503.443.3799

IAS ACCREDITED Testing Laboratory

5/17/2025

Atterberg Limits 1 Pt.

ASTM: D-4318 AASHTO: T-89, T-90

Client Evren Northwest
Address Evren Northwest
PO Box 14488
Portland Oregon, 97293

Client Reference No 19062400102
Project No 25-5265
Project Berm and Pit 25-5265
Project Location 21595 Butteville Road, Aurora, Oregon 97002
Sample Location
Material Source B-2-13 @ 18'-19.5'
Material Description Brown ML
Comment of Deviations

Date Tested 5/14/2025
Sample Rec. Date 4/29/2025
Date Sampled 4/29/2025
Sampled By Client
Sample Id 79M

LL = 29 **PL =** 27 **PI =** 2

Comments

Tested By Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

Lab Equipment Scale2 - Oven1 - Atterberg Cup1 - Atterberg Plate1

Lab Address
System Link http://acstesting.vahalo.com/assignments/500700E1-3B64-47B4-C305-79F207873D8D
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 LLPlasticLimit1pt DH250516-5

503.443.3799

IAS ACCREDITED Testing Laboratory

Moisture Content and Minus #200

ASTM: D2216, D1140 AASHTO: T-255, T-265, T11

Client Evren Northwest
Address Evren Northwest
PO Box 14488

Portland Oregon, 97293

Sample No 79M
Pit/Plant B-2-13 @ 18'-19.5'
Material Description Brown ML
Project Berm and Pit 25-5265
Pay Item
Location

Report Date 5/17/2025
Date Tested 5/14/2025
Project No 25-5265
Client Reference No 19062400102
Date Sampled 4/29/2025
Sampled By
Supplier B-2-13 @ 18'-19.5'

Moisture Content (%)	36.2%
Minus #200 (%)	96.3%

Comments

Inspector Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

System Link http://acstesting.vahalo.com/assignments/BBF9BA51-189A-42CA-7475-BC5048F540F3
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 MoistAndFines DH250516-3

503.443.3799

IAS ACCREDITED

Atterberg Limits 1 Pt.

ASTM: D-4318 AASHTO: T-89, T-90

6/23/2025

Client Evren Northwest
Address Evren Northwest
PO Box 14488
Portland Oregon, 97293

Client Reference No 19062400102
Project No 25-5265
Project Berm and Pit 25-5265
Project Location 21595 Butteville Road, Aurora, Oregon 97002
Sample Location
Material Source B-3-2 @ 1.5'-3.0'
Material Description Brown ML
Comment of Deviations

Date Tested 5/15/2025
Sample Rec. Date
Date Sampled 4/29/2025
Sampled By Client
Sample Id 79N

LL = 34 **PL =** 26 **PI =** 8

Comments

Tested By Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

Lab Equipment Scale2 - Oven1 - Atterberg Cup1 - Atterberg Plate1

Lab Address
System Link http://acstesting.vahalo.com/assignments/AAD3CC48-2E7D-4660-1611-CE3B54587C7C
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 LLPlasticLimit1pt DH250516-6

503.443.3799

IAS ACCREDITED Testing Laboratory

Moisture Content and Minus #200

ASTM: D2216, D1140 AASHTO: T-255, T-265, T11

Client Evren Northwest
Address Evren Northwest
PO Box 14488

Portland Oregon, 97293

Sample No 79N
Pit/Plant B-3-2 @ 1.5'-3.0'
Material Description Brown CL-ML
Project Berm and Pit 25-5265
Pay Item
Location

Report Date 5/17/2025
Date Tested 5/15/2025
Project No 25-5265
Client Reference No 19062400102
Date Sampled 4/29/2025
Sampled By
Supplier B-3-2 @ 1.5'-3.0'

Moisture Content (%)	27.1%
Minus #200 (%)	88.3%

Comments

Inspector Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

System Link http://acstesting.vahalo.com/assignments/BE41A1C7-822F-4D4C-520D-F352FABF8E49
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 MoistAndFines DH250516-2

503.443.3799

IAS ACCREDITED Testing Laboratory

Atterberg Limits 1 Pt.

ASTM: D-4318 AASHTO: T-89, T-90

5/17/2025

Client Evren Northwest
Address Evren Northwest
PO Box 14488
Portland Oregon, 97293

Client Reference No 19062400102
Project No 25-5265
Project Berm and Pit 25-5265
Project Location 21595 Butteville Road, Aurora, Oregon 97002
Sample Location
Material Source B-3-10 @ 13.5'-15'
Material Description Brown ML
Comment of Deviations

Date Tested 5/15/2025
Sample Rec. Date 4/29/2025
Date Sampled 4/29/2025
Sampled By
Sample Id 79P

LL = 27 **PL =** 24 **PI =** 3

Comments

Tested By Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

Lab Equipment Scale2 - Oven1 - Atterberg Cup1 - Atterberg Plate1

Lab Address
System Link http://acstesting.vahalo.com/assignments/B5D8A282-11BF-4AE0-BDD8-726EDAAE0E83
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 LLPlasticLimit1pt DH250516-7

503.443.3799

IAS ACCREDITED Testing Laboratory

Moisture Content and Minus #200

ASTM: D2216, D1140 AASHTO: T-255, T-265, T11

Client Evren Northwest
Address Evren Northwest
PO Box 14488

Portland Oregon, 97293

Sample No 79P
Pit/Plant B-3-10 @ 13.5'-15'
Material Description Brown ML
Project Berm and Pit 25-5265
Pay Item
Location

Report Date 5/17/2025
Date Tested 5/16/2025
Project No 25-5265
Client Reference No 19062400102
Date Sampled 4/29/2025
Sampled By
Supplier B-3-10 @ 13.5'-15'

Moisture Content (%)	28.7%
Minus #200 (%)	91.4%

Comments

Inspector Dan Hamilton
Digital Signature By User Login

Manager Dan Hamilton
Digital Signature By User Login

System Link http://acstesting.vahalo.com/assignments/231036CE-50C7-4349-FDB6-E089B7513D67
System Path Berm and Pit 25-5265 / SOILS / AGGREGATE LAB / 25-5265 MoistAndFines DH250516-1

DIRECT SHEAR TEST OF SOILS UNDER CONSOLIDATED DRAINED CONDITIONS ASTM D3080

Terracon

PROJECT:	ACS Testing (OR) Annual Materials Testing	**JOB NO:**	65151183
LOCATION:	ACS Project# 1906-24001-02	**WORK ORDER NO:**	0
MATERIAL:	Clay	**LAB NO:**	8169
SAMPLE SOURCE:	B-1-12@16.5'	**DATE SAMPLED:**	06/16/25

Sample Preparation: Insitu material, moisture and density. Specimens Consolidated @ Normal Load 30 minutes prior to shear. Specimen not inundated.

Initial Parameters of specimen:

	Point 1	Point 2	Point 3
Normal Stress (psf):	**2089**	**4177**	**6266**
Dry mass (g):	111.18	108.01	110.55
Height (in):	1.0000	1.0000	1.0000
Diameter (in):	2.42	2.42	2.42
Moisture, %:	28.4	30.9	28.0
Dry Density (pcf):	92.1	89.5	91.6
Saturation, %:	95	97	92
Void Ratio:	0.80	0.85	0.81

Pre- Shear Parameters of specimen:

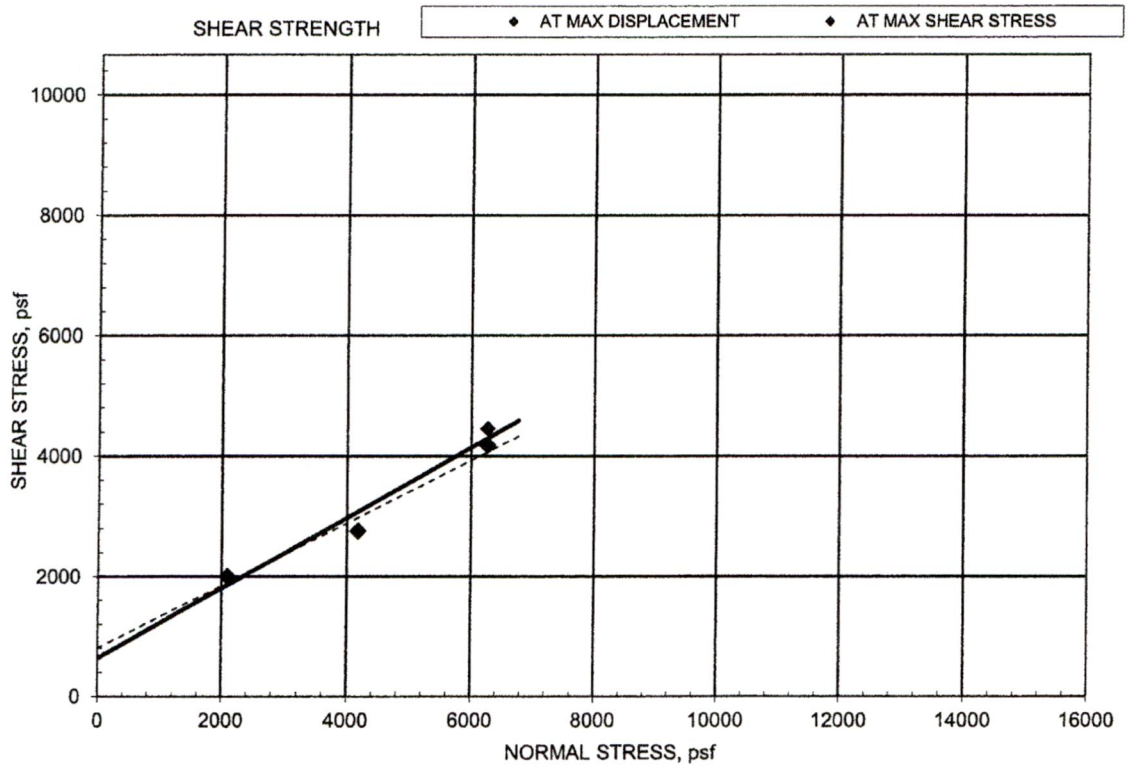
	Point 1	Point 2	Point 3
Normal Stress (psf):	**2089**	**4177**	**6266**
Dry mass (g):	111.18	108.01	110.55
Height (in):	0.99068	0.98273	0.98172
Diameter (in):	2.42	2.42	2.42
Moisture, %:	25.2	30.7	26.9
Dry Density (pcf):	93.0	91.0	93.3
Saturation, %:	86	100	92
Void Ratio:	0.78	0.82	0.77

Normal Stress (psf):	2089	4177	6266
Maximum Shear Stress, (psf):	2013	2760	4450
Displacement at Maximum Shear, (in):	0.454	0.428	0.305
Shear Stress at Max Displacement, (psf)	1999	2756	4176
Maximum Displacement, (in):	0.452	0.452	0.457
Rate of Deformation, in/min	0.000157	0.000157	0.000157

SHEAR DEVICE: Geomatic model 8914, Dead Weight load force

SPECIFIC GRAVITY: Specific gravity assumed: 2.651

	FRICTION ANGLE	COHESION
AT MAX SHEAR STRESS	**30**	**638**
Specs:		
AT MAX DISPLACEMENT	28	800
Specs:		



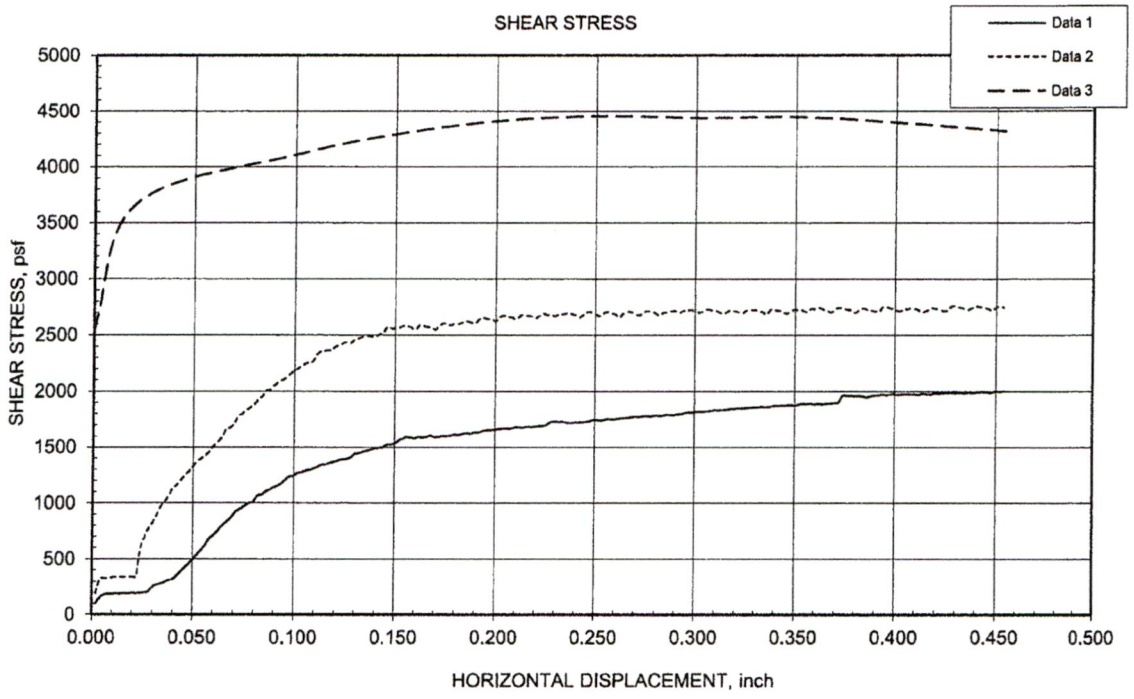
Note: The friction angle presented is applicable only to the load ranges and sample conditions tested. Friction angle and cohesion values are based on the trend line shown in the above plot and may or may not be representative of actual soil conditions. Therefore, adequate engineering judgment should be implemented if used for design.

