.70 1.2499E+04
1.1397E+10
2.9700 0.1878 2.3929E+05 4726.1 167.10 1.2980E+04
1.1397E+10
3.3000 0.1752 2.5871E+05 4337.3 169.26 1.3425E+04
1.1397E+10
3.6300 0.1630 2.7653E+05 3940.4 171.16 1.3833E+04
1.1397E+10
3.9600 0.1511 2.9272E+05 3536.6 172.80 1.4204E+04
1.1397E+10
4.2900 0.1396 3.0725E+05 3126.7 174.18 1.4536E+04
1.1397E+10
4.6200 0.1286 3.2010E+05 2712.0 175.28 1.4831E+04
1.1397E+10
4.9500 0.1180 3.3125E+05 2293.5 176.10 1.5086E+04
1.1397E+10
5.2800 0.1078 3.4068E+05 1872.2 176.64 1.5302E+04
1.1397E+10
5.6100 9.8119E-02 3.4839E+05 1449.5 176.88 1.5478E+04
1.1397E+10
5.9400 8.8912E-02 3.5436E+05 1026.4 176.81 1.5615E+04
1.1397E+10
6.2700 8.0193E-02 3.5860E+05 604.11 176.44 1.5712E+04
1.1397E+10
6.6000 7.1968E-02 3.6111E+05 183.98 175.75 1.5770E+04
1.1397E+10
6.9300 6.4239E-02 3.6191E+05 -232.78 174.73 1.5788E+04
1.1397E+10
7.2600 5.7009E-02 3.6101E+05 -644.83 173.38 1.5767E+04
1.1397E+10
7.5900 5.0275E-02 3.5843E+05 -1050.8 171.68 1.5708E+04
1.1397E+10
7.9200 4.4034E-02 3.5419E+05 -1449.4 169.63 1.5611E+04
1.1397E+10

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       8.2500  3.8280E-02  3.4834E+05     -1839.2      167.21  1.5477E+04
1.1397E+10
       8.5800  3.3006E-02  3.4091E+05     -2218.6      164.41  1.5307E+04
1.1397E+10
       8.9100  2.8201E-02  3.3194E+05     -2586.1      161.22  1.5102E+04
1.1397E+10
       9.2400  2.3853E-02  3.2149E+05     -2940.2      157.63  1.4862E+04
1.1397E+10
       9.5700  1.9947E-02  3.0962E+05     -3279.3      153.61  1.4591E+04
1.1397E+10
       9.9000  1.6467E-02  2.9638E+05     -3601.6      149.15  1.4287E+04
1.1397E+10
       10.230  1.3395E-02  2.8185E+05     -3905.3      144.23  1.3955E+04
1.1397E+10
       10.560  1.0710E-02  2.6612E+05     -4188.5      138.81  1.3594E+04
1.1397E+10
       10.890  8.3922E-03  2.4926E+05     -4449.2      132.85  1.3208E+04
1.1397E+10
       11.220  6.4170E-03  2.3138E+05     -4685.1      126.31  1.2799E+04
1.1397E+10
       11.550  4.7602E-03  2.1258E+05     -4893.9      119.11  1.2368E+04
1.1397E+10
       11.880  3.3958E-03  1.9297E+05     -5072.6      111.14  1.1919E+04
1.1397E+10
       12.210  2.2970E-03  1.7269E+05     -5217.8      102.21  1.1455E+04
1.1397E+10
       12.540  1.4357E-03  1.5187E+05     -5325.1      91.955  1.0978E+04
1.1397E+10
       12.870  7.8344E-04  1.3069E+05     -5387.5      79.556  1.0493E+04
1.1397E+10
       13.200  3.1099E-04  1.0933E+05     -5391.1      62.282  1.0004E+04
1.1397E+10
       13.530 -1.1021E-05  8.8084E+04     -5175.6     -31.139      9517.3
1.1397E+10
       13.860 -2.1183E-04  6.8405E+04     -4705.6     -66.250      9066.6
1.1397E+10
       14.190 -3.1853E-04  5.0852E+04     -4153.8     -72.412      8664.6
1.1397E+10
       14.520 -3.5525E-04  3.5524E+04     -3584.8     -74.972      8313.6
1.1397E+10
       14.850 -3.4310E-04  2.2463E+04     -3010.1     -75.283      8014.5
1.1397E+10
       15.180 -3.0003E-04  1.1677E+04     -2437.4     -73.927      7767.5
1.1397E+10
       15.510 -2.4090E-04      3146.6     -1872.9     -71.191      7572.1
1.1397E+10
       15.840 -1.7744E-04     -3170.4     -1323.2     -66.454      7572.7
1.1397E+10
       16.170 -1.1835E-04     -7347.1     -794.57     -60.518      7668.3
1.1397E+10
       16.500 -6.9358E-05     -9476.0     -291.42     -53.597      7717.1
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1.1397E+10
16.830 -3.3408E-05 -9665.1 182.25 -45.630 7721.4
1.1397E+10
17.160 -1.0757E-05 -8039.4 532.84 -61.437 7684.2
1.1397E+10
17.490 8.3192E-07 -5448.9 642.66 5.9713 7624.9
1.1397E+10
17.820 4.9238E-06 -2951.3 546.56 42.564 7567.7
1.1397E+10
18.150 4.9550E-06 -1120.7 363.09 50.100 7525.8
1.1397E+10
18.480 3.4441E-06 -75.472 184.94 39.875 7501.8
1.1397E+10
18.810 1.8294E-06 344.41 58.734 23.864 7508.0
1.1397E+10
19.140 6.8863E-07 390.02 -8.3023 9.9928 7509.0
1.1397E+10
19.470 8.4487E-08 278.86 -30.761 1.3499 7506.5
1.1397E+10
19.800 -1.3596E-07 146.49 -28.738 -2.3718 7503.4
1.1397E+10
20.130 -1.5485E-07 51.287 -18.244 -2.9283 7501.3
1.1397E+10
20.460 -1.0316E-07 1.9969 -8.2832 -2.1022 7500.1
1.1397E+10
20.790 -4.8732E-08 -14.328 -2.0130 -1.0645 7500.4
1.1397E+10
21.120 -1.4015E-08 -13.956 0.7417 -0.3267 7500.4
1.1397E+10
21.450 1.4982E-09 -8.4595 1.3151 3.7121E-02 7500.3
1.1397E+10
21.780 5.3720E-09 -3.5434 0.9756 0.1343 7500.2
1.1397E+10
22.110 4.3702E-09 -0.7328 0.4934 0.1093 7500.1
1.1397E+10
22.440 2.3602E-09 0.3647 0.1602 5.9004E-02 7500.1
1.1397E+10
22.770 8.5194E-10 0.5368 1.2492E-03 2.1298E-02 7500.1
1.1397E+10
23.100 8.2294E-11 0.3748 -4.4995E-02 2.0573E-03 7500.1
1.1397E+10
23.430 -1.7159E-10 0.1806 -4.0575E-02 -4.2898E-03 7500.1
1.1397E+10
23.760 -1.7704E-10 5.3516E-02 -2.3317E-02 -4.4261E-03 7500.1
1.1397E+10
24.090 -1.0886E-10 -4.1239E-03 -9.1649E-03 -2.7215E-03 7500.1
1.1397E+10
24.420 -4.6353E-11 -1.9085E-02 -1.4818E-03 -1.1588E-03 7500.1
1.1397E+10
24.750 -1.0104E-11 -1.5871E-02 1.3128E-03 -2.5260E-04 7500.1
1.1397E+10

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       25.080  4.3075E-12 -8.6933E-03  1.5997E-03  1.0769E-04      7500.1
1.1397E+10
       25.410  6.7573E-12 -3.2030E-03  1.0520E-03  1.6893E-04      7500.1
1.1397E+10
       25.740  4.8000E-12 -3.6122E-04  4.7996E-04  1.2000E-04      7500.1
1.1397E+10
       26.070  2.3457E-12  5.9881E-04  1.2625E-04  5.8642E-05      7500.1
1.1397E+10
       26.400  7.1531E-13  6.3914E-04 -2.5272E-05  1.7883E-05      7500.1
1.1397E+10
       26.730 -3.5648E-14  3.9894E-04 -5.8915E-05 -8.9121E-07      7500.1
1.1397E+10
       27.060 -2.3769E-13  1.7265E-04 -4.5384E-05 -5.9423E-06      7500.1
1.1397E+10
       27.390 -2.0218E-13  3.9512E-05 -2.3611E-05 -5.0546E-06      7500.1
1.1397E+10
       27.720 -1.1231E-13 -1.4364E-05 -8.0431E-06 -2.8078E-06      7500.1
1.1397E+10
       28.050 -4.2201E-14 -2.4208E-05 -3.9474E-07 -1.0550E-06      7500.1
1.1397E+10
       28.380 -5.4011E-15 -1.7503E-05  1.9616E-06 -1.3503E-07      7500.1
1.1397E+10
       28.710  7.3161E-15 -8.6779E-06  1.8668E-06  1.8290E-07      7500.1
1.1397E+10
       29.040  8.0931E-15 -2.7195E-06  1.1040E-06  2.0233E-07      7500.1
1.1397E+10
       29.370  5.1282E-15  6.6408E-08  4.4959E-07  1.2821E-07      7500.1
1.1397E+10
       29.700  2.2547E-15  8.4188E-07  8.4137E-08  5.6366E-08      7500.1
1.1397E+10
       30.030  5.3949E-16  7.3330E-07 -5.4174E-08  1.3487E-08      7500.1
1.1397E+10
       30.360 -1.6670E-16  4.1311E-07 -7.2627E-08 -4.1675E-09      7500.1
1.1397E+10
       30.690 -3.0448E-16  1.5820E-07 -4.9303E-08 -7.6119E-09      7500.1
1.1397E+10
       31.020 -2.2458E-16  2.2631E-08 -2.3115E-08 -5.6145E-09      7500.1
1.1397E+10
       31.350 -1.1354E-16 -2.4896E-08 -6.3782E-09 -2.8386E-09      7500.1
1.1397E+10
       31.680 -3.6764E-17 -2.7906E-08  1.0620E-09 -9.1910E-10      7500.1
1.1397E+10
       32.010  1.6185E-18 -1.6499E-08  2.8017E-09  4.0463E-11      7500.1
1.1397E+10
       32.340  1.7300E-17 -5.7229E-09  1.8652E-09  4.3250E-10      7500.1
1.1397E+10
       32.670  2.5107E-17 -1.7285E-09  7.2278E-10  1.4450E-10      7500.1
1.1397E+10
       33.000  3.0536E-17      0.0000  4.1157E-25  2.2054E-10      7500.1
1.1397E+10
```

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.045733	0.3123	-3.6422E-04	9.6121E+04	6333.3	0.0000	6201.4

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.045733	0.3123	-3.6422E-04	9.6121E+04	6333.3	0.0000	6201.4

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.3123	0.0000	6333.3	117.02	6201.4	1.1397E+10
0.3300	0.2988	2.6008E+04	6139.9	120.64	6797.0	1.1397E+10
0.6600	0.2853	5.1219E+04	5932.5	124.10	7374.3	1.1397E+10
0.9900	0.2719	7.5575E+04	5711.7	127.41	7932.1	1.1397E+10
1.3200	0.2587	9.9020E+04	5478.2	130.56	8469.0	1.1397E+10
1.6500	0.2455	1.2150E+05	5232.5	133.53	8983.9	1.1397E+10
1.9800	0.2325	1.4297E+05	4975.3	136.33	9475.6	

1.1397E+10
2.3100 0.2197 1.6338E+05 4707.4 138.96 9943.0
1.1397E+10
2.6400 0.2072 1.8269E+05 4429.5 141.40 1.0385E+04
1.1397E+10
2.9700 0.1949 2.0086E+05 4142.3 143.66 1.0801E+04
1.1397E+10
3.3000 0.1828 2.1784E+05 3846.5 145.72 1.1190E+04
1.1397E+10
3.6300 0.1711 2.3361E+05 3543.0 147.59 1.1551E+04
1.1397E+10
3.9600 0.1597 2.4812E+05 3232.5 149.25 1.1884E+04
1.1397E+10
4.2900 0.1486 2.6137E+05 2915.7 150.71 1.2187E+04
1.1397E+10
4.6200 0.1379 2.7331E+05 2593.7 151.95 1.2460E+04
1.1397E+10
4.9500 0.1276 2.8393E+05 2267.1 152.98 1.2704E+04
1.1397E+10
5.2800 0.1176 2.9322E+05 1936.9 153.78 1.2916E+04
1.1397E+10
5.6100 0.1081 3.0115E+05 1604.0 154.36 1.3098E+04
1.1397E+10
5.9400 9.8957E-02 3.0771E+05 1269.3 154.70 1.3248E+04
1.1397E+10
6.2700 9.0254E-02 3.1291E+05 933.67 154.80 1.3367E+04
1.1397E+10
6.6000 8.1981E-02 3.1674E+05 598.13 154.66 1.3455E+04
1.1397E+10
6.9300 7.4145E-02 3.1920E+05 263.63 154.27 1.3511E+04
1.1397E+10
7.2600 6.6747E-02 3.2029E+05 -68.822 153.63 1.3536E+04
1.1397E+10
7.5900 5.9790E-02 3.2003E+05 -398.19 152.72 1.3530E+04
1.1397E+10
7.9200 5.3274E-02 3.1843E+05 -723.43 151.54 1.3494E+04
1.1397E+10
8.2500 4.7196E-02 3.1551E+05 -1043.5 150.09 1.3427E+04
1.1397E+10
8.5800 4.1551E-02 3.1130E+05 -1357.2 148.35 1.3330E+04
1.1397E+10
8.9100 3.6336E-02 3.0581E+05 -1663.4 146.32 1.3205E+04
1.1397E+10
9.2400 3.1540E-02 2.9908E+05 -1961.1 144.00 1.3051E+04
1.1397E+10
9.5700 2.7157E-02 2.9116E+05 -2248.9 141.36 1.2869E+04
1.1397E+10
9.9000 2.3174E-02 2.8208E+05 -2525.6 138.41 1.2661E+04
1.1397E+10
10.230 1.9579E-02 2.7189E+05 -2790.0 135.12 1.2428E+04
1.1397E+10

10.560	1.6358E-02	2.6064E+05	-3040.7	131.49	1.2170E+04	1.1397E+10
10.890	1.3496E-02	2.4839E+05	-3276.3	127.50	1.1890E+04	1.1397E+10
11.220	1.0976E-02	2.3521E+05	-3495.4	123.14	1.1588E+04	1.1397E+10
11.550	8.7792E-03	2.2116E+05	-3696.4	118.38	1.1266E+04	1.1397E+10
11.880	6.8868E-03	2.0632E+05	-3877.7	113.18	1.0926E+04	1.1397E+10
12.210	5.2783E-03	1.9078E+05	-4037.5	107.52	1.0570E+04	1.1397E+10
12.540	3.9323E-03	1.7463E+05	-4173.8	101.35	1.0201E+04	1.1397E+10
12.870	2.8265E-03	1.5796E+05	-4284.6	94.572	9818.8	1.1397E+10
13.200	1.9382E-03	1.4089E+05	-4367.0	87.073	9427.8	1.1397E+10
13.530	1.2436E-03	1.2353E+05	-4417.9	78.625	9030.3	1.1397E+10
13.860	7.1907E-04	1.0602E+05	-4432.5	68.758	8629.2	1.1397E+10
14.190	3.4038E-04	8.8509E+04	-4402.7	56.207	8228.3	1.1397E+10
14.520	8.3476E-05	7.1207E+04	-4305.6	34.738	7832.1	1.1397E+10
14.850	-7.5454E-05	5.4449E+04	-3986.9	-55.719	7448.3	1.1397E+10
15.180	-1.5946E-04	3.9655E+04	-3486.3	-57.070	7109.5	1.1397E+10
15.510	-1.8891E-04	2.6848E+04	-2980.4	-58.464	6816.2	1.1397E+10
15.840	-1.8142E-04	1.6052E+04	-2474.1	-57.254	6569.0	1.1397E+10
16.170	-1.5184E-04	7249.9	-1975.9	-54.368	6367.4	1.1397E+10
16.500	-1.1228E-04	396.86	-1491.6	-50.185	6210.5	1.1397E+10
16.830	-7.2181E-05	-4571.5	-1026.4	-44.771	6306.1	1.1397E+10
17.160	-3.8369E-05	-7739.5	-365.30	-219.13	6378.6	1.1397E+10
17.490	-1.5207E-05	-7470.2	284.70	-109.15	6372.4	1.1397E+10
17.820	-2.3227E-06	-5488.2	540.57	-20.078	6327.1	1.1397E+10
18.150	3.0099E-06	-3190.6	520.07	30.434	6274.4	1.1397E+10
18.480	3.9525E-06	-1369.8	369.20	45.761	6232.7	1.1397E+10
18.810	3.0103E-06	-266.50	200.85	39.267	6207.5	

1.1397E+10
19.140 1.7014E-06 221.08 74.212 24.689 6206.4
1.1397E+10
19.470 6.9664E-07 321.48 3.2894 11.131 6208.7
1.1397E+10
19.800 1.3426E-07 247.29 -23.387 2.3421 6207.0
1.1397E+10
20.130 -8.7875E-08 136.33 -24.734 -1.6618 6204.5
1.1397E+10
20.460 -1.2243E-07 51.417 -16.504 -2.4948 6202.5
1.1397E+10
20.790 -8.6230E-08 5.6197 -7.8346 -1.8837 6201.5
1.1397E+10
21.120 -4.2302E-08 -10.640 -2.1525 -0.9861 6201.6
1.1397E+10
21.450 -1.3014E-08 -11.435 0.4385 -0.3224 6201.6
1.1397E+10
21.780 5.4105E-10 -7.1715 1.0501 1.3526E-02 6201.5
1.1397E+10
22.110 4.2282E-09 -3.1193 0.8141 0.1057 6201.4
1.1397E+10
22.440 3.6234E-09 -0.7244 0.4254 9.0584E-02 6201.4
1.1397E+10
22.770 2.0218E-09 0.2501 0.1460 5.0545E-02 6201.4
1.1397E+10
23.100 7.6441E-10 0.4320 8.0574E-03 1.9110E-02 6201.4
1.1397E+10
23.430 1.0144E-10 0.3141 -3.4802E-02 2.5361E-03 6201.4
1.1397E+10
23.760 -1.2929E-10 0.1565 -3.3424E-02 -3.2323E-03 6201.4
1.1397E+10
24.090 -1.4475E-10 4.9446E-02 -1.9859E-02 -3.6187E-03 6201.4
1.1397E+10
24.420 -9.2167E-11 -8.2732E-04 -8.1317E-03 -2.3042E-03 6201.4
1.1397E+10
24.750 -4.0726E-11 -1.4967E-02 -1.5535E-03 -1.0181E-03 6201.4
1.1397E+10
25.080 -9.8786E-12 -1.3139E-02 9.5137E-04 -2.4697E-04 6201.4
1.1397E+10
25.410 2.8895E-12 -7.4367E-03 1.2973E-03 7.2236E-05 6201.4
1.1397E+10
25.740 5.4251E-12 -2.8659E-03 8.8576E-04 1.3563E-04 6201.4
1.1397E+10
26.070 4.0173E-12 -4.2158E-04 4.1837E-04 1.0043E-04 6201.4
1.1397E+10
26.400 2.0295E-12 4.4786E-04 1.1905E-04 5.0738E-05 6201.4
1.1397E+10
26.730 6.5795E-13 5.2160E-04 -1.3983E-05 1.6449E-05 6201.4
1.1397E+10
27.060 4.0697E-15 3.3732E-04 -4.6753E-05 1.0174E-07 6201.4
1.1397E+10

```
       27.390 -1.8569E-13  1.5139E-04 -3.7763E-05 -4.6422E-06      6201.4
1.1397E+10
       27.720 -1.6713E-13  3.8251E-05 -2.0298E-05 -4.1783E-06      6201.4
1.1397E+10
       28.050 -9.5947E-14 -9.3761E-06 -7.2759E-06 -2.3987E-06      6201.4
1.1397E+10
       28.380 -3.7663E-14 -1.9387E-05 -6.6218E-07 -9.4157E-07      6201.4
1.1397E+10
       28.710 -6.0534E-15 -1.4629E-05  1.5018E-06 -1.5134E-07      6201.4
1.1397E+10
       29.040  5.4270E-15 -7.4967E-06  1.5328E-06  1.3568E-07      6201.4
1.1397E+10
       29.370  6.5924E-15 -2.4908E-06  9.3782E-07  1.6481E-07      6201.4
1.1397E+10
       29.700  4.3305E-15 -6.9114E-08  3.9713E-07  1.0826E-07      6201.4
1.1397E+10
       30.030  1.9735E-15  6.5489E-07  8.5083E-08  4.9338E-08      6201.4
1.1397E+10
       30.360  5.1766E-16  6.0511E-07 -3.8231E-08  1.2941E-08      6201.4
1.1397E+10
       30.690 -1.0563E-16  3.5230E-07 -5.8627E-08 -2.6407E-09      6201.4
1.1397E+10
       31.020 -2.4417E-16  1.4086E-07 -4.1312E-08 -6.1042E-09      6201.4
1.1397E+10
       31.350 -1.8889E-16  2.5120E-08 -1.9875E-08 -4.7224E-09      6201.4
1.1397E+10
       31.680 -9.9057E-17 -1.6568E-08 -5.6216E-09 -2.4764E-09      6201.4
1.1397E+10
       32.010 -3.2017E-17 -1.9418E-08  8.6652E-10 -8.0041E-10      6201.4
1.1397E+10
       32.340  8.3057E-18 -9.7150E-09  2.0402E-09  2.0764E-10      6201.4
1.1397E+10
       32.670  3.5261E-17 -3.2665E-09  1.2272E-09  2.0294E-10      6201.4
1.1397E+10
       33.000  5.7721E-17  8.9582E-24 -2.0457E-25  4.1687E-10      6201.4
1.1397E+10
```

Forward Abutment – Fixed Group Outputs

```
================================================================================

                  GROUP Version 2022.12.10

                    License ID : 500128013

                  License Type : (Network License)

                   Analysis of A Group of Piles
                Subjected to Axial and Lateral Loading

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================================================================================


     This model was prepared by:
     Keith Almasi



     Path to file locations      :
P:\PR61289\115174\400-Engineering\Structures\EngData\Stage 2\Design
Comps\Abutments\Group\Abutment Stage 3 - Revised\
     Name of input data file     : CR5 Forward Abutment Fixed.gp12d
     Name of output echo file    : CR5 Forward Abutment Fixed.gp12e
     Name of output results file : CR5 Forward Abutment Fixed.gp12o
     Name of output summary file : CR5 Forward Abutment Fixed.gp12t
     Name of plot output file    : CR5 Forward Abutment Fixed.gp12p
     Name of runtime file        : CR5 Forward Abutment Fixed.gp12r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  October 21, 2026     Time:  12:21:19



                  *****     COMPUTATION RESULTS     *****



     CR5 over MVRY Abutment
```

***** LOAD CASES RESULTS *****

LOAD CASE : 1
CASE NAME : Constr 1

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
6.69800E+05	1.95600E+05	-5.22667E+05

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0148645	0.0569054	-3.13268E-05

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.016368	0.056905	-3.1327E-05	4.0040E+04	2.0909E+04	5.8789E+05	1.6046E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.016368	0.056905	-3.1327E-05	4.0040E+04	2.0909E+04	5.8789E+05	1.6046E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x FT	DISPL. y-DIR IN	BENDING MOMENT LBS-IN	SHEAR FORCE LBS	SOIL REACTION LBS/IN	TOTAL FLEXURAL STRESS LBS-IN**2	FLEXURAL RIGIDITY LBS-IN**2
0.0000	5.6905E-02	-5.8789E+05	2.0909E+04	331.09	1.6046E+04	1.1397E+10
0.4100	5.6127E-02	-4.8783E+05	1.9713E+04	346.93	1.3755E+04	1.1397E+10
0.8200	5.4312E-02	-3.9380E+05	1.8445E+04	360.92	1.1602E+04	1.1397E+10
1.2300	5.1661E-02	-3.0616E+05	1.7111E+04	373.04	9594.5	1.1397E+10
1.6400	4.8360E-02	-2.2519E+05	1.5723E+04	383.25	7740.3	1.1397E+10
2.0500	4.4581E-02	-1.5116E+05	1.4290E+04	391.50	6044.9	1.1397E+10
2.4600	4.0480E-02	-8.4264E+04	1.2820E+04	397.74	4513.0	1.1397E+10
2.8700	3.6201E-02	-2.4669E+04	1.1326E+04	401.90	3148.2	1.1397E+10
3.2800	3.1869E-02	2.7524E+04	9815.6	403.90	3213.6	1.1397E+10

3.6900	2.7595E-02	7.2261E+04	8301.3	403.67	4238.1
1.1397E+10					
4.1000	2.3475E-02	1.0954E+05	6793.9	401.11	5091.9
1.1397E+10					
4.5100	1.9588E-02	1.3943E+05	5304.9	396.14	5776.4
1.1397E+10					
4.9200	1.5997E-02	1.6204E+05	3846.7	388.63	6294.2
1.1397E+10					
5.3300	1.2750E-02	1.7756E+05	2431.9	378.48	6649.5
1.1397E+10					
5.7400	9.8800E-03	1.8622E+05	1074.0	365.52	6847.8
1.1397E+10					
6.1500	7.4057E-03	1.8834E+05	-212.80	349.58	6896.4
1.1397E+10					
6.5600	5.3313E-03	1.8431E+05	-1413.3	330.43	6804.1
1.1397E+10					
6.9700	3.6485E-03	1.7458E+05	-2510.9	307.74	6581.4
1.1397E+10					
7.3800	2.3364E-03	1.5972E+05	-3486.9	281.01	6241.0
1.1397E+10					
7.7900	1.3636E-03	1.4036E+05	-4319.4	249.37	5797.7
1.1397E+10					
8.2000	6.8887E-04	1.1728E+05	-4979.4	210.95	5269.1
1.1397E+10					
8.6100	2.6326E-04	9.1411E+04	-5420.3	160.25	4676.6
1.1397E+10					
9.0200	3.1810E-05	6.3975E+04	-5496.5	62.751	4048.3
1.1397E+10					
9.4300	-6.3764E-05	3.7338E+04	-4702.8	-193.41	3438.3
1.1397E+10					
9.8400	-8.0035E-05	1.7704E+04	-3339.5	-168.76	2988.7
1.1397E+10					
10.250	-5.8703E-05	4477.3	-2083.5	-149.84	2685.8
1.1397E+10					
10.660	-2.7862E-05	-2799.2	-947.39	-119.98	2647.4
1.1397E+10					
11.070	-2.9654E-06	-4847.3	-53.057	-51.574	2694.3
1.1397E+10					
11.480	1.1635E-05	-3322.8	284.50	106.35	2659.3
1.1397E+10					
11.890	1.9179E-05	-2048.7	222.24	110.96	2630.2
1.1397E+10					
12.300	2.2371E-05	-1136.4	151.77	109.69	2609.3
1.1397E+10					
12.710	2.3149E-05	-555.45	92.591	106.37	2596.0
1.1397E+10					
13.120	2.2748E-05	-225.35	50.305	102.82	2588.4
1.1397E+10					
13.530	2.1868E-05	-60.394	23.948	99.891	2584.6
1.1397E+10					
13.940	2.0860E-05	10.383	9.8752	97.830	2583.5

1.1397E+10
14.350 1.9873E-05 36.857 3.8995 96.599 2584.1
1.1397E+10
14.760 1.8966E-05 48.830 2.3476 96.032 2584.4
1.1397E+10
15.170 1.8161E-05 60.026 2.3555 95.965 2584.6
1.1397E+10
15.580 1.7485E-05 72.067 1.7029 96.300 2584.9
1.1397E+10
15.990 1.6961E-05 76.831 -0.9235 96.767 2585.0
1.1397E+10
16.400 1.6601E-05 63.015 -3.3024 96.200 2584.7
1.1397E+10
16.810 1.6374E-05 44.359 -3.6045 95.923 2584.3
1.1397E+10
17.220 1.6242E-05 27.561 -2.9912 95.828 2583.9
1.1397E+10
17.630 1.6168E-05 14.934 -2.1420 95.827 2583.6
1.1397E+10
18.040 1.6126E-05 6.4879 -1.3904 95.867 2583.4
1.1397E+10
18.450 1.6097E-05 1.2550 -0.8680 95.920 2583.3
1.1397E+10
18.860 1.6071E-05 -2.0509 -0.6200 95.979 2583.3
1.1397E+10
19.270 1.6041E-05 -4.8433 -0.6842 96.047 2583.4
1.1397E+10
19.680 1.6001E-05 -8.7802 -1.1392 96.138 2583.5
1.1397E+10
20.090 1.5942E-05 -16.049 -2.1244 96.263 2583.6
1.1397E+10
20.500 1.5849E-05 -29.678 -3.8244 96.428 2583.9
1.1397E+10
20.910 1.5693E-05 -53.671 -6.3977 96.618 2584.5
1.1397E+10
21.320 1.5423E-05 -92.615 -9.8131 96.771 2585.4
1.1397E+10
21.730 1.4956E-05 -150.20 -13.543 96.746 2586.7
1.1397E+10
22.140 1.4170E-05 -225.83 -16.051 96.273 2588.4
1.1397E+10
22.550 1.2905E-05 -308.06 -13.966 94.879 2590.3
1.1397E+10
22.960 1.0985E-05 -363.13 -0.7787 91.760 2591.6
1.1397E+10
23.370 8.2938E-06 -315.54 35.441 85.516 2590.5
1.1397E+10
23.780 4.9326E-06 -14.146 116.97 73.344 2583.6
1.1397E+10
24.190 1.5414E-06 835.67 56.333 47.303 2602.4
1.1397E+10

24.600	-7.4984E-08	540.37	-59.029	-0.4082	2595.6	1.1397E+10
25.010	-5.4363E-07	254.91	-48.307	-3.9504	2589.1	1.1397E+10
25.420	-4.7087E-07	65.047	-28.061	-4.2796	2584.7	1.1397E+10
25.830	-2.5995E-07	-21.225	-10.556	-2.8363	2583.7	1.1397E+10
26.240	-9.4112E-08	-38.838	-0.6305	-1.1984	2584.1	1.1397E+10
26.650	-1.0764E-08	-27.439	2.7029	-0.1567	2583.9	1.1397E+10
27.060	1.4305E-08	-12.246	2.5120	0.2343	2583.5	1.1397E+10
27.470	1.3366E-08	-2.7223	1.3372	0.2433	2583.3	1.1397E+10
27.880	6.6448E-09	0.9127	0.4115	0.1330	2583.3	1.1397E+10
28.290	1.8620E-09	1.3270	-1.5872E-02	4.0674E-02	2583.3	1.1397E+10
28.700	-1.0236E-10	0.7567	-0.1100	-2.4224E-03	2583.3	1.1397E+10
29.110	-4.5941E-10	0.2450	-7.5757E-02	-1.1485E-02	2583.3	1.1397E+10
29.520	-2.9605E-10	1.1300E-02	-2.9297E-02	-7.4011E-03	2583.3	1.1397E+10
29.930	-1.0868E-10	-4.3271E-02	-4.4060E-03	-2.7171E-03	2583.3	1.1397E+10
30.340	-1.3226E-11	-3.2067E-02	3.0915E-03	-3.3065E-04	2583.3	1.1397E+10
30.750	1.4124E-11	-1.2856E-02	3.0362E-03	3.5310E-04	2583.3	1.1397E+10
31.160	1.4169E-11	-2.1913E-03	1.2962E-03	3.5422E-04	2583.3	1.1397E+10
31.570	9.5597E-12	-1.0104E-04	2.9992E-04	5.0773E-05	2583.3	1.1397E+10
31.980	4.7359E-12	7.6025E-04	9.1914E-05	3.3782E-05	2583.3	1.1397E+10
32.390	1.5267E-12	8.0372E-04	-2.4825E-05	1.3672E-05	2583.3	1.1397E+10
32.800	2.4606E-14	5.1616E-04	-5.9111E-05	2.6519E-07	2583.3	1.1397E+10
33.210	-3.8120E-13	2.2214E-04	-4.7948E-05	-4.8031E-06	2583.3	1.1397E+10
33.620	-3.1519E-13	4.4369E-05	-2.4950E-05	-4.5457E-06	2583.3	1.1397E+10
34.030	-1.5494E-13	-2.3374E-05	-7.5759E-06	-2.5169E-06	2583.3	1.1397E+10
34.440	-4.4339E-14	-3.0189E-05	5.8632E-07	-8.0106E-07	2583.3	1.1397E+10
34.850	2.1426E-15	-1.7611E-05	2.4521E-06	4.2615E-08	2583.3	

```
1.1397E+10
       35.260  1.1220E-14 -6.0629E-06  1.7480E-06  2.4359E-07      2583.3
1.1397E+10
       35.670  7.4198E-15 -4.1067E-07  7.1924E-07  1.7461E-07      2583.3
1.1397E+10
       36.080  2.7476E-15  1.0148E-06  1.2072E-07  6.8690E-08      2583.3
1.1397E+10
       36.490  2.3084E-16  7.7749E-07 -6.2456E-08  5.7711E-09      2583.3
1.1397E+10
       36.900 -6.3459E-16  4.0039E-07 -6.6072E-08 -4.3011E-09      2583.3
1.1397E+10
       37.310 -6.4961E-16  1.2738E-07 -4.1749E-08 -5.5866E-09      2583.3
1.1397E+10
       37.720 -3.9409E-16 -1.0421E-08 -1.7902E-08 -4.1073E-09      2583.3
1.1397E+10
       38.130 -1.6071E-16 -4.8796E-08 -2.9571E-09 -1.9677E-09      2583.3
1.1397E+10
       38.540 -3.0960E-17 -3.9534E-08  2.9549E-09 -4.3551E-10      2583.3
1.1397E+10
       38.950  1.4818E-17 -1.9726E-08  3.4471E-09  2.3544E-10      2583.3
1.1397E+10
       39.360  1.8699E-17 -5.6164E-09  2.0532E-09  3.3117E-10      2583.3
1.1397E+10
       39.770  1.0650E-17  4.7744E-10  7.2675E-10  2.0804E-10      2583.3
1.1397E+10
       40.180  3.6164E-18  1.5354E-09  2.4992E-11  7.7229E-11      2583.3
1.1397E+10
       40.590 -1.5664E-19  7.2379E-10 -1.5606E-10 -3.6306E-12      2583.3
1.1397E+10
       41.000 -2.3924E-18      0.0000  4.2851E-27 -5.9809E-11      2583.3
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.014864    0.056905 -3.1327E-05  3.6645E+04      5040.9  2.3758E+05
     7805.0


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------
```

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.014864	0.056905	-3.1327E-05	3.6645E+04	5040.9	2.3758E+05	7805.0

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	5.6905E-02	-2.3758E+05	5040.9	107.70	7805.0	1.1397E+10
0.4100	5.6499E-02	-2.1291E+05	4970.2	113.04	7240.0	1.1397E+10
0.8200	5.5640E-02	-1.8863E+05	4873.8	118.12	6684.0	1.1397E+10
1.2300	5.4381E-02	-1.6487E+05	4753.1	122.93	6139.9	1.1397E+10
1.6400	5.2772E-02	-1.4175E+05	4609.6	127.44	5610.5	1.1397E+10
2.0500	5.0861E-02	-1.1939E+05	4444.5	131.66	5098.2	1.1397E+10
2.4600	4.8697E-02	-9.7871E+04	4259.5	135.56	4605.5	1.1397E+10
2.8700	4.6325E-02	-7.7307E+04	4056.1	139.13	4134.6	1.1397E+10
3.2800	4.3789E-02	-5.7780E+04	3835.9	142.36	3687.4	1.1397E+10
3.6900	4.1130E-02	-3.9371E+04	3600.7	145.24	3265.8	1.1397E+10
4.1000	3.8388E-02	-2.2151E+04	3352.2	147.76	2871.5	1.1397E+10
4.5100	3.5598E-02	-6182.3	3092.3	149.91	2505.8	1.1397E+10
4.9200	3.2795E-02	8482.0	2822.7	151.66	2558.5	1.1397E+10
5.3300	3.0011E-02	2.1798E+04	2545.5	153.02	2863.4	1.1397E+10
5.7400	2.7272E-02	3.3732E+04	2262.6	153.98	3136.7	1.1397E+10
6.1500	2.4606E-02	4.4260E+04	1976.1	154.51	3377.8	1.1397E+10

6.5600	2.2033E-02	5.3369E+04	1688.0	154.61	3586.4
1.1397E+10					
6.9700	1.9573E-02	6.1054E+04	1400.4	154.28	3762.4
1.1397E+10					
7.3800	1.7244E-02	6.7324E+04	1115.6	153.49	3906.0
1.1397E+10					
7.7900	1.5057E-02	7.2198E+04	835.81	152.25	4017.6
1.1397E+10					
8.2000	1.3024E-02	7.5704E+04	563.27	150.54	4097.9
1.1397E+10					
8.6100	1.1151E-02	7.7883E+04	300.32	148.35	4147.8
1.1397E+10					
9.0200	9.4440E-03	7.8790E+04	49.317	145.68	4168.6
1.1397E+10					
9.4300	7.9042E-03	7.8488E+04	-187.33	142.52	4161.6
1.1397E+10					
9.8400	6.5311E-03	7.7053E+04	-407.19	138.86	4128.8
1.1397E+10					
10.250	5.3217E-03	7.4575E+04	-607.80	134.69	4072.0
1.1397E+10					
10.660	4.2706E-03	7.1155E+04	-786.65	130.01	3993.7
1.1397E+10					
11.070	3.3707E-03	6.6906E+04	-941.24	124.83	3896.4
1.1397E+10					
11.480	2.6129E-03	6.1954E+04	-1069.1	119.14	3783.0
1.1397E+10					
11.890	1.9866E-03	5.6437E+04	-1167.7	112.96	3656.7
1.1397E+10					
12.300	1.4803E-03	5.0505E+04	-1234.8	106.32	3520.8
1.1397E+10					
12.710	1.0812E-03	4.4320E+04	-1268.3	99.273	3379.2
1.1397E+10					
13.120	7.7622E-04	3.8051E+04	-1266.4	91.955	3235.6
1.1397E+10					
13.530	5.5208E-04	3.1878E+04	-1228.4	84.602	3094.2
1.1397E+10					
13.940	3.9564E-04	2.5978E+04	-1155.2	77.663	2959.1
1.1397E+10					
14.350	2.9438E-04	2.0520E+04	-1050.7	71.867	2834.1
1.1397E+10					
14.760	2.3670E-04	1.5644E+04	-922.85	68.143	2722.5
1.1397E+10					
15.170	2.1225E-04	1.1442E+04	-783.42	67.176	2626.2
1.1397E+10					
15.580	2.1210E-04	7936.5	-645.83	68.896	2546.0
1.1397E+10					
15.990	2.2881E-04	5086.5	-520.97	72.346	2480.7
1.1397E+10					
16.400	2.5632E-04	2808.6	-412.73	75.655	2428.5
1.1397E+10					
16.810	2.8979E-04	1023.0	-321.19	79.133	2387.6

1.1397E+10
17.220 3.2544E-04 -354.47 -246.22 82.392 2372.3
1.1397E+10
17.630 3.6033E-04 -1402.4 -186.31 85.254 2396.3
1.1397E+10
18.040 3.9225E-04 -2190.2 -139.35 87.656 2414.4
1.1397E+10
18.450 4.1952E-04 -2775.8 -103.04 89.583 2427.8
1.1397E+10
18.860 4.4089E-04 -3205.8 -75.057 91.044 2437.6
1.1397E+10
19.270 4.5545E-04 -3515.7 -53.144 92.049 2444.7
1.1397E+10
19.680 4.6254E-04 -3729.6 -35.078 92.608 2449.6
1.1397E+10
20.090 4.6171E-04 -3861.1 -18.669 92.722 2452.6
1.1397E+10
20.500 4.5268E-04 -3912.9 -1.7078 92.384 2453.8
1.1397E+10
20.910 4.3534E-04 -3876.9 18.077 91.574 2453.0
1.1397E+10
21.320 4.0977E-04 -3733.5 43.085 90.260 2449.7
1.1397E+10
21.730 3.7627E-04 -3450.8 75.918 88.393 2443.2
1.1397E+10
22.140 3.3543E-04 -2983.7 119.47 85.904 2432.5
1.1397E+10
22.550 2.8826E-04 -2272.0 177.03 82.696 2416.2
1.1397E+10
22.960 2.3627E-04 -1238.1 252.47 78.638 2392.6
1.1397E+10
23.370 1.8164E-04 216.23 350.42 73.546 2369.2
1.1397E+10
23.780 1.2748E-04 2214.0 476.59 67.166 2414.9
1.1397E+10
24.190 7.8013E-05 4909.7 401.95 59.174 2476.6
1.1397E+10
24.600 3.8978E-05 6172.5 142.83 46.163 2505.6
1.1397E+10
25.010 1.3052E-05 6317.5 -204.06 94.848 2508.9
1.1397E+10
25.420 5.4480E-07 4166.0 -449.57 4.9516 2459.6
1.1397E+10
25.830 -3.1146E-06 1894.3 -378.15 -33.984 2407.6
1.1397E+10
26.240 -2.7507E-06 445.14 -208.38 -35.026 2374.4
1.1397E+10
26.650 -1.4413E-06 -156.23 -70.609 -20.979 2367.8
1.1397E+10
27.060 -4.6379E-07 -249.74 -0.3141 -7.5958 2369.9
1.1397E+10

27.470	-1.6670E-08	-159.37	19.118	-0.3034	2367.9	1.1397E+10
27.880	9.1952E-08	-61.644	15.335	1.8411	2365.6	1.1397E+10
28.290	6.9645E-08	-8.4773	7.0636	1.5214	2364.4	1.1397E+10
28.700	2.9334E-08	7.8636	1.6132	0.6942	2364.4	1.1397E+10
29.110	5.7242E-09	7.3989	-0.4467	0.1431	2364.4	1.1397E+10
29.520	-2.1707E-09	3.4696	-0.6652	-5.4268E-02	2364.3	1.1397E+10
29.930	-2.6965E-09	0.8536	-0.3659	-6.7413E-02	2364.2	1.1397E+10
30.340	-1.4093E-09	-0.1306	-0.1134	-3.5232E-02	2364.2	1.1397E+10
30.750	-3.9940E-10	-0.2620	-2.1298E-03	-9.9850E-03	2364.2	1.1397E+10
31.160	5.4096E-11	-0.1516	1.9106E-02	1.3524E-03	2364.2	1.1397E+10
31.570	1.8560E-10	-7.3971E-02	1.3355E-02	9.8575E-04	2364.2	1.1397E+10
31.980	1.6000E-10	-2.0197E-02	8.1220E-03	1.1413E-03	2364.2	1.1397E+10
32.390	9.1496E-11	5.9527E-03	3.2986E-03	8.1940E-04	2364.2	1.1397E+10
32.800	3.5639E-11	1.2267E-02	3.3802E-04	3.8411E-04	2364.2	1.1397E+10
33.210	5.8353E-12	9.2819E-03	-7.8776E-04	7.3525E-05	2364.2	1.1397E+10
33.620	-4.2542E-12	4.5166E-03	-8.1770E-04	-6.1355E-05	2364.2	1.1397E+10
34.030	-4.7509E-12	1.2361E-03	-4.7692E-04	-7.7175E-05	2364.2	1.1397E+10
34.440	-2.6221E-12	-1.7632E-04	-1.7053E-04	-4.7373E-05	2364.2	1.1397E+10
34.850	-8.6787E-13	-4.4201E-04	-1.1527E-05	-1.7261E-05	2364.2	1.1397E+10
35.260	-5.2419E-14	-2.8984E-04	3.3735E-05	-1.1381E-06	2364.2	1.1397E+10
35.670	1.4742E-13	-1.1010E-04	2.8000E-05	3.4693E-06	2364.2	1.1397E+10
36.080	1.1341E-13	-1.4334E-05	1.2490E-05	2.8353E-06	2364.2	1.1397E+10
36.490	4.8958E-14	1.2804E-05	2.5045E-06	1.2239E-06	2364.2	1.1397E+10
36.900	1.1698E-14	1.0314E-05	-7.0148E-07	7.9286E-08	2364.2	1.1397E+10
37.310	-3.6563E-15	5.9033E-06	-8.1917E-07	-3.1444E-08	2364.2	1.1397E+10
37.720	-6.4723E-15	2.2537E-06	-5.7588E-07	-6.7456E-08	2364.2	

```
1.1397E+10
       38.130 -4.5016E-15  2.3676E-07 -2.7434E-07 -5.5120E-08      2364.2
1.1397E+10
       38.540 -2.0281E-15 -4.4595E-07 -6.8563E-08 -2.8528E-08      2364.2
1.1397E+10
       38.950 -5.0172E-16 -4.3805E-07  2.1227E-08 -7.9717E-09      2364.2
1.1397E+10
       39.360  9.4260E-17 -2.3716E-07  3.6731E-08  1.6694E-09      2364.2
1.1397E+10
       39.770  1.8653E-16 -7.6650E-08  2.3660E-08  3.6436E-09      2364.2
1.1397E+10
       40.180  1.1601E-16 -4.3378E-09  8.6027E-09  2.4774E-09      2364.2
1.1397E+10
       40.590  3.6269E-17  8.0058E-09  4.4030E-10  8.4064E-10      2364.2
1.1397E+10
       41.000 -2.6466E-17 -5.8034E-24  2.5472E-24 -6.6165E-10      2364.2
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.013361    0.056905 -3.1327E-05  3.3250E+04      3487.5  1.9215E+05
     6545.6


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.013361    0.056905 -3.1327E-05  3.3250E+04      3487.5  1.9215E+05
     6545.6


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
```

RIGIDITY

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	5.6905E-02	-1.9215E+05	3487.5	91.747	6545.6	1.1397E+10
0.4100	5.6547E-02	-1.7493E+05	3497.2	96.318	6151.2	1.1397E+10
0.8200	5.5818E-02	-1.5770E+05	3484.9	100.70	5756.7	1.1397E+10
1.2300	5.4753E-02	-1.4058E+05	3451.4	104.90	5364.5	1.1397E+10
1.6400	5.3390E-02	-1.2366E+05	3397.8	108.88	4977.1	1.1397E+10
2.0500	5.1764E-02	-1.0704E+05	3325.2	112.65	4596.5	1.1397E+10
2.4600	4.9910E-02	-9.0824E+04	3234.6	116.19	4225.1	1.1397E+10
2.8700	4.7864E-02	-7.5086E+04	3127.1	119.50	3864.7	1.1397E+10
3.2800	4.5659E-02	-5.9912E+04	3003.9	122.56	3517.2	1.1397E+10
3.6900	4.3326E-02	-4.5376E+04	2866.3	125.36	3184.3	1.1397E+10
4.1000	4.0897E-02	-3.1549E+04	2715.6	127.90	2867.7	1.1397E+10
4.5100	3.8400E-02	-1.8491E+04	2553.1	130.17	2568.6	1.1397E+10
4.9200	3.5865E-02	-6259.0	2380.1	132.16	2288.5	1.1397E+10
5.3300	3.3316E-02	5098.1	2198.0	133.85	2261.9	1.1397E+10
5.7400	3.0778E-02	1.5539E+04	2008.4	135.25	2501.0	1.1397E+10
6.1500	2.8273E-02	2.5028E+04	1812.5	136.34	2718.3	1.1397E+10
6.5600	2.5821E-02	3.3539E+04	1612.1	137.13	2913.2	1.1397E+10
6.9700	2.3441E-02	4.1052E+04	1408.6	137.59	3085.3	1.1397E+10
7.3800	2.1147E-02	4.7555E+04	1203.6	137.74	3234.2	1.1397E+10
7.7900	1.8955E-02	5.3045E+04	998.77	137.55	3359.9	1.1397E+10
8.2000	1.6875E-02	5.7525E+04	795.64	137.03	3462.5	1.1397E+10
8.6100	1.4918E-02	6.1008E+04	595.90	136.17	3542.3	1.1397E+10
9.0200	1.3090E-02	6.3515E+04	401.22	134.97	3599.7	1.1397E+10

9.4300	1.1396E-02	6.5073E+04	213.30	133.42	3635.4
1.1397E+10					
9.8400	9.8416E-03	6.5722E+04	33.808	131.54	3650.2
1.1397E+10					
10.250	8.4263E-03	6.5505E+04	-135.56	129.31	3645.3
1.1397E+10					
10.660	7.1501E-03	6.4477E+04	-293.12	126.74	3621.7
1.1397E+10					
11.070	6.0109E-03	6.2701E+04	-437.23	123.84	3581.1
1.1397E+10					
11.480	5.0049E-03	6.0246E+04	-566.28	120.62	3524.9
1.1397E+10					
11.890	4.1268E-03	5.7191E+04	-678.73	117.09	3454.9
1.1397E+10					
12.300	3.3702E-03	5.3622E+04	-773.15	113.29	3373.1
1.1397E+10					
12.710	2.7275E-03	4.9630E+04	-848.26	109.24	3281.7
1.1397E+10					
13.120	2.1902E-03	4.5314E+04	-903.00	105.01	3182.9
1.1397E+10					
13.530	1.7491E-03	4.0777E+04	-936.67	100.68	3079.0
1.1397E+10					
13.940	1.3947E-03	3.6124E+04	-949.04	96.353	2972.4
1.1397E+10					
14.350	1.1169E-03	3.1459E+04	-940.58	92.204	2865.6
1.1397E+10					
14.760	9.0602E-04	2.6885E+04	-912.64	88.440	2760.8
1.1397E+10					
15.170	7.5221E-04	2.2491E+04	-867.76	85.315	2660.2
1.1397E+10					
15.580	6.4616E-04	1.8355E+04	-809.71	83.086	2565.5
1.1397E+10					
15.990	5.7910E-04	1.4529E+04	-742.85	81.736	2477.9
1.1397E+10					
16.400	5.4290E-04	1.1048E+04	-669.30	80.365	2398.2
1.1397E+10					
16.810	5.3017E-04	7945.2	-591.58	80.044	2327.1
1.1397E+10					
17.220	5.3431E-04	5227.5	-514.23	80.511	2264.9
1.1397E+10					
17.630	5.4955E-04	2884.5	-440.40	81.475	2211.2
1.1397E+10					
18.040	5.7093E-04	892.84	-371.88	82.674	2165.6
1.1397E+10					
18.450	5.9419E-04	-776.30	-309.35	83.906	2162.9
1.1397E+10					
18.860	6.1581E-04	-2152.6	-252.60	85.025	2194.5
1.1397E+10					
19.270	6.3286E-04	-3263.2	-200.82	85.927	2219.9
1.1397E+10					
19.680	6.4297E-04	-4129.6	-152.78	86.543	2239.7

1.1397E+10
20.090 6.4431E-04 -4766.9 -106.93 86.818 2254.3
1.1397E+10
20.500 6.3553E-04 -5181.5 -61.493 86.712 2263.8
1.1397E+10
20.910 6.1575E-04 -5371.0 -14.501 86.185 2268.2
1.1397E+10
21.320 5.8455E-04 -5322.5 36.218 85.197 2267.1
1.1397E+10
21.730 5.4206E-04 -5012.2 93.051 83.700 2260.0
1.1397E+10
22.140 4.8891E-04 -4403.7 158.64 81.637 2246.0
1.1397E+10
22.550 4.2642E-04 -3447.3 235.95 78.935 2224.1
1.1397E+10
22.960 3.5660E-04 -2077.6 328.37 75.497 2192.7
1.1397E+10
23.370 2.8237E-04 -211.36 439.82 71.199 2150.0
1.1397E+10
23.780 2.0769E-04 2255.2 574.92 65.878 2196.8
1.1397E+10
24.190 1.3779E-04 5450.7 503.02 59.350 2270.0
1.1397E+10
24.600 7.9481E-05 7209.2 238.59 48.140 2310.3
1.1397E+10
25.010 3.6479E-05 7801.9 -10.810 53.244 2323.8
1.1397E+10
25.420 1.0048E-05 7105.1 -366.46 91.328 2307.9
1.1397E+10
25.830 -1.2921E-06 4197.2 -556.44 -14.098 2241.3
1.1397E+10
26.240 -3.7180E-06 1630.2 -405.29 -47.343 2182.5
1.1397E+10
26.650 -2.6815E-06 209.12 -192.81 -39.031 2150.0
1.1397E+10
27.060 -1.2009E-06 -267.17 -48.415 -19.668 2151.3
1.1397E+10
27.470 -2.8765E-07 -267.36 12.846 -5.2352 2151.3
1.1397E+10
27.880 5.7728E-08 -140.80 22.881 1.1558 2148.4
1.1397E+10
28.290 1.0404E-07 -42.220 14.447 2.2728 2146.1
1.1397E+10
28.700 6.0688E-08 1.3513 5.3224 1.4363 2145.2
1.1397E+10
29.110 2.0202E-08 10.155 0.5467 0.5051 2145.4
1.1397E+10
29.520 1.2849E-09 6.7329 -0.7747 3.2122E-02 2145.3
1.1397E+10
29.930 -3.3322E-09 2.5325 -0.6488 -8.3305E-02 2145.2
1.1397E+10

```
       30.340 -2.5704E-09      0.3485     -0.2858 -6.4261E-02      2145.2
1.1397E+10
       30.750 -1.0685E-09     -0.2800 -6.2024E-02 -2.6712E-02      2145.2
1.1397E+10
       31.160 -1.6121E-10     -0.2619  1.3602E-02 -4.0303E-03      2145.2
1.1397E+10
       31.570  1.8980E-10     -0.1462  2.1037E-02  1.0081E-03      2145.2
1.1397E+10
       31.980  2.3030E-10 -5.4905E-02  1.4516E-02  1.6428E-03      2145.2
1.1397E+10
       32.390  1.5418E-10 -3.3692E-03  7.0777E-03  1.3807E-03      2145.2
1.1397E+10
       32.800  7.0898E-11  1.4745E-02  1.8014E-03  7.6412E-04      2145.2
1.1397E+10
       33.210  1.8937E-11  1.4361E-02 -6.6533E-04  2.3860E-04      2145.2
1.1397E+10
       33.620 -2.5230E-12  8.2003E-03 -1.1628E-03 -3.6387E-05      2145.2
1.1397E+10
       34.030 -6.5659E-12  2.9199E-03 -8.1088E-04 -1.0666E-04      2145.2
1.1397E+10
       34.440 -4.4072E-12  2.2122E-04 -3.5263E-04 -7.9624E-05      2145.2
1.1397E+10
       34.850 -1.7786E-12 -5.5009E-04 -6.9730E-05 -3.5375E-05      2145.2
1.1397E+10
       35.260 -3.1841E-13 -4.6506E-04  3.4298E-05 -6.9130E-06      2145.2
1.1397E+10
       35.670  1.5406E-13 -2.1266E-04  4.2385E-05  3.6254E-06      2145.2
1.1397E+10
       36.080  1.7483E-13 -4.8009E-05  2.2715E-05  4.3708E-06      2145.2
1.1397E+10
       36.490  9.3644E-14  1.0849E-05  6.2032E-06  2.3411E-06      2145.2
1.1397E+10
       36.900  3.5497E-14  1.3036E-05 -1.4773E-07  2.4059E-07      2145.2
1.1397E+10
       37.310  5.0363E-15  9.3980E-06 -8.4613E-07  4.3312E-08      2145.2
1.1397E+10
       37.720 -5.4634E-15  4.7112E-06 -8.1260E-07 -5.6941E-08      2145.2
1.1397E+10
       38.130 -5.9570E-15  1.4024E-06 -4.9309E-07 -7.2941E-08      2145.2
1.1397E+10
       38.540 -3.4721E-15 -1.4092E-07 -1.9351E-07 -4.8841E-08      2145.2
1.1397E+10
       38.950 -1.2865E-15 -5.0191E-07 -2.3071E-08 -2.0442E-08      2145.2
1.1397E+10
       39.360 -1.6697E-16 -3.6804E-07  3.4491E-08 -2.9572E-09      2145.2
1.1397E+10
       39.770  1.7091E-16 -1.6257E-07  3.3553E-08  3.3384E-09      2145.2
1.1397E+10
       40.180  1.6350E-16 -3.7895E-08  1.6751E-08  3.4916E-09      2145.2
1.1397E+10
       40.590  7.5606E-17  2.2620E-09  3.8505E-09  1.7524E-09      2145.2
```

```
1.1397E+10
       41.000 -7.4848E-18 -5.8034E-24  1.6021E-24 -1.8712E-10      2145.2
1.1397E+10



     LOAD CASE :     2
     CASE NAME : Strength I (maxVmaxH), Contraction

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR

                1           1.0000       1.0000
                2           1.0000       1.0000
                3           1.0000       1.0000



     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                3.07180E+06       4.27500E+05      -4.58710E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                  0.0952852           0.29029      -1.32371E-03


          NUMBER OF ITERATIONS =   7



     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE


       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
```

```
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.1588      0.2903 -1.3237E-03  2.2521E+05  4.2648E+04  1.3745E+06
 4.6006E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

