

Preliminary Geotechnical Engineering Report for Structures

**Wekiva River Bridge for
Wekiva Parkway (SR 429/SR 46) – Section 6 from
West of Old McDonald Road to River Oaks Circle
Lake and Seminole Counties, Florida**

December 12, 2014

Terracon Project No. H1135080

Prepared for:

GAI Consultants, Inc.

Orlando, Florida

Prepared by:

Terracon Consultants, Inc.

Winter Park, Florida

December 12, 2014

GAI Consultants, Inc.
618 E. South Street, Suite 700
Orlando, FL 32801

Attn: Mr. Stephen A. Boylan, P.E.
P: [407] 423-8398 (ext. 3083)
F: [407] 843-1070

Re: Preliminary Geotechnical Engineering Report for Structures
Wekiva River Bridge for
Wekiva Parkway (SR 429/SR 46) – Section 6 from
West of Old McDonald Road to River Oaks Circle
Lake and Seminole Counties, Florida
FPID: 238275-7-32-02
Terracon Project Number: H1135080

Dear Mr. Boylan:

Terracon Consultants, Inc. (Terracon) is pleased to present this preliminary geotechnical engineering report for the Wekiva River Bridge proposed along the above-referenced project alignment. This evaluation was performed in general accordance with our Agreement dated June 20, 2013.

This preliminary report presents the findings of the subsurface exploration and provides preliminary geotechnical recommendations concerning the design of foundations for the proposed bridge construction. A more detailed evaluation is expected to be performed once loads are finalized and a preferred foundation alternative is selected.

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 Consultants, Inc.

Certificate of Authorization Number 8830

DRAFT

Elias N. Jammal, P.E.
Senior Geotechnical Engineer
Florida PE #60126

DRAFT

Richard G. Acree, P.E.
Principal
Florida PE #53962

Terracon Consultants, Inc. 1675 Lee Road Winter Park, Florida 32789
P [407] 740 6110 F [407] 740 6112 terracon.com

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	PROJECT INFORMATION	1
2.1	Project Description.....	1
2.2	Site Location and Description	2
3.0	SUBSURFACE CONDITIONS	2
3.1	Soil Survey.....	2
3.2	Typical Profile	2
3.3	Typical Profile	3
3.4	Groundwater.....	3
4.0	PRELIMINARY RECOMMENDATIONS FOR DESIGN.....	4
4.1	Geotechnical Considerations	4
4.2	Foundation Alternatives	4
4.3	Concrete and Steel Pile Foundations.....	4
4.4	Preliminary Pile Tip Estimates	5
4.5	Downdrag	6
4.6	Scour.....	6
4.7	High Rebound.....	7
4.8	Noise/Vibration	7
4.9	FB-Multiplier Soil Parameters	7
4.10	Pile Group Effects.....	7
4.11	Pile Data Table	8
4.12	Environmental Classification.....	8
4.13	Artesian Conditions.....	8
5.0	GENERAL COMMENTS	8

APPENDIX A – FIELD EXPLORATION

Exhibit A-1	Topographic Vicinity Map
Exhibit A-2	U.S.D.A. Soils Map
Exhibits A-3 to A-16	Report of SPT Borings for Structures
Exhibit A-17	Soil Survey Descriptions
Exhibit A-18	Field Exploration Description
Exhibit A-19	Laboratory Testing
Exhibit A-20	Corrosion Series Testing Results
Figures 1 to 4	Particle Size Distribution Reports

APPENDIX B – PILE CAPACITY CURVES & COMPUTER PRINTOUTS

APPENDIX C – FB-MULTIPLIER SOIL PARAMETERS

APPENDIX D – SOIL BORING PROFILES (Reported by NES for Line and Grade Study)

**PRELIMINARY GEOTECHNICAL ENGINEERING REPORT
FOR STRUCTURES
WEKIVA RIVER BRIDGE FOR
WEKIVA PARKWAY (SR 429/SR 46) FROM
WEST OF OLD McDONALD ROAD TO RIVER OAKS CIRCLE
LAKE AND SEMINOLE COUNTIES, FLORIDA
FPID: 238275-7-32-02
Terracon Project No. H1135080
December 12, 2014**

1.0 INTRODUCTION

This preliminary geotechnical engineering report has been prepared for the proposed Wekiva River Bridge which is located along State Road 46, at the Wekiva River crossing and River Oaks Circle in Lake and Seminole Counties, Florida. This bridge is part of the proposed improvements associated with the construction of Wekiva Parkway (SR 429/SR 46) – Section 6 from West of Old McDonald Road to River Oaks Circle in Lake and Seminole Counties, Florida. The project bridge site is shown on the Topographic Vicinity Map included as Exhibit A-1 in Appendix A. Separate reports are planned to be submitted for other components (roadway, drainage, bridges, and retaining walls) of the project. This preliminary report addresses an initial evaluation of foundations for the proposed bridge spanning Wekiva River and River Oaks Circle. The purpose of these services is to provide information and preliminary geotechnical engineering recommendations relative to preliminary foundation design of the bridges.

2.0 PROJECT INFORMATION

2.1 Project Description

Item	Description
Site layout	See Appendix A, Exhibit A-3 (boring location plan).
Structure	The proposed bridge consists of the construction of triple multi-span (11 spans) bridges, each with approximately 2,070 feet in length.
Pile loads	Anticipated pile loading for each foundation type evaluated, is presented in Section 4.0 of this report.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

2.2 Site Location and Description

Item	Description
Location	The Wekiva River Bridge area is located along proposed State Road 429 from about Station 908+65 to 929+34, referencing the centerline of construction of State Road 429.
Existing topography	The bridge area is relatively flat to the west and slopes down toward the Wekiva River. The USGS topographic quadrangle map "Sanford SW, Florida" depicts the ground surface elevations near +5 to +30 feet, NGVD, across the bridge alignment.
Surface Water	The USGS topographic quadrangle map "Sanford SW, Florida" depicts wetland areas at the Wekiva River crossing.

3.0 SUBSURFACE CONDITIONS

3.1 Soil Survey

The Soil Surveys of Lake and Seminole Counties, Florida as prepared by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS; later renamed the Natural Resource Conservation Service - NRCS), identifies multiple soil types at the Wekiva River Bridge site. Descriptions of the mapped soil units are included in Appendix A as Exhibit A-17. It should be noted that the Soil Survey is not intended as a substitute for site-specific geotechnical exploration; rather it is a useful tool in planning a project scope in that it provides information on soil types likely to be encountered. Boundaries between adjacent soil types on the Soil Survey maps are approximate (included in Appendix as Exhibit A-2).

3.2 Typical Profile

Thirty-three (33) Standard Penetration Test (SPT) borings, designated WR-B1 through WR-B15, WR-B17, WR-B18, WR-B20 through WR-B29, and ROC-B1 through ROC-B6 were performed to depths of about 50 to 105 feet below the existing ground surface within the areas of the proposed bridge structure. Profiles of the borings along with a boring location plan for the bridge site are included in Appendix A of this report.

Nadic Engineering Services (NES) performed borings for the bridge site (designated as borings TB-13 and TB-14), for the Line & Grade Study. These boring profiles are included in Appendix D of this report.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

3.3 Typical Profile

Based on the results of the borings, the subsurface conditions can be generalized as follows:

Approximate Depth to Bottom of Stratum (feet)	Material Description	Consistency/Density
13 to 46	Fine sand (SP), fine sand with silt (SP-SM), silty fine sand (SM), clayey fine sand (SC), with varying amounts of shell fragments and phosphates	Loose to dense
38 to 76	Clayey fine sand (SC), sandy clay and clay (CL)(CH), with varying amounts of dolostone and phosphates	Firm to hard
50 to 105 (maximum boring termination depth)	Silty fine sand (SM), clayey fine sand (SC), dolostone, with varying amounts of phosphates	Dense to very dense

Conditions encountered at each boring location are indicated on the individual boring profiles. Stratification boundaries on the boring profiles represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Details for each of the borings can be found on the boring profiles in Appendix A of this report. Descriptions of our field exploration are included as Exhibit A-18 in Appendix A.

3.4 Groundwater

The boreholes were observed during drilling for the presence and level of groundwater. Groundwater was observed in a majority of the borings, between depths of about 0.5 and 9 feet below existing grade. Several borings did not encounter groundwater to a depth of 10 feet (approximate depth at which driller's mud is typically introduced in the borehole for stabilization purposes), and are designated *GNE-10'* adjacent to the boring logs.

It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the boring was performed. In addition, perched water can develop within higher permeability soils overlying less permeable soils. Therefore, groundwater levels during construction or at other times in the future may be higher or lower than the levels indicated on the boring logs.

We estimate that during the normal wet season with rainfall and recharge at a maximum, groundwater levels will range from at or above existing grade to a depth of about 6 feet below the existing grade. Our estimates of the seasonal groundwater conditions are based on the USDA Soil Survey, available survey data, the encountered soil types, recent weather conditions, and the encountered water levels. The groundwater levels in this area will be significantly influenced by the river water levels.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

These seasonal water table estimates do not represent the temporary rise in water table that occurs immediately following a storm event, including adjacent to other stormwater management facilities or water bodies. The seasonal high water table may vary from normal when affected by extreme weather changes, localized or regional flooding, karst activity, future grading, drainage improvements, or other construction that may occur on or around the site following the date of this report.

4.0 PRELIMINARY RECOMMENDATIONS FOR DESIGN

4.1 Geotechnical Considerations

The following preliminary conclusions and recommendations are based on the project characteristics previously described, the data obtained in our field exploration and our experience with similar subsurface conditions and construction types. If final structure locations or grades are significantly different from those previously described in this report, or if subsurface conditions different from those discussed by the borings are encountered during construction, we should be notified immediately so that we might review and modify, if necessary, the following recommendations. Once final loads are known and a preferred pile type is selected, a more detailed foundation evaluation is expected to be performed.

4.2 Foundation Alternatives

Based on the subsurface conditions at the site, deep pile foundation systems appear to be the most feasible foundation alternative for the proposed bridge construction with respect to geotechnical engineering issues. A shallow foundation (spread footings) alternative was not considered for the bridge structures. A drilled shaft foundation was also not considered due to concerns from potential artesian conditions at this site. Also, drilled shafts are typically used in scenarios where relatively shallow dense soil/rock strata is present, which was not consistently the case at this site. Thus, pile foundations were evaluated; and these consisted of the 24 and 30-inch square prestressed concrete pile (PCP), 24-inch steel pipe pile, and the HP14x117, HP16x121 and HP18x204 steel H-pile sections.

4.3 Concrete and Steel Pile Foundations

The FDOT computer model FBDeep was used to evaluate estimated Davisson ultimate capacities for the 24 and 30-inch square prestressed concrete pile (PCP), the 24-inch steel pipe pile, and the HP14x117, HP16x121 and HP18x204 steel H-pile sections. The input soil parameters were obtained from the SPT borings performed for this preliminary evaluation. The Davisson capacities versus pile tip elevations for the various pile types are presented in Appendix B, along with the FBDeep Computer Outputs.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

The Davisson capacities shown on the curves in Appendix B for the various pile sections can be used to find approximate tip elevations and estimate pile lengths for the driven piles using the following formula:

$$\text{Nominal Bearing Resistance (NBR)} \geq \frac{\text{Factored Design Load} + \text{Net Scour} + \text{Downdrag}}{\Phi}$$

Where Φ is a resistance factor and

$\Phi = 0.75$ with static load testing.

$\Phi = 0.65$ with PDA and CAPWAP analysis of test piles.

4.4 Preliminary Pile Tip Estimates

Our estimate of driven pile lengths was based on static pile analysis. The actual driven lengths will be a function of the actual field driving behavior. The driving system used should be a proper type and have sufficient hammer energy in accordance with Specification Section 455.

Test piles with dynamic load tests are anticipated for the bridge structure. Test pile locations should be shown on the foundation layout sheet. We recommend that piles be driven prior to the construction of the proprietary retaining wall system.

The estimated preliminary pile tip elevations are based on review of the borings, our pile capacity analyses, geotechnical engineering judgment, and our understanding of criteria for pile bearing requirements in accordance with the FDOT specifications.

Set-checks and/or restrikes may be required for some of the piles. A note should be added to the plans to alert the Contractor to anticipate that set-checks and re-drives will be required.

Based on the FDOT Structures Design Guidelines, the maximum pile driving resistance for a 24-inch PCP should not exceed 450 tons; and the maximum pile driving resistance for a 30-inch PCP should not exceed 600 tons. However, due to potential difficulties with driving the piles and the potential for pile damage, the maximum pile driving resistances for the concrete piles should be limited.

For purposes of preliminary design, the following NBR values were evaluated:

- 400 tons for the 24-inch pile;
- 540 tons for the 30-inch pile;
- 350 tons was used for the 24-inch steel pipe pile;
- 225, 250, and 275 tons were used for the HP14x117, HP16x121, and HP18x204 steel H-pile sections, respectively.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

The table below presents estimated pile tip elevations based on potential pile types and loads for the bridges. Once factored design loads and pile types are finalized, a more detailed foundation evaluation is expected to be performed.

Bridge Bent/ Pier	Pile Type											
	24-inch PCP		30-inch PCP		24-inch steel pipe pile		HP14x117		HP16x121		HP18x204	
	NBR (tons)	Pile Tip	NBR (tons)	Pile Tip	NBR (tons)	Pile Tip	NBR (tons)	Pile Tip	NBR (tons)	Pile Tip	NBR (tons)	Pile Tip
1	400	-45'	540	-45'	350	-50'	225	-65'	250	-65'	275	-65'
2	400	-46'	540	-46'	350	-58'	225	-60'	250	-60'	275	-60'
3	400	-50'	540	-50'	350	-60'	225	-68'	250	-68'	275	-68'
4	400	-48'	540	-48'	350	-62'	225	-68'	250	-68'	275	-68'
5	400	-45'	540	-45'	350	-50'	225	-60'	250	-60'	275	-60'
6	400	-45'	540	-45'	350	-52'	225	-58'	250	-58'	275	-58'
7	400	-43'	540	-43'	350	-58'	225	-73'	250	-73'	275	-73'
8	400	-43'	540	-43'	350	-55'	225	-68'	250	-68'	275	-68'
9	400	-35'	540	-35'	350	-55'	225	-65'	250	-65'	275	-65'
10	400	-45'	540	-45'	350	-55'	225	-65'	250	-65'	275	-65'
11	400	-38'	540	-38'	350	-50'	225	-55'	250	-55'	275	-55'
12	400	-37'	540	-37'	350	-45'	200*	-50'	225*	-50'	250*	-50'

* evaluated for lower NBR than was typically assessed.

4.5 Downdrag

Downdrag will need to be further evaluated once grades are finalized and a foundation type has been selected.

4.6 Scour

The bridge is proposed to fully span the Wekiva River. A bent/pier is not anticipated to be located within the waterway. Thus, scour is not considered to be a concern for any of the bridge bents/piers as long as they are protected.

For the Bridge Hydraulic Report (BHR) considerations, soil samples were obtained from the soil borings performed adjacent to the Wekiva River for D₅₀ testing. Laboratory testing consisting of full grain size analyses on the obtained soil samples was performed. Results of these analyses were used to develop particle size distribution curves for these samples. The Particle Size Distribution Reports are presented on Figures 1 through 4 in Appendix A.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

The results of the testing are presented below:

Sample Location (Boring No.)	USCS Designation	Approximate Sample Elevation	Diameter Corresponding to 50% Finer (D ₅₀)
919+97; 52' RT (WR-B20)	SP-SM	-1 feet	0.58 mm
919+73; 89' RT (WR-B21)	SP	+1 feet	0.21 mm
923+60; 25' LT (WR-B22)	SP-SM	+1 feet	0.25 mm
923+35; 75' RT (WR-B23)	SP-SM	-2 feet	0.88 mm

4.7 High Rebound

The potential for high rebound conditions may need to be evaluated at the bridge site. High rebound typically occurs when driving displacement-type piles (solid concrete, closed-end steel or concrete pile, “plugged” pipes, etc.) into saturated soils (very stiff to hard silts/clays). High rebound conditions may adversely affect pile driveability and may affect the assessment of the pile’s bearing capacity. To avoid or to account for potential high rebound conditions, this may include:

- Performing to a depth below the high rebound soils,
- Indicating a minimum pile tip elevation below the high rebound soils,
- Using a low-displacement pile such as an H-pile, and/or
- Using a pile driving system with a larger ram and a shorter stroke.

4.8 Noise/Vibration

Noise and vibration caused by pile driving should be considered for this project. All reasonable precautions to prevent damage to nearby, existing structures in accordance with Section 455 of the FDOT Specifications shall be taken.

4.9 FB-Multiplier Soil Parameters

Soil parameters for FB-Multiplier were estimated for each anticipated bridge pier/bent location, and are presented in Appendix C.

4.10 Pile Group Effects

No reduction of the individual pile capacities will be required if piles are spaced center to center at three times width or greater. The pile caps usually contribute to the overall bearing capacity of the pile group, provided they are supported on competent soil outside the outer perimeter of the group. However, we do not recommend taking credit for this additional capacity because of potential for loss of soil cover at the pile cap.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

4.11 Pile Data Table

Once final loads and pile types are available, information for a pile data table for incorporation into the project plans can be provided.

4.12 Environmental Classification

Ten (10) soil samples were obtained from the SPT borings, and one (1) water sample was obtained from the Wekiva River, for corrosion series testing to determine subsurface environmental conditions. Corrosion tests were performed in accordance with FDOT Structures Design Guidelines. Testing included pH, chlorides, sulfates and resistivity tests. The environmental classification for the substructures generally classified as moderately aggressive for use of concrete and extremely aggressive for use of steel (pH ranged from 4.6 to 7.9). The corrosion series test results are summarized on Exhibit A-20 in Appendix A.

Considering the results of the corrosion series testing, the Structures Design Guidelines indicate that steel piles will either need corrosion protection, a sacrificial steel thickness, or should not be used. This will need to be coordinated with the State Geotechnical Engineer for use of steel piles.

4.13 Artesian Conditions

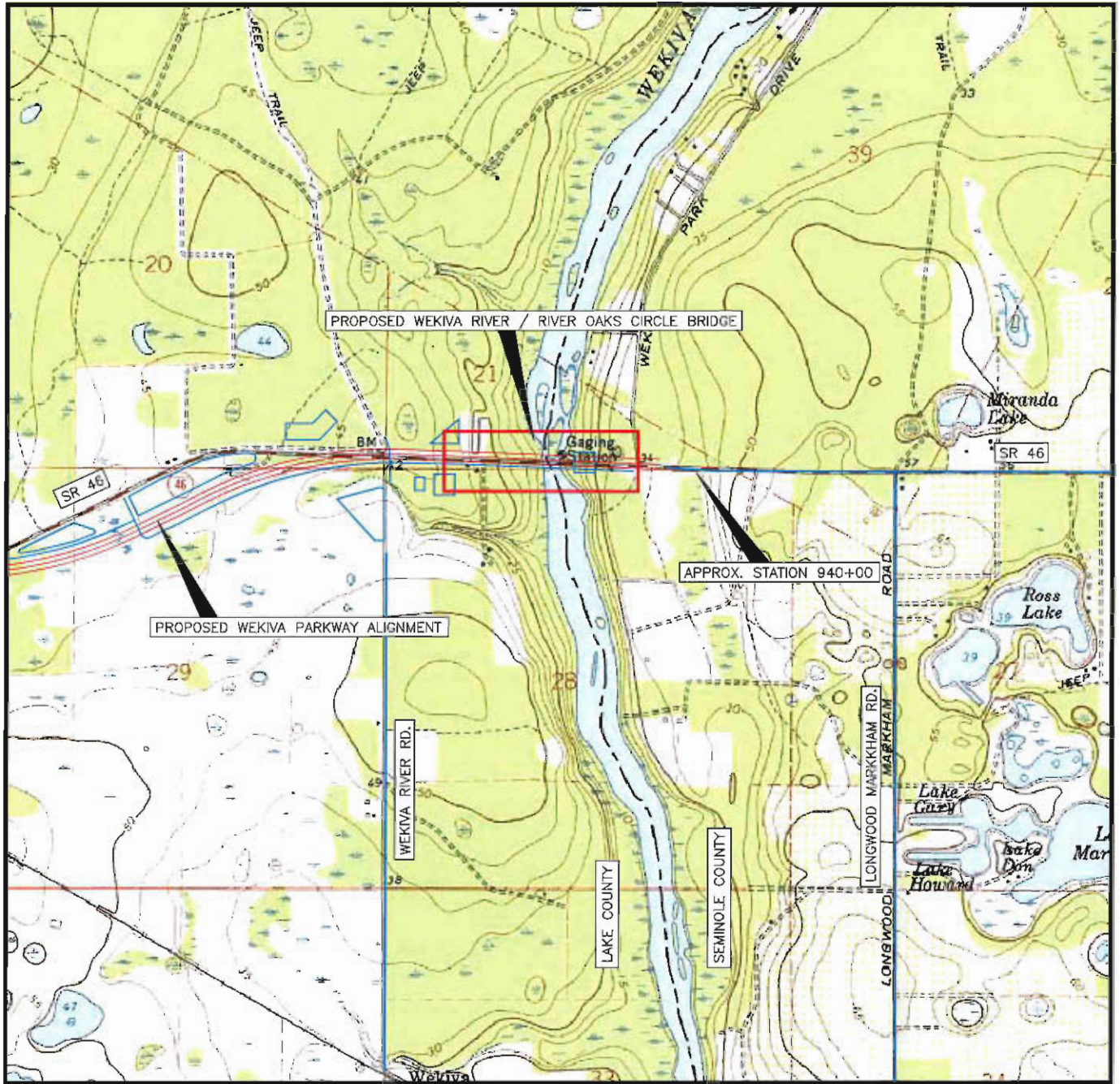
The drillers noted artesian flow in borings WR-B20, WR-B21, and WR-B23. Based on review of the St. Johns River Water Management District potentiometric maps of the upper Floridan Aquifer for the project area, the potential artesian head elevation is estimated to be +20 feet, NGVD. This level is approximately 11 to 13 feet above the ground surface elevation at these boring locations. The following note should be considered for design:

“The Contractor’s dewatering equipment and methods shall be adequate to handle artesian water up to a head elevation of +20 feet, NGVD. Artesian flows noted by the drill crews are shown adjacent to the boring profiles. The use of high density drilling mud to counteract artesian conditions may have obscured or reduced artesian conditions in the borings.”

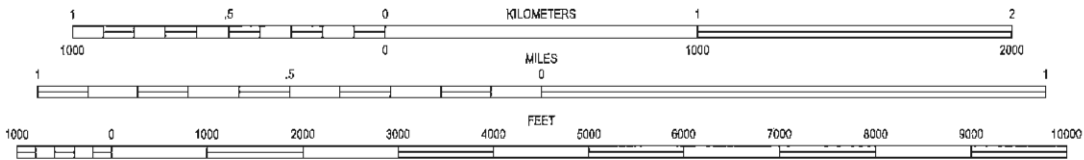
5.0 GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, 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. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

APPENDIX A
FIELD EXPLORATION



SCALE 1:24 000



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SECTION: 21, 28
TOWNSHIP: 19 SOUTH
RANGE: 29 EAST

SANFORD SW, FLORIDA
ISSUED: 1965 REVISED: 1970
7.5 MINUTE SERIES (QUADRANGLE)



Dec09, 2014-11:34am N:\Projects\2013\H1135080\PROJECT DOCUMENTS (Reports-Letters-Drafts to Clients)\Cadd\wekiva river bridge\river bridge uegs.dwg

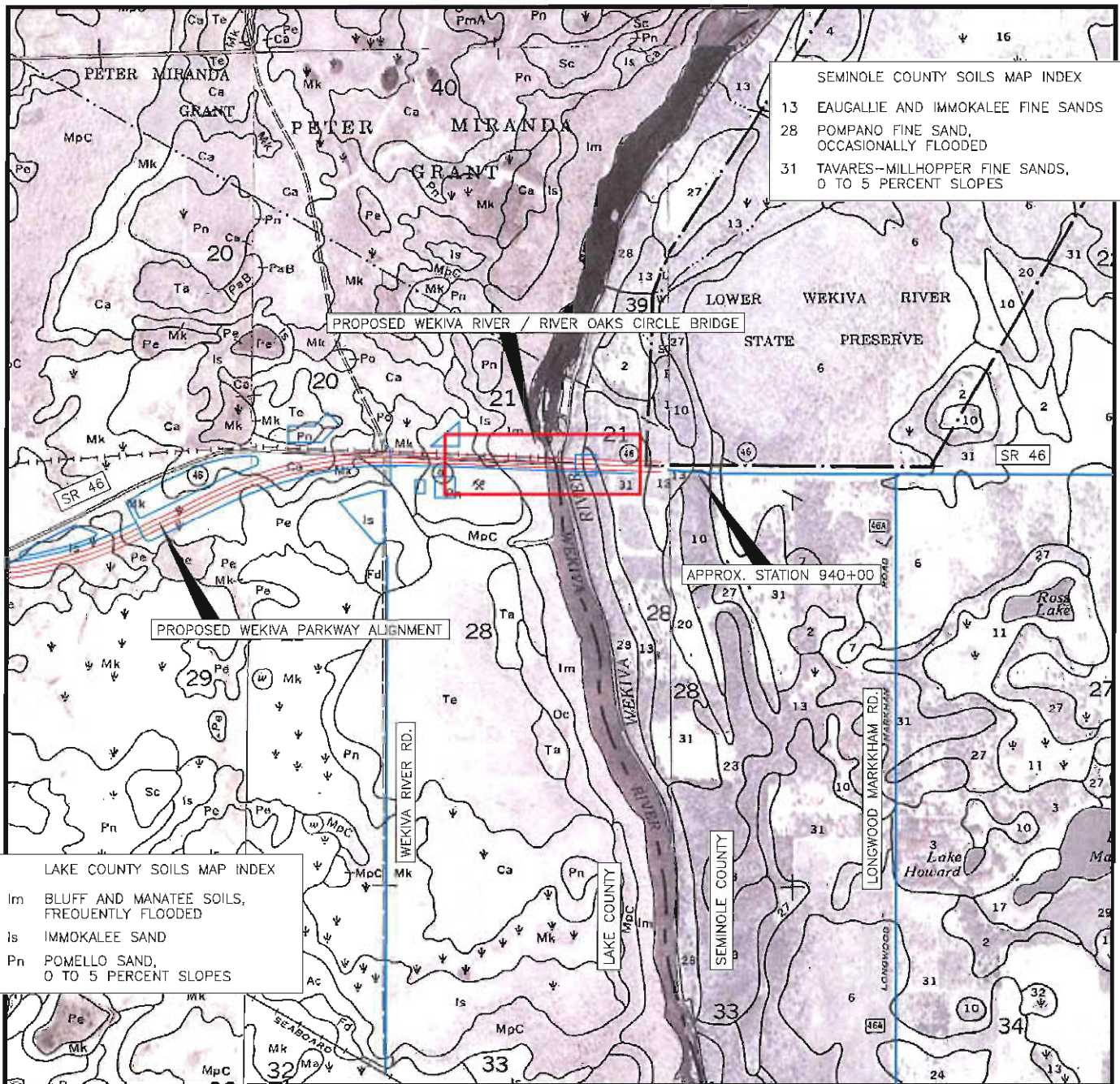
Project Mgr:	ENJ	Project No.	H1135080
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	ENJ	File No.	H1135080-1
Approved By:	RGA	Date:	12-9-14

Terracon
Consulting Engineers and Scientists

1675 LEE ROAD WINTER PARK, FLORIDA 32789
PH. (407) 740-6110 FAX. (407) 740-6112

TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL ENGINEERING EVALUATION
WEKIVA PARKWAY (SR 429 / SR 46)
FROM OLD McDONALD RD. TO RIVER OAKS CIRCLE
LAKE AND SEMINOLE COUNTIES, FLORIDA

EXHIBIT
A-1



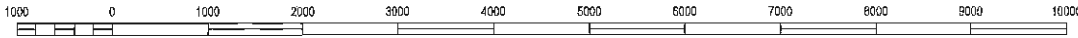
SEMINOLE COUNTY SOILS MAP INDEX

- 13 EAUGALLIE AND IMMOKALEE FINE SANDS
- 28 POMPANO FINE SAND, OCCASIONALLY FLOODED
- 31 TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES

LAKE COUNTY SOILS MAP INDEX

- Im BLUFF AND MANATEE SOILS, FREQUENTLY FLOODED
- Is IMMOKALEE SAND
- Pn POMELLO SAND, 0 TO 5 PERCENT SLOPES

SCALE 1" = 2000'



U.S.D.A. SOIL SURVEY FOR LAKE COUNTY, FLORIDA ISSUED: 1971
 U.S.D.A. SOIL SURVEY FOR SEMINOLE COUNTY, FLORIDA ISSUED: 1990



SECTION: 21, 28
 TOWNSHIP: 19 SOUTH
 RANGE: 29 EAST

Dec09, 2014-11:32am N:\Projects\2013\H1135080\PROJECT DOCUMENTS (Reports-Letters-Drafts to Clients)\Cadd\wekiva river bridge\river bridge usda.dwg

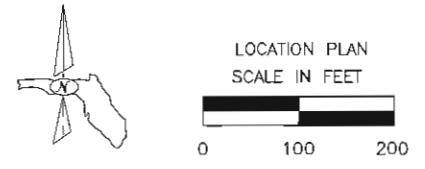
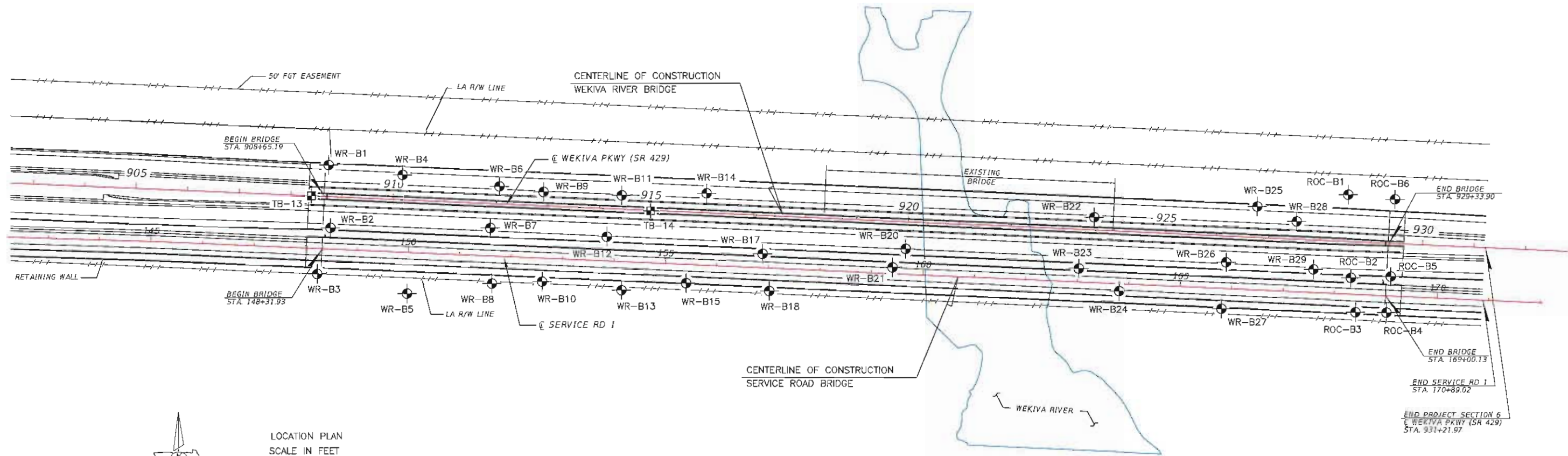
Project Mgr:	ENJ	Project No.	H1135080
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	ENJ	File No.	H1135080-2
Approved By:	RGA	Date:	12-9-14

Terracon
 Consulting Engineers and Scientists

1875 LEE ROAD WINTER PARK, FLORIDA 32789
 PH. (407) 740-8110 FAX (407) 740-6112

U.S.D.A. SOILS MAP
 GEOTECHNICAL ENGINEERING EVALUATION
 WEKIVA PARKWAY (SR 429 / SR 46)
 FROM OLD McDONALD RD. TO RIVER OAKS CIRCLE
 LAKE AND SEMINOLE COUNTIES, FLORIDA

EXHIBIT
A-2



LEGEND

- ⊕ APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING (PERFORMED BY TERRACON)
 - ⊕ APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING (PERFORMED BY NADIC ENGINEERING)
- NOTE: PLAN AS SHOWN IS PRELIMINARY FOR REPRESENTATION OF BORING LOCATION ONLY AND MAY NOT BE INDICATIVE OF FINAL CONTRACT PLANS.

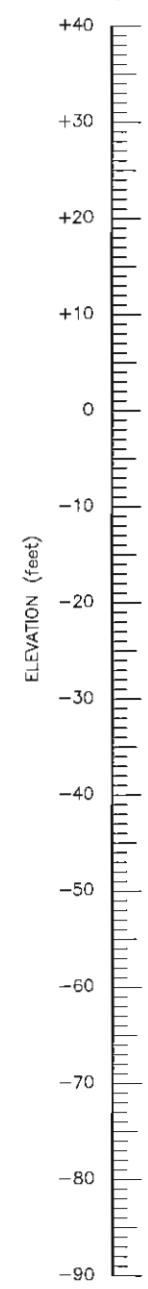
WEKIVA RIVER BRIDGE

REVISIONS						DRAWN BY: SW 12-1-14	STATE OF FLORIDA			SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		DEPARTMENT OF TRANSPORTATION				
						CHECKED BY: ENJ 12-1-14	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.
						DESIGNED BY:	SR 429	LAKE SEMINOLE	238275-7-32-02	WEKIVA PARKWAY (SR 429/SR 46)	-
						CHECKED BY:				SECTION 6	

RICHARD G. ACREE, P.E.
P.E. LICENSE NUMBER 53962
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
TERRACON
CERTIFICATE OF AUTHORIZATION No. 8830

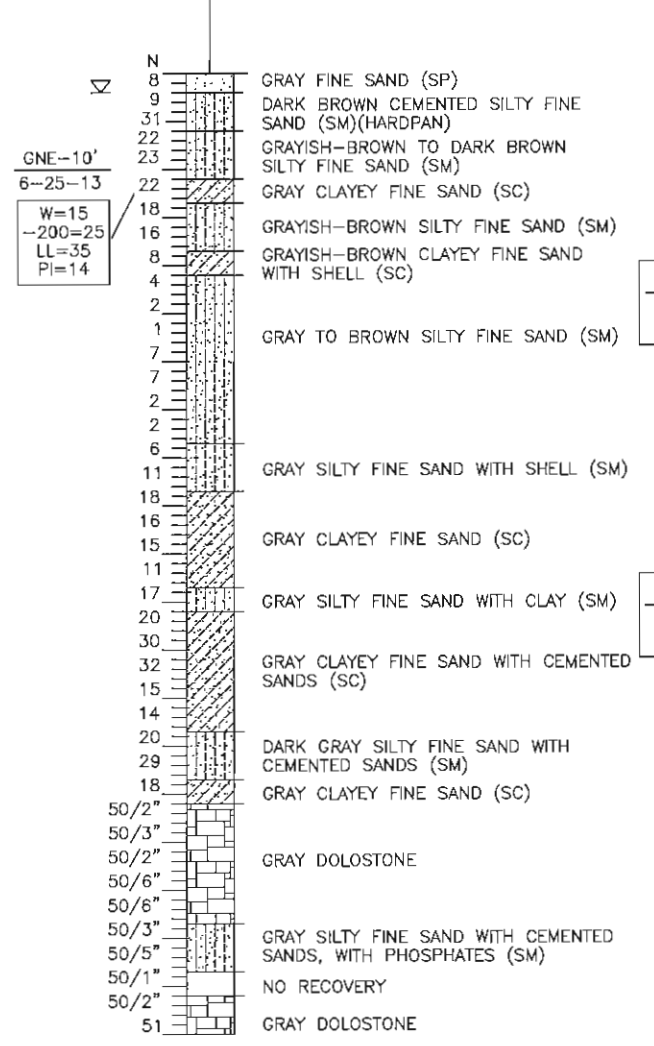
Dec01, 2014-2:55pm

BORING No.
STATION:
OFFSET:
ELEVATION:
(feet)



WR-B1
908+71
61' LT.
+35.2'

LATITUDE/LONGITUDE
28.81545° N
081.42346° W

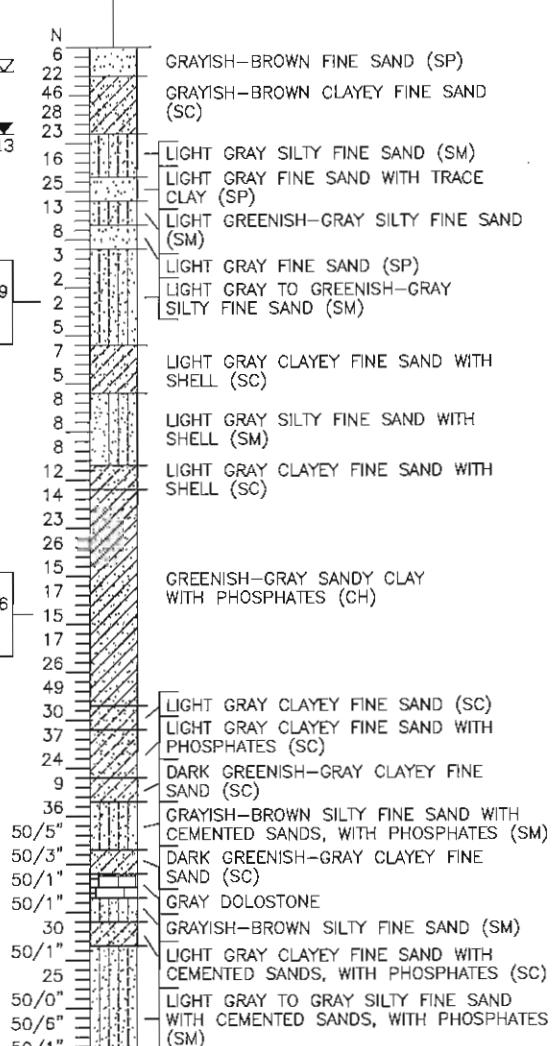


BORING TERM. @ 100'
CASING TO 80'
BORING DRILLED: 6-25-13

RIG TYPE: D-50
HAMMER TYPE: AUTOMATIC

WR-B3
908+58
150' RT.
+37.7'

LATITUDE/LONGITUDE
28.81497° N
081.42350° W

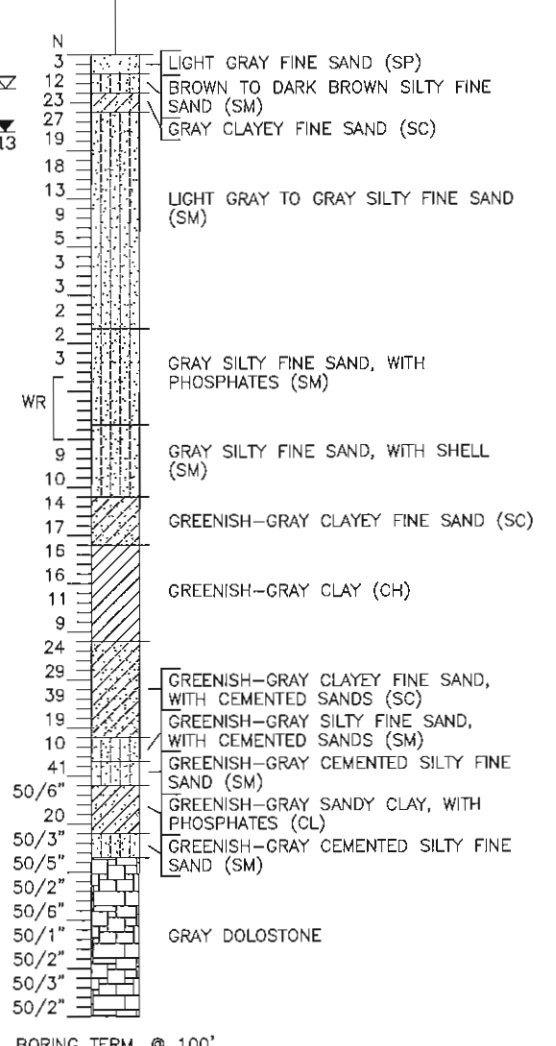


BORING TERM. @ 105'
CASING TO 40'
BORING DRILLED: 7-8-13

RIG TYPE: D-50
HAMMER TYPE: AUTOMATIC

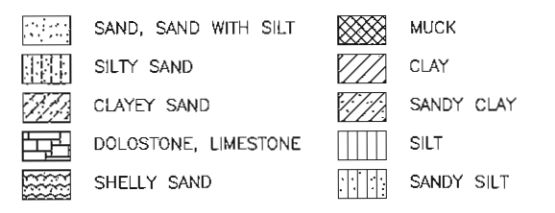
WR-B2
908+80
60' RT.
+36.7'

LATITUDE/LONGITUDE
28.81520° N
081.42343° W



BORING TERM. @ 100'
NO CASING
BORING DRILLED: 11-5-13

RIG TYPE: CME-55
HAMMER TYPE: AUTOMATIC



(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

7-8-13 ENCOUNTERED GROUNDWATER LEVEL DATE NOTED

ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL

GNE-10' GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET

W=0 NATURAL MOISTURE CONTENT (%)
-200=0 FINES PASSING No. 200 SIEVE (%)
LL=0 LIQUID LIMIT (%)
PI=0 PLASTICITY INDEX
NP NON-PLASTIC

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED

50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES

WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON

WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPOON INSIDE DIA. 1 3/8 in.
SPOON OUTSIDE DIA. 2 in.
ASTM STANDARD AUTOMATIC HAMMER
AVG. HAMMER DROP 30 in.
HAMMER WEIGHT 140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A

SUBSTRUCTURE: CONCRETE: EXTREMELY AGGRESSIVE
STEEL: EXTREMELY AGGRESSIVE
pH=4.6

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

Dec09, 20:14-9:23am

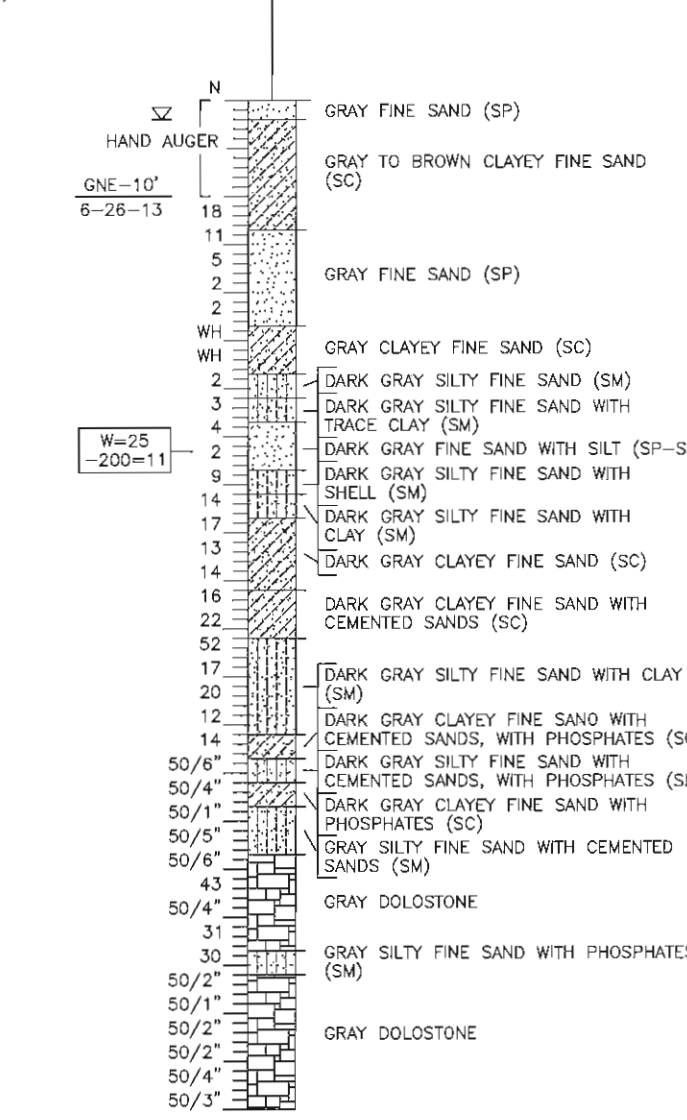
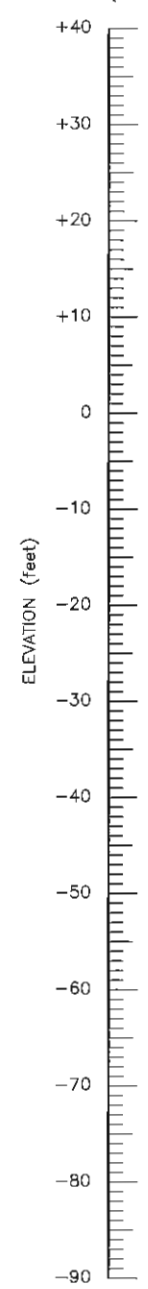
REVISIONS						DRAWN BY: SW 12-1-14	CHECKED BY: ENJ 12-1-14	DESIGNED BY: SR 429	CHECKED BY:	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	ROAD NO. SR 429	COUNTY LAKE SEMINOLE	FINANCIAL PROJECT ID 238275-7-32-02	SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46) SECTION 6	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION											

BORING No. WR-B4
 STATION: 910+16
 OFFSET: 48' LT.
 ELEVATION: +32.6'
 (feet)

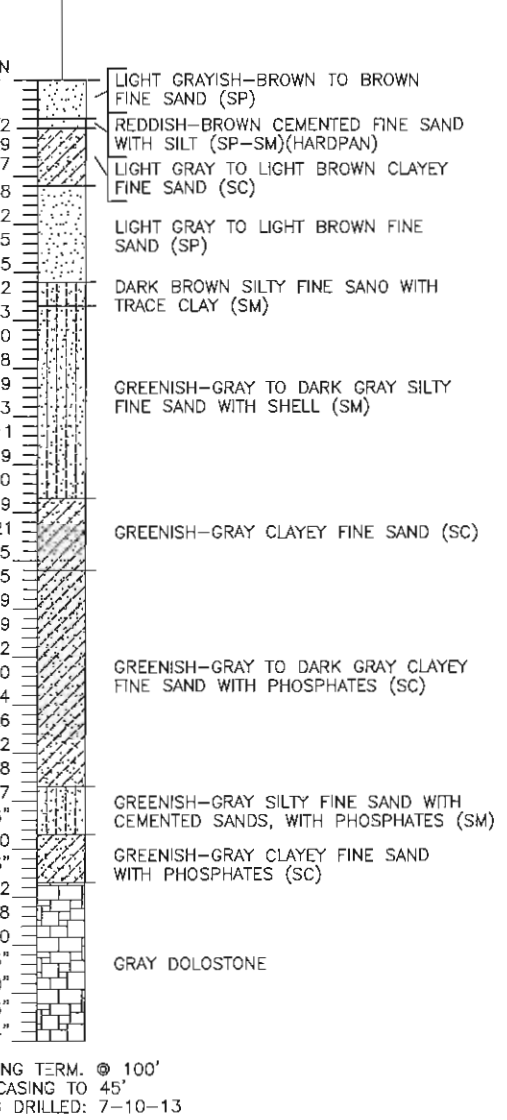
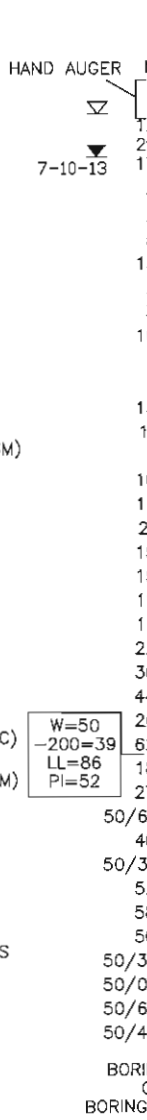
LATITUDE/LONGITUDE
 28.81547° N
 081.42301° W

BORING No. WR-B5
 STATION: 910+35
 OFFSET: 180' RT.
 ELEVATION: +34.8'
 (feet)

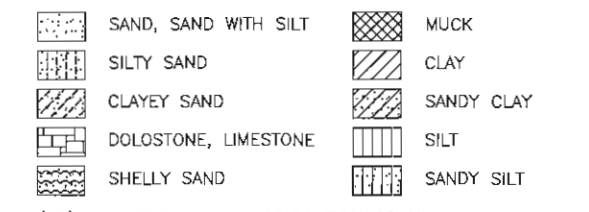
LATITUDE/LONGITUDE
 28.81484° N
 081.42297° W



BORING TERM. @ 105'
 NO CASING
 BORING DRILLED: 6-26-13
 RIG TYPE: D-50
 HAMMER TYPE: AUTOMATIC



BORING TERM. @ 100'
 CASING TO 45'
 BORING DRILLED: 7-10-13
 RIG TYPE: D-50
 HAMMER TYPE: AUTOMATIC



(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
 ENCONTERED GROUNDWATER LEVEL
 OATE NOTED
 ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
 GNE-10' GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET
 W=0 NATURAL MOISTURE CONTENT (%)
 -200=0 FINES PASSING No. 200 SIEVE (%)
 LL=0 LIQUID LIMIT (%)
 PI=0 PLASTICITY INDEX
 NP NON-PLASTIC

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED
 50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES
 WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON
 WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
 AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:
 SUPERSTRUCTURE: N/A
 SUBSTRUCTURE: CONCRETE: EXTREMELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE
 pH=4.6

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

Dec01, 2014-3:34pm

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RICHARD G. ACREE, P.E.
 P.E. LICENSE NUMBER 53962
 1675 LEE ROAD
 WINTER PARK, FLORIDA 32789
 TERRACON
 CERTIFICATE OF AUTHORIZATION No. 8830

DRAWN BY: SW 12-1-14
 CHECKED BY: ENJ 12-1-14
 DESIGNED BY:
 CHECKED BY:

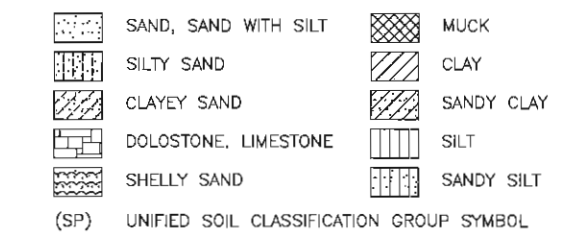
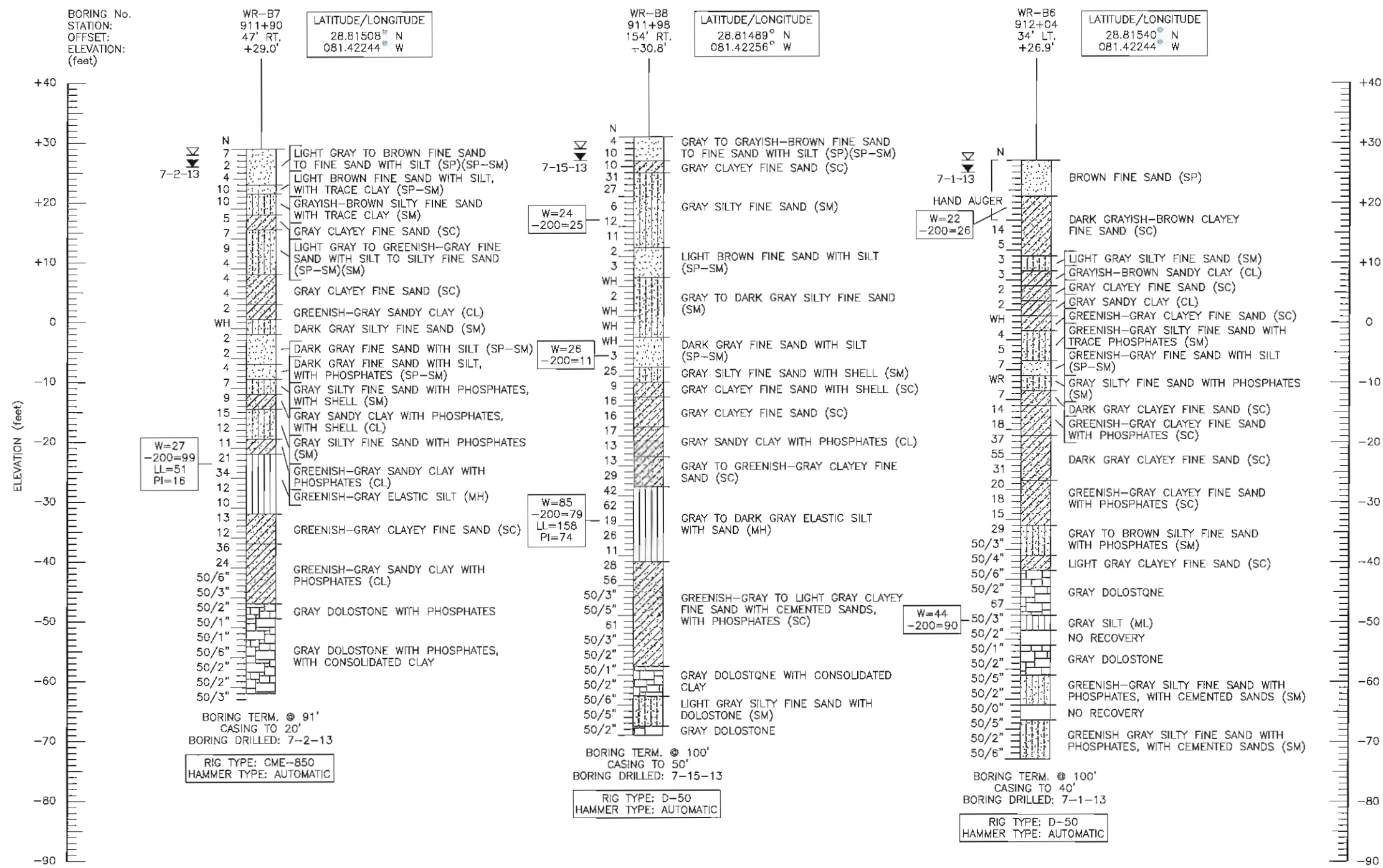
STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	LAKE SEMINOLE	238275-7-32-02

SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES
 PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46)
 SECTION 6

REF. DWG. NO.	
SHEET NO.	

Dec01, 2014-3:34pm



(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

ENCOUNTERED GROUNDWATER LEVEL
DATE NOTED

ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL

GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET

W=0
-200=0
LL=0
PI=0
NP

NATURAL MOISTURE CONTENT (%)
FINES PASSING No. 200 SIEVE (%)
LIQUID LIMIT (%)
PLASTICITY INDEX
NON-PLASTIC

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED

50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES

WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON

WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A

SUBSTRUCTURE: CONCRETE: SLIGHTLY AGGRESSIVE
STEEL: SLIGHTLY AGGRESSIVE

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS						DRAWN BY: SW 12-1-14	CHECKED BY: ENJ 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						DESIGNED BY: SR 429	LAKE SEMINOLE	238275-7-32-02	WEKIVA PARKWAY (SR 429/SR 46) SECTION 6		-	
RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 8830						CHECKED BY:						

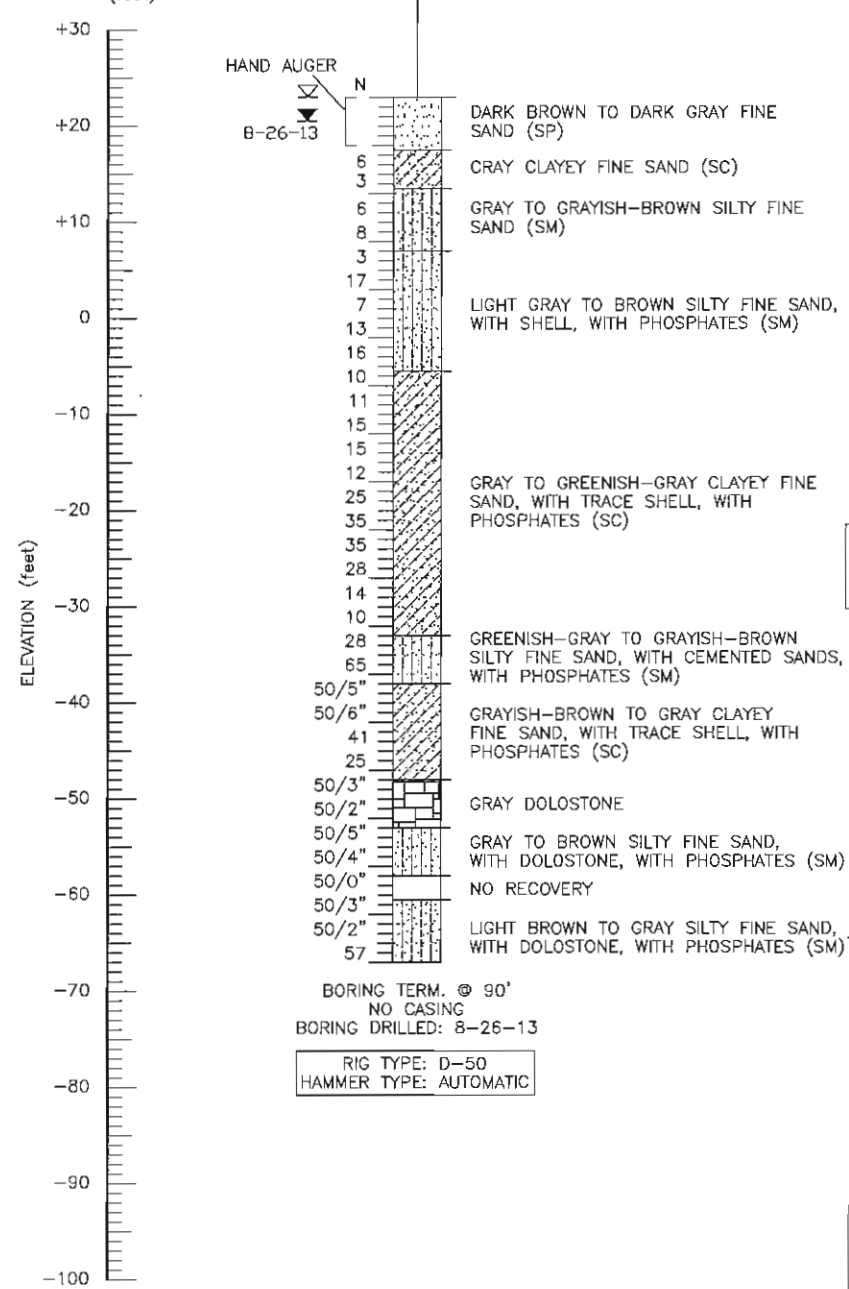
BORING No.
STATION:
OFFSET:
ELEVATION:
(feet)

WR-B9
912+90
27' LT.
+23.0'

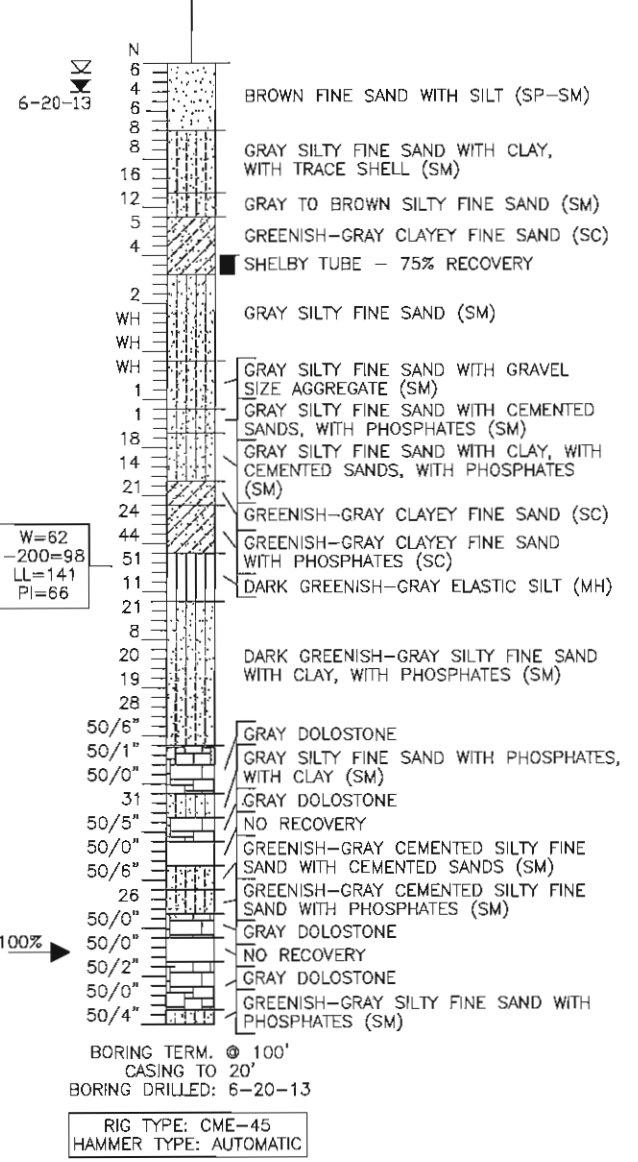
LATITUDE/LONGITUDE
28.81538° N
081.42188° W

WR-B10
912+95
146' RT.
+26.5'

LATITUDE/LONGITUDE
28.81489° N
081.42214° W



BORING TERM. @ 90'
NO CASING
BORING DRILLED: 8-26-13
RIG TYPE: D-50
HAMMER TYPE: AUTOMATIC



W=62
-200=98
LL=141
PI=66

BORING TERM. @ 100'
CASING TO 20'
BORING DRILLED: 6-20-13
RIG TYPE: CME-45
HAMMER TYPE: AUTOMATIC

■ UNDISTURBED SAMPLE (SHELBY TUBE)
100% → LOSS OF DRILLING FLUID CIRCULATION (APPROX. PERCENT NOTED)

- SAND, SAND WITH SILT
- SILTY SAND
- CLAYEY SAND
- DOLOSTONE, LIMESTONE
- SHELLY SAND
- MUCK
- CLAY
- SANDY CLAY
- SILT
- SILTY SILT

- (SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
- ENCOUNTERED GROUNDWATER LEVEL
DATE NOTED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GNE-10' GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET
- W=0 NATURAL MOISTURE CONTENT (%)
-200=0 FINES PASSING No. 200 SIEVE (%)
LL=0 LIQUID LIMIT (%)
PI=0 PLASTICITY INDEX
NP NON-PLASTIC

- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED
- 50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES
- WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON
- WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: N/A
SUBSTRUCTURE: CONCRETE: MODERATELY AGGRESSIVE
STEEL: EXTREMELY AGGRESSIVE
pH=6.5

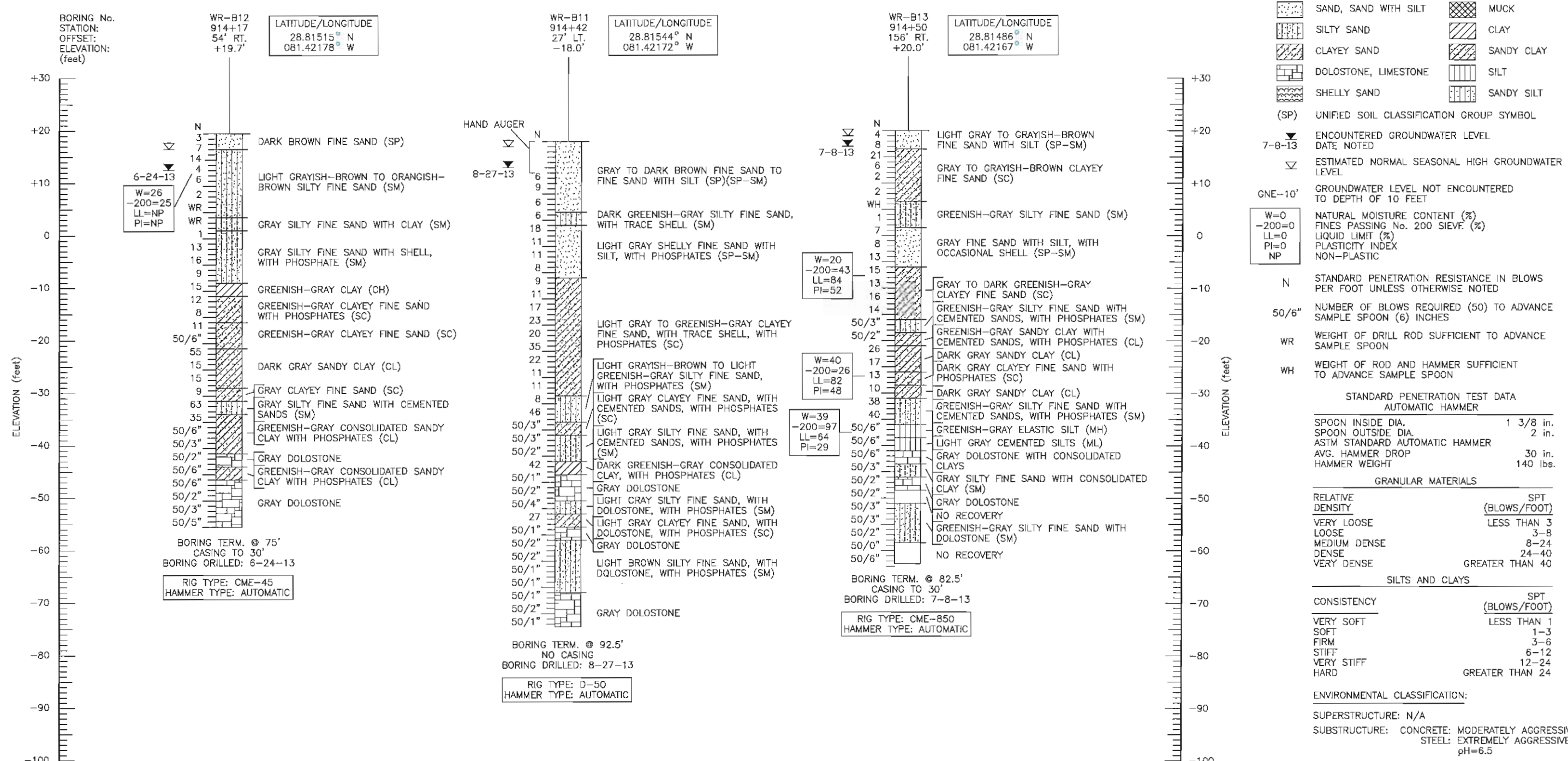
- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

Dec01, 2014 - 3:35pm

REVISIONS						DRAWN BY: SW 12-1-14	CHECKED BY: ENJ 12-1-14	DESIGNED BY:	CHECKED BY:	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION									
										ROAD NO. SR 429	COUNTY LAKE SEMINOLE	FINANCIAL PROJECT ID 238275-7-32-02	PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46) SECTION 6	SHEET NO. -

RICHARD G. ACREE, P.E.
P.E. LICENSE NUMBER 53962
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
TERRACON
CERTIFICATE OF AUTHORIZATION No. 8830



- SAND, SAND WITH SILT
- SILTY SAND
- CLAYEY SAND
- DOLOSTONE, LIMESTONE
- SHELLY SAND
- MUCK
- CLAY
- SANDY CLAY
- SILT
- SILTY SILT
- (SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
- ENCOUNTERED GROUNDWATER LEVEL DATE NOTED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET
- NATURAL MOISTURE CONTENT (%)
- FINES PASSING No. 200 SIEVE (%)
- LIQUID LIMIT (%)
- PLASTICITY INDEX
- NON-PLASTIC

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPoon INSIDE DIA.	1 3/8 in.
SPoon OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

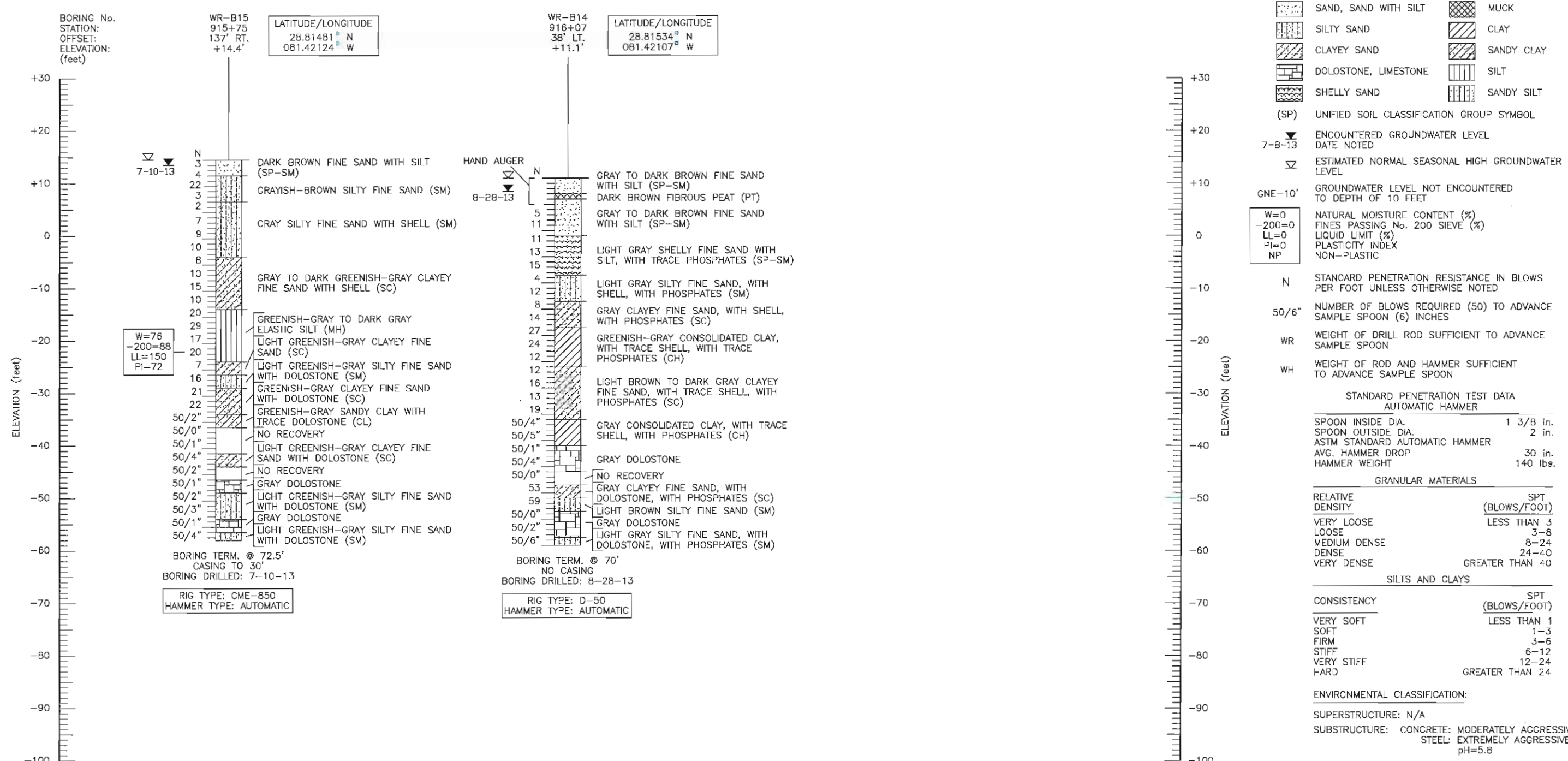
CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:
 SUPERSTRUCTURE: N/A
 SUBSTRUCTURE: CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE
 pH=6.5

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION							<p>RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 8830</p>		<p>DRAWN BY: SW 12-1-14 CHECKED BY: ENJ 12-1-14 DESIGNED BY: SR 429 CHECKED BY:</p>		<p>STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION</p> <table border="1"> <tr> <td>ROAD NO.</td> <td>COUNTY</td> <td>FINANCIAL PROJECT ID</td> </tr> <tr> <td>SR 429</td> <td>LAKE SEMINOLE</td> <td>238275-7-32-02</td> </tr> </table>		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SR 429	LAKE SEMINOLE	238275-7-32-02	<p>SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES</p> <p>PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46) SECTION 6</p>		<p>REF. DWG. NO.</p>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION																									
ROAD NO.	COUNTY	FINANCIAL PROJECT ID																												
SR 429	LAKE SEMINOLE	238275-7-32-02																												



- NOTES:**
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

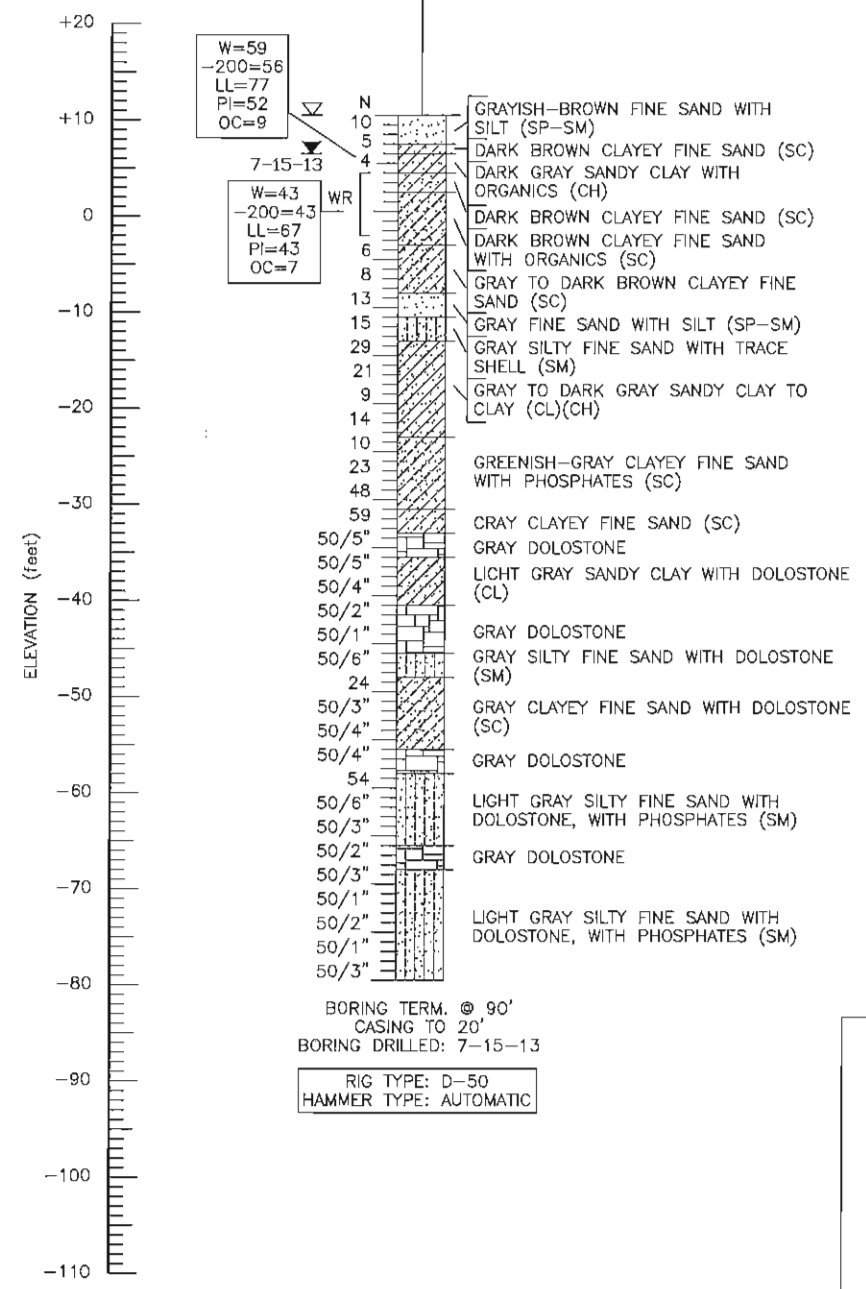
REVISIONS						DRAWN BY: SW 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 429	LAKE SEMINOLE	238275-7-32-02	WEKIVA PARKWAY (SR 429/SR 46)		
									SECTION 6		

RICHARD C. ACREE, P.E.
 P.E. LICENSE NUMBER 53962
 1675 LEE ROAD
 WINTER PARK, FLORIDA 32789
 TERRACON
 CERTIFICATE OF AUTHORIZATION No. 8830

BORING No. STATION: OFFSET: ELEVATION: (feet)

WR-B17 917+21 74' RT. +10.2'

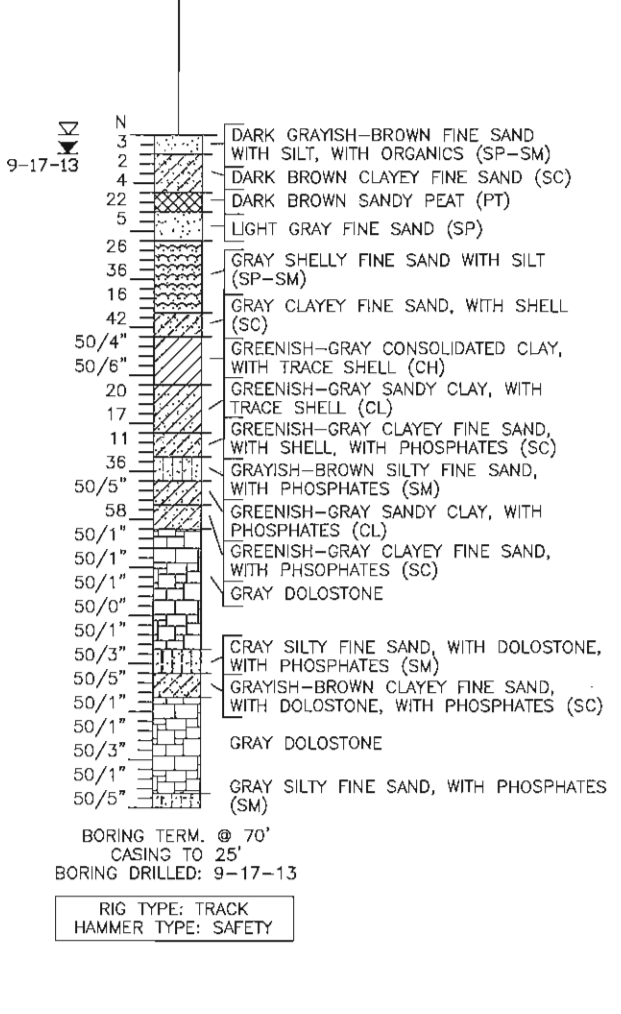
LATITUDE/LONGITUDE 28.81508° N 081.42076° W



BORING No. STATION: OFFSET: ELEVATION: (feet)

WR-B18 917+37 145' RT. +8.3'

LATITUDE/LONGITUDE 28.81484° N 081.42071° W



STANDARD PENETRATION TEST DATA	
DROP SAFETY HAMMER	
SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP SAFETY HAMMER (ROPE-CATHEAD)	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.
GRANULAR MATERIALS	
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	GREATER THAN 50
SILTS AND CLAYS	
CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 2
SOFT	2-4
FIRM	4-8
STIFF	8-15
VERY STIFF	15-30
HARD	GREATER THAN 30

- SAND, SAND WITH SILT
- SILTY SAND
- CLAYEY SAND
- DOLOSTONE, LIMESTONE
- SHELLY SAND
- MUCK
- CLAY
- SANDY CLAY
- SILT
- SANDY SILT

- (SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
- ENCOUNTERED GROUNDWATER LEVEL DATE NOTED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET
- NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%) LIQUID LIMIT (%) PLASTICITY INDEX NON-PLASTIC

STANDARD PENETRATION TEST DATA	
AUTOMATIC HAMMER	
SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.
GRANULAR MATERIALS	
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS	
CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

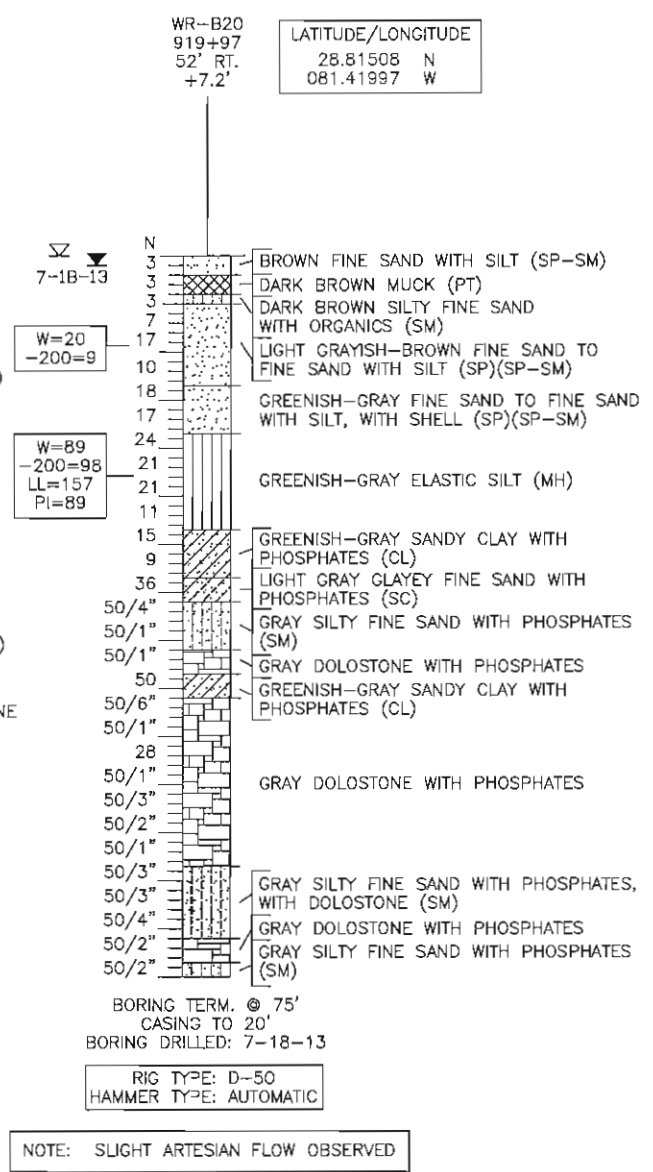
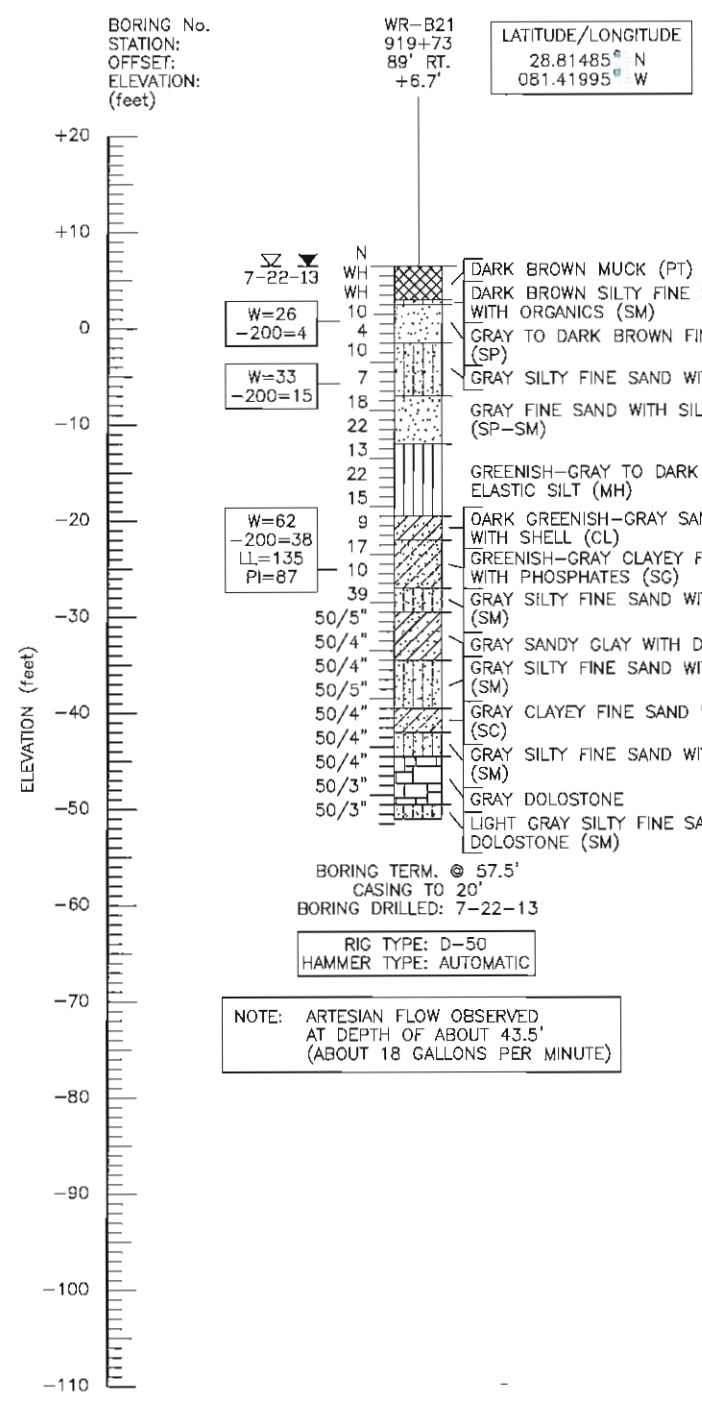
ENVIRONMENTAL CLASSIFICATION:	
SUPERSTRUCTURE:	N/A
SUBSTRUCTURE:	CONCRETE: MODERATELY AGGRESSIVE STEEL: EXTREMELY AGGRESSIVE pH=5.8

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS						DRAWN BY: SW 12-1-14	CHECKED BY: ENJ 12-1-14	DESIGNED BY: SR 429	CHECKED BY:	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	ROAD NO. SR 429	COUNTY LAKE SEMINOLE	FINANCIAL PROJECT ID 238275-7-32-02	SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46) SECTION 6	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION											

RICHARD G. ACREE, P.E.
P.E. LICENSE NUMBER 53962
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
TERRACON
CERTIFICATE OF AUTHORIZATION No. 8830



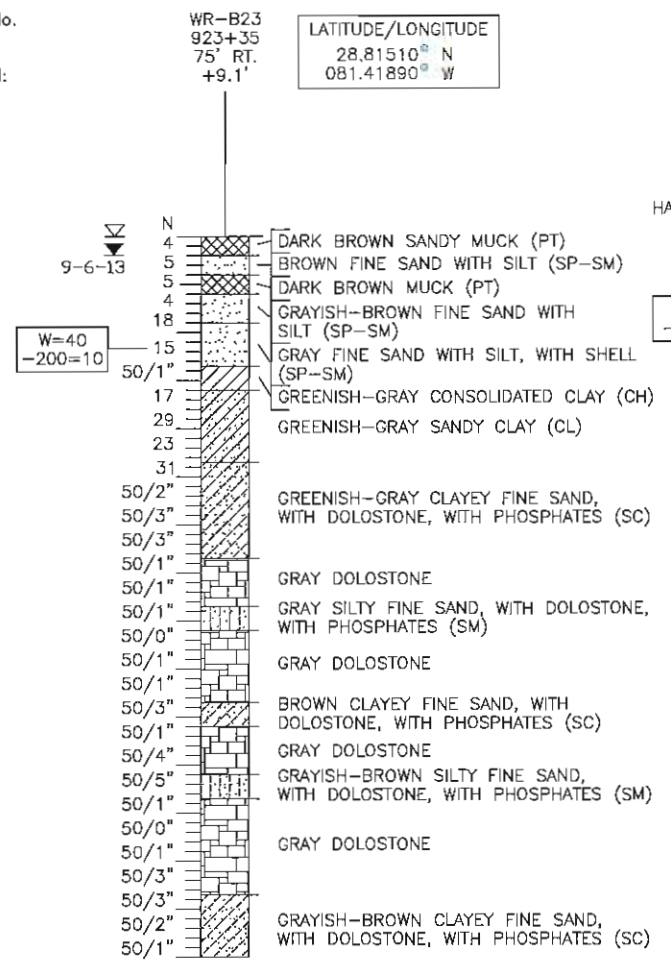
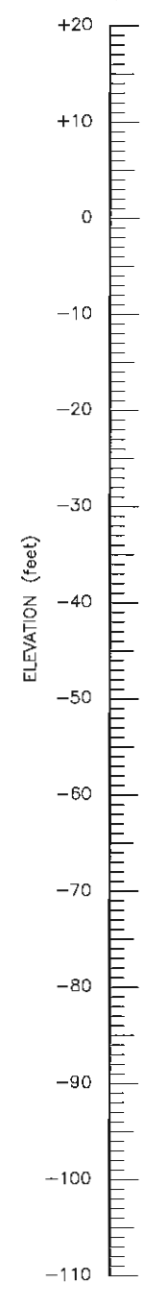
	SAND, SAND WITH SILT		MUCK
	SILTY SAND		CLAY
	CLAYEY SAND		SANDY CLAY
	DOLOSTONE, LIMESTONE		SILT
	SHELLY SAND		SANDY SILT
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
	ENCOUNTERED GROUNDWATER LEVEL	DATE NOTED	
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
GNE-10'	GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET		
W=0	NATURAL MOISTURE CONTENT (%)		
-200=0	FINES PASSING No. 200 SIEVE (%)		
LL=0	LIQUID LIMIT (%)		
PI=0	PLASTICITY INDEX		
NP	NON-PLASTIC		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		
50/6"	NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES		
WR	WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON		
WH	WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON		
STANDARD PENETRATION TEST DATA AUTOMATIC HAMMER			
		SPoon INSIDE DIA.	1 3/8 in.
		SPoon OUTSIDE DIA.	2 in.
		ASTM STANDARD AUTOMATIC HAMMER	
		AVG. HAMMER DROP	30 in.
		HAMMER WEIGHT	140 lbs.
GRANULAR MATERIALS			
RELATIVE DENSITY		SPT (BLOWS/FOOT)	
VERY LOOSE		LESS THAN 3	
LOOSE		3-8	
MEDIUM DENSE		8-24	
DENSE		24-40	
VERY DENSE		GREATER THAN 40	
SILTS AND CLAYS			
CONSISTENCY		SPT (BLOWS/FOOT)	
VERY SOFT		LESS THAN 1	
SOFT		1-3	
FIRM		3-6	
STIFF		6-12	
VERY STIFF		12-24	
HARD		GREATER THAN 24	
ENVIRONMENTAL CLASSIFICATION:			
SUPERSTRUCTURE: N/A			
SUBSTRUCTURE: CONCRETE: MODERATELY AGGRESSIVE			
STEEL: EXTREMELY AGGRESSIVE			
pH=5.1			
RESISTIVITY=940 ohm-cm			

- NOTES:**
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY McKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS						RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 8830	DRAWN BY: SW 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		SHEET TITLE:	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY: ENJ 12-1-14	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
						DESIGNED BY:	SR 429	LAKE SEMINOLE	238275-7-32-02	PROJECT NAME:	SHEET NO.
						CHECKED BY:				WEKIVA PARKWAY (SR 429/SR 46)	
										SECTION 6	

BORING No.
STATION:
OFFSET:
ELEVATION:
(feet)



BORING TERM. @ 75'
CASING TO 25'
BORING DRILLED: 9-6-13

RIG TYPE: TRACK
HAMMER TYPE: SAFETY

NOTE: ARTESIAN FLOW OBSERVED (ABOUT 18 GALLONS PER MINUTE)

WR-B22
923+60
25' LT.
+9.2'

LATITUDE/LONGITUDE
28.81526° N
081.41880° W

9-4-13

W=26
-200=5

HAND AUGER

4
7
11
28
22
50/1"
31
15
47
28
50/5"
50/3"
50/3"
50/4"
50/2"
50/1"
50/1"
50/5"
50/1"
50/1"
50/4"
50/1"
50/5"
50/1"
50/1"
50/2"
50/1"
50/3"
50/4"
50/1"

GRAY TO BROWN FINE SAND WITH SILT (SP-SM)
DARK BROWN SANDY MUCK (PT)
DARK BROWN FINE SAND WITH SILT, WITH ORGANICS (SP-SM)
GRAYISH-BROWN FINE SAND WITH SILT, WITH SHELL (SP-SM)
GRAY SILTY FINE SAND WITH SHELL (SM)
LIGHT GREENISH-GRAY CONSOLIDATED CLAY (CH)
DARK GREENISH-GRAY SANDY CLAY (CL)
GREENISH-GRAY CLAYEY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SC)
GRAY DOLOSTONE
GRAY DOLOSTONE
GRAYISH-BROWN SILTY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SM)
GRAY DOLOSTONE
GRAYISH-BROWN SILTY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SM)
GRAY DOLOSTONE
GRAYISH-BROWN SILTY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SM)
GRAY DOLOSTONE
GRAYISH-BROWN CLAYEY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SM)
GRAY DOLOSTONE

BORING TERM. @ 75'
NO CASING
BORING DRILLED: 9-4-13

RIG TYPE: TRACK
HAMMER TYPE: SAFETY

WR-B24
924+15
115' RT.
+8.2'

LATITUDE/LONGITUDE
28.81488° N
081.41864° W

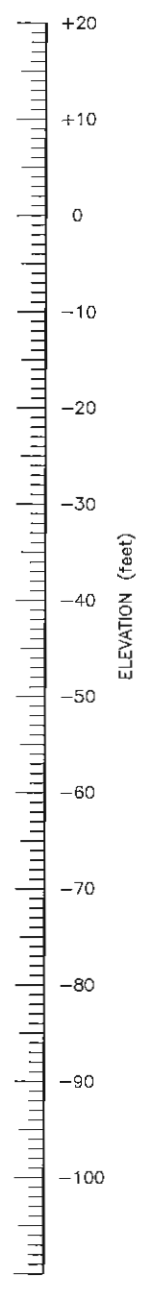
9-10-13

3
2
5
24
25
24
23
50/3"
63
13
27
50/4"
50/5"
50/3"
50/5"
50/0"
50/4"
50/3"
50/0"
50/1"
50/1"

DARK BROWN SANDY MUCK (PT)
GRAYISH-BROWN FINE SAND WITH SILT, WITH TRACE SHELL (SP-SM)
GRAY SHELLY FINE SAND WITH SILT (SP-SM)
GREENISH-GRAY CONSOLIDATED CLAY, WITH TRACE SHELL (CH)
GREENISH-GRAY SANDY CLAY (CL)
GREENISH-GRAY CLAYEY FINE SAND, WITH PHOSPHATES (SC)
GREENISH-GRAY CONSOLIDATED CLAY, WITH PHOSPHATES (CH)
NO RECOVERY
LIGHT BROWN SILTY FINE SAND, WITH DOLOSTONE, WITH PHOSPHATES (SM)
NO RECOVERY
GRAY DOLOSTONE

BORING TERM. @ 50'
CASING TO 20'
BORING DRILLED: 9-10-13

RIG TYPE: TRACK
HAMMER TYPE: SAFETY



- SAND, SAND WITH SILT
- SILTY SAND
- CLAYEY SAND
- DOLOSTONE, LIMESTONE
- SHELLY SAND
- MUCK
- CLAY
- SANDY CLAY
- SILT
- SANDY SILT

- (SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
- ENCOUNTERED GROUNDWATER LEVEL DATE NOTED
- ESTIMATED NDRMAL SEASONAL HIGH GROUNDWATER LEVEL
- GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET
- NATURAL MOISTURE CONTENT (%)
- FINES PASSING No. 200 SIEVE (%)
- LIQUID LIMIT (%)
- PLASTICITY INDEX
- NON-PLASTIC

- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED
- 50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES
- WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON
- WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

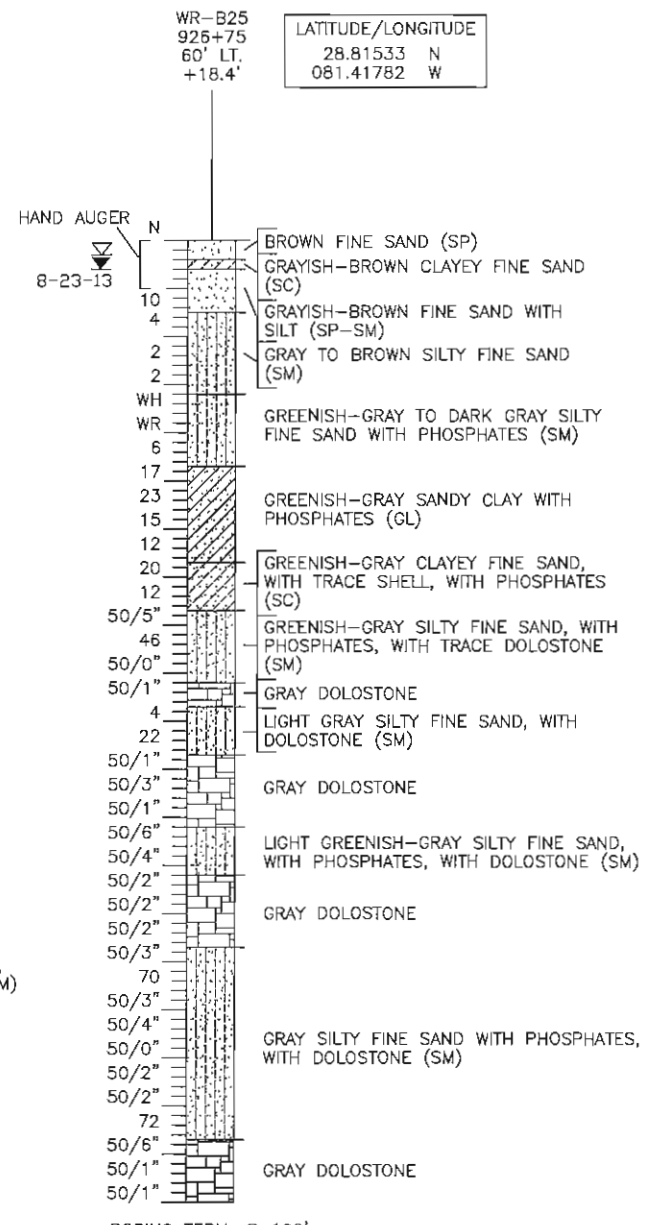
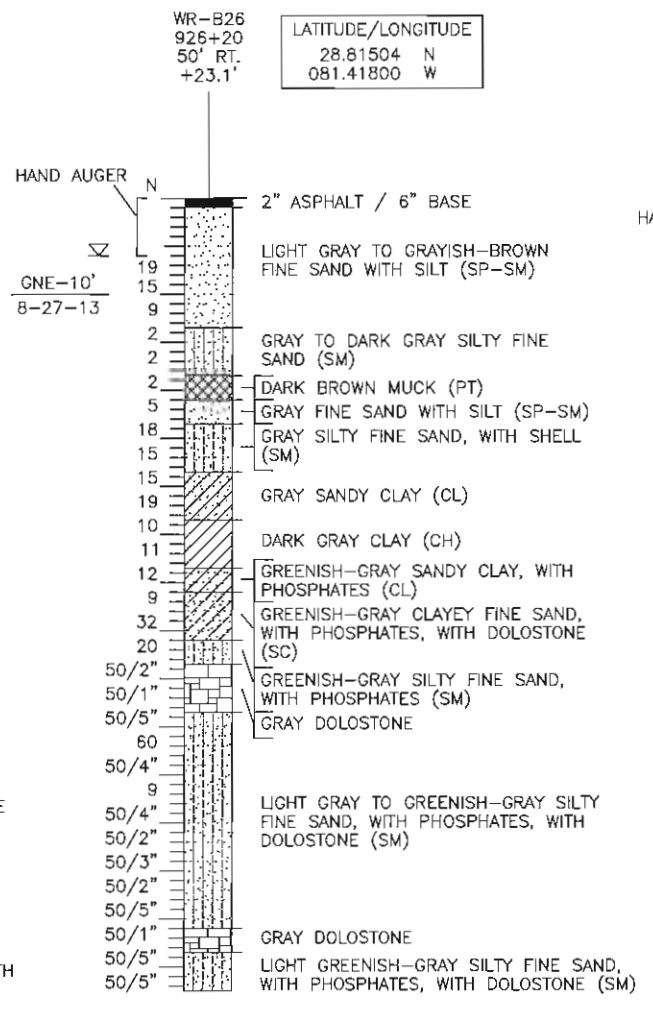
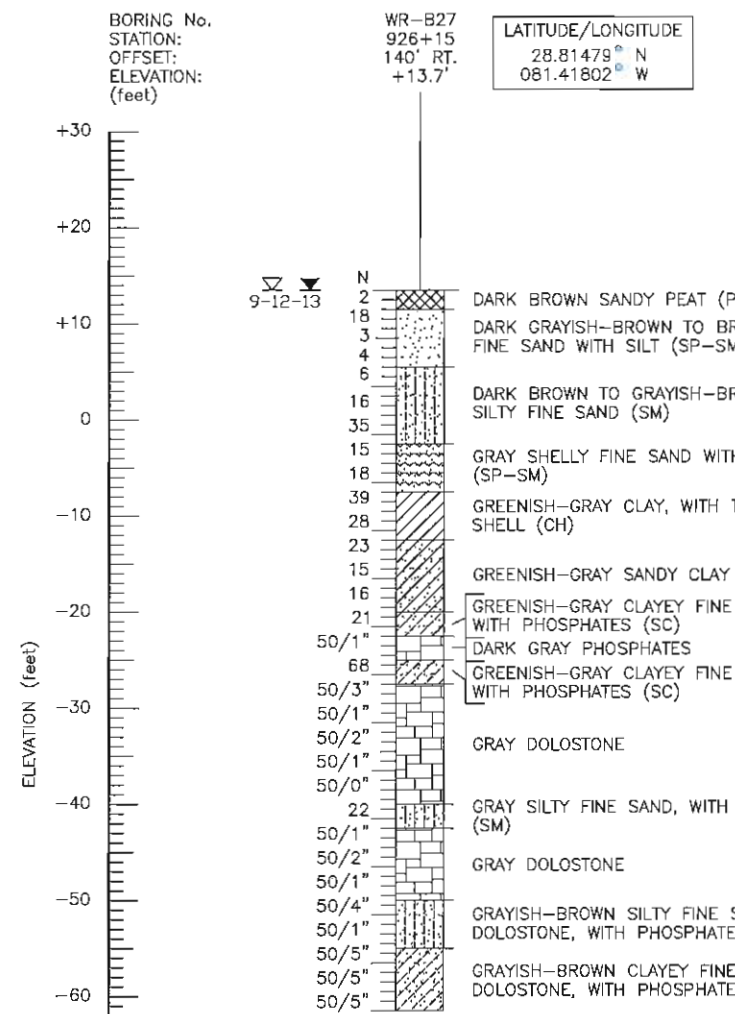
ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: N/A
SUBSTRUCTURE: CONCRETE: SLIGHTLY AGGRESSIVE
STEEL: SLIGHTLY AGGRESSIVE

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS						DRAWN BY: SW 12-1-14	CHECKED BY: ENJ 12-1-14	DESIGNED BY: SR 429	CHECKED BY:	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION					ROAD NO.	COUNTY			FINANCIAL PROJECT ID
										SR 429	LAKE SEMINOLE	238275-7-32-02	WEKIVA PARKWAY (SR 429/SR 46) SECTION 6	-

RICHARD G. ACREE, P.E.
P.E. LICENSE NUMBER 53962
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
TERRACON
CERTIFICATE OF AUTHORIZATION No. 8830



	SAND, SAND WITH SILT		MUCK
	SILTY SAND		CLAY
	CLAYEY SAND		SANDY CLAY
	DOLOSTONE, LIMESTONE		SILT
	SHELLY SAND		SILTY SILT

(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

7-8-13 ENCOUNTERED GROUNDWATER LEVEL DATE NOTED

ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL

GNE-10' GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET

W=0 NATURAL MOISTURE CONTENT (%)
-200=0 FINES PASSING No. 200 SIEVE (%)
LL=0 LIQUID LIMIT (%)
PI=0 PLASTICITY INDEX
NP NON-PLASTIC

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED

50/6" NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES

WR WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON

WH WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER (ROPE-CATHEAD)	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A

SUBSTRUCTURE: CONCRETE: MODERATELY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE
RESISTIVITY=1500 ohm-cm

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY McKIM AND CREED.