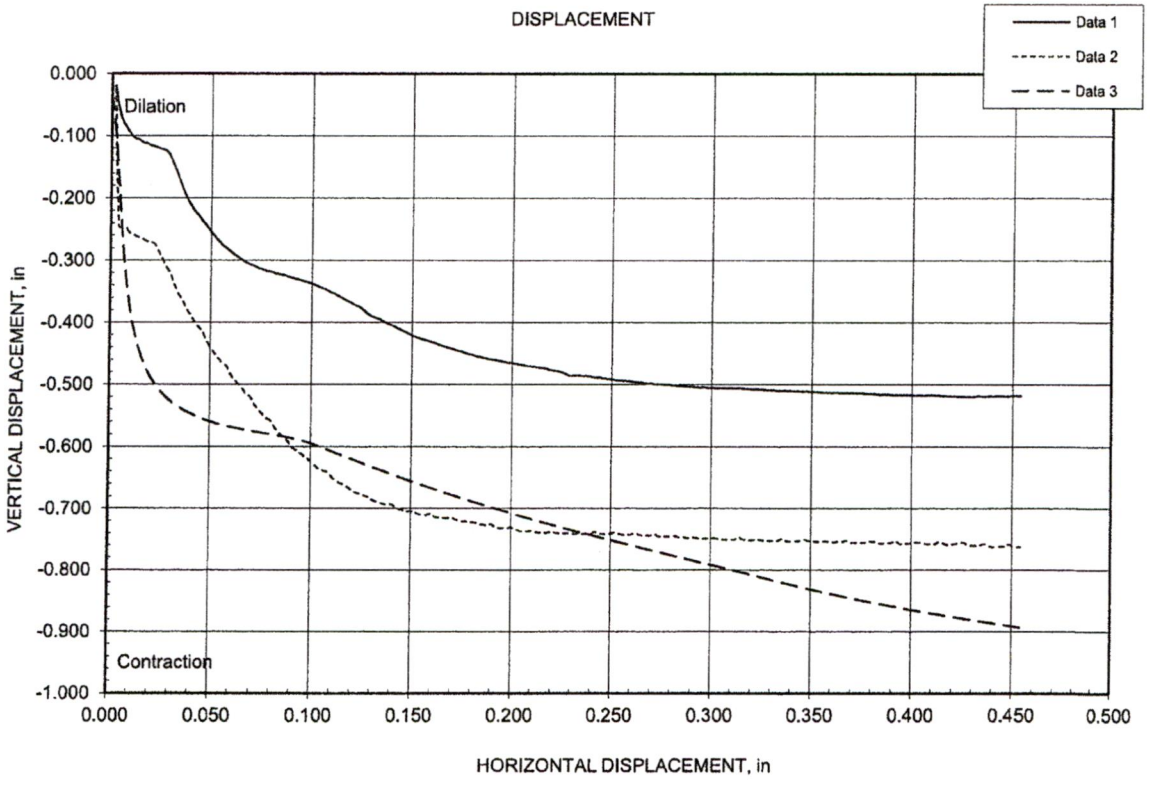
Reviewed By: Joseph A. Phillips

DIRECT SHEAR TEST OF SOILS UNDER CONSOLIDATED DRAINED CONDITIONS ASTM D3080

Terracon

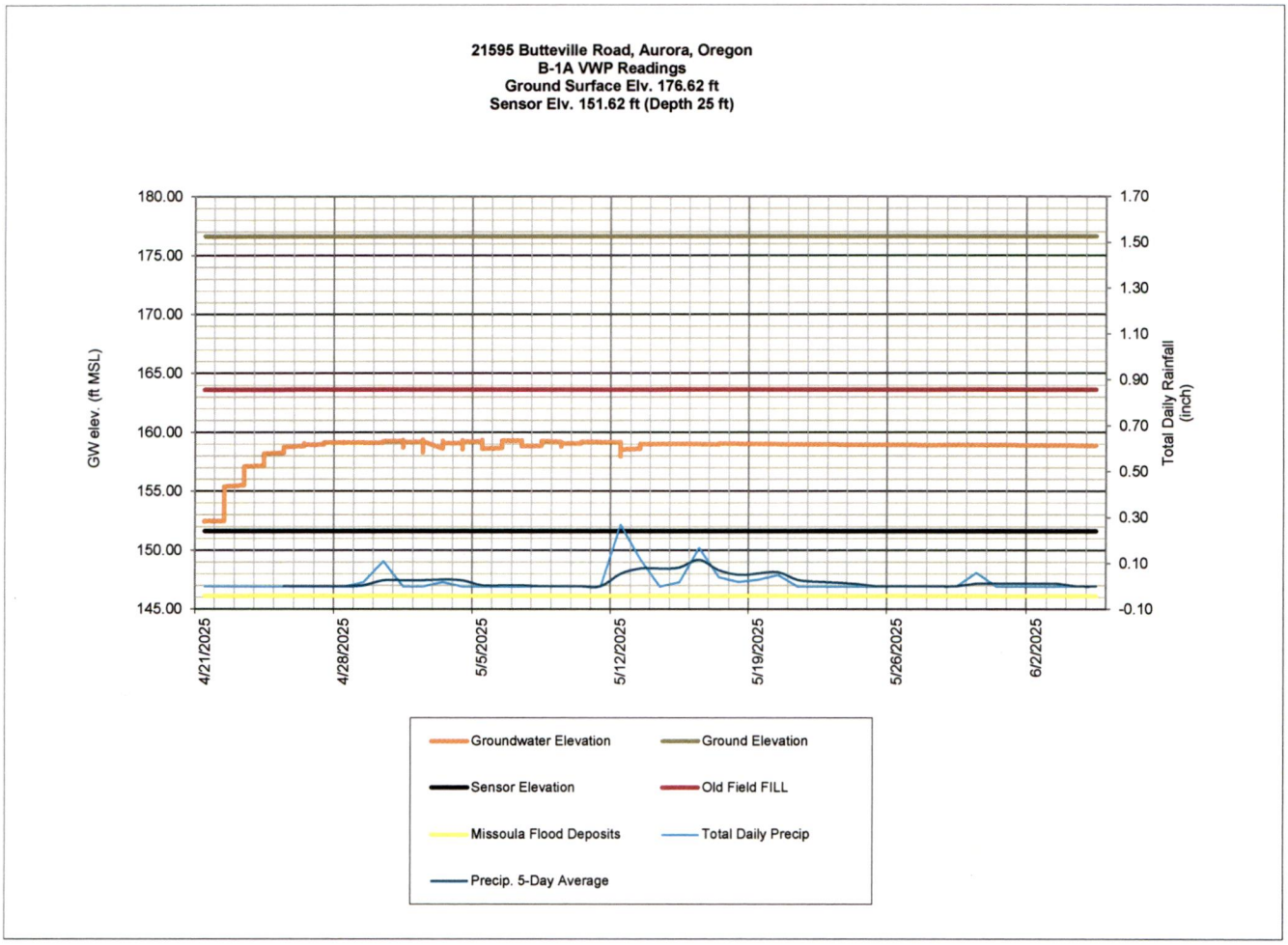
PROJECT:	ACS Testing (OR) Annual Materials Testing	**JOB NO:**	65151183
LOCATION:	ACS Project# 1906-24001-02	**WORK ORDER NO:**	
MATERIAL:	Clay	**LAB NO:**	8169
SAMPLE SOURCE:	B-1-12@16.5'	**DATE SAMPLED:**	6/16/25





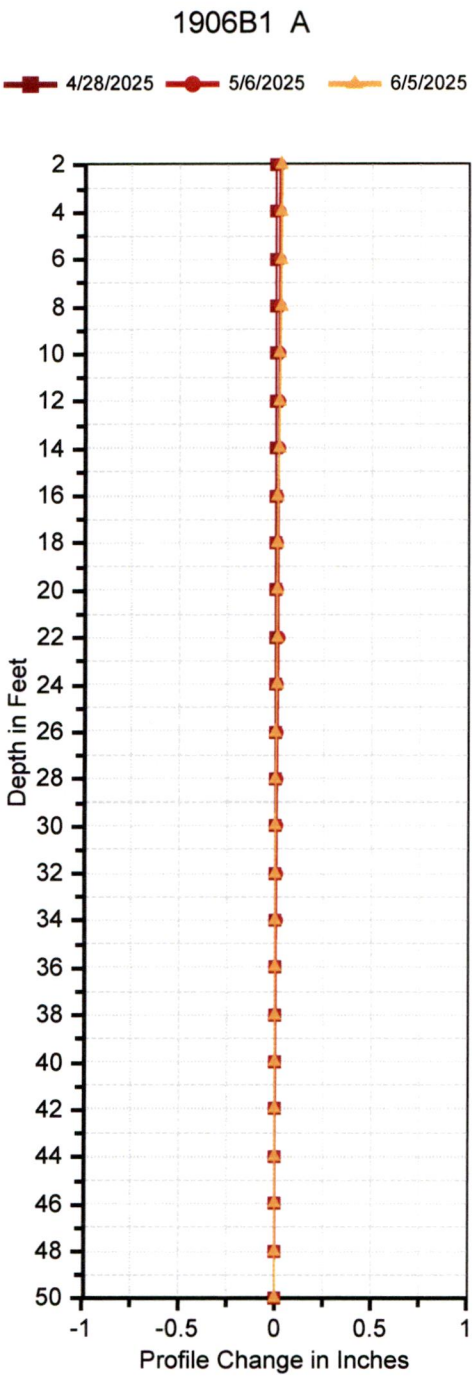
Appendix D

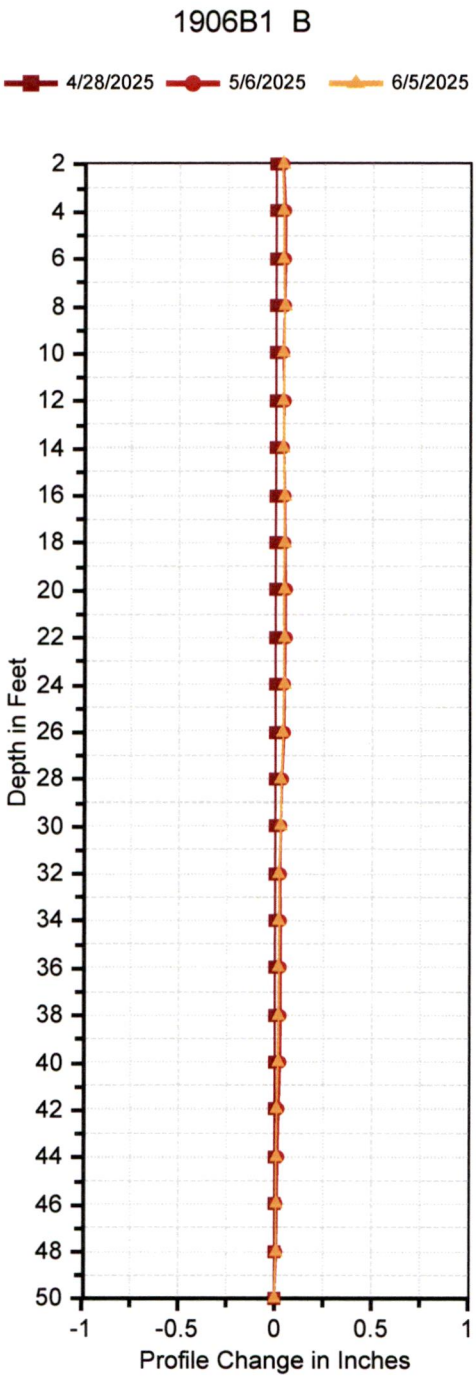
Vibrating Wire Piezometer Data


21595 Butteville Road, Aurora, Oregon
B-1A VWP Readings
Ground Surface Elv. 176.62 ft
Sensor Elv. 151.62 ft (Depth 25 ft)
GW elev. (ft MSL)
180.00
175.00
170.00
165.00
160.00
155.00
150.00
145.00
Total Daily Rainfall (inch)
1.70
1.50
1.30
1.10
0.90
0.70
0.50
0.30
0.10
-0.10
4/21/2025
4/28/2025
5/5/2025
5/12/2025
5/19/2025
5/26/2025
6/2/2025
Groundwater Elevation
Ground Elevation
Sensor Elevation
Old Field FILL
Missoula Flood Deposits
Total Daily Precip
Precip. 5-Day Average