            0.1588      0.2903 -1.3237E-03  2.2521E+05  4.2648E+04  1.3745E+06
 4.6006E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.2903 -1.3745E+06  4.2648E+04      497.58  4.6006E+04
1.1397E+10
       0.4100      0.2823 -1.1676E+06  4.0667E+04      519.57  4.1269E+04
1.1397E+10
       0.8200      0.2719 -9.7016E+05  3.8582E+04      539.88  3.6747E+04
1.1397E+10
       1.2300      0.2594 -7.8277E+05  3.6402E+04      558.46  3.2456E+04
1.1397E+10
       1.6400      0.2452 -6.0595E+05  3.4135E+04      575.22  2.8407E+04
1.1397E+10
       2.0500      0.2297 -4.4021E+05  3.1789E+04      590.08  2.4611E+04
1.1397E+10
       2.4600      0.2133 -2.8597E+05  2.9376E+04      602.96  2.1079E+04
1.1397E+10
       2.8700      0.1963 -1.4362E+05  2.6904E+04      613.78  1.7819E+04
1.1397E+10
       3.2800      0.1790 -1.3502E+04  2.4385E+04      622.45  1.4839E+04
1.1397E+10
       3.6900      0.1617  1.0413E+05  2.1828E+04      628.90  1.6914E+04
1.1397E+10
       4.1000      0.1446  2.0905E+05  1.9245E+04      633.04  1.9317E+04
```

1.1397E+10
4.5100 0.1279 3.0111E+05 1.6648E+04 634.76 2.1425E+04
1.1397E+10
4.9200 0.1118 3.8023E+05 1.4048E+04 633.99 2.3237E+04
1.1397E+10
5.3300 9.6619E-02 4.4638E+05 1.1459E+04 630.61 2.4752E+04
1.1397E+10
5.7400 8.2341E-02 4.9963E+05 8892.8 624.51 2.5972E+04
1.1397E+10
6.1500 6.9124E-02 5.4008E+05 6363.8 615.57 2.6898E+04
1.1397E+10
6.5600 5.7054E-02 5.6794E+05 3885.9 603.67 2.7536E+04
1.1397E+10
6.9700 4.6191E-02 5.8348E+05 1474.4 588.63 2.7892E+04
1.1397E+10
7.3800 3.6567E-02 5.8706E+05 -854.94 570.27 2.7974E+04
1.1397E+10
7.7900 2.8189E-02 5.7913E+05 -3085.3 548.36 2.7792E+04
1.1397E+10
8.2000 2.1042E-02 5.6020E+05 -5198.3 522.59 2.7359E+04
1.1397E+10
8.6100 1.5085E-02 5.3093E+05 -7174.0 492.53 2.6688E+04
1.1397E+10
9.0200 1.0255E-02 4.9204E+05 -8989.5 457.50 2.5798E+04
1.1397E+10
9.4300 6.4702E-03 4.4441E+05 -1.0618E+04 416.31 2.4707E+04
1.1397E+10
9.8400 3.6293E-03 3.8905E+05 -1.2022E+04 366.51 2.3440E+04
1.1397E+10
10.250 1.6148E-03 3.2721E+05 -1.3143E+04 301.23 2.2023E+04
1.1397E+10
10.660 2.9532E-04 2.6048E+05 -1.3804E+04 179.33 2.0495E+04
1.1397E+10
11.070 -4.7098E-04 1.9185E+05 -1.3075E+04 -263.66 1.8923E+04
1.1397E+10
11.480 -8.2980E-04 1.3208E+05 -1.1179E+04 -294.78 1.7555E+04
1.1397E+10
11.890 -9.0809E-04 8.1944E+04 -9183.8 -304.43 1.6406E+04
1.1397E+10
12.300 -8.1234E-04 4.1706E+04 -7172.8 -301.04 1.5485E+04
1.1397E+10
12.710 -6.2802E-04 1.1301E+04 -5202.9 -287.72 1.4789E+04
1.1397E+10
13.120 -4.1969E-04 -9579.3 -3320.5 -265.48 1.4749E+04
1.1397E+10
13.530 -2.3170E-04 -2.1462E+04 -1570.9 -233.73 1.5021E+04
1.1397E+10
13.940 -8.9303E-05 -2.5112E+04 -11.542 -188.18 1.5105E+04
1.1397E+10
14.350 -2.3886E-07 -2.1628E+04 1125.2 -61.895 1.5025E+04
1.1397E+10

14.760	4.2888E-05	-1.4070E+04	1401.2	161.70	1.4852E+04	1.1397E+10
15.170	5.6131E-05	-7853.4	1093.5	175.37	1.4710E+04	1.1397E+10
15.580	5.2695E-05	-3312.2	755.03	174.21	1.4606E+04	1.1397E+10
15.990	4.2223E-05	-420.71	442.74	164.74	1.4540E+04	1.1397E+10
16.400	3.0858E-05	1049.3	193.66	148.52	1.4554E+04	1.1397E+10
16.810	2.1721E-05	1489.6	27.276	131.12	1.4564E+04	1.1397E+10
17.220	1.5748E-05	1321.1	-58.848	115.89	1.4560E+04	1.1397E+10
17.630	1.2581E-05	912.56	-82.555	105.75	1.4551E+04	1.1397E+10
18.040	1.1352E-05	509.71	-70.530	101.36	1.4542E+04	1.1397E+10
18.450	1.1206E-05	218.85	-46.692	100.95	1.4535E+04	1.1397E+10
18.860	1.1524E-05	50.220	-24.969	102.22	1.4531E+04	1.1397E+10
19.270	1.1949E-05	-27.007	-10.177	103.76	1.4530E+04	1.1397E+10
19.680	1.2317E-05	-50.104	-2.2321	105.01	1.4531E+04	1.1397E+10
20.090	1.2579E-05	-49.113	0.5519	105.86	1.4531E+04	1.1397E+10
20.500	1.2736E-05	-44.767	-0.1670	106.43	1.4531E+04	1.1397E+10
20.910	1.2798E-05	-50.805	-3.2435	106.82	1.4531E+04	1.1397E+10
21.320	1.2752E-05	-76.686	-7.9073	107.08	1.4532E+04	1.1397E+10
21.730	1.2543E-05	-128.56	-13.262	107.10	1.4533E+04	1.1397E+10
22.140	1.2061E-05	-207.02	-17.510	106.63	1.4535E+04	1.1397E+10
22.550	1.1140E-05	-300.54	-16.897	105.13	1.4537E+04	1.1397E+10
22.960	9.5797E-06	-372.73	-4.2207	101.72	1.4538E+04	1.1397E+10
23.370	7.2281E-06	-341.19	33.587	94.909	1.4538E+04	1.1397E+10
23.780	4.1520E-06	-41.013	120.80	81.638	1.4531E+04	1.1397E+10
24.190	9.8869E-07	848.90	55.564	50.881	1.4549E+04	1.1397E+10
24.600	-3.7159E-07	506.75	-64.628	-2.0231	1.4541E+04	1.1397E+10
25.010	-6.5557E-07	213.33	-47.932	-4.7638	1.4535E+04	

1.1397E+10
25.420 -4.8644E-07 35.129 -25.337 -4.4212 1.4531E+04
1.1397E+10
25.830 -2.4269E-07 -36.072 -7.9464 -2.6481 1.4531E+04
1.1397E+10
26.240 -7.5565E-08 -43.156 0.9348 -0.9622 1.4531E+04
1.1397E+10
26.650 -9.6414E-11 -26.929 3.3052 -1.4034E-03 1.4530E+04
1.1397E+10
27.060 1.8178E-08 -10.654 2.5763 0.2977 1.4530E+04
1.1397E+10
27.470 1.3823E-08 -1.5809 1.2250 0.2516 1.4530E+04
1.1397E+10
27.880 6.1112E-09 1.4030 0.3051 0.1224 1.4530E+04
1.1397E+10
28.290 1.3790E-09 1.4244 -6.9978E-02 3.0123E-02 1.4530E+04
1.1397E+10
28.700 -3.2796E-10 0.7159 -0.1250 -7.7618E-03 1.4530E+04
1.1397E+10
29.110 -5.1446E-10 0.1949 -7.4254E-02 -1.2861E-02 1.4530E+04
1.1397E+10
29.520 -2.8696E-10 -1.4798E-02 -2.4967E-02 -7.1740E-03 1.4530E+04
1.1397E+10
29.930 -9.0887E-11 -5.0853E-02 -1.7296E-03 -2.2722E-03 1.4530E+04
1.1397E+10
30.340 -2.8237E-12 -3.1882E-02 4.0336E-03 -7.0592E-05 1.4530E+04
1.1397E+10
30.750 1.7526E-11 -1.1186E-02 3.1294E-03 4.3815E-04 1.4530E+04
1.1397E+10
31.160 1.4117E-11 -1.0920E-03 1.1834E-03 3.5291E-04 1.4530E+04
1.1397E+10
31.570 8.3877E-12 4.6008E-04 2.0562E-04 4.4548E-05 1.4530E+04
1.1397E+10
31.980 3.6360E-12 9.3364E-04 3.2231E-05 2.5937E-05 1.4530E+04
1.1397E+10
32.390 8.6723E-13 7.7893E-04 -5.0678E-05 7.7666E-06 1.4530E+04
1.1397E+10
32.800 -2.4710E-13 4.3584E-04 -6.3232E-05 -2.6632E-06 1.4530E+04
1.1397E+10
33.210 -4.3575E-13 1.5701E-04 -4.3175E-05 -5.4904E-06 1.4530E+04
1.1397E+10
33.620 -2.9090E-13 1.1014E-05 -1.9347E-05 -4.1954E-06 1.4530E+04
1.1397E+10
34.030 -1.2266E-13 -3.3435E-05 -4.1248E-06 -1.9926E-06 1.4530E+04
1.1397E+10
34.440 -2.5439E-14 -2.9634E-05 1.9076E-06 -4.5960E-07 1.4530E+04
1.1397E+10
34.850 8.8448E-15 -1.4694E-05 2.6054E-06 1.7591E-07 1.4530E+04
1.1397E+10
35.260 1.1920E-14 -4.0050E-06 1.5361E-06 2.5879E-07 1.4530E+04
1.1397E+10

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       35.670  6.4882E-15  4.2146E-07  5.2383E-07  1.5269E-07  1.4530E+04
1.1397E+10
       36.080  1.9518E-15  1.1517E-06  2.8175E-08  4.8796E-08  1.4530E+04
1.1397E+10
       36.490 -1.3841E-16  7.0020E-07 -8.3350E-08 -3.4603E-09  1.4530E+04
1.1397E+10
       36.900 -7.4150E-16  3.3213E-07 -6.2474E-08 -5.0257E-09  1.4530E+04
1.1397E+10
       37.310 -6.3917E-16  8.5561E-08 -3.6589E-08 -5.4968E-09  1.4530E+04
1.1397E+10
       37.720 -3.5511E-16 -2.7991E-08 -1.3962E-08 -3.7010E-09  1.4530E+04
1.1397E+10
       38.130 -1.3050E-16 -5.1942E-08 -9.2711E-10 -1.5979E-09  1.4530E+04
1.1397E+10
       38.540 -1.6208E-17 -3.7190E-08  3.5645E-09 -2.2799E-10  1.4530E+04
1.1397E+10
       38.950  1.9091E-17 -1.6901E-08  3.3791E-09  3.0333E-10  1.4530E+04
1.1397E+10
       39.360  1.8492E-17 -3.9473E-09  1.8272E-09  3.2752E-10  1.4530E+04
1.1397E+10
       39.770  9.5100E-18  1.0807E-09  5.6456E-10  1.8576E-10  1.4530E+04
1.1397E+10
       40.180  2.8231E-18  1.6116E-09 -4.0724E-11  6.0289E-11  1.4530E+04
1.1397E+10
       40.590 -4.4098E-19  6.8223E-10 -1.6389E-10 -1.0221E-11  1.4530E+04
1.1397E+10
       41.000 -2.2561E-18      0.0000 -6.6908E-26 -5.6402E-11  1.4530E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.095285      0.2903 -1.3237E-03  1.7089E+05  1.2687E+04  5.6466E+05
 2.3956E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.095285 0.2903 -1.3237E-03 1.7089E+05 1.2687E+04 5.6466E+05
2.3956E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2903	-5.6466E+05	1.2687E+04	161.86	2.3956E+04	1.1397E+10
0.4100	0.2832	-5.0170E+05	1.2394E+04	169.14	2.2515E+04	1.1397E+10
0.8200	0.2750	-4.4009E+05	1.2066E+04	176.13	2.1104E+04	1.1397E+10
1.2300	0.2659	-3.8001E+05	1.1705E+04	182.80	1.9728E+04	1.1397E+10
1.6400	0.2560	-3.2166E+05	1.1311E+04	189.15	1.8392E+04	1.1397E+10
2.0500	0.2454	-2.6520E+05	1.0887E+04	195.14	1.7099E+04	1.1397E+10
2.4600	0.2342	-2.1081E+05	1.0435E+04	200.78	1.5853E+04	1.1397E+10
2.8700	0.2226	-1.5863E+05	9955.7	206.04	1.4658E+04	1.1397E+10
3.2800	0.2106	-1.0882E+05	9451.6	210.90	1.3517E+04	1.1397E+10
3.6900	0.1985	-6.1503E+04	8924.5	215.36	1.2434E+04	1.1397E+10
4.1000	0.1861	-1.6814E+04	8376.5	219.39	1.1410E+04	1.1397E+10
4.5100	0.1738	2.5136E+04	7809.8	222.98	1.1601E+04	1.1397E+10
4.9200	0.1615	6.4246E+04	7226.6	226.12	1.2497E+04	1.1397E+10
5.3300	0.1493	1.0042E+05	6629.0	228.78	1.3325E+04	1.1397E+10
5.7400	0.1374	1.3359E+05	6019.6	230.97	1.4085E+04	1.1397E+10
6.1500	0.1257	1.6369E+05	5400.6	232.65	1.4774E+04	1.1397E+10
6.5600	0.1144	1.9066E+05	4774.6	233.82	1.5392E+04	1.1397E+10
6.9700	0.1035	2.1447E+05	4144.1	234.46	1.5937E+04	

1.1397E+10
7.3800 9.3058E-02 2.3509E+05 3511.8 234.56 1.6409E+04
1.1397E+10
7.7900 8.3104E-02 2.5251E+05 2880.5 234.09 1.6808E+04
1.1397E+10
8.2000 7.3687E-02 2.6675E+05 2252.8 233.05 1.7134E+04
1.1397E+10
8.6100 6.4836E-02 2.7780E+05 1631.7 231.42 1.7387E+04
1.1397E+10
9.0200 5.6575E-02 2.8573E+05 1020.2 229.17 1.7569E+04
1.1397E+10
9.4300 4.8920E-02 2.9056E+05 421.24 226.30 1.7679E+04
1.1397E+10
9.8400 4.1883E-02 2.9238E+05 -161.97 222.78 1.7721E+04
1.1397E+10
10.250 3.5467E-02 2.9127E+05 -726.20 218.59 1.7696E+04
1.1397E+10
10.660 2.9670E-02 2.8732E+05 -1268.1 213.70 1.7605E+04
1.1397E+10
11.070 2.4483E-02 2.8067E+05 -1784.3 208.11 1.7453E+04
1.1397E+10
11.480 1.9892E-02 2.7144E+05 -2271.0 201.76 1.7241E+04
1.1397E+10
11.890 1.5877E-02 2.5979E+05 -2724.7 194.65 1.6975E+04
1.1397E+10
12.300 1.2414E-02 2.4590E+05 -3141.3 186.71 1.6657E+04
1.1397E+10
12.710 9.4739E-03 2.2997E+05 -3516.8 177.92 1.6292E+04
1.1397E+10
13.120 7.0219E-03 2.1222E+05 -3846.7 168.20 1.5885E+04
1.1397E+10
13.530 5.0206E-03 1.9288E+05 -4126.3 157.47 1.5443E+04
1.1397E+10
13.940 3.4290E-03 1.7223E+05 -4350.3 145.61 1.4970E+04
1.1397E+10
14.350 2.2032E-03 1.5056E+05 -4512.8 132.43 1.4473E+04
1.1397E+10
14.760 1.2972E-03 1.2819E+05 -4606.2 117.57 1.3961E+04
1.1397E+10
15.170 6.6342E-04 1.0550E+05 -4620.6 100.27 1.3441E+04
1.1397E+10
15.580 2.5373E-04 8.2902E+04 -4538.1 78.191 1.2924E+04
1.1397E+10
15.990 2.0113E-05 6.0952E+04 -4283.1 30.168 1.2421E+04
1.1397E+10
16.400 -8.4045E-05 4.0814E+04 -3665.2 -69.346 1.1960E+04
1.1397E+10
16.810 -1.0152E-04 2.4907E+04 -2802.0 -69.563 1.1596E+04
1.1397E+10
17.220 -6.6088E-05 1.3240E+04 -1957.0 -61.930 1.1329E+04
1.1397E+10

17.630	-2.5396E-06	5633.0	-1181.4	-41.336	1.1154E+04	1.1397E+10
18.040	7.2973E-05	1590.7	-708.58	61.122	1.1062E+04	1.1397E+10
18.450	1.5186E-04	-1365.8	-518.29	73.524	1.1057E+04	1.1397E+10
18.860	2.2786E-04	-3535.7	-377.47	81.234	1.1106E+04	1.1397E+10
19.270	2.9634E-04	-5104.8	-268.73	86.562	1.1142E+04	1.1397E+10
19.680	3.5397E-04	-6201.6	-182.28	90.296	1.1167E+04	1.1397E+10
20.090	3.9844E-04	-6916.0	-111.19	92.805	1.1184E+04	1.1397E+10
20.500	4.2822E-04	-7308.4	-49.917	94.286	1.1193E+04	1.1397E+10
20.910	4.4248E-04	-7414.7	6.3442	94.844	1.1195E+04	1.1397E+10
21.320	4.4098E-04	-7248.2	62.012	94.527	1.1191E+04	1.1397E+10
21.730	4.2409E-04	-6801.3	121.39	93.336	1.1181E+04	1.1397E+10
22.140	3.9276E-04	-6045.5	188.87	91.232	1.1164E+04	1.1397E+10
22.550	3.4859E-04	-4930.0	269.17	88.127	1.1138E+04	1.1397E+10
22.960	2.9394E-04	-3380.0	367.56	83.874	1.1103E+04	1.1397E+10
23.370	2.3212E-04	-1293.2	490.28	78.243	1.1055E+04	1.1397E+10
23.780	1.6755E-04	1465.9	644.97	70.872	1.1059E+04	1.1397E+10
24.190	1.0610E-04	5074.8	580.79	61.219	1.1142E+04	1.1397E+10
24.600	5.5419E-05	7200.0	318.27	45.495	1.1190E+04	1.1397E+10
25.010	2.0034E-05	8221.4	-151.77	145.58	1.1214E+04	1.1397E+10
25.420	2.1103E-06	5715.8	-557.07	19.180	1.1156E+04	1.1397E+10
25.830	-3.6733E-06	2743.8	-505.66	-40.080	1.1088E+04	1.1397E+10
26.240	-3.6293E-06	741.07	-293.38	-46.213	1.1042E+04	1.1397E+10
26.650	-2.0112E-06	-143.32	-107.68	-29.274	1.1029E+04	1.1397E+10
27.060	-6.9757E-07	-319.02	-7.5617	-11.425	1.1033E+04	1.1397E+10
27.470	-6.1494E-08	-218.06	23.296	-1.1192	1.1030E+04	1.1397E+10
27.880	1.1145E-07	-89.923	20.560	2.2314	1.1027E+04	

1.1397E+10
28.290 9.3398E-08 -15.773 10.052 2.0402 1.1026E+04
1.1397E+10
28.700 4.1849E-08 8.9973 2.5963 0.9904 1.1026E+04
1.1397E+10
29.110 9.4089E-09 9.7894 -0.4188 0.2352 1.1026E+04
1.1397E+10
29.520 -2.2390E-09 4.8840 -0.8597 -5.5976E-02 1.1025E+04
1.1397E+10
29.930 -3.5137E-09 1.3319 -0.5059 -8.7842E-02 1.1025E+04
1.1397E+10
30.340 -1.9595E-09 -9.4400E-02 -0.1693 -4.8987E-02 1.1025E+04
1.1397E+10
30.750 -6.0575E-10 -0.3349 -1.1574E-02 -1.5144E-02 1.1025E+04
1.1397E+10
31.160 3.6721E-11 -0.2086 2.3421E-02 9.1803E-04 1.1025E+04
1.1397E+10
31.570 2.3608E-10 -0.1045 1.8079E-02 1.2538E-03 1.1025E+04
1.1397E+10
31.980 2.1339E-10 -3.0769E-02 1.1249E-02 1.5222E-03 1.1025E+04
1.1397E+10
32.390 1.2536E-10 6.1701E-03 4.7431E-03 1.1227E-03 1.1025E+04
1.1397E+10
32.800 5.0429E-11 1.5931E-02 6.4426E-04 5.4352E-04 1.1025E+04
1.1397E+10
33.210 9.3355E-12 1.2529E-02 -9.8215E-04 1.1763E-04 1.1025E+04
1.1397E+10
33.620 -5.1468E-12 6.2761E-03 -1.0889E-03 -7.4228E-05 1.1025E+04
1.1397E+10
34.030 -6.2991E-12 1.8172E-03 -6.5459E-04 -1.0232E-04 1.1025E+04
1.1397E+10
34.440 -3.5917E-12 -1.6539E-04 -2.4324E-04 -6.4891E-05 1.1025E+04
1.1397E+10
34.850 -1.2357E-12 -5.7716E-04 -2.3153E-05 -2.4577E-05 1.1025E+04
1.1397E+10
35.260 -1.0550E-13 -3.9382E-04 4.2940E-05 -2.2904E-06 1.1025E+04
1.1397E+10
35.670 1.8827E-13 -1.5488E-04 3.7675E-05 4.4305E-06 1.1025E+04
1.1397E+10
36.080 1.5307E-13 -2.3138E-05 1.7362E-05 3.8267E-06 1.1025E+04
1.1397E+10
36.490 6.8730E-14 1.5982E-05 3.7214E-06 1.7182E-06 1.1025E+04
1.1397E+10
36.900 1.8333E-14 1.3503E-05 -8.1113E-07 1.2426E-07 1.1025E+04
1.1397E+10
37.310 -3.3829E-15 8.0124E-06 -1.0452E-06 -2.9093E-08 1.1025E+04
1.1397E+10
37.720 -8.0812E-15 3.2228E-06 -7.6648E-07 -8.4224E-08 1.1025E+04
1.1397E+10
38.130 -5.9346E-15 4.7070E-07 -3.8053E-07 -7.2666E-08 1.1025E+04
1.1397E+10

```
       38.540 -2.7882E-15 -5.2256E-07 -1.0529E-07 -3.9221E-08  1.1025E+04
1.1397E+10
       38.950 -7.5178E-16 -5.6624E-07  2.0578E-08 -1.1945E-08  1.1025E+04
1.1397E+10
       39.360  8.2029E-17 -3.2056E-07  4.6389E-08  1.4528E-09  1.1025E+04
1.1397E+10
       39.770  2.3498E-16 -1.0994E-07  3.1524E-08  4.5900E-09  1.1025E+04
1.1397E+10
       40.180  1.5443E-16 -1.0384E-08  1.2119E-08  3.2979E-09  1.1025E+04
1.1397E+10
       40.590  5.1820E-17  9.3466E-09  1.0520E-09  1.2011E-09  1.1025E+04
1.1397E+10
       41.000 -3.0936E-17      0.0000  6.4623E-27 -7.7341E-10  1.1025E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.031747      0.2903 -1.3237E-03  7.4765E+04  1.0040E+04  4.6796E+05
 1.5540E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.031747      0.2903 -1.3237E-03  7.4765E+04  1.0040E+04  4.6796E+05
 1.5540E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
```

**********	**********	**********	**********	**********	**********	**********
0.0000	0.2903	-4.6796E+05	1.0040E+04	137.88	1.5540E+04	1.1397E+10
0.4100	0.2833	-4.1843E+05	9867.6	144.10	1.4406E+04	1.1397E+10
0.8200	0.2754	-3.6975E+05	9665.4	150.09	1.3291E+04	1.1397E+10
1.2300	0.2667	-3.2208E+05	9434.3	155.84	1.2199E+04	1.1397E+10
1.6400	0.2573	-2.7557E+05	9175.6	161.34	1.1134E+04	1.1397E+10
2.0500	0.2474	-2.3035E+05	8890.5	166.57	1.0099E+04	1.1397E+10
2.4600	0.2369	-1.8656E+05	8580.3	171.53	9095.9	1.1397E+10
2.8700	0.2261	-1.4433E+05	8246.4	176.20	8128.7	1.1397E+10
3.2800	0.2150	-1.0377E+05	7890.2	180.57	7200.0	1.1397E+10
3.6900	0.2036	-6.5004E+04	7513.4	184.62	6312.2	1.1397E+10
4.1000	0.1921	-2.8130E+04	7117.4	188.35	5467.7	1.1397E+10
4.5100	0.1805	6755.5	6703.9	191.75	4978.2	1.1397E+10
4.9200	0.1690	3.9564E+04	6274.5	194.80	5729.6	1.1397E+10
5.3300	0.1575	7.0217E+04	5831.0	197.49	6431.6	1.1397E+10
5.7400	0.1462	9.8645E+04	5375.2	199.81	7082.6	1.1397E+10
6.1500	0.1351	1.2479E+05	4908.9	201.75	7681.2	1.1397E+10
6.5600	0.1242	1.4859E+05	4434.0	203.30	8226.3	1.1397E+10
6.9700	0.1137	1.7001E+05	3952.4	204.45	8717.0	1.1397E+10
7.3800	0.1036	1.8903E+05	3466.3	205.18	9152.4	1.1397E+10
7.7900	9.3793E-02	2.0561E+05	2977.5	205.50	9532.2	1.1397E+10
8.2000	8.4467E-02	2.1975E+05	2488.3	205.37	9856.1	1.1397E+10
8.6100	7.5607E-02	2.3146E+05	2000.8	204.80	1.0124E+04	1.1397E+10
9.0200	6.7239E-02	2.4073E+05	1517.2	203.78	1.0336E+04	1.1397E+10
9.4300	5.9382E-02	2.4760E+05	1039.8	202.28	1.0494E+04	1.1397E+10
9.8400	5.2052E-02	2.5210E+05	571.00	200.30	1.0597E+04	

1.1397E+10
10.250 4.5256E-02 2.5427E+05 113.14 197.82 1.0647E+04
1.1397E+10
10.660 3.9001E-02 2.5419E+05 -331.29 194.84 1.0645E+04
1.1397E+10
11.070 3.3286E-02 2.5191E+05 -759.78 191.34 1.0592E+04
1.1397E+10
11.480 2.8105E-02 2.4752E+05 -1169.7 187.30 1.0492E+04
1.1397E+10
11.890 2.3451E-02 2.4113E+05 -1558.4 182.70 1.0346E+04
1.1397E+10
12.300 1.9308E-02 2.3285E+05 -1923.1 177.54 1.0156E+04
1.1397E+10
12.710 1.5660E-02 2.2279E+05 -2260.9 171.79 9925.7
1.1397E+10
13.120 1.2485E-02 2.1111E+05 -2568.9 165.42 9658.1
1.1397E+10
13.530 9.7590E-03 1.9796E+05 -2844.0 158.42 9356.9
1.1397E+10
13.940 7.4531E-03 1.8350E+05 -3083.0 150.74 9025.9
1.1397E+10
14.350 5.5369E-03 1.6794E+05 -3282.5 142.35 8669.4
1.1397E+10
14.760 3.9774E-03 1.5146E+05 -3438.9 133.20 8292.1
1.1397E+10
15.170 2.7396E-03 1.3431E+05 -3548.1 123.22 7899.2
1.1397E+10
15.580 1.7871E-03 1.1671E+05 -3606.0 112.29 7496.3
1.1397E+10
15.990 1.0824E-03 9.8947E+04 -3606.7 99.996 7089.5
1.1397E+10
16.400 5.8793E-04 8.1312E+04 -3540.5 85.094 6685.6
1.1397E+10
16.810 2.6613E-04 6.4170E+04 -3397.0 68.592 6293.1
1.1397E+10
17.220 8.0617E-05 4.7923E+04 -3162.9 48.236 5921.0
1.1397E+10
17.630 -3.1073E-06 3.3067E+04 -2713.1 -19.105 5580.8
1.1397E+10
18.040 -1.6600E-05 2.1234E+04 -2030.1 -46.506 5309.8
1.1397E+10
18.450 1.5005E-05 1.3089E+04 -1467.8 29.909 5123.3
1.1397E+10
18.860 7.4411E-05 6783.9 -1144.5 50.671 4978.9
1.1397E+10
19.270 1.4822E-04 1817.2 -897.73 61.021 4865.2
1.1397E+10
19.680 2.2590E-04 -2061.1 -693.65 68.019 4870.7
1.1397E+10
20.090 2.9919E-04 -5019.7 -519.09 73.021 4938.5
1.1397E+10

20.500	3.6183E-04	-7179.1	-365.55	76.564	4987.9	1.1397E+10
20.910	4.0921E-04	-8624.9	-226.51	78.918	5021.1	1.1397E+10
21.320	4.3828E-04	-9413.7	-96.500	80.231	5039.1	1.1397E+10
21.730	4.4736E-04	-9577.3	29.422	80.581	5042.9	1.1397E+10
22.140	4.3609E-04	-9124.0	155.92	79.999	5032.5	1.1397E+10
22.550	4.0544E-04	-8039.9	287.59	78.475	5007.7	1.1397E+10
22.960	3.5772E-04	-6288.3	429.19	75.964	4967.5	1.1397E+10
23.370	2.9664E-04	-3808.5	585.79	72.379	4910.8	1.1397E+10
23.780	2.2747E-04	-514.37	762.98	67.593	4835.3	1.1397E+10
24.190	1.5721E-04	3709.6	706.29	61.453	4908.5	1.1397E+10
24.600	9.4832E-05	6445.4	431.24	50.356	4971.1	1.1397E+10
25.010	4.6141E-05	7961.3	168.46	56.463	5005.9	1.1397E+10
25.420	1.4358E-05	8109.1	-291.46	130.50	5009.2	1.1397E+10
25.830	-2.0125E-07	5096.7	-607.09	-2.1959	4940.3	1.1397E+10
26.240	-3.9355E-06	2136.7	-478.41	-50.112	4872.5	1.1397E+10
26.650	-3.1315E-06	389.38	-243.01	-45.581	4832.5	1.1397E+10
27.060	-1.5005E-06	-254.65	-70.421	-24.575	4829.4	1.1397E+10
27.470	-4.1041E-07	-303.77	8.4092	-7.4695	4830.5	1.1397E+10
27.880	3.4529E-08	-172.02	25.084	0.6913	4827.5	1.1397E+10
28.290	1.1411E-07	-56.985	17.251	2.4926	4824.8	1.1397E+10
28.700	7.2653E-08	-2.2755	6.8894	1.7194	4823.6	1.1397E+10
29.110	2.6366E-08	10.813	1.0381	0.6591	4823.8	1.1397E+10
29.520	3.0445E-09	7.9443	-0.7707	7.6114E-02	4823.7	1.1397E+10
29.930	-3.4035E-09	3.2318	-0.7486	-8.5088E-02	4823.6	1.1397E+10
30.340	-2.9874E-09	0.5786	-0.3555	-7.4684E-02	4823.5	1.1397E+10
30.750	-1.3423E-09	-0.2669	-8.9273E-02	-3.3558E-02	4823.5	

1.1397E+10
31.160 -2.6420E-10 -0.3001 9.5287E-03 -6.6049E-03 4823.5
1.1397E+10
31.570 1.7665E-10 -0.1733 2.3469E-02 9.3820E-04 4823.5
1.1397E+10
31.980 2.4949E-10 -6.9159E-02 1.6783E-02 1.7797E-03 4823.5
1.1397E+10
32.390 1.7544E-10 -8.1221E-03 8.5396E-03 1.5712E-03 4823.5
1.1397E+10
32.800 8.4146E-11 1.4883E-02 2.4435E-03 9.0691E-04 4823.5
1.1397E+10
33.210 2.4459E-11 1.5933E-02 -5.4564E-04 3.0819E-04 4823.5
1.1397E+10
33.620 -1.3870E-12 9.5204E-03 -1.2546E-03 -2.0003E-05 4823.5
1.1397E+10
34.030 -7.0125E-12 3.5905E-03 -9.2513E-04 -1.1391E-04 4823.5
1.1397E+10
34.440 -5.0121E-12 4.1739E-04 -4.2215E-04 -9.0551E-05 4823.5
1.1397E+10
34.850 -2.1252E-12 -5.6383E-04 -9.5414E-05 -4.2267E-05 4823.5
1.1397E+10
35.260 -4.3581E-13 -5.2183E-04 3.1840E-05 -9.4620E-06 4823.5
1.1397E+10
35.670 1.4522E-13 -2.5070E-04 4.6709E-05 3.4175E-06 4823.5
1.1397E+10
36.080 1.9379E-13 -6.2255E-05 2.6384E-05 4.8448E-06 4823.5
1.1397E+10
36.490 1.1014E-13 8.9238E-06 7.6925E-06 2.7534E-06 4823.5
1.1397E+10
36.900 4.5435E-14 1.3451E-05 1.6158E-07 3.0795E-07 4823.5
1.1397E+10
37.310 9.3025E-15 1.0521E-05 -7.9277E-07 8.0002E-08 4823.5
1.1397E+10
37.720 -4.4835E-15 5.6537E-06 -8.7463E-07 -4.6728E-08 4823.5
1.1397E+10
38.130 -6.2615E-15 1.9162E-06 -5.7107E-07 -7.6668E-08 4823.5
1.1397E+10
38.540 -3.9696E-15 3.4262E-08 -2.4511E-07 -5.5839E-08 4823.5
1.1397E+10
38.950 -1.6050E-15 -4.9600E-07 -4.5006E-08 -2.5502E-08 4823.5
1.1397E+10
39.360 -2.9386E-16 -4.0887E-07 3.0531E-08 -5.2046E-09 4823.5
1.1397E+10
39.770 1.4886E-16 -1.9570E-07 3.6182E-08 2.9078E-09 4823.5
1.1397E+10
40.180 1.7593E-16 -5.2884E-08 1.9786E-08 3.7571E-09 4823.5
1.1397E+10
40.590 9.0680E-17 -1.0038E-09 5.3730E-09 2.1018E-09 4823.5
1.1397E+10
41.000 3.2960E-18 -5.8034E-24 -1.1911E-24 8.2400E-11 4823.5
1.1397E+10

LOAD CASE : 3
CASE NAME : Strength I (minVmaxH), Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.58370E+06	4.27500E+05	-2.66614E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0351159	0.24947	-6.27679E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN

STRESS, LB/IN**2

0.065244 0.2495 -6.2768E-04 1.3645E+05 4.2196E+04 1.4317E+06
4.1590E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.065244 0.2495 -6.2768E-04 1.3645E+05 4.2196E+04 1.4317E+06
4.1590E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	RIGIDITY LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2495	-1.4317E+06	4.2196E+04	479.08	4.1590E+04	1.1397E+10
0.4100	0.2449	-1.2279E+06	4.0306E+04	501.40	3.6924E+04	1.1397E+10
0.8200	0.2376	-1.0334E+06	3.8310E+04	522.03	3.2470E+04	1.1397E+10
1.2300	0.2282	-8.4870E+05	3.6216E+04	540.89	2.8239E+04	1.1397E+10
1.6400	0.2170	-6.7425E+05	3.4035E+04	557.94	2.4244E+04	1.1397E+10
2.0500	0.2044	-5.1054E+05	3.1774E+04	573.08	2.0495E+04	1.1397E+10
2.4600	0.1906	-3.5799E+05	2.9444E+04	586.24	1.7002E+04	1.1397E+10
2.8700	0.1762	-2.1697E+05	2.7053E+04	597.36	1.3772E+04	1.1397E+10
3.2800	0.1612	-8.7769E+04	2.4614E+04	606.35	1.0814E+04	1.1397E+10
3.6900	0.1461	2.9341E+04	2.2135E+04	613.13	9475.5	1.1397E+10
4.1000	0.1310	1.3417E+05	1.9629E+04	617.62	1.1876E+04	1.1397E+10
4.5100	0.1162	2.2657E+05	1.7107E+04	619.72	1.3992E+04	1.1397E+10

4.9200	0.1019	3.0647E+05	1.4580E+04	619.35	1.5822E+04	1.1397E+10
5.3300	8.8229E-02	3.7386E+05	1.2062E+04	616.41	1.7365E+04	1.1397E+10
5.7400	7.5364E-02	4.2878E+05	9564.5	610.80	1.8623E+04	1.1397E+10
6.1500	6.3410E-02	4.7136E+05	7101.6	602.39	1.9598E+04	1.1397E+10
6.5600	5.2458E-02	5.0179E+05	4687.2	591.07	2.0295E+04	1.1397E+10
6.9700	4.2571E-02	5.2032E+05	2336.1	576.68	2.0719E+04	1.1397E+10
7.3800	3.3789E-02	5.2732E+05	63.726	559.05	2.0880E+04	1.1397E+10
7.7900	2.6127E-02	5.2320E+05	-2113.4	537.97	2.0785E+04	1.1397E+10
8.2000	1.9576E-02	5.0846E+05	-4177.7	513.17	2.0448E+04	1.1397E+10
8.6100	1.4105E-02	4.8373E+05	-6109.9	484.26	1.9881E+04	1.1397E+10
9.0200	9.6618E-03	4.4970E+05	-7888.3	450.68	1.9102E+04	1.1397E+10
9.4300	6.1736E-03	4.0719E+05	-9487.6	411.46	1.8128E+04	1.1397E+10
9.8400	3.5502E-03	3.5717E+05	-1.0875E+04	364.68	1.6983E+04	1.1397E+10
10.250	1.6854E-03	3.0079E+05	-1.2002E+04	305.45	1.5692E+04	1.1397E+10
10.660	4.5940E-04	2.3949E+05	-1.2754E+04	211.90	1.4288E+04	1.1397E+10
11.070	-2.5791E-04	1.7556E+05	-1.2152E+04	-244.29	1.2824E+04	1.1397E+10
11.480	-6.0234E-04	1.2005E+05	-1.0353E+04	-275.28	1.1553E+04	1.1397E+10
11.890	-6.9179E-04	7.3746E+04	-8450.3	-286.05	1.0492E+04	1.1397E+10
12.300	-6.2460E-04	3.6906E+04	-6528.8	-283.03	9648.7	1.1397E+10
12.710	-4.7903E-04	9472.9	-4647.1	-269.89	9020.5	1.1397E+10
13.120	-3.1334E-04	-8864.1	-2851.8	-247.93	9006.5	1.1397E+10
13.530	-1.6648E-04	-1.8631E+04	-1186.8	-216.92	9230.2	1.1397E+10
13.940	-5.9186E-05	-2.0576E+04	295.25	-173.53	9274.8	1.1397E+10
14.350	4.4034E-06	-1.5749E+04	1067.9	71.431	9164.2	1.1397E+10
14.760	3.4542E-05	-1.0081E+04	1047.6	148.82	9034.4	1.1397E+10
15.170	4.3269E-05	-5446.1	807.46	160.80	8928.3	

1.1397E+10
15.580 4.0429E-05 -2136.4 541.60 159.27 8852.5
1.1397E+10
15.990 3.3052E-05 -115.39 301.38 150.38 8806.2
1.1397E+10
16.400 2.5430E-05 831.24 118.13 136.11 8822.6
1.1397E+10
16.810 1.9573E-05 1048.8 4.5141 122.08 8827.6
1.1397E+10
17.220 1.5944E-05 876.95 -47.820 111.20 8823.6
1.1397E+10
17.630 1.4177E-05 579.00 -57.918 104.91 8816.8
1.1397E+10
18.040 1.3640E-05 307.36 -46.829 102.59 8810.6
1.1397E+10
18.450 1.3756E-05 118.26 -30.083 102.61 8806.2
1.1397E+10
18.860 1.4123E-05 11.271 -15.685 103.54 8803.8
1.1397E+10
19.270 1.4514E-05 -36.184 -6.1577 104.59 8804.4
1.1397E+10
19.680 1.4828E-05 -49.417 -1.2991 105.44 8804.7
1.1397E+10
20.090 1.5037E-05 -49.039 -5.3377E-02 106.06 8804.7
1.1397E+10
20.500 1.5142E-05 -49.985 -1.4147 106.50 8804.7
1.1397E+10
20.910 1.5141E-05 -62.973 -4.6718 106.83 8805.0
1.1397E+10
21.320 1.5006E-05 -95.937 -9.2487 107.03 8805.7
1.1397E+10
21.730 1.4668E-05 -153.92 -14.265 107.00 8807.1
1.1397E+10
22.140 1.4002E-05 -236.16 -17.847 106.45 8808.9
1.1397E+10
22.550 1.2835E-05 -329.28 -16.155 104.86 8811.1
1.1397E+10
22.960 1.0968E-05 -394.72 -1.9557 101.37 8812.6
1.1397E+10
23.370 8.2634E-06 -347.90 37.732 94.499 8811.5
1.1397E+10
23.780 4.8196E-06 -22.596 126.78 81.304 8804.1
1.1397E+10
24.190 1.3278E-06 900.52 58.929 52.276 8824.2
1.1397E+10
24.600 -2.5137E-07 557.95 -66.304 -1.3686 8816.3
1.1397E+10
25.010 -6.4548E-07 248.36 -51.399 -4.6905 8809.2
1.1397E+10
25.420 -5.1210E-07 52.228 -28.410 -4.6544 8804.7
1.1397E+10

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       25.830 -2.6779E-07     -31.250     -9.7724     -2.9219      8804.3
1.1397E+10
       26.240 -8.9850E-08     -43.990      0.2299     -1.1441      8804.5
1.1397E+10
       26.650 -5.3435E-09     -29.023      3.2357 -7.7777E-02      8804.2
1.1397E+10
       27.060  1.7520E-08     -12.165      2.7211      0.2869      8803.8
1.1397E+10
       27.470  1.4545E-08     -2.2499      1.3640      0.2647      8803.6
1.1397E+10
       27.880  6.7919E-09      1.2582      0.3783      0.1360      8803.6
1.1397E+10
       28.290  1.7107E-09      1.4741 -4.8187E-02  3.7370E-02      8803.6
1.1397E+10
       28.700 -2.3957E-10      0.7850     -0.1262 -5.6699E-03      8803.6
1.1397E+10
       29.110 -5.2265E-10      0.2329 -8.0079E-02 -1.3066E-02      8803.5
1.1397E+10
       29.520 -3.1108E-10 -2.9874E-03 -2.8805E-02 -7.7770E-03      8803.5
1.1397E+10
       29.930 -1.0586E-10 -5.0610E-02 -3.1634E-03 -2.6465E-03      8803.5
1.1397E+10
       30.340 -8.1293E-12 -3.4156E-02  3.8469E-03 -2.0323E-04      8803.5
1.1397E+10
       30.750  1.7055E-11 -1.2773E-02  3.2980E-03  4.2637E-04      8803.5
1.1397E+10
       31.160  1.5109E-11 -1.7071E-03  1.3199E-03  3.7773E-04      8803.5
1.1397E+10
       31.570  9.5384E-12  2.1580E-04  2.6606E-04  5.0659E-05      8803.5
1.1397E+10
       31.980  4.4257E-12  9.1236E-04  6.3775E-05  3.1570E-05      8803.5
1.1397E+10
       32.390  1.2508E-12  8.4447E-04 -4.1443E-05  1.1202E-05      8803.5
1.1397E+10
       32.800 -1.3048E-13  5.0518E-04 -6.5540E-05 -1.4063E-06      8803.5
1.1397E+10
       33.210 -4.3879E-13  1.9979E-04 -4.8480E-05 -5.5288E-06      8803.5
1.1397E+10
       33.620 -3.2278E-13  2.8165E-05 -2.3428E-05 -4.6551E-06      8803.5
1.1397E+10
       34.030 -1.4694E-13 -3.0780E-05 -6.1041E-06 -2.3869E-06      8803.5
1.1397E+10
       34.440 -3.6474E-14 -3.1938E-05  1.3888E-06 -6.5896E-07      8803.5
1.1397E+10
       34.850  6.1561E-15 -1.7135E-05  2.7087E-06  1.2244E-07      8803.5
1.1397E+10
       35.260  1.2393E-14 -5.2912E-06  1.7456E-06  2.6906E-07      8803.5
1.1397E+10
       35.670  7.3910E-15  4.1230E-08  6.5581E-07  1.7393E-07      8803.5
1.1397E+10
       36.080  2.4769E-15  1.1633E-06  7.5606E-08  6.1922E-08      8803.5
```

1.1397E+10
36.490 3.3649E-17 7.8620E-07 -7.8792E-08 8.4121E-10 8803.5
1.1397E+10
36.900 -7.3977E-16 3.8846E-07 -6.8527E-08 -5.0140E-09 8803.5
1.1397E+10
37.310 -6.8812E-16 1.1199E-07 -4.1635E-08 -5.9179E-09 8803.5
1.1397E+10
37.720 -3.9862E-16 -2.1271E-08 -1.6857E-08 -4.1545E-09 8803.5
1.1397E+10
38.130 -1.5430E-16 -5.3956E-08 -1.9889E-09 -1.8893E-09 8803.5
1.1397E+10
38.540 -2.4574E-17 -4.0892E-08 3.5091E-09 -3.4567E-10 8803.5
1.1397E+10
38.950 1.8299E-17 -1.9449E-08 3.6443E-09 2.9074E-10 8803.5
1.1397E+10
39.360 1.9862E-17 -5.0388E-09 2.0637E-09 3.5178E-10 8803.5
1.1397E+10
39.770 1.0723E-17 8.5812E-10 6.8305E-10 2.0946E-10 8803.5
1.1397E+10
40.180 3.4069E-18 1.6846E-09 -1.1197E-11 7.2755E-11 8803.5
1.1397E+10
40.590 -3.3138E-19 7.4945E-10 -1.7128E-10 -7.6806E-12 8803.5
1.1397E+10
41.000 -2.4778E-18 -3.6271E-25 6.3614E-26 -6.1946E-11 8803.5
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.035116 0.2495 -6.2768E-04 8.2371E+04 1.2981E+04 6.4109E+05
1.9996E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.035116 0.2495 -6.2768E-04 8.2371E+04 1.2981E+04 6.4109E+05
1.9996E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	FLEXURAL RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2495	-6.4109E+05	1.2981E+04	155.85	1.9996E+04	1.1397E+10
0.4100	0.2457	-5.7752E+05	1.2717E+04	163.25	1.8540E+04	1.1397E+10
0.8200	0.2407	-5.1523E+05	1.2418E+04	170.36	1.7113E+04	1.1397E+10
1.2300	0.2346	-4.5441E+05	1.2085E+04	177.17	1.5721E+04	1.1397E+10
1.6400	0.2276	-3.9523E+05	1.1719E+04	183.66	1.4365E+04	1.1397E+10
2.0500	0.2197	-3.3787E+05	1.1321E+04	189.82	1.3052E+04	1.1397E+10
2.4600	0.2111	-2.8247E+05	1.0895E+04	195.62	1.1783E+04	1.1397E+10
2.8700	0.2018	-2.2920E+05	1.0440E+04	201.06	1.0563E+04	1.1397E+10
3.2800	0.1921	-1.7818E+05	9960.3	206.11	9394.7	1.1397E+10
3.6900	0.1821	-1.2956E+05	9456.3	210.76	8281.2	1.1397E+10
4.1000	0.1717	-8.3447E+04	8930.5	215.00	7225.3	1.1397E+10
4.5100	0.1612	-3.9961E+04	8384.8	218.82	6229.4	1.1397E+10
4.9200	0.1506	800.83	7821.5	222.18	5332.6	1.1397E+10
5.3300	0.1400	3.8750E+04	7242.7	225.10	6201.7	1.1397E+10
5.7400	0.1294	7.3810E+04	6650.7	227.54	7004.6	1.1397E+10
6.1500	0.1191	1.0592E+05	6048.0	229.49	7739.8	1.1397E+10
6.5600	0.1089	1.3501E+05	5436.8	230.94	8406.1	1.1397E+10
6.9700	9.9043E-02	1.6106E+05	4819.8	231.88	9002.7	1.1397E+10
7.3800	8.9523E-02	1.8404E+05	4199.5	232.28	9528.8	1.1397E+10

7.7900	8.0394E-02	2.0392E+05	3578.5	232.14	9984.2	1.1397E+10
8.2000	7.1697E-02	2.2072E+05	2959.6	231.45	1.0369E+04	1.1397E+10
8.6100	6.3470E-02	2.3444E+05	2345.6	230.17	1.0683E+04	1.1397E+10
9.0200	5.5741E-02	2.4511E+05	1739.2	228.30	1.0927E+04	1.1397E+10
9.4300	4.8532E-02	2.5278E+05	1143.6	225.82	1.1103E+04	1.1397E+10
9.8400	4.1860E-02	2.5751E+05	561.72	222.72	1.1211E+04	1.1397E+10
10.250	3.5736E-02	2.5936E+05	-3.3169	218.97	1.1254E+04	1.1397E+10
10.660	3.0162E-02	2.5844E+05	-548.26	214.55	1.1233E+04	1.1397E+10
11.070	2.5136E-02	2.5484E+05	-1069.8	209.45	1.1150E+04	1.1397E+10
11.480	2.0653E-02	2.4870E+05	-1564.5	203.63	1.1010E+04	1.1397E+10
11.890	1.6697E-02	2.4014E+05	-2028.7	197.08	1.0814E+04	1.1397E+10
12.300	1.3251E-02	2.2934E+05	-2458.8	189.76	1.0566E+04	1.1397E+10
12.710	1.0293E-02	2.1648E+05	-2850.9	181.62	1.0272E+04	1.1397E+10
13.120	7.7942E-03	2.0174E+05	-3200.8	172.63	9934.2	1.1397E+10
13.530	5.7239E-03	1.8536E+05	-3504.3	162.73	9559.0	1.1397E+10
13.940	4.0474E-03	1.6757E+05	-3756.6	151.83	9151.7	1.1397E+10
14.350	2.7268E-03	1.4864E+05	-3952.4	139.80	8718.2	1.1397E+10
14.760	1.7218E-03	1.2887E+05	-4085.9	126.47	8265.4	1.1397E+10
15.170	9.9059E-04	1.0858E+05	-4149.7	111.45	7800.7	1.1397E+10
15.580	4.8996E-04	8.8135E+04	-4133.5	93.973	7332.6	1.1397E+10
15.990	1.7652E-04	6.7969E+04	-4018.6	71.304	6870.8	1.1397E+10
16.400	7.4453E-06	4.8631E+04	-3713.0	16.462	6427.9	1.1397E+10
16.810	-5.8343E-05	3.1453E+04	-3069.6	-66.009	6034.5	1.1397E+10
17.220	-5.7327E-05	1.8432E+04	-2229.7	-63.392	5736.4	1.1397E+10
17.630	-1.7163E-05	9508.8	-1417.0	-54.975	5532.0	1.1397E+10
18.040	4.3197E-05	4480.4	-884.58	50.537	5416.9	

1.1397E+10
18.450 1.1307E-04 793.79 -652.15 66.979 5332.4
1.1397E+10
18.860 1.8463E-04 -1948.4 -483.12 76.308 5358.9
1.1397E+10
19.270 2.5206E-04 -3971.5 -352.61 82.642 5405.2
1.1397E+10
19.680 3.1105E-04 -5428.5 -248.67 87.104 5438.6
1.1397E+10
20.090 3.5851E-04 -6427.2 -163.26 90.178 5461.4
1.1397E+10
20.500 3.9231E-04 -7041.7 -90.177 92.113 5475.5
1.1397E+10
20.910 4.1116E-04 -7318.9 -24.150 93.046 5481.9
1.1397E+10
21.320 4.1447E-04 -7281.2 39.592 93.042 5481.0
1.1397E+10
21.730 4.0231E-04 -6928.5 105.62 92.116 5472.9
1.1397E+10
22.140 3.7544E-04 -6238.6 178.56 90.235 5457.1
1.1397E+10
22.550 3.3532E-04 -5166.0 263.29 87.321 5432.6
1.1397E+10
22.960 2.8422E-04 -3640.3 365.25 83.232 5397.6
1.1397E+10
23.370 2.2539E-04 -1562.8 490.77 77.743 5350.0
1.1397E+10
23.780 1.6325E-04 1198.9 647.62 70.499 5341.7
1.1397E+10
24.190 1.0364E-04 4819.7 584.98 60.962 5424.6
1.1397E+10
24.600 5.4280E-05 6964.1 323.41 45.368 5473.7
1.1397E+10
25.010 1.9708E-05 8009.0 -140.48 143.21 5497.7
1.1397E+10
25.420 2.1452E-06 5586.0 -540.74 19.497 5442.2
1.1397E+10
25.830 -3.5529E-06 2690.1 -493.34 -38.767 5375.9
1.1397E+10
26.240 -3.5376E-06 732.04 -287.16 -45.045 5331.0
1.1397E+10
26.650 -1.9674E-06 -135.72 -105.90 -28.636 5317.4
1.1397E+10
27.060 -6.8546E-07 -310.27 -7.8405 -11.226 5321.4
1.1397E+10
27.470 -6.2526E-08 -213.03 22.576 -1.1380 5319.1
1.1397E+10
27.880 1.0795E-07 -88.195 20.058 2.1615 5316.3
1.1397E+10
28.290 9.1114E-08 -15.671 9.8441 1.9903 5314.6
1.1397E+10

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       28.700  4.0989E-08      8.6767      2.5615      0.9701      5314.4
1.1397E+10
       29.110  9.2932E-09      9.5408     -0.3964      0.2323      5314.5
1.1397E+10
       29.520 -2.1390E-09      4.7794     -0.8364 -5.3476E-02      5314.4
1.1397E+10
       29.930 -3.4203E-09      1.3115     -0.4945 -8.5507E-02      5314.3
1.1397E+10
       30.340 -1.9159E-09 -8.6688E-02     -0.1663 -4.7897E-02      5314.2
1.1397E+10
       30.750 -5.9559E-10     -0.3255 -1.1889E-02 -1.4890E-02      5314.3
1.1397E+10
       31.160  3.3341E-11     -0.2038  2.2689E-02  8.3353E-04      5314.3
1.1397E+10
       31.570  2.2933E-10     -0.1023  1.7642E-02  1.2180E-03      5314.2
1.1397E+10
       31.980  2.0801E-10 -3.0255E-02  1.0996E-02  1.4838E-03      5314.2
1.1397E+10
       32.390  1.2243E-10  5.8921E-03  4.6484E-03  1.0964E-03      5314.2
1.1397E+10
       32.800  4.9363E-11  1.5498E-02  6.4240E-04  5.3203E-04      5314.2
1.1397E+10
       33.210  9.2137E-12  1.2223E-02 -9.5197E-04  1.1609E-04      5314.2
1.1397E+10
       33.620 -4.9759E-12  6.1349E-03 -1.0610E-03 -7.1764E-05      5314.2
1.1397E+10
       34.030 -6.1354E-12  1.7834E-03 -6.3931E-04 -9.9666E-05      5314.2
1.1397E+10
       34.440 -3.5071E-12 -1.5595E-04 -2.3825E-04 -6.3362E-05      5314.2
1.1397E+10
       34.850 -1.2101E-12 -5.6146E-04 -2.3175E-05 -2.4068E-05      5314.2
1.1397E+10
       35.260 -1.0560E-13 -3.8428E-04  4.1672E-05 -2.2926E-06      5314.2
1.1397E+10
       35.670  1.8275E-13 -1.5153E-04  3.6732E-05  4.3008E-06      5314.2
1.1397E+10
       36.080  1.4927E-13 -2.2859E-05  1.6972E-05  3.7317E-06      5314.2
1.1397E+10
       36.490  6.7234E-14  1.5483E-05  3.6567E-06  1.6809E-06      5314.2
1.1397E+10
       36.900  1.8084E-14  1.3134E-05 -7.7972E-07  1.2257E-07      5314.2
1.1397E+10
       37.310 -3.1710E-15  7.8160E-06 -1.0142E-06 -2.7271E-08      5314.2
1.1397E+10
       37.720 -7.8251E-15  3.1568E-06 -7.4644E-07 -8.1555E-08      5314.2
1.1397E+10
       38.130 -5.7743E-15  4.7125E-07 -3.7189E-07 -7.0704E-08      5314.2
1.1397E+10
       38.540 -2.7227E-15 -5.0294E-07 -1.0374E-07 -3.8299E-08      5314.2
1.1397E+10
       38.950 -7.3925E-16 -5.4996E-07  1.9372E-08 -1.1746E-08      5314.2
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1.1397E+10
       39.360  7.6111E-17 -3.1255E-07  4.4951E-08  1.3480E-09      5314.2
1.1397E+10
       39.770  2.2763E-16 -1.0772E-07  3.0697E-08  4.4464E-09      5314.2
1.1397E+10
       40.180  1.5036E-16 -1.0506E-08  1.1860E-08  3.2109E-09      5314.2
1.1397E+10
       40.590  5.0766E-17  8.9892E-09  1.0661E-09  1.1767E-09      5314.2
1.1397E+10
       41.000 -2.9730E-17      0.0000  6.1251E-25 -7.4326E-10      5314.2
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

        4.9873E-03      0.2495 -6.2768E-04  1.2980E+04  1.0315E+04  5.4650E+05
 1.3353E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

        4.9873E-03      0.2495 -6.2768E-04  1.2980E+04  1.0315E+04  5.4650E+05
 1.3353E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.2495 -5.4650E+05  1.0315E+04      132.76  1.3353E+04
```

1.1397E+10
0.4100 0.2458 -4.9602E+05 1.0168E+04 139.08 1.2197E+04
1.1397E+10
0.8200 0.2411 -4.4633E+05 9990.1 145.18 1.1059E+04
1.1397E+10
1.2300 0.2354 -3.9758E+05 9782.9 151.05 9942.4
1.1397E+10
1.6400 0.2289 -3.4991E+05 9547.4 156.68 8850.7
1.1397E+10
2.0500 0.2216 -3.0346E+05 9284.8 162.06 7786.8
1.1397E+10
2.4600 0.2137 -2.5835E+05 8996.4 167.17 6753.9
1.1397E+10
2.8700 0.2053 -2.1472E+05 8683.6 172.00 5754.7
1.1397E+10
3.2800 0.1964 -1.7268E+05 8347.7 176.54 4791.9
1.1397E+10
3.6900 0.1871 -1.3234E+05 7990.3 180.77 3868.2
1.1397E+10
4.1000 0.1776 -9.3812E+04 7612.8 184.69 2985.8
1.1397E+10
4.5100 0.1678 -5.7183E+04 7216.8 188.28 2146.9
1.1397E+10
4.9200 0.1579 -2.2544E+04 6803.9 191.54 1353.7
1.1397E+10
5.3300 0.1480 1.0025E+04 6375.9 194.45 1067.0
1.1397E+10
5.7400 0.1381 4.0453E+04 5934.5 197.00 1763.8
1.1397E+10
6.1500 0.1283 6.8676E+04 5481.4 199.18 2410.2
1.1397E+10
6.5600 0.1186 9.4643E+04 5018.6 200.98 3004.8
1.1397E+10
6.9700 0.1091 1.1831E+05 4547.8 202.39 3546.8
1.1397E+10
7.3800 9.9922E-02 1.3964E+05 4071.1 203.39 4035.2
1.1397E+10
7.7900 9.1001E-02 1.5860E+05 3590.5 203.99 4469.5
1.1397E+10
8.2000 8.2416E-02 1.7519E+05 3107.9 204.16 4849.5
1.1397E+10
8.6100 7.4203E-02 1.8940E+05 2625.6 203.90 5174.9
1.1397E+10
9.0200 6.6393E-02 2.0124E+05 2145.7 203.19 5445.9
1.1397E+10
9.4300 5.9010E-02 2.1071E+05 1670.3 202.03 5662.9
1.1397E+10
9.8400 5.2075E-02 2.1786E+05 1201.9 200.40 5826.6
1.1397E+10
10.250 4.5603E-02 2.2271E+05 742.60 198.30 5937.7
1.1397E+10

10.660	3.9603E-02	2.2533E+05	294.89	195.70	5997.6	1.1397E+10
11.070	3.4082E-02	2.2577E+05	-138.79	192.60	6007.6	1.1397E+10
11.480	2.9041E-02	2.2410E+05	-555.94	188.98	5969.5	1.1397E+10
11.890	2.4475E-02	2.2042E+05	-953.99	184.83	5885.2	1.1397E+10
12.300	2.0378E-02	2.1482E+05	-1330.3	180.13	5757.1	1.1397E+10
12.710	1.6737E-02	2.0743E+05	-1682.1	174.87	5587.7	1.1397E+10
13.120	1.3537E-02	1.9836E+05	-2006.6	169.03	5380.1	1.1397E+10
13.530	1.0757E-02	1.8776E+05	-2300.8	162.59	5137.3	1.1397E+10
13.940	8.3770E-03	1.7579E+05	-2561.9	155.51	4863.1	1.1397E+10
14.350	6.3700E-03	1.6261E+05	-2786.4	147.78	4561.3	1.1397E+10
14.760	4.7084E-03	1.4842E+05	-2971.2	139.34	4236.3	1.1397E+10
15.170	3.3620E-03	1.3341E+05	-3112.7	130.15	3892.7	1.1397E+10
15.580	2.2990E-03	1.1782E+05	-3206.9	120.14	3535.6	1.1397E+10
15.990	1.4862E-03	1.0188E+05	-3248.8	108.91	3170.6	1.1397E+10
16.400	8.8977E-04	8.5870E+04	-3229.5	95.239	2803.9	1.1397E+10
16.810	4.7574E-04	7.0117E+04	-3140.6	80.627	2443.1	1.1397E+10
17.220	2.1064E-04	5.4975E+04	-2975.9	64.417	2096.4	1.1397E+10
17.630	6.2305E-05	4.0839E+04	-2722.4	44.537	1772.7	1.1397E+10
18.040	7.0688E-07	2.8190E+04	-2317.4	2.8129	1483.0	1.1397E+10
18.450	-1.0188E-06	1.8037E+04	-1784.2	-7.5367	1250.5	1.1397E+10
18.860	3.5565E-05	1.0632E+04	-1344.3	40.694	1080.9	1.1397E+10
19.270	9.4731E-05	4808.3	-1056.2	54.194	947.54	1.1397E+10
19.680	1.6411E-04	238.09	-822.26	62.722	842.87	1.1397E+10
20.090	2.3400E-04	-3284.5	-624.14	68.740	912.64	1.1397E+10
20.500	2.9690E-04	-5905.2	-451.40	73.043	972.65	1.1397E+10
20.910	3.4727E-04	-7727.8	-296.53	76.002	1014.4	

1.1397E+10
21.320 3.8122E-04 -8824.1 -153.39 77.811 1039.5
1.1397E+10
21.730 3.9643E-04 -9237.9 -16.593 78.578 1049.0
1.1397E+10
22.140 3.9202E-04 -8987.6 118.88 78.351 1043.2
1.1397E+10
22.550 3.6853E-04 -8067.7 257.91 77.132 1022.2
1.1397E+10
22.960 3.2789E-04 -6448.9 405.47 74.884 985.11
1.1397E+10
23.370 2.7356E-04 -4076.6 566.82 71.527 930.78
1.1397E+10
23.780 2.1057E-04 -869.80 747.72 66.938 857.34
1.1397E+10
24.190 1.4574E-04 3282.6 693.82 60.972 912.60
1.1397E+10
24.600 8.7873E-05 5959.0 420.70 50.055 973.89
1.1397E+10
25.010 4.2665E-05 7423.6 159.18 56.253 1007.4
1.1397E+10
25.420 1.3224E-05 7526.3 -274.88 120.19 1009.8
1.1397E+10
25.830 -2.3101E-07 4719.3 -564.36 -2.5206 945.50
1.1397E+10
26.240 -3.6628E-06 1973.2 -443.42 -46.640 882.61
1.1397E+10
26.650 -2.9035E-06 356.09 -224.72 -42.263 845.58
1.1397E+10
27.060 -1.3880E-06 -238.06 -64.836 -22.732 842.87
1.1397E+10
27.470 -3.7806E-07 -281.93 8.0121 -6.8806 843.88
1.1397E+10
27.880 3.3090E-08 -159.24 23.309 0.6625 841.07
1.1397E+10
28.290 1.0603E-07 -52.578 15.981 2.3161 838.63
1.1397E+10
28.700 6.7297E-08 -1.9829 6.3653 1.5927 837.47
1.1397E+10
29.110 2.4353E-08 10.058 0.9496 0.6088 837.65
1.1397E+10
29.520 2.7732E-09 7.3620 -0.7187 6.9329E-02 837.59
1.1397E+10
29.930 -3.1705E-09 2.9872 -0.6942 -7.9263E-02 837.49
1.1397E+10
30.340 -2.7697E-09 0.5309 -0.3289 -6.9242E-02 837.43
1.1397E+10
30.750 -1.2413E-09 -0.2493 -8.2231E-02 -3.1033E-02 837.43
1.1397E+10
31.160 -2.4254E-10 -0.2783 9.0274E-03 -6.0636E-03 837.43
1.1397E+10

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       31.570  1.6511E-10     -0.1605  2.1787E-02  8.7693E-04      837.43
1.1397E+10
       31.980  2.3184E-10 -6.3944E-02  1.5561E-02  1.6538E-03      837.42
1.1397E+10
       32.390  1.6275E-10 -7.3983E-03  7.9073E-03  1.4575E-03      837.42
1.1397E+10
       32.800  7.7952E-11  1.3866E-02  2.2550E-03  8.4015E-04      837.42
1.1397E+10
       33.210  2.2602E-11  1.4793E-02 -5.1234E-04  2.8478E-04      837.42
1.1397E+10
       33.620 -1.3303E-12  8.8254E-03 -1.1657E-03 -1.9186E-05      837.42
1.1397E+10
       34.030 -6.5179E-12  3.3224E-03 -8.5805E-04 -1.0588E-04      837.42
1.1397E+10
       34.440 -4.6490E-12  3.8223E-04 -3.9097E-04 -8.3991E-05      837.42
1.1397E+10
       34.850 -1.9682E-12 -5.2479E-04 -8.8047E-05 -3.9146E-05      837.42
1.1397E+10
       35.260 -4.0214E-13 -4.8421E-04  2.9731E-05 -8.7310E-06      837.42
1.1397E+10
       35.670  1.3553E-13 -2.3227E-04  4.3363E-05  3.1894E-06      837.42
1.1397E+10
       36.080  1.7987E-13 -5.7523E-05  2.4455E-05  4.4968E-06      837.42
1.1397E+10
       36.490  1.0205E-13  8.3721E-06  7.1173E-06  2.5512E-06      837.42
1.1397E+10
       36.900  4.2001E-14  1.2513E-05  1.4114E-07  2.8467E-07      837.42
1.1397E+10
       37.310  8.5318E-15  9.7621E-06 -7.3966E-07  7.3374E-08      837.42
1.1397E+10
       37.720 -4.2035E-15  5.2350E-06 -8.1239E-07 -4.3810E-08      837.42
1.1397E+10
       38.130 -5.8199E-15  1.7683E-06 -5.2931E-07 -7.1262E-08      837.42
1.1397E+10
       38.540 -3.6805E-15  2.6601E-08 -2.2665E-07 -5.1773E-08      837.42
1.1397E+10
       38.950 -1.4847E-15 -4.6191E-07 -4.1255E-08 -2.3589E-08      837.42
1.1397E+10
       39.360 -2.6983E-16 -3.7939E-07  2.8531E-08 -4.7790E-09      837.42
1.1397E+10
       39.770  1.3919E-16 -1.8118E-07  3.3599E-08  2.7188E-09      837.42
1.1397E+10
       40.180  1.6338E-16 -4.8783E-08  1.8328E-08  3.4891E-09      837.42
1.1397E+10
       40.590  8.3963E-17 -8.3778E-10  4.9574E-09  1.9461E-09      837.42
1.1397E+10
       41.000  2.7653E-18      0.0000  1.3753E-25  6.9133E-11      837.42
1.1397E+10
```

LOAD CASE : 4
CASE NAME : Service I, Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
2.18560E+06	3.52900E+05	-4.25425E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0557199	0.16934	-9.31238E-04

NUMBER OF ITERATIONS = 8

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1004	0.1693	-9.3124E-04	1.7528E+05	3.3944E+04	9.5599E+05	

3.3202E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN STRESS,LBS/IN**2

0.1004 0.1693 -9.3124E-04 1.7528E+05 3.3944E+04 9.5599E+05 3.3202E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x FT	DISPL. y-DIR IN	BENDING MOMENT LBS-IN	SHEAR FORCE LBS	SOIL REACTION LBS/IN	TOTAL FLEXURAL STRESS LBS-IN**2	RIGIDITY LBS-IN**2
0.0000	0.1693	-9.5599E+05	3.3944E+04	434.85	3.3202E+04	1.1397E+10
0.4100	0.1637	-7.9243E+05	3.2103E+04	453.41	2.9456E+04	1.1397E+10
0.8200	0.1565	-6.3784E+05	3.0175E+04	470.23	2.5916E+04	1.1397E+10
1.2300	0.1478	-4.9271E+05	2.8169E+04	485.23	2.2592E+04	1.1397E+10
1.6400	0.1381	-3.5745E+05	2.6094E+04	498.35	1.9494E+04	1.1397E+10
2.0500	0.1277	-2.3242E+05	2.3959E+04	509.50	1.6631E+04	1.1397E+10
2.4600	0.1168	-1.1795E+05	2.1774E+04	518.60	1.4010E+04	1.1397E+10
2.8700	0.1056	-1.4285E+04	1.9550E+04	525.57	1.1636E+04	1.1397E+10
3.2800	9.4371E-02	7.8354E+04	1.7297E+04	530.32	1.3103E+04	1.1397E+10
3.6900	8.3323E-02	1.5982E+05	1.5026E+04	532.77	1.4969E+04	1.1397E+10
4.1000	7.2614E-02	2.3003E+05	1.2749E+04	532.81	1.6576E+04	1.1397E+10
4.5100	6.2393E-02	2.8894E+05	1.0478E+04	530.34	1.7926E+04	1.1397E+10
4.9200	5.2787E-02	3.3661E+05	8226.0	525.26	1.9017E+04	1.1397E+10
5.3300	4.3895E-02	3.7313E+05	6005.4	517.43	1.9853E+04	

1.1397E+10
5.7400 3.5795E-02 3.9868E+05 3830.4 506.72 2.0439E+04
1.1397E+10
6.1500 2.8543E-02 4.1351E+05 1715.5 492.96 2.0778E+04
1.1397E+10
6.5600 2.2169E-02 4.1795E+05 -323.61 475.96 2.0880E+04
1.1397E+10
6.9700 1.6682E-02 4.1240E+05 -2270.5 455.47 2.0753E+04
1.1397E+10
7.3800 1.2071E-02 3.9738E+05 -4107.1 431.13 2.0409E+04
1.1397E+10
7.7900 8.3045E-03 3.7346E+05 -5813.3 402.43 1.9861E+04
1.1397E+10
8.2000 5.3309E-03 3.4135E+05 -7365.4 368.52 1.9126E+04
1.1397E+10
8.6100 3.0824E-03 3.0190E+05 -8733.7 327.70 1.8222E+04
1.1397E+10
9.0200 1.4751E-03 2.5609E+05 -9873.7 275.70 1.7173E+04
1.1397E+10
9.4300 4.1175E-04 2.0521E+05 -1.0684E+04 193.87 1.6008E+04
1.1397E+10
9.8400 -2.1578E-04 1.5125E+05 -1.0285E+04 -216.36 1.4772E+04
1.1397E+10
10.250 -5.2206E-04 1.0417E+05 -8801.0 -246.76 1.3694E+04
1.1397E+10
10.660 -6.0709E-04 6.4719E+04 -7216.5 -257.37 1.2791E+04
1.1397E+10
11.070 -5.5466E-04 3.3167E+04 -5611.2 -255.19 1.2068E+04
1.1397E+10
11.480 -4.3179E-04 9474.9 -4039.7 -243.61 1.1526E+04
1.1397E+10
11.890 -2.8879E-04 -6629.8 -2545.5 -223.78 1.1460E+04
1.1397E+10
12.300 -1.5987E-04 -1.5621E+04 -1170.1 -195.32 1.1666E+04
1.1397E+10
12.710 -6.4126E-05 -1.8183E+04 35.870 -154.93 1.1725E+04
1.1397E+10
13.120 -7.0057E-06 -1.5295E+04 937.66 -71.653 1.1659E+04
1.1397E+10
13.530 1.7630E-05 -8971.2 1123.0 136.33 1.1514E+04
1.1397E+10
13.940 2.3212E-05 -4250.0 790.26 138.92 1.1406E+04
1.1397E+10
14.350 1.9767E-05 -1195.4 472.41 130.29 1.1336E+04
1.1397E+10
14.760 1.3783E-05 400.13 214.40 114.59 1.1318E+04
1.1397E+10
15.170 8.6490E-06 916.16 41.641 95.634 1.1330E+04
1.1397E+10
15.580 5.4607E-06 811.33 -42.557 78.593 1.1327E+04
1.1397E+10

```
       15.990  3.9956E-06      498.21     -59.949      68.477  1.1320E+04
1.1397E+10
       16.400  3.5887E-06      221.77     -44.547      65.262  1.1314E+04
1.1397E+10
       16.810  3.6527E-06      59.924     -23.493      66.179  1.1310E+04
1.1397E+10
       17.220  3.8441E-06     -9.4458     -8.8965      67.888  1.1309E+04
1.1397E+10
       17.630  4.0154E-06     -27.681     -1.5646      69.132  1.1309E+04
1.1397E+10
       18.040  4.1279E-06     -24.891      1.0990      69.785  1.1309E+04
1.1397E+10
       18.450  4.1875E-06     -16.897      1.5219      70.043  1.1309E+04
1.1397E+10
       18.860  4.2113E-06     -9.9303      1.1686      70.101  1.1309E+04
1.1397E+10
       19.270  4.2139E-06     -5.4022      0.7097      70.086  1.1309E+04
1.1397E+10
       19.680  4.2051E-06     -2.9462      0.3482      70.061  1.1309E+04
1.1397E+10
       20.090  4.1900E-06     -1.9716  5.6823E-02      70.057  1.1309E+04
1.1397E+10
       20.500  4.1708E-06     -2.3811     -0.3076      70.091  1.1309E+04
1.1397E+10
       20.910  4.1464E-06     -4.9905     -0.9679      70.178  1.1309E+04
1.1397E+10
       21.320  4.1115E-06     -11.895     -2.2033      70.325  1.1309E+04
1.1397E+10
       21.730  4.0513E-06     -26.654     -4.2451      70.505  1.1309E+04
1.1397E+10
       22.140  3.9345E-06     -53.636     -6.9643      70.600  1.1310E+04
1.1397E+10
       22.550  3.7038E-06     -95.122     -9.1733      70.298  1.1311E+04
1.1397E+10
       22.960  3.2711E-06     -143.78     -7.2844      68.934  1.1312E+04
1.1397E+10
       23.370  2.5330E-06     -166.60      7.2346      65.164  1.1312E+04
1.1397E+10
       23.780  1.4410E-06     -72.275      53.905      55.865  1.1310E+04
1.1397E+10
       24.190  1.9550E-07      364.24      27.706      24.785  1.1317E+04
1.1397E+10
       24.600 -2.7636E-07      200.65     -29.564     -1.5046  1.1313E+04
1.1397E+10
       25.010 -3.2205E-07      73.417     -20.106     -2.3402  1.1310E+04
1.1397E+10
       25.420 -2.1181E-07      2.8015     -9.6130     -1.9251  1.1309E+04
1.1397E+10
       25.830 -9.5616E-08     -21.215     -2.3108     -1.0433  1.1309E+04
1.1397E+10
       26.240 -2.4482E-08     -19.970      1.0225     -0.3117  1.1309E+04
```