BORING TERM. @ 75'
CASING TO 25'
BORING DRILLED: 9-12-13

RIG TYPE: TRACK
HAMMER TYPE: SAFETY

STANDARD PENETRATION TEST DATA
DROP SAFETY HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP SAFETY HAMMER (ROPE-CATHEAD)	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	GREATER THAN 50

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 2
SOFT	2-4
FIRM	4-8
STIFF	8-15
VERY STIFF	15-30
HARD	GREATER THAN 30

BORING TERM. @ 82.5'
NO CASING
BORING DRILLED: 8-27-13

RIG TYPE: D-50
HAMMER TYPE: AUTOMATIC

BORING TERM. @ 100'
NO CASING
BORING DRILLED: 8-23-13

RIG TYPE: D-50
HAMMER TYPE: AUTOMATIC

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

RICHARD G. ACREE, P.E.
P.E. LICENSE NUMBER 53962
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
TERRACON
CERTIFICATE OF AUTHORIZATION No. 883D

DRAWN BY: SW 12-1-14
CHECKED BY: ENJ 12-1-14
DESIGNED BY:
CHECKED BY:

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

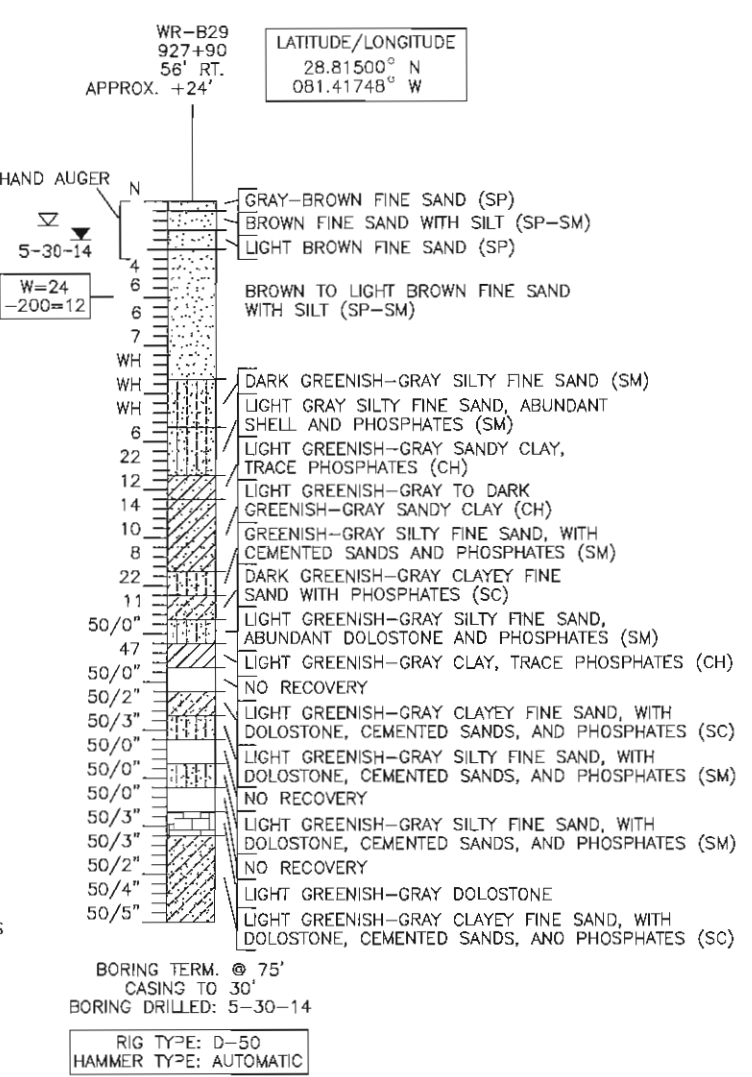
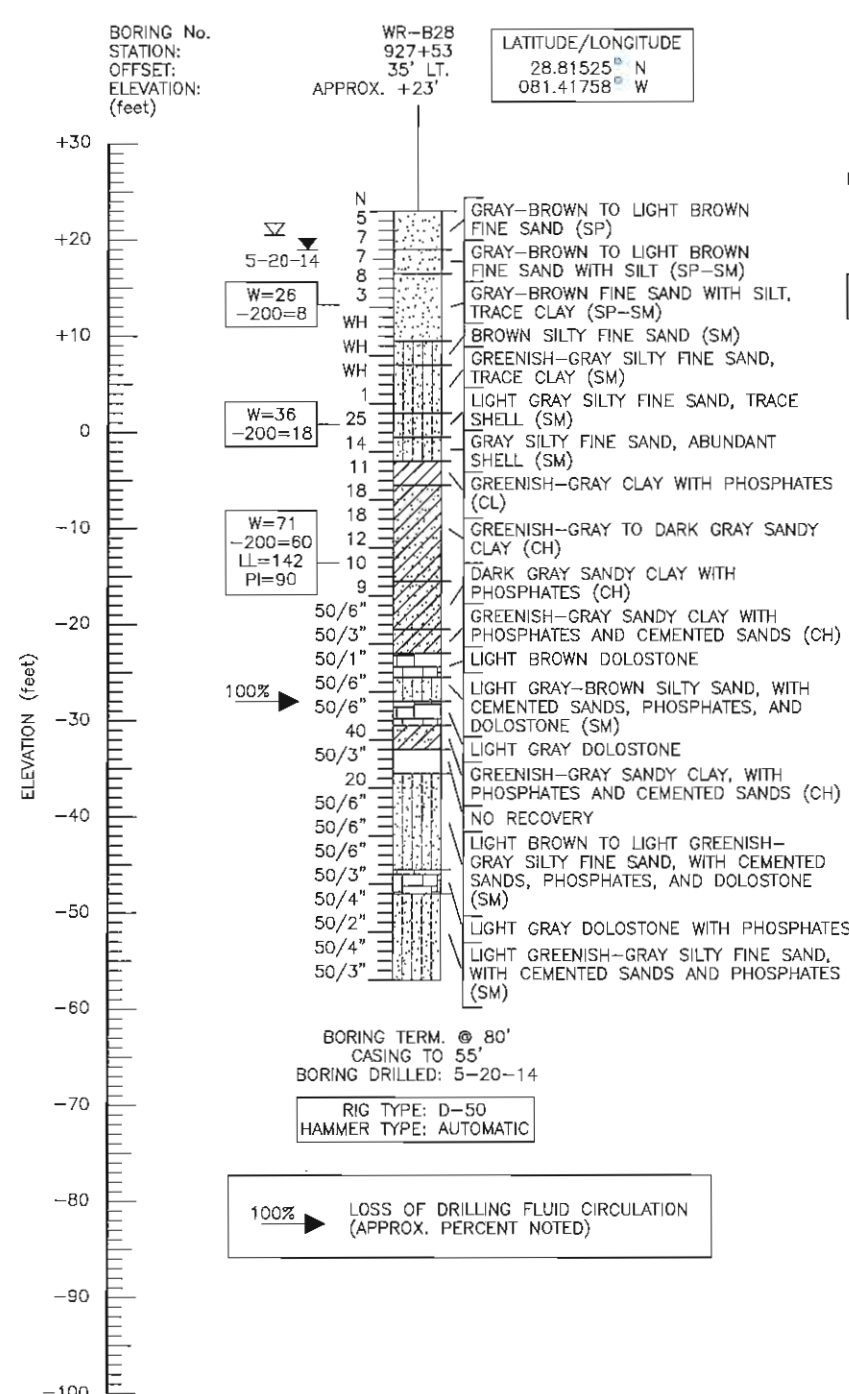
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	LAKE SEMINOLE	238275-7-32-02

SHEET TITLE:
REPORT OF SPT BORINGS FOR STRUCTURES

PROJECT NAME:
WEKIVA PARKWAY (SR 429/SR 46)
SECTION 6

REF. DWG. NO.
SHEET NO.
-

Dec01, 2014-3:53pm



	SAND, SAND WITH SILT		MUCK
	SILTY SAND		CLAY
	CLAYEY SAND		SANDY CLAY
	DOLOSTONE, LIMESTONE		SILT
	SHELLY SAND		SANDY SILT
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
	ENCOUNTERED GROUNDWATER LEVEL	DATE NOTED	
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
	GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET	GNE-10'	
W=0	NATURAL MOISTURE CONTENT (%)		
-200=0	FINES PASSING No. 200 SIEVE (%)		
LL=0	LIQUID LIMIT (%)		
PI=0	PLASTICITY INDEX		
NP	NON-PLASTIC		

STANDARD PENETRATION TEST DATA
AUTOMATIC HAMMER

SPoon INSIDE DIA.	1 3/8 in.
SPoon OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A
 SUBSTRUCTURE: CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: SLIGHTLY AGGRESSIVE

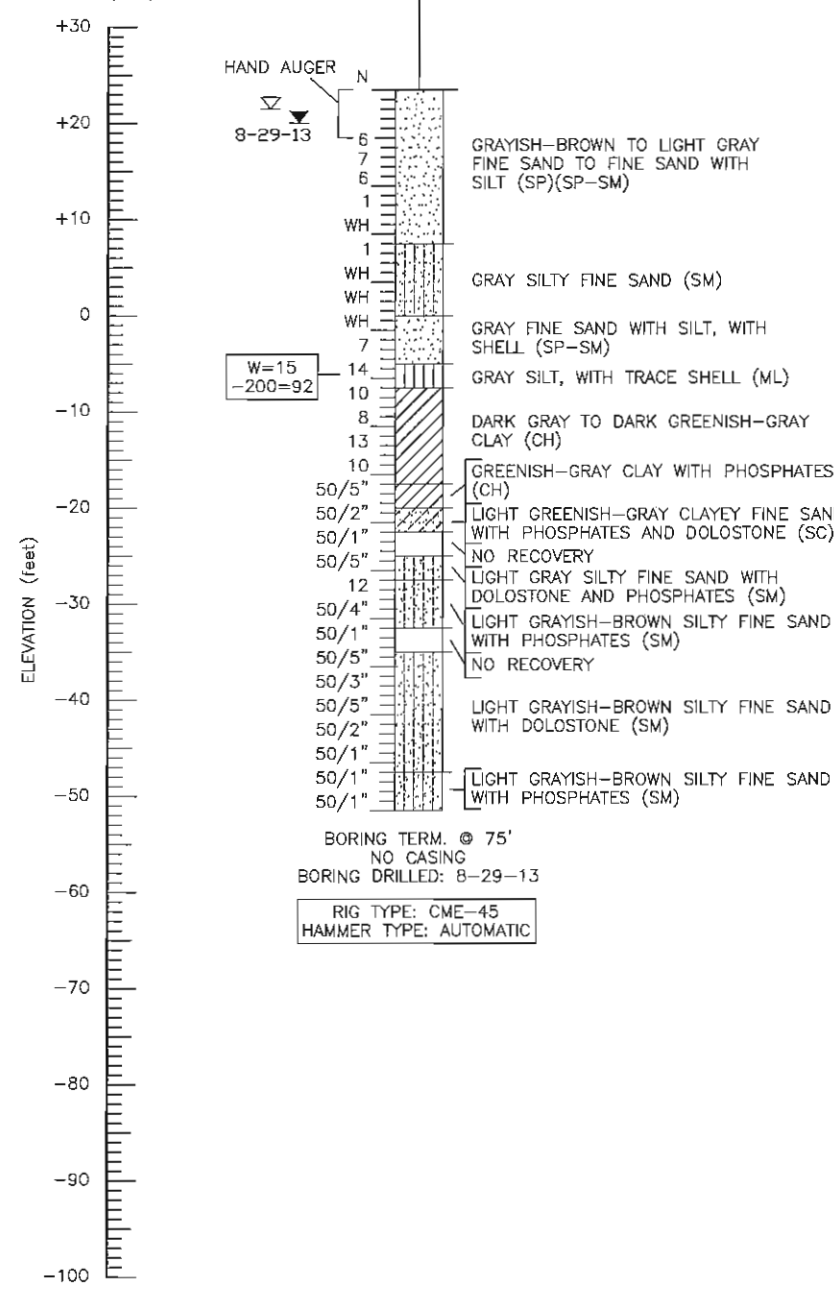
- NOTES:**
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS				RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 883D	DRAWN BY: SW 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE		BY			
					DESIGNED BY: SR 429	ROAD NO. COUNTY FINANCIAL PROJECT ID SR 429 LAKE SEMINOLE 238275-7-32-02	SECTION 6	

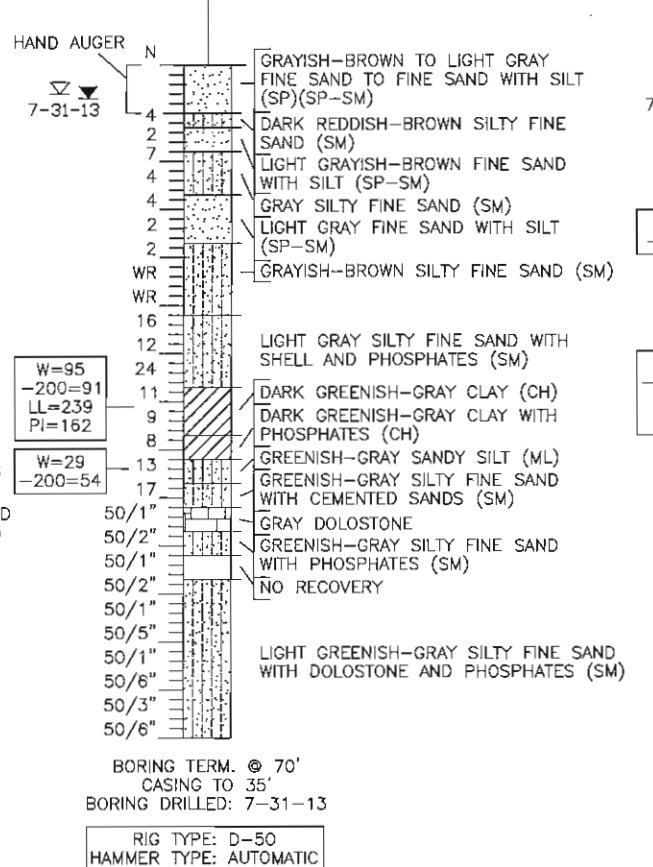
BORING No. ROC-B1
 STATION: 928+51
 OFFSET: 91' LT.
 ELEVATION: +23.5'
 (feet)

LATITUDE/LONGITUDE
 28.81540° N
 081.41739° W



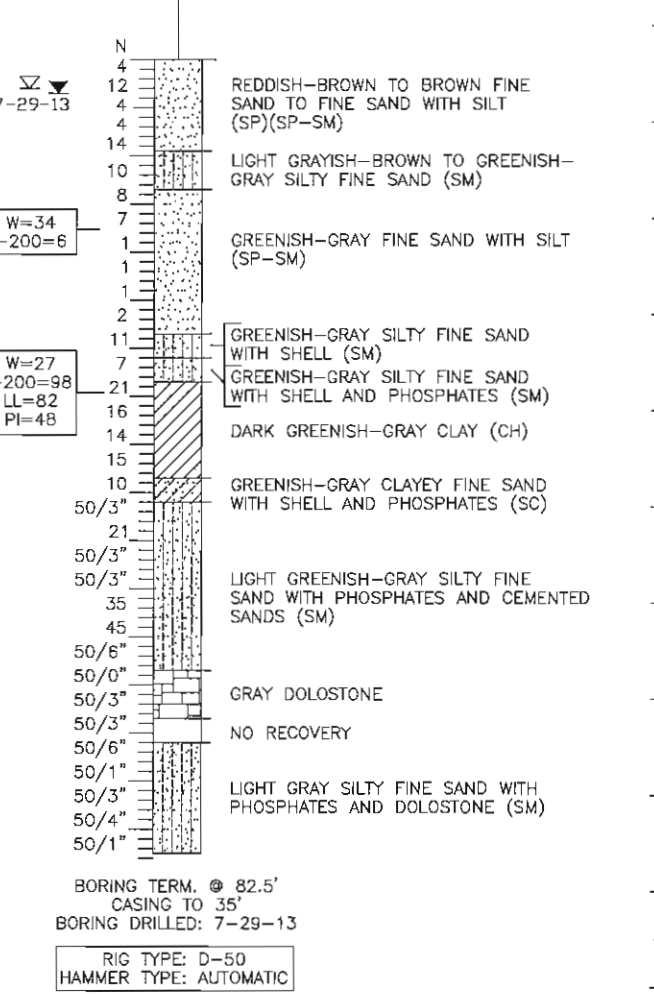
BORING No. ROC-B2
 STATION: 928+64
 OFFSET: 69' RT.
 ELEVATION: +25.9'
 (feet)

LATITUDE/LONGITUDE
 28.81496° N
 081.41722° W



BORING No. ROC-B3
 STATION: 928+76
 OFFSET: 135' RT.
 ELEVATION: +26.4'
 (feet)

LATITUDE/LONGITUDE
 28.81474° N
 081.41736° W



	SAND, SAND WITH SILT		MUCK
	SILTY SAND		CLAY
	CLAYEY SAND		SANDY CLAY
	DOLOSTONE, LIMESTONE		SILT
	SHELLY SAND		SILTY SILT

(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

ENCOUNTERED GROUNDWATER LEVEL DATE NOTED

ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL

GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET

NATURAL MOISTURE CONTENT (%)
 FINES PASSING No. 200 SIEVE (%)
 LIQUID LIMIT (%)
 PLASTICITY INDEX
 NON-PLASTIC

N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED
50/6"	NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES
WR	WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON
WH	WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON

STANDARD PENETRATION TEST DATA
 AUTOMATIC HAMMER

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD AUTOMATIC HAMMER	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS	
RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 3
LOOSE	3-8
MEDIUM DENSE	8-24
DENSE	24-40
VERY DENSE	GREATER THAN 40

SILTS AND CLAYS	
CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 1
SOFT	1-3
FIRM	3-6
STIFF	6-12
VERY STIFF	12-24
HARD	GREATER THAN 24

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: N/A
 SUBSTRUCTURE: CONCRETE: MODERATELY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE
 RESISTIVITY=1600 ohm-cm

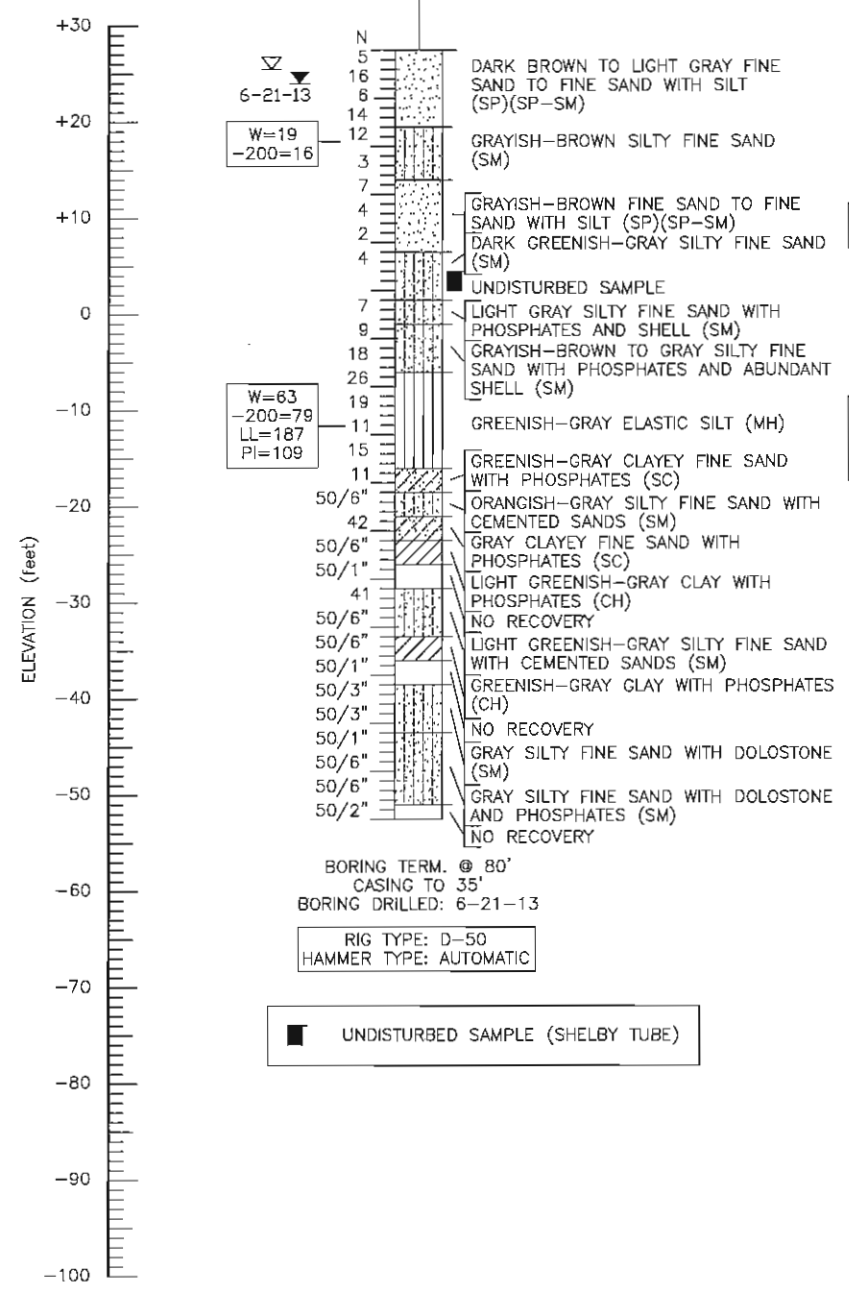
- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY McKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS				RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 8830	DRAWN BY: SW 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET TITLE: REPORT OF SPT BORINGS FOR STRUCTURES	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE		BY			
					DESIGNED BY: SR 429	ROAD NO. COUNTY FINANCIAL PROJECT ID SR 429 LAKE SEMINOLE 238275-7-32-02	SECTION 6	

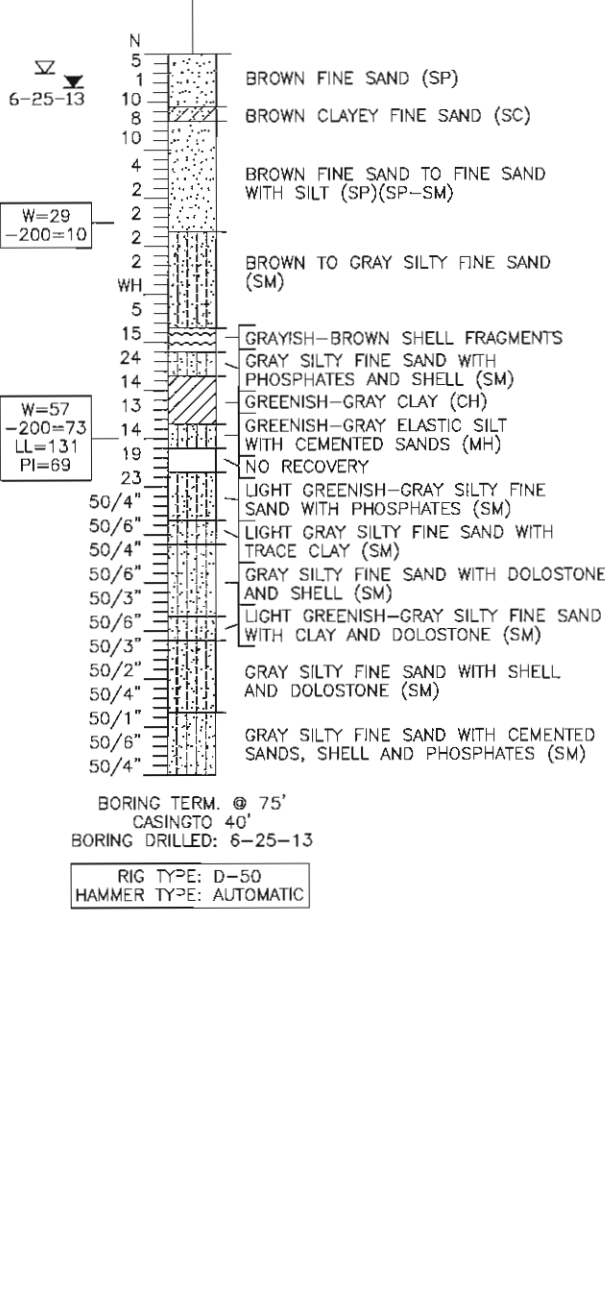
BORING No. ROC-B6
 STATION: 929+36
 OFFSET: 133' RT.
 ELEVATION: +27.2'
 (feet)

LATITUDE/LONGITUDE
 28.81500° N
 081.41703° W



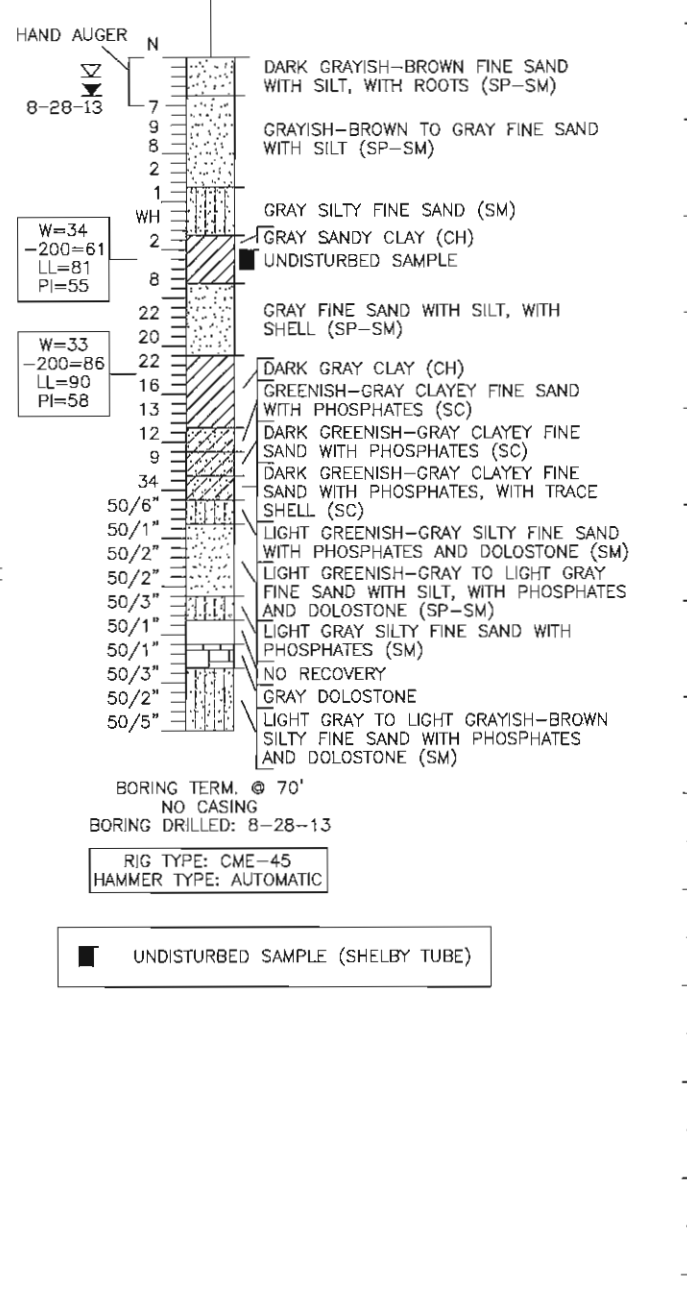
BORING No. ROC-B5
 STATION: 929+41
 OFFSET: 63' RT.
 ELEVATION: +26.9'
 (feet)

LATITUDE/LONGITUDE
 28.81506° N
 081.41700° W



BORING No. ROC-B4
 STATION: 929+42
 OFFSET: 86' LT.
 ELEVATION: +26.8'
 (feet)

LATITUDE/LONGITUDE
 28.81534° N
 081.41702° W



	SAND, SAND WITH SILT		MUCK
	SILTY SAND		CLAY
	CLAYEY SAND		SANDY CLAY
	DOLOSTONE, LIMESTONE		SILT
	SHELLY SAND		SILTY SILT
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL		
	ENCOUNTERED GROUNDWATER LEVEL DATE NOTED		
	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL		
GNE-10'	GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF 10 FEET		
W=0 -200=0 LL=0 PI=0 NP	NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%) LIQUID LIMIT (%) PLASTICITY INDEX NON-PLASTIC		
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT UNLESS OTHERWISE NOTED		
50/6"	NUMBER OF BLOWS REQUIRED (50) TO ADVANCE SAMPLE SPOON (6) INCHES		
WR	WEIGHT OF DRILL ROD SUFFICIENT TO ADVANCE SAMPLE SPOON		
WH	WEIGHT OF ROD AND HAMMER SUFFICIENT TO ADVANCE SAMPLE SPOON		
STANDARD PENETRATION TEST DATA AUTOMATIC HAMMER			
	SPOON INSIDE DIA.	1 3/8 in.	SPT (BLOWS/FOOT)
	SPOON OUTSIDE DIA.	2 in.	
	ASTM STANDARD AUTOMATIC HAMMER		
	AVG. HAMMER DROP	30 in.	
	HAMMER WEIGHT	140 lbs.	
GRANULAR MATERIALS			
	RELATIVE DENSITY		
	VERY LOOSE	LESS THAN 3	
	LOOSE	3-8	
	MEDIUM DENSE	8-24	
	DENSE	24-40	
	VERY DENSE	GREATER THAN 40	
SILTS AND CLAYS			
	CONSISTENCY		SPT (BLOWS/FOOT)
	VERY SOFT	LESS THAN 1	
	SOFT	1-3	
	FIRM	3-8	
	STIFF	6-12	
	VERY STIFF	12-24	
	HARD	GREATER THAN 24	
ENVIRONMENTAL CLASSIFICATION:			
SUPERSTRUCTURE: N/A			
SUBSTRUCTURE: CONCRETE: SLIGHTLY AGGRESSIVE STEEL: SLIGHTLY AGGRESSIVE			

- NOTES:
- SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.
 - UNLESS NOTED ON THE BORING PROFILE, ARTESIAN CONDITIONS WERE NOT TYPICALLY OBSERVED BY THE DRILLER AT MOST BORING LOCATIONS. BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +20 FEET, (NGVD).
 - STATIONS AND OFFSETS REFERENCE THE BASELINE OF SURVEY OF SR 429 (WEKIVA PARKWAY).
 - BORING LOCATIONS AND ELEVATIONS SURVEYED BY MCKIM AND CREED.

WEKIVA RIVER BRIDGE

REVISIONS				RICHARD G. ACREE, P.E. P.E. LICENSE NUMBER 53962 1675 LEE ROAD WINTER PARK, FLORIDA 32789 TERRACON CERTIFICATE OF AUTHORIZATION No. 8830	DRAWN BY: SW 12-1-14	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		SHEET TITLE:		REF. DWG. NO.	
DATE	BY	DESCRIPTION	DATE		BY			DESCRIPTION	CHECKED BY: ENJ 12-1-14		REPORT OF SPT BORINGS FOR STRUCTURES
						DESIGNED BY: SR 429	COUNTY: LAKE SEMINOLE	FINANCIAL PROJECT ID: 238275-7-32-02	PROJECT NAME: WEKIVA PARKWAY (SR 429/SR 46) SECTION 6		SHEET NO. -

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

Soil Survey Descriptions

Lake County

Im / 12 - Bluff and Manatee soils, frequently flooded. This soil type is nearly level and very poorly drained. It is typically found in low areas and is covered with shallow water during much of the rainy season. Organic matter is typically found within the surficial 18 inches (1.5 feet) of this soil type. In its natural state and during years of normal precipitation, this soil type has a seasonal high water table at or above the surface.

Is / 25 - Immokalee sand. This soil type is nearly level and poorly drained. It is typically found in broad areas in the flatwoods and in low areas between sand ridges and lakes, ponds, and sloughs. In its natural state and during years of normal precipitation, this soil type has a seasonal high water table within 10 inches (0.8 feet) of the surface.

Pn / 48 - Pomello sand, 0 to 5 percent slopes. This soil type is nearly level to gently sloping and moderately well drained. It is typically found throughout the flatwoods. This soil type has a seasonal high water table at depth of about 45 inches (3.8 feet) during years of normal rainfall.

Seminole County

13 - EauGallie and Immokalee fine sands. This soil type is nearly level and poorly drained. It is typically found in broad plains on the flatwoods areas. During years of normal precipitation, this soil type has a seasonal high water table within 12 inches (1.0 foot) of the surface for 1 to 4 months.

28 - Pompano fine sand, occasionally flooded. This soil type is nearly level and poorly drained. It is typically found on the floodplains. During years of normal precipitation, this soil type has a seasonal high water table within 12 inches (1.0 foot) of the surface for 2 to 6 months. This soil type is subject to occasional flooding, typically following heavy rains.

31 - Tavares-Millhopper fine sands, 0 to 5 percent slopes. This soil type is nearly level to gently sloping and moderately well drained. It is typically found on low ridges and knolls on the uplands. In its natural state and during years of normal rainfall, the soils in this map unit have a seasonal high water table at a depth of between 36 and 60 inches (3.0 and 5.0 feet) for 2 to 6 months. The seasonal high water table is apparent in Tavares soil but perched in Millhopper soil.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

Field Exploration Description

The boring locations were laid out at the project site by Terracon personnel. The locations indicated on the attached exhibits were surveyed by McKim & Creed. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The SPT soil borings were drilled with either a track or ATV-mounted, rotary drilling rig. The track drill rig was equipped with a rope and cathead-operated safety hammer. The ATV-mounted drill rig was equipped with a CME automatic SPT hammer.

The boreholes were advanced with a cutting head and stabilized with the use of bentonite (drillers' mud). Soil samples were obtained by the split spoon sampling procedure in general accordance with the Standard Penetration Test (SPT) procedure. In the split spoon sampling procedure, the number of blows required to advance the sampling spoon the last 12 inches of an 18-inch penetration or the middle 12 inches of a 24-inch penetration by means of a 140-pound hammer with a free fall of 30 inches, is the standard penetration resistance value (N). This value is used to estimate the in-situ relative density of cohesionless soils and the consistency of cohesive soils. The sampling depths and penetration distance, plus the standard penetration resistance values, are shown on the boring profiles.

A CME automatic SPT hammer was used to advance the split-barrel sampler in the majority of the borings performed on this site. A significantly greater efficiency is achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. This higher efficiency has an appreciable effect on the SPT-N value. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report. The automatic hammer "N" value shall be multiplied by 1.24 to convert to the equivalent safety hammer "N" value.

Portions of the samples from the borings were sealed in glass jars to reduce moisture loss, and then the jars were taken to our laboratory for further observation and classification. Upon completion, the boreholes were backfilled with the site soil.

Field logs of each boring were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The boring profiles included with this report represent an interpretation of the field logs and include modifications based on laboratory observation of the samples.

Preliminary Geotechnical Engineering Report

Wekiva River Bridge for Wekiva Parkway (Section 6) ■ Lake and Seminole Counties, Florida
December 12, 2014 ■ Terracon Project No. H1135080

Laboratory Testing

During the field exploration, a portion of each recovered sample was sealed in a glass jar and transported to our laboratory for further visual observation and laboratory testing. Selected samples retrieved from the borings were tested for moisture (water) content, fines content (soil passing a US standard #200 sieve), organic content, and Atterberg Limits. The test results are included on the respective boring profiles. The visual-manual classifications were modified as appropriate based upon the laboratory testing results.

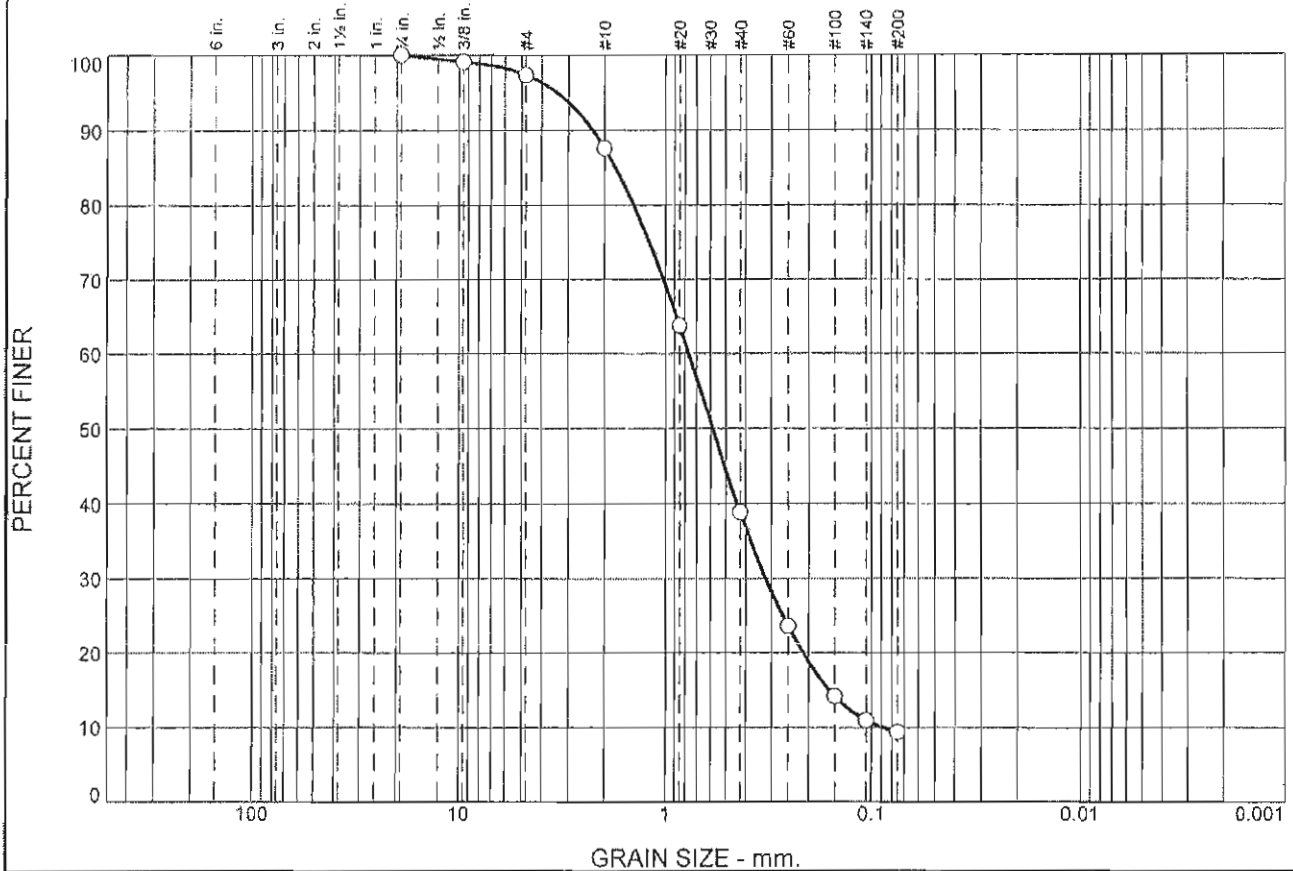
The soil samples were classified in general accordance with the Unified Soil Classification System based on the material's texture and plasticity. The estimated group symbol for the Unified Soil Classification System is shown on the boring profiles in Appendix A. The results of our laboratory testing are presented on the corresponding borings profiles.

A series of eleven (11) corrosion tests were performed on soil samples obtained from the soil borings performed for the proposed bridge, and on a water sample obtained at Wekiva River. The environmental classification for the substructures generally classified as moderately aggressive for use of concrete and extremely aggressive for use of steel (pH ranged from 4.6 to 7.9), in accordance with the Florida Department of Transportation (FDOT) Standards. The environmental classifications are based on the Structures Design Guidelines. The corrosion series test results are summarized on **Exhibit A-20** in **Appendix A**.

EXHIBIT A-20
CORROSION SERIES TESTING RESULTS
WEKIVA PARKWAY (STATE ROAD 429/STATE ROAD 46) - SECTION 6
WEKIVA RIVER BRIDGE
LAKE AND SEMINOLE COUNTIES, FLORIDA
FPID: 238275-7-32-02
TERRACON PROJECT NO. H1135080

Boring Number	Station & Offset	Sample Depth (feet)	pH	Minimum Resistivity (ohm-cm)	Chlorides (ppm)	Sulfates (ppm)	Substructural Environmental Classification	
							Concrete	Steel
WR-B1	908+65; 65' LT	4.0	4.6	30,000	60	< 5	Extremely Aggressive	Extremely Aggressive
WR-B7	912+00; 90' RT	2.0	7.5	32,000	60	< 5	Slightly Aggressive	Slightly Aggressive
WR-B12	914+15; 60' RT	6.5	5.1	6,600	60	41.4	Moderately Aggressive	Extremely Aggressive
WR-B17	917+10; 75' RT	0.5	5.8	1,700	60	64.5	Moderately Aggressive	Extremely Aggressive
WR-B20	919+75; 65' RT	6.0	5.1	940	90	775.2	Moderately Aggressive	Extremely Aggressive
WR-B22	923+60; 25' LT	2.5	7.2	27,000	60	24.9	Slightly Aggressive	Slightly Aggressive
WR-B27	926+20; 140' RT	2.5	6.4	1,500	160	210.0	Moderately Aggressive	Moderately Aggressive
WR-B29	927+90; 56' RT	4.0	7.1	13,000	60	24.9	Slightly Aggressive	Slightly Aggressive
ROC-B1	928+51; 91' LT	1.0	7.1	1,600	60	94.2	Moderately Aggressive	Moderately Aggressive
ROC-B5	929+41; 63' RT	1.0	7.9	8,600	60	< 5	Slightly Aggressive	Slightly Aggressive
water sample	n/a	n/a	7.6	2,800	35	46.8	Moderately Aggressive	Moderately Aggressive

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Slit	Clay
0.0	0.0	2.6	9.8	48.7	29.6	9.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	99.1		
#4	97.4		
#10	87.6		
#20	63.8		
#40	38.9		
#60	23.6		
#100	14.2		
#140	10.9		
#200	9.3		

Material Description

MC - 20.0%

Atterberg Limits
 PL= NP LL= NP PI=

Coefficients
 D₉₀= 2.2821 D₈₅= 1.7624 D₆₀= 0.7640
 D₅₀= 0.5817 D₃₀= 0.3194 D₁₅= 0.1594
 D₁₀= 0.0887 C_u= 8.62 C_c= 1.51

Classification
 USCS= SW-SM AASHTO= A-1-b

Remarks

F.M.=2.45

* (no specification provided)

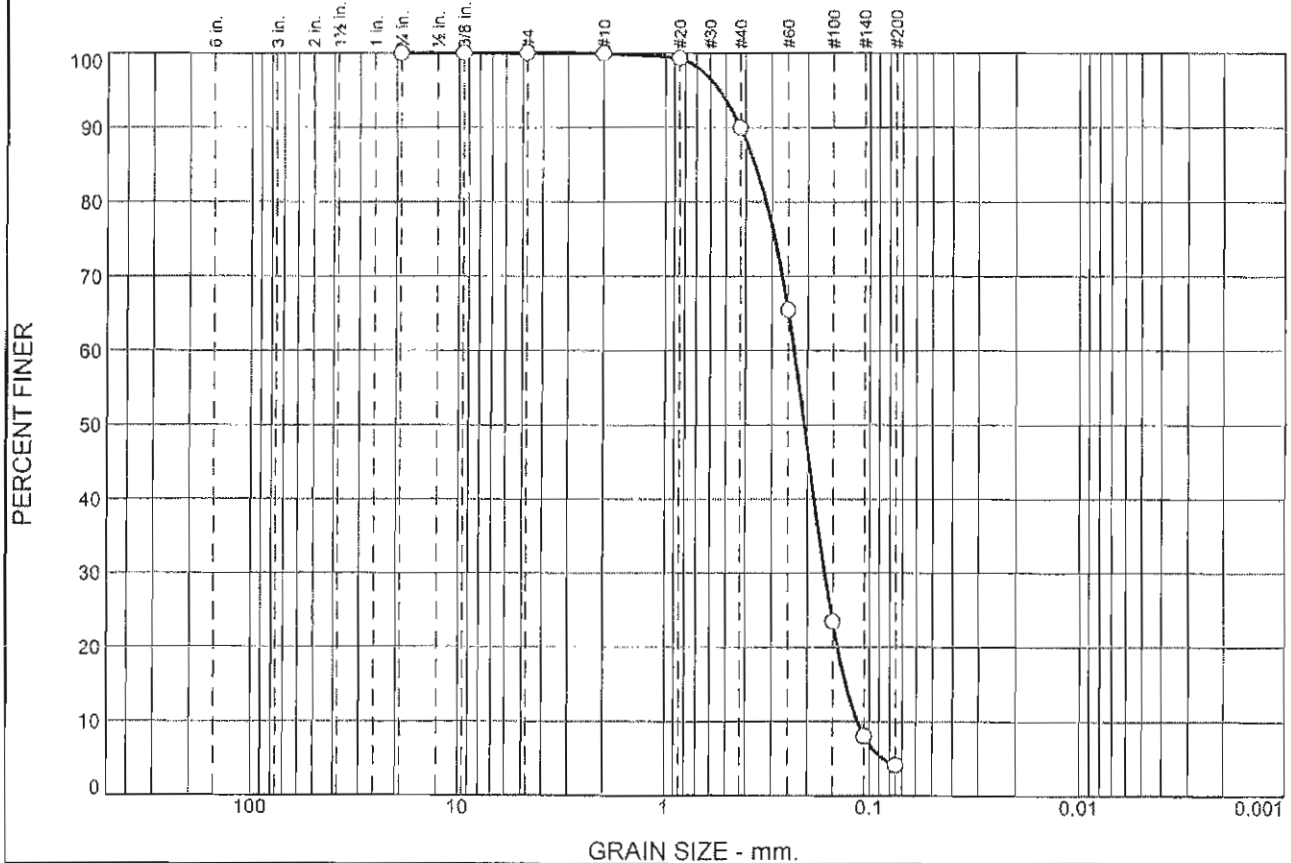
Location: WR-B-20-6
 Depth: 8-10

Date:

Nodarse & Associates, Inc. A Terracon Company	Client: Project: Wekiva Parkway Project No: H1135080
Figure 1	

Tested By: AH

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	9.9	85.8	4.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	100.0		
#4	100.0		
#10	99.9		
#20	99.3		
#40	90.0		
#60	65.5		
#100	23.4		
#140	8.0		
#200	4.2		

Material Description

MC - 25.5%

PL= NP **Atterberg Limits** LL= NP PI= NP

Coefficients

D₉₀= 0.4254 D₈₅= 0.3617 D₆₀= 0.2329
D₅₀= 0.2071 D₃₀= 0.1640 D₁₅= 0.1295
D₁₀= 0.1139 C_u= 2.05 C_c= 1.01

Classification

USCS= SP AASHTO= A-3

Remarks

F.M.=1.04

* (no specification provided)

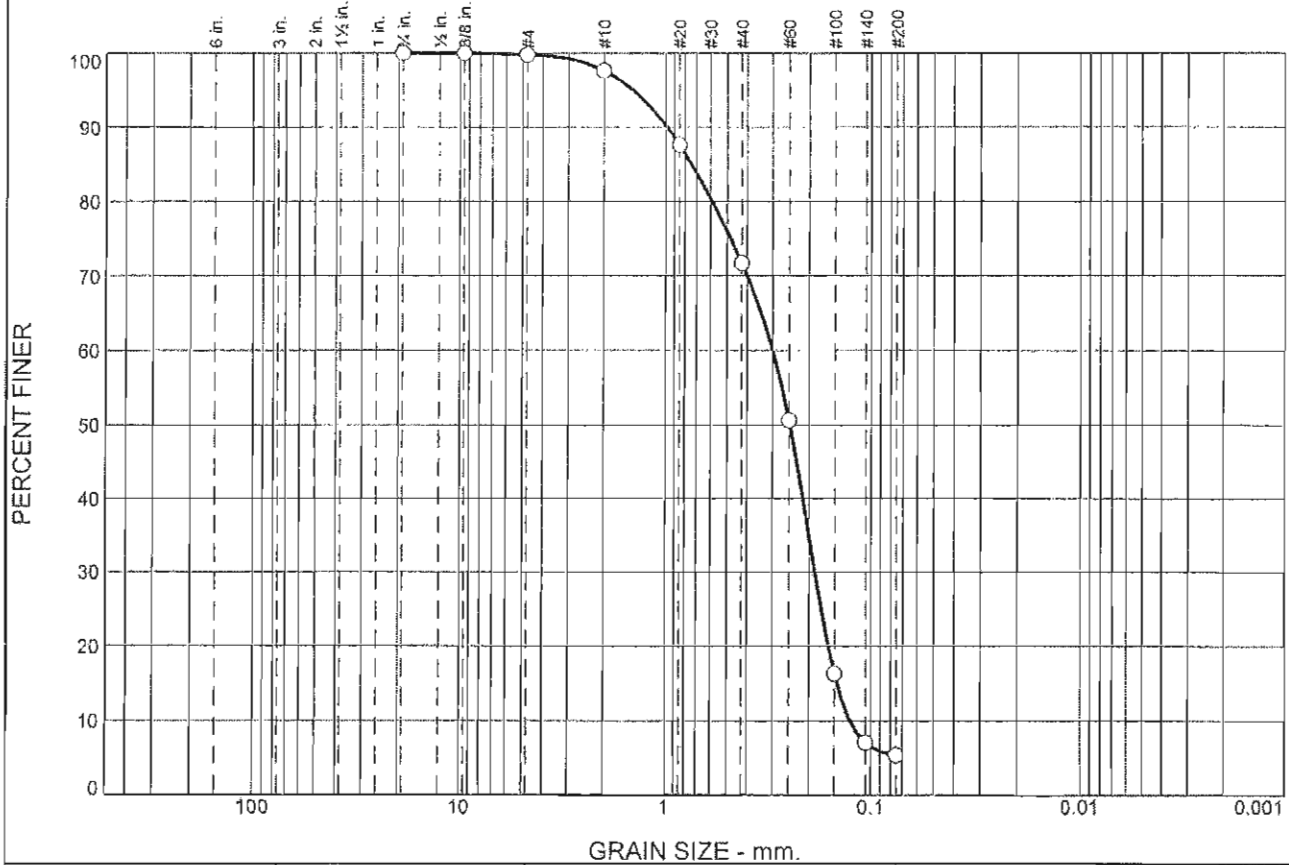
Location: WR-B-21-4
 Depth: 4-6

Date:

<p>Nodarse & Associates, Inc.</p> <p>A Terracon Company</p>	<p>Client: Project: Wekiva Parkway</p> <p>Project No: HI135080</p>
<p>Figure 2</p>	

Tested By: AH

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	2.2	26.0	66.2	5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	100.0		
#4	99.8		
#10	97.6		
#20	87.6		
#40	71.6		
#60	50.7		
#100	16.3		
#140	7.1		
#200	5.4		

Material Description

MC - 26.3%

PL= NP **Atterberg Limits** LL= NP PI=

Coefficients

D₉₀= 0.9818 D₈₅= 0.7430 D₆₀= 0.2994
D₅₀= 0.2473 D₃₀= 0.1866 D₁₅= 0.1458
D₁₀= 0.1259 C_u= 2.38 C_c= 0.92

Classification

USCS= SP-SM AASHTO= A-3

Remarks

F.M.=1.52

* (no specification provided)

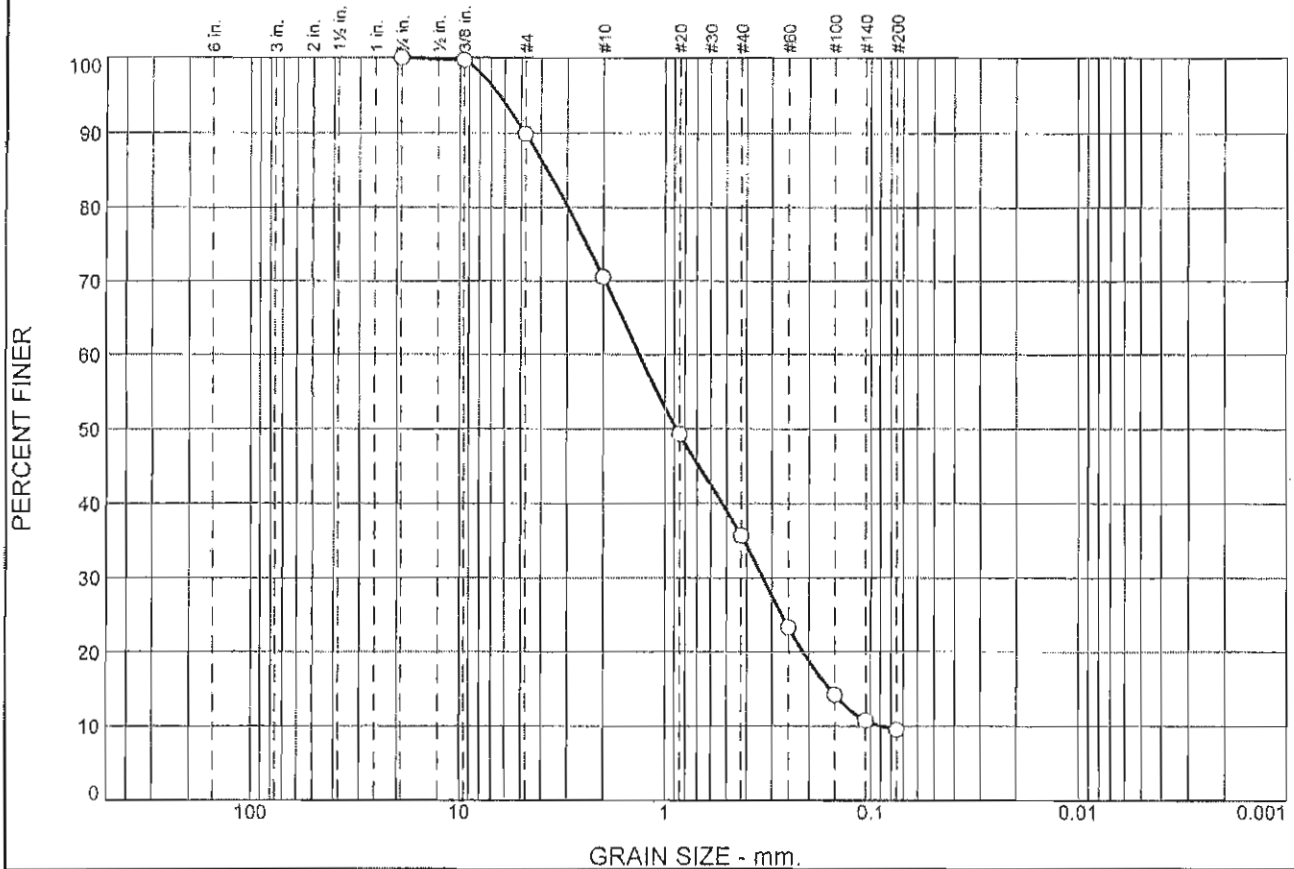
Location: WR-B-22-5
 Depth: 8

Date:

<p>Nodarse & Associates, Inc.</p> <p>A Terracon Company</p>	<p>Client: Project: Wekiva Parkway</p> <p>Project No: H1135080</p>
<p>Figure 3</p>	

Tested By: AH

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	10.1	19.4	34.8	26.2	9.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
3/8	99.6		
#4	89.9		
#10	70.5		
#20	49.3		
#40	35.7		
#60	23.3		
#100	14.2		
#140	10.7		
#200	9.5		

Material Description

MC - 40.4%

Atterberg Limits

PL= NP LL= NP PI=

Coefficients

D₉₀= 4.7829 D₈₅= 3.7263 D₆₀= 1.3301
 D₅₀= 0.8781 D₃₀= 0.3324 D₁₅= 0.1593
 D₁₀= 0.0908 C_u= 14.65 C_c= 0.92

Classification

USCS= SP-SM AASHTO= A-1-b

Remarks

F.M.=2.95

* (no specification provided)

Location: WR-B-23-7
 Depth: 11

Date:

Nodarse & Associates, Inc.
A Terracon Company

Client:
 Project: Wekiva Parkway
 Project No: H1135080

Figure 4

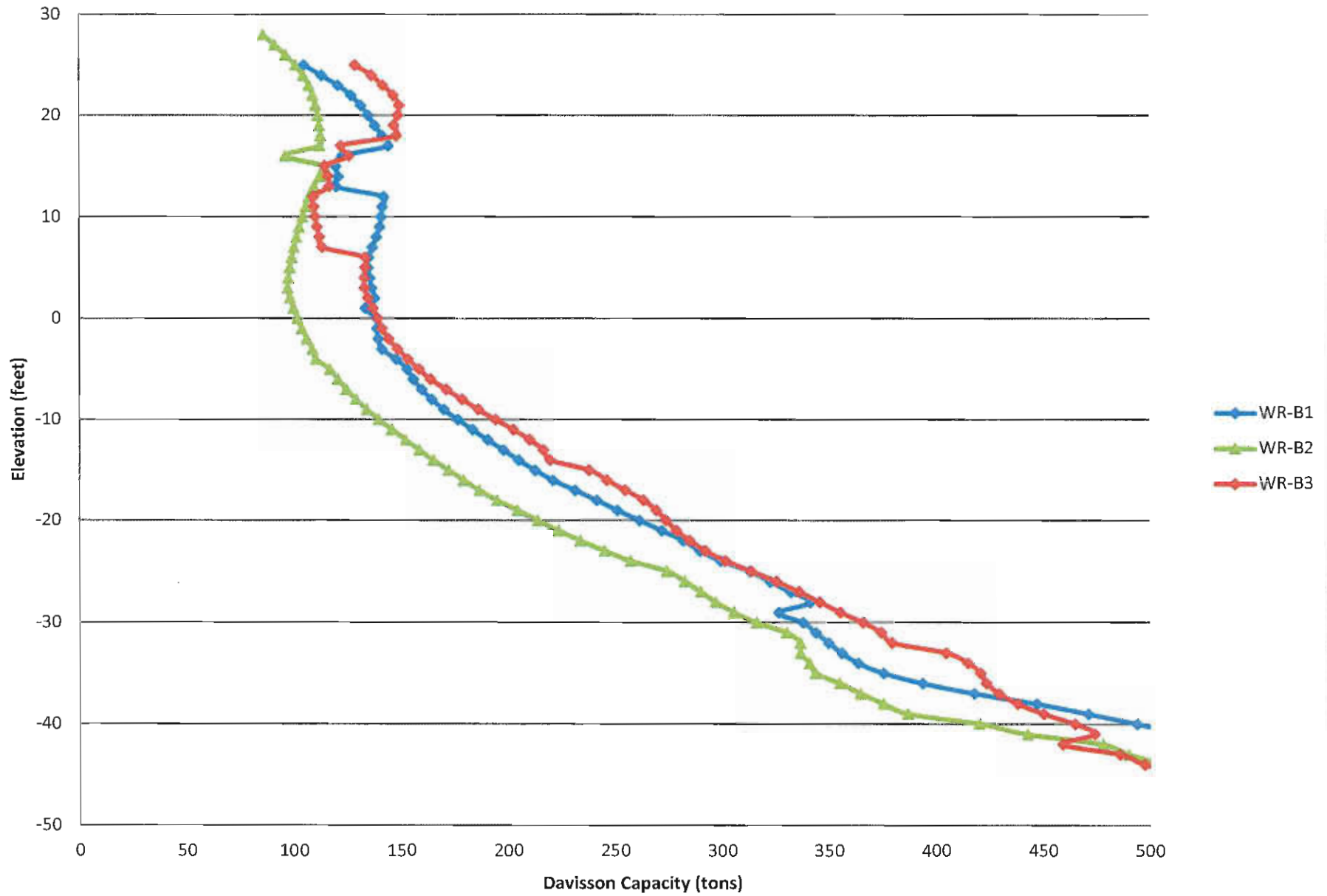
Tested By: AH _____

APPENDIX B

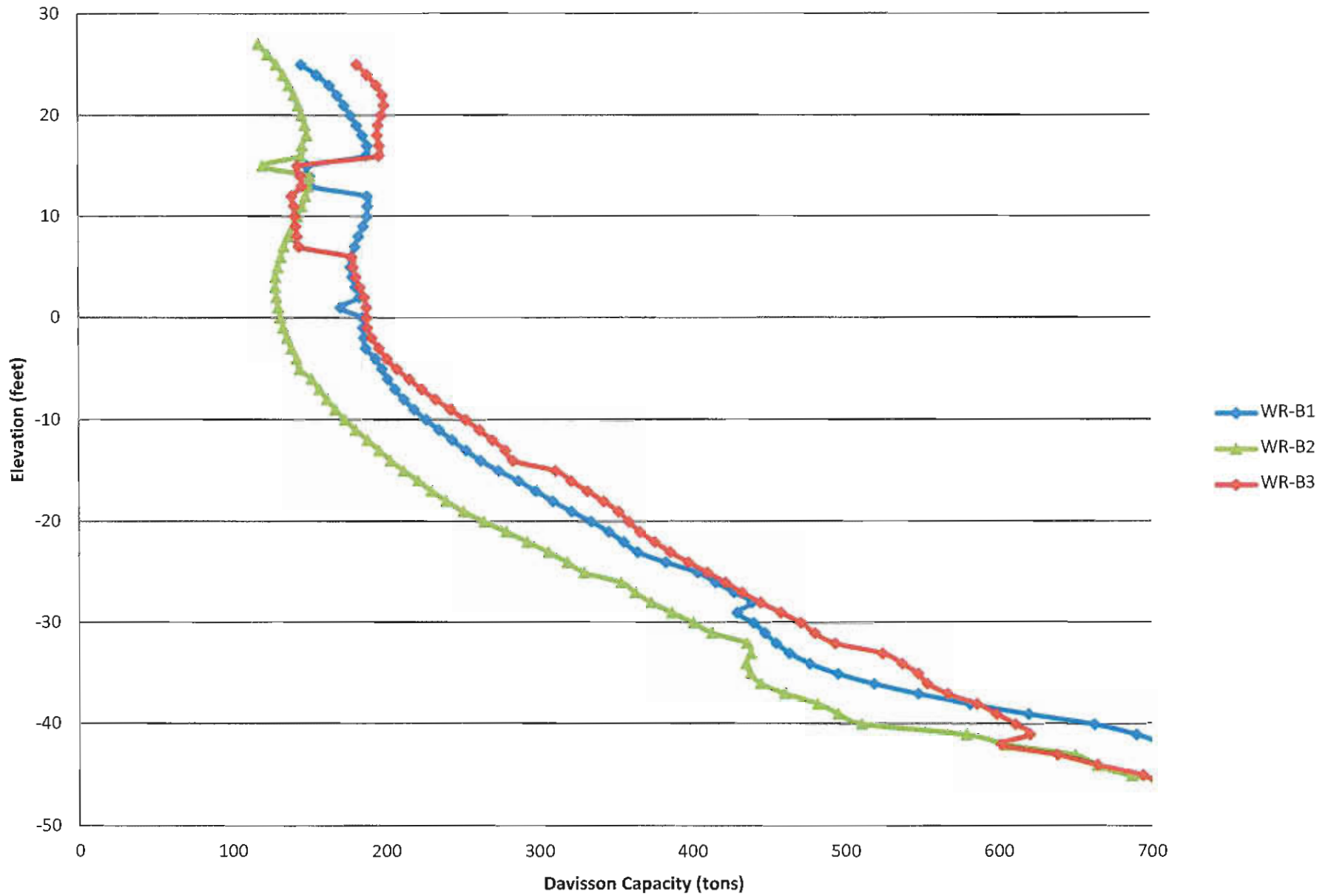
PILE CAPACITY CURVES AND COMPUTER OUTPUTS

- Bent 1 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 2 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 3 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 4 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 5 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 6 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 7 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 8 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 9 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 10 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 11 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- Bent 12 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)