Appendix E

Inclinometer Data





EVREN Northwest, Inc.
40 SE 24th Ave
Portland, Oregon 97214
PH: 503.452.5561

Project No. 1906-24001-02

EVREN NORTHWEST INC.
environmental natural resource consultants

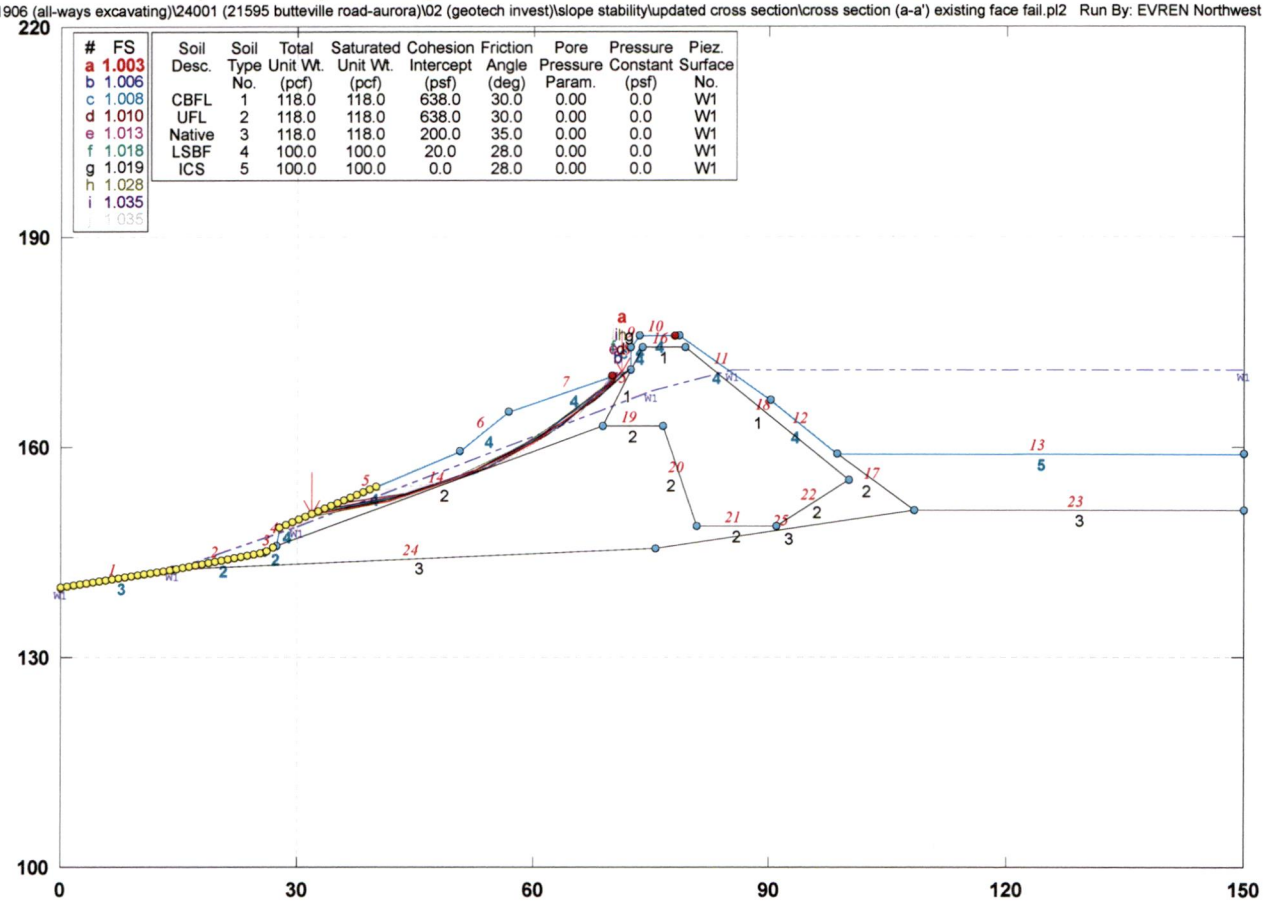
All-Ways Excavating
21595 Butteville Road
Aurora, Oregon

Appendix F

Slope Stability Analyses

Slope Stability Existing Static - Downstream Face Back Calculation

t:\enw\projects\1906 (all-ways excavating)\24001 (21595 butteville road-aurora)\02 (geotech invest)\slope stability\updated cross section\cross section (a-a') existing face fail.pl2 Run By: EVREN Northwest 6/20/2025 0



GSTABL7 v.2 FSmin=1.003
Safety Factors Are Calculated By The Modified Bishop Method

*** GSTABL7 ***

** GSTABL7 by Dr. Garry H. Gregory, Ph.D.,P.E.,D.GE **
** Original Version 1.0, January 1996; Current Ver. 2.005.2, Jan. 2011 **
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****

SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 6/20/2025
Time of Run: 08:46AM
Run By: EVREN Northwest
Input Data Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Unit System: English
Plotted Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
PROBLEM DESCRIPTION: Slope Stability
Existing Static - Downstream Face

BOUNDARY COORDINATES
13 Top Boundaries
25 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	140.00	14.20	142.50	3
2	14.20	142.50	25.90	145.00	2
3	25.90	145.00	27.40	146.00	2
4	27.40	146.00	27.70	148.50	4
5	27.70	148.50	50.60	159.40	4
6	50.60	159.40	56.75	165.00	4
7	56.75	165.00	72.30	171.10	4
8	72.30	171.10	72.40	174.25	4
9	72.40	174.25	73.50	175.90	4
10	73.50	175.90	78.50	175.90	4
11	78.50	175.90	90.10	166.70	4
12	90.10	166.70	98.70	159.00	4
13	98.70	159.00	150.00	159.00	5
14	27.40	146.00	68.90	163.00	2
15	68.90	163.00	73.90	174.30	1
16	73.90	174.30	79.30	174.30	1
17	98.70	159.00	108.29	151.00	2
18	79.30	174.30	100.20	155.25	1
19	68.90	163.00	76.50	163.00	2
20	76.50	163.00	80.90	148.75	2
21	80.90	148.75	91.00	148.75	2
22	91.00	148.75	100.20	155.25	2
23	108.29	151.00	150.00	151.00	3
24	14.20	142.50	75.60	145.50	3
25	75.60	145.50	108.29	151.00	3

User Specified Y-Origin = 100.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
5 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	118.0	118.0	638.0	30.0	0.00	0.0	1
2	118.0	118.0	638.0	30.0	0.00	0.0	1
3	118.0	118.0	200.0	35.0	0.00	0.0	1
4	100.0	100.0	20.0	28.0	0.00	0.0	1
5	100.0	100.0	0.0	28.0	0.00	0.0	1

1 PIEZOMETRIC SURFACE(S) SPECIFIED
Unit Weight of Water = 62.40 (pcf)

Piezometric Surface No. 1 Specified by 6 Coordinate Points
Pore Pressure Inclination Factor = 0.50

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	140.00
2	14.20	142.50
3	30.00	148.75
4	75.00	168.00
5	85.30	171.00
6	150.00	171.00

Specified Peak Ground Acceleration Coefficient (A) = 0.300(g)
Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
Specified Seismic Pore-Pressure Factor = 0.000
EARTHQUAKE DATA HAS BEEN SUPPRESSED
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
100 Surface(s) Initiate(s) From Each Of 50 Points Equally Spaced
Along The Ground Surface Between X = 0.00(ft)
and X = 40.00(ft)
Each Surface Terminates Between X = 70.00(ft)
and X = 78.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00(ft)
10.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 5000
Number of Trial Surfaces With Valid FS = 5000
Statistical Data On All Valid FS Values:
FS Max = 3.499 FS Min = 1.003 FS Ave = 2.295
Standard Deviation = 0.537 Coefficient of Variation = 23.41 %
Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.837	150.469
2	41.655	152.365
3	51.051	155.789
4	59.787	160.655
5	67.646	166.839
6	71.168	170.656

Circle Center At X = 25.191 ; Y = 211.827 ; and Radius = 61.717
Factor of Safety
*** 1.003 ***
Individual data on the 9 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	4.0	223.8	0.0	0.0	0.	0.	0.0	0.0	0.0
2	5.8	1139.6	0.0	234.7	0.	0.	0.0	0.0	0.0
3	8.9	2930.3	0.0	906.5	0.	0.	0.0	0.0	0.0
4	0.5	175.7	0.0	53.9	0.	0.	0.0	0.0	0.0
5	5.7	2866.1	0.0	600.1	0.	0.	0.0	0.0	0.0
6	3.0	1757.7	0.0	206.9	0.	0.	0.0	0.0	0.0
7	2.3	1183.7	0.0	71.6	0.	0.	0.0	0.0	0.0
8	5.5	1948.4	0.0	0.0	0.	0.	0.0	0.0	0.0
9	3.5	428.8	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.102	152.023
2	44.976	153.606
3	54.329	157.146
4	62.776	162.497
5	69.973	169.440
6	70.673	170.462

Circle Center At X = 32.422 ; Y = 200.723 ; and Radius = 48.773

Factor of Safety

*** 1.006 ***

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.469	151.246
2	43.307	153.042
3	52.692	156.495
4	61.349	161.501
5	69.021	167.914
6	71.431	170.759

Circle Center At X = 28.310 ; Y = 207.966 ; and Radius = 56.954

Factor of Safety

*** 1.008 ***

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.102	152.023
2	44.970	153.646
3	54.330	157.164
4	62.824	162.442
5	70.123	169.277
6	71.089	170.625

Circle Center At X = 32.014 ; Y = 202.109 ; and Radius = 50.181

Factor of Safety

*** 1.010 ***

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.469	151.246
2	43.301	153.073
3	52.649	156.625
4	61.213	161.788
5	68.717	168.397
6	70.205	170.278

Circle Center At X = 28.528 ; Y = 205.754 ; and Radius = 54.731

Factor of Safety

*** 1.013 ***

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	32.653	150.858
2	42.465	152.789
3	51.812	156.342
4	60.429	161.417
5	68.069	167.869
6	70.048	170.217

Circle Center At X = 26.511 ; Y = 208.519 ; and Radius = 57.988

Factor of Safety

*** 1.018 ***

Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.837	150.469
2	41.632	152.482
3	51.027	155.907
4	59.820	160.670
5	67.822	166.667
6	72.158	171.044

Circle Center At X = 23.415 ; Y = 216.770 ; and Radius = 66.834

Factor of Safety

*** 1.019 ***

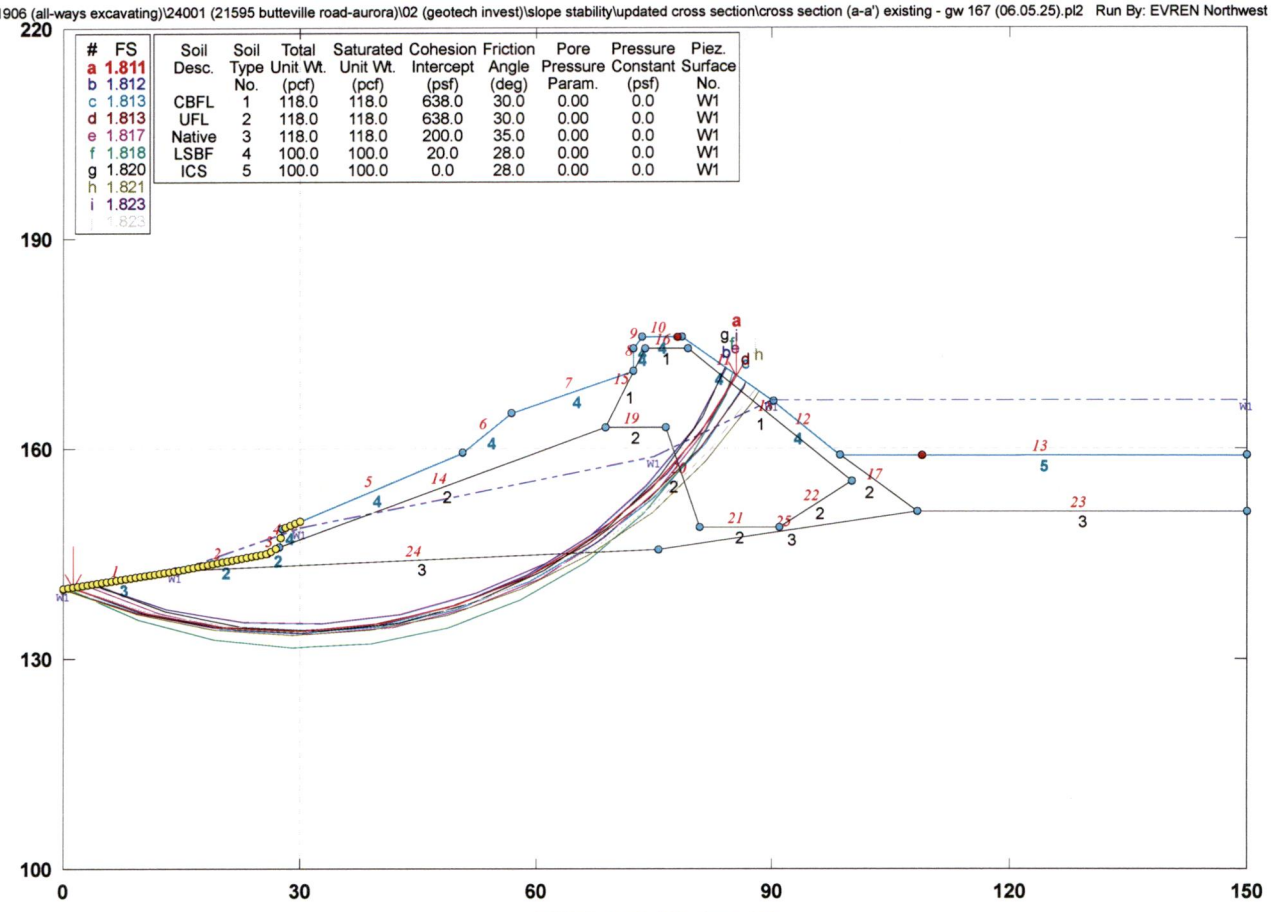
Failure Surface Specified By 6 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.204	149.692
2	39.965	151.863
3	49.344	155.334
4	58.167	160.042

```
    5         66.272      165.898
    6         71.333      170.720
Circle Center At X =    19.445 ; Y =   221.470 ; and Radius =    72.580
       Factor of Safety
      ***    1.028   ***
Failure Surface Specified By  6 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         33.469      151.246
    2         43.272      153.225
    3         52.602      156.824
    4         61.193      161.941
    5         68.803      168.429
    6         70.416      170.361
Circle Center At X =    27.014 ; Y =   208.987 ; and Radius =    58.100
       Factor of Safety
      ***    1.035   ***
Failure Surface Specified By  5 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         38.367      153.577
    2         48.286      154.853
    3         57.559      158.595
    4         65.585      164.561
    5         70.153      170.258
Circle Center At X =    38.364 ; Y =   192.800 ; and Radius =    39.222
       Factor of Safety
      ***    1.035   ***
          **** END OF GSTABL7 OUTPUT ****
```