1.1397E+10
26.650 4.2377E-09 -11.171 1.6376 6.1682E-02 1.1309E+04
1.1397E+10
27.060 9.2304E-09 -3.8615 1.1140 0.1512 1.1309E+04
1.1397E+10
27.470 6.0216E-09 -0.2098 0.4725 0.1096 1.1309E+04
1.1397E+10
27.880 2.3672E-09 0.7892 8.6312E-02 4.7397E-02 1.1309E+04
1.1397E+10
28.290 3.8903E-10 0.6405 -5.1191E-02 8.4982E-03 1.1309E+04
1.1397E+10
28.700 -2.2873E-10 0.2859 -5.8780E-02 -5.4133E-03 1.1309E+04
1.1397E+10
29.110 -2.3922E-10 6.2242E-02 -3.0751E-02 -5.9806E-03 1.1309E+04
1.1397E+10
29.520 -1.1752E-10 -1.6690E-02 -8.8116E-03 -2.9379E-03 1.1309E+04
1.1397E+10
29.930 -3.1260E-11 -2.4500E-02 3.3815E-04 -7.8149E-04 1.1309E+04
1.1397E+10
30.340 2.9610E-12 -1.3384E-02 2.0785E-03 7.4024E-05 1.1309E+04
1.1397E+10
30.750 8.7548E-12 -4.0547E-03 1.3580E-03 2.1887E-04 1.1309E+04
1.1397E+10
31.160 5.9368E-12 -2.1909E-05 4.5446E-04 1.4842E-04 1.1309E+04
1.1397E+10
31.570 3.0722E-12 4.1819E-04 4.9211E-05 1.6317E-05 1.1309E+04
1.1397E+10
31.980 1.0958E-12 4.6317E-04 -1.0158E-05 7.8170E-06 1.1309E+04
1.1397E+10
32.390 1.0323E-13 3.1876E-04 -3.1662E-05 9.2447E-07 1.1309E+04
1.1397E+10
32.800 -2.1237E-13 1.5184E-04 -2.8306E-05 -2.2888E-06 1.1309E+04
1.1397E+10
33.210 -2.0545E-13 4.0279E-05 -1.6307E-05 -2.5887E-06 1.1309E+04
1.1397E+10
33.620 -1.1299E-13 -8.6371E-06 -5.9301E-06 -1.6296E-06 1.1309E+04
1.1397E+10
34.030 -3.8879E-14 -1.8102E-05 -3.6750E-07 -6.3157E-07 1.1309E+04
1.1397E+10
34.440 -3.2114E-15 -1.2272E-05 1.3289E-06 -5.8019E-08 1.1309E+04
1.1397E+10
34.850 6.3906E-15 -5.0338E-06 1.1590E-06 1.2710E-07 1.1309E+04
1.1397E+10
35.260 5.3011E-15 -8.6992E-07 5.6315E-07 1.1509E-07 1.1309E+04
1.1397E+10
35.670 2.3640E-15 5.0831E-07 1.4316E-07 5.5633E-08 1.1309E+04
1.1397E+10
36.080 5.0650E-16 5.3967E-07 -2.4842E-08 1.2662E-08 1.1309E+04
1.1397E+10
36.490 -2.0480E-16 2.6431E-07 -4.3396E-08 -5.1199E-09 1.1309E+04
1.1397E+10

```
       36.900 -3.5471E-16  1.1280E-07 -2.4887E-08 -2.4041E-09  1.1309E+04
1.1397E+10
       37.310 -2.6504E-16  1.9436E-08 -1.3366E-08 -2.2793E-09  1.1309E+04
1.1397E+10
       37.720 -1.3409E-16 -1.8760E-08 -4.3208E-09 -1.3975E-09  1.1309E+04
1.1397E+10
       38.130 -4.2988E-17 -2.3120E-08  4.1197E-10 -5.2637E-10  1.1309E+04
1.1397E+10
       38.540 -9.9024E-19 -1.4730E-08  1.7411E-09 -1.3929E-11  1.1309E+04
1.1397E+10
       38.950  9.7233E-18 -5.9966E-09  1.3953E-09  1.5449E-10  1.1309E+04
1.1397E+10
       39.360  7.7005E-18 -1.0011E-09  6.7976E-10  1.3638E-10  1.1309E+04
1.1397E+10
       39.770  3.5514E-18  6.9329E-10  1.7360E-10  6.9371E-11  1.1309E+04
1.1397E+10
       40.180  8.7481E-19  7.0824E-10 -4.3015E-11  1.8682E-11  1.1309E+04
1.1397E+10
       40.590 -2.9756E-19  2.7070E-10 -7.2007E-11 -6.8967E-12  1.1309E+04
1.1397E+10
       41.000 -8.9498E-19      0.0000  1.4840E-26 -2.2374E-11  1.1309E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.055720      0.1693 -9.3124E-04  1.2097E+05  1.1203E+04  4.1277E+05
 1.7257E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.055720      0.1693 -9.3124E-04  1.2097E+05  1.1203E+04  4.1277E+05
 1.7257E+04


        * EFFECTS FOR LATERALLY LOADED PILE *
```

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1693	-4.1277E+05	1.1203E+04	141.46	1.7257E+04	1.1397E+10
0.4100	0.1643	-3.5791E+05	1.0836E+04	147.63	1.6001E+04	1.1397E+10
0.8200	0.1585	-3.0483E+05	1.0440E+04	153.47	1.4785E+04	1.1397E+10
1.2300	0.1521	-2.5370E+05	1.0016E+04	158.98	1.3614E+04	1.1397E+10
1.6400	0.1451	-2.0466E+05	9565.2	164.13	1.2491E+04	1.1397E+10
2.0500	0.1377	-1.5784E+05	9090.3	168.91	1.1419E+04	1.1397E+10
2.4600	0.1300	-1.1338E+05	8592.9	173.30	1.0401E+04	1.1397E+10
2.8700	0.1220	-7.1387E+04	8074.8	177.28	9439.1	1.1397E+10
3.2800	0.1139	-3.1974E+04	7538.2	180.84	8536.5	1.1397E+10
3.6900	0.1057	4764.5	6985.2	183.96	7913.4	1.1397E+10
4.1000	9.7517E-02	3.8743E+04	6418.0	186.63	8691.5	1.1397E+10
4.5100	8.9412E-02	6.9888E+04	5838.8	188.82	9404.7	1.1397E+10
4.9200	8.1456E-02	9.8139E+04	5250.0	190.52	1.0052E+04	1.1397E+10
5.3300	7.3709E-02	1.2345E+05	4654.1	191.72	1.0631E+04	1.1397E+10
5.7400	6.6224E-02	1.4578E+05	4053.6	192.39	1.1143E+04	1.1397E+10
6.1500	5.9048E-02	1.6511E+05	3451.1	192.53	1.1585E+04	1.1397E+10
6.5600	5.2223E-02	1.8143E+05	2849.3	192.11	1.1959E+04	1.1397E+10
6.9700	4.5784E-02	1.9475E+05	2250.9	191.12	1.2264E+04	1.1397E+10
7.3800	3.9758E-02	2.0509E+05	1659.0	189.53	1.2501E+04	1.1397E+10
7.7900	3.4167E-02	2.1248E+05	1076.3	187.32	1.2670E+04	1.1397E+10
8.2000	2.9028E-02	2.1698E+05	506.08	184.48	1.2773E+04	

1.1397E+10
8.6100 2.4350E-02 2.1865E+05 -48.551 180.98 1.2811E+04
1.1397E+10
9.0200 2.0136E-02 2.1757E+05 -584.29 176.80 1.2787E+04
1.1397E+10
9.4300 1.6384E-02 2.1386E+05 -1097.7 171.90 1.2702E+04
1.1397E+10
9.8400 1.3087E-02 2.0763E+05 -1585.2 166.26 1.2559E+04
1.1397E+10
10.250 1.0230E-02 1.9901E+05 -2043.0 159.84 1.2362E+04
1.1397E+10
10.660 7.7963E-03 1.8816E+05 -2467.1 152.59 1.2113E+04
1.1397E+10
11.070 5.7621E-03 1.7527E+05 -2853.4 144.45 1.1818E+04
1.1397E+10
11.480 4.1002E-03 1.6053E+05 -3197.3 135.34 1.1481E+04
1.1397E+10
11.890 2.7792E-03 1.4417E+05 -3493.8 125.16 1.1106E+04
1.1397E+10
12.300 1.7644E-03 1.2644E+05 -3737.0 113.70 1.0700E+04
1.1397E+10
12.710 1.0181E-03 1.0761E+05 -3919.8 100.63 1.0269E+04
1.1397E+10
13.120 5.0044E-04 8.8018E+04 -4032.3 85.110 9819.9
1.1397E+10
13.530 1.6970E-04 6.8036E+04 -4055.4 64.254 9362.3
1.1397E+10
13.940 -1.6540E-05 4.8176E+04 -3693.4 -71.386 8907.5
1.1397E+10
14.350 -1.0046E-04 3.1726E+04 -3014.0 -64.782 8530.8
1.1397E+10
14.760 -1.1699E-04 1.8530E+04 -2345.5 -66.995 8228.6
1.1397E+10
15.170 -9.4170E-05 8645.5 -1678.3 -64.199 8002.2
1.1397E+10
15.580 -5.2986E-05 2007.3 -1036.0 -56.899 7850.2
1.1397E+10
15.990 -7.5381E-06 -1559.6 -446.25 -42.850 7840.0
1.1397E+10
16.400 3.4597E-05 -2394.4 -114.15 47.846 7859.1
1.1397E+10
16.810 7.1646E-05 -2692.4 -30.734 58.246 7865.9
1.1397E+10
17.220 1.0298E-04 -2705.1 13.509 63.769 7866.2
1.1397E+10
17.630 1.2856E-04 -2566.3 35.757 67.187 7863.0
1.1397E+10
18.040 1.4870E-04 -2358.8 44.218 69.374 7858.3
1.1397E+10
18.450 1.6382E-04 -2135.5 43.931 70.743 7853.2
1.1397E+10

18.860	1.7441E-04	-1929.6	38.351	71.525	7848.4
1.1397E+10					
19.270	1.8090E-04	-1760.2	30.015	71.863	7844.6
1.1397E+10					
19.680	1.8365E-04	-1635.4	20.895	71.844	7841.7
1.1397E+10					
20.090	1.8293E-04	-1554.8	12.625	71.518	7839.9
1.1397E+10					
20.500	1.7891E-04	-1510.6	6.6644	70.905	7838.8
1.1397E+10					
20.910	1.7168E-04	-1487.9	4.4343	70.001	7838.3
1.1397E+10					
21.320	1.6129E-04	-1464.8	7.4351	68.779	7837.8
1.1397E+10					
21.730	1.4778E-04	-1411.8	17.364	67.185	7836.6
1.1397E+10					
22.140	1.3128E-04	-1290.3	36.238	65.142	7833.8
1.1397E+10					
22.550	1.1204E-04	-1050.9	66.540	62.540	7828.3
1.1397E+10					
22.960	9.0562E-05	-630.67	111.41	59.221	7818.7
1.1397E+10					
23.370	6.7748E-05	50.676	174.90	54.967	7805.4
1.1397E+10					
23.780	4.5041E-05	1095.9	262.42	49.457	7829.3
1.1397E+10					
24.190	2.4662E-05	2638.1	209.03	42.245	7864.7
1.1397E+10					
24.600	9.8865E-06	3157.0	-27.302	53.826	7876.5
1.1397E+10					
25.010	1.8158E-06	2372.2	-192.17	13.195	7858.6
1.1397E+10					
25.420	-1.2164E-06	1267.4	-197.44	-11.056	7833.3
1.1397E+10					
25.830	-1.5569E-06	429.84	-128.45	-16.987	7814.1
1.1397E+10					
26.240	-9.8437E-07	3.4071	-55.826	-12.534	7804.3
1.1397E+10					
26.650	-4.0462E-07	-119.62	-10.503	-5.8895	7807.0
1.1397E+10					
27.060	-7.8940E-08	-100.05	7.1657	-1.2929	7806.5
1.1397E+10					
27.470	3.4241E-08	-49.162	8.8131	0.6232	7805.4
1.1397E+10					
27.880	4.3005E-08	-13.346	5.1618	0.8611	7804.6
1.1397E+10					
28.290	2.3424E-08	1.6313	1.7849	0.5117	7804.3
1.1397E+10					
28.700	7.3074E-09	4.2218	0.1007	0.1729	7804.3
1.1397E+10					
29.110	1.5760E-10	2.6249	-0.3344	3.9400E-03	7804.3

1.1397E+10
29.520 -1.4172E-09 0.9319 -0.2570 -3.5430E-02 7804.3
1.1397E+10
29.930 -1.0126E-09 9.6360E-02 -0.1075 -2.5316E-02 7804.2
1.1397E+10
30.340 -4.0344E-10 -0.1264 -2.0453E-02 -1.0086E-02 7804.3
1.1397E+10
30.750 -6.2730E-11 -0.1050 8.2165E-03 -1.5683E-03 7804.2
1.1397E+10
31.160 5.4941E-11 -4.5621E-02 8.6955E-03 1.3735E-03 7804.2
1.1397E+10
31.570 7.5717E-11 -1.9466E-02 4.3274E-03 4.0214E-04 7804.2
1.1397E+10
31.980 5.5148E-11 -3.0398E-03 2.3703E-03 3.9339E-04 7804.2
1.1397E+10
32.390 2.8124E-11 3.8643E-03 7.8301E-04 2.5187E-04 7804.2
1.1397E+10
32.800 9.3069E-12 4.6706E-03 -8.3333E-05 1.0031E-04 7804.2
1.1397E+10
33.210 4.1001E-13 3.0476E-03 -3.4280E-04 5.1661E-06 7804.2
1.1397E+10
33.620 -2.0140E-12 1.2988E-03 -2.8406E-04 -2.9046E-05 7804.2
1.1397E+10
34.030 -1.6793E-12 2.5278E-04 -1.4550E-04 -2.7279E-05 7804.2
1.1397E+10
34.440 -8.0776E-13 -1.3300E-04 -4.2489E-05 -1.4593E-05 7804.2
1.1397E+10
34.850 -2.1869E-13 -1.6549E-04 4.1102E-06 -4.3495E-06 7804.2
1.1397E+10
35.260 1.8890E-14 -9.2654E-05 1.3801E-05 4.1012E-07 7804.2
1.1397E+10
35.670 5.9679E-14 -2.9721E-05 9.3372E-06 1.4044E-06 7804.2
1.1397E+10
36.080 3.7342E-14 -7.7749E-07 3.5858E-06 9.3355E-07 7804.2
1.1397E+10
36.490 1.3354E-14 5.5686E-06 4.6799E-07 3.3385E-07 7804.2
1.1397E+10
36.900 1.1929E-15 3.8320E-06 -3.7316E-07 8.0853E-09 7804.2
1.1397E+10
37.310 -2.8292E-15 1.8986E-06 -3.3319E-07 -2.4331E-08 7804.2
1.1397E+10
37.720 -2.8188E-15 5.5383E-07 -2.0107E-07 -2.9378E-08 7804.2
1.1397E+10
38.130 -1.6320E-15 -8.0000E-08 -7.9640E-08 -1.9983E-08 7804.2
1.1397E+10
38.540 -6.1516E-16 -2.3009E-07 -9.1951E-09 -8.6532E-09 7804.2
1.1397E+10
38.950 -8.7021E-17 -1.7067E-07 1.5493E-08 -1.3827E-09 7804.2
1.1397E+10
39.360 7.8634E-17 -7.7725E-08 1.5469E-08 1.3927E-09 7804.2
1.1397E+10

```
       39.770  7.9207E-17 -1.8475E-08  8.2365E-09  1.5472E-09      7804.2
1.1397E+10
       40.180  4.0540E-17  3.3273E-09  2.3007E-09  8.6576E-10      7804.2
1.1397E+10
       40.590  8.9404E-18  4.1722E-09 -3.3881E-10  2.0722E-10      7804.2
1.1397E+10
       41.000 -1.3798E-17  2.9017E-24 -3.8047E-25 -3.4495E-10      7804.2
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.011021      0.1693 -9.3124E-04  2.7966E+04      9218.5  3.5038E+05
     9828.3


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.011021      0.1693 -9.3124E-04  2.7966E+04      9218.5  3.5038E+05
     9828.3


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.1693 -3.5038E+05      9218.5      120.50      9828.3
1.1397E+10
       0.4100      0.1644 -3.0550E+05      8957.0      125.77      8800.4
1.1397E+10
```

0.8200	0.1588	-2.6195E+05	8670.3	130.79	7803.1	1.1397E+10
1.2300	0.1526	-2.1985E+05	8359.6	135.54	6839.1	1.1397E+10
1.6400	0.1460	-1.7933E+05	8026.1	140.02	5911.1	1.1397E+10
2.0500	0.1390	-1.4050E+05	7671.3	144.21	5021.7	1.1397E+10
2.4600	0.1317	-1.0345E+05	7296.6	148.10	4173.3	1.1397E+10
2.8700	0.1242	-6.8283E+04	6903.6	151.67	3368.0	1.1397E+10
3.2800	0.1165	-3.5091E+04	6493.8	154.91	2607.9	1.1397E+10
3.6900	0.1087	-3952.6	6068.9	157.82	1894.8	1.1397E+10
4.1000	0.1010	2.5060E+04	5630.6	160.37	2378.2	1.1397E+10
4.5100	9.3293E-02	5.1884E+04	5180.6	162.55	2992.4	1.1397E+10
4.9200	8.5703E-02	7.6465E+04	4720.8	164.36	3555.4	1.1397E+10
5.3300	7.8276E-02	9.8757E+04	4253.1	165.77	4065.9	1.1397E+10
5.7400	7.1059E-02	1.1872E+05	3779.4	166.78	4523.1	1.1397E+10
6.1500	6.4093E-02	1.3634E+05	3301.8	167.38	4926.6	1.1397E+10
6.5600	5.7418E-02	1.5160E+05	2822.3	167.54	5275.9	1.1397E+10
6.9700	5.1064E-02	1.6448E+05	2343.0	167.27	5570.9	1.1397E+10
7.3800	4.5060E-02	1.7500E+05	1866.3	166.54	5811.8	1.1397E+10
7.7900	3.9427E-02	1.8317E+05	1394.3	165.33	5998.9	1.1397E+10
8.2000	3.4184E-02	1.8902E+05	929.37	163.65	6133.0	1.1397E+10
8.6100	2.9342E-02	1.9259E+05	474.02	161.46	6214.8	1.1397E+10
9.0200	2.4909E-02	1.9394E+05	30.705	158.75	6245.7	1.1397E+10
9.4300	2.0888E-02	1.9313E+05	-397.97	155.51	6227.2	1.1397E+10
9.8400	1.7277E-02	1.9024E+05	-809.33	151.71	6160.9	1.1397E+10
10.250	1.4070E-02	1.8536E+05	-1200.6	147.33	6049.2	1.1397E+10
10.660	1.1257E-02	1.7860E+05	-1568.8	142.35	5894.3	1.1397E+10
11.070	8.8229E-03	1.7007E+05	-1910.9	136.73	5699.0	

1.1397E+10
11.480 6.7503E-03 1.5992E+05 -2223.7 130.44 5466.5
1.1397E+10
11.890 5.0173E-03 1.4830E+05 -2503.8 123.42 5200.3
1.1397E+10
12.300 3.5993E-03 1.3537E+05 -2747.5 115.62 4904.3
1.1397E+10
12.710 2.4689E-03 1.2133E+05 -2950.5 106.92 4582.8
1.1397E+10
13.120 1.5961E-03 1.0639E+05 -3108.2 97.190 4240.7
1.1397E+10
13.530 9.4927E-04 9.0789E+04 -3214.8 86.132 3883.4
1.1397E+10
13.940 4.9530E-04 7.4789E+04 -3262.2 73.142 3517.0
1.1397E+10
14.350 2.0017E-04 5.8709E+04 -3236.6 56.453 3148.8
1.1397E+10
14.760 2.9731E-05 4.2954E+04 -3093.8 25.490 2787.9
1.1397E+10
15.170 -4.9474E-05 2.8273E+04 -2652.7 -64.800 2451.7
1.1397E+10
15.580 -6.8629E-05 1.6854E+04 -2002.9 -59.350 2190.2
1.1397E+10
15.990 -5.1986E-05 8565.0 -1376.9 -55.113 2000.4
1.1397E+10
16.400 -1.7153E-05 3303.9 -774.55 -49.748 1879.9
1.1397E+10
16.810 2.4698E-05 941.27 -394.20 35.133 1825.8
1.1397E+10
17.220 6.8549E-05 -577.41 -256.75 48.993 1817.5
1.1397E+10
17.630 1.1117E-04 -1587.5 -170.34 55.881 1840.6
1.1397E+10
18.040 1.5042E-04 -2255.8 -111.72 60.291 1855.9
1.1397E+10
18.450 1.8489E-04 -2688.9 -71.403 63.321 1865.8
1.1397E+10
18.860 2.1363E-04 -2960.2 -43.714 65.424 1872.1
1.1397E+10
19.270 2.3610E-04 -3120.5 -24.661 66.831 1875.7
1.1397E+10
19.680 2.5193E-04 -3203.9 -11.146 67.675 1877.6
1.1397E+10
20.090 2.6096E-04 -3230.9 -0.5696 68.026 1878.3
1.1397E+10
20.500 2.6313E-04 -3209.8 9.3964 67.922 1877.8
1.1397E+10
20.910 2.5848E-04 -3138.3 20.976 67.371 1876.1
1.1397E+10
21.320 2.4716E-04 -3003.0 36.418 66.352 1873.0
1.1397E+10

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       21.730  2.2947E-04     -2779.2      58.125      64.824      1867.9
1.1397E+10
       22.140  2.0587E-04     -2429.9      88.790      62.711      1859.9
1.1397E+10
       22.550  1.7712E-04     -1904.0      131.56      59.901      1847.9
1.1397E+10
       22.960  1.4432E-04     -1133.6      190.29      56.227      1830.2
1.1397E+10
       23.370  1.0911E-04     -29.688      269.84      51.435      1804.9
1.1397E+10
       23.780  7.3835E-05      1523.6      376.69      45.132      1839.2
1.1397E+10
       24.190  4.1799E-05      3678.8      347.52      36.726      1888.5
1.1397E+10
       24.600  1.7577E-05      4944.8      21.758      95.696      1917.5
1.1397E+10
       25.010  3.8567E-06      3894.0     -282.60      28.026      1893.4
1.1397E+10
       25.420 -1.5929E-06      2164.5     -315.93     -14.478      1853.8
1.1397E+10
       25.830 -2.4452E-06      785.42     -214.68     -26.680      1822.2
1.1397E+10
       26.240 -1.6294E-06      52.094     -98.005     -20.748      1805.5
1.1397E+10
       26.650 -7.0294E-07     -179.00     -21.796     -10.232      1808.4
1.1397E+10
       27.060 -1.5666E-07     -162.42      9.6854     -2.5657      1808.0
1.1397E+10
       27.470  4.4659E-08     -83.720      13.997      0.8128      1806.2
1.1397E+10
       27.880  6.8158E-08     -24.691      8.6408      1.3647      1804.8
1.1397E+10
       28.290  3.9216E-08      1.3062      3.1764      0.8567      1804.3
1.1397E+10
       28.700  1.3048E-08      6.5663      0.3093      0.3088      1804.4
1.1397E+10
       29.110  8.2684E-10      4.3509     -0.5012  2.0671E-02      1804.4
1.1397E+10
       29.520 -2.1536E-09      1.6349     -0.4196 -5.3839E-02      1804.3
1.1397E+10
       29.930 -1.6615E-09      0.2221     -0.1850 -4.1538E-02      1804.3
1.1397E+10
       30.340 -6.9786E-10     -0.1853 -3.9879E-02 -1.7447E-02      1804.3
1.1397E+10
       30.750 -1.2785E-10     -0.1704  1.0903E-02 -3.1963E-03      1804.3
1.1397E+10
       31.160  8.0237E-11 -7.8079E-02  1.3831E-02  2.0059E-03      1804.3
1.1397E+10
       31.570  1.2249E-10 -3.4309E-02  7.2962E-03  6.5058E-04      1804.3
1.1397E+10
       31.980  9.1883E-11 -6.2850E-03  4.0834E-03  6.5543E-04      1804.3
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1.1397E+10
       32.390  4.7922E-11  5.8736E-03  1.4153E-03  4.2917E-04      1804.3
1.1397E+10
       32.800  1.6436E-11  7.6433E-03 -7.6257E-05  1.7714E-04      1804.3
1.1397E+10
       33.210  1.1842E-12  5.1246E-03 -5.4874E-04  1.4921E-05      1804.3
1.1397E+10
       33.620 -3.1834E-12  2.2443E-03 -4.7250E-04 -4.5912E-05      1804.3
1.1397E+10
       34.030 -2.7843E-12  4.7529E-04 -2.4829E-04 -4.5229E-05      1804.3
1.1397E+10
       34.440 -1.3756E-12 -1.9893E-04 -7.5891E-05 -2.4853E-05      1804.3
1.1397E+10
       34.850 -3.8952E-13 -2.7154E-04  4.3059E-06 -7.7472E-06      1804.3
1.1397E+10
       35.260  1.9850E-14 -1.5660E-04  2.2304E-05  4.3097E-07      1804.3
1.1397E+10
       35.670  9.6611E-14 -5.2087E-05  1.5651E-05  2.2736E-06      1804.3
1.1397E+10
       36.080  6.2744E-14 -2.6026E-06  6.1988E-06  1.5686E-06      1804.3
1.1397E+10
       36.490  2.3349E-14  8.9113E-06  9.0401E-07  5.8373E-07      1804.3
1.1397E+10
       36.900  2.8816E-15  6.2946E-06 -5.8002E-07  1.9531E-08      1804.3
1.1397E+10
       37.310 -4.2169E-15  3.2047E-06 -5.3885E-07 -3.6265E-08      1804.3
1.1397E+10
       37.720 -4.5087E-15  9.9253E-07 -3.3404E-07 -4.6990E-08      1804.3
1.1397E+10
       38.130 -2.6924E-15 -8.2282E-08 -1.3735E-07 -3.2967E-08      1804.3
1.1397E+10
       38.540 -1.0509E-15 -3.5907E-07 -1.9881E-08 -1.4783E-08      1804.3
1.1397E+10
       38.950 -1.7209E-16 -2.7799E-07  2.3212E-08 -2.7343E-09      1804.3
1.1397E+10
       39.360  1.1634E-16 -1.3070E-07  2.4870E-08  2.0604E-09      1804.3
1.1397E+10
       39.770  1.2717E-16 -3.3277E-08  1.3690E-08  2.4841E-09      1804.3
1.1397E+10
       40.180  6.7330E-17  4.0152E-09  4.0421E-09  1.4379E-09      1804.3
1.1397E+10
       40.590  1.6017E-17  6.5010E-09 -4.0830E-10  3.7124E-10      1804.3
1.1397E+10
       41.000 -2.1489E-17 -5.8034E-24 -2.6897E-25 -5.3722E-10      1804.3
1.1397E+10


     LOAD CASE :     5
     CASE NAME : Strength I (maxVmaxH), Expansion
```

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
3.07180E+06	3.84900E+05	-3.90474E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0934943	0.23857	-1.06657E-03

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1447	0.2386	-1.0666E-03	2.1313E+05	3.8823E+04	1.2203E+06	4.1696E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN STRESS,LBS/IN**2

0.1447 0.2386 -1.0666E-03 2.1313E+05 3.8823E+04 1.2203E+06 4.1696E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2386	-1.2203E+06	3.8823E+04	473.76	4.1696E+04	1.1397E+10
0.4100	0.2320	-1.0323E+06	3.6962E+04	494.69	3.7392E+04	1.1397E+10
0.8200	0.2233	-8.5334E+05	3.5002E+04	513.95	3.3292E+04	1.1397E+10
1.2300	0.2127	-6.8381E+05	3.2952E+04	531.46	2.9410E+04	1.1397E+10
1.6400	0.2007	-5.2428E+05	3.0820E+04	547.15	2.5757E+04	1.1397E+10
2.0500	0.1876	-3.7519E+05	2.8616E+04	560.93	2.2343E+04	1.1397E+10
2.4600	0.1737	-2.3694E+05	2.6348E+04	572.74	1.9177E+04	1.1397E+10
2.8700	0.1593	-1.0989E+05	2.4028E+04	582.48	1.6267E+04	1.1397E+10
3.2800	0.1446	5687.2	2.1665E+04	590.09	1.3881E+04	1.1397E+10
3.6900	0.1300	1.0954E+05	1.9270E+04	595.47	1.6259E+04	1.1397E+10
4.1000	0.1156	2.0149E+05	1.6854E+04	598.54	1.8365E+04	1.1397E+10
4.5100	0.1016	2.8144E+05	1.4430E+04	599.20	2.0195E+04	1.1397E+10
4.9200	8.8256E-02	3.4931E+05	1.2008E+04	597.36	2.1750E+04	1.1397E+10
5.3300	7.5621E-02	4.0513E+05	9600.9	592.93	2.3028E+04	1.1397E+10
5.7400	6.3846E-02	4.4899E+05	7222.8	585.78	2.4032E+04	1.1397E+10

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       6.1500  5.3024E-02  4.8102E+05      4886.8      575.80  2.4766E+04
1.1397E+10
       6.5600  4.3224E-02  5.0147E+05      2607.2      562.86  2.5234E+04
1.1397E+10
       6.9700  3.4489E-02  5.1063E+05      398.99      546.80  2.5444E+04
1.1397E+10
       7.3800  2.6839E-02  5.0889E+05     -1722.1      527.43  2.5404E+04
1.1397E+10
       7.7900  2.0270E-02  4.9671E+05     -3739.2      504.52  2.5125E+04
1.1397E+10
       8.2000  1.4756E-02  4.7467E+05     -5634.1      477.78  2.4621E+04
1.1397E+10
       8.6100  1.0249E-02  4.4341E+05     -7386.9      446.75  2.3905E+04
1.1397E+10
       9.0200  6.6848E-03  4.0370E+05     -8974.8      410.74  2.2995E+04
1.1397E+10
       9.4300  3.9778E-03  3.5643E+05 -1.0370E+04      368.47  2.1913E+04
1.1397E+10
       9.8400  2.0278E-03  3.0265E+05 -1.1535E+04      316.95  2.0681E+04
1.1397E+10
       10.250  7.2061E-04  2.4363E+05 -1.2398E+04      245.88  1.9330E+04
1.1397E+10
       10.660 -6.9135E-05  1.8110E+05 -1.1969E+04     -208.31  1.7898E+04
1.1397E+10
       11.070 -4.7423E-04  1.2611E+05 -1.0321E+04     -249.44  1.6638E+04
1.1397E+10
       11.480 -6.1147E-04  7.9658E+04     -8524.2     -269.06  1.5575E+04
1.1397E+10
       11.890 -5.7953E-04  4.2252E+04     -6673.1     -271.40  1.4718E+04
1.1397E+10
       12.300 -4.5785E-04  1.3962E+04     -4838.0     -262.59  1.4070E+04
1.1397E+10
       12.710 -3.0652E-04     -5411.8     -3068.7     -244.63  1.3874E+04
1.1397E+10
       13.120 -1.6668E-04 -1.6296E+04     -1409.8     -217.73  1.4124E+04
1.1397E+10
       13.530 -6.1450E-05 -1.9336E+04      89.816     -179.86  1.4193E+04
1.1397E+10
       13.940  2.7103E-06 -1.5448E+04      947.83      43.075  1.4104E+04
1.1397E+10
       14.350  3.4060E-05 -1.0030E+04      1009.6      143.81  1.3980E+04
1.1397E+10
       14.760  4.4106E-05     -5522.3      788.41      158.12  1.3877E+04
1.1397E+10
       15.170  4.2424E-05     -2273.8      534.31      157.18  1.3802E+04
1.1397E+10
       15.580  3.5912E-05     -262.98      303.67      148.58  1.3756E+04
1.1397E+10
       15.990  2.8842E-05      717.24      124.92      136.08  1.3767E+04
1.1397E+10
       16.400  2.3295E-05      968.94      11.498      122.02  1.3773E+04
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1.1397E+10
16.810 1.9806E-05 832.30 -41.368 111.47 1.3769E+04
1.1397E+10
17.220 1.8084E-05 562.99 -53.355 105.41 1.3763E+04
1.1397E+10
17.630 1.7559E-05 307.76 -44.648 103.05 1.3757E+04
1.1397E+10
18.040 1.7687E-05 123.74 -29.745 102.89 1.3753E+04
1.1397E+10
18.450 1.8078E-05 14.964 -16.287 103.64 1.3751E+04
1.1397E+10
18.860 1.8500E-05 -36.701 -6.9501 104.56 1.3751E+04
1.1397E+10
19.270 1.8845E-05 -53.589 -1.8071 105.35 1.3752E+04
1.1397E+10
19.680 1.9076E-05 -54.605 2.8485E-03 105.92 1.3752E+04
1.1397E+10
20.090 1.9191E-05 -53.634 -0.6017 106.33 1.3752E+04
1.1397E+10
20.500 1.9192E-05 -60.551 -2.9617 106.63 1.3752E+04
1.1397E+10
20.910 1.9064E-05 -82.750 -6.6504 106.87 1.3752E+04
1.1397E+10
21.320 1.8761E-05 -125.90 -11.224 106.99 1.3753E+04
1.1397E+10
21.730 1.8190E-05 -193.01 -15.791 106.86 1.3755E+04
1.1397E+10
22.140 1.7210E-05 -280.96 -18.381 106.19 1.3757E+04
1.1397E+10
22.550 1.5632E-05 -373.33 -15.046 104.46 1.3759E+04
1.1397E+10
22.960 1.3262E-05 -428.17 1.4702 100.83 1.3760E+04
1.1397E+10
23.370 9.9822E-06 -357.66 43.984 93.888 1.3759E+04
1.1397E+10
23.780 5.9428E-06 6.1939 135.63 80.859 1.3750E+04
1.1397E+10
24.190 1.9166E-06 978.63 64.396 54.097 1.3773E+04
1.1397E+10
24.600 -3.1141E-08 641.13 -68.265 -0.1695 1.3765E+04
1.1397E+10
25.010 -6.1715E-07 307.44 -56.815 -4.4846 1.3757E+04
1.1397E+10
25.420 -5.5018E-07 82.174 -33.482 -5.0006 1.3752E+04
1.1397E+10
25.830 -3.0868E-07 -22.085 -12.895 -3.3681 1.3751E+04
1.1397E+10
26.240 -1.1409E-07 -44.805 -1.0356 -1.4528 1.3751E+04
1.1397E+10
26.650 -1.4661E-08 -32.339 3.0631 -0.2134 1.3751E+04
1.1397E+10

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       27.060  1.6084E-08     -14.692      2.9401      0.2634  1.3751E+04
1.1397E+10
       27.470  1.5624E-08     -3.4151      1.5925      0.2843  1.3750E+04
1.1397E+10
       27.880  7.9101E-09      0.9803      0.5034      0.1584  1.3750E+04
1.1397E+10
       28.290  2.2787E-09      1.5416 -8.6196E-03  4.9777E-02  1.3750E+04
1.1397E+10
       28.700 -7.8448E-11      0.8972     -0.1265 -1.8566E-03  1.3750E+04
1.1397E+10
       29.110 -5.2994E-10      0.2974 -8.9345E-02 -1.3248E-02  1.3750E+04
1.1397E+10
       29.520 -3.4976E-10  1.8136E-02 -3.5243E-02 -8.7441E-03  1.3750E+04
1.1397E+10
       29.930 -1.3107E-10 -4.9474E-02 -5.6715E-03 -3.2768E-03  1.3750E+04
1.1397E+10
       30.340 -1.7461E-11 -3.7742E-02  3.4634E-03 -4.3653E-04  1.3750E+04
1.1397E+10
       30.750  1.5989E-11 -1.5426E-02  3.5539E-03  3.9972E-04  1.3750E+04
1.1397E+10
       31.160  1.6675E-11 -2.7791E-03  1.5451E-03  4.1687E-04  1.3750E+04
1.1397E+10
       31.570  1.1458E-11 -2.2174E-04  3.6985E-04  6.0857E-05  1.3750E+04
1.1397E+10
       31.980  5.7708E-12  8.6259E-04  1.1888E-04  4.1165E-05  1.3750E+04
1.1397E+10
       32.390  1.9153E-12  9.5007E-04 -2.4582E-05  1.7153E-05  1.3750E+04
1.1397E+10
       32.800  7.7743E-14  6.2191E-04 -6.8840E-05  8.3790E-07  1.3750E+04
1.1397E+10
       33.210 -4.3895E-13  2.7319E-04 -5.7295E-05 -5.5307E-06  1.3750E+04
1.1397E+10
       33.620 -3.7540E-13  5.8226E-05 -3.0371E-05 -5.4140E-06  1.3750E+04
1.1397E+10
       34.030 -1.8818E-13 -2.5712E-05 -9.5327E-06 -3.0568E-06  1.3750E+04
1.1397E+10
       34.440 -5.5568E-14 -3.5644E-05  4.5676E-07 -1.0039E-06  1.3750E+04
1.1397E+10
       34.850  1.3370E-15 -2.1258E-05  2.8610E-06  2.6592E-08  1.3750E+04
1.1397E+10
       35.260  1.3092E-14 -7.5060E-06  2.0964E-06  2.8424E-07  1.3750E+04
1.1397E+10
       35.670  8.9047E-15 -6.3120E-07  8.8162E-07  2.0956E-07  1.3750E+04
1.1397E+10
       36.080  3.3769E-15  1.1712E-06  1.5843E-07  8.4421E-08  1.3750E+04
1.1397E+10
       36.490  3.3663E-16  9.2959E-07 -6.9948E-08  8.4158E-09  1.3750E+04
1.1397E+10
       36.900 -7.2921E-16  4.8381E-07 -7.8493E-08 -4.9424E-09  1.3750E+04
1.1397E+10
       37.310 -7.6746E-16  1.5746E-07 -5.0098E-08 -6.6001E-09  1.3750E+04
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1.1397E+10
       37.720 -4.7128E-16 -9.2061E-09 -2.1779E-08 -4.9118E-09  1.3750E+04
1.1397E+10
       38.130 -1.9465E-16 -5.6969E-08 -3.8327E-09 -2.3834E-09  1.3750E+04
1.1397E+10
       38.540 -3.9027E-17 -4.7012E-08  3.3810E-09 -5.4898E-10  1.3750E+04
1.1397E+10
       38.950  1.6748E-17 -2.3746E-08  4.0769E-09  2.6610E-10  1.3750E+04
1.1397E+10
       39.360  2.2089E-17 -6.9092E-09  2.4598E-09  3.9122E-10  1.3750E+04
1.1397E+10
       39.770  1.2756E-17  4.6017E-10  8.8450E-10  2.4916E-10  1.3750E+04
1.1397E+10
       40.180  4.3997E-18  1.7980E-09  4.0423E-11  9.3959E-11  1.3750E+04
1.1397E+10
       40.590 -1.3735E-19  8.6068E-10 -1.8288E-10 -3.1834E-12  1.3750E+04
1.1397E+10
       41.000 -2.8464E-18 -7.2542E-25 -7.0884E-26 -7.1160E-11  1.3750E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.093494      0.2386 -1.0666E-03  1.6936E+05  1.1195E+04  4.9466E+05
 2.2255E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
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        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.093494      0.2386 -1.0666E-03  1.6936E+05  1.1195E+04  4.9466E+05
 2.2255E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
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FLEXURAL

	y-DIR	MOMENT	FORCE	REACTION	STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2386	-4.9466E+05	1.1195E+04	154.11	2.2255E+04	1.1397E+10
0.4100	0.2328	-4.3918E+05	1.0941E+04	161.06	2.0984E+04	1.1397E+10
0.8200	0.2261	-3.8488E+05	1.0654E+04	167.71	1.9741E+04	1.1397E+10
1.2300	0.2186	-3.3193E+05	1.0335E+04	174.06	1.8528E+04	1.1397E+10
1.6400	0.2103	-2.8052E+05	9985.2	180.08	1.7351E+04	1.1397E+10
2.0500	0.2015	-2.3079E+05	9606.7	185.77	1.6212E+04	1.1397E+10
2.4600	0.1922	-1.8291E+05	9201.2	191.10	1.5115E+04	1.1397E+10
2.8700	0.1825	-1.3703E+05	8770.3	196.06	1.4065E+04	1.1397E+10
3.2800	0.1725	-9.3279E+04	8316.0	200.63	1.3063E+04	1.1397E+10
3.6900	0.1623	-5.1784E+04	7840.1	204.80	1.2112E+04	1.1397E+10
4.1000	0.1520	-1.2661E+04	7344.8	208.55	1.1217E+04	1.1397E+10
4.5100	0.1417	2.3984E+04	6832.1	211.87	1.1476E+04	1.1397E+10
4.9200	0.1314	5.8057E+04	6304.2	214.75	1.2256E+04	1.1397E+10
5.3300	0.1212	8.9477E+04	5763.2	217.16	1.2976E+04	1.1397E+10
5.7400	0.1113	1.1817E+05	5211.5	219.10	1.3633E+04	1.1397E+10
6.1500	0.1016	1.4409E+05	4651.5	220.55	1.4226E+04	1.1397E+10
6.5600	9.2162E-02	1.6718E+05	4085.6	221.50	1.4755E+04	1.1397E+10
6.9700	8.3110E-02	1.8742E+05	3516.3	221.93	1.5219E+04	1.1397E+10
7.3800	7.4456E-02	2.0478E+05	2946.2	221.82	1.5616E+04	1.1397E+10
7.7900	6.6237E-02	2.1927E+05	2377.9	221.16	1.5948E+04	1.1397E+10
8.2000	5.8483E-02	2.3089E+05	1814.3	219.95	1.6214E+04	1.1397E+10
8.6100	5.1220E-02	2.3966E+05	1258.1	218.15	1.6415E+04	1.1397E+10

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       9.0200  4.4466E-02  2.4564E+05      712.27      215.75  1.6552E+04
1.1397E+10
       9.4300  3.8234E-02  2.4887E+05      179.70      212.74  1.6626E+04
1.1397E+10
       9.8400  3.2530E-02  2.4943E+05     -336.50      209.10  1.6639E+04
1.1397E+10
       10.250  2.7356E-02  2.4740E+05     -833.19      204.81  1.6592E+04
1.1397E+10
       10.660  2.2708E-02  2.4289E+05     -1307.1      199.84  1.6489E+04
1.1397E+10
       11.070  1.8575E-02  2.3603E+05     -1754.9      194.18  1.6332E+04
1.1397E+10
       11.480  1.4944E-02  2.2694E+05     -2173.0      187.80  1.6124E+04
1.1397E+10
       11.890  1.1794E-02  2.1579E+05     -2557.9      180.66  1.5868E+04
1.1397E+10
       12.300  9.1033E-03  2.0276E+05     -2905.7      172.74  1.5570E+04
1.1397E+10
       12.710  6.8429E-03  1.8804E+05     -3212.6      164.00  1.5233E+04
1.1397E+10
       13.120  4.9820E-03  1.7185E+05     -3474.2      154.37  1.4862E+04
1.1397E+10
       13.530  3.4860E-03  1.5442E+05     -3686.2      143.78  1.4463E+04
1.1397E+10
       13.940  2.3180E-03  1.3603E+05     -3843.4      132.14  1.4042E+04
1.1397E+10
       14.350  1.4389E-03  1.1695E+05     -3940.4      119.28  1.3605E+04
1.1397E+10
       14.760  8.0826E-04  9.7509E+04     -3970.3      104.89  1.3160E+04
1.1397E+10
       15.170  3.8468E-04  7.8060E+04     -3924.1      88.329  1.2714E+04
1.1397E+10
       15.580  1.2689E-04  5.9010E+04     -3785.8      67.441  1.2278E+04
1.1397E+10
       15.990 -5.5639E-06  4.0873E+04     -3323.0     -43.587  1.1863E+04
1.1397E+10
       16.400 -5.1205E-05  2.6342E+04     -2554.7     -56.742  1.1530E+04
1.1397E+10
       16.810 -4.0897E-05  1.5742E+04     -1761.0     -53.868  1.1287E+04
1.1397E+10
       17.220  2.8451E-06      9004.7     -1155.0      19.526  1.1133E+04
1.1397E+10
       17.630  6.5712E-05      4357.9     -823.94      57.882  1.1026E+04
1.1397E+10
       18.040  1.3784E-04      874.22     -617.60      70.238  1.0947E+04
1.1397E+10
       18.450  2.1182E-04     -1744.1     -461.67      78.377  1.0967E+04
1.1397E+10
       18.860  2.8209E-04     -3693.1     -340.22      84.253  1.1011E+04
1.1397E+10
       19.270  3.4452E-04     -5114.4     -243.86      88.574  1.1044E+04
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1.1397E+10
19.680 3.9609E-04 -6112.0 -165.78 91.686 1.1067E+04
1.1397E+10
20.090 4.3468E-04 -6760.9 -100.52 93.785 1.1081E+04
1.1397E+10
20.500 4.5891E-04 -7111.7 -43.368 94.985 1.1089E+04
1.1397E+10
20.910 4.6803E-04 -7193.3 9.9417 95.345 1.1091E+04
1.1397E+10
21.320 4.6188E-04 -7014.3 63.497 94.885 1.1087E+04
1.1397E+10
21.730 4.4083E-04 -6563.8 121.37 93.590 1.1077E+04
1.1397E+10
22.140 4.0583E-04 -5810.6 187.79 91.408 1.1060E+04
1.1397E+10
22.550 3.5850E-04 -4702.0 267.37 88.244 1.1034E+04
1.1397E+10
22.960 3.0118E-04 -3161.9 365.30 83.946 1.0999E+04
1.1397E+10
23.370 2.3714E-04 -1086.9 487.75 78.277 1.0951E+04
1.1397E+10
23.780 1.7079E-04 1659.6 642.36 70.874 1.0965E+04
1.1397E+10
24.190 1.0797E-04 5255.8 578.25 61.189 1.1047E+04
1.1397E+10
24.600 5.6315E-05 7369.0 315.96 45.435 1.1095E+04
1.1397E+10
25.010 2.0308E-05 8379.7 -158.85 147.57 1.1118E+04
1.1397E+10
25.420 2.0997E-06 5815.1 -568.83 19.084 1.1060E+04
1.1397E+10
25.830 -3.7580E-06 2786.5 -514.91 -41.004 1.0990E+04
1.1397E+10
26.240 -3.6974E-06 749.44 -298.22 -47.080 1.0944E+04
1.1397E+10
26.650 -2.0450E-06 -148.27 -109.18 -29.766 1.0930E+04
1.1397E+10
27.060 -7.0757E-07 -325.38 -7.4455 -11.588 1.0934E+04
1.1397E+10
27.470 -6.1221E-08 -221.87 23.803 -1.1142 1.0932E+04
1.1397E+10
27.880 1.1390E-07 -91.301 20.934 2.2805 1.0929E+04
1.1397E+10
28.290 9.5097E-08 -15.903 10.214 2.0773 1.0927E+04
1.1397E+10
28.700 4.2521E-08 9.2160 2.6281 1.0063 1.0927E+04
1.1397E+10
29.110 9.5184E-09 9.9722 -0.4328 0.2380 1.0927E+04
1.1397E+10
29.520 -2.3037E-09 4.9647 -0.8765 -5.7593E-02 1.0927E+04
1.1397E+10

```
       29.930 -3.5813E-09      1.3495     -0.5146 -8.9531E-02  1.0927E+04
1.1397E+10
       30.340 -1.9926E-09 -9.8993E-02     -0.1718 -4.9816E-02  1.0927E+04
1.1397E+10
       30.750 -6.1428E-10     -0.3415 -1.1474E-02 -1.5357E-02  1.0927E+04
1.1397E+10
       31.160  3.8668E-11     -0.2122  2.3926E-02  9.6670E-04  1.0927E+04
1.1397E+10
       31.570  2.4083E-10     -0.1063  1.8402E-02  1.2791E-03  1.0927E+04
1.1397E+10
       31.980  2.1732E-10 -3.1197E-02  1.1441E-02  1.5502E-03  1.0927E+04
1.1397E+10
       32.390  1.2755E-10  6.3471E-03  4.8180E-03  1.1422E-03  1.0927E+04
1.1397E+10
       32.800  5.1253E-11  1.6240E-02  6.4914E-04  5.5239E-04  1.0927E+04
1.1397E+10
       33.210  9.4513E-12  1.2755E-02 -1.0027E-03  1.1909E-04  1.0927E+04
1.1397E+10
       33.620 -5.2605E-12  6.3825E-03 -1.1090E-03 -7.5869E-05  1.0927E+04
1.1397E+10
       34.030 -6.4164E-12  1.8446E-03 -6.6597E-04 -1.0423E-04  1.0927E+04
1.1397E+10
       34.440 -3.6544E-12 -1.7095E-04 -2.4715E-04 -6.6024E-05  1.0927E+04
1.1397E+10
       34.850 -1.2556E-12 -5.8824E-04 -2.3298E-05 -2.4973E-05  1.0927E+04
1.1397E+10
       35.260 -1.0615E-13 -4.0080E-04  4.3805E-05 -2.3046E-06  1.0927E+04
1.1397E+10
       35.670  1.9204E-13 -1.5744E-04  3.8357E-05  4.5192E-06  1.0927E+04
1.1397E+10
       36.080  1.5582E-13 -2.3419E-05  1.7656E-05  3.8956E-06  1.0927E+04
1.1397E+10
       36.490  6.9871E-14  1.6316E-05  3.7761E-06  1.7468E-06  1.0927E+04
1.1397E+10
       36.900  1.8572E-14  1.3761E-05 -8.3060E-07  1.2587E-07  1.0927E+04
1.1397E+10
       37.310 -3.4995E-15  8.1550E-06 -1.0662E-06 -3.0096E-08  1.0927E+04
1.1397E+10
       37.720 -8.2501E-15  3.2743E-06 -7.8066E-07 -8.5984E-08  1.0927E+04
1.1397E+10
       38.130 -6.0464E-15  4.7374E-07 -3.8701E-07 -7.4035E-08  1.0927E+04
1.1397E+10
       38.540 -2.8366E-15 -5.3482E-07 -1.0672E-07 -3.9901E-08  1.0927E+04
1.1397E+10
       38.950 -7.6262E-16 -5.7733E-07  2.1240E-08 -1.2117E-08  1.0927E+04
1.1397E+10
       39.360  8.5135E-17 -3.2632E-07  4.7339E-08  1.5078E-09  1.0927E+04
1.1397E+10
       39.770  2.3982E-16 -1.1169E-07  3.2106E-08  4.6844E-09  1.0927E+04
1.1397E+10
       40.180  1.5728E-16 -1.0407E-08  1.2319E-08  3.3589E-09  1.0927E+04
```

1.1397E+10
       40.590 5.2649E-17 9.5673E-09 1.0544E-09 1.2203E-09 1.0927E+04
1.1397E+10
       41.000 -3.1666E-17 1.1607E-23 3.3144E-24 -7.9166E-10 1.0927E+04
1.1397E+10

       * PILE GROUP *   3

        * PILE TOP DISPLACEMENTS AND REACTIONS *

       THE GLOBAL STRUCTURAL COORDINATE SYSTEM

        DISP.X,IN   DISP.Y,IN   SLOPE   FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.042299   0.2386 -1.0666E-03 9.8589E+04   8693.5 4.0760E+05
 1.5695E+04

       THE PILE COORDINATE SYSTEM (LOCAL AXES)

        DISP.x,IN   DISP.y,IN   SLOPE   AXIAL, LB   LAT, LB   BM, LB-IN
STRESS,LBS/IN**2

          0.042299   0.2386 -1.0666E-03 9.8589E+04   8693.5 4.0760E+05
 1.5695E+04

        * EFFECTS FOR LATERALLY LOADED PILE *

        x   DISPL.   BENDING   SHEAR   SOIL   TOTAL
FLEXURAL
                 y-DIR   MOMENT   FORCE   REACTION   STRESS
RIGIDITY
       FT   IN   LBS-IN   LBS   LBS/IN   LBS-IN**2
LBS-IN**2
   ********** ********** ********** ********** ********** **********
****
       0.0000   0.2386 -4.0760E+05   8693.5   131.28 1.5695E+04
1.1397E+10
       0.4100   0.2329 -3.6458E+05   8554.5   137.21 1.4710E+04
1.1397E+10
       0.8200   0.2264 -3.2223E+05   8386.9   142.92 1.3740E+04
1.1397E+10
       1.2300   0.2193 -2.8071E+05   8191.8   148.40 1.2789E+04

1.1397E+10
1.6400 0.2116 -2.4016E+05 7970.3 153.63 1.1860E+04
1.1397E+10
2.0500 0.2033 -2.0071E+05 7723.8 158.60 1.0957E+04
1.1397E+10
2.4600 0.1946 -1.6249E+05 7453.4 163.30 1.0082E+04
1.1397E+10
2.8700 0.1856 -1.2562E+05 7160.6 167.72 9237.5
1.1397E+10
3.2800 0.1763 -9.0224E+04 6846.8 171.85 8426.8
1.1397E+10
3.6900 0.1669 -5.6401E+04 6513.4 175.67 7652.2
1.1397E+10
4.1000 0.1573 -2.4252E+04 6162.0 179.17 6916.0
1.1397E+10
4.5100 0.1476 6130.3 5794.2 182.35 6501.0
1.1397E+10
4.9200 0.1380 3.4664E+04 5411.6 185.18 7154.4
1.1397E+10
5.3300 0.1284 6.1273E+04 5015.9 187.67 7763.8
1.1397E+10
5.7400 0.1190 8.5892E+04 4608.8 189.80 8327.6
1.1397E+10
6.1500 0.1098 1.0847E+05 4192.2 191.55 8844.5
1.1397E+10
6.5600 0.1007 1.2894E+05 3767.9 192.93 9313.5
1.1397E+10
6.9700 9.1990E-02 1.4729E+05 3337.8 193.91 9733.7
1.1397E+10
7.3800 8.3560E-02 1.6348E+05 2903.9 194.49 1.0104E+04
1.1397E+10
7.7900 7.5477E-02 1.7749E+05 2468.1 194.66 1.0425E+04
1.1397E+10
8.2000 6.7771E-02 1.8932E+05 2032.5 194.40 1.0696E+04
1.1397E+10
8.6100 6.0467E-02 1.9897E+05 1599.3 193.71 1.0917E+04
1.1397E+10
9.0200 5.3586E-02 2.0646E+05 1170.6 192.57 1.1089E+04
1.1397E+10
9.4300 4.7143E-02 2.1181E+05 748.55 190.98 1.1211E+04
1.1397E+10
9.8400 4.1150E-02 2.1505E+05 335.55 188.91 1.1285E+04
1.1397E+10
10.250 3.5613E-02 2.1624E+05 -66.126 186.37 1.1313E+04
1.1397E+10
10.660 3.0537E-02 2.1545E+05 -454.07 183.33 1.1295E+04
1.1397E+10
11.070 2.5917E-02 2.1273E+05 -825.83 179.79 1.1232E+04
1.1397E+10
11.480 2.1750E-02 2.0819E+05 -1178.9 175.73 1.1128E+04
1.1397E+10

11.890	1.8024E-02	2.0191E+05	-1510.6	171.13	1.0985E+04	1.1397E+10
12.300	1.4728E-02	1.9402E+05	-1818.3	165.97	1.0804E+04	1.1397E+10
12.710	1.1843E-02	1.8463E+05	-2099.3	160.25	1.0589E+04	1.1397E+10
13.120	9.3511E-03	1.7389E+05	-2350.7	153.92	1.0343E+04	1.1397E+10
13.530	7.2281E-03	1.6195E+05	-2569.4	146.98	1.0069E+04	1.1397E+10
13.940	5.4491E-03	1.4899E+05	-2752.3	139.37	9772.6	1.1397E+10
14.350	3.9865E-03	1.3519E+05	-2896.0	131.06	9456.5	1.1397E+10
14.760	2.8111E-03	1.2075E+05	-2997.0	121.99	9125.9	1.1397E+10
15.170	1.8922E-03	1.0591E+05	-3051.2	112.05	8785.9	1.1397E+10
15.580	1.1981E-03	9.0888E+04	-3054.1	101.11	8442.0	1.1397E+10
15.990	6.9717E-04	7.5971E+04	-2999.5	88.700	8100.4	1.1397E+10
16.400	3.5755E-04	6.1456E+04	-2877.1	73.562	7768.0	1.1397E+10
16.810	1.4846E-04	4.7714E+04	-2674.9	56.225	7453.3	1.1397E+10
17.220	4.0710E-05	3.5167E+04	-2376.2	34.354	7165.9	1.1397E+10
17.630	7.6524E-06	2.4346E+04	-1971.8	13.264	6918.1	1.1397E+10
18.040	2.6304E-05	1.5765E+04	-1556.7	29.991	6721.6	1.1397E+10
18.450	7.8441E-05	9021.1	-1226.5	47.791	6567.2	1.1397E+10
18.860	1.4974E-04	3684.1	-967.88	59.066	6445.0	1.1397E+10
19.270	2.2886E-04	-517.66	-756.27	66.912	6372.5	1.1397E+10
19.680	3.0688E-04	-3773.1	-578.02	72.631	6447.0	1.1397E+10
20.090	3.7689E-04	-6220.0	-424.13	76.811	6503.0	1.1397E+10
20.500	4.3369E-04	-7959.0	-287.78	79.764	6542.9	1.1397E+10
20.910	4.7358E-04	-9061.3	-163.38	81.665	6568.1	1.1397E+10
21.320	4.9422E-04	-9572.7	-45.994	82.616	6579.8	1.1397E+10
21.730	4.9454E-04	-9516.0	68.925	82.668	6578.5	1.1397E+10
22.140	4.7464E-04	-8892.5	185.77	81.836	6564.2	

1.1397E+10
22.550 4.3586E-04 -7682.2 308.93 80.099 6536.5
1.1397E+10
22.960 3.8076E-04 -5843.4 442.99 77.404 6494.4
1.1397E+10
23.370 3.1325E-04 -3311.1 592.90 73.660 6436.4
1.1397E+10
23.780 2.3871E-04 4.6916 764.12 68.736 6360.7
1.1397E+10
24.190 1.6418E-04 4222.5 702.10 62.474 6457.3
1.1397E+10
24.600 9.8613E-05 6927.2 422.48 51.196 6519.2
1.1397E+10
25.010 4.7761E-05 8391.2 155.27 57.424 6552.8
1.1397E+10
25.420 1.4732E-05 8463.3 -315.37 133.89 6554.4
1.1397E+10
25.830 -3.2215E-07 5292.6 -636.11 -3.5150 6481.8
1.1397E+10
26.240 -4.1348E-06 2205.9 -497.94 -52.650 6411.1
1.1397E+10
26.650 -3.2623E-06 393.16 -251.61 -47.484 6369.6
1.1397E+10
27.060 -1.5547E-06 -270.23 -72.161 -25.463 6366.8
1.1397E+10
27.470 -4.2112E-07 -317.19 9.3320 -7.6643 6367.9
1.1397E+10
27.880 3.8821E-08 -178.56 26.274 0.7773 6364.7
1.1397E+10
28.290 1.1952E-07 -58.703 17.939 2.6108 6361.9
1.1397E+10
28.700 7.5536E-08 -2.0369 7.1189 1.7877 6360.6
1.1397E+10
29.110 2.7227E-08 11.356 1.0467 0.6807 6360.9
1.1397E+10
29.520 3.0375E-09 8.2695 -0.8146 7.5936E-02 6360.8
1.1397E+10
29.930 -3.5885E-09 3.3432 -0.7807 -8.9713E-02 6360.7
1.1397E+10
30.340 -3.1137E-09 0.5879 -0.3685 -7.7843E-02 6360.6
1.1397E+10
30.750 -1.3903E-09 -0.2833 -9.1537E-02 -3.4757E-02 6360.6
1.1397E+10
31.160 -2.6861E-10 -0.3131 1.0485E-02 -6.7153E-03 6360.6
1.1397E+10
31.570 1.8800E-10 -0.1803 2.4549E-02 9.9848E-04 6360.6
1.1397E+10
31.980 2.6166E-10 -7.1618E-02 1.7501E-02 1.8665E-03 6360.6
1.1397E+10
32.390 1.8320E-10 -8.0960E-03 8.8732E-03 1.6407E-03 6360.6
1.1397E+10

32.800	8.7554E-11	1.5712E-02	2.5158E-03	9.4364E-04	6360.6	1.1397E+10
33.210	2.5277E-11	1.6675E-02	-5.8906E-04	3.1849E-04	6360.6	1.1397E+10
33.620	-1.5835E-12	9.9247E-03	-1.3164E-03	-2.2837E-05	6360.6	1.1397E+10
34.030	-7.3649E-12	3.7251E-03	-9.6588E-04	-1.1964E-04	6360.6	1.1397E+10
34.440	-5.2343E-12	4.2081E-04	-4.3893E-04	-9.4567E-05	6360.6	1.1397E+10
34.850	-2.2101E-12	-5.9447E-04	-9.8167E-05	-4.3956E-05	6360.6	1.1397E+10
35.260	-4.4838E-13	-5.4562E-04	3.3912E-05	-9.7349E-06	6360.6	1.1397E+10
35.670	1.5442E-13	-2.6101E-04	4.8920E-05	3.6341E-06	6360.6	1.1397E+10
36.080	2.0286E-13	-6.4316E-05	2.7504E-05	5.0714E-06	6360.6	1.1397E+10
36.490	1.1469E-13	9.6336E-06	7.9751E-06	2.8673E-06	6360.6	1.1397E+10
36.900	4.6985E-14	1.4175E-05	1.3822E-07	3.1845E-07	6360.6	1.1397E+10
37.310	9.3849E-15	1.1004E-05	-8.4372E-07	8.0710E-08	6360.6	1.1397E+10
37.720	-4.8431E-15	5.8776E-06	-9.1810E-07	-5.0476E-08	6360.6	1.1397E+10
38.130	-6.5874E-15	1.9716E-06	-5.9550E-07	-8.0660E-08	6360.6	1.1397E+10
38.540	-4.1442E-15	1.7771E-08	-2.5367E-07	-5.8295E-08	6360.6	1.1397E+10
38.950	-1.6632E-15	-5.2499E-07	-4.5260E-08	-2.6426E-08	6360.6	1.1397E+10
39.360	-2.9725E-16	-4.2796E-07	3.2700E-08	-5.2647E-09	6360.6	1.1397E+10
39.770	1.5973E-16	-2.0340E-07	3.7976E-08	3.1201E-09	6360.6	1.1397E+10
40.180	1.8470E-16	-5.4327E-08	2.0598E-08	3.9443E-09	6360.6	1.1397E+10
40.590	9.4278E-17	-7.1626E-10	5.5192E-09	2.1852E-09	6360.6	1.1397E+10
41.000	2.3372E-18	5.8034E-24	4.8427E-25	5.8431E-11	6360.6	1.1397E+10

LOAD CASE : 6
CASE NAME : Strength I (minVmaxH), Expansion

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS

ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.58370E+06	3.84900E+05	-1.98378E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0355282	0.20364	-4.47071E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.056988	0.2036	-4.4707E-04	1.2303E+05	3.8409E+04	1.2755E+06	3.7146E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.056988	0.2036	-4.4707E-04	1.2303E+05	3.8409E+04	1.2755E+06	3.7146E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2036	-1.2755E+06	3.8409E+04	455.38	3.7146E+04	1.1397E+10
0.4100	0.2001	-1.0903E+06	3.6637E+04	476.72	3.2905E+04	1.1397E+10
0.8200	0.1942	-9.1379E+05	3.4765E+04	496.34	2.8864E+04	1.1397E+10
1.2300	0.1864	-7.4651E+05	3.2800E+04	514.20	2.5033E+04	1.1397E+10
1.6400	0.1770	-5.8892E+05	3.0753E+04	530.22	2.1424E+04	1.1397E+10
2.0500	0.1664	-4.4144E+05	2.8631E+04	544.34	1.8046E+04	1.1397E+10
2.4600	0.1548	-3.0445E+05	2.6444E+04	556.48	1.4909E+04	1.1397E+10
2.8700	0.1426	-1.7830E+05	2.4203E+04	566.57	1.2020E+04	1.1397E+10
3.2800	0.1299	-6.3239E+04	2.1917E+04	574.53	9385.5	1.1397E+10
3.6900	0.1172	4.0492E+04	1.9598E+04	580.29	8864.6	1.1397E+10
4.1000	0.1045	1.3273E+05	1.7256E+04	583.75	1.0977E+04	1.1397E+10
4.5100	9.2164E-02	2.1337E+05	1.4903E+04	584.84	1.2824E+04	1.1397E+10
4.9200	8.0240E-02	2.8237E+05	1.2550E+04	583.46	1.4404E+04	1.1397E+10
5.3300	6.8917E-02	3.3973E+05	1.0211E+04	579.51	1.5717E+04	1.1397E+10
5.7400	5.8315E-02	3.8554E+05	7897.6	572.89	1.6766E+04	1.1397E+10
6.1500	4.8533E-02	4.1995E+05	5623.6	563.49	1.7554E+04	1.1397E+10
6.5600	3.9642E-02	4.4317E+05	3403.1	551.17	1.8086E+04	

1.1397E+10
6.9700 3.1692E-02 4.5551E+05 1250.7 535.80 1.8369E+04
1.1397E+10
7.3800 2.4710E-02 4.5732E+05 -818.14 517.19 1.8410E+04
1.1397E+10
7.7900 1.8699E-02 4.4906E+05 -2786.9 495.13 1.8221E+04
1.1397E+10
8.2000 1.3642E-02 4.3126E+05 -4638.0 469.35 1.7813E+04
1.1397E+10
8.6100 9.5005E-03 4.0455E+05 -6352.2 439.46 1.7202E+04
1.1397E+10
9.0200 6.2185E-03 3.6966E+05 -7907.6 404.84 1.6403E+04
1.1397E+10
9.4300 3.7217E-03 3.2745E+05 -9278.5 364.41 1.5436E+04
1.1397E+10
9.8400 1.9204E-03 2.7889E+05 -1.0430E+04 315.78 1.4324E+04
1.1397E+10
10.250 7.1140E-04 2.2519E+05 -1.1304E+04 251.26 1.3094E+04
1.1397E+10
10.660 -1.9319E-05 1.6790E+05 -1.1082E+04 -129.36 1.1782E+04
1.1397E+10
11.070 -3.9342E-04 1.1627E+05 -9674.7 -230.71 1.0600E+04
1.1397E+10
11.480 -5.2056E-04 7.2766E+04 -7963.6 -252.85 9603.6
1.1397E+10
11.890 -4.9316E-04 3.7924E+04 -6191.5 -255.51 8805.8
1.1397E+10
12.300 -3.8521E-04 1.1824E+04 -4435.4 -246.36 8208.0
1.1397E+10
12.710 -2.5214E-04 -5749.9 -2747.7 -227.71 8068.9
1.1397E+10
13.120 -1.3128E-04 -1.5244E+04 -1174.7 -199.70 8286.4
1.1397E+10
13.530 -4.2805E-05 -1.7335E+04 229.71 -159.21 8334.2
1.1397E+10
13.940 8.8543E-06 -1.3001E+04 922.98 89.399 8235.0
1.1397E+10
14.350 3.2900E-05 -8262.3 874.08 142.48 8126.5
1.1397E+10
14.760 3.9396E-05 -4404.1 669.75 152.58 8038.1
1.1397E+10
15.170 3.6539E-05 -1672.4 445.15 150.72 7975.6
1.1397E+10
15.580 3.0129E-05 -22.699 245.07 142.62 7937.8
1.1397E+10
15.990 2.3672E-05 740.60 92.523 131.39 7954.2
1.1397E+10
16.400 1.8787E-05 889.12 -1.6505 118.89 7957.6
1.1397E+10
16.810 1.5790E-05 725.33 -42.553 109.73 7953.9
1.1397E+10

17.220	1.4335E-05	470.95	-48.630	104.74	7948.0
1.1397E+10					
17.630	1.3879E-05	247.04	-38.251	103.04	7942.9
1.1397E+10					
18.040	1.3948E-05	94.610	-24.075	103.19	7939.4
1.1397E+10					
18.450	1.4219E-05	10.103	-12.273	104.01	7937.5
1.1397E+10					
18.860	1.4510E-05	-26.227	-4.5802	104.86	7937.9
1.1397E+10					
19.270	1.4746E-05	-35.031	-0.6142	105.52	7938.1
1.1397E+10					
19.680	1.4907E-05	-32.320	0.6018	105.98	7938.0
1.1397E+10					
20.090	1.5000E-05	-29.141	-9.4329E-02	106.30	7937.9
1.1397E+10					
20.500	1.5031E-05	-33.263	-2.2233	106.56	7938.0
1.1397E+10					
20.910	1.4992E-05	-51.016	-5.5830	106.80	7938.4
1.1397E+10					
21.320	1.4844E-05	-88.177	-9.9726	106.98	7939.3
1.1397E+10					
21.730	1.4508E-05	-149.09	-14.741	106.96	7940.7
1.1397E+10					
22.140	1.3856E-05	-233.11	-18.132	106.42	7942.6
1.1397E+10					
22.550	1.2709E-05	-327.28	-16.345	104.85	7944.7
1.1397E+10					
22.960	1.0867E-05	-393.58	-2.1472	101.38	7946.3
1.1397E+10					
23.370	8.1888E-06	-347.86	37.465	94.520	7945.2
1.1397E+10					
23.780	4.7718E-06	-24.170	126.41	81.324	7937.8
1.1397E+10					
24.190	1.3035E-06	896.84	58.723	52.190	7957.8
1.1397E+10					
24.600	-2.5995E-07	554.28	-66.182	-1.4153	7949.9
1.1397E+10					
25.010	-6.4617E-07	245.84	-51.149	-4.6955	7942.9
1.1397E+10					
25.420	-5.1024E-07	51.004	-28.190	-4.6376	7938.4
1.1397E+10					
25.830	-2.6599E-07	-31.592	-9.6422	-2.9022	7938.0
1.1397E+10					
26.240	-8.8830E-08	-43.928	0.2797	-1.1311	7938.3
1.1397E+10					
26.650	-4.9716E-09	-28.872	3.2402	-7.2364E-02	7937.9
1.1397E+10					
27.060	1.7565E-08	-12.057	2.7106	0.2877	7937.5
1.1397E+10					
27.470	1.4493E-08	-2.2023	1.3541	0.2638	7937.3

1.1397E+10
27.880 6.7430E-09 1.2683 0.3731 0.1350 7937.3
1.1397E+10
28.290 1.6871E-09 1.4704 -4.9709E-02 3.6855E-02 7937.3
1.1397E+10
28.700 -2.4574E-10 0.7800 -0.1261 -5.8158E-03 7937.3
1.1397E+10
29.110 -5.2197E-10 0.2302 -7.9656E-02 -1.3049E-02 7937.3
1.1397E+10
29.520 -3.0933E-10 -3.8167E-03 -2.8531E-02 -7.7332E-03 7937.3
1.1397E+10
29.930 -1.0479E-10 -5.0617E-02 -3.0626E-03 -2.6197E-03 7937.3
1.1397E+10
30.340 -7.7571E-12 -3.3990E-02 3.8590E-03 -1.9393E-04 7937.3
1.1397E+10
30.750 1.7083E-11 -1.2659E-02 3.2854E-03 4.2708E-04 7937.3
1.1397E+10
31.160 1.5036E-11 -1.6637E-03 1.3101E-03 3.7591E-04 7937.3
1.1397E+10
31.570 9.4558E-12 2.3279E-04 2.6179E-04 5.0221E-05 7937.3
1.1397E+10
31.980 4.3696E-12 9.1361E-04 6.1572E-05 3.1170E-05 7937.3
1.1397E+10
32.390 1.2238E-12 8.3967E-04 -4.2068E-05 1.0960E-05 7937.3
1.1397E+10
32.800 -1.3850E-13 5.0021E-04 -6.5358E-05 -1.4927E-06 7937.3
1.1397E+10
33.210 -4.3843E-13 1.9676E-04 -4.8096E-05 -5.5242E-06 7937.3
1.1397E+10
33.620 -3.2046E-13 2.6968E-05 -2.3138E-05 -4.6217E-06 7937.3
1.1397E+10
34.030 -1.4521E-13 -3.0952E-05 -5.9654E-06 -2.3588E-06 7937.3
1.1397E+10
34.440 -3.5700E-14 -3.1767E-05 1.4239E-06 -6.4497E-07 7937.3
1.1397E+10
34.850 6.3384E-15 -1.6960E-05 2.7004E-06 1.2606E-07 7937.3
1.1397E+10
35.260 1.2355E-14 -5.2005E-06 1.7304E-06 2.6824E-07 7937.3
1.1397E+10
35.670 7.3257E-15 6.7365E-08 6.4647E-07 1.7240E-07 7937.3
1.1397E+10
36.080 2.4398E-15 1.1620E-06 7.2324E-08 6.0994E-08 7937.3
1.1397E+10
36.490 2.1859E-17 7.7994E-07 -7.9065E-08 5.4647E-10 7937.3
1.1397E+10
36.900 -7.3952E-16 3.8441E-07 -6.8079E-08 -5.0123E-09 7937.3
1.1397E+10
37.310 -6.8443E-16 1.1012E-07 -4.1269E-08 -5.8861E-09 7937.3
1.1397E+10
37.720 -3.9545E-16 -2.1720E-08 -1.6651E-08 -4.1214E-09 7937.3
1.1397E+10

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       38.130 -1.5260E-16 -5.3790E-08 -1.9159E-09 -1.8685E-09      7937.3
1.1397E+10
       38.540 -2.3993E-17 -4.0618E-08  3.5108E-09 -3.3750E-10      7937.3
1.1397E+10
       38.950  1.8341E-17 -1.9265E-08  3.6241E-09  2.9142E-10      7937.3
1.1397E+10
       39.360  1.9757E-17 -4.9618E-09  2.0464E-09  3.4992E-10      7937.3
1.1397E+10
       39.770  1.0634E-17  8.7266E-10  6.7464E-10  2.0773E-10      7937.3
1.1397E+10
       40.180  3.3653E-18  1.6786E-09 -1.3167E-11  7.1869E-11      7937.3
1.1397E+10
       40.590 -3.3850E-19  7.4445E-10 -1.7066E-10 -7.8457E-12      7937.3
1.1397E+10
       41.000 -2.4612E-18      0.0000  5.1756E-26 -6.1530E-11      7937.3
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.035528      0.2036 -4.4707E-04  8.3302E+04  1.1461E+04  5.6579E+05
 1.8331E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.035528      0.2036 -4.4707E-04  8.3302E+04  1.1461E+04  5.6579E+05
 1.8331E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
```