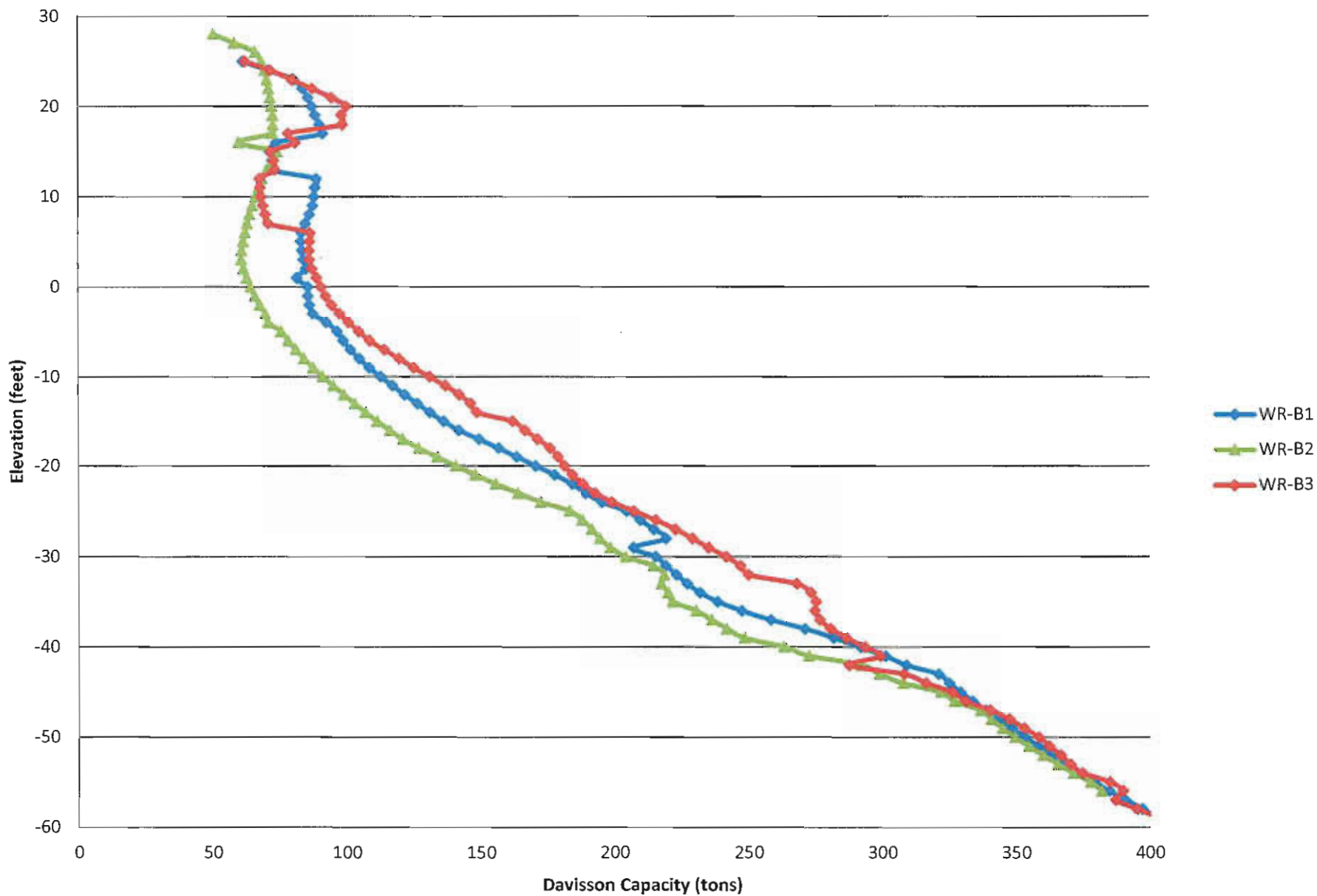
Bent 1 - 24" PCP



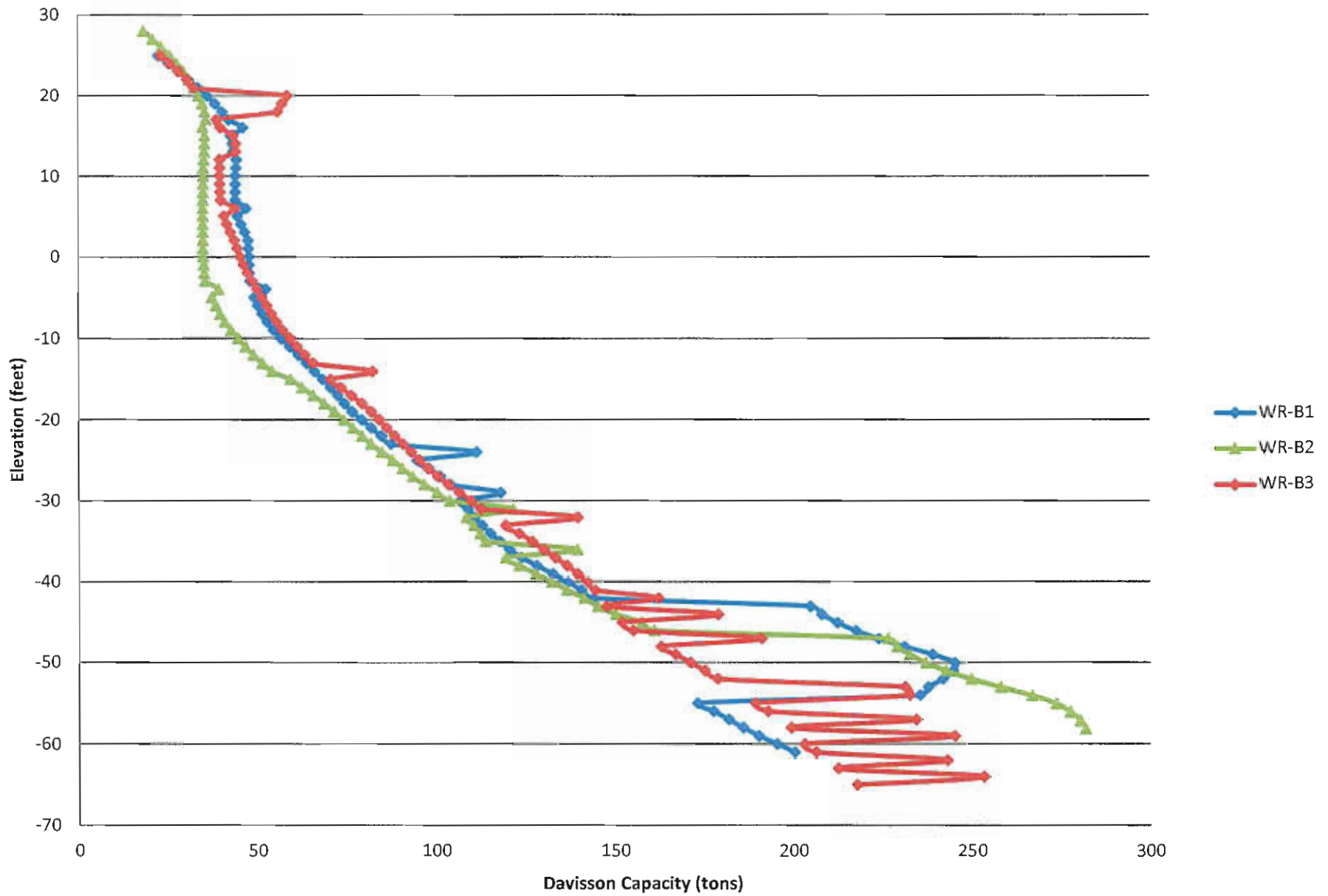
Bent 1 - 30" PCP



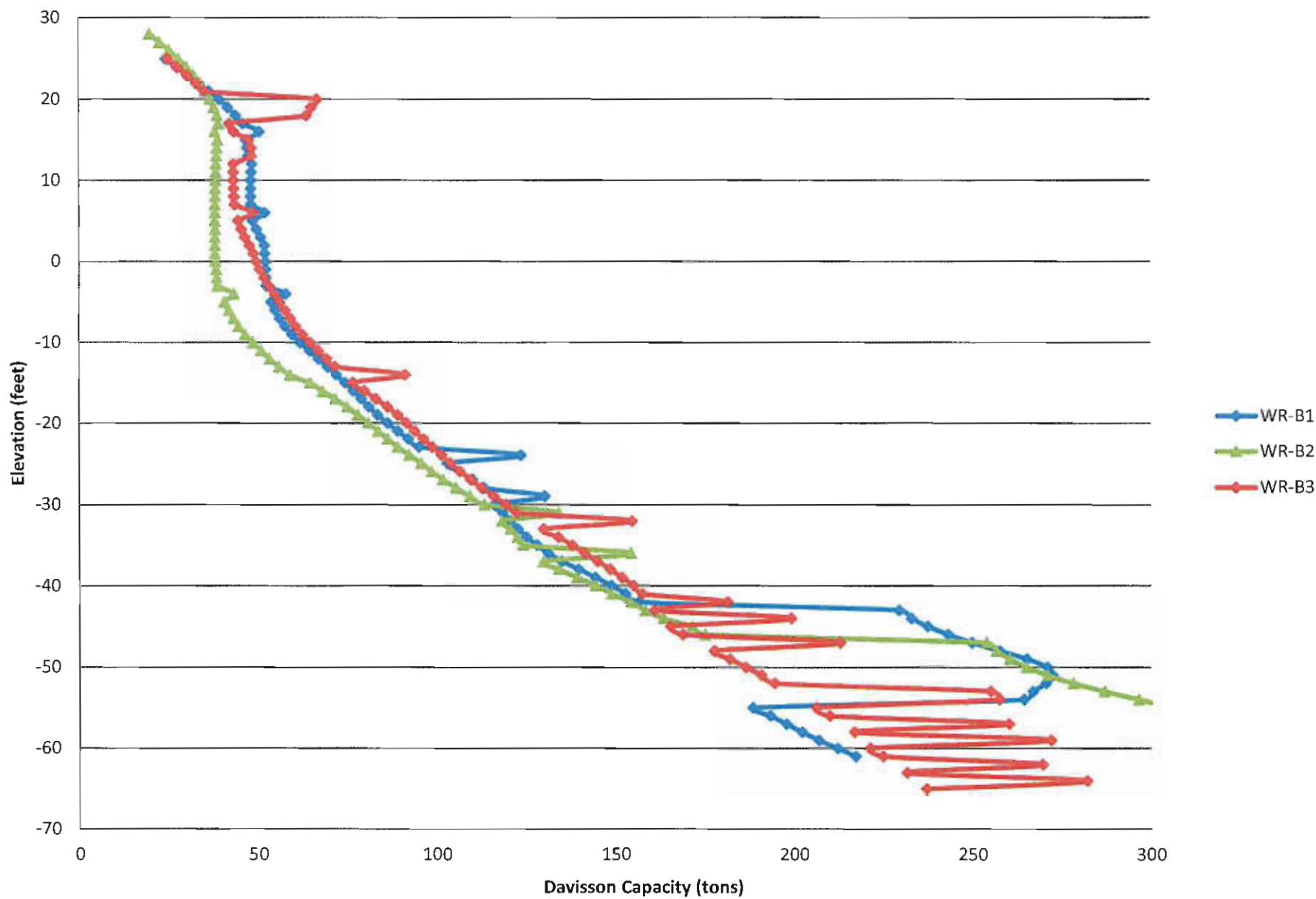
Bent 1 - 24" Pipe Pile



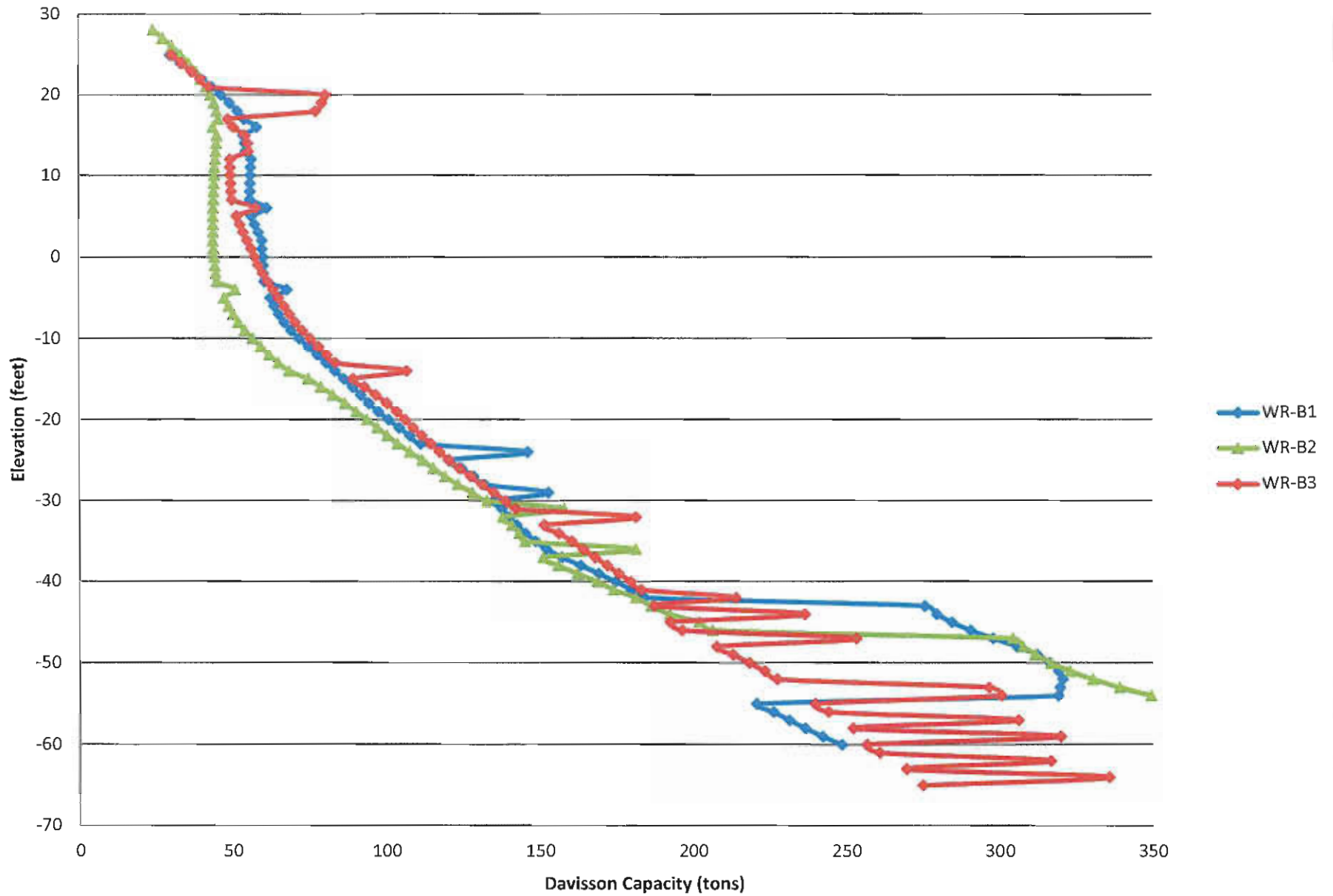
Bent 1 - HP14x117



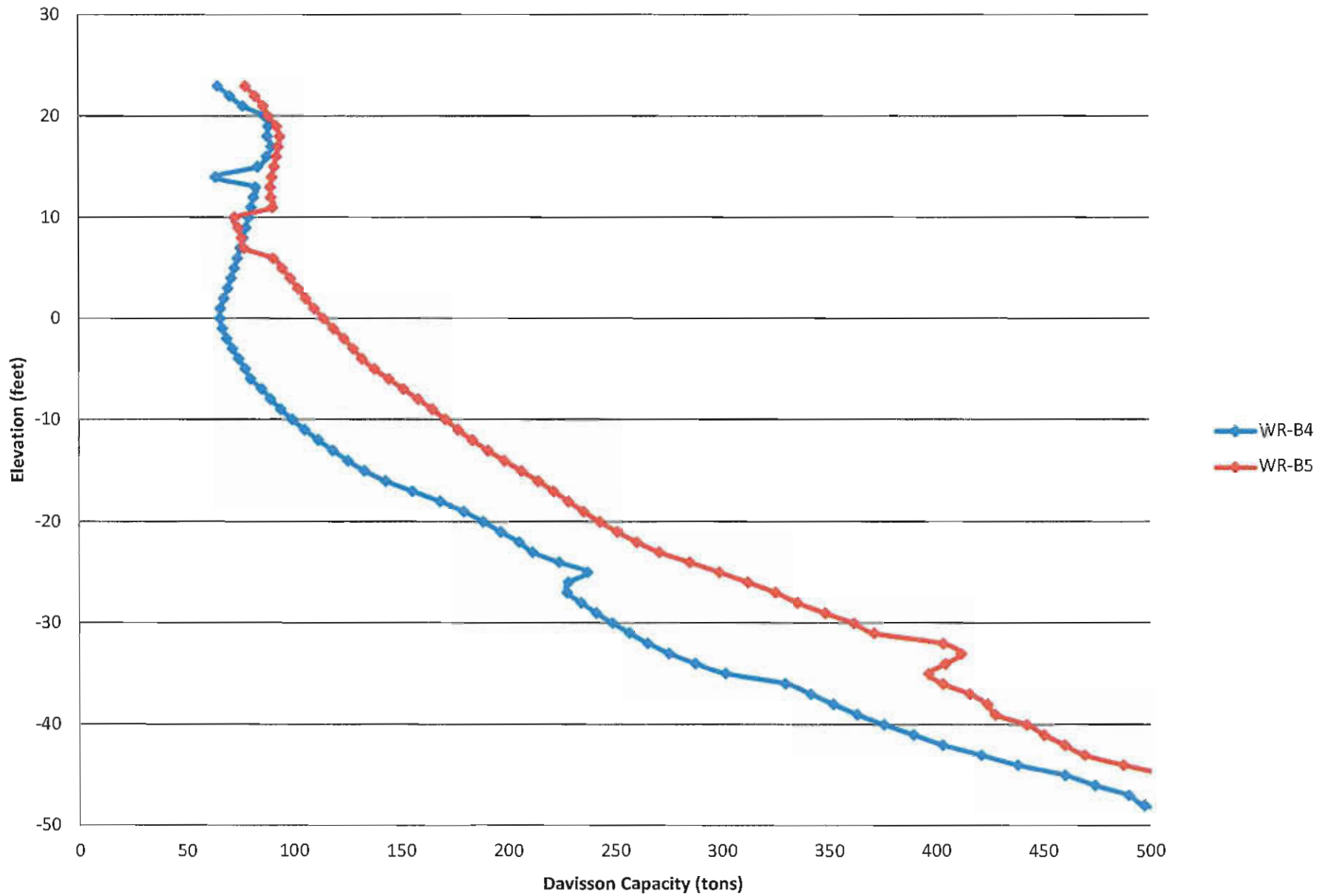
Bent 1 - HP16x121



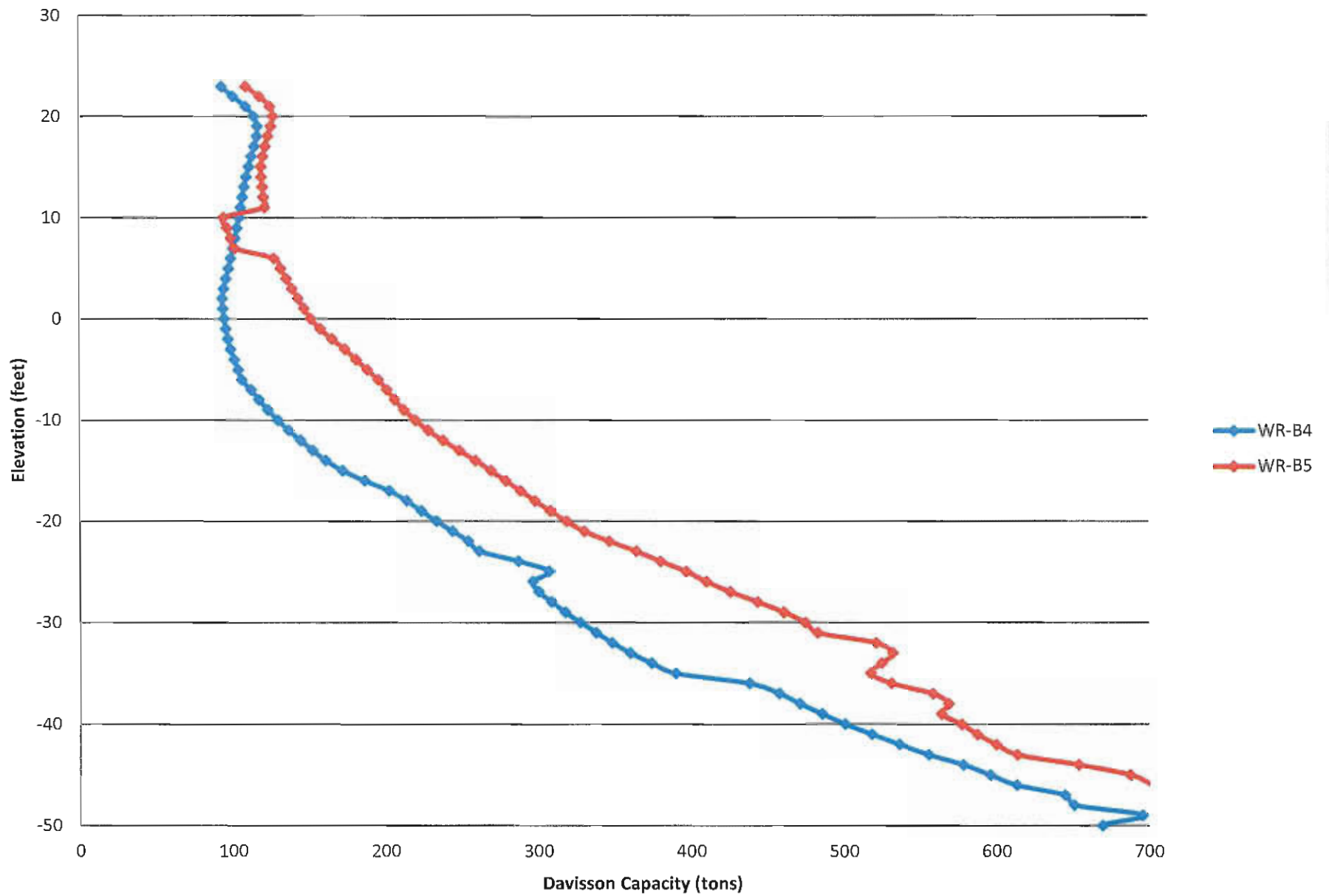
Bent 1 - HP18x204



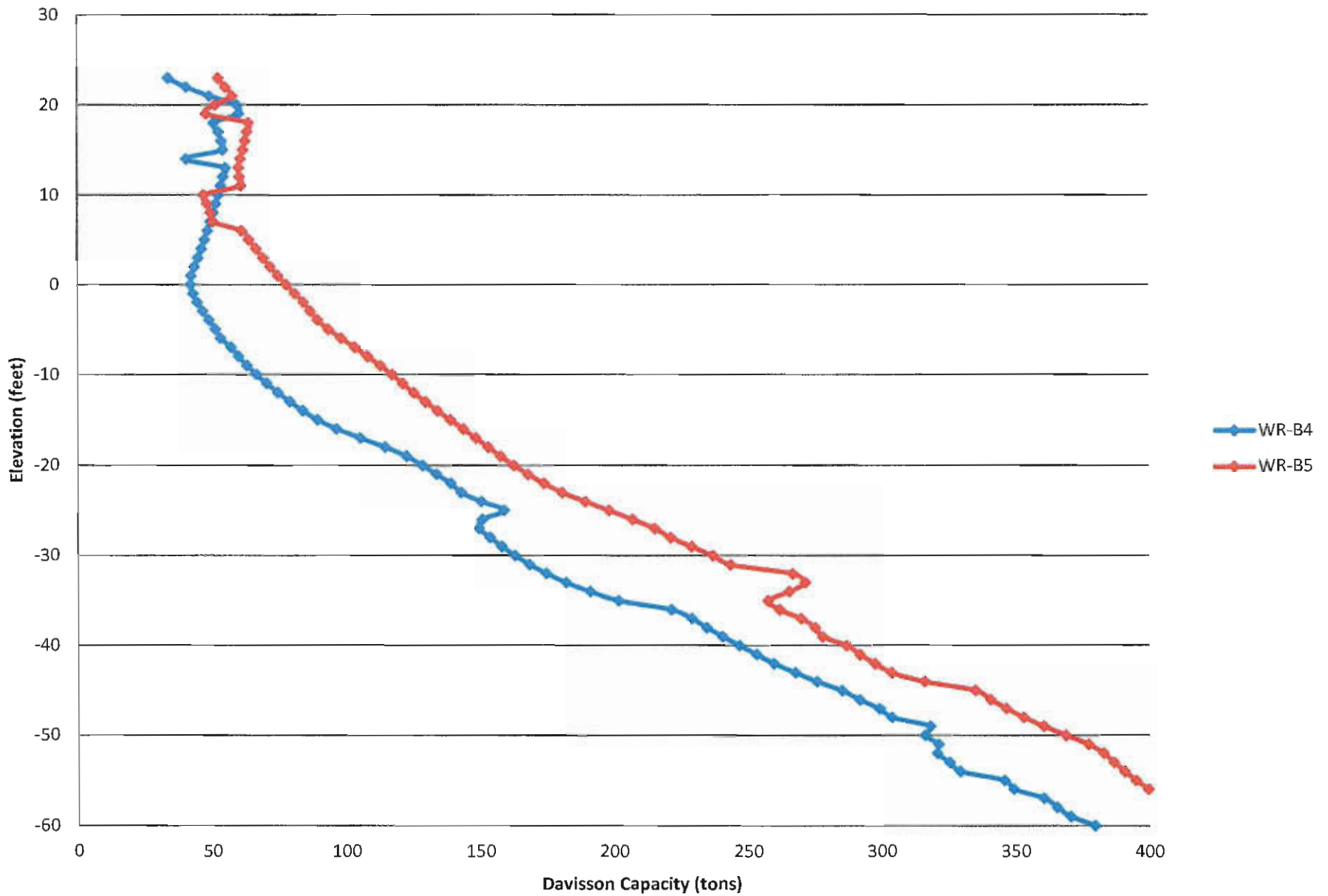
Bent 2 - 24" PCP



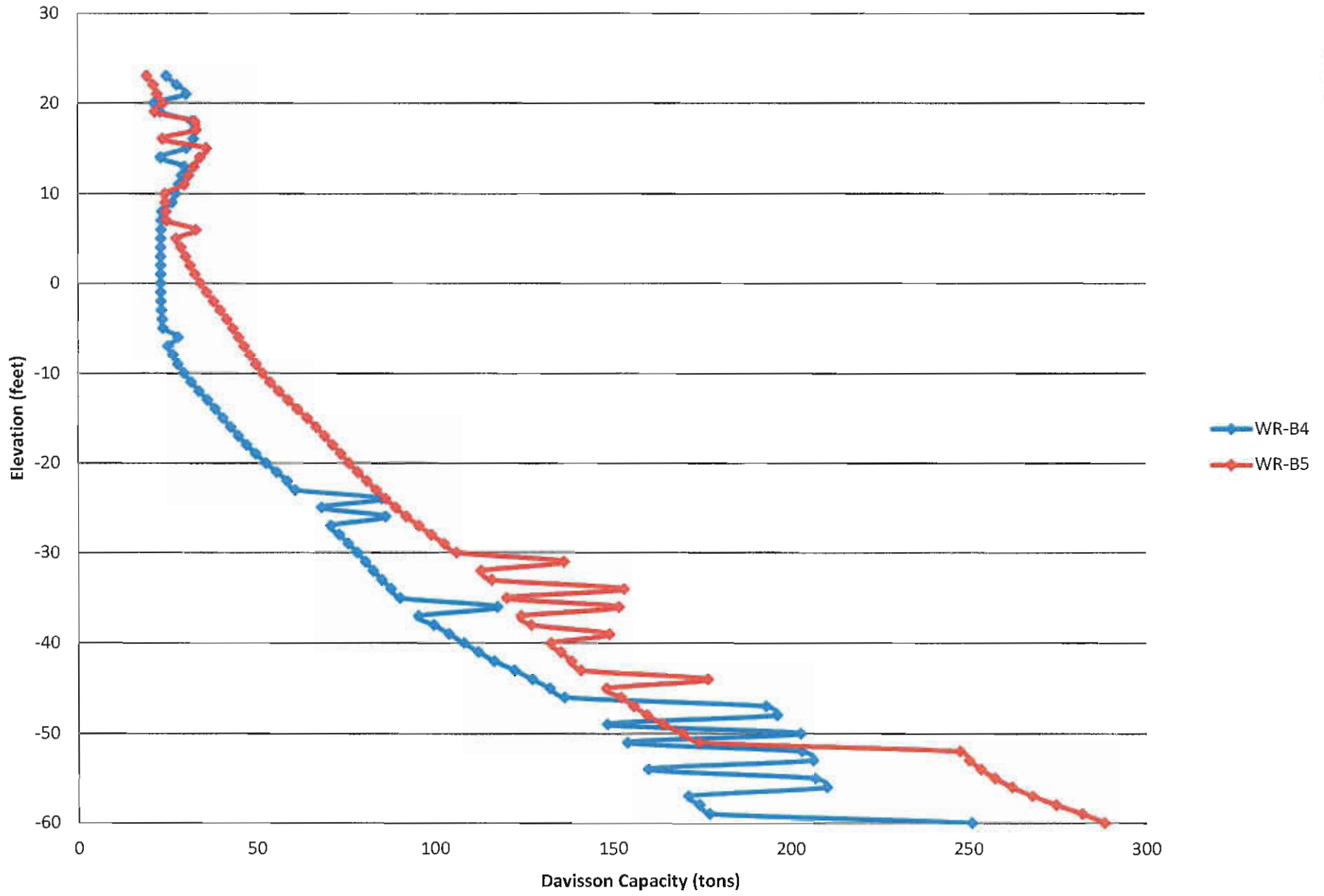
Bent 2 - 30" PCP



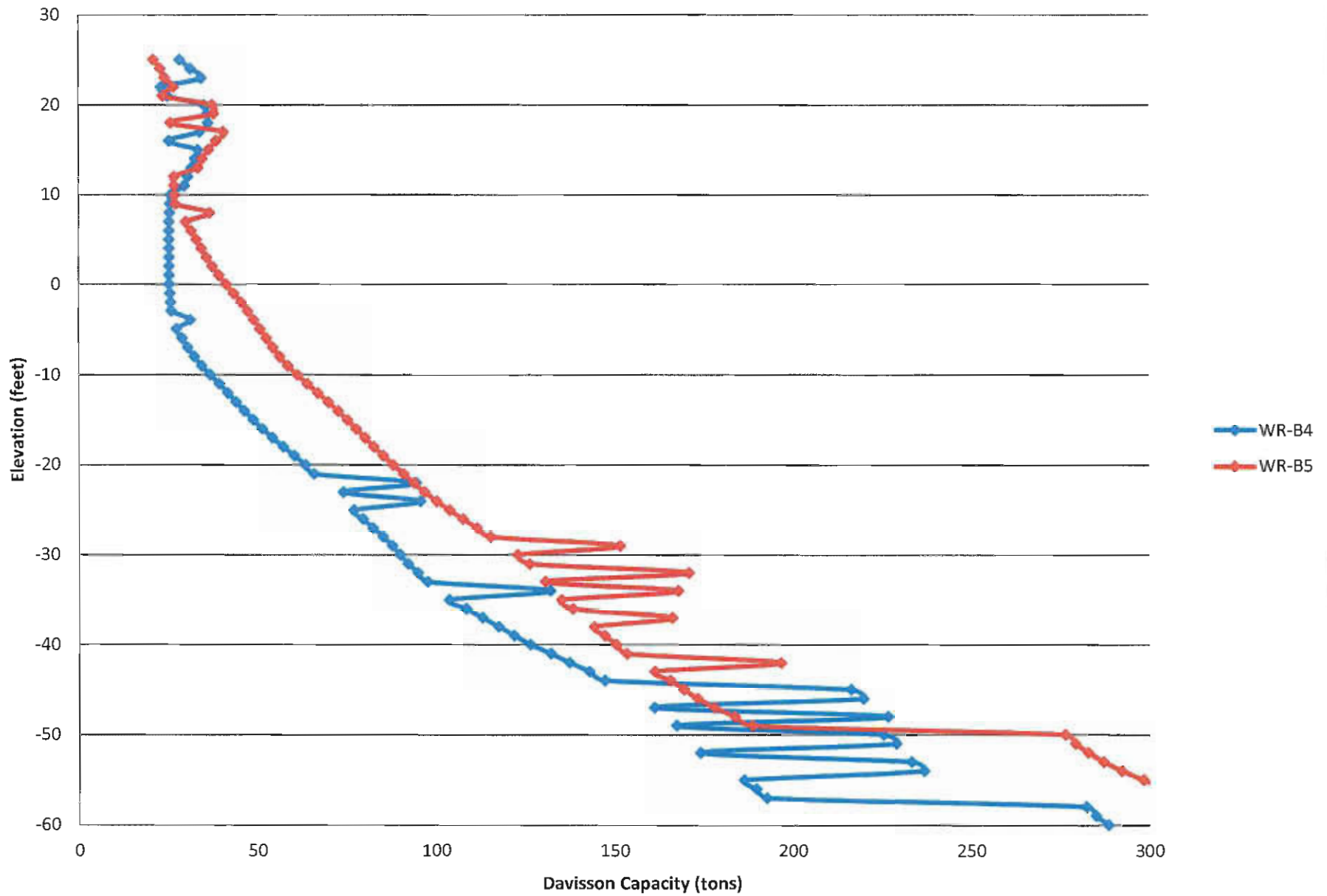
Bent 2 - 24" Pipe Pile



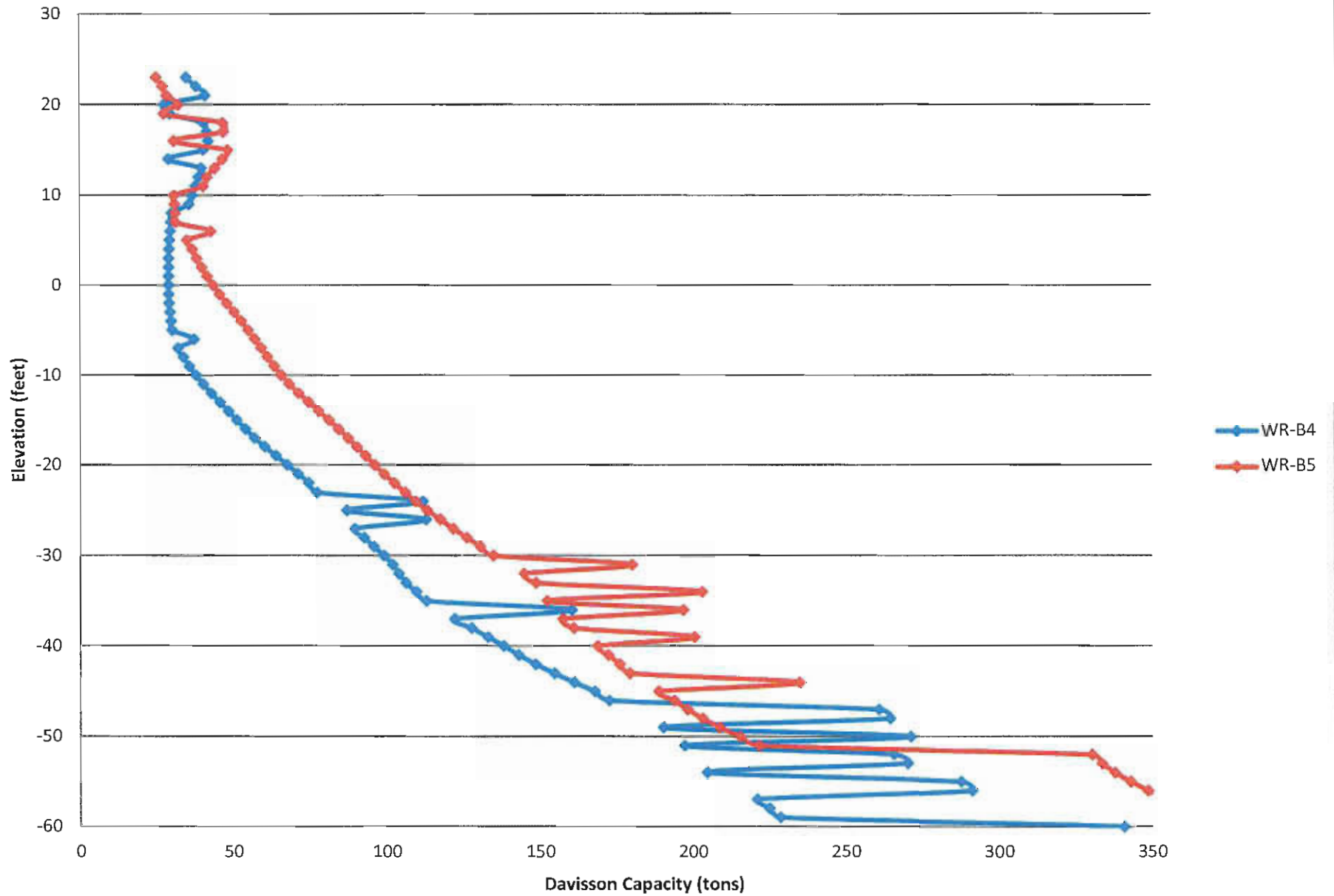
Bent 2 - HP14x117



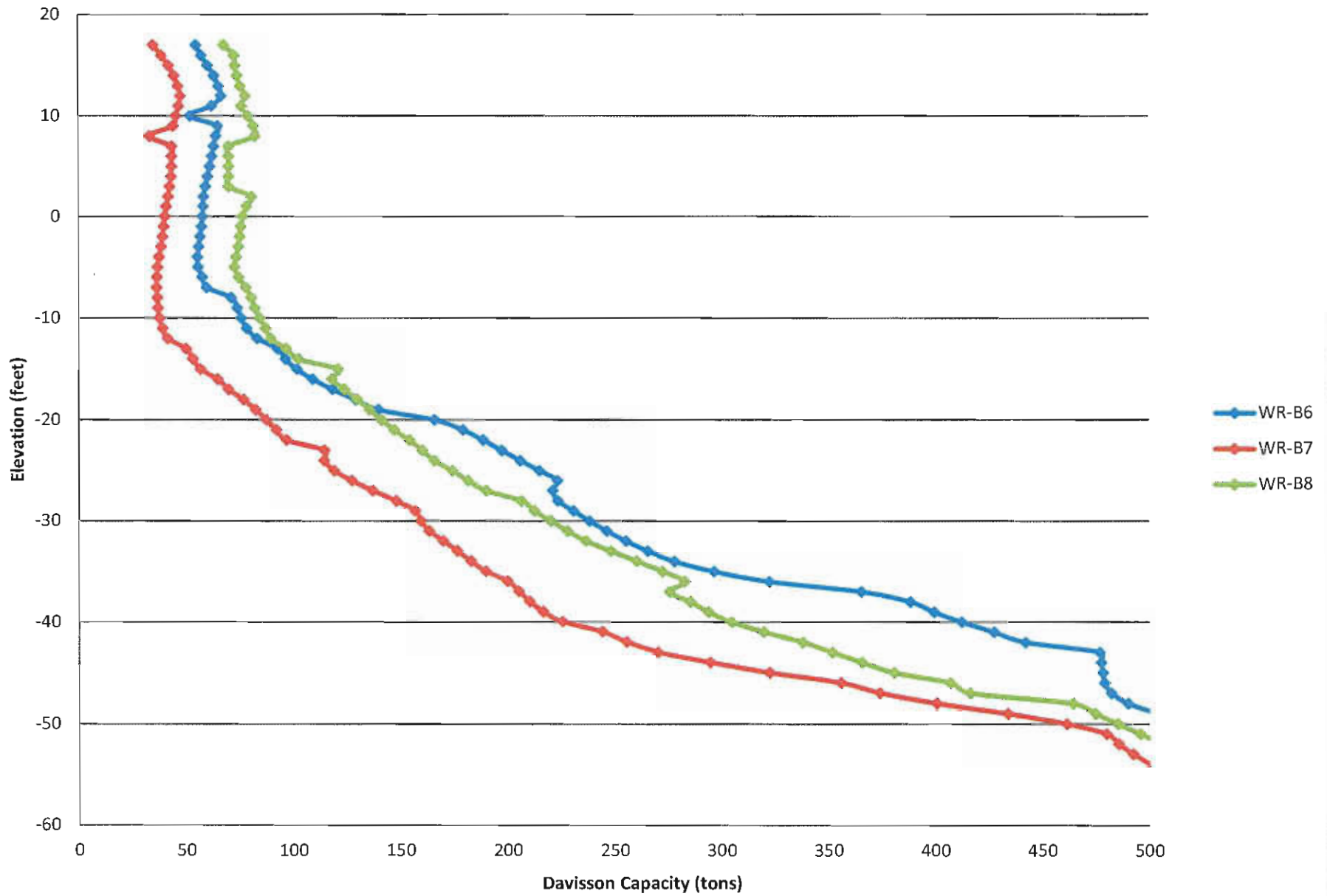
Bent 2 - HP16x121



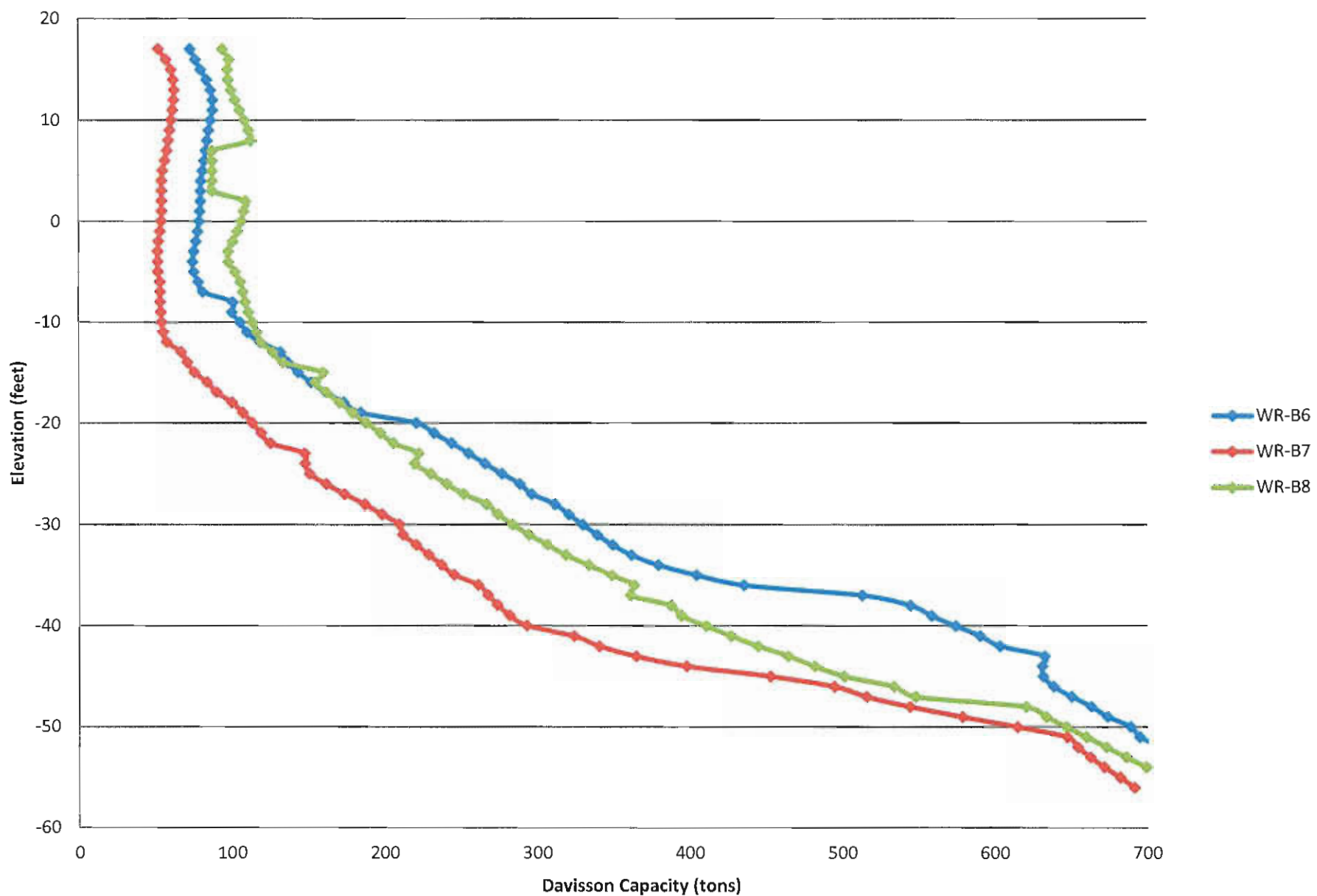
Bent 2 - HP18x204



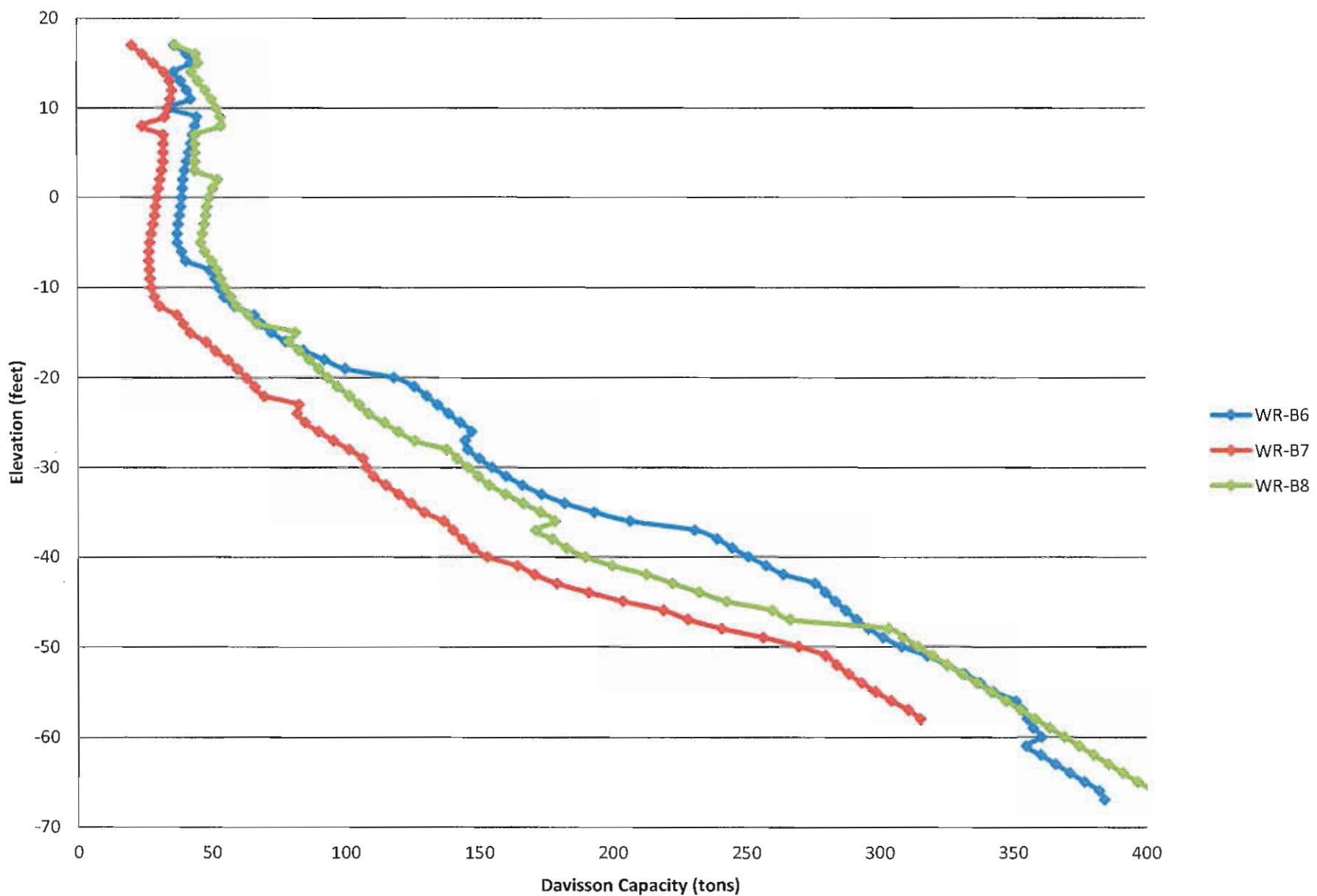
Bent 3 - 24" PCP



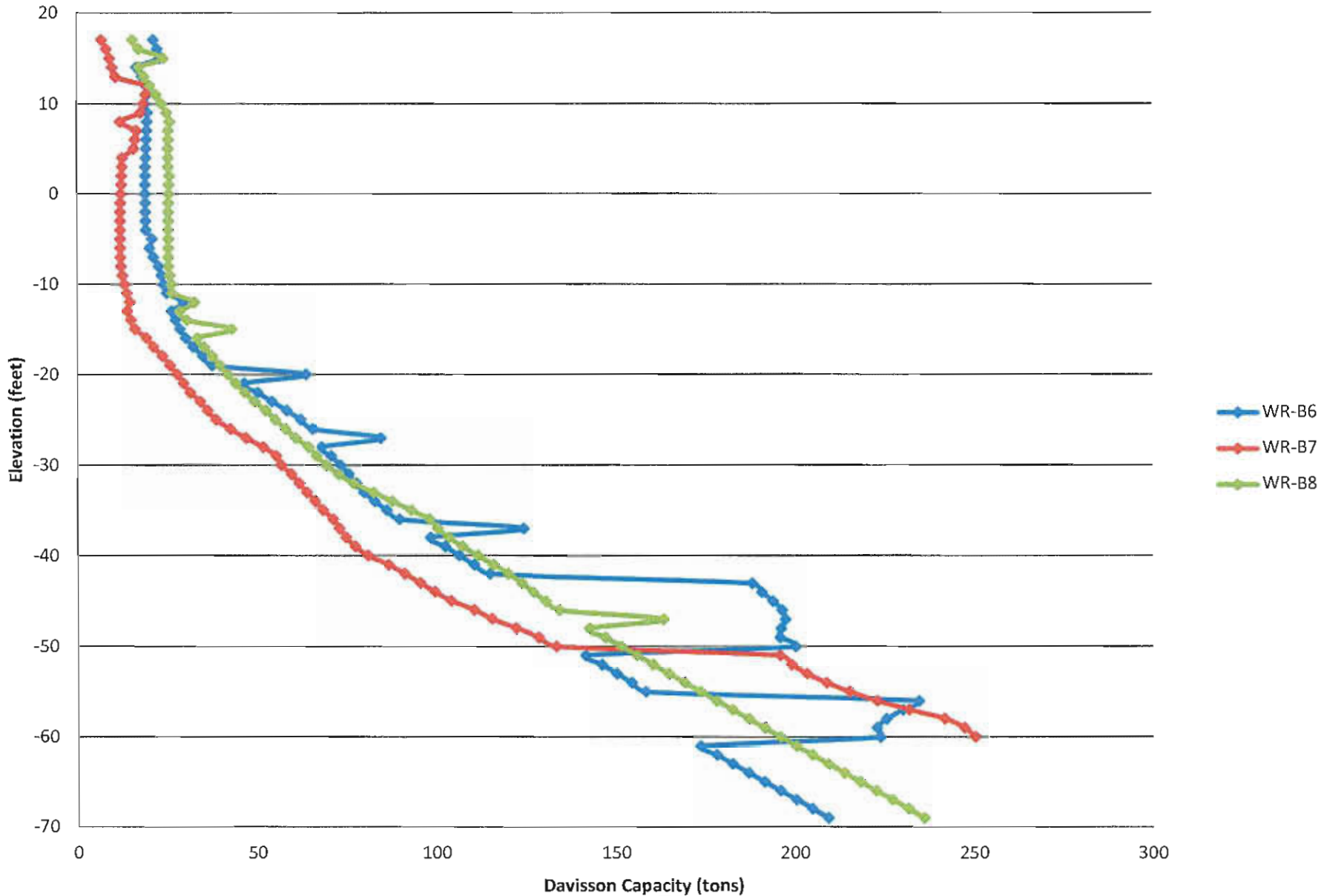
Bent 3 - 30" PCP



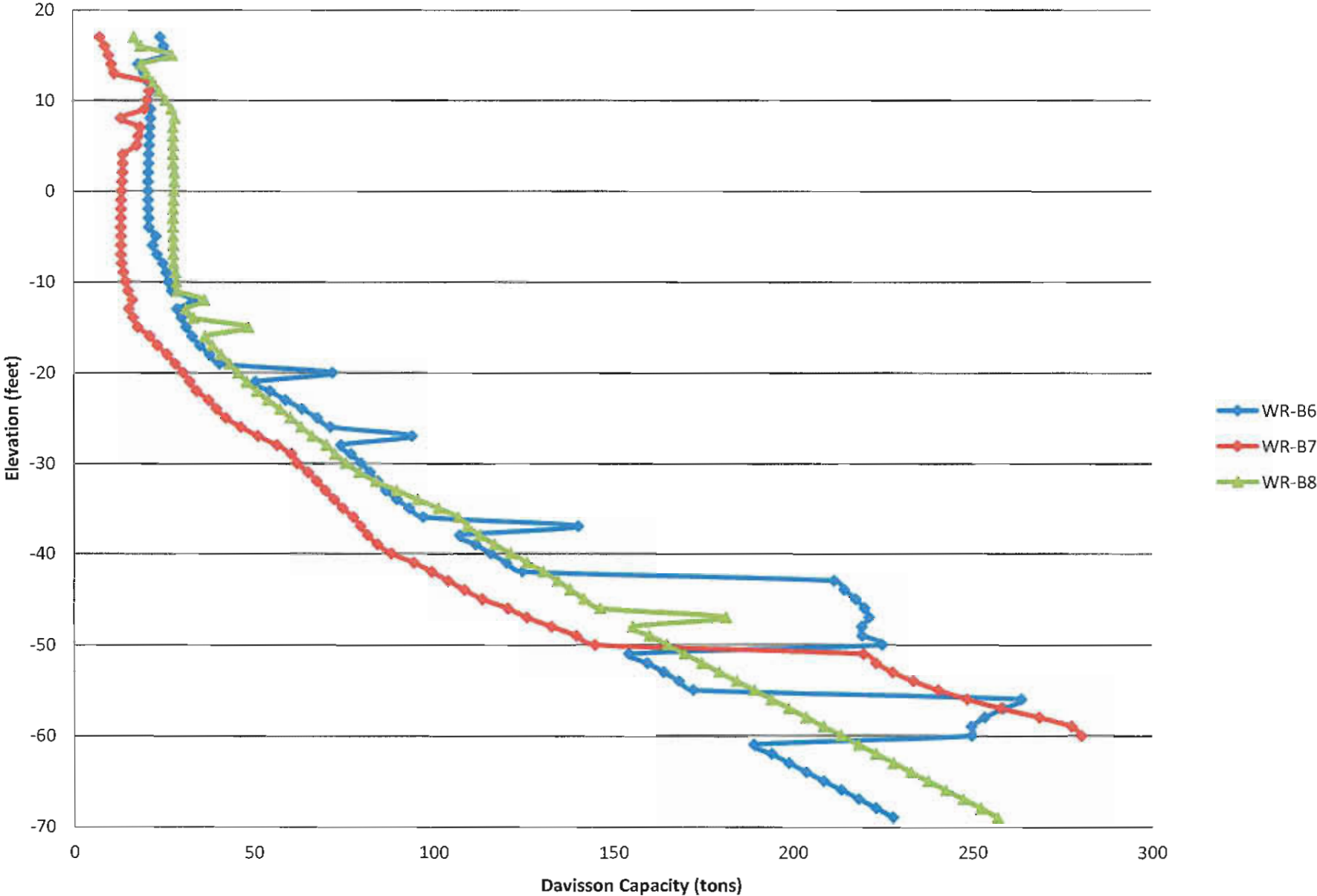
Bent 3 - 24" Pipe Pile



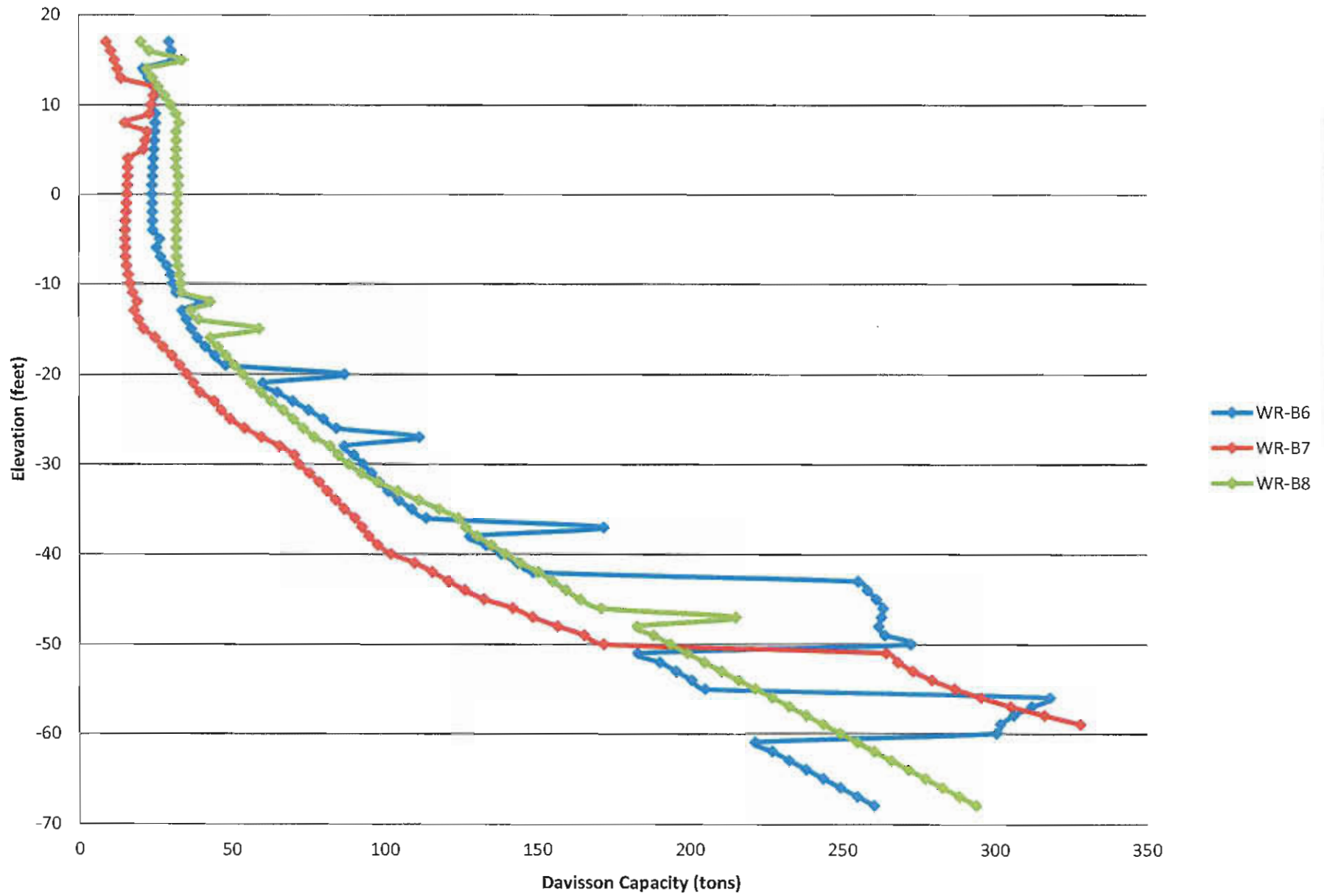
Bent 3 - HP14x117



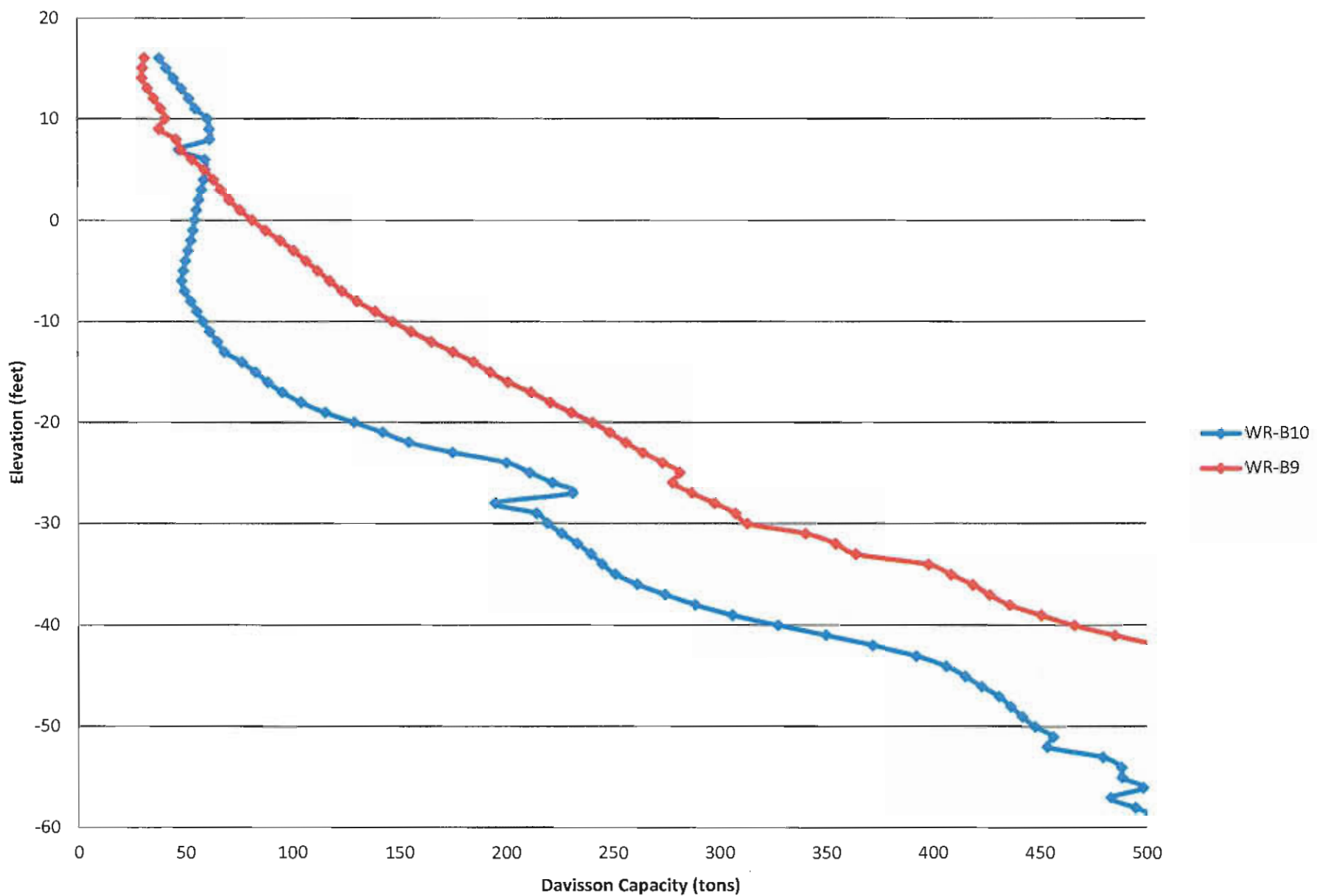
Bent 3 - HP16x121



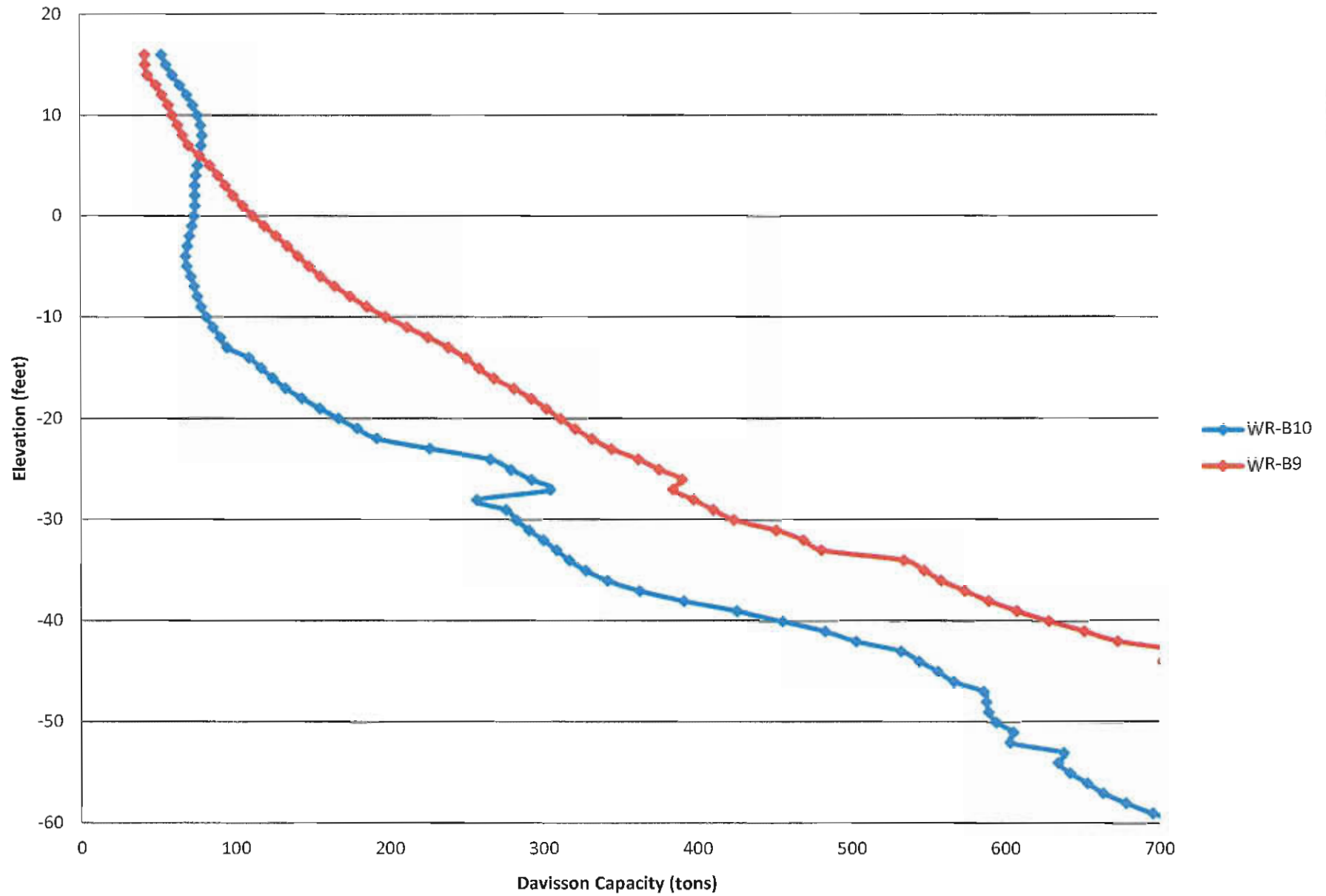
Bent 3 - HP18x204



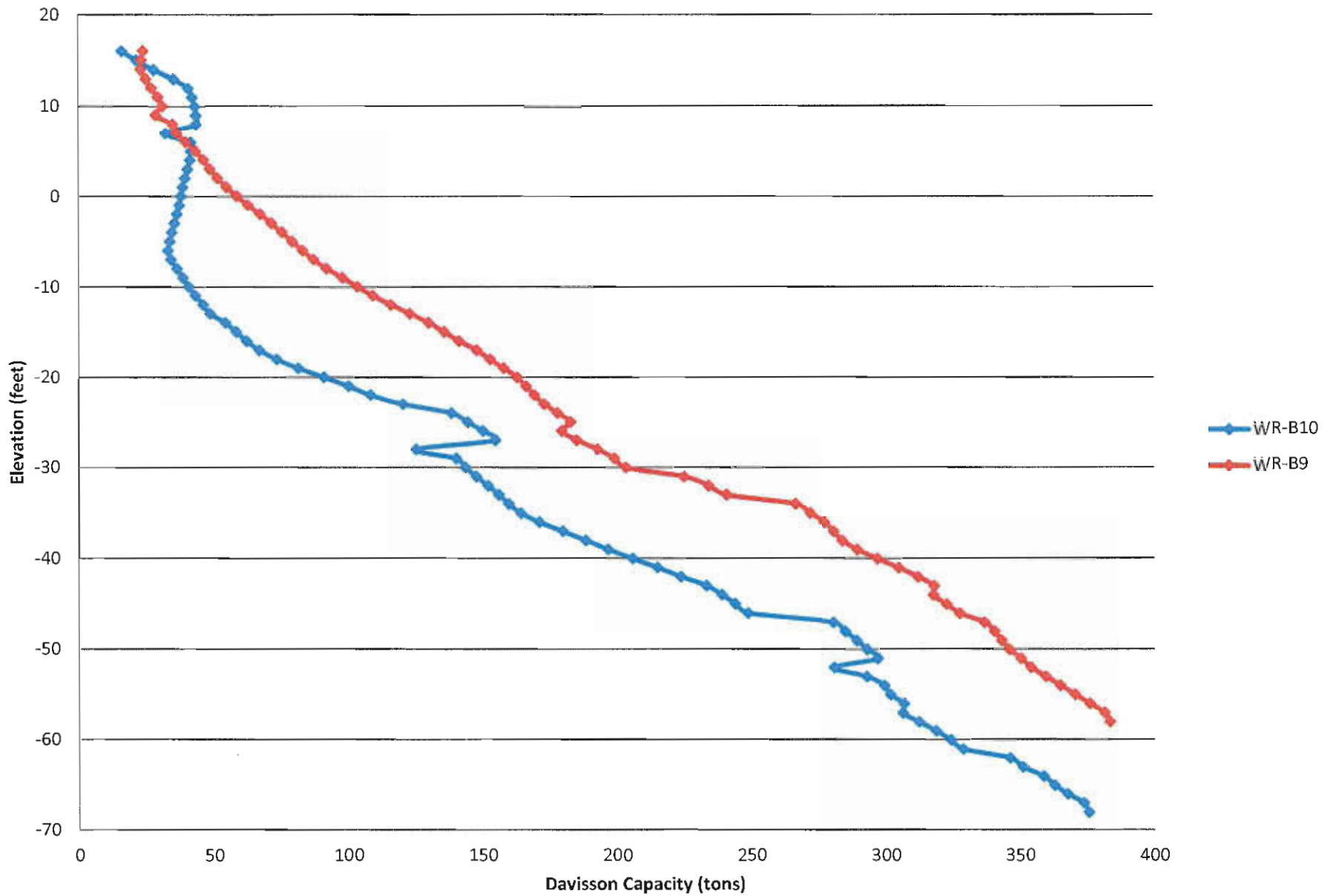
Bent 4 - 24" PCP



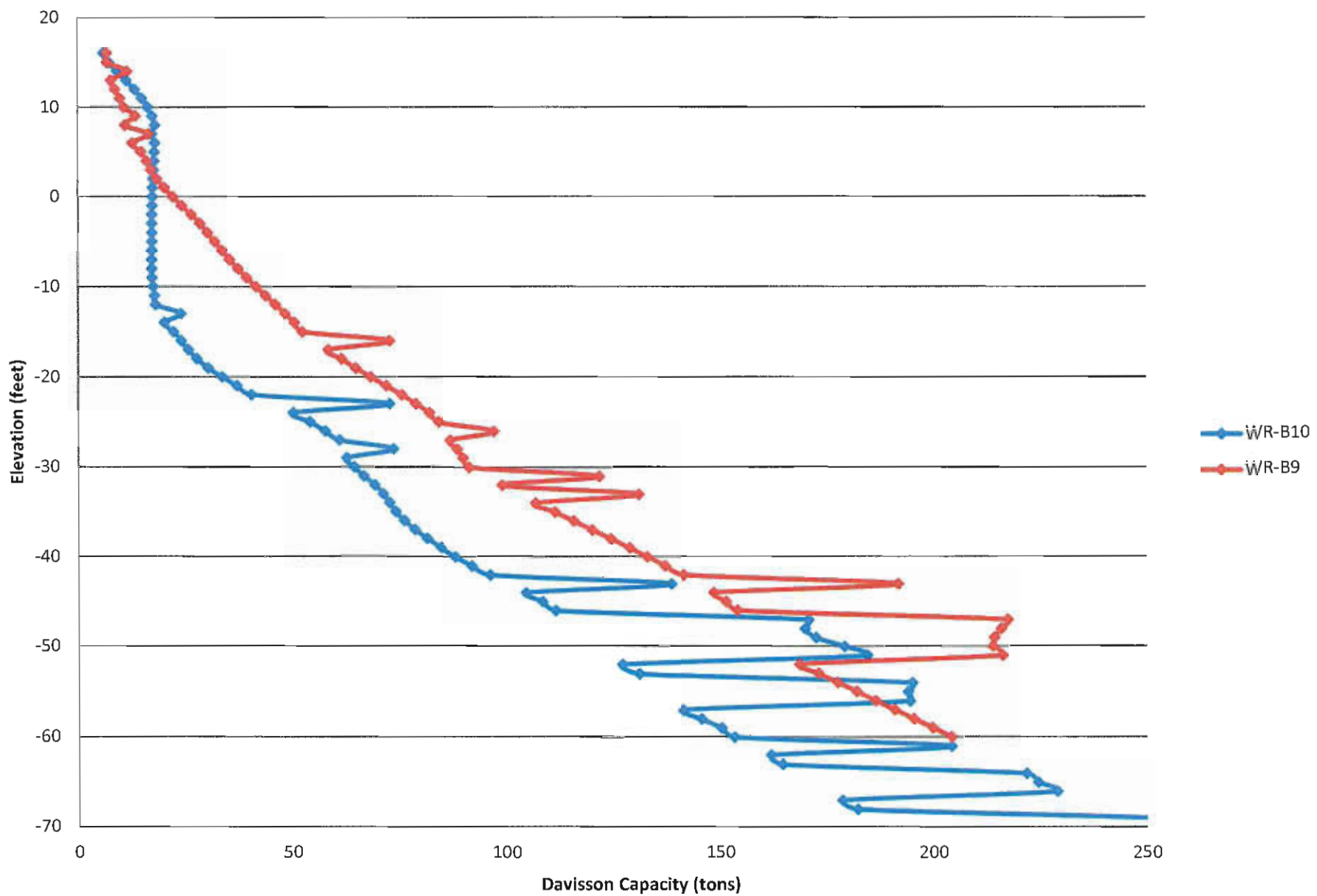
Bent 4 - 30" PCP



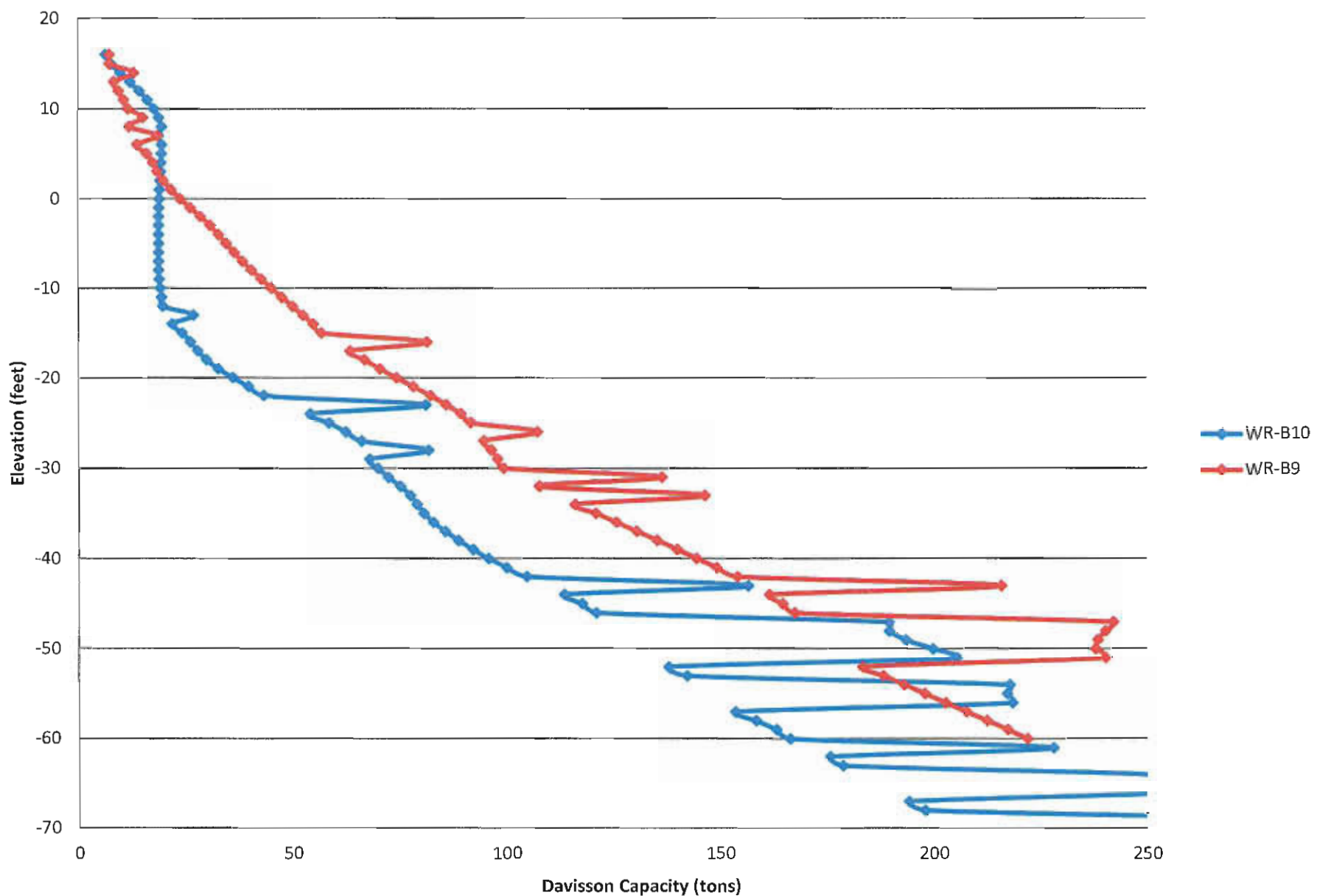
Bent 4 - 24" Pipe Pile



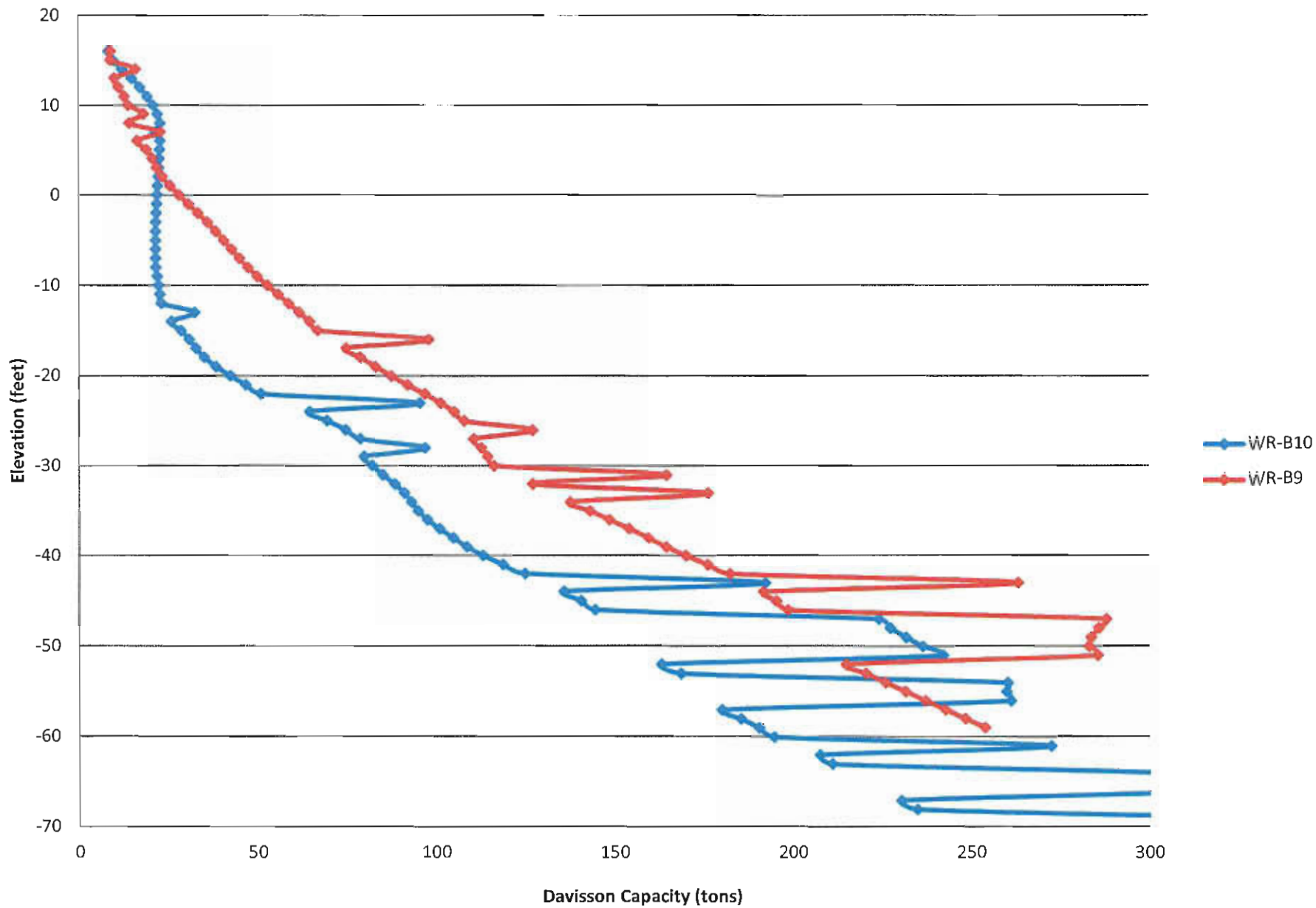
Bent 4 - HP14x117



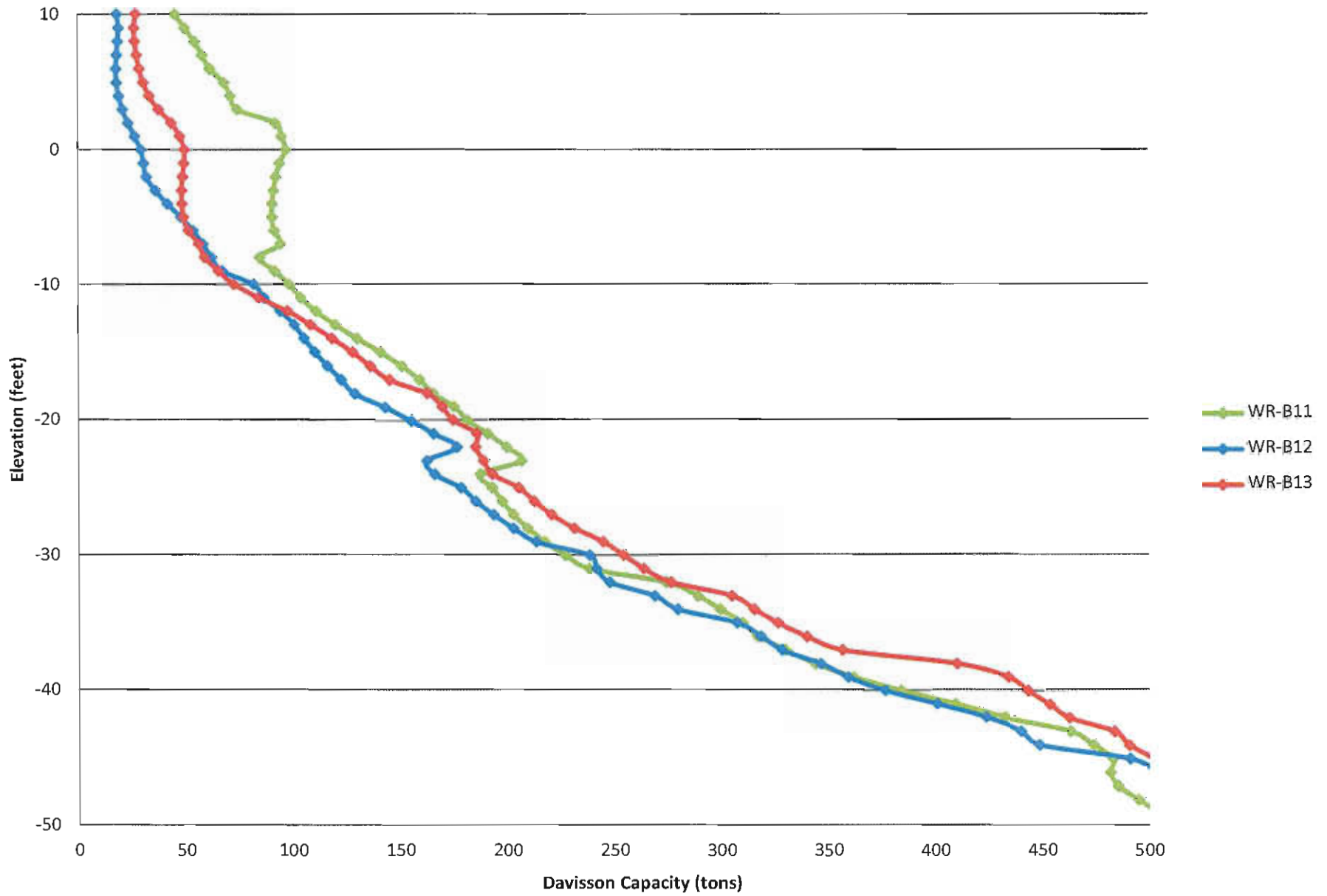
Bent 4 - HP16x121



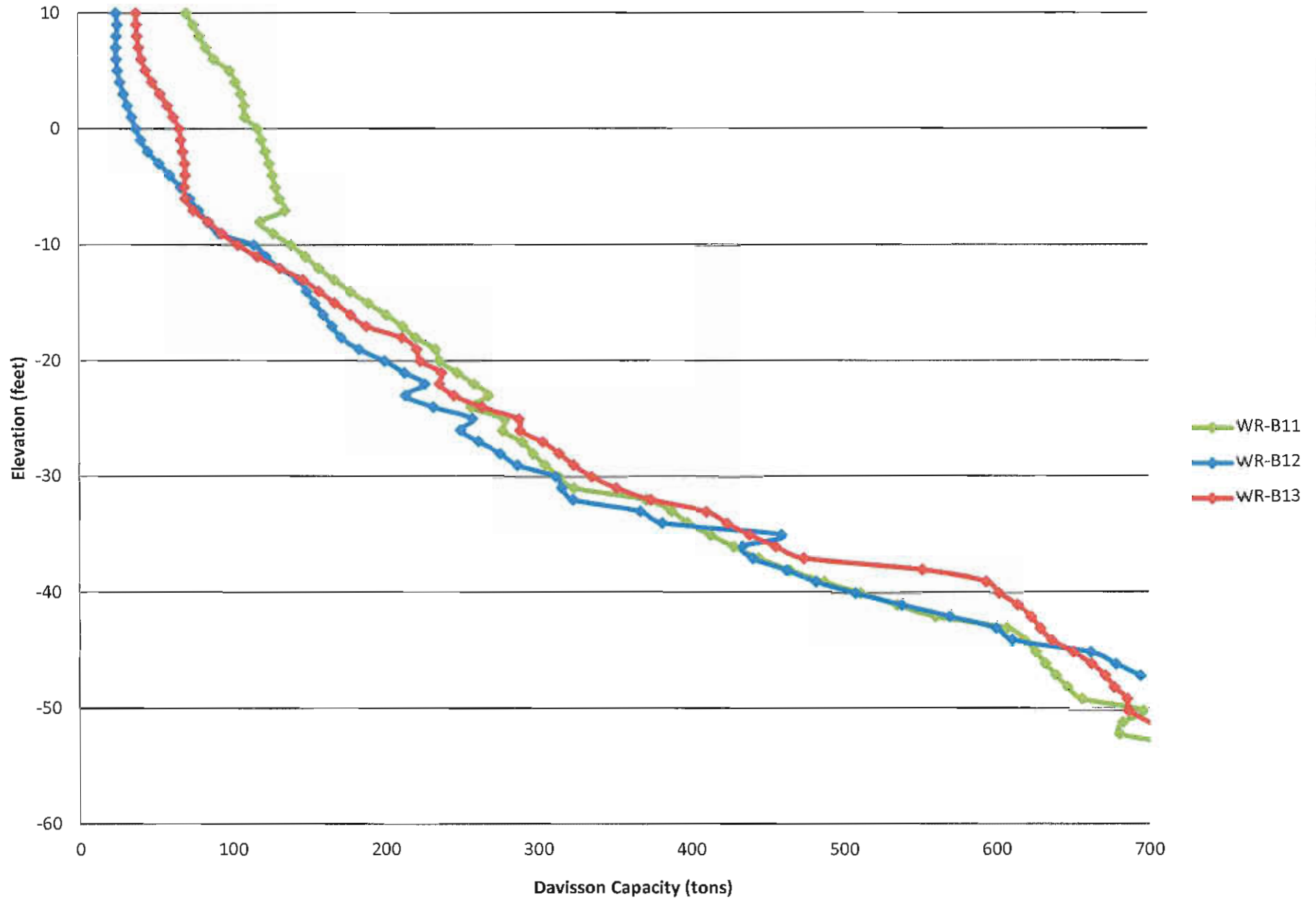
Bent 4 - HP18x204



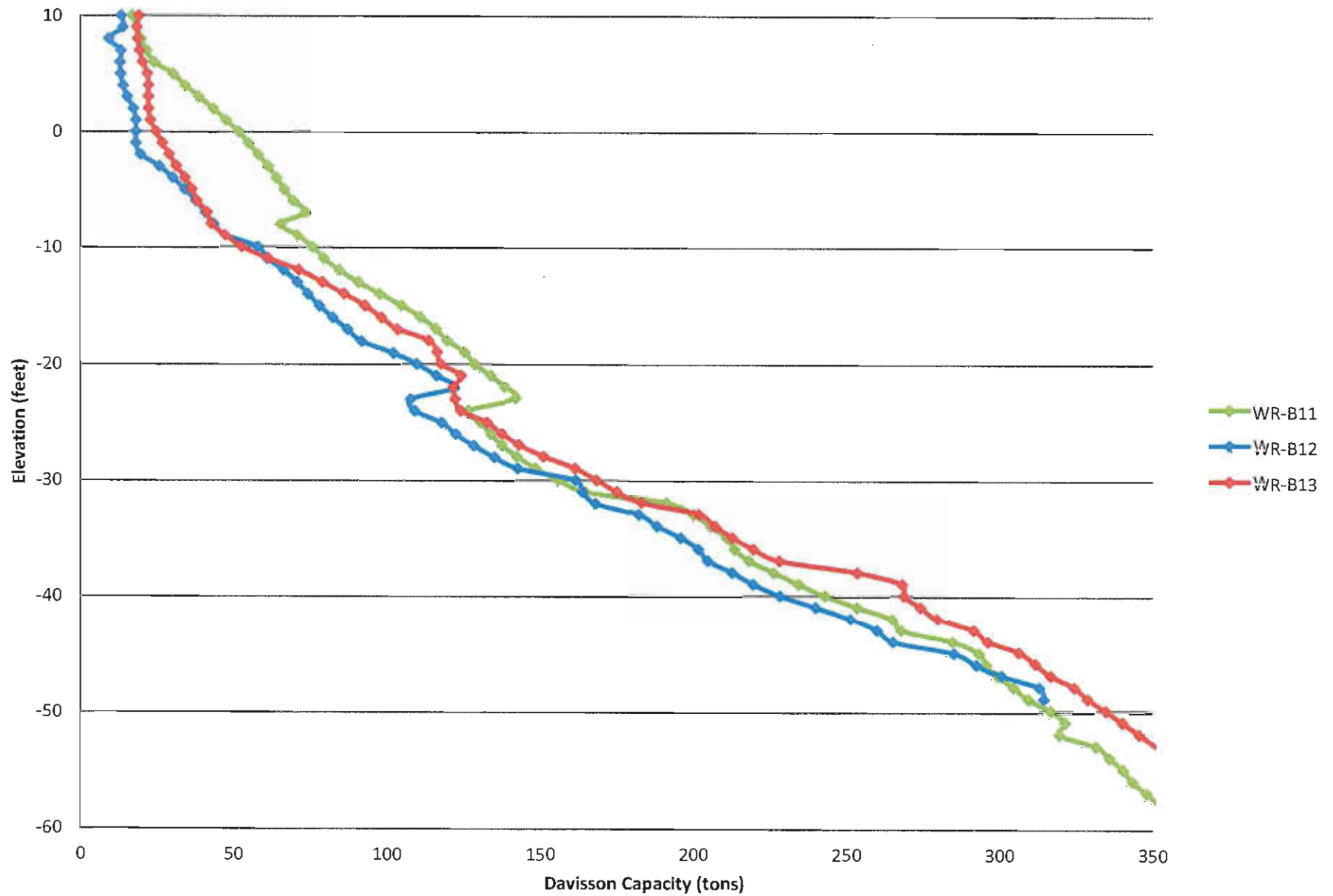
Bent 5 - 24" PCP



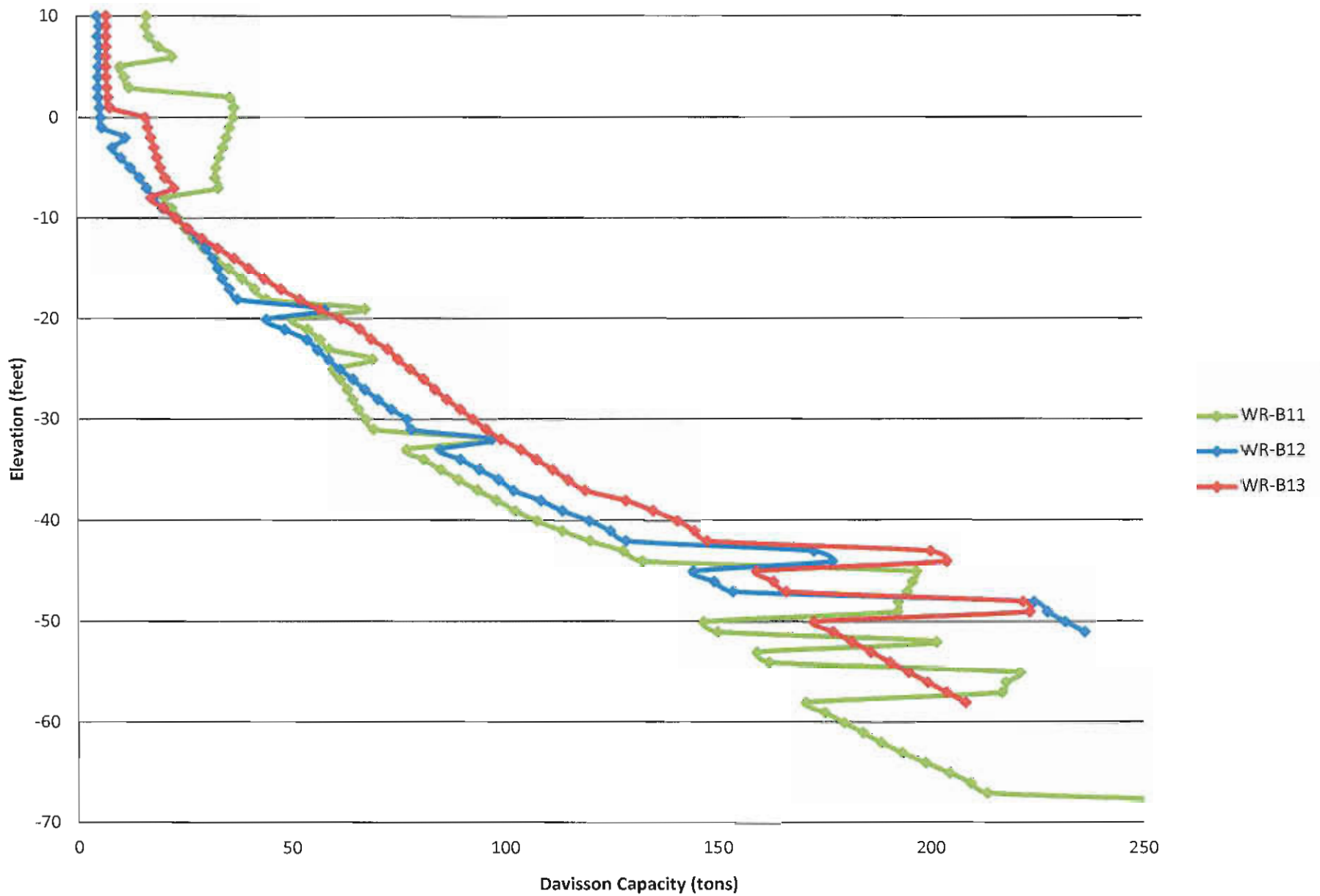
Bent 5 - 30" PCP



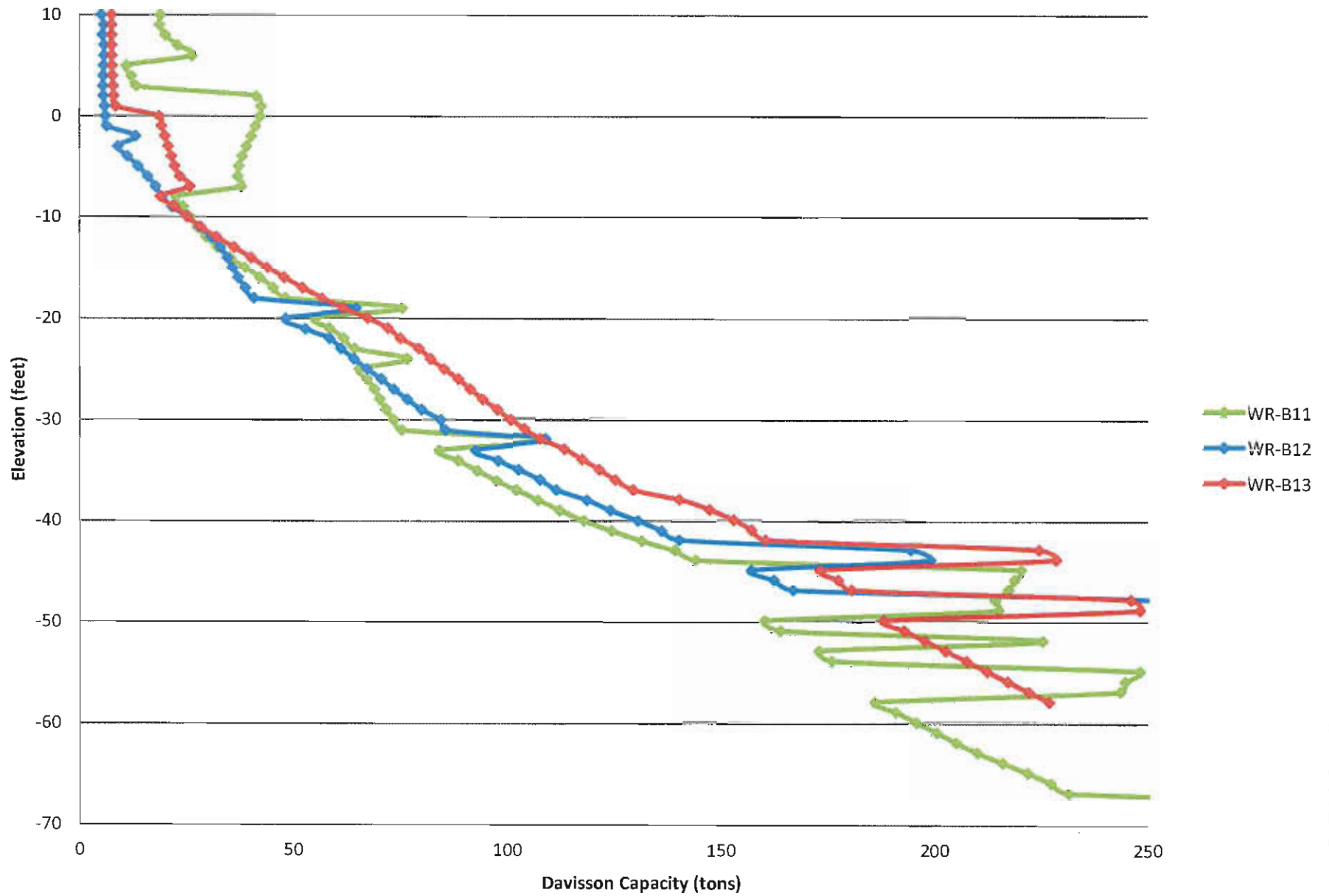
Bent 5 - 24" Pipe Pile



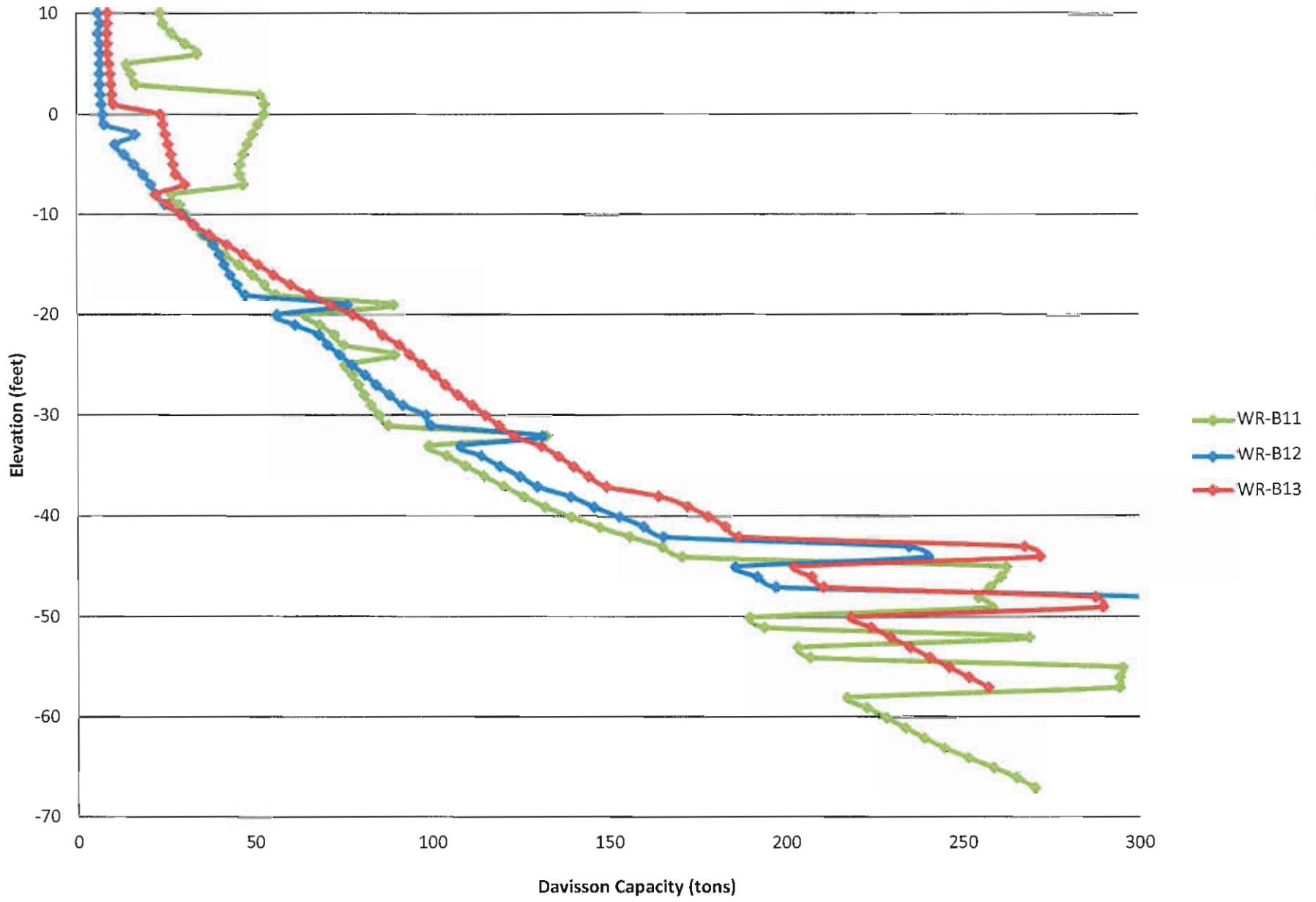
Bent 5 - HP14x117



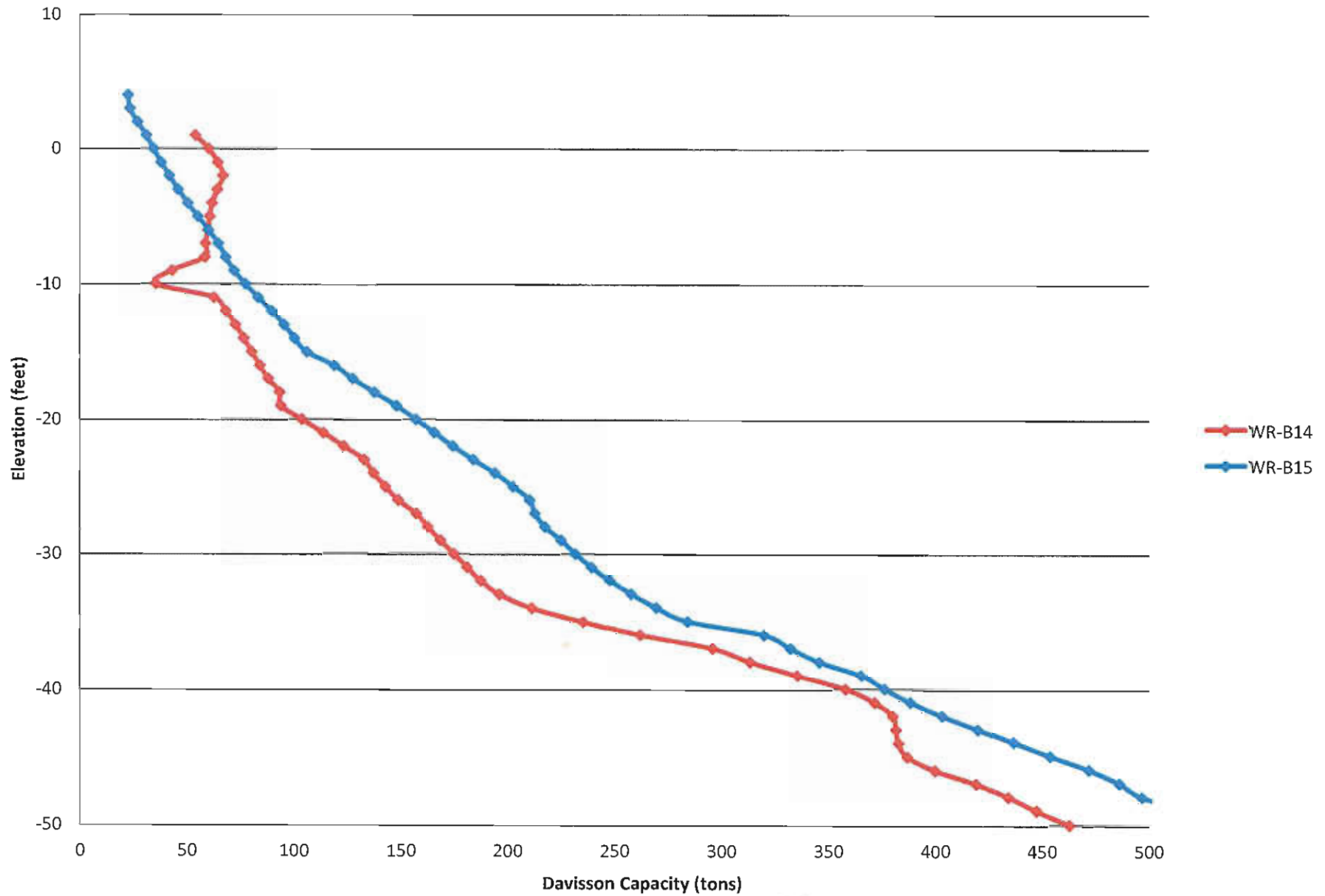
Bent 5 - HP16x121



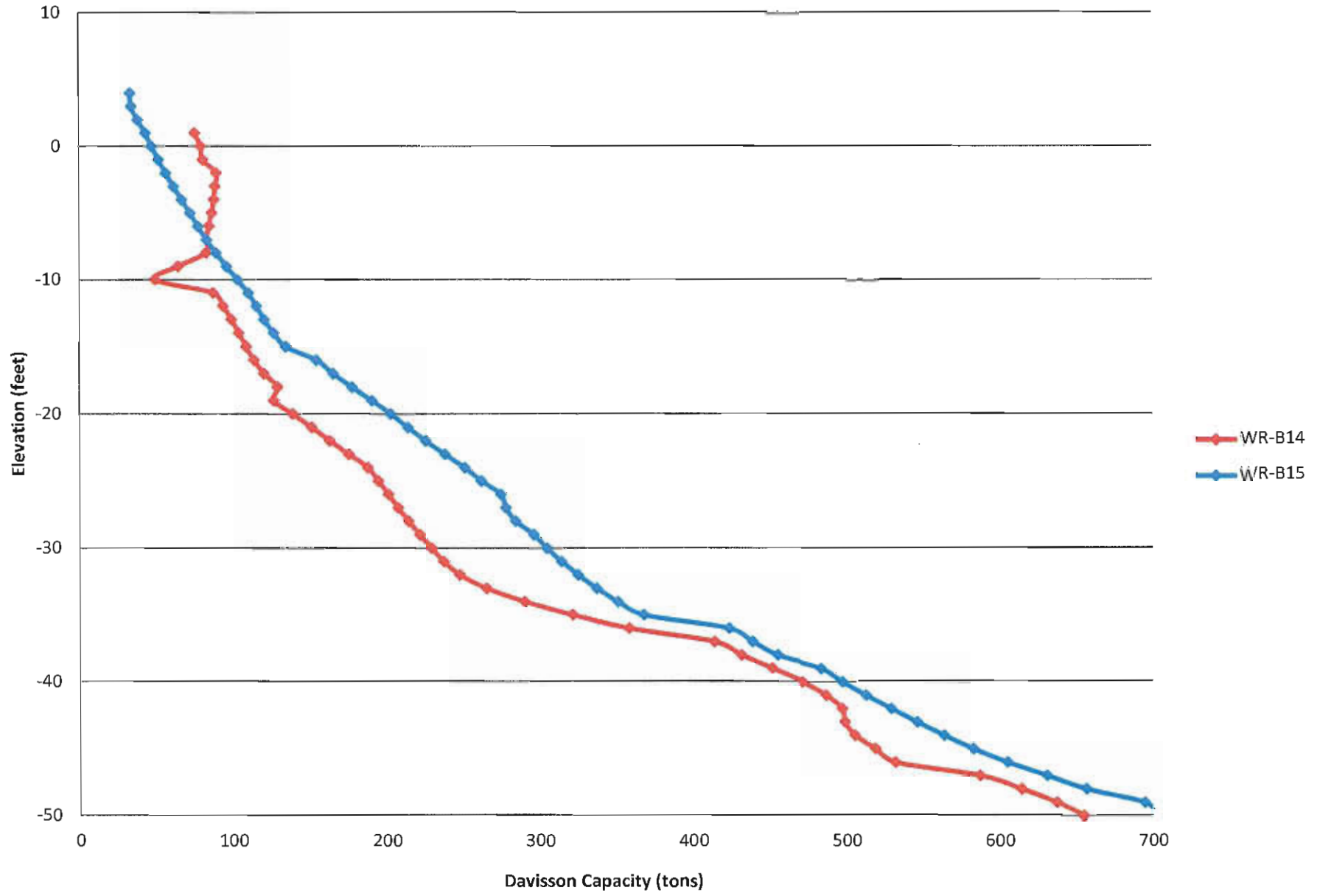
Bent 5 - HP18x204



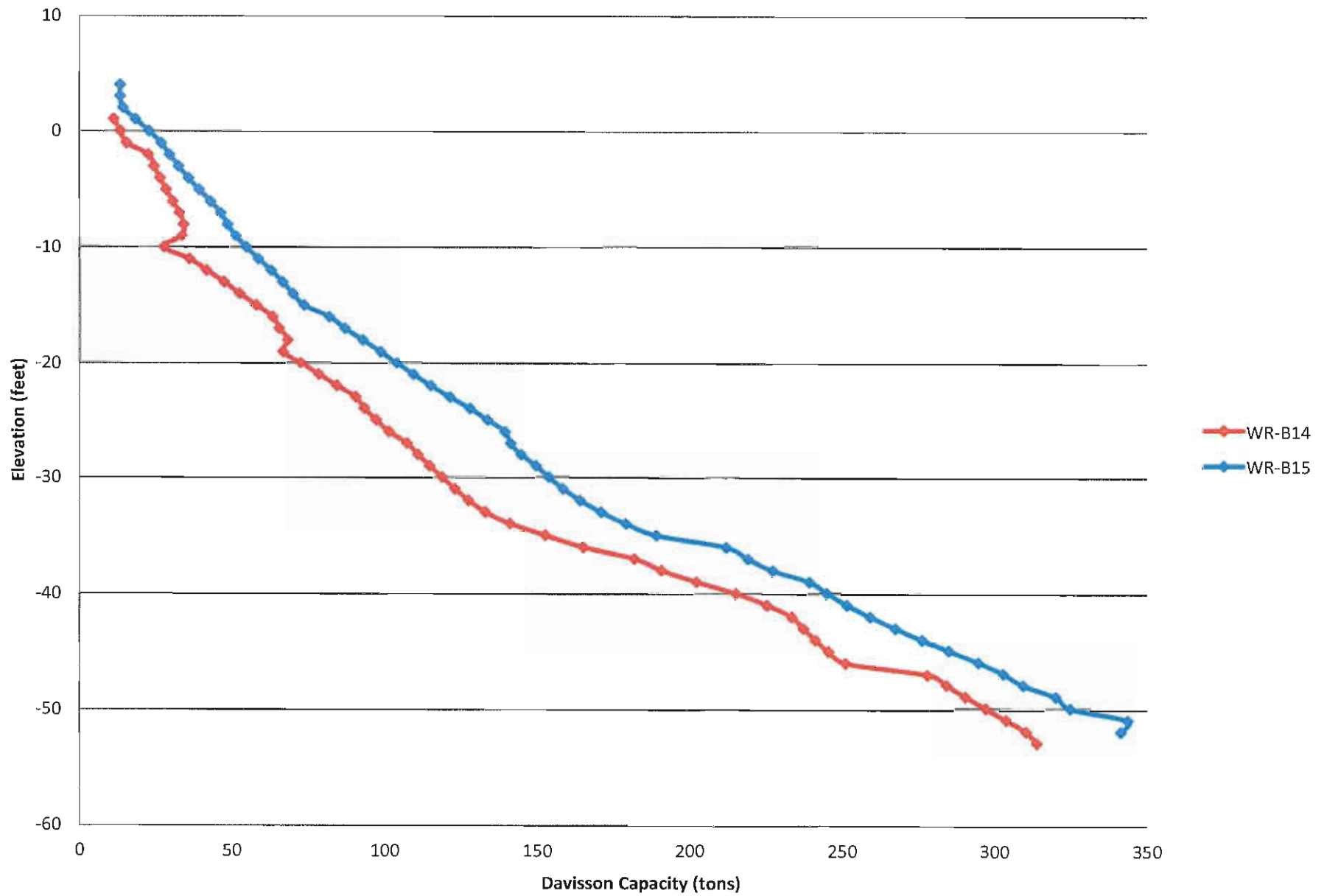
Bent 6 - 24" PCP



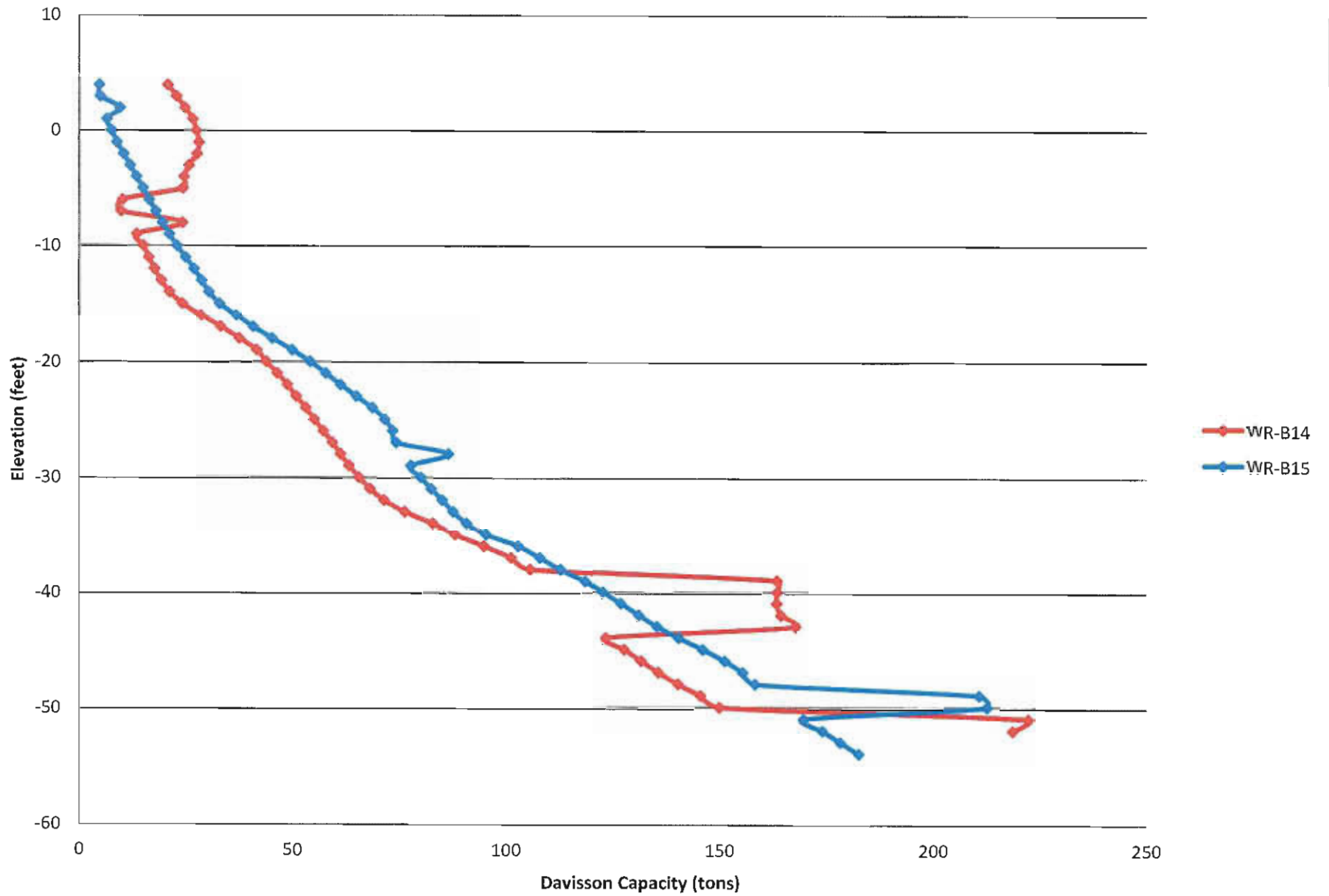
Bent 6 - 30" PCP



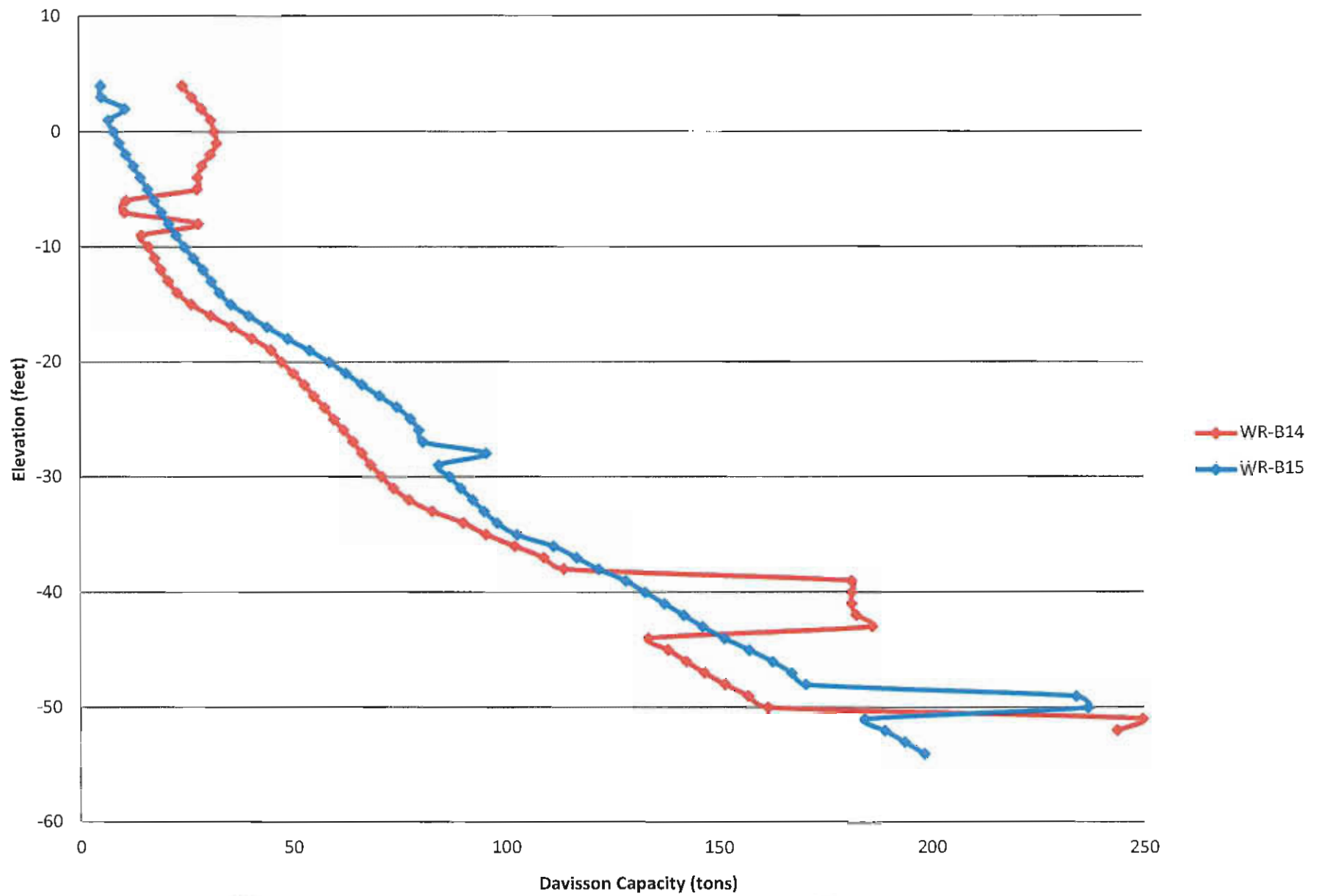
Bent 6 - 24" Pipe Pile



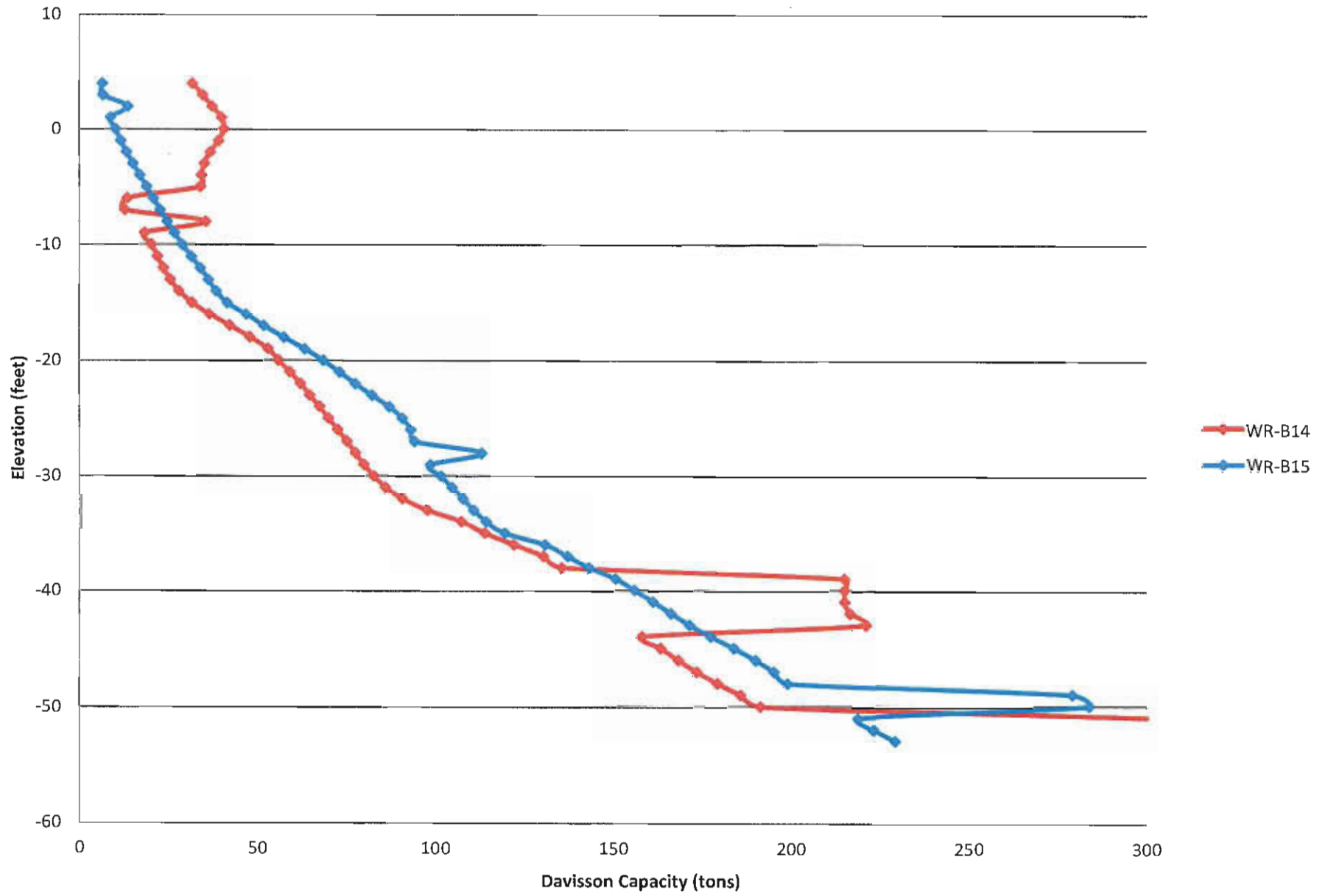
Bent 6 - HP14x117



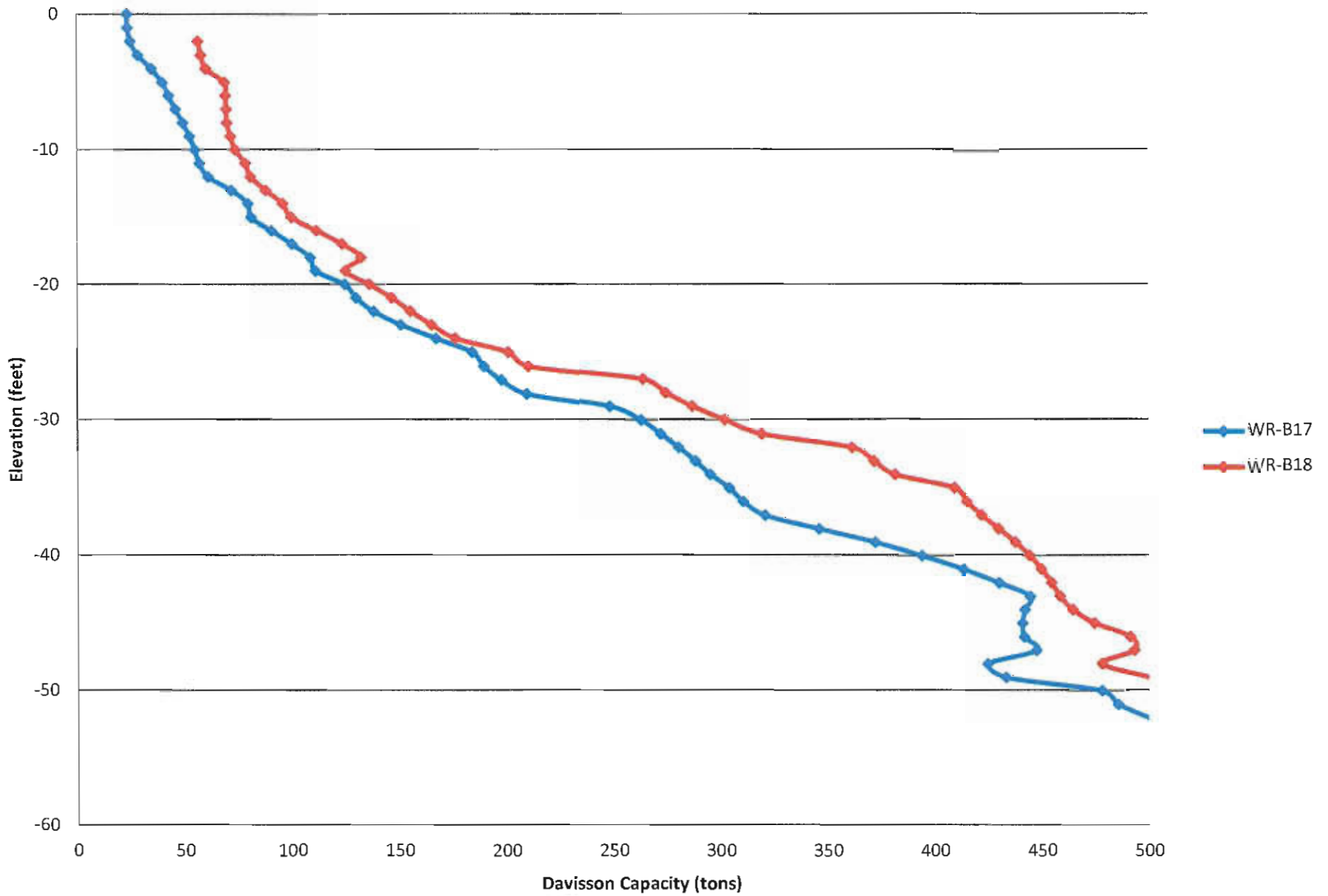
Bent 6 - HP16x121



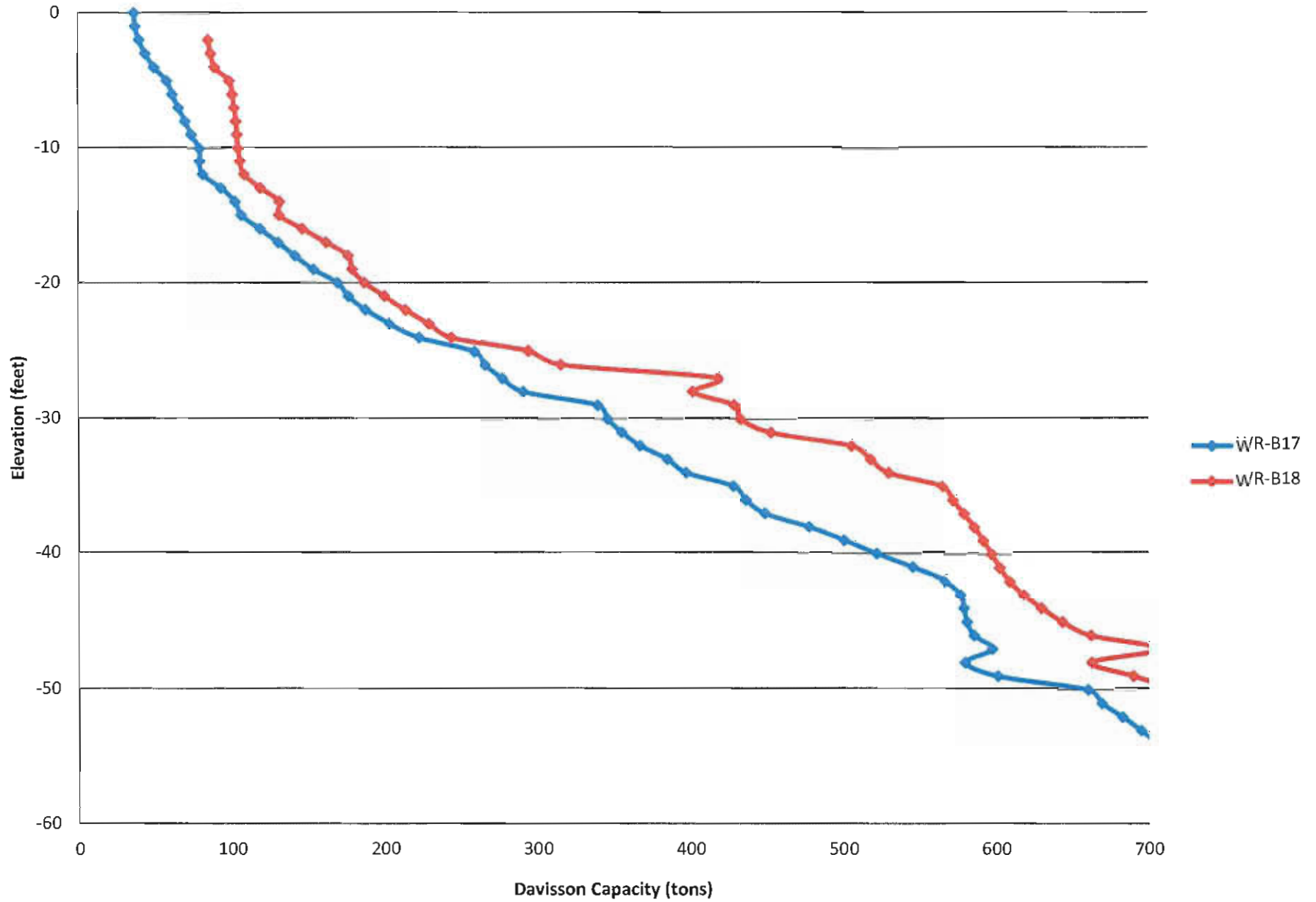
Bent 6 - HP18x204



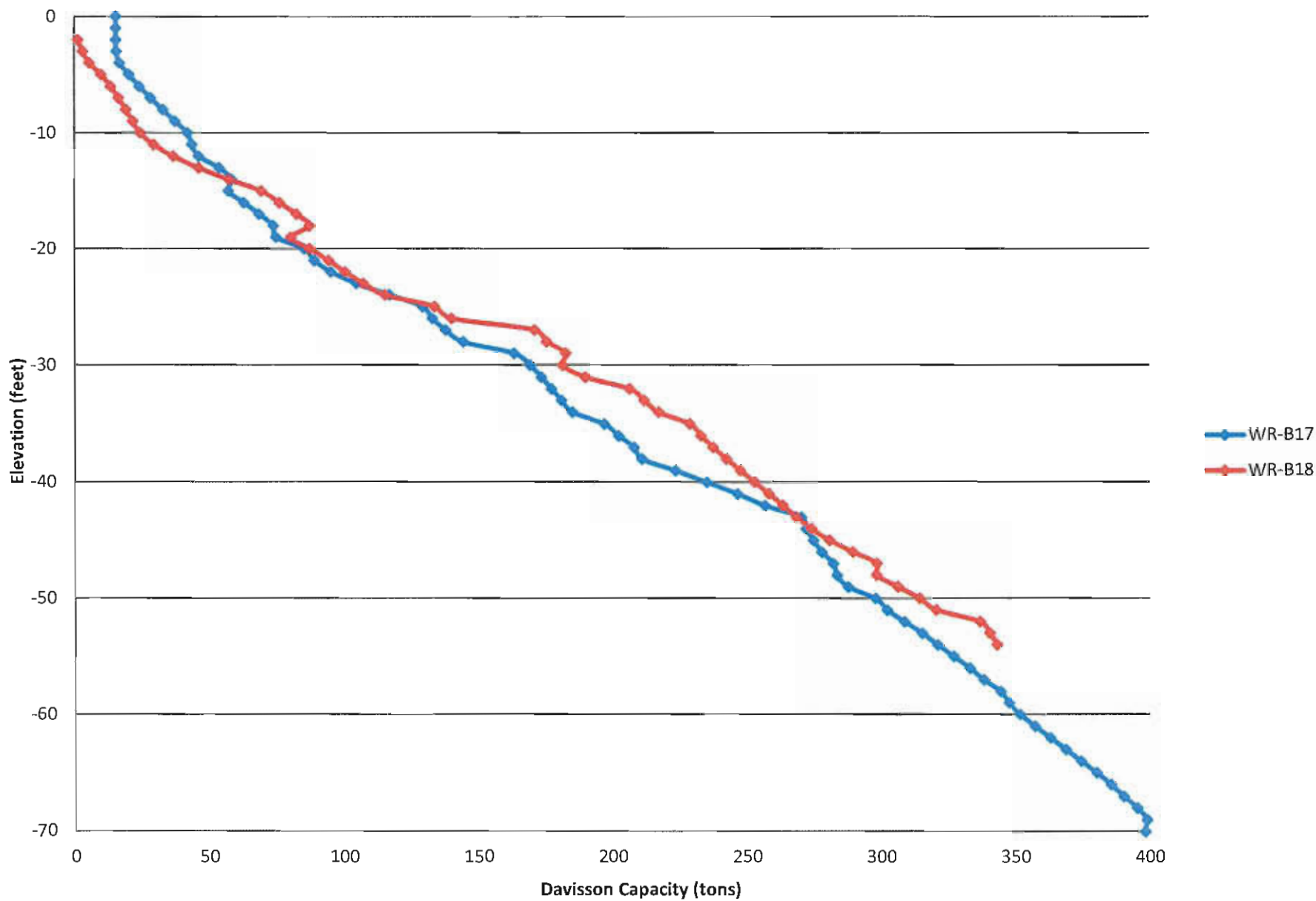
Bent 7 - 24" PCP



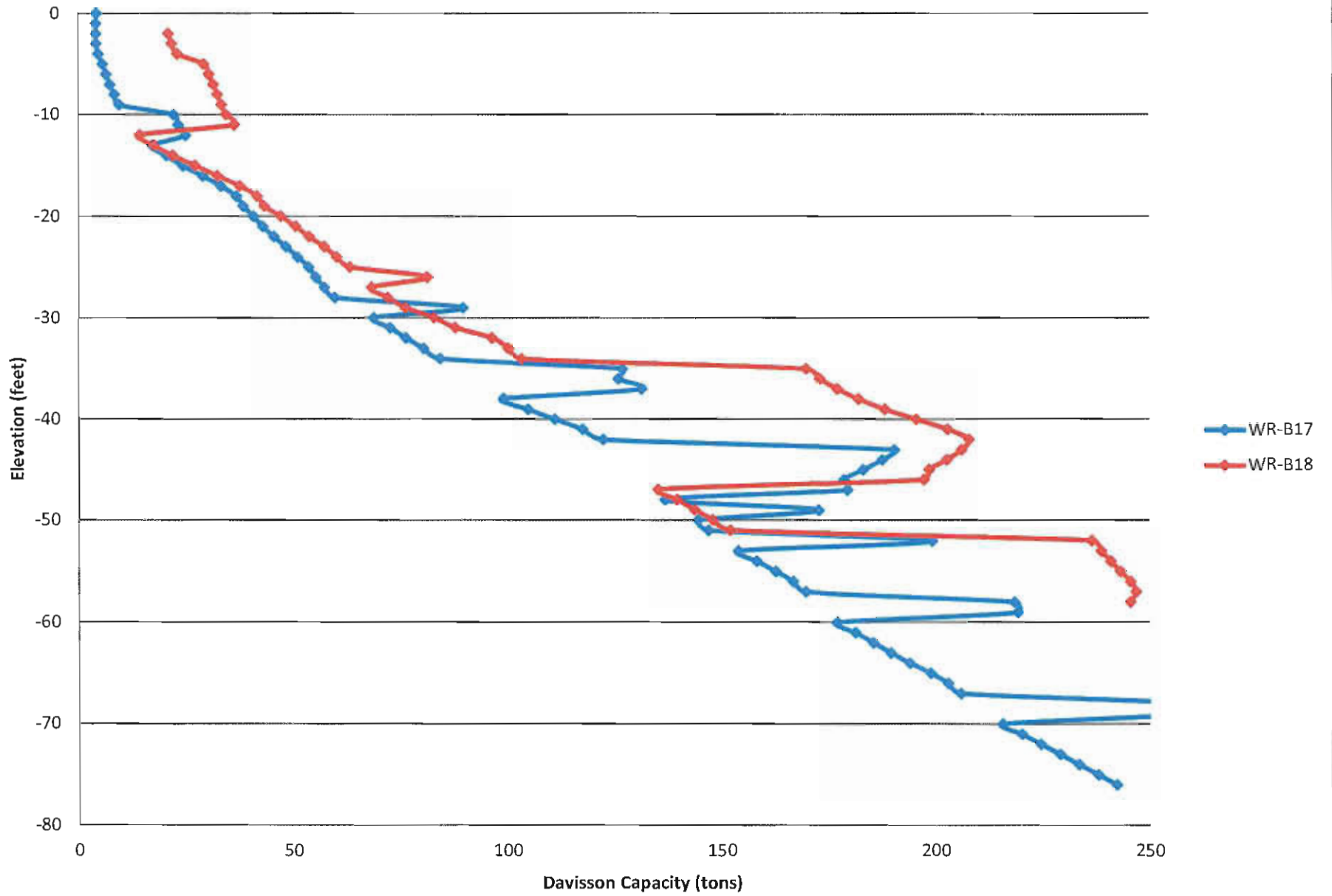
Bent 7 - 30" PCP



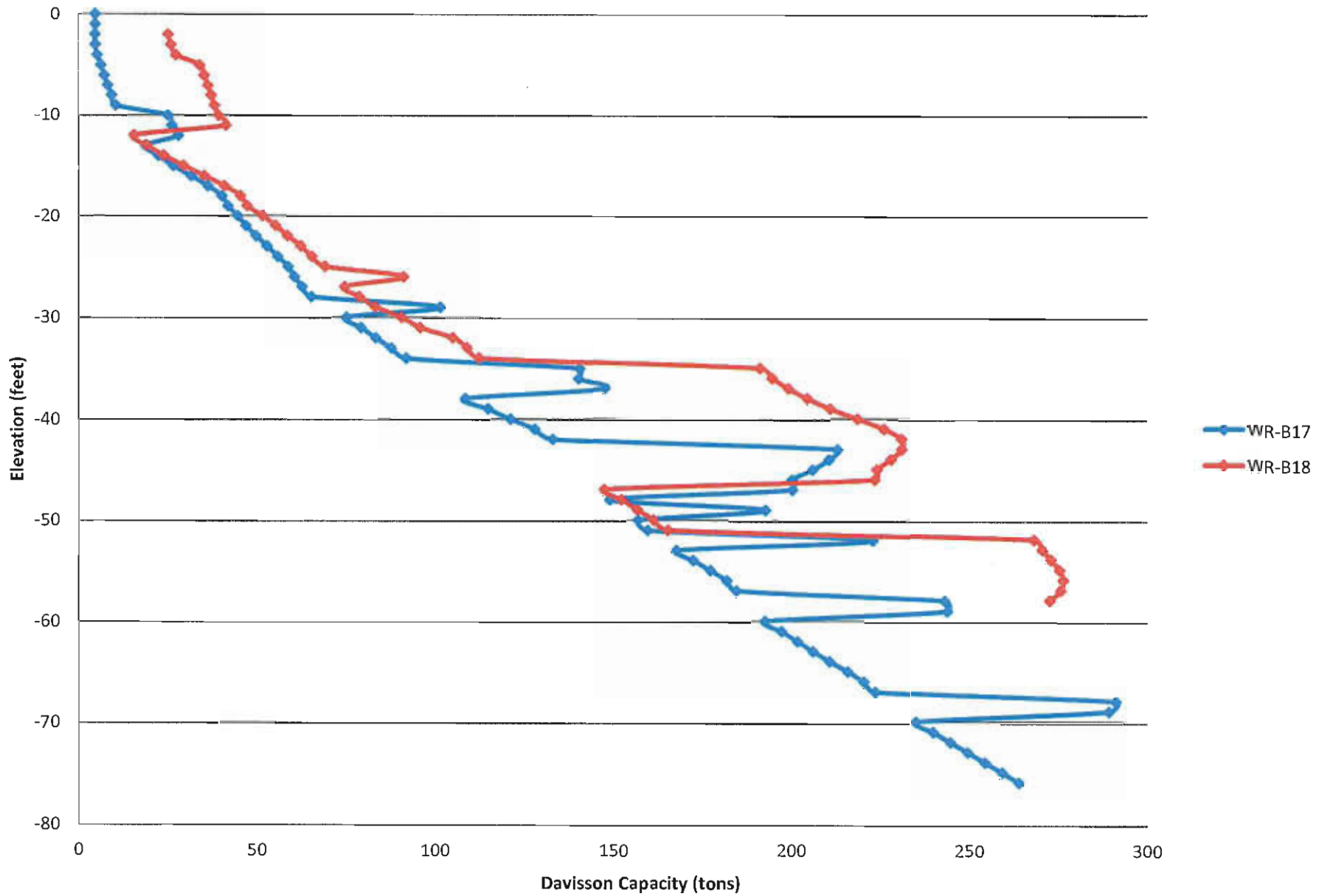
Bent 7 - 24" Pipe Pile



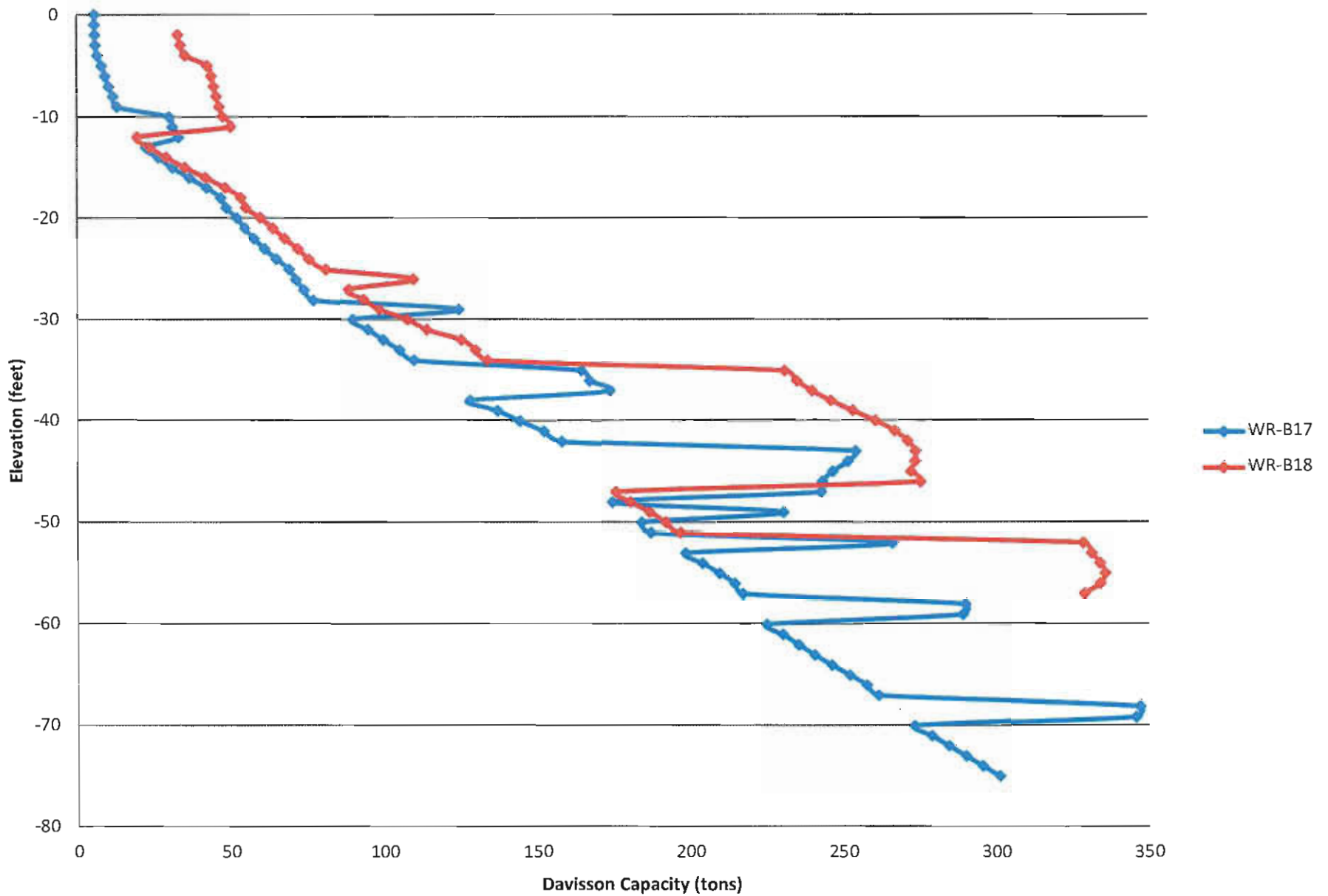
Bent 7 - HP14x117



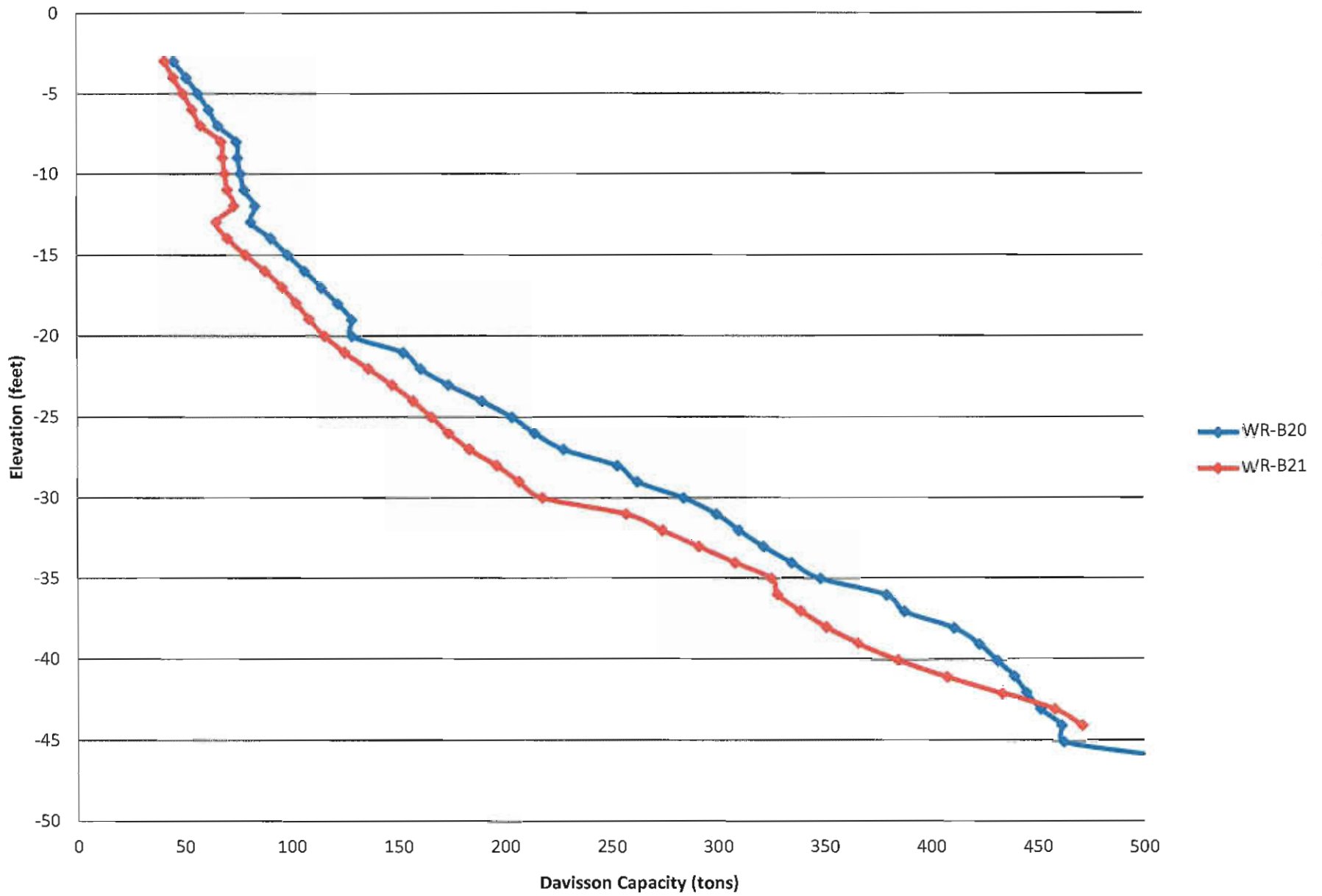
Bent 7 - HP16x121



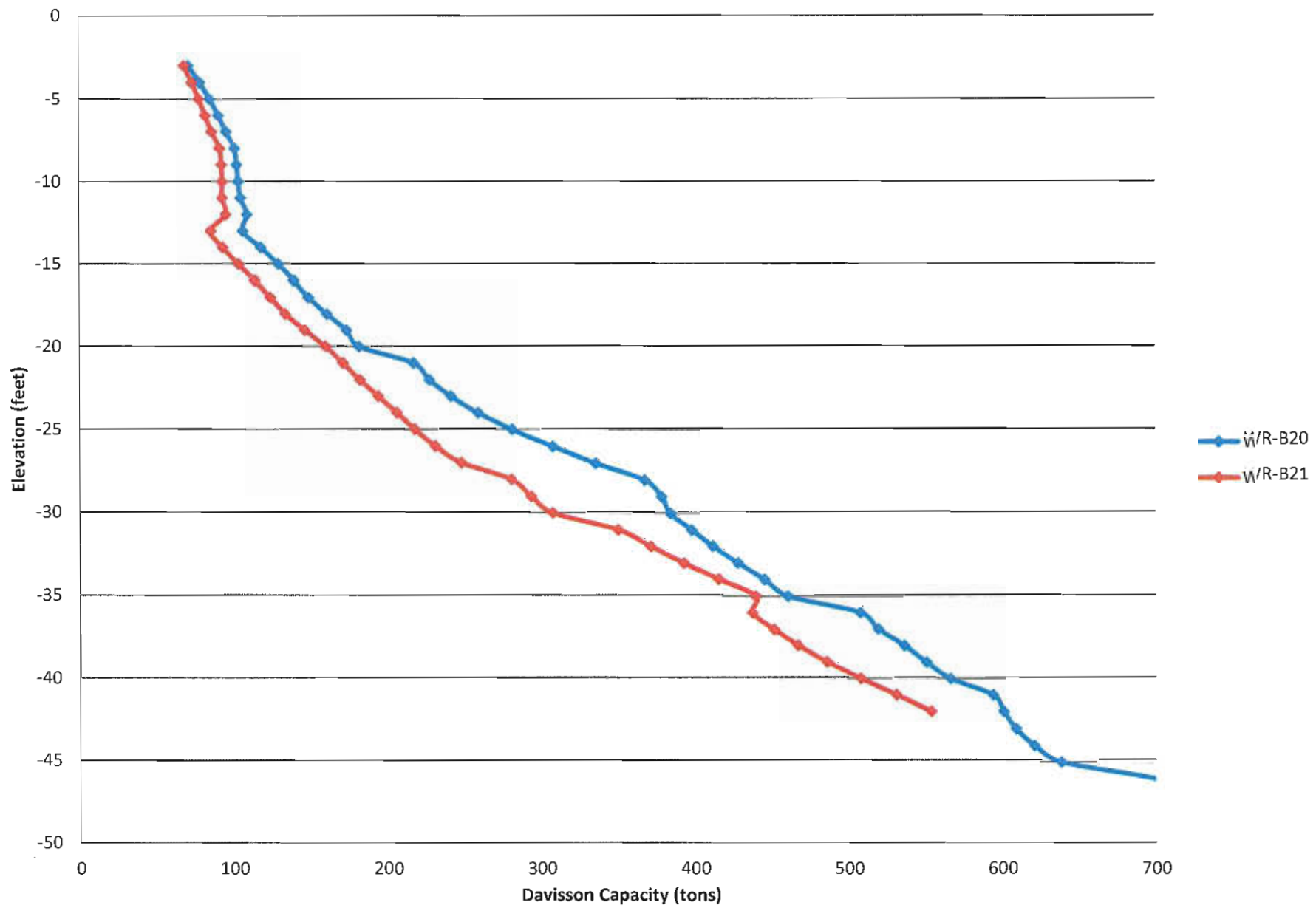
Bent 7 - HP18x204



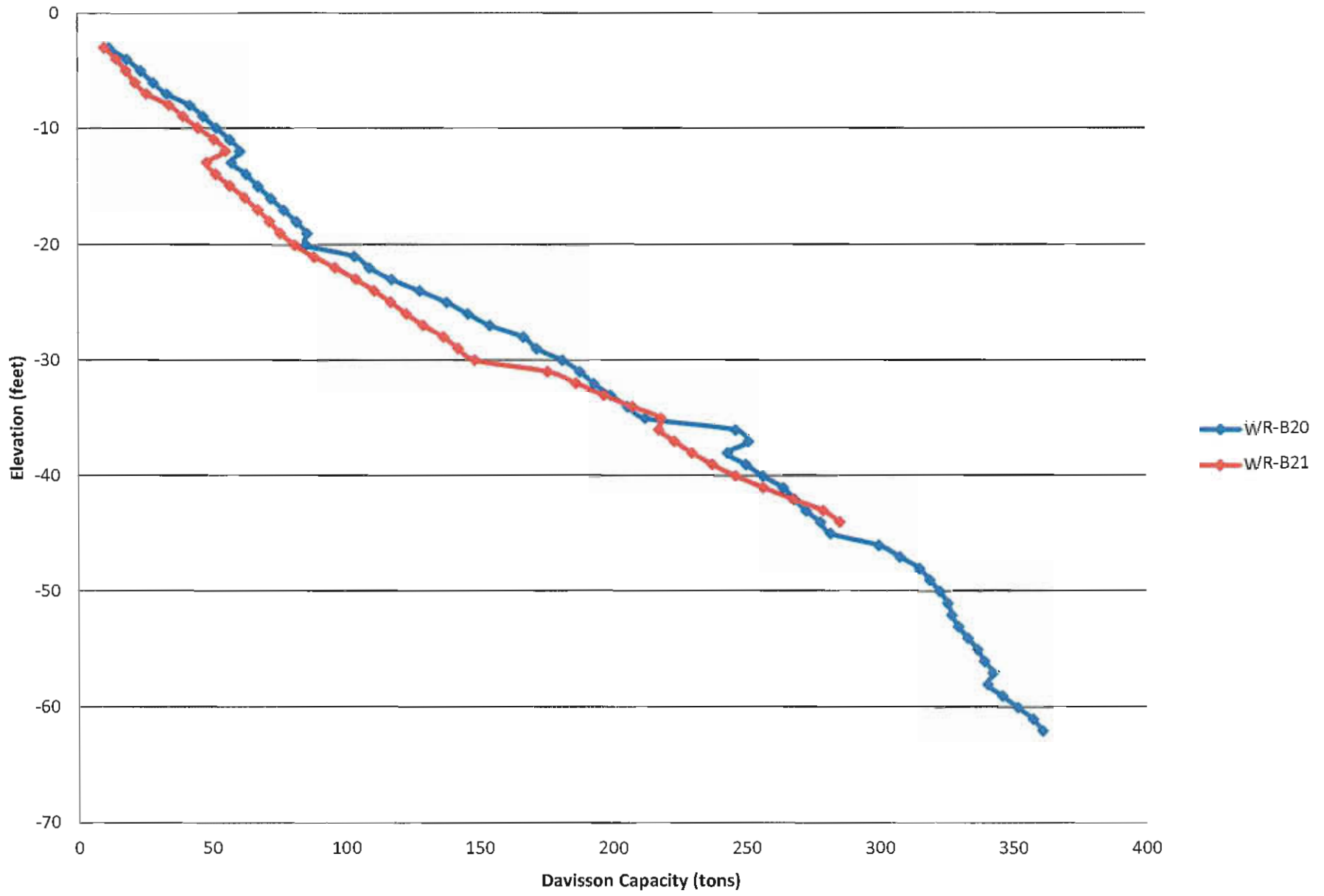
Bent 8 - 24" PCP



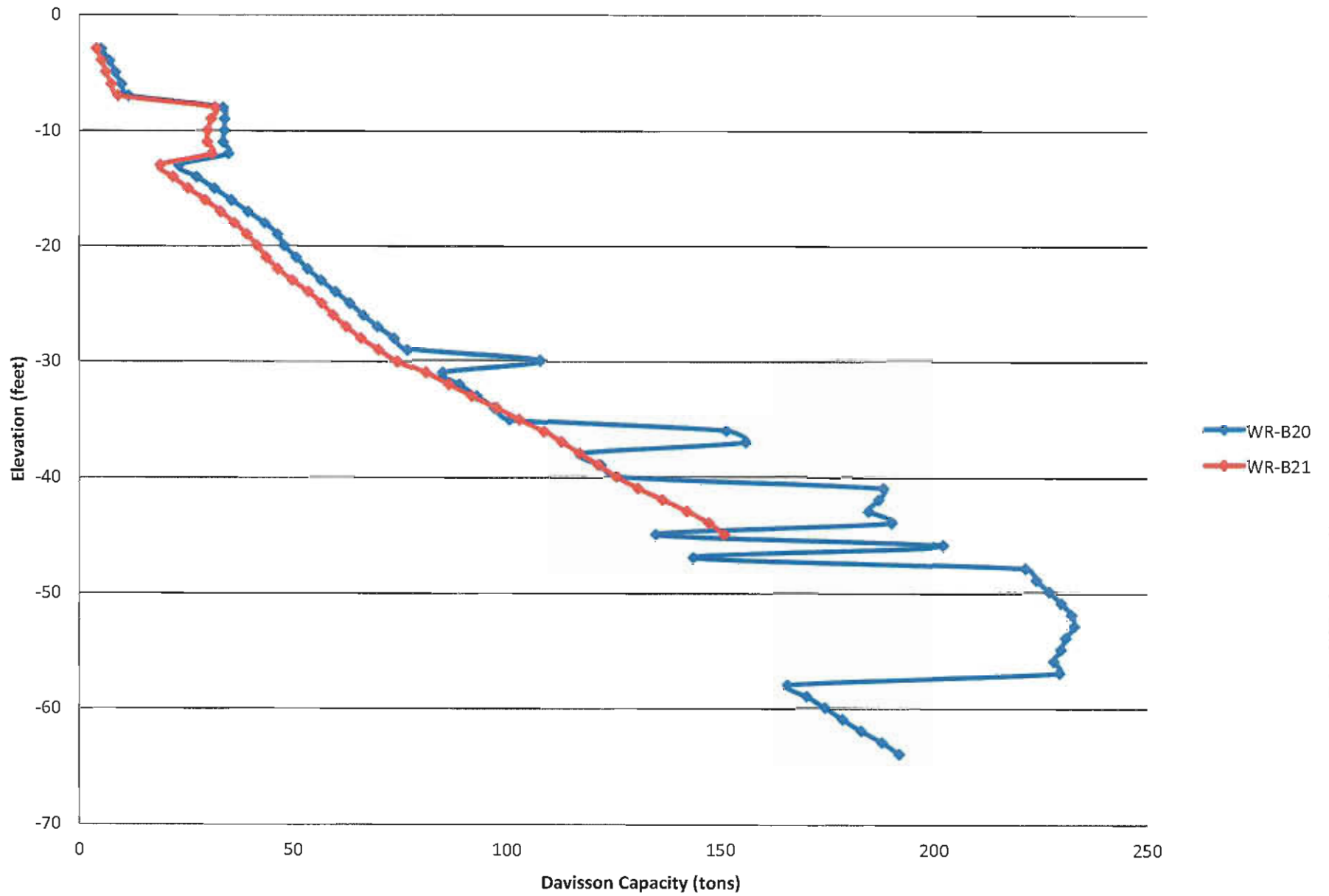
Bent 8 - 30" PCP



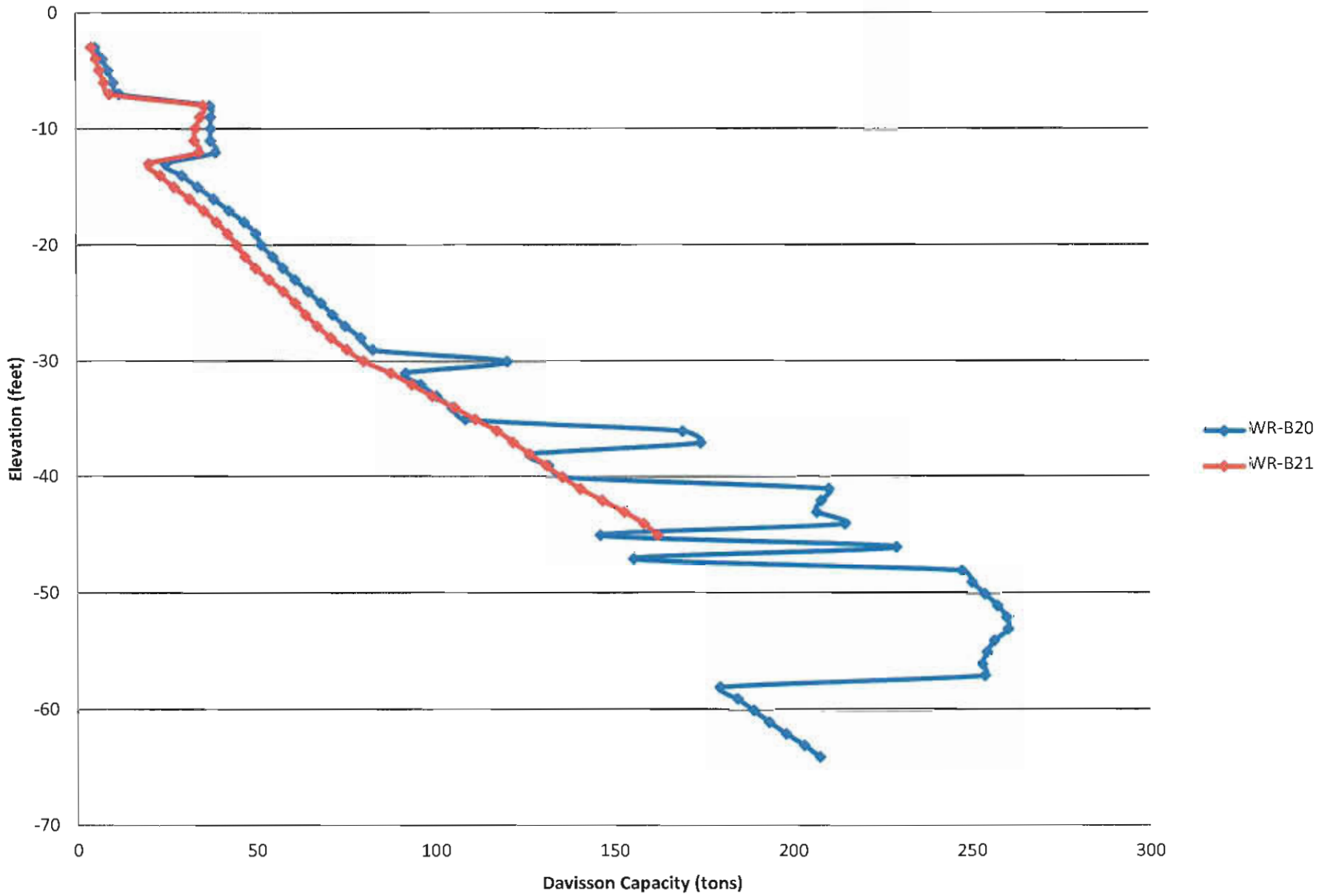
Bent 8 - 24" Pipe Pile



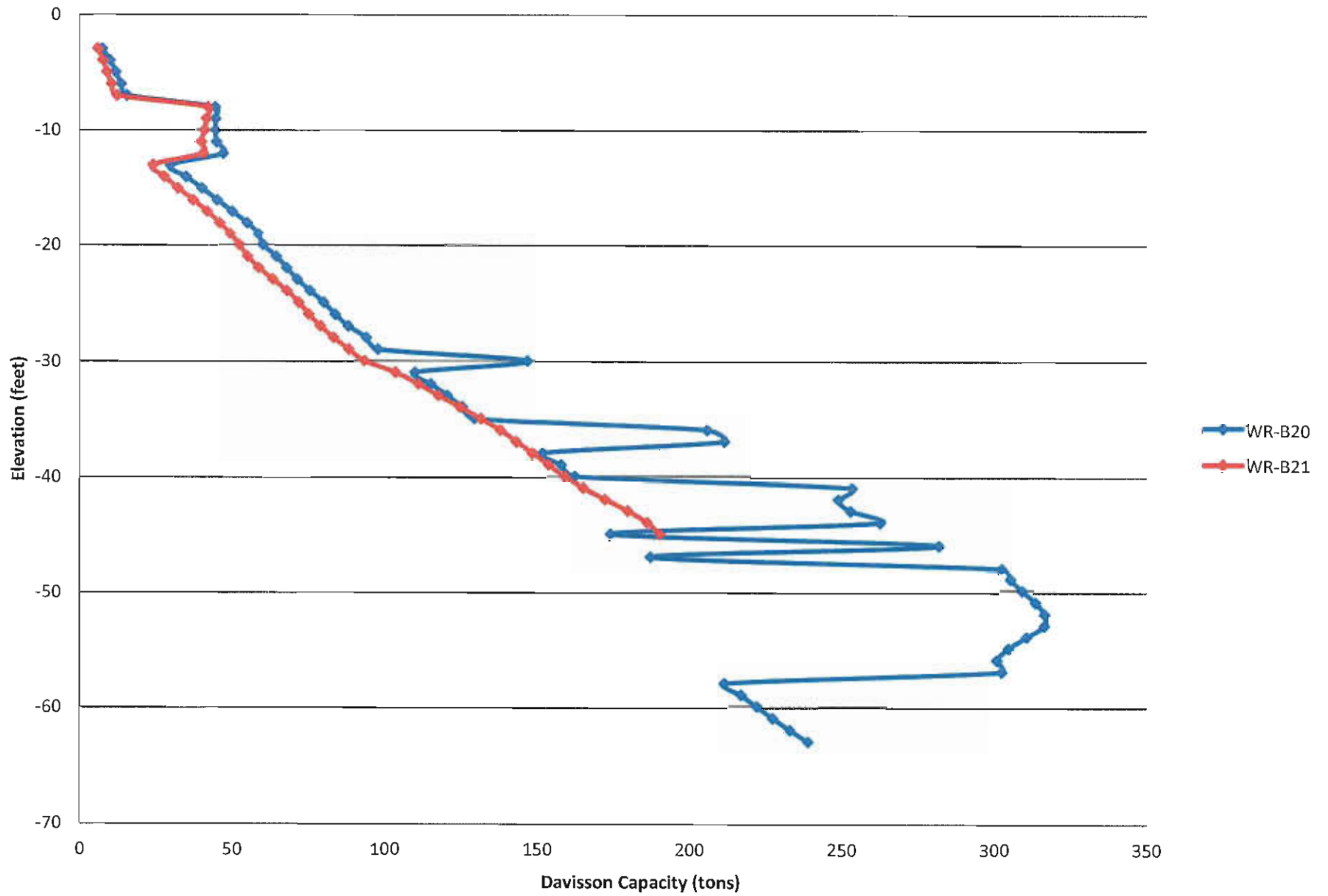
Bent 8 - HP14x117



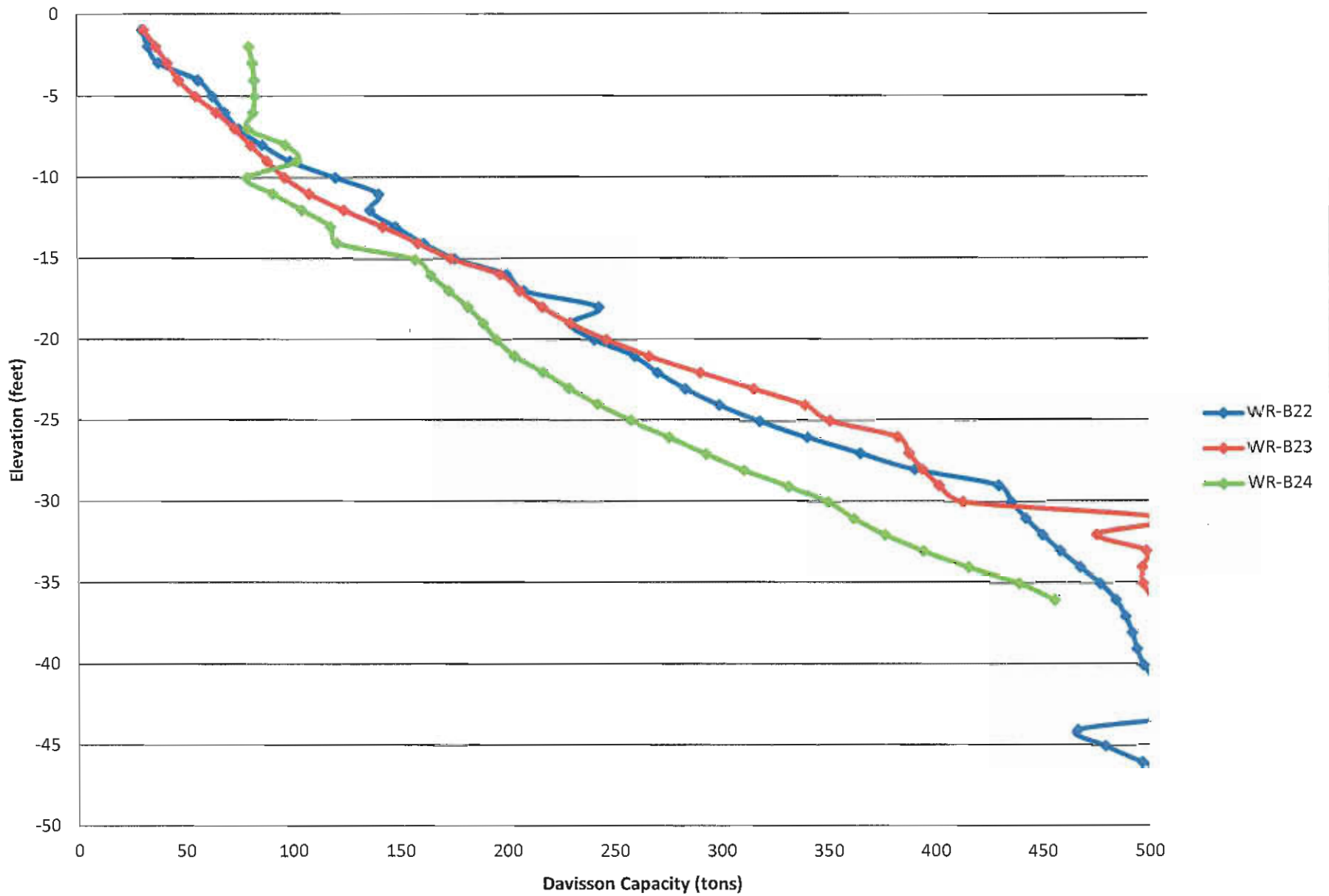
Bent 8 - HP16x121



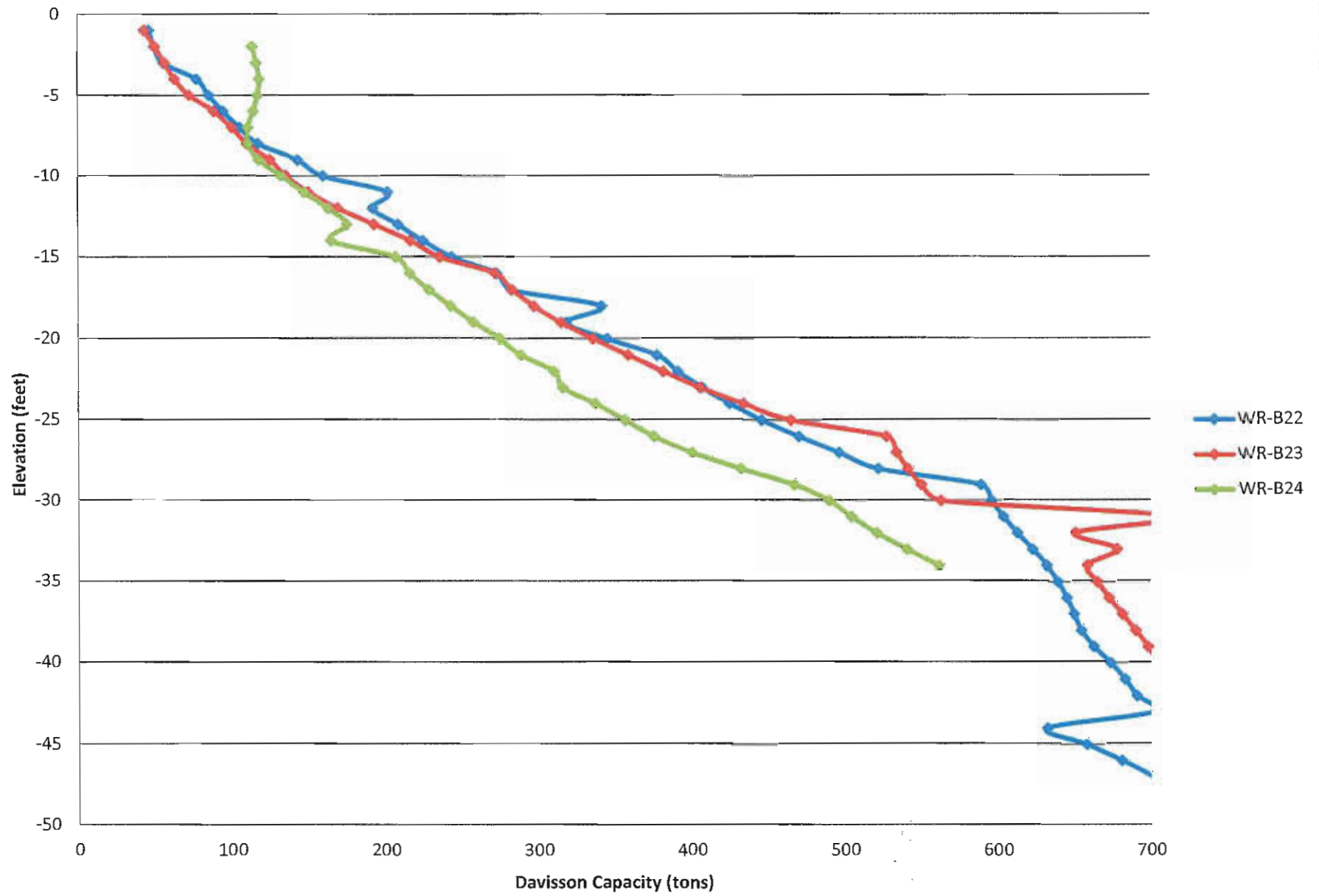
Bent 8 - HP18x204



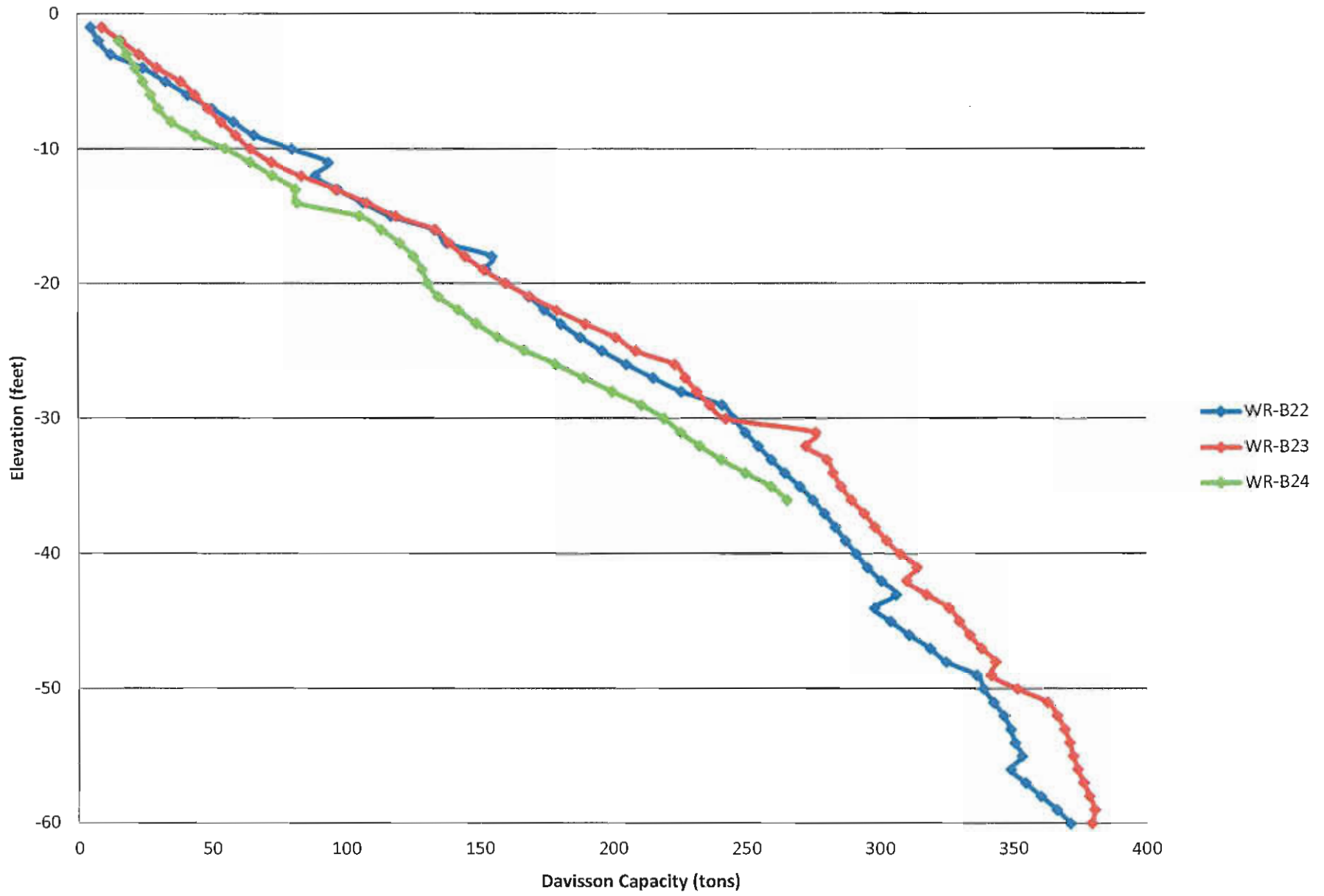
Bent 9 - 24" PCP



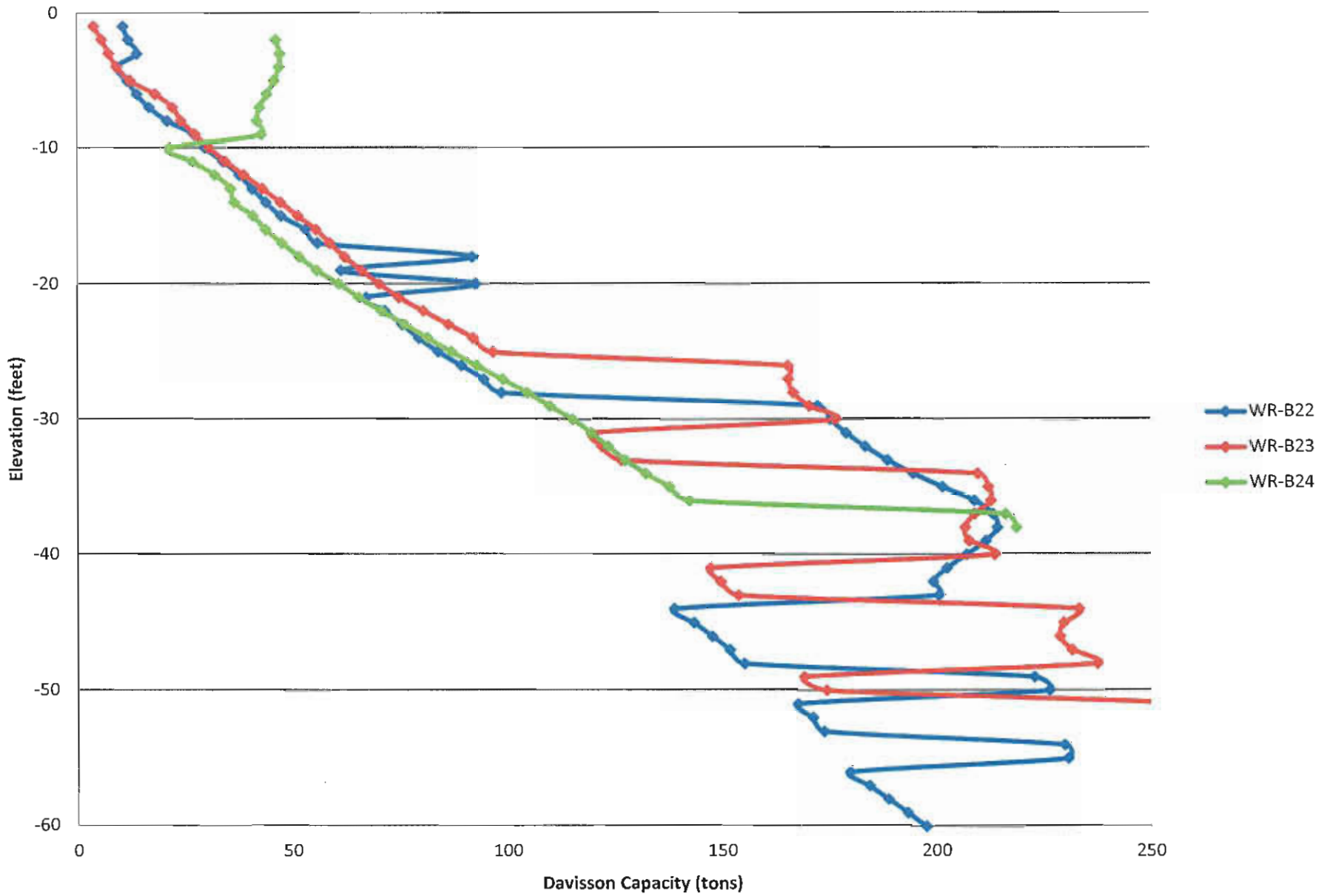
Bent 9 - 30" PCP



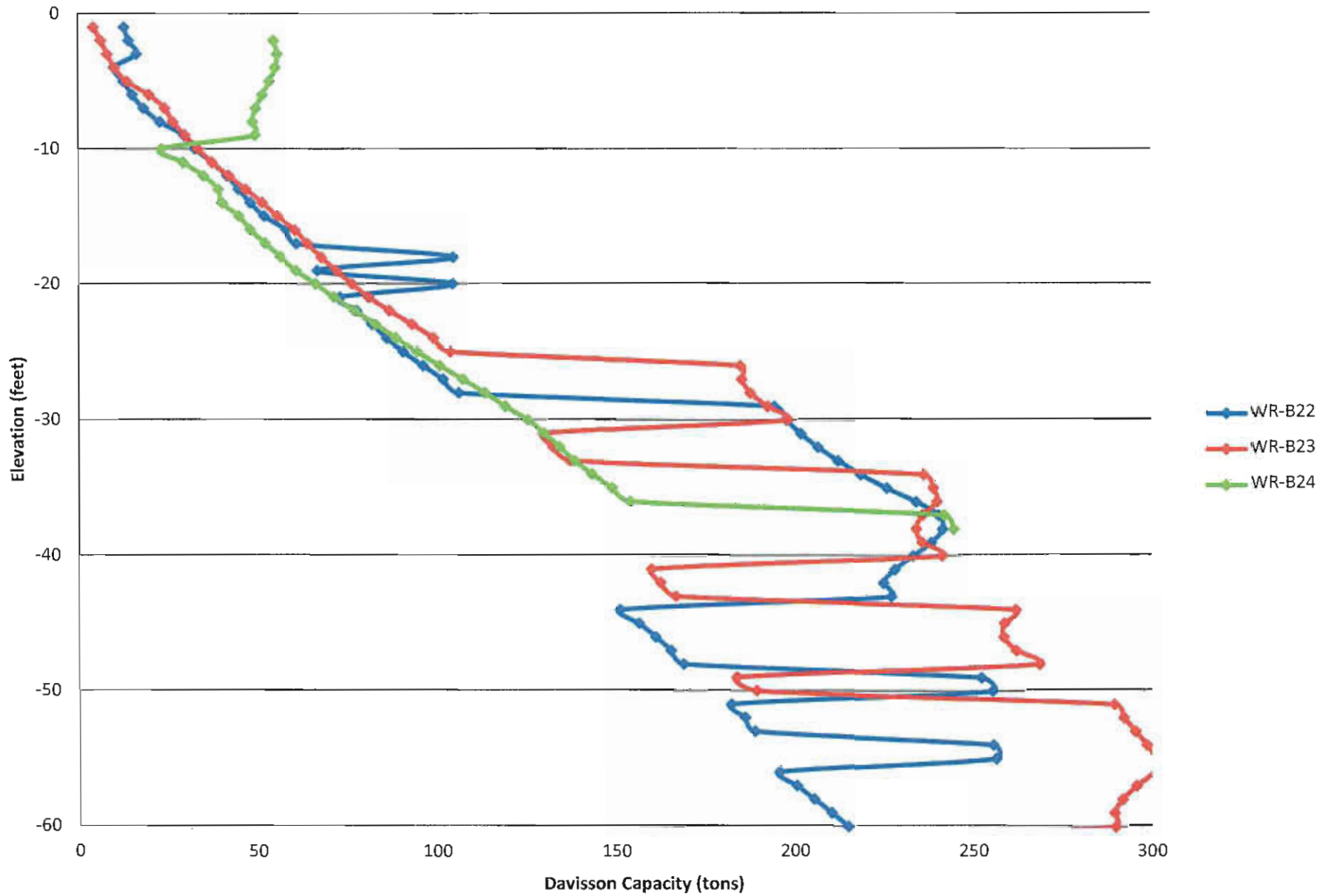
Bent 9 - 24" Pipe Pile



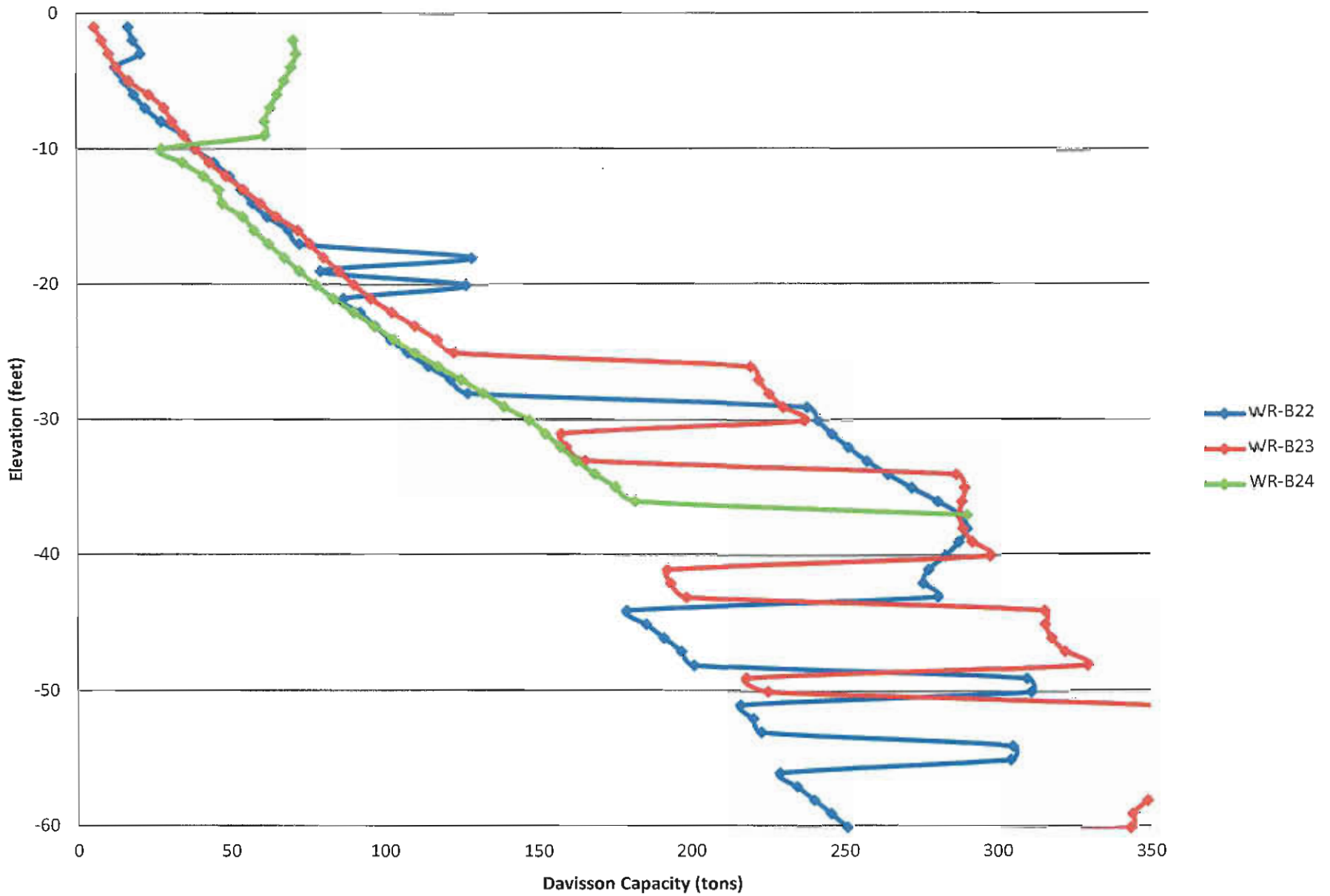
Bent 9 - HP14x117



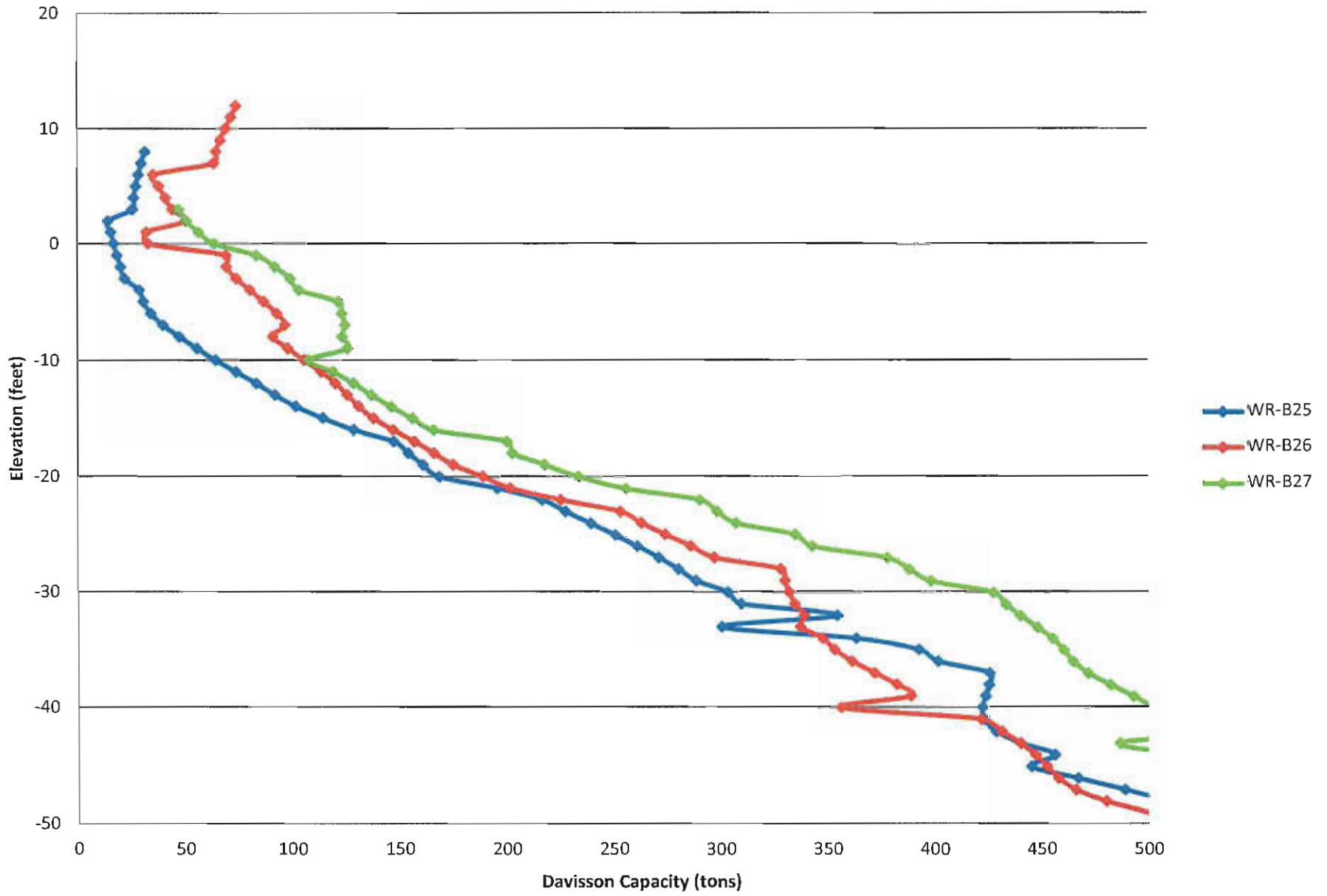
Bent 9 - HP16x121



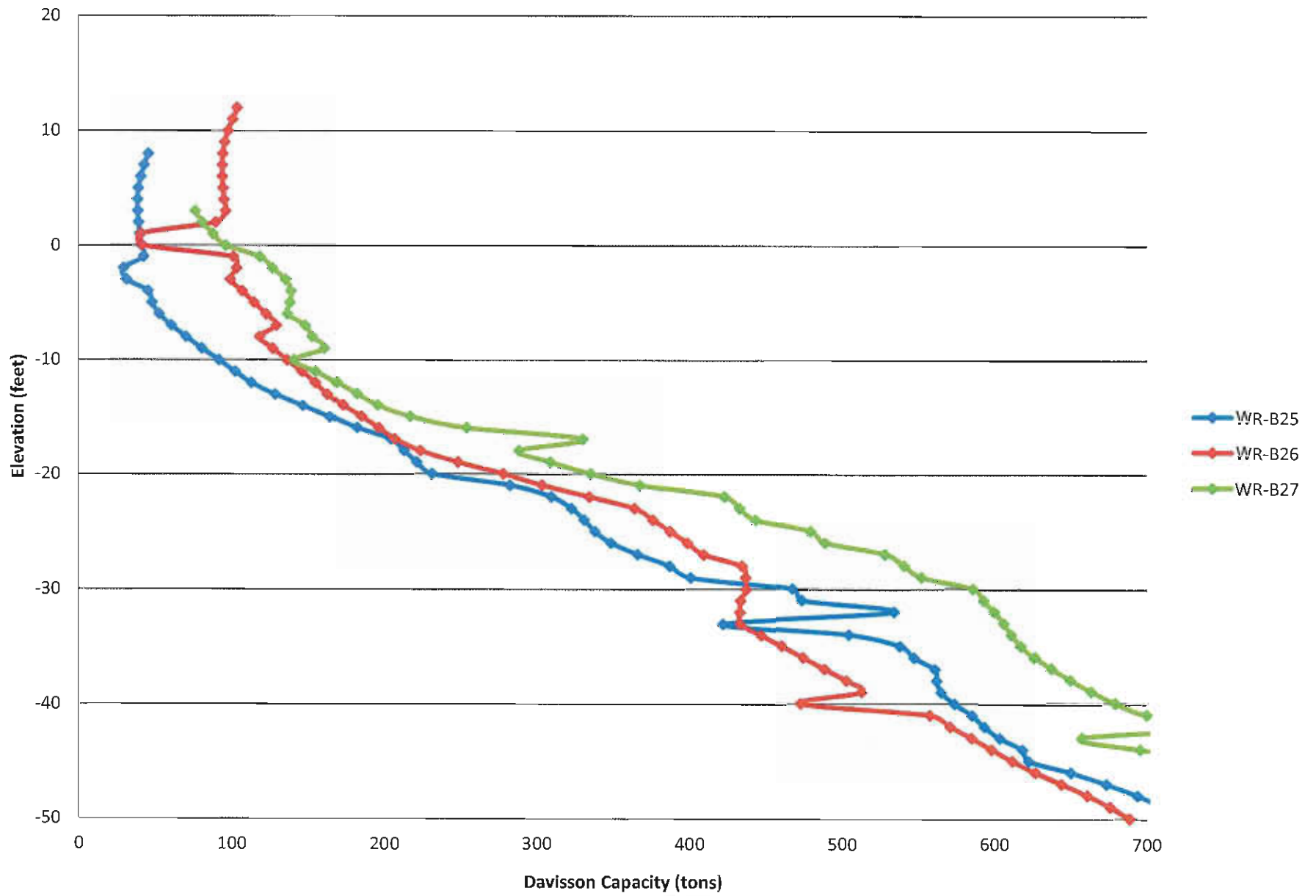
Bent 9 - HP18x204



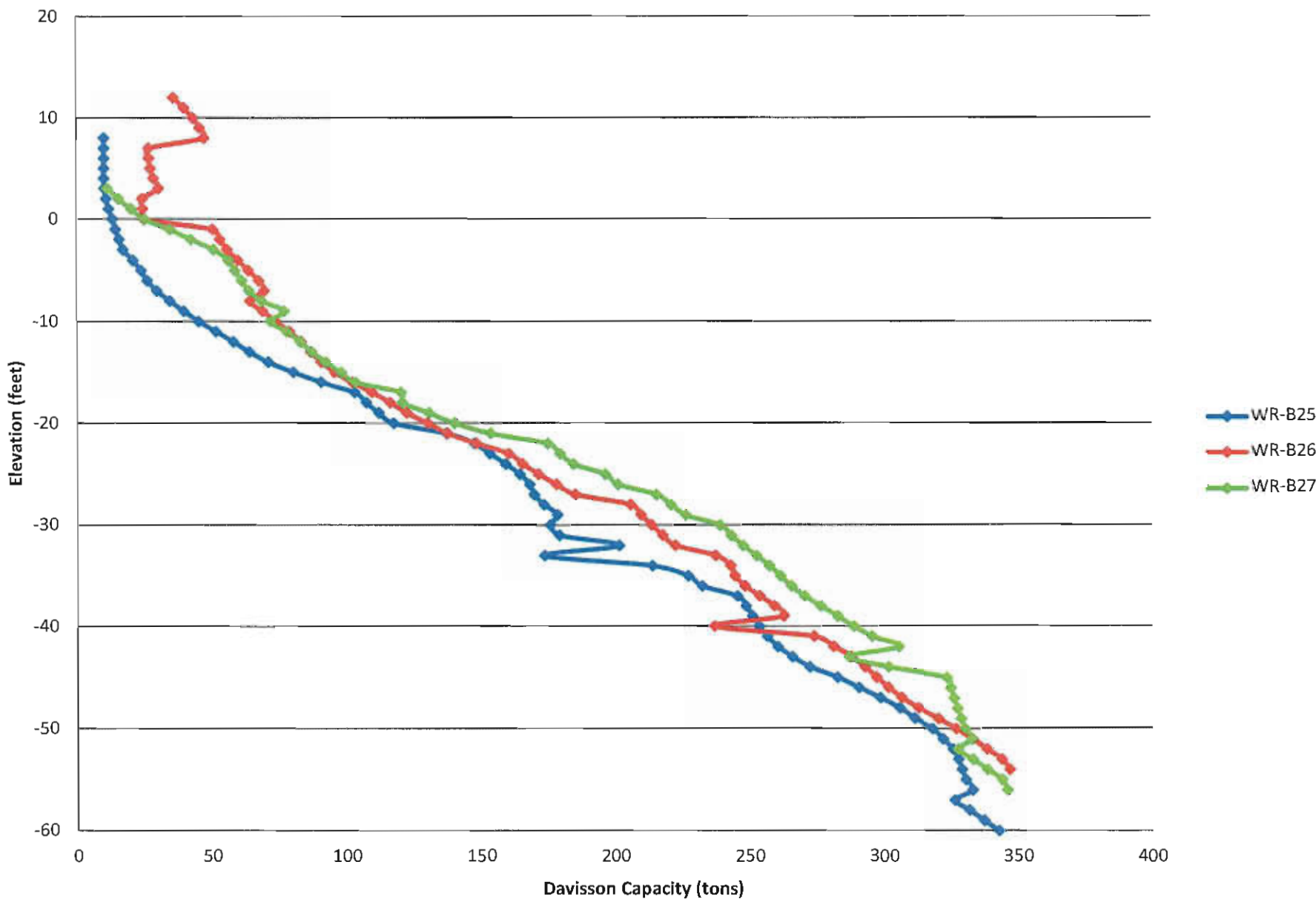
Bent 10 - 24" PCP



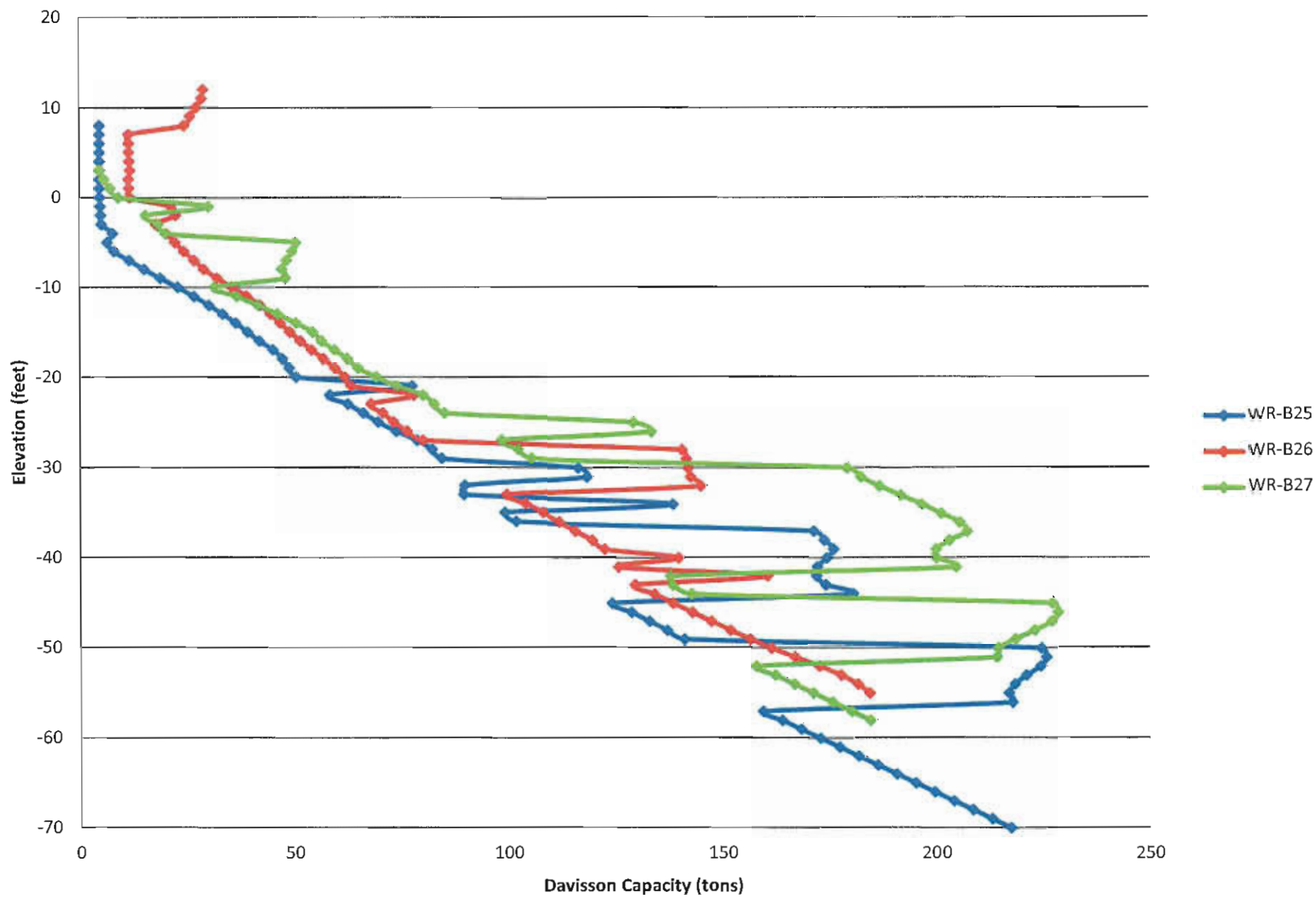
Bent 10 - 30" PCP



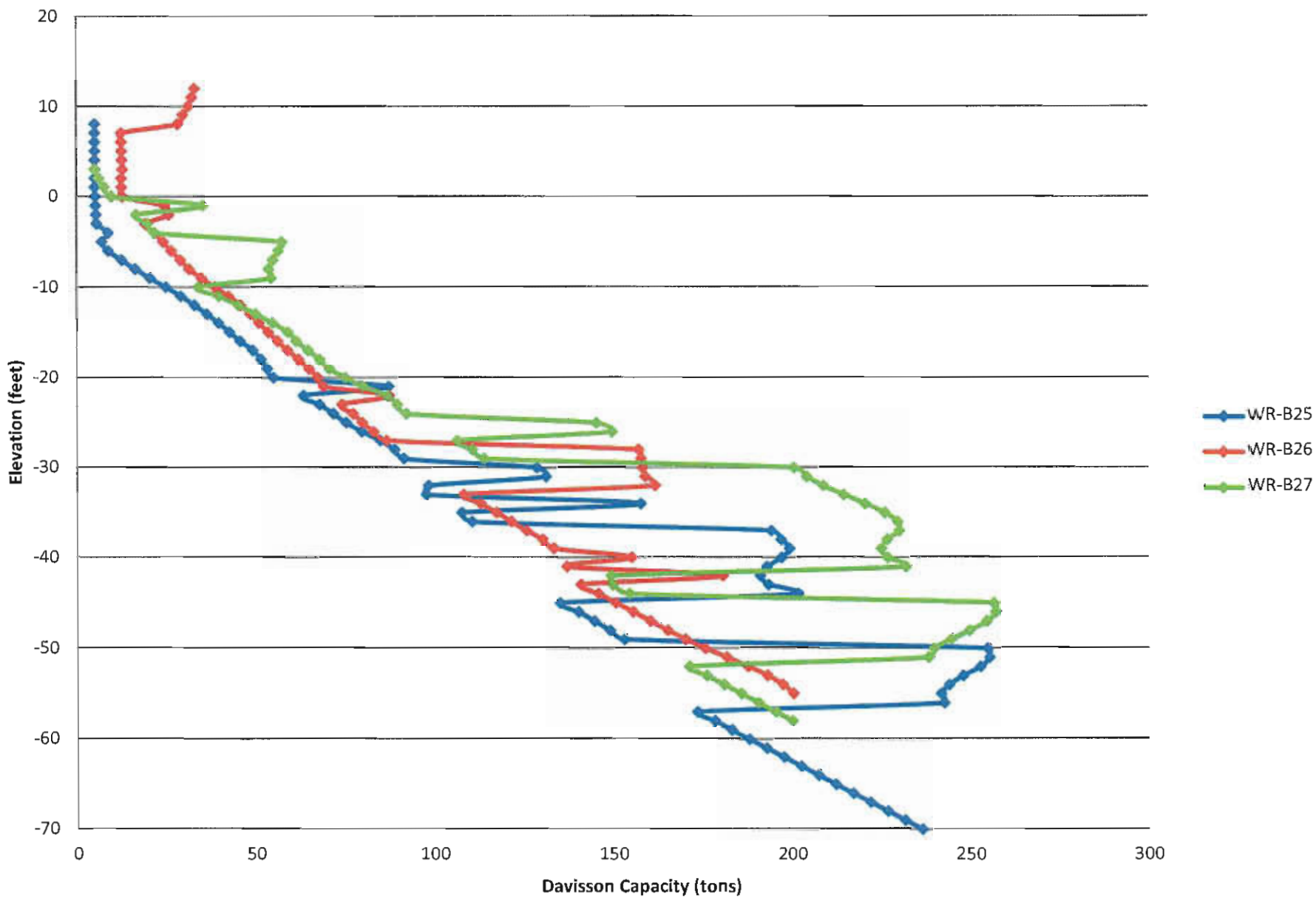
Bent 10 - 24" Pipe Pile



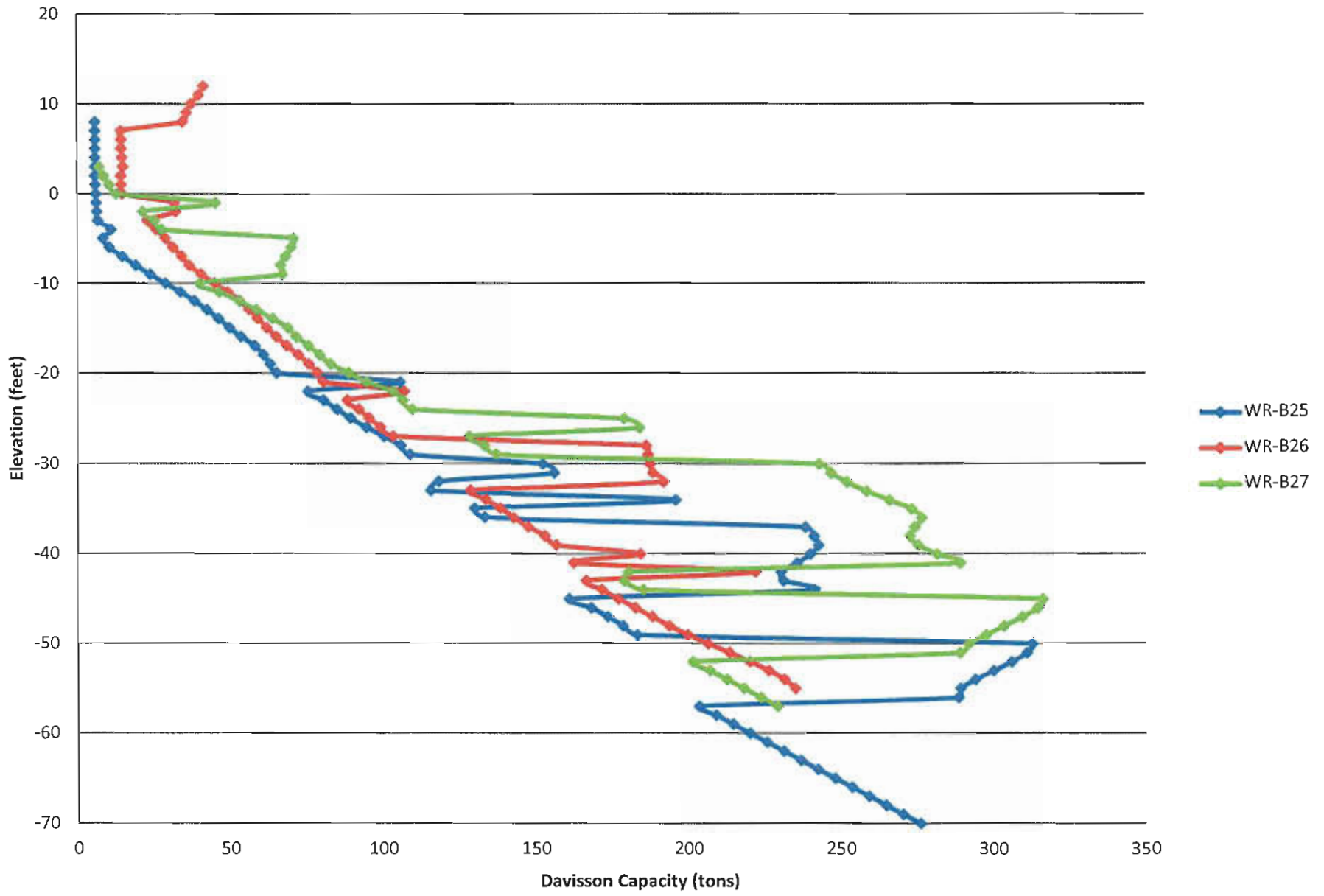
Bent 10 - HP14x17



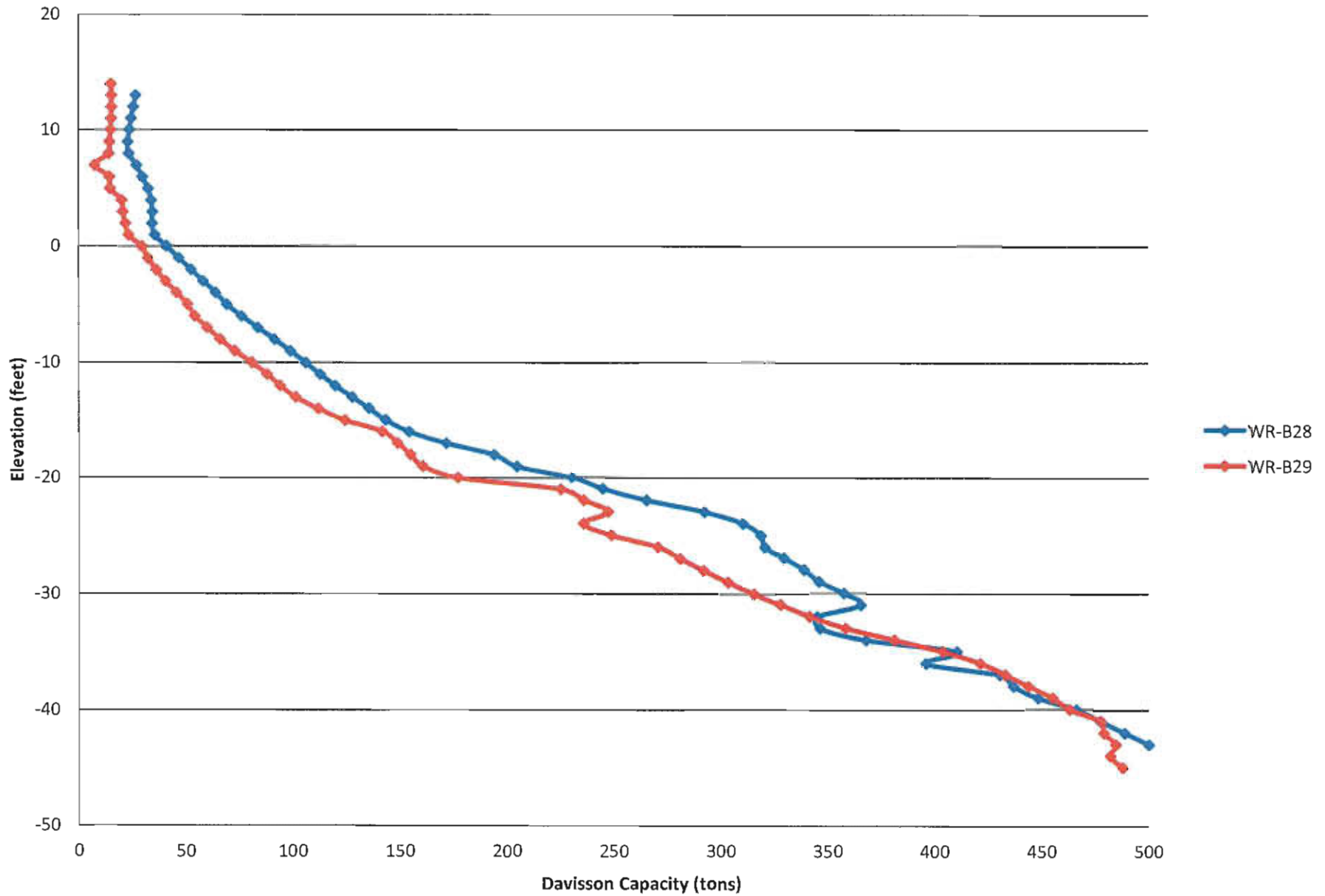
Bent 10 - HP16x121



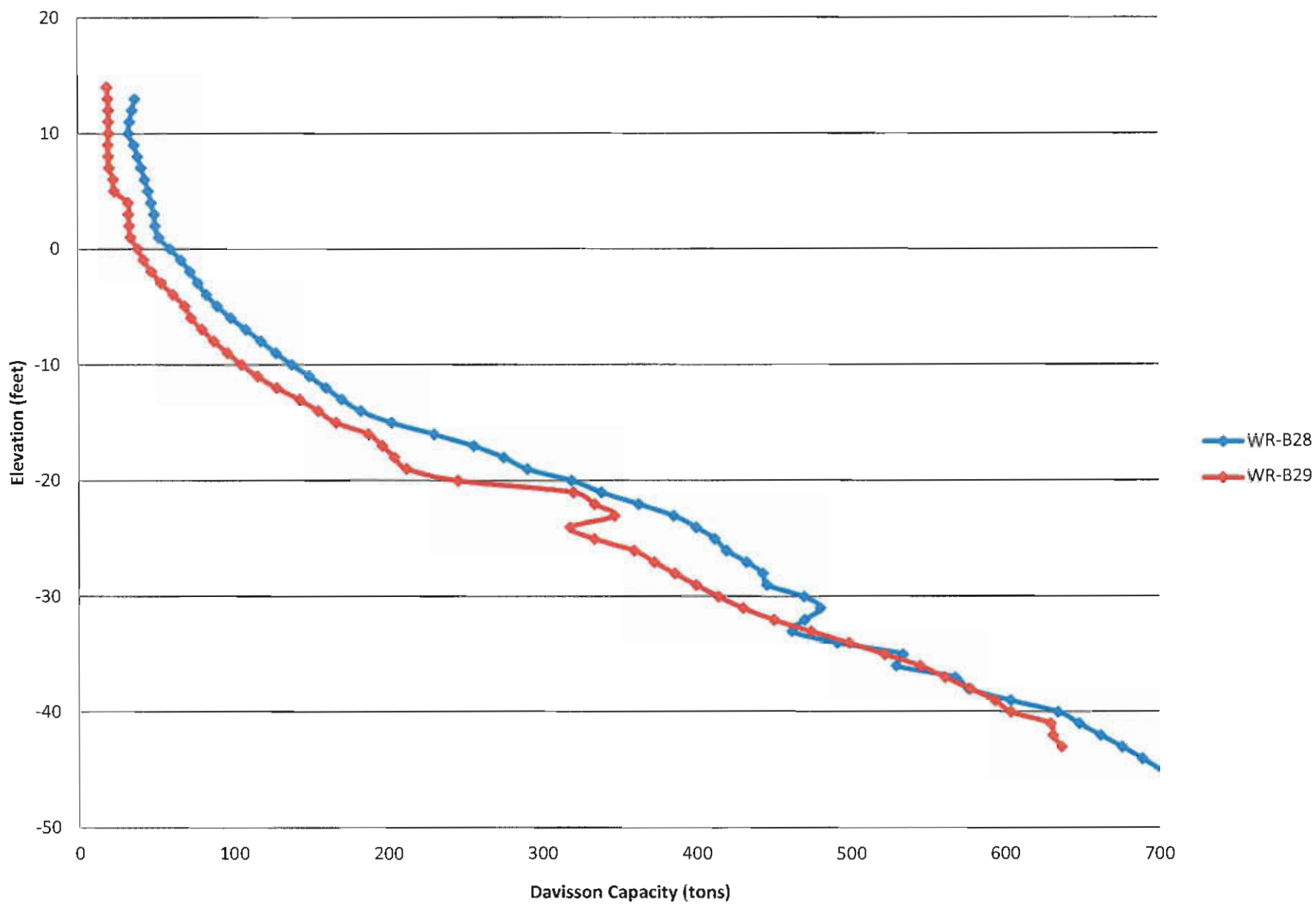
Bent 10 - HP18x204



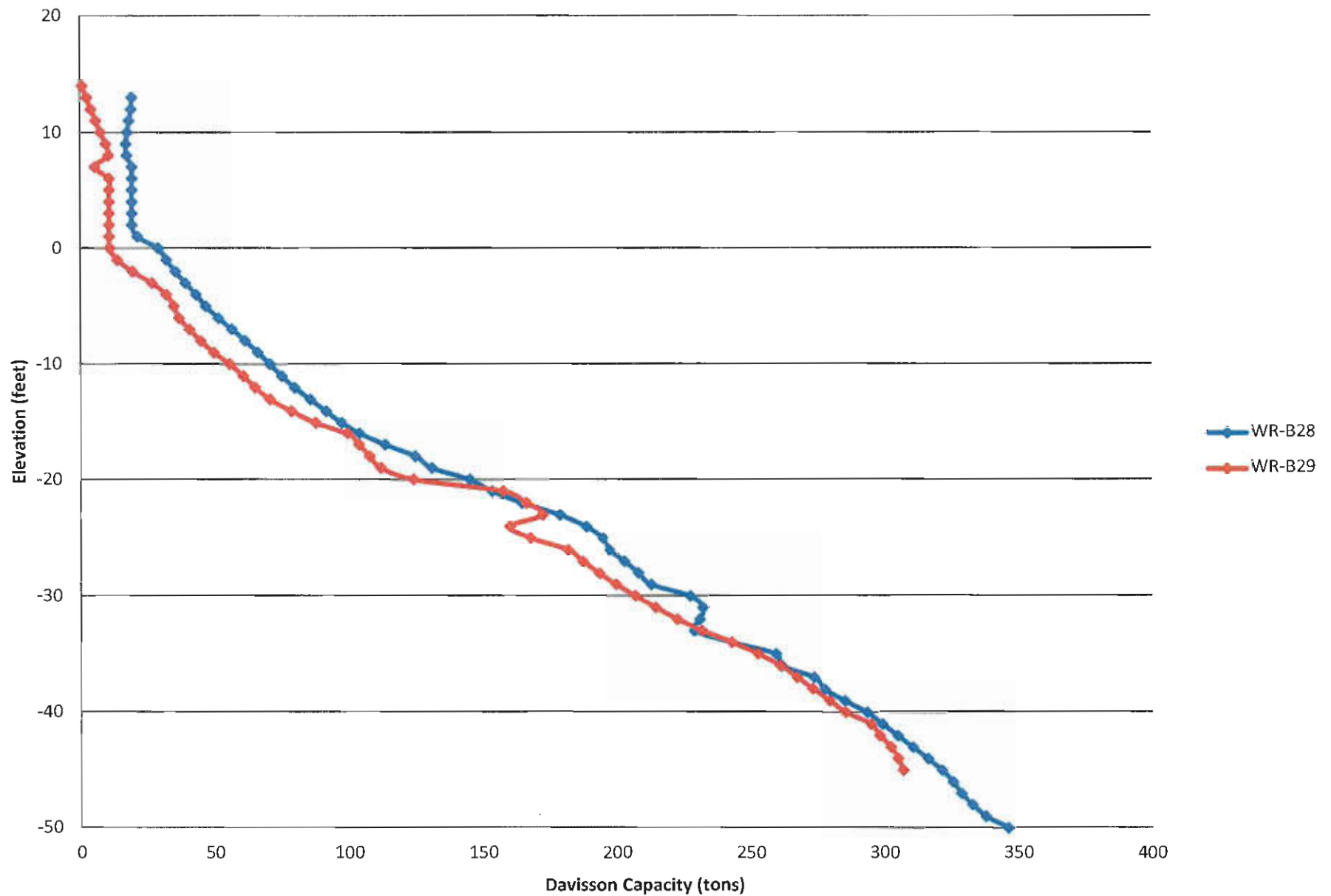
Bent 11 - 24" PCP



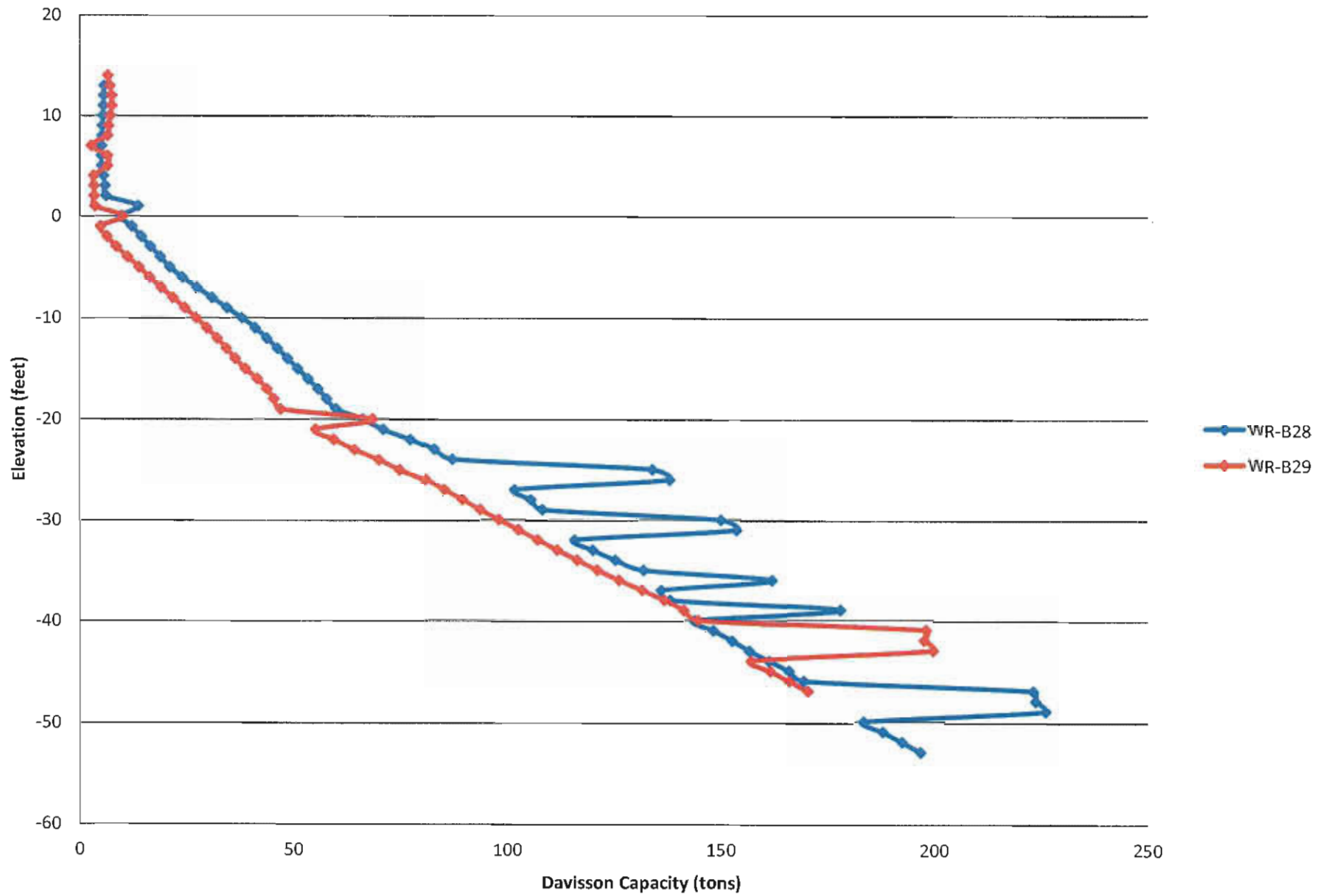
Bent 11 - 30" PCP



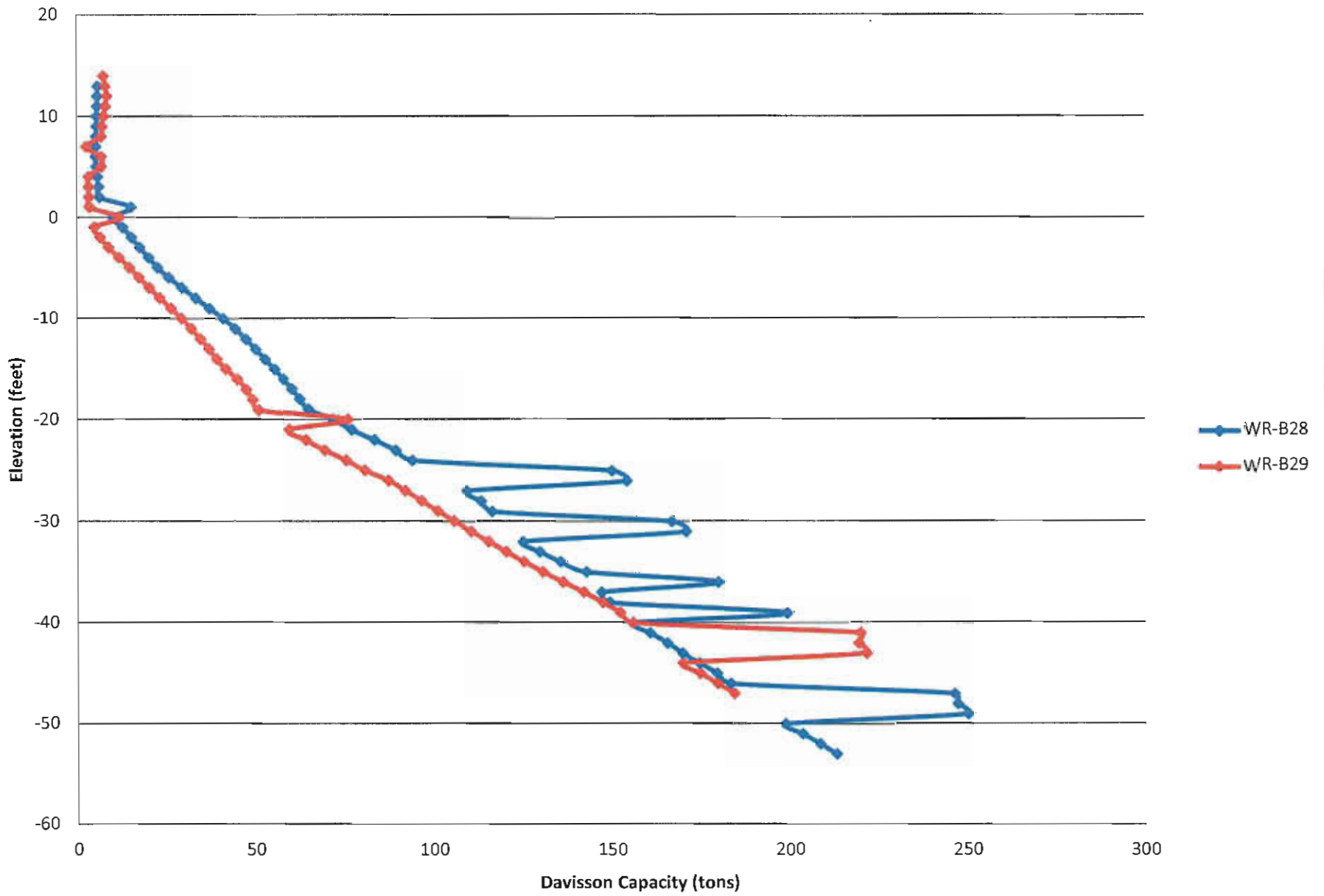
Bent 11 - 24" Pipe Pile



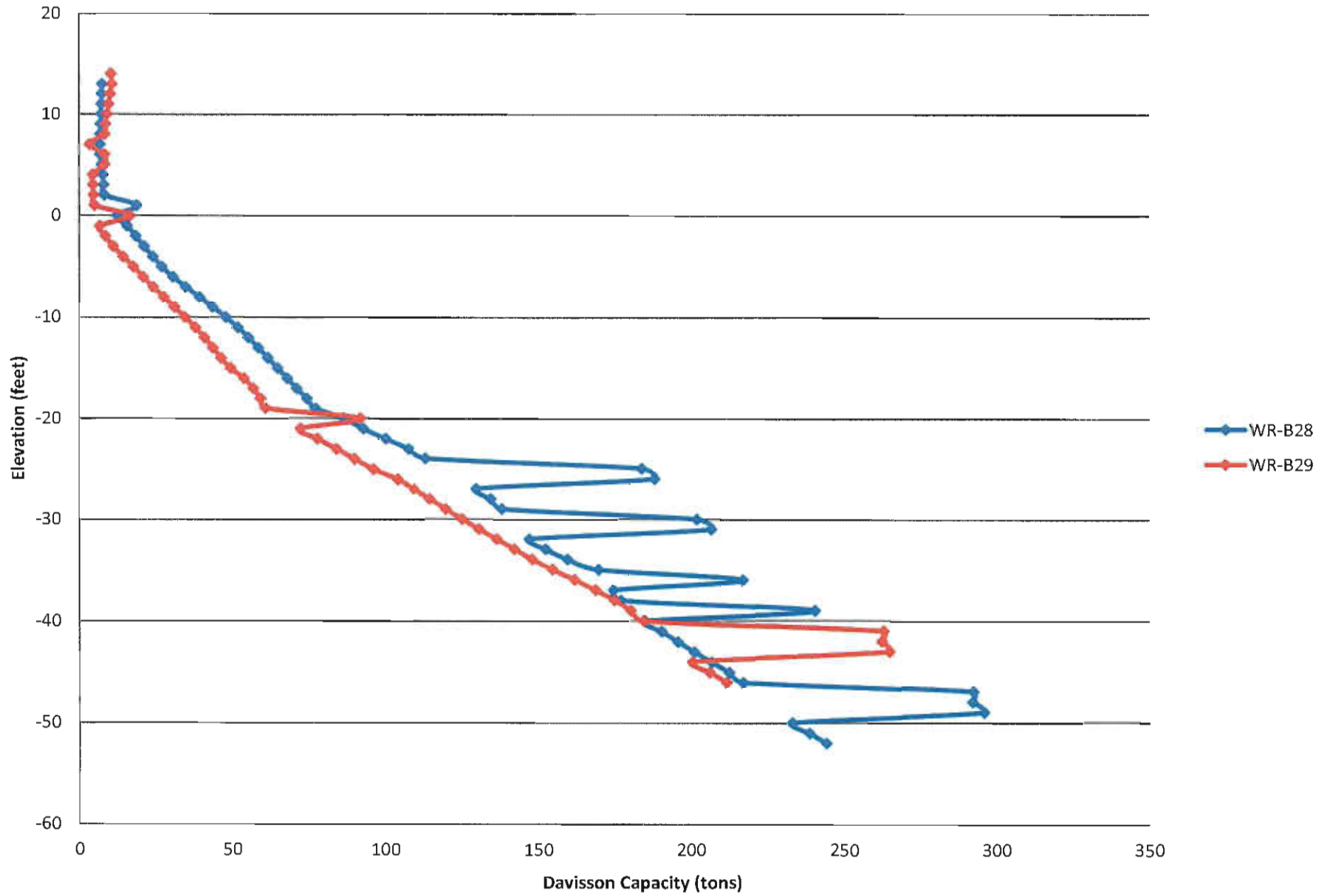
Bent 11 - HP14x117



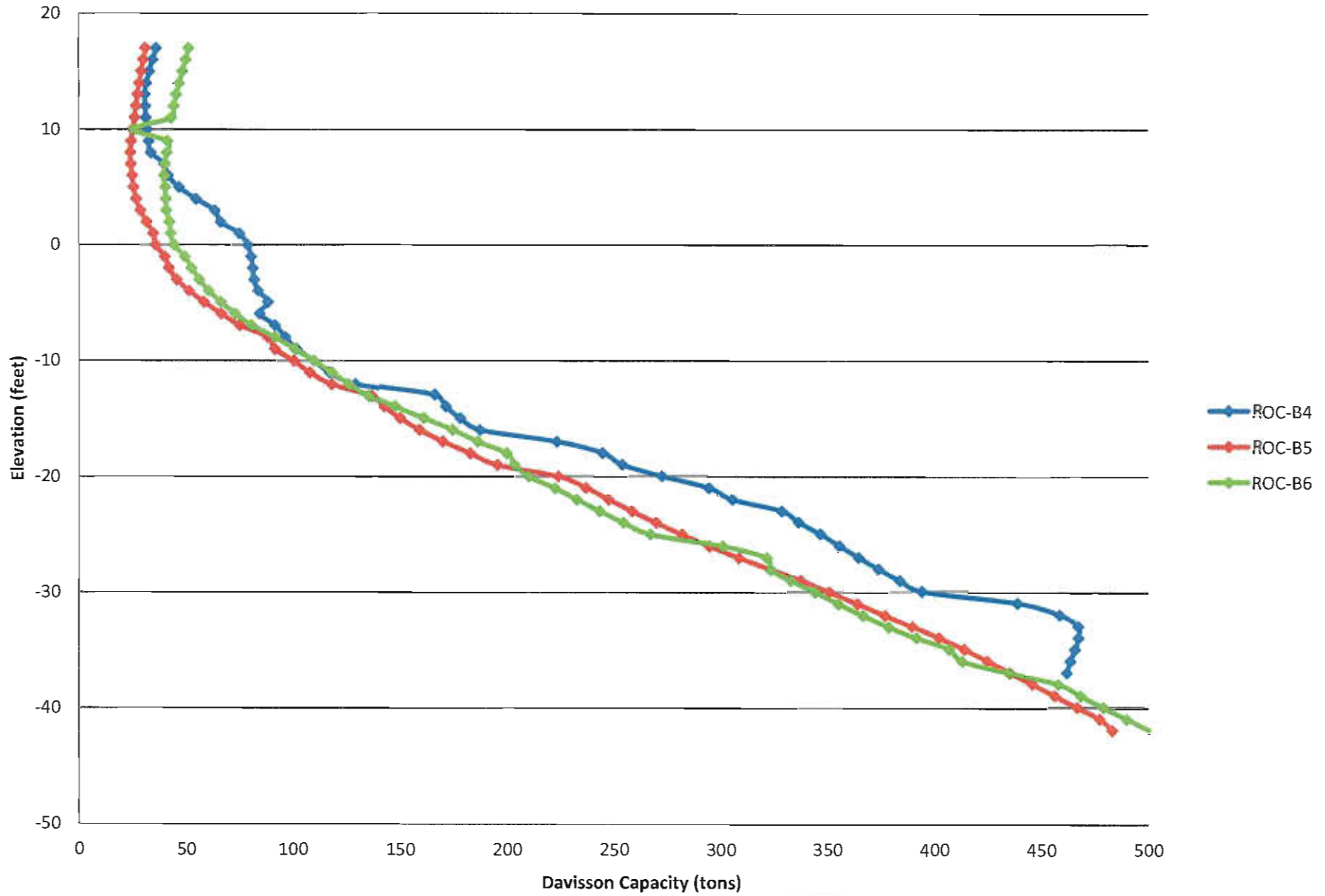
Bent 11 - HP16x121



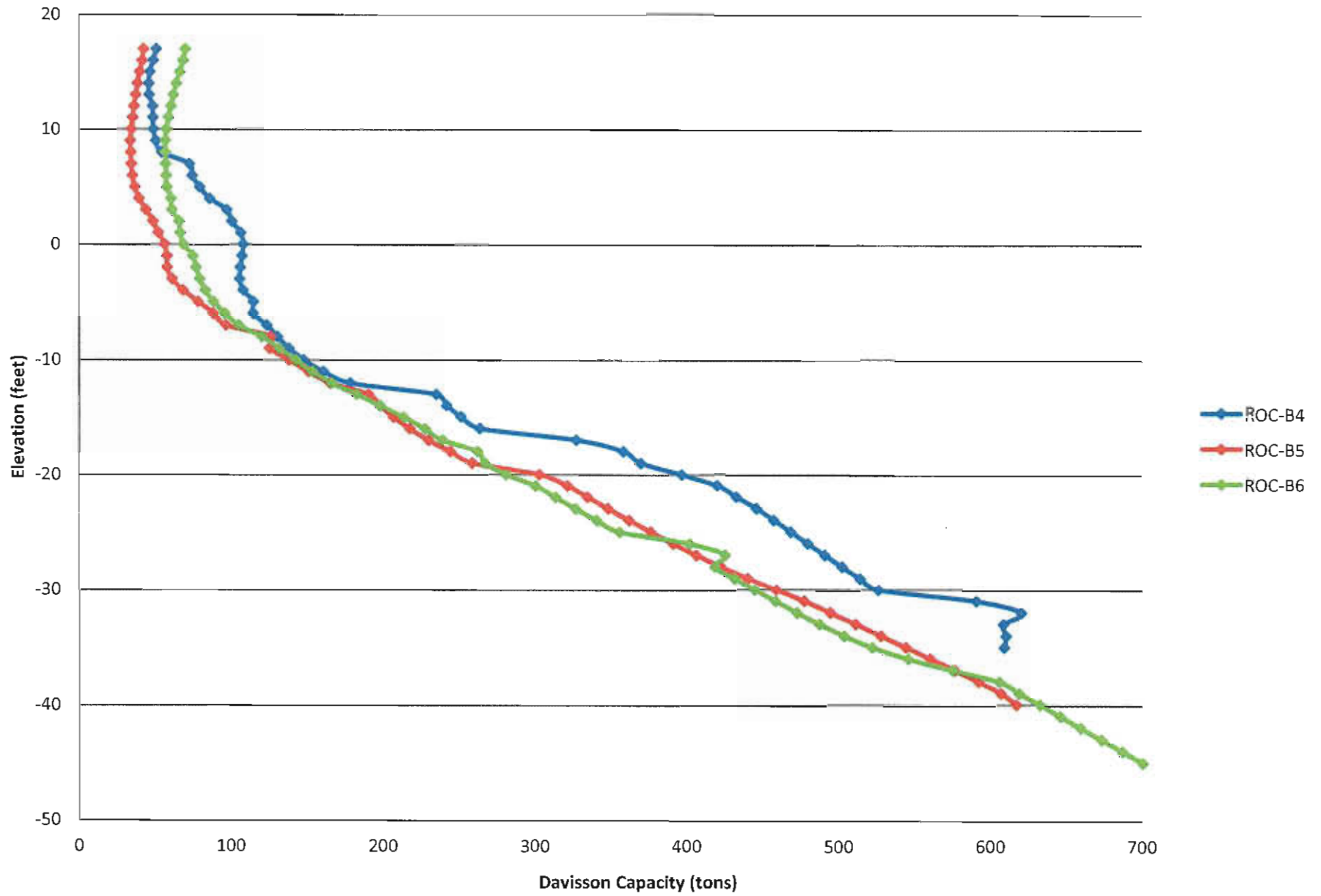
Bent 11 - HP18x204



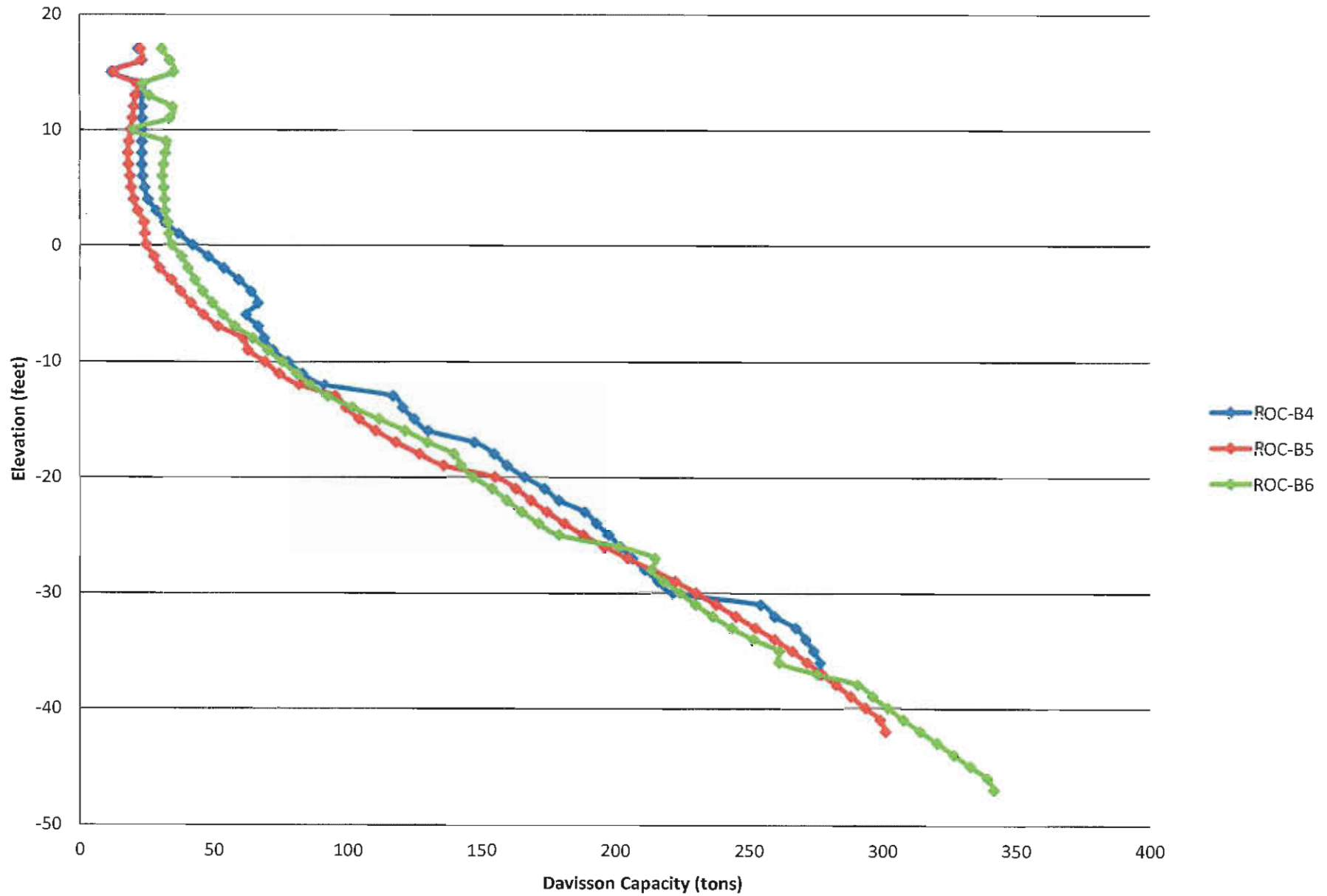
Bent 12 - 24" PCP



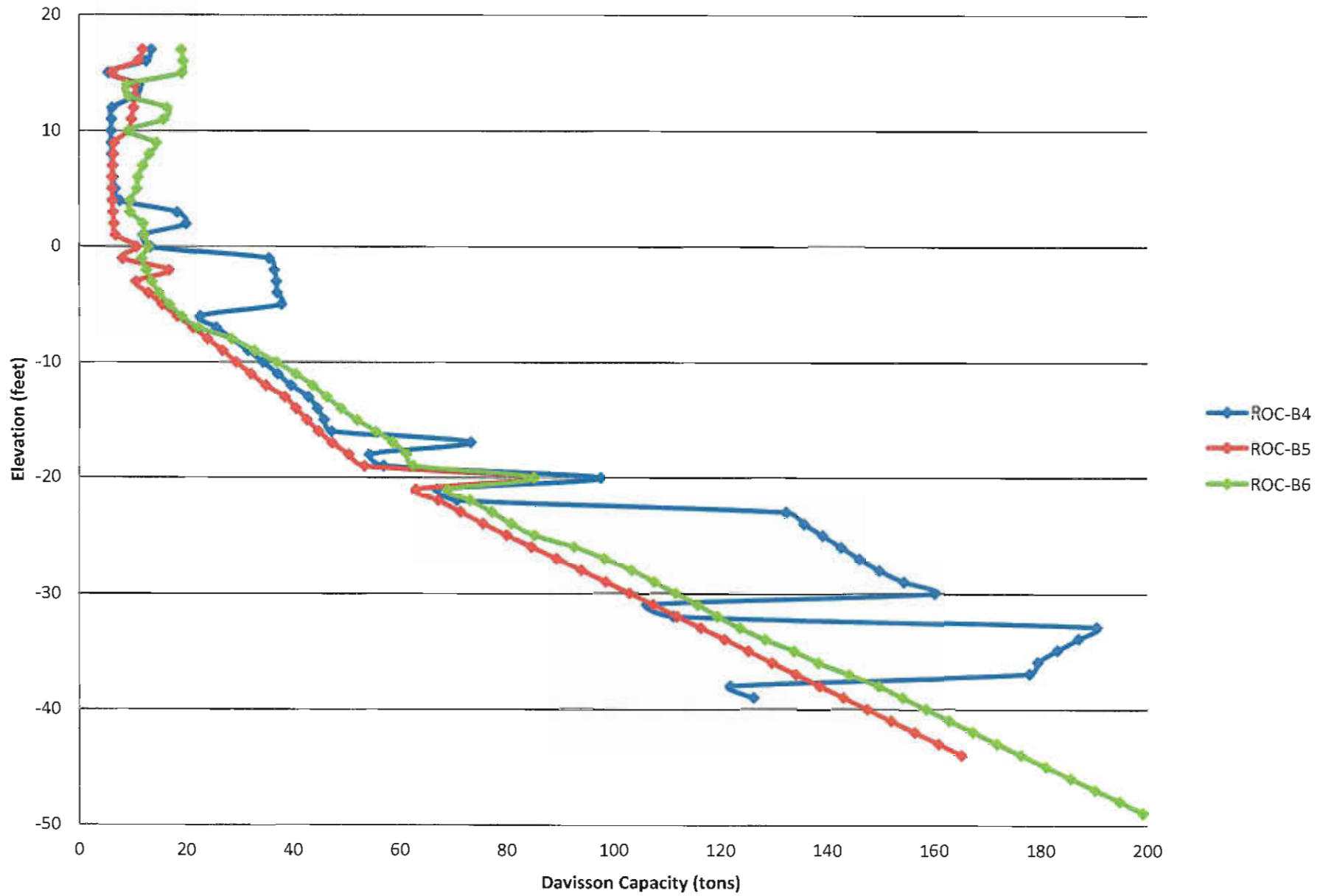
Bent 12 - 30" PCP



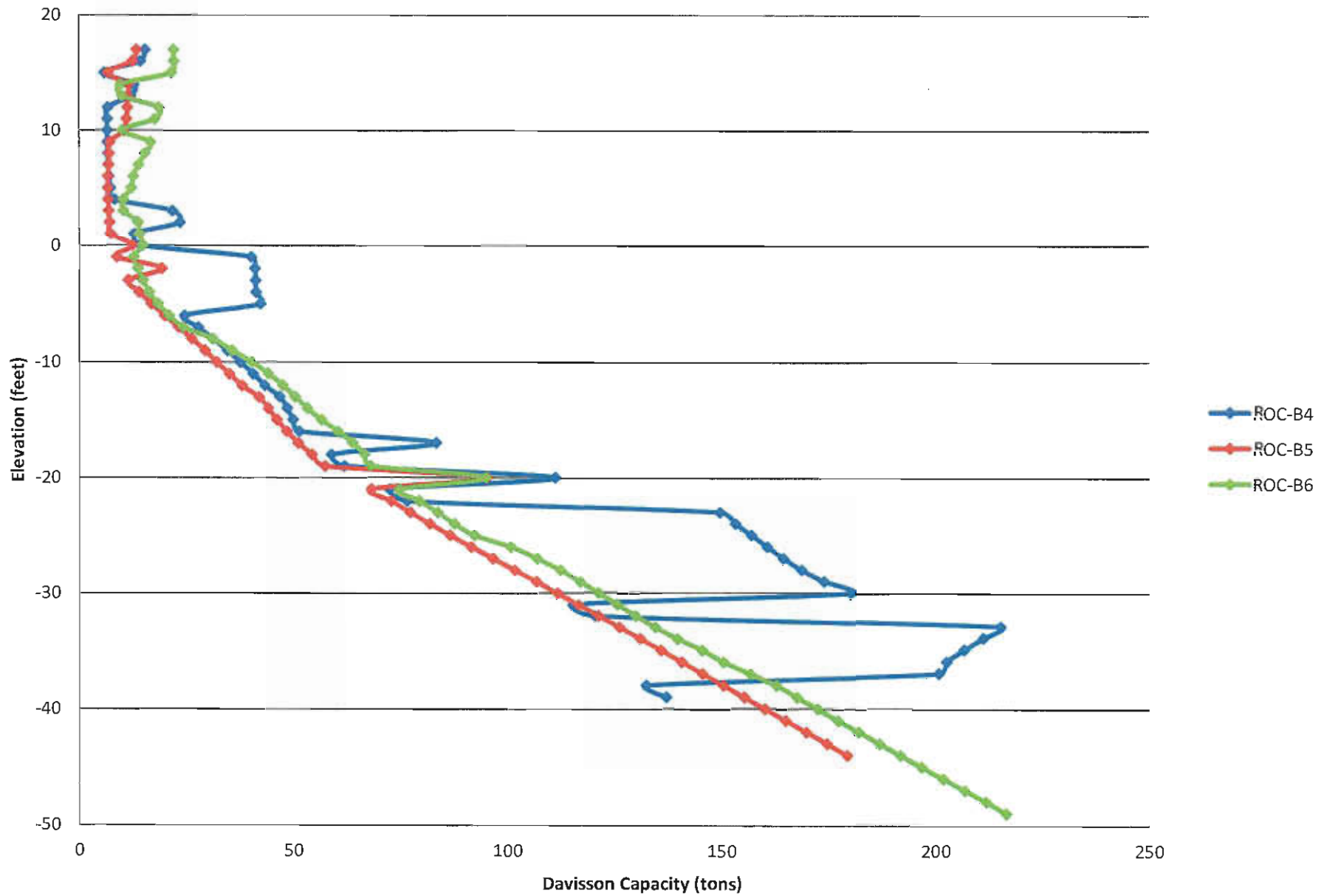
Bent 12 - 24" Pipe Pile



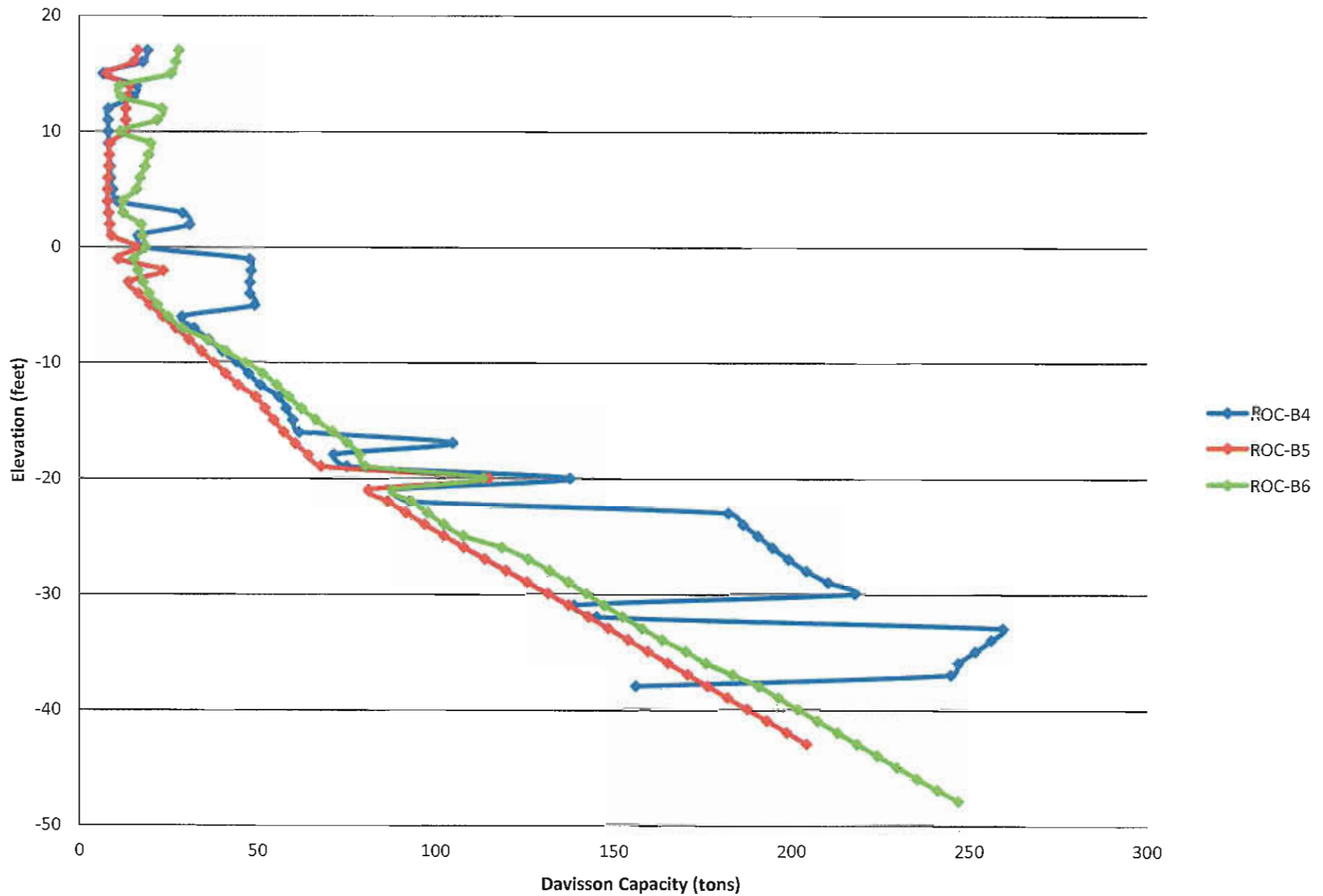
Bent 12 - HP14x117



Bent 12 - HP16x121



Bent 12 - HP18x204



General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B1_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 6/25/13, Boring Number: WR-B1
 Station number: 908+65 Offset: 65 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	8.00	3- Clean sand
2	2.00	8.00	3- Clean sand
3	4.00	9.00	2- Clay and silty sand
4	6.00	31.00	2- Clay and silty sand
5	8.00	22.00	2- Clay and silty sand
6	10.00	23.00	2- Clay and silty sand
7	12.50	22.00	2- Clay and silty sand
8	15.00	18.00	2- Clay and silty sand
9	17.50	16.00	2- Clay and silty sand
10	18.75	8.00	3- Clean sand
11	20.00	8.00	2- Clay and silty sand
12	21.25	4.00	3- Clean sand
13	22.50	4.00	2- Clay and silty sand
14	25.00	2.00	2- Clay and silty sand
15	27.50	1.00	2- Clay and silty sand
16	28.75	1.00	3- Clean sand
17	30.00	7.00	2- Clay and silty sand

WR-B1_24-PCP.txt

18	32.50	7.00	2- Clay and silty sand
19	33.75	2.00	3- Clean sand
20	35.00	2.00	2- Clay and silty sand
21	37.50	2.00	2- Clay and silty sand
22	38.75	2.00	3- Clean sand
23	40.00	6.00	2- Clay and silty sand
24	42.50	11.00	2- Clay and silty sand
25	45.00	18.00	2- Clay and silty sand
26	47.50	16.00	2- Clay and silty sand
27	50.00	15.00	2- Clay and silty sand
28	52.50	11.00	2- Clay and silty sand
29	55.00	17.00	2- Clay and silty sand
30	57.50	20.00	2- Clay and silty sand
31	58.75	20.00	3- Clean sand
32	60.00	30.00	2- Clay and silty sand
33	62.50	32.00	2- Clay and silty sand
34	63.75	15.00	3- Clean sand
35	65.00	15.00	2- Clay and silty sand
36	67.50	14.00	2- Clay and silty sand
37	70.00	20.00	2- Clay and silty sand
38	72.50	29.00	2- Clay and silty sand
39	75.00	18.00	2- Clay and silty sand
40	77.50	99.00	4- Lime Stone/Very shelly sand
41	80.00	99.00	4- Lime Stone/Very shelly sand
42	82.50	99.00	4- Lime Stone/Very shelly sand
43	85.00	99.00	4- Lime Stone/Very shelly sand
44	87.50	99.00	4- Lime Stone/Very shelly sand
45	90.00	99.00	2- Clay and silty sand
46	92.50	99.00	2- Clay and silty sand
47	95.00	99.00	2- Clay and silty sand
48	97.50	99.00	4- Lime Stone/Very shelly sand
49	100.00	51.00	4- Lime Stone/Very shelly sand
50	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	8.00	3-Clean Sand
2	-4.00	-18.75	14.75	20.44	2-Clay and Silty Sand
3	-18.75	-20.00	1.25	8.00	3-Clean Sand
4	-20.00	-21.25	1.25	8.00	2-Clay and Silty Sand

WR-B1_24-PCP.txt

5	-21.25	-22.50	1.25	4.00	3-Clean Sand
6	-22.50	-28.75	6.25	2.60	2-Clay and Silty Sand
7	-28.75	-30.00	1.25	1.00	3-Clean Sand
8	-30.00	-33.75	3.75	7.00	2-Clay and Silty Sand
9	-33.75	-35.00	1.25	2.00	3-Clean Sand
10	-35.00	-38.75	3.75	2.00	2-Clay and Silty Sand
11	-38.75	-40.00	1.25	2.00	3-Clean Sand
12	-40.00	-58.75	18.75	13.87	2-Clay and Silty Sand
13	-58.75	-60.00	1.25	20.00	3-Clean Sand
14	-60.00	-63.75	3.75	30.67	2-Clay and Silty Sand
15	-63.75	-65.00	1.25	15.00	3-Clean Sand
16	-65.00	-77.50	12.50	19.20	2-Clay and Silty Sand
17	-77.50	-90.00	12.50	99.00	4-Limestone, Very
Shelly Sand					
18	-90.00	-97.50	7.50	99.00	2-Clay and Silty Sand
19	-97.50	-101.00	3.50	85.29	4-Limestone, Very
Shelly Sand					
20	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00

WR-B1_24-PCP.txt

24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00

WR-B1_24-PCP.txt

24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	53.54	51.58	105.13	52.56	208.29
11.00	24.0	62.00	51.22	113.22	56.61	215.65
12.00	24.0	70.52	50.54	121.06	60.53	222.14
13.00	24.0	78.36	48.71	127.07	63.54	224.50
14.00	24.0	85.82	45.79	131.61	65.80	223.19
15.00	24.0	92.87	42.15	135.02	67.51	219.33
16.00	24.0	99.59	38.62	138.21	69.11	215.46
17.00	24.0	106.08	35.51	141.60	70.80	212.62
18.00	24.0	111.90	32.48	144.37	72.19	209.33
19.00	24.0	115.00	7.88	122.89	61.44	138.65
20.00	24.0	117.97	1.89	119.86	59.93	123.64
21.00	24.0	118.68	2.45	121.13	60.56	126.03

WR-B1_24-PCP.txt

22.00	24.0	120.14	0.00	120.14	60.07	120.14
23.00	24.0	120.14	22.15	142.29	71.15	186.60
24.00	24.0	120.14	21.47	141.61	70.81	184.56
25.00	24.0	120.14	20.96	141.09	70.55	183.01
26.00	24.0	120.14	20.27	140.40	70.20	180.93
27.00	24.0	120.14	18.68	138.82	69.41	176.17
28.00	24.0	120.14	16.83	136.96	68.48	170.62
29.00	24.0	120.21	15.00	135.22	67.61	165.22
30.00	24.0	122.06	12.87	134.93	67.46	160.66
31.00	24.0	125.13	10.57	135.70	67.85	156.84
32.00	24.0	128.20	8.40	136.60	68.30	153.40
33.00	24.0	130.96	7.02	137.98	68.99	152.03
34.00	24.0	131.65	2.03	133.68	66.84	137.74
35.00	24.0	131.65	7.24	138.89	69.45	153.37
36.00	24.0	131.65	7.39	139.04	69.52	153.81
37.00	24.0	131.65	8.09	139.74	69.87	155.91
38.00	24.0	131.65	9.68	141.33	70.66	160.69
39.00	24.0	131.71	16.27	147.98	73.99	180.52
40.00	24.0	133.32	19.84	153.16	76.58	192.85
41.00	24.0	136.07	20.13	156.20	78.10	196.46
42.00	24.0	139.12	20.91	160.03	80.02	201.86
43.00	24.0	142.63	22.08	164.71	82.36	208.88
44.00	24.0	146.89	23.44	170.33	85.16	217.21
45.00	24.0	152.13	24.71	176.85	88.42	226.27
46.00	24.0	158.10	25.65	183.75	91.88	235.06
47.00	24.0	163.99	26.77	190.76	95.38	244.30
48.00	24.0	169.63	28.46	198.09	99.05	255.01
49.00	24.0	175.65	29.61	205.25	102.63	264.46
50.00	24.0	181.58	31.41	212.99	106.49	275.81
51.00	24.0	187.22	34.03	221.25	110.63	289.32
52.00	24.0	192.39	39.35	231.74	115.87	310.45
53.00	24.0	197.21	44.55	241.76	120.88	330.87
54.00	24.0	202.58	48.87	251.46	125.73	349.21
55.00	24.0	208.68	53.08	261.75	130.88	367.91
56.00	24.0	215.29	56.90	272.19	136.10	385.99
57.00	24.0	222.23	60.01	282.23	141.12	402.25
58.00	24.0	229.11	60.91	290.02	145.01	411.84
59.00	24.0	240.74	59.04	299.78	149.89	417.86
60.00	24.0	247.92	65.59	313.52	156.76	444.71
61.00	24.0	256.88	66.14	323.02	161.51	455.30
62.00	24.0	266.54	66.12	332.66	166.33	464.91
63.00	24.0	276.07	65.62	341.69	170.85	472.94
64.00	24.0	280.37	46.64	327.01	163.51	420.29
65.00	24.0	285.25	53.11	338.36	169.18	444.58
66.00	24.0	290.88	53.42	344.29	172.15	451.13
67.00	24.0	296.08	54.21	350.29	175.15	458.72
68.00	24.0	301.22	55.23	356.46	178.23	466.92
69.00	24.0	306.14	58.01	364.15	182.07	480.16

WR-B1_24-PCP.txt

70.00	24.0	310.07	65.86	375.93	187.96	507.64	
71.00	24.0	313.90	80.47	394.37	197.19	555.32	
72.00	24.0	319.03	99.40	418.43	209.21	617.22	
73.00	24.0	325.46	122.05	447.51	223.76	691.61	
74.00	24.0	333.44	138.20	471.64	235.82	748.05	
75.00	24.0	340.73	153.71	494.44	247.22	801.86	
76.00	24.0	347.30	167.63	514.93	257.47	850.19	
77.00	24.0	353.20	177.98	531.18	265.59	887.13	
78.00	24.0	373.82	181.81	555.63	277.82	919.26	
79.00	24.0	378.32	182.88	561.20	280.60	926.96	
80.00	24.0	382.58	185.03	567.62	283.81	937.69	
81.00	24.0	386.66	188.33	574.99	287.49	951.64	
82.00	24.0	390.86	191.43	582.29	291.15	965.15	
83.00	24.0	395.43	192.98	588.41	294.21	974.38	
84.00	24.0	400.30	193.08	593.38	296.69	979.54	
85.00	24.0	405.31	192.47	597.78	298.89	982.72	
86.00	24.0	410.46	191.09	601.55	300.78	983.72	
87.00	24.0	415.75	188.84	604.60	302.30	982.28	
88.00	24.0	421.40	185.92	607.32	303.66	979.15	
89.00	24.0	428.41	186.43	614.84	307.42	987.70	
90.00	24.0	438.55	146.29	584.84	292.42	877.41	
91.00	24.0	448.91	146.50	595.41	297.70	888.41	
92.00	24.0	457.98	149.57	607.56	303.78	906.70	
93.00	24.0	466.30	155.50	621.80	310.90	932.80	
94.00	24.0	475.74	159.14	634.89	317.44	953.17	
95.00	24.0	***** Not enough soil data *****					
96.00	24.0	0.00	0.00	0.00	0.00	0.00	
97.00	24.0	0.00	0.00	0.00	0.00	0.00	
98.00	24.0	0.00	0.00	0.00	0.00	0.00	
99.00	24.0	0.00	0.00	0.00	0.00	0.00	
100.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B2_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 11/15/13, Boring Number: WR-B2
 Station number: 908+80 Offset: 60 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	3- Clean sand
2	2.00	3.00	3- Clean sand
3	4.00	12.00	2- Clay and silty sand
4	5.00	12.00	3- Clean sand
5	6.00	26.00	2- Clay and silty sand
6	8.00	27.00	2- Clay and silty sand
7	9.00	19.00	3- Clean sand
8	10.00	19.00	2- Clay and silty sand
9	12.50	18.00	2- Clay and silty sand
10	15.00	13.00	2- Clay and silty sand
11	17.50	9.00	2- Clay and silty sand
12	20.00	5.00	2- Clay and silty sand
13	21.25	3.00	3- Clean sand
14	22.50	3.00	2- Clay and silty sand
15	25.00	3.00	2- Clay and silty sand
16	27.50	2.00	2- Clay and silty sand
17	30.00	2.00	2- Clay and silty sand

WR-B2_24-PCP.txt

18	32.50	3.00	2- Clay and silty sand
19	35.00	0.00	2- Clay and silty sand
20	37.50	0.00	2- Clay and silty sand
21	40.00	0.00	2- Clay and silty sand
22	41.25	0.00	3- Clean sand
23	42.50	9.00	2- Clay and silty sand
24	45.00	10.00	2- Clay and silty sand
25	47.50	14.00	2- Clay and silty sand
26	50.00	17.00	2- Clay and silty sand
27	52.50	16.00	1- Plastic Clay
28	55.00	16.00	1- Plastic Clay
29	57.50	11.00	1- Plastic Clay
30	60.00	9.00	1- Plastic Clay
31	62.50	24.00	2- Clay and silty sand
32	65.00	29.00	2- Clay and silty sand
33	67.50	39.00	2- Clay and silty sand
34	68.75	19.00	3- Clean sand
35	70.00	19.00	2- Clay and silty sand
36	72.50	10.00	2- Clay and silty sand
37	73.75	10.00	3- Clean sand
38	75.00	41.00	2- Clay and silty sand
39	77.50	99.00	1- Plastic Clay
40	78.75	20.00	2- Clay and silty sand
41	80.00	20.00	1- Plastic Clay
42	82.50	99.00	2- Clay and silty sand
43	85.00	99.00	4- Lime Stone/Very shelly sand
44	87.50	99.00	4- Lime Stone/Very shelly sand
45	90.00	99.00	4- Lime Stone/Very shelly sand
46	92.50	99.00	4- Lime Stone/Very shelly sand
47	95.00	99.00	4- Lime Stone/Very shelly sand
48	97.50	99.00	4- Lime Stone/Very shelly sand