Slope Stability Existing Static - GW 167 Feet (Short-Term)

t:\enw\projects\1906 (all-ways excavating)\24001 (21595 butteville road-aurora)\02 (geotech invest)\slope stability\updated cross section\cross section (a-a') existing - gw 167 (06.05.25).pl2 Run By: EVREN Northwest 6/20/2025 0



GSTABL7 v.2 FSmin=1.811
Safety Factors Are Calculated By The Modified Bishop Method

*** GSTABL7 ***

** GSTABL7 by Dr. Garry H. Gregory, Ph.D.,P.E.,D.GE **
** Original Version 1.0, January 1996; Current Ver. 2.005.2, Jan. 2011 **
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SLOPE STABILITY ANALYSIS SYSTEM
Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 6/20/2025
Time of Run: 09:36AM
Run By: EVREN Northwest
Input Data Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt
eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt
eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Unit System: English
Plotted Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt
eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
PROBLEM DESCRIPTION: Slope Stability
Existing Static - GW 167 Feet

BOUNDARY COORDINATES
13 Top Boundaries
25 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	140.00	14.20	142.50	3
2	14.20	142.50	25.90	145.00	2
3	25.90	145.00	27.40	146.00	2
4	27.40	146.00	27.70	148.50	4
5	27.70	148.50	50.60	159.40	4
6	50.60	159.40	56.75	165.00	4
7	56.75	165.00	72.30	171.10	4
8	72.30	171.10	72.40	174.25	4
9	72.40	174.25	73.50	175.90	4
10	73.50	175.90	78.50	175.90	4
11	78.50	175.90	90.10	166.70	4
12	90.10	166.70	98.70	159.00	4
13	98.70	159.00	150.00	159.00	5
14	27.40	146.00	68.90	163.00	2
15	68.90	163.00	73.90	174.30	1
16	73.90	174.30	79.30	174.30	1
17	98.70	159.00	108.29	151.00	2
18	79.30	174.30	100.20	155.25	1
19	68.90	163.00	76.50	163.00	2
20	76.50	163.00	80.90	148.75	2
21	80.90	148.75	91.00	148.75	2
22	91.00	148.75	100.20	155.25	2
23	108.29	151.00	150.00	151.00	3
24	14.20	142.50	75.60	145.50	3
25	75.60	145.50	108.29	151.00	3

User Specified Y-Origin = 100.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
5 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	118.0	118.0	638.0	30.0	0.00	0.0	1
2	118.0	118.0	638.0	30.0	0.00	0.0	1
3	118.0	118.0	200.0	35.0	0.00	0.0	1
4	100.0	100.0	20.0	28.0	0.00	0.0	1
5	100.0	100.0	0.0	28.0	0.00	0.0	1

1 PIEZOMETRIC SURFACE(S) SPECIFIED
Unit Weight of Water = 62.40 (pcf)

Piezometric Surface No. 1 Specified by 6 Coordinate Points
Pore Pressure Inclination Factor = 0.50

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	140.00
2	14.20	142.50
3	30.00	148.75
4	75.00	158.89
5	90.00	167.00
6	150.00	167.00

Specified Peak Ground Acceleration Coefficient (A) = 0.300(g)
Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
Specified Seismic Pore-Pressure Factor = 0.000
EARTHQUAKE DATA HAS BEEN SUPPRESSED
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
100 Surface(s) Initiate(s) From Each Of 50 Points Equally Spaced
Along The Ground Surface Between X = 0.00(ft)
and X = 30.00(ft)
Each Surface Terminates Between X = 78.00(ft)
and X = 109.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00(ft)
10.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 5000
Number of Trial Surfaces With Valid FS = 5000
Statistical Data On All Valid FS Values:
FS Max = 5.743 FS Min = 1.811 FS Ave = 2.698
Standard Deviation = 0.587 Coefficient of Variation = 21.75 %
Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.546	136.595
3	20.324	134.500
4	30.311	133.983
5	40.253	135.058
6	49.898	137.697
7	59.003	141.833
8	67.335	147.363
9	74.684	154.144
10	80.864	162.006
11	85.496	170.351

Circle Center At X = 28.553 ; Y = 196.763 ; and Radius = 62.805
Factor of Safety
*** 1.811 ***
Individual data on the 32 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.3	2893.8	0.0	1617.0	0.	0.	0.0	0.0	0.0
2	3.7	2576.2	0.0	1372.3	0.	0.	0.0	0.0	0.0
3	6.1	5780.0	0.0	3117.4	0.	0.	0.0	0.0	0.0
4	5.6	6611.9	295.9	3790.8	0.	0.	0.0	0.0	0.0
5	1.5	2005.0	115.7	1158.1	0.	0.	0.0	0.0	0.0
6	0.3	458.2	0.0	238.7	0.	0.	0.0	0.0	0.0
7	2.3	3966.4	0.0	1907.6	0.	0.	0.0	0.0	0.0
8	0.3	560.5	0.0	280.2	0.	0.	0.0	0.0	0.0
9	8.8	17664.3	0.0	8305.5	0.	0.	0.0	0.0	0.0
10	1.1	2454.5	0.0	1084.1	0.	0.	0.0	0.0	0.0
11	9.6	22598.0	0.0	9602.6	0.	0.	0.0	0.0	0.0
12	0.7	1721.3	0.0	725.5	0.	0.	0.0	0.0	0.0
13	6.2	15934.8	0.0	6035.0	0.	0.	0.0	0.0	0.0

14	2.3	6129.0	0.0	2065.4	0.	0.	0.0	0.0	0.0
15	4.6	12261.4	0.0	4221.2	0.	0.	0.0	0.0	0.0
16	3.7	9244.2	0.0	2858.2	0.	0.	0.0	0.0	0.0
17	1.6	3756.6	0.0	1200.1	0.	0.	0.0	0.0	0.0
18	3.4	7827.3	0.0	2119.3	0.	0.	0.0	0.0	0.0
19	0.1	240.7	0.0	52.2	0.	0.	0.0	0.0	0.0
20	1.1	2866.7	0.0	536.3	0.	0.	0.0	0.0	0.0
21	0.4	1055.0	0.0	177.7	0.	0.	0.0	0.0	0.0
22	0.8	2023.6	0.0	321.4	0.	0.	0.0	0.0	0.0
23	0.3	794.6	0.0	140.4	0.	0.	0.0	0.0	0.0
24	1.5	3567.5	0.0	509.8	0.	0.	0.0	0.0	0.0
25	0.9	1920.6	0.0	228.8	0.	0.	0.0	0.0	0.0
26	0.6	1209.1	0.0	124.1	0.	0.	0.0	0.0	0.0
27	0.5	1101.6	0.0	97.5	0.	0.	0.0	0.0	0.0
28	0.8	1499.0	0.0	106.8	0.	0.	0.0	0.0	0.0
29	1.6	2485.9	0.0	87.7	0.	0.	0.0	0.0	0.0
30	0.0	59.7	0.0	0.1	0.	0.	0.0	0.0	0.0
31	4.0	3065.3	0.0	0.0	0.	0.	0.0	0.0	0.0
32	0.6	50.9	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.488	136.449
3	20.247	134.268
4	30.233	133.733
5	40.169	134.858
6	49.782	137.614
7	58.806	141.922
8	66.993	147.666
9	74.115	154.685
10	79.977	162.787
11	84.225	171.360

Circle Center At X = 28.450 ; Y = 193.897 ; and Radius = 60.190

Factor of Safety
*** 1.812 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.531	136.557
3	20.293	134.390
4	30.274	133.768
5	40.230	134.705
6	49.919	137.180
7	59.105	141.132
8	67.565	146.464
9	75.092	153.047
10	81.504	160.721
11	86.645	169.298
12	86.688	169.406

Circle Center At X = 29.259 ; Y = 197.843 ; and Radius = 64.084

Factor of Safety
*** 1.813 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.000	140.000
2	9.378	136.529
3	19.170	134.498
4	29.155	133.952
5	39.110	134.903
6	48.810	137.331
7	58.040	141.181
8	66.591	146.365
9	74.271	152.769
10	80.909	160.248
11	86.356	168.635
12	86.701	169.396

Circle Center At X = 27.791 ; Y = 200.589 ; and Radius = 66.659

Factor of Safety
*** 1.813 ***
Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	3.061	140.539
2	12.235	136.558
3	21.951	134.192
4	31.928	133.512
5	41.875	134.536
6	51.504	137.235
7	60.534	141.530
8	68.704	147.297
9	75.776	154.368
10	81.543	162.537
11	85.325	170.487

Circle Center At X = 30.916 ; Y = 192.160 ; and Radius = 58.657

Factor of Safety
*** 1.817 ***
Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.612	140.108
2	9.553	135.629
3	19.135	132.768
4	29.068	131.610
5	39.051	132.191
6	48.783	134.492
7	57.968	138.445
8	66.330	143.930
9	73.614	150.781
10	79.602	158.790
11	84.111	167.716
12	85.022	170.728

Circle Center At X = 30.703 ; Y = 188.813 ; and Radius = 57.251

Factor of Safety
*** 1.818 ***
Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	3.673	140.647
2	12.862	136.701
3	22.600	134.425
4	32.585	133.886
5	42.511	135.103
6	52.071	138.037
7	60.970	142.598
8	68.934	148.646
9	75.717	155.994
10	81.110	164.415
11	84.052	171.497

Circle Center At X = 30.647 ; Y = 190.796 ; and Radius = 56.943

Factor of Safety
*** 1.820 ***
Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.000	140.000
2	9.320	136.377
3	19.072	134.161
4	29.043	133.400
5	39.018	134.111
6	48.780	136.279
7	58.118	139.857
8	66.830	144.766
9	74.727	150.901
10	81.637	158.129
11	87.412	166.293
12	88.329	168.105