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2036	-5.6579E+05	1.1461E+04	148.14	1.8331E+04	1.1397E+10
0.4100	0.2008	-5.0968E+05	1.1236E+04	155.22	1.7046E+04	1.1397E+10
0.8200	0.1970	-4.5468E+05	1.0977E+04	162.03	1.5787E+04	1.1397E+10
1.2300	0.1921	-4.0094E+05	1.0685E+04	168.54	1.4556E+04	1.1397E+10
1.6400	0.1864	-3.4865E+05	1.0362E+04	174.73	1.3359E+04	1.1397E+10
2.0500	0.1800	-2.9797E+05	1.0010E+04	180.59	1.2198E+04	1.1397E+10
2.4600	0.1729	-2.4903E+05	9629.3	186.11	1.1077E+04	1.1397E+10
2.8700	0.1653	-2.0199E+05	9222.5	191.26	1.0000E+04	1.1397E+10
3.2800	0.1573	-1.5698E+05	8791.2	196.04	8969.3	1.1397E+10
3.6900	0.1489	-1.1412E+05	8337.5	200.42	7987.8	1.1397E+10
4.1000	0.1403	-7.3526E+04	7863.1	204.40	7058.1	1.1397E+10
4.5100	0.1315	-3.5301E+04	7370.2	207.96	6182.7	1.1397E+10
4.9200	0.1227	462.68	6860.9	211.08	5384.9	1.1397E+10
5.3300	0.1139	3.3683E+04	6337.3	213.76	6145.7	1.1397E+10
5.7400	0.1051	6.4288E+04	5801.7	215.97	6846.6	1.1397E+10
6.1500	9.6457E-02	9.2220E+04	5256.4	217.70	7486.2	1.1397E+10
6.5600	8.8023E-02	1.1743E+05	4703.7	218.95	8063.6	1.1397E+10
6.9700	7.9839E-02	1.3989E+05	4146.2	219.68	8577.9	1.1397E+10
7.3800	7.1952E-02	1.5957E+05	3586.3	219.90	9028.6	1.1397E+10
7.7900	6.4404E-02	1.7646E+05	3026.7	219.59	9415.5	1.1397E+10
8.2000	5.7230E-02	1.9058E+05	2470.0	218.72	9738.7	1.1397E+10
8.6100	5.0462E-02	2.0193E+05	1918.9	217.29	9998.7	1.1397E+10
9.0200	4.4122E-02	2.1055E+05	1376.3	215.28	1.0196E+04	1.1397E+10
9.4300	3.8230E-02	2.1649E+05	845.07	212.68	1.0332E+04	

1.1397E+10
9.8400 3.2797E-02 2.1981E+05 328.12 209.46 1.0408E+04
1.1397E+10
10.250 2.7831E-02 2.2059E+05 -171.46 205.62 1.0426E+04
1.1397E+10
10.660 2.3334E-02 2.1891E+05 -650.51 201.12 1.0388E+04
1.1397E+10
11.070 1.9301E-02 2.1490E+05 -1105.8 195.96 1.0296E+04
1.1397E+10
11.480 1.5726E-02 2.0867E+05 -1534.0 190.10 1.0153E+04
1.1397E+10
11.890 1.2593E-02 2.0036E+05 -1931.6 183.53 9962.7
1.1397E+10
12.300 9.8857E-03 1.9014E+05 -2295.1 176.22 9728.8
1.1397E+10
12.710 7.5824E-03 1.7820E+05 -2620.6 168.12 9455.1
1.1397E+10
13.120 5.6576E-03 1.6471E+05 -2904.3 159.20 9146.3
1.1397E+10
13.530 4.0826E-03 1.4991E+05 -3142.0 149.41 8807.3
1.1397E+10
13.940 2.8260E-03 1.3403E+05 -3329.2 138.69 8443.7
1.1397E+10
14.350 1.8541E-03 1.1733E+05 -3461.1 126.92 8061.3
1.1397E+10
14.760 1.1313E-03 1.0011E+05 -3532.1 113.96 7667.0
1.1397E+10
15.170 6.2122E-04 8.2681E+04 -3535.8 99.544 7267.8
1.1397E+10
15.580 2.8673E-04 6.5391E+04 -3463.6 83.119 6871.8
1.1397E+10
15.990 9.1126E-05 4.8643E+04 -3301.1 62.822 6488.3
1.1397E+10
16.400 -1.1659E-06 3.2931E+04 -2839.2 -38.609 6128.5
1.1397E+10
16.810 -2.3514E-05 2.0715E+04 -2109.6 -45.957 5848.7
1.1397E+10
17.220 -1.8660E-06 1.2173E+04 -1405.9 -28.099 5653.1
1.1397E+10
17.630 4.5636E-05 6874.7 -946.90 53.504 5531.7
1.1397E+10
18.040 1.0774E-04 2846.2 -720.58 66.496 5439.5
1.1397E+10
18.450 1.7589E-04 -226.64 -547.57 75.173 5379.5
1.1397E+10
18.860 2.4356E-04 -2553.2 -411.47 81.504 5432.8
1.1397E+10
19.270 3.0580E-04 -4286.3 -302.52 86.209 5472.5
1.1397E+10
19.680 3.5894E-04 -5539.6 -213.61 89.650 5501.2
1.1397E+10

20.090	4.0032E-04	-6396.2	-139.03	92.032	5520.8	1.1397E+10
20.500	4.2811E-04	-6913.4	-73.863	93.477	5532.6	1.1397E+10
20.910	4.4121E-04	-7126.4	-13.665	94.052	5537.5	1.1397E+10
21.320	4.3918E-04	-7048.8	45.786	93.781	5535.7	1.1397E+10
21.730	4.2218E-04	-6674.3	108.68	92.653	5527.2	1.1397E+10
22.140	3.9101E-04	-5975.4	179.35	90.619	5511.2	1.1397E+10
22.550	3.4714E-04	-4903.2	262.48	87.587	5486.6	1.1397E+10
22.960	2.9286E-04	-3384.4	363.36	83.406	5451.8	1.1397E+10
23.370	2.3139E-04	-1318.1	488.20	77.844	5404.5	1.1397E+10
23.780	1.6712E-04	1430.0	644.70	70.539	5407.1	1.1397E+10
24.190	1.0589E-04	5036.2	582.00	60.948	5489.6	1.1397E+10
24.600	5.5351E-05	7166.2	320.62	45.304	5538.4	1.1397E+10
25.010	2.0035E-05	8198.3	-148.97	145.59	5562.1	1.1397E+10
25.420	2.1323E-06	5704.7	-554.80	19.380	5505.0	1.1397E+10
25.830	-3.6542E-06	2741.0	-504.39	-39.872	5437.1	1.1397E+10
26.240	-3.6190E-06	742.02	-292.94	-46.082	5391.3	1.1397E+10
26.650	-2.0078E-06	-141.65	-107.69	-29.224	5377.6	1.1397E+10
27.060	-6.9740E-07	-317.89	-7.6999	-11.422	5381.6	1.1397E+10
27.470	-6.2191E-08	-217.58	23.182	-1.1319	5379.3	1.1397E+10
27.880	1.1088E-07	-89.841	20.505	2.2202	5376.4	1.1397E+10
28.290	9.3145E-08	-15.826	10.038	2.0347	5374.7	1.1397E+10
28.700	4.1792E-08	8.9385	2.5995	0.9891	5374.5	1.1397E+10
29.110	9.4237E-09	9.7594	-0.4133	0.2356	5374.5	1.1397E+10
29.520	-2.2165E-09	4.8757	-0.8565	-5.5413E-02	5374.4	1.1397E+10
29.930	-3.5011E-09	1.3325	-0.5049	-8.7527E-02	5374.3	1.1397E+10
30.340	-1.9555E-09	-9.2198E-02	-0.1693	-4.8888E-02	5374.3	

1.1397E+10
30.750 -6.0576E-10 -0.3335 -1.1767E-02 -1.5144E-02 5374.3
1.1397E+10
31.160 3.5678E-11 -0.2082 2.3293E-02 8.9194E-04 5374.3
1.1397E+10
31.570 2.3502E-10 -0.1044 1.8028E-02 1.2482E-03 5374.3
1.1397E+10
31.980 2.1270E-10 -3.0767E-02 1.1225E-02 1.5173E-03 5374.3
1.1397E+10
32.390 1.2504E-10 6.1041E-03 4.7378E-03 1.1198E-03 5374.3
1.1397E+10
32.800 5.0347E-11 1.5867E-02 6.4818E-04 5.4263E-04 5374.3
1.1397E+10
33.210 9.3518E-12 1.2492E-02 -9.7657E-04 1.1783E-04 5374.3
1.1397E+10
33.620 -5.1121E-12 6.2622E-03 -1.0851E-03 -7.3728E-05 5374.3
1.1397E+10
34.030 -6.2757E-12 1.8161E-03 -6.5291E-04 -1.0195E-04 5374.3
1.1397E+10
34.440 -3.5821E-12 -1.6262E-04 -2.4292E-04 -6.4717E-05 5374.3
1.1397E+10
34.850 -1.2339E-12 -5.7471E-04 -2.3346E-05 -2.4541E-05 5374.3
1.1397E+10
35.260 -1.0637E-13 -3.9263E-04 4.2707E-05 -2.3094E-06 5374.3
1.1397E+10
35.670 1.8726E-13 -1.5459E-04 3.7547E-05 4.4070E-06 5374.3
1.1397E+10
36.080 1.5256E-13 -2.3193E-05 1.7323E-05 3.8140E-06 5374.3
1.1397E+10
36.490 6.8598E-14 1.5883E-05 3.7220E-06 1.7150E-06 5374.3
1.1397E+10
36.900 1.8368E-14 1.3443E-05 -8.0305E-07 1.2449E-07 5374.3
1.1397E+10
37.310 -3.3110E-15 7.9865E-06 -1.0393E-06 -2.8475E-08 5374.3
1.1397E+10
37.720 -8.0274E-15 3.2184E-06 -7.6340E-07 -8.3663E-08 5374.3
1.1397E+10
38.130 -5.9082E-15 4.7483E-07 -3.7963E-07 -7.2343E-08 5374.3
1.1397E+10
38.540 -2.7805E-15 -5.1763E-07 -1.0545E-07 -3.9112E-08 5374.3
1.1397E+10
38.950 -7.5219E-16 -5.6323E-07 2.0166E-08 -1.1951E-08 5374.3
1.1397E+10
39.360 7.9842E-17 -3.1943E-07 4.6088E-08 1.4141E-09 5374.3
1.1397E+10
39.770 2.3342E-16 -1.0981E-07 3.1393E-08 4.5595E-09 5374.3
1.1397E+10
40.180 1.5377E-16 -1.0532E-08 1.2098E-08 3.2839E-09 5374.3
1.1397E+10
40.590 5.1757E-17 9.2538E-09 1.0688E-09 1.1996E-09 5374.3
1.1397E+10

```
      41.000 -3.0606E-17  1.1607E-23  1.9034E-24 -7.6514E-10      5374.3
1.1397E+10


      * PILE GROUP *     3


       * PILE TOP DISPLACEMENTS AND REACTIONS *


      THE GLOBAL STRUCTURAL COORDINATE SYSTEM
      ---------------------------------------

       DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

         0.014069      0.2036 -4.4707E-04  3.4849E+04      8954.0  4.7992E+05
 1.3239E+04


      THE PILE COORDINATE SYSTEM (LOCAL AXES)
      ---------------------------------------

       DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

         0.014069      0.2036 -4.4707E-04  3.4849E+04      8954.0  4.7992E+05
 1.3239E+04


       * EFFECTS FOR LATERALLY LOADED PILE *


       x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
      FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
      0.0000      0.2036 -4.7992E+05      8954.0      126.19  1.3239E+04
1.1397E+10
      0.4100      0.2009 -4.3602E+05      8839.8      132.24  1.2233E+04
1.1397E+10
      0.8200      0.1973 -3.9272E+05      8696.3      138.08  1.1242E+04
1.1397E+10
      1.2300      0.1928 -3.5016E+05      8524.6      143.70  1.0267E+04
1.1397E+10
      1.6400      0.1876 -3.0850E+05      8325.9      149.08      9313.1
1.1397E+10
```

2.0500	0.1817	-2.6785E+05	8101.3	154.22	8382.3	1.1397E+10
2.4600	0.1753	-2.2835E+05	7852.1	159.09	7477.7	1.1397E+10
2.8700	0.1684	-1.9012E+05	7579.6	163.68	6602.2	1.1397E+10
3.2800	0.1611	-1.5327E+05	7285.2	168.00	5758.3	1.1397E+10
3.6900	0.1534	-1.1791E+05	6970.3	172.01	4948.6	1.1397E+10
4.1000	0.1455	-8.4141E+04	6636.4	175.72	4175.2	1.1397E+10
4.5100	0.1374	-5.2052E+04	6285.0	179.11	3440.3	1.1397E+10
4.9200	0.1292	-2.1729E+04	5917.7	182.17	2745.9	1.1397E+10
5.3300	0.1210	6751.2	5536.3	184.89	2402.9	1.1397E+10
5.7400	0.1128	3.3321E+04	5142.3	187.26	3011.4	1.1397E+10
6.1500	0.1046	5.7922E+04	4737.5	189.27	3574.8	1.1397E+10
6.5600	9.6596E-02	8.0503E+04	4323.8	190.91	4091.9	1.1397E+10
6.9700	8.8738E-02	1.0102E+05	3903.0	192.17	4561.8	1.1397E+10
7.3800	8.1094E-02	1.1945E+05	3476.9	193.03	4983.8	1.1397E+10
7.7900	7.3704E-02	1.3576E+05	3047.6	193.49	5357.3	1.1397E+10
8.2000	6.6602E-02	1.4994E+05	2617.0	193.54	5682.1	1.1397E+10
8.6100	5.9819E-02	1.6199E+05	2187.2	193.17	5958.1	1.1397E+10
9.0200	5.3380E-02	1.7192E+05	1760.3	192.37	6185.5	1.1397E+10
9.4300	4.7306E-02	1.7975E+05	1338.4	191.12	6364.7	1.1397E+10
9.8400	4.1614E-02	1.8550E+05	923.76	189.42	6496.5	1.1397E+10
10.250	3.6315E-02	1.8922E+05	518.65	187.26	6581.7	1.1397E+10
10.660	3.1419E-02	1.9096E+05	125.36	184.62	6621.5	1.1397E+10
11.070	2.6928E-02	1.9078E+05	-253.74	181.49	6617.4	1.1397E+10
11.480	2.2843E-02	1.8876E+05	-616.22	177.86	6571.2	1.1397E+10
11.890	1.9158E-02	1.8499E+05	-959.59	173.72	6484.8	1.1397E+10
12.300	1.5866E-02	1.7957E+05	-1281.3	169.05	6360.5	

1.1397E+10
12.710 1.2956E-02 1.7260E+05 -1578.7 163.84 6201.0
1.1397E+10
13.120 1.0412E-02 1.6422E+05 -1849.0 158.07 6009.1
1.1397E+10
13.530 8.2175E-03 1.5457E+05 -2089.6 151.71 5788.1
1.1397E+10
13.940 6.3508E-03 1.4380E+05 -2297.4 144.75 5541.5
1.1397E+10
14.350 4.7896E-03 1.3208E+05 -2469.3 137.15 5273.1
1.1397E+10
14.760 3.5089E-03 1.1960E+05 -2602.2 128.88 4987.3
1.1397E+10
15.170 2.4823E-03 1.0656E+05 -2692.7 119.88 4688.6
1.1397E+10
15.580 1.6819E-03 9.3170E+04 -2736.8 110.07 4382.0
1.1397E+10
15.990 1.0795E-03 7.9677E+04 -2729.9 99.113 4073.0
1.1397E+10
16.400 6.4625E-04 6.6344E+04 -2663.5 85.914 3767.6
1.1397E+10
16.810 3.5393E-04 5.3493E+04 -2530.4 71.968 3473.3
1.1397E+10
17.220 1.7523E-04 4.1461E+04 -2327.0 57.351 3197.8
1.1397E+10
17.630 8.4593E-05 3.0604E+04 -2054.4 43.811 2949.2
1.1397E+10
18.040 5.8955E-05 2.1250E+04 -1734.6 38.203 2735.0
1.1397E+10
18.450 7.8450E-05 1.3536E+04 -1415.9 44.262 2558.3
1.1397E+10
18.860 1.2670E-04 7315.2 -1135.5 53.760 2415.8
1.1397E+10
19.270 1.9048E-04 2358.3 -898.68 61.954 2302.3
1.1397E+10
19.680 2.5927E-04 -1532.5 -697.63 68.318 2283.4
1.1397E+10
20.090 3.2480E-04 -4511.1 -524.03 73.113 2351.6
1.1397E+10
20.500 3.8076E-04 -6693.2 -370.81 76.599 2401.6
1.1397E+10
20.910 4.2250E-04 -8163.2 -231.95 78.957 2435.3
1.1397E+10
21.320 4.4690E-04 -8978.0 -102.21 80.300 2453.9
1.1397E+10
21.730 4.5223E-04 -9169.9 23.279 80.690 2458.3
1.1397E+10
22.140 4.3809E-04 -8748.6 149.13 80.151 2448.7
1.1397E+10
22.550 4.0536E-04 -7700.9 279.95 78.671 2424.7
1.1397E+10

```
       22.960  3.5628E-04     -5991.0      420.49      76.201      2385.5
1.1397E+10
       23.370  2.9447E-04     -3559.4      575.82      72.656      2329.8
1.1397E+10
       23.780  2.2511E-04     -320.41      751.55      67.907      2255.6
1.1397E+10
       24.190  1.5506E-04      3840.7      693.22      61.803      2336.3
1.1397E+10
       24.600  9.3171E-05      6505.5      416.44      50.709      2397.3
1.1397E+10
       25.010  4.5099E-05      7942.3      151.57      56.963      2430.2
1.1397E+10
       25.420  1.3896E-05      7999.7     -299.25      126.30      2431.5
1.1397E+10
       25.830 -3.1649E-07      4999.3     -601.44     -3.4533      2362.8
1.1397E+10
       26.240 -3.9106E-06      2082.1     -470.45     -49.795      2296.0
1.1397E+10
       26.650 -3.0824E-06      370.12     -237.59     -44.866      2256.8
1.1397E+10
       27.060 -1.4681E-06     -255.85     -68.068     -24.045      2254.2
1.1397E+10
       27.470 -3.9726E-07     -299.76      8.8686     -7.2302      2255.2
1.1397E+10
       27.880  3.6938E-08     -168.63      24.836      0.7396      2252.2
1.1397E+10
       28.290  1.1297E-07     -55.397      16.945      2.4678      2249.6
1.1397E+10
       28.700  7.1348E-08     -1.8934      6.7206      1.6886      2248.4
1.1397E+10
       29.110  2.5702E-08      10.736      0.9860      0.6425      2248.6
1.1397E+10
       29.520  2.8587E-09      7.8116     -0.7704  7.1468E-02      2248.5
1.1397E+10
       29.930 -3.3932E-09      3.1563     -0.7376 -8.4829E-02      2248.4
1.1397E+10
       30.340 -2.9414E-09      0.5541     -0.3480 -7.3534E-02      2248.3
1.1397E+10
       30.750 -1.3127E-09     -0.2680 -8.6366E-02 -3.2817E-02      2248.3
1.1397E+10
       31.160 -2.5328E-10     -0.2958  9.9398E-03 -6.3320E-03      2248.3
1.1397E+10
       31.570  1.7782E-10     -0.1703  2.3193E-02  9.4444E-04      2248.3
1.1397E+10
       31.980  2.4724E-10 -6.7612E-02  1.6531E-02  1.7637E-03      2248.3
1.1397E+10
       32.390  1.7306E-10 -7.6218E-03  8.3800E-03  1.5499E-03      2248.3
1.1397E+10
       32.800  8.2690E-11  1.4853E-02  2.3750E-03  8.9121E-04      2248.3
1.1397E+10
       33.210  2.3865E-11  1.5753E-02 -5.5712E-04  3.0070E-04      2248.3
```

```
1.1397E+10
       33.620 -1.5009E-12  9.3737E-03 -1.2436E-03 -2.1646E-05      2248.3
1.1397E+10
       34.030 -6.9578E-12  3.5174E-03 -9.1229E-04 -1.1303E-04      2248.3
1.1397E+10
       34.440 -4.9439E-12  3.9684E-04 -4.1453E-04 -8.9319E-05      2248.3
1.1397E+10
       34.850 -2.0871E-12 -5.6168E-04 -9.2686E-05 -4.1510E-05      2248.3
1.1397E+10
       35.260 -4.2333E-13 -5.1535E-04  3.2040E-05 -9.1910E-06      2248.3
1.1397E+10
       35.670  1.4589E-13 -2.4649E-04  4.6204E-05  3.4333E-06      2248.3
1.1397E+10
       36.080  1.9159E-13 -6.0725E-05  2.5975E-05  4.7897E-06      2248.3
1.1397E+10
       36.490  1.0831E-13  9.1043E-06  7.5313E-06  2.7077E-06      2248.3
1.1397E+10
       36.900  4.4368E-14  1.3388E-05  1.3049E-07  3.0071E-07      2248.3
1.1397E+10
       37.310  8.8613E-15  1.0392E-05 -7.9673E-07  7.6207E-08      2248.3
1.1397E+10
       37.720 -4.5734E-15  5.5500E-06 -8.6695E-07 -4.7665E-08      2248.3
1.1397E+10
       38.130 -6.2203E-15  1.8616E-06 -5.6233E-07 -7.6164E-08      2248.3
1.1397E+10
       38.540 -3.9132E-15  1.6730E-08 -2.3955E-07 -5.5045E-08      2248.3
1.1397E+10
       38.950 -1.5705E-15 -4.9572E-07 -4.2753E-08 -2.4954E-08      2248.3
1.1397E+10
       39.360 -2.8076E-16 -4.0409E-07  3.0866E-08 -4.9725E-09      2248.3
1.1397E+10
       39.770  1.5076E-16 -1.9206E-07  3.5854E-08  2.9449E-09      2248.3
1.1397E+10
       40.180  1.7437E-16 -5.1300E-08  1.9449E-08  3.7238E-09      2248.3
1.1397E+10
       40.590  8.9020E-17 -6.7763E-10  5.2128E-09  2.0633E-09      2248.3
1.1397E+10
       41.000  2.2295E-18      0.0000  1.7291E-24  5.5738E-11      2248.3
1.1397E+10



     LOAD CASE :     7
     CASE NAME : Service I, Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR
```

```
              1           1.0000       1.0000
              2           1.0000       1.0000
              3           1.0000       1.0000


     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                2.18560E+06       2.67700E+05      -2.88953E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                  0.0533732         0.0954562      -4.52898E-04


          NUMBER OF ITERATIONS =   6


     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE

       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.075112    0.095456 -4.5290E-04  1.5250E+05  2.6261E+04  7.0038E+05
 2.5878E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

```
          0.075112    0.095456 -4.5290E-04  1.5250E+05  2.6261E+04  7.0038E+05
 2.5878E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000  9.5456E-02 -7.0038E+05  2.6261E+04      376.80  2.5878E+04
1.1397E+10
       0.4100  9.2484E-02 -5.7444E+05  2.4712E+04      393.07  2.2994E+04
1.1397E+10
       0.8200  8.8292E-02 -4.5613E+05  2.3087E+04      407.55  2.0285E+04
1.1397E+10
       1.2300  8.3131E-02 -3.4584E+05  2.1395E+04      420.17  1.7759E+04
1.1397E+10
       1.6400  7.7236E-02 -2.4392E+05  1.9646E+04      430.88  1.5425E+04
1.1397E+10
       2.0500  7.0822E-02 -1.5065E+05  1.7849E+04      439.61  1.3289E+04
1.1397E+10
       2.4600  6.4089E-02 -6.6280E+04  1.6014E+04      446.27  1.1357E+04
1.1397E+10
       2.8700  5.7215E-02      9001.8  1.4151E+04      450.78  1.0045E+04
1.1397E+10
       3.2800  5.0359E-02  7.5064E+04  1.2272E+04      453.06  1.1558E+04
1.1397E+10
       3.6900  4.3664E-02  1.3183E+05  1.0388E+04      453.02  1.2858E+04
1.1397E+10
       4.1000  3.7248E-02  1.7928E+05      8509.4      450.56  1.3944E+04
1.1397E+10
       4.5100  3.1213E-02  2.1746E+05      6649.3      445.57  1.4819E+04
1.1397E+10
       4.9200  2.5640E-02  2.4648E+05      4820.3      437.92  1.5483E+04
1.1397E+10
       5.3300  2.0591E-02  2.6651E+05      3035.8      427.49  1.5942E+04
1.1397E+10
       5.7400  1.6107E-02  2.7780E+05      1309.9      414.10  1.6201E+04
1.1397E+10
       6.1500  1.2214E-02  2.8068E+05     -342.35      397.55  1.6267E+04
1.1397E+10
       6.5600  8.9164E-03  2.7553E+05     -1904.8      377.59  1.6149E+04
1.1397E+10
       6.9700  6.2043E-03  2.6285E+05     -3359.7      353.84  1.5858E+04
1.1397E+10
```

```
       7.3800  4.0505E-03  2.4322E+05     -4687.0      325.73  1.5409E+04
1.1397E+10
       7.7900  2.4133E-03  2.1731E+05     -5862.8      292.23  1.4815E+04
1.1397E+10
       8.2000  1.2376E-03  1.8595E+05     -6854.8      251.00  1.4097E+04
1.1397E+10
       8.6100  4.5683E-04  1.5016E+05     -7605.9      194.32  1.3278E+04
1.1397E+10
       9.0200 -4.9921E-06  1.1130E+05     -7688.6     -20.697  1.2388E+04
1.1397E+10
       9.4300 -2.3041E-04  7.4606E+04     -6807.1     -197.61  1.1547E+04
1.1397E+10
       9.8400 -2.9737E-04  4.4364E+04     -5464.1     -208.32  1.0855E+04
1.1397E+10
       10.250 -2.7011E-04  2.0845E+04     -4101.3     -205.70  1.0316E+04
1.1397E+10
       10.660 -1.9857E-04      3992.9     -2775.3     -193.32      9930.3
1.1397E+10
       11.070 -1.1855E-04     -6486.6     -1532.0     -172.08      9987.4
1.1397E+10
       11.480 -5.2308E-05 -1.1104E+04     -419.14     -140.30  1.0093E+04
1.1397E+10
       11.890 -9.6503E-06 -1.0628E+04      475.54     -83.390  1.0082E+04
1.1397E+10
       12.300  1.0435E-05     -6434.4      749.52      112.02      9986.2
1.1397E+10
       12.710  1.6855E-05     -3256.2      534.15      115.53      9913.4
1.1397E+10
       13.120  1.6359E-05     -1179.2      325.54      109.27      9865.9
1.1397E+10
       13.530  1.3358E-05     -52.407      159.42      98.258      9840.1
1.1397E+10
       13.940  1.0245E-05      390.40      49.611      86.380      9847.8
1.1397E+10
       14.350  7.9622E-06      436.59     -7.0969      76.672      9848.9
1.1397E+10
       14.760  6.6064E-06      321.12     -25.313      70.732      9846.2
1.1397E+10
       15.170  5.9326E-06      187.83     -23.052      68.349      9843.2
1.1397E+10
       15.580  5.6578E-06      94.434     -14.727      68.267      9841.0
1.1397E+10
       15.990  5.5835E-06      42.970     -8.2737      69.110      9839.8
1.1397E+10
       16.400  5.6005E-06      13.029     -4.4772      69.346      9839.2
1.1397E+10
       16.810  5.6452E-06     -1.0955     -1.9420      69.623      9838.9
1.1397E+10
       17.220  5.6875E-06     -6.0934     -0.5750      69.821      9839.0
1.1397E+10
       17.630  5.7169E-06     -6.7644  2.5653E-02      69.935      9839.0
```

1.1397E+10
18.040 5.7319E-06 -5.8478 0.2153 69.988 9839.0
1.1397E+10
18.450 5.7345E-06 -4.6487 0.2207 70.009 9839.0
1.1397E+10
18.860 5.7273E-06 -3.6750 0.1585 70.016 9838.9
1.1397E+10
19.270 5.7122E-06 -3.0853 6.9911E-02 70.020 9838.9
1.1397E+10
19.680 5.6906E-06 -2.9815 -5.7376E-02 70.032 9838.9
1.1397E+10
20.090 5.6626E-06 -3.6423 -0.2859 70.061 9838.9
1.1397E+10
20.500 5.6269E-06 -5.7848 -0.7382 70.123 9839.0
1.1397E+10
20.910 5.5789E-06 -10.894 -1.6030 70.229 9839.1
1.1397E+10
21.320 5.5078E-06 -21.541 -3.1020 70.380 9839.3
1.1397E+10
21.730 5.3910E-06 -41.389 -5.3543 70.535 9839.8
1.1397E+10
22.140 5.1862E-06 -74.178 -8.0358 70.555 9840.6
1.1397E+10
22.550 4.8239E-06 -120.37 -9.6801 70.114 9841.6
1.1397E+10
22.960 4.2059E-06 -169.28 -6.3763 68.543 9842.7
1.1397E+10
23.370 3.2283E-06 -182.87 10.707 64.512 9843.0
1.1397E+10
23.780 1.8624E-06 -63.564 61.170 54.975 9840.3
1.1397E+10
24.190 3.6145E-07 419.48 30.926 27.320 9848.5
1.1397E+10
24.600 -2.4856E-07 241.07 -32.952 -1.3533 9844.4
1.1397E+10
25.010 -3.4656E-07 95.339 -23.428 -2.5183 9841.0
1.1397E+10
25.420 -2.4206E-07 10.539 -11.820 -2.2001 9839.1
1.1397E+10
25.830 -1.1518E-07 -21.010 -3.3166 -1.2568 9839.3
1.1397E+10
26.240 -3.2928E-08 -22.129 0.8065 -0.4193 9839.4
1.1397E+10
26.650 2.3258E-09 -13.092 1.7547 3.3854E-02 9839.2
1.1397E+10
27.060 9.7741E-09 -4.8698 1.2776 0.1601 9839.0
1.1397E+10
27.470 6.8794E-09 -0.5211 0.5758 0.1252 9838.9
1.1397E+10
27.880 2.8779E-09 0.7970 0.1260 5.7621E-02 9838.9
1.1397E+10

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       28.290  5.6897E-10      0.7200 -4.6295E-02  1.2429E-02      9838.9
1.1397E+10
       28.700 -2.1077E-10      0.3419 -6.4599E-02 -4.9883E-03      9838.9
1.1397E+10
       29.110 -2.6438E-10  8.4438E-02 -3.6068E-02 -6.6095E-03      9838.9
1.1397E+10
       29.520 -1.3865E-10 -1.3039E-02 -1.1281E-02 -3.4663E-03      9838.9
1.1397E+10
       29.930 -4.0614E-11 -2.6606E-02 -2.5663E-04 -1.0154E-03      9838.9
1.1397E+10
       30.340  9.1416E-13 -1.5585E-02  2.1849E-03  2.2854E-05      9838.9
1.1397E+10
       30.750  9.3405E-12 -5.1134E-03  1.5543E-03  2.3351E-04      9838.9
1.1397E+10
       31.160  6.9065E-12 -2.9224E-04  5.5508E-04  1.7266E-04      9838.9
1.1397E+10
       31.570  3.8518E-12  3.4943E-04  8.0000E-05  2.0457E-05      9838.9
1.1397E+10
       31.980  1.5393E-12  4.9578E-04  2.6638E-06  1.0980E-05      9838.9
1.1397E+10
       32.390  2.7974E-13  3.7619E-04 -3.0510E-05  2.5052E-06      9838.9
1.1397E+10
       32.800 -1.8080E-13  1.9583E-04 -3.1879E-05 -1.9487E-06      9838.9
1.1397E+10
       33.210 -2.2542E-13  6.2574E-05 -2.0098E-05 -2.8403E-06      9838.9
1.1397E+10
       33.620 -1.3714E-13 -1.9452E-06 -8.2455E-06 -1.9778E-06      9838.9
1.1397E+10
       34.030 -5.2983E-14 -1.8588E-05 -1.2628E-06 -8.6069E-07      9838.9
1.1397E+10
       34.440 -8.3091E-15 -1.4391E-05  1.2238E-06 -1.5012E-07      9838.9
1.1397E+10
       34.850  5.8008E-15 -6.5546E-06  1.3093E-06  1.1537E-07      9838.9
1.1397E+10
       35.260  5.9893E-15 -1.5093E-06  7.0560E-07  1.3003E-07      9838.9
1.1397E+10
       35.670  2.9722E-15  3.8892E-07  2.1365E-07  6.9946E-08      9838.9
1.1397E+10
       36.080  7.8118E-16  5.9384E-07 -6.4613E-09  1.9530E-08      9838.9
1.1397E+10
       36.490 -1.4856E-16  3.2582E-07 -4.5367E-08 -3.7141E-09      9838.9
1.1397E+10
       36.900 -3.8629E-16  1.4760E-07 -2.9790E-08 -2.6182E-09      9838.9
1.1397E+10
       37.310 -3.1051E-16  3.2714E-08 -1.6780E-08 -2.6704E-09      9838.9
1.1397E+10
       37.720 -1.6526E-16 -1.7544E-08 -5.9737E-09 -1.7224E-09      9838.9
1.1397E+10
       38.130 -5.7264E-17 -2.6105E-08 -1.1791E-11 -7.0117E-10      9838.9
1.1397E+10
       38.540 -4.7172E-18 -1.7685E-08  1.8763E-09 -6.6355E-11      9838.9
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1.1397E+10
       38.950  1.0269E-17 -7.6527E-09  1.6382E-09  1.6316E-10      9838.9
1.1397E+10
       39.360  9.0004E-18 -1.5673E-09  8.4469E-10  1.5941E-10      9838.9
1.1397E+10
       39.770  4.4036E-18  6.5996E-10  2.4094E-10  8.6017E-11      9838.9
1.1397E+10
       40.180  1.2085E-18  8.0481E-10 -3.4146E-11  2.5808E-11      9838.9
1.1397E+10
       40.590 -2.7727E-19  3.2468E-10 -8.1825E-11 -6.4264E-12      9838.9
1.1397E+10
       41.000 -1.0734E-18      0.0000  1.9090E-26 -2.6836E-11      9838.9
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.053373    0.095456 -4.5290E-04  1.1715E+05      8225.9  3.0217E+05
 1.4478E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.053373    0.095456 -4.5290E-04  1.1715E+05      8225.9  3.0217E+05
 1.4478E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
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****

0.0000	9.5456E-02	-3.0217E+05	8225.9	122.57	1.4478E+04
1.1397E+10					
0.4100	9.2907E-02	-2.6203E+05	7953.8	128.01	1.3559E+04
1.1397E+10					
0.8200	8.9801E-02	-2.2324E+05	7655.8	133.14	1.2670E+04
1.1397E+10					
1.2300	8.6221E-02	-1.8592E+05	7333.3	137.94	1.1816E+04
1.1397E+10					
1.6400	8.2247E-02	-1.5019E+05	6988.1	142.40	1.0998E+04
1.1397E+10					
2.0500	7.7953E-02	-1.1618E+05	6621.8	146.50	1.0219E+04
1.1397E+10					
2.4600	7.3413E-02	-8.3999E+04	6236.3	150.22	9481.7
1.1397E+10					
2.8700	6.8694E-02	-5.3735E+04	5833.4	153.55	8788.6
1.1397E+10					
3.2800	6.3861E-02	-2.5480E+04	5415.2	156.47	8141.5
1.1397E+10					
3.6900	5.8974E-02	689.21	4983.6	158.96	7573.8
1.1397E+10					
4.1000	5.4088E-02	2.4704E+04	4540.9	161.02	8123.8
1.1397E+10					
4.5100	4.9255E-02	4.6510E+04	4089.1	162.63	8623.1
1.1397E+10					
4.9200	4.4520E-02	6.6062E+04	3630.6	163.76	9070.9
1.1397E+10					
5.3300	3.9926E-02	8.3328E+04	3167.7	164.41	9466.3
1.1397E+10					
5.7400	3.5509E-02	9.8288E+04	2702.9	164.55	9808.9
1.1397E+10					
6.1500	3.1301E-02	1.1093E+05	2238.6	164.18	1.0099E+04
1.1397E+10					
6.5600	2.7328E-02	1.2127E+05	1777.4	163.27	1.0335E+04
1.1397E+10					
6.9700	2.3613E-02	1.2932E+05	1322.1	161.81	1.0520E+04
1.1397E+10					
7.3800	2.0173E-02	1.3512E+05	875.38	159.78	1.0652E+04
1.1397E+10					
7.7900	1.7019E-02	1.3871E+05	440.10	157.16	1.0735E+04
1.1397E+10					
8.2000	1.4160E-02	1.4016E+05	19.210	153.93	1.0768E+04
1.1397E+10					
8.6100	1.1599E-02	1.3954E+05	-384.22	150.06	1.0753E+04
1.1397E+10					
9.0200	9.3341E-03	1.3694E+05	-767.01	145.54	1.0694E+04
1.1397E+10					
9.4300	7.3601E-03	1.3248E+05	-1125.9	140.33	1.0592E+04
1.1397E+10					
9.8400	5.6675E-03	1.2629E+05	-1457.3	134.40	1.0450E+04
1.1397E+10					

10.250	4.2432E-03	1.1851E+05	-1757.7	127.72	1.0272E+04	1.1397E+10
10.660	3.0705E-03	1.0930E+05	-2023.3	120.23	1.0061E+04	1.1397E+10
11.070	2.1300E-03	9.8848E+04	-2249.8	111.87	9821.7	1.1397E+10
11.480	1.3995E-03	8.7358E+04	-2432.9	102.56	9558.6	1.1397E+10
11.890	8.5444E-04	7.5058E+04	-2567.5	92.147	9276.9	1.1397E+10
12.300	4.6884E-04	6.2203E+04	-2647.5	80.397	8982.5	1.1397E+10
12.710	2.1535E-04	4.9081E+04	-2665.1	66.735	8682.0	1.1397E+10
13.120	6.6104E-05	3.6026E+04	-2605.7	49.123	8383.1	1.1397E+10
13.530	-6.6241E-06	2.3467E+04	-2272.3	-44.640	8095.4	1.1397E+10
13.940	-2.9510E-05	1.3677E+04	-1705.4	-45.800	7871.3	1.1397E+10
14.350	-2.3346E-05	6687.4	-1141.2	-43.560	7711.2	1.1397E+10
14.760	-2.9791E-06	2444.6	-607.66	-33.329	7614.0	1.1397E+10
15.170	2.2580E-05	702.56	-283.56	41.580	7574.1	1.1397E+10
15.580	4.9632E-05	-351.76	-169.28	51.966	7566.1	1.1397E+10
15.990	7.5936E-05	-969.45	-96.697	58.527	7580.2	1.1397E+10
16.400	1.0018E-04	-1309.2	-49.929	62.462	7588.0	1.1397E+10
16.810	1.2165E-04	-1466.1	-19.733	65.263	7591.6	1.1397E+10
17.220	1.4000E-04	-1508.0	-1.4038	67.286	7592.6	1.1397E+10
17.630	1.5515E-04	-1483.8	8.3721	68.740	7592.0	1.1397E+10
18.040	1.6714E-04	-1428.8	12.055	69.763	7590.8	1.1397E+10
18.450	1.7610E-04	-1367.7	11.545	70.445	7589.4	1.1397E+10
18.860	1.8216E-04	-1317.0	8.3685	70.847	7588.2	1.1397E+10
19.270	1.8542E-04	-1286.4	3.8085	71.007	7587.5	1.1397E+10
19.680	1.8595E-04	-1279.9	-0.9909	70.944	7587.3	1.1397E+10
20.090	1.8376E-04	-1296.0	-4.9368	70.660	7587.7	1.1397E+10
20.500	1.7881E-04	-1327.7	-6.9073	70.141	7588.4	

1.1397E+10
20.910 1.7105E-04 -1362.5 -5.6748 69.358 7589.2
1.1397E+10
21.320 1.6039E-04 -1381.4 0.1718 68.265 7589.7
1.1397E+10
21.730 1.4680E-04 -1357.9 12.313 66.799 7589.1
1.1397E+10
22.140 1.3033E-04 -1256.7 32.797 64.874 7586.8
1.1397E+10
22.550 1.1118E-04 -1031.0 64.169 62.373 7581.6
1.1397E+10
22.960 8.9846E-05 -620.53 109.64 59.141 7572.2
1.1397E+10
23.370 6.7194E-05 53.012 173.37 54.955 7559.3
1.1397E+10
23.780 4.4654E-05 1090.7 260.82 49.497 7583.0
1.1397E+10
24.190 2.4431E-05 2624.5 207.14 42.323 7618.1
1.1397E+10
24.600 9.7824E-06 3133.1 -27.988 53.260 7629.8
1.1397E+10
25.010 1.7880E-06 2351.7 -190.97 12.993 7611.9
1.1397E+10
25.420 -1.2115E-06 1255.3 -195.84 -11.011 7586.8
1.1397E+10
25.830 -1.5450E-06 425.02 -127.29 -16.857 7567.8
1.1397E+10
26.240 -9.7568E-07 2.7324 -55.255 -12.424 7558.1
1.1397E+10
26.650 -4.0059E-07 -118.83 -10.350 -5.8308 7560.8
1.1397E+10
27.060 -7.7885E-08 -99.212 7.1323 -1.2756 7560.3
1.1397E+10
27.470 3.4104E-08 -48.696 8.7433 0.6207 7559.2
1.1397E+10
27.880 4.2667E-08 -13.192 5.1149 0.8543 7558.3
1.1397E+10
28.290 2.3211E-08 1.6360 1.7661 0.5070 7558.1
1.1397E+10
28.700 7.2298E-09 4.1902 9.7849E-02 0.1711 7558.1
1.1397E+10
29.110 1.4847E-10 2.6016 -0.3322 3.7118E-03 7558.1
1.1397E+10
29.520 -1.4073E-09 0.9224 -0.2548 -3.5182E-02 7558.1
1.1397E+10
29.930 -1.0039E-09 9.4651E-02 -0.1065 -2.5097E-02 7558.0
1.1397E+10
30.340 -3.9946E-10 -0.1256 -2.0190E-02 -9.9865E-03 7558.0
1.1397E+10
30.750 -6.1848E-11 -0.1041 8.1803E-03 -1.5462E-03 7558.0
1.1397E+10

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       31.160  5.4599E-11 -4.5182E-02  8.6261E-03  1.3650E-03      7558.0
1.1397E+10
       31.570  7.5084E-11 -1.9265E-02  4.2872E-03  3.9878E-04      7558.0
1.1397E+10
       31.980  5.4651E-11 -2.9958E-03  2.3472E-03  3.8985E-04      7558.0
1.1397E+10
       32.390  2.7856E-11  3.8371E-03  7.7448E-04  2.4947E-04      7558.0
1.1397E+10
       32.800  9.2106E-12  4.6304E-03 -8.3416E-05  9.9270E-05      7558.0
1.1397E+10
       33.210  3.9962E-13  3.0195E-03 -3.4001E-04  5.0352E-06      7558.0
1.1397E+10
       33.620 -1.9981E-12  1.2860E-03 -2.8150E-04 -2.8817E-05      7558.0
1.1397E+10
       34.030 -1.6643E-12  2.4978E-04 -1.4411E-04 -2.7036E-05      7558.0
1.1397E+10
       34.440 -8.0007E-13 -1.3210E-04 -4.2038E-05 -1.4455E-05      7558.0
1.1397E+10
       34.850 -2.1638E-13 -1.6405E-04  4.1066E-06 -4.3036E-06      7558.0
1.1397E+10
       35.260  1.8872E-14 -9.1787E-05  1.3685E-05  4.0974E-07      7558.0
1.1397E+10
       35.670  5.9177E-14 -2.9419E-05  9.2516E-06  1.3926E-06      7558.0
1.1397E+10
       36.080  3.6998E-14 -7.5322E-07  3.5504E-06  9.2494E-07      7558.0
1.1397E+10
       36.490  1.3219E-14  5.5230E-06  4.6214E-07  3.3047E-07      7558.0
1.1397E+10
       36.900  1.1705E-15  3.7985E-06 -3.7032E-07  7.9333E-09      7558.0
1.1397E+10
       37.310 -2.8101E-15  1.8809E-06 -3.3039E-07 -2.4167E-08      7558.0
1.1397E+10
       37.720 -2.7957E-15  5.4791E-07 -1.9926E-07 -2.9137E-08      7558.0
1.1397E+10
       38.130 -1.6176E-15 -7.9940E-08 -7.8860E-08 -1.9806E-08      7558.0
1.1397E+10
       38.540 -6.0926E-16 -2.2833E-07 -9.0533E-09 -8.5702E-09      7558.0
1.1397E+10
       38.950 -8.5885E-17 -1.6920E-07  1.5386E-08 -1.3646E-09      7558.0
1.1397E+10
       39.360  7.8111E-17 -7.7006E-08  1.5340E-08  1.3834E-09      7558.0
1.1397E+10
       39.770  7.8552E-17 -1.8276E-08  8.1624E-09  1.5344E-09      7558.0
1.1397E+10
       40.180  4.0176E-17  3.3169E-09  2.2772E-09  8.5798E-10      7558.0
1.1397E+10
       40.590  8.8452E-18  4.1403E-09 -3.3772E-10  2.0501E-10      7558.0
1.1397E+10
       41.000 -1.3692E-17  2.9017E-24  6.8733E-25 -3.4230E-10      7558.0
1.1397E+10
```

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.031634	0.095456	-4.5290E-04	7.4509E+04	6572.7	2.5544E+05	1.0657E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.031634	0.095456	-4.5290E-04	7.4509E+04	6572.7	2.5544E+05	1.0657E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	9.5456E-02	-2.5544E+05	6572.7	104.41	1.0657E+04	1.1397E+10
0.4100	9.2957E-02	-2.2334E+05	6391.9	109.06	9921.6	1.1397E+10
0.8200	8.9983E-02	-1.9214E+05	6188.9	113.47	9207.2	1.1397E+10
1.2300	8.6601E-02	-1.6197E+05	5964.7	117.63	8516.2	1.1397E+10
1.6400	8.2875E-02	-1.3292E+05	5720.8	121.53	7851.0	1.1397E+10
2.0500	7.8867E-02	-1.0510E+05	5458.3	125.15	7213.8	1.1397E+10
2.4600	7.4635E-02	-7.8594E+04	5178.8	128.49	6606.9	

1.1397E+10
2.8700 7.0237E-02 -5.3494E+04 4883.6 131.52 6032.1
1.1397E+10
3.2800 6.5725E-02 -2.9875E+04 4574.2 134.24 5491.2
1.1397E+10
3.6900 6.1149E-02 -7806.8 4252.3 136.63 4985.8
1.1397E+10
4.1000 5.6557E-02 1.2650E+04 3919.4 138.69 5096.8
1.1397E+10
4.5100 5.1992E-02 3.1442E+04 3577.2 140.40 5527.1
1.1397E+10
4.9200 4.7493E-02 4.8525E+04 3227.6 141.75 5918.3
1.1397E+10
5.3300 4.3098E-02 6.3864E+04 2872.2 142.72 6269.6
1.1397E+10
5.7400 3.8838E-02 7.7432E+04 2512.9 143.31 6580.3
1.1397E+10
6.1500 3.4743E-02 8.9214E+04 2151.7 143.51 6850.1
1.1397E+10
6.5600 3.0837E-02 9.9202E+04 1790.6 143.30 7078.8
1.1397E+10
6.9700 2.7142E-02 1.0740E+05 1431.5 142.66 7266.6
1.1397E+10
7.3800 2.3675E-02 1.1382E+05 1076.7 141.60 7413.7
1.1397E+10
7.7900 2.0450E-02 1.1849E+05 728.13 140.08 7520.6
1.1397E+10
8.2000 1.7476E-02 1.2145E+05 388.16 138.11 7588.3
1.1397E+10
8.6100 1.4761E-02 1.2274E+05 59.068 135.67 7617.8
1.1397E+10
9.0200 1.2306E-02 1.2241E+05 -256.78 132.73 7610.4
1.1397E+10
9.4300 1.0111E-02 1.2056E+05 -556.93 129.28 7567.9
1.1397E+10
9.8400 8.1720E-03 1.1724E+05 -838.84 125.31 7492.0
1.1397E+10
10.250 6.4821E-03 1.1257E+05 -1099.9 120.80 7385.0
1.1397E+10
10.660 5.0314E-03 1.0665E+05 -1337.3 115.71 7249.5
1.1397E+10
11.070 3.8071E-03 9.9612E+04 -1548.2 110.03 7088.3
1.1397E+10
11.480 2.7944E-03 9.1586E+04 -1729.6 103.71 6904.4
1.1397E+10
11.890 1.9763E-03 8.2729E+04 -1878.3 96.719 6701.6
1.1397E+10
12.300 1.3339E-03 7.3212E+04 -1990.7 88.989 6483.7
1.1397E+10
12.710 8.4691E-04 6.3224E+04 -2063.1 80.435 6254.9
1.1397E+10

13.120	4.9425E-04	5.2974E+04	-2091.1	70.917	6020.2	1.1397E+10
13.530	2.5411E-04	4.2692E+04	-2069.1	60.172	5784.7	1.1397E+10
13.940	1.0464E-04	3.2642E+04	-1989.7	47.558	5554.6	1.1397E+10
14.350	2.4495E-05	2.3130E+04	-1837.2	30.414	5336.8	1.1397E+10
14.760	-6.5186E-06	1.4573E+04	-1468.8	-40.159	5140.8	1.1397E+10
15.170	-6.5801E-06	8680.0	-948.62	-31.290	5005.8	1.1397E+10
15.580	1.1794E-05	5237.4	-599.12	29.220	4927.0	1.1397E+10
15.990	4.1292E-05	2781.0	-430.20	42.112	4870.7	1.1397E+10
16.400	7.6697E-05	999.33	-310.85	49.369	4829.9	1.1397E+10
16.810	1.1422E-04	-283.12	-222.13	54.568	4813.5	1.1397E+10
17.220	1.5115E-04	-1192.0	-155.91	58.514	4834.4	1.1397E+10
17.630	1.8554E-04	-1822.6	-106.91	61.566	4848.8	1.1397E+10
18.040	2.1607E-04	-2248.8	-71.225	63.928	4858.6	1.1397E+10
18.450	2.4181E-04	-2527.7	-45.773	65.726	4864.9	1.1397E+10
18.860	2.6219E-04	-2702.7	-27.987	67.044	4868.9	1.1397E+10
19.270	2.7683E-04	-2805.7	-15.641	67.937	4871.3	1.1397E+10
19.680	2.8551E-04	-2858.3	-6.7209	68.437	4872.5	1.1397E+10
20.090	2.8812E-04	-2872.6	0.6664	68.560	4872.8	1.1397E+10
20.500	2.8462E-04	-2851.7	8.3798	68.304	4872.4	1.1397E+10
20.910	2.7507E-04	-2789.2	18.323	67.654	4870.9	1.1397E+10
21.320	2.5960E-04	-2669.5	32.527	66.572	4868.2	1.1397E+10
21.730	2.3845E-04	-2466.4	53.247	65.005	4863.5	1.1397E+10
22.140	2.1207E-04	-2142.0	83.072	62.870	4856.1	1.1397E+10
22.550	1.8114E-04	-1644.7	125.09	60.049	4844.7	1.1397E+10
22.960	1.4671E-04	-906.27	183.10	56.369	4827.8	1.1397E+10
23.370	1.1036E-04	162.28	261.96	51.574	4810.8	

1.1397E+10
23.780 7.4359E-05 1676.8 368.14 45.266 4845.5
1.1397E+10
24.190 4.1915E-05 3789.8 338.34 36.846 4893.8
1.1397E+10
24.600 1.7520E-05 5010.3 13.045 95.388 4921.8
1.1397E+10
25.010 3.7672E-06 3921.0 -288.95 27.375 4896.9
1.1397E+10
25.420 -1.6578E-06 2168.5 -319.23 -15.068 4856.7
1.1397E+10
25.830 -2.4771E-06 780.32 -215.67 -27.028 4824.9
1.1397E+10
26.240 -1.6390E-06 46.277 -97.842 -20.871 4808.1
1.1397E+10
26.650 -7.0270E-07 -182.57 -21.339 -10.228 4811.2
1.1397E+10
27.060 -1.5413E-07 -163.81 10.033 -2.5243 4810.8
1.1397E+10
27.470 4.6525E-08 -83.908 14.160 0.8468 4809.0
1.1397E+10
27.880 6.8969E-08 -24.493 8.6795 1.3809 4807.6
1.1397E+10
28.290 3.9392E-08 1.4994 3.1657 0.8605 4807.1
1.1397E+10
28.700 1.2999E-08 6.6619 0.2921 0.3076 4807.2
1.1397E+10
29.110 7.5604E-10 4.3762 -0.5112 1.8901E-02 4807.2
1.1397E+10
29.520 -2.1923E-09 1.6324 -0.4229 -5.4808E-02 4807.1
1.1397E+10
29.930 -1.6735E-09 0.2150 -0.1852 -4.1838E-02 4807.1
1.1397E+10
30.340 -6.9804E-10 -0.1897 -3.9309E-02 -1.7451E-02 4807.1
1.1397E+10
30.750 -1.2539E-10 -0.1719 1.1333E-02 -3.1349E-03 4807.1
1.1397E+10
31.160 8.2169E-11 -7.8208E-02 1.3991E-02 2.0542E-03 4807.1
1.1397E+10
31.570 1.2362E-10 -3.4237E-02 7.3225E-03 6.5658E-04 4807.1
1.1397E+10
31.980 9.2363E-11 -6.1548E-03 4.0865E-03 6.5885E-04 4807.1
1.1397E+10
32.390 4.8029E-11 5.9800E-03 1.4076E-03 4.3013E-04 4807.1
1.1397E+10
32.800 1.6396E-11 7.7021E-03 -8.5191E-05 1.7672E-04 4807.1
1.1397E+10
33.210 1.1222E-12 5.1452E-03 -5.5470E-04 1.4140E-05 4807.1
1.1397E+10
33.620 -3.2238E-12 2.2453E-03 -4.7511E-04 -4.6494E-05 4807.1
1.1397E+10

```
       34.030 -2.8009E-12  4.7046E-04 -2.4880E-04 -4.5499E-05      4807.1
1.1397E+10
       34.440 -1.3789E-12 -2.0308E-04 -7.5593E-05 -2.4912E-05      4807.1
1.1397E+10
       34.850 -3.8814E-13 -2.7356E-04  4.6798E-06 -7.7197E-06      4807.1
1.1397E+10
       35.260  2.1560E-14 -1.5713E-04  2.2519E-05  4.6809E-07      4807.1
1.1397E+10
       35.670  9.7520E-14 -5.2013E-05  1.5722E-05  2.2950E-06      4807.1
1.1397E+10
       36.080  6.3009E-14 -2.4365E-06  6.2010E-06  1.5752E-06      4807.1
1.1397E+10
       36.490  2.3322E-14  9.0100E-06  8.9158E-07  5.8306E-07      4807.1
1.1397E+10
       36.900  2.7726E-15  6.3411E-06 -5.8898E-07  1.8792E-08      4807.1
1.1397E+10
       37.310 -4.3091E-15  3.2164E-06 -5.4405E-07 -3.7058E-08      4807.1
1.1397E+10
       37.720 -4.5594E-15  9.8823E-07 -3.3599E-07 -4.7519E-08      4807.1
1.1397E+10
       38.130 -2.7108E-15 -8.9837E-08 -1.3744E-07 -3.3192E-08      4807.1
1.1397E+10
       38.540 -1.0530E-15 -3.6442E-07 -1.9347E-08 -1.4812E-08      4807.1
1.1397E+10
       38.950 -1.6921E-16 -2.8040E-07  2.3706E-08 -2.6886E-09      4807.1
1.1397E+10
       39.360  1.1904E-16 -1.3124E-07  2.5133E-08  2.1084E-09      4807.1
1.1397E+10
       39.770  1.2855E-16 -3.3108E-08  1.3770E-08  2.5109E-09      4807.1
1.1397E+10
       40.180  6.7730E-17  4.2524E-09  4.0345E-09  1.4464E-09      4807.1
1.1397E+10
       40.590  1.5946E-17  6.5999E-09 -4.3283E-10  3.6958E-10      4807.1
1.1397E+10
       41.000 -2.1821E-17      0.0000  1.0006E-24 -5.4553E-10      4807.1
1.1397E+10
```