49	100.00	99.00	4- Lime Stone/Very shelly sand
50	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	3.00	3-Clean Sand
2	-4.00	-5.00	1.00	12.00	2-Clay and Silty Sand
3	-5.00	-6.00	1.00	12.00	3-Clean Sand
4	-6.00	-9.00	3.00	26.33	2-Clay and Silty Sand

WR-B2_24-PCP.txt					
5	-9.00	-10.00	1.00	19.00	3-Clean Sand
6	-10.00	-21.25	11.25	13.67	2-Clay and Silty Sand
7	-21.25	-22.50	1.25	3.00	3-Clean Sand
8	-22.50	-41.25	18.75	1.73	2-Clay and Silty Sand
9	-41.25	-42.50	1.25	0.00	3-Clean Sand
10	-42.50	-52.50	10.00	12.50	2-Clay and Silty Sand
11	-52.50	-62.50	10.00	13.00	1-Plastic Clay
12	-62.50	-68.75	6.25	29.00	2-Clay and Silty Sand
13	-68.75	-70.00	1.25	19.00	3-Clean Sand
14	-70.00	-73.75	3.75	16.00	2-Clay and Silty Sand
15	-73.75	-75.00	1.25	10.00	3-Clean Sand
16	-75.00	-77.50	2.50	41.00	2-Clay and Silty Sand
17	-77.50	-78.75	1.25	99.00	1-Plastic Clay
18	-78.75	-80.00	1.25	20.00	2-Clay and Silty Sand
19	-80.00	-82.50	2.50	20.00	1-Plastic Clay
20	-82.50	-85.00	2.50	99.00	2-Clay and Silty Sand
21	-85.00	-101.00	16.00	99.00	4-Limestone, Very
Shelly Sand					
22	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00

WR-B2_24-PCP.txt

24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00

WR-B2_24-PCP.txt

24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	43.35	42.72	86.07	43.04	171.52
11.00	24.0	50.41	41.10	91.50	45.75	173.70
12.00	24.0	57.35	39.17	96.52	48.26	174.85
13.00	24.0	64.12	36.96	101.08	50.54	175.00
14.00	24.0	70.33	34.39	104.72	52.36	173.50
15.00	24.0	75.92	31.49	107.41	53.71	170.39
16.00	24.0	80.92	28.22	109.13	54.57	165.56
17.00	24.0	85.34	25.15	110.50	55.25	160.80
18.00	24.0	89.18	22.40	111.58	55.79	156.37
19.00	24.0	92.39	19.94	112.33	56.17	152.21
20.00	24.0	94.96	17.79	112.75	56.37	148.32

WR-B2_24-PCP.txt

21.00	24.0	96.31	16.02	112.32	56.16	144.36
22.00	24.0	96.36	0.00	96.36	48.18	96.36
23.00	24.0	96.36	18.26	114.62	57.31	151.14
24.00	24.0	96.36	16.05	112.41	56.21	144.51
25.00	24.0	96.36	13.36	109.73	54.86	136.45
26.00	24.0	96.36	11.01	107.37	53.68	129.38
27.00	24.0	96.36	9.45	105.82	52.91	124.72
28.00	24.0	96.36	7.93	104.29	52.15	120.15
29.00	24.0	96.36	6.46	102.82	51.41	115.74
30.00	24.0	96.36	5.14	101.50	50.75	111.77
31.00	24.0	96.36	3.98	100.34	50.17	108.30
32.00	24.0	96.36	2.97	99.33	49.67	105.27
33.00	24.0	96.36	2.09	98.46	49.23	102.65
34.00	24.0	96.36	1.35	97.71	48.86	100.41
35.00	24.0	96.36	1.12	97.49	48.74	99.73
36.00	24.0	96.36	2.18	98.55	49.27	102.91
37.00	24.0	96.36	3.71	100.07	50.04	107.49
38.00	24.0	96.36	5.55	101.92	50.96	113.02
39.00	24.0	96.36	7.59	103.96	51.98	119.14
40.00	24.0	96.36	9.93	106.30	53.15	126.17
41.00	24.0	96.36	12.57	108.93	54.47	134.07
42.00	24.0	97.12	13.39	110.51	55.26	137.29
43.00	24.0	100.60	16.43	117.03	58.52	149.90
44.00	24.0	103.90	16.91	120.81	60.41	154.64
45.00	24.0	107.20	17.60	124.81	62.40	160.02
46.00	24.0	111.02	18.22	129.24	64.62	165.68
47.00	24.0	115.52	18.75	134.27	67.14	171.77
48.00	24.0	120.71	19.17	139.88	69.94	178.22
49.00	24.0	126.58	19.38	145.96	72.98	184.71
50.00	24.0	133.24	19.21	152.45	76.22	190.87
51.00	24.0	140.11	18.73	158.84	79.42	196.30
52.00	24.0	146.92	18.40	165.32	82.66	202.13
53.00	24.0	156.80	15.72	172.52	86.26	203.95
54.00	24.0	163.48	16.08	179.56	89.78	211.72
55.00	24.0	169.31	17.48	186.79	93.40	221.76
56.00	24.0	174.21	20.87	195.08	97.54	236.81
57.00	24.0	179.58	25.11	204.69	102.34	254.91
58.00	24.0	185.06	29.06	214.12	107.06	272.25
59.00	24.0	190.14	33.71	223.84	111.92	291.25
60.00	24.0	194.86	39.21	234.07	117.03	312.48
61.00	24.0	200.12	45.30	245.42	122.71	336.02
62.00	24.0	206.83	50.80	257.63	128.81	359.23
63.00	24.0	219.00	55.50	274.51	137.25	385.51
64.00	24.0	227.75	55.14	282.89	141.44	393.16
65.00	24.0	236.85	53.48	290.33	145.16	397.28
66.00	24.0	246.37	50.99	297.36	148.68	399.33
67.00	24.0	256.33	49.48	305.81	152.91	404.78
68.00	24.0	266.00	50.65	316.65	158.32	417.95

WR-B2_24-PCP.txt

69.00	24.0	270.98	59.68	330.66	165.33	450.02
70.00	24.0	276.90	60.19	337.09	168.54	457.46
71.00	24.0	283.43	53.76	337.19	168.60	444.71
72.00	24.0	288.81	52.58	341.39	170.70	446.56
73.00	24.0	292.95	51.18	344.13	172.06	446.49
74.00	24.0	295.57	59.90	355.47	177.73	475.26
75.00	24.0	302.63	62.59	365.22	182.61	490.40
76.00	24.0	312.66	63.22	375.89	187.94	502.34
77.00	24.0	321.05	66.35	387.40	193.70	520.10
78.00	24.0	336.26	84.61	420.86	210.43	590.08
79.00	24.0	344.69	98.68	443.37	221.69	640.73
80.00	24.0	352.71	125.78	478.49	239.24	730.05
81.00	24.0	360.66	129.90	490.56	245.28	750.36
82.00	24.0	368.47	141.30	509.76	254.88	792.36
83.00	24.0	381.13	163.70	544.84	272.42	872.25
84.00	24.0	388.46	166.26	554.72	277.36	887.24
85.00	24.0	395.44	186.09	581.53	290.76	953.70
86.00	24.0	400.08	186.65	586.73	293.37	960.04
87.00	24.0	404.41	188.48	592.89	296.45	969.86
88.00	24.0	408.49	191.65	600.14	300.07	983.45
89.00	24.0	412.40	196.19	608.59	304.29	1000.97
90.00	24.0	416.23	201.84	618.07	309.03	1021.74
91.00	24.0	420.10	208.14	628.24	314.12	1044.52
92.00	24.0	423.99	215.28	639.27	319.64	1069.83
93.00	24.0	427.86	223.85	651.71	325.85	1099.40
94.00	24.0	432.61	226.23	658.84	329.42	1111.31
95.00	24.0	*****	Not enough soil data	*****		
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B3_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 7/8/13, Boring Number: WR-B3
 Station number: 908+65 Offset: 145 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	6.00	3- Clean sand
2	2.00	6.00	3- Clean sand
3	3.00	6.00	2- Clay and silty sand
4	4.00	22.00	3- Clean sand
5	6.00	46.00	2- Clay and silty sand
6	7.00	28.00	3- Clean sand
7	8.00	28.00	2- Clay and silty sand
8	10.00	23.00	2- Clay and silty sand
9	12.50	16.00	2- Clay and silty sand
10	15.00	25.00	3- Clean sand
11	17.50	13.00	2- Clay and silty sand
12	20.00	8.00	3- Clean sand
13	22.50	3.00	2- Clay and silty sand
14	25.00	2.00	2- Clay and silty sand
15	27.50	2.00	2- Clay and silty sand
16	28.75	2.00	3- Clean sand
17	30.00	5.00	2- Clay and silty sand

WR-B3_24-PCP.txt

18	32.50	7.00	2- Clay and silty sand
19	35.00	5.00	2- Clay and silty sand
20	37.50	8.00	2- Clay and silty sand
21	40.00	8.00	2- Clay and silty sand
22	42.50	8.00	2- Clay and silty sand
23	45.00	12.00	2- Clay and silty sand
24	47.50	14.00	2- Clay and silty sand
25	48.75	14.00	3- Clean sand
26	50.00	23.00	2- Clay and silty sand
27	52.50	26.00	2- Clay and silty sand
28	55.00	15.00	2- Clay and silty sand
29	57.50	17.00	2- Clay and silty sand
30	60.00	15.00	2- Clay and silty sand
31	62.50	17.00	2- Clay and silty sand
32	65.00	26.00	2- Clay and silty sand
33	66.25	26.00	3- Clean sand
34	67.50	49.00	2- Clay and silty sand
35	70.00	30.00	2- Clay and silty sand
36	72.50	37.00	2- Clay and silty sand
37	75.00	24.00	2- Clay and silty sand
38	76.25	9.00	3- Clean sand
39	77.50	9.00	2- Clay and silty sand
40	78.75	9.00	3- Clean sand
41	80.00	36.00	2- Clay and silty sand
42	81.25	36.00	3- Clean sand
43	82.50	99.00	2- Clay and silty sand
44	85.00	99.00	2- Clay and silty sand
45	87.50	99.00	4- Lime Stone/Very shelly sand
46	90.00	99.00	2- Clay and silty sand
47	91.25	30.00	3- Clean sand
48	92.50	30.00	2- Clay and silty sand
49	93.75	30.00	3- Clean sand
50	95.00	99.00	2- Clay and silty sand
51	96.25	25.00	3- Clean sand
52	97.50	25.00	2- Clay and silty sand
53	98.75	25.00	3- Clean sand
54	100.00	99.00	2- Clay and silty sand
55	102.50	99.00	2- Clay and silty sand
56	105.00	99.00	2- Clay and silty sand
57	106.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation	Bottom Elevation	Thickness	Average Blowcount	Soil Type
------------	--------------------	------------------	-----------	-------------------	-----------

	(ft)	(ft)	(ft)	(Blows/ft)	
1	0.00	-3.00	3.00	6.00	3-Clean Sand
2	-3.00	-4.00	1.00	6.00	2-Clay and Silty Sand
3	-4.00	-6.00	2.00	22.00	3-Clean Sand
4	-6.00	-7.00	1.00	46.00	2-Clay and Silty Sand
5	-7.00	-8.00	1.00	28.00	3-Clean Sand
6	-8.00	-15.00	7.00	21.93	2-Clay and Silty Sand
7	-15.00	-17.50	2.50	25.00	3-Clean Sand
8	-17.50	-20.00	2.50	13.00	2-Clay and Silty Sand
9	-20.00	-22.50	2.50	8.00	3-Clean Sand
10	-22.50	-28.75	6.25	2.40	2-Clay and Silty Sand
11	-28.75	-30.00	1.25	2.00	3-Clean Sand
12	-30.00	-48.75	18.75	8.00	2-Clay and Silty Sand
13	-48.75	-50.00	1.25	14.00	3-Clean Sand
14	-50.00	-66.25	16.25	19.38	2-Clay and Silty Sand
15	-66.25	-67.50	1.25	26.00	3-Clean Sand
16	-67.50	-76.25	8.75	36.57	2-Clay and Silty Sand
17	-76.25	-77.50	1.25	9.00	3-Clean Sand
18	-77.50	-78.75	1.25	9.00	2-Clay and Silty Sand
19	-78.75	-80.00	1.25	9.00	3-Clean Sand
20	-80.00	-81.25	1.25	36.00	2-Clay and Silty Sand
21	-81.25	-82.50	1.25	36.00	3-Clean Sand
22	-82.50	-87.50	5.00	99.00	2-Clay and Silty Sand
23	-87.50	-90.00	2.50	99.00	4-Limestone, Very
Shelly Sand					
24	-90.00	-91.25	1.25	99.00	2-Clay and Silty Sand
25	-91.25	-92.50	1.25	30.00	3-Clean Sand
26	-92.50	-93.75	1.25	30.00	2-Clay and Silty Sand
27	-93.75	-95.00	1.25	30.00	3-Clean Sand
28	-95.00	-96.25	1.25	99.00	2-Clay and Silty Sand
29	-96.25	-97.50	1.25	25.00	3-Clean Sand
30	-97.50	-98.75	1.25	25.00	2-Clay and Silty Sand
31	-98.75	-100.00	1.25	25.00	3-Clean Sand
32	-100.00	-106.00	6.00	99.00	2-Clay and Silty Sand
33	-106.00	-106.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
---------------	----------------	-------------------

WR-B3_24-PCP.txt

24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00

WR-B3_24-PCP.txt

24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00
24.00	101.00	-101.00
24.00	102.00	-102.00
24.00	103.00	-103.00
24.00	104.00	-104.00
24.00	105.00	-105.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	54.13	74.89	129.02	64.51	278.80
11.00	24.0	62.27	74.39	136.65	68.33	285.43
12.00	24.0	69.34	72.62	141.96	70.98	287.21
13.00	24.0	75.60	71.14	146.74	73.37	289.02
14.00	24.0	81.23	68.22	149.44	74.72	285.88
15.00	24.0	86.25	62.68	148.93	74.46	274.28
16.00	24.0	91.07	55.97	147.04	73.52	258.98
17.00	24.0	96.13	52.02	148.15	74.08	252.20
18.00	24.0	100.69	21.61	122.30	61.15	165.53
19.00	24.0	104.11	21.97	126.08	63.04	170.03
20.00	24.0	107.23	7.56	114.79	57.39	129.90
21.00	24.0	107.76	8.45	116.21	58.10	133.11
22.00	24.0	108.35	8.44	116.80	58.40	133.69
23.00	24.0	109.11	0.44	109.55	54.77	110.42
24.00	24.0	109.11	0.65	109.76	54.88	111.06
25.00	24.0	109.11	1.16	110.28	55.14	112.60
26.00	24.0	109.11	2.02	111.13	55.57	115.17
27.00	24.0	109.11	3.13	112.25	56.12	118.51
28.00	24.0	109.11	4.44	113.55	56.77	122.42
29.00	24.0	109.17	24.48	133.65	66.83	182.62
30.00	24.0	110.52	23.00	133.52	66.76	179.52
31.00	24.0	112.93	20.34	133.27	66.63	173.95
32.00	24.0	115.67	17.67	133.34	66.67	168.68
33.00	24.0	118.66	16.16	134.82	67.41	167.14
34.00	24.0	121.40	15.77	137.17	68.59	168.72
35.00	24.0	123.81	15.54	139.35	69.67	170.42
36.00	24.0	126.30	15.22	141.52	70.76	171.96
37.00	24.0	129.28	15.25	144.53	72.27	175.03
38.00	24.0	132.68	16.00	148.69	74.34	180.70
39.00	24.0	136.15	17.43	153.58	76.79	188.44
40.00	24.0	139.61	19.08	158.69	79.34	196.84
41.00	24.0	143.08	21.12	164.20	82.10	206.43
42.00	24.0	146.55	24.94	171.48	85.74	221.36
43.00	24.0	150.09	28.79	178.88	89.44	236.45
44.00	24.0	154.14	32.23	186.37	93.19	250.83
45.00	24.0	158.79	35.71	194.50	97.25	265.93

WR-B3_24-PCP.txt

46.00	24.0	163.86	38.93	202.79	101.40	280.65
47.00	24.0	169.21	41.16	210.37	105.18	292.69
48.00	24.0	174.49	42.27	216.76	108.38	301.31
49.00	24.0	177.94	41.99	219.93	109.96	303.91
50.00	24.0	183.86	54.46	238.32	119.16	347.23
51.00	24.0	191.73	54.79	246.53	123.26	356.12
52.00	24.0	200.11	54.92	255.03	127.52	364.88
53.00	24.0	208.99	54.64	263.63	131.82	372.91
54.00	24.0	216.80	52.79	269.59	134.79	375.17
55.00	24.0	223.30	50.85	274.14	137.07	375.84
56.00	24.0	229.35	49.65	279.00	139.50	378.31
57.00	24.0	235.65	49.51	285.17	142.58	384.20
58.00	24.0	242.14	50.29	292.42	146.21	393.00
59.00	24.0	248.44	53.53	301.97	150.98	409.02
60.00	24.0	254.49	59.60	314.10	157.05	433.30
61.00	24.0	260.55	65.27	325.82	162.91	456.35
62.00	24.0	266.85	69.66	336.51	168.26	475.83
63.00	24.0	273.47	72.61	346.09	173.04	491.31
64.00	24.0	280.90	74.84	355.74	177.87	505.43
65.00	24.0	289.21	77.22	366.43	183.21	520.86
66.00	24.0	296.42	78.57	374.99	187.50	532.14
67.00	24.0	302.67	77.26	379.93	189.97	534.45
68.00	24.0	311.91	93.54	405.45	202.72	592.52
69.00	24.0	321.94	93.59	415.53	207.76	602.70
70.00	24.0	332.26	89.20	421.46	210.73	599.86
71.00	24.0	341.88	82.36	424.24	212.12	588.97
72.00	24.0	351.82	78.19	430.01	215.01	586.39
73.00	24.0	361.95	76.75	438.70	219.35	592.19
74.00	24.0	371.45	79.35	450.80	225.40	609.49
75.00	24.0	380.17	85.17	465.34	232.67	635.67
76.00	24.0	385.85	88.68	474.53	237.27	651.90
77.00	24.0	388.20	71.51	459.71	229.85	602.72
78.00	24.0	391.56	94.95	486.52	243.26	676.43
79.00	24.0	394.00	103.97	497.97	248.98	705.90
80.00	24.0	400.80	117.55	518.35	259.18	753.45
81.00	24.0	408.86	119.06	527.92	263.96	766.04
82.00	24.0	417.16	131.77	548.92	274.46	812.46
83.00	24.0	427.41	137.03	564.44	282.22	838.49
84.00	24.0	437.76	137.26	575.02	287.51	849.54
85.00	24.0	447.92	137.90	585.82	292.91	861.61
86.00	24.0	457.62	137.20	594.82	297.41	869.22
87.00	24.0	464.78	135.87	600.66	300.33	872.41
88.00	24.0	470.15	132.14	602.29	301.15	866.57
89.00	24.0	477.22	129.43	606.65	303.32	865.50
90.00	24.0	486.56	129.00	615.56	307.78	873.55
91.00	24.0	495.02	129.16	624.18	312.09	882.50
92.00	24.0	501.43	118.52	619.95	309.97	856.98
93.00	24.0	510.36	129.69	640.05	320.02	899.42

WR-B3_24-PCP.txt

94.00	24.0	517.05	133.79	650.85	325.42	918.44	
95.00	24.0	525.60	118.48	644.08	322.04	881.03	
96.00	24.0	533.43	119.16	652.59	326.30	890.92	
97.00	24.0	539.49	116.10	655.59	327.79	887.78	
98.00	24.0	547.26	138.38	685.64	342.82	962.41	
99.00	24.0	552.99	134.41	687.41	343.70	956.23	
100.00	24.0	***** Not enough soil data *****					
101.00	24.0	0.00	0.00	0.00	0.00	0.00	
102.00	24.0	0.00	0.00	0.00	0.00	0.00	
103.00	24.0	0.00	0.00	0.00	0.00	0.00	