Circle Center At X = 29.193 ; Y = 201.106 ; and Radius = 67.721

```
       Factor of Safety
      ***    1.821   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          3.673     140.647
    2         13.066     137.215
    3         22.888     135.337
    4         32.884     135.061
    5         42.795     136.394
    6         52.363     139.302
    7         61.340     143.709
    8         69.492     149.500
    9         76.608     156.526
   10         82.503     164.604
   11         85.439     170.397
Circle Center At X =    29.594 ; Y =   197.027 ; and Radius =    62.053
       Factor of Safety
      ***    1.823   ***
Failure Surface Specified By 12 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.224     140.216
    2         10.588     136.705
    3         20.370     134.629
    4         30.352     134.032
    5         40.312     134.928
    6         50.027     137.297
    7         59.282     141.086
    8         67.868     146.212
    9         75.596     152.558
   10         82.293     159.985
   11         87.809     168.326
   12         87.874     168.465
Circle Center At X =    29.347 ; Y =   200.971 ; and Radius =    66.948
       Factor of Safety
      ***    1.823   ***
         **** END OF GSTABL7 OUTPUT ****
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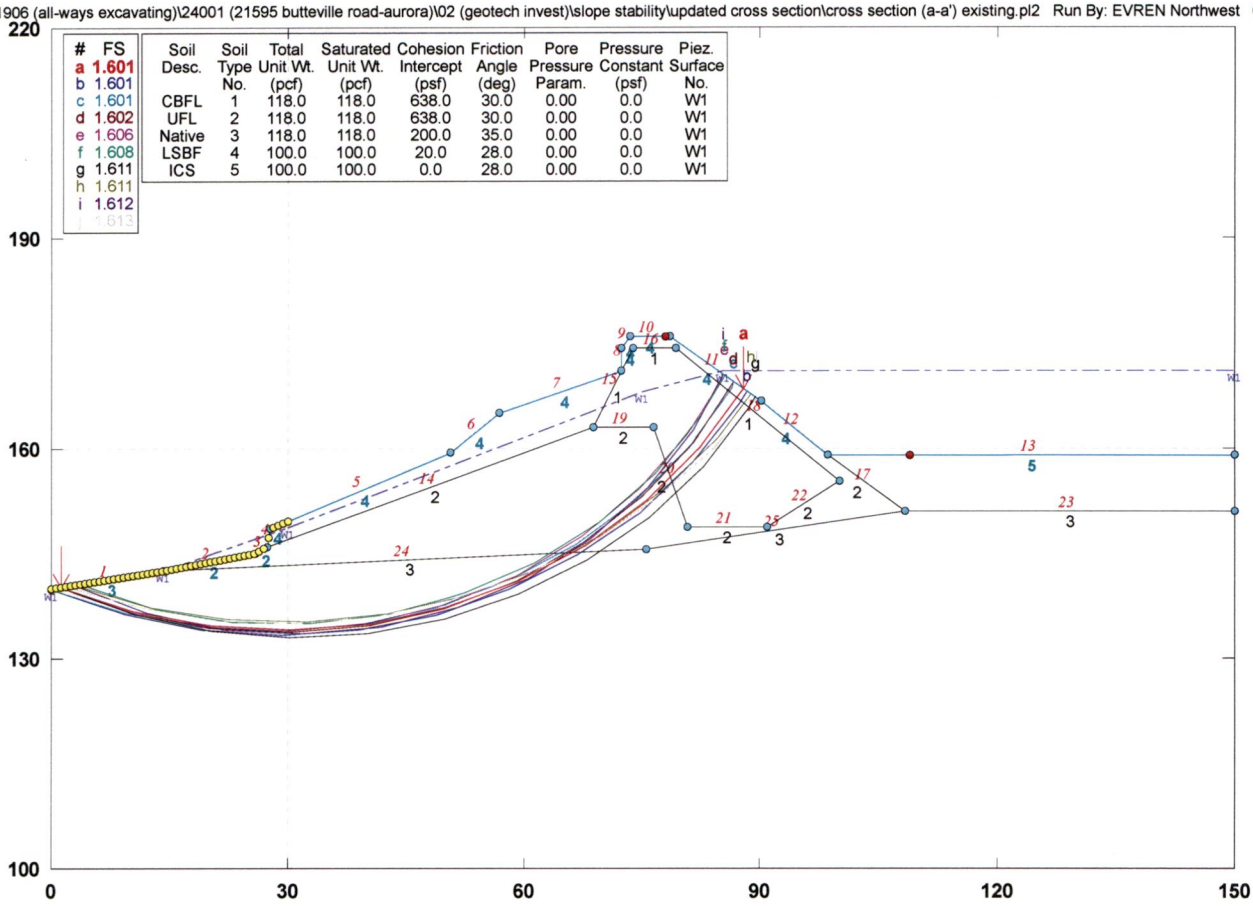
Slope Stability Existing Static - GW 171 Feet (Long Term)

t:\enw\projects\1906 (all-ways excavating)\24001 (21595 butteville road-aurora)\02 (geotech invest)\slope stability\updated cross section\cross section (a-a') existing.pl2 Run By: EVREN Northwest 6/20/2025 08



Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
CBFL	1	118.0	118.0	638.0	30.0	0.00	0.0	W1
UFL	2	118.0	118.0	638.0	30.0	0.00	0.0	W1
Native	3	118.0	118.0	200.0	35.0	0.00	0.0	W1
LSBF	4	100.0	100.0	20.0	28.0	0.00	0.0	W1
ICS	5	100.0	100.0	0.0	28.0	0.00	0.0	W1

GSTABL7 v.2 FSmin=1.601
Safety Factors Are Calculated By The Modified Bishop Method

***** GSTABL7 *****

** GSTABL7 by Dr. Garry H. Gregory, Ph.D.,P.E.,D.GE **
** Original Version 1.0, January 1996; Current Ver. 2.005.2, Jan. 2011 **
(All Rights Reserved-Unauthorized Use Prohibited)

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SLOPE STABILITY ANALYSIS SYSTEM
Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 6/20/2025
Time of Run: 08:47AM
Run By: EVREN Northwest
Input Data Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
Unit System: English
Plotted Output Filename: T:\ENW\Projects\1906 (All-Ways Excavating)\24001 (21595 Butt eville Road-Aurora)\02 (Geotech Invest)\Slope Stability\Updated Cross Section\cross section (a-a') e
PROBLEM DESCRIPTION: Slope Stability
Existing Static - GW 171 Feet

BOUNDARY COORDINATES
13 Top Boundaries
25 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	140.00	14.20	142.50	3
2	14.20	142.50	25.90	145.00	2
3	25.90	145.00	27.40	146.00	2
4	27.40	146.00	27.70	148.50	4
5	27.70	148.50	50.60	159.40	4
6	50.60	159.40	56.75	165.00	4
7	56.75	165.00	72.30	171.10	4
8	72.30	171.10	72.40	174.25	4
9	72.40	174.25	73.50	175.90	4
10	73.50	175.90	78.50	175.90	4
11	78.50	175.90	90.10	166.70	4
12	90.10	166.70	98.70	159.00	4
13	98.70	159.00	150.00	159.00	5
14	27.40	146.00	68.90	163.00	2
15	68.90	163.00	73.90	174.30	1
16	73.90	174.30	79.30	174.30	1
17	98.70	159.00	108.29	151.00	2
18	79.30	174.30	100.20	155.25	1
19	68.90	163.00	76.50	163.00	2
20	76.50	163.00	80.90	148.75	2
21	80.90	148.75	91.00	148.75	2
22	91.00	148.75	100.20	155.25	2
23	108.29	151.00	150.00	151.00	3
24	14.20	142.50	75.60	145.50	3
25	75.60	145.50	108.29	151.00	3

User Specified Y-Origin = 100.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
5 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	118.0	118.0	638.0	30.0	0.00	0.0	1
2	118.0	118.0	638.0	30.0	0.00	0.0	1
3	118.0	118.0	200.0	35.0	0.00	0.0	1
4	100.0	100.0	20.0	28.0	0.00	0.0	1
5	100.0	100.0	0.0	28.0	0.00	0.0	1

1 PIEZOMETRIC SURFACE(S) SPECIFIED
Unit Weight of Water = 62.40 (pcf)

Piezometric Surface No. 1 Specified by 6 Coordinate Points
Pore Pressure Inclination Factor = 0.50

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	140.00
2	14.20	142.50
3	30.00	148.75
4	**75.00**	**168.00**
5	85.30	171.00
6	150.00	171.00

Specified Peak Ground Acceleration Coefficient (A) = 0.300(g)
Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
Specified Seismic Pore-Pressure Factor = 0.000
EARTHQUAKE DATA HAS BEEN SUPPRESSED
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
100 Surface(s) Initiate(s) From Each Of 50 Points Equally Spaced
Along The Ground Surface Between X = 0.00(ft)
and X = 30.00(ft)
Each Surface Terminates Between X = 78.00(ft)
and X = 109.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00(ft)
10.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 5000
Number of Trial Surfaces With Valid FS = 5000
Statistical Data On All Valid FS Values:
FS Max = 4.033 FS Min = 1.601 FS Ave = 2.272
Standard Deviation = 0.425 Coefficient of Variation = 18.68 %
Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.588	136.705
3	20.370	134.629
4	30.352	134.032
5	40.312	134.928
6	50.027	137.297
7	59.282	141.086
8	67.868	146.212
9	75.596	152.558
10	82.293	159.985
11	87.809	168.326
12	87.874	168.465

Circle Center At X = 29.347 ; Y = 200.971 ; and Radius = 66.948
Factor of Safety
*** 1.601 ***
Individual data on the 33 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)	
1	9.4	2850.0	0.0	1585.3	0.	0.	0.0	0.0	0.0	
2	3.6	2497.5	0.0	1329.8	0.	0.	0.0	0.0	0.0	
3	6.2	5734.0	0.0	3096.0	0.	0.	0.0	0.0	0.0	
4	5.5	6489.8	297.3	3729.2	0.	0.	0.0	0.0	0.0	
5	1.5	1990.7	116.3	1151.5	0.	0.	0.0	0.0	0.0	
6	0.3	455.6	0.0	237.5	0.	0.	0.0	0.0	0.0	
7	2.3	3949.3	0.0	1899.9	0.	0.	0.0	0.0	0.0	
8	0.4	634.0	0.0	300.4	0.	0.	0.0	0.0	0.0	
9	10.0	20229.8	0.0	9529.1	0.	0.	0.0	0.0	0.0	
10	9.7	23115.4	0.0	11012.0	0.	0.	0.0	0.0	0.0	
11	0.6	1436.3	0.0	713.3	0.	0.	0.0	0.0	0.0	
12	6.2	16386.3	0.0	7685.5	0.	0.	0.0	0.0	0.0	

13	2.5	7130.0	0.0	3176.3	0.	0.	0.0	0.0	0.0
14	6.6	18051.7	0.0	8686.1	0.	0.	0.0	0.0	0.0
15	2.0	5234.6	0.0	2519.9	0.	0.	0.0	0.0	0.0
16	1.0	2665.2	0.0	1424.5	0.	0.	0.0	0.0	0.0
17	1.3	3322.6	0.0	1757.0	0.	0.	0.0	0.0	0.0
18	2.1	5275.2	0.0	2717.1	0.	0.	0.0	0.0	0.0
19	0.1	265.5	0.0	126.5	0.	0.	0.0	0.0	0.0
20	1.1	3146.9	0.0	1371.7	0.	0.	0.0	0.0	0.0
21	0.4	1160.5	0.0	490.0	0.	0.	0.0	0.0	0.0
22	1.1	3120.3	0.0	1323.3	0.	0.	0.0	0.0	0.0
23	0.6	1642.5	0.0	729.8	0.	0.	0.0	0.0	0.0
24	0.9	2409.6	0.0	1233.6	0.	0.	0.0	0.0	0.0
25	2.0	4952.8	0.0	2517.6	0.	0.	0.0	0.0	0.0
26	0.2	398.5	0.0	201.9	0.	0.	0.0	0.0	0.0
27	0.6	1410.7	0.0	723.1	0.	0.	0.0	0.0	0.0
28	3.0	5502.2	0.0	3045.1	0.	0.	0.0	0.0	0.0
29	1.2	1606.0	0.0	1230.5	0.	0.	0.0	0.0	0.0
30	1.8	1662.8	0.0	1483.7	0.	0.	0.0	0.0	0.0
31	1.8	765.9	169.1	1028.9	0.	0.	0.0	0.0	0.0
32	0.7	76.3	128.3	268.6	0.	0.	0.0	0.0	0.0
33	0.1	0.6	13.0	25.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.000	140.000
2	9.320	136.377
3	19.072	134.161
4	29.043	133.400
5	39.018	134.111
6	48.780	136.279
7	58.118	139.857
8	66.830	144.766
9	74.727	150.901
10	81.637	158.129
11	87.412	166.293
12	88.329	168.105

Circle Center At X = 29.193 ; Y = 201.106 ; and Radius = 67.721

Factor of Safety

*** 1.601 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.000	140.000
2	9.378	136.529
3	19.170	134.498
4	29.155	133.952
5	39.110	134.903
6	48.810	137.331
7	58.040	141.181
8	66.591	146.365
9	74.271	152.769
10	80.909	160.248
11	86.356	168.635
12	86.701	169.396

Circle Center At X = 27.791 ; Y = 200.589 ; and Radius = 66.659

Factor of Safety

*** 1.601 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.531	136.557
3	20.293	134.390
4	30.274	133.768
5	40.230	134.705
6	49.919	137.180
7	59.105	141.132
8	67.565	146.464
9	75.092	153.047
10	81.504	160.721

11	86.645	169.298
12	86.688	169.406

Circle Center At X = 29.259 ; Y = 197.843 ; and Radius = 64.084

Factor of Safety

*** 1.602 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.546	136.595
3	20.324	134.500
4	30.311	133.983
5	40.253	135.058
6	49.898	137.697
7	59.003	141.833
8	67.335	147.363
9	74.684	154.144
10	80.864	162.006
11	85.496	170.351

Circle Center At X = 28.553 ; Y = 196.763 ; and Radius = 62.805

Factor of Safety

*** 1.606 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	3.673	140.647
2	13.066	137.215
3	22.888	135.337
4	32.884	135.061
5	42.795	136.394
6	52.363	139.302
7	61.340	143.709
8	69.492	149.500
9	76.608	156.526
10	82.503	164.604
11	85.439	170.397

Circle Center At X = 29.594 ; Y = 197.027 ; and Radius = 62.053

Factor of Safety

*** 1.608 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.224	140.216
2	10.456	136.372
3	20.160	133.955
4	30.116	133.019
5	40.100	133.586
6	49.886	135.642
7	59.254	139.142
8	67.992	144.005
9	75.902	150.123
10	82.806	157.357
11	88.549	165.543
12	89.400	167.255

Circle Center At X = 31.327 ; Y = 199.341 ; and Radius = 66.347

Factor of Safety

*** 1.611 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	3.061	140.539
2	12.549	137.379
3	22.389	135.599
4	32.382	135.235
5	42.326	136.294
6	52.018	138.756
7	61.263	142.570
8	69.871	147.658
9	77.669	153.918
10	84.499	161.223

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   11         88.955      167.608
Circle Center At X =    29.934 ; Y =   205.395 ; and Radius =    70.203
       Factor of Safety
      ***    1.611   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          3.061      140.539
    2         12.235      136.558
    3         21.951      134.192
    4         31.928      133.512
    5         41.875      134.536
    6         51.504      137.235
    7         60.534      141.530
    8         68.704      147.297
    9         75.776      154.368
   10         81.543      162.537
   11         85.325      170.487
Circle Center At X =    30.916 ; Y =   192.160 ; and Radius =    58.657
       Factor of Safety
      ***    1.612   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.837      140.323
    2         11.351      137.243
    3         21.195      135.489
    4         31.188      135.093
    5         41.140      136.062
    6         50.868      138.380
    7         60.189      142.001
    8         68.930      146.860
    9         76.926      152.865
   10         84.030      159.903
   11         89.559      167.129
Circle Center At X =    29.084 ; Y =   208.250 ; and Radius =    73.188
       Factor of Safety
      ***    1.613   ***
          **** END OF GSTABL7 OUTPUT ****
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FRIENDS OF THE CREEK, Petitioner,
v.
JACKSON COUNTY, Respondent, and
CITY OF ASHLAND, Intervenor-Respondent.
LUBA No. 98-158.
Oregon Land Use Board of Appeals.
August 31, 1999.

Appeal from Jackson County.

E. Michael Connors, Portland, filed the petition for review and argued on behalf of petitioner. With him on the brief was Davis Wright Tremaine.

No appearance by Jackson County.

Edward J. Sullivan, Portland, filed the response brief and argued on behalf of intervenor-respondent. With him on the brief was Preston Gates and Ellis.

HOLSTUN, Board Chair; BASSHAM, Board Member; BRIGGS, Board Member, participated in the decision.

REMANDED.

You are entitled to judicial review of this Order. Judicial review is governed by the provisions of ORS 197.850.

FINAL OPINION AND ORDER

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Opinion by Holstun.

NATURE OF THE DECISION

Petitioner challenges a county decision concerning the City of Ashland's proposal to apply effluent and sludge from its waste water treatment plant (WWTP) onto land zoned exclusive farm use (EFU).

MOTION TO INTERVENE

The City of Ashland (city) moves to intervene on the side of respondent. There is no opposition to the motion, and it is allowed.

FACTS

The city operates a WWTP located inside the city's urban growth boundary next to Interstate Highway 5 (I-5). The WWTP discharges treated effluent into Ashland Creek which drains into Bear Creek. The Oregon Department of Environmental Quality (DEQ) determined that Bear Creek is water-quality limited and determined that the city may no longer discharge effluent into Ashland and Bear Creeks during certain times of the year without advanced treatment. As an alternative to advanced treatment of effluent, the city purchased approximately 846 acres of EFU-zoned land located across I-5 from the WWTP. The subject property has historically been used as pasture. The city proposes to pipe both liquid effluent and sludge from the WWTP to the subject property for disposal by land application.

The effluent from the WWTP would be pumped to two effluent storage reservoirs— one with 5 day storage capacity and one with 30 day storage capacity. The effluent storage reservoirs will store effluent during times when discharge to Ashland Creek is not allowed and effluent flows from the WWTP exceed the amount of effluent that can be immediately applied to the land to irrigate crops. The two effluent storage reservoirs would occupy approximately 21 acres of the subject property.

The sludge from the WWTP would be piped to two storage lagoons. The sludge

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would be stored, thickened, and dried in the lagoons. Once the drying process is complete, the dried sludge (or biosolids) will be stockpiled and then spread and worked into the soil on the subject property.[1] The sludge drying bed would occupy approximately six acres; the sludge

stockpiling area would occupy approximately one acre.

The city's proposal includes an approximately 1,200 square foot structure for use as an office, maintenance and storage building. Other support facilities include the necessary pipelines, an access road, fencing and irrigation canal crossings. The final details of the proposed farming operation are not yet complete. The city has not yet selected a farm operator, nor has it identified the specific crops that would be raised on the subject property. The city plans to select crops that meet the city's effluent and biosolid disposal needs and that comply with various federal and state regulations. Record 41.

The city submitted an application for a conditional use permit for the disputed facility on June 9, 1998. The city and county received letters opposing the application. Thereafter, on July 24, 1998, the city withdrew its conditional use permit application and requested that the county approve DEQ`s Land Use Compatibility Statement. On August 4, 1998, petitioner's representative sent a letter to the board of county commissioners (1) requesting that the land use compatibility statement not be signed, (2) stating that the proposed facility was not a permitted use in the EFU zone, and (3) objecting to any county decision approving the facility without providing "a reasonable forum to discuss their concerns." Supplemental Record 1.

In an August 25, 1998 letter to the city, the county acknowledged the city's withdrawal of its conditional use permit application. The letter and the DEQ Land Use Compatibility Statement signed by the county on August 25, 1998, both take the position that the proposed facility is both a "public utility facility necessary for public service" and a