Forward Abutment – Pinned Group Outputs

```
================================================================================

                  GROUP Version 2022.12.10

                    License ID : 500128013

                  License Type : (Network License)

                   Analysis of A Group of Piles
                Subjected to Axial and Lateral Loading

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                          Burgess & Niple, Ltd.
                          Cincinnati, OH, USA

================================================================================

     This model was prepared by:
     Keith Almasi



     Path to file locations      :
P:\PR61289\115174\400-Engineering\Structures\EngData\Stage 2\Design
Comps\Abutments\Group\Abutment Stage 3 - Revised\
     Name of input data file     : CR5 Forward Abutment Pinned.gp12d
     Name of output echo file    : CR5 Forward Abutment Pinned.gp12e
     Name of output results file : CR5 Forward Abutment Pinned.gp12o
     Name of output summary file : CR5 Forward Abutment Pinned.gp12t
     Name of plot output file    : CR5 Forward Abutment Pinned.gp12p
     Name of runtime file        : CR5 Forward Abutment Pinned.gp12r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  October 21, 2026     Time:  12:22:01



                  *****     COMPUTATION RESULTS     *****



     CR5 over MVRY Abutment
```

***** LOAD CASES RESULTS *****

LOAD CASE : 1
CASE NAME : Constr 1

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
6.69800E+05	1.95600E+05	-5.22667E+05

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0158233	0.18514	8.85293E-05

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.011574	0.1851	8.8529E-05	2.9216E+04	1.9794E+04	0.0000	1884.9

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.011574	0.1851	8.8529E-05	2.9216E+04	1.9794E+04	0.0000	1884.9

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1851	0.0000	1.9794E+04	444.66	1884.9	1.1397E+10
0.4100	0.1684	9.3656E+04	1.8049E+04	456.62	4029.7	1.1397E+10
0.8200	0.1520	1.7858E+05	1.6250E+04	466.79	5974.4	1.1397E+10
1.2300	0.1358	2.5451E+05	1.4406E+04	475.05	7713.3	1.1397E+10
1.6400	0.1203	3.2125E+05	1.2525E+04	481.34	9241.8	1.1397E+10
2.0500	0.1054	3.7865E+05	1.0619E+04	485.55	1.0556E+04	1.1397E+10
2.4600	9.1311E-02	4.2659E+05	8697.3	487.60	1.1654E+04	1.1397E+10
2.8700	7.8134E-02	4.6503E+05	6771.2	487.37	1.2534E+04	1.1397E+10
3.2800	6.5945E-02	4.9396E+05	4852.1	484.76	1.3197E+04	1.1397E+10

```
       3.6900  5.4806E-02  5.1345E+05      2951.9      479.67  1.3643E+04
1.1397E+10
       4.1000  4.4757E-02  5.2362E+05      1083.2      471.96  1.3876E+04
1.1397E+10
       4.5100  3.5820E-02  5.2467E+05     -740.71      461.48  1.3900E+04
1.1397E+10
       4.9200  2.7997E-02  5.1683E+05     -2505.9      448.08  1.3721E+04
1.1397E+10
       5.3300  2.1272E-02  5.0043E+05     -4197.4      431.53  1.3345E+04
1.1397E+10
       5.7400  1.5610E-02  4.7589E+05     -5799.1      411.58  1.2783E+04
1.1397E+10
       6.1500  1.0959E-02  4.4367E+05     -7293.4      387.83  1.2045E+04
1.1397E+10
       6.5600  7.2498E-03  4.0436E+05     -8660.0      359.72  1.1145E+04
1.1397E+10
       6.9700  4.3996E-03  3.5865E+05     -9875.0      326.17  1.0098E+04
1.1397E+10
       7.3800  2.3112E-03  3.0734E+05 -1.0906E+04      284.88      8923.1
1.1397E+10
       7.7900  8.7561E-04  2.5144E+05 -1.1697E+04      228.57      7643.0
1.1397E+10
       8.2000 -2.5998E-05  1.9231E+05 -1.1485E+04     -122.40      6288.9
1.1397E+10
       8.6100 -5.1915E-04  1.3846E+05 -1.0185E+04     -214.42      5055.7
1.1397E+10
       9.0200 -7.1822E-04  9.2115E+04     -8600.2     -237.63      3994.4
1.1397E+10
       9.4300 -7.2165E-04  5.3840E+04     -6944.3     -243.51      3117.8
1.1397E+10
       9.8400 -6.1072E-04  2.3780E+04     -5285.0     -239.02      2429.4
1.1397E+10
       10.250 -4.4929E-04      1827.5     -3667.8     -226.36      1926.7
1.1397E+10
       10.660 -2.8397E-04 -1.2321E+04     -2131.7     -206.08      2167.0
1.1397E+10
       11.070 -1.4483E-04 -1.9157E+04     -716.60     -177.16      2323.6
1.1397E+10
       11.480 -4.6371E-05 -1.9380E+04      519.77     -133.43      2328.7
1.1397E+10
       11.890  1.0924E-05 -1.4047E+04      1051.6      109.22      2206.6
1.1397E+10
       12.300  3.8383E-05     -9034.1      917.10      137.47      2091.8
1.1397E+10
       12.710  4.6654E-05     -5024.1      698.79      143.28      1999.9
1.1397E+10
       13.120  4.4255E-05     -2158.2      474.05      140.08      1934.3
1.1397E+10
       13.530  3.7272E-05     -359.17      277.10      131.98      1893.1
1.1397E+10
       13.940  2.9526E-05      568.96      125.84      121.51      1897.9
```

1.1397E+10
14.350 2.2988E-05 879.56 26.366 110.93 1905.0
1.1397E+10
14.760 1.8319E-05 828.72 -25.654 102.22 1903.9
1.1397E+10
15.170 1.5409E-05 627.34 -42.434 96.604 1899.2
1.1397E+10
15.580 1.3832E-05 411.31 -39.506 94.206 1894.3
1.1397E+10
15.990 1.3129E-05 238.67 -30.261 94.036 1890.3
1.1397E+10
16.400 1.2933E-05 113.57 -20.399 93.955 1887.5
1.1397E+10
16.810 1.2977E-05 37.951 -11.579 94.459 1885.7
1.1397E+10
17.220 1.3103E-05 -0.3717 -5.4252 95.039 1884.9
1.1397E+10
17.630 1.3228E-05 -15.440 -1.8132 95.492 1885.2
1.1397E+10
18.040 1.3319E-05 -18.220 -3.1320E-02 95.783 1885.3
1.1397E+10
18.450 1.3373E-05 -15.753 0.6339 95.946 1885.2
1.1397E+10
18.860 1.3392E-05 -11.984 0.6872 96.032 1885.1
1.1397E+10
19.270 1.3386E-05 -8.9912 0.3926 96.088 1885.1
1.1397E+10
19.680 1.3362E-05 -8.1198 -0.1936 96.151 1885.1
1.1397E+10
20.090 1.3319E-05 -10.894 -1.1765 96.249 1885.1
1.1397E+10
20.500 1.3254E-05 -19.693 -2.7676 96.398 1885.3
1.1397E+10
20.910 1.3147E-05 -38.122 -5.1974 96.590 1885.7
1.1397E+10
21.320 1.2959E-05 -70.827 -8.5475 96.772 1886.5
1.1397E+10
21.730 1.2621E-05 -122.21 -12.439 96.810 1887.7
1.1397E+10
22.140 1.2023E-05 -193.20 -15.502 96.435 1889.3
1.1397E+10
22.550 1.1014E-05 -274.70 -14.517 95.165 1891.2
1.1397E+10
22.960 9.4224E-06 -335.97 -3.0568 92.177 1892.6
1.1397E+10
23.370 7.1170E-06 -304.67 30.889 86.024 1891.8
1.1397E+10
23.780 4.1644E-06 -31.872 110.17 73.746 1885.6
1.1397E+10
24.190 1.1442E-06 779.61 52.269 45.792 1902.7
1.1397E+10

24.600	-2.2016E-07	482.59	-57.430	-1.1987	1895.9	1.1397E+10
25.010	-5.5957E-07	214.55	-44.478	-4.0662	1889.8	1.1397E+10
25.420	-4.4329E-07	44.926	-24.564	-4.0290	1885.9	1.1397E+10
25.830	-2.3159E-07	-27.173	-8.4366	-2.5269	1885.5	1.1397E+10
26.240	-7.7604E-08	-38.102	0.2104	-0.9882	1885.7	1.1397E+10
26.650	-4.5440E-09	-25.109	2.8040	-6.6141E-02	1885.4	1.1397E+10
27.060	1.5187E-08	-10.513	2.3548	0.2487	1885.1	1.1397E+10
27.470	1.2588E-08	-1.9379	1.1794	0.2291	1884.9	1.1397E+10
27.880	5.8724E-09	1.0921	0.3266	0.1176	1884.9	1.1397E+10
28.290	1.4769E-09	1.2760	-4.2022E-02	3.2261E-02	1884.9	1.1397E+10
28.700	-2.0865E-10	0.6788	-0.1092	-4.9382E-03	1884.9	1.1397E+10
29.110	-4.5244E-10	0.2011	-6.9263E-02	-1.1311E-02	1884.9	1.1397E+10
29.520	-2.6903E-10	-2.7493E-03	-2.4893E-02	-6.7258E-03	1884.9	1.1397E+10
29.930	-9.1466E-11	-4.3823E-02	-2.7221E-03	-2.2866E-03	1884.9	1.1397E+10
30.340	-6.9761E-12	-2.9542E-02	3.3321E-03	-1.7440E-04	1884.9	1.1397E+10
30.750	1.4768E-11	-1.1038E-02	2.8529E-03	3.6920E-04	1884.9	1.1397E+10
31.160	1.3067E-11	-1.4705E-03	1.1410E-03	3.2668E-04	1884.9	1.1397E+10
31.570	8.2434E-12	1.8960E-04	2.2969E-04	4.3782E-05	1884.9	1.1397E+10
31.980	3.8223E-12	7.8990E-04	5.4911E-05	2.7266E-05	1884.9	1.1397E+10
32.390	1.0788E-12	7.3014E-04	-3.5930E-05	9.6616E-06	1884.9	1.1397E+10
32.800	-1.1386E-13	4.3646E-04	-5.6679E-05	-1.2272E-06	1884.9	1.1397E+10
33.210	-3.7955E-13	1.7246E-04	-4.1895E-05	-4.7824E-06	1884.9	1.1397E+10
33.620	-2.7895E-13	2.4216E-05	-2.0234E-05	-4.0230E-06	1884.9	1.1397E+10
34.030	-1.2691E-13	-2.6647E-05	-5.2657E-06	-2.0616E-06	1884.9	1.1397E+10
34.440	-3.1468E-14	-2.7606E-05	1.2043E-06	-5.6852E-07	1884.9	1.1397E+10
34.850	5.3407E-15	-1.4801E-05	2.3415E-06	1.0622E-07	1884.9	

1.1397E+10
35.260 1.0712E-14 -4.5667E-06 1.5081E-06 2.3258E-07 1884.9
1.1397E+10
35.670 6.3850E-15 3.8172E-08 5.6628E-07 1.5026E-07 1884.9
1.1397E+10
36.080 2.1385E-15 1.0058E-06 6.5127E-08 5.3462E-08 1884.9
1.1397E+10
36.490 2.8249E-17 6.7921E-07 -6.8128E-08 7.0622E-10 1884.9
1.1397E+10
36.900 -6.3941E-16 3.3549E-07 -5.9204E-08 -4.3338E-09 1884.9
1.1397E+10
37.310 -5.9452E-16 9.6657E-08 -3.5965E-08 -5.1129E-09 1884.9
1.1397E+10
37.720 -3.4433E-16 -1.8418E-08 -1.4559E-08 -3.5887E-09 1884.9
1.1397E+10
38.130 -1.3327E-16 -4.6621E-08 -1.7170E-09 -1.6318E-09 1884.9
1.1397E+10
38.540 -2.1218E-17 -3.5323E-08 3.0313E-09 -2.9846E-10 1884.9
1.1397E+10
38.950 1.5807E-17 -1.6798E-08 3.1477E-09 2.5116E-10 1884.9
1.1397E+10
39.360 1.7155E-17 -4.3509E-09 1.7824E-09 3.0383E-10 1884.9
1.1397E+10
39.770 9.2610E-18 7.4150E-10 5.8999E-10 1.8090E-10 1884.9
1.1397E+10
40.180 2.9424E-18 1.4550E-09 -9.6015E-12 6.2837E-11 1884.9
1.1397E+10
40.590 -2.8592E-19 6.4730E-10 -1.4788E-10 -6.6270E-12 1884.9
1.1397E+10
41.000 -2.1394E-18 0.0000 2.3368E-26 -5.3486E-11 1884.9
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.015823 0.1851 8.8529E-05 3.8810E+04 5681.7 0.0000
2503.9

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.015823	0.1851	8.8529E-05	3.8810E+04	5681.7	0.0000	2503.9

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1851	0.0000	5681.7	144.65	2503.9	1.1397E+10
0.4100	0.1739	2.7800E+04	5429.8	149.73	3140.5	1.1397E+10
0.8200	0.1628	5.4297E+04	5153.8	154.48	3747.3	1.1397E+10
1.2300	0.1518	7.9374E+04	4855.3	158.87	4321.6	1.1397E+10
1.6400	0.1409	1.0292E+05	4536.1	162.89	4860.9	1.1397E+10
2.0500	0.1302	1.2484E+05	4198.0	166.53	5362.9	1.1397E+10
2.4600	0.1199	1.4505E+05	3843.0	169.77	5825.6	1.1397E+10
2.8700	0.1098	1.6345E+05	3473.1	172.61	6247.1	1.1397E+10
3.2800	0.1001	1.7999E+05	3090.2	175.02	6625.8	1.1397E+10
3.6900	9.0736E-02	1.9460E+05	2696.6	176.99	6960.4	1.1397E+10
4.1000	8.1809E-02	2.0723E+05	2294.4	178.51	7249.7	1.1397E+10
4.5100	7.3322E-02	2.1785E+05	1885.8	179.57	7492.9	1.1397E+10
4.9200	6.5297E-02	2.2643E+05	1473.2	180.15	7689.3	1.1397E+10
5.3300	5.7753E-02	2.3295E+05	1059.0	180.23	7838.7	1.1397E+10
5.7400	5.0705E-02	2.3742E+05	645.69	179.80	7941.0	1.1397E+10
6.1500	4.4160E-02	2.3984E+05	235.74	178.85	7996.3	1.1397E+10

6.5600	3.8125E-02	2.4023E+05	-168.20	177.35	8005.3	1.1397E+10
6.9700	3.2600E-02	2.3863E+05	-563.42	175.30	7968.7	1.1397E+10
7.3800	2.7582E-02	2.3509E+05	-947.14	172.68	7887.7	1.1397E+10
7.7900	2.3063E-02	2.2968E+05	-1316.5	169.46	7763.7	1.1397E+10
8.2000	1.9032E-02	2.2247E+05	-1668.5	165.63	7598.6	1.1397E+10
8.6100	1.5473E-02	2.1356E+05	-2000.1	161.16	7394.5	1.1397E+10
9.0200	1.2368E-02	2.0305E+05	-2308.0	156.03	7153.8	1.1397E+10
9.4300	9.6947E-03	1.9107E+05	-2589.1	150.22	6879.5	1.1397E+10
9.8400	7.4268E-03	1.7776E+05	-2839.8	143.69	6574.8	1.1397E+10
10.250	5.5365E-03	1.6329E+05	-3056.5	136.39	6243.3	1.1397E+10
10.660	3.9931E-03	1.4782E+05	-3235.2	128.29	5889.1	1.1397E+10
11.070	2.7635E-03	1.3156E+05	-3372.0	119.30	5516.7	1.1397E+10
11.480	1.8134E-03	1.1472E+05	-3462.2	109.35	5131.2	1.1397E+10
11.890	1.1070E-03	9.7557E+04	-3500.6	98.261	4738.0	1.1397E+10
12.300	6.0779E-04	8.0326E+04	-3480.9	85.760	4343.4	1.1397E+10
12.710	2.7916E-04	6.3336E+04	-3394.7	71.184	3954.3	1.1397E+10
13.120	8.5063E-05	4.6942E+04	-3225.8	52.159	3578.9	1.1397E+10
13.530	-9.3357E-06	3.1606E+04	-2755.1	-51.508	3227.7	1.1397E+10
13.940	-3.6606E-05	1.9837E+04	-2034.1	-49.583	2958.2	1.1397E+10
14.350	-2.1743E-05	1.1591E+04	-1327.5	-45.643	2769.3	1.1397E+10
14.760	1.7737E-05	6772.5	-831.88	36.173	2659.0	1.1397E+10
15.170	7.1602E-05	3401.6	-586.38	56.029	2581.8	1.1397E+10
15.580	1.3269E-04	998.06	-417.01	67.124	2526.7	1.1397E+10
15.990	1.9590E-04	-706.59	-294.88	75.229	2520.1	1.1397E+10
16.400	2.5761E-04	-1908.4	-205.77	80.550	2547.6	1.1397E+10
16.810	3.1527E-04	-2736.0	-139.85	84.650	2566.5	

1.1397E+10
17.220 3.6711E-04 -3288.7 -91.843 87.836 2579.2
1.1397E+10
17.630 4.1197E-04 -3643.5 -57.726 90.295 2587.3
1.1397E+10
18.040 4.4909E-04 -3859.9 -34.233 92.154 2592.3
1.1397E+10
18.450 4.7801E-04 -3982.9 -18.618 93.498 2595.1
1.1397E+10
18.860 4.9848E-04 -4045.0 -8.4902 94.385 2596.5
1.1397E+10
19.270 5.1035E-04 -4067.7 -1.6916 94.852 2597.0
1.1397E+10
19.680 5.1358E-04 -4062.3 3.7934 94.919 2596.9
1.1397E+10
20.090 5.0818E-04 -4030.3 9.9174 94.592 2596.2
1.1397E+10
20.500 4.9423E-04 -3963.9 18.642 93.862 2594.7
1.1397E+10
20.910 4.7185E-04 -3845.5 32.004 92.706 2592.0
1.1397E+10
21.320 4.4131E-04 -3647.0 52.193 91.087 2587.4
1.1397E+10
21.730 4.0302E-04 -3329.2 81.625 88.949 2580.1
1.1397E+10
22.140 3.5766E-04 -2840.5 123.03 86.217 2568.9
1.1397E+10
22.550 3.0627E-04 -2114.8 179.60 82.789 2552.3
1.1397E+10
22.960 2.5039E-04 -1069.1 255.08 78.527 2528.4
1.1397E+10
23.370 1.9223E-04 399.60 354.05 73.242 2513.0
1.1397E+10
23.780 1.3492E-04 2419.2 482.17 66.676 2559.3
1.1397E+10
24.190 8.2756E-05 5148.4 410.39 58.504 2621.8
1.1397E+10
24.600 4.1523E-05 6461.0 154.83 45.383 2651.8
1.1397E+10
25.010 1.4012E-05 6674.6 -207.29 101.82 2656.7
1.1397E+10
25.420 6.7769E-07 4422.8 -472.93 6.1595 2605.2
1.1397E+10
25.830 -3.2629E-06 2021.6 -400.50 -35.602 2550.2
1.1397E+10
26.240 -2.9097E-06 482.07 -221.77 -37.050 2514.9
1.1397E+10
26.650 -1.5326E-06 -160.68 -75.751 -22.308 2507.6
1.1397E+10
27.060 -4.9684E-07 -263.41 -0.8545 -8.1372 2509.9
1.1397E+10

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       27.470 -2.0519E-08     -169.15      20.082     -0.3734      2507.8
1.1397E+10
       27.880  9.6543E-08     -65.833      16.245      1.9330      2505.4
1.1397E+10
       28.290  7.3779E-08     -9.3021      7.5252      1.6117      2504.1
1.1397E+10
       28.700  3.1259E-08      8.2172      1.7406      0.7398      2504.1
1.1397E+10
       29.110  6.1907E-09      7.8283     -0.4600      0.1548      2504.1
1.1397E+10
       29.520 -2.2503E-09      3.6924     -0.7023 -5.6258E-02      2504.0
1.1397E+10
       29.930 -2.8490E-09      0.9180     -0.3887 -7.1225E-02      2503.9
1.1397E+10
       30.340 -1.4980E-09     -0.1324     -0.1214 -3.7450E-02      2503.9
1.1397E+10
       30.750 -4.2824E-10     -0.2763 -2.8959E-03 -1.0706E-02      2503.9
1.1397E+10
       31.160  5.4676E-11     -0.1610  2.0078E-02  1.3669E-03      2503.9
1.1397E+10
       31.570  1.9567E-10 -7.8751E-02  1.4159E-02  1.0392E-03      2503.9
1.1397E+10
       31.980  1.6940E-10 -2.1664E-02  8.6300E-03  1.2084E-03      2503.9
1.1397E+10
       32.390  9.7118E-11  6.1728E-03  3.5178E-03  8.6975E-04      2503.9
1.1397E+10
       32.800  3.7947E-11  1.2956E-02  3.7216E-04  4.0898E-04      2503.9
1.1397E+10
       33.210  6.2927E-12  9.8383E-03 -8.2898E-04  7.9289E-05      2503.9
1.1397E+10
       33.620 -4.4652E-12  4.8005E-03 -8.6561E-04 -6.4398E-05      2503.9
1.1397E+10
       34.030 -5.0272E-12  1.3212E-03 -5.0630E-04 -8.1664E-05      2503.9
1.1397E+10
       34.440 -2.7831E-12 -1.8153E-04 -1.8171E-04 -5.0282E-05      2503.9
1.1397E+10
       34.850 -9.2463E-13 -4.6706E-04 -1.2781E-05 -1.8390E-05      2503.9
1.1397E+10
       35.260 -5.8136E-14 -3.0740E-04  3.5563E-05 -1.2622E-06      2503.9
1.1397E+10
       35.670  1.5546E-13 -1.1716E-04  2.9668E-05  3.6584E-06      2503.9
1.1397E+10
       36.080  1.2020E-13 -1.5474E-05  1.3276E-05  3.0051E-06      2503.9
1.1397E+10
       36.490  5.2087E-14  1.3474E-05  2.6799E-06  1.3022E-06      2503.9
1.1397E+10
       36.900  1.2588E-14  1.0900E-05 -7.3338E-07  8.5318E-08      2503.9
1.1397E+10
       37.310 -3.7597E-15  6.2602E-06 -8.6372E-07 -3.2333E-08      2503.9
1.1397E+10
       37.720 -6.8111E-15  2.4021E-06 -6.0955E-07 -7.0987E-08      2503.9
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1.1397E+10
       38.130 -4.7606E-15  2.6218E-07 -2.9153E-07 -5.8291E-08      2503.9
1.1397E+10
       38.540 -2.1533E-15 -4.6674E-07 -7.3621E-08 -3.0290E-08      2503.9
1.1397E+10
       38.950 -5.3733E-16 -4.6242E-07  2.1894E-08 -8.5375E-09      2503.9
1.1397E+10
       39.360  9.6525E-17 -2.5139E-07  3.8691E-08  1.7096E-09      2503.9
1.1397E+10
       39.770  1.9644E-16 -8.1723E-08  2.5046E-08  3.8372E-09      2503.9
1.1397E+10
       40.180  1.2279E-16 -4.9356E-09  9.1558E-09  2.6223E-09      2503.9
1.1397E+10
       40.590  3.8655E-17  8.3762E-09  5.0099E-10  8.9593E-10      2503.9
1.1397E+10
       41.000 -2.7691E-17      0.0000  1.7704E-24 -6.9228E-10      2503.9
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.020073      0.1851  8.8529E-05  4.8405E+04      4317.0      0.0000
     3122.9


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.020073      0.1851  8.8529E-05  4.8405E+04      4317.0      0.0000
     3122.9


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
```

RIGIDITY

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.1851	0.0000	4317.0	123.22	3122.9	1.1397E+10
0.4100	0.1748	2.1411E+04	4172.1	127.71	3613.2	1.1397E+10
0.8200	0.1645	4.2051E+04	4005.6	131.95	4085.9	1.1397E+10
1.2300	0.1543	6.1817E+04	3819.0	135.91	4538.6	1.1397E+10
1.6400	0.1443	8.0611E+04	3613.6	139.59	4969.0	1.1397E+10
2.0500	0.1344	9.8342E+04	3390.8	142.98	5375.0	1.1397E+10
2.4600	0.1247	1.1492E+05	3152.1	146.07	5754.8	1.1397E+10
2.8700	0.1152	1.3028E+05	2898.9	148.85	6106.5	1.1397E+10
3.2800	0.1061	1.4435E+05	2632.9	151.30	6428.6	1.1397E+10
3.6900	9.7202E-02	1.5706E+05	2355.5	153.43	6719.8	1.1397E+10
4.1000	8.8676E-02	1.6837E+05	2068.6	155.21	6978.7	1.1397E+10
4.5100	8.0508E-02	1.7823E+05	1773.7	156.65	7204.4	1.1397E+10
4.9200	7.2719E-02	1.8660E+05	1472.7	157.72	7396.1	1.1397E+10
5.3300	6.5326E-02	1.9345E+05	1167.3	158.42	7553.1	1.1397E+10
5.7400	5.8343E-02	1.9878E+05	859.47	158.73	7675.1	1.1397E+10
6.1500	5.1783E-02	2.0257E+05	551.00	158.66	7761.8	1.1397E+10
6.5600	4.5654E-02	2.0482E+05	243.89	158.18	7813.3	1.1397E+10
6.9700	3.9959E-02	2.0554E+05	-59.854	157.29	7829.9	1.1397E+10
7.3800	3.4701E-02	2.0476E+05	-358.18	155.98	7812.0	1.1397E+10
7.7900	2.9877E-02	2.0250E+05	-648.96	154.23	7760.3	1.1397E+10
8.2000	2.5484E-02	1.9882E+05	-930.03	152.03	7676.0	1.1397E+10
8.6100	2.1513E-02	1.9376E+05	-1199.2	149.37	7560.0	1.1397E+10
9.0200	1.7954E-02	1.8738E+05	-1454.0	146.24	7414.1	1.1397E+10

9.4300	1.4792E-02	1.7977E+05	-1692.3	142.62	7239.8
1.1397E+10					
9.8400	1.2013E-02	1.7102E+05	-1911.5	138.50	7039.3
1.1397E+10					
10.250	9.5964E-03	1.6121E+05	-2109.2	133.85	6814.8
1.1397E+10					
10.660	7.5224E-03	1.5048E+05	-2282.6	128.65	6569.0
1.1397E+10					
11.070	5.7680E-03	1.3894E+05	-2429.1	122.89	6304.7
1.1397E+10					
11.480	4.3087E-03	1.2673E+05	-2545.7	116.52	6025.2
1.1397E+10					
11.890	3.1186E-03	1.1402E+05	-2629.4	109.50	5734.0
1.1397E+10					
12.300	2.1707E-03	1.0096E+05	-2676.8	101.77	5435.0
1.1397E+10					
12.710	1.4372E-03	8.7759E+04	-2684.2	93.227	5132.6
1.1397E+10					
13.120	8.9008E-04	7.4613E+04	-2647.2	83.731	4831.6
1.1397E+10					
13.530	5.0144E-04	6.1756E+04	-2560.4	73.008	4537.2
1.1397E+10					
13.940	2.4397E-04	4.9449E+04	-2416.6	60.510	4255.3
1.1397E+10					
14.350	9.1517E-05	3.7997E+04	-2203.6	44.923	3993.1
1.1397E+10					
14.760	1.9770E-05	2.7776E+04	-1899.3	23.365	3759.0
1.1397E+10					
15.170	7.0190E-06	1.9312E+04	-1516.1	12.852	3565.2
1.1397E+10					
15.580	3.5284E-05	1.2858E+04	-1160.2	34.485	3417.3
1.1397E+10					
15.990	9.0859E-05	7891.4	-896.49	50.319	3303.6
1.1397E+10					
16.400	1.6319E-04	4030.0	-696.66	60.451	3215.2
1.1397E+10					
16.810	2.4409E-04	1028.8	-540.00	67.863	3146.5
1.1397E+10					
17.220	3.2717E-04	-1291.5	-415.58	73.561	3152.5
1.1397E+10					
17.630	4.0750E-04	-3068.4	-316.18	78.033	3193.2
1.1397E+10					
18.040	4.8132E-04	-4410.1	-236.44	81.553	3223.9
1.1397E+10					
18.450	5.4578E-04	-5401.7	-172.10	84.291	3246.6
1.1397E+10					
18.860	5.9876E-04	-6109.3	-119.58	86.360	3262.8
1.1397E+10					
19.270	6.3876E-04	-6582.9	-75.778	87.834	3273.7
1.1397E+10					
19.680	6.6478E-04	-6858.1	-37.890	88.764	3280.0

1.1397E+10
20.090 6.7624E-04 -6957.5 -3.3089 89.179 3282.2
1.1397E+10
20.500 6.7292E-04 -6891.1 30.459 89.094 3280.7
1.1397E+10
20.910 6.5496E-04 -6656.8 65.869 88.511 3275.3
1.1397E+10
21.320 6.2287E-04 -6240.5 105.41 87.417 3265.8
1.1397E+10
21.730 5.7752E-04 -5615.8 151.65 85.783 3251.5
1.1397E+10
22.140 5.2024E-04 -4743.3 207.37 83.568 3231.5
1.1397E+10
22.550 4.5289E-04 -3569.3 275.57 80.707 3204.6
1.1397E+10
22.960 3.7795E-04 -2024.7 359.66 77.112 3169.3
1.1397E+10
23.370 2.9872E-04 -22.757 463.53 72.664 3123.4
1.1397E+10
23.780 2.1944E-04 2544.1 591.78 67.203 3181.2
1.1397E+10
24.190 1.4556E-04 5807.8 513.67 60.548 3255.9
1.1397E+10
24.600 8.4021E-05 7605.2 243.84 49.139 3297.1
1.1397E+10
25.010 3.8631E-05 8212.3 -10.905 54.414 3311.0
1.1397E+10
25.420 1.0684E-05 7501.4 -383.63 97.101 3294.7
1.1397E+10
25.830 -1.3314E-06 4439.3 -586.77 -14.527 3224.6
1.1397E+10
26.240 -3.9176E-06 1728.3 -428.32 -49.884 3162.5
1.1397E+10
26.650 -2.8330E-06 224.68 -204.16 -41.236 3128.0
1.1397E+10
27.060 -1.2712E-06 -280.78 -51.505 -20.820 3129.3
1.1397E+10
27.470 -3.0581E-07 -282.25 13.404 -5.5657 3129.4
1.1397E+10
27.880 6.0151E-08 -148.96 24.132 1.2043 3126.3
1.1397E+10
28.290 1.0974E-07 -44.803 15.273 2.3971 3123.9
1.1397E+10
28.700 6.4164E-08 1.3292 5.6403 1.5185 3122.9
1.1397E+10
29.110 2.1414E-08 10.702 0.5877 0.5354 3123.1
1.1397E+10
29.520 1.3966E-09 7.1155 -0.8151 3.4916E-02 3123.1
1.1397E+10
29.930 -3.5083E-09 2.6827 -0.6853 -8.7707E-02 3123.0
1.1397E+10

```
       30.340 -2.7154E-09      0.3726     -0.3025 -6.7885E-02      3122.9
1.1397E+10
       30.750 -1.1313E-09     -0.2943 -6.5955E-02 -2.8282E-02      3122.9
1.1397E+10
       31.160 -1.7224E-10     -0.2766  1.4212E-02 -4.3060E-03      3122.9
1.1397E+10
       31.570  1.9941E-10     -0.1545  2.2199E-02  1.0591E-03      3122.9
1.1397E+10
       31.980  2.4284E-10 -5.8138E-02  1.5332E-02  1.7322E-03      3122.9
1.1397E+10
       32.390  1.6278E-10 -3.6651E-03  7.4848E-03  1.4578E-03      3122.9
1.1397E+10
       32.800  7.4942E-11  1.5520E-02  1.9116E-03  8.0771E-04      3122.9
1.1397E+10
       33.210  2.0066E-11  1.5152E-02 -6.9728E-04  2.5283E-04      3122.9
1.1397E+10
       33.620 -2.6273E-12  8.6628E-03 -1.2260E-03 -3.7892E-05      3122.9
1.1397E+10
       34.030 -6.9214E-12  3.0896E-03 -8.5623E-04 -1.1243E-04      3122.9
1.1397E+10
       34.440 -4.6533E-12  2.3766E-04 -3.7283E-04 -8.4069E-05      3122.9
1.1397E+10
       34.850 -1.8805E-12 -5.7929E-04 -7.4016E-05 -3.7400E-05      3122.9
1.1397E+10
       35.260 -3.3798E-13 -4.9086E-04  3.6040E-05 -7.3379E-06      3122.9
1.1397E+10
       35.670  1.6193E-13 -2.2476E-04  4.4717E-05  3.8108E-06      3122.9
1.1397E+10
       36.080  1.8448E-13 -5.0877E-05  2.3997E-05  4.6119E-06      3122.9
1.1397E+10
       36.490  9.8963E-14  1.1372E-05  6.5651E-06  2.4741E-06      3122.9
1.1397E+10
       36.900  3.7602E-14  1.3731E-05 -1.4809E-07  2.5486E-07      3122.9
1.1397E+10
       37.310  5.4035E-15  9.9191E-06 -8.8935E-07  4.6470E-08      3122.9
1.1397E+10
       37.720 -5.7274E-15  4.9816E-06 -8.5683E-07 -5.9692E-08      3122.9
1.1397E+10
       38.130 -6.2777E-15  1.4884E-06 -5.2089E-07 -7.6867E-08      3122.9
1.1397E+10
       38.540 -3.6667E-15 -1.4413E-07 -2.0492E-07 -5.1578E-08      3122.9
1.1397E+10
       38.950 -1.3618E-15 -5.2818E-07 -2.4805E-08 -2.1638E-08      3122.9
1.1397E+10
       39.360 -1.7877E-16 -3.8839E-07  3.6213E-08 -3.1662E-09      3122.9
1.1397E+10
       39.770  1.7939E-16 -1.7192E-07  3.5382E-08  3.5040E-09      3122.9
1.1397E+10
       40.180  1.7241E-16 -4.0247E-08  1.7705E-08  3.6818E-09      3122.9
1.1397E+10
       40.590  7.9944E-17  2.3032E-09  4.0892E-09  1.8529E-09      3122.9
```

```
1.1397E+10
       41.000 -7.6259E-18 -5.8034E-24  5.0063E-25 -1.9065E-10      3122.9
1.1397E+10



     LOAD CASE :     2
     CASE NAME : Strength I (maxVmaxH), Contraction

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR

                1           1.0000       1.0000
                2           1.0000       1.0000
                3           1.0000       1.0000



     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                3.07180E+06       4.27500E+05      -4.58710E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                  0.0930594           0.83937      -8.33156E-04


          NUMBER OF ITERATIONS =   7



     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE


       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
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       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

            0.1331      0.8394 -8.3316E-04  2.0318E+05  4.0648E+04      0.0000
 1.3108E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

            0.1331      0.8394 -8.3316E-04  2.0318E+05  4.0648E+04      0.0000
 1.3108E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.8394      0.0000  4.0648E+04      648.85  1.3108E+04
1.1397E+10
       0.4100      0.7796  2.0556E+05  3.7926E+04      669.77  1.7816E+04
1.1397E+10
       0.8200      0.7203  3.9738E+05  3.5105E+04      688.79  2.2209E+04
1.1397E+10
       1.2300      0.6619  5.7492E+05  3.2196E+04      705.84  2.6274E+04
1.1397E+10
       1.6400      0.6046  7.3769E+05  2.9208E+04      720.82  3.0002E+04
1.1397E+10
       2.0500      0.5490  8.8527E+05  2.6151E+04      733.65  3.3382E+04
1.1397E+10
       2.4600      0.4952  1.0173E+06  2.3037E+04      744.24  3.6405E+04
1.1397E+10
       2.8700      0.4435  1.1334E+06  1.9877E+04      752.49  3.9064E+04
1.1397E+10
       3.2800      0.3943  1.2333E+06  1.6682E+04      758.32  4.1353E+04
1.1397E+10
       3.6900      0.3477  1.3170E+06  1.3464E+04      761.62  4.3269E+04
1.1397E+10
       4.1000      0.3039  1.3842E+06  1.0237E+04      762.29  4.4808E+04
```

1.1397E+10
4.5100 0.2630 1.4349E+06 7013.2 760.22 4.5969E+04
1.1397E+10
4.9200 0.2252 1.4692E+06 3806.6 755.28 4.6754E+04
1.1397E+10
5.3300 0.1905 1.4871E+06 631.61 747.35 4.7165E+04
1.1397E+10
5.7400 0.1590 1.4889E+06 -2496.6 736.26 4.7205E+04
1.1397E+10
6.1500 0.1306 1.4747E+06 -5562.0 721.85 4.6881E+04
1.1397E+10
6.5600 0.1054 1.4450E+06 -8547.8 703.89 4.6201E+04
1.1397E+10
6.9700 8.3176E-02 1.4003E+06 -1.1436E+04 682.12 4.5175E+04
1.1397E+10
7.3800 6.3974E-02 1.3409E+06 -1.4207E+04 656.18 4.3816E+04
1.1397E+10
7.7900 4.7620E-02 1.2677E+06 -1.6838E+04 625.57 4.2139E+04
1.1397E+10
8.2000 3.3958E-02 1.1813E+06 -1.9306E+04 589.52 4.0162E+04
1.1397E+10
8.6100 2.2805E-02 1.0828E+06 -2.1579E+04 546.73 3.7904E+04
1.1397E+10
9.0200 1.3952E-02 9.7305E+05 -2.3620E+04 494.71 3.5392E+04
1.1397E+10
9.4300 7.1658E-03 8.5352E+05 -2.5366E+04 427.30 3.2655E+04
1.1397E+10
9.8400 2.1923E-03 7.2584E+05 -2.6683E+04 319.87 2.9731E+04
1.1397E+10
10.250 -1.2396E-03 5.9267E+05 -2.6201E+04 -303.76 2.6681E+04
1.1397E+10
10.660 -3.4127E-03 4.6916E+05 -2.3976E+04 -388.67 2.3852E+04
1.1397E+10
11.070 -4.5894E-03 3.5742E+05 -2.1451E+04 -425.78 2.1294E+04
1.1397E+10
11.480 -5.0069E-03 2.5840E+05 -1.8790E+04 -443.75 1.9026E+04
1.1397E+10
11.890 -4.8756E-03 1.7258E+05 -1.6071E+04 -449.76 1.7061E+04
1.1397E+10
12.300 -4.3778E-03 1.0014E+05 -1.3344E+04 -446.70 1.5402E+04
1.1397E+10
12.710 -3.6672E-03 4.1030E+04 -1.0651E+04 -435.99 1.4048E+04
1.1397E+10
13.120 -2.8695E-03 -4976.3 -8028.2 -418.27 1.3222E+04
1.1397E+10
13.530 -2.0824E-03 -3.8289E+04 -5509.1 -393.72 1.3985E+04
1.1397E+10
13.940 -1.3766E-03 -5.9490E+04 -3128.4 -362.05 1.4471E+04
1.1397E+10
14.350 -7.9716E-04 -6.9334E+04 -923.89 -322.11 1.4696E+04
1.1397E+10

14.760	-3.6497E-04	-6.8786E+04	1055.3	-270.45	1.4684E+04	1.1397E+10
15.170	-7.8887E-05	-5.9096E+04	2708.8	-189.69	1.4462E+04	1.1397E+10
15.580	8.1684E-05	-4.2222E+04	3228.2	190.56	1.4075E+04	1.1397E+10
15.990	1.5258E-04	-2.7378E+04	2721.1	227.57	1.3735E+04	1.1397E+10
16.400	1.6532E-04	-1.5464E+04	2110.5	232.63	1.3463E+04	1.1397E+10
16.810	1.4523E-04	-6608.6	1505.4	225.38	1.3260E+04	1.1397E+10
17.220	1.1109E-04	-640.12	954.20	210.67	1.3123E+04	1.1397E+10
17.630	7.5597E-05	2794.9	488.08	190.81	1.3172E+04	1.1397E+10
18.040	4.6039E-05	4175.8	128.75	167.26	1.3204E+04	1.1397E+10
18.450	2.5350E-05	4072.0	-109.31	141.51	1.3202E+04	1.1397E+10
18.860	1.3310E-05	3106.9	-221.70	116.18	1.3180E+04	1.1397E+10
19.270	7.8682E-06	1894.0	-224.75	97.061	1.3152E+04	1.1397E+10
19.680	6.4495E-06	896.77	-164.22	90.333	1.3129E+04	1.1397E+10
20.090	6.9354E-06	278.35	-93.886	93.077	1.3115E+04	1.1397E+10
20.500	8.0125E-06	-27.384	-43.007	98.240	1.3109E+04	1.1397E+10
20.910	9.0314E-06	-145.27	-15.402	102.54	1.3112E+04	1.1397E+10
21.320	9.7418E-06	-179.29	-5.3052	105.36	1.3112E+04	1.1397E+10
21.730	1.0071E-05	-197.68	-5.7595	106.83	1.3113E+04	1.1397E+10
22.140	9.9811E-06	-236.01	-10.382	107.05	1.3114E+04	1.1397E+10
22.550	9.3896E-06	-299.70	-12.555	105.83	1.3115E+04	1.1397E+10
22.960	8.1615E-06	-359.18	-3.5228	102.50	1.3117E+04	1.1397E+10
23.370	6.1706E-06	-333.72	30.541	95.655	1.3116E+04	1.1397E+10
23.780	3.4708E-06	-57.698	114.45	82.237	1.3110E+04	1.1397E+10
24.190	6.4855E-07	793.55	51.868	49.200	1.3127E+04	1.1397E+10
24.600	-4.8830E-07	453.49	-62.625	-2.6585	1.3119E+04	1.1397E+10
25.010	-6.6196E-07	177.59	-44.252	-4.8103	1.3112E+04	

```
1.1397E+10
       25.420 -4.5845E-07      18.048     -22.168     -4.1668  1.3109E+04
1.1397E+10
       25.830 -2.1660E-07     -40.636     -6.1037     -2.3634  1.3109E+04
1.1397E+10
       26.240 -6.1065E-08     -42.094      1.6230     -0.7776  1.3109E+04
1.1397E+10
       26.650  5.0687E-09     -24.711      3.3543  7.3777E-02  1.3109E+04
1.1397E+10
       27.060  1.8718E-08     -9.1037      2.4187      0.3066  1.3109E+04
1.1397E+10
       27.470  1.3031E-08     -0.9130      1.0811      0.2372  1.3108E+04
1.1397E+10
       27.880  5.4055E-09      1.5372      0.2314      0.1082  1.3108E+04
1.1397E+10
       28.290  1.0447E-09      1.3669 -9.0937E-02  2.2822E-02  1.3108E+04
1.1397E+10
       28.700 -4.1271E-10      0.6436     -0.1231 -9.7674E-03  1.3108E+04
1.1397E+10
       29.110 -5.0321E-10      0.1564 -6.8076E-02 -1.2580E-02  1.3108E+04
1.1397E+10
       29.520 -2.6149E-10 -2.6302E-02 -2.1047E-02 -6.5372E-03  1.3108E+04
1.1397E+10
       29.930 -7.5632E-11 -5.0770E-02 -3.1415E-04 -1.8908E-03  1.3108E+04
1.1397E+10
       30.340  2.3921E-12 -2.9447E-02  4.1901E-03  5.9804E-05  1.3108E+04
1.1397E+10
       30.750  1.7873E-11 -9.5588E-03  2.9438E-03  4.4682E-04  1.3108E+04
1.1397E+10
       31.160  1.3051E-11 -4.8223E-04  1.0420E-03  3.2628E-04  1.3108E+04
1.1397E+10
       31.570  7.2057E-12  6.9636E-04  1.4516E-04  3.8270E-05  1.3108E+04
1.1397E+10
       31.980  2.8390E-12  9.4825E-04  1.1985E-06  2.0252E-05  1.3108E+04
1.1397E+10
       32.390  4.8642E-13  7.0952E-04 -5.9337E-05  4.3561E-06  1.3108E+04
1.1397E+10
       32.800 -3.5926E-13  3.6503E-04 -6.0528E-05 -3.8720E-06  1.3108E+04
1.1397E+10
       33.210 -4.2965E-13  1.1411E-04 -3.7686E-05 -5.4135E-06  1.3108E+04
1.1397E+10
       33.620 -2.5768E-13 -5.8214E-06 -1.5226E-05 -3.7163E-06  1.3108E+04
1.1397E+10
       34.030 -9.8081E-14 -3.5787E-05 -2.1644E-06 -1.5933E-06  1.3108E+04
1.1397E+10
       34.440 -1.4488E-14 -2.7169E-05  2.3989E-06 -2.6176E-07  1.3108E+04
1.1397E+10
       34.850  1.1399E-14 -1.2203E-05  2.4851E-06  2.2672E-07  1.3108E+04
1.1397E+10
       35.260  1.1368E-14 -2.7205E-06  1.3202E-06  2.4681E-07  1.3108E+04
1.1397E+10
```

```
       35.670  5.5588E-15  7.8901E-07  3.9126E-07  1.3082E-07  1.3108E+04
1.1397E+10
       36.080  1.4254E-15  1.1315E-06 -1.8212E-08  3.5634E-08  1.3108E+04
1.1397E+10
       36.490 -3.0481E-16  6.1099E-07 -8.7127E-08 -7.6202E-09  1.3108E+04
1.1397E+10
       36.900 -7.3727E-16  2.7465E-07 -5.6088E-08 -4.9971E-09  1.3108E+04
1.1397E+10
       37.310 -5.8640E-16  5.9145E-08 -3.1389E-08 -5.0431E-09  1.3108E+04
1.1397E+10
       37.720 -3.0992E-16 -3.4310E-08 -1.1038E-08 -3.2300E-09  1.3108E+04
1.1397E+10
       38.130 -1.0630E-16 -4.9562E-08  1.1034E-10 -1.3016E-09  1.3108E+04
1.1397E+10
       38.540 -7.9558E-18 -3.3286E-08  3.5876E-09 -1.1191E-10  1.3108E+04
1.1397E+10
       38.950  1.9695E-17 -1.4286E-08  3.0931E-09  3.1294E-10  1.3108E+04
1.1397E+10
       39.360  1.7005E-17 -2.8545E-09  1.5824E-09  3.0118E-10  1.3108E+04
1.1397E+10
       39.770  8.2520E-18  1.2873E-09  4.4495E-10  1.6119E-10  1.3108E+04
1.1397E+10
       40.180  2.2331E-18  1.5268E-09 -6.8894E-11  4.7690E-11  1.3108E+04
1.1397E+10
       40.590 -5.4300E-19  6.1120E-10 -1.5525E-10 -1.2585E-11  1.3108E+04
1.1397E+10
       41.000 -2.0210E-18      0.0000 -2.5610E-26 -5.0524E-11  1.3108E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.093059      0.8394 -8.3316E-04  1.6899E+05  1.3803E+04      0.0000
 1.0903E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.093059 0.8394 -8.3316E-04 1.6899E+05 1.3803E+04 0.0000
1.0903E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.8394	0.0000	1.3803E+04	211.07	1.0903E+04	1.1397E+10
0.4100	0.7966	7.3870E+04	1.3266E+04	219.05	1.2594E+04	1.1397E+10
0.8200	0.7539	1.4498E+05	1.2691E+04	226.64	1.4223E+04	1.1397E+10
1.2300	0.7116	2.1311E+05	1.2080E+04	233.81	1.5783E+04	1.1397E+10
1.6400	0.6697	2.7807E+05	1.1435E+04	240.56	1.7271E+04	1.1397E+10
2.0500	0.6284	3.3968E+05	1.0757E+04	246.87	1.8682E+04	1.1397E+10
2.4600	0.5879	3.9776E+05	1.0050E+04	252.72	2.0012E+04	1.1397E+10
2.8700	0.5481	4.5214E+05	9314.5	258.10	2.1257E+04	1.1397E+10
3.2800	0.5094	5.0268E+05	8554.1	263.00	2.2414E+04	1.1397E+10
3.6900	0.4717	5.4923E+05	7770.9	267.40	2.3480E+04	1.1397E+10
4.1000	0.4352	5.9168E+05	6967.2	271.28	2.4453E+04	1.1397E+10
4.5100	0.3999	6.2992E+05	6145.8	274.63	2.5328E+04	1.1397E+10
4.9200	0.3660	6.6385E+05	5309.2	277.44	2.6105E+04	1.1397E+10
5.3300	0.3334	6.9339E+05	4460.2	279.68	2.6782E+04	1.1397E+10
5.7400	0.3024	7.1848E+05	3601.7	281.33	2.7356E+04	1.1397E+10
6.1500	0.2729	7.3907E+05	2736.4	282.40	2.7828E+04	1.1397E+10
6.5600	0.2449	7.5512E+05	1867.4	282.85	2.8195E+04	1.1397E+10
6.9700	0.2186	7.6662E+05	997.81	282.66	2.8459E+04	

1.1397E+10
7.3800 0.1938 7.7357E+05 130.69 281.83 2.8618E+04
1.1397E+10
7.7900 0.1708 7.7599E+05 -730.66 280.32 2.8673E+04
1.1397E+10
8.2000 0.1493 7.7390E+05 -1582.9 278.11 2.8626E+04
1.1397E+10
8.6100 0.1295 7.6738E+05 -2422.5 275.20 2.8476E+04
1.1397E+10
9.0200 0.1114 7.5648E+05 -3245.9 271.53 2.8227E+04
1.1397E+10
9.4300 9.4833E-02 7.4130E+05 -4049.5 267.10 2.7879E+04
1.1397E+10
9.8400 7.9857E-02 7.2196E+05 -4829.2 261.87 2.7436E+04
1.1397E+10
10.250 6.6414E-02 6.9859E+05 -5581.1 255.80 2.6901E+04
1.1397E+10
10.660 5.4455E-02 6.7134E+05 -6301.0 248.84 2.6277E+04
1.1397E+10
11.070 4.3922E-02 6.4039E+05 -6984.4 240.96 2.5568E+04
1.1397E+10
11.480 3.4749E-02 6.0594E+05 -7626.6 232.07 2.4779E+04
1.1397E+10
11.890 2.6863E-02 5.6822E+05 -8222.3 222.10 2.3915E+04
1.1397E+10
12.300 2.0184E-02 5.2749E+05 -8766.0 210.92 2.2983E+04
1.1397E+10
12.710 1.4625E-02 4.8403E+05 -9251.3 198.36 2.1987E+04
1.1397E+10
13.120 1.0094E-02 4.3816E+05 -9670.7 184.12 2.0937E+04
1.1397E+10
13.530 6.4937E-03 3.9025E+05 -1.0015E+04 167.70 1.9840E+04
1.1397E+10
13.940 3.7224E-03 3.4070E+05 -1.0270E+04 147.98 1.8705E+04
1.1397E+10
14.350 1.6748E-03 2.9001E+05 -1.0412E+04 121.83 1.7544E+04
1.1397E+10
14.760 2.4303E-04 2.3883E+05 -1.0356E+04 67.514 1.6372E+04
1.1397E+10
15.170 -6.8144E-04 1.8850E+05 -9731.1 -109.65 1.5219E+04
1.1397E+10
15.580 -1.2056E-03 1.4332E+05 -8632.1 -125.09 1.4185E+04
1.1397E+10
15.990 -1.4253E-03 1.0369E+05 -7479.5 -131.44 1.3277E+04
1.1397E+10
16.400 -1.4247E-03 6.9760E+04 -6312.2 -131.08 1.2500E+04
1.1397E+10
16.810 -1.2761E-03 4.1548E+04 -5154.8 -127.43 1.1854E+04
1.1397E+10
17.220 -1.0391E-03 1.8972E+04 -4021.8 -121.12 1.1337E+04
1.1397E+10

```
       17.630 -7.6192E-04      1886.7     -2926.1     -112.30  1.0946E+04
1.1397E+10
       18.040 -4.8070E-04     -9915.2     -1880.9     -100.56  1.1130E+04
1.1397E+10
       18.450 -2.2053E-04 -1.6713E+04     -905.27     -84.054  1.1285E+04
1.1397E+10
       18.860  4.1424E-06 -1.8905E+04     -209.93      13.395  1.1336E+04
1.1397E+10
       19.270  1.8866E-04 -1.8848E+04      91.446      76.096  1.1334E+04
1.1397E+10
       19.680  3.3315E-04 -1.8061E+04      207.06      88.908  1.1316E+04
1.1397E+10
       20.090  4.3927E-04 -1.6853E+04      274.47      95.688  1.1289E+04
1.1397E+10
       20.500  5.0960E-04 -1.5390E+04      315.80      99.511  1.1255E+04
1.1397E+10
       20.910  5.4725E-04 -1.3764E+04      343.04      101.41  1.1218E+04
1.1397E+10
       21.320  5.5566E-04 -1.2022E+04      364.48      101.87  1.1178E+04
1.1397E+10
       21.730  5.3854E-04 -1.0176E+04      386.63      101.12  1.1136E+04
1.1397E+10
       22.140  4.9980E-04     -8208.0      415.16      99.281  1.1091E+04
1.1397E+10
       22.550  4.4364E-04     -6074.6      455.34      96.386  1.1042E+04
1.1397E+10
       22.960  3.7457E-04     -3706.3      512.43      92.409  1.0987E+04
1.1397E+10
       23.370  2.9762E-04     -1007.7      591.96      87.261  1.0926E+04
1.1397E+10
       23.780  2.1854E-04      2144.9      700.06      80.794  1.0952E+04
1.1397E+10
       24.190  1.4402E-04      5906.9      582.93      72.818  1.1038E+04
1.1397E+10
       24.600  8.2035E-05      7904.1      258.47      59.076  1.1084E+04
1.1397E+10
       25.010  3.6842E-05      8468.4     -47.578      65.336  1.1097E+04
1.1397E+10
       25.420  9.6357E-06      7448.1     -423.75      87.578  1.1073E+04
1.1397E+10
       25.830 -1.7516E-06      4305.3     -592.17     -19.111  1.1001E+04
1.1397E+10
       26.240 -3.9947E-06      1623.5     -420.03     -50.866  1.0940E+04
1.1397E+10
       26.650 -2.7898E-06      172.38     -195.00     -40.607  1.0907E+04
1.1397E+10
       27.060 -1.2187E-06     -295.84     -46.013     -19.959  1.0909E+04
1.1397E+10
       27.470 -2.7591E-07     -280.81      15.439     -5.0216  1.0909E+04
1.1397E+10
       27.880  7.0407E-08     -144.13      24.325      1.4097  1.0906E+04
```

1.1397E+10
28.290 1.1060E-07 -41.525 14.914 2.4160 1.0904E+04
1.1397E+10
28.700 6.2595E-08 2.6168 5.3260 1.4814 1.0903E+04
1.1397E+10
29.110 2.0149E-08 10.898 0.4425 0.5037 1.0903E+04
1.1397E+10
29.520 8.4877E-10 6.9816 -0.8488 2.1219E-02 1.0903E+04
1.1397E+10
29.930 -3.6229E-09 2.5493 -0.6782 -9.0573E-02 1.0903E+04
1.1397E+10
30.340 -2.6802E-09 0.3085 -0.2906 -6.7004E-02 1.0903E+04
1.1397E+10
30.750 -1.0822E-09 -0.3105 -5.9199E-02 -2.7054E-02 1.0903E+04
1.1397E+10
31.160 -1.4363E-10 -0.2745 1.6188E-02 -3.5908E-03 1.0903E+04
1.1397E+10
31.570 2.1198E-10 -0.1514 2.2252E-02 1.1258E-03 1.0903E+04
1.1397E+10
31.980 2.4600E-10 -5.5565E-02 1.5166E-02 1.7548E-03 1.0903E+04
1.1397E+10
32.390 1.6200E-10 -2.1744E-03 7.2800E-03 1.4508E-03 1.0903E+04
1.1397E+10
32.800 7.3382E-11 1.6099E-02 1.7655E-03 7.9089E-04 1.0903E+04
1.1397E+10
33.210 1.8959E-11 1.5222E-02 -7.6779E-04 2.3889E-04 1.0903E+04
1.1397E+10
33.620 -3.1325E-12 8.5570E-03 -1.2443E-03 -4.5177E-05 1.0903E+04
1.1397E+10
34.030 -7.0500E-12 2.9824E-03 -8.5146E-04 -1.1452E-04 1.0903E+04
1.1397E+10
34.440 -4.6333E-12 1.7890E-04 -3.6381E-04 -8.3707E-05 1.0903E+04
1.1397E+10
34.850 -1.8365E-12 -5.9837E-04 -6.8032E-05 -3.6526E-05 1.0903E+04
1.1397E+10
35.260 -3.1064E-13 -4.9126E-04 3.8413E-05 -6.7444E-06 1.0903E+04
1.1397E+10
35.670 1.7182E-13 -2.2072E-04 4.5058E-05 4.0435E-06 1.0903E+04
1.1397E+10
36.080 1.8550E-13 -4.7977E-05 2.3702E-05 4.6374E-06 1.0903E+04
1.1397E+10
36.490 9.7273E-14 1.2527E-05 6.3121E-06 2.4318E-06 1.0903E+04
1.1397E+10
36.900 3.5655E-14 1.4160E-05 -2.6462E-07 2.4166E-07 1.0903E+04
1.1397E+10
37.310 4.1131E-15 9.9387E-06 -9.4613E-07 3.5372E-08 1.0903E+04
1.1397E+10
37.720 -6.3200E-15 4.8574E-06 -8.7111E-07 -6.5868E-08 1.0903E+04
1.1397E+10
38.130 -6.4363E-15 1.3688E-06 -5.1521E-07 -7.8808E-08 1.0903E+04
1.1397E+10

```
       38.540 -3.6453E-15 -2.1267E-07 -1.9519E-07 -5.1278E-08  1.0903E+04
1.1397E+10
       38.950 -1.3061E-15 -5.5280E-07 -1.8002E-08 -2.0752E-08  1.0903E+04
1.1397E+10
       39.360 -1.4095E-16 -3.9040E-07  3.9190E-08 -2.4963E-09  1.0903E+04
1.1397E+10
       39.770  1.9501E-16 -1.6743E-07  3.5960E-08  3.8093E-09  1.0903E+04
1.1397E+10
       40.180  1.7537E-16 -3.6608E-08  1.7376E-08  3.7451E-09  1.0903E+04
1.1397E+10
       40.590  7.7971E-17  3.5693E-09  3.7171E-09  1.8072E-09  1.0903E+04
1.1397E+10
       41.000 -1.1847E-17      0.0000 -3.8039E-24 -2.9616E-10  1.0903E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.053068      0.8394 -8.3316E-04  1.1665E+05  1.1586E+04      0.0000
     7526.0


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.053068      0.8394 -8.3316E-04  1.1665E+05  1.1586E+04      0.0000
     7526.0


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
```

**********	**********	**********	**********	**********	**********
**********					
0.0000	0.8394	0.0000	1.1586E+04	179.80	7526.0
1.1397E+10					
0.4100	0.7992	6.0801E+04	1.1206E+04	186.75	8918.4
1.1397E+10					
0.8200	0.7591	1.1963E+05	1.0792E+04	193.39	1.0266E+04
1.1397E+10					
1.2300	0.7193	1.7632E+05	1.0347E+04	199.70	1.1564E+04
1.1397E+10					
1.6400	0.6798	2.3069E+05	9871.0	205.69	1.2809E+04
1.1397E+10					
2.0500	0.6408	2.8259E+05	9366.7	211.32	1.3998E+04
1.1397E+10					
2.4600	0.6025	3.3188E+05	8835.5	216.60	1.5126E+04
1.1397E+10					
2.8700	0.5648	3.7840E+05	8279.2	221.52	1.6192E+04
1.1397E+10					
3.2800	0.5280	4.2204E+05	7699.7	226.05	1.7191E+04
1.1397E+10					
3.6900	0.4920	4.6266E+05	7098.9	230.20	1.8121E+04
1.1397E+10					
4.1000	0.4570	5.0017E+05	6478.6	233.94	1.8980E+04
1.1397E+10					
4.5100	0.4231	5.3445E+05	5841.0	237.27	1.9765E+04
1.1397E+10					
4.9200	0.3904	5.6542E+05	5188.0	240.17	2.0475E+04
1.1397E+10					
5.3300	0.3588	5.9300E+05	4521.8	242.64	2.1106E+04
1.1397E+10					
5.7400	0.3285	6.1713E+05	3844.6	244.66	2.1659E+04
1.1397E+10					
6.1500	0.2995	6.3775E+05	3158.5	246.21	2.2131E+04
1.1397E+10					
6.5600	0.2718	6.5482E+05	2466.0	247.30	2.2522E+04
1.1397E+10					
6.9700	0.2456	6.6831E+05	1769.4	247.89	2.2831E+04
1.1397E+10					
7.3800	0.2207	6.7819E+05	1071.1	247.99	2.3057E+04
1.1397E+10					
7.7900	0.1973	6.8447E+05	373.53	247.57	2.3201E+04
1.1397E+10					
8.2000	0.1754	6.8716E+05	-320.65	246.62	2.3262E+04
1.1397E+10					
8.6100	0.1549	6.8627E+05	-1008.8	245.13	2.3242E+04
1.1397E+10					
9.0200	0.1359	6.8184E+05	-1688.3	243.07	2.3141E+04
1.1397E+10					
9.4300	0.1183	6.7393E+05	-2356.2	240.45	2.2959E+04
1.1397E+10					
9.8400	0.1021	6.6259E+05	-3009.7	237.22	2.2700E+04

1.1397E+10
10.250 8.7384E-02 6.4791E+05 -3645.9 233.38 2.2364E+04
1.1397E+10
10.660 7.4018E-02 6.2999E+05 -4261.6 228.90 2.1953E+04
1.1397E+10
11.070 6.1991E-02 6.0894E+05 -4853.6 223.75 2.1471E+04
1.1397E+10
11.480 5.1257E-02 5.8489E+05 -5418.6 217.92 2.0920E+04
1.1397E+10
11.890 4.1765E-02 5.5798E+05 -5953.1 211.35 2.0304E+04
1.1397E+10
12.300 3.3458E-02 5.2839E+05 -6453.3 204.01 1.9627E+04
1.1397E+10
12.710 2.6274E-02 4.9629E+05 -6915.4 195.84 1.8891E+04
1.1397E+10
13.120 2.0144E-02 4.6189E+05 -7335.1 186.77 1.8104E+04
1.1397E+10
13.530 1.4994E-02 4.2543E+05 -7707.7 176.70 1.7269E+04
1.1397E+10
13.940 1.0748E-02 3.8715E+05 -8027.9 165.47 1.6392E+04
1.1397E+10
14.350 7.3250E-03 3.4733E+05 -8289.4 152.85 1.5480E+04
1.1397E+10
14.760 4.6392E-03 3.0629E+05 -8484.3 138.38 1.4540E+04
1.1397E+10
15.170 2.6040E-03 2.6439E+05 -8601.1 121.09 1.3581E+04
1.1397E+10
15.580 1.1303E-03 2.2207E+05 -8618.8 98.104 1.2611E+04
1.1397E+10
15.990 1.2824E-04 1.7987E+05 -8452.7 46.398 1.1645E+04
1.1397E+10
16.400 -4.9175E-04 1.3908E+05 -7822.7 -90.510 1.0711E+04
1.1397E+10
16.810 -8.1635E-04 1.0301E+05 -6834.7 -99.092 9885.0
1.1397E+10
17.220 -9.2216E-04 7.1877E+04 -5820.5 -101.22 9172.0
1.1397E+10
17.630 -8.7531E-04 4.5743E+04 -4805.0 -99.590 8573.6
1.1397E+10
18.040 -7.3130E-04 2.4574E+04 -3804.3 -95.186 8088.8
1.1397E+10
18.450 -5.3511E-04 8269.1 -2831.5 -88.252 7715.4
1.1397E+10
18.860 -3.2135E-04 -3335.8 -1900.2 -78.316 7602.4
1.1397E+10
19.270 -1.1467E-04 -1.0478E+04 -1031.2 -62.965 7766.0
1.1397E+10
19.680 6.9751E-05 -1.3528E+04 -472.35 47.805 7835.8
1.1397E+10
20.090 2.2544E-04 -1.5166E+04 -236.03 68.132 7873.3
1.1397E+10