104.00	24.0	0.00	0.00	0.00	0.00	0.00	
105.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B4_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 6/26/13, Boring Number: WR-B4
 Station number: 910+15 Offset: 45 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	12.50	18.00	2- Clay and silty sand
3	15.00	11.00	3- Clean sand
4	17.50	5.00	3- Clean sand
5	18.75	2.00	2- Clay and silty sand
6	20.00	2.00	3- Clean sand
7	22.50	2.00	3- Clean sand
8	25.00	0.00	2- Clay and silty sand
9	27.50	0.00	2- Clay and silty sand
10	30.00	2.00	2- Clay and silty sand
11	32.50	3.00	2- Clay and silty sand
12	35.00	4.00	2- Clay and silty sand
13	37.50	2.00	2- Clay and silty sand
14	38.75	2.00	3- Clean sand
15	40.00	9.00	2- Clay and silty sand
16	42.50	14.00	2- Clay and silty sand
17	45.00	17.00	2- Clay and silty sand

WR-B4_24-PCP.txt

18	47.50	13.00	2- Clay and silty sand
19	50.00	14.00	2- Clay and silty sand
20	52.50	16.00	2- Clay and silty sand
21	55.00	22.00	2- Clay and silty sand
22	56.25	22.00	3- Clean sand
23	57.50	52.00	2- Clay and silty sand
24	58.75	17.00	3- Clean sand
25	60.00	17.00	2- Clay and silty sand
26	62.50	20.00	2- Clay and silty sand
27	65.00	12.00	2- Clay and silty sand
28	67.50	14.00	2- Clay and silty sand
29	68.75	14.00	3- Clean sand
30	70.00	99.00	2- Clay and silty sand
31	72.50	99.00	2- Clay and silty sand
32	75.00	99.00	2- Clay and silty sand
33	77.50	99.00	2- Clay and silty sand
34	80.00	99.00	4- Lime Stone/Very shelly sand
35	81.25	43.00	2- Clay and silty sand
36	82.50	43.00	4- Lime Stone/Very shelly sand
37	83.75	43.00	2- Clay and silty sand
38	85.00	99.00	4- Lime Stone/Very shelly sand
39	86.25	31.00	2- Clay and silty sand
40	87.50	31.00	4- Lime Stone/Very shelly sand
41	90.00	30.00	2- Clay and silty sand
42	92.50	99.00	4- Lime Stone/Very shelly sand
43	95.00	99.00	4- Lime Stone/Very shelly sand
44	97.50	99.00	4- Lime Stone/Very shelly sand
45	100.00	99.00	4- Lime Stone/Very shelly sand
46	102.50	99.00	4- Lime Stone/Very shelly sand
47	105.00	99.00	4- Lime Stone/Very shelly sand
48	106.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-12.50	12.50	5.00	3-Clean Sand
2	-12.50	-15.00	2.50	18.00	2-Clay and Silty Sand
3	-15.00	-18.75	3.75	9.00	3-Clean Sand
4	-18.75	-20.00	1.25	2.00	2-Clay and Silty Sand
5	-20.00	-25.00	5.00	2.00	3-Clean Sand
6	-25.00	-38.75	13.75	1.82	2-Clay and Silty Sand

WR-B4_24-PCP.txt

7	-38.75	-40.00	1.25	2.00	3-Clean Sand
8	-40.00	-56.25	16.25	14.46	2-Clay and Silty Sand
9	-56.25	-57.50	1.25	22.00	3-Clean Sand
10	-57.50	-58.75	1.25	52.00	2-Clay and Silty Sand
11	-58.75	-60.00	1.25	17.00	3-Clean Sand
12	-60.00	-68.75	8.75	16.00	2-Clay and Silty Sand
13	-68.75	-70.00	1.25	14.00	3-Clean Sand
14	-70.00	-80.00	10.00	99.00	2-Clay and Silty Sand
15	-80.00	-81.25	1.25	99.00	4-Limestone, Very
Shelly Sand					
16	-81.25	-82.50	1.25	43.00	2-Clay and Silty Sand
17	-82.50	-83.75	1.25	43.00	4-Limestone, Very
Shelly Sand					
18	-83.75	-85.00	1.25	43.00	2-Clay and Silty Sand
19	-85.00	-86.25	1.25	99.00	4-Limestone, Very
Shelly Sand					
20	-86.25	-87.50	1.25	31.00	2-Clay and Silty Sand
21	-87.50	-90.00	2.50	31.00	4-Limestone, Very
Shelly Sand					
22	-90.00	-92.50	2.50	30.00	2-Clay and Silty Sand
23	-92.50	-106.00	13.50	99.00	4-Limestone, Very
Shelly Sand					
24	-106.00	-106.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00

WR-B4_24-PCP.txt

24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00

WR-B4_24-PCP.txt

24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00
24.00	101.00	-101.00
24.00	102.00	-102.00
24.00	103.00	-103.00
24.00	104.00	-104.00
24.00	105.00	-105.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	27.73	37.46	65.20	32.60	140.12
11.00	24.0	33.40	37.41	70.81	35.40	145.63

WR-B4_24-PCP.txt

12.00	24.0	40.65	36.24	76.90	38.45	149.39
13.00	24.0	51.77	35.19	86.96	43.48	157.34
14.00	24.0	56.70	32.00	88.69	44.35	152.69
15.00	24.0	59.72	28.58	88.30	44.15	145.46
16.00	24.0	61.43	28.78	90.21	45.10	147.76
17.00	24.0	62.96	24.99	87.95	43.98	137.93
18.00	24.0	63.87	19.82	83.69	41.85	123.34
19.00	24.0	64.08	0.00	64.08	32.04	64.08
20.00	24.0	64.08	18.69	82.77	41.39	120.16
21.00	24.0	64.08	17.63	81.71	40.85	116.96
22.00	24.0	64.08	16.51	80.59	40.29	113.61
23.00	24.0	64.08	15.34	79.42	39.71	110.10
24.00	24.0	64.08	14.12	78.20	39.10	106.43
25.00	24.0	64.08	12.84	76.92	38.46	102.60
26.00	24.0	64.08	11.51	75.59	37.80	98.61
27.00	24.0	64.08	10.13	74.21	37.10	94.47
28.00	24.0	64.08	8.69	72.77	36.39	90.16
29.00	24.0	64.08	7.20	71.27	35.64	85.67
30.00	24.0	64.08	5.58	69.65	34.83	80.81
31.00	24.0	64.08	3.82	67.90	33.95	75.55
32.00	24.0	64.08	2.25	66.32	33.16	70.82
33.00	24.0	64.08	2.04	66.12	33.06	70.21
34.00	24.0	64.08	3.14	67.22	33.61	73.49
35.00	24.0	64.08	5.22	69.30	34.65	79.74
36.00	24.0	64.08	7.85	71.93	35.96	87.62
37.00	24.0	64.08	10.72	74.80	37.40	96.23
38.00	24.0	64.08	13.82	77.90	38.95	105.53
39.00	24.0	64.17	16.16	80.33	40.16	112.64
40.00	24.0	66.49	19.04	85.52	42.76	123.60
41.00	24.0	70.41	19.22	89.63	44.82	128.07
42.00	24.0	74.61	19.71	94.32	47.16	133.75
43.00	24.0	79.17	20.47	99.65	49.82	140.60
44.00	24.0	83.97	21.51	105.47	52.74	148.48
45.00	24.0	89.03	22.83	111.85	55.93	157.51
46.00	24.0	93.98	24.59	118.57	59.28	167.75
47.00	24.0	98.36	27.20	125.56	62.78	179.96
48.00	24.0	102.43	30.89	133.31	66.66	195.09
49.00	24.0	107.87	35.28	143.15	71.57	213.71
50.00	24.0	113.41	42.21	155.63	77.81	240.05
51.00	24.0	119.13	49.47	168.60	84.30	267.54
52.00	24.0	125.06	54.81	179.87	89.94	289.49
53.00	24.0	131.28	57.59	188.86	94.43	304.03
54.00	24.0	138.04	58.96	196.99	98.50	314.90
55.00	24.0	145.40	60.28	205.68	102.84	326.24
56.00	24.0	151.74	60.23	211.97	105.99	332.44
57.00	24.0	166.44	57.86	224.30	112.15	340.02
58.00	24.0	174.25	63.32	237.57	118.79	364.22
59.00	24.0	180.24	48.37	228.62	114.31	325.36

WR-B4_24-PCP.txt

60.00	24.0	185.69	42.27	227.96	113.98	312.49
61.00	24.0	192.15	42.48	234.64	117.32	319.60
62.00	24.0	198.46	43.20	241.67	120.83	328.07
63.00	24.0	203.88	45.35	249.23	124.62	339.93
64.00	24.0	208.06	49.06	257.12	128.56	355.25
65.00	24.0	211.50	54.12	265.62	132.81	373.85
66.00	24.0	214.83	60.78	275.62	137.81	397.18
67.00	24.0	218.67	69.15	287.82	143.91	426.12
68.00	24.0	222.89	79.13	302.02	151.01	460.28
69.00	24.0	237.68	92.26	329.94	164.97	514.45
70.00	24.0	245.03	96.73	341.76	170.88	535.21
71.00	24.0	255.22	97.08	352.31	176.15	546.47
72.00	24.0	264.44	98.95	363.38	181.69	561.28
73.00	24.0	272.38	103.61	375.99	187.99	583.20
74.00	24.0	280.48	109.20	389.68	194.84	608.09
75.00	24.0	289.43	113.91	403.34	201.67	631.15
76.00	24.0	297.08	124.20	421.28	210.64	669.67
77.00	24.0	306.12	132.38	438.50	219.25	703.27
78.00	24.0	314.43	146.05	460.48	230.24	752.59
79.00	24.0	322.97	151.42	474.38	237.19	777.22
80.00	24.0	342.67	147.61	490.28	245.14	785.51
81.00	24.0	349.67	147.80	497.46	248.73	793.06
82.00	24.0	358.76	165.57	524.33	262.17	855.48
83.00	24.0	364.28	149.85	514.13	257.07	813.83
84.00	24.0	373.26	150.21	523.47	261.73	823.88
85.00	24.0	380.37	150.47	530.85	265.42	831.79
86.00	24.0	385.95	153.20	539.14	269.57	845.54
87.00	24.0	395.11	149.45	544.56	272.28	843.47
88.00	24.0	399.16	188.57	587.73	293.86	964.88
89.00	24.0	404.78	188.45	593.24	296.62	970.15
90.00	24.0	412.96	208.50	621.46	310.73	1038.45
91.00	24.0	421.06	209.96	631.02	315.51	1050.94
92.00	24.0	426.98	213.51	640.49	320.25	1067.51
93.00	24.0	433.15	231.58	664.73	332.37	1127.89
94.00	24.0	437.77	232.38	670.15	335.08	1134.91
95.00	24.0	442.32	233.61	675.93	337.97	1143.15
96.00	24.0	446.91	234.76	681.67	340.83	1151.18
97.00	24.0	451.42	236.51	687.93	343.96	1160.94
98.00	24.0	455.73	239.60	695.33	347.67	1174.54
99.00	24.0	461.10	236.53	697.63	348.82	1170.70
100.00	24.0	*****	Not enough soil data	*****		
101.00	24.0	0.00	0.00	0.00	0.00	0.00
102.00	24.0	0.00	0.00	0.00	0.00	0.00
103.00	24.0	0.00	0.00	0.00	0.00	0.00
104.00	24.0	0.00	0.00	0.00	0.00	0.00
105.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA,
AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B5_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 07/10/13, Boring Number: WR-B5
 Station number: 910+35 Offset: 180 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	6.00	12.00	2- Clay and silty sand
3	8.00	29.00	2- Clay and silty sand
4	10.00	17.00	2- Clay and silty sand
5	12.50	8.00	3- Clean sand
6	13.75	2.00	2- Clay and silty sand
7	15.00	2.00	3- Clean sand
8	16.25	2.00	2- Clay and silty sand
9	17.50	5.00	3- Clean sand
10	20.00	15.00	3- Clean sand
11	22.50	2.00	2- Clay and silty sand
12	25.00	3.00	2- Clay and silty sand
13	26.25	3.00	3- Clean sand
14	27.50	10.00	2- Clay and silty sand
15	30.00	8.00	2- Clay and silty sand
16	32.50	9.00	2- Clay and silty sand
17	35.00	13.00	2- Clay and silty sand

WR-B5_24-PCP.txt

18	37.50	11.00	2- Clay and silty sand
19	40.00	9.00	2- Clay and silty sand
20	42.50	10.00	2- Clay and silty sand
21	45.00	19.00	2- Clay and silty sand
22	47.50	21.00	2- Clay and silty sand
23	50.00	15.00	2- Clay and silty sand
24	52.50	15.00	2- Clay and silty sand
25	55.00	19.00	2- Clay and silty sand
26	57.50	19.00	2- Clay and silty sand
27	60.00	22.00	2- Clay and silty sand
28	62.50	30.00	2- Clay and silty sand
29	63.75	30.00	3- Clean sand
30	65.00	44.00	2- Clay and silty sand
31	66.25	26.00	3- Clean sand
32	67.50	26.00	2- Clay and silty sand
33	68.75	26.00	3- Clean sand
34	70.00	62.00	2- Clay and silty sand
35	71.25	18.00	3- Clean sand
36	72.50	18.00	2- Clay and silty sand
37	75.00	27.00	2- Clay and silty sand
38	76.25	27.00	3- Clean sand
39	77.50	99.00	2- Clay and silty sand
40	80.00	40.00	2- Clay and silty sand
41	82.50	99.00	2- Clay and silty sand
42	85.00	52.00	4- Lime Stone/Very shelly sand
43	87.50	58.00	4- Lime Stone/Very shelly sand
44	90.00	50.00	4- Lime Stone/Very shelly sand
45	92.50	99.00	4- Lime Stone/Very shelly sand
46	95.00	99.00	4- Lime Stone/Very shelly sand
47	97.50	99.00	4- Lime Stone/Very shelly sand
48	100.00	99.00	4- Lime Stone/Very shelly sand
49	101.00	99.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-6.00	6.00	5.00	3-Clean Sand
2	-6.00	-12.50	6.50	19.15	2-Clay and Silty Sand
3	-12.50	-13.75	1.25	8.00	3-Clean Sand
4	-13.75	-15.00	1.25	2.00	2-Clay and Silty Sand
5	-15.00	-16.25	1.25	2.00	3-Clean Sand

WR-B5_24-PCP.txt

6	-16.25	-17.50	1.25	2.00	2-Clay and Silty Sand
7	-17.50	-22.50	5.00	10.00	3-Clean Sand
8	-22.50	-26.25	3.75	2.33	2-Clay and Silty Sand
9	-26.25	-27.50	1.25	3.00	3-Clean Sand
10	-27.50	-63.75	36.25	14.83	2-Clay and Silty Sand
11	-63.75	-65.00	1.25	30.00	3-Clean Sand
12	-65.00	-66.25	1.25	44.00	2-Clay and Silty Sand
13	-66.25	-67.50	1.25	26.00	3-Clean Sand
14	-67.50	-68.75	1.25	26.00	2-Clay and Silty Sand
15	-68.75	-70.00	1.25	26.00	3-Clean Sand
16	-70.00	-71.25	1.25	62.00	2-Clay and Silty Sand
17	-71.25	-72.50	1.25	18.00	3-Clean Sand
18	-72.50	-76.25	3.75	21.00	2-Clay and Silty Sand
19	-76.25	-77.50	1.25	27.00	3-Clean Sand
20	-77.50	-85.00	7.50	79.33	2-Clay and Silty Sand
21	-85.00	-101.00	16.00	77.59	4-Limestone, Very
Shelly Sand					
22	-101.00	-101.00	0.00	99.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00

WR-B5_24-PCP.txt

24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00

WR-B5_24-PCP.txt

24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00
24.00	101.00	-101.00
24.00	102.00	-102.00
24.00	103.00	-103.00
24.00	104.00	-104.00
24.00	105.00	-105.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	47.72	30.35	78.07	39.03	138.76
11.00	24.0	53.26	29.24	82.50	41.25	140.98
12.00	24.0	56.78	29.65	86.43	43.22	145.73
13.00	24.0	58.37	30.48	88.85	44.42	149.81
14.00	24.0	58.73	33.91	92.64	46.32	160.45
15.00	24.0	58.73	35.44	94.17	47.09	165.05
16.00	24.0	58.73	34.60	93.33	46.66	162.53

WR-B5_24-PCP.txt

17.00	24.0	58.94	33.52	92.46	46.23	159.50
18.00	24.0	59.88	31.59	91.47	45.74	154.65
19.00	24.0	61.58	28.78	90.36	45.18	147.92
20.00	24.0	64.03	25.52	89.55	44.77	140.59
21.00	24.0	66.29	23.70	89.99	45.00	137.39
22.00	24.0	67.42	23.18	90.61	45.30	136.97
23.00	24.0	67.57	5.43	73.00	36.50	83.86
24.00	24.0	67.57	6.98	74.55	37.27	88.51
25.00	24.0	67.57	8.61	76.17	38.09	93.39
26.00	24.0	67.57	9.76	77.33	38.66	96.85
27.00	24.0	68.51	22.46	90.97	45.48	135.89
28.00	24.0	72.28	22.70	94.98	47.49	140.38
29.00	24.0	76.15	22.74	98.90	49.45	144.38
30.00	24.0	79.40	23.09	102.49	51.25	148.68
31.00	24.0	82.36	23.78	106.14	53.07	153.69
32.00	24.0	85.46	24.65	110.11	55.05	159.42
33.00	24.0	88.89	25.51	114.40	57.20	165.42
34.00	24.0	93.21	25.85	119.06	59.53	170.75
35.00	24.0	98.57	25.42	123.99	61.99	174.83
36.00	24.0	104.08	24.08	128.16	64.08	176.31
37.00	24.0	108.92	23.41	132.33	66.17	179.15
38.00	24.0	113.50	24.50	138.00	69.00	186.99
39.00	24.0	117.79	26.96	144.75	72.37	198.66
40.00	24.0	121.80	29.77	151.57	75.78	211.11
41.00	24.0	125.73	32.69	158.42	79.21	223.79
42.00	24.0	129.81	35.18	164.99	82.49	235.35
43.00	24.0	134.16	36.95	171.11	85.55	245.01
44.00	24.0	139.51	37.60	177.11	88.56	252.32
45.00	24.0	146.00	37.85	183.85	91.92	259.55
46.00	24.0	153.16	37.97	191.12	95.56	267.06
47.00	24.0	160.53	38.28	198.81	99.40	275.36
48.00	24.0	168.01	38.82	206.82	103.41	284.45
49.00	24.0	174.92	39.67	214.60	107.30	293.94
50.00	24.0	181.18	40.66	221.84	110.92	303.17
51.00	24.0	187.10	41.68	228.78	114.39	312.14
52.00	24.0	193.02	42.86	235.88	117.94	321.61
53.00	24.0	199.00	44.31	243.32	121.66	331.94
54.00	24.0	205.39	46.10	251.49	125.74	343.69
55.00	24.0	212.24	48.39	260.63	130.31	357.40
56.00	24.0	219.33	51.75	271.08	135.54	374.58
57.00	24.0	226.42	58.96	285.37	142.69	403.28
58.00	24.0	233.55	65.65	299.19	149.60	430.49
59.00	24.0	240.94	71.56	312.50	156.25	455.62
60.00	24.0	248.64	76.85	325.49	162.74	479.18
61.00	24.0	256.81	78.81	335.62	167.81	493.24
62.00	24.0	265.60	83.06	348.66	174.33	514.78
63.00	24.0	274.56	87.34	361.90	180.95	536.59
64.00	24.0	283.21	88.23	371.44	185.72	547.90