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"farm use," and that both uses are allowed as permitted uses in the county's EFU zone. The land use compatibility statement states "[n]o review required."[2] Record 7. A copy of the August 25, 1998 letter was sent to petitioner's representative, and petitioner filed its notice of intent to appeal 21 days later, on September 15, 1998. This appeal followed.

JURISDICTION

As defined by ORS 197.015(10)(a), a final county decision that "concerns the * * * application" of "[a] land use regulation" is a "land use decision," unless one or more of the statutory exceptions listed in ORS 197.015(10)(b) apply. The challenged decision applies the county's land use regulations.[3] However, the city argues that the challenged decision qualifies for the exception to the statutory definition of land use decision that is provided by ORS 197.015(10)(b)(A) for decisions "made under land use standards which do not require interpretation or the exercise of policy or legal judgment." See Knapp v. City of Jacksonville, 33 Or LUBA 457 (1997) (city decision to award a contract to improve a street); Fechtig v. City of Albany, 31 Or LUBA 441 (1996) (fill permit issued under clear and objective standards). The city argues that the exception provided by ORS 197.015(10)(b)(A) applies here, and the appeal therefore must be dismissed.

We agree with petitioner that the standards under which the challenged decision was made (whether the proposed facility is a "farm use," as defined by ORS 215.203 and a "utility facility necessary for public service," within the meaning of ORS 215.283(1)(d)), require "interpretation" and the exercise of "policy or legal judgment." There can be no serious question that in considering whether the challenged facility qualifies as a "utility

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facility necessary for public service" the county was required to exercise significant judgment. Applicable law requires that the county find that it is necessary to site such utility facilities on EFU-zoned land. McCaw Communications, Inc. v. Marion County, 96 Or App 552, 555-56, 773 P2d 779 (1989); Clackamas Co. Svc. Dist. No. 1 v. Clackamas County, ____ Or LUBA ____ (LUBA

No. 98-047, December 17, 1998), slip op 5-7. Such a finding involves the exercise of "policy or legal judgment." For that reason alone, the challenged decision does not qualify for the exception provided by ORS 197.015(10)(b)(A).

The county was also required to exercise "policy or legal judgment" in concluding that the proposed use qualifies as a "farm use," within the meaning of ORS 215.203. In Knee Deep Cattle Company v. Lane County, 28 Or LUBA 288, 302-03 (1994), aff'd 133 Or App 120, 890 P2d 449 (1995), we reviewed a determination in a land use compatibility statement that a wastewater treatment facility is properly viewed as incidental to the permitted use it serves, rather than as a separately regulated use. We concluded that decision involved enough discretion that the exception provided by ORS 197.015(10)(b)(A) did not apply. The decision in this case that the proposed facility constitutes farm use involves the exercise of similar policy or legal judgment. See also Flowers v. Klamath County, 98 Or App 384, 780 P2d 227 (1989) (whether medical waste incinerator is allowed as a "scrap operation"); Hollywood Neigh. Assoc. v. City of Portland, 22 Or LUBA 789 (1991) (decision that methadone dispensing facility qualifies as a "medical clinic"); Kunkel v. Washington County, 16 Or LUBA 407, 413 (1988) (decision that emergency disposal site for dead animals is a farm use).

Before turning to petitioner's assignments of error we note that the city includes the following arguments in contending that LUBA lacks jurisdiction over this matter:

"If petitioner is correct, every farm use decision will require notice and hearing. If that be the case, the definition of `residential' or `single family' or `six feet in height' are inexact and ambiguous, because they are subject to differing views of policy or judgment or interpretation. If that be so, every decision at the planning counter is a `land use decision' which requires notice and an opportunity to be heard. The exclusion in ORS [197.015(10)(b)] would then be so narrow as to be meaningless. * * *" Intervenor-Respondent's Brief 10-11.

The city repeats and elaborates on this theme in its arguments responding to the second assignment of error.

The frequency with which the jurisdictional issue presented in this appeal is repeated in other appeals filed with LUBA confirms that some local governments believe the exception to the statutory definition of land use decision for ministerial decisions under ORS 197.015(10)(b)(A) is broader than it actually is. See e.g. Thompson v. City of St. Helens, 30 Or LUBA 339, 343 (1996) (lot line adjustment); Warren v. City of Aurora, 23 Or LUBA 507, 510 (1992) (final subdivision plat approval); Von Lubken v. Hood River County, 20 Or LUBA 208, 212 (1990) (county administrator's determination concerning the availability of an appeal to the board of county commissioners); Komning v. Grant County, 20 Or LUBA 481, 491 (1990) (determination whether dwelling is permitted outright in the EFU zone and "accessory" to an underlying nonconforming use). LUBA observed some time ago that there are certain inherent problems in determining the scope of the exception created by ORS 197.015(10)(b)(A). See Kirpal Light Satsang v. Douglas County, 18 Or LUBA 651, 664 n 15 (1990) (discussing the problems involved in having jurisdictional and procedural questions turn on post-decision review to determine whether particular decisions involve the exercise of discretion).

However, the city somewhat overstates the consequence of our conclusion here that the decision challenged in this appeal does not qualify for the ministerial decision exception in ORS 197.015(10)(b)(A). In many cases it will be obvious that a proposed use is or is not a farm use, and no exercise of "policy or legal judgment" will be required to make that determination.[4] Similarly, whether a proposed use is "residential" or "single family" or

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whether a height limit is met will generally not involve the exercise of legal or policy judgment and can be made administratively and without notice and an opportunity for a hearing. More fundamentally, unless a local government issues a written decision that approves an activity regulated by a comprehensive plan or land use regulation, there likely is no land use decision subject to LUBA review. OAR 661-010-0010(3); Friends of Clean Living v. Polk County, ____ Or LUBA ____ (LUBA Nos. 98-150, 98-162, and 98-177, August 31, 1999), slip op 12. We seriously doubt that many of the activities noted in the city's brief, if any (see n 4), require written approval from the county. However, in cases such as this one, where there is a final written decision and the proposal is such that the county is required to exercise "policy or legal judgment" in determining whether the proposal qualifies as a "farm use," the challenged decision is a land use decision subject to our review. Further, as we explain later in this decision, discretionary decisions such as the one challenged in this appeal may constitute a "permit," as that term is defined by ORS 215.402(4), with attendant requirements for notice and an opportunity for a local hearing.[5] Kirpal Light Satsang, 18 Or LUBA at 664 n 15.

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The challenged decision is a land use decision subject to our review jurisdiction.

STANDING

The city challenges petitioner's standing. The city contends that petitioner's August 4, 1998 letter was inadequate to constitute a local appearance challenging the land use compatibility statement approval.[6] The letter filed on behalf of petitioner by its representative, makes it clear that petitioner does not agree that the proposal may be allowed as a permitted use in the EFU zone and opposes approval of the land use compatibility statement without providing a local hearing to consider the matter. The letter also states that if the land use compatibility statement is approved "it may result in yet another legal challenge to this particular project * * *." Supp Rec 1. The letter is clearly adequate to constitute a local appearance and, for that reason alone, petitioner has standing to bring this appeal.

Finally, to the extent the city argues we may not find that petitioner has standing in this appeal based on the August 4, 1998 letter, because the portion of the petition for review addressing standing fails to allege that petitioner appeared below or that the August 4, 1998 letter constitutes an appearance, we reject the argument. Our rules simply require that the petition for review "[s]tate the facts that establish petitioner's standing." OAR 661-010-0030(4)(a).

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Our rules do not require that such allegations of fact appear in any particular form or any particular portion of the petition for review. Freels v. Wallowa County, 17 Or LUBA 137, 140 (1988); cf. Schatz v. City of Jacksonville, 21 Or LUBA 214 (1991) (allegations of standing in reply to motion to dismiss). As petitioner points out, the statement of facts that establishes that petitioner appeared below and therefore has standing appear on page 8 of the petition for review.

FIRST ASSIGNMENT OF ERROR

Petitioner argues the county erred by failing to provide notice and an opportunity for a hearing in making its decision that the proposed WWTP expansion is a permitted use in the EFU zone.

A. Preliminary Issue

The city points out that the only legal requirement expressly cited under the first assignment of error as support for petitioner's argument that the county was required to provide notice and an opportunity for a hearing in this matter is OAR 660-033-0120(1). That administrative rule identifies uses that are "allowed" and uses that "may be approved, after

required review" in EFU zones. With regard to "allowed" uses, the rule explains:

"Authorization of some [allowed] uses may require notice and the opportunity for a hearing because the authorization qualifies as a land use decision pursuant to ORS Chapter 197. * * *"

The above-quoted language from the rule at least suggests that the criterion that determines whether authorization of particular uses in the EFU zone requires notice and the opportunity for a hearing is whether the decision authorizing the use is a "land use decision."

The city argues that OAR 660-033-0120(1) does not itself require notice and a hearing when particular permitted uses are allowed in the EFU zone. Rather, according to the city, the rule simply points out that notice and hearing may be required for some uses because they are land use decisions. As the city correctly notes, there is nothing in the definition of "land use decision" at ORS 197.015(10), or elsewhere as far as we know, that

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requires that all land use decisions require notice and an opportunity for a hearing. The relevant statutory requirement that counties provide notice and an opportunity for a hearing appears at ORS 215.402 to 215.428 and applies to "permits," as that term is defined and limited by ORS 215.402(4). The city argues that because petitioner neither cites these statutory provisions nor alleges that the challenged decision is a "permit," within the meaning of ORS 215.402(4), we should deny the first assignment of error.

We decline to read the first assignment of error as narrowly as the city argues we should. Petitioner's failure to cite ORS 215.402 to 215.428 as authority for its position that the challenged decision required notice and an opportunity for a hearing does not require that we reject the assignment of error. It is clear from its brief that the city is aware that ORS ORS 215.402 to 215.428 require notice and an opportunity for a hearing for land use decisions that constitute "permits" under ORS 215.402(4). Indeed, the city argues in its brief that the challenged decision does not constitute a "permit" decision, within the meaning of ORS 215.402(4). Intervenor-Respondent's Brief 14. Petitioner and the city presented additional argument on the question of whether the challenged decision constitutes a "permit" at oral argument in this matter. In this circumstance, although the question is a close one, we believe it is appropriate to consider whether the city was required by ORS 215.402 to 215.428 to provide notice and an opportunity for a hearing in this matter. See Hilliard v. Lane County Commrs., 51 Or App 587, 595, 626 P2d 905 (1981) (LUBA may not invoke "technical requirements of pleading having no statutory basis").

B. The Challenged Decision is a Permit that Requires Notice and an Opportunity for a Hearing

The statutory definition of "permit" is set forth above at n 5. The challenged decision is a permit if it involves "discretionary approval of a proposed development of land" under the statutes authorizing county land use planning or under county regulations adopted to implement those statutes. The proposal includes the construction of effluent and sludge lagoons, an office/maintenance/storage structure, pipes and certain other improvements

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necessary to irrigate crops with effluent and add biosolids to the land. The proposal clearly is a "proposed development of land," within the meaning of ORS 215.402(4). For the reasons set forth in our discussion of jurisdiction above, the challenged decision also is "discretionary." Therefore, the challenged decision is a "permit," as ORS 215.402(4) defines that term, and notice and an opportunity for a hearing are required under ORS 215.416. The county's failure to do so constitutes procedural error. Under ORS 197.835(9)(a)(B) LUBA will reverse or remand a land use decision where a local government "[f]ailed to follow the procedures applicable to the

matter before it in a manner that prejudiced the substantial rights of the petitioner." As we explained in Muller v. Polk County, 16 Or LUBA 771, 775 (1988):

"Under ORS 197.835[(9)(a)(B)] * * * the `substantial rights' of parties that may be prejudiced by failure to observe applicable procedures are the rights to an adequate opportunity to prepare and submit their case and a full and fair hearing."

Petitioner argues the county's failure to provide notice and an opportunity for a hearing prejudiced its substantial rights because the petitioner was thereby cut out of the decision making process entirely and prevented from presenting its views concerning a number of factual issues that it argues have a bearing on whether the proposal qualifies as a "farm use." We agree with petitioner. Friends of Clean Living, slip op at 13.

The first assignment of error is sustained.

SECOND ASSIGNMENT OF ERROR

The challenged decision includes the following discussion concerning the disputed facility:

"Jackson County Land Development Ordinance Chapter 218.030(12) and ORS 215.283(1)(d) allow for utility facilities necessary for public service in the Exclusive Farm Use zoning district as a permitted use. Statewide Planning Goal 3, and OAR 660-033-0120 state that farm uses are also allowed in an Exclusive Farm Use zoning district.