20.500	3.4892E-04	-1.5883E+04	-70.969	76.769	7889.7	1.1397E+10
20.910	4.3866E-04	-1.5889E+04	60.935	81.611	7889.9	1.1397E+10
21.320	4.9466E-04	-1.5301E+04	174.40	84.264	7876.4	1.1397E+10
21.730	5.1815E-04	-1.4182E+04	278.70	85.339	7850.8	1.1397E+10
22.140	5.1153E-04	-1.2560E+04	380.89	85.118	7813.6	1.1397E+10
22.550	4.7823E-04	-1.0430E+04	487.05	83.728	7764.8	1.1397E+10
22.960	4.2278E-04	-7757.2	602.84	81.204	7703.7	1.1397E+10
23.370	3.5085E-04	-4482.7	733.91	77.515	7628.7	1.1397E+10
23.780	2.6940E-04	-517.64	886.22	72.568	7537.9	1.1397E+10
24.190	1.8686E-04	4256.8	805.53	66.233	7623.5	1.1397E+10
24.600	1.1335E-04	7427.0	508.36	54.567	7696.1	1.1397E+10
25.010	5.5619E-05	9274.4	222.44	61.664	7738.4	1.1397E+10
25.420	1.7585E-05	9626.9	-322.44	159.83	7746.5	1.1397E+10
25.830	-1.7157E-09	6108.2	-715.57	-1.8720E-02	7665.9	1.1397E+10
26.240	-4.6152E-06	2588.3	-570.96	-58.767	7585.3	1.1397E+10
26.650	-3.7313E-06	490.40	-292.78	-54.311	7537.2	1.1397E+10
27.060	-1.8058E-06	-292.99	-86.427	-29.574	7532.7	1.1397E+10
27.470	-5.0254E-07	-360.42	8.8262	-9.1462	7534.3	1.1397E+10
27.880	3.5186E-08	-206.35	29.593	0.7045	7530.7	1.1397E+10
28.290	1.3463E-07	-69.296	20.625	2.9409	7527.6	1.1397E+10
28.700	8.6896E-08	-3.4099	8.3313	2.0565	7526.1	1.1397E+10
29.110	3.1919E-08	12.696	1.3091	0.7980	7526.3	1.1397E+10
29.520	3.9067E-09	9.4815	-0.8942	9.7669E-02	7526.2	1.1397E+10
29.930	-3.9679E-09	3.9009	-0.8904	-9.9198E-02	7526.1	1.1397E+10
30.340	-3.5574E-09	0.7205	-0.4276	-8.8936E-02	7526.0	1.1397E+10
30.750	-1.6167E-09	-0.3072	-0.1094	-4.0417E-02	7526.0	

1.1397E+10
31.160 -3.2850E-10 -0.3565 1.0214E-02 -8.2125E-03 7526.0
1.1397E+10
31.570 2.0244E-10 -0.2069 2.7772E-02 1.0752E-03 7526.0
1.1397E+10
31.980 2.9384E-10 -8.3329E-02 1.9971E-02 2.0961E-03 7526.0
1.1397E+10
32.390 2.0826E-10 -1.0433E-02 1.0226E-02 1.8651E-03 7526.0
1.1397E+10
32.800 1.0052E-10 1.7318E-02 2.9727E-03 1.0834E-03 7526.0
1.1397E+10
33.210 2.9569E-11 1.8839E-02 -6.0909E-04 3.7257E-04 7526.0
1.1397E+10
33.620 -1.3752E-12 1.1337E-02 -1.4768E-03 -1.9833E-05 7526.0
1.1397E+10
34.030 -8.2410E-12 4.3115E-03 -1.0987E-03 -1.3387E-04 7526.0
1.1397E+10
34.440 -5.9496E-12 5.2582E-04 -5.0496E-04 -1.0749E-04 7526.0
1.1397E+10
34.850 -2.5414E-12 -6.5801E-04 -1.1619E-04 -5.0545E-05 7526.0
1.1397E+10
35.260 -5.3076E-13 -6.1816E-04 3.6495E-05 -1.1523E-05 7526.0
1.1397E+10
35.670 1.6695E-13 -2.9922E-04 5.5178E-05 3.9288E-06 7526.0
1.1397E+10
36.080 2.2914E-13 -7.5298E-05 3.1421E-05 5.7285E-06 7526.0
1.1397E+10
36.490 1.3141E-13 9.9729E-06 9.2475E-06 3.2852E-06 7526.0
1.1397E+10
36.900 5.4856E-14 1.5719E-05 2.5139E-07 3.7180E-07 7526.0
1.1397E+10
37.310 1.1690E-14 1.2460E-05 -9.1057E-07 1.0054E-07 7526.0
1.1397E+10
37.720 -5.0102E-15 6.7656E-06 -1.0294E-06 -5.2218E-08 7526.0
1.1397E+10
38.130 -7.3411E-15 2.3331E-06 -6.7985E-07 -8.9888E-08 7526.0
1.1397E+10
38.540 -4.7167E-15 7.5851E-08 -2.9551E-07 -6.6348E-08 7526.0
1.1397E+10
38.950 -1.9311E-15 -5.7536E-07 -5.6813E-08 -3.0684E-08 7526.0
1.1397E+10
39.360 -3.6762E-16 -4.8370E-07 3.4685E-08 -6.5109E-09 7526.0
1.1397E+10
39.770 1.6856E-16 -2.3430E-07 4.2603E-08 3.2925E-09 7526.0
1.1397E+10
40.180 2.0709E-16 -6.4553E-08 2.3624E-08 4.4224E-09 7526.0
1.1397E+10
40.590 1.0851E-16 -1.8370E-09 6.5579E-09 2.5150E-09 7526.0
1.1397E+10
41.000 6.0317E-18 5.8034E-24 -1.5073E-24 1.5079E-10 7526.0
1.1397E+10

LOAD CASE : 3
CASE NAME : Strength I (minVmaxH), Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.58370E+06	4.27500E+05	-2.66614E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0360613	0.80293	-2.76034E-04

NUMBER OF ITERATIONS = 6

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN

STRESS, LB/IN**2

0.049311 0.8029 -2.7603E-04 1.1054E+05 4.0513E+04 0.0000
7131.8

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.049311 0.8029 -2.7603E-04 1.1054E+05 4.0513E+04 0.0000
7131.8

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	FLEXURAL RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.8029	0.0000	4.0513E+04	641.69	7131.8	1.1397E+10
0.4100	0.7456	1.9918E+05	3.7827E+04	662.33	1.1693E+04	1.1397E+10
0.8200	0.6887	3.8485E+05	3.5044E+04	681.10	1.5945E+04	1.1397E+10
1.2300	0.6326	5.5650E+05	3.2173E+04	697.89	1.9876E+04	1.1397E+10
1.6400	0.5777	7.1370E+05	2.9224E+04	712.64	2.3476E+04	1.1397E+10
2.0500	0.5242	8.5605E+05	2.6209E+04	725.25	2.6736E+04	1.1397E+10
2.4600	0.4727	9.8320E+05	2.3137E+04	735.63	2.9648E+04	1.1397E+10
2.8700	0.4232	1.0949E+06	2.0019E+04	743.70	3.2206E+04	1.1397E+10
3.2800	0.3760	1.1909E+06	1.6868E+04	749.35	3.4404E+04	1.1397E+10
3.6900	0.3314	1.2710E+06	1.3695E+04	752.49	3.6239E+04	1.1397E+10
4.1000	0.2894	1.3352E+06	1.0512E+04	753.03	3.7709E+04	1.1397E+10
4.5100	0.2503	1.3834E+06	7334.5	750.84	3.8813E+04	1.1397E+10

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       4.9200      0.2141  1.4157E+06      4174.3      745.80  3.9552E+04
1.1397E+10
       5.3300      0.1810  1.4322E+06      1046.1      737.79  3.9929E+04
1.1397E+10
       5.7400      0.1509  1.4330E+06     -2034.9      726.65  3.9948E+04
1.1397E+10
       6.1500      0.1238  1.4185E+06     -5052.9      712.20  3.9615E+04
1.1397E+10
       6.5600  9.9720E-02  1.3889E+06     -7991.3      694.24  3.8939E+04
1.1397E+10
       6.9700  7.8607E-02  1.3448E+06 -1.0832E+04      672.49  3.7929E+04
1.1397E+10
       7.3800  6.0350E-02  1.2867E+06 -1.3555E+04      646.61  3.6598E+04
1.1397E+10
       7.7900  4.4826E-02  1.2152E+06 -1.6140E+04      616.09  3.4960E+04
1.1397E+10
       8.2000  3.1883E-02  1.1310E+06 -1.8561E+04      580.17  3.3033E+04
1.1397E+10
       8.6100  2.1342E-02  1.0351E+06 -2.0789E+04      537.57  3.0837E+04
1.1397E+10
       9.0200  1.3000E-02  9.2853E+05 -2.2785E+04      485.78  2.8396E+04
1.1397E+10
       9.4300  6.6297E-03  8.1253E+05 -2.4489E+04      418.63  2.5739E+04
1.1397E+10
       9.8400  1.9852E-03  6.8878E+05 -2.5762E+04      310.86  2.2905E+04
1.1397E+10
       10.250 -1.1964E-03  5.5990E+05 -2.5262E+04     -302.15  1.9954E+04
1.1397E+10
       10.660 -3.1889E-03  4.4077E+05 -2.3055E+04     -382.73  1.7226E+04
1.1397E+10
       11.070 -4.2451E-03  3.3337E+05 -2.0564E+04     -418.03  1.4766E+04
1.1397E+10
       11.480 -4.5933E-03  2.3858E+05 -1.7945E+04     -434.69  1.2596E+04
1.1397E+10
       11.890 -4.4347E-03  1.5682E+05 -1.5272E+04     -439.58  1.0723E+04
1.1397E+10
       12.300 -3.9431E-03  8.8227E+04 -1.2598E+04     -435.50      9152.3
1.1397E+10
       12.710 -3.2641E-03  3.2723E+04     -9962.9     -423.77      7881.2
1.1397E+10
       13.120 -2.5156E-03     -9965.5     -7402.7     -404.98      7360.1
1.1397E+10
       13.530 -1.7882E-03 -4.0282E+04     -4952.0     -379.21      8054.3
1.1397E+10
       13.940 -1.1464E-03 -5.8845E+04     -2646.6     -345.96      8479.4
1.1397E+10
       14.350 -6.2964E-04 -6.6453E+04     -527.24     -303.58      8653.7
1.1397E+10
       14.760 -2.5398E-04 -6.4132E+04      1347.5     -246.51      8600.5
1.1397E+10
       15.170 -1.4524E-05 -5.3262E+04      2774.8     -121.70      8351.6
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1.1397E+10
15.580 1.1180E-04 -3.6868E+04 3082.1 208.80 7976.1
1.1397E+10
15.990 1.5983E-04 -2.2953E+04 2519.8 231.79 7657.5
1.1397E+10
16.400 1.5910E-04 -1.2078E+04 1901.3 231.64 7408.4
1.1397E+10
16.810 1.3272E-04 -4241.7 1308.4 221.37 7229.0
1.1397E+10
17.220 9.7336E-05 803.04 782.06 204.58 7150.2
1.1397E+10
17.630 6.3653E-05 3461.4 349.77 183.15 7211.1
1.1397E+10
18.040 3.7322E-05 4251.4 30.867 158.48 7229.2
1.1397E+10
18.450 2.0021E-05 3770.0 -162.87 132.27 7218.2
1.1397E+10
18.860 1.0727E-05 2651.7 -232.80 108.15 7192.6
1.1397E+10
19.270 7.0654E-06 1480.7 -206.32 93.084 7165.7
1.1397E+10
19.680 6.5482E-06 621.96 -136.75 90.634 7146.1
1.1397E+10
20.090 7.3521E-06 135.05 -71.635 94.897 7134.9
1.1397E+10
20.500 8.4429E-06 -83.136 -29.328 99.905 7133.7
1.1397E+10
20.910 9.3570E-06 -153.76 -8.5732 103.66 7135.4
1.1397E+10
21.320 9.9446E-06 -167.66 -2.7832 105.99 7135.7
1.1397E+10
21.730 1.0176E-05 -181.24 -5.5074 107.12 7136.0
1.1397E+10
22.140 1.0023E-05 -221.86 -11.071 107.14 7136.9
1.1397E+10
22.550 9.3979E-06 -290.09 -13.441 105.82 7138.5
1.1397E+10
22.960 8.1571E-06 -353.92 -4.2638 102.45 7139.9
1.1397E+10
23.370 6.1646E-06 -331.69 30.055 95.600 7139.4
1.1397E+10
23.780 3.4676E-06 -57.651 114.21 82.190 7133.2
1.1397E+10
24.190 6.4814E-07 792.75 51.851 49.159 7150.0
1.1397E+10
24.600 -4.8755E-07 453.00 -62.551 -2.6545 7142.2
1.1397E+10
25.010 -6.6112E-07 177.40 -44.203 -4.8041 7135.9
1.1397E+10
25.420 -4.5790E-07 18.040 -22.147 -4.1618 7132.2
1.1397E+10

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       25.830 -2.1637E-07     -40.577     -6.1010     -2.3608      7132.8
1.1397E+10
       26.240 -6.1020E-08     -42.038      1.6180     -0.7770      7132.8
1.1397E+10
       26.650  5.0426E-09     -24.681      3.3488  7.3398E-02      7132.4
1.1397E+10
       27.060  1.8686E-08     -9.0943      2.4154      0.3060      7132.0
1.1397E+10
       27.470  1.3013E-08     -0.9137      1.0800      0.2368      7131.9
1.1397E+10
       27.880  5.3995E-09      1.5342      0.2314      0.1081      7131.9
1.1397E+10
       28.290  1.0446E-09      1.3648 -9.0656E-02  2.2818E-02      7131.9
1.1397E+10
       28.700 -4.1148E-10      0.6428     -0.1228 -9.7384E-03      7131.8
1.1397E+10
       29.110 -5.0232E-10      0.1563 -6.7984E-02 -1.2558E-02      7131.8
1.1397E+10
       29.520 -2.6114E-10 -2.6191E-02 -2.1031E-02 -6.5284E-03      7131.8
1.1397E+10
       29.930 -7.5580E-11 -5.0672E-02 -3.2342E-04 -1.8895E-03      7131.8
1.1397E+10
       30.340  2.3510E-12 -2.9403E-02  4.1802E-03  5.8775E-05      7131.8
1.1397E+10
       30.750  1.7832E-11 -9.5496E-03  2.9389E-03  4.4581E-04      7131.8
1.1397E+10
       31.160  1.3031E-11 -4.8533E-04  1.0408E-03  3.2578E-04      7131.8
1.1397E+10
       31.570  7.1989E-12  6.9319E-04  1.4535E-04  3.8234E-05      7131.8
1.1397E+10
       31.980  2.8391E-12  9.4603E-04  1.4725E-06  2.0252E-05      7131.8
1.1397E+10
       32.390  4.8855E-13  7.0842E-04 -5.9111E-05  4.3753E-06      7131.8
1.1397E+10
       32.800 -3.5735E-13  3.6473E-04 -6.0400E-05 -3.8515E-06      7131.8
1.1397E+10
       33.210 -4.2860E-13  1.1419E-04 -3.7640E-05 -5.4003E-06      7131.8
1.1397E+10
       33.620 -2.5732E-13 -5.6588E-06 -1.5226E-05 -3.7111E-06      7131.8
1.1397E+10
       34.030 -9.8055E-14 -3.5672E-05 -2.1782E-06 -1.5929E-06      7131.8
1.1397E+10
       34.440 -1.4558E-14 -2.7119E-05  2.3872E-06 -2.6301E-07      7131.8
1.1397E+10
       34.850  1.1341E-14 -1.2194E-05  2.4793E-06  2.2556E-07      7131.8
1.1397E+10
       35.260  1.1341E-14 -2.7255E-06  1.3187E-06  2.4623E-07      7131.8
1.1397E+10
       35.670  5.5524E-15  7.8305E-07  3.9155E-07  1.3067E-07      7131.8
1.1397E+10
       36.080  1.4268E-15  1.1285E-06 -1.7640E-08  3.5671E-08      7131.8
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1.1397E+10
36.490 -3.0202E-16 6.1012E-07 -8.6816E-08 -7.5505E-09 7131.8
1.1397E+10
36.900 -7.3501E-16 2.7442E-07 -5.5987E-08 -4.9817E-09 7131.8
1.1397E+10
37.310 -5.8515E-16 5.9245E-08 -3.1352E-08 -5.0323E-09 7131.8
1.1397E+10
37.720 -3.0946E-16 -3.4131E-08 -1.1039E-08 -3.2252E-09 7131.8
1.1397E+10
38.130 -1.0626E-16 -4.9429E-08 9.5805E-11 -1.3010E-09 7131.8
1.1397E+10
38.540 -8.0389E-18 -3.3222E-08 3.5745E-09 -1.1308E-10 7131.8
1.1397E+10
38.950 1.9616E-17 -1.4270E-08 3.0860E-09 3.1168E-10 7131.8
1.1397E+10
39.360 1.6964E-17 -2.8588E-09 1.5801E-09 3.0045E-10 7131.8
1.1397E+10
39.770 8.2395E-18 1.2799E-09 4.4508E-10 1.6095E-10 7131.8
1.1397E+10
40.180 2.2334E-18 1.5224E-09 -6.8178E-11 4.7696E-11 7131.8
1.1397E+10
40.590 -5.3929E-19 6.0997E-10 -1.5476E-10 -1.2500E-11 7131.8
1.1397E+10
41.000 -2.0164E-18 0.0000 -4.8354E-26 -5.0411E-11 7131.8
1.1397E+10

* PILE GROUP * 2

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN DISP.Y,IN SLOPE FOR.X, LB FOR.Y, LB BM, LB-IN
STRESS, LB/IN**2

0.036061 0.8029 -2.7603E-04 8.4506E+04 1.3930E+04 0.0000
5452.0

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN
STRESS,LBS/IN**2

0.036061 0.8029 -2.7603E-04 8.4506E+04 1.3930E+04 0.0000
5452.0

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	FLEXURAL RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.8029	0.0000	1.3930E+04	208.74	5452.0	1.1397E+10
0.4100	0.7620	7.0750E+04	1.3405E+04	216.64	7072.2	1.1397E+10
0.8200	0.7213	1.3881E+05	1.2843E+04	224.14	8630.8	1.1397E+10
1.2300	0.6808	2.0398E+05	1.2244E+04	231.24	1.0123E+04	1.1397E+10
1.6400	0.6408	2.6609E+05	1.1611E+04	237.92	1.1546E+04	1.1397E+10
2.0500	0.6013	3.2496E+05	1.0947E+04	244.16	1.2894E+04	1.1397E+10
2.4600	0.5625	3.8042E+05	1.0253E+04	249.95	1.4164E+04	1.1397E+10
2.8700	0.5246	4.3233E+05	9531.5	255.28	1.5353E+04	1.1397E+10
3.2800	0.4875	4.8055E+05	8785.1	260.13	1.6457E+04	1.1397E+10
3.6900	0.4515	5.2495E+05	8016.1	264.49	1.7474E+04	1.1397E+10
4.1000	0.4166	5.6542E+05	7226.8	268.34	1.8401E+04	1.1397E+10
4.5100	0.3829	6.0186E+05	6419.9	271.66	1.9235E+04	1.1397E+10
4.9200	0.3504	6.3418E+05	5598.0	274.45	1.9975E+04	1.1397E+10
5.3300	0.3194	6.6231E+05	4763.8	276.67	2.0619E+04	1.1397E+10
5.7400	0.2897	6.8619E+05	3920.0	278.33	2.1166E+04	1.1397E+10
6.1500	0.2615	7.0578E+05	3069.5	279.40	2.1615E+04	1.1397E+10
6.5600	0.2347	7.2104E+05	2215.3	279.86	2.1964E+04	1.1397E+10
6.9700	0.2095	7.3197E+05	1360.3	279.70	2.2215E+04	1.1397E+10
7.3800	0.1859	7.3855E+05	507.68	278.89	2.2365E+04	1.1397E+10

7.7900	0.1638	7.4082E+05	-339.35	277.43	2.2417E+04
1.1397E+10					
8.2000	0.1433	7.3881E+05	-1177.5	275.28	2.2371E+04
1.1397E+10					
8.6100	0.1244	7.3257E+05	-2003.4	272.43	2.2228E+04
1.1397E+10					
9.0200	0.1071	7.2216E+05	-2813.4	268.85	2.1990E+04
1.1397E+10					
9.4300	9.1221E-02	7.0769E+05	-3603.9	264.51	2.1659E+04
1.1397E+10					
9.8400	7.6889E-02	6.8925E+05	-4371.2	259.39	2.1236E+04
1.1397E+10					
10.250	6.4021E-02	6.6698E+05	-5111.3	253.45	2.0726E+04
1.1397E+10					
10.660	5.2569E-02	6.4101E+05	-5820.0	246.65	2.0132E+04
1.1397E+10					
11.070	4.2479E-02	6.1153E+05	-6493.0	238.94	1.9456E+04
1.1397E+10					
11.480	3.3688E-02	5.7872E+05	-7125.7	230.26	1.8705E+04
1.1397E+10					
11.890	2.6126E-02	5.4279E+05	-7713.2	220.54	1.7882E+04
1.1397E+10					
12.300	1.9717E-02	5.0400E+05	-8249.9	209.66	1.6994E+04
1.1397E+10					
12.710	1.4378E-02	4.6261E+05	-8730.0	197.49	1.6046E+04
1.1397E+10					
13.120	1.0022E-02	4.1891E+05	-9146.3	183.76	1.5045E+04
1.1397E+10					
13.530	6.5558E-03	3.7327E+05	-9490.3	168.06	1.4000E+04
1.1397E+10					
13.940	3.8821E-03	3.2605E+05	-9750.1	149.54	1.2919E+04
1.1397E+10					
14.350	1.9010E-03	2.7772E+05	-9906.4	126.00	1.1812E+04
1.1397E+10					
14.760	5.0978E-04	2.2885E+05	-9909.6	87.285	1.0693E+04
1.1397E+10					
15.170	-3.9540E-04	1.8040E+05	-9355.0	-100.72	9583.3
1.1397E+10					
15.580	-9.1742E-04	1.3692E+05	-8294.8	-118.25	8587.6
1.1397E+10					
15.990	-1.1486E-03	9.8846E+04	-7173.7	-125.48	7715.6
1.1397E+10					
16.400	-1.1699E-03	6.6354E+04	-6034.6	-125.59	6971.5
1.1397E+10					
16.810	-1.0502E-03	3.9457E+04	-4903.6	-122.18	6355.6
1.1397E+10					
17.220	-8.4675E-04	1.8076E+04	-3796.1	-116.00	5865.9
1.1397E+10					
17.630	-6.0489E-04	2065.5	-2725.5	-107.20	5499.3
1.1397E+10					
18.040	-3.5864E-04	-8784.5	-1705.8	-95.342	5653.1

1.1397E+10
18.450 -1.3105E-04 -1.4759E+04 -756.02 -78.728 5790.0
1.1397E+10
18.860 6.5191E-05 -1.6260E+04 -167.61 51.538 5824.3
1.1397E+10
19.270 2.2690E-04 -1.6439E+04 34.072 78.476 5828.4
1.1397E+10
19.680 3.5369E-04 -1.5949E+04 143.05 89.224 5817.2
1.1397E+10
20.090 4.4662E-04 -1.5050E+04 210.80 95.236 5796.6
1.1397E+10
20.500 5.0757E-04 -1.3887E+04 255.28 98.683 5770.0
1.1397E+10
20.910 5.3903E-04 -1.2546E+04 287.08 100.39 5739.3
1.1397E+10
21.320 5.4385E-04 -1.1066E+04 313.82 100.74 5705.4
1.1397E+10
21.730 5.2516E-04 -9456.4 341.65 99.947 5668.5
1.1397E+10
22.140 4.8638E-04 -7698.9 375.98 98.099 5628.3
1.1397E+10
22.550 4.3126E-04 -5748.8 421.93 95.221 5583.6
1.1397E+10
22.960 3.6392E-04 -3536.8 484.66 91.276 5533.0
1.1397E+10
23.370 2.8908E-04 -967.72 569.67 86.170 5474.1
1.1397E+10
23.780 2.1218E-04 2081.6 683.03 79.747 5499.6
1.1397E+10
24.190 1.3969E-04 5766.0 570.95 71.814 5584.0
1.1397E+10
24.600 7.9459E-05 7711.0 251.16 58.184 5628.6
1.1397E+10
25.010 3.5602E-05 8246.2 -49.925 64.208 5640.8
1.1397E+10
25.420 9.2586E-06 7225.6 -414.89 84.150 5617.4
1.1397E+10
25.830 -1.7378E-06 4166.8 -575.25 -18.961 5547.4
1.1397E+10
26.240 -3.8841E-06 1566.3 -406.94 -49.457 5487.8
1.1397E+10
26.650 -2.7038E-06 162.59 -188.47 -39.355 5455.7
1.1397E+10
27.060 -1.1781E-06 -288.47 -44.185 -19.295 5458.6
1.1397E+10
27.470 -2.6520E-07 -272.40 15.155 -4.8266 5458.2
1.1397E+10
27.880 6.9191E-08 -139.45 23.620 1.3854 5455.2
1.1397E+10
28.290 1.0739E-07 -40.013 14.441 2.3459 5452.9
1.1397E+10

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       28.700  6.0605E-08      2.6488      5.1419      1.4343      5452.0
1.1397E+10
       29.110  1.9445E-08      10.590      0.4176      0.4861      5452.2
1.1397E+10
       29.520  7.7896E-10      6.7626     -0.8262  1.9474E-02      5452.1
1.1397E+10
       29.930 -3.5240E-09      2.4623     -0.6574 -8.8099E-02      5452.0
1.1397E+10
       30.340 -2.5972E-09      0.2940     -0.2810 -6.4930E-02      5452.0
1.1397E+10
       30.750 -1.0459E-09     -0.3025 -5.6902E-02 -2.6148E-02      5452.0
1.1397E+10
       31.160 -1.3711E-10     -0.2661  1.5853E-02 -3.4277E-03      5452.0
1.1397E+10
       31.570  2.0656E-10     -0.1466  2.1587E-02  1.0971E-03      5452.0
1.1397E+10
       31.980  2.3883E-10 -5.3691E-02  1.4697E-02  1.7036E-03      5452.0
1.1397E+10
       32.390  1.5706E-10 -1.9930E-03  7.0462E-03  1.4065E-03      5452.0
1.1397E+10
       32.800  7.1056E-11  1.5658E-02  1.7021E-03  7.6583E-04      5452.0
1.1397E+10
       33.210  1.8309E-11  1.4768E-02 -7.4932E-04  2.3070E-04      5452.0
1.1397E+10
       33.620 -3.0720E-12  8.2905E-03 -1.2078E-03 -4.4305E-05      5452.0
1.1397E+10
       34.030 -6.8449E-12  2.8845E-03 -8.2533E-04 -1.1119E-04      5452.0
1.1397E+10
       34.440 -4.4913E-12  1.6943E-04 -3.5219E-04 -8.1143E-05      5452.0
1.1397E+10
       34.850 -1.7779E-12 -5.8148E-04 -6.5591E-05 -3.5360E-05      5452.0
1.1397E+10
       35.260 -2.9948E-13 -4.7635E-04  3.7389E-05 -6.5020E-06      5452.0
1.1397E+10
       35.670  1.6719E-13 -2.1374E-04  4.3705E-05  3.9346E-06      5452.0
1.1397E+10
       36.080  1.7990E-13 -4.6331E-05  2.2962E-05  4.4975E-06      5452.0
1.1397E+10
       36.490  9.4203E-14  1.2216E-05  6.1049E-06  2.3551E-06      5452.0
1.1397E+10
       36.900  3.4453E-14  1.3753E-05 -2.6303E-07  2.3351E-07      5452.0
1.1397E+10
       37.310  3.9142E-15  9.6356E-06 -9.2028E-07  3.3662E-08      5452.0
1.1397E+10
       37.720 -6.1591E-15  4.7013E-06 -8.4518E-07 -6.4192E-08      5452.0
1.1397E+10
       38.130 -6.2473E-15  1.3199E-06 -4.9909E-07 -7.6495E-08      5452.0
1.1397E+10
       38.540 -3.5321E-15 -2.0999E-07 -1.8868E-07 -4.9685E-08      5452.0
1.1397E+10
       38.950 -1.2629E-15 -5.3716E-07 -1.7094E-08 -2.0067E-08      5452.0
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1.1397E+10
       39.360 -1.3463E-16 -3.7849E-07  3.8136E-08 -2.3844E-09      5452.0
1.1397E+10
       39.770  1.8981E-16 -1.6203E-07  3.4881E-08  3.7075E-09      5452.0
1.1397E+10
       40.180  1.7011E-16 -3.5285E-08  1.6824E-08  3.6327E-09      5452.0
1.1397E+10
       40.590  7.5465E-17  3.5278E-09  3.5843E-09  1.7491E-09      5452.0
1.1397E+10
       41.000 -1.1683E-17  5.8034E-24  1.3270E-24 -2.9208E-10      5452.0
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.022812      0.8029 -2.7603E-04  5.4589E+04  1.1599E+04      0.0000
     3521.9


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.022812      0.8029 -2.7603E-04  5.4589E+04  1.1599E+04      0.0000
     3521.9


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.8029      0.0000  1.1599E+04      177.82      3521.9
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1.1397E+10
0.4100 0.7645 5.8296E+04 1.1228E+04 184.69 4856.9
1.1397E+10
0.8200 0.7261 1.1468E+05 1.0825E+04 191.25 6148.2
1.1397E+10
1.2300 0.6880 1.6899E+05 1.0390E+04 197.50 7391.8
1.1397E+10
1.6400 0.6503 2.2106E+05 9925.5 203.42 8584.3
1.1397E+10
2.0500 0.6130 2.7075E+05 9432.5 208.99 9722.3
1.1397E+10
2.4600 0.5763 3.1791E+05 8913.0 214.22 1.0802E+04
1.1397E+10
2.8700 0.5403 3.6242E+05 8368.6 219.08 1.1822E+04
1.1397E+10
3.2800 0.5051 4.0415E+05 7801.2 223.56 1.2777E+04
1.1397E+10
3.6900 0.4707 4.4299E+05 7212.7 227.66 1.3667E+04
1.1397E+10
4.1000 0.4372 4.7883E+05 6605.1 231.36 1.4487E+04
1.1397E+10
4.5100 0.4048 5.1158E+05 5980.2 234.66 1.5237E+04
1.1397E+10
4.9200 0.3735 5.4115E+05 5340.1 237.53 1.5915E+04
1.1397E+10
5.3300 0.3433 5.6748E+05 4687.0 239.97 1.6518E+04
1.1397E+10
5.7400 0.3143 5.9050E+05 4022.9 241.97 1.7045E+04
1.1397E+10
6.1500 0.2865 6.1017E+05 3350.1 243.51 1.7495E+04
1.1397E+10
6.5600 0.2601 6.2643E+05 2670.9 244.59 1.7868E+04
1.1397E+10
6.9700 0.2350 6.3926E+05 1987.6 245.18 1.8161E+04
1.1397E+10
7.3800 0.2112 6.4865E+05 1302.6 245.28 1.8377E+04
1.1397E+10
7.7900 0.1889 6.5460E+05 618.29 244.88 1.8513E+04
1.1397E+10
8.2000 0.1679 6.5710E+05 -62.697 243.95 1.8570E+04
1.1397E+10
8.6100 0.1483 6.5619E+05 -737.79 242.48 1.8549E+04
1.1397E+10
9.0200 0.1301 6.5191E+05 -1404.3 240.46 1.8451E+04
1.1397E+10
9.4300 0.1133 6.4429E+05 -2059.5 237.88 1.8277E+04
1.1397E+10
9.8400 9.7849E-02 6.3340E+05 -2700.6 234.71 1.8027E+04
1.1397E+10
10.250 8.3753E-02 6.1933E+05 -3324.5 230.93 1.7705E+04
1.1397E+10

10.660	7.0973E-02	6.0215E+05	-3928.3	226.52	1.7312E+04	1.1397E+10
11.070	5.9472E-02	5.8200E+05	-4508.8	221.46	1.6850E+04	1.1397E+10
11.480	4.9206E-02	5.5898E+05	-5062.7	215.72	1.6323E+04	1.1397E+10
11.890	4.0128E-02	5.3323E+05	-5586.7	209.26	1.5733E+04	1.1397E+10
12.300	3.2183E-02	5.0493E+05	-6077.0	202.06	1.5085E+04	1.1397E+10
12.710	2.5310E-02	4.7425E+05	-6529.9	194.04	1.4382E+04	1.1397E+10
13.120	1.9444E-02	4.4137E+05	-6941.2	185.16	1.3630E+04	1.1397E+10
13.530	1.4516E-02	4.0653E+05	-7306.4	175.31	1.2832E+04	1.1397E+10
13.940	1.0451E-02	3.6997E+05	-7620.5	164.37	1.1994E+04	1.1397E+10
14.350	7.1716E-03	3.3195E+05	-7877.6	152.13	1.1124E+04	1.1397E+10
14.760	4.5976E-03	2.9277E+05	-8070.3	138.20	1.0227E+04	1.1397E+10
15.170	2.6453E-03	2.5278E+05	-8188.4	121.81	9310.8	1.1397E+10
15.580	1.2300E-03	2.1238E+05	-8214.6	100.85	8385.6	1.1397E+10
15.990	2.6576E-04	1.7208E+05	-8098.0	63.765	7462.7	1.1397E+10
16.400	-3.3301E-04	1.3278E+05	-7526.5	-84.079	6562.7	1.1397E+10
16.810	-6.4974E-04	9.8071E+04	-6567.2	-93.901	5767.8	1.1397E+10
17.220	-7.5818E-04	6.8186E+04	-5577.4	-96.444	5083.4	1.1397E+10
17.630	-7.2180E-04	4.3193E+04	-4585.3	-94.864	4511.1	1.1397E+10
18.040	-5.9368E-04	2.3058E+04	-3608.4	-90.257	4049.9	1.1397E+10
18.450	-4.1659E-04	7670.4	-2661.2	-82.778	3697.5	1.1397E+10
18.860	-2.2321E-04	-3148.4	-1760.2	-71.478	3594.0	1.1397E+10
19.270	-3.6508E-05	-9670.6	-936.66	-51.291	3743.4	1.1397E+10
19.680	1.2965E-04	-1.2384E+04	-433.74	58.854	3805.5	1.1397E+10
20.090	2.6951E-04	-1.3955E+04	-233.99	71.945	3841.5	1.1397E+10
20.500	3.7972E-04	-1.4700E+04	-83.178	78.751	3858.5	1.1397E+10
20.910	4.5871E-04	-1.4784E+04	41.134	82.716	3860.5	

1.1397E+10
21.320 5.0630E-04 -1.4303E+04 150.43 84.855 3849.4
1.1397E+10
21.730 5.2352E-04 -1.3307E+04 252.63 85.599 3826.6
1.1397E+10
22.140 5.1247E-04 -1.1817E+04 354.10 85.154 3792.5
1.1397E+10
22.550 4.7632E-04 -9820.6 460.46 83.608 3746.8
1.1397E+10
22.960 4.1931E-04 -7280.9 577.11 80.975 3688.6
1.1397E+10
23.370 3.4684E-04 -4134.7 709.49 77.211 3616.6
1.1397E+10
23.780 2.6559E-04 -291.17 863.43 72.214 3528.6
1.1397E+10
24.190 1.8372E-04 4370.3 784.56 65.845 3622.0
1.1397E+10
24.600 1.1113E-04 7437.4 489.28 54.189 3692.2
1.1397E+10
25.010 5.4338E-05 9191.8 205.53 61.154 3732.4
1.1397E+10
25.420 1.7069E-05 9464.9 -326.54 155.14 3738.6
1.1397E+10
25.830 -9.7944E-08 5981.6 -705.55 -1.0687 3658.9
1.1397E+10
26.240 -4.5601E-06 2523.5 -560.08 -58.066 3579.7
1.1397E+10
26.650 -3.6625E-06 470.66 -286.09 -53.310 3532.7
1.1397E+10
27.060 -1.7653E-06 -291.81 -83.828 -28.912 3528.6
1.1397E+10
27.470 -4.8786E-07 -354.38 9.1379 -8.8791 3530.0
1.1397E+10
27.880 3.6906E-08 -201.99 29.163 0.7389 3526.5
1.1397E+10
28.290 1.3267E-07 -67.456 20.216 2.8980 3523.4
1.1397E+10
28.700 8.5156E-08 -3.0683 8.1286 2.0154 3522.0
1.1397E+10
29.110 3.1129E-08 12.535 1.2564 0.7782 3522.2
1.1397E+10
29.520 3.7244E-09 9.2994 -0.8870 9.3111E-02 3522.1
1.1397E+10
29.930 -3.9285E-09 3.8087 -0.8745 -9.8212E-02 3522.0
1.1397E+10
30.340 -3.4921E-09 0.6949 -0.4181 -8.7302E-02 3521.9
1.1397E+10
30.750 -1.5799E-09 -0.3058 -0.1062 -3.9496E-02 3521.9
1.1397E+10
31.160 -3.1706E-10 -0.3503 1.0465E-02 -7.9264E-03 3521.9
1.1397E+10

```
       31.570  2.0177E-10     -0.2029  2.7328E-02  1.0716E-03      3521.9
1.1397E+10
       31.980  2.8968E-10 -8.1411E-02  1.9608E-02  2.0664E-03      3521.9
1.1397E+10
       32.390  2.0467E-10 -9.9444E-03  1.0016E-02  1.8329E-03      3521.9
1.1397E+10
       32.800  9.8545E-11  1.7155E-02  2.8940E-03  1.0621E-03      3521.9
1.1397E+10
       33.210  2.8855E-11  1.8542E-02 -6.1313E-04  3.6357E-04      3521.9
1.1397E+10
       33.620 -1.4539E-12  1.1127E-02 -1.4559E-03 -2.0969E-05      3521.9
1.1397E+10
       34.030 -8.1295E-12  4.2180E-03 -1.0795E-03 -1.3206E-04      3521.9
1.1397E+10
       34.440 -5.8464E-12  5.0519E-04 -4.9477E-04 -1.0563E-04      3521.9
1.1397E+10
       34.850 -2.4903E-12 -6.5085E-04 -1.1309E-04 -4.9529E-05      3521.9
1.1397E+10
       35.260 -5.1655E-13 -6.0790E-04  3.6341E-05 -1.1215E-05      3521.9
1.1397E+10
       35.670  1.6605E-13 -2.9341E-04  5.4317E-05  3.9077E-06      3521.9
1.1397E+10
       36.080  2.2548E-13 -7.3467E-05  3.0837E-05  5.6370E-06      3521.9
1.1397E+10
       36.490  1.2887E-13  1.0029E-05  9.0441E-06  3.2218E-06      3521.9
1.1397E+10
       36.900  5.3562E-14  1.5536E-05  2.2544E-07  3.6303E-07      3521.9
1.1397E+10
       37.310  1.1251E-14  1.2253E-05 -9.0565E-07  9.6758E-08      3521.9
1.1397E+10
       37.720 -5.0353E-15  6.6274E-06 -1.0146E-06 -5.2479E-08      3521.9
1.1397E+10
       38.130 -7.2455E-15  2.2709E-06 -6.6724E-07 -8.8717E-08      3521.9
1.1397E+10
       38.540 -4.6323E-15  6.1765E-08 -2.8870E-07 -6.5161E-08      3521.9
1.1397E+10
       38.950 -1.8879E-15 -5.7011E-07 -5.4606E-08 -2.9997E-08      3521.9
1.1397E+10
       39.360 -3.5445E-16 -4.7580E-07  3.4630E-08 -6.2776E-09      3521.9
1.1397E+10
       39.770  1.6849E-16 -2.2947E-07  4.1976E-08  3.2912E-09      3521.9
1.1397E+10
       40.180  2.0406E-16 -6.2779E-08  2.3160E-08  4.3578E-09      3521.9
1.1397E+10
       40.590  1.0629E-16 -1.5727E-09  6.3789E-09  2.4636E-09      3521.9
1.1397E+10
       41.000  5.1793E-18 -5.8034E-24 -1.2117E-24  1.2948E-10      3521.9
1.1397E+10
```

LOAD CASE : 4
CASE NAME : Service I, Contraction

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
2.18560E+06	3.52900E+05	-4.25425E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0539190	0.47660	-6.06173E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.083015	0.4766	-6.0617E-04	1.6040E+05	3.2501E+04	2.6136E-08	

1.0349E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN DISP.y,IN SLOPE AXIAL, LB LAT, LB BM, LB-IN STRESS,LBS/IN**2

0.083015 0.4766 -6.0617E-04 1.6040E+05 3.2501E+04 2.6136E-08 1.0349E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x FT	DISPL. y-DIR IN	BENDING MOMENT LBS-IN	SHEAR FORCE LBS	SOIL REACTION LBS/IN	TOTAL FLEXURAL STRESS LBS-IN**2	RIGIDITY LBS-IN**2
0.0000	0.4766	-2.6136E-08	3.2501E+04	563.24	1.0349E+04	1.1397E+10
0.4100	0.4390	1.5997E+05	3.0033E+04	580.17	1.4012E+04	1.1397E+10
0.8200	0.4017	3.0754E+05	2.7485E+04	595.21	1.7391E+04	1.1397E+10
1.2300	0.3650	4.4229E+05	2.4869E+04	608.26	2.0477E+04	1.1397E+10
1.6400	0.3293	5.6386E+05	2.2194E+04	619.23	2.3261E+04	1.1397E+10
2.0500	0.2948	6.7194E+05	1.9470E+04	628.03	2.5737E+04	1.1397E+10
2.4600	0.2617	7.6629E+05	1.6709E+04	634.57	2.7897E+04	1.1397E+10
2.8700	0.2303	8.4670E+05	1.3921E+04	638.74	2.9739E+04	1.1397E+10
3.2800	0.2006	9.1307E+05	1.1118E+04	640.43	3.1258E+04	1.1397E+10
3.6900	0.1729	9.6531E+05	8314.0	639.54	3.2455E+04	1.1397E+10
4.1000	0.1473	1.0034E+06	5520.7	635.95	3.3328E+04	1.1397E+10
4.5100	0.1237	1.0275E+06	2752.0	629.52	3.3880E+04	1.1397E+10
4.9200	0.1024	1.0377E+06	22.382	620.09	3.4113E+04	1.1397E+10
5.3300	8.3235E-02	1.0342E+06	-2653.1	607.49	3.4033E+04	

1.1397E+10
5.7400 6.6286E-02 1.0174E+06 -5258.2 591.50 3.3648E+04
1.1397E+10
6.1500 5.1498E-02 9.8759E+05 -7775.6 571.83 3.2965E+04
1.1397E+10
6.5600 3.8808E-02 9.4530E+05 -1.0186E+04 548.13 3.1997E+04
1.1397E+10
6.9700 2.8126E-02 8.9111E+05 -1.2469E+04 519.82 3.0756E+04
1.1397E+10
7.3800 1.9336E-02 8.2572E+05 -1.4599E+04 486.05 2.9258E+04
1.1397E+10
7.7900 1.2300E-02 7.4999E+05 -1.6546E+04 445.21 2.7524E+04
1.1397E+10
8.2000 6.8567E-03 6.6492E+05 -1.8265E+04 393.85 2.5576E+04
1.1397E+10
8.6100 2.8258E-03 5.7178E+05 -1.9680E+04 321.32 2.3443E+04
1.1397E+10
9.0200 9.3625E-06 4.7236E+05 -2.0179E+04 21.316 2.1166E+04
1.1397E+10
9.4300 -1.8038E-03 3.7396E+05 -1.9122E+04 -311.00 1.8913E+04
1.1397E+10
9.8400 -2.8227E-03 2.8466E+05 -1.7142E+04 -353.60 1.6867E+04
1.1397E+10
10.250 -3.2371E-03 2.0551E+05 -1.5009E+04 -373.73 1.5055E+04
1.1397E+10
10.660 -3.2149E-03 1.3704E+05 -1.2807E+04 -381.42 1.3487E+04
1.1397E+10
11.070 -2.9017E-03 7.9441E+04 -1.0589E+04 -380.15 1.2168E+04
1.1397E+10
11.480 -2.4197E-03 3.2715E+04 -8395.3 -371.50 1.1098E+04
1.1397E+10
11.890 -1.8683E-03 -3335.0 -6260.8 -356.18 1.0425E+04
1.1397E+10
12.300 -1.3239E-03 -2.9067E+04 -4217.7 -334.36 1.1014E+04
1.1397E+10
12.710 -8.4131E-04 -4.5002E+04 -2298.8 -305.69 1.1379E+04
1.1397E+10
13.120 -4.5428E-04 -5.1827E+04 -540.82 -268.92 1.1535E+04
1.1397E+10
13.530 -1.7732E-04 -5.0430E+04 1006.2 -219.96 1.1503E+04
1.1397E+10
13.940 -7.4692E-06 -4.1997E+04 2339.1 -181.86 1.1310E+04
1.1397E+10
14.350 7.3180E-05 -2.7454E+04 2700.2 175.07 1.0977E+04
1.1397E+10
14.760 9.5520E-05 -1.5444E+04 2135.9 194.32 1.0702E+04
1.1397E+10
15.170 8.5058E-05 -6438.5 1524.4 194.24 1.0496E+04
1.1397E+10
15.580 6.0922E-05 -438.22 939.55 183.51 1.0359E+04
1.1397E+10

```
       15.990  3.5854E-05      2814.6      428.13      164.39  1.0413E+04
1.1397E+10
       16.400  1.6765E-05      3781.7      32.876      136.29  1.0435E+04
1.1397E+10
       16.810  5.7078E-06      3143.0     -208.17      101.70  1.0421E+04
1.1397E+10
       17.220  1.3260E-06      1735.8     -263.56      60.815  1.0388E+04
1.1397E+10
       17.630  6.3084E-07      550.35     -172.21      42.050  1.0361E+04
1.1397E+10
       18.040  1.1046E-06      41.312     -65.484      54.568  1.0350E+04
1.1397E+10
       18.450  1.6660E-06     -94.177     -13.290      64.215  1.0351E+04
1.1397E+10
       18.860  2.0275E-06     -89.610      4.1997      68.675  1.0351E+04
1.1397E+10
       19.270  2.1986E-06     -52.937      6.7989      70.268  1.0350E+04
1.1397E+10
       19.680  2.2573E-06     -22.745      4.7658      70.558  1.0349E+04
1.1397E+10
       20.090  2.2677E-06     -6.0528      2.3900      70.408  1.0349E+04
1.1397E+10
       20.500  2.2652E-06      0.7709      0.8388      70.223  1.0349E+04
1.1397E+10
       20.910  2.2644E-06      2.2019 -7.5566E-02      70.149  1.0349E+04
1.1397E+10
       21.320  2.2682E-06  2.6862E-02     -0.9769      70.217  1.0349E+04
1.1397E+10
       21.730  2.2721E-06     -7.4116     -2.5129      70.407  1.0349E+04
1.1397E+10
       22.140  2.2603E-06     -24.698     -5.0305      70.616  1.0349E+04
1.1397E+10
       22.550  2.1960E-06     -56.900     -7.9167      70.557  1.0350E+04
1.1397E+10
       22.960  2.0108E-06     -102.56     -8.2218      69.567  1.0351E+04
1.1397E+10
       23.370  1.6078E-06     -137.71      1.9549      66.296  1.0352E+04
1.1397E+10
       23.780  9.1235E-07     -83.146      41.407      57.667  1.0350E+04
1.1397E+10
       24.190  4.0292E-08      269.98      22.766      19.911  1.0355E+04
1.1397E+10
       24.600 -2.5834E-07      141.06     -22.754     -1.4065  1.0352E+04
1.1397E+10
       25.010 -2.5737E-07      46.134     -14.693     -1.8702  1.0350E+04
1.1397E+10
       25.420 -1.5842E-07     -3.5362     -6.5502     -1.4399  1.0349E+04
1.1397E+10
       25.830 -6.6981E-08     -18.350     -1.2102     -0.7308  1.0349E+04
1.1397E+10
       26.240 -1.4515E-08     -15.468      1.0423     -0.1848  1.0349E+04
```

1.1397E+10
26.650 5.0993E-09 -8.1057 1.3144 7.4223E-02 1.0349E+04
1.1397E+10
27.060 7.4972E-09 -2.5377 0.8297 0.1228 1.0349E+04
1.1397E+10
27.470 4.5052E-09 5.8873E-02 0.3260 8.1994E-02 1.0349E+04
1.1397E+10
27.880 1.6382E-09 0.6707 4.3567E-02 3.2800E-02 1.0349E+04
1.1397E+10
28.290 1.9566E-10 0.4883 -4.7635E-02 4.2740E-03 1.0349E+04
1.1397E+10
28.700 -2.0984E-10 0.2022 -4.5932E-02 -4.9662E-03 1.0349E+04
1.1397E+10
29.110 -1.8580E-10 3.6352E-02 -2.2289E-02 -4.6450E-03 1.0349E+04
1.1397E+10
29.520 -8.4551E-11 -1.7105E-02 -5.6621E-03 -2.1138E-03 1.0349E+04
1.1397E+10
29.930 -1.9632E-11 -1.9390E-02 7.4518E-04 -4.9080E-04 1.0349E+04
1.1397E+10
30.340 4.1050E-12 -9.7868E-03 1.7001E-03 1.0262E-04 1.0349E+04
1.1397E+10
30.750 7.0556E-12 -2.6649E-03 1.0137E-03 1.7639E-04 1.0349E+04
1.1397E+10
31.160 4.3462E-12 1.8819E-04 3.1252E-04 1.0865E-04 1.0349E+04
1.1397E+10
31.570 2.0365E-12 4.1108E-04 1.8620E-05 1.0816E-05 1.0349E+04
1.1397E+10
31.980 5.9989E-13 3.7202E-04 -1.8514E-05 4.2792E-06 1.0349E+04
1.1397E+10
32.390 -4.6565E-14 2.2924E-04 -2.8015E-05 -4.1701E-07 1.0349E+04
1.1397E+10
32.800 -2.0613E-13 9.6477E-05 -2.1524E-05 -2.2216E-06 1.0349E+04
1.1397E+10
33.210 -1.6079E-13 1.7460E-05 -1.1075E-05 -2.0260E-06 1.0349E+04
1.1397E+10
33.620 -7.8363E-14 -1.2521E-05 -3.3109E-06 -1.1302E-06 1.0349E+04
1.1397E+10
34.030 -2.2529E-14 -1.5141E-05 3.6964E-07 -3.6598E-07 1.0349E+04
1.1397E+10
34.440 1.1463E-15 -8.8964E-06 1.2190E-06 2.0709E-08 1.0349E+04
1.1397E+10
34.850 5.9267E-15 -3.1503E-06 8.7808E-07 1.1787E-07 1.0349E+04
1.1397E+10
35.260 4.0160E-15 -2.5650E-07 3.7362E-07 8.7192E-08 1.0349E+04
1.1397E+10
35.670 1.5605E-15 5.2681E-07 6.8787E-08 3.6725E-08 1.0349E+04
1.1397E+10
36.080 2.2399E-16 4.2097E-07 -3.5331E-08 5.5998E-09 1.0349E+04
1.1397E+10
36.490 -2.1844E-16 1.7944E-07 -3.5673E-08 -5.4609E-09 1.0349E+04
1.1397E+10

```
       36.900 -2.7974E-16  7.0035E-08 -1.7575E-08 -1.8960E-09  1.0349E+04
1.1397E+10
       37.310 -1.9231E-16  6.5013E-09 -8.8420E-09 -1.6538E-09  1.0349E+04
1.1397E+10
       37.720 -9.1059E-17 -1.7001E-08 -2.4389E-09 -9.4903E-10  1.0349E+04
1.1397E+10
       38.130 -2.5920E-17 -1.7525E-08  6.7643E-10 -3.1738E-10  1.0349E+04
1.1397E+10
       38.540  1.9976E-18 -1.0360E-08  1.3880E-09  2.8100E-11  1.0349E+04
1.1397E+10
       38.950  7.9119E-18 -3.8716E-09  1.0097E-09  1.2571E-10  1.0349E+04
1.1397E+10
       39.360  5.6031E-18 -4.2518E-10  4.5630E-10  9.9236E-11  1.0349E+04
1.1397E+10
       39.770  2.3912E-18  6.1926E-10  9.7280E-11  4.6708E-11  1.0349E+04
1.1397E+10
       40.180  4.9455E-19  5.3287E-10 -4.3602E-11  1.0561E-11  1.0349E+04
1.1397E+10
       40.590 -2.7030E-19  1.9064E-10 -5.4172E-11 -6.2649E-12  1.0349E+04
1.1397E+10
       41.000 -6.3024E-19  9.0678E-26 -2.3207E-26 -1.5756E-11  1.0349E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.053919      0.4766 -6.0617E-04  1.1804E+05  1.2009E+04      0.0000
     7615.3


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.053919      0.4766 -6.0617E-04  1.1804E+05  1.2009E+04      0.0000
     7615.3


        * EFFECTS FOR LATERALLY LOADED PILE *
```

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.4766	0.0000	1.2009E+04	183.22	7615.3	1.1397E+10
0.4100	0.4492	6.0946E+04	1.1436E+04	189.82	9011.0	1.1397E+10
0.8200	0.4220	1.1898E+05	1.0831E+04	196.02	1.0340E+04	1.1397E+10
1.2300	0.3950	1.7393E+05	1.0197E+04	201.81	1.1598E+04	1.1397E+10
1.6400	0.3684	2.2564E+05	9535.1	207.15	1.2783E+04	1.1397E+10
2.0500	0.3422	2.7398E+05	8848.3	212.05	1.3890E+04	1.1397E+10
2.4600	0.3166	3.1881E+05	8138.5	216.49	1.4916E+04	1.1397E+10
2.8700	0.2918	3.6002E+05	7408.1	220.44	1.5860E+04	1.1397E+10
3.2800	0.2676	3.9749E+05	6659.4	223.89	1.6718E+04	1.1397E+10
3.6900	0.2443	4.3114E+05	5895.1	226.82	1.7489E+04	1.1397E+10
4.1000	0.2220	4.6089E+05	5117.6	229.23	1.8170E+04	1.1397E+10
4.5100	0.2006	4.8666E+05	4329.7	231.08	1.8760E+04	1.1397E+10
4.9200	0.1802	5.0842E+05	3534.0	232.36	1.9258E+04	1.1397E+10
5.3300	0.1610	5.2612E+05	2733.5	233.06	1.9664E+04	1.1397E+10
5.7400	0.1428	5.3973E+05	1931.0	233.15	1.9976E+04	1.1397E+10
6.1500	0.1258	5.4927E+05	1129.6	232.62	2.0194E+04	1.1397E+10
6.5600	0.1100	5.5473E+05	332.44	231.43	2.0319E+04	1.1397E+10
6.9700	9.5312E-02	5.5614E+05	-457.24	229.58	2.0351E+04	1.1397E+10
7.3800	8.1830E-02	5.5355E+05	-1236.1	227.03	2.0292E+04	1.1397E+10
7.7900	6.9524E-02	5.4702E+05	-2000.6	223.75	2.0142E+04	1.1397E+10
8.2000	5.8380E-02	5.3663E+05	-2747.2	219.73	1.9905E+04	

1.1397E+10
8.6100 4.8376E-02 5.2248E+05 -3472.0 214.91 1.9581E+04
1.1397E+10
9.0200 3.9482E-02 5.0470E+05 -4171.0 209.26 1.9173E+04
1.1397E+10
9.4300 3.1659E-02 4.8341E+05 -4840.1 202.73 1.8686E+04
1.1397E+10
9.8400 2.4863E-02 4.5880E+05 -5474.8 195.26 1.8122E+04
1.1397E+10
10.250 1.9042E-02 4.3103E+05 -6070.1 186.76 1.7486E+04
1.1397E+10
10.660 1.4136E-02 4.0033E+05 -6620.9 177.12 1.6783E+04
1.1397E+10
11.070 1.0080E-02 3.6694E+05 -7120.9 166.15 1.6018E+04
1.1397E+10
11.480 6.8042E-03 3.3113E+05 -7563.1 153.58 1.5198E+04
1.1397E+10
11.890 4.2313E-03 2.9321E+05 -7938.0 138.84 1.4330E+04
1.1397E+10
12.300 2.2811E-03 2.5355E+05 -8232.0 120.67 1.3422E+04
1.1397E+10
12.710 8.6942E-04 2.1260E+05 -8417.7 94.815 1.2484E+04
1.1397E+10
13.120 -9.0699E-05 1.7100E+05 -8100.6 -83.737 1.1531E+04
1.1397E+10
13.530 -6.8763E-04 1.3308E+05 -7305.0 -99.664 1.0663E+04
1.1397E+10
13.940 -1.0019E-03 9.9227E+04 -6445.1 -109.89 9887.7
1.1397E+10
14.350 -1.1054E-03 6.9707E+04 -5549.7 -114.10 9211.6
1.1397E+10
14.760 -1.0609E-03 4.4625E+04 -4642.5 -114.67 8637.3
1.1397E+10
15.170 -9.2161E-04 2.4003E+04 -3739.3 -112.48 8165.0
1.1397E+10
15.580 -7.3132E-04 7791.4 -2852.9 -107.87 7793.7
1.1397E+10
15.990 -5.2449E-04 -4116.4 -1995.7 -100.58 7709.6
1.1397E+10
16.400 -3.2640E-04 -1.1894E+04 -1184.5 -89.179 7887.7
1.1397E+10
16.810 -1.5357E-04 -1.5815E+04 -439.50 -73.656 7977.5
1.1397E+10
17.220 -1.4336E-05 -1.6255E+04 184.08 -39.831 7987.6
1.1397E+10
17.630 9.0376E-05 -1.4033E+04 467.65 64.559 7936.7
1.1397E+10
18.040 1.6528E-04 -1.1675E+04 469.44 74.714 7882.7
1.1397E+10
18.450 2.1539E-04 -9428.3 434.50 79.489 7831.2
1.1397E+10

18.860	2.4548E-04	-7408.9	382.25	81.754	7785.0
1.1397E+10					
19.270	2.5983E-04	-5672.2	322.57	82.506	7745.2
1.1397E+10					
19.680	2.6213E-04	-4236.8	261.71	82.232	7712.3
1.1397E+10					
20.090	2.5543E-04	-3096.5	204.02	81.219	7686.2
1.1397E+10					
20.500	2.4216E-04	-2226.9	152.70	79.645	7666.3
1.1397E+10					
20.910	2.2416E-04	-1590.2	110.22	77.624	7651.7
1.1397E+10					
21.320	2.0277E-04	-1137.7	78.618	75.222	7641.4
1.1397E+10					
21.730	1.7898E-04	-811.29	59.729	72.457	7633.9
1.1397E+10					
22.140	1.5346E-04	-544.16	55.390	69.306	7627.8
1.1397E+10					
22.550	1.2678E-04	-260.09	67.683	65.696	7621.3
1.1397E+10					
22.960	9.9552E-05	128.21	99.195	61.494	7618.2
1.1397E+10					
23.370	7.2596E-05	722.38	153.36	56.486	7631.8
1.1397E+10					
23.780	4.7174E-05	1643.5	234.97	50.343	7652.9
1.1397E+10					
24.190	2.5242E-05	3040.0	178.58	42.579	7684.9
1.1397E+10					
24.600	9.7678E-06	3405.1	-56.991	53.180	7693.3
1.1397E+10					
25.010	1.5255E-06	2482.0	-215.09	11.085	7672.1
1.1397E+10					
25.420	-1.4451E-06	1290.0	-210.04	-13.135	7644.8
1.1397E+10					
25.830	-1.6759E-06	415.58	-132.75	-18.286	7624.8
1.1397E+10					
26.240	-1.0240E-06	-16.304	-55.689	-13.039	7615.7
1.1397E+10					
26.650	-4.0677E-07	-132.55	-9.0472	-5.9208	7618.3
1.1397E+10					
27.060	-7.1044E-08	-105.44	8.3803	-1.1635	7617.7
1.1397E+10					
27.470	4.0736E-08	-50.140	9.4188	0.7414	7616.4
1.1397E+10					
27.880	4.6022E-08	-12.774	5.3282	0.9215	7615.6
1.1397E+10					
28.290	2.4176E-08	2.2906	1.7622	0.5281	7615.3
1.1397E+10					
28.700	7.1957E-09	4.5708	4.4120E-02	0.1703	7615.4
1.1397E+10					
29.110	-7.6574E-11	2.7276	-0.3701	-1.9143E-03	7615.4

1.1397E+10
29.520 -1.5557E-09 0.9300 -0.2697 -3.8891E-02 7615.3
1.1397E+10
29.930 -1.0594E-09 7.3635E-02 -0.1089 -2.6486E-02 7615.3
1.1397E+10
30.340 -4.0684E-10 -0.1416 -1.8718E-02 -1.0171E-02 7615.3
1.1397E+10
30.750 -5.5055E-11 -0.1107 9.6884E-03 -1.3764E-03 7615.3
1.1397E+10
31.160 6.1674E-11 -4.6358E-02 9.2813E-03 1.5418E-03 7615.3
1.1397E+10
31.570 7.9942E-11 -1.9357E-02 4.4439E-03 4.2458E-04 7615.3
1.1397E+10
31.980 5.7097E-11 -2.6294E-03 2.3975E-03 4.0729E-04 7615.3
1.1397E+10
32.390 2.8667E-11 4.2401E-03 7.6400E-04 2.5673E-04 7615.3
1.1397E+10
32.800 9.2430E-12 4.8940E-03 -1.1262E-04 9.9619E-05 7615.3
1.1397E+10
33.210 2.1334E-13 3.1353E-03 -3.6430E-04 2.6881E-06 7615.3
1.1397E+10
33.620 -2.1572E-12 1.3107E-03 -2.9437E-04 -3.1112E-05 7615.3
1.1397E+10
34.030 -1.7441E-12 2.3885E-04 -1.4814E-04 -2.8331E-05 7615.3
1.1397E+10
34.440 -8.2360E-13 -1.4722E-04 -4.1843E-05 -1.4880E-05 7615.3
1.1397E+10
34.850 -2.1580E-13 -1.7306E-04 5.3200E-06 -4.2921E-06 7615.3
1.1397E+10
35.260 2.4425E-14 -9.4967E-05 1.4574E-05 5.3028E-07 7615.3
1.1397E+10
35.670 6.2951E-14 -2.9685E-05 9.6252E-06 1.4814E-06 7615.3
1.1397E+10
36.080 3.8428E-14 -2.5641E-07 3.6175E-06 9.6071E-07 7615.3
1.1397E+10
36.490 1.3361E-14 5.9171E-06 4.3247E-07 3.3403E-07 7615.3
1.1397E+10
36.900 8.6123E-16 4.0035E-06 -4.0360E-07 5.8373E-09 7615.3
1.1397E+10
37.310 -3.1354E-15 1.9476E-06 -3.5162E-07 -2.6965E-08 7615.3
1.1397E+10
37.720 -2.9954E-15 5.4399E-07 -2.0849E-07 -3.1219E-08 7615.3
1.1397E+10
38.130 -1.7001E-15 -1.0409E-07 -8.0484E-08 -2.0816E-08 7615.3
1.1397E+10
38.540 -6.2579E-16 -2.4825E-07 -7.6202E-09 -8.8028E-09 7615.3
1.1397E+10
38.950 -7.8786E-17 -1.7927E-07 1.7114E-08 -1.2518E-09 7615.3
1.1397E+10
39.360 8.7471E-17 -7.9933E-08 1.6383E-08 1.5492E-09 7615.3
1.1397E+10

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       39.770  8.3957E-17 -1.8081E-08  8.5373E-09  1.6400E-09      7615.3
1.1397E+10
       40.180  4.2040E-17  4.0789E-09  2.2944E-09  8.9780E-10      7615.3
1.1397E+10
       40.590  8.7871E-18  4.5050E-09 -4.1520E-10  2.0367E-10      7615.3
1.1397E+10
       41.000 -1.4898E-17 -2.9017E-24 -1.0700E-24 -3.7245E-10      7615.3
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.024823      0.4766 -6.0617E-04  5.9130E+04  1.0332E+04      0.0000
     3814.8


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.024823      0.4766 -6.0617E-04  5.9130E+04  1.0332E+04      0.0000
     3814.8