WR-B5_24-PCP.txt

65.00	24.0	291.81	111.83	403.64	201.82	627.31
66.00	24.0	300.01	112.01	412.02	206.01	636.04
67.00	24.0	305.76	98.91	404.67	202.34	602.50
68.00	24.0	313.99	82.89	396.87	198.44	562.65
69.00	24.0	319.89	83.58	403.48	201.74	570.65
70.00	24.0	328.14	87.90	416.05	208.02	591.85
71.00	24.0	334.77	89.71	424.48	212.24	603.90
72.00	24.0	340.13	87.80	427.93	213.96	603.53
73.00	24.0	346.65	95.99	442.64	221.32	634.63
74.00	24.0	353.79	97.00	450.80	225.40	644.80
75.00	24.0	361.32	99.06	460.38	230.19	658.49
76.00	24.0	367.61	102.02	469.63	234.82	673.67
77.00	24.0	376.50	111.27	487.77	243.89	710.31
78.00	24.0	386.41	121.41	507.82	253.91	750.64
79.00	24.0	395.18	124.62	519.80	259.90	769.04
80.00	24.0	403.09	130.69	533.78	266.89	795.17
81.00	24.0	410.55	139.80	550.35	275.18	829.94
82.00	24.0	417.96	151.84	569.80	284.90	873.49
83.00	24.0	425.42	166.49	591.91	295.95	924.89
84.00	24.0	431.85	183.11	614.96	307.48	981.18
85.00	24.0	452.83	203.91	656.75	328.37	1064.57
86.00	24.0	457.53	204.32	661.84	330.92	1070.48
87.00	24.0	462.01	205.63	667.64	333.82	1078.89
88.00	24.0	466.28	208.07	674.35	337.18	1090.49
89.00	24.0	470.35	211.89	682.25	341.12	1106.04
90.00	24.0	474.32	216.90	691.21	345.61	1125.00
91.00	24.0	478.24	222.95	701.19	350.59	1147.09
92.00	24.0	482.21	229.55	711.77	355.88	1170.87
93.00	24.0	486.30	236.35	722.65	361.32	1195.34
94.00	24.0	491.30	236.43	727.73	363.86	1200.58
95.00	24.0	*****	Not enough soil data	*****		
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00
101.00	24.0	0.00	0.00	0.00	0.00	0.00
102.00	24.0	0.00	0.00	0.00	0.00	0.00
103.00	24.0	0.00	0.00	0.00	0.00	0.00
104.00	24.0	0.00	0.00	0.00	0.00	0.00
105.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B6_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 7/1/13, Boring Number: WR-B6
 Station number: 911+95 Offset: 25 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	12.50	14.00	2- Clay and silty sand
3	15.00	5.00	2- Clay and silty sand
4	16.25	3.00	3- Clean sand
5	17.50	3.00	2- Clay and silty sand
6	20.00	3.00	1- Plastic Clay
7	22.50	2.00	2- Clay and silty sand
8	25.00	2.00	1- Plastic Clay
9	27.50	0.00	2- Clay and silty sand
10	30.00	4.00	2- Clay and silty sand
11	31.25	4.00	3- Clean sand
12	32.50	5.00	2- Clay and silty sand
13	35.00	7.00	1- Plastic Clay
14	37.50	0.00	2- Clay and silty sand
15	38.75	0.00	3- Clean sand
16	40.00	7.00	2- Clay and silty sand
17	42.50	14.00	2- Clay and silty sand

WR-B6_24-PCP.txt

18	45.00	18.00	2- Clay and silty sand
19	46.25	18.00	3- Clean sand
20	47.50	37.00	2- Clay and silty sand
21	50.00	55.00	2- Clay and silty sand
22	52.50	31.00	2- Clay and silty sand
23	53.75	20.00	3- Clean sand
24	55.00	20.00	2- Clay and silty sand
25	57.50	18.00	2- Clay and silty sand
26	60.00	15.00	2- Clay and silty sand
27	62.50	29.00	2- Clay and silty sand
28	63.75	29.00	3- Clean sand
29	65.00	99.00	2- Clay and silty sand
30	67.50	99.00	2- Clay and silty sand
31	70.00	99.00	4- Lime Stone/Very shelly sand
32	72.50	99.00	4- Lime Stone/Very shelly sand
33	75.00	67.00	4- Lime Stone/Very shelly sand
34	77.50	99.00	2- Clay and silty sand
35	80.00	99.00	2- Clay and silty sand
36	82.50	99.00	4- Lime Stone/Very shelly sand
37	85.00	99.00	4- Lime Stone/Very shelly sand
38	87.50	99.00	2- Clay and silty sand
39	90.00	99.00	2- Clay and silty sand
40	92.50	99.00	2- Clay and silty sand
41	95.00	99.00	2- Clay and silty sand
42	97.50	99.00	2- Clay and silty sand
43	100.00	99.00	2- Clay and silty sand
44	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-12.50	12.50	5.00	3-Clean Sand
2	-12.50	-16.25	3.75	11.00	2-Clay and Silty Sand
3	-16.25	-17.50	1.25	3.00	3-Clean Sand
4	-17.50	-20.00	2.50	3.00	2-Clay and Silty Sand
5	-20.00	-22.50	2.50	3.00	1-Plastic Clay
6	-22.50	-25.00	2.50	2.00	2-Clay and Silty Sand
7	-25.00	-27.50	2.50	2.00	1-Plastic Clay
8	-27.50	-31.25	3.75	1.33	2-Clay and Silty Sand
9	-31.25	-32.50	1.25	4.00	3-Clean Sand
10	-32.50	-35.00	2.50	5.00	2-Clay and Silty Sand

WR-B6_24-PCP.txt

11	-35.00	-37.50	2.50	7.00	1-Plastic Clay
12	-37.50	-38.75	1.25	0.00	2-Clay and Silty Sand
13	-38.75	-40.00	1.25	0.00	3-Clean Sand
14	-40.00	-46.25	6.25	12.00	2-Clay and Silty Sand
15	-46.25	-47.50	1.25	18.00	3-Clean Sand
16	-47.50	-53.75	6.25	43.00	2-Clay and Silty Sand
17	-53.75	-55.00	1.25	20.00	3-Clean Sand
18	-55.00	-63.75	8.75	19.29	2-Clay and Silty Sand
19	-63.75	-65.00	1.25	29.00	3-Clean Sand
20	-65.00	-70.00	5.00	99.00	2-Clay and Silty Sand
21	-70.00	-77.50	7.50	88.33	4-Limestone, Very
Shelly Sand					
22	-77.50	-82.50	5.00	99.00	2-Clay and Silty Sand
23	-82.50	-87.50	5.00	99.00	4-Limestone, Very
Shelly Sand					
24	-87.50	-101.00	13.50	99.00	2-Clay and Silty Sand
25	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00

WR-B6_24-PCP.txt

24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00

WR-B6_24-PCP.txt

24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	28.11	26.85	54.96	27.48	108.65
11.00	24.0	32.98	24.53	57.51	28.76	106.58
12.00	24.0	38.22	22.16	60.38	30.19	104.70
13.00	24.0	43.62	19.77	63.39	31.69	102.92
14.00	24.0	47.88	17.65	65.53	32.77	100.83
15.00	24.0	50.80	15.91	66.72	33.36	98.54
16.00	24.0	52.15	10.13	62.29	31.14	82.55
17.00	24.0	52.21	0.00	52.21	26.10	52.21
18.00	24.0	52.21	12.92	65.12	32.56	90.96
19.00	24.0	52.21	12.02	64.23	32.12	88.28
20.00	24.0	52.21	11.10	63.31	31.66	85.52
21.00	24.0	52.21	10.16	62.37	31.18	82.68
22.00	24.0	52.21	9.19	61.39	30.70	79.77

WR-B6_24-PCP.txt

23.00	24.0	52.21	8.19	60.40	30.20	76.77
24.00	24.0	52.21	7.16	59.37	29.69	73.69
25.00	24.0	52.21	6.32	58.53	29.27	71.18
26.00	24.0	52.21	6.08	58.29	29.14	70.44
27.00	24.0	52.21	5.77	57.98	28.99	69.52
28.00	24.0	52.21	5.29	57.50	28.75	68.08
29.00	24.0	52.21	4.64	56.85	28.42	66.12
30.00	24.0	52.21	4.01	56.22	28.11	64.24
31.00	24.0	52.21	3.48	55.69	27.84	62.64
32.00	24.0	52.71	3.14	55.86	27.93	62.14
33.00	24.0	54.71	3.20	57.91	28.95	64.31
34.00	24.0	56.46	3.45	59.90	29.95	66.80
35.00	24.0	60.81	10.51	71.32	35.66	92.33
36.00	24.0	63.59	10.54	74.13	37.07	95.22
37.00	24.0	64.51	11.53	76.04	38.02	99.10
38.00	24.0	65.20	13.34	78.55	39.27	105.24
39.00	24.0	65.27	18.10	83.37	41.69	119.57
40.00	24.0	67.12	25.81	92.93	46.46	144.55
41.00	24.0	70.05	26.58	96.63	48.32	149.80
42.00	24.0	72.92	29.02	101.94	50.97	159.98
43.00	24.0	75.96	33.34	109.31	54.65	175.99
44.00	24.0	79.35	39.27	118.62	59.31	197.16
45.00	24.0	83.45	45.97	129.42	64.71	221.36
46.00	24.0	87.42	52.64	140.06	70.03	245.34
47.00	24.0	103.86	62.43	166.29	83.14	291.15
48.00	24.0	113.60	65.93	179.52	89.76	311.38
49.00	24.0	123.96	65.00	188.96	94.48	318.96
50.00	24.0	134.39	63.30	197.69	98.85	324.30
51.00	24.0	144.69	61.63	206.32	103.16	329.59
52.00	24.0	154.64	60.57	215.21	107.61	336.36
53.00	24.0	163.70	59.94	223.64	111.82	343.51
54.00	24.0	168.56	52.88	221.44	110.72	327.20
55.00	24.0	174.81	49.11	223.92	111.96	322.14
56.00	24.0	181.62	49.55	231.17	115.58	330.28
57.00	24.0	187.16	51.40	238.56	119.28	341.35
58.00	24.0	191.91	54.77	246.67	123.34	356.21
59.00	24.0	196.34	59.31	255.65	127.82	374.26
60.00	24.0	200.53	65.29	265.81	132.91	396.39
61.00	24.0	205.14	73.29	278.44	139.22	425.03
62.00	24.0	210.47	86.39	296.86	148.43	469.64
63.00	24.0	216.50	106.19	322.70	161.35	535.08
64.00	24.0	238.25	127.42	365.67	182.83	620.50
65.00	24.0	246.75	141.80	388.55	194.28	672.15
66.00	24.0	256.48	143.25	399.73	199.87	686.24
67.00	24.0	265.11	147.63	412.74	206.37	708.01
68.00	24.0	272.84	155.04	427.88	213.94	737.96
69.00	24.0	279.20	163.38	442.59	221.29	769.36
70.00	24.0	292.02	185.30	477.32	238.66	847.91

WR-B6_24-PCP.txt

71.00	24.0	296.82	181.13	477.95	238.97	840.20	
72.00	24.0	301.62	177.08	478.70	239.35	832.85	
73.00	24.0	306.42	173.09	479.52	239.76	825.70	
74.00	24.0	311.22	171.47	482.69	241.35	825.62	
75.00	24.0	316.02	174.51	490.53	245.27	839.54	
76.00	24.0	321.96	182.93	504.89	252.44	870.75	
77.00	24.0	328.91	190.56	519.47	259.73	900.58	
78.00	24.0	340.35	170.86	511.21	255.60	852.92	
79.00	24.0	350.82	180.00	530.82	265.41	890.82	
80.00	24.0	361.30	184.57	545.87	272.93	915.01	
81.00	24.0	370.64	187.43	558.06	279.03	932.92	
82.00	24.0	377.70	190.22	567.93	283.96	948.37	
83.00	24.0	382.79	211.39	594.18	297.09	1016.97	
84.00	24.0	387.59	204.71	592.30	296.15	1001.73	
85.00	24.0	392.39	196.29	588.67	294.34	981.25	
86.00	24.0	398.32	187.14	585.47	292.73	959.75	
87.00	24.0	406.53	179.57	586.10	293.05	945.24	
88.00	24.0	416.72	128.00	544.72	272.36	800.72	
89.00	24.0	427.19	128.00	555.19	277.59	811.19	
90.00	24.0	437.66	128.00	565.66	282.83	821.66	
91.00	24.0	448.13	128.00	576.13	288.07	832.13	
92.00	24.0	458.61	128.00	586.61	293.30	842.61	
93.00	24.0	469.08	128.00	597.08	298.54	853.08	
94.00	24.0	479.55	123.43	602.98	301.49	849.84	
95.00	24.0	***** Not enough soil data *****					
96.00	24.0	0.00	0.00	0.00	0.00	0.00	
97.00	24.0	0.00	0.00	0.00	0.00	0.00	
98.00	24.0	0.00	0.00	0.00	0.00	0.00	
99.00	24.0	0.00	0.00	0.00	0.00	0.00	
100.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B7_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

Analysis Type: SPT

Soil Information:

Boring date: 7/2/13, Boring Number: WR-B7
 Station number: 912+00 Offset: 90 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	7.00	3- Clean sand
2	2.00	7.00	3- Clean sand
3	3.00	2.00	2- Clay and silty sand
4	4.00	2.00	3- Clean sand
5	6.00	4.00	3- Clean sand
6	8.00	10.00	2- Clay and silty sand
7	10.00	10.00	2- Clay and silty sand
8	12.50	5.00	2- Clay and silty sand
9	15.00	7.00	3- Clean sand
10	17.50	9.00	3- Clean sand
11	18.75	4.00	2- Clay and silty sand
12	20.00	4.00	3- Clean sand
13	22.50	4.00	2- Clay and silty sand
14	25.00	4.00	2- Clay and silty sand
15	27.50	2.00	1- Plastic Clay
16	30.00	0.00	2- Clay and silty sand
17	32.50	2.00	3- Clean sand
18	35.00	2.00	3- Clean sand
19	37.50	4.00	3- Clean sand
20	40.00	7.00	2- Clay and silty sand
21	42.50	9.00	1- Plastic Clay
22	45.00	15.00	2- Clay and silty sand
23	47.50	12.00	2- Clay and silty sand
24	50.00	11.00	1- Plastic Clay
25	51.25	11.00	2- Clay and silty sand
26	52.50	21.00	1- Plastic Clay
27	55.00	34.00	1- Plastic Clay
28	56.25	12.00	2- Clay and silty sand
29	57.50	12.00	1- Plastic Clay
30	60.00	10.00	1- Plastic Clay
31	62.50	13.00	2- Clay and silty sand
32	65.00	12.00	2- Clay and silty sand

WR-B7_24-PCP.txt

33	67.50	36.00	1- Plastic Clay
34	70.00	24.00	1- Plastic Clay
35	71.25	24.00	2- Clay and silty sand
36	72.50	99.00	1- Plastic Clay
37	75.00	99.00	1- Plastic Clay
38	77.50	99.00	4- Lime Stone/very shelly sand
39	80.00	99.00	4- Lime Stone/very shelly sand
40	82.50	99.00	4- Lime Stone/very shelly sand
41	85.00	99.00	4- Lime Stone/very shelly sand
42	87.50	99.00	4- Lime Stone/very shelly sand
43	90.00	99.00	4- Lime Stone/very shelly sand
44	91.00	99.00	4- Lime Stone/very shelly sand
45	92.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-3.00	3.00	7.00	3-Clean Sand
2	-3.00	-4.00	1.00	2.00	2-Clay and Silty Sand
3	-4.00	-8.00	4.00	3.00	3-Clean Sand
4	-8.00	-15.00	7.00	8.21	2-Clay and silty Sand
5	-15.00	-18.75	3.75	7.67	3-Clean Sand
6	-18.75	-20.00	1.25	4.00	2-Clay and Silty Sand
7	-20.00	-22.50	2.50	4.00	3-Clean Sand
8	-22.50	-27.50	5.00	4.00	2-Clay and silty Sand
9	-27.50	-30.00	2.50	2.00	1-Plastic Clay
10	-30.00	-32.50	2.50	0.00	2-Clay and silty Sand
11	-32.50	-40.00	7.50	2.67	3-Clean Sand
12	-40.00	-42.50	2.50	7.00	2-Clay and silty Sand
13	-42.50	-45.00	2.50	9.00	1-Plastic Clay
14	-45.00	-50.00	5.00	13.50	2-Clay and silty Sand
15	-50.00	-51.25	1.25	11.00	1-Plastic Clay
16	-51.25	-52.50	1.25	11.00	2-Clay and silty Sand
17	-52.50	-56.25	3.75	25.33	1-Plastic Clay
18	-56.25	-57.50	1.25	12.00	2-Clay and silty Sand
19	-57.50	-62.50	5.00	11.00	1-Plastic Clay
20	-62.50	-67.50	5.00	12.50	2-Clay and silty Sand
21	-67.50	-71.25	3.75	32.00	1-Plastic Clay
22	-71.25	-72.50	1.25	24.00	2-Clay and silty Sand
23	-72.50	-77.50	5.00	99.00	1-Plastic Clay
24	-77.50	-92.00	14.50	99.00	4-Limestone, Very Shelly Sand
25	-92.00	-92.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00

24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00

24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	14.90	20.07	34.97	17.48	75.10
11.00	24.0	17.78	21.09	38.86	19.43	81.04
12.00	24.0	20.71	21.43	42.15	21.07	85.02
13.00	24.0	23.42	21.24	44.66	22.33	87.14
14.00	24.0	26.00	20.56	46.56	23.28	87.67
15.00	24.0	28.52	19.16	47.68	23.84	86.01
16.00	24.0	29.91	17.00	46.91	23.46	80.91
17.00	24.0	31.46	14.10	45.56	22.78	73.75
18.00	24.0	32.97	11.24	44.21	22.10	66.69
19.00	24.0	33.35	0.00	33.35	16.67	33.35
20.00	24.0	33.35	10.23	43.58	21.79	64.04
21.00	24.0	33.35	10.23	43.58	21.79	64.04
22.00	24.0	33.35	10.23	43.58	21.79	64.04
23.00	24.0	33.35	10.02	43.37	21.69	63.42
24.00	24.0	33.35	9.40	42.75	21.38	61.56
25.00	24.0	33.35	8.58	41.93	20.96	59.08
26.00	24.0	33.35	7.75	41.10	20.55	56.60
27.00	24.0	33.35	7.01	40.36	20.18	54.37
28.00	24.0	33.35	6.43	39.78	19.89	52.63
29.00	24.0	33.35	5.96	39.31	19.65	51.22
30.00	24.0	33.35	5.25	38.59	19.30	49.09
31.00	24.0	33.35	4.30	37.65	18.83	46.26
32.00	24.0	33.35	3.61	36.96	18.48	44.17
33.00	24.0	33.35	3.31	36.66	18.33	43.28
34.00	24.0	33.35	3.20	36.54	18.27	42.93

WR-B7_24-PCP.txt

35.00	24.0	33.35	3.50	36.85	18.42	43.85
36.00	24.0	33.35	3.79	37.14	18.57	44.72
37.00	24.0	33.35	4.49	37.84	18.92	46.82
38.00	24.0	33.43	5.82	39.25	19.63	50.90
39.00	24.0	34.03	7.57	41.61	20.80	56.75
40.00	24.0	37.19	12.99	50.18	25.09	76.17
41.00	24.0	40.19	13.19	53.38	26.69	79.76
42.00	24.0	43.30	13.68	56.98	28.49	84.33
43.00	24.0	48.78	16.18	64.96	32.48	97.33
44.00	24.0	53.57	16.43	70.00	35.00	102.86
45.00	24.0	59.46	17.51	76.96	38.48	111.98
46.00	24.0	65.10	17.54	82.65	41.32	117.74
47.00	24.0	69.98	17.77	87.75	43.88	123.29
48.00	24.0	73.96	18.41	92.37	46.18	129.18
49.00	24.0	77.64	19.52	97.16	48.58	136.19
50.00	24.0	85.79	29.04	114.83	57.42	172.92
51.00	24.0	90.77	23.90	114.67	57.33	162.46
52.00	24.0	96.31	23.01	119.32	59.66	165.35
53.00	24.0	104.76	22.85	127.61	63.80	173.30
54.00	24.0	114.57	22.75	137.32	68.66	182.82
55.00	24.0	125.45	22.87	148.32	74.16	194.05
56.00	24.0	133.98	23.26	157.24	78.62	203.77
57.00	24.0	139.03	20.78	159.81	79.91	201.38
58.00	24.0	145.08	18.62	163.71	81.85	200.95
59.00	24.0	150.41	19.87	170.28	85.14	210.03
60.00	24.0	155.40	21.48	176.88	88.44	219.83
61.00	24.0	159.72	23.52	183.24	91.62	230.29
62.00	24.0	164.39	25.76	190.15	95.07	241.66
63.00	24.0	170.67	29.64	200.31	100.15	259.58
64.00	24.0	175.70	29.91	205.61	102.81	265.43
65.00	24.0	179.90	30.69	210.59	105.30	271.98
66.00	24.0	184.98	32.00	216.97	108.49	280.97
67.00	24.0	192.30	33.68	225.99	112.99	293.35
68.00	24.0	207.18	37.53	244.71	122.36	319.78
69.00	24.0	216.29	39.62	255.91	127.95	335.15
70.00	24.0	222.23	48.43	270.67	135.33	367.54
71.00	24.0	227.52	67.64	295.16	147.58	430.43
72.00	24.0	245.33	77.39	322.72	161.36	477.49
73.00	24.0	257.45	98.68	356.13	178.07	553.49
74.00	24.0	266.76	107.56	374.33	187.16	589.45
75.00	24.0	275.42	125.41	400.84	200.42	651.66
76.00	24.0	283.69	150.62	434.31	217.15	735.54
77.00	24.0	291.36	170.42	461.77	230.89	802.61
78.00	24.0	305.20	175.19	480.39	240.19	830.78
79.00	24.0	309.61	176.53	486.14	243.07	839.20
80.00	24.0	313.75	179.19	492.94	246.47	851.31
81.00	24.0	317.67	183.19	500.86	250.43	867.23
82.00	24.0	321.46	188.50	509.96	254.98	886.95
83.00	24.0	325.18	195.08	520.26	260.13	910.41
84.00	24.0	328.88	202.91	531.79	265.90	937.62
85.00	24.0	333.43	205.70	539.12	269.56	950.51
86.00	24.0	****	Not enough soil data	****		
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00

WR-B7_24-PCP.txt

98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 X THE MOBILIZED END BEARING.

General Information:

=====
 Input file:Files\Calculations-Analyses\FB-Deep\wekiva River\WR-B8_PCP.spc
 Project number: H1135080
 Job name: wekiva Parkway 6 - wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 7/15/13, Boring Number: WR-B8
 Station number: 911+65 Offset: 160 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	4.00	3- Clean sand
2	2.00	4.00	3- Clean sand
3	3.00	4.00	2- Clay and silty sand
4	4.00	10.00	3- Clean sand
5	6.00	10.00	2- Clay and silty sand
6	7.00	10.00	3- Clean sand
7	8.00	31.00	2- Clay and silty sand
8	10.00	27.00	2- Clay and silty sand
9	11.25	6.00	3- Clean sand
10	12.50	6.00	2- Clay and silty sand
11	15.00	12.00	2- Clay and silty sand
12	17.50	11.00	2- Clay and silty sand
13	20.00	2.00	3- Clean sand
14	22.50	3.00	3- Clean sand
15	25.00	0.00	2- Clay and silty sand
16	27.50	2.00	2- Clay and silty sand
17	30.00	0.00	2- Clay and silty sand
18	32.50	0.00	2- Clay and silty sand
19	35.00	0.00	2- Clay and silty sand
20	37.50	3.00	2- Clay and silty sand
21	38.75	3.00	3- Clean sand
22	40.00	25.00	2- Clay and silty sand
23	41.25	9.00	3- Clean sand
24	42.50	9.00	2- Clay and silty sand
25	45.00	16.00	2- Clay and silty sand
26	47.50	16.00	2- Clay and silty sand
27	50.00	17.00	1- Plastic Clay
28	52.50	13.00	1- Plastic Clay
29	55.00	13.00	2- Clay and silty sand
30	57.50	29.00	2- Clay and silty sand
31	60.00	42.00	1- Plastic Clay
32	62.50	62.00	1- Plastic Clay

WR-B8_24-PCP.txt

33	63.75	19.00	2- Clay and silty sand
34	65.00	19.00	1- Plastic Clay
35	67.50	26.00	1- Plastic Clay
36	70.00	11.00	1- Plastic Clay
37	72.50	28.00	2- Clay and silty sand
38	73.75	28.00	3- Clean sand
39	75.00	56.00	2- Clay and silty sand
40	77.50	99.00	2- Clay and silty sand
41	80.00	99.00	2- Clay and silty sand
42	82.50	61.00	2- Clay and silty sand
43	85.00	99.00	2- Clay and silty sand
44	87.50	99.00	2- Clay and silty sand
45	90.00	99.00	2- Clay and silty sand
46	92.50	99.00	2- Clay and silty sand
47	95.00	99.00	2- Clay and silty sand
48	97.50	99.00	2- Clay and silty sand
49	100.00	99.00	2- Clay and silty sand
50	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-3.00	3.00	4.00	3-Clean Sand
2	-3.00	-4.00	1.00	4.00	2-Clay and Silty Sand
3	-4.00	-6.00	2.00	10.00	3-Clean Sand
4	-6.00	-7.00	1.00	10.00	2-Clay and Silty sand
5	-7.00	-8.00	1.00	10.00	3-Clean Sand
6	-8.00	-11.25	3.25	29.46	2-Clay and Silty Sand
7	-11.25	-12.50	1.25	6.00	3-Clean Sand
8	-12.50	-20.00	7.50	9.67	2-Clay and Silty Sand
9	-20.00	-25.00	5.00	2.50	3-Clean Sand
10	-25.00	-38.75	13.75	0.64	2-Clay and Silty Sand
11	-38.75	-40.00	1.25	3.00	3-Clean Sand
12	-40.00	-41.25	1.25	25.00	2-Clay and Silty Sand
13	-41.25	-42.50	1.25	9.00	3-Clean Sand
14	-42.50	-50.00	7.50	13.67	2-Clay and Silty Sand
15	-50.00	-55.00	5.00	15.00	1-Plastic Clay
16	-55.00	-60.00	5.00	21.00	2-Clay and Silty Sand
17	-60.00	-63.75	3.75	48.67	1-Plastic Clay
18	-63.75	-65.00	1.25	19.00	2-Clay and Silty Sand
19	-65.00	-72.50	7.50	18.67	1-Plastic Clay
20	-72.50	-73.75	1.25	28.00	2-Clay and Silty Sand
21	-73.75	-75.00	1.25	28.00	3-Clean Sand
22	-75.00	-101.00	26.00	91.21	2-Clay and Silty Sand
23	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

width (in)	Length (ft)	Tip Elev. (ft)

24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00

24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	34.40	33.69	68.08	34.04	135.45
11.00	24.0	40.22	32.56	72.78	36.39	137.90
12.00	24.0	41.89	31.34	73.23	36.61	135.91
13.00	24.0	44.51	29.71	74.22	37.11	133.64
14.00	24.0	48.09	27.63	75.71	37.86	130.97
15.00	24.0	52.57	25.37	77.94	38.97	128.68
16.00	24.0	57.44	18.76	76.20	38.10	113.73
17.00	24.0	62.17	17.08	79.25	39.62	113.41
18.00	24.0	66.55	15.18	81.73	40.86	112.08
19.00	24.0	69.30	13.19	82.49	41.25	108.88
20.00	24.0	70.22	0.00	70.22	35.11	70.22
21.00	24.0	70.22	0.00	70.22	35.11	70.22
22.00	24.0	70.22	0.00	70.22	35.11	70.22
23.00	24.0	70.22	0.00	70.22	35.11	70.22
24.00	24.0	70.22	0.00	70.22	35.11	70.22
25.00	24.0	70.22	10.63	80.85	40.43	102.12
26.00	24.0	70.22	8.32	78.54	39.27	95.17
27.00	24.0	70.22	6.58	76.80	38.40	89.96
28.00	24.0	70.22	5.67	75.89	37.94	87.23
29.00	24.0	70.22	5.10	75.32	37.66	85.52
30.00	24.0	70.22	4.41	74.62	37.31	83.44
31.00	24.0	70.22	3.51	73.73	36.87	80.76
32.00	24.0	70.22	2.66	72.87	36.44	78.19

WR-B8_24-PCP.txt

33.00	24.0	70.22	4.55	74.77	37.38	83.86
34.00	24.0	70.22	7.87	78.09	39.05	93.84
35.00	24.0	70.22	10.38	80.60	40.30	101.36
36.00	24.0	70.22	12.14	82.35	41.18	106.62
37.00	24.0	70.22	14.37	84.58	42.29	113.31
38.00	24.0	70.22	17.12	87.34	43.67	121.59
39.00	24.0	70.42	19.40	89.83	44.91	128.63
40.00	24.0	75.56	21.51	97.07	48.54	140.09
41.00	24.0	81.23	21.58	102.81	51.40	145.97
42.00	24.0	83.68	37.54	121.21	60.61	196.29
43.00	24.0	87.48	30.91	118.39	59.19	180.21
44.00	24.0	92.28	31.87	124.16	62.08	187.90
45.00	24.0	98.05	32.17	130.22	65.11	194.57
46.00	24.0	104.30	31.63	135.93	67.96	199.19
47.00	24.0	110.54	30.97	141.51	70.76	203.46
48.00	24.0	116.85	30.57	147.42	73.71	208.57
49.00	24.0	123.59	30.90	154.49	77.24	216.29
50.00	24.0	130.82	29.69	160.51	80.26	219.90
51.00	24.0	138.02	28.11	166.13	83.06	222.35
52.00	24.0	144.17	30.40	174.57	87.28	235.37
53.00	24.0	149.28	32.60	181.88	90.94	247.07
54.00	24.0	154.15	36.20	190.35	95.18	262.76
55.00	24.0	161.89	44.93	206.82	103.41	296.69
56.00	24.0	167.86	45.05	212.91	106.46	303.02
57.00	24.0	175.57	45.02	220.59	110.30	310.64
58.00	24.0	184.90	43.40	228.30	114.15	315.10
59.00	24.0	195.30	41.61	236.90	118.45	320.12
60.00	24.0	206.79	41.83	248.62	124.31	332.27
61.00	24.0	218.21	42.48	260.68	130.34	345.64
62.00	24.0	230.32	42.43	272.76	136.38	357.62
63.00	24.0	242.33	40.85	283.17	141.59	364.87
64.00	24.0	250.04	26.08	276.12	138.06	328.28
65.00	24.0	258.28	27.59	285.87	142.94	341.06
66.00	24.0	266.30	28.07	294.38	147.19	350.53
67.00	24.0	272.46	32.68	305.14	152.57	370.50
68.00	24.0	278.86	41.41	320.27	160.14	403.10
69.00	24.0	285.30	53.10	338.40	169.20	444.60
70.00	24.0	292.01	60.15	352.16	176.08	472.45
71.00	24.0	298.41	67.61	366.02	183.01	501.24
72.00	24.0	306.04	75.04	381.08	190.54	531.16
73.00	24.0	322.10	85.20	407.30	203.65	577.70
74.00	24.0	328.45	88.22	416.67	208.33	593.11
75.00	24.0	336.85	128.00	464.85	232.42	720.85
76.00	24.0	347.32	128.00	475.32	237.66	731.32
77.00	24.0	357.79	128.00	485.79	242.90	741.79
78.00	24.0	368.27	128.00	496.27	248.13	752.27
79.00	24.0	378.74	128.00	506.74	253.37	762.74
80.00	24.0	389.21	128.00	517.21	258.61	773.21
81.00	24.0	399.68	128.00	527.68	263.84	783.68
82.00	24.0	410.16	128.00	538.16	269.08	794.16
83.00	24.0	420.63	128.00	548.63	274.31	804.63
84.00	24.0	431.10	128.00	559.10	279.55	815.10
85.00	24.0	441.58	128.00	569.58	284.79	825.58
86.00	24.0	452.05	128.00	580.05	290.02	836.05
87.00	24.0	462.52	128.00	590.52	295.26	846.52
88.00	24.0	472.99	128.00	600.99	300.50	856.99
89.00	24.0	483.47	128.00	611.47	305.73	867.47
90.00	24.0	493.94	128.00	621.94	310.97	877.94
91.00	24.0	504.41	128.00	632.41	316.21	888.41
92.00	24.0	514.89	128.00	642.89	321.44	898.89
93.00	24.0	525.36	128.00	653.36	326.68	909.36
94.00	24.0	535.83	123.43	659.26	329.63	906.12
95.00	24.0	*****	Not enough soil data	*****		

WR-B8_24-PCP.txt						
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 X THE MOBILIZED END BEARING.

General Information:

=====

Input file:Files\Calculations-Analyses\FB-Deep\Wekiva River\WR-B9_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 8/26/13, Boring Number: WR-B9
 Station number: 912+90 Offset: 27 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	6.00	3- Clean sand
2	8.00	6.00	2- Clay and silty sand
3	9.00	3.00	3- Clean sand
4	10.00	3.00	2- Clay and silty sand
5	11.25	3.00	3- Clean sand
6	12.50	6.00	2- Clay and silty sand
7	15.00	8.00	2- Clay and silty sand
8	16.25	3.00	3- Clean sand
9	17.50	3.00	2- Clay and silty sand
10	18.75	3.00	3- Clean sand
11	20.00	17.00	2- Clay and silty sand
12	22.50	7.00	2- Clay and silty sand
13	25.00	13.00	2- Clay and silty sand
14	27.50	16.00	2- Clay and silty sand
15	30.00	10.00	2- Clay and silty sand
16	32.50	11.00	2- Clay and silty sand
17	35.00	15.00	2- Clay and silty sand

WR-B9_24-PCP.txt

18	37.50	15.00	2- Clay and silty sand
19	40.00	12.00	2- Clay and silty sand
20	41.25	12.00	3- Clean sand
21	42.50	25.00	2- Clay and silty sand
22	45.00	35.00	2- Clay and silty sand
23	47.50	35.00	2- Clay and silty sand
24	50.00	28.00	2- Clay and silty sand
25	51.25	14.00	3- Clean sand
26	52.50	14.00	2- Clay and silty sand
27	55.00	10.00	2- Clay and silty sand
28	56.25	10.00	3- Clean sand
29	57.50	28.00	2- Clay and silty sand
30	58.75	28.00	3- Clean sand
31	60.00	65.00	2- Clay and silty sand
32	62.50	99.00	2- Clay and silty sand
33	65.00	99.00	2- Clay and silty sand
34	67.50	41.00	2- Clay and silty sand
35	68.75	25.00	3- Clean sand
36	70.00	25.00	2- Clay and silty sand
37	72.50	99.00	4- Lime Stone/Very shelly sand
38	75.00	99.00	4- Lime Stone/Very shelly sand
39	77.50	99.00	2- Clay and silty sand
40	80.00	99.00	2- Clay and silty sand
41	82.50	99.00	2- Clay and silty sand
42	85.00	99.00	2- Clay and silty sand
43	87.50	99.00	2- Clay and silty sand
44	90.00	57.00	2- Clay and silty sand
45	91.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-8.00	8.00	6.00	3-Clean Sand
2	-8.00	-9.00	1.00	6.00	2-Clay and Silty Sand
3	-9.00	-10.00	1.00	3.00	3-Clean Sand
4	-10.00	-11.25	1.25	3.00	2-Clay and Silty Sand
5	-11.25	-12.50	1.25	3.00	3-Clean Sand
6	-12.50	-16.25	3.75	6.67	2-Clay and Silty Sand
7	-16.25	-17.50	1.25	3.00	3-Clean Sand
8	-17.50	-18.75	1.25	3.00	2-Clay and Silty Sand
9	-18.75	-20.00	1.25	3.00	3-Clean Sand

WR-B9_24-PCP.txt

10	-20.00	-41.25	21.25	12.94	2-Clay and Silty Sand
11	-41.25	-42.50	1.25	12.00	3-Clean Sand
12	-42.50	-51.25	8.75	31.14	2-Clay and Silty Sand
13	-51.25	-52.50	1.25	14.00	3-Clean Sand
14	-52.50	-56.25	3.75	12.67	2-Clay and Silty Sand
15	-56.25	-57.50	1.25	10.00	3-Clean Sand
16	-57.50	-58.75	1.25	28.00	2-Clay and Silty Sand
17	-58.75	-60.00	1.25	28.00	3-Clean Sand
18	-60.00	-68.75	8.75	81.00	2-Clay and Silty Sand
19	-68.75	-70.00	1.25	25.00	3-Clean Sand
20	-70.00	-72.50	2.50	25.00	2-Clay and Silty Sand
21	-72.50	-77.50	5.00	99.00	4-Limestone, Very
Shelly Sand					
22	-77.50	-91.00	13.50	95.89	2-Clay and Silty Sand
23	-91.00	-91.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00

WR-B9_24-PCP.txt

24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00

WR-B9_24-PCP.txt

24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	16.51	14.88	31.39	15.70	61.15
11.00	24.0	16.51	13.98	30.49	15.24	58.44
12.00	24.0	17.11	13.20	30.31	15.16	56.71
13.00	24.0	19.48	13.35	32.83	16.42	59.53
14.00	24.0	21.95	13.74	35.69	17.84	63.16
15.00	24.0	24.63	14.26	38.89	19.45	67.41
16.00	24.0	26.34	14.83	41.17	20.58	70.83
17.00	24.0	28.00	10.17	38.17	19.09	58.51
18.00	24.0	28.00	18.23	46.23	23.11	82.68
19.00	24.0	28.16	20.19	48.35	24.18	88.73
20.00	24.0	32.09	21.53	53.63	26.81	96.70
21.00	24.0	37.79	21.61	59.40	29.70	102.63
22.00	24.0	41.86	21.88	63.74	31.87	107.50
23.00	24.0	44.78	22.31	67.09	33.55	111.72
24.00	24.0	48.35	22.77	71.12	35.56	116.67

WR-B9_24-PCP.txt

25.00	24.0	52.67	23.40	76.07	38.04	122.87
26.00	24.0	57.50	24.27	81.77	40.88	130.30
27.00	24.0	62.63	25.43	88.06	44.03	138.92
28.00	24.0	68.00	26.90	94.91	47.45	148.71
29.00	24.0	73.40	27.84	101.24	50.62	156.91
30.00	24.0	78.06	28.92	106.98	53.49	164.82
31.00	24.0	82.41	30.01	112.42	56.21	172.45
32.00	24.0	86.88	31.10	117.98	58.99	180.18
33.00	24.0	91.54	32.28	123.81	61.91	188.37
34.00	24.0	96.65	34.11	130.76	65.38	198.98
35.00	24.0	102.27	37.09	139.36	69.68	213.54
36.00	24.0	108.16	39.45	147.61	73.80	226.51
37.00	24.0	114.05	42.10	156.14	78.07	240.33
38.00	24.0	119.90	45.84	165.74	82.87	257.43
39.00	24.0	125.42	50.34	175.76	87.88	276.45
40.00	24.0	130.56	54.84	185.40	92.70	295.08
41.00	24.0	134.47	58.63	193.10	96.55	310.36
42.00	24.0	142.18	59.39	201.57	100.78	320.35
43.00	24.0	150.21	62.02	212.23	106.11	336.26
44.00	24.0	159.11	62.28	221.39	110.69	345.94
45.00	24.0	168.68	62.50	231.19	115.59	356.19
46.00	24.0	179.30	61.89	241.19	120.59	364.97
47.00	24.0	189.39	59.67	249.06	124.53	368.40
48.00	24.0	199.43	57.15	256.58	128.29	370.88
49.00	24.0	209.13	55.45	264.59	132.29	375.49
50.00	24.0	218.45	55.36	273.81	136.90	384.53
51.00	24.0	224.98	56.88	281.86	140.93	395.61
52.00	24.0	228.00	50.43	278.44	139.22	379.30
53.00	24.0	233.70	53.83	287.53	143.77	395.19
54.00	24.0	238.76	59.57	298.33	149.17	417.48
55.00	24.0	243.14	65.07	308.21	154.10	438.35
56.00	24.0	245.20	68.34	313.55	156.77	450.24
57.00	24.0	250.00	90.95	340.95	170.47	522.85
58.00	24.0	258.06	97.05	355.12	177.56	549.22
59.00	24.0	264.41	100.07	364.48	182.24	564.63
60.00	24.0	272.80	125.77	398.57	199.29	650.10
61.00	24.0	283.28	125.73	409.00	204.50	660.46
62.00	24.0	293.75	125.53	419.28	209.64	670.34
63.00	24.0	304.22	123.00	427.23	213.61	673.23
64.00	24.0	314.70	121.75	436.45	218.22	679.95
65.00	24.0	324.86	126.44	451.30	225.65	704.18
66.00	24.0	332.31	134.52	466.83	233.41	735.86
67.00	24.0	339.73	146.01	485.74	242.87	777.77
68.00	24.0	347.02	160.62	507.64	253.82	828.88
69.00	24.0	362.17	170.77	532.94	266.47	874.49
70.00	24.0	369.18	167.52	536.70	268.35	871.73
71.00	24.0	376.79	168.06	544.86	272.43	880.99
72.00	24.0	382.97	168.61	551.57	275.79	888.79

WR-B9_24-PCP.txt

73.00	24.0	388.27	168.11	556.38	278.19	892.61	
74.00	24.0	393.07	163.21	556.27	278.14	882.68	
75.00	24.0	397.87	156.68	554.55	277.28	867.92	
76.00	24.0	403.80	151.29	555.09	277.55	857.67	
77.00	24.0	412.00	148.72	560.72	280.36	858.16	
78.00	24.0	422.19	128.00	550.19	275.10	806.19	
79.00	24.0	432.67	128.00	560.67	280.33	816.67	
80.00	24.0	443.14	128.00	571.14	285.57	827.14	
81.00	24.0	453.61	128.00	581.61	290.81	837.61	
82.00	24.0	464.09	128.00	592.09	296.04	848.09	
83.00	24.0	474.56	128.00	602.56	301.28	858.56	
84.00	24.0	485.03	123.43	608.46	304.23	855.32	
85.00	24.0	***** Not enough soil data *****					
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	
91.00	24.0	0.00	0.00	0.00	0.00	0.00	
92.00	24.0	0.00	0.00	0.00	0.00	0.00	
93.00	24.0	0.00	0.00	0.00	0.00	0.00	
94.00	24.0	0.00	0.00	0.00	0.00	0.00	
95.00	24.0	0.00	0.00	0.00	0.00	0.00	
96.00	24.0	0.00	0.00	0.00	0.00	0.00	
97.00	24.0	0.00	0.00	0.00	0.00	0.00	
98.00	24.0	0.00	0.00	0.00	0.00	0.00	
99.00	24.0	0.00	0.00	0.00	0.00	0.00	
100.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B10_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 6/20/13, Boring Number: WR-B10
 Station number: 913+00 Offset: 160 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	6.00	3- Clean sand
2	2.00	6.00	3- Clean sand
3	3.00	4.00	2- Clay and silty sand
4	4.00	4.00	3- Clean sand
5	5.00	4.00	2- Clay and silty sand
6	6.00	6.00	3- Clean sand
7	8.00	8.00	3- Clean sand
8	10.00	8.00	2- Clay and silty sand
9	12.50	16.00	2- Clay and silty sand
10	15.00	12.00	2- Clay and silty sand
11	17.50	5.00	2- Clay and silty sand
12	18.75	4.00	3- Clean sand
13	20.00	4.00	2- Clay and silty sand
14	25.00	2.00	2- Clay and silty sand
15	27.50	0.00	2- Clay and silty sand
16	30.00	0.00	2- Clay and silty sand
17	32.50	0.00	2- Clay and silty sand
18	35.00	1.00	2- Clay and silty sand
19	37.50	1.00	2- Clay and silty sand
20	38.75	1.00	3- Clean sand
21	40.00	18.00	2- Clay and silty sand
22	42.50	14.00	2- Clay and silty sand
23	45.00	21.00	2- Clay and silty sand
24	47.50	24.00	2- Clay and silty sand
25	48.75	24.00	3- Clean sand
26	50.00	44.00	2- Clay and silty sand
27	52.50	52.00	2- Clay and silty sand
28	53.75	11.00	3- Clean sand
29	55.00	11.00	2- Clay and silty sand
30	57.50	21.00	2- Clay and silty sand
31	60.00	8.00	2- Clay and silty sand
32	62.50	20.00	2- Clay and silty sand

WR-B10_24-PCP.txt

33	65.00	19.00	2- Clay and silty sand
34	67.50	28.00	2- Clay and silty sand
35	68.75	28.00	3- Clean sand
36	70.00	99.00	2- Clay and silty sand
37	72.50	99.00	4- Lime Stone/Very shelly sand
38	75.00	99.00	4- Lime Stone/Very shelly sand
39	77.50	31.00	2- Clay and silty sand
40	80.00	99.00	4- Lime Stone/Very shelly sand
41	82.50	99.00	2- Clay and silty sand
42	85.00	99.00	2- Clay and silty sand
43	86.25	26.00	3- Clean sand
44	87.50	26.00	2- Clay and silty sand
45	90.00	99.00	4- Lime Stone/Very shelly sand
46	92.50	99.00	2- Clay and silty sand
47	95.00	99.00	4- Lime Stone/Very shelly sand
48	97.50	99.00	4- Lime Stone/Very shelly sand
49	100.00	99.00	2- Clay and silty sand
50	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-3.00	3.00	6.00	3-Clean Sand
2	-3.00	-4.00	1.00	4.00	2-Clay and Silty sand
3	-4.00	-5.00	1.00	4.00	3-Clean Sand
4	-5.00	-6.00	1.00	4.00	2-Clay and Silty sand
5	-6.00	-10.00	4.00	7.00	3-Clean Sand
6	-10.00	-18.75	8.75	11.00	2-Clay and Silty sand
7	-18.75	-20.00	1.25	4.00	3-Clean Sand
8	-20.00	-38.75	18.75	1.53	2-Clay and Silty sand
9	-38.75	-40.00	1.25	1.00	3-Clean Sand
10	-40.00	-48.75	8.75	18.57	2-Clay and Silty sand
11	-48.75	-50.00	1.25	24.00	3-Clean Sand
12	-50.00	-53.75	3.75	46.67	2-Clay and Silty sand
13	-53.75	-55.00	1.25	11.00	3-Clean Sand
14	-55.00	-68.75	13.75	16.91	2-Clay and Silty sand
15	-68.75	-70.00	1.25	28.00	3-Clean Sand
16	-70.00	-72.50	2.50	99.00	2-Clay and Silty sand
17	-72.50	-77.50	5.00	99.00	4-Limestone, Very shelly sand
18	-77.50	-80.00	2.50	31.00	2-Clay and Silty sand
19	-80.00	-82.50	2.50	99.00	4-Limestone, Very shelly sand
20	-82.50	-86.25	3.75	99.00	2-Clay and Silty sand
21	-86.25	-87.50	1.25	26.00	3-Clean Sand
22	-87.50	-90.00	2.50	26.00	2-Clay and Silty sand
23	-90.00	-92.50	2.50	99.00	4-Limestone, Very shelly sand
24	-92.50	-95.00	2.50	99.00	2-Clay and Silty sand
25	-95.00	-100.00	5.00	99.00	4-Limestone, Very shelly sand
26	-100.00	-101.00	1.00	99.00	2-Clay and Silty sand
27	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00

WR-B10_24-PCP.txt

24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	11.00	27.40	38.40	19.20	93.20
11.00	24.0	15.03	26.60	41.62	20.81	94.82
12.00	24.0	20.16	24.82	44.98	22.49	94.63
13.00	24.0	26.20	22.54	48.74	24.37	93.83
14.00	24.0	31.92	20.27	52.19	26.10	92.73
15.00	24.0	37.12	18.10	55.22	27.61	91.42
16.00	24.0	41.53	19.27	60.80	30.40	99.33
17.00	24.0	44.85	16.89	61.74	30.87	95.51
18.00	24.0	47.01	14.80	61.81	30.91	91.42
19.00	24.0	47.51	0.00	47.51	23.76	47.51
20.00	24.0	47.51	12.18	59.70	29.85	84.06
21.00	24.0	47.51	12.18	59.70	29.85	84.06
22.00	24.0	47.51	11.69	59.20	29.60	82.57
23.00	24.0	47.51	10.61	58.13	29.06	79.35
24.00	24.0	47.51	9.37	56.89	28.44	75.63

WR-B10_24-PCP.txt

25.00	24.0	47.51	8.22	55.73	27.86	72.16
26.00	24.0	47.51	7.39	54.90	27.45	69.68
27.00	24.0	47.51	6.59	54.11	27.05	67.30
28.00	24.0	47.51	5.54	53.05	26.53	64.12
29.00	24.0	47.51	4.26	51.78	25.89	60.30
30.00	24.0	47.51	3.07	50.59	25.29	56.73
31.00	24.0	47.51	2.02	49.53	24.76	53.56
32.00	24.0	47.51	1.22	48.74	24.37	51.18
33.00	24.0	47.51	2.62	50.13	25.07	55.37
34.00	24.0	47.51	5.47	52.98	26.49	63.92
35.00	24.0	47.51	8.32	55.84	27.92	72.48
36.00	24.0	47.51	11.07	58.59	29.29	80.73
37.00	24.0	47.51	14.25	61.76	30.88	90.25
38.00	24.0	47.51	17.95	65.46	32.73	101.36
39.00	24.0	47.68	21.01	68.69	34.34	110.71
40.00	24.0	51.78	25.14	76.93	38.46	127.22
41.00	24.0	57.69	25.54	83.22	41.61	134.29
42.00	24.0	61.43	27.52	88.95	44.47	143.99
43.00	24.0	64.29	31.36	95.65	47.82	158.37
44.00	24.0	67.70	36.78	104.48	52.24	178.03
45.00	24.0	71.89	43.89	115.78	57.89	203.56
46.00	24.0	76.94	52.37	129.31	64.66	234.06
47.00	24.0	83.31	59.36	142.68	71.34	261.40
48.00	24.0	90.63	64.37	155.00	77.50	283.74
49.00	24.0	113.18	62.31	175.49	87.74	300.11
50.00	24.0	121.32	79.40	200.72	100.36	359.52
51.00	24.0	130.30	81.26	211.57	105.78	374.09
52.00	24.0	140.26	81.96	222.23	111.11	386.16
53.00	24.0	150.94	80.73	231.67	115.84	393.14
54.00	24.0	155.94	39.49	195.44	97.72	274.42
55.00	24.0	159.62	55.07	214.69	107.35	324.84
56.00	24.0	164.70	55.25	219.94	109.97	330.43
57.00	24.0	170.90	55.54	226.44	113.22	337.51
58.00	24.0	177.94	55.85	233.80	116.90	345.51
59.00	24.0	183.46	56.64	240.10	120.05	353.38
60.00	24.0	187.03	58.34	245.37	122.68	362.05
61.00	24.0	190.30	61.25	251.55	125.77	374.05
62.00	24.0	194.31	67.49	261.80	130.90	396.78
63.00	24.0	199.82	75.04	274.86	137.43	424.95
64.00	24.0	206.92	82.22	289.14	144.57	453.57
65.00	24.0	213.95	92.66	306.62	153.31	491.94
66.00	24.0	221.33	106.68	328.01	164.00	541.37
67.00	24.0	229.46	120.95	350.41	175.20	592.31
68.00	24.0	237.91	134.44	372.35	186.18	641.24
69.00	24.0	251.15	141.51	392.66	196.33	675.68
70.00	24.0	259.56	147.03	406.60	203.30	700.66
71.00	24.0	268.90	146.66	415.56	207.78	708.88
72.00	24.0	275.85	147.36	423.20	211.60	717.92
73.00	24.0	281.01	150.41	431.42	215.71	732.23
74.00	24.0	285.51	151.29	436.80	218.40	739.39
75.00	24.0	290.05	152.14	442.19	221.10	746.48
76.00	24.0	295.66	152.57	448.23	224.12	753.38
77.00	24.0	302.86	153.86	456.72	228.36	764.43
78.00	24.0	313.22	140.67	453.89	226.95	735.24
79.00	24.0	320.90	158.95	479.85	239.92	797.74
80.00	24.0	326.66	161.95	488.61	244.31	812.52
81.00	24.0	332.60	156.27	488.86	244.43	801.40
82.00	24.0	340.80	158.01	498.81	249.40	814.83
83.00	24.0	350.89	132.72	483.61	241.80	749.04
84.00	24.0	360.30	134.76	495.06	247.53	764.59
85.00	24.0	369.51	137.67	507.17	253.59	782.51
86.00	24.0	377.00	140.33	517.33	258.67	798.00
87.00	24.0	386.08	149.26	535.35	267.67	833.88

WR-B10_24-PCP.txt						
88.00	24.0	394.17	191.56	585.73	292.86	968.84
89.00	24.0	400.93	193.11	594.04	297.02	980.27
90.00	24.0	407.02	202.74	609.75	304.88	1015.23
91.00	24.0	412.93	202.80	615.73	307.86	1021.32
92.00	24.0	421.07	202.95	624.02	312.01	1029.93
93.00	24.0	431.06	204.53	635.59	317.79	1044.64
94.00	24.0	439.26	198.18	637.44	318.72	1033.81
95.00	24.0	*****	Not enough soil data	*****		
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 X THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B11_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 8/27/13, Boring Number: WR-B11
 Station number: 914+42 Offset: 27 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	6.00	3- Clean sand
2	8.00	6.00	3- Clean sand
3	10.00	9.00	3- Clean sand
4	12.50	6.00	3- Clean sand
5	15.00	6.00	2- Clay and silty sand
6	17.50	18.00	3- Clean sand
7	20.00	11.00	3- Clean sand
8	22.50	11.00	3- Clean sand
9	25.00	8.00	3- Clean sand
10	27.50	9.00	2- Clay and silty sand
11	30.00	11.00	2- Clay and silty sand
12	32.50	17.00	2- Clay and silty sand
13	35.00	23.00	2- Clay and silty sand
14	37.50	20.00	2- Clay and silty sand
15	38.75	20.00	3- Clean sand
16	40.00	35.00	2- Clay and silty sand
17	42.50	22.00	2- Clay and silty sand

WR-B11_24-PCP.txt

18	43.75	11.00	3- Clean sand
19	45.00	11.00	2- Clay and silty sand
20	47.50	11.00	2- Clay and silty sand
21	50.00	8.00	2- Clay and silty sand
22	51.25	8.00	3- Clean sand
23	52.50	46.00	2- Clay and silty sand
24	55.00	99.00	2- Clay and silty sand
25	57.50	99.00	2- Clay and silty sand
26	60.00	99.00	2- Clay and silty sand
27	62.50	42.00	1- Plastic Clay
28	65.00	99.00	4- Lime Stone/Very shelly sand
29	67.50	99.00	4- Lime Stone/Very shelly sand
30	70.00	99.00	2- Clay and silty sand
31	71.25	27.00	3- Clean sand
32	72.50	27.00	2- Clay and silty sand
33	75.00	99.00	4- Lime Stone/Very shelly sand
34	77.50	99.00	2- Clay and silty sand
35	80.00	99.00	2- Clay and silty sand
36	82.50	99.00	2- Clay and silty sand
37	85.00	99.00	2- Clay and silty sand
38	87.50	99.00	4- Lime Stone/Very shelly sand
39	90.00	99.00	4- Lime Stone/Very shelly sand
40	92.50	99.00	4- Lime Stone/Very shelly sand
41	93.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-15.00	15.00	6.50	3-Clean Sand
2	-15.00	-17.50	2.50	6.00	2-Clay and Silty Sand
3	-17.50	-27.50	10.00	12.00	3-Clean Sand
4	-27.50	-38.75	11.25	15.56	2-Clay and Silty Sand
5	-38.75	-40.00	1.25	20.00	3-Clean Sand
6	-40.00	-43.75	3.75	30.67	2-Clay and Silty Sand
7	-43.75	-45.00	1.25	11.00	3-Clean Sand
8	-45.00	-51.25	6.25	10.40	2-Clay and Silty Sand
9	-51.25	-52.50	1.25	8.00	3-Clean Sand
10	-52.50	-62.50	10.00	85.75	2-Clay and Silty Sand
11	-62.50	-65.00	2.50	42.00	1-Plastic Clay
12	-65.00	-70.00	5.00	99.00	4-Limestone, Very Shelly Sand

WR-B11_24-PCP.txt

13	-70.00	-71.25	1.25	99.00	2-Clay and Silty Sand
14	-71.25	-72.50	1.25	27.00	3-Clean Sand
15	-72.50	-75.00	2.50	27.00	2-Clay and Silty Sand
16	-75.00	-77.50	2.50	99.00	4-Limestone, Very
Shelly Sand					
17	-77.50	-87.50	10.00	99.00	2-Clay and Silty Sand
18	-87.50	-93.00	5.50	99.00	4-Limestone, Very
Shelly Sand					
19	-93.00	-93.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00

WR-B11_24-PCP.txt

24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00

WR-B11_24-PCP.txt

24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	11.27	34.29	45.56	22.78	114.15
11.00	24.0	12.17	37.96	50.13	25.07	126.05
12.00	24.0	13.05	41.70	54.75	27.37	138.15
13.00	24.0	14.28	44.01	58.29	29.14	146.31
14.00	24.0	15.97	46.03	62.00	31.00	154.06
15.00	24.0	20.15	48.33	68.49	34.24	165.15
16.00	24.0	22.87	48.56	71.43	35.71	168.54
17.00	24.0	25.86	48.82	74.68	37.34	172.33
18.00	24.0	29.09	63.35	92.43	46.22	219.12
19.00	24.0	31.85	63.49	95.34	47.67	222.31
20.00	24.0	34.55	62.71	97.27	48.63	222.69
21.00	24.0	36.63	57.70	94.32	47.16	209.72
22.00	24.0	38.70	53.92	92.62	46.31	200.47
23.00	24.0	40.75	50.82	91.56	45.78	193.20
24.00	24.0	42.59	48.29	90.89	45.44	187.48
25.00	24.0	44.21	46.55	90.77	45.38	183.88
26.00	24.0	46.19	45.65	91.84	45.92	183.14
27.00	24.0	49.10	45.62	94.73	47.36	185.97
28.00	24.0	52.87	32.08	84.96	42.48	149.13
29.00	24.0	57.02	34.99	92.01	46.01	162.00
30.00	24.0	61.42	37.40	98.81	49.41	173.60

WR-B11_24-PCP.txt

31.00	24.0	65.57	38.61	104.17	52.09	181.38
32.00	24.0	69.50	41.83	111.34	55.67	195.00
33.00	24.0	73.99	46.34	120.33	60.16	213.00
34.00	24.0	79.41	51.11	130.52	65.26	232.74
35.00	24.0	85.92	55.55	141.46	70.73	252.56
36.00	24.0	93.29	58.01	151.30	75.65	267.32
37.00	24.0	100.71	58.89	159.60	79.80	277.39
38.00	24.0	107.64	58.37	166.01	83.01	282.75
39.00	24.0	121.12	54.70	175.83	87.91	285.24
40.00	24.0	128.68	53.43	182.11	91.06	288.96
41.00	24.0	136.67	54.93	191.60	95.80	301.47
42.00	24.0	145.63	54.76	200.39	100.20	309.92
43.00	24.0	154.50	52.96	207.46	103.73	313.39
44.00	24.0	157.78	30.28	188.06	94.03	248.62
45.00	24.0	161.53	32.12	193.65	96.82	257.89
46.00	24.0	165.58	32.69	198.27	99.14	263.66
47.00	24.0	168.61	34.96	203.57	101.78	273.49
48.00	24.0	171.20	38.98	210.18	105.09	288.13
49.00	24.0	173.49	44.72	218.21	109.11	307.65
50.00	24.0	175.66	52.23	227.88	113.94	332.34
51.00	24.0	177.41	61.68	239.09	119.54	362.44
52.00	24.0	189.22	85.73	274.95	137.47	446.41
53.00	24.0	198.91	90.74	289.65	144.82	471.13
54.00	24.0	209.12	91.12	300.24	150.12	482.48
55.00	24.0	219.94	90.71	310.65	155.33	492.08
56.00	24.0	230.45	87.23	317.69	158.84	492.15
57.00	24.0	240.93	89.72	330.65	165.32	510.10
58.00	24.0	248.04	96.73	344.77	172.38	538.22
59.00	24.0	253.86	108.84	362.70	181.35	580.39
60.00	24.0	260.47	124.42	384.89	192.45	633.73
61.00	24.0	269.56	140.89	410.45	205.23	692.24
62.00	24.0	280.86	152.76	433.61	216.81	739.12
63.00	24.0	306.05	157.85	463.90	231.95	779.61
64.00	24.0	314.85	159.74	474.59	237.30	794.07
65.00	24.0	321.55	162.12	483.67	241.84	807.92
66.00	24.0	326.35	156.23	482.58	241.29	795.03
67.00	24.0	331.15	155.02	486.17	243.08	796.20
68.00	24.0	336.23	159.38	495.62	247.81	814.38
69.00	24.0	342.98	163.12	506.09	253.05	832.32
70.00	24.0	352.64	171.50	524.14	262.07	867.13
71.00	24.0	360.96	152.87	513.83	256.91	819.56
72.00	24.0	367.05	146.72	513.77	256.89	807.21
73.00	24.0	375.39	169.84	545.22	272.61	884.89
74.00	24.0	382.69	169.29	551.98	275.99	890.55
75.00	24.0	388.32	164.60	552.92	276.46	882.11
76.00	24.0	394.25	159.46	553.71	276.85	872.62
77.00	24.0	402.46	157.38	559.84	279.92	874.60
78.00	24.0	412.64	128.00	540.64	270.32	796.64

WR-B11_24-PCP.txt

79.00	24.0	422.87	128.43	551.30	275.65	808.15	
80.00	24.0	432.12	130.86	562.97	281.49	824.69	
81.00	24.0	440.19	136.75	576.94	288.47	850.44	
82.00	24.0	447.86	145.68	593.54	296.77	884.89	
83.00	24.0	455.53	157.46	612.99	306.50	927.92	
84.00	24.0	463.44	172.11	635.55	317.78	979.77	
85.00	24.0	471.80	189.61	661.41	330.70	1040.62	
86.00	24.0	480.49	199.60	680.09	340.04	1079.28	
87.00	24.0	***** Not enough soil data *****					
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	
91.00	24.0	0.00	0.00	0.00	0.00	0.00	
92.00	24.0	0.00	0.00	0.00	0.00	0.00	
93.00	24.0	0.00	0.00	0.00	0.00	0.00	
94.00	24.0	0.00	0.00	0.00	0.00	0.00	
95.00	24.0	0.00	0.00	0.00	0.00	0.00	
96.00	24.0	0.00	0.00	0.00	0.00	0.00	
97.00	24.0	0.00	0.00	0.00	0.00	0.00	
98.00	24.0	0.00	0.00	0.00	0.00	0.00	
99.00	24.0	0.00	0.00	0.00	0.00	0.00	
100.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\Calculations-Analyses\FB-Deep\wekiva River\WR-B12_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 6/24/13, Boring Number: WR-B12
 Station number: 914+15 offset: 60 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	3- Clean sand
2	2.00	3.00	3- Clean sand
3	3.00	3.00	2- Clay and silty sand
4	4.00	7.00	3- Clean sand
5	6.00	14.00	2- Clay and silty sand
6	7.00	4.00	3- Clean sand
7	8.00	4.00	2- Clay and silty sand
8	9.00	4.00	3- Clean sand
9	10.00	6.00	2- Clay and silty sand
10	11.25	2.00	3- Clean sand
11	12.50	2.00	2- Clay and silty sand
12	15.00	0.00	2- Clay and silty sand
13	17.50	0.00	2- Clay and silty sand
14	20.00	1.00	2- Clay and silty sand
15	21.25	1.00	3- Clean sand
16	22.50	13.00	2- Clay and silty sand
17	25.00	16.00	2- Clay and silty sand
18	27.50	9.00	2- Clay and silty sand
19	30.00	15.00	1- Plastic Clay
20	32.50	12.00	2- Clay and silty sand
21	35.00	8.00	2- Clay and silty sand
22	37.50	11.00	2- Clay and silty sand
23	38.75	11.00	3- Clean sand
24	40.00	99.00	2- Clay and silty sand
25	42.50	55.00	1- Plastic Clay
26	43.75	15.00	2- Clay and silty sand
27	45.00	15.00	1- Plastic Clay
28	47.50	15.00	1- Plastic Clay
29	50.00	9.00	2- Clay and silty sand
30	51.25	9.00	3- Clean sand
31	52.50	63.00	2- Clay and silty sand
32	55.00	35.00	1- Plastic Clay

WR-B12_24-PCP.txt

33	56.25	35.00	2- Clay and silty sand
34	57.50	99.00	1- Plastic Clay
35	60.00	99.00	1- Plastic Clay
36	62.50	99.00	4- Lime Stone/Very shelly sand
37	65.00	99.00	1- Plastic Clay
38	67.50	99.00	4- Lime Stone/Very shelly sand
39	70.00	99.00	4- Lime Stone/Very shelly sand
40	72.50	99.00	4- Lime Stone/Very shelly sand
41	75.00	99.00	4- Lime Stone/Very shelly sand
42	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-3.00	3.00	3.00	3-Clean Sand
2	-3.00	-4.00	1.00	3.00	2-Clay and Silty Sand
3	-4.00	-6.00	2.00	7.00	3-Clean Sand
4	-6.00	-7.00	1.00	14.00	2-Clay and Silty Sand
5	-7.00	-8.00	1.00	4.00	3-Clean Sand
6	-8.00	-9.00	1.00	4.00	2-Clay and Silty Sand
7	-9.00	-10.00	1.00	4.00	3-Clean Sand
8	-10.00	-11.25	1.25	6.00	2-Clay and Silty Sand
9	-11.25	-12.50	1.25	2.00	3-Clean Sand
10	-12.50	-21.25	8.75	0.71	2-Clay and Silty Sand
11	-21.25	-22.50	1.25	1.00	3-Clean Sand
12	-22.50	-30.00	7.50	12.67	2-Clay and Silty Sand
13	-30.00	-32.50	2.50	15.00	1-Plastic Clay
14	-32.50	-38.75	6.25	10.20	2-Clay and Silty Sand
15	-38.75	-40.00	1.25	11.00	3-Clean Sand
16	-40.00	-42.50	2.50	99.00	2-Clay and Silty Sand
17	-42.50	-43.75	1.25	55.00	1-Plastic Clay
18	-43.75	-45.00	1.25	15.00	2-Clay and Silty Sand
19	-45.00	-50.00	5.00	15.00	1-Plastic Clay
20	-50.00	-51.25	1.25	9.00	2-Clay and Silty Sand
21	-51.25	-52.50	1.25	9.00	3-Clean Sand
22	-52.50	-55.00	2.50	63.00	2-Clay and Silty Sand
23	-55.00	-56.25	1.25	35.00	1-Plastic Clay
24	-56.25	-57.50	1.25	35.00	2-Clay and Silty Sand
25	-57.50	-62.50	5.00	99.00	1-Plastic Clay
26	-62.50	-65.00	2.50	99.00	4-Limestone, Very Shelly Sand
27	-65.00	-67.50	2.50	99.00	1-Plastic Clay
28	-67.50	-76.00	8.50	99.00	4-Limestone, Very Shelly Sand
29	-76.00	-76.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
-----	-----	-----

24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00

24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	11.73	6.66	18.39	9.20	31.71
11.00	24.0	13.33	5.87	19.20	9.60	30.95
12.00	24.0	13.40	5.37	18.77	9.39	29.52
13.00	24.0	13.40	4.96	18.36	9.18	28.28
14.00	24.0	13.40	4.61	18.00	9.00	27.21
15.00	24.0	13.40	4.85	18.25	9.12	27.95
16.00	24.0	13.40	5.89	19.28	9.64	31.06
17.00	24.0	13.40	7.60	21.00	10.50	36.21
18.00	24.0	13.40	10.15	23.54	11.77	43.84
19.00	24.0	13.40	13.30	26.69	13.35	53.28
20.00	24.0	13.40	16.10	29.49	14.75	61.68
21.00	24.0	13.40	17.41	30.81	15.40	65.63
22.00	24.0	14.59	17.46	32.04	16.02	66.96
23.00	24.0	19.39	16.95	36.34	18.17	70.25
24.00	24.0	25.06	16.89	41.95	20.97	75.72
25.00	24.0	31.11	17.11	48.22	24.11	82.43
26.00	24.0	36.58	17.30	53.88	26.94	88.49
27.00	24.0	40.94	17.58	58.52	29.26	93.67
28.00	24.0	44.35	18.13	62.48	31.24	98.74
29.00	24.0	48.54	18.93	67.47	33.74	105.34
30.00	24.0	57.03	25.17	82.20	41.10	132.54
31.00	24.0	63.45	23.52	86.96	43.48	133.99
32.00	24.0	68.54	26.04	94.58	47.29	146.66

WR-B12_24-PCP.txt

33.00	24.0	73.82	27.34	101.17	50.58	155.85
34.00	24.0	76.73	29.09	105.82	52.91	164.00
35.00	24.0	78.96	32.00	110.96	55.48	174.95
36.00	24.0	81.35	35.36	116.70	58.35	187.42
37.00	24.0	84.30	38.84	123.14	61.57	200.83
38.00	24.0	87.80	41.70	129.49	64.75	212.89
39.00	24.0	97.16	46.44	143.59	71.80	236.46
40.00	24.0	104.27	51.45	155.72	77.86	258.63
41.00	24.0	111.81	54.48	166.29	83.15	275.25
42.00	24.0	122.66	54.55	177.21	88.61	286.31
43.00	24.0	136.06	27.10	163.16	81.58	217.36
44.00	24.0	144.65	22.20	166.85	83.43	211.26
45.00	24.0	151.49	27.61	179.10	89.55	234.33
46.00	24.0	157.89	28.09	185.98	92.99	242.15
47.00	24.0	162.94	31.26	194.20	97.10	256.72
48.00	24.0	168.29	35.28	203.57	101.79	274.14
49.00	24.0	173.08	41.11	214.19	107.09	296.40
50.00	24.0	181.76	57.55	239.31	119.66	354.42
51.00	24.0	184.64	57.83	242.47	121.24	358.13
52.00	24.0	188.46	60.14	248.59	124.30	368.86
53.00	24.0	196.92	72.60	269.52	134.76	414.72
54.00	24.0	206.66	73.80	280.46	140.23	428.07
55.00	24.0	220.35	87.66	308.01	154.01	483.34
56.00	24.0	231.16	88.01	319.17	159.59	495.18
57.00	24.0	241.47	87.53	329.00	164.50	504.06
58.00	24.0	253.63	93.72	347.34	173.67	534.78
59.00	24.0	265.07	95.06	360.13	180.07	550.25
60.00	24.0	274.92	102.47	377.39	188.69	582.33
61.00	24.0	282.79	118.95	401.74	200.87	639.63
62.00	24.0	289.95	134.75	424.70	212.35	694.20
63.00	24.0	301.26	139.64	440.90	220.45	720.18
64.00	24.0	307.97	141.55	449.52	224.76	732.62
65.00	24.0	319.57	172.15	491.71	245.86	836.01
66.00	24.0	329.34	176.09	505.42	252.71	857.60
67.00	24.0	335.90	185.87	521.77	260.89	893.51
68.00	24.0	342.90	203.90	546.81	273.40	954.61
69.00	24.0	347.74	202.12	549.86	274.93	954.11
70.00	24.0	*****	Not enough soil data	*****		
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00
81.00	24.0	0.00	0.00	0.00	0.00	0.00
82.00	24.0	0.00	0.00	0.00	0.00	0.00
83.00	24.0	0.00	0.00	0.00	0.00	0.00
84.00	24.0	0.00	0.00	0.00	0.00	0.00
85.00	24.0	0.00	0.00	0.00	0.00	0.00
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00

WR-B12_24-PCP.txt						
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 X THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B13_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 07/8/13, Boring Number: WR-B13
 Station number: 914+50 Offset: 160 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	4.00	3- Clean sand
2	2.00	4.00	3- Clean sand
3	3.00	4.00	2- Clay and silty sand
4	4.00	8.00	3- Clean sand
5	6.00	21.00	2- Clay and silty sand
6	7.00	6.00	3- Clean sand
7	8.00	6.00	2- Clay and silty sand
8	9.00	2.00	3- Clean sand
9	10.00	2.00	2- Clay and silty sand
10	12.50	2.00	2- Clay and silty sand
11	15.00	0.00	2- Clay and silty sand
12	17.50	1.00	2- Clay and silty sand
13	20.00	7.00	3- Clean sand
14	22.50	8.00	3- Clean sand
15	25.00	13.00	3- Clean sand
16	27.50	15.00	1- Plastic Clay
17	30.00	13.00	1- Plastic Clay
18	32.50	16.00	1- Plastic Clay
19	35.00	14.00	1- Plastic Clay
20	37.50	99.00	2- Clay and silty sand
21	40.00	99.00	1- Plastic Clay
22	41.25	26.00	2- Clay and silty sand
23	42.50	26.00	1- Plastic Clay
24	43.75	17.00	2- Clay and silty sand
25	45.00	17.00	1- Plastic Clay
26	47.50	13.00	1- Plastic Clay
27	50.00	10.00	1- Plastic Clay
28	52.50	38.00	2- Clay and silty sand
29	55.00	40.00	2- Clay and silty sand
30	57.50	99.00	1- Plastic Clay
31	60.00	99.00	2- clay and silty sand
32	62.50	99.00	4- Lime Stone/Very shelly sand

WR-B13_24-PCP.txt

33	65.00	99.00	2- Clay and silty sand
34	67.50	99.00	4- Lime Stone/very shelly sand
35	70.00	99.00	2- Clay and silty sand
36	72.50	99.00	2- Clay and silty sand
37	75.00	99.00	2- Clay and silty sand
38	77.50	99.00	2- Clay and silty sand
39	80.00	99.00	2- Clay and silty sand
40	82.50	99.00	2- Clay and silty sand
41	83.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-3.00	3.00	4.00	3-Clean Sand
2	-3.00	-4.00	1.00	4.00	2-Clay and Silty Sand
3	-4.00	-6.00	2.00	8.00	3-Clean Sand
4	-6.00	-7.00	1.00	21.00	2-Clay and Silty Sand
5	-7.00	-8.00	1.00	6.00	3-Clean Sand
6	-8.00	-9.00	1.00	6.00	2-Clay and Silty Sand
7	-9.00	-10.00	1.00	2.00	3-Clean Sand
8	-10.00	-20.00	10.00	1.25	2-Clay and Silty Sand
9	-20.00	-27.50	7.50	9.33	3-Clean Sand
10	-27.50	-37.50	10.00	14.50	1-Plastic Clay
11	-37.50	-40.00	2.50	99.00	2-Clay and Silty Sand
12	-40.00	-41.25	1.25	99.00	1-Plastic Clay
13	-41.25	-42.50	1.25	26.00	2-Clay and Silty Sand
14	-42.50	-43.75	1.25	26.00	1-Plastic Clay
15	-43.75	-45.00	1.25	17.00	2-Clay and Silty Sand
16	-45.00	-52.50	7.50	13.33	1-Plastic Clay
17	-52.50	-57.50	5.00	39.00	2-Clay and Silty Sand
18	-57.50	-60.00	2.50	99.00	1-Plastic Clay
19	-60.00	-62.50	2.50	99.00	2-Clay and Silty Sand
20	-62.50	-65.00	2.50	99.00	4-Limestone, Very Shelly Sand
21	-65.00	-67.50	2.50	99.00	2-Clay and Silty Sand
22	-67.50	-70.00	2.50	99.00	4-Limestone, Very Shelly Sand
23	-70.00	-83.00	13.00	99.00	2-Clay and Silty Sand
24	-83.00	-83.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00

WR-B13_24-PCP.txt

24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00

24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	17.50	9.72	27.23	13.61	46.67
11.00	24.0	17.50	8.97	26.47	13.24	44.42
12.00	24.0	17.50	9.29	26.80	13.40	45.38
13.00	24.0	17.50	10.12	27.63	13.81	47.87
14.00	24.0	17.50	11.35	28.85	14.43	51.54
15.00	24.0	17.50	13.26	30.76	15.38	57.28
16.00	24.0	17.50	15.99	33.49	16.75	65.46
17.00	24.0	17.50	20.34	37.84	18.92	78.52
18.00	24.0	17.55	26.31	43.86	21.93	96.49
19.00	24.0	17.93	29.90	47.83	23.91	107.62
20.00	24.0	19.15	30.75	49.91	24.95	111.42
21.00	24.0	20.51	29.21	49.72	24.86	108.15
22.00	24.0	21.94	27.14	49.08	24.54	103.36
23.00	24.0	23.49	25.14	48.63	24.31	98.91
24.00	24.0	25.37	23.39	48.77	24.38	95.56
25.00	24.0	27.64	21.82	49.45	24.73	93.09
26.00	24.0	30.95	20.77	51.72	25.86	93.26
27.00	24.0	36.01	20.50	56.51	28.26	97.52
28.00	24.0	42.52	16.82	59.34	29.67	92.99
29.00	24.0	48.38	17.36	65.75	32.87	100.47
30.00	24.0	52.29	20.62	72.91	36.45	114.14
31.00	24.0	55.92	28.52	84.45	42.22	141.49
32.00	24.0	61.78	36.18	97.96	48.98	170.31
33.00	24.0	68.72	40.08	108.80	54.40	188.96
34.00	24.0	75.53	43.26	118.79	59.39	205.31
35.00	24.0	82.10	46.33	128.43	64.21	221.08
36.00	24.0	89.26	47.39	136.65	68.32	231.42
37.00	24.0	97.88	47.73	145.61	72.81	241.08
38.00	24.0	115.10	48.15	163.24	81.62	259.54

WR-B13_24-PCP.txt

39.00	24.0	126.17	44.14	170.32	85.16	258.61
40.00	24.0	137.85	37.53	175.39	87.69	250.45
41.00	24.0	146.81	39.66	186.47	93.24	265.79
42.00	24.0	155.78	30.16	185.94	92.97	246.25
43.00	24.0	166.47	23.14	189.61	94.80	235.88
44.00	24.0	173.93	19.76	193.69	96.84	233.20
45.00	24.0	181.65	24.43	206.08	103.04	254.93
46.00	24.0	188.22	25.10	213.32	106.66	263.52
47.00	24.0	192.82	28.61	221.43	110.72	278.65
48.00	24.0	196.93	35.16	232.10	116.05	302.42
49.00	24.0	201.39	44.20	245.60	122.80	334.01
50.00	24.0	206.70	48.37	255.07	127.53	351.80
51.00	24.0	212.66	51.88	264.53	132.27	368.28
52.00	24.0	220.53	56.67	277.20	138.60	390.54
53.00	24.0	236.25	69.40	305.64	152.82	444.43
54.00	24.0	245.85	70.17	316.02	158.01	456.36
55.00	24.0	253.64	73.44	327.08	163.54	473.95
56.00	24.0	259.96	80.93	340.88	170.44	502.73
57.00	24.0	267.12	90.44	357.56	178.78	538.45
58.00	24.0	291.09	120.06	411.15	205.57	651.26
59.00	24.0	302.47	132.63	435.10	217.55	700.35
60.00	24.0	313.24	130.99	444.23	222.12	706.21
61.00	24.0	321.84	132.50	454.34	227.17	719.33
62.00	24.0	327.88	135.61	463.48	231.74	734.70
63.00	24.0	335.02	149.44	484.46	242.23	783.35
64.00	24.0	342.09	149.11	491.20	245.60	789.43
65.00	24.0	351.43	151.40	502.83	251.41	805.63
66.00	24.0	360.63	151.69	512.32	256.16	815.71
67.00	24.0	367.69	151.79	519.48	259.74	823.06
68.00	24.0	373.20	149.14	522.34	261.17	820.63
69.00	24.0	380.27	146.28	526.54	263.27	819.09
70.00	24.0	389.61	128.00	517.61	258.80	773.61
71.00	24.0	400.08	128.00	528.08	264.04	784.08
72.00	24.0	410.55	128.00	538.55	269.28	794.55
73.00	24.0	421.03	128.00	549.03	274.51	805.03
74.00	24.0	431.50	128.00	559.50	279.75	815.50
75.00	24.0	441.97	128.00	569.97	284.99	825.97
76.00	24.0	452.44	125.71	578.16	289.08	829.59
77.00	24.0	*****	Not enough soil data	*****		
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00
81.00	24.0	0.00	0.00	0.00	0.00	0.00
82.00	24.0	0.00	0.00	0.00	0.00	0.00
83.00	24.0	0.00	0.00	0.00	0.00	0.00
84.00	24.0	0.00	0.00	0.00	0.00	0.00
85.00	24.0	0.00	0.00	0.00	0.00	0.00
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B14_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 8/28/13, Boring Number: WR-B14
 Station number: 916+07 Offset: 38 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	8.00	5.00	3- Clean sand
3	10.00	11.00	3- Clean sand
4	12.50	11.00	4- Lime Stone/Very shelly sand
5	15.00	13.00	4- Lime Stone/Very shelly sand
6	17.50	15.00	4- Lime Stone/Very shelly sand
7	20.00	4.00	2- Clay and silty sand
8	21.25	4.00	3- Clean sand
9	22.50	12.00	2- Clay and silty sand
10	25.00	8.00	2- Clay and silty sand
11	27.50	14.00	2- Clay and silty sand
12	30.00	27.00	1- Plastic Clay
13	32.50	24.00	1- Plastic Clay
14	33.75	12.00	2- Clay and silty sand
15	35.00	12.00	1- Plastic Clay
16	37.50	12.00	2- Clay and silty sand
17	40.00	16.00	2- Clay and silty sand

WR-B14_24-PCP.txt

18	42.50	13.00	2- Clay and silty sand
19	45.00	19.00	2- Clay and silty sand
20	47.50	99.00	1- Plastic Clay
21	50.00	99.00	1- Plastic Clay
22	52.50	99.00	4- Lime Stone/Very shelly sand
23	55.00	99.00	4- Lime Stone/Very shelly sand
24	57.50	99.00	2- Clay and silty sand
25	60.00	53.00	2- Clay and silty sand
26	62.50	59.00	2- Clay and silty sand
27	65.00	99.00	4- Lime Stone/Very shelly sand
28	67.50	99.00	4- Lime Stone/Very shelly sand
29	70.00	99.00	2- Clay and silty sand
30	71.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-12.50	12.50	6.20	3-Clean Sand
2	-12.50	-20.00	7.50	13.00	4-Limestone, Very Shelly Sand
3	-20.00	-21.25	1.25	4.00	2-Clay and Silty Sand
4	-21.25	-22.50	1.25	4.00	3-Clean Sand
5	-22.50	-30.00	7.50	11.33	2-Clay and Silty Sand
6	-30.00	-33.75	3.75	26.00	1-Plastic Clay
7	-33.75	-35.00	1.25	12.00	2-Clay and Silty Sand
8	-35.00	-37.50	2.50	12.00	1-Plastic Clay
9	-37.50	-47.50	10.00	15.00	2-Clay and Silty Sand
10	-47.50	-52.50	5.00	99.00	1-Plastic Clay
11	-52.50	-57.50	5.00	99.00	4-Limestone, Very Shelly Sand
12	-57.50	-65.00	7.50	70.33	2-Clay and Silty Sand
13	-65.00	-70.00	5.00	99.00	4-Limestone, Very Shelly Sand
14	-70.00	-71.00	1.00	99.00	2-Clay and Silty Sand
15	-71.00	-71.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

```

-----
      Width      Length      Tip Elev.
      (in)       (ft)       (ft)
-----
      24.00      10.00      -10.00
      24.00      11.00      -11.00
      24.00      12.00      -12.00
      24.00      13.00      -13.00
      24.00      14.00      -14.00
      24.00      15.00      -15.00
      24.00      16.00      -16.00
      24.00      17.00      -17.00
      24.00      18.00      -18.00
      24.00      19.00      -19.00
      24.00      20.00      -20.00
      24.00      21.00      -21.00
      24.00      22.00      -22.00
      24.00      23.00      -23.00
      24.00      24.00      -24.00
      24.00      25.00      -25.00
      24.00      26.00      -26.00
      24.00      27.00      -27.00
      24.00      28.00      -28.00
      24.00      29.00      -29.00
      24.00      30.00      -30.00
      24.00      31.00      -31.00
      24.00      32.00      -32.00
      24.00      33.00      -33.00
      24.00      34.00      -34.00
      24.00      35.00      -35.00
      24.00      36.00      -36.00
      24.00      37.00      -37.00
      24.00      38.00      -38.00
      24.00      39.00      -39.00
      24.00      40.00      -40.00
      24.00      41.00      -41.00
      24.00      42.00      -42.00
      24.00      43.00      -43.00
      24.00      44.00      -44.00
      24.00      45.00      -45.00
      24.00      46.00      -46.00
      24.00      47.00      -47.00
      24.00      48.00      -48.00
      24.00      49.00      -49.00
      24.00      50.00      -50.00
      24.00      51.00      -51.00
      24.00      52.00      -52.00
  
```

WR-B14_24-PCP.txt

24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	7.63	46.36	54.00	27.00	146.72
11.00	24.0	9.03	51.21	60.24	30.12	162.67
12.00	24.0	10.36	54.08	64.44	32.22	172.60
13.00	24.0	15.07	51.85	66.91	33.46	170.61
14.00	24.0	16.24	48.01	64.25	32.12	160.26
15.00	24.0	17.49	44.34	61.83	30.91	150.51
16.00	24.0	18.82	41.83	60.65	30.32	144.30
17.00	24.0	20.22	39.57	59.80	29.90	138.94

WR-B14_24-PCP.txt

18.00	24.0	21.63	37.02	58.65	29.33	132.70	
19.00	24.0	22.52	35.78	58.30	29.15	129.87	
20.00	24.0	22.82	20.14	42.96	21.48	83.25	
21.00	24.0	22.82	12.64	35.46	17.73	60.74	
22.00	24.0	23.90	38.66	62.56	31.28	139.89	
23.00	24.0	28.30	39.80	68.10	34.05	147.70	
24.00	24.0	32.60	39.86	72.46	36.23	152.18	
25.00	24.0	36.32	39.93	76.25	38.12	156.10	
26.00	24.0	40.31	39.70	80.01	40.01	159.41	
27.00	24.0	45.07	38.78	83.84	41.92	161.39	
28.00	24.0	50.80	36.88	87.68	43.84	161.44	
29.00	24.0	58.26	34.68	92.94	46.47	162.29	
30.00	24.0	67.57	25.94	93.51	46.75	145.38	
31.00	24.0	76.92	26.53	103.45	51.73	156.51	
32.00	24.0	86.16	27.19	113.35	56.68	167.73	
33.00	24.0	94.65	28.26	122.91	61.46	179.44	
34.00	24.0	102.57	29.86	132.44	66.22	192.16	
35.00	24.0	107.95	28.83	136.77	68.39	194.42	
36.00	24.0	113.25	29.15	142.40	71.20	200.69	
37.00	24.0	117.88	30.43	148.31	74.15	209.16	
38.00	24.0	123.66	33.08	156.74	78.37	222.91	
39.00	24.0	128.73	33.45	162.17	81.09	229.07	
40.00	24.0	134.01	34.15	168.16	84.08	236.46	
41.00	24.0	139.09	35.31	174.40	87.20	245.01	
42.00	24.0	143.69	36.93	180.61	90.31	254.47	
43.00	24.0	148.11	38.90	187.02	93.51	264.83	
44.00	24.0	152.06	43.67	195.74	97.87	283.08	
45.00	24.0	155.24	55.59	210.84	105.42	322.02	
46.00	24.0	161.12	73.76	234.88	117.44	382.41	
47.00	24.0	170.34	91.22	261.56	130.78	444.00	
48.00	24.0	194.47	101.02	295.49	147.75	497.53	
49.00	24.0	204.09	108.88	312.97	156.48	530.72	
50.00	24.0	213.61	121.41	335.03	167.51	577.86	
51.00	24.0	223.00	134.33	357.33	178.67	626.00	
52.00	24.0	230.96	140.00	370.96	185.48	650.97	
53.00	24.0	242.26	137.27	379.53	189.77	654.07	
54.00	24.0	247.06	133.86	380.92	190.46	648.64	
55.00	24.0	251.86	130.31	382.17	191.08	642.79	
56.00	24.0	257.79	128.48	386.28	193.14	643.24	
57.00	24.0	266.00	133.21	399.21	199.60	665.62	
58.00	24.0	276.19	142.29	418.47	209.24	703.04	
59.00	24.0	285.97	147.68	433.65	216.83	729.01	
60.00	24.0	294.61	152.18	446.79	223.39	751.15	
61.00	24.0	302.77	159.29	462.06	231.03	780.63	
62.00	24.0	311.30	166.86	478.16	239.08	811.88	
63.00	24.0	320.35	173.11	493.46	246.73	839.67	
64.00	24.0	329.02	174.46	503.48	251.74	852.41	
65.00	24.0	***** Not enough soil data *****					

WR-B14_24-PCP.txt

66.00	24.0	0.00	0.00	0.00	0.00	0.00
67.00	24.0	0.00	0.00	0.00	0.00	0.00
68.00	24.0	0.00	0.00	0.00	0.00	0.00
69.00	24.0	0.00	0.00	0.00	0.00	0.00
70.00	24.0	0.00	0.00	0.00	0.00	0.00
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B15_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 7/10/13, Boring Number: WR-B15
 Station number: 915+90 Offset: 175 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	3- Clean sand
2	2.00	3.00	3- Clean sand
3	4.00	4.00	3- Clean sand
4	6.00	22.00	2- Clay and silty sand
5	7.00	3.00	3- Clean sand
6	8.00	3.00	2- Clay and silty sand
7	10.00	2.00	2- Clay and silty sand
8	11.25	2.00	3- Clean sand
9	12.50	7.00	2- Clay and silty sand
10	15.00	9.00	2- Clay and silty sand
11	17.50	10.00	2- Clay and silty sand
12	20.00	8.00	2- Clay and silty sand
13	22.50	10.00	2- Clay and silty sand
14	25.00	15.00	2- Clay and silty sand
15	27.50	10.00	2- Clay and silty sand
16	30.00	20.00	1- Plastic Clay
17	32.50	29.00	1- Plastic Clay
18	35.00	17.00	1- Plastic Clay
19	37.50	20.00	1- Plastic Clay
20	40.00	7.00	2- Clay and silty sand
21	41.25	7.00	3- Clean sand
22	42.50	16.00	2- Clay and silty sand
23	45.00	21.00	2- Clay and silty sand
24	47.50	22.00	2- Clay and silty sand
25	50.00	99.00	1- Plastic Clay
26	52.50	99.00	2- Clay and silty sand
27	55.00	99.00	2- Clay and silty sand
28	57.50	99.00	2- Clay and silty sand
29	60.00	99.00	2- Clay and silty sand
30	62.50	99.00	4- Lime Stone/Very shelly sand
31	65.00	99.00	2- Clay and silty sand
32	67.50	99.00	2- Clay and silty sand

WR-B15_24-PCP.txt

33	70.00	99.00	4- Lime Stone/Very shelly sand
34	72.50	99.00	2- Clay and silty sand
35	73.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-6.00	6.00	3.33	3-Clean Sand
2	-6.00	-7.00	1.00	22.00	2-Clay and Silty Sand
3	-7.00	-8.00	1.00	3.00	3-Clean Sand
4	-8.00	-11.25	3.25	2.62	2-Clay and Silty Sand
5	-11.25	-12.50	1.25	2.00	3-Clean Sand
6	-12.50	-30.00	17.50	9.86	2-Clay and Silty Sand
7	-30.00	-40.00	10.00	21.50	1-Plastic Clay
8	-40.00	-41.25	1.25	7.00	2-Clay and Silty Sand
9	-41.25	-42.50	1.25	7.00	3-Clean Sand
10	-42.50	-50.00	7.50	19.67	2-Clay and Silty Sand
11	-50.00	-52.50	2.50	99.00	1-Plastic Clay
12	-52.50	-62.50	10.00	99.00	2-Clay and Silty Sand
13	-62.50	-65.00	2.50	99.00	4-Limestone, Very
Shelly Sand					
14	-65.00	-70.00	5.00	99.00	2-Clay and Silty Sand
15	-70.00	-72.50	2.50	99.00	4-Limestone, Very
Shelly Sand					
16	-72.50	-73.00	0.50	99.00	2-Clay and Silty Sand
17	-73.00	-73.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00

24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00

24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	11.82	10.68	22.49	11.25	43.85
11.00	24.0	11.82	11.53	23.35	11.68	46.42
12.00	24.0	12.47	14.41	26.87	13.44	55.68
13.00	24.0	15.28	15.72	31.00	15.50	62.43
14.00	24.0	18.46	15.86	34.32	17.16	66.04
15.00	24.0	21.78	16.14	37.92	18.96	70.21
16.00	24.0	25.18	16.59	41.77	20.89	74.96
17.00	24.0	28.31	17.55	45.86	22.93	80.97
18.00	24.0	31.31	19.06	50.37	25.19	88.50
19.00	24.0	34.15	21.03	55.18	27.59	97.24
20.00	24.0	37.03	23.14	60.17	30.09	106.45
21.00	24.0	40.47	24.21	64.69	32.34	113.11
22.00	24.0	44.37	23.67	68.04	34.02	115.37
23.00	24.0	48.58	23.38	71.96	35.98	118.71
24.00	24.0	53.36	23.91	77.26	38.63	125.07
25.00	24.0	58.76	24.52	83.28	41.64	132.31
26.00	24.0	64.20	25.34	89.54	44.77	140.22
27.00	24.0	69.04	26.06	95.10	47.55	147.23
28.00	24.0	73.53	26.46	99.98	49.99	152.90
29.00	24.0	79.30	26.37	105.67	52.83	158.41
30.00	24.0	92.93	25.65	118.59	59.29	169.89
31.00	24.0	101.81	25.26	127.07	63.54	177.60
32.00	24.0	111.53	25.69	137.21	68.61	188.59
33.00	24.0	121.93	25.64	147.57	73.79	198.86
34.00	24.0	131.31	25.37	156.68	78.34	207.42
35.00	24.0	139.42	25.84	165.26	82.63	216.93
36.00	24.0	147.10	26.82	173.92	86.96	227.56
37.00	24.0	155.15	28.34	183.50	91.75	240.18
38.00	24.0	163.27	30.32	193.59	96.80	254.22
39.00	24.0	169.57	32.58	202.14	101.07	267.30
40.00	24.0	173.71	36.12	209.83	104.92	282.08
41.00	24.0	175.97	36.36	212.33	106.17	285.06
42.00	24.0	178.50	38.48	216.97	108.49	293.93
43.00	24.0	184.32	40.20	224.52	112.26	304.93
44.00	24.0	190.56	40.71	231.27	115.63	312.68
45.00	24.0	196.33	42.38	238.71	119.35	323.47
46.00	24.0	201.43	45.84	247.27	123.64	338.96
47.00	24.0	206.40	50.88	257.28	128.64	359.03
48.00	24.0	211.78	57.31	269.09	134.54	383.71
49.00	24.0	218.59	65.17	283.76	141.88	414.09
50.00	24.0	242.74	76.94	319.67	159.84	473.54
51.00	24.0	253.72	78.34	332.06	166.03	488.74

WR-B15_24-PCP.txt

52.00	24.0	263.50	82.00	345.51	172.75	509.51
53.00	24.0	275.95	88.98	364.93	182.46	542.89
54.00	24.0	285.44	90.23	375.67	187.84	556.14
55.00	24.0	293.36	94.32	387.69	193.84	576.33
56.00	24.0	300.03	102.49	402.52	201.26	607.49
57.00	24.0	307.21	112.02	419.23	209.62	643.28
58.00	24.0	315.46	120.68	436.14	218.07	677.50
59.00	24.0	324.53	128.63	453.16	226.58	710.42
60.00	24.0	334.05	137.10	471.15	235.58	745.36
61.00	24.0	343.36	141.95	485.31	242.66	769.21
62.00	24.0	350.94	144.91	495.85	247.93	785.67
63.00	24.0	371.06	147.27	518.33	259.17	812.87
64.00	24.0	377.57	148.48	526.05	263.02	823.01
65.00	24.0	387.53	184.00	571.53	285.77	939.53
66.00	24.0	398.00	154.29	552.29	276.14	860.86
67.00	24.0	*****	Not enough soil data	*****		
68.00	24.0	0.00	0.00	0.00	0.00	0.00
69.00	24.0	0.00	0.00	0.00	0.00	0.00
70.00	24.0	0.00	0.00	0.00	0.00	0.00
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00
81.00	24.0	0.00	0.00	0.00	0.00	0.00
82.00	24.0	0.00	0.00	0.00	0.00	0.00
83.00	24.0	0.00	0.00	0.00	0.00	0.00
84.00	24.0	0.00	0.00	0.00	0.00	0.00
85.00	24.0	0.00	0.00	0.00	0.00	0.00
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 X THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS