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"Your statement of intent on the Land Use Compatibility Statement clarifies that this utility facility is necessary for public service and will provide for agricultural use of the Exclusive Farm Use zoned land. Pasture grasses, hay, alfalfa and other crops are to be irrigated with treated effluent from the WWTP, and soil will be enhanced through application of biosolids. All water and biosolids transported to or stored on the site will be applied for the purposes of enhancing agricultural production. The effluent will be stored in ponds on the site and then sprayed on the site. The biosolids will be stored in lagoons, air dried then land applied through tilling practices. The property will be farmed to ensure effective use of the effluent as irrigation water and efficient use of biosolids as fertilizer and soil amendment.

"We find this proposal to be in compliance with State Law and Jackson County land use regulations." Record 5.

Petitioner concedes that "farm use" and "utility facilities necessary for public service" are permitted uses in the EFU zone. ORS 215.203(1); 215.283(1)(d). However, petitioner argues that the facility that is proposed by the city in this case is neither a "farm use" nor a "utility facility necessary for public service," as a matter of law. Accordingly, petitioner argues we should reverse the county's decision rather than simply remand the decision to the county to provide the opportunity for a local hearing that is required by statute. OAR 661-010-0071(1)(c); Younger v. Jackson County, 32 Or LUBA 177, 181 (1996); McKay Creek Valley Assoc. v. Washington County, 23 Or LUBA 85, 90, aff'd 114 Or App 95, 834 P2d 482, adhered to as modified 116 Or App 299, 841 P2d 651 (1992), rev den 317 Or 396 (1993).

A. Farm Use

Petitioner argues the proposed facility does not constitute a farm use for three reasons. First, petitioner argues the primary purpose of the proposed facility is to serve urban needs, not to obtain "a profit in money" by engaging in farming activities.[7] Second,

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petitioner argues the storage and processing facilities need not be located on the subject EFU-zoned property and do not themselves increase

agricultural productivity. Third, petitioner argues that because the effluent and sludge is produced off-site, storage and processing of the effluent and sludge cannot constitute a farm use under our decision in J and D Fertilizers v. Clackamas County, 20 Or LUBA 44, aff'd 105 Or App 11, 803 P2d 280 (1990). We address each of petitioner's points separately below.

1. Primary Purpose is to Serve Urban Needs

It is undisputed that the city's primary motivation in proposing to pipe both the effluent and the sludge to the subject property and then applying that effluent and sludge to the land is to avoid the cost that would otherwise be incurred to dispose of that effluent and sludge in other ways. The production of crops on the subject property is a means to that end, rather than the end itself. The question then is whether the primary motivation of a particular land owner, in and of itself, necessarily makes a use that would otherwise qualify as a "farm use," as that term is defined by ORS 215.203(2)(a), something other than a farm use.

Petitioner's argument is based entirely on the following language in ORS 215.203(2)(a):

"As used in this section, `farm use' means the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops * * *."

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Petitioner argues we must treat the city's undisputed primary motivation in this matter as being the "primary purpose" for the use of the subject property, with the result that the proposed use of the subject property is not a "farm use."

There are at least two problems with petitioner's argument. First, we do not believe the legislature intended, by requiring that the land be currently employed "for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops" to require an inquiry into the primary actual motivation of particular land owners. Such an inquiry could easily have the anomalous result of having a farm that is indistinguishable from its neighbor fall outside the ORS 215.203(2)(a) definition of farm use, simply because its owner happened to be primarily motivated by something other than the monetary return that is realized from selling the crops that are raised on the property.[8] Although we need not and do not attempt to determine here the precise meaning of that statutory language, we reject petitioner's interpretation.

The second problem with petitioner's argument is that it does not consider subsection (b) of ORS 215.203(2). As relevant, ORS 215.203(2)(b) provides:

"`Current employment' of land for farm use includes:

"* * * * *

"(F) [L]and under buildings supporting accepted farm practices * * *[.]"

In a case with many similarities to the present case, LUBA relied on the language in ORS 215.203(2)(b)(F) to conclude that a proposal to apply effluent on EFU-zoned land constituted a farm use. Swenson v. DEQ, 9 Or LUBA 10 (1983).

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In Swenson, the applicant proposed to (1) pipe effluent from a cannery to a 20 acre holding pond on EFU-zoned property, (2) treat the effluent at the holding pond, and (3) spray irrigate that treated effluent on a 9.87 acre farm. We pointed out that the purpose of the project in Swenson was to dispose of wastewater rather than to make a profit on the irrigated crops. Id. at 17. Nevertheless we concluded the proposal constituted a farm use, because "[t]he land occupied by the irrigation equipment can be considered land in current employment for farm use in the same way that `land under buildings supporting accepted farm practices' is land in farm use." Id. at 17-18. In reaching that conclusion we stated that irrigation was an

accepted farming practice and the source of the irrigation water is irrelevant.

The only apparent significant factual difference between Swenson and the present appeal is the part of the current proposal to dry and apply sludge to the land. However, just as irrigation is indisputably an accepted farming practice, it seems equally obvious that fertilizing and taking other appropriate actions to improve the productivity of the soil is also an accepted farming practice.[9]

We reject petitioner's argument that the city's primary motive in this case for applying effluent and biosolids to the subject property is such that, as a matter of law, the proposal cannot be viewed as a farm use.

2. Storage, Distribution and Processing Facilities

We next turn to the question of whether the facilities that will be used to irrigate the crops and add biosolids to the soil cannot properly be considered farm uses.

The disputed facilities include the pipes needed to transfer the effluent and sludge, the effluent reservoir, the sewage lagoon, and the on-site storage, maintenance and office structure. It is certainly possible that all of these facilities fall within the express provisions

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ORS 215.203(2)(a) for "on-site * * * equipment and facilities used for [farm use]." See n 7. Moreover, the facilities in this appeal do not appear to be materially different than the facilities that we found to qualify as a farm use in Swenson, based on ORS 215.203(2)(b)(F).

Petitioner makes two additional arguments that we address briefly. First, petitioner argues that some of the proposed facilities such as the sludge lagoon need not be located on the subject property. The fact that it might be possible to locate some of the facilities off the subject property and outside the EFU zone is not determinative. ORS 215.203(2)(a) expressly permits "on-site * * * equipment and facilities" used for "farm use." Even if that statute implicitly requires that such equipment and facilities have some minimal connection with farm use, the facilities proposed by the city certainly appear to be closely connected with the proposed irrigation and crop growing activities. Finally, we note that petitioner points out that the reservoirs are sized more to accommodate the needs of the WWTP to dispose of effluent than the needs of the agricultural operation on the subject property for effluent for irrigation purposes. However, we see no reason why the particular requirements of a provider of water or effluent for irrigation cannot be considered in sizing irrigation storage facilities on farm property.[10] Swenson, 9 Or LUBA at 18-19.

We reject petitioner's argument that the proposed storage, distribution and processing facilities cannot, as a matter of law, qualify as a farm use.

3. Effluent and Sludge Produced Off-Site

Petitioner argues that because all of the effluent and sludge is produced off-site, the disputed proposal cannot constitute a farm use under the reasoning in our decision in J and D Fertilizers. In J and D Fertilizers, we considered whether a facility that received chicken

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manure from off-site and stockpiled that material on the subject property until it could be transferred to a fertilizer facility on another site for processing was a farm use under ORS 215.203(2)(a). The language of ORS 215.203(2)(a) (1989) that was at issue in that case provided "[f]arm use includes the preparation and storage of products raised on such land for * * * disposal by marketing or otherwise." None of the chicken manure was produced on the subject property in J and D Fertilizers, and none of the processed fertilizer was used on the subject property.

J and D Fertilizers is inapposite for at least two reasons. First, because the effluent and sludge will be processed on-site and used on-site, the facts in this case are materially different. Second, here the county is not relying on the same statutory language that was at issue in J and D Fertilizers. There is nothing in our opinion in J and D Fertilizers that would require the county to conclude, as a matter of law, that the proposed facility is not a farm use.

B. Utility Facility Necessary for Public Service

Under McCaw Communications, Inc., 96 Or App at 556, applicants for "utility facilities necessary for public service" in EFU zones, under ORS 215.283(1)(d),

"must establish and the county must find that it is necessary to situate the facility in the agricultural zone in order for the service to be provided."

OAR 660-033-0130(16) codifies the Court of Appeals holding in McCaw Communications, Inc.[11] We recently discussed the requirements for citing utility facilities necessary for public service on EFU zones in Clackamas Co. Svc. Dist. No. 1 v. Clackamas County.[12]

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The challenged decision simply concludes the proposed facility constitutes a utility facility necessary for public service, but does not include findings addressing considerations that must be addressed under ORS 215.283(1)(d), as that statute has been interpreted in McCaw Communications, Inc. and OAR 660-033-0130(16). We do not agree with the city that we can determine on this record that these considerations are satisfied in this case. However, neither do we agree with petitioner that we can determine from the challenged decision and record, as a matter of law, that the proposal could not be approved as a utility facility necessary for public service in an EFU zone. The parties dispute the relevant facts that would be necessary to determine whether the proposed facility could be approved as a utility facility necessary for public service.

The second assignment of error is denied.

CONCLUSION

Because we conclude that the challenged decision constitutes a "permit," as that term is defined by ORS 215.402(4), and the county failed to provide the notice and opportunity for hearing that is required by ORS 215.416, the challenged decision must be remanded so that the county can provide the required notice and opportunity for hearing. However, we reject petitioners arguments under the second assignment of error that the proposed facility cannot, as a matter of law, be approved as a "farm use" or a "utility facility necessary for public service."

The county's decision is remanded.

Notes:

1. Biosolids are sewage solids that have been processed to meet U.S. Environmental Protection Agency standards.

2. We understand this statement to mean that the county takes the position that no hearing or right to request a local hearing is provided under the county's land use regulations.

3. Although the county has adopted land use regulations that parallel the statutory EFU requirements, we cite the statutory provisions in this opinion rather than the county land use regulation provisions. See Kenagy v. Benton County, 112 Or App 17, 20 n 2, 826 P2d 1047 (1992)(county may not apply ordinance criteria that are inconsistent with the statutory EFU zone criteria).

4. The examples given in the city's brief are illustrative:

"The practice in Oregon is not to require notice and hearing each time a farmer wishes to

build a barn, fertilize a field, construct an animal waste lagoon or put cattle on the back forty acres. These practices sufficiently fall within the definition of `farm use' to avoid notice and hearing requirements." Intervenor-Respondent's Brief 19-20 (footnote omitted).

5. ORS 215.402(4) defines "permit" as follows:

"`Permit' means discretionary approval of a proposed development of land under ORS 215.010 to 215.293, 215.317 to 215.438 and 215.700 to 215.780 or county legislation or regulation adopted pursuant thereto. `Permit' does not include:

"(a) A limited land use decision as defined in ORS 197.015;

"(b) A decision which determines the appropriate zoning classification for a particular use by applying criteria or performance standards defining the uses permitted within the zone, and the determination applies only to land within an urban growth boundary;

"(c) A decision which determines final engineering design, construction, operation, maintenance, repair or preservation of a transportation facility which is otherwise authorized by and consistent with the comprehensive plan and land use regulations; or

"(d) An action under ORS 197.360(1)."

We consider whether the challenged decision constitutes a "permit," as that term is defined by ORS 215.402(4) below in our discussion of the first assignment of error.

6. Under ORS 197.830(2):

"[A] person may petition [LUBA] for review of a land use decision or limited land use decision if the person:

"(a) Filed a notice of intent to appeal the decision * * *; and

"(b) Appeared before the local government, special district or state agency orally or in writing."

7. The statutory definition of farm use begins with the following:

"As used in this section, `farm use' means the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops or the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. `Farm use' includes the preparation, storage and disposal by marketing or otherwise of the products or by-products raised on such land for human or animal use. `Farm use' also includes the current employment of land for the primary purpose of obtaining a profit in money by stabling or training equines including but not limited to providing riding lessons, training clinics and schooling shows. `Farm use' also includes the propagation, cultivation, maintenance and harvesting of aquatic species and bird and animal species to the extent allowed by the rules adopted by the State Fish and Wildlife Commission. `Farm use' includes the on-site construction and maintenance of equipment and facilities used for the activities described in this subsection. * * *" (Emphasis added.) ORS 215.203(2)(a).

This lengthy definition of "farm use" is followed by ORS 215.203(2)(b) which sets out a number of examples of "`current employment' of land for farm use * * *." We discuss one of those examples later in this opinion.

8. An example of such a farm would include a farm operation that is marginally profitable, where the farmer continues the farming operation primarily because the farmer is dedicated to continuing the family farm. Such a farmer's primary reason for continuing the farm might have little to do with the profit realized from the farm. Under petitioner's argument, such a farm would not constitute farm use while the next door

neighbor's identical farm would constitute a farm use, if the next door neighbor was primarily motivated by the profit derived from the farm.

9. The record includes two studies discussing the use of biosolids and effluent on crops. Record 116-47.

10. For example, we do not understand petitioner to argue that a farmer who needs irrigation water in the summer months could not construct a reservoir on the farm to receive water when it is more abundant in the winter. By analogy, in this case, the effluent that may be used for irrigation is simply more abundant at particular times of the year. We need not consider here whether a reservoir that is significantly out of scale with and bears no reasonable relationship to the needs of the farm where it is located could be considered "facilities used for" "farm use," within the meaning of ORS 215.203(2)(a).

11. OAR 660-033-0130(16) provides:

"A facility is necessary if it must be situated in an agricultural zone in order for the service to be provided."

12. We note that Oregon Laws 1999, chapter 816, sections 1-3 adopt new statutory requirements for siting utility facilities necessary for public service in EFU zones. These new statutory requirements become effective October 23, 1999.

BEFORE THE LAND USE BOARD OF APPEALS

OF THE STATE OF OREGON

CHESTER A. SWENSON and DELLA I. SWENSON, husband and wife, Petitioners, v. DEPARTMENT OF ENVIRONMENTAL QUALITY OF THE STATE OF OREGON, an Agency of the State of Oregon, Respondent.	LUBA NO. 83-032 FINAL OPINION AND ORDER

Appeal from Department of Environmental Quality.

Michael E. Farthing, Eugene, filed a petition for review and argued the cause for Petitioners. With him on the brief were Husk, Gleaves, Swearingen, Larsen & Potter.

John I. Mehringer, Eugene, filed a petition for Review and argued the cause for Participants Barnes, Bohanon, Bowder, Donaldson, Elliott, Gray, Humphrey, Jaquenod, Lund, Marker, Neely and Simmons.

Timothy J. Sercombe, Eugene, filed a brief and argued the cause for Participant City of Eugene. With him on the brief were Harrang, Swanson, Long & Watkinson.

Michael B. Huston, Salem, filed an brief and argued the cause for Respondent DEQ.

Bagg, Board Member.

Affirmed. 9/6/83

You are entitled to judicial review of this Order. Judicial review is governed by the provisions of Oregon Laws 1979, ch 772, sec 6(a), as amended by Oregon Laws 1981, ch 748.

BAGG, Board Member.

NATURE OF THE DECISION

Petitioners appeal issuance of a water pollution control facilities permit by the Department of Environmental Quality, State of Oregon. Petitioners ask the Board to remand the permit.

FACTS

In November, 1982, the Metropolitan Wastewater Management Commission (hereinafter MWMC), and the cities of Eugene and Springfield applied to the Department of Environmental Quality (hereinafter DEO) for a water pollution control facilities permit. The permit allows the construction and operation of a facility to dispose of wastewater from a commercial cannery, Agripac, in the City of Eugene. The system will transport effluent from the Agripac cannery to the project site where the effluent will be treated (aireated) in a 20 acre holding pond and disposed of through spray irrigation.

Notice of public hearing was mailed by DEQ on December 22, 1982 for a hearing to be held at the Lane County Conference Center on January 25, 1983. Petitioners appeared at the hearing and testified. Petitioners also submitted written comments on February 8, 1983.

On March 4, 1983, DEQ issued the requested permit. This appeal followed.

ASSIGNMENT OF ERROR NO. 1

"DEQ failed to follow the procedure applicable to the

matter before it and thereby prejudiced the substantial rights of the petitioners in that:

"(1) DEQ ignored objections to Lane County's bias and interest.

In this first subassignment of error, petitioners allege Lane County was an interested party and wanted, as much as MWMC, to have the Agripac project completed. Lane County could not conduct an impartial review of the land use issues, according to petitioners. The findings of fact made by Lane County and relied upon by the Department of Environmental Quality are, therefore, suspect. Petitioners conclude DEQ should not rely on a county determination of LCDC goal compliance or a county determination that the proposed use was indeed a farm use when the processes used to arrive at such conclusions were flawed.

Petitioners also allege DEQ failed to seek a "compatibility determination" from LCDC. According to petitioners, under a DEQ agreement with LCDC made in November, 1982, DEQ is allowed to petition LCDC for a determination of compatibility with statewide land use planning goals where it appears the proposal will have "a major impact requiring a state determination of compatibility in addition to the local statement." Swenson Petition for Review at 16. The Board understands this contractual provision to be entirely within the discretion of DEQ. Ibid.

In the second part of this assignment of error, petitioners allege:

"(2) DEQ relied on and adopted for its own, Lane County's compatibility statement, including Lane County's findings and conclusions, and therefore DEQ is responsible for the procedural errors of Lane County."

Petitioners claim DEQ's reliance on Lane County's findings and conclusions of statewide goal compliance suffered from "serious procedural errors" and, therefore, should not be used by DEQ. Petitioners allege they were deprived of fair notice and a public hearing in the Lane County process producing the findings, and petitioners further allege that Lane County violated its own zoning code in review of the Agripac application. Of particular interest to petitioners was a Lane County Board of Commissioners interlocutory interpretation of its zoning code. In that interpretation, the commissioners found that the proposed project was a "farm use" under applicable county criteria. ORS 215.203(2) and LCDC Goal 3, Agricultural Lands.

Included in petitioners' complaints about the interlocutory order is the complaint that there was no hearing to consider argument upon the issue, inadequate notice to interested persons and no notice of the final determination that the use was indeed a farm use. Petitioners close with the following charge:

"To the extent that Lane County short-circuited Petitioners' right to a fair hearing on the ultimate question of the Agripac Project's compatibility with State land use requirements, DEQ is responsible for the procedural errors of its agent Lane County. Consequently, the WPCF Permit No. 3653, which was issued thereon, is tainted in that Petitioners' rights

were substantially prejudiced in the very process that resulted in the subject land use decision." Petition for Review at 25-26.

Respondent DEQ makes two alternative arguments. First, DEQ argues that under the state permit consistency rule, OAR ch 660, Div. 31, DEQ was correct in relying on Lane County's determination of compliance with statewide planning goals. Specifically, OAR 660-31-020(1) permits DEQ to rely on Lane County's findings of goal compliance when DEQ issues a Class B permit. The permit at issue here is a Class B permit. See OAR 660-31-010 and 660-31-020.[1]

DEQ denies that by adopting Lane County's findings about project compliance with the goals, it became responsible for procedural errors committed by the county. DEQ is allowed by law to rely on the local government for findings of goal compliance and that reliance does not mean local procedural errors became DEQ errors, according to DEQ.

Respondent concludes its reliance on Lane County's findings fulfilled the requirement under ORS 197.180(1) that state agencies take actions affecting land use in compliance with statewide goals.

In the alternative, DEQ argues the procedural errors alleged by petitioners are no longer extant because DEQ conducted its own hearing and made its own determination that the Agripac project complied with statewide planning goals. DEQ says any errors that may have occurred in Lane County are cured. DEQ points out that petitioners had an opportunity for

a full hearing before DEQ and took advantage of that opportunity by appearing and presenting evidence. Record 53-38 through 53-58.

The Board does not believe it need reach the question of whether reliance on findings of fact produced in a potentially flawed proceeding below is fatal to the issuance of this permit. The record in this case shows DEQ to have conducted its own proceeding to determine whether or not the use complied with statewide planning goals. In doing so, the issuer of the permit, Bill Young, Director of DEQ, stated in a memo to MWMC permit files that he reviewed testimony, considered the evidence and found as follows:

> "In this case, to avoid any possible delay which may result from statutory changes, rule changes or litigation of the validity of this rule [state permit consistency rule], the Department has determined that the Lane County Board of Commissioners' findings are persuasive and adopt them as a determination of the land use compatility of the proposed project." Record 9.

The Board recognizes this statement is included in a memo to the permit file and is not part of the permit itself. However, on the face of the permit the following statement appears:

> "The determination to issue this permit is based on findings and technical information included in the permit record." Record 3.

The permit is signed by Mr. Young, Director of DEQ, and dated March 4. The memo to the file is also dated March 4. The Board believes these references are sufficiently clear to

announce to any reader that the memo in the file entitled "Land Use Compatibility of Proposed MWMC Seasonal Industrial Waste Facility" represents at least a part of the "findings and technical information" upon which the permit issuance was based.

As to the matter of alleged procedural errors in proceedings before Lane County, the Board believes where petitioners had full opportunity to discuss the merits of statewide goal compliance in a hearing before DEQ, any error that may have occurred in Lane County's procedure no longer has any effect in this proceeding and does not result in any deprivation of petitioners' rights. See Casey v. Dayton, 5 Or LUBA 96 (1982). The Board notes there is no allegation the petitioners were not afforded due process of law in the proceedings before DEQ.

Assignment of error no. 1 is denied.

ASSIGNMENT OF ERROR NO. 2

> "DEQ improperly construed the applicable law in that the Agripac project does not qualify as a 'farm use'."

Petitioner alleges Goal 3 requires specific compliance with ORS Ch 215 in that the goal requires agricultural lands be preserved and maintained for farm use; and, "farm use" means:

> "* * * the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting, and selling crops or * * * 'Farm use' includes the preparation and storage of the products raised on such land for human use and animal use and disposal by marketing or otherwise." ORS 215.203(2)(a).

Petitioners argue Lane County's characterization of the project as compatible with the above definition of farm use is wrong because there is nothing in the record to show the primary purpose of the project is to make a profit at farming. Petitioners concede the disposal facility may be an incidental farming activity in that it provides irrigation for a grass crop. However, petitioners assert this incidental activity does not amount to the "primary purpose" requirement in ORS 215.203(2)(a).

The Board understands the petitioners to argue that MWMC is an intergovernmental commission with a purpose to design, construct, operate and maintain a regional sewage system. The purpose of such a commission is not to engage in farm use for profit. The method of achieving its purpose may be compatible with and beneficial to farm uses; but, there is a difference, according to petitioners, between a method and a purpose.

Respondent DEQ and Respondent City of Eugene argue the facility falls within the definition of "farm use" in ORS 215.203. Respondent City, the owner of the tract, states the property will remain in farm use for the purpose of growing crops. Water from the facility will be used to irrigate crops. The fact that the project will serve another governmental purpose, that of disposal of wastewater, is not relevant to the analysis. The whole of the parcel will be farmed or used for an agricultural purpose, according to the city.

The county's findings on this issue, adopted by the Department of Environmental Quality, say the project is within the meaning of farm use as defined in ORS 215.203(2)(c) as an "accepted farm practice." Record 26. The holding pond provides irrigation water and provision of irrigation water is an accepted farm practice. The county found the property would still be used for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops. The county found:

> "The proposed system is not for the purpose of controlling natural drainage and/or storm runoff, nor is it designed to provide a source of irrigation for a large number of farms. In addition, the proposed system is not for the provision of alternative recreational uses or the creation of a large multi-use reservoir. There will be no large scale impoundment of water. The proposed system will provide irrigation water to one farm only, situated on one parcel, with a total acreage not exceeding 287 acres." Record 27.

The issue, of course, is whether the county, and then DEQ, were correct in this analysis. LCDC Goal 3 requires that agricultural land "be preserved and maintained for farm use * * * *" The goal defines farm use by reference to ORS 215.203. ORS 215.203 defines farm use as "the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting, and selling crops * * * *" The term also includes "the preparation and storage of the products raised * * * for human use and animal use and disposal by marketing or otherwise." The current employment of land means, among other things,