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.4766      0.0000  1.0332E+04      156.08      3814.8
1.1397E+10
       0.4100      0.4507  5.1325E+04      9894.8      161.84      4990.2
1.1397E+10
```

0.8200	0.4249	1.0042E+05	9429.6	167.28	6114.5	1.1397E+10
1.2300	0.3994	1.4715E+05	8938.4	172.39	7184.6	1.1397E+10
1.6400	0.3741	1.9138E+05	8422.9	177.16	8197.6	1.1397E+10
2.0500	0.3493	2.3299E+05	7884.9	181.57	9150.5	1.1397E+10
2.4600	0.3249	2.7188E+05	7326.0	185.62	1.0041E+04	1.1397E+10
2.8700	0.3011	3.0793E+05	6748.1	189.28	1.0867E+04	1.1397E+10
3.2800	0.2780	3.4105E+05	6153.2	192.56	1.1625E+04	1.1397E+10
3.6900	0.2556	3.7116E+05	5543.1	195.43	1.2315E+04	1.1397E+10
4.1000	0.2340	3.9820E+05	4920.0	197.88	1.2934E+04	1.1397E+10
4.5100	0.2132	4.2208E+05	4285.8	199.91	1.3481E+04	1.1397E+10
4.9200	0.1934	4.4277E+05	3642.8	201.48	1.3955E+04	1.1397E+10
5.3300	0.1744	4.6022E+05	2993.1	202.61	1.4354E+04	1.1397E+10
5.7400	0.1565	4.7440E+05	2339.1	203.26	1.4679E+04	1.1397E+10
6.1500	0.1396	4.8530E+05	1683.1	203.42	1.4929E+04	1.1397E+10
6.5600	0.1236	4.9291E+05	1027.5	203.08	1.5103E+04	1.1397E+10
6.9700	0.1088	4.9723E+05	374.87	202.22	1.5202E+04	1.1397E+10
7.3800	9.4974E-02	4.9829E+05	-272.25	200.83	1.5226E+04	1.1397E+10
7.7900	8.2225E-02	4.9612E+05	-911.16	198.89	1.5176E+04	1.1397E+10
8.2000	7.0529E-02	4.9077E+05	-1539.1	196.37	1.5054E+04	1.1397E+10
8.6100	5.9876E-02	4.8230E+05	-2153.2	193.26	1.4860E+04	1.1397E+10
9.0200	5.0247E-02	4.7078E+05	-2750.5	189.53	1.4596E+04	1.1397E+10
9.4300	4.1618E-02	4.5631E+05	-3327.8	185.15	1.4265E+04	1.1397E+10
9.8400	3.3958E-02	4.3900E+05	-3881.9	180.10	1.3868E+04	1.1397E+10
10.250	2.7231E-02	4.1897E+05	-4409.4	174.32	1.3410E+04	1.1397E+10
10.660	2.1393E-02	3.9636E+05	-4906.6	167.78	1.2892E+04	1.1397E+10
11.070	1.6398E-02	3.7133E+05	-5369.5	160.40	1.2319E+04	

1.1397E+10
11.480 1.2191E-02 3.4406E+05 -5793.8 152.10 1.1694E+04
1.1397E+10
11.890 8.7143E-03 3.1477E+05 -6174.7 142.73 1.1023E+04
1.1397E+10
12.300 5.9066E-03 2.8368E+05 -6506.4 132.09 1.0311E+04
1.1397E+10
12.710 3.7014E-03 2.5104E+05 -6781.6 119.76 9563.9
1.1397E+10
13.120 2.0294E-03 2.1718E+05 -6989.7 104.85 8788.3
1.1397E+10
13.530 8.1867E-04 1.8244E+05 -7111.2 84.551 7992.8
1.1397E+10
13.940 -4.5905E-06 1.4732E+05 -6939.8 -14.226 7188.6
1.1397E+10
14.350 -5.1495E-04 1.1423E+05 -6361.6 -80.837 6430.7
1.1397E+10
14.760 -7.8269E-04 8.4770E+04 -5594.9 -90.792 5756.1
1.1397E+10
15.170 -8.7040E-04 5.9194E+04 -4794.0 -94.804 5170.4
1.1397E+10
15.580 -8.3237E-04 3.7600E+04 -3981.5 -95.465 4675.9
1.1397E+10
15.990 -7.1449E-04 2.0007E+04 -3172.5 -93.413 4273.0
1.1397E+10
16.400 -5.5412E-04 6366.3 -2381.9 -87.943 3960.6
1.1397E+10
16.810 -3.8022E-04 -3451.6 -1623.1 -80.519 3893.9
1.1397E+10
17.220 -2.1366E-04 -9625.5 -906.78 -70.681 4035.3
1.1397E+10
17.630 -6.7540E-05 -1.2393E+04 -249.00 -56.708 4098.6
1.1397E+10
18.040 5.2259E-05 -1.2091E+04 128.02 43.445 4091.7
1.1397E+10
18.450 1.4638E-04 -1.1146E+04 217.54 60.165 4070.1
1.1397E+10
18.860 2.1682E-04 -9960.5 248.47 67.266 4042.9
1.1397E+10
19.270 2.6611E-04 -8707.8 252.29 71.181 4014.2
1.1397E+10
19.680 2.9691E-04 -7482.7 241.16 73.343 3986.2
1.1397E+10
20.090 3.1181E-04 -6337.5 222.28 74.331 3960.0
1.1397E+10
20.500 3.1325E-04 -5296.4 200.72 74.436 3936.1
1.1397E+10
20.910 3.0344E-04 -4362.0 180.40 73.821 3914.7
1.1397E+10
21.320 2.8437E-04 -3519.5 164.68 72.573 3895.4
1.1397E+10

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       21.730  2.5782E-04     -2738.9      156.54      70.734      3877.6
1.1397E+10
       22.140  2.2546E-04     -1975.7      158.91      68.301      3860.1
1.1397E+10
       22.550  1.8890E-04     -1171.1      174.82      65.233      3841.6
1.1397E+10
       22.960  1.4985E-04     -250.97      207.60      61.443      3820.6
1.1397E+10
       23.370  1.1027E-04      876.33      261.17      56.781      3834.9
1.1397E+10
       23.780  7.2552E-05      2323.5      340.43      51.001      3868.0
1.1397E+10
       24.190  3.9767E-05      4230.3      279.60      43.726      3911.7
1.1397E+10
       24.600  1.5967E-05      5078.1     -41.821      86.932      3931.1
1.1397E+10
       25.010  2.9528E-06      3821.0     -308.46      21.457      3902.3
1.1397E+10
       25.420 -1.9462E-06      2043.9     -317.73     -17.688      3861.6
1.1397E+10
       25.830 -2.5039E-06      694.84     -207.01     -27.320      3830.7
1.1397E+10
       26.240 -1.5858E-06      6.9789     -90.124     -20.193      3815.0
1.1397E+10
       26.650 -6.5295E-07     -192.09     -17.070     -9.5040      3819.2
1.1397E+10
       27.060 -1.2805E-07     -161.07      11.469     -2.0971      3818.5
1.1397E+10
       27.470  5.4749E-08     -79.274      14.177      0.9964      3816.6
1.1397E+10
       27.880  6.9172E-08     -21.586      8.3184      1.3850      3815.3
1.1397E+10
       28.290  3.7748E-08      2.5804      2.8829      0.8246      3814.9
1.1397E+10
       28.700  1.1804E-08      6.7860      0.1672      0.2794      3815.0
1.1397E+10
       29.110  2.7389E-10      4.2283     -0.5368  6.8473E-03      3814.9
1.1397E+10
       29.520 -2.2759E-09      1.5043     -0.4137 -5.6897E-02      3814.9
1.1397E+10
       29.930 -1.6306E-09      0.1574     -0.1735 -4.0764E-02      3814.8
1.1397E+10
       30.340 -6.5091E-10     -0.2028 -3.3165E-02 -1.6273E-02      3814.8
1.1397E+10
       30.750 -1.0192E-10     -0.1690  1.3134E-02 -2.5479E-03      3814.8
1.1397E+10
       31.160  8.8092E-11 -7.3572E-02  1.3984E-02  2.2023E-03      3814.8
1.1397E+10
       31.570  1.2184E-10 -3.1426E-02  6.9746E-03  6.4711E-04      3814.8
1.1397E+10
       31.980  8.8841E-11 -4.9413E-03  3.8238E-03  6.3373E-04      3814.8
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1.1397E+10
       32.390  4.5346E-11  6.2041E-03  1.2658E-03  4.0610E-04      3814.8
1.1397E+10
       32.800  1.5029E-11  7.5185E-03 -1.3168E-04  1.6198E-04      3814.8
1.1397E+10
       33.210  6.8075E-13  4.9110E-03 -5.5125E-04  8.5774E-06      3814.8
1.1397E+10
       33.620 -3.2369E-12  2.0953E-03 -4.5751E-04 -4.6683E-05      3814.8
1.1397E+10
       34.030 -2.7043E-12  4.0934E-04 -2.3460E-04 -4.3930E-05      3814.8
1.1397E+10
       34.440 -1.3023E-12 -2.1330E-04 -6.8656E-05 -2.3528E-05      3814.8
1.1397E+10
       34.850 -3.5331E-13 -2.6637E-04  6.5094E-06 -7.0269E-06      3814.8
1.1397E+10
       35.260  2.9919E-14 -1.4932E-04  2.2197E-05  6.4958E-07      3814.8
1.1397E+10
       35.670  9.5992E-14 -4.7978E-05  1.5042E-05  2.2590E-06      3814.8
1.1397E+10
       36.080  6.0164E-14 -1.3086E-06  5.7851E-06  1.5041E-06      3814.8
1.1397E+10
       36.490  2.1556E-14  8.9522E-06  7.5938E-07  5.3890E-07      3814.8
1.1397E+10
       36.900  1.9620E-15  6.1672E-06 -5.9902E-07  1.3298E-08      3814.8
1.1397E+10
       37.310 -4.5333E-15  3.0594E-06 -5.3582E-07 -3.8986E-08      3814.8
1.1397E+10
       37.720 -4.5306E-15  8.9502E-07 -3.2376E-07 -4.7219E-08      3814.8
1.1397E+10
       38.130 -2.6269E-15 -1.2650E-07 -1.2848E-07 -3.2165E-08      3814.8
1.1397E+10
       38.540 -9.9187E-16 -3.6940E-07 -1.5029E-08 -1.3952E-08      3814.8
1.1397E+10
       38.950 -1.4144E-16 -2.7453E-07  2.4822E-08 -2.2474E-09      3814.8
1.1397E+10
       39.360  1.2591E-16 -1.2522E-07  2.4865E-08  2.2300E-09      3814.8
1.1397E+10
       39.770  1.2731E-16 -2.9870E-08  1.3262E-08  2.4868E-09      3814.8
1.1397E+10
       40.180  6.5270E-17  5.2842E-09  3.7155E-09  1.3939E-09      3814.8
1.1397E+10
       40.590  1.4453E-17  6.6970E-09 -5.3754E-10  3.3499E-10      3814.8
1.1397E+10
       41.000 -2.2140E-17 -5.8034E-24  7.2217E-25 -5.5350E-10      3814.8
1.1397E+10


     LOAD CASE :     5
     CASE NAME : Strength I (maxVmaxH), Expansion
```

LOAD TYPE : Dead, DL

REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
3.07180E+06	3.84900E+05	-3.90474E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0927384	0.68978	-5.95747E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.1213	0.6898	-5.9575E-04	1.9316E+05	3.6968E+04	0.0000	1.2462E+04

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.1213	0.6898	-5.9575E-04	1.9316E+05	3.6968E+04	0.0000	1.2462E+04

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.6898	0.0000	3.6968E+04	617.78	1.2462E+04	1.1397E+10
0.4100	0.6392	1.8546E+05	3.4402E+04	637.32	1.6709E+04	1.1397E+10
0.8200	0.5890	3.5799E+05	3.1745E+04	654.99	2.0660E+04	1.1397E+10
1.2300	0.5395	5.1708E+05	2.9005E+04	670.69	2.4304E+04	1.1397E+10
1.6400	0.4912	6.6229E+05	2.6193E+04	684.34	2.7629E+04	1.1397E+10
2.0500	0.4442	7.9322E+05	2.3319E+04	695.85	3.0628E+04	1.1397E+10
2.4600	0.3990	9.0956E+05	2.0394E+04	705.13	3.3292E+04	1.1397E+10
2.8700	0.3557	1.0110E+06	1.7430E+04	712.10	3.5615E+04	1.1397E+10
3.2800	0.3145	1.0974E+06	1.4436E+04	716.64	3.7593E+04	1.1397E+10
3.6900	0.2756	1.1685E+06	1.1427E+04	718.68	3.9222E+04	1.1397E+10
4.1000	0.2393	1.2244E+06	8414.1	718.09	4.0501E+04	1.1397E+10
4.5100	0.2055	1.2649E+06	5410.8	714.78	4.1429E+04	1.1397E+10
4.9200	0.1744	1.2901E+06	2430.8	708.60	4.2007E+04	1.1397E+10
5.3300	0.1461	1.3003E+06	-511.49	699.43	4.2239E+04	1.1397E+10
5.7400	0.1205	1.2955E+06	-3400.9	687.11	4.2130E+04	1.1397E+10

```
       6.1500  9.7712E-02  1.2761E+06     -6221.4      671.46  4.1687E+04
1.1397E+10
       6.5600  7.7599E-02  1.2426E+06     -8956.2      652.24  4.0918E+04
1.1397E+10
       6.9700  6.0126E-02  1.1953E+06 -1.1587E+04      629.16  3.9835E+04
1.1397E+10
       7.3800  4.5191E-02  1.1348E+06 -1.4094E+04      601.84  3.8450E+04
1.1397E+10
       7.7900  3.2666E-02  1.0619E+06 -1.6454E+04      569.69  3.6780E+04
1.1397E+10
       8.2000  2.2397E-02  9.7732E+05 -1.8642E+04      531.78  3.4843E+04
1.1397E+10
       8.6100  1.4204E-02  8.8203E+05 -2.0625E+04      486.45  3.2661E+04
1.1397E+10
       9.0200  7.8836E-03  7.7717E+05 -2.2358E+04      430.01  3.0260E+04
1.1397E+10
       9.4300  3.2142E-03  6.6414E+05 -2.3759E+04      351.30  2.7672E+04
1.1397E+10
       9.8400 -4.4593E-05  5.4491E+05 -2.3718E+04     -155.85  2.4941E+04
1.1397E+10
       10.250 -2.1461E-03  4.3179E+05 -2.1990E+04     -334.76  2.2350E+04
1.1397E+10
       10.660 -3.3304E-03  3.2916E+05 -1.9706E+04     -381.43  2.0000E+04
1.1397E+10
       11.070 -3.8157E-03  2.3820E+05 -1.7255E+04     -403.09  1.7917E+04
1.1397E+10
       11.480 -3.7950E-03  1.5947E+05 -1.4731E+04     -411.09  1.6114E+04
1.1397E+10
       11.890 -3.4357E-03  9.3180E+04 -1.2191E+04     -409.35  1.4596E+04
1.1397E+10
       12.300 -2.8784E-03  3.9332E+04     -9679.2     -399.60  1.3363E+04
1.1397E+10
       12.710 -2.2376E-03     -2294.6     -7233.4     -382.62  1.2515E+04
1.1397E+10
       13.120 -1.6016E-03 -3.2092E+04     -4888.5     -358.59  1.3197E+04
1.1397E+10
       13.530 -1.0339E-03 -5.0630E+04     -2680.3     -327.06  1.3622E+04
1.1397E+10
       13.940 -5.7361E-04 -5.8665E+04     -649.76     -286.37  1.3806E+04
1.1397E+10
       14.350 -2.3797E-04 -5.7178E+04      1144.0     -230.82  1.3772E+04
1.1397E+10
       14.760 -2.3767E-05 -4.7514E+04      2502.8     -109.52  1.3550E+04
1.1397E+10
       15.170  8.9518E-05 -3.2613E+04      2790.4      204.59  1.3209E+04
1.1397E+10
       15.580  1.3353E-04 -2.0086E+04      2259.1      223.41  1.2922E+04
1.1397E+10
       15.990  1.3489E-04 -1.0393E+04      1678.8      224.46  1.2700E+04
1.1397E+10
       16.400  1.1417E-04     -3562.9      1125.5      212.48  1.2544E+04
```

1.1397E+10
16.810 8.5884E-05 691.03 646.82 194.09 1.2478E+04
1.1397E+10
17.220 5.9065E-05 2812.4 269.25 171.39 1.2527E+04
1.1397E+10
17.630 3.8219E-05 3349.7 8.3726 146.65 1.2539E+04
1.1397E+10
18.040 2.4488E-05 2901.5 -134.02 123.23 1.2529E+04
1.1397E+10
18.450 1.6920E-05 2035.1 -175.38 105.59 1.2509E+04
1.1397E+10
18.860 1.3674E-05 1177.9 -151.72 96.798 1.2489E+04
1.1397E+10
19.270 1.2929E-05 542.92 -103.49 95.595 1.2475E+04
1.1397E+10
19.680 1.3338E-05 159.62 -58.463 98.102 1.2466E+04
1.1397E+10
20.090 1.4086E-05 -32.583 -27.507 101.31 1.2463E+04
1.1397E+10
20.500 1.4765E-05 -111.33 -10.921 103.94 1.2465E+04
1.1397E+10
20.910 1.5207E-05 -140.26 -5.1867 105.73 1.2465E+04
1.1397E+10
21.320 1.5351E-05 -162.48 -6.3372 106.74 1.2466E+04
1.1397E+10
21.730 1.5150E-05 -202.61 -10.802 107.07 1.2467E+04
1.1397E+10
22.140 1.4519E-05 -268.61 -14.956 106.62 1.2468E+04
1.1397E+10
22.550 1.3317E-05 -349.42 -13.992 104.99 1.2470E+04
1.1397E+10
22.960 1.1373E-05 -405.69 -0.2497 101.42 1.2471E+04
1.1397E+10
23.370 8.5678E-06 -350.96 39.347 94.482 1.2470E+04
1.1397E+10
23.780 5.0169E-06 -17.283 128.53 81.265 1.2463E+04
1.1397E+10
24.190 1.4292E-06 915.14 59.876 52.642 1.2483E+04
1.1397E+10
24.600 -2.1470E-07 572.91 -66.748 -1.1689 1.2475E+04
1.1397E+10
25.010 -6.4183E-07 258.74 -52.399 -4.6640 1.2468E+04
1.1397E+10
25.420 -5.1940E-07 57.366 -29.312 -4.7208 1.2463E+04
1.1397E+10
25.830 -2.7514E-07 -29.760 -10.314 -3.0021 1.2463E+04
1.1397E+10
26.240 -9.4083E-08 -44.205 1.8205E-02 -1.1980 1.2463E+04
1.1397E+10
26.650 -6.9156E-09 -29.633 3.2129 -0.1007 1.2463E+04
1.1397E+10

```
       27.060  1.7313E-08     -12.612      2.7630      0.2835  1.2462E+04
1.1397E+10
       27.470  1.4754E-08     -2.4496      1.4049      0.2685  1.2462E+04
1.1397E+10
       27.880  6.9922E-09      1.2140      0.3999      0.1400  1.2462E+04
1.1397E+10
       28.290  1.8091E-09      1.4883 -4.1677E-02  3.9518E-02  1.2462E+04
1.1397E+10
       28.700 -2.1315E-10      0.8053     -0.1265 -5.0446E-03  1.2462E+04
1.1397E+10
       29.110 -5.2493E-10      0.2441 -8.1788E-02 -1.3123E-02  1.2462E+04
1.1397E+10
       29.520 -3.1817E-10  5.3470E-04 -2.9938E-02 -7.9544E-03  1.2462E+04
1.1397E+10
       29.930 -1.1028E-10 -5.0525E-02 -3.5875E-03 -2.7570E-03  1.2462E+04
1.1397E+10
       30.340 -9.6999E-12 -3.4826E-02  3.7914E-03 -2.4250E-04  1.2462E+04
1.1397E+10
       30.750  1.6914E-11 -1.3242E-02  3.3477E-03  4.2286E-04  1.2462E+04
1.1397E+10
       31.160  1.5403E-11 -1.8893E-03  1.3602E-03  3.8507E-04  1.2462E+04
1.1397E+10
       31.570  9.8785E-12  1.4344E-04  2.8387E-04  5.2466E-05  1.2462E+04
1.1397E+10
       31.980  4.6589E-12  9.0610E-04  7.3052E-05  3.3234E-05  1.2462E+04
1.1397E+10
       32.390  1.3639E-12  8.6392E-04 -3.8750E-05  1.2214E-05  1.2462E+04
1.1397E+10
       32.800 -9.6301E-14  5.2572E-04 -6.6244E-05 -1.0379E-06  1.2462E+04
1.1397E+10
       33.210 -4.3988E-13  2.1243E-04 -5.0056E-05 -5.5424E-06  1.2462E+04
1.1397E+10
       33.620 -3.3227E-13  3.3214E-05 -2.4633E-05 -4.7921E-06  1.2462E+04
1.1397E+10
       34.030 -1.5412E-13 -3.0016E-05 -6.6857E-06 -2.5036E-06  1.2462E+04
1.1397E+10
       34.440 -3.9720E-14 -3.2630E-05  1.2385E-06 -7.1761E-07  1.2462E+04
1.1397E+10
       34.850  5.3763E-15 -1.7860E-05  2.7408E-06  1.0693E-07  1.2462E+04
1.1397E+10
       35.260  1.2540E-14 -5.6706E-06  1.8080E-06  2.7226E-07  1.2462E+04
1.1397E+10
       35.670  7.6600E-15 -6.9711E-08  6.9475E-07  1.8026E-07  1.2462E+04
1.1397E+10
       36.080  2.6318E-15  1.1677E-06  8.9448E-08  6.5795E-08  1.2462E+04
1.1397E+10
       36.490  8.3633E-17  8.1192E-07 -7.7550E-08  2.0908E-09  1.2462E+04
1.1397E+10
       36.900 -7.4006E-16  4.0523E-07 -7.0354E-08 -5.0160E-09  1.2462E+04
1.1397E+10
       37.310 -7.0308E-16  1.1979E-07 -4.3141E-08 -6.0465E-09  1.2462E+04
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1.1397E+10
       37.720 -4.1168E-16 -1.9342E-08 -1.7712E-08 -4.2906E-09  1.2462E+04
1.1397E+10
       38.130 -1.6136E-16 -5.4602E-08 -2.2965E-09 -1.9758E-09  1.2462E+04
1.1397E+10
       38.540 -2.7013E-17 -4.2014E-08  3.4986E-09 -3.7998E-10  1.2462E+04
1.1397E+10
       38.950  1.8099E-17 -2.0211E-08  3.7259E-09  2.8758E-10  1.2462E+04
1.1397E+10
       39.360  2.0286E-17 -5.3601E-09  2.1346E-09  3.5928E-10  1.2462E+04
1.1397E+10
       39.770  1.1088E-17  7.9555E-10  7.1800E-10  2.1658E-10  1.2462E+04
1.1397E+10
       40.180  3.5794E-18  1.7082E-09 -2.8313E-12  7.6440E-11  1.2462E+04
1.1397E+10
       40.590 -3.0082E-19  7.6989E-10 -1.7372E-10 -6.9723E-12  1.2462E+04
1.1397E+10
       41.000 -2.5458E-18 -3.6271E-25 -1.7191E-26 -6.3646E-11  1.2462E+04
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.092738      0.6898 -5.9575E-04  1.6872E+05  1.2249E+04      0.0000
 1.0885E+04


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.092738      0.6898 -5.9575E-04  1.6872E+05  1.2249E+04      0.0000
 1.0885E+04


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
```

FLEXURAL

	y-DIR	MOMENT	FORCE	REACTION	STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.6898	0.0000	1.2249E+04	200.96	1.0885E+04	1.1397E+10
0.4100	0.6538	6.5189E+04	1.1764E+04	208.50	1.2378E+04	1.1397E+10
0.8200	0.6179	1.2787E+05	1.1242E+04	215.64	1.3813E+04	1.1397E+10
1.2300	0.5824	1.8786E+05	1.0686E+04	222.38	1.5187E+04	1.1397E+10
1.6400	0.5472	2.4496E+05	1.0098E+04	228.71	1.6495E+04	1.1397E+10
2.0500	0.5125	2.9900E+05	9479.4	234.60	1.7732E+04	1.1397E+10
2.4600	0.4785	3.4983E+05	8833.3	240.04	1.8896E+04	1.1397E+10
2.8700	0.4452	3.9728E+05	8161.6	245.02	1.9983E+04	1.1397E+10
3.2800	0.4128	4.4122E+05	7466.5	249.53	2.0989E+04	1.1397E+10
3.6900	0.3813	4.8154E+05	6750.5	253.54	2.1912E+04	1.1397E+10
4.1000	0.3508	5.1810E+05	6016.0	257.05	2.2750E+04	1.1397E+10
4.5100	0.3214	5.5083E+05	5265.5	260.03	2.3499E+04	1.1397E+10
4.9200	0.2932	5.7963E+05	4501.6	262.47	2.4159E+04	1.1397E+10
5.3300	0.2663	6.0444E+05	3727.1	264.36	2.4727E+04	1.1397E+10
5.7400	0.2406	6.2519E+05	2944.8	265.68	2.5202E+04	1.1397E+10
6.1500	0.2162	6.4186E+05	2157.3	266.41	2.5584E+04	1.1397E+10
6.5600	0.1932	6.5441E+05	1367.8	266.54	2.5871E+04	1.1397E+10
6.9700	0.1716	6.6284E+05	579.13	266.05	2.6065E+04	1.1397E+10
7.3800	0.1514	6.6716E+05	-205.50	264.91	2.6163E+04	1.1397E+10
7.7900	0.1326	6.6740E+05	-982.91	263.11	2.6169E+04	1.1397E+10
8.2000	0.1152	6.6359E+05	-1749.8	260.63	2.6082E+04	1.1397E+10
8.6100	9.9270E-02	6.5580E+05	-2502.7	257.44	2.5903E+04	1.1397E+10

```
       9.0200  8.4704E-02  6.4412E+05     -3238.2      253.53  2.5636E+04
1.1397E+10
       9.4300  7.1506E-02  6.2863E+05     -3952.6      248.86  2.5281E+04
1.1397E+10
       9.8400  5.9643E-02  6.0945E+05     -4642.0      243.40  2.4842E+04
1.1397E+10
       10.250  4.9074E-02  5.8673E+05     -5302.5      237.12  2.4321E+04
1.1397E+10
       10.660  3.9752E-02  5.6063E+05     -5930.1      229.97  2.3724E+04
1.1397E+10
       11.070  3.1621E-02  5.3133E+05     -6520.1      221.91  2.3053E+04
1.1397E+10
       11.480  2.4618E-02  4.9902E+05     -7068.2      212.87  2.2313E+04
1.1397E+10
       11.890  1.8674E-02  4.6396E+05     -7569.1      202.76  2.1510E+04
1.1397E+10
       12.300  1.3717E-02  4.2638E+05     -8017.4      191.47  2.0649E+04
1.1397E+10
       12.710  9.6645E-03  3.8659E+05     -8406.7      178.81  1.9738E+04
1.1397E+10
       13.120  6.4334E-03  3.4489E+05     -8729.8      164.49  1.8783E+04
1.1397E+10
       13.530  3.9349E-03  3.0165E+05     -8976.8      147.94  1.7793E+04
1.1397E+10
       13.940  2.0770E-03  2.5729E+05     -9133.8      127.85  1.6777E+04
1.1397E+10
       14.350  7.6565E-04  2.1231E+05     -9172.1      99.749  1.5747E+04
1.1397E+10
       14.760 -9.4792E-05  1.6741E+05     -8699.4     -79.906  1.4719E+04
1.1397E+10
       15.170 -5.9968E-04  1.2694E+05     -7727.3     -103.25  1.3792E+04
1.1397E+10
       15.580 -8.3495E-04  9.1494E+04     -6674.3     -112.81  1.2980E+04
1.1397E+10
       15.990 -8.7589E-04  6.1312E+04     -5591.3     -115.43  1.2289E+04
1.1397E+10
       16.400 -7.8661E-04  3.6467E+04     -4509.7     -112.24  1.1720E+04
1.1397E+10
       16.810 -6.1988E-04  1.6893E+04     -3451.8     -105.80  1.1272E+04
1.1397E+10
       17.220 -4.1727E-04      2439.4     -2433.6     -96.092  1.0941E+04
1.1397E+10
       17.630 -2.0948E-04     -7123.1     -1474.8     -81.669  1.1048E+04
1.1397E+10
       18.040 -1.6816E-05 -1.2140E+04     -611.62     -57.222  1.1163E+04
1.1397E+10
       18.450  1.5006E-04 -1.3202E+04     -125.74      71.710  1.1187E+04
1.1397E+10
       18.860  2.8890E-04 -1.3429E+04      8.9436      85.542  1.1192E+04
1.1397E+10
       19.270  3.9922E-04 -1.3156E+04      91.037      93.086  1.1186E+04
```

1.1397E+10
19.680 4.8159E-04 -1.2566E+04 143.22 97.701 1.1173E+04
1.1397E+10
20.090 5.3727E-04 -1.1770E+04 177.24 100.47 1.1154E+04
1.1397E+10
20.500 5.6796E-04 -1.0836E+04 200.96 101.89 1.1133E+04
1.1397E+10
20.910 5.7563E-04 -9799.1 220.40 102.21 1.1109E+04
1.1397E+10
21.320 5.6249E-04 -8666.7 240.59 101.58 1.1083E+04
1.1397E+10
21.730 5.3094E-04 -7424.2 266.04 100.07 1.1055E+04
1.1397E+10
22.140 4.8362E-04 -6035.5 301.07 97.691 1.1023E+04
1.1397E+10
22.550 4.2348E-04 -4443.5 350.00 94.420 1.0987E+04
1.1397E+10
22.960 3.5391E-04 -2569.7 417.40 90.183 1.0944E+04
1.1397E+10
23.370 2.7887E-04 -311.97 508.31 84.860 1.0892E+04
1.1397E+10
23.780 2.0318E-04 2457.6 628.52 78.273 1.0941E+04
1.1397E+10
24.190 1.3270E-04 5897.4 524.03 70.206 1.1020E+04
1.1397E+10
24.600 7.4750E-05 7635.6 212.11 56.587 1.1060E+04
1.1397E+10
25.010 3.3017E-05 8001.4 -79.486 61.949 1.1068E+04
1.1397E+10
25.420 8.2786E-06 6864.7 -416.98 75.244 1.1042E+04
1.1397E+10
25.830 -1.8798E-06 3904.2 -551.62 -20.511 1.0974E+04
1.1397E+10
26.240 -3.7460E-06 1438.8 -383.82 -47.700 1.0918E+04
1.1397E+10
26.650 -2.5564E-06 127.47 -174.95 -37.210 1.0888E+04
1.1397E+10
27.060 -1.0961E-06 -283.15 -39.246 -17.952 1.0891E+04
1.1397E+10
27.470 -2.3718E-07 -259.11 15.535 -4.3166 1.0891E+04
1.1397E+10
27.880 7.1435E-08 -130.49 22.635 1.4303 1.0888E+04
1.1397E+10
28.290 1.0291E-07 -36.438 13.587 2.2479 1.0886E+04
1.1397E+10
28.700 5.6986E-08 3.2083 4.7388 1.3487 1.0885E+04
1.1397E+10
29.110 1.7881E-08 10.207 0.3214 0.4470 1.0885E+04
1.1397E+10
29.520 4.5288E-10 6.3807 -0.8061 1.1322E-02 1.0885E+04
1.1397E+10

```
       29.930 -3.4227E-09      2.2784     -0.6234 -8.5568E-02  1.0885E+04
1.1397E+10
       30.340 -2.4591E-09      0.2466     -0.2617 -6.1478E-02  1.0885E+04
1.1397E+10
       30.750 -9.7179E-10     -0.2972 -5.0703E-02 -2.4295E-02  1.0885E+04
1.1397E+10
       31.160 -1.1564E-10     -0.2527  1.6173E-02 -2.8909E-03  1.0885E+04
1.1397E+10
       31.570  2.0374E-10     -0.1382  2.0623E-02  1.0821E-03  1.0885E+04
1.1397E+10
       31.980  2.2953E-10 -4.9859E-02  1.3933E-02  1.6373E-03  1.0885E+04
1.1397E+10
       32.390  1.4943E-10 -1.1108E-03  6.6136E-03  1.3382E-03  1.0885E+04
1.1397E+10
       32.800  6.6963E-11  1.5245E-02  1.5462E-03  7.2171E-04  1.0885E+04
1.1397E+10
       33.210  1.6880E-11  1.4126E-02 -7.5242E-04  2.1269E-04  1.0885E+04
1.1397E+10
       33.620 -3.1996E-12  7.8535E-03 -1.1621E-03 -4.6146E-05  1.0885E+04
1.1397E+10
       34.030 -6.5990E-12  2.6950E-03 -7.8489E-04 -1.0720E-04  1.0885E+04
1.1397E+10
       34.440 -4.2744E-12  1.3040E-04 -3.3121E-04 -7.7224E-05  1.0885E+04
1.1397E+10
       34.850 -1.6728E-12 -5.6493E-04 -5.9392E-05 -3.3271E-05  1.0885E+04
1.1397E+10
       35.260 -2.7116E-13 -4.5469E-04  3.6938E-05 -5.8873E-06  1.0885E+04
1.1397E+10
       35.670  1.6479E-13 -2.0178E-04  4.1881E-05  3.8780E-06  1.0885E+04
1.1397E+10
       36.080  1.7219E-13 -4.2659E-05  2.1751E-05  4.3047E-06  1.0885E+04
1.1397E+10
       36.490  8.8978E-14  1.2271E-05  5.6898E-06  2.2245E-06  1.0885E+04
1.1397E+10
       36.900  3.1833E-14  1.3351E-05 -3.1317E-07  2.1576E-07  1.0885E+04
1.1397E+10
       37.310  3.0458E-15  9.2040E-06 -9.0838E-07  2.6194E-08  1.0885E+04
1.1397E+10
       37.720 -6.1930E-15  4.4194E-06 -8.1403E-07 -6.4545E-08  1.0885E+04
1.1397E+10
       38.130 -6.0455E-15  1.1955E-06 -4.7315E-07 -7.4023E-08  1.0885E+04
1.1397E+10
       38.540 -3.3587E-15 -2.3695E-07 -1.7483E-07 -4.7246E-08  1.0885E+04
1.1397E+10
       38.950 -1.1752E-15 -5.2567E-07 -1.2673E-08 -1.8673E-08  1.0885E+04
1.1397E+10
       39.360 -1.0823E-16 -3.6220E-07  3.7978E-08 -1.9169E-09  1.0885E+04
1.1397E+10
       39.770  1.8946E-16 -1.5220E-07  3.3590E-08  3.7008E-09  1.0885E+04
1.1397E+10
       40.180  1.6389E-16 -3.1723E-08  1.5876E-08  3.5000E-09  1.0885E+04
```

```
1.1397E+10
       40.590  7.0949E-17  4.0426E-09  3.2208E-09  1.6444E-09  1.0885E+04
1.1397E+10
       41.000 -1.3407E-17      0.0000 -3.1140E-25 -3.3518E-10  1.0885E+04
1.1397E+10


       * PILE GROUP *     3


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.064143      0.6898 -5.9575E-04  1.3466E+05  1.0094E+04      0.0000
     8687.9


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.064143      0.6898 -5.9575E-04  1.3466E+05  1.0094E+04      0.0000
     8687.9


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
       0.0000      0.6898      0.0000  1.0094E+04      171.19      8687.9
1.1397E+10
       0.4100      0.6560  5.3424E+04      9757.4      177.76      9911.4
1.1397E+10
       0.8200      0.6223  1.0510E+05      9389.0      184.02  1.1095E+04
1.1397E+10
       1.2300      0.5889  1.5485E+05      8990.5      189.96  1.2234E+04
```

1.1397E+10
1.6400 0.5558 2.0253E+05 8563.6 195.58 1.3326E+04
1.1397E+10
2.0500 0.5231 2.4798E+05 8109.8 200.86 1.4367E+04
1.1397E+10
2.4600 0.4909 2.9106E+05 7631.0 205.79 1.5353E+04
1.1397E+10
2.8700 0.4594 3.3164E+05 7128.8 210.36 1.6283E+04
1.1397E+10
3.2800 0.4285 3.6961E+05 6605.0 214.56 1.7152E+04
1.1397E+10
3.6900 0.3985 4.0484E+05 6061.5 218.37 1.7959E+04
1.1397E+10
4.1000 0.3693 4.3723E+05 5500.2 221.79 1.8701E+04
1.1397E+10
4.5100 0.3410 4.6669E+05 4923.1 224.81 1.9376E+04
1.1397E+10
4.9200 0.3138 4.9315E+05 4332.2 227.40 1.9981E+04
1.1397E+10
5.3300 0.2875 5.1653E+05 3729.6 229.57 2.0517E+04
1.1397E+10
5.7400 0.2624 5.3677E+05 3117.4 231.29 2.0980E+04
1.1397E+10
6.1500 0.2384 5.5382E+05 2497.8 232.56 2.1371E+04
1.1397E+10
6.5600 0.2156 5.6765E+05 1873.2 233.37 2.1687E+04
1.1397E+10
6.9700 0.1940 5.7823E+05 1245.7 233.69 2.1930E+04
1.1397E+10
7.3800 0.1736 5.8556E+05 617.86 233.53 2.2098E+04
1.1397E+10
7.7900 0.1545 5.8963E+05 -7.9354 232.86 2.2191E+04
1.1397E+10
8.2000 0.1366 5.9046E+05 -629.16 231.67 2.2210E+04
1.1397E+10
8.6100 0.1200 5.8809E+05 -1243.2 229.95 2.2156E+04
1.1397E+10
9.0200 0.1046 5.8254E+05 -1847.5 227.68 2.2029E+04
1.1397E+10
9.4300 9.0471E-02 5.7388E+05 -2439.1 224.84 2.1830E+04
1.1397E+10
9.8400 7.7549E-02 5.6218E+05 -3015.4 221.41 2.1562E+04
1.1397E+10
10.250 6.5821E-02 5.4753E+05 -3573.3 217.39 2.1227E+04
1.1397E+10
10.660 5.5256E-02 5.3002E+05 -4109.9 212.74 2.0826E+04
1.1397E+10
11.070 4.5816E-02 5.0978E+05 -4622.0 207.43 2.0362E+04
1.1397E+10
11.480 3.7459E-02 4.8694E+05 -5106.3 201.45 1.9839E+04
1.1397E+10

```
       11.890  3.0136E-02  4.6165E+05     -5559.5      194.76  1.9260E+04
1.1397E+10
       12.300  2.3794E-02  4.3408E+05     -5977.9      187.32  1.8629E+04
1.1397E+10
       12.710  1.8374E-02  4.0441E+05     -6357.6      179.07  1.7949E+04
1.1397E+10
       13.120  1.3813E-02  3.7286E+05     -6694.7      169.94  1.7227E+04
1.1397E+10
       13.530  1.0044E-02  3.3966E+05     -6984.4      159.84  1.6466E+04
1.1397E+10
       13.940  6.9956E-03  3.0505E+05     -7221.8      148.63  1.5674E+04
1.1397E+10
       14.350  4.5957E-03  2.6933E+05     -7400.5      136.04  1.4856E+04
1.1397E+10
       14.760  2.7677E-03  2.3280E+05     -7512.8      121.61  1.4019E+04
1.1397E+10
       15.170  1.4342E-03  1.9583E+05     -7546.9      104.23  1.3173E+04
1.1397E+10
       15.580  5.1659E-04  1.5884E+05     -7478.6      80.007  1.2326E+04
1.1397E+10
       15.990 -6.3627E-05  1.2244E+05     -6959.4     -79.064  1.1492E+04
1.1397E+10
       16.400 -3.8379E-04  9.0483E+04     -6039.0     -83.087  1.0760E+04
1.1397E+10
       16.810 -5.1177E-04  6.3077E+04     -5097.2     -87.745  1.0132E+04
1.1397E+10
       17.220 -5.0578E-04  4.0343E+04     -4145.2     -87.225      9611.8
1.1397E+10
       17.630 -4.1411E-04  2.2275E+04     -3204.3     -83.275      9198.0
1.1397E+10
       18.040 -2.7512E-04      8782.1     -2290.4     -76.223      8889.0
1.1397E+10
       18.450 -1.1748E-04     -302.48     -1420.4     -65.433      8694.9
1.1397E+10
       18.860  3.9511E-05     -5237.2     -824.94      35.369      8807.9
1.1397E+10
       19.270  1.8538E-04     -8460.7     -544.11      62.472      8881.7
1.1397E+10
       19.680  3.1329E-04 -1.0628E+04     -355.63      72.909      8931.3
1.1397E+10
       20.090  4.1862E-04 -1.1991E+04     -208.02      79.088      8962.5
1.1397E+10
       20.500  4.9848E-04 -1.2700E+04     -85.219      82.992      8978.8
1.1397E+10
       20.910  5.5136E-04 -1.2848E+04      22.214      85.336      8982.2
1.1397E+10
       21.320  5.7696E-04 -1.2492E+04      121.14      86.450      8974.0
1.1397E+10
       21.730  5.7603E-04 -1.1659E+04      217.20      86.502      8954.9
1.1397E+10
       22.140  5.5033E-04 -1.0351E+04      315.42      85.570      8925.0
```

1.1397E+10
22.550 5.0265E-04 -8545.5 420.60 83.674 8883.6
1.1397E+10
22.960 4.3682E-04 -6197.1 537.56 80.785 8829.8
1.1397E+10
23.370 3.5782E-04 -3236.5 671.34 76.830 8762.0
1.1397E+10
23.780 2.7196E-04 431.11 827.50 71.690 8697.8
1.1397E+10
24.190 1.8700E-04 4929.1 751.49 65.211 8800.8
1.1397E+10
24.600 1.1252E-04 7847.2 459.40 53.523 8867.6
1.1397E+10
25.010 5.4705E-05 9467.5 179.67 60.190 8904.7
1.1397E+10
25.420 1.6997E-05 9628.0 -348.42 154.48 8908.4
1.1397E+10
25.830 -2.6220E-07 6046.4 -721.41 -2.8608 8826.4
1.1397E+10
26.240 -4.6790E-06 2532.3 -567.80 -59.579 8745.9
1.1397E+10
26.650 -3.7174E-06 459.66 -288.13 -54.108 8698.5
1.1397E+10
27.060 -1.7795E-06 -303.33 -83.333 -29.144 8694.9
1.1397E+10
27.470 -4.8580E-07 -360.76 10.111 -8.8416 8696.2
1.1397E+10
27.880 4.1629E-08 -204.08 29.811 0.8335 8692.6
1.1397E+10
28.290 1.3561E-07 -67.507 20.473 2.9624 8689.5
1.1397E+10
28.700 8.6221E-08 -2.6273 8.1657 2.0406 8688.0
1.1397E+10
29.110 3.1247E-08 12.858 1.2243 0.7812 8688.2
1.1397E+10
29.520 3.5831E-09 9.4305 -0.9178 8.9578E-02 8688.1
1.1397E+10
29.930 -4.0513E-09 3.8317 -0.8890 -0.1013 8688.0
1.1397E+10
30.340 -3.5474E-09 0.6835 -0.4217 -8.8685E-02 8687.9
1.1397E+10
30.750 -1.5919E-09 -0.3182 -0.1056 -3.9796E-02 8687.9
1.1397E+10
31.160 -3.1206E-10 -0.3564 1.1455E-02 -7.8015E-03 8687.9
1.1397E+10
31.570 2.1076E-10 -0.2057 2.7893E-02 1.1194E-03 8687.9
1.1397E+10
31.980 2.9670E-10 -8.2019E-02 1.9933E-02 2.1165E-03 8687.9
1.1397E+10
32.390 2.0844E-10 -9.5545E-03 1.0134E-02 1.8667E-03 8687.9
1.1397E+10

```
       32.800  9.9892E-11  1.7726E-02  2.8934E-03  1.0766E-03      8687.9
1.1397E+10
       33.210  2.8990E-11  1.8940E-02 -6.5368E-04  3.6527E-04      8687.9
1.1397E+10
       33.620 -1.6854E-12  1.1307E-02 -1.4924E-03 -2.4307E-05      8687.9
1.1397E+10
       34.030 -8.3442E-12  4.2597E-03 -1.0992E-03 -1.3555E-04      8687.9
1.1397E+10
       34.440 -5.9557E-12  4.9183E-04 -5.0106E-04 -1.0760E-04      8687.9
1.1397E+10
       34.850 -2.5226E-12 -6.7157E-04 -1.1294E-04 -5.0172E-05      8687.9
1.1397E+10
       35.260 -5.1590E-13 -6.2028E-04  3.8033E-05 -1.1201E-05      8687.9
1.1397E+10
       35.670  1.7340E-13 -2.9768E-04  5.5549E-05  4.0806E-06      8687.9
1.1397E+10
       36.080  2.3044E-13 -7.3777E-05  3.1339E-05  5.7610E-06      8687.9
1.1397E+10
       36.490  1.3078E-13  1.0698E-05  9.1236E-06  3.2696E-06      8687.9
1.1397E+10
       36.900  5.3853E-14  1.6023E-05  1.8243E-07  3.6500E-07      8687.9
1.1397E+10
       37.310  1.0953E-14  1.2509E-05 -9.4718E-07  9.4192E-08      8687.9
1.1397E+10
       37.720 -5.3792E-15  6.7110E-06 -1.0410E-06 -5.6063E-08      8687.9
1.1397E+10
       38.130 -7.4572E-15  2.2683E-06 -6.7844E-07 -9.1309E-08      8687.9
1.1397E+10
       38.540 -4.7176E-15  3.5086E-08 -2.9057E-07 -6.6361E-08      8687.9
1.1397E+10
       38.950 -1.9035E-15 -5.9173E-07 -5.2925E-08 -3.0244E-08      8687.9
1.1397E+10
       39.360 -3.4615E-16 -4.8629E-07  3.6556E-08 -6.1307E-09      8687.9
1.1397E+10
       39.770  1.7834E-16 -2.3230E-07  4.3068E-08  3.4835E-09      8687.9
1.1397E+10
       40.180  2.0944E-16 -6.2568E-08  2.3496E-08  4.4727E-09      8687.9
1.1397E+10
       40.590  1.0765E-16 -1.0870E-09  6.3558E-09  2.4950E-09      8687.9
1.1397E+10
       41.000  3.5460E-18      0.0000 -1.3607E-24  8.8649E-11      8687.9
1.1397E+10



     LOAD CASE :     6
     CASE NAME : Strength I (minVmaxH), Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
```

ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

GROUP NO	P-FACTOR	Y-FACTOR
1	1.0000	1.0000
2	1.0000	1.0000
3	1.0000	1.0000

* TABLE L * COMPUTATION ON PILE CAP

* EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

VERT. LOAD, LBS	HORI. LOAD, LBS	MOMENT,LBS-IN
1.58370E+06	3.84900E+05	-1.98378E+07

* DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

VERTICAL,IN	HORIZONTAL,IN	ROTATION,RAD
0.0365518	0.66188	-1.31230E-04

NUMBER OF ITERATIONS = 7

* TABLE M * COMPUTATION ON INDIVIDUAL PILE

* PILE GROUP * 1

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.042851	0.6619	-1.3123E-04	9.9836E+04	3.6855E+04	0.0000	6441.0

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.042851	0.6619	-1.3123E-04	9.9836E+04	3.6855E+04	0.0000	6441.0

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.6619	0.0000	3.6855E+04	611.43	6441.0	1.1397E+10
0.4100	0.6132	1.8007E+05	3.4321E+04	630.74	1.0565E+04	1.1397E+10
0.8200	0.5649	3.4741E+05	3.1697E+04	648.18	1.4397E+04	1.1397E+10
1.2300	0.5173	5.0154E+05	2.8991E+04	663.66	1.7927E+04	1.1397E+10
1.6400	0.4708	6.4207E+05	2.6214E+04	677.11	2.1145E+04	1.1397E+10
2.0500	0.4256	7.6864E+05	2.3376E+04	688.43	2.4043E+04	1.1397E+10
2.4600	0.3821	8.8095E+05	2.0489E+04	697.54	2.6615E+04	1.1397E+10
2.8700	0.3404	9.7875E+05	1.7561E+04	704.34	2.8855E+04	1.1397E+10
3.2800	0.3009	1.0619E+06	1.4607E+04	708.75	3.0758E+04	1.1397E+10
3.6900	0.2636	1.1302E+06	1.1636E+04	710.66	3.2322E+04	1.1397E+10
4.1000	0.2286	1.1836E+06	8663.2	709.97	3.3546E+04	1.1397E+10
4.5100	0.1962	1.2221E+06	5700.1	706.56	3.4429E+04	1.1397E+10
4.9200	0.1664	1.2459E+06	2760.7	700.32	3.4972E+04	1.1397E+10
5.3300	0.1393	1.2550E+06	-140.69	691.10	3.5181E+04	1.1397E+10
5.7400	0.1148	1.2496E+06	-2989.0	678.76	3.5059E+04	1.1397E+10
6.1500	9.2943E-02	1.2302E+06	-5768.5	663.10	3.4613E+04	1.1397E+10
6.5600	7.3717E-02	1.1970E+06	-8462.2	643.91	3.3853E+04	

1.1397E+10
6.9700 5.7033E-02 1.1505E+06 -1.1052E+04 620.90 3.2788E+04
1.1397E+10
7.3800 4.2792E-02 1.0913E+06 -1.3518E+04 593.67 3.1433E+04
1.1397E+10
7.7900 3.0870E-02 1.0201E+06 -1.5839E+04 561.67 2.9802E+04
1.1397E+10
8.2000 2.1114E-02 9.3763E+05 -1.7988E+04 523.97 2.7913E+04
1.1397E+10
8.6100 1.3350E-02 8.4484E+05 -1.9934E+04 478.92 2.5789E+04
1.1397E+10
9.0200 7.3796E-03 7.4285E+05 -2.1631E+04 422.89 2.3453E+04
1.1397E+10
9.4300 2.9873E-03 6.3303E+05 -2.2998E+04 344.76 2.0938E+04
1.1397E+10
9.8400 -6.0442E-05 5.1730E+05 -2.2930E+04 -160.18 1.8288E+04
1.1397E+10
10.250 -2.0095E-03 4.0790E+05 -2.1204E+04 -329.57 1.5782E+04
1.1397E+10
10.660 -3.0922E-03 3.0896E+05 -1.8950E+04 -374.65 1.3516E+04
1.1397E+10
11.070 -3.5187E-03 2.2158E+05 -1.6534E+04 -395.26 1.1515E+04
1.1397E+10
11.480 -3.4746E-03 1.4629E+05 -1.4051E+04 -402.42 9791.3
1.1397E+10
11.890 -3.1198E-03 8.3284E+04 -1.1555E+04 -399.98 8348.3
1.1397E+10
12.300 -2.5881E-03 3.2504E+04 -9091.2 -389.63 7185.4
1.1397E+10
12.710 -1.9873E-03 -6286.0 -6695.6 -372.17 6585.0
1.1397E+10
13.120 -1.3999E-03 -3.3500E+04 -4403.0 -347.79 7208.2
1.1397E+10
13.530 -8.8367E-04 -4.9722E+04 -2248.3 -316.11 7579.7
1.1397E+10
13.940 -4.7302E-04 -5.5715E+04 -271.03 -275.64 7716.9
1.1397E+10
14.350 -1.8071E-04 -5.2459E+04 1471.9 -220.87 7642.3
1.1397E+10
14.760 1.8847E-07 -4.1279E+04 2477.5 24.087 7386.3
1.1397E+10
15.170 9.3409E-05 -2.8108E+04 2464.2 193.30 7084.7
1.1397E+10
15.580 1.2693E-04 -1.7044E+04 1989.0 211.88 6831.3
1.1397E+10
15.990 1.2425E-04 -8539.0 1465.9 212.76 6636.5
1.1397E+10
16.400 1.0344E-04 -2616.8 968.82 201.31 6500.9
1.1397E+10
16.810 7.7069E-05 998.90 542.53 183.98 6463.9
1.1397E+10

17.220	5.2819E-05	2726.7	210.67	162.92	6503.4	1.1397E+10
17.630	3.4361E-05	3076.2	-13.825	140.34	6511.4	1.1397E+10
18.040	2.2436E-05	2593.7	-131.46	119.48	6500.4	1.1397E+10
18.450	1.6020E-05	1784.4	-160.56	104.35	6481.9	1.1397E+10
18.860	1.3394E-05	1014.7	-135.08	97.290	6464.2	1.1397E+10
19.270	1.2923E-05	455.61	-90.754	96.693	6451.4	1.1397E+10
19.680	1.3420E-05	121.70	-50.813	99.071	6443.8	1.1397E+10
20.090	1.4175E-05	-44.515	-23.767	101.93	6442.0	1.1397E+10
20.500	1.4836E-05	-112.31	-9.4947	104.26	6443.6	1.1397E+10
20.910	1.5258E-05	-138.05	-4.8647	105.85	6444.2	1.1397E+10
21.320	1.5387E-05	-160.24	-6.4109	106.77	6444.7	1.1397E+10
21.730	1.5176E-05	-201.13	-10.937	107.07	6445.6	1.1397E+10
22.140	1.4537E-05	-267.77	-15.036	106.60	6447.1	1.1397E+10
22.550	1.3330E-05	-348.90	-14.002	104.98	6449.0	1.1397E+10
22.960	1.1382E-05	-405.24	-0.2121	101.42	6450.3	1.1397E+10
23.370	8.5729E-06	-350.51	39.406	94.480	6449.0	1.1397E+10
23.780	5.0195E-06	-16.845	128.59	81.268	6441.4	1.1397E+10
24.190	1.4304E-06	915.50	59.902	52.653	6462.0	1.1397E+10
24.600	-2.1433E-07	573.11	-66.754	-1.1669	6454.1	1.1397E+10
25.010	-6.4178E-07	258.84	-52.411	-4.6636	6446.9	1.1397E+10
25.420	-5.1947E-07	57.412	-29.324	-4.7214	6442.3	1.1397E+10
25.830	-2.7522E-07	-29.744	-10.322	-3.0029	6441.7	1.1397E+10
26.240	-9.4140E-08	-44.203	1.3589E-02	-1.1987	6442.0	1.1397E+10
26.650	-6.9463E-09	-29.637	3.2111	-0.1011	6441.7	1.1397E+10
27.060	1.7301E-08	-12.616	2.7628	0.2834	6441.3	1.1397E+10
27.470	1.4752E-08	-2.4527	1.4053	0.2685	6441.1	

1.1397E+10
27.880 6.9938E-09 1.2125 0.4003 0.1400 6441.0
1.1397E+10
28.290 1.8107E-09 1.4878 -4.1452E-02 3.9555E-02 6441.0
1.1397E+10
28.700 -2.1221E-10 0.8054 -0.1264 -5.0223E-03 6441.0
1.1397E+10
29.110 -5.2461E-10 0.2443 -8.1783E-02 -1.3115E-02 6441.0
1.1397E+10
29.520 -3.1815E-10 6.3809E-04 -2.9953E-02 -7.9538E-03 6441.0
1.1397E+10
29.930 -1.1034E-10 -5.0482E-02 -3.6001E-03 -2.7585E-03 6441.0
1.1397E+10
30.340 -9.7493E-12 -3.4818E-02 3.7854E-03 -2.4373E-04 6441.0
1.1397E+10
30.750 1.6891E-11 -1.3246E-02 3.3462E-03 4.2229E-04 6441.0
1.1397E+10
31.160 1.5398E-11 -1.8941E-03 1.3604E-03 3.8495E-04 6441.0
1.1397E+10
31.570 9.8813E-12 1.4059E-04 2.8433E-04 5.2481E-05 6441.0
1.1397E+10
31.980 4.6634E-12 9.0484E-04 7.3397E-05 3.3265E-05 6441.0
1.1397E+10
32.390 1.3673E-12 8.6367E-04 -3.8557E-05 1.2245E-05 6441.0
1.1397E+10
32.800 -9.4483E-14 5.2591E-04 -6.6173E-05 -1.0183E-06 6441.0
1.1397E+10
33.210 -4.3922E-13 2.1270E-04 -5.0054E-05 -5.5342E-06 6441.0
1.1397E+10
33.620 -3.3220E-13 3.3403E-05 -2.4654E-05 -4.7910E-06 6441.0
1.1397E+10
34.030 -1.5423E-13 -2.9928E-05 -6.7055E-06 -2.5053E-06 6441.0
1.1397E+10
34.440 -3.9824E-14 -3.2608E-05 1.2276E-06 -7.1948E-07 6441.0
1.1397E+10
34.850 5.3217E-15 -1.7865E-05 2.7371E-06 1.0584E-07 6441.0
1.1397E+10
35.260 1.2523E-14 -5.6803E-06 1.8079E-06 2.7189E-07 6441.0
1.1397E+10
35.670 7.6596E-15 -7.5748E-08 6.9562E-07 1.8026E-07 6441.0
1.1397E+10
36.080 2.6354E-15 1.1655E-06 9.0109E-08 6.5884E-08 6441.0
1.1397E+10
36.490 8.6560E-17 8.1168E-07 -7.7290E-08 2.1640E-09 6441.0
1.1397E+10
36.900 -7.3830E-16 4.0531E-07 -7.0303E-08 -5.0040E-09 6441.0
1.1397E+10
37.310 -7.0231E-16 1.1998E-07 -4.3135E-08 -6.0399E-09 6441.0
1.1397E+10
37.720 -4.1151E-16 -1.9176E-08 -1.7727E-08 -4.2888E-09 6441.0
1.1397E+10

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       38.130 -1.6143E-16 -5.4507E-08 -2.3135E-09 -1.9766E-09      6441.0
1.1397E+10
       38.540 -2.7119E-17 -4.1979E-08  3.4874E-09 -3.8148E-10      6441.0
1.1397E+10
       38.950  1.8030E-17 -2.0209E-08  3.7211E-09  2.8647E-10      6441.0
1.1397E+10
       39.360  2.0257E-17 -5.3684E-09  2.1338E-09  3.5878E-10      6441.0
1.1397E+10
       39.770  1.1082E-17  7.8837E-10  7.1866E-10  2.1648E-10      6441.0
1.1397E+10
       40.180  3.5822E-18  1.7048E-09 -2.0680E-12  7.6500E-11      6441.0
1.1397E+10
       40.590 -2.9709E-19  7.6916E-10 -1.7332E-10 -6.8860E-12      6441.0
1.1397E+10
       41.000 -2.5427E-18      0.0000 -4.0592E-26 -6.3569E-11      6441.0
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.036552      0.6619 -1.3123E-04  8.5613E+04  1.2350E+04      0.0000
     5523.4


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.036552      0.6619 -1.3123E-04  8.5613E+04  1.2350E+04      0.0000
     5523.4


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
```

FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.6619	0.0000	1.2350E+04	198.90	5523.4	1.1397E+10
0.4100	0.6274	6.2593E+04	1.1875E+04	206.36	6956.9	1.1397E+10
0.8200	0.5930	1.2275E+05	1.1364E+04	213.43	8334.4	1.1397E+10
1.2300	0.5589	1.8028E+05	1.0819E+04	220.11	9651.9	1.1397E+10
1.6400	0.5252	2.3501E+05	1.0242E+04	226.37	1.0905E+04	1.1397E+10
2.0500	0.4919	2.8679E+05	9635.4	232.20	1.2091E+04	1.1397E+10
2.4600	0.4593	3.3546E+05	9001.2	237.59	1.3206E+04	1.1397E+10
2.8700	0.4274	3.8089E+05	8341.6	242.53	1.4246E+04	1.1397E+10
3.2800	0.3963	4.2294E+05	7658.9	247.00	1.5209E+04	1.1397E+10
3.6900	0.3661	4.6150E+05	6955.4	250.97	1.6092E+04	1.1397E+10
4.1000	0.3369	4.9647E+05	6233.6	254.45	1.6893E+04	1.1397E+10
4.5100	0.3087	5.2775E+05	5496.0	257.41	1.7609E+04	1.1397E+10
4.9200	0.2816	5.5528E+05	4745.0	259.84	1.8240E+04	1.1397E+10
5.3300	0.2558	5.7897E+05	3983.5	261.72	1.8782E+04	1.1397E+10
5.7400	0.2311	5.9880E+05	3214.1	263.04	1.9236E+04	1.1397E+10
6.1500	0.2078	6.1471E+05	2439.7	263.78	1.9601E+04	1.1397E+10
6.5600	0.1857	6.2669E+05	1663.0	263.92	1.9875E+04	1.1397E+10
6.9700	0.1650	6.3474E+05	887.21	263.45	2.0059E+04	1.1397E+10
7.3800	0.1456	6.3886E+05	115.28	262.34	2.0154E+04	1.1397E+10
7.7900	0.1276	6.3907E+05	-649.62	260.59	2.0159E+04	1.1397E+10
8.2000	0.1109	6.3543E+05	-1404.2	258.16	2.0075E+04	1.1397E+10
8.6100	9.5584E-02	6.2800E+05	-2145.1	255.03	1.9905E+04	1.1397E+10
9.0200	8.1599E-02	6.1683E+05	-2868.9	251.19	1.9649E+04	1.1397E+10
9.4300	6.8925E-02	6.0205E+05	-3572.0	246.61	1.9311E+04	

1.1397E+10
9.8400 5.7529E-02 5.8375E+05 -4250.6 241.25 1.8892E+04
1.1397E+10
10.250 4.7374E-02 5.6207E+05 -4900.9 235.08 1.8395E+04
1.1397E+10
10.660 3.8412E-02 5.3716E+05 -5518.7 228.07 1.7825E+04
1.1397E+10
11.070 3.0591E-02 5.0920E+05 -6099.8 220.16 1.7184E+04
1.1397E+10
11.480 2.3851E-02 4.7838E+05 -6639.7 211.30 1.6479E+04
1.1397E+10
11.890 1.8128E-02 4.4493E+05 -7133.4 201.41 1.5713E+04
1.1397E+10
12.300 1.3350E-02 4.0909E+05 -7575.7 190.39 1.4892E+04
1.1397E+10
12.710 9.4401E-03 3.7113E+05 -7960.6 178.07 1.4023E+04
1.1397E+10
13.120 6.3188E-03 3.3136E+05 -8281.0 164.19 1.3112E+04
1.1397E+10
13.530 3.9013E-03 2.9012E+05 -8528.2 148.30 1.2167E+04
1.1397E+10
13.940 2.1000E-03 2.4780E+05 -8689.7 129.34 1.1198E+04
1.1397E+10
14.350 8.2500E-04 2.0488E+05 -8742.4 104.10 1.0215E+04
1.1397E+10
14.760 -1.4850E-05 1.6196E+05 -8361.1 -47.096 9232.4
1.1397E+10
15.170 -5.1071E-04 1.2272E+05 -7486.4 -96.500 8333.7
1.1397E+10
15.580 -7.4593E-04 8.8356E+04 -6462.3 -107.79 7546.8
1.1397E+10
15.990 -7.9348E-04 5.9153E+04 -5402.4 -111.05 6878.1
1.1397E+10
16.400 -7.1540E-04 3.5193E+04 -4341.5 -108.20 6329.4
1.1397E+10
16.810 -5.6257E-04 1.6412E+04 -3303.2 -101.91 5899.3
1.1397E+10
17.220 -3.7488E-04 2661.0 -2304.3 -92.108 5584.4
1.1397E+10
17.630 -1.8154E-04 -6295.2 -1367.0 -76.927 5667.6
1.1397E+10
18.040 -1.5714E-06 -1.0822E+04 -576.07 -32.591 5771.3
1.1397E+10
18.450 1.5541E-04 -1.1993E+04 -155.45 73.608 5798.1
1.1397E+10
18.860 2.8692E-04 -1.2377E+04 -26.281 85.883 5806.8
1.1397E+10
19.270 3.9215E-04 -1.2271E+04 55.529 92.860 5804.4
1.1397E+10
19.680 4.7131E-04 -1.1846E+04 109.50 97.199 5794.7
1.1397E+10

20.090	5.2531E-04	-1.1205E+04	146.35	99.822	5780.0	1.1397E+10
20.500	5.5552E-04	-1.0413E+04	173.44	101.16	5761.9	1.1397E+10
20.910	5.6360E-04	-9501.9	196.52	101.46	5741.0	1.1397E+10
21.320	5.5151E-04	-8479.0	220.42	100.83	5717.6	1.1397E+10
21.730	5.2140E-04	-7329.3	249.56	99.329	5691.3	1.1397E+10
22.140	4.7573E-04	-6016.8	288.16	96.979	5661.2	1.1397E+10
22.550	4.1728E-04	-4484.9	340.51	93.744	5626.1	1.1397E+10
22.960	3.4931E-04	-2655.4	411.13	89.548	5584.2	1.1397E+10
23.370	2.7569E-04	-427.25	505.06	84.268	5533.2	1.1397E+10
23.780	2.0117E-04	2327.1	628.09	77.722	5576.7	1.1397E+10
24.190	1.3159E-04	5765.5	526.20	69.695	5655.4	1.1397E+10
24.600	7.4255E-05	7515.7	216.62	56.150	5695.5	1.1397E+10
25.010	3.2883E-05	7905.5	-72.606	61.422	5704.5	1.1397E+10
25.420	8.3014E-06	6807.0	-409.31	75.451	5679.3	1.1397E+10
25.830	-1.8225E-06	3880.8	-546.00	-19.886	5612.3	1.1397E+10
26.240	-3.7039E-06	1435.3	-381.06	-47.163	5556.3	1.1397E+10
26.650	-2.5368E-06	131.23	-174.20	-36.925	5526.4	1.1397E+10
27.060	-1.0910E-06	-279.08	-39.416	-17.868	5529.8	1.1397E+10
27.470	-2.3787E-07	-256.82	15.188	-4.3292	5529.3	1.1397E+10
27.880	6.9754E-08	-129.73	22.402	1.3966	5526.4	1.1397E+10
28.290	1.0185E-07	-36.413	13.494	2.2248	5524.2	1.1397E+10
28.700	5.6601E-08	3.0518	4.7253	1.3396	5523.5	1.1397E+10
29.110	1.7837E-08	10.090	0.3330	0.4459	5523.6	1.1397E+10
29.520	5.0369E-10	6.3332	-0.7950	1.2592E-02	5523.6	1.1397E+10
29.930	-3.3782E-09	2.2699	-0.6182	-8.4456E-02	5523.5	1.1397E+10
30.340	-2.4390E-09	0.2506	-0.2604	-6.0975E-02	5523.4	

1.1397E+10
30.750 -9.6743E-10 -0.2927 -5.0910E-02 -2.4186E-02 5523.4
1.1397E+10
31.160 -1.1747E-10 -0.2505 1.5811E-02 -2.9367E-03 5523.4
1.1397E+10
31.570 2.0044E-10 -0.1372 2.0416E-02 1.0646E-03 5523.4
1.1397E+10
31.980 2.2695E-10 -4.9635E-02 1.3815E-02 1.6189E-03 5523.4
1.1397E+10
32.390 1.4804E-10 -1.2535E-03 6.5709E-03 1.3258E-03 5523.4
1.1397E+10
32.800 6.6472E-11 1.5035E-02 1.5470E-03 7.1642E-04 5523.4
1.1397E+10
33.210 1.6834E-11 1.3980E-02 -7.3722E-04 2.1210E-04 5523.4
1.1397E+10
33.620 -3.1125E-12 7.7872E-03 -1.1486E-03 -4.4889E-05 5523.4
1.1397E+10
34.030 -6.5192E-12 2.6799E-03 -7.7762E-04 -1.0590E-04 5523.4
1.1397E+10
34.440 -4.2340E-12 1.3551E-04 -3.2893E-04 -7.6495E-05 5523.4
1.1397E+10
34.850 -1.6611E-12 -5.5720E-04 -5.9479E-05 -3.3037E-05 5523.4
1.1397E+10
35.260 -2.7155E-13 -4.5010E-04 3.6296E-05 -5.8957E-06 5523.4
1.1397E+10
35.670 1.6200E-13 -2.0020E-04 4.1420E-05 3.8124E-06 5523.4
1.1397E+10
36.080 1.7033E-13 -4.2558E-05 2.1566E-05 4.2583E-06 5523.4
1.1397E+10
36.490 8.8276E-14 1.2016E-05 5.6619E-06 2.2069E-06 5523.4
1.1397E+10
36.900 3.1739E-14 1.3167E-05 -2.9622E-07 2.1512E-07 5523.4
1.1397E+10
37.310 3.1668E-15 9.1083E-06 -8.9240E-07 2.7234E-08 5523.4
1.1397E+10
37.720 -6.0597E-15 4.3888E-06 -8.0404E-07 -6.3156E-08 5523.4
1.1397E+10
38.130 -5.9648E-15 1.1973E-06 -4.6900E-07 -7.3036E-08 5523.4
1.1397E+10
38.540 -3.3269E-15 -2.2644E-07 -1.7421E-07 -4.6798E-08 5523.4
1.1397E+10
38.950 -1.1699E-15 -5.1736E-07 -1.3366E-08 -1.8588E-08 5523.4
1.1397E+10
39.360 -1.1169E-16 -3.5824E-07 3.7226E-08 -1.9781E-09 5523.4
1.1397E+10
39.770 1.8561E-16 -1.5117E-07 3.3174E-08 3.6256E-09 5523.4
1.1397E+10
40.180 1.6184E-16 -3.1832E-08 1.5753E-08 3.4561E-09 5523.4
1.1397E+10
40.590 7.0457E-17 3.8496E-09 3.2334E-09 1.6330E-09 5523.4
1.1397E+10