WR-B15_24-PCP.txt

2 x THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\calculations-Analyses\FB-Deep\Wekiva River\WR-B17_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 07/15/13, Boring Number: WR-B17
 Station number: 917+10 offset: 75 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	10.00	3- Clean sand
2	2.00	10.00	3- Clean sand
3	4.00	5.00	2- Clay and silty sand
4	6.00	4.00	1- Plastic Clay
5	8.00	0.00	2- Clay and silty sand
6	10.00	0.00	1- Plastic Clay
7	12.50	0.00	1- Plastic Clay
8	15.00	6.00	2- Clay and silty sand
9	17.50	8.00	2- Clay and silty sand
10	20.00	13.00	3- Clean sand
11	22.50	15.00	2- Clay and silty sand
12	25.00	29.00	1- Plastic Clay
13	27.50	21.00	1- Plastic Clay
14	28.75	9.00	2- Clay and silty sand
15	30.00	9.00	1- Plastic Clay
16	32.50	14.00	1- Plastic Clay
17	35.00	10.00	2- Clay and silty sand
18	37.50	23.00	2- Clay and silty sand
19	38.75	23.00	3- Clean sand
20	40.00	48.00	2- Clay and silty sand
21	42.50	59.00	2- Clay and silty sand
22	45.00	99.00	4- Lime Stone/very shelly sand
23	47.50	99.00	1- Plastic Clay
24	50.00	99.00	1- Plastic Clay
25	52.50	99.00	4- Lime Stone/very shelly sand
26	55.00	99.00	4- Lime Stone/very shelly sand
27	57.50	99.00	2- Clay and silty sand
28	58.75	24.00	3- Clean sand
29	60.00	24.00	2- Clay and silty sand
30	61.25	24.00	3- Clean sand
31	62.50	99.00	2- Clay and silty sand
32	65.00	99.00	2- Clay and silty sand

WR-B17_24-PCP.txt

33	67.50	99.00	4- Lime Stone/very shelly sand
34	70.00	54.00	2- Clay and silty sand
35	72.50	99.00	2- Clay and silty sand
36	75.00	99.00	2- Clay and silty sand
37	77.50	99.00	4- Lime Stone/very shelly sand
38	80.00	99.00	2- Clay and silty sand
39	82.50	99.00	2- Clay and silty sand
40	85.00	99.00	2- Clay and silty sand
41	87.50	99.00	2- Clay and silty sand
42	90.00	99.00	2- Clay and silty sand
43	91.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	10.00	3-Clean Sand
2	-4.00	-6.00	2.00	5.00	2-Clay and Silty Sand
3	-6.00	-8.00	2.00	4.00	1-Plastic Clay
4	-8.00	-10.00	2.00	0.00	2-Clay and Silty Sand
5	-10.00	-15.00	5.00	0.00	1-Plastic Clay
6	-15.00	-20.00	5.00	7.00	2-Clay and Silty Sand
7	-20.00	-22.50	2.50	13.00	3-Clean Sand
8	-22.50	-25.00	2.50	15.00	2-Clay and Silty Sand
9	-25.00	-28.75	3.75	26.33	1-Plastic Clay
10	-28.75	-30.00	1.25	9.00	2-Clay and Silty Sand
11	-30.00	-35.00	5.00	11.50	1-Plastic Clay
12	-35.00	-38.75	3.75	14.33	2-Clay and Silty Sand
13	-38.75	-40.00	1.25	23.00	3-Clean Sand
14	-40.00	-45.00	5.00	53.50	2-Clay and Silty Sand
15	-45.00	-47.50	2.50	99.00	4-Limestone, Very Shelly Sand
16	-47.50	-52.50	5.00	99.00	1-Plastic Clay
17	-52.50	-57.50	5.00	99.00	4-Limestone, Very Shelly Sand
18	-57.50	-58.75	1.25	99.00	2-Clay and Silty Sand
19	-58.75	-60.00	1.25	24.00	3-Clean Sand
20	-60.00	-61.25	1.25	24.00	2-Clay and Silty sand
21	-61.25	-62.50	1.25	24.00	3-Clean Sand
22	-62.50	-67.50	5.00	99.00	2-Clay and Silty Sand
23	-67.50	-70.00	2.50	99.00	4-Limestone, Very Shelly Sand
24	-70.00	-77.50	7.50	84.00	2-Clay and silty Sand
25	-77.50	-80.00	2.50	99.00	4-Limestone, Very Shelly Sand
26	-80.00	-91.00	11.00	99.00	2-Clay and silty Sand
27	-91.00	-91.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
------------	-------------	----------------

WR-B17_24-PCP.txt

24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00

WR-B17_24-PCP.txt

24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	10.15	13.25	23.39	11.70	49.88
11.00	24.0	10.15	13.45	23.60	11.80	50.50
12.00	24.0	10.15	14.74	24.89	12.44	54.37
13.00	24.0	10.25	18.20	28.45	14.23	64.85
14.00	24.0	11.08	23.61	34.69	17.35	81.91
15.00	24.0	13.48	26.33	39.81	19.91	92.48
16.00	24.0	16.13	26.56	42.69	21.35	95.81
17.00	24.0	19.07	26.85	45.92	22.96	99.61
18.00	24.0	22.30	27.06	49.36	24.68	103.49
19.00	24.0	25.46	26.96	52.42	26.21	106.34
20.00	24.0	28.53	26.48	55.02	27.51	107.98
21.00	24.0	31.68	25.41	57.09	28.54	107.91
22.00	24.0	36.22	24.93	61.15	30.57	111.00
23.00	24.0	41.88	30.06	71.94	35.97	132.05
24.00	24.0	49.63	30.06	79.69	39.85	139.82
25.00	24.0	59.72	21.32	81.05	40.52	123.69
26.00	24.0	68.53	22.35	90.88	45.44	135.57
27.00	24.0	77.84	22.64	100.48	50.24	145.75
28.00	24.0	86.48	22.63	109.11	54.55	154.37
29.00	24.0	92.67	18.88	111.55	55.78	149.31
30.00	24.0	96.95	28.25	125.20	62.60	181.71
31.00	24.0	101.26	29.20	130.46	65.23	188.87

WR-B17_24-PCP.txt

32.00	24.0	105.27	33.47	138.74	69.37	205.67
33.00	24.0	109.53	41.82	151.35	75.68	235.00
34.00	24.0	113.85	53.89	167.74	83.87	275.52
35.00	24.0	123.79	60.77	184.56	92.28	306.09
36.00	24.0	128.34	61.58	189.92	94.96	313.08
37.00	24.0	133.21	64.86	198.07	99.03	327.79
38.00	24.0	137.72	72.18	209.90	104.95	354.25
39.00	24.0	148.21	100.70	248.91	124.45	450.31
40.00	24.0	156.26	107.29	263.55	131.77	478.12
41.00	24.0	166.75	105.92	272.67	136.33	484.50
42.00	24.0	177.23	103.80	281.03	140.51	488.63
43.00	24.0	187.42	101.46	288.88	144.44	491.81
44.00	24.0	195.62	100.29	295.91	147.96	496.49
45.00	24.0	201.55	103.21	304.77	152.38	511.19
46.00	24.0	207.28	104.01	311.29	155.65	519.31
47.00	24.0	214.26	107.17	321.44	160.72	535.79
48.00	24.0	228.52	118.14	346.66	173.33	582.95
49.00	24.0	240.50	132.43	372.93	186.46	637.78
50.00	24.0	252.48	142.14	394.62	197.31	678.91
51.00	24.0	263.02	151.16	414.19	207.09	716.52
52.00	24.0	270.70	160.19	430.88	215.44	751.26
53.00	24.0	275.85	169.45	445.30	222.65	784.20
54.00	24.0	280.65	162.19	442.84	221.42	767.22
55.00	24.0	285.45	156.21	441.67	220.83	754.09
56.00	24.0	291.39	151.16	442.55	221.27	744.87
57.00	24.0	299.59	148.61	448.21	224.10	745.44
58.00	24.0	308.97	116.48	425.45	212.73	658.41
59.00	24.0	315.12	118.81	433.93	216.96	671.54
60.00	24.0	321.96	156.87	478.83	239.41	792.57
61.00	24.0	328.46	157.85	486.32	243.16	802.02
62.00	24.0	334.66	165.86	500.52	250.26	832.24
63.00	24.0	344.58	169.20	513.78	256.89	852.19
64.00	24.0	354.87	169.63	524.50	262.25	863.76
65.00	24.0	364.94	170.65	535.59	267.80	876.88
66.00	24.0	373.98	171.66	545.64	272.82	888.96
67.00	24.0	381.48	170.66	552.14	276.07	893.45
68.00	24.0	387.32	163.93	551.25	275.63	879.11
69.00	24.0	394.39	157.72	552.11	276.06	867.56
70.00	24.0	403.73	146.29	550.02	275.01	842.59
71.00	24.0	414.13	146.43	560.55	280.28	853.41
72.00	24.0	423.73	148.29	572.01	286.01	868.58
73.00	24.0	433.47	150.14	583.61	291.81	883.90
74.00	24.0	443.56	151.43	594.99	297.49	897.84
75.00	24.0	453.73	152.71	606.44	303.22	911.87
76.00	24.0	462.81	154.29	617.10	308.55	925.67
77.00	24.0	469.96	155.29	625.25	312.62	935.82
78.00	24.0	477.87	158.14	636.01	318.00	952.29
79.00	24.0	484.94	154.29	639.22	319.61	947.79
80.00	24.0	494.28	128.00	622.28	311.14	878.28
81.00	24.0	504.75	128.00	632.75	316.37	888.75
82.00	24.0	515.22	128.00	643.22	321.61	899.22
83.00	24.0	525.69	128.00	653.69	326.85	909.69
84.00	24.0	536.17	123.43	659.60	329.80	906.45
85.00	24.0	*****	Not enough soil data	*****		
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00

WR-B17_24-PCP.txt						
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B18_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 9/17/13, Boring Number: WR-B18
 Station number: 917+37 Offset: 148 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	3- Clean sand
2	2.00	3.00	3- Clean sand
3	4.00	2.00	2- Clay and silty sand
4	6.00	4.00	2- Clay and silty sand
5	8.00	22.00	5- Cavity layer
6	10.00	5.00	3- Clean sand
7	12.50	26.00	4- Lime Stone/Very shelly sand
8	15.00	18.00	4- Lime Stone/Very shelly sand
9	17.50	16.00	4- Lime Stone/Very shelly sand
10	20.00	21.00	2- Clay and silty sand
11	22.50	99.00	1- Plastic Clay
12	25.00	99.00	1- Plastic Clay
13	26.25	20.00	2- Clay and silty sand
14	27.50	20.00	1- Plastic Clay
15	30.00	17.00	1- Plastic Clay
16	32.50	11.00	2- Clay and silty sand
17	33.75	11.00	3- Clean sand

WR-B18_24-PCP.txt

18	35.00	36.00	2- Clay and silty sand
19	37.50	99.00	1- Plastic Clay
20	40.00	58.00	2- Clay and silty sand
21	42.50	99.00	4- Lime Stone/Very shelly sand
22	45.00	99.00	4- Lime Stone/Very shelly sand
23	47.50	99.00	4- Lime Stone/Very shelly sand
24	50.00	99.00	4- Lime Stone/Very shelly sand
25	52.50	99.00	4- Lime Stone/Very shelly sand
26	55.00	99.00	2- Clay and silty sand
27	57.50	99.00	2- Clay and silty sand
28	60.00	99.00	4- Lime Stone/Very shelly sand
29	62.50	99.00	4- Lime Stone/Very shelly sand
30	65.00	99.00	4- Lime Stone/Very shelly sand
31	67.50	99.00	4- Lime Stone/Very shelly sand
32	70.00	99.00	2- Clay and silty sand
33	71.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	3.00	3-Clean Sand
2	-4.00	-8.00	4.00	3.00	2-Clay and Silty Sand
3	-8.00	-10.00	2.00	22.00	5-Void
4	-10.00	-12.50	2.50	5.00	3-Clean Sand
5	-12.50	-20.00	7.50	20.00	4-Limestone, Very Shelly Sand
6	-20.00	-22.50	2.50	21.00	2-Clay and Silty Sand
7	-22.50	-26.25	3.75	99.00	1-Plastic Clay
8	-26.25	-27.50	1.25	20.00	2-Clay and Silty Sand
9	-27.50	-32.50	5.00	18.50	1-Plastic Clay
10	-32.50	-33.75	1.25	11.00	2-Clay and Silty Sand
11	-33.75	-35.00	1.25	11.00	3-Clean Sand
12	-35.00	-37.50	2.50	36.00	2-Clay and Silty Sand
13	-37.50	-40.00	2.50	99.00	1-Plastic Clay
14	-40.00	-42.50	2.50	58.00	2-Clay and Silty Sand
15	-42.50	-55.00	12.50	99.00	4-Limestone, Very Shelly Sand
16	-55.00	-60.00	5.00	99.00	2-Clay and Silty Sand
17	-60.00	-70.00	10.00	99.00	4-Limestone, Very Shelly Sand
18	-70.00	-71.00	1.00	99.00	2-Clay and Silty Sand

19 -71.00 -71.00 0.00 0.00 5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00

WR-B18_24-PCP.txt

24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	0.94	55.51	56.45	28.23	167.47
11.00	24.0	2.11	55.80	57.91	28.95	169.51
12.00	24.0	3.78	56.35	60.12	30.06	172.81
13.00	24.0	6.59	62.17	68.77	34.38	193.11
14.00	24.0	8.86	60.40	69.25	34.63	190.05
15.00	24.0	10.80	58.84	69.64	34.82	187.31

WR-B18_24-PCP.txt

16.00	24.0	12.55	57.42	69.96	34.98	184.80
17.00	24.0	14.21	57.40	71.61	35.81	186.41
18.00	24.0	16.11	57.63	73.74	36.87	189.00
19.00	24.0	20.12	58.35	78.47	39.23	195.17
20.00	24.0	26.54	54.36	80.90	40.45	189.61
21.00	24.0	35.04	52.88	87.92	43.96	193.68
22.00	24.0	45.28	50.49	95.77	47.89	196.75
23.00	24.0	56.42	43.40	99.82	49.91	186.62
24.00	24.0	68.10	43.81	111.92	55.96	199.55
25.00	24.0	80.68	43.17	123.84	61.92	210.18
26.00	24.0	91.15	41.59	132.74	66.37	215.93
27.00	24.0	97.51	28.04	125.55	62.78	181.64
28.00	24.0	107.16	29.51	136.67	68.34	195.69
29.00	24.0	114.55	32.43	146.98	73.49	211.84
30.00	24.0	120.83	35.07	155.91	77.95	226.05
31.00	24.0	126.61	38.99	165.60	82.80	243.58
32.00	24.0	131.92	44.73	176.65	88.32	266.10
33.00	24.0	139.96	61.36	201.32	100.66	324.03
34.00	24.0	142.85	67.74	210.59	105.29	346.07
35.00	24.0	149.81	114.72	264.53	132.27	493.97
36.00	24.0	160.35	114.73	275.08	137.54	504.54
37.00	24.0	169.86	117.62	287.49	143.74	522.74
38.00	24.0	183.08	119.65	302.73	151.36	542.04
39.00	24.0	192.48	127.47	319.95	159.98	574.89
40.00	24.0	205.58	156.45	362.03	181.02	674.94
41.00	24.0	214.28	158.00	372.28	186.14	688.28
42.00	24.0	220.20	162.01	382.22	191.11	706.25
43.00	24.0	227.03	182.88	409.91	204.95	775.67
44.00	24.0	231.46	184.23	415.68	207.84	784.13
45.00	24.0	235.60	186.96	422.56	211.28	796.49
46.00	24.0	239.56	190.93	430.49	215.25	812.36
47.00	24.0	243.66	194.69	438.35	219.18	827.73
48.00	24.0	248.12	196.92	445.04	222.52	838.88
49.00	24.0	252.89	197.65	450.54	225.27	845.85
50.00	24.0	257.85	197.40	455.26	227.63	850.07
51.00	24.0	262.98	196.27	459.24	229.62	851.78
52.00	24.0	267.74	197.40	465.13	232.57	859.92
53.00	24.0	272.13	203.14	475.27	237.63	881.54
54.00	24.0	277.83	214.33	492.15	246.08	920.81
55.00	24.0	291.77	202.29	494.05	247.03	898.62
56.00	24.0	302.24	176.57	478.81	239.40	831.95
57.00	24.0	312.71	188.00	500.71	250.36	876.71
58.00	24.0	322.90	200.19	523.09	261.55	923.47
59.00	24.0	329.40	208.50	537.90	268.95	954.90
60.00	24.0	337.04	263.00	600.04	300.02	1126.04
61.00	24.0	341.84	262.43	604.27	302.13	1129.12
62.00	24.0	346.64	257.86	604.50	302.25	1120.21
63.00	24.0	351.44	248.71	600.15	300.08	1097.58

WR-B18_24-PCP.txt

64.00	24.0	356.24	232.71	588.95	294.48	1054.38
65.00	24.0	***** Not enough soil data *****				
66.00	24.0	0.00	0.00	0.00	0.00	0.00
67.00	24.0	0.00	0.00	0.00	0.00	0.00
68.00	24.0	0.00	0.00	0.00	0.00	0.00
69.00	24.0	0.00	0.00	0.00	0.00	0.00
70.00	24.0	0.00	0.00	0.00	0.00	0.00
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B20_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 07/18/13, Boring Number: WRB-20
 Station number: 919+95 Offset: 65 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	3- Clean sand
2	2.00	3.00	3- Clean sand
3	4.00	3.00	5- Cavity layer
4	6.00	3.00	2- Clay and silty sand
5	8.00	7.00	3- Clean sand
6	10.00	17.00	2- Clay and silty sand
7	12.50	10.00	2- Clay and silty sand
8	15.00	18.00	3- Clean sand
9	17.50	17.00	3- Clean sand
10	20.00	24.00	1- Plastic Clay
11	22.50	21.00	1- Plastic Clay
12	25.00	21.00	1- Plastic Clay
13	26.25	11.00	2- Clay and silty sand
14	27.50	11.00	1- Plastic Clay
15	30.00	15.00	1- Plastic Clay
16	32.50	9.00	1- Plastic Clay
17	35.00	36.00	2- Clay and silty sand
18	36.25	36.00	3- Clean sand
19	37.50	99.00	2- Clay and silty sand
20	40.00	99.00	2- Clay and silty sand
21	42.50	99.00	4- Lime Stone/very shelly sand
22	45.00	50.00	1- Plastic Clay
23	47.50	99.00	4- Lime Stone/very shelly sand
24	50.00	99.00	4- Lime Stone/very shelly sand
25	51.25	28.00	2- Clay and silty sand
26	52.50	28.00	4- Lime Stone/very shelly sand
27	53.75	28.00	2- Clay and silty sand
28	55.00	99.00	4- Lime Stone/very shelly sand
29	57.50	99.00	4- Lime Stone/very shelly sand
30	60.00	99.00	4- Lime Stone/very shelly sand
31	62.50	99.00	4- Lime Stone/very shelly sand
32	65.00	99.00	2- Clay and silty sand

WR-B20_24-PCP.txt

33	67.50	99.00	2- Clay and silty sand
34	70.00	99.00	2- Clay and silty sand
35	72.50	99.00	4- Lime Stone/Very shelly sand
36	75.00	99.00	2- Clay and silty sand
37	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	3.00	3-Clean Sand
2	-4.00	-6.00	2.00	3.00	5-void
3	-6.00	-8.00	2.00	3.00	2-Clay and silty sand
4	-8.00	-10.00	2.00	7.00	3-Clean Sand
5	-10.00	-15.00	5.00	13.50	2-Clay and silty sand
6	-15.00	-20.00	5.00	17.50	3-Clean Sand
7	-20.00	-26.25	6.25	22.20	1-Plastic Clay
8	-26.25	-27.50	1.25	11.00	2-Clay and silty sand
9	-27.50	-35.00	7.50	11.67	1-Plastic Clay
10	-35.00	-36.25	1.25	36.00	2-Clay and silty sand
11	-36.25	-37.50	1.25	36.00	3-Clean Sand
12	-37.50	-42.50	5.00	99.00	2-Clay and silty sand
13	-42.50	-45.00	2.50	99.00	4-Limestone, Very Shelly Sand
14	-45.00	-47.50	2.50	50.00	1-Plastic Clay
15	-47.50	-51.25	3.75	99.00	4-Limestone, Very Shelly Sand
16	-51.25	-52.50	1.25	28.00	2-Clay and silty sand
17	-52.50	-53.75	1.25	28.00	4-Limestone, Very Shelly Sand
18	-53.75	-55.00	1.25	28.00	2-Clay and silty sand
19	-55.00	-65.00	10.00	99.00	4-Limestone, Very Shelly Sand
20	-65.00	-72.50	7.50	99.00	2-Clay and silty sand
21	-72.50	-75.00	2.50	99.00	4-Limestone, Very Shelly Sand
22	-75.00	-76.00	1.00	99.00	2-Clay and silty sand
23	-76.00	-76.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00

24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00

24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	9.18	36.50	45.68	22.84	118.67
11.00	24.0	14.62	37.07	51.70	25.85	125.84
12.00	24.0	18.71	38.41	57.12	28.56	133.93
13.00	24.0	22.25	39.82	62.07	31.03	141.72
14.00	24.0	25.92	40.63	66.54	33.27	147.80
15.00	24.0	32.16	42.83	74.99	37.50	160.65
16.00	24.0	35.52	40.04	75.56	37.78	155.64
17.00	24.0	38.80	38.08	76.88	38.44	153.04
18.00	24.0	42.33	36.32	78.64	39.32	151.27
19.00	24.0	48.07	35.57	83.64	41.82	154.79
20.00	24.0	56.34	25.34	81.68	40.84	132.35
21.00	24.0	65.71	25.32	91.03	45.51	141.67
22.00	24.0	74.76	24.18	98.94	49.47	147.30
23.00	24.0	83.53	23.29	106.82	53.41	153.39
24.00	24.0	92.27	22.51	114.78	57.39	159.79
25.00	24.0	101.00	21.61	122.60	61.30	165.82
26.00	24.0	108.07	20.89	128.96	64.48	170.75
27.00	24.0	112.10	17.03	129.13	64.56	163.19
28.00	24.0	118.01	35.11	153.13	76.56	223.35
29.00	24.0	122.45	38.69	161.13	80.57	238.51
30.00	24.0	126.70	47.57	174.26	87.13	269.39
31.00	24.0	131.60	58.27	189.87	94.93	306.40
32.00	24.0	136.73	67.28	204.01	102.01	338.58
33.00	24.0	141.73	72.95	214.68	107.34	360.57
34.00	24.0	148.31	79.87	228.18	114.09	387.93
35.00	24.0	162.75	90.69	253.44	126.72	434.83
36.00	24.0	170.57	92.26	262.83	131.41	447.36
37.00	24.0	179.06	105.45	284.51	142.25	495.41
38.00	24.0	189.38	110.47	299.85	149.93	520.80
39.00	24.0	199.69	110.85	310.54	155.27	532.24
40.00	24.0	208.61	113.52	322.13	161.06	549.17

WR-B20_24-PCP.txt

41.00	24.0	215.08	120.18	335.26	167.63	575.61
42.00	24.0	219.76	128.96	348.72	174.36	606.64
43.00	24.0	232.09	147.80	379.89	189.95	675.50
44.00	24.0	239.18	148.96	388.14	194.07	686.05
45.00	24.0	250.39	160.98	411.36	205.68	733.31
46.00	24.0	260.60	162.46	423.07	211.53	748.00
47.00	24.0	268.21	163.36	431.57	215.79	758.30
48.00	24.0	273.72	166.03	439.75	219.88	771.81
49.00	24.0	278.13	167.33	445.46	222.73	780.11
50.00	24.0	282.26	169.85	452.12	226.06	791.83
51.00	24.0	287.54	174.35	461.89	230.95	810.58
52.00	24.0	297.48	165.41	462.89	231.45	793.71
53.00	24.0	301.48	211.86	513.34	256.67	937.06
54.00	24.0	309.09	225.65	534.74	267.37	986.03
55.00	24.0	315.65	237.17	552.82	276.41	1027.16
56.00	24.0	320.36	237.54	557.90	278.95	1032.98
57.00	24.0	325.11	237.81	562.92	281.46	1038.55
58.00	24.0	330.05	233.89	563.93	281.97	1031.70
59.00	24.0	334.85	223.07	557.92	278.96	1004.06
60.00	24.0	339.65	214.54	554.19	277.09	983.27
61.00	24.0	344.45	208.91	553.36	276.68	971.18
62.00	24.0	349.25	203.28	552.53	276.27	959.10
63.00	24.0	354.33	195.08	549.41	274.70	939.56
64.00	24.0	361.40	188.87	550.27	275.13	928.00
65.00	24.0	370.74	146.29	517.02	258.51	809.59
66.00	24.0	381.13	146.43	527.56	263.78	820.42
67.00	24.0	390.73	148.29	539.02	269.51	835.59
68.00	24.0	400.48	150.14	550.62	275.31	850.91
69.00	24.0	411.45	149.14	560.59	280.30	858.88
70.00	24.0	*****	Not enough soil data	*****		
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00
81.00	24.0	0.00	0.00	0.00	0.00	0.00
82.00	24.0	0.00	0.00	0.00	0.00	0.00
83.00	24.0	0.00	0.00	0.00	0.00	0.00
84.00	24.0	0.00	0.00	0.00	0.00	0.00
85.00	24.0	0.00	0.00	0.00	0.00	0.00
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

WR-B20_24-PCP.txt

1. MOBILIZED END BEARING IS $1/3$ OF THE ORIGINAL RB-121 VALUES.
2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS $1/2$ THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS $3 \times$ THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS $2 \times$ THE MOBILIZED END BEARING.

General Information:

=====
 Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B21_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====
 Analysis Type: SPT

Soil Information:

=====
 Boring date: 07/22/13, Boring Number: WR-B21
 Station number: 920+05 Offset: 150 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	0.00	5- Cavity layer
2	2.00	0.00	5- Cavity layer
3	4.00	0.00	2- Clay and silty sand
4	6.00	10.00	3- Clean sand
5	7.00	4.00	2- Clay and silty sand
6	8.00	4.00	3- Clean sand
7	10.00	10.00	2- Clay and silty sand
8	12.50	7.00	2- Clay and silty sand
9	15.00	18.00	3- Clean sand
10	17.50	22.00	3- Clean sand
11	20.00	13.00	1- Plastic Clay
12	22.50	22.00	1- Plastic Clay
13	25.00	15.00	1- Plastic Clay
14	27.50	9.00	1- Plastic Clay
15	30.00	17.00	1- Plastic Clay
16	32.50	10.00	1- Plastic Clay
17	35.00	39.00	2- Clay and silty sand
18	37.50	99.00	1- Plastic Clay
19	40.00	99.00	1- Plastic Clay
20	42.50	99.00	2- Clay and silty sand
21	45.00	99.00	2- Clay and silty sand
22	47.50	99.00	2- Clay and silty sand
23	50.00	99.00	2- Clay and silty sand
24	52.50	99.00	4- Lime Stone/very shelly sand
25	55.00	99.00	4- Lime Stone/very shelly sand
26	57.50	99.00	2- Clay and silty sand
27	58.00	0.00	5- Cavity layer

 Blowcount Average Per Soil Layer

WR-B21_24-PCP.txt

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	0.00	5-Void
2	-4.00	-6.00	2.00	0.00	2-Clay and Silty Sand
3	-6.00	-7.00	1.00	10.00	3-Clean Sand
4	-7.00	-8.00	1.00	4.00	2-Clay and Silty Sand
5	-8.00	-10.00	2.00	4.00	3-Clean Sand
6	-10.00	-15.00	5.00	8.50	2-Clay and Silty Sand
7	-15.00	-20.00	5.00	20.00	3-Clean Sand
8	-20.00	-35.00	15.00	14.33	1-Plastic Clay
9	-35.00	-37.50	2.50	39.00	2-Clay and Silty Sand
10	-37.50	-42.50	5.00	99.00	1-Plastic Clay
11	-42.50	-52.50	10.00	99.00	2-Clay and Silty Sand
12	-52.50	-57.50	5.00	99.00	4-Limestone, Very
Shelly Sand					
13	-57.50	-58.00	0.50	99.00	2-Clay and Silty Sand
14	-58.00	-58.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00

WR-B21_24-PCP.txt

24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	7.05	34.28	41.33	20.66	109.88
11.00	24.0	10.43	35.12	45.55	22.77	115.79
12.00	24.0	12.98	37.03	50.01	25.00	124.07
13.00	24.0	15.43	38.89	54.32	27.16	132.11
14.00	24.0	18.34	39.92	58.27	29.13	138.12
15.00	24.0	24.25	43.52	67.77	33.88	154.80
16.00	24.0	27.79	40.64	68.43	34.22	149.71
17.00	24.0	31.64	37.89	69.53	34.76	145.30
18.00	24.0	35.84	34.81	70.66	35.33	140.28
19.00	24.0	40.75	32.91	73.65	36.83	139.47
20.00	24.0	46.41	19.05	65.46	32.73	103.55
21.00	24.0	53.05	17.67	70.71	35.36	106.05
22.00	24.0	60.87	18.19	79.07	39.53	115.46
23.00	24.0	69.62	18.60	88.23	44.11	125.43
24.00	24.0	77.75	18.46	96.21	48.10	133.12
25.00	24.0	84.98	17.93	102.91	51.46	138.77
26.00	24.0	91.29	17.57	108.86	54.43	143.99
27.00	24.0	96.65	19.58	116.23	58.12	155.39
28.00	24.0	101.33	24.35	125.68	62.84	174.38
29.00	24.0	106.97	29.82	136.78	68.39	196.42
30.00	24.0	113.84	33.90	147.74	73.87	215.54
31.00	24.0	120.79	36.80	157.59	78.79	231.19
32.00	24.0	126.68	39.62	166.31	83.15	245.55
33.00	24.0	131.93	42.40	174.33	87.17	259.14
34.00	24.0	138.99	45.09	184.08	92.04	274.26
35.00	24.0	148.28	48.65	196.93	98.46	294.22
36.00	24.0	158.24	49.15	207.39	103.69	305.69
37.00	24.0	167.17	51.05	218.22	109.11	320.32
38.00	24.0	182.26	75.29	257.54	128.77	408.11
39.00	24.0	194.24	80.43	274.66	137.33	435.52
40.00	24.0	206.22	85.57	291.79	145.89	462.93
41.00	24.0	217.30	91.45	308.76	154.38	491.66
42.00	24.0	227.59	98.14	325.73	162.87	522.02
43.00	24.0	239.42	89.14	328.56	164.28	506.84
44.00	24.0	248.85	90.48	339.33	169.67	520.29
45.00	24.0	256.72	94.70	351.42	175.71	540.82
46.00	24.0	263.29	103.23	366.51	183.26	572.97
47.00	24.0	269.65	115.64	385.30	192.65	616.59
48.00	24.0	276.32	131.85	408.17	204.09	671.87
49.00	24.0	283.89	149.89	433.78	216.89	733.56
50.00	24.0	292.82	165.88	458.70	229.35	790.46
51.00	24.0	302.21	169.35	471.56	235.78	810.26
52.00	24.0	*****	Not enough soil data	*****		
53.00	24.0	0.00	0.00	0.00	0.00	0.00
54.00	24.0	0.00	0.00	0.00	0.00	0.00
55.00	24.0	0.00	0.00	0.00	0.00	0.00
56.00	24.0	0.00	0.00	0.00	0.00	0.00
57.00	24.0	0.00	0.00	0.00	0.00	0.00
58.00	24.0	0.00	0.00	0.00	0.00	0.00
59.00	24.0	0.00	0.00	0.00	0.00	0.00
60.00	24.0	0.00	0.00	0.00	0.00	0.00
61.00	24.0	0.00	0.00	0.00	0.00	0.00
62.00	24.0	0.00	0.00	0.00	0.00	0.00
63.00	24.0	0.00	0.00	0.00	0.00	0.00

WR-B21_24-PCP.txt

64.00	24.0	0.00	0.00	0.00	0.00	0.00
65.00	24.0	0.00	0.00	0.00	0.00	0.00
66.00	24.0	0.00	0.00	0.00	0.00	0.00
67.00	24.0	0.00	0.00	0.00	0.00	0.00
68.00	24.0	0.00	0.00	0.00	0.00	0.00
69.00	24.0	0.00	0.00	0.00	0.00	0.00
70.00	24.0	0.00	0.00	0.00	0.00	0.00
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00
81.00	24.0	0.00	0.00	0.00	0.00	0.00
82.00	24.0	0.00	0.00	0.00	0.00	0.00
83.00	24.0	0.00	0.00	0.00	0.00	0.00
84.00	24.0	0.00	0.00	0.00	0.00	0.00
85.00	24.0	0.00	0.00	0.00	0.00	0.00
86.00	24.0	0.00	0.00	0.00	0.00	0.00
87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B22_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 9/4/13, Boring Number: WR-B22
 Station number: 923+60 Offset: 25 LT

Ground Elevation: 0.000(ft)

Hammer type: Safety Hammer

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	5- Cavity layer
2	6.00	10.00	5- Cavity layer
3	8.00	7.00	3- Clean sand
4	10.00	11.00	3- Clean sand
5	12.50	28.00	2- Clay and silty sand
6	15.00	22.00	2- Clay and silty sand
7	17.50	99.00	1- Plastic Clay
8	18.75	31.00	2- Clay and silty sand
9	20.00	31.00	1- Plastic Clay
10	22.50	15.00	1- Plastic Clay
11	25.00	47.00	2- Clay and silty sand
12	26.25	28.00	3- Clean sand
13	27.50	28.00	2- Clay and silty sand
14	28.75	28.00	3- Clean sand
15	30.00	99.00	2- Clay and silty sand
16	32.50	99.00	2- Clay and silty sand
17	35.00	99.00	2- Clay and silty sand

WR-B22_24-PCP.txt

18	37.50	99.00	4- Lime Stone/Very shelly sand
19	40.00	99.00	4- Lime Stone/Very shelly sand
20	42.50	99.00	4- Lime Stone/Very shelly sand
21	45.00	99.00	4- Lime Stone/Very shelly sand
22	47.50	99.00	4- Lime Stone/Very shelly sand
23	50.00	99.00	4- Lime Stone/Very shelly sand
24	52.50	99.00	2- Clay and silty sand
25	55.00	99.00	2- Clay and silty sand
26	57.50	99.00	4- Lime Stone/Very shelly sand
27	60.00	99.00	2- Clay and silty sand
28	62.50	99.00	4- Lime Stone/Very shelly sand
29	65.00	99.00	2- Clay and silty sand
30	67.50	99.00	2- Clay and silty sand
31	70.00	99.00	2- Clay and silty sand
32	72.50	99.00	2- Clay and silty sand
33	75.00	99.00	4- Lime Stone/Very shelly sand
34	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-8.00	8.00	6.25	5-Void
2	-8.00	-12.50	4.50	9.22	3-Clean Sand
3	-12.50	-17.50	5.00	25.00	2-Clay and Silty Sand
4	-17.50	-18.75	1.25	99.00	1-Plastic Clay
5	-18.75	-20.00	1.25	31.00	2-Clay and Silty Sand
6	-20.00	-25.00	5.00	23.00	1-Plastic Clay
7	-25.00	-26.25	1.25	47.00	2-Clay and Silty Sand
8	-26.25	-27.50	1.25	28.00	3-Clean Sand
9	-27.50	-28.75	1.25	28.00	2-Clay and Silty Sand
10	-28.75	-30.00	1.25	28.00	3-Clean Sand
11	-30.00	-37.50	7.50	99.00	2-Clay and Silty Sand
12	-37.50	-52.50	15.00	99.00	4-Limestone, Very Shelly Sand
13	-52.50	-57.50	5.00	99.00	2-Clay and Silty Sand
14	-57.50	-60.00	2.50	99.00	4-Limestone, Very Shelly Sand
15	-60.00	-62.50	2.50	99.00	2-Clay and Silty Sand
16	-62.50	-65.00	2.50	99.00	4-Limestone, Very Shelly Sand
17	-65.00	-75.00	10.00	99.00	2-Clay and Silty Sand

			WR-B22_24-PCP.txt		
18	-75.00	-76.00	1.00	99.00	4-Limestone, Very
Shelly Sand					
19	-76.00	-76.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00

WR-B22_24-PCP.txt

24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	3.37	26.98	30.35	15.18	84.31
11.00	24.0	5.59	27.65	33.24	16.62	88.53
12.00	24.0	9.54	28.57	38.11	19.06	95.24
13.00	24.0	19.85	36.68	56.53	28.27	129.89
14.00	24.0	27.37	35.84	63.21	31.60	134.89
15.00	24.0	34.38	34.61	68.99	34.49	138.21
16.00	24.0	42.18	33.24	75.42	37.71	141.89
17.00	24.0	52.07	34.60	86.67	43.33	155.86
18.00	24.0	63.15	36.41	99.56	49.78	172.39
19.00	24.0	72.49	48.17	120.66	60.33	217.01
20.00	24.0	82.09	58.57	140.66	70.33	257.80
21.00	24.0	91.05	45.53	136.57	68.29	227.62
22.00	24.0	98.37	50.19	148.57	74.28	248.96
23.00	24.0	104.50	57.08	161.58	80.79	275.75
24.00	24.0	110.34	66.12	176.46	88.23	308.69
25.00	24.0	121.46	79.21	200.67	100.34	359.10
26.00	24.0	129.05	79.65	208.70	104.35	367.99
27.00	24.0	134.62	108.95	243.57	121.78	461.47
28.00	24.0	141.79	88.48	230.27	115.14	407.23
29.00	24.0	147.12	94.32	241.44	120.72	430.08
30.00	24.0	155.12	105.22	260.34	130.17	470.78
31.00	24.0	164.49	106.88	271.38	135.69	485.14
32.00	24.0	172.30	112.02	284.32	142.16	508.37
33.00	24.0	179.38	120.60	299.98	149.99	541.17
34.00	24.0	186.27	132.55	318.82	159.41	583.93
35.00	24.0	193.34	147.80	341.14	170.57	636.74
36.00	24.0	200.06	165.90	365.96	182.98	697.75
37.00	24.0	205.88	185.43	391.31	195.65	762.16
38.00	24.0	228.93	201.54	430.47	215.24	833.56
39.00	24.0	233.38	202.95	436.33	218.16	842.22
40.00	24.0	237.60	205.56	443.16	221.58	854.27
41.00	24.0	241.71	209.10	450.81	225.40	869.01
42.00	24.0	245.76	213.42	459.18	229.59	886.02
43.00	24.0	249.76	218.71	468.47	234.23	905.89
44.00	24.0	253.83	224.29	478.11	239.06	926.69
45.00	24.0	258.38	227.08	485.46	242.73	939.61
46.00	24.0	263.44	226.43	489.87	244.94	942.73

WR-B22_24-PCP.txt

47.00	24.0	268.72	224.29	493.00	246.50	941.58	
48.00	24.0	274.13	221.08	495.20	247.60	937.36	
49.00	24.0	279.37	218.98	498.36	249.18	936.33	
50.00	24.0	284.21	220.18	504.39	252.20	944.75	
51.00	24.0	290.11	225.32	515.43	257.71	966.07	
52.00	24.0	298.20	228.61	526.80	263.40	984.02	
53.00	24.0	310.91	156.57	467.48	233.74	780.62	
54.00	24.0	321.38	158.86	480.24	240.12	797.95	
55.00	24.0	331.85	165.71	497.57	248.78	828.99	
56.00	24.0	341.19	178.29	519.48	259.74	876.05	
57.00	24.0	347.62	186.21	533.83	266.92	906.26	
58.00	24.0	353.63	220.46	574.09	287.05	1015.02	
59.00	24.0	360.69	211.61	572.30	286.15	995.52	
60.00	24.0	370.03	205.32	575.35	287.68	986.00	
61.00	24.0	379.37	199.04	578.41	289.20	976.48	
62.00	24.0	386.44	190.18	576.62	288.31	956.98	
63.00	24.0	391.81	179.39	571.20	285.60	929.99	
64.00	24.0	398.88	170.54	569.41	284.71	910.48	
65.00	24.0	408.22	128.00	536.22	268.11	792.22	
66.00	24.0	418.64	128.07	546.72	273.36	802.86	
67.00	24.0	428.45	129.29	557.74	278.87	816.31	
68.00	24.0	437.07	133.36	570.43	285.21	837.14	
69.00	24.0	446.73	135.71	582.44	291.22	853.87	
70.00	24.0	***** Not enough soil data *****					
71.00	24.0	0.00	0.00	0.00	0.00	0.00	
72.00	24.0	0.00	0.00	0.00	0.00	0.00	
73.00	24.0	0.00	0.00	0.00	0.00	0.00	
74.00	24.0	0.00	0.00	0.00	0.00	0.00	
75.00	24.0	0.00	0.00	0.00	0.00	0.00	
76.00	24.0	0.00	0.00	0.00	0.00	0.00	
77.00	24.0	0.00	0.00	0.00	0.00	0.00	
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

 1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA,
AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B23_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 9/6/13, Boring Number: WR-B23
 Station number: 923+35 Offset: 75 RT

Ground Elevation: 0.000(ft)

Hammer type: Safety Hammer

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	4.00	5- Cavity layer
2	2.00	4.00	5- Cavity layer
3	4.00	5.00	3- Clean sand
4	6.00	5.00	5- Cavity layer
5	8.00	4.00	3- Clean sand
6	10.00	18.00	2- Clay and silty sand
7	12.50	15.00	2- Clay and silty sand
8	15.00	99.00	1- Plastic Clay
9	16.25	17.00	2- Clay and silty sand
10	17.50	17.00	1- Plastic Clay
11	20.00	29.00	1- Plastic Clay
12	22.50	23.00	1- Plastic Clay
13	25.00	31.00	2- Clay and silty sand
14	27.50	99.00	2- Clay and silty sand
15	30.00	99.00	2- Clay and silty sand
16	32.50	99.00	2- Clay and silty sand
17	35.00	99.00	4- Lime Stone/Very shelly sand

WR-B23_24-PCP.txt

18	37.50	99.00	4- Lime Stone/Very shelly sand
19	40.00	99.00	2- Clay and silty sand
20	42.50	99.00	4- Lime Stone/Very shelly sand
21	45.00	99.00	4- Lime Stone/Very shelly sand
22	47.50	99.00	4- Lime Stone/Very shelly sand
23	50.00	99.00	2- Clay and silty sand
24	52.50	99.00	4- Lime Stone/Very shelly sand
25	55.00	99.00	4- Lime Stone/Very shelly sand
26	57.50	99.00	2- Clay and silty sand
27	60.00	99.00	4- Lime Stone/Very shelly sand
28	62.50	99.00	4- Lime Stone/Very shelly sand
29	65.00	99.00	4- Lime Stone/Very shelly sand
30	67.50	99.00	4- Lime Stone/Very shelly sand
31	70.00	99.00	2- Clay and silty sand
32	72.50	99.00	2- Clay and silty sand
33	75.00	99.00	2- Clay and silty sand
34	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	4.00	5-Void
2	-4.00	-6.00	2.00	5.00	3-Clean Sand
3	-6.00	-8.00	2.00	5.00	5-Void
4	-8.00	-10.00	2.00	4.00	3-Clean Sand
5	-10.00	-15.00	5.00	16.50	2-Clay and Silty Sand
6	-15.00	-16.25	1.25	99.00	1-Plastic Clay
7	-16.25	-17.50	1.25	17.00	2-Clay and Silty Sand
8	-17.50	-25.00	7.50	23.00	1-Plastic Clay
9	-25.00	-35.00	10.00	82.00	2-Clay and Silty Sand
10	-35.00	-40.00	5.00	99.00	4-Limestone, Very Shelly Sand
11	-40.00	-42.50	2.50	99.00	2-Clay and Silty Sand
12	-42.50	-50.00	7.50	99.00	4-Limestone, Very Shelly Sand
13	-50.00	-52.50	2.50	99.00	2-Clay and Silty Sand
14	-52.50	-57.50	5.00	99.00	4-Limestone, Very Shelly Sand
15	-57.50	-60.00	2.50	99.00	2-Clay and Silty Sand
16	-60.00	-70.00	10.00	99.00	4-Limestone, Very Shelly Sand

			WR-B23_24-PCP.txt		
17	-70.00	-76.00	6.00	99.00	2-Clay and Silty Sand
18	-76.00	-76.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00

WR-B23_24-PCP.txt

24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	7.30	23.93	31.23	15.62	79.09
11.00	24.0	12.92	23.92	36.84	18.42	84.67
12.00	24.0	18.22	23.89	42.11	21.06	89.90
13.00	24.0	23.50	23.98	47.49	23.74	95.46
14.00	24.0	31.36	23.93	55.29	27.64	103.14
15.00	24.0	41.94	23.13	65.07	32.53	111.32
16.00	24.0	51.33	22.33	73.66	36.83	118.32
17.00	24.0	56.65	24.35	81.00	40.50	129.70
18.00	24.0	63.37	25.56	88.93	44.46	140.05
19.00	24.0	69.32	27.76	97.08	48.54	152.60
20.00	24.0	75.47	33.05	108.52	54.26	174.63
21.00	24.0	81.92	42.60	124.52	62.26	209.72
22.00	24.0	89.53	53.09	142.62	71.31	248.81
23.00	24.0	97.65	61.27	158.93	79.46	281.47
24.00	24.0	105.87	68.83	174.71	87.35	312.38
25.00	24.0	122.28	75.38	197.66	98.83	348.41
26.00	24.0	130.63	76.09	206.71	103.36	358.89
27.00	24.0	138.35	78.90	217.25	108.62	375.04
28.00	24.0	145.20	85.22	230.43	115.21	400.87
29.00	24.0	151.39	95.70	247.09	123.54	438.48
30.00	24.0	157.79	109.61	267.39	133.70	486.60
31.00	24.0	164.79	126.39	291.19	145.59	543.98
32.00	24.0	172.98	143.08	316.06	158.03	602.22
33.00	24.0	182.21	157.71	339.92	169.96	655.34
34.00	24.0	190.86	160.85	351.71	175.85	673.40
35.00	24.0	217.51	165.93	383.44	191.72	715.29
36.00	24.0	222.11	166.56	388.67	194.34	721.80
37.00	24.0	226.34	168.57	394.91	197.46	732.05
38.00	24.0	230.55	172.03	402.58	201.29	746.64
39.00	24.0	236.09	177.68	413.76	206.88	769.11
40.00	24.0	248.60	259.43	508.03	254.02	1026.89
41.00	24.0	257.94	218.29	476.23	238.11	912.80
42.00	24.0	265.01	234.29	499.30	249.65	967.87
43.00	24.0	270.09	227.37	497.46	248.73	952.20
44.00	24.0	274.89	223.32	498.21	249.11	944.86
45.00	24.0	279.69	223.75	503.44	251.72	950.94
46.00	24.0	284.49	228.18	512.67	256.34	969.03
47.00	24.0	289.03	231.02	520.05	260.03	982.08

WR-B23_24-PCP.txt

48.00	24.0	293.62	233.74	527.36	263.68	994.85	
49.00	24.0	300.05	237.20	537.25	268.63	1011.66	
50.00	24.0	310.78	241.14	551.93	275.96	1034.21	
51.00	24.0	320.12	199.43	519.55	259.78	918.41	
52.00	24.0	327.19	213.14	540.33	270.17	966.62	
53.00	24.0	332.28	234.43	566.70	283.35	1035.56	
54.00	24.0	337.08	234.68	571.75	285.88	1041.11	
55.00	24.0	341.80	235.35	577.15	288.57	1047.85	
56.00	24.0	347.37	237.03	584.40	292.20	1058.46	
57.00	24.0	354.75	240.56	595.31	297.66	1076.43	
58.00	24.0	365.92	206.86	572.78	286.39	986.49	
59.00	24.0	374.12	229.71	603.84	301.92	1063.27	
60.00	24.0	380.06	263.00	643.06	321.53	1169.06	
61.00	24.0	384.86	262.43	647.29	323.64	1172.14	
62.00	24.0	389.66	257.86	647.51	323.76	1163.23	
63.00	24.0	394.46	248.71	643.17	321.59	1140.60	
64.00	24.0	399.26	237.54	636.79	318.40	1111.86	
65.00	24.0	404.06	228.11	632.16	316.08	1088.38	
66.00	24.0	408.86	220.68	629.54	314.77	1070.89	
67.00	24.0	413.66	213.25	626.91	313.45	1053.41	
68.00	24.0	418.74	204.14	622.88	311.44	1031.17	
69.00	24.0	425.81	190.96	616.77	308.39	998.70	
70.00	24.0	***** Not enough soil data *****					
71.00	24.0	0.00	0.00	0.00	0.00	0.00	
72.00	24.0	0.00	0.00	0.00	0.00	0.00	
73.00	24.0	0.00	0.00	0.00	0.00	0.00	
74.00	24.0	0.00	0.00	0.00	0.00	0.00	
75.00	24.0	0.00	0.00	0.00	0.00	0.00	
76.00	24.0	0.00	0.00	0.00	0.00	0.00	
77.00	24.0	0.00	0.00	0.00	0.00	0.00	
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

- 1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

WR-B23_24-PCP.txt

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA,
AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B24_PCP.spc
Project number: H1135080
Job name: Wekiva Parkway 6 - Wekiva River bridge
Engineer: EJ
Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 9/10/13, Boring Number: WR-B24
Station number: 924+15 Offset: 115 RT

Ground Elevation: 0.000(ft)

Hammer type: Safety Hammer

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	3.00	5- Cavity layer
2	2.00	3.00	5- Cavity layer
3	4.00	2.00	5- Cavity layer
4	6.00	5.00	3- Clean sand
5	7.00	5.00	2- Clay and silty sand
6	8.00	24.00	3- Clean sand
7	10.00	25.00	4- Lime Stone/Very shelly sand
8	12.50	24.00	4- Lime Stone/Very shelly sand
9	15.00	23.00	4- Lime Stone/Very shelly sand
10	17.50	99.00	1- Plastic Clay
11	20.00	63.00	1- Plastic Clay
12	21.25	13.00	2- Clay and silty sand
13	22.50	13.00	1- Plastic Clay
14	25.00	27.00	1- Plastic Clay
15	27.50	99.00	2- Clay and silty sand
16	30.00	99.00	1- Plastic Clay
17	32.50	99.00	1- Plastic Clay

WR-B24_24-PCP.txt

18	35.00	99.00	1- Plastic Clay
19	37.50	99.00	2- Clay and silty sand
20	40.00	99.00	2- Clay and silty sand
21	42.50	99.00	2- Clay and silty sand
22	45.00	99.00	4- Lime Stone/Very shelly sand
23	47.50	99.00	4- Lime Stone/Very shelly sand
24	50.00	99.00	4- Lime Stone/Very shelly sand
25	51.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-6.00	6.00	2.67	5-Void
2	-6.00	-7.00	1.00	5.00	3-Clean Sand
3	-7.00	-8.00	1.00	5.00	2-Clay and Silty Sand
4	-8.00	-10.00	2.00	24.00	3-Clean Sand
5	-10.00	-17.50	7.50	24.00	4-Limestone, Very Shelly Sand
6	-17.50	-21.25	3.75	87.00	1-Plastic Clay
7	-21.25	-22.50	1.25	13.00	2-Clay and Silty Sand
8	-22.50	-27.50	5.00	20.00	1-Plastic Clay
9	-27.50	-30.00	2.50	99.00	2-Clay and Silty Sand
10	-30.00	-37.50	7.50	99.00	1-Plastic Clay
11	-37.50	-45.00	7.50	99.00	2-Clay and Silty Sand
12	-45.00	-51.00	6.00	99.00	4-Limestone, Very Shelly Sand
13	-51.00	-51.00	0.00	0.00	5-

Driven Pile Data:

=====
Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00

WR-B24_24-PCP.txt

24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00

Driven File Capacity:

WR-B24_24-PCP.txt

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	10.44	69.62	80.06	40.03	219.30
11.00	24.0	12.43	69.28	81.71	40.86	220.28
12.00	24.0	14.38	68.15	82.53	41.26	218.83
13.00	24.0	16.30	66.58	82.88	41.44	216.04
14.00	24.0	18.19	63.89	82.08	41.04	209.87
15.00	24.0	20.04	59.57	79.62	39.81	198.76
16.00	24.0	22.60	74.83	97.43	48.71	247.09
17.00	24.0	31.09	71.73	102.82	51.41	246.28
18.00	24.0	42.20	37.10	79.30	39.65	153.51
19.00	24.0	52.60	39.04	91.64	45.82	169.73
20.00	24.0	62.68	42.45	105.13	52.57	190.03
21.00	24.0	70.08	48.28	118.36	59.18	214.92
22.00	24.0	80.95	40.48	121.44	60.72	202.40
23.00	24.0	86.06	71.62	157.68	78.84	300.92
24.00	24.0	92.39	72.64	165.03	82.51	310.31
25.00	24.0	100.39	73.32	173.71	86.85	320.34
26.00	24.0	109.81	72.81	182.62	91.31	328.25
27.00	24.0	119.96	69.81	189.76	94.88	329.37
28.00	24.0	130.48	65.35	195.83	97.92	326.54
29.00	24.0	141.55	62.80	204.35	102.18	329.94
30.00	24.0	153.23	64.23	217.46	108.73	345.92
31.00	24.0	165.09	64.42	229.51	114.76	358.35
32.00	24.0	175.68	67.19	242.86	121.43	377.24
33.00	24.0	185.87	72.52	258.40	129.20	403.44
34.00	24.0	196.33	80.43	276.76	138.38	437.61
35.00	24.0	208.31	85.57	293.88	146.94	465.02
36.00	24.0	220.01	91.46	311.46	155.73	494.38
37.00	24.0	231.13	101.00	332.13	166.07	534.13
38.00	24.0	246.13	104.71	350.84	175.42	560.26
39.00	24.0	254.45	108.37	362.82	181.41	579.56
40.00	24.0	261.64	115.75	377.38	188.69	608.87
41.00	24.0	268.40	126.77	395.17	197.59	648.71
42.00	24.0	275.27	141.07	416.34	208.17	698.48
43.00	24.0	282.45	157.76	440.21	220.11	755.74
44.00	24.0	290.24	166.55	456.79	228.40	789.89
45.00	24.0	*****	Not enough soil data	*****		
46.00	24.0	0.00	0.00	0.00	0.00	0.00
47.00	24.0	0.00	0.00	0.00	0.00	0.00
48.00	24.0	0.00	0.00	0.00	0.00	0.00
49.00	24.0	0.00	0.00	0.00	0.00	0.00
50.00	24.0	0.00	0.00	0.00	0.00	0.00

WR-B24_24-PCP.txt

51.00	24.0	0.00	0.00	0.00	0.00	0.00
52.00	24.0	0.00	0.00	0.00	0.00	0.00
53.00	24.0	0.00	0.00	0.00	0.00	0.00
54.00	24.0	0.00	0.00	0.00	0.00	0.00
55.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B25_PCP.spc
Project number: H1135080
Job name: Wekiva Parkway 6 - Wekiva River bridge
Engineer: EJ
Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 08/23/13, Boring Number: WR-B25
Station number: 926+75 Offset: 60 LT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	8.00	10.00	3- Clean sand
3	10.00	4.00	2- Clay and silty sand
4	12.50	2.00	2- Clay and silty sand
5	15.00	2.00	2- Clay and silty sand
6	17.50	0.00	2- Clay and silty sand
7	20.00	0.00	2- Clay and silty sand
8	21.25	0.00	3- Clean sand
9	22.50	6.00	2- Clay and silty sand
10	25.00	17.00	1- Plastic Clay
11	27.50	23.00	1- Plastic Clay
12	30.00	15.00	1- Plastic Clay
13	32.50	12.00	1- Plastic Clay
14	35.00	20.00	2- Clay and silty sand
15	37.50	12.00	2- Clay and silty sand
16	38.75	12.00	3- Clean sand
17	40.00	99.00	2- Clay and silty sand

WR-B25_24-PCP.txt

18	42.50	46.00	2- Clay and silty sand
19	45.00	99.00	2- Clay and silty sand
20	47.50	99.00	4- Lime Stone/Very shelly sand
21	50.00	4.00	2- Clay and silty sand
22	51.25	4.00	3- Clean sand
23	52.50	22.00	2- Clay and silty sand
24	55.00	99.00	4- Lime Stone/Very shelly sand
25	57.50	99.00	4- Lime Stone/Very shelly sand
26	60.00	99.00	4- Lime Stone/Very shelly sand
27	62.50	99.00	2- Clay and silty sand
28	65.00	99.00	2- Clay and silty sand
29	67.50	99.00	4- Lime Stone/Very shelly sand
30	70.00	99.00	4- Lime Stone/Very shelly sand
31	72.50	99.00	4- Lime Stone/Very shelly sand
32	75.00	99.00	2- Clay and silty sand
33	77.50	70.00	2- Clay and silty sand
34	80.00	99.00	2- Clay and silty sand
35	82.50	99.00	2- Clay and silty sand
36	85.00	99.00	2- Clay and silty sand
37	87.50	99.00	2- Clay and silty sand
38	90.00	99.00	2- Clay and silty sand
39	92.50	72.00	2- Clay and silty sand
40	95.00	99.00	4- Lime Stone/Very shelly sand
41	97.50	99.00	4- Lime Stone/Very shelly sand
42	100.00	99.00	4- Lime Stone/Very shelly sand
43	101.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-10.00	10.00	6.00	3-Clean Sand
2	-10.00	-21.25	11.25	1.78	2-Clay and Silty Sand
3	-21.25	-22.50	1.25	0.00	3-Clean Sand
4	-22.50	-25.00	2.50	6.00	2-Clay and Silty Sand
5	-25.00	-35.00	10.00	16.75	1-Plastic Clay
6	-35.00	-38.75	3.75	17.33	2-Clay and Silty Sand
7	-38.75	-40.00	1.25	12.00	3-Clean Sand
8	-40.00	-47.50	7.50	81.33	2-Clay and Silty Sand
9	-47.50	-50.00	2.50	99.00	4-Limestone, Very
Shelly Sand					
10	-50.00	-51.25	1.25	4.00	2-Clay and Silty Sand

WR-B25_24-PCP.txt

11	-51.25	-52.50	1.25	4.00	3-Clean Sand
12	-52.50	-55.00	2.50	22.00	2-Clay and Silty Sand
13	-55.00	-62.50	7.50	99.00	4-Limestone, Very
Shelly Sand					
14	-62.50	-67.50	5.00	99.00	2-Clay and Silty Sand
15	-67.50	-75.00	7.50	99.00	4-Limestone, Very
Shelly Sand					
16	-75.00	-95.00	20.00	92.00	2-Clay and Silty Sand
17	-95.00	-101.00	6.00	99.00	4-Limestone, Very
Shelly Sand					
18	-101.00	-101.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00

WR-B25_24-PCP.txt

24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00

WR-B25_24-PCP.txt

24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00
24.00	91.00	-91.00
24.00	92.00	-92.00
24.00	93.00	-93.00
24.00	94.00	-94.00
24.00	95.00	-95.00
24.00	96.00	-96.00
24.00	97.00	-97.00
24.00	98.00	-98.00
24.00	99.00	-99.00
24.00	100.00	-100.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
-----	-----	-----	-----	-----	-----	-----
10.00	24.0	13.19	18.52	31.71	15.86	68.75
11.00	24.0	13.19	16.83	30.03	15.01	63.70
12.00	24.0	13.19	15.43	28.62	14.31	59.49
13.00	24.0	13.19	14.24	27.44	13.72	55.93
14.00	24.0	13.19	13.23	26.42	13.21	52.87
15.00	24.0	13.19	12.60	25.79	12.90	50.99
16.00	24.0	13.19	1.29	14.48	7.24	17.06
17.00	24.0	13.19	2.53	15.72	7.86	20.79
18.00	24.0	13.19	3.88	17.08	8.54	24.84
19.00	24.0	13.19	5.39	18.58	9.29	29.35
20.00	24.0	13.19	7.09	20.28	10.14	34.46
21.00	24.0	13.19	8.93	22.13	11.06	39.99
22.00	24.0	13.79	15.18	28.97	14.48	59.32
23.00	24.0	16.43	14.47	30.90	15.45	59.85
24.00	24.0	21.02	13.36	34.39	17.19	61.11
25.00	24.0	27.54	12.45	40.00	20.00	64.91
26.00	24.0	35.39	12.34	47.73	23.86	72.40
27.00	24.0	43.01	12.97	55.98	27.99	81.92
28.00	24.0	49.75	14.87	64.61	32.31	94.35

WR-B25_24-PCP.txt

29.00	24.0	55.95	18.23	74.18	37.09	110.64
30.00	24.0	63.39	20.33	83.71	41.86	124.37
31.00	24.0	70.12	22.23	92.35	46.18	136.81
32.00	24.0	76.40	25.75	102.15	51.07	153.66
33.00	24.0	82.34	32.41	114.75	57.37	179.57
34.00	24.0	88.76	40.28	129.04	64.52	209.59
35.00	24.0	100.42	47.34	147.76	73.88	242.44
36.00	24.0	106.50	48.19	154.69	77.34	251.06
37.00	24.0	110.67	50.85	161.51	80.76	263.21
38.00	24.0	113.55	55.41	168.97	84.48	279.79
39.00	24.0	121.07	75.09	196.16	98.08	346.34
40.00	24.0	128.28	88.87	217.15	108.58	394.89
41.00	24.0	137.49	90.53	228.02	114.01	409.08
42.00	24.0	145.91	93.86	239.78	119.89	427.51
43.00	24.0	155.42	95.78	251.20	125.60	442.77
44.00	24.0	166.41	95.19	261.60	130.80	451.98
45.00	24.0	177.92	93.72	271.65	135.82	459.09
46.00	24.0	187.99	92.84	280.83	140.42	466.52
47.00	24.0	194.59	94.56	289.15	144.57	478.27
48.00	24.0	201.14	102.85	303.99	151.99	509.69
49.00	24.0	203.19	106.95	310.14	155.07	524.04
50.00	24.0	205.92	149.30	355.22	177.61	653.83
51.00	24.0	205.92	95.22	301.14	150.57	491.59
52.00	24.0	207.55	156.45	364.00	182.00	676.90
53.00	24.0	214.47	178.85	393.32	196.66	751.03
54.00	24.0	220.36	181.95	402.30	201.15	766.20
55.00	24.0	226.69	199.72	426.41	213.20	825.84
56.00	24.0	231.49	194.67	426.16	213.08	815.49
57.00	24.0	236.29	188.28	424.57	212.28	801.12
58.00	24.0	241.09	181.97	423.06	211.53	786.99
59.00	24.0	245.89	178.00	423.89	211.95	779.90
60.00	24.0	250.69	178.55	429.24	214.62	786.34
61.00	24.0	256.62	184.30	440.93	220.46	809.53
62.00	24.0	264.83	192.16	456.99	228.49	841.31
63.00	24.0	275.02	170.86	445.87	222.94	787.59
64.00	24.0	285.49	182.29	467.78	233.89	832.35
65.00	24.0	295.96	193.71	489.68	244.84	877.11
66.00	24.0	304.69	204.29	508.97	254.49	917.54
67.00	24.0	310.36	210.29	520.64	260.32	941.22
68.00	24.0	317.45	235.97	553.42	276.71	1025.35
69.00	24.0	322.25	231.54	553.79	276.90	1016.88
70.00	24.0	327.05	224.42	551.47	275.74	1000.32
71.00	24.0	331.85	214.43	546.28	273.14	975.14
72.00	24.0	336.65	203.00	539.65	269.83	945.65
73.00	24.0	341.74	191.89	533.63	266.81	917.42
74.00	24.0	348.81	183.04	531.84	265.92	897.91
75.00	24.0	358.14	128.00	486.14	243.07	742.14
76.00	24.0	368.62	128.00	496.62	248.31	752.62

WR-B25_24-PCP.txt

77.00	24.0	379.09	128.00	507.09	253.55	763.09	
78.00	24.0	389.56	128.00	517.56	258.78	773.56	
79.00	24.0	400.04	128.00	528.04	264.02	784.04	
80.00	24.0	410.51	128.00	538.51	269.25	794.51	
81.00	24.0	420.98	128.00	548.98	274.49	804.98	
82.00	24.0	431.45	128.00	559.45	279.73	815.45	
83.00	24.0	441.93	128.00	569.93	284.96	825.93	
84.00	24.0	452.40	128.00	580.40	290.20	836.40	
85.00	24.0	462.87	128.00	590.87	295.44	846.87	
86.00	24.0	473.35	128.57	601.92	300.96	859.06	
87.00	24.0	483.82	133.14	616.96	308.48	883.25	
88.00	24.0	494.29	142.29	636.58	318.29	921.15	
89.00	24.0	504.76	153.71	658.48	329.24	965.91	
90.00	24.0	515.24	165.14	680.38	340.19	1010.67	
91.00	24.0	525.71	176.57	702.28	351.14	1055.42	
92.00	24.0	536.18	188.00	724.18	362.09	1100.18	
93.00	24.0	546.37	199.11	745.48	372.74	1143.69	
94.00	24.0	554.57	197.68	752.25	376.13	1147.61	
95.00	24.0	***** Not enough soil data *****					
96.00	24.0	0.00	0.00	0.00	0.00	0.00	
97.00	24.0	0.00	0.00	0.00	0.00	0.00	
98.00	24.0	0.00	0.00	0.00	0.00	0.00	
99.00	24.0	0.00	0.00	0.00	0.00	0.00	
100.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B26_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 08/27/13, Boring Number: WR-B26
 Station number: 926+20 Offset: 50 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	8.00	19.00	3- Clean sand
3	10.00	15.00	3- Clean sand
4	12.50	9.00	3- Clean sand
5	15.00	2.00	2- Clay and silty sand
6	17.50	2.00	2- Clay and silty sand
7	20.00	2.00	5- Cavity layer
8	22.50	5.00	3- Clean sand
9	25.00	18.00	2- Clay and silty sand
10	27.50	15.00	2- Clay and silty sand
11	30.00	15.00	1- Plastic Clay
12	32.50	19.00	1- Plastic Clay
13	35.00	10.00	1- Plastic Clay
14	37.50	11.00	1- Plastic Clay
15	40.00	12.00	1- Plastic Clay
16	42.50	9.00	2- Clay and silty sand
17	43.75	9.00	3- Clean sand

WR-B26_24-PCP.txt

18	45.00	32.00	2- Clay and silty sand
19	47.50	20.00	2- Clay and silty sand
20	50.00	99.00	4- Lime Stone/Very shelly sand
21	52.50	99.00	4- Lime Stone/Very shelly sand
22	55.00	99.00	2- Clay and silty sand
23	57.50	60.00	2- Clay and silty sand
24	60.00	99.00	2- Clay and silty sand
25	61.25	9.00	3- Clean sand
26	62.50	9.00	2- Clay and silty sand
27	63.75	9.00	3- Clean sand
28	65.00	99.00	2- Clay and silty sand
29	67.50	99.00	2- Clay and silty sand
30	70.00	99.00	2- Clay and silty sand
31	72.50	99.00	2- Clay and silty sand
32	75.00	99.00	2- Clay and silty sand
33	77.50	99.00	4- Lime Stone/Very shelly sand
34	80.00	99.00	2- Clay and silty sand
35	82.50	99.00	2- Clay and silty sand
36	83.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-15.00	15.00	9.20	3-Clean Sand
2	-15.00	-20.00	5.00	2.00	2-Clay and Silty Sand
3	-20.00	-22.50	2.50	2.00	5-Void
4	-22.50	-25.00	2.50	5.00	3-Clean Sand
5	-25.00	-30.00	5.00	16.50	2-Clay and Silty Sand
6	-30.00	-42.50	12.50	13.40	1-Plastic Clay
7	-42.50	-43.75	1.25	9.00	2-Clay and Silty Sand
8	-43.75	-45.00	1.25	9.00	3-Clean Sand
9	-45.00	-50.00	5.00	26.00	2-Clay and Silty Sand
10	-50.00	-55.00	5.00	99.00	4-Limestone, Very Shelly Sand
11	-55.00	-61.25	6.25	83.40	2-Clay and Silty Sand
12	-61.25	-62.50	1.25	9.00	3-Clean Sand
13	-62.50	-63.75	1.25	9.00	2-Clay and Silty Sand
14	-63.75	-65.00	1.25	9.00	3-Clean Sand
15	-65.00	-77.50	12.50	99.00	2-Clay and Silty Sand
16	-77.50	-80.00	2.50	99.00	4-Limestone, Very Shelly Sand

			WR-B26_24-PCP.txt		
17	-80.00	-83.00	3.00	99.00	2-Clay and Silty Sand
18	-83.00	-83.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00
24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00

WR-B26_24-PCP.txt

24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00
24.00	81.00	-81.00
24.00	82.00	-82.00
24.00	83.00	-83.00
24.00	84.00	-84.00
24.00	85.00	-85.00
24.00	86.00	-86.00
24.00	87.00	-87.00
24.00	88.00	-88.00
24.00	89.00	-89.00
24.00	90.00	-90.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	24.50	49.98	74.48	37.24	174.44
11.00	24.0	27.10	44.96	72.06	36.03	161.97
12.00	24.0	29.25	40.28	69.53	34.77	150.09
13.00	24.0	30.92	36.10	67.02	33.51	139.23
14.00	24.0	31.94	33.08	65.01	32.51	131.17
15.00	24.0	32.28	31.71	63.99	31.99	127.41
16.00	24.0	32.28	3.38	35.66	17.83	42.42
17.00	24.0	32.28	5.88	38.15	19.08	49.91
18.00	24.0	32.28	8.98	41.25	20.63	59.20
19.00	24.0	32.28	12.26	44.54	22.27	69.07
20.00	24.0	32.28	-83.16	-50.89	-25.44	-217.21
21.00	24.0	32.47	0.00	32.47	16.23	32.47
22.00	24.0	33.03	0.00	33.03	16.52	33.03
23.00	24.0	34.22	35.40	69.62	34.81	140.41
24.00	24.0	37.52	32.30	69.82	34.91	134.43
25.00	24.0	43.17	31.26	74.44	37.22	136.96
26.00	24.0	48.88	31.96	80.84	40.42	144.77
27.00	24.0	55.12	32.02	87.14	43.57	151.18
28.00	24.0	61.99	31.38	93.37	46.68	156.13
29.00	24.0	68.42	28.74	97.15	48.58	154.63
30.00	24.0	75.04	16.46	91.49	45.75	124.41
31.00	24.0	81.91	16.59	98.49	49.25	131.67
32.00	24.0	89.37	16.70	106.08	53.04	139.48
33.00	24.0	97.35	16.67	114.02	57.01	147.36
34.00	24.0	104.40	16.34	120.74	60.37	153.43
35.00	24.0	109.89	16.21	126.11	63.05	158.53
36.00	24.0	114.81	16.67	131.48	65.74	164.82
37.00	24.0	119.89	18.53	138.42	69.21	175.48
38.00	24.0	125.14	22.37	147.51	73.76	192.26
39.00	24.0	130.55	26.87	157.42	78.71	211.16
40.00	24.0	136.12	30.48	166.60	83.30	227.56
41.00	24.0	141.42	34.09	175.51	87.75	243.70
42.00	24.0	145.99	43.35	189.34	94.67	276.05
43.00	24.0	149.49	52.71	202.19	101.10	307.61
44.00	24.0	152.06	73.75	225.80	112.90	373.30
45.00	24.0	158.62	94.83	253.45	126.72	443.12
46.00	24.0	166.62	96.85	263.47	131.74	457.18
47.00	24.0	172.61	102.07	274.68	137.34	478.83

WR-B26_24-PCP.txt

48.00	24.0	177.87	108.75	286.62	143.31	504.11	
49.00	24.0	182.99	114.67	297.66	148.83	527.01	
50.00	24.0	195.23	133.41	328.65	164.32	595.48	
51.00	24.0	200.03	130.56	330.59	165.30	591.71	
52.00	24.0	204.83	127.76	332.59	166.30	588.12	
53.00	24.0	209.92	125.27	335.19	167.59	585.73	
54.00	24.0	216.99	122.72	339.71	169.85	585.14	
55.00	24.0	226.32	111.45	337.77	168.88	560.66	
56.00	24.0	236.69	111.59	348.29	174.14	571.47	
57.00	24.0	247.27	106.64	353.91	176.95	567.19	
58.00	24.0	257.74	104.34	362.09	181.04	570.77	
59.00	24.0	268.22	104.34	372.56	186.28	581.24	
60.00	24.0	278.69	104.34	383.03	191.52	591.72	
61.00	24.0	285.65	103.96	389.61	194.81	597.53	
62.00	24.0	288.05	68.86	356.91	178.45	494.62	
63.00	24.0	291.43	131.10	422.54	211.27	684.74	
64.00	24.0	293.87	138.20	432.07	216.04	708.48	
65.00	24.0	300.83	139.93	440.76	220.38	720.63	
66.00	24.0	311.31	136.40	447.71	223.85	720.51	
67.00	24.0	321.78	131.40	453.18	226.59	715.98	
68.00	24.0	332.25	126.40	458.65	229.33	711.45	
69.00	24.0	342.72	123.94	466.66	233.33	714.53	
70.00	24.0	353.20	127.79	480.99	240.50	736.58	
71.00	24.0	363.67	137.08	500.75	250.37	774.91	
72.00	24.0	373.00	143.44	516.43	258.22	803.30	
73.00	24.0	382.81	146.22	529.04	264.52	821.48	
74.00	24.0	393.29	146.22	539.51	269.75	831.95	
75.00	24.0	403.76	146.22	549.98	274.99	842.42	
76.00	24.0	413.12	142.65	555.77	277.88	841.07	
77.00	24.0	***** Not enough soil data *****					
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

WR-B26_24-PCP.txt

2. DAVISSEON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA,
AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSEON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B27_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 9/12/13, Boring Number: WR-B27
 Station number: 926+15 Offset: 140 RT

Ground Elevation: 0.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	2.00	5- Cavity layer
2	2.00	2.00	5- Cavity layer
3	4.00	18.00	3- Clean sand
4	5.00	3.00	2- Clay and silty sand
5	6.00	3.00	3- Clean sand
6	8.00	4.00	3- Clean sand
7	10.00	6.00	2- Clay and silty sand
8	12.50	16.00	2- Clay and silty sand
9	13.75	16.00	3- Clean sand
10	15.00	35.00	2- Clay and silty sand
11	17.50	15.00	4- Lime Stone/Very shelly sand
12	20.00	18.00	4- Lime Stone/Very shelly sand
13	22.50	39.00	1- Plastic Clay
14	25.00	28.00	1- Plastic Clay
15	27.50	23.00	1- Plastic Clay
16	28.75	15.00	2- Clay and silty sand
17	30.00	15.00	1- Plastic Clay

WR-B27_24-PCP.txt

18	32.50	16.00	1- Plastic Clay
19	35.00	21.00	2- Clay and silty sand
20	37.50	99.00	4- Lime Stone/Very shelly sand
21	40.00	68.00	2- Clay and silty sand
22	42.50	99.00	4- Lime Stone/Very shelly sand
23	45.00	99.00	4- Lime Stone/Very shelly sand
24	47.50	99.00	4- Lime Stone/Very shelly sand
25	50.00	99.00	4- Lime Stone/Very shelly sand
26	52.50	99.00	4- Lime Stone/Very shelly sand
27	55.00	22.00	2- Clay and silty sand
28	57.50	99.00	4- Lime Stone/Very shelly sand
29	60.00	99.00	4- Lime Stone/Very shelly sand
30	62.50	99.00	4- Lime Stone/Very shelly sand
31	65.00	99.00	2- Clay and silty sand
32	67.50	99.00	2- Clay and silty sand
33	70.00	99.00	2- Clay and silty sand
34	72.50	99.00	2- Clay and silty sand
35	75.00	99.00	2- Clay and silty sand
36	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	0.00	-4.00	4.00	2.00	5-Void
2	-4.00	-5.00	1.00	18.00	3-Clean Sand
3	-5.00	-6.00	1.00	3.00	2-Clay and Silty Sand
4	-6.00	-10.00	4.00	3.50	3-Clean Sand
5	-10.00	-13.75	3.75	9.33	2-Clay and Silty Sand
6	-13.75	-15.00	1.25	16.00	3-Clean Sand
7	-15.00	-17.50	2.50	35.00	2-Clay and Silty Sand
8	-17.50	-22.50	5.00	16.50	4-Limestone, Very Shelly Sand
9	-22.50	-28.75	6.25	31.40	1-Plastic Clay
10	-28.75	-30.00	1.25	15.00	2-Clay and Silty Sand
11	-30.00	-35.00	5.00	15.50	1-Plastic Clay
12	-35.00	-37.50	2.50	21.00	2-Clay and Silty Sand
13	-37.50	-40.00	2.50	99.00	4-Limestone, Very Shelly Sand
14	-40.00	-42.50	2.50	68.00	2-Clay and Silty Sand
15	-42.50	-55.00	12.50	99.00	4-Limestone, Very Shelly Sand

WR-B27_24-PCP.txt

16	-55.00	-57.50	2.50	22.00	2-Clay and Silty Sand
17	-57.50	-65.00	7.50	99.00	4-Limestone, Very
Shelly Sand					
18	-65.00	-76.00	11.00	99.00	2-Clay and Silty Sand
19	-76.00	-76.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	-10.00
24.00	11.00	-11.00
24.00	12.00	-12.00
24.00	13.00	-13.00
24.00	14.00	-14.00
24.00	15.00	-15.00
24.00	16.00	-16.00
24.00	17.00	-17.00
24.00	18.00	-18.00
24.00	19.00	-19.00
24.00	20.00	-20.00
24.00	21.00	-21.00
24.00	22.00	-22.00
24.00	23.00	-23.00
24.00	24.00	-24.00
24.00	25.00	-25.00
24.00	26.00	-26.00
24.00	27.00	-27.00
24.00	28.00	-28.00
24.00	29.00	-29.00
24.00	30.00	-30.00
24.00	31.00	-31.00
24.00	32.00	-32.00
24.00	33.00	-33.00
24.00	34.00	-34.00
24.00	35.00	-35.00
24.00	36.00	-36.00
24.00	37.00	-37.00
24.00	38.00	-38.00
24.00	39.00	-39.00
24.00	40.00	-40.00
24.00	41.00	-41.00

WR-B27_24-PCP.txt

24.00	42.00	-42.00
24.00	43.00	-43.00
24.00	44.00	-44.00
24.00	45.00	-45.00
24.00	46.00	-46.00
24.00	47.00	-47.00
24.00	48.00	-48.00
24.00	49.00	-49.00
24.00	50.00	-50.00
24.00	51.00	-51.00
24.00	52.00	-52.00
24.00	53.00	-53.00
24.00	54.00	-54.00
24.00	55.00	-55.00
24.00	56.00	-56.00
24.00	57.00	-57.00
24.00	58.00	-58.00
24.00	59.00	-59.00
24.00	60.00	-60.00
24.00	61.00	-61.00
24.00	62.00	-62.00
24.00	63.00	-63.00
24.00	64.00	-64.00
24.00	65.00	-65.00
24.00	66.00	-66.00
24.00	67.00	-67.00
24.00	68.00	-68.00
24.00	69.00	-69.00
24.00	70.00	-70.00
24.00	71.00	-71.00
24.00	72.00	-72.00
24.00	73.00	-73.00
24.00	74.00	-74.00
24.00	75.00	-75.00
24.00	76.00	-76.00
24.00	77.00	-77.00
24.00	78.00	-78.00
24.00	79.00	-79.00
24.00	80.00	-80.00

Driven Pile Capacity:

=====

Test Pile	Pile Width	Ultimate Side	Mobilized End	Estimated Davisson	Allowable Pile	Ultimate Pile
-----------	------------	---------------	---------------	--------------------	----------------	---------------

WR-B27_24-PCP.txt

Length (ft)	(in)	Friction (tons)	Bearing (tons)	Capacity (tons)	Capacity (tons)	Capacity (tons)
10.00	24.0	7.75	39.75	47.50	23.75	127.01
11.00	24.0	10.77	40.40	51.17	25.58	131.96
12.00	24.0	14.45	42.36	56.82	28.41	141.54
13.00	24.0	18.49	45.63	64.11	32.06	155.37
14.00	24.0	25.60	58.24	83.84	41.92	200.31
15.00	24.0	32.87	59.59	92.46	46.23	211.64
16.00	24.0	41.24	58.42	99.66	49.83	216.49
17.00	24.0	46.17	57.64	103.80	51.90	219.08
18.00	24.0	48.04	73.98	122.02	61.01	269.99
19.00	24.0	49.60	74.18	123.77	61.89	272.13
20.00	24.0	51.42	73.75	125.17	62.59	272.68
21.00	24.0	55.24	68.67	123.92	61.96	261.26
22.00	24.0	63.10	63.23	126.33	63.16	252.79
23.00	24.0	73.81	34.37	108.18	54.09	176.92
24.00	24.0	85.20	34.35	119.55	59.78	188.24
25.00	24.0	96.47	32.71	129.18	64.59	194.59
26.00	24.0	106.68	30.85	137.53	68.76	199.23
27.00	24.0	116.42	30.31	146.73	73.37	207.36
28.00	24.0	125.42	31.13	156.55	78.27	218.80
29.00	24.0	132.00	34.52	166.52	83.26	235.55
30.00	24.0	138.58	62.07	200.65	100.33	324.79
31.00	24.0	145.44	57.74	203.18	101.59	318.67
32.00	24.0	150.94	67.32	218.26	109.13	352.90
33.00	24.0	156.28	77.74	234.02	117.01	389.50
34.00	24.0	162.13	93.85	255.98	127.99	443.67
35.00	24.0	174.46	116.47	290.93	145.47	523.87
36.00	24.0	180.88	118.05	298.93	149.47	535.03
37.00	24.0	185.63	122.08	307.70	153.85	551.86
38.00	24.0	192.62	142.84	335.46	167.73	621.15
39.00	24.0	198.95	144.42	343.37	171.68	632.22
40.00	24.0	209.10	169.49	378.58	189.29	717.55
41.00	24.0	217.81	171.12	388.93	194.46	731.16
42.00	24.0	223.75	175.40	399.14	199.57	749.94
43.00	24.0	230.54	197.66	428.20	214.10	823.52
44.00	24.0	234.99	199.01	434.01	217.00	832.04
45.00	24.0	239.20	201.67	440.86	220.43	844.20
46.00	24.0	243.24	205.48	448.72	224.36	859.69
47.00	24.0	247.52	208.47	455.99	228.00	872.94
48.00	24.0	252.33	208.76	461.10	230.55	878.62
49.00	24.0	257.31	208.23	465.54	232.77	882.00
50.00	24.0	261.79	210.75	472.54	236.27	894.04
51.00	24.0	265.73	217.25	482.97	241.49	917.47
52.00	24.0	269.77	224.17	493.94	246.97	942.29
53.00	24.0	274.25	229.93	504.17	252.09	964.03
54.00	24.0	279.67	237.14	516.81	258.41	991.10

WR-B27_24-PCP.txt

55.00	24.0	292.03	246.96	539.00	269.50	1032.93
56.00	24.0	299.30	188.12	487.42	243.71	863.66
57.00	24.0	305.33	213.10	518.42	259.21	944.61
58.00	24.0	310.28	255.51	565.79	282.90	1076.81
59.00	24.0	315.08	244.33	559.41	279.71	1048.08
60.00	24.0	319.88	232.90	552.78	276.39	1018.59
61.00	24.0	324.68	221.48	546.16	273.08	989.11
62.00	24.0	329.48	210.05	539.53	269.76	959.62
63.00	24.0	334.56	198.94	533.50	266.75	931.38
64.00	24.0	341.63	190.08	531.72	265.86	911.88
65.00	24.0	350.97	128.00	478.97	239.49	734.97
66.00	24.0	361.44	128.00	489.44	244.72	745.44
67.00	24.0	371.92	128.00	499.92	249.96	755.92
68.00	24.0	382.39	128.00	510.39	255.20	766.39
69.00	24.0	392.86	123.43	516.29	258.15	763.15
70.00	24.0	*****	Not enough soil data	*****		
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B28_PCP.spc
Project number: H1135080
Job name: Wekiva Parkway 6 - Wekiva River bridge
Engineer: EJ
Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 05/20/14, Boring Number: WR-B28
Station number: 927+53 Offset: 35 LT

Ground Elevation: 23.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	7.00	3- Clean sand
4	6.00	7.00	3- Clean sand
5	8.00	8.00	2- Clay and silty sand
6	9.00	3.00	3- Clean sand
7	10.00	3.00	2- Clay and silty sand
8	12.50	0.00	2- Clay and silty sand
9	15.00	0.00	2- Clay and silty sand
10	17.50	0.00	2- Clay and silty sand
11	20.00	1.00	2- Clay and silty sand
12	21.25	1.00	3- Clean sand
13	22.50	25.00	2- Clay and silty sand
14	25.00	14.00	2- Clay and silty sand
15	27.50	11.00	1- Plastic Clay
16	30.00	18.00	1- Plastic Clay
17	32.50	18.00	1- Plastic Clay

WR-B28_24-PCP.txt

18	35.00	12.00	1- Plastic Clay
19	37.50	10.00	1- Plastic Clay
20	40.00	9.00	1- Plastic Clay
21	41.25	9.00	2- Clay and silty sand
22	42.50	100.00	1- Plastic Clay
23	45.00	100.00	1- Plastic Clay
24	47.50	100.00	4- Lime Stone/Very shelly sand
25	50.00	100.00	2- Clay and silty sand
26	52.50	100.00	4- Lime Stone/Very shelly sand
27	55.00	40.00	1- Plastic Clay
28	57.50	100.00	2- Clay and silty sand
29	58.75	20.00	3- Clean sand
30	60.00	20.00	2- Clay and silty sand
31	61.25	20.00	3- Clean sand
32	62.50	100.00	2- Clay and silty sand
33	65.00	100.00	2- Clay and silty sand
34	67.50	100.00	2- Clay and silty sand
35	70.00	100.00	4- Lime Stone/Very shelly sand
36	72.50	100.00	2- Clay and silty sand
37	75.00	100.00	2- Clay and silty sand
38	77.50	100.00	2- Clay and silty sand
39	80.00	100.00	2- Clay and silty sand
40	81.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	23.00	15.00	8.00	6.00	3-Clean Sand
2	15.00	14.00	1.00	8.00	2-Clay and Silty Sand
3	14.00	13.00	1.00	3.00	3-Clean Sand
4	13.00	1.75	11.25	0.78	2-Clay and Silty Sand
5	1.75	0.50	1.25	1.00	3-Clean Sand
6	0.50	-4.50	5.00	19.50	2-Clay and Silty Sand
7	-4.50	-18.25	13.75	13.36	1-Plastic Clay
8	-18.25	-19.50	1.25	9.00	2-Clay and Silty Sand
9	-19.50	-24.50	5.00	100.00	1-Plastic Clay
10	-24.50	-27.00	2.50	100.00	4-Limestone, Very Shelly Sand
11	-27.00	-29.50	2.50	100.00	2-Clay and Silty Sand
12	-29.50	-32.00	2.50	100.00	4-Limestone, Very Shelly Sand

WR-B28_24-PCP.txt

13	-32.00	-34.50	2.50	40.00	1-Plastic Clay
14	-34.50	-35.75	1.25	100.00	2-Clay and Silty Sand
15	-35.75	-37.00	1.25	20.00	3-Clean Sand
16	-37.00	-38.25	1.25	20.00	2-Clay and Silty Sand
17	-38.25	-39.50	1.25	20.00	3-Clean Sand
18	-39.50	-47.00	7.50	100.00	2-Clay and Silty Sand
19	-47.00	-49.50	2.50	100.00	4-Limestone, Very
Shelly Sand					
20	-49.50	-58.00	8.50	100.00	2-Clay and Silty Sand
21	-58.00	-58.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	13.00
24.00	11.00	12.00
24.00	12.00	11.00
24.00	13.00	10.00
24.00	14.00	9.00
24.00	15.00	8.00
24.00	16.00	7.00
24.00	17.00	6.00
24.00	18.00	5.00
24.00	19.00	4.00
24.00	20.00	3.00
24.00	21.00	2.00
24.00	22.00	1.00
24.00	23.00	0.00
24.00	24.00	-1.00
24.00	25.00	-2.00
24.00	26.00	-3.00
24.00	27.00	-4.00
24.00	28.00	-5.00
24.00	29.00	-6.00
24.00	30.00	-7.00
24.00	31.00	-8.00
24.00	32.00	-9.00
24.00	33.00	-10.00
24.00	34.00	-11.00
24.00	35.00	-12.00
24.00	36.00	-13.00

WR-B28_24-PCP.txt

24.00	37.00	-14.00
24.00	38.00	-15.00
24.00	39.00	-16.00
24.00	40.00	-17.00
24.00	41.00	-18.00
24.00	42.00	-19.00
24.00	43.00	-20.00
24.00	44.00	-21.00
24.00	45.00	-22.00
24.00	46.00	-23.00
24.00	47.00	-24.00
24.00	48.00	-25.00
24.00	49.00	-26.00
24.00	50.00	-27.00
24.00	51.00	-28.00
24.00	52.00	-29.00
24.00	53.00	-30.00
24.00	54.00	-31.00
24.00	55.00	-32.00
24.00	56.00	-33.00
24.00	57.00	-34.00
24.00	58.00	-35.00
24.00	59.00	-36.00
24.00	60.00	-37.00
24.00	61.00	-38.00
24.00	62.00	-39.00
24.00	63.00	-40.00
24.00	64.00	-41.00
24.00	65.00	-42.00
24.00	66.00	-43.00
24.00	67.00	-44.00
24.00	68.00	-45.00
24.00	69.00	-46.00
24.00	70.00	-47.00
24.00	71.00	-48.00
24.00	72.00	-49.00
24.00	73.00	-50.00
24.00	74.00	-51.00
24.00	75.00	-52.00
24.00	76.00	-53.00
24.00	77.00	-54.00
24.00	78.00	-55.00
24.00	79.00	-56.00
24.00	80.00	-57.00
24.00	81.00	-58.00
24.00	82.00	-59.00
24.00	83.00	-60.00
24.00	84.00	-61.00

WR-B28_24-PCP.txt

24.00	85.00	-62.00
24.00	86.00	-63.00
24.00	87.00	-64.00
24.00	88.00	-65.00
24.00	89.00	-66.00
24.00	90.00	-67.00

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	13.30	12.96	26.27	13.13	52.19
11.00	24.0	13.30	11.78	25.09	12.54	48.65
12.00	24.0	13.30	10.80	24.11	12.05	45.71
13.00	24.0	13.30	9.97	23.27	11.64	43.22
14.00	24.0	13.30	9.26	22.56	11.28	41.08
15.00	24.0	13.30	9.70	23.01	11.50	42.42
16.00	24.0	13.30	13.22	26.53	13.26	52.98
17.00	24.0	13.30	15.95	29.25	14.63	61.15
18.00	24.0	13.30	18.61	31.92	15.96	69.14
19.00	24.0	13.30	20.00	33.30	16.65	73.31
20.00	24.0	13.30	20.53	33.83	16.92	74.89
21.00	24.0	13.30	20.40	33.70	16.85	74.50
22.00	24.0	15.23	19.78	35.01	17.50	74.58
23.00	24.0	22.77	17.79	40.56	20.28	76.14
24.00	24.0	30.15	16.30	46.45	23.23	79.06
25.00	24.0	36.35	15.74	52.09	26.04	83.56
26.00	24.0	41.89	15.91	57.80	28.90	89.62
27.00	24.0	47.29	16.30	63.58	31.79	96.17
28.00	24.0	52.68	16.10	68.79	34.39	100.99
29.00	24.0	58.96	16.73	75.69	37.84	109.15
30.00	24.0	66.26	17.06	83.32	41.66	117.45
31.00	24.0	74.07	16.98	91.06	45.53	125.03
32.00	24.0	81.89	16.61	98.50	49.25	131.72
33.00	24.0	89.60	16.08	105.68	52.84	137.84
34.00	24.0	96.55	15.85	112.40	56.20	144.10
35.00	24.0	102.63	16.72	119.35	59.68	152.79
36.00	24.0	108.12	19.24	127.36	63.68	165.85
37.00	24.0	113.28	22.07	135.35	67.68	179.50
38.00	24.0	118.13	24.98	143.11	71.56	193.07
39.00	24.0	122.80	31.26	154.05	77.03	216.57

WR-B28_24-PCP.txt

40.00	24.0	127.29	44.22	171.50	85.75	259.94	
41.00	24.0	131.47	62.26	193.73	96.87	318.26	
42.00	24.0	136.59	67.82	204.41	102.20	340.06	
43.00	24.0	148.09	82.10	230.19	115.09	394.39	
44.00	24.0	158.38	86.30	244.68	122.34	417.29	
45.00	24.0	167.36	97.69	265.06	132.53	460.44	
46.00	24.0	175.33	116.73	292.06	146.03	525.53	
47.00	24.0	183.01	126.92	309.93	154.96	563.77	
48.00	24.0	195.95	122.24	318.19	159.10	562.68	
49.00	24.0	203.02	117.08	320.10	160.05	554.25	
50.00	24.0	212.36	116.89	329.25	164.63	563.04	
51.00	24.0	221.56	117.12	338.68	169.34	572.91	
52.00	24.0	228.74	116.94	345.68	172.84	579.56	
53.00	24.0	233.27	124.00	357.27	178.64	605.28	
54.00	24.0	239.85	125.28	365.13	182.57	615.68	
55.00	24.0	252.40	92.39	344.80	172.40	529.58	
56.00	24.0	264.07	82.02	346.09	173.05	510.14	
57.00	24.0	275.11	92.46	367.57	183.79	552.50	
58.00	24.0	284.96	124.95	409.92	204.96	659.83	
59.00	24.0	290.38	105.08	395.46	197.73	605.61	
60.00	24.0	296.32	133.89	430.20	215.10	697.98	
61.00	24.0	302.05	134.51	436.56	218.28	705.58	
62.00	24.0	307.48	140.48	447.96	223.98	728.93	
63.00	24.0	317.30	148.63	465.92	232.96	763.17	
64.00	24.0	327.12	149.98	477.11	238.55	777.07	
65.00	24.0	336.96	151.54	488.50	244.25	791.57	
66.00	24.0	347.09	152.61	499.70	249.85	804.91	
67.00	24.0	357.45	153.25	510.70	255.35	817.19	
68.00	24.0	368.20	152.04	520.24	260.12	824.33	
69.00	24.0	377.70	146.76	524.46	262.23	817.97	
70.00	24.0	383.64	139.63	523.27	261.64	802.54	
71.00	24.0	389.57	135.53	525.11	262.55	796.18	
72.00	24.0	397.78	135.01	532.78	266.39	802.79	
73.00	24.0	407.97	128.00	535.97	267.98	791.97	
74.00	24.0	418.44	123.43	541.87	270.93	788.72	
75.00	24.0	***** Not enough soil data *****					
76.00	24.0	0.00	0.00	0.00	0.00	0.00	
77.00	24.0	0.00	0.00	0.00	0.00	0.00	
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	

WR-B28_24-PCP.txt

88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:iles\Calculations-Analyses\FB-Deep\Wekiva River\WR-B29_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6 - Wekiva River bridge
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 05/30/14, Boring Number: WR-B29
 Station number: 927+90 Offset: 56 RT

Ground Elevation: 24.000(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	4.00	3- Clean sand
2	8.00	4.00	3- Clean sand
3	9.00	4.00	2- Clay and silty sand
4	10.00	6.00	3- Clean sand
5	12.50	6.00	3- Clean sand
6	15.00	7.00	3- Clean sand
7	16.25	0.00	2- Clay and silty sand
8	17.50	0.00	3- Clean sand
9	20.00	0.00	2- Clay and silty sand
10	22.50	0.00	2- Clay and silty sand
11	23.75	0.00	3- Clean sand
12	25.00	8.00	2- Clay and silty sand
13	27.50	22.00	2- Clay and silty sand
14	30.00	12.00	1- Plastic Clay
15	32.50	14.00	1- Plastic Clay
16	35.00	10.00	1- Plastic Clay
17	37.50	8.00	1- Plastic Clay