```
      41.000 -1.2746E-17  5.8034E-24 -2.2235E-25 -3.1865E-10      5523.4
1.1397E+10


      * PILE GROUP *     3


       * PILE TOP DISPLACEMENTS AND REACTIONS *


      THE GLOBAL STRUCTURAL COORDINATE SYSTEM
      ---------------------------------------

       DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

         0.030253      0.6619 -1.3123E-04  7.1390E+04  1.0115E+04      0.0000
     4605.8


      THE PILE COORDINATE SYSTEM (LOCAL AXES)
      ---------------------------------------

       DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

         0.030253      0.6619 -1.3123E-04  7.1390E+04  1.0115E+04      0.0000
     4605.8


       * EFFECTS FOR LATERALLY LOADED PILE *


       x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                 y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
      FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
**********
      0.0000      0.6619      0.0000  1.0115E+04      169.43      4605.8
1.1397E+10
      0.4100      0.6295  5.1312E+04      9787.0      175.93      5780.9
1.1397E+10
      0.8200      0.5972  1.0092E+05      9427.7      182.13      6917.0
1.1397E+10
      1.2300      0.5651  1.4868E+05      9038.6      188.02      8010.6
1.1397E+10
      1.6400      0.5333  1.9442E+05      8621.4      193.58      9058.2
1.1397E+10
```

2.0500	0.5020	2.3802E+05	8177.7	198.81	1.0057E+04
1.1397E+10					
2.4600	0.4711	2.7933E+05	7709.0	203.69	1.1003E+04
1.1397E+10					
2.8700	0.4409	3.1824E+05	7217.3	208.22	1.1894E+04
1.1397E+10					
3.2800	0.4113	3.5462E+05	6704.1	212.37	1.2727E+04
1.1397E+10					
3.6900	0.3825	3.8837E+05	6171.5	216.15	1.3500E+04
1.1397E+10					
4.1000	0.3545	4.1940E+05	5621.2	219.54	1.4210E+04
1.1397E+10					
4.5100	0.3274	4.4762E+05	5055.2	222.53	1.4857E+04
1.1397E+10					
4.9200	0.3012	4.7295E+05	4475.6	225.10	1.5437E+04
1.1397E+10					
5.3300	0.2760	4.9532E+05	3884.3	227.25	1.5949E+04
1.1397E+10					
5.7400	0.2519	5.1469E+05	3283.5	228.97	1.6393E+04
1.1397E+10					
6.1500	0.2289	5.3100E+05	2675.4	230.23	1.6766E+04
1.1397E+10					
6.5600	0.2070	5.4422E+05	2062.2	231.04	1.7069E+04
1.1397E+10					
6.9700	0.1863	5.5433E+05	1446.2	231.37	1.7300E+04
1.1397E+10					
7.3800	0.1668	5.6132E+05	829.70	231.22	1.7461E+04
1.1397E+10					
7.7900	0.1484	5.6520E+05	215.20	230.57	1.7549E+04
1.1397E+10					
8.2000	0.1313	5.6598E+05	-394.84	229.41	1.7567E+04
1.1397E+10					
8.6100	0.1153	5.6368E+05	-997.87	227.72	1.7515E+04
1.1397E+10					
9.0200	0.1005	5.5835E+05	-1591.3	225.49	1.7392E+04
1.1397E+10					
9.4300	8.6979E-02	5.5004E+05	-2172.3	222.70	1.7202E+04
1.1397E+10					
9.8400	7.4576E-02	5.3883E+05	-2738.2	219.34	1.6945E+04
1.1397E+10					
10.250	6.3318E-02	5.2479E+05	-3286.1	215.38	1.6624E+04
1.1397E+10					
10.660	5.3175E-02	5.0802E+05	-3813.0	210.81	1.6240E+04
1.1397E+10					
11.070	4.4111E-02	4.8864E+05	-4315.8	205.59	1.5796E+04
1.1397E+10					
11.480	3.6084E-02	4.6677E+05	-4791.4	199.72	1.5295E+04
1.1397E+10					
11.890	2.9049E-02	4.4257E+05	-5236.3	193.14	1.4741E+04
1.1397E+10					
12.300	2.2954E-02	4.1619E+05	-5647.0	185.83	1.4137E+04

1.1397E+10
12.710 1.7742E-02 3.8781E+05 -6019.9 177.73 1.3487E+04
1.1397E+10
13.120 1.3355E-02 3.5764E+05 -6350.8 168.79 1.2796E+04
1.1397E+10
13.530 9.7270E-03 3.2589E+05 -6635.4 158.90 1.2069E+04
1.1397E+10
13.940 6.7912E-03 2.9281E+05 -6868.7 147.95 1.1311E+04
1.1397E+10
14.350 4.4773E-03 2.5868E+05 -7045.0 135.72 1.0530E+04
1.1397E+10
14.760 2.7128E-03 2.2378E+05 -7157.0 121.80 9730.6
1.1397E+10
15.170 1.4236E-03 1.8847E+05 -7194.1 105.29 8921.9
1.1397E+10
15.580 5.3472E-04 1.5315E+05 -7136.4 83.263 8113.0
1.1397E+10
15.990 -2.8890E-05 1.1835E+05 -6690.2 -52.672 7316.1
1.1397E+10
16.400 -3.4114E-04 8.7378E+04 -5848.0 -77.665 6606.8
1.1397E+10
16.810 -4.6780E-04 6.0838E+04 -4929.9 -83.553 5999.1
1.1397E+10
17.220 -4.6524E-04 3.8877E+04 -3997.9 -83.323 5496.1
1.1397E+10
17.630 -3.8012E-04 2.1492E+04 -3076.4 -79.249 5098.0
1.1397E+10
18.040 -2.4935E-04 8589.2 -2184.0 -71.519 4802.5
1.1397E+10
18.450 -1.0033E-04 -18.129 -1344.5 -57.753 4606.2
1.1397E+10
18.860 4.8643E-05 -4661.6 -791.44 44.944 4712.6
1.1397E+10
19.270 1.8772E-04 -7826.4 -540.76 65.155 4785.1
1.1397E+10
19.680 3.1017E-04 -1.0001E+04 -362.09 74.216 4834.9
1.1397E+10
20.090 4.1138E-04 -1.1405E+04 -219.40 79.780 4867.0
1.1397E+10
20.500 4.8837E-04 -1.2173E+04 -99.155 83.339 4884.6
1.1397E+10
20.910 5.3950E-04 -1.2390E+04 7.0969 85.469 4889.6
1.1397E+10
21.320 5.6432E-04 -1.2109E+04 105.71 86.443 4883.1
1.1397E+10
21.730 5.6341E-04 -1.1352E+04 202.03 86.402 4865.8
1.1397E+10
22.140 5.3840E-04 -1.0119E+04 300.90 85.409 4837.6
1.1397E+10
22.550 4.9190E-04 -8385.8 406.97 83.474 4797.9
1.1397E+10

22.960	4.2758E-04	-6106.3	524.96	80.562	4745.7	1.1397E+10
23.370	3.5030E-04	-3210.1	659.87	76.596	4679.3	1.1397E+10
23.780	2.6620E-04	398.37	817.19	71.452	4614.9	1.1397E+10
24.190	1.8294E-04	4843.0	742.33	64.977	4716.7	1.1397E+10
24.600	1.0998E-04	7714.1	451.33	53.314	4782.5	1.1397E+10
25.010	5.3390E-05	9293.4	172.75	59.931	4818.7	1.1397E+10
25.420	1.6544E-05	9420.6	-344.58	150.37	4821.6	1.1397E+10
25.830	-2.9385E-07	5906.6	-706.59	-3.2063	4741.1	1.1397E+10
26.240	-4.5865E-06	2469.3	-555.04	-58.401	4662.4	1.1397E+10
26.650	-3.6346E-06	445.25	-281.23	-52.904	4616.0	1.1397E+10
27.060	-1.7371E-06	-298.21	-81.096	-28.450	4612.7	1.1397E+10
27.470	-4.7292E-07	-352.96	10.064	-8.6071	4613.9	1.1397E+10
27.880	4.1590E-08	-199.31	29.189	0.8327	4610.4	1.1397E+10
28.290	1.3278E-07	-65.786	20.005	2.9005	4607.3	1.1397E+10
28.700	8.4243E-08	-2.4635	7.9652	1.9937	4605.9	1.1397E+10
29.110	3.0474E-08	12.598	1.1864	0.7618	4606.1	1.1397E+10
29.520	3.4626E-09	9.2168	-0.9006	8.6565E-02	4606.0	1.1397E+10
29.930	-3.9727E-09	3.7384	-0.8693	-9.9318E-02	4605.9	1.1397E+10
30.340	-3.4680E-09	0.6636	-0.4117	-8.6699E-02	4605.8	1.1397E+10
30.750	-1.5536E-09	-0.3126	-0.1028	-3.8841E-02	4605.8	1.1397E+10
31.160	-3.0315E-10	-0.3485	1.1352E-02	-7.5787E-03	4605.8	1.1397E+10
31.570	2.0709E-10	-0.2010	2.7289E-02	1.0999E-03	4605.8	1.1397E+10
31.980	2.9046E-10	-8.0037E-02	1.9487E-02	2.0720E-03	4605.8	1.1397E+10
32.390	2.0384E-10	-9.2343E-03	9.8989E-03	1.8255E-03	4605.8	1.1397E+10
32.800	9.7601E-11	1.7381E-02	2.8204E-03	1.0519E-03	4605.8	1.1397E+10
33.210	2.8281E-11	1.8531E-02	-6.4391E-04	3.5634E-04	4605.8	

```
1.1397E+10
       33.620 -1.6814E-12  1.1052E-02 -1.4608E-03 -2.4249E-05      4605.8
1.1397E+10
       34.030 -8.1690E-12  4.1589E-03 -1.0747E-03 -1.3270E-04      4605.8
1.1397E+10
       34.440 -5.8234E-12  4.7713E-04 -4.8949E-04 -1.0521E-04      4605.8
1.1397E+10
       34.850 -2.4643E-12 -6.5801E-04 -1.1010E-04 -4.9013E-05      4605.8
1.1397E+10
       35.260 -5.0289E-13 -6.0663E-04  3.7331E-05 -1.0918E-05      4605.8
1.1397E+10
       35.670  1.7014E-13 -2.9086E-04  5.4340E-05  4.0040E-06      4605.8
1.1397E+10
       36.080  2.2540E-13 -7.1971E-05  3.0629E-05  5.6349E-06      4605.8
1.1397E+10
       36.490  1.2779E-13  1.0529E-05  8.9077E-06  3.1948E-06      4605.8
1.1397E+10
       36.900  5.2551E-14  1.5693E-05  1.7224E-07  3.5618E-07      4605.8
1.1397E+10
       37.310  1.0640E-14  1.2232E-05 -9.2907E-07  9.1505E-08      4605.8
1.1397E+10
       37.720 -5.2906E-15  6.5549E-06 -1.0185E-06 -5.5139E-08      4605.8
1.1397E+10
       38.130 -7.2991E-15  2.2112E-06 -6.6303E-07 -8.9374E-08      4605.8
1.1397E+10
       38.540 -4.6112E-15  3.0656E-08 -2.8360E-07 -6.4864E-08      4605.8
1.1397E+10
       38.950 -1.8581E-15 -5.7980E-07 -5.1409E-08 -2.9524E-08      4605.8
1.1397E+10
       39.360 -3.3654E-16 -4.7551E-07  3.5882E-08 -5.9605E-09      4605.8
1.1397E+10
       39.770  1.7510E-16 -2.2687E-07  4.2131E-08  3.4202E-09      4605.8
1.1397E+10
       40.180  2.0488E-16 -6.0983E-08  2.2954E-08  4.3753E-09      4605.8
1.1397E+10
       40.590  1.0514E-16 -9.9813E-10  6.1960E-09  2.4368E-09      4605.8
1.1397E+10
       41.000  3.2747E-18 -5.8034E-24  1.7878E-24  8.1868E-11      4605.8
1.1397E+10



     LOAD CASE :     7
     CASE NAME : Service I, Expansion

     LOAD TYPE : Dead, DL

       REDUCTION FACTORS FOR CLOSELY-SPACED PILE GROUPS
       ESTIMATED USING MOVEMENT IN THE DIRECTION OF PILE CAP DISPLACEMENTS

            GROUP NO     P-FACTOR     Y-FACTOR
```

```
              1           1.0000       1.0000
              2           1.0000       1.0000
              3           1.0000       1.0000


     * TABLE L *   COMPUTATION ON PILE CAP


     * EQUIVALENT CONCENTRATED LOAD AT ORIGIN *

            VERT. LOAD, LBS    HORI. LOAD, LBS    MOMENT,LBS-IN
                2.18560E+06       2.67700E+05      -2.88953E+07


     * DISPLACEMENT OF GROUPED PILE FOUNDATION AT ORIGIN *

               VERTICAL,IN      HORIZONTAL,IN     ROTATION,RAD
                  0.0539853           0.28038      -2.80506E-04


          NUMBER OF ITERATIONS =   7


     * TABLE M *   COMPUTATION ON INDIVIDUAL PILE

       * PILE GROUP *     1


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.067450      0.2804 -2.8051E-04  1.4004E+05  2.5161E+04      0.0000
     9034.9


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2
```

0.067450 0.2804 -2.8051E-04 1.4004E+05 2.5161E+04 0.0000
9034.9

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
**********	**********	**********	**********	**********	**********	**********
0.0000	0.2804	0.0000	2.5161E+04	493.28	9034.9	1.1397E+10
0.4100	0.2563	1.2204E+05	2.3044E+04	507.13	1.1830E+04	1.1397E+10
0.8200	0.2324	2.3347E+05	2.0864E+04	519.11	1.4382E+04	1.1397E+10
1.2300	0.2091	3.3396E+05	1.8630E+04	529.12	1.6683E+04	1.1397E+10
1.6400	0.1864	4.2323E+05	1.6351E+04	537.08	1.8727E+04	1.1397E+10
2.0500	0.1647	5.0107E+05	1.4039E+04	542.88	2.0510E+04	1.1397E+10
2.4600	0.1440	5.6732E+05	1.1704E+04	546.42	2.2027E+04	1.1397E+10
2.8700	0.1245	6.2186E+05	9356.9	547.60	2.3276E+04	1.1397E+10
3.2800	0.1064	6.6466E+05	7010.3	546.31	2.4256E+04	1.1397E+10
3.6900	8.9624E-02	6.9573E+05	4676.4	542.43	2.4968E+04	1.1397E+10
4.1000	7.4358E-02	7.1516E+05	2368.3	535.81	2.5413E+04	1.1397E+10
4.5100	6.0611E-02	7.2310E+05	99.947	526.30	2.5594E+04	1.1397E+10
4.9200	4.8400E-02	7.1977E+05	-2114.1	513.71	2.5518E+04	1.1397E+10
5.3300	3.7718E-02	7.0550E+05	-4258.1	497.82	2.5191E+04	1.1397E+10
5.7400	2.8534E-02	6.8066E+05	-6315.0	478.32	2.4622E+04	1.1397E+10
6.1500	2.0795E-02	6.4573E+05	-8266.0	454.78	2.3823E+04	1.1397E+10
6.5600	1.4429E-02	6.0130E+05	-1.0090E+04	426.56	2.2805E+04	1.1397E+10
6.9700	9.3389E-03	5.4805E+05	-1.1760E+04	392.52	2.1586E+04	1.1397E+10

```
       7.3800  5.4132E-03  4.8684E+05 -1.3243E+04      350.35  2.0184E+04
1.1397E+10
       7.7900  2.5216E-03  4.1869E+05 -1.4484E+04      293.84  1.8623E+04
1.1397E+10
       8.2000  5.1920E-04  3.4500E+05 -1.5326E+04      188.63  1.6936E+04
1.1397E+10
       8.6100 -7.5042E-04  2.6834E+05 -1.4831E+04     -249.84  1.5180E+04
1.1397E+10
       9.0200 -1.4501E-03  1.9934E+05 -1.3157E+04     -290.79  1.3600E+04
1.1397E+10
       9.4300 -1.7264E-03  1.3902E+05 -1.1338E+04     -308.43  1.2218E+04
1.1397E+10
       9.8400 -1.7074E-03  8.7809E+04     -9463.4     -313.70  1.1046E+04
1.1397E+10
       10.250 -1.5019E-03  4.5865E+04     -7584.2     -310.22  1.0085E+04
1.1397E+10
       10.660 -1.1990E-03  1.3110E+04     -5739.9     -299.49      9335.1
1.1397E+10
       11.070 -8.6830E-04 -1.0705E+04     -3964.9     -282.08      9280.0
1.1397E+10
       11.480 -5.6030E-04 -2.5994E+04     -2292.1     -257.92      9630.2
1.1397E+10
       11.890 -3.0751E-04 -3.3338E+04     -757.30     -225.98      9798.4
1.1397E+10
       12.300 -1.2553E-04 -3.3507E+04      591.94     -182.49      9802.2
1.1397E+10
       12.710 -1.4719E-05 -2.7554E+04      1623.1     -96.699      9665.9
1.1397E+10
       13.120  3.7571E-05 -1.7558E+04      1833.7      151.12      9437.0
1.1397E+10
       13.530  5.2569E-05     -9520.3      1405.2      163.05      9252.9
1.1397E+10
       13.940  4.7346E-05     -3732.1      955.95      159.58      9120.4
1.1397E+10
       14.350  3.4197E-05     -111.21      546.19      146.99      9037.4
1.1397E+10
       14.760  2.0812E-05      1646.1      214.81      127.72      9072.6
1.1397E+10
       15.170  1.0922E-05      2005.8     -10.463      103.86      9080.8
1.1397E+10
       15.580  5.2934E-06      1545.3     -117.31      79.578      9070.3
1.1397E+10
       15.990  2.9465E-06      852.56     -123.84      63.075      9054.4
1.1397E+10
       16.400  2.4103E-06      327.18     -80.442      59.285      9042.4
1.1397E+10
       16.810  2.5691E-06      61.062     -36.495      62.850      9036.3
1.1397E+10
       17.220  2.8575E-06     -31.996     -10.765      66.691      9035.6
1.1397E+10
       17.630  3.0780E-06     -44.942 -2.7524E-02      68.944      9035.9
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1.1397E+10
18.040 3.2031E-06 -32.315 2.7706 69.918 9035.6
1.1397E+10
18.450 3.2595E-06 -17.705 2.4793 70.200 9035.3
1.1397E+10
18.860 3.2783E-06 -7.9288 1.5026 70.197 9035.1
1.1397E+10
19.270 3.2802E-06 -2.9216 0.7177 70.122 9035.0
1.1397E+10
19.680 3.2760E-06 -0.8661 0.2715 70.059 9034.9
1.1397E+10
20.090 3.2699E-06 -0.2489 4.1190E-02 70.034 9034.9
1.1397E+10
20.500 3.2633E-06 -0.4591 -0.1764 70.054 9034.9
1.1397E+10
20.910 3.2557E-06 -1.9829 -0.6310 70.131 9034.9
1.1397E+10
21.320 3.2439E-06 -6.6658 -1.6272 70.274 9035.0
1.1397E+10
21.730 3.2179E-06 -17.989 -3.4606 70.471 9035.3
1.1397E+10
22.140 3.1538E-06 -40.706 -6.1368 70.617 9035.8
1.1397E+10
22.550 3.0032E-06 -78.345 -8.6768 70.416 9036.7
1.1397E+10
22.960 2.6861E-06 -126.02 -7.7473 69.207 9037.8
1.1397E+10
23.370 2.1015E-06 -154.45 4.9212 65.644 9038.4
1.1397E+10
23.780 1.1887E-06 -77.386 48.583 56.608 9036.7
1.1397E+10
24.190 1.1164E-07 323.89 25.512 22.771 9042.3
1.1397E+10
24.600 -2.7754E-07 173.86 -26.788 -1.5110 9038.9
1.1397E+10
25.010 -2.9745E-07 60.354 -17.753 -2.1615 9036.3
1.1397E+10
25.420 -1.8918E-07 -0.8460 -8.2061 -1.7194 9034.9
1.1397E+10
25.830 -8.2707E-08 -20.424 -1.7563 -0.9024 9035.4
1.1397E+10
26.240 -1.9612E-08 -18.152 1.0780 -0.2497 9035.3
1.1397E+10
26.650 4.9304E-09 -9.8291 1.5157 7.1764E-02 9035.1
1.1397E+10
27.060 8.5961E-09 -3.2407 0.9929 0.1408 9035.0
1.1397E+10
27.470 5.3788E-09 -5.9249E-02 0.4057 9.7894E-02 9034.9
1.1397E+10
27.880 2.0357E-09 0.7526 6.4639E-02 4.0759E-02 9034.9
1.1397E+10

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       28.290  2.9092E-10      0.5775 -5.1261E-02  6.3549E-03      9034.9
1.1397E+10
       28.700 -2.2726E-10      0.2485 -5.3663E-02 -5.3785E-03      9034.9
1.1397E+10
       29.110 -2.1772E-10  4.9537E-02 -2.7042E-02 -5.4430E-03      9034.9
1.1397E+10
       29.520 -1.0297E-10 -1.7646E-02 -7.3193E-03 -2.5742E-03      9034.9
1.1397E+10
       29.930 -2.5696E-11 -2.2512E-02  5.9360E-04 -6.4240E-04      9034.9
1.1397E+10
       30.340  3.7642E-12 -1.1820E-02  1.9424E-03  9.4104E-05      9034.9
1.1397E+10
       30.750  8.1191E-12 -3.4031E-03  1.2116E-03  2.0298E-04      9034.9
1.1397E+10
       31.160  5.2460E-12  1.0164E-04  3.8964E-04  1.3115E-04      9034.9
1.1397E+10
       31.570  2.5888E-12  4.3169E-04  3.3183E-05  1.3750E-05      9034.9
1.1397E+10
       31.980  8.4854E-13  4.2878E-04 -1.5531E-05  6.0529E-06      9034.9
1.1397E+10
       32.390  1.8933E-14  2.7922E-04 -3.0838E-05  1.6956E-07      9034.9
1.1397E+10
       32.800 -2.1763E-13  1.2548E-04 -2.5486E-05 -2.3455E-06      9034.9
1.1397E+10
       33.210 -1.8768E-13  2.8472E-05 -1.3898E-05 -2.3648E-06      9034.9
1.1397E+10
       33.620 -9.7262E-14 -1.1299E-05 -4.6303E-06 -1.4027E-06      9034.9
1.1397E+10
       34.030 -3.0843E-14 -1.7112E-05  5.2986E-08 -5.0103E-07      9034.9
1.1397E+10
       34.440 -7.6921E-16 -1.0791E-05  1.3197E-06 -1.3897E-08      9034.9
1.1397E+10
       34.850  6.3845E-15 -4.1313E-06  1.0415E-06  1.2698E-07      9034.9
1.1397E+10
       35.260  4.7637E-15 -5.4367E-07  4.7472E-07  1.0342E-07      9034.9
1.1397E+10
       35.670  1.9881E-15  5.4058E-07  1.0520E-07  4.6787E-08      9034.9
1.1397E+10
       36.080  3.6073E-16  4.9212E-07 -3.2081E-08  9.0183E-09      9034.9
1.1397E+10
       36.490 -2.2143E-16  2.2522E-07 -4.0648E-08 -5.5357E-09      9034.9
1.1397E+10
       36.900 -3.2525E-16  9.2243E-08 -2.1607E-08 -2.2044E-09      9034.9
1.1397E+10
       37.310 -2.3314E-16  1.2604E-08 -1.1252E-08 -2.0050E-09      9034.9
1.1397E+10
       37.720 -1.1427E-16 -1.8505E-08 -3.3898E-09 -1.1910E-09      9034.9
1.1397E+10
       38.130 -3.4702E-17 -2.0780E-08  5.8518E-10 -4.2490E-10      9034.9
1.1397E+10
       38.540  7.3213E-19 -1.2763E-08  1.6051E-09  1.0299E-11      9034.9
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1.1397E+10
       38.950  9.0583E-18 -4.9917E-09  1.2257E-09  1.4393E-10      9034.9
1.1397E+10
       39.360  6.7826E-18 -7.0279E-10  5.7614E-10  1.2013E-10      9034.9
1.1397E+10
       39.770  3.0143E-18  6.7841E-10  1.3578E-10  5.8879E-11      9034.9
1.1397E+10
       40.180  6.8678E-19  6.3416E-10 -4.5139E-11  1.4667E-11      9034.9
1.1397E+10
       40.590 -2.9379E-19  2.3470E-10 -6.4468E-11 -6.8094E-12      9034.9
1.1397E+10
       41.000 -7.7588E-19  9.0678E-26  2.1362E-26 -1.9397E-11      9034.9
1.1397E+10


       * PILE GROUP *     2


        * PILE TOP DISPLACEMENTS AND REACTIONS *


       THE GLOBAL STRUCTURAL COORDINATE SYSTEM
       ---------------------------------------

        DISP.X,IN   DISP.Y,IN     SLOPE     FOR.X, LB   FOR.Y, LB   BM, LB-IN
STRESS, LB/IN**2

          0.053985      0.2804 -2.8051E-04  1.1814E+05      8854.9      0.0000
     7622.3


       THE PILE COORDINATE SYSTEM (LOCAL AXES)
       ---------------------------------------

        DISP.x,IN   DISP.y,IN     SLOPE     AXIAL, LB    LAT, LB    BM, LB-IN
STRESS,LBS/IN**2

          0.053985      0.2804 -2.8051E-04  1.1814E+05      8854.9      0.0000
     7622.3


        * EFFECTS FOR LATERALLY LOADED PILE *


        x        DISPL.      BENDING      SHEAR       SOIL        TOTAL
FLEXURAL
                  y-DIR      MOMENT       FORCE     REACTION     STRESS
RIGIDITY
       FT          IN        LBS-IN        LBS       LBS/IN     LBS-IN**2
LBS-IN**2
   **********  **********  **********  **********  **********  **********
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****
0.0000 0.2804 0.0000 8854.9 160.46 7622.3
1.1397E+10
0.4100 0.2631 4.4513E+04 8396.0 166.06 8641.6
1.1397E+10
0.8200 0.2459 8.6689E+04 7910.6 171.27 9607.5
1.1397E+10
1.2300 0.2289 1.2639E+05 7400.5 176.08 1.0517E+04
1.1397E+10
1.6400 0.2122 1.6350E+05 6867.9 180.47 1.1366E+04
1.1397E+10
2.0500 0.1958 1.9788E+05 6314.6 184.42 1.2154E+04
1.1397E+10
2.4600 0.1798 2.2945E+05 5743.1 187.93 1.2877E+04
1.1397E+10
2.8700 0.1644 2.5811E+05 5155.4 190.96 1.3533E+04
1.1397E+10
3.2800 0.1494 2.8378E+05 4554.0 193.52 1.4121E+04
1.1397E+10
3.6900 0.1351 3.0638E+05 3941.2 195.57 1.4639E+04
1.1397E+10
4.1000 0.1214 3.2587E+05 3319.6 197.11 1.5085E+04
1.1397E+10
4.5100 0.1084 3.4219E+05 2691.8 198.11 1.5459E+04
1.1397E+10
4.9200 9.6182E-02 3.5533E+05 2060.4 198.56 1.5760E+04
1.1397E+10
5.3300 8.4679E-02 3.6527E+05 1428.2 198.43 1.5987E+04
1.1397E+10
5.7400 7.3953E-02 3.7201E+05 798.05 197.72 1.6142E+04
1.1397E+10
6.1500 6.4017E-02 3.7557E+05 172.95 196.39 1.6223E+04
1.1397E+10
6.5600 5.4878E-02 3.7597E+05 -444.04 194.42 1.6232E+04
1.1397E+10
6.9700 4.6538E-02 3.7326E+05 -1049.7 191.79 1.6170E+04
1.1397E+10
7.3800 3.8990E-02 3.6752E+05 -1640.8 188.47 1.6039E+04
1.1397E+10
7.7900 3.2224E-02 3.5881E+05 -2213.7 184.44 1.5839E+04
1.1397E+10
8.2000 2.6219E-02 3.4724E+05 -2765.0 179.64 1.5574E+04
1.1397E+10
8.6100 2.0952E-02 3.3293E+05 -3290.6 174.04 1.5247E+04
1.1397E+10
9.0200 1.6392E-02 3.1602E+05 -3786.7 167.59 1.4859E+04
1.1397E+10
9.4300 1.2503E-02 2.9667E+05 -4248.7 160.21 1.4416E+04
1.1397E+10
9.8400 9.2442E-03 2.7506E+05 -4671.8 151.81 1.3921E+04
1.1397E+10

10.250	6.5697E-03	2.5140E+05	-5050.8	142.24	1.3380E+04
1.1397E+10					
10.660	4.4292E-03	2.2593E+05	-5379.2	131.27	1.2796E+04
1.1397E+10					
11.070	2.7685E-03	1.9892E+05	-5649.2	118.47	1.2178E+04
1.1397E+10					
11.480	1.5303E-03	1.7069E+05	-5849.4	102.90	1.1531E+04
1.1397E+10					
11.890	6.5464E-04	1.4161E+05	-5959.3	81.784	1.0865E+04
1.1397E+10					
12.300	7.9747E-05	1.1222E+05	-5901.3	34.654	1.0192E+04
1.1397E+10					
12.710	-2.5680E-04	8.3650E+04	-5428.8	-86.719	9537.9
1.1397E+10					
13.120	-4.1568E-04	5.8856E+04	-4646.5	-91.305	8970.1
1.1397E+10					
13.530	-4.4956E-04	3.7952E+04	-3849.0	-92.872	8491.4
1.1397E+10					
13.940	-4.0282E-04	2.0980E+04	-3051.5	-91.318	8102.7
1.1397E+10					
14.350	-3.1153E-04	7908.5	-2268.4	-87.016	7803.4
1.1397E+10					
14.760	-2.0344E-04	-1364.5	-1513.5	-79.847	7653.5
1.1397E+10					
15.170	-9.8250E-05	-7009.9	-803.55	-68.762	7782.8
1.1397E+10					
15.580	-7.9468E-06	-9294.6	-131.78	-64.316	7835.1
1.1397E+10					
15.990	6.2615E-05	-8325.6	228.43	57.890	7812.9
1.1397E+10					
16.400	1.1549E-04	-7061.4	261.64	68.607	7784.0
1.1397E+10					
16.810	1.5338E-04	-5761.7	256.02	73.678	7754.2
1.1397E+10					
17.220	1.7902E-04	-4549.6	231.53	76.279	7726.4
1.1397E+10					
17.630	1.9500E-04	-3488.4	197.71	77.468	7702.1
1.1397E+10					
18.040	2.0357E-04	-2607.1	160.24	77.765	7682.0
1.1397E+10					
18.450	2.0661E-04	-1913.0	122.75	77.476	7666.1
1.1397E+10					
18.860	2.0558E-04	-1399.5	87.619	76.803	7654.3
1.1397E+10					
19.270	2.0158E-04	-1050.3	56.420	75.880	7646.3
1.1397E+10					
19.680	1.9534E-04	-843.10	30.170	74.791	7641.6
1.1397E+10					
20.090	1.8732E-04	-751.70	9.5644	73.585	7639.5
1.1397E+10					
20.500	1.7770E-04	-746.90	-4.8428	72.272	7639.4

1.1397E+10
20.910 1.6650E-04 -796.90 -12.484 70.834 7640.5
1.1397E+10
21.320 1.5360E-04 -866.89 -12.630 69.225 7642.1
1.1397E+10
21.730 1.3886E-04 -917.91 -4.2544 67.370 7643.3
1.1397E+10
22.140 1.2217E-04 -905.04 14.101 65.168 7643.0
1.1397E+10
22.550 1.0356E-04 -774.98 44.479 62.483 7640.0
1.1397E+10
22.960 8.3303E-05 -462.78 89.687 59.139 7632.8
1.1397E+10
23.370 6.2063E-05 112.44 153.57 54.893 7624.8
1.1397E+10
23.780 4.1062E-05 1053.3 241.39 49.405 7646.4
1.1397E+10
24.190 2.2298E-05 2492.4 188.22 42.208 7679.3
1.1397E+10
24.600 8.8280E-06 2909.2 -33.846 48.063 7688.9
1.1397E+10
25.010 1.5367E-06 2161.8 -179.55 11.167 7671.8
1.1397E+10
25.420 -1.1629E-06 1143.6 -181.02 -10.570 7648.4
1.1397E+10
25.830 -1.4336E-06 380.95 -116.54 -15.642 7631.0
1.1397E+10
26.240 -8.9521E-07 -3.1617 -50.017 -11.399 7622.3
1.1397E+10
26.650 -3.6351E-07 -111.34 -8.9592 -5.2911 7624.8
1.1397E+10
27.060 -6.8297E-08 -91.418 6.8086 -1.1186 7624.3
1.1397E+10
27.470 3.2753E-08 -44.393 8.0938 0.5961 7623.3
1.1397E+10
27.880 3.9515E-08 -11.787 4.6812 0.7912 7622.5
1.1397E+10
28.290 2.1242E-08 1.6707 1.5934 0.4640 7622.3
1.1397E+10
28.700 6.5175E-09 3.8958 7.2456E-02 0.1542 7622.3
1.1397E+10
29.110 6.7496E-11 2.3862 -0.3111 1.6874E-03 7622.3
1.1397E+10
29.520 -1.3145E-09 0.8351 -0.2345 -3.2862E-02 7622.3
1.1397E+10
29.930 -9.2281E-10 7.9243E-02 -9.6861E-02 -2.3070E-02 7622.3
1.1397E+10
30.340 -3.6284E-10 -0.1182 -1.7794E-02 -9.0711E-03 7622.3
1.1397E+10
30.750 -5.3832E-11 -9.5950E-02 7.8318E-03 -1.3458E-03 7622.3
1.1397E+10

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       31.160  5.1389E-11 -4.1141E-02  7.9820E-03  1.2847E-03      7622.3
1.1397E+10
       31.570  6.9228E-11 -1.7421E-02  3.9171E-03  3.6768E-04      7622.3
1.1397E+10
       31.980  5.0067E-11 -2.5965E-03  2.1341E-03  3.5714E-04      7622.3
1.1397E+10
       32.390  2.5390E-11  3.5836E-03  6.9615E-04  2.2739E-04      7622.3
1.1397E+10
       32.800  8.3256E-12  4.2586E-03 -8.3954E-05  8.9731E-05      7622.3
1.1397E+10
       33.210  3.0570E-13  2.7605E-03 -3.1417E-04  3.8519E-06      7622.3
1.1397E+10
       33.620 -1.8511E-12  1.1684E-03 -2.5797E-04 -2.6697E-05      7622.3
1.1397E+10
       34.030 -1.5263E-12  2.2228E-04 -1.3130E-04 -2.4793E-05      7622.3
1.1397E+10
       34.440 -7.2932E-13 -1.2374E-04 -3.7897E-05 -1.3176E-05      7622.3
1.1397E+10
       34.850 -1.9519E-13 -1.5078E-04  4.0667E-06 -3.8822E-06      7622.3
1.1397E+10
       35.260  1.8682E-14 -8.3813E-05  1.2619E-05  4.0561E-07      7622.3
1.1397E+10
       35.670  5.4546E-14 -2.6640E-05  8.4636E-06  1.2836E-06      7622.3
1.1397E+10
       36.080  3.3827E-14 -5.3307E-07  3.2254E-06  8.4568E-07      7622.3
1.1397E+10
       36.490  1.1977E-14  5.1032E-06  4.0847E-07  2.9942E-07      7622.3
1.1397E+10
       36.900  9.6528E-16  3.4902E-06 -3.4420E-07  6.5425E-09      7622.3
1.1397E+10
       37.310 -2.6334E-15  1.7180E-06 -3.0458E-07 -2.2647E-08      7622.3
1.1397E+10
       37.720 -2.5833E-15  4.9353E-07 -1.8264E-07 -2.6923E-08      7622.3
1.1397E+10
       38.130 -1.4849E-15 -7.9323E-08 -7.1681E-08 -1.8182E-08      7622.3
1.1397E+10
       38.540 -5.5497E-16 -2.1205E-07 -7.7498E-09 -7.8066E-09      7622.3
1.1397E+10
       38.950 -7.5442E-17 -1.5575E-07  1.4403E-08 -1.1987E-09      7622.3
1.1397E+10
       39.360  7.3294E-17 -7.0393E-08  1.4159E-08  1.2981E-09      7622.3
1.1397E+10
       39.770  7.2522E-17 -1.6443E-08  7.4805E-09  1.4166E-09      7622.3
1.1397E+10
       40.180  3.6825E-17  3.2202E-09  2.0611E-09  7.8643E-10      7622.3
1.1397E+10
       40.590  7.9688E-18  3.8461E-09 -3.2786E-10  1.8470E-10      7622.3
1.1397E+10
       41.000 -1.2719E-17      0.0000  1.9407E-25 -3.1797E-10      7622.3
1.1397E+10
```

* PILE GROUP * 3

* PILE TOP DISPLACEMENTS AND REACTIONS *

THE GLOBAL STRUCTURAL COORDINATE SYSTEM

DISP.X,IN	DISP.Y,IN	SLOPE	FOR.X, LB	FOR.Y, LB	BM, LB-IN	STRESS, LB/IN**2
0.040521	0.2804	-2.8051E-04	9.4575E+04	7397.5	0.0000	6101.6

THE PILE COORDINATE SYSTEM (LOCAL AXES)

DISP.x,IN	DISP.y,IN	SLOPE	AXIAL, LB	LAT, LB	BM, LB-IN	STRESS,LBS/IN**2
0.040521	0.2804	-2.8051E-04	9.4575E+04	7397.5	0.0000	6101.6

* EFFECTS FOR LATERALLY LOADED PILE *

x	DISPL. y-DIR	BENDING MOMENT	SHEAR FORCE	SOIL REACTION	TOTAL FLEXURAL STRESS	RIGIDITY
FT	IN	LBS-IN	LBS	LBS/IN	LBS-IN**2	LBS-IN**2
0.0000	0.2804	0.0000	7397.5	136.69	6101.6	1.1397E+10
0.4100	0.2641	3.7130E+04	7057.4	141.59	6951.9	1.1397E+10
0.8200	0.2479	7.2519E+04	6693.8	146.19	7762.4	1.1397E+10
1.2300	0.2318	1.0605E+05	6308.5	150.46	8530.2	1.1397E+10
1.6400	0.2160	1.3761E+05	5902.9	154.41	9253.0	1.1397E+10
2.0500	0.2004	1.6710E+05	5478.7	158.02	9928.4	1.1397E+10
2.4600	0.1852	1.9443E+05	5037.6	161.28	1.0554E+04	

1.1397E+10
2.8700 0.1705 2.1951E+05 4581.4 164.17 1.1128E+04
1.1397E+10
3.2800 0.1562 2.4226E+05 4111.9 166.68 1.1650E+04
1.1397E+10
3.6900 0.1424 2.6262E+05 3631.0 168.80 1.2116E+04
1.1397E+10
4.1000 0.1291 2.8054E+05 3140.6 170.52 1.2526E+04
1.1397E+10
4.5100 0.1165 2.9598E+05 2642.9 171.83 1.2880E+04
1.1397E+10
4.9200 0.1045 3.0888E+05 2139.7 172.70 1.3175E+04
1.1397E+10
5.3300 9.3116E-02 3.1924E+05 1633.4 173.13 1.3412E+04
1.1397E+10
5.7400 8.2437E-02 3.2704E+05 1126.1 173.10 1.3591E+04
1.1397E+10
6.1500 7.2453E-02 3.3227E+05 620.05 172.60 1.3711E+04
1.1397E+10
6.5600 6.3175E-02 3.3496E+05 117.70 171.61 1.3772E+04
1.1397E+10
6.9700 5.4608E-02 3.3512E+05 -378.56 170.12 1.3776E+04
1.1397E+10
7.3800 4.6753E-02 3.3279E+05 -866.19 168.11 1.3723E+04
1.1397E+10
7.7900 3.9605E-02 3.2802E+05 -1342.6 165.55 1.3613E+04
1.1397E+10
8.2000 3.3154E-02 3.2086E+05 -1805.0 162.43 1.3450E+04
1.1397E+10
8.6100 2.7384E-02 3.1141E+05 -2250.7 158.73 1.3233E+04
1.1397E+10
9.0200 2.2276E-02 2.9975E+05 -2676.6 154.42 1.2966E+04
1.1397E+10
9.4300 1.7804E-02 2.8598E+05 -3079.8 149.46 1.2651E+04
1.1397E+10
9.8400 1.3939E-02 2.7023E+05 -3456.8 143.81 1.2290E+04
1.1397E+10
10.250 1.0649E-02 2.5264E+05 -3804.2 137.43 1.1887E+04
1.1397E+10
10.660 7.8948E-03 2.3337E+05 -4118.3 130.24 1.1446E+04
1.1397E+10
11.070 5.6365E-03 2.1259E+05 -4394.7 122.14 1.0970E+04
1.1397E+10
11.480 3.8298E-03 1.9051E+05 -4628.8 112.99 1.0464E+04
1.1397E+10
11.890 2.4276E-03 1.6735E+05 -4814.5 102.50 9934.0
1.1397E+10
12.300 1.3810E-03 1.4337E+05 -4943.9 90.115 9384.8
1.1397E+10
12.710 6.3876E-04 1.1887E+05 -5004.0 74.316 8823.8
1.1397E+10

13.120	1.4903E-04	9.4242E+04	-4959.0	47.403	8259.8	1.1397E+10
13.530	-1.4053E-04	7.0145E+04	-4571.0	-65.125	7708.0	1.1397E+10
13.940	-2.8111E-04	4.9304E+04	-3890.9	-71.344	7230.7	1.1397E+10
14.350	-3.1697E-04	3.1874E+04	-3190.3	-73.477	6831.6	1.1397E+10
14.760	-2.8514E-04	1.7912E+04	-2487.0	-72.400	6511.8	1.1397E+10
15.170	-2.1526E-04	7392.6	-1795.6	-68.670	6270.9	1.1397E+10
15.580	-1.2968E-04	228.64	-1129.6	-62.070	6106.8	1.1397E+10
15.990	-4.3616E-05	-3738.5	-507.39	-50.845	6187.2	1.1397E+10
16.400	3.4509E-05	-4779.6	-134.85	39.406	6211.1	1.1397E+10
16.810	1.0248E-04	-5079.2	-22.751	55.026	6217.9	1.1397E+10
17.220	1.5967E-04	-5015.3	33.732	62.013	6216.5	1.1397E+10
17.630	2.0620E-04	-4757.1	62.751	66.190	6210.6	1.1397E+10
18.040	2.4263E-04	-4405.7	74.939	68.855	6202.5	1.1397E+10
18.450	2.6970E-04	-4025.7	76.426	70.540	6193.8	1.1397E+10
18.860	2.8823E-04	-3658.0	71.359	71.520	6185.4	1.1397E+10
19.270	2.9898E-04	-3326.3	62.809	71.956	6177.8	1.1397E+10
19.680	3.0267E-04	-3041.3	53.210	71.946	6171.3	1.1397E+10
20.090	2.9990E-04	-2802.8	44.614	71.548	6165.8	1.1397E+10
20.500	2.9117E-04	-2601.2	38.856	70.792	6161.2	1.1397E+10
20.910	2.7692E-04	-2418.3	37.682	69.685	6157.0	1.1397E+10
21.320	2.5754E-04	-2227.2	42.858	68.211	6152.6	1.1397E+10
21.730	2.3342E-04	-1992.4	56.270	66.337	6147.2	1.1397E+10
22.140	2.0508E-04	-1668.6	80.033	64.004	6139.8	1.1397E+10
22.550	1.7318E-04	-1199.2	116.61	61.129	6129.1	1.1397E+10
22.960	1.3875E-04	-514.90	168.96	57.590	6113.4	1.1397E+10
23.370	1.0321E-04	469.92	240.78	53.215	6112.4	

1.1397E+10
23.780 6.8680E-05 1861.0 336.82 47.745 6144.2
1.1397E+10
24.190 3.8099E-05 3790.3 291.16 40.812 6188.4
1.1397E+10
24.600 1.5568E-05 4731.0 -17.738 84.757 6210.0
1.1397E+10
25.010 3.0851E-06 3619.1 -281.39 22.418 6184.5
1.1397E+10
25.420 -1.7108E-06 1963.8 -298.29 -15.549 6146.6
1.1397E+10
25.830 -2.3356E-06 684.48 -197.35 -25.484 6117.3
1.1397E+10
26.240 -1.5067E-06 21.907 -87.458 -19.185 6102.1
1.1397E+10
26.650 -6.3124E-07 -176.27 -17.660 -9.1881 6105.6
1.1397E+10
27.060 -1.3016E-07 -151.99 10.187 -2.1317 6105.1
1.1397E+10
27.470 4.8096E-08 -76.091 13.278 0.8753 6103.4
1.1397E+10
27.880 6.4739E-08 -21.361 7.9356 1.2962 6102.1
1.1397E+10
28.290 3.6013E-08 1.9964 2.8117 0.7867 6101.7
1.1397E+10
28.700 1.1527E-08 6.3106 0.2053 0.2728 6101.8
1.1397E+10
29.110 4.4433E-10 4.0200 -0.4931 1.1108E-02 6101.7
1.1397E+10
29.520 -2.1003E-09 1.4596 -0.3913 -5.2507E-02 6101.6
1.1397E+10
29.930 -1.5448E-09 0.1699 -0.1671 -3.8619E-02 6101.6
1.1397E+10
30.340 -6.2832E-10 -0.1849 -3.3467E-02 -1.5708E-02 6101.6
1.1397E+10
30.750 -1.0463E-10 -0.1595 1.1609E-02 -2.6159E-03 6101.6
1.1397E+10
31.160 8.0259E-11 -7.0751E-02 1.3109E-02 2.0065E-03 6101.6
1.1397E+10
31.570 1.1488E-10 -3.0545E-02 6.6716E-03 6.1015E-04 6101.6
1.1397E+10
31.980 8.4630E-11 -5.1026E-03 3.6856E-03 6.0369E-04 6101.6
1.1397E+10
32.390 4.3540E-11 5.7276E-03 1.2413E-03 3.8993E-04 6101.6
1.1397E+10
32.800 1.4616E-11 7.1179E-03 -1.0548E-04 1.5752E-04 6101.6
1.1397E+10
33.210 8.0864E-13 4.6937E-03 -5.1805E-04 1.0189E-05 6101.6
1.1397E+10
33.620 -3.0291E-12 2.0220E-03 -4.3564E-04 -4.3686E-05 6101.6
1.1397E+10

```
       34.030 -2.5722E-12  4.0731E-04 -2.2539E-04 -4.1784E-05      6101.6
1.1397E+10
       34.440 -1.2503E-12 -1.9599E-04 -6.7030E-05 -2.2589E-05      6101.6
1.1397E+10
       34.850 -3.4461E-13 -2.5247E-04  5.3986E-06 -6.8540E-06      6101.6
1.1397E+10
       35.260  2.4833E-14 -1.4299E-04  2.0933E-05  5.3914E-07      6101.6
1.1397E+10
       35.670  9.0578E-14 -4.6531E-05  1.4363E-05  2.1316E-06      6101.6
1.1397E+10
       36.080  5.7496E-14 -1.6608E-06  5.5832E-06  1.4374E-06      6101.6
1.1397E+10
       36.490  2.0887E-14  8.4148E-06  7.6263E-07  5.2218E-07      6101.6
1.1397E+10
       36.900  2.1502E-15  5.8487E-06 -5.5778E-07  1.4574E-08      6101.6
1.1397E+10
       37.310 -4.1644E-15  2.9286E-06 -5.0553E-07 -3.5814E-08      6101.6
1.1397E+10
       37.720 -4.2589E-15  8.7490E-07 -3.0823E-07 -4.4387E-08      6101.6
1.1397E+10
       38.130 -2.4951E-15 -1.0455E-07 -1.2389E-07 -3.0551E-08      6101.6
1.1397E+10
       38.540 -9.5337E-16 -3.4445E-07 -1.5740E-08 -1.3411E-08      6101.6
1.1397E+10
       38.950 -1.4323E-16 -2.5965E-07  2.2849E-08 -2.2757E-09      6101.6
1.1397E+10
       39.360  1.1544E-16 -1.1971E-07  2.3418E-08  2.0446E-09      6101.6
1.1397E+10
       39.770  1.1985E-16 -2.9245E-08  1.2629E-08  2.3410E-09      6101.6
1.1397E+10
       40.180  6.2141E-17  4.5608E-09  3.6054E-09  1.3271E-09      6101.6
1.1397E+10
       40.590  1.4121E-17  6.2423E-09 -4.6430E-10  3.2729E-10      6101.6
1.1397E+10
       41.000 -2.0641E-17  5.8034E-24  9.5431E-25 -5.1603E-10      6101.6
1.1397E+10
```

Prebored Pile Axial and Interaction Check

Check Pile Axial Loads and Combined Axial Compression & Bending

Rear Abutment - Fixed

Calc'd. by: KMA 6/9/2026
Chk'd. by: JAA 6/29/2026

Axial loads, bending moments, and horizontal deflections are taken from GROUP output. This calculation checks ths structural capacity of the piles, the lateral defelction servicability of the abutment, and the compatibility of the abutment lateral movement with the bearings.

phi-f =	1		
phi-c =	0.8	interaction check	AASHTO 6.5.4.2
phi-c =	0.6	axial only check	AASHTO 6.5.4.2
S =	66.7 in^3	(HP12x53)	
F_y =	50 ksi		
Mn = $S*F_y$ =	278 k-ft		
A_g =	15.5 in^2		
Pn = A_g*F_y =	775 kips		

		Front Row (Row 1)					Middle Row (Row 2)					Back Row (Row 3)					Horiz. Defl.	Horiz. Defl.	1% Abut	
		Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	at top of pile	at top of abutment	Height	Deflection OK?
Load Case	Description	kips	lb-in				kips	lb-in				kips	lb-in				in	in	in	
1	Constr 1	34.78	566630	0.20	OK	OK	34.05	210920	0.09	OK	OK	33.31	162990	0.08	OK	OK	0.06	0.08	1.45	
2	STR 1 (maxVmaxH) (Con.)	198.18	1251300	0.65	OK	OK	194.45	394550	0.42	OK	OK	63.43	301140	0.14	OK	OK	0.41	0.55	1.45	
3	STR 1 (minVmaxH) (Con.)	124.57	1425800	0.58	OK	OK	84.52	614690	0.25	OK	OK	16.55	520360	0.17	OK	OK	0.29	0.32	1.45	
4	SER 1 (Con.)	167.41	963960	0.53	OK	OK	117.81	401720	0.22	OK	OK	34.10	336400	0.13	OK	OK	0.20	0.31	1.45	OK
5	STR 1 (maxVmaxH) (Exp.)	199.57	1169300	0.63	OK	OK	172.51	419980	0.39	OK	OK	99.38	330940	0.18	OK	OK	0.29	0.36	1.45	
6	STR 1 (minVmaxH) (Exp.)	113.18	1260600	0.47	OK	OK	82.96	536320	0.23	OK	OK	39.22	450230	0.17	OK	OK	0.23	0.24	1.45	
7	SER 1 (Exp.)	144.62	677130	0.41	OK	OK	116.42	269760	0.17	OK	OK	76.41	221290	0.13	OK	OK	0.11	0.17	1.45	OK

BEARING COMPATABILITY CHECK

		Horiz. Defl.	Thermal	Bearing	Anchorage	Anchorage	Elastomer	Check Elastomer
		at top of pile	Movement	Shear Force	Threshold	Needed?	Thickness	Thickness
Load Case	Description	in	in	kip	kip		in	
4	SER 1 (Con.)	0.31	0.79	21.31	27.474	NO	1.916	OK
7	SER 1 (Exp.)	0.17	0.52	18.71	27.474	NO	1.916	OK

Check Pile Axial Loads and Combined Axial Compression & Bending

Rear Abutment - Pinned

Calc'd. by: KMA 6/9/2026
Chk'd. by: JAA 6/29/2026

Axial loads, bending moments, and horizontal deflections are taken from GROUP output. This calculation checks ths structural capacity of the piles, the lateral defelction servicability of the abutment, and the compatibility of the abutment lateral movement with the bearings.

phi-f =	1		
phi-c =	0.8	interaction check	AASHTO 6.5.4.2
phi-c =	0.6	axial only check	AASHTO 6.5.4.2
S =	66.7 in^3	(HP12x53)	
F_y =	50 ksi		
$Mn = S*F_y$ =	278 k-ft		
A_g =	15.5 in^2		
$Pn = A_g*F_y$ =	775 kips		

		Front Row (Row 1)					Middle Row (Row 2)					Back Row (Row 3)					Horiz. Defl.	Horiz. Defl.	1% Abut	
		Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	at top of pile	at top of abutment	Height	Deflection OK?
Load Case	Description	kips	lb-in				kips	lb-in				kips	lb-in				in	in	in	
1	Constr 1	24.70	493160	0.17	OK	OK	36.06	212750	0.09	OK	OK	47.42	177650	0.09	OK	OK	0.20	0.21	1.45	
2	STR 1 (maxVmaxH) (Con.)	193.93	1485000	0.71	OK	OK	165.18	760300	0.47	OK	OK	122.09	671510	0.30	OK	OK	0.95	1.09	1.45	
3	STR 1 (minVmaxH) (Con.)	101.65	1422200	0.51	OK	OK	81.66	720930	0.28	OK	OK	61.67	637780	0.24	OK	OK	0.91	0.94	1.45	
4	SER 1 (Con.)	151.82	1049300	0.52	OK	OK	116.53	556710	0.26	OK	OK	63.62	496500	0.20	OK	OK	0.55	0.66	1.45	OK
5	STR 1 (maxVmaxH) (Exp.)	185.81	1279900	0.64	OK	OK	162.98	643250	0.43	OK	OK	140.14	565900	0.38	OK	OK	0.77	0.84	1.45	
6	STR 1 (minVmaxH) (Exp.)	91.41	1229500	0.44	OK	OK	83.71	612200	0.25	OK	OK	76.01	538620	0.22	OK	OK	0.74	0.75	1.45	
7	SER 1 (Exp.)	133.52	710000	0.40	OK	OK	116.25	361910	0.20	OK	OK	96.12	320290	0.17	OK	OK	0.31	0.37	1.45	OK

BEARING COMPATABILITY CHECK

		Horiz. Defl.	Thermal	Bearing	Anchorage	Anchorage	Elastomer	Check Elastomer
		at top of pile	Movement	Shear Force	Threshold	Needed?	Thickness	Thickness
Load Case	Description	in	in	kip	kip		in	
4	SER 1 (Con.)	0.66	0.79	21.31	27.474	NO	1.916	OK
7	SER 1 (Exp.)	0.37	0.52	24.11	27.474	NO	1.916	OK

Check Pile Axial Loads and Combined Axial Compression & Bending

Forward Abutment - Fixed

Calc'd. by: KMA 6/9/2026
Chk'd. by: JAA 6/29/2026

Axial loads, bending moments, and horizontal deflections are taken from GROUP output. This calculation checks ths structural capacity of the piles, the lateral defelction servicability of the abutment, and the compatibility of the abutment lateral movement with the bearings.

phi-f =	1		
phi-c =	0.8	interaction check	AASHTO 6.5.4.2
phi-c =	0.6	axial only check	AASHTO 6.5.4.2
S =	66.7 in^3	(HP12x53)	
F_y =	50 ksi		
Mn = $S*F_y$ =	278 k-ft		
A_g =	15.5 in^2		
Pn = A_g*F_y =	775 kips		

		Front Row (Row 1)					Middle Row (Row 2)					Back Row (Row 3)					Horiz. Defl.	Horiz. Defl.	1% Abut	
		Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	at top of pile	at top of abutment	Height	Deflection OK?
Load Case	Description	kips	lb-in				kips	lb-in				kips	lb-in				in	in	in	
1	Constr 1	40.04	587890	0.21	OK	OK	36.65	237580	0.10	OK	OK	33.25	192150	0.08	OK	OK	0.06	0.06	1.60	
2	STR 1 (maxVmaxH) (Con.)	225.21	1374500	0.73	OK	OK	170.89	564660	0.43	OK	OK	74.77	467960	0.20	OK	OK	0.29	0.50	1.60	
3	STR 1 (minVmaxH) (Con.)	136.45	1431700	0.60	OK	OK	82.37	641090	0.26	OK	OK	12.98	546500	0.17	OK	OK	0.25	0.35	1.60	
4	SER 1 (Con.)	175.28	955990	0.54	OK	OK	120.97	412770	0.22	OK	OK	27.97	350380	0.13	OK	OK	0.17	0.32	1.60	OK
5	STR 1 (maxVmaxH) (Exp.)	213.13	1220300	0.67	OK	OK	169.36	494660	0.41	OK	OK	98.59	407600	0.20	OK	OK	0.24	0.41	1.60	
6	STR 1 (minVmaxH) (Exp.)	123.03	1275500	0.48	OK	OK	83.30	565790	0.24	OK	OK	34.85	479920	0.17	OK	OK	0.20	0.28	1.60	
7	SER 1 (Exp.)	152.50	700380	0.43	OK	OK	117.15	302170	0.19	OK	OK	74.51	255440	0.14	OK	OK	0.10	0.17	1.60	OK

BEARING COMPATABILITY CHECK

		Horiz. Defl.	Thermal	Bearing	Anchorage	Anchorage	Elastomer	Check Elastomer
		at top of pile	Movement	Shear Force	Threshold	Needed?	Thickness	Thickness
Load Case	Description	in	in	kip	kip		in	
4	SER 1 (Con.)	0.32	0.79	21.31	27.474	NO	1.916	OK
7	SER 1 (Exp.)	0.17	0.52	18.76	27.474	NO	1.916	OK

Check Pile Axial Loads and Combined Axial Compression & Bending

Forward Abutment - Pinned

Calc'd. by: KMA 6/9/2026
Chk'd. by: JAA 6/29/2026

Axial loads, bending moments, and horizontal deflections are taken from GROUP output. This calculation checks ths structural capacity of the piles, the lateral defelction servicability of the abutment, and the compatibility of the abutment lateral movement with the bearings.

phi-f =	1		
phi-c =	0.8	interaction check	AASHTO 6.5.4.2
phi-c =	0.6	axial only check	AASHTO 6.5.4.2
S =	66.7 in^3	(HP12x53)	
F_y =	50 ksi		
Mn = $S*F_y$ =	278 k-ft		
A_g =	15.5 in^2		
Pn = A_g*F_y =	775 kips		

		Front Row (Row 1)					Middle Row (Row 2)					Back Row (Row 3)					Horiz. Defl.	Horiz. Defl.	1% Abut	
		Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	Axial Load	Bending Moment	Interaction	Axial OK?	Interaction OK?	at top of pile	at top of abutment	Height	Deflection OK?
Load Case	Description	kips	lb-in				kips	lb-in				kips	lb-in				in	in	in	
1	Constr 1	29.22	524670	0.18	OK	OK	38.81	240230	0.10	OK	OK	48.41	205540	0.10	OK	OK	0.19	0.20	1.60	
2	STR 1 (maxVmaxH) (Con.)	203.18	1488900	0.72	OK	OK	168.99	775990	0.48	OK	OK	116.65	687160	0.30	OK	OK	0.84	0.97	1.60	
3	STR 1 (minVmaxH) (Con.)	110.54	1433000	0.52	OK	OK	84.51	740820	0.29	OK	OK	54.59	657100	0.24	OK	OK	0.80	0.85	1.60	
4	SER 1 (Con.)	160.40	1037700	0.54	OK	OK	118.04	556140	0.26	OK	OK	59.13	498290	0.20	OK	OK	0.48	0.57	1.60	OK
5	STR 1 (maxVmaxH) (Exp.)	193.16	1300300	0.66	OK	OK	168.72	667400	0.45	OK	OK	134.66	590460	0.37	OK	OK	0.69	0.79	1.60	
6	STR 1 (minVmaxH) (Exp.)	99.84	1255000	0.46	OK	OK	85.61	639070	0.26	OK	OK	71.39	565980	0.23	OK	OK	0.66	0.68	1.60	
7	SER 1 (Exp.)	140.04	723100	0.42	OK	OK	118.14	375970	0.21	OK	OK	94.58	335120	0.18	OK	OK	0.28	0.33	1.60	OK

BEARING COMPATABILITY CHECK

		Horiz. Defl.	Thermal	Bearing	Anchorage	Anchorage	Elastomer	Check Elastomer
		at top of pile	Movement	Shear Force	Threshold	Needed?	Thickness	Thickness
Load Case	Description	in	in	kip	kip		in	
4	SER 1 (Con.)	0.57	0.79	21.31	27.474	NO	1.916	OK
7	SER 1 (Exp.)	0.33	0.52	23.03	27.474	NO	1.916	OK

APPENDIX D – RECOMMENDED GEOTECHNICAL PLAN NOTES

ITEM 507 – PREBORED HOLES, AS PER PLAN:

PREBORED HOLES SHALL EXTEND AT LEAST 16-FT INTO BEDROCK AT EACH PILE. THE DIAMETER OF THE PREBORED HOLE SHALL BE A MINIMUM 2-IN LARGER THAN THE DIAGONAL DIMENSION OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE.

IF NECESSARY DUE TO POOR BEDROCK MATERIAL, THE PREBORED HOLES SHALL BE EXTENDED DEEPER, ENSURING A MINIMUM OF 16-FT INTO BEDROCK, SO THAT THE TOTAL PILE LENGTH MEASURED FROM THE BOTTOM OF FOOTING ELEVATION IS 25-FT MINIMUM TO AN ELEVATION NOT HIGHER THAN 1166.00 FT.

THE PREBORED HOLES SHALL BE CLEAN AND FREE OF ALL DELETERIOUS MATERIALS PRIOR TO BACKFILLING OPERATIONS. BACKFILL THE VOID BETWEEN THE PILE AND THE PREBORED HOLE WITH CLASS QC MISC. CONCRETE UP TO BOTTOM OF FOOTING ELEVATION. PAYMENT FOR THE PREBORED HOLES INCLUDES THE BACKFILL MATERIAL.

THE ESTIMATED PILE LENGTHS AS SHOWN IN THE PLANS WERE CALCULATED BASED ON TOP OF ROCK ELEVATIONS DETERMINED FROM THE GEOPHYSICAL EXPLORATION. THE ESTIMATED PILE LENGTH WAS THEN CALCULATED TO PROVIDE THE 16-FT EMBEDMENT INTO ROCK BASED ON THE PROPOSED FOOTING ELEVATION AND ESTIMATED TOP OF ROCK ELEVATIONS AT EACH ABUTMENT LOCATION.

THE GEOPHYSICAL EXPLORATION IS INCLUDED IN THE GEOTECHNICAL REPORT FOR REFERENCE. THE ESTIMATED TOP OF ROCK PROFILES ARE ALSO INCLUDED WITH THESE PLANS. BELOW IS A TABLE OF ESTIMATED TOP OF ROCK ELEVATIONS BASED ON THE GEOPHYSICAL EXPLORATION. IT SHOULD BE NOTED THAT THESE ELEVATIONS ARE APPROXIMATE. IF SITE CONDITIONS VARY FROM THE INFORMATION PROVIDED, CONTACT THE ENGINEER.

Foundation Location	Interpreted Top of Bedrock Elevation (ft)
Rear Abutment	1174.0
Forward Abutment	1166.5

ITEM 507 – STEEL PILES HP12X53, FURNISHED, AS PER PLAN:

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL PILES INTO PREBORED HOLES. PLACE EACH PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN ONE INCH BETWEEN THE TOP AND BOTTOM. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING PLACEMENT OF BACKFILL MATERIAL.

THE TOTAL FACTORED LOAD IS 215 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

THE TOTAL FACTORED LOAD IS 215 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

REAR ABUTMENT PILES:

37 PILES 40 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:

42 PILES 50 FEET LONG, ORDER LENGTH