WR-B29_24-PCP.txt

18	40.00	22.00	2-	Clay and silty sand
19	42.50	11.00	2-	Clay and silty sand
20	43.75	11.00	3-	Clean sand
21	45.00	100.00	2-	Clay and silty sand
22	47.50	47.00	1-	Plastic Clay
23	50.00	100.00	2-	Clay and silty sand
24	52.50	100.00	2-	Clay and silty sand
25	55.00	100.00	2-	Clay and silty sand
26	57.50	100.00	2-	Clay and silty sand
27	60.00	100.00	2-	Clay and silty sand
28	62.50	100.00	2-	Clay and silty sand
29	65.00	100.00	4-	Lime Stone/Very shelly sand
30	67.50	100.00	2-	Clay and silty sand
31	70.00	100.00	2-	Clay and silty sand
32	72.50	100.00	2-	Clay and silty sand
33	75.00	100.00	2-	Clay and silty sand
34	76.00	0.00	5-	Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	24.00	15.00	9.00	4.00	3-Clean Sand
2	15.00	14.00	1.00	4.00	2-Clay and Silty Sand
3	14.00	7.75	6.25	6.20	3-Clean Sand
4	7.75	6.50	1.25	0.00	2-Clay and Silty Sand
5	6.50	4.00	2.50	0.00	3-Clean Sand
6	4.00	0.25	3.75	0.00	2-Clay and Silty Sand
7	0.25	-1.00	1.25	0.00	3-Clean Sand
8	-1.00	-6.00	5.00	15.00	2-Clay and Silty Sand
9	-6.00	-16.00	10.00	11.00	1-Plastic Clay
10	-16.00	-19.75	3.75	18.33	2-Clay and Silty Sand
11	-19.75	-21.00	1.25	11.00	3-Clean Sand
12	-21.00	-23.50	2.50	100.00	2-Clay and Silty Sand
13	-23.50	-26.00	2.50	47.00	1-Plastic Clay
14	-26.00	-41.00	15.00	100.00	2-Clay and Silty Sand
15	-41.00	-43.50	2.50	100.00	4-Limestone, Very Shelly Sand
16	-43.50	-52.00	8.50	100.00	2-Clay and Silty Sand
17	-52.00	-52.00	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	14.00
24.00	11.00	13.00
24.00	12.00	12.00
24.00	13.00	11.00
24.00	14.00	10.00
24.00	15.00	9.00
24.00	16.00	8.00
24.00	17.00	7.00
24.00	18.00	6.00
24.00	19.00	5.00
24.00	20.00	4.00
24.00	21.00	3.00
24.00	22.00	2.00
24.00	23.00	1.00
24.00	24.00	0.00
24.00	25.00	-1.00
24.00	26.00	-2.00
24.00	27.00	-3.00
24.00	28.00	-4.00
24.00	29.00	-5.00
24.00	30.00	-6.00
24.00	31.00	-7.00
24.00	32.00	-8.00
24.00	33.00	-9.00
24.00	34.00	-10.00
24.00	35.00	-11.00
24.00	36.00	-12.00
24.00	37.00	-13.00
24.00	38.00	-14.00
24.00	39.00	-15.00
24.00	40.00	-16.00
24.00	41.00	-17.00
24.00	42.00	-18.00
24.00	43.00	-19.00
24.00	44.00	-20.00
24.00	45.00	-21.00
24.00	46.00	-22.00
24.00	47.00	-23.00
24.00	48.00	-24.00

WR-B29_24-PCP.txt

24.00	49.00	-25.00
24.00	50.00	-26.00
24.00	51.00	-27.00
24.00	52.00	-28.00
24.00	53.00	-29.00
24.00	54.00	-30.00
24.00	55.00	-31.00
24.00	56.00	-32.00
24.00	57.00	-33.00
24.00	58.00	-34.00
24.00	59.00	-35.00
24.00	60.00	-36.00
24.00	61.00	-37.00
24.00	62.00	-38.00
24.00	63.00	-39.00
24.00	64.00	-40.00
24.00	65.00	-41.00
24.00	66.00	-42.00
24.00	67.00	-43.00
24.00	68.00	-44.00
24.00	69.00	-45.00
24.00	70.00	-46.00
24.00	71.00	-47.00
24.00	72.00	-48.00
24.00	73.00	-49.00
24.00	74.00	-50.00
24.00	75.00	-51.00
24.00	76.00	-52.00
24.00	77.00	-53.00
24.00	78.00	-54.00
24.00	79.00	-55.00
24.00	80.00	-56.00
24.00	81.00	-57.00
24.00	82.00	-58.00
24.00	83.00	-59.00
24.00	84.00	-60.00
24.00	85.00	-61.00
24.00	86.00	-62.00
24.00	87.00	-63.00
24.00	88.00	-64.00
24.00	89.00	-65.00
24.00	90.00	-66.00

Driven Pile Capacity:

=====

WR-B29_24-PCP.txt

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	0.57	14.26	14.82	7.41	43.33
11.00	24.0	1.70	13.36	15.06	7.53	41.78
12.00	24.0	2.83	12.23	15.06	7.53	39.53
13.00	24.0	3.97	10.93	14.89	7.45	36.74
14.00	24.0	5.17	9.41	14.58	7.29	33.40
15.00	24.0	6.46	7.69	14.15	7.07	29.54
16.00	24.0	7.25	6.42	13.67	6.84	26.52
17.00	24.0	7.28	0.00	7.28	3.64	7.29
18.00	24.0	7.28	6.75	14.03	7.02	27.53
19.00	24.0	7.28	7.06	14.34	7.17	28.45
20.00	24.0	7.28	12.47	19.75	9.88	44.69
21.00	24.0	7.28	12.95	20.23	10.12	46.14
22.00	24.0	7.28	14.16	21.44	10.72	49.76
23.00	24.0	7.28	15.61	22.89	11.45	54.12
24.00	24.0	7.37	21.62	28.99	14.49	72.23
25.00	24.0	9.45	22.44	31.88	15.94	76.76
26.00	24.0	13.79	21.93	35.72	17.86	79.57
27.00	24.0	19.91	20.22	40.12	20.06	80.56
28.00	24.0	27.45	17.94	45.40	22.70	81.28
29.00	24.0	34.44	16.11	50.55	25.27	82.77
30.00	24.0	40.54	13.38	53.91	26.96	80.66
31.00	24.0	46.23	13.45	59.68	29.84	86.59
32.00	24.0	51.55	14.13	65.68	32.84	93.94
33.00	24.0	56.14	16.38	72.52	36.26	105.28
34.00	24.0	60.57	20.00	80.57	40.29	120.56
35.00	24.0	65.84	21.77	87.61	43.80	131.14
36.00	24.0	70.63	23.08	93.71	46.86	139.88
37.00	24.0	75.06	25.90	100.97	50.48	152.78
38.00	24.0	79.37	32.11	111.48	55.74	175.71
39.00	24.0	84.88	39.01	123.90	61.95	201.92
40.00	24.0	95.50	46.11	141.61	70.80	233.82
41.00	24.0	102.45	46.34	148.79	74.40	241.48
42.00	24.0	107.43	47.45	154.87	77.44	249.77
43.00	24.0	110.42	50.14	160.56	80.28	260.84
44.00	24.0	115.96	60.96	176.92	88.46	298.83
45.00	24.0	123.09	101.71	224.80	112.40	428.22
46.00	24.0	133.24	102.57	235.80	117.90	440.94
47.00	24.0	144.79	102.37	247.16	123.58	451.90
48.00	24.0	156.95	78.72	235.67	117.83	393.10
49.00	24.0	167.22	81.47	248.68	124.34	411.62
50.00	24.0	179.36	90.84	270.20	135.10	451.88
51.00	24.0	189.46	91.29	280.75	140.38	463.33

WR-B29_24-PCP.txt

52.00	24.0	198.95	92.66	291.61	145.80	476.92	
53.00	24.0	208.04	94.94	302.98	151.49	492.87	
54.00	24.0	216.91	98.13	315.04	157.52	511.29	
55.00	24.0	225.86	101.89	327.75	163.87	531.52	
56.00	24.0	234.90	106.39	341.29	170.65	554.07	
57.00	24.0	243.04	115.05	358.09	179.05	588.19	
58.00	24.0	250.44	130.38	380.82	190.41	641.57	
59.00	24.0	260.91	142.47	403.39	201.69	688.34	
60.00	24.0	271.39	149.38	420.76	210.38	719.52	
61.00	24.0	281.86	150.82	432.68	216.34	734.32	
62.00	24.0	292.33	151.28	443.61	221.81	746.18	
63.00	24.0	302.55	152.34	454.89	227.44	759.57	
64.00	24.0	310.95	151.84	462.78	231.39	766.46	
65.00	24.0	329.36	148.08	477.44	238.72	773.59	
66.00	24.0	335.30	143.39	478.69	239.35	765.48	
67.00	24.0	343.50	140.82	484.32	242.16	765.97	
68.00	24.0	353.69	128.00	481.69	240.85	737.69	
69.00	24.0	364.16	123.43	487.59	243.80	734.45	
70.00	24.0	***** Not enough soil data *****					
71.00	24.0	0.00	0.00	0.00	0.00	0.00	
72.00	24.0	0.00	0.00	0.00	0.00	0.00	
73.00	24.0	0.00	0.00	0.00	0.00	0.00	
74.00	24.0	0.00	0.00	0.00	0.00	0.00	
75.00	24.0	0.00	0.00	0.00	0.00	0.00	
76.00	24.0	0.00	0.00	0.00	0.00	0.00	
77.00	24.0	0.00	0.00	0.00	0.00	0.00	
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	
87.00	24.0	0.00	0.00	0.00	0.00	0.00	
88.00	24.0	0.00	0.00	0.00	0.00	0.00	
89.00	24.0	0.00	0.00	0.00	0.00	0.00	
90.00	24.0	0.00	0.00	0.00	0.00	0.00	

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE
ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS
2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:es\Calculations-Analyses\FB-Deep\River Oaks Cir\ROC-B4_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway Section 6 River Oaks Circle
 Engineer: Ejl
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 8-28-13, Boring Number: ROC-B4
 Station number: 929+42 Offset: 86 LT

Ground Elevation: 26.800(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	7.00	3- Clean sand
2	2.00	7.00	3- Clean sand
3	4.00	7.00	3- Clean sand
4	6.00	7.00	3- Clean sand
5	8.00	9.00	3- Clean sand
6	10.00	8.00	3- Clean sand
7	11.25	2.00	2- Clay and silty sand
8	12.50	2.00	3- Clean sand
9	15.00	1.00	2- Clay and silty sand
10	17.50	0.00	2- Clay and silty sand
11	20.00	2.00	1- Plastic Clay
12	23.50	8.00	3- Clean sand
13	25.50	8.00	2- Clay and silty sand
14	27.50	22.00	3- Clean sand
15	30.00	20.00	3- Clean sand
16	32.50	22.00	2- Clay and silty sand
17	35.00	16.00	1- Plastic Clay

ROC-B4_24-PCP.txt

18	37.50	13.00	1- Plastic Clay
19	40.00	12.00	2- Clay and silty sand
20	42.50	9.00	2- Clay and silty sand
21	43.75	9.00	3- Clean sand
22	45.00	34.00	2- Clay and silty sand
23	46.25	34.00	3- Clean sand
24	47.50	99.00	2- Clay and silty sand
25	50.00	99.00	3- Clean sand
26	52.50	99.00	3- Clean sand
27	55.00	99.00	3- Clean sand
28	57.50	99.00	2- Clay and silty sand
29	60.00	99.00	4- Lime Stone/Very shelly sand
30	62.50	99.00	4- Lime Stone/Very shelly sand
31	65.00	99.00	2- Clay and silty sand
32	67.50	99.00	2- Clay and silty sand
33	70.00	99.00	2- Clay and silty sand
34	71.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	26.80	15.55	11.25	7.47	3-Clean Sand
2	15.55	14.30	1.25	2.00	2-Clay and Silty Sand
3	14.30	11.80	2.50	2.00	3-Clean Sand
4	11.80	6.80	5.00	0.50	2-Clay and Silty Sand
5	6.80	3.30	3.50	2.00	1-Plastic Clay
6	3.30	1.30	2.00	8.00	3-Clean Sand
7	1.30	-0.70	2.00	8.00	2-Clay and Silty Sand
8	-0.70	-5.70	5.00	21.00	3-Clean Sand
9	-5.70	-8.20	2.50	22.00	2-Clay and Silty Sand
10	-8.20	-13.20	5.00	14.50	1-Plastic Clay
11	-13.20	-16.95	3.75	11.00	2-Clay and Silty Sand
12	-16.95	-18.20	1.25	9.00	3-Clean Sand
13	-18.20	-19.45	1.25	34.00	2-Clay and Silty Sand
14	-19.45	-20.70	1.25	34.00	3-Clean Sand
15	-20.70	-23.20	2.50	99.00	2-Clay and Silty Sand
16	-23.20	-30.70	7.50	99.00	3-Clean Sand
17	-30.70	-33.20	2.50	99.00	2-Clay and Silty Sand
18	-33.20	-38.20	5.00	99.00	4-Limestone, Very
Shelly Sand					
19	-38.20	-44.20	6.00	99.00	2-Clay and Silty Sand

20 -44.20 -44.20 0.00 0.00 5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	16.80
24.00	11.00	15.80
24.00	12.00	14.80
24.00	13.00	13.80
24.00	14.00	12.80
24.00	15.00	11.80
24.00	16.00	10.80
24.00	17.00	9.80
24.00	18.00	8.80
24.00	19.00	7.80
24.00	20.00	6.80
24.00	21.00	5.80
24.00	22.00	4.80
24.00	23.00	3.80
24.00	24.00	2.80
24.00	25.00	1.80
24.00	26.00	0.80
24.00	27.00	-0.20
24.00	28.00	-1.20
24.00	29.00	-2.20
24.00	30.00	-3.20
24.00	31.00	-4.20
24.00	32.00	-5.20
24.00	33.00	-6.20
24.00	34.00	-7.20
24.00	35.00	-8.20
24.00	36.00	-9.20
24.00	37.00	-10.20
24.00	38.00	-11.20
24.00	39.00	-12.20
24.00	40.00	-13.20
24.00	41.00	-14.20
24.00	42.00	-15.20
24.00	43.00	-16.20
24.00	44.00	-17.20
24.00	45.00	-18.20

ROC-B4_24-PCP.txt

24.00	46.00	-19.20
24.00	47.00	-20.20
24.00	48.00	-21.20
24.00	49.00	-22.20
24.00	50.00	-23.20
24.00	51.00	-24.20
24.00	52.00	-25.20
24.00	53.00	-26.20
24.00	54.00	-27.20
24.00	55.00	-28.20
24.00	56.00	-29.20
24.00	57.00	-30.20
24.00	58.00	-31.20
24.00	59.00	-32.20
24.00	60.00	-33.20
24.00	61.00	-34.20
24.00	62.00	-35.20
24.00	63.00	-36.20
24.00	64.00	-37.20
24.00	65.00	-38.20
24.00	66.00	-39.20
24.00	67.00	-40.20
24.00	68.00	-41.20
24.00	69.00	-42.20
24.00	70.00	-43.20
24.00	71.00	-44.20
24.00	72.00	-45.20
24.00	73.00	-46.20
24.00	74.00	-47.20
24.00	75.00	-48.20
24.00	76.00	-49.20
24.00	77.00	-50.20
24.00	78.00	-51.20
24.00	79.00	-52.20
24.00	80.00	-53.20

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	14.14	21.73	35.87	17.93	79.32

ROC-B4_24-PCP.txt

11.00	24.0	15.04	19.27	34.31	17.15	72.84
12.00	24.0	15.08	17.64	32.71	16.36	67.99
13.00	24.0	15.08	16.28	31.36	15.68	63.92
14.00	24.0	15.08	15.55	30.63	15.31	61.72
15.00	24.0	15.08	15.84	30.91	15.46	62.59
16.00	24.0	15.08	16.00	31.07	15.54	63.07
17.00	24.0	15.08	16.57	31.65	15.82	64.79
18.00	24.0	15.08	17.36	32.43	16.22	67.14
19.00	24.0	15.08	18.30	33.38	16.69	69.97
20.00	24.0	15.08	24.52	39.59	19.80	88.63
21.00	24.0	15.25	26.13	41.38	20.69	93.64
22.00	24.0	15.72	30.80	46.53	23.26	108.13
23.00	24.0	16.51	37.89	54.40	27.20	130.18
24.00	24.0	18.56	44.56	63.12	31.56	152.23
25.00	24.0	20.79	45.05	65.84	32.92	155.95
26.00	24.0	24.45	50.14	74.59	37.29	174.88
27.00	24.0	28.27	50.12	78.38	39.19	178.62
28.00	24.0	32.36	47.61	79.97	39.99	175.20
29.00	24.0	36.35	44.38	80.73	40.37	169.49
30.00	24.0	40.20	41.22	81.42	40.71	163.85
31.00	24.0	44.79	38.50	83.28	41.64	160.28
32.00	24.0	51.02	36.94	87.97	43.98	161.86
33.00	24.0	57.38	26.73	84.11	42.05	137.57
34.00	24.0	63.68	27.49	91.17	45.58	146.14
35.00	24.0	73.53	22.51	96.04	48.02	141.07
36.00	24.0	80.46	20.79	101.25	50.62	142.84
37.00	24.0	86.94	22.37	109.31	54.65	154.04
38.00	24.0	91.25	25.32	116.57	58.28	167.21
39.00	24.0	94.28	34.32	128.59	64.30	197.23
40.00	24.0	103.75	62.02	165.77	82.89	289.82
41.00	24.0	107.98	62.99	170.97	85.49	296.96
42.00	24.0	110.94	66.67	177.61	88.81	310.95
43.00	24.0	112.95	73.96	186.91	93.45	334.83
44.00	24.0	118.82	103.86	222.67	111.34	430.39
45.00	24.0	125.50	118.81	244.32	122.16	481.95
46.00	24.0	133.44	120.05	253.49	126.75	493.58
47.00	24.0	141.20	130.92	272.12	136.06	533.96
48.00	24.0	151.29	142.68	293.98	146.99	579.34
49.00	24.0	160.29	144.72	305.01	152.50	594.45
50.00	24.0	170.79	157.19	327.98	163.99	642.35
51.00	24.0	179.91	156.25	336.16	168.08	648.65
52.00	24.0	188.82	157.35	346.17	173.08	660.86
53.00	24.0	196.70	158.36	355.07	177.53	671.79
54.00	24.0	203.63	160.39	364.02	182.01	684.79
55.00	24.0	210.06	163.19	373.25	186.63	699.63
56.00	24.0	216.28	166.85	383.14	191.57	716.84
57.00	24.0	223.05	170.75	393.80	196.90	735.31
58.00	24.0	245.84	192.57	438.41	219.20	823.55

ROC-B4_24-PCP.txt

59.00	24.0	254.04	204.00	458.04	229.02	866.04
60.00	24.0	259.97	206.67	466.65	233.32	879.99
61.00	24.0	264.77	201.96	466.74	233.37	870.66
62.00	24.0	269.57	195.60	465.17	232.59	856.37
63.00	24.0	274.66	188.30	462.96	231.48	839.57
64.00	24.0	281.73	179.51	461.24	230.62	820.27
65.00	24.0	***** Not enough soil data *****				
66.00	24.0	0.00	0.00	0.00	0.00	0.00
67.00	24.0	0.00	0.00	0.00	0.00	0.00
68.00	24.0	0.00	0.00	0.00	0.00	0.00
69.00	24.0	0.00	0.00	0.00	0.00	0.00
70.00	24.0	0.00	0.00	0.00	0.00	0.00
71.00	24.0	0.00	0.00	0.00	0.00	0.00
72.00	24.0	0.00	0.00	0.00	0.00	0.00
73.00	24.0	0.00	0.00	0.00	0.00	0.00
74.00	24.0	0.00	0.00	0.00	0.00	0.00
75.00	24.0	0.00	0.00	0.00	0.00	0.00
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:es\Calculations-Analyses\FB-Deep\River Oaks Cir\ROC-B5_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 6-25-13, Boring Number: ROC-B5
 Station number: 929+41 Offset: 63 RT

Ground Elevation: 26.900(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	3.00	1.00	2- Clay and silty sand
4	4.00	1.00	3- Clean sand
5	6.00	10.00	2- Clay and silty sand
6	8.00	8.00	3- Clean sand
7	10.00	10.00	3- Clean sand
8	11.25	4.00	2- Clay and silty sand
9	12.50	4.00	3- Clean sand
10	15.00	2.00	3- Clean sand
11	17.50	2.00	2- Clay and silty sand
12	20.00	2.00	2- Clay and silty sand
13	22.50	2.00	2- Clay and silty sand
14	25.00	0.00	2- Clay and silty sand
15	26.25	0.00	3- Clean sand
16	27.50	5.00	2- Clay and silty sand
17	28.75	5.00	3- Clean sand

ROC-B5_24-PCP.txt

18	30.00	15.00	2- Clay and silty sand
19	32.50	24.00	2- Clay and silty sand
20	35.00	14.00	1- Plastic Clay
21	37.50	13.00	1- Plastic Clay
22	40.00	14.00	2- Clay and silty sand
23	42.50	19.00	2- Clay and silty sand
24	45.00	23.00	2- Clay and silty sand
25	46.25	23.00	3- Clean sand
26	47.50	100.00	2- Clay and silty sand
27	50.00	100.00	2- Clay and silty sand
28	52.50	100.00	2- Clay and silty sand
29	55.00	100.00	2- Clay and silty sand
30	57.50	100.00	2- Clay and silty sand
31	60.00	100.00	2- Clay and silty sand
32	62.50	100.00	2- Clay and silty sand
33	65.00	100.00	2- Clay and silty sand
34	67.50	100.00	2- Clay and silty sand
35	70.00	100.00	2- Clay and silty sand
36	72.50	100.00	2- Clay and silty sand
37	75.00	100.00	2- Clay and silty sand
38	76.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	26.90	23.90	3.00	5.00	3-Clean Sand
2	23.90	22.90	1.00	1.00	2-Clay and Silty Sand
3	22.90	20.90	2.00	1.00	3-Clean Sand
4	20.90	18.90	2.00	10.00	2-Clay and Silty Sand
5	18.90	15.65	3.25	8.77	3-Clean Sand
6	15.65	14.40	1.25	4.00	2-Clay and Silty Sand
7	14.40	9.40	5.00	3.00	3-Clean Sand
8	9.40	0.65	8.75	1.71	2-Clay and Silty Sand
9	0.65	-0.60	1.25	0.00	3-Clean Sand
10	-0.60	-1.85	1.25	5.00	2-Clay and Silty Sand
11	-1.85	-3.10	1.25	5.00	3-Clean Sand
12	-3.10	-8.10	5.00	19.50	2-Clay and Silty Sand
13	-8.10	-13.10	5.00	13.50	1-Plastic Clay
14	-13.10	-19.35	6.25	17.80	2-Clay and Silty Sand
15	-19.35	-20.60	1.25	23.00	3-Clean Sand
16	-20.60	-49.10	28.50	100.00	2-Clay and Silty Sand

17 -49.10 -49.10 0.00 0.00 5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	16.90
24.00	11.00	15.90
24.00	12.00	14.90
24.00	13.00	13.90
24.00	14.00	12.90
24.00	15.00	11.90
24.00	16.00	10.90
24.00	17.00	9.90
24.00	18.00	8.90
24.00	19.00	7.90
24.00	20.00	6.90
24.00	21.00	5.90
24.00	22.00	4.90
24.00	23.00	3.90
24.00	24.00	2.90
24.00	25.00	1.90
24.00	26.00	0.90
24.00	27.00	-0.10
24.00	28.00	-1.10
24.00	29.00	-2.10
24.00	30.00	-3.10
24.00	31.00	-4.10
24.00	32.00	-5.10
24.00	33.00	-6.10
24.00	34.00	-7.10
24.00	35.00	-8.10
24.00	36.00	-9.10
24.00	37.00	-10.10
24.00	38.00	-11.10
24.00	39.00	-12.10
24.00	40.00	-13.10
24.00	41.00	-14.10
24.00	42.00	-15.10
24.00	43.00	-16.10
24.00	44.00	-17.10
24.00	45.00	-18.10

ROC-B5_24-PCP.txt

24.00	46.00	-19.10
24.00	47.00	-20.10
24.00	48.00	-21.10
24.00	49.00	-22.10
24.00	50.00	-23.10
24.00	51.00	-24.10
24.00	52.00	-25.10
24.00	53.00	-26.10
24.00	54.00	-27.10
24.00	55.00	-28.10
24.00	56.00	-29.10
24.00	57.00	-30.10
24.00	58.00	-31.10
24.00	59.00	-32.10
24.00	60.00	-33.10
24.00	61.00	-34.10
24.00	62.00	-35.10
24.00	63.00	-36.10
24.00	64.00	-37.10
24.00	65.00	-38.10
24.00	66.00	-39.10
24.00	67.00	-40.10
24.00	68.00	-41.10
24.00	69.00	-42.10
24.00	70.00	-43.10
24.00	71.00	-44.10
24.00	72.00	-45.10
24.00	73.00	-46.10
24.00	74.00	-47.10
24.00	75.00	-48.10
24.00	76.00	-49.10
24.00	77.00	-50.10
24.00	78.00	-51.10
24.00	79.00	-52.10
24.00	80.00	-53.10
24.00	81.00	-54.10
24.00	82.00	-55.10
24.00	83.00	-56.10
24.00	84.00	-57.10
24.00	85.00	-58.10
24.00	86.00	-59.10
24.00	87.00	-60.10
24.00	88.00	-61.10
24.00	89.00	-62.10
24.00	90.00	-63.10
24.00	91.00	-64.10
24.00	92.00	-65.10
24.00	93.00	-66.10

ROC-B5_24-PCP.txt

24.00	94.00	-67.10
24.00	95.00	-68.10
24.00	96.00	-69.10
24.00	97.00	-70.10
24.00	98.00	-71.10
24.00	99.00	-72.10
24.00	100.00	-73.10

Driven Pile Capacity:

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	15.71	15.19	30.90	15.45	61.28
11.00	24.0	16.84	13.20	30.04	15.02	56.44
12.00	24.0	16.88	12.07	28.95	14.48	53.09
13.00	24.0	16.88	11.14	28.03	14.01	50.31
14.00	24.0	16.88	10.35	27.23	13.61	47.92
15.00	24.0	16.88	9.66	26.54	13.27	45.85
16.00	24.0	16.88	9.05	25.94	12.97	44.04
17.00	24.0	16.88	8.23	25.11	12.55	41.56
18.00	24.0	16.88	7.40	24.28	12.14	39.08
19.00	24.0	16.88	6.99	23.87	11.93	37.84
20.00	24.0	16.88	7.20	24.08	12.04	38.48
21.00	24.0	16.88	7.87	24.75	12.38	40.48
22.00	24.0	16.88	8.49	25.37	12.69	42.35
23.00	24.0	16.88	9.68	26.56	13.28	45.91
24.00	24.0	16.88	11.62	28.50	14.25	51.74
25.00	24.0	16.88	14.50	31.39	15.69	60.39
26.00	24.0	16.88	17.66	34.54	17.27	69.86
27.00	24.0	17.35	18.30	35.66	17.83	72.26
28.00	24.0	19.26	20.59	39.85	19.92	81.03
29.00	24.0	20.64	21.17	41.81	20.91	84.16
30.00	24.0	24.58	20.90	45.48	22.74	87.28
31.00	24.0	30.99	20.27	51.27	25.63	91.81
32.00	24.0	38.37	19.81	58.18	29.09	97.79
33.00	24.0	46.49	19.73	66.22	33.11	105.68
34.00	24.0	54.06	20.77	74.83	37.42	116.38
35.00	24.0	60.87	26.97	87.84	43.92	141.79
36.00	24.0	67.21	23.91	91.12	45.56	138.95
37.00	24.0	73.41	26.58	99.99	49.99	153.15
38.00	24.0	78.38	29.01	107.40	53.70	165.43

ROC-B5_24-PCP.txt

39.00	24.0	82.50	35.07	117.57	58.78	187.71	
40.00	24.0	91.02	45.21	136.23	68.11	226.64	
41.00	24.0	96.14	46.14	142.29	71.14	234.58	
42.00	24.0	100.76	48.92	149.67	74.84	247.51	
43.00	24.0	105.36	53.41	158.77	79.39	265.59	
44.00	24.0	110.22	59.41	169.63	84.82	288.46	
45.00	24.0	115.57	66.74	182.31	91.15	315.79	
46.00	24.0	120.51	74.53	195.05	97.52	344.11	
47.00	24.0	138.26	85.18	223.43	111.72	393.78	
48.00	24.0	148.16	88.46	236.62	118.31	413.55	
49.00	24.0	158.19	89.00	247.20	123.60	425.20	
50.00	24.0	167.80	90.22	258.02	129.01	438.47	
51.00	24.0	176.98	92.35	269.34	134.67	454.05	
52.00	24.0	185.90	95.46	281.36	140.68	472.27	
53.00	24.0	194.77	99.44	294.21	147.11	493.10	
54.00	24.0	203.74	104.29	308.02	154.01	516.60	
55.00	24.0	212.97	109.79	322.76	161.38	542.33	
56.00	24.0	222.96	114.19	337.15	168.58	565.54	
57.00	24.0	233.43	116.95	350.39	175.19	584.29	
58.00	24.0	243.91	119.55	363.45	181.73	602.55	
59.00	24.0	254.38	121.98	376.36	188.18	620.32	
60.00	24.0	264.85	124.28	389.13	194.56	637.68	
61.00	24.0	275.32	126.44	401.77	200.88	654.65	
62.00	24.0	285.80	127.78	413.58	206.79	669.14	
63.00	24.0	296.27	127.98	424.25	212.13	680.21	
64.00	24.0	306.74	128.00	434.74	217.37	690.74	
65.00	24.0	317.22	128.00	445.22	222.61	701.22	
66.00	24.0	327.69	128.00	455.69	227.84	711.69	
67.00	24.0	338.16	128.00	466.16	233.08	722.16	
68.00	24.0	348.63	128.00	476.63	238.32	732.63	
69.00	24.0	359.11	123.43	482.54	241.27	729.39	
70.00	24.0	***** Not enough soil data *****					
71.00	24.0	0.00	0.00	0.00	0.00	0.00	
72.00	24.0	0.00	0.00	0.00	0.00	0.00	
73.00	24.0	0.00	0.00	0.00	0.00	0.00	
74.00	24.0	0.00	0.00	0.00	0.00	0.00	
75.00	24.0	0.00	0.00	0.00	0.00	0.00	
76.00	24.0	0.00	0.00	0.00	0.00	0.00	
77.00	24.0	0.00	0.00	0.00	0.00	0.00	
78.00	24.0	0.00	0.00	0.00	0.00	0.00	
79.00	24.0	0.00	0.00	0.00	0.00	0.00	
80.00	24.0	0.00	0.00	0.00	0.00	0.00	
81.00	24.0	0.00	0.00	0.00	0.00	0.00	
82.00	24.0	0.00	0.00	0.00	0.00	0.00	
83.00	24.0	0.00	0.00	0.00	0.00	0.00	
84.00	24.0	0.00	0.00	0.00	0.00	0.00	
85.00	24.0	0.00	0.00	0.00	0.00	0.00	
86.00	24.0	0.00	0.00	0.00	0.00	0.00	

ROC-B5_24-PCP.txt

87.00	24.0	0.00	0.00	0.00	0.00	0.00
88.00	24.0	0.00	0.00	0.00	0.00	0.00
89.00	24.0	0.00	0.00	0.00	0.00	0.00
90.00	24.0	0.00	0.00	0.00	0.00	0.00
91.00	24.0	0.00	0.00	0.00	0.00	0.00
92.00	24.0	0.00	0.00	0.00	0.00	0.00
93.00	24.0	0.00	0.00	0.00	0.00	0.00
94.00	24.0	0.00	0.00	0.00	0.00	0.00
95.00	24.0	0.00	0.00	0.00	0.00	0.00
96.00	24.0	0.00	0.00	0.00	0.00	0.00
97.00	24.0	0.00	0.00	0.00	0.00	0.00
98.00	24.0	0.00	0.00	0.00	0.00	0.00
99.00	24.0	0.00	0.00	0.00	0.00	0.00
100.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

-
1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
 2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
 3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
 4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:

=====

Input file:es\Calculations-Analyses\FB-Deep\River Oaks Cir\ROC-B6_PCP.spc
 Project number: H1135080
 Job name: Wekiva Parkway 6
 Engineer: EJ
 Units: English

Analysis Information:

=====

Analysis Type: SPT

Soil Information:

=====

Boring date: 6-21-13, Boring Number: ROC-B6
 Station number: 929+36 Offset: 133 RT

Ground Elevation: 27.200(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	3.00	5.00	2- Clay and silty sand
4	4.00	16.00	3- Clean sand
5	5.00	6.00	2- Clay and silty sand
6	6.00	6.00	3- Clean sand
7	7.00	6.00	2- Clay and silty sand
8	8.00	14.00	3- Clean sand
9	10.00	12.00	3- Clean sand
10	12.50	3.00	2- Clay and silty sand
11	15.00	7.00	3- Clean sand
12	16.25	4.00	2- Clay and silty sand
13	17.50	4.00	3- Clean sand
14	20.00	2.00	3- Clean sand
15	22.50	4.00	2- Clay and silty sand
16	25.00	4.00	3- Clean sand
17	27.50	6.00	2- Clay and silty sand

ROC-B6_24-PCP.txt

18	30.00	9.00	2- Clay and silty sand
19	32.50	18.00	2- Clay and silty sand
20	35.00	26.00	1- Plastic Clay
21	37.50	19.00	1- Plastic Clay
22	40.00	11.00	1- Plastic Clay
23	42.50	15.00	1- Plastic Clay
24	45.00	11.00	2- Clay and silty sand
25	46.25	11.00	3- Clean sand
26	47.50	100.00	2- Clay and silty sand
27	50.00	42.00	2- Clay and silty sand
28	52.50	100.00	1- Plastic Clay
29	55.00	100.00	2- Clay and silty sand
30	57.50	41.00	2- Clay and silty sand
31	60.00	100.00	2- Clay and silty sand
32	62.50	100.00	1- Plastic Clay
33	65.00	100.00	2- Clay and silty sand
34	67.50	100.00	2- Clay and silty sand
35	70.00	100.00	2- Clay and silty sand
36	72.50	100.00	2- Clay and silty sand
37	75.00	100.00	2- Clay and silty sand
38	77.50	100.00	2- Clay and silty sand
39	80.00	100.00	2- Clay and silty sand
40	81.00	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	27.20	24.20	3.00	5.00	3-Clean Sand
2	24.20	23.20	1.00	5.00	2-Clay and Silty Sand
3	23.20	22.20	1.00	16.00	3-Clean Sand
4	22.20	21.20	1.00	6.00	2-Clay and Silty Sand
5	21.20	20.20	1.00	6.00	3-Clean Sand
6	20.20	19.20	1.00	6.00	2-Clay and Silty Sand
7	19.20	14.70	4.50	12.89	3-Clean Sand
8	14.70	12.20	2.50	3.00	2-Clay and Silty Sand
9	12.20	10.95	1.25	7.00	3-Clean Sand
10	10.95	9.70	1.25	4.00	2-Clay and Silty Sand
11	9.70	4.70	5.00	3.00	3-Clean Sand
12	4.70	2.20	2.50	4.00	2-Clay and Silty Sand
13	2.20	-0.30	2.50	4.00	3-Clean Sand
14	-0.30	-7.80	7.50	11.00	2-Clay and Silty Sand

ROC-B6_24-PCP.txt					
15	-7.80	-17.80	10.00	17.75	1-Plastic Clay
16	-17.80	-19.05	1.25	11.00	2-Clay and Silty Sand
17	-19.05	-20.30	1.25	11.00	3-Clean Sand
18	-20.30	-25.30	5.00	71.00	2-Clay and Silty Sand
19	-25.30	-27.80	2.50	100.00	1-Plastic Clay
20	-27.80	-35.30	7.50	80.33	2-Clay and Silty Sand
21	-35.30	-37.80	2.50	100.00	1-Plastic Clay
22	-37.80	-53.80	16.00	100.00	2-Clay and Silty Sand
23	-53.80	-53.80	0.00	0.00	5-

Driven Pile Data:

=====

Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	10.00	17.20
24.00	11.00	16.20
24.00	12.00	15.20
24.00	13.00	14.20
24.00	14.00	13.20
24.00	15.00	12.20
24.00	16.00	11.20
24.00	17.00	10.20
24.00	18.00	9.20
24.00	19.00	8.20
24.00	20.00	7.20
24.00	21.00	6.20
24.00	22.00	5.20
24.00	23.00	4.20
24.00	24.00	3.20
24.00	25.00	2.20
24.00	26.00	1.20
24.00	27.00	0.20
24.00	28.00	-0.80
24.00	29.00	-1.80
24.00	30.00	-2.80
24.00	31.00	-3.80
24.00	32.00	-4.80
24.00	33.00	-5.80
24.00	34.00	-6.80
24.00	35.00	-7.80
24.00	36.00	-8.80
24.00	37.00	-9.80

ROC-B6_24-PCP.txt

24.00	38.00	-10.80
24.00	39.00	-11.80
24.00	40.00	-12.80
24.00	41.00	-13.80
24.00	42.00	-14.80
24.00	43.00	-15.80
24.00	44.00	-16.80
24.00	45.00	-17.80
24.00	46.00	-18.80
24.00	47.00	-19.80
24.00	48.00	-20.80
24.00	49.00	-21.80
24.00	50.00	-22.80
24.00	51.00	-23.80
24.00	52.00	-24.80
24.00	53.00	-25.80
24.00	54.00	-26.80
24.00	55.00	-27.80
24.00	56.00	-28.80
24.00	57.00	-29.80
24.00	58.00	-30.80
24.00	59.00	-31.80
24.00	60.00	-32.80
24.00	61.00	-33.80
24.00	62.00	-34.80
24.00	63.00	-35.80
24.00	64.00	-36.80
24.00	65.00	-37.80
24.00	66.00	-38.80
24.00	67.00	-39.80
24.00	68.00	-40.80
24.00	69.00	-41.80
24.00	70.00	-42.80
24.00	71.00	-43.80
24.00	72.00	-44.80
24.00	73.00	-45.80
24.00	74.00	-46.80
24.00	75.00	-47.80
24.00	76.00	-48.80
24.00	77.00	-49.80
24.00	78.00	-50.80
24.00	79.00	-51.80
24.00	80.00	-52.80

Driven Pile Capacity:

ROC-B6_24-PCP.txt

=====

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
10.00	24.0	20.30	30.73	51.03	25.51	112.50
11.00	24.0	22.11	27.59	49.69	24.85	104.86
12.00	24.0	23.01	25.11	48.13	24.06	98.36
13.00	24.0	23.19	23.42	46.61	23.30	93.44
14.00	24.0	23.72	21.56	45.28	22.64	88.40
15.00	24.0	24.77	19.24	44.02	22.01	82.51
16.00	24.0	25.56	17.25	42.82	21.41	77.32
17.00	24.0	25.60	0.00	25.60	12.80	25.60
18.00	24.0	25.60	15.56	41.16	20.58	72.28
19.00	24.0	25.60	15.17	40.77	20.38	71.10
20.00	24.0	25.60	14.32	39.92	19.96	68.56
21.00	24.0	25.60	13.85	39.45	19.73	67.16
22.00	24.0	25.60	14.47	40.07	20.03	69.01
23.00	24.0	25.60	14.83	40.43	20.22	70.10
24.00	24.0	25.60	15.02	40.61	20.31	70.65
25.00	24.0	25.60	16.44	42.04	21.02	74.91
26.00	24.0	26.10	16.53	42.63	21.31	75.68
27.00	24.0	27.52	16.77	44.29	22.14	77.83
28.00	24.0	30.28	18.94	49.22	24.61	87.10
29.00	24.0	33.13	19.21	52.34	26.17	90.77
30.00	24.0	36.39	19.55	55.95	27.97	95.05
31.00	24.0	40.77	19.59	60.36	30.18	99.53
32.00	24.0	46.73	19.27	66.00	33.00	104.53
33.00	24.0	54.00	18.73	72.73	36.36	110.18
34.00	24.0	62.10	18.07	80.17	40.09	116.31
35.00	24.0	71.48	19.67	91.14	45.57	130.48
36.00	24.0	79.80	20.57	100.37	50.19	141.52
37.00	24.0	88.38	20.96	109.34	54.67	151.27
38.00	24.0	96.46	21.26	117.72	58.86	160.23
39.00	24.0	102.93	22.53	125.45	62.73	170.51
40.00	24.0	108.88	25.82	134.70	67.35	186.35
41.00	24.0	114.54	32.76	147.30	73.65	212.82
42.00	24.0	120.76	39.97	160.72	80.36	240.66
43.00	24.0	127.38	46.76	174.14	87.07	267.65
44.00	24.0	133.33	52.48	185.80	92.90	290.75
45.00	24.0	140.15	59.18	199.33	99.67	317.70
46.00	24.0	143.62	59.45	203.07	101.53	321.96
47.00	24.0	147.67	61.93	209.60	104.80	333.45
48.00	24.0	157.31	64.55	221.86	110.93	350.96
49.00	24.0	167.12	65.18	232.29	116.15	362.65
50.00	24.0	176.48	66.40	242.88	121.44	375.69

ROC-B6_24-PCP.txt

51.00	24.0	185.70	68.40	254.10	127.05	390.90
52.00	24.0	194.69	71.93	266.63	133.31	410.49
53.00	24.0	212.46	88.00	300.46	150.23	476.45
54.00	24.0	223.84	97.25	321.10	160.55	515.60
55.00	24.0	234.62	88.24	322.85	161.43	499.33
56.00	24.0	245.09	87.31	332.41	166.20	507.03
57.00	24.0	255.58	88.25	343.82	171.91	520.32
58.00	24.0	265.18	89.45	354.63	177.31	533.52
59.00	24.0	274.21	91.81	366.02	183.01	549.64
60.00	24.0	283.18	94.87	378.05	189.02	567.79
61.00	24.0	292.30	99.00	391.30	195.65	589.30
62.00	24.0	301.83	104.70	406.53	203.26	615.93
63.00	24.0	321.03	91.49	412.51	206.26	595.49
64.00	24.0	332.41	101.77	434.18	217.09	637.72
65.00	24.0	343.18	114.14	457.32	228.66	685.60
66.00	24.0	353.62	114.19	467.81	233.91	696.20
67.00	24.0	363.92	114.46	478.38	239.19	707.31
68.00	24.0	373.98	115.21	489.19	244.59	719.61
69.00	24.0	383.78	116.59	500.37	250.19	733.56
70.00	24.0	393.67	118.05	511.72	255.86	747.83
71.00	24.0	403.84	119.17	523.01	261.50	761.35
72.00	24.0	414.16	120.12	534.28	267.14	774.51
73.00	24.0	424.48	121.34	545.81	272.91	788.49
74.00	24.0	434.95	117.32	552.27	276.13	786.90
75.00	24.0	*****	Not enough soil data	*****		
76.00	24.0	0.00	0.00	0.00	0.00	0.00
77.00	24.0	0.00	0.00	0.00	0.00	0.00
78.00	24.0	0.00	0.00	0.00	0.00	0.00
79.00	24.0	0.00	0.00	0.00	0.00	0.00
80.00	24.0	0.00	0.00	0.00	0.00	0.00

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.
2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.
3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.
4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

APPENDIX C – FB-MULTIPLIER SOIL PARAMETERS

- WR-B1 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B4 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B7 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B10 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B12 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B15 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B17 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B20 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B22 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B26 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- WR-B29 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)
- ROC-B5 (24" PCP, 30" PCP, 24" steel pipe pile, HP14x117, HP16x121, HP18x204)

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	30	36
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Subgrade Modulus (pci), k	30	20	30	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
AXIAL	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	680	150	570	835	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Internal Friction Angle, ϕ	30	29	30	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	2	6	10	10
	Torsional Shear Stress (psf)	680	150	570	835	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Axial Bearing Failure, kips	460	100	380	560	1725
	Uncorrected SPT-N Value (blows/ft)	18	4	15	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	PCP
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)	
	Internal Friction Angle, ϕ	30	29	30	30	36	
	Total Unit Weight (pcf), γ_t	110	100	110	110	125	
	Subgrade Modulus (pci), k	30	20	30	45	-	
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	
	Average Undrained Shear Strength (psf)	-	-	-	-	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	
	Total Unit Weight (pcf), γ_t	110	100	110	110	125	
	Shear Modulus (ksi), G	8	2	6	10	10	
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	
	Vertical Failure Shear Stress (psf)	680	150	570	835	1200	
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	
	Mass Modulus (ksi)	-	-	-	-	-	
	Modulus Ratio	-	-	-	-	-	
	Surface (Rough/Smooth)	-	-	-	-	-	
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	
	Split Tensile Strength (psf)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	
	Total Unit Weight (pcf), γ_t	110	100	110	110	125	
	Internal Friction Angle, ϕ	30	29	30	30	36	
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	
	Shear Modulus (ksi), G	8	2	6	10	10	
	Torsional Shear Stress (psf)	680	150	570	835	1200	
	TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
		Shear Modulus (ksi), G	8	2	6	10	10
Poisson's ratio, ν		0.3	0.2	0.3	0.3	0.4	
Axial Bearing Failure, kips		720	160	600	880	2700	
Uncorrected SPT-N Value (blows/ft)		18	4	15	22	> 50	
Undrained Shear Strength (psf), C_u		-	-	-	-	-	
IGM Mass Modulus (ksi), E_m	-	-	-	-	-		

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
LATERAL	Internal Friction Angle, ϕ	30	29	30	30	36
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Subgrade Modulus (pci), k	30	20	30	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	675	125	570	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	675	125	570	800	1200
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Internal Friction Angle, ϕ	30	29	30	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	2	6	10	10
	Torsional Shear Stress (psf)	675	125	570	800	1200
	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
TIP	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Axial Bearing Failure, kips	360	80	300	440	800
	Uncorrected SPT-N Value (blows/ft)	18	4	15	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Topu Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	30	36
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Subgrade Modulus (pci), k	30	20	30	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{30}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	675	125	570	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Internal Friction Angle, ϕ	30	29	30	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	2	6	10	10
	Torsional Shear Stress (psf)	675	125	570	800	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Axial Bearing Failure, kips	28	6.1	23	34	100
	Uncorrected SPT-N Value (blows/ft)	18	4	15	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	30	36
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Subgrade Modulus (pci), k	30	20	30	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	675	125	570	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Internal Friction Angle, ϕ	30	29	30	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	2	6	10	10
	Torsional Shear Stress (psf)	675	125	570	800	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Axial Bearing Failure, kips	29	6.4	24	35	105
	Uncorrected SPT-N Value (blows/ft)	18	4	15	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B1
Ground Surface Elevation (ft)	+35
Ground Water Table Elevation (ft)	+29

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand/silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+35	+18	-4	-20	-40
Bottom Boundary Elevation (ft)**	+18	-4	-20	-40	-65
Average SPT N-Value (Blows/ft)	18	4	15	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	30	36
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Subgrade Modulus (pci), k	30	20	30	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	675	125	570	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	100	110	110	125
	Internal Friction Angle, ϕ	30	29	30	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	2	6	10	10
	Torsional Shear Stress (psf)	675	125	570	800	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	2	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4
	Axial Bearing Failure, kips	48	10.7	40	58	180
	Uncorrected SPT-N Value (blows/ft)	18	4	15	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), Cu	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
Average Undrained Shear Strength (psf)	-	-	-	-	-	
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	645	75	720	2250	1200
	Undrained Shear Strength (psf), Cu	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), Cu	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	645	75	720	2250	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	435	50	485	1500	1725
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	PCF
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	-73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	645	75	720	2250	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	645	75	720	2250	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	680	80	760	2400	2700
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	-73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	700	1400	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	640	35	700	1400	1200
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	640	35	700	1400	1200
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	340	40	380	1200	800
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	-73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	700	1400	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	640	35	700	1400	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	26	3.1	29	92	100
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	H pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	-73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Urnestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	700	1400	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	640	35	700	1400	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	27	3.2	30	95	105
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B4
Ground Surface Elevation (ft)	+33
Ground Water Table Elevation (ft)	+27

Foundation Type	H-pile
Size (Inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5
Soil Description	clayey sand/sand	silty sand/sand	clayey sand/silty sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+33	+18	-5	-35	-45
Bottom Boundary Elevation (ft)**	+18	-5	-35	-45	-73
Average SPT N-Value (Blows/ft)	17	2	19	> 50	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
LATERAL	Internal Friction Angle, ϕ	30	28	30	32	36
	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Subgrade Modulus (pci), k	30	20	35	125	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	700	1400	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	110	95	110	115	125
	Internal Friction Angle, ϕ	30	28	30	32	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
	Shear Modulus (ksi), G	8	1	9	10	10
	Torsional Shear Stress (psf)	640	35	700	1400	1200
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	8	1	9	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.4	0.4
	Axial Bearing Failure, kips	45	5.3	50	160	180
	Uncorrected SPT-N Value (blows/ft)	17	2	19	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WB-87
Ground Surface Elevation (ft)	+29
Ground Water Table Elevation (ft)	+28

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	9.14

Layer No.	1	2	3	4	5	6	7	8
Soil Description	silty sand/sand	clayey sand/sand	clayey sand/silty sand	sandy clay/clay	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesive	rock
Topu Boundary Elevation (ft)**	+29	+12	-8	-21	-31	-36	-40	-46
Bottom Boundary Elevation (ft)**	+12	-8	-21	-31	-36	-40	-46	-62
Average SPT N-Value (Blows/ft)	9	4	13	23	15	37	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiffwater)	Sand (Reese)	Clay (stiffwater)	Clay (stiffwater)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	-	30	-	-	36
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Subgrade Modulus (pci), k	25	20	30	500	30	800	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Major Principal Strain @ e_{50}	-	-	-	0.005	-	0.004	0.004	-
	Major Principal Strain @ e_{100}	-	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	1750	2000	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Clay (API)	Driven Pile
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Poisson's ratio, ν	0.25	0.2	0.25	0.3	0.3	0.35	0.4	0.4
	Vertical Failure Shear Stress (psf)	335	125	490	1600	570	1900	2100	1200
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Ultimate Unit Skin Friction (psf)	335	125	490	1600	570	1900	2100	1200
	Mass Modulus (ksi)	-	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Internal Friction Angle, ϕ	30	29	30	-	30	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Torsional Shear Stress (psf)	335	125	490	1600	570	1900	2100	1200
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Clay (API)	Driven Pile
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Poisson's ratio, ν	0.25	0.2	0.25	0.3	0.3	0.35	0.4	0.4
	Axial Bearing Failure, kips	180	80	240	100	300	160	260	800
	Uncorrected SPT-N Value (blows/ft)	9	4	13	23	15	37	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID 238275-7-32-02

Reference Boring	WR-87
Ground Surface Elevation (ft)	+29
Ground Water Table Elevation (ft)	+28

Foundation Type	HPile
Size (Inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6	7	8
Soil Description	silty sand/sand	clayey sand/sand	clayey sand/silty sand	sandy clay/clay	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesive	rock
Top Boundary Elevation (ft)**	+29	+12	-8	-21	-31	-36	-40	-46
Bottom Boundary Elevation (ft)**	+12	-8	-21	-31	-36	-40	-46	-62
Average SPT N-Value (Blows/ft)	9	4	13	23	15	37	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	29	30	-	30	-	-	36
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Subgrade Modulus (pci), k	25	20	30	500	30	800	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	0.004	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	1750	2000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	-	50000
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Poisson's ratio, ν	0.25	0.2	0.25	0.3	0.3	0.35	0.4	0.4
	Vertical Failure Shear Stress (psf)	335	125	490	1600	570	1900	2100	1200
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	100	105	115	110	120	120	125
	Internal Friction Angle, ϕ	30	29	30	-	30	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Torsional Shear Stress (psf)	335	125	490	1600	570	1900	2100	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	4.5	2	6.5	6.3	6	7.7	10	10
	Poisson's ratio, ν	0.25	0.2	0.25	0.3	0.3	0.35	0.4	0.4
	Axial Bearing Failure, kips	24	10.7	32	13.5	40	22	35	180
	Uncorrected SPT-N Value (blows/ft)	9	4	13	23	15	37	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	1750	2000	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	PCP
Size (Inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	-73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	380	75	870	2250	835	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	380	75	870	2250	835	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	255	50	585	1500	560	1725
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	PCP
Size (Inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	-73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	380	75	870	2250	835	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	380	75	870	2250	835	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	400	80	920	2400	880	2700
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	-73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	50000	

AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	375	35	835	1390	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	375	35	835	1390	800	1200
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	

TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	375	35	835	1390	800	1200

TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	200	40	460	1200	440	800
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	Pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	-73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
LATERAL	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	50000	
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	375	35	835	1390	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	375	35	835	1390	800	1200
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	15	3.1	35	91	34	100
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Top Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	-73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
Average Undrained Shear Strength (psf)	-	-	-	-	-	-	
Unconfined Compressive Strength (psf)	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	375	35	835	1390	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	375	35	835	1390	800	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	16	3.2	36	95	35	105
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B10
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+26

Foundation Type	H-pile
Size (Inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6
Soil Description	silty sand/sand	silty sand	clayey sand/silty sand	clayey sand	silty sand	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesionless	rock
Topu Boundary Elevation (ft)**	+27	+7	-11	-21	-26	-41
Bottom Boundary Elevation (ft)**	+7	-11	-21	-26	-41	73
Average SPT N-Value (Blows/ft)	10	2	23	> 50	22	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Subgrade Modulus (pci), k	25	20	45	125	45	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Vertical Failure Shear Stress (psf)	375	35	835	1390	800	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	95	110	115	110	125
	Internal Friction Angle, ϕ	30	28	30	32	30	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Torsional Shear Stress (psf)	375	35	835	1390	800	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	1	10	10	10	10
	Poisson's ratio, ν	0.25	0.2	0.3	0.4	0.3	0.4
	Axial Bearing Failure, kips	26	5.3	61	160	58	180
	Uncorrected SPT-N Value (blows/ft)	10	2	23	> 50	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+16

Foundation Type	PCP
Size (Inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Topu Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (Blows/ft)	6	2	15	> 50	16	> 50	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
LATERAL	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	0.005	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	1000	2000	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	225	75	570	2250	1500	3000	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Torsional Shear Stress (psf)	225	75	570	2250	1500	3000	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Axial Bearing Failure, kips	150	50	380	1500	90	335	1725
	Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+16

Foundation Type	PCF
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Top Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (Blows/ft)	6	2	15	> 50	16	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Major Principal Strain @ E_{50}	-	-	-	-	0.005	0.004	-
	Major Principal Strain @ E_{100}	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	1000	2000	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	225	75	570	2250	1500	3000	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Torsional Shear Stress (psf)	225	75	570	2250	1500	3000	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Axial Bearing Failure, kips	240	80	600	2400	140	525	2700
	Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+16

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Topu Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (blows/ft)	6	2	15	> 50	16	> 50	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
LATERAL	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	0.005	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	1000	2000	-
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Clay (API)	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	35	570	1400	1300	2100	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Ultimate Unit Skin Friction (psf)	210	35	570	1400	1300	2100	1200
	Mass Modulus (ksi)	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Torsional Shear Stress (psf)	210	35	570	1400	1300	2100	1200
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Clay (API)	Driven Pile
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Axial Bearing Failure, kips	120	40	300	1200	70	260	800
	Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+16

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Top Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (Blows/ft)	6	2	15	> 50	16	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	0.005	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	-	1000	2000	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	35	570	1400	1300	2100	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Torsional Shear Stress (psf)	210	35	570	1400	1300	2100	1200
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Axial Bearing Failure, kips	9.2	3.1	23	92	5.3	20	100
	Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+15

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Top Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (Blows/ft)	6	2	15	> 50	16	> 50	> 50

	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
LATERAL							
Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
Internal Friction Angle, ϕ	30	28	30	32	-	-	36
Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
Major Principal Strain @ ϵ_{50}	-	-	-	-	0.005	0.004	-
Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-
Average Undrained Shear Strength (psf)	-	-	-	-	1000	2000	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000

	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL							
Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
Vertical Failure Shear Stress (psf)	210	35	570	1400	1300	2100	1200
Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-
Mass Modulus (ksi)	-	-	-	-	-	-	-
Modulus Ratio	-	-	-	-	-	-	-
Surface (Rough/Smooth)	-	-	-	-	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
Split Tensile Strength (psf)	-	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-

	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL							
Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
Internal Friction Angle, ϕ	30	28	30	32	-	-	36
Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
Torsional Shear Stress (psf)	210	35	570	1400	1300	2100	1200

	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP							
Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
Shear Modulus (ksi), G	3	1	6	10	5.6	10	10
Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
Axial Bearing Failure, kips	9.5	3.2	24	95	5.6	21	105
Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B12
Ground Surface Elevation (ft)	+20
Ground Water Table Elevation (ft)	+16

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6	7
Soil Description	clayey sand/sand	silty sand	clayey sand/silty sand	clayey sand	sandy clay	sandy clay	dolostone
Soil Type	cohesionless	cohesionless	cohesionless	cohesionless	cohesive	cohesive	rock
Top Boundary Elevation (ft)**	+20	+12	+1	-17	-22	-30	-40
Bottom Boundary Elevation (ft)**	+12	+1	-17	-22	-30	-40	-55
Average SPT N-Value (Blows/ft)	6	2	15	> 50	16	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Clay (stiff-water)	Limestone (McVay)
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Subgrade Modulus (pci), k	20	20	30	125	500	1000	-
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	-	-	0.005	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Shear Modulus (ksf), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	35	570	1400	1300	2100	1200
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-
	Mass Modulus (ksf)	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000
	Split Tensile Strength (psf)	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	115	120	125
	Internal Friction Angle, ϕ	30	28	30	32	-	-	36
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
	Shear Modulus (ksf), G	3	1	6	10	5.6	10	10
Torsional Shear Stress (psf)	210	35	570	1400	1300	2100	1200	
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksf), G	3	1	6	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.4	0.3	0.4	0.4
	Axial Bearing Failure, kips	16	5.3	40	160	9.4	35	180
	Uncorrected SPT-N Value (blows/ft)	6	2	15	> 50	16	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	-	1000	2000	-
IGM Mass Modulus (ksf), E_m	-	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	150	450	2180	760	2250
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)					
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Internal Friction Angle, ϕ	29	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Torsional Shear Stress (psf)	150	450	2180	760	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Axial Bearing Failure, kips	100	300	145	510	1500
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	PCP
Size (Inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Topu Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff/swater)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	150	450	2180	760	2250
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
	TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
Total Unit Weight (pcf), γ_t		100	105	115	110	115
Internal Friction Angle, ϕ		29	30	-	30	32
Undrained Shear Strength (psf), C_u		-	-	1000	-	-
Shear Modulus (ksi), G		2	6	6.6	10	10
Torsional Shear Stress (psf)		150	450	2180	760	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	160	480	225	800	2400
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	Steel Pipe
Size (Inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	125	455	1700	740	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	125	455	1700	740	1400
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Internal Friction Angle, ϕ	29	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Torsional Shear Stress (psf)	125	455	1700	740	1400
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Axial Bearing Failure, kips	80	240	114	400	1200
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	125	455	1700	740	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Internal Friction Angle, ϕ	29	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Torsional Shear Stress (psf)	125	455	1700	740	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Axial Bearing Failure, kips	6.1	18	8.7	30	90
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	125	455	1700	740	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Internal Friction Angle, ϕ	29	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Torsional Shear Stress (psf)	125	455	1700	740	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Axial Bearing Failure, kips	6.4	19	9	32	95
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B15
Ground Surface Elevation (ft)	+14
Ground Water Table Elevation (ft)	+14

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	silty sand/clayey sand	sandy clay	clayey sand	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+14	+5	-13	-23	-33
Bottom Boundary Elevation (ft)**	+5	-13	-23	-33	-58
Average SPT N-Value (Blows/ft)	4	12	26	20	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	29	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Subgrade Modulus (pci), k	20	30	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	125	455	1700	740	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	105	115	110	115
	Internal Friction Angle, ϕ	29	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Torsional Shear Stress (psf)	125	455	1700	-	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	2	6	6.6	10	10
	Poisson's ratio, ν	0.2	0.25	0.3	0.3	0.4
	Axial Bearing Failure, kips	10.7	32	15	53	160
	Uncorrected SPT-N Value (blows/ft)	4	12	26	20	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID 238275-7-32-02

Reference Boring	WR-617
Ground Surface Elevation (ft)	+10
Ground Water Table Elevation (ft)	+8

Foundation Type	PCP
Size (Inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6	7	8
Soil Description	sand	sandy clay	clayey sand/sand	sandy clay/clay	clayey sand	sandy clay	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	cohesive	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+10	+7	-2	-12	-22	-30	-40	-47
Bottom Boundary Elevation (ft)**	+7	-2	-12	-22	-30	-40	-47	-80
Average SPT N-Value (Blows/ft)	8	1	12	22	31	> 50	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Clay (soft-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Subgrade Modulus (pcf), k	20	10	30	500	60	1000	-	125
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Major Principal Strain @ ϵ_{50}	-	0.02	-	0.005	-	0.004	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	250	-	1000	-	2000	-	-
AXIAL	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Shear Modulus (ksi), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	300	100	450	1900	1175	3000	1200	2250
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	-
TORSIONAL	Split Tensile Strength (psf)	-	-	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
TIP	Shear Modulus (ksi), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Axial Bearing Failure, kips	200	5.5	300	120	790	335	1725	1500
	Uncorrected SPT-N Value (blows/ft)	8	1	12	22	31	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID Z38275-7-32-02

Reference Boring	WR-617
Ground Surface Elevation (ft)	+10
Ground Water Table Elevation (ft)	+8

Foundation Type	PCP
Size (incht)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6	7	8
Soil Description	sand	sandy clay	clayey sand/sand	sandy clay/clay	clayey sand	sandy clay	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	cohesive	cohesionless	cohesiv	rock	cohesionless
Top Boundary Elevation (ft)**	+10	+7	-2	-12	-22	-30	-40	-47
Bottom Boundary Elevation (ft)**	+7	-2	-12	-22	-30	-40	-47	-80
Average SPT N-Value (blows/ft)	8	1	12	22	31	>50	>50	>50

LATERAL	Soil Model	Sand (Reese)	Clay (softwater)	Sand (Reese)	Clay (stiffwater)	Sand (Reese)	Clay (stiffwater)	limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Subgrade Modulus (pci), k	20	10	30	500	60	1000	-	125
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Major Principal Strain @ ϵ_{50}	-	0.02	-	0.005	-	0.004	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	250	-	1000	-	2000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Shear Modulus (ksi), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	300	100	450	1900	1175	3000	1200	2250
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	-
Split Tensile Strength (psf)	-	-	-	-	-	-	-	-	
Concrete Unit Weight (pcf)	-	-	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Shear Modulus (ksi), G	4	0.5	6	6.2	10	10	10	10
	Torsional Shear Stress (psf)	300	100	450	1900	1175	3000	1200	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Axial Bearing Failure, kips	320	8.5	480	190	1240	525	2700	2400
	Uncorrected SPT-N Value (blows/ft)	8	1	12	22	31	>50	>50	>50
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID 238275-7-32-02

Reference Boring	WR-817
Ground Surface Elevation (ft)	+10
Ground Water Table Elevation (ft)	+8

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6	7	8
Soil Description	sand	sandy clay	clayey sand/sand	sandy clay/clay	clayey sand	sandy clay	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	cohesive	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+10	+7	-2	-12	-22	-30	-40	-47
Bottom Boundary Elevation (ft)**	+7	-2	-12	-22	-30	-40	-47	-80
Average SPT N-Value (Blows/ft)	8	1	12	22	31	> 50	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Clay (soft-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Subgrade Modulus (pci), k	20	10	30	500	60	1000	-	125
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Major Principal Strain @ ϵ_{50}	-	0.02	-	0.005	-	0.004	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	250	-	1000	-	2000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Shear Modulus (ksf), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	295	100	455	1600	1060	2100	1200	1400
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Ultimate Unit Skin Friction (psf)	295	100	455	1600	1060	2100	1200	1400
	Mass Modulus (ksf)	-	-	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-	50000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	80	105	115	115	120	125	115
	Internal Friction Angle, ϕ	30	-	30	-	31	-	36	32
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	Shear Modulus (ksf), G	4	0.5	6	6.2	10	10	10	10
Torsional Shear Stress (psf)	295	100	455	1600	1060	2100	1200	1400	
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile	Driven Pile Sand (API)
	Shear Modulus (ksf), G	4	0.5	6	6.2	10	10	10	10
	Poisson's ratio, ν	0.2	0.3	0.25	0.3	0.35	0.4	0.4	0.4
	Axial Bearing Failure, kips	160	4.4	240	95	620	260	800	1200
	Uncorrected SPT-N Value (blows/ft)	8	1	12	22	31	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	250	-	1000	-	2000	-	-
	IGM Mass Modulus (ksf), E_m	-	-	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B20
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	-7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

LATERAL	Soil Model	Clay (soft-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1900	2250	1200	2250
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1900	2250	1300	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	5.5	380	120	1500	1725	1500
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B20
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	PCP
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

	Soil Model	Clay (soft/water)	Sand (Reese)	Clay (stiff/water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1900	2250	1200	2250
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1900	2250	1300	2250
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	8.5	600	190	2400	2700	2400
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-020
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

LATERAL	Soil Model	Clay (soft-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
AXIAL	Soil Model	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	100	570	1600	1400	1200	1400
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1600	1400	1200	1400
TIP	Soil Model	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile	Driven Pile Sand (API)
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	4.4	300	95	1200	800	1200
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B20
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (Inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

LATERAL	Soil Model	Clay (soft<water)	Sand (Reese)	Clay (stiff<water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ e_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ e_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1600	1400	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	0.3	23	7.4	90	100	90
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B20
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

LATERAL	Soil Model	Clay (soft<water)	Sand (Reese)	Clay (stiff<water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1600	1400	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	0.35	24	7.6	95	105	95
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B20
Ground Surface Elevation (ft)	+7
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6
Soil Description	organics	sand/silty sand	sandy clay	silty sand	dolostone	silty sand
Soil Type	cohesive	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+7	+3	-10	-27	-33	-55
Bottom Boundary Elevation (ft)**	+3	-10	-27	-33	-55	-68
Average SPT N-Value (Blows/ft)	1	15	22	> 50	> 50	> 50

LATERAL	Soil Model	Clay (soft-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Umestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Subgrade Modulus (pci), k	10	30	500	125	-	125
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Major Principal Strain @ e_{50}	0.02	-	0.005	-	-	-
	Major Principal Strain @ e_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	250	-	1000	-	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	100	570	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	75	110	115	115	125	115
	Internal Friction Angle, ϕ	-	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Torsional Shear Stress (psf)	100	570	1600	1400	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	0.5	6	5.8	10	10	10
	Poisson's ratio, ν	0.3	0.3	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	0.55	40	12.8	160	180	160
	Uncorrected SPT-N Value (blows/ft)	1	15	22	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	250	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	380	2000	2250	1200	2250
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	380	2000	2250	1300	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	255	125	1500	1725	1500
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEO TECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	PCP
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	limestone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

	Soil Model	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{30}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	380	2000	2250	1200	2250
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	380	2000	2250	1300	2250
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	400	200	2400	2700	2400
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Clay (stiff<water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	375	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	375	1600	1400	1200	1400
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	375	1600	1400	1200	1400
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile	Driven Pile Sand (API)
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	200	100	1200	800	1200
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 23B275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (inch)	14
Base Area (ft.)	0.24

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

	Soil Model	Sand (Reese)	Clay (stiff<water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	375	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	375	1600	1400	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	15	7.7	90	100	90
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

	Soil Model	Sand (Reese)	Clay (stiff/water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	375	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
Slump (in)	-	-	-	-	-	
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	375	1600	1400	1200	1400
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	16	8	95	105	95
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B22
Ground Surface Elevation (ft)	+9
Ground Water Table Elevation (ft)	+7

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5
Soil Description	sand/silty sand	sandy clay/clay	clayey sand	dolostone	silty sand
Soil Type	cohesionless	cohesive	cohesionless	rock	cohesionless
Top Boundary Elevation (ft)**	+9	-7	-14	-27	-42
Bottom Boundary Elevation (ft)**	-7	-14	-27	-42	-66
Average SPT N-Value (Blows/ft)	10	23	> 50	> 50	> 50

	Soil Model	Sand (Reese)	Clay (stiff/water)	Sand (Reese)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	-	32	36	32
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Subgrade Modulus (pci), k	25	500	125	-	125
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Major Principal Strain @ ϵ_{50}	-	0.005	-	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	1000	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Vertical Failure Shear Stress (psf)	375	1600	1400	1200	1400
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-
	Slump (in)	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	105	115	115	125	115
	Internal Friction Angle, ϕ	30	-	32	36	32
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Torsional Shear Stress (psf)	375	1600	1400	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	5	6.3	10	10	10
	Poisson's ratio, ν	0.25	0.3	0.4	0.4	0.4
	Axial Bearing Failure, kips	26	13.5	160	180	160
	Uncorrected SPT-N Value (blows/ft)	10	23	> 50	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	1000	-	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B26
Ground Surface Elevation (ft)	+23
Ground Water Table Elevation (ft)	+17

Foundation Type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT N-Value (Blows/ft)	17	2	20	20	> 50	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	645	75	760	1800	1200	2250
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
Torsional Shear Stress (psf)	645	75	760	1800	1300	2250	
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	0	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	435	50	510	110	1725	1500
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-826
Ground Surface Elevation (ft)	-23
Ground Water Table Elevation (ft)	-17

Foundation Type	PCP
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT-N-Value (Blows/ft)	17	2	20	20	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
AXIAL	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	645	75	760	1800	1200	2250
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Torsional Shear Stress (psf)	645	75	760	1800	1300	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	0	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	680	80	800	175	2700	2400
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6

Financial Project ID 238275-7-32-02

Reference Boring	WR-B26
Ground Surface Elevation (ft)	+23
Ground Water Table Elevation (ft)	+17

Foundation Type	Steel Pipe
Size (inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Topu Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT N-Value (Blows/ft)	17	2	20	20	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	740	1500	1200	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	640	35	740	1500	1200	1400
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Torsional Shear Stress (psf)	640	35	740	1500	1200	1400
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Shear Modulus (ksi), G	8	0	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	340	40	400	88	800	1200
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B26
Ground Surface Elevation (ft)	+73
Ground Water Table Elevation (ft)	+17

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT N-Value (blows/ft)	17	2	20	20	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
AXIAL	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	740	1500	1200	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Torsional Shear Stress (psf)	640	35	740	1500	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	26	3.1	31	6.7	100	90
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR B26
Ground Surface Elevation (ft)	+23
Ground Water Table Elevation (ft)	+17

Foundation Type	H-pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT N-Value (Blows/ft)	17	2	20	20	> 50	> 50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{30}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	50000	-	
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	740	1500	1200	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Torsional Shear Stress (psf)	640	35	740	1500	1200	1400
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	27	3.2	32	7	105	95
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT

Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B26
Ground Surface Elevation (ft)	+23
Ground Water Table Elevation (ft)	+17

Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6
Soil Description	sand	sand/silty sand	silty sand	sandy clay/clay	dolostone	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	rock	cohesionless
Top Boundary Elevation (ft)**	+23	+10	+0	-5	-25	-30
Bottom Boundary Elevation (ft)**	+10	+0	-5	-25	-30	-59
Average SPT N-Value (Blows/ft)	17	2	20	20	> 50	> 50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Limestone (McVay)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Subgrade Modulus (pci), k	30	20	35	500	-	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	640	35	740	1500	1200	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	50000	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	110	95	110	115	125	115
	Internal Friction Angle, ϕ	30	28	30	-	36	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Torsional Shear Stress (psf)	640	35	740	1500	1200	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	8	1	9	6	10	10
	Poisson's ratio, ν	0.3	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	45	5.3	53	11.7	180	160
	Uncorrected SPT-N Value (blows/ft)	17	2	20	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-629
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+21.5

Foundation type	PCP
Size (inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Top Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Subgrade Modulus (pci), k	20	20	500	45	1000	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
AXIAL	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	225	35	1400	750	3000	2250
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
TORSIONAL	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
TIP	Torsional Shear Stress (psf)	225	35	1400	750	3000	2250
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	150	25	85	510	335	1535
	Uncorrected SPT-N Value (blows/ft)	6	1	15	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B29
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+21.5

Foundation Type	PCP
Size (inch)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Top Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Subgrade Modulus (pci), k	20	20	500	45	1000	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	225	35	1400	750	3000	2250
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Torsional Shear Stress (psf)	225	35	1400	750	3000	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	240	40	130	800	525	2400
	Uncorrected SPT-N Value (blows/ft)	6	1	15	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR 029
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+21.5

Foundation Type	Steel Pipe
Size (Inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Top Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	
LATERAL	Internal Friction Angle, ϕ	30	28	-	30	-	32	
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115	
	Subgrade Modulus (pci), k	20	20	500	45	1000	125	
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-	
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-	
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-	
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-	
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-	
	AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)
		Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
Shear Modulus (ksi), G		3	1	5.6	10	10	10	
Poisson's ratio, ν		0.2	0.2	0.3	0.3	0.4	0.4	
Vertical Failure Shear Stress (psf)		210	0	1250	740	2100	1400	
Undrained Shear Strength (psf), C_u		-	-	1000	-	2000	-	
Ultimate Unit Skin Friction (psf)		210	0	1250	740	2100	1400	
Mass Modulus (ksi)		-	-	-	-	-	-	
Modulus Ratio		-	-	-	-	-	-	
Surface (Rough/Smooth)		-	-	-	-	-	-	
Unconfined Compressive Strength (psf)		-	-	-	-	-	-	
Split Tensile Strength (psf)		-	-	-	-	-	-	
Concrete Unit Weight (pcf)		-	-	-	-	-	-	
Slump (in)		-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115	
	Internal Friction Angle, ϕ	30	28	-	30	-	32	
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-	
	Shear Modulus (ksi), G	3	1	5.6	10	10	10	
	Torsional Shear Stress (psf)	210	0	1250	740	2100	1400	
	TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)
Shear Modulus (ksi), G		3	1	5.6	10	10	10	
Poisson's ratio, ν		0.2	0.2	0.3	0.3	0.4	0.4	
Axial Bearing Failure, kips		120	20	66	400	264	1200	
Uncorrected SPT-N Value (blows/ft)		6	1	15	20	> 50	> 50	
Undrained Shear Strength (psf), C_u		-	-	-	-	2000	-	
IGM Mass Modulus (ksi), E_m		-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID 238275-7-32-02

Reference Boring	WR-623
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+11.5

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Topu Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Subgrade Modulus (pci), k	20	20	500	45	1000	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	0	1250	740	2100	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
Slump (in)	-	-	-	-	-	-	
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Torsional Shear Stress (psf)	210	0	1250	740	2100	1400
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, k/ps	9.2	1.5	5	31	20	92
	Uncorrected SPT-N Value (blows/ft)	6	1	15	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B29
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+21.5

Foundation Type	H-pile
Size (Inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Top Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff/water)	Sand (Reese)	Clay (stiff/water)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Subgrade Modulus (pci), k	20	20	500	45	1000	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	0	1250	740	2100	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Torsional Shear Stress (psf)	210	0	1250	740	2100	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	9.5	1.6	5.2	32	21	95
	Uncorrected SPT-N Value (blows/ft)	6	1	15	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	WR-B29
Ground Surface Elevation (ft)	+24
Ground Water Table Elevation (ft)	+21.5

Foundation Type	H-pile
Size (Inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6
Soil Description	sand	silty sand	clay	silty sand	clay	silty sand/clayey sand
Soil Type	cohesionless	cohesionless	cohesive	cohesionless	cohesive	cohesionless
Top Boundary Elevation (ft)**	+24	+9	-4	-14	-22	-28
Bottom Boundary Elevation (ft)**	+9	-4	-14	-22	-28	-51
Average SPT N-Value (Blows/ft)	6	1	15	20	>50	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Subgrade Modulus (pci), k	20	20	500	45	1000	125
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Major Principal Strain @ ϵ_{50}	-	-	0.005	-	0.004	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	1000	-	2000	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Vertical Failure Shear Stress (psf)	210	0	1250	740	2100	1400
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	115	110	120	115
	Internal Friction Angle, ϕ	30	28	-	30	-	32
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	Torsional Shear Stress (psf)	210	0	1250	740	2100	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	5.6	10	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.4	0.4
	Axial Bearing Failure, kips	16	2.7	8.8	53	35	160
	Uncorrected SPT-N Value (blows/ft)	6	1	15	20	> 50	> 50
	Undrained Shear Strength (psf), C_u	-	-	1000	-	2000	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	ROC-65
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+25

Foundation Type	PCP
Size (Inch)	24
Base Area (ft ²)	4

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	clayey sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff water)	Sand (Reese)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pci), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	265	75	900	1500	835	2250
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	265	75	900	1500	835	2250
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	180	50	610	90	560	1500
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	ROC-B5
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+25

Foundation Type	PCF
Size (in ²)	30
Base Area (ft ²)	6.25

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	claysy sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pcf), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	265	75	900	1500	835	2250
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksf)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	265	75	900	1500	835	2250
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	280	80	950	140	880	2400
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	ROC-05
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+25

Foundation Type	Steel Pipe
Size (Inch)	24
Base Area (ft ²)	3.14

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	clayey sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50

	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pci), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
AXIAL	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	255	35	865	1300	800	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	255	35	865	1300	800	1400
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	255	35	865	1300	800	1400
TIP	Soil Model	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Sand (API)	Driven Pile Clay (API)	Driven Pile Sand (API)	Driven Pile Sand (API)
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	140	40	480	70	440	1200
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	ROC-05
Ground Surface Elevation (ft)	+17
Ground Water Table Elevation (ft)	+25

Foundation Type	H-pile
Size (inch)	14
Base Area (ft ²)	0.24

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	clayey sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pci), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
Unconfined Compressive Strength (psf)	-	-	-	-	-	-	
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	255	35	865	1300	800	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
Concrete Unit Weight (pcf)	-	-	-	-	-	-	
Slump (in)	-	-	-	-	-	-	
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	255	35	865	1300	800	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	10.7	3.1	37	5.3	34	90
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-	

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
 Wekiva Parkway Project, Section 6
 Financial Project ID 238275-7-32-02

Reference Boring	ROC-B5
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+25

Foundation Type	H pile
Size (inch)	16
Base Area (ft ²)	0.25

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	clayey sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Top Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50

LATERAL	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiff-water)	Sand (Reese)	Sand (Reese)
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pci), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
AXIAL	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	255	35	865	1300	800	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
TORSIONAL	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	255	35	865	1300	800	1400
TIP	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, k/ips	11.7	3.2	38	5.6	35	95
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

GEOTECHNICAL PARAMETERS FOR FB-MULTIPLIER INPUT
Wekiva Parkway Project, Section 6
Financial Project ID 238275-7-32-02

Reference Boring	ROC-B5
Ground Surface Elevation (ft)	+27
Ground Water Table Elevation (ft)	+25


Foundation Type	H-pile
Size (inch)	18
Base Area (ft ²)	0.42

Layer No.	1	2	3	4	5	6
Soil Description	sand/clayey sand	sand/silty sand	silty sand	clay	claysy sand/silty sand	silty sand
Soil Type	cohesionless	cohesionless	cohesionless	cohesive	cohesionless	cohesionless
Topu Boundary Elevation (ft)**	+27	+17	-1	-6	-12	-20
Bottom Boundary Elevation (ft)**	+17	-1	-6	-12	-20	-48
Average SPT N-Value (Blows/ft)	7	2	24	16	22	>50


	Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Clay (stiffwater)	Sand (Reese)	Sand (Reese)
LATERAL	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Subgrade Modulus (pci), k	20	20	45	500	45	125
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Major Principal Strain @ ϵ_{50}	-	-	-	0.005	-	-
	Major Principal Strain @ ϵ_{100}	-	-	-	-	-	-
	Average Undrained Shear Strength (psf)	-	-	-	1000	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
AXIAL	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Vertical Failure Shear Stress (psf)	255	35	865	1300	800	1400
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Ultimate Unit Skin Friction (psf)	-	-	-	-	-	-
	Mass Modulus (ksi)	-	-	-	-	-	-
	Modulus Ratio	-	-	-	-	-	-
	Surface (Rough/Smooth)	-	-	-	-	-	-
	Unconfined Compressive Strength (psf)	-	-	-	-	-	-
	Split Tensile Strength (psf)	-	-	-	-	-	-
	Concrete Unit Weight (pcf)	-	-	-	-	-	-
	Slump (in)	-	-	-	-	-	-
	Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
TORSIONAL	Total Unit Weight (pcf), γ_t	100	95	110	115	110	115
	Internal Friction Angle, ϕ	30	28	30	-	30	32
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Torsional Shear Stress (psf)	255	35	865	1300	800	1400
	Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
TIP	Shear Modulus (ksi), G	3	1	10	5.6	10	10
	Poisson's ratio, ν	0.2	0.2	0.3	0.3	0.3	0.4
	Axial Bearing Failure, kips	19	5.3	64	9.4	58	160
	Uncorrected SPT-N Value (blows/ft)	7	2	24	16	22	> 50
	Undrained Shear Strength (psf), C_u	-	-	-	1000	-	-
	IGM Mass Modulus (ksi), E_m	-	-	-	-	-	-

APPENDIX D
SOIL BORING PROFILES
(Reported by NES for Line and Grade Study)

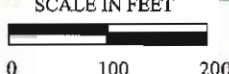
LEGEND

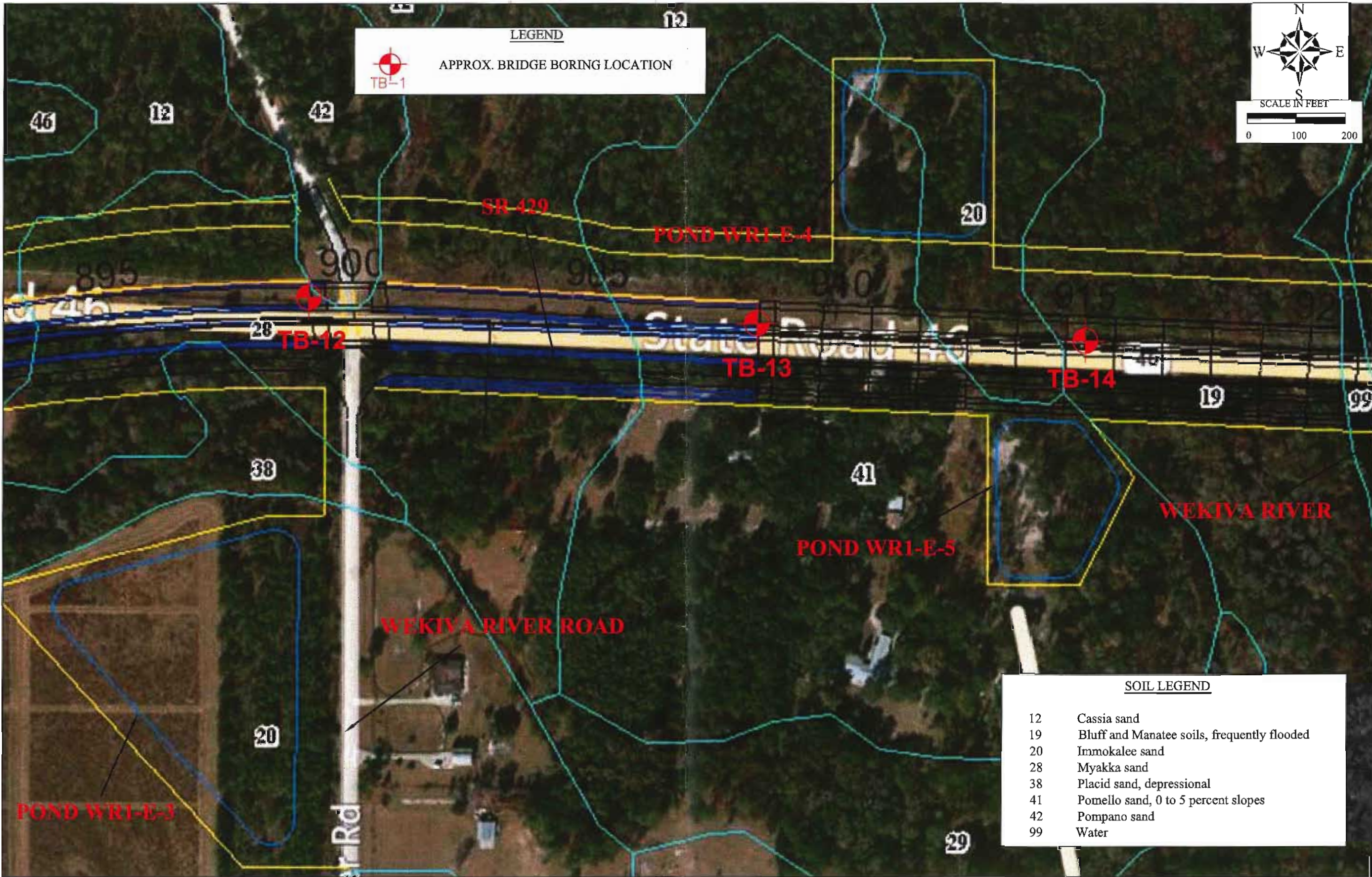
 APPROX. BRIDGE BORING LOCATION

TB-1



SCALE IN FEET






SOIL LEGEND

12	Cassia sand
19	Bluff and Manatee soils, frequently flooded
20	Immokalee sand
28	Myakka sand
38	Placid sand, depressional
41	Pomello sand, 0 to 5 percent slopes
42	Pompano sand
99	Water

Z:\Roadways\G\Nadri\Wekiva Parkway\ATKINS_Lake County\Bridges\Acad

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NAMES	DATES
Drawn by: AGA	5-15-12
Checked by: GNN	5-15-12
Designed by: N/A	N/A
Checked by: N/A	N/A
Approved by:	



STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

COUNTY	FPID PROJECT NO.
LAKE	431081-3-32-01

TITLE: BORING LOCATION MAP
SR 429 over Wekiva River Rd/ SR 429 over Wekiva River

PROJECT NAME:
WEKIVA PARKWAY LINE & GRADE
- Lake County East Section

SHEET NO.

NOTICE: The official record of this plan sheet is the electronic file signed and sealed under rule 61G15-23.003, F.A.C.

SR 429 over Wekiva River

Boring No:
Approximate Station:
Offset:
Elevation:
Date Drilled:

TB-13
908+40
0.03' RT
36.96'
03/22/2012

LATITUDE: N28°48'55.28"
LONGITUDE: W81°25'24.79"

TB-14
915+00
0.01' LT
20.84'
03/22/2012

LATITUDE: N28°48'55.02"
LONGITUDE: W81°25'17.38"

LEGEND

	SAND		SANDY CLAY		LIMESTONE
	CLAYEY SAND		CLAY		SILTY SAND
	GRAVELLY SANDY CLAY		GRAVELLY CLAYEY SAND		GRAVELLY SAND

(SP) Unified soil classification group symbol

Estimated seasonal high groundwater level

GNE Groundwater not encountered in top 10 feet

Depth to which NW casing was driven in feet

100% Percent Loss of Circulation of Drilling Fluid

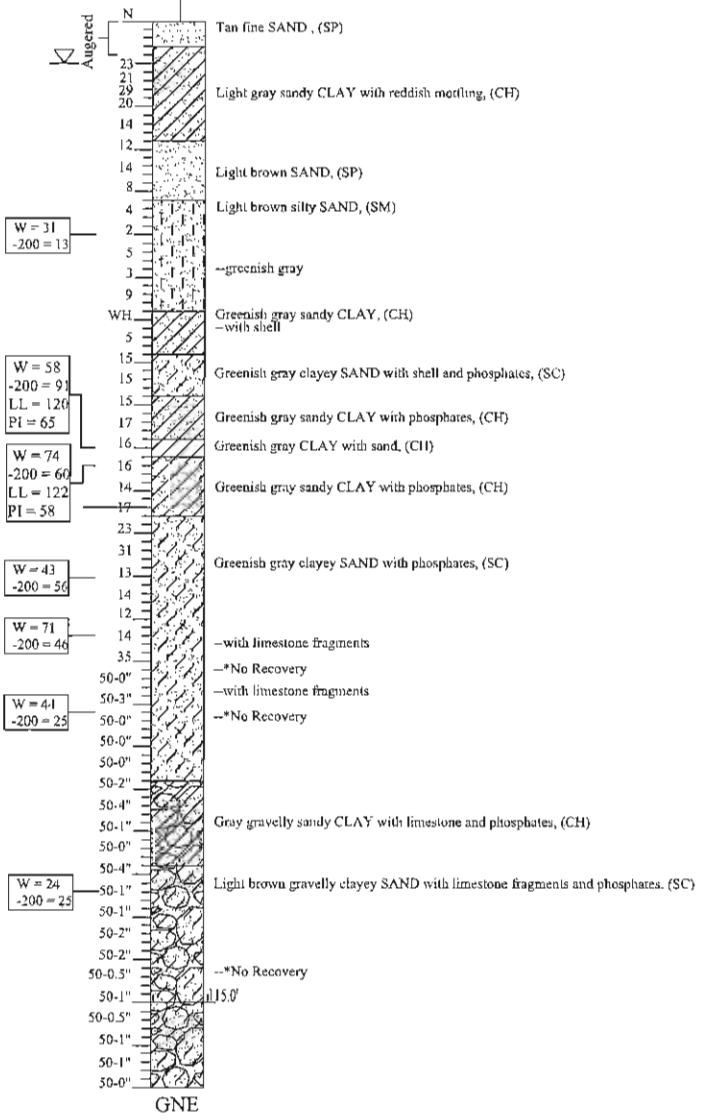
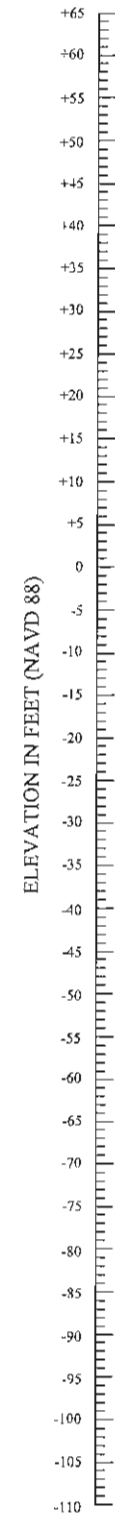
Undisturbed Sample (Shelby Tube)

W = Natural moisture content (%) (FM 1-T 265)
-200 = Percent passing no. 200 U.S. standard sieve (%) (FM1-T 088)
LL = Liquid Limit (%) (FM 1-T 089)
PI = Plasticity Index (%) (FM 1-T 090)
ρ_d = Dry Density (pcf)
C_c = Compression Index
e₀ = Initial Void Ratio

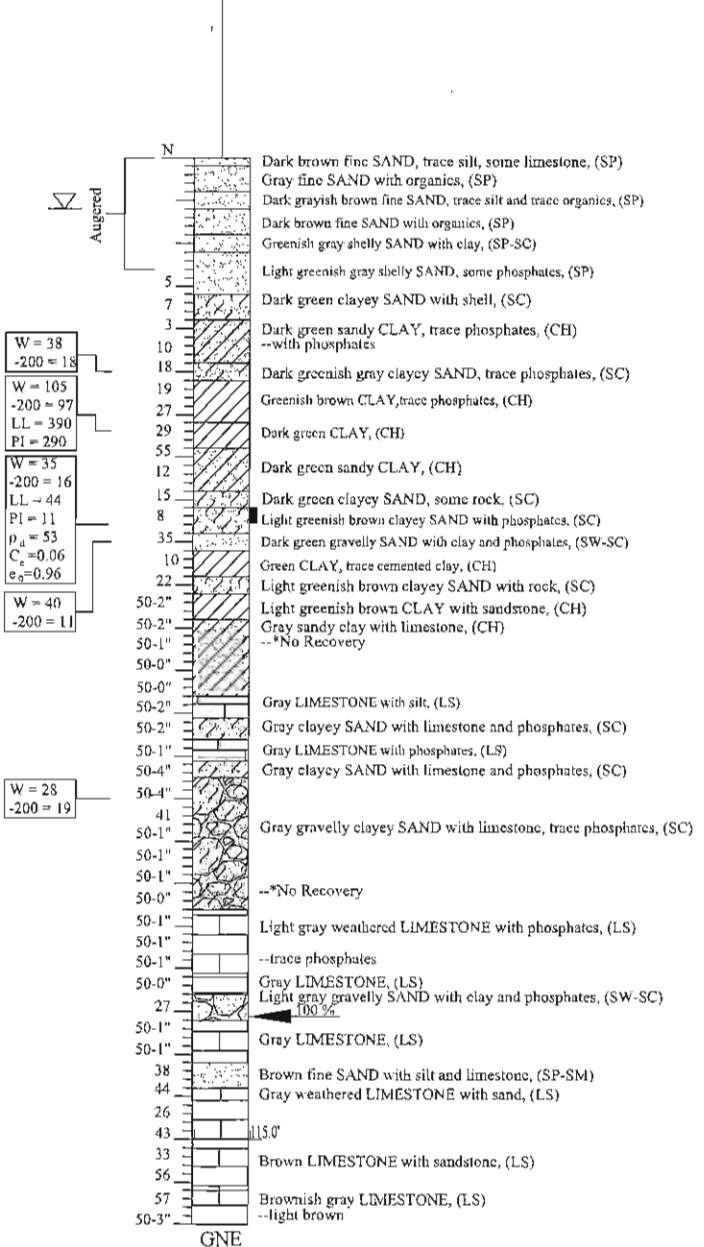
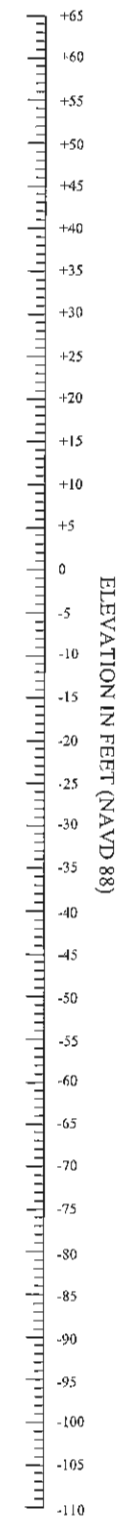
N Standard penetration resistance in blows per foot

Standard Penetration Test Data
Spoon Inside Dia. 1 3/8 in.
Spoon Outside Dia. 2 in.
ASTM Standard Automatic Hammer
Avg. Hammer Drop 30 in.
Hammer Weight 140 lbs.

- NOTES
- Plan view is preliminary for showing boring locations only and may not be indicative of final plans.
 - Subsurface variations between borings should be anticipated as indicated in Section 2-4 of the Standard Specifications.



Boring Terminated @ ELEV. -65.52'



Boring Terminated @ ELEV. -104.16'

GRANULAR MATERIALS	
RELATIVE DENSITY	SPT (BLOWS/FT.)
Very loose	Less than 3
Loose	3-7
Medium Dense	7-21
Dense	21-35
Very Dense	

SILTS AND CLAYS	
CONSISTENCY	SPT (BLOWS/FT.)
Very soft	Less than 1
Soft	1-3
Firm	3-6
Stiff	6-11
Very Stiff	11-21
Hard	

ENVIRONMENTAL CLASSIFICATION	
SUBSTRUCTURE	SUPERSTRUCTURE
Concrete:	Slightly Aggressive
Steel:	Slightly Aggressive

Z:\Roadways\G\nadadi\Wekiva Parkway\ATKINS Lake County\Bridges\Acad

NOTICE: The official record of this plan sheet is the electronic file signed and sealed under rule 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NAMES			DATES		
Drawn by:	AGA		05-14-12		
Checked by:	GNN		05-14-12		
Designed by:	N/A		N/A		
Checked by:	N/A		N/A		
Approved by:	GNN				

ENGINEER OF RECORD:
NES
NADIC ENGINEERING SERVICES, INC.
601 N. HART BLVD.
ORLANDO, FL 32818
CERTIFICATE OF AUTHORIZATION NO. 00008214
DR. GODWIN N. NNADI P.E. NO. 50637

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

COUNTY: LAKE
FPID PROJECT NO.: 431081-3-32-01

SHEET TITLE:	
REPORT OF SPT BORINGS FOR STRUCTURES	
PROJECT NAME:	WEKIVA PARKWAY LINE & GRADE - LAKE COUNTY
SHEET NO.:	