



City of Canal Winchester

36 South High Street
Canal Winchester, Ohio 43110
Development Department
Phone (614) 837-7501 Fax (614) 837-0145

VARIANCE APPLICATION

rev. 09/24/2013

PROPERTY OWNER

Name BREWDOG COLUMBUS LLC
Address 96 GENDER ROAD, CANAL WINCHESTER
Daytime Phone 614 400 9594 Email KEITH@BREWD OG.COM

APPLICANT

Name BREWDOG BREWING CO LLC
Address /
Daytime Phone / Email /
Address of Subject Property AS ABOVE

Current Zoning MANUFACTURING, Variance Request to Section

Requested Variance Flag install showing the BrewDog shield.

Attach a legal description and current survey (within 2 years) of the subject property and all supporting materials as required by Section 1147.02(c) (see attachment). Additional information may be required by the Planning and Zoning Administrator or the Planning and Zoning Commission.

I certify that the information provided with this application is correct and accurate to the best of my ability.

[Signature]
Property Owner's or Authorize Agent' Signature

08/21/2017
Date

DO NOT WRITE BELOW THIS LINE

Date Received: 8/21/17

Fee: \$ 150⁰⁰
Paid

Historic District: Yes No
Preservation District: Yes No

Date of Action: / /

Application No

Expiration Date: / /

Approved: Yes

Yes, with conditions

Tracking Number: VA - 17-013

Variance Application – BrewDog Flag

Dear Sirs,

Please find attached pictures of a proposed flag install.

We would like to request a variance to allow this signage for our brewery and taproom.

The size of the flag is as follows:

Flagpole: 80 feet high

Flag dimensions: 20 feet by 30 feet



BREWDOG 20' x 30' Process Blue Nylon Flag w/black logo

Please note the above are to be used as an example only.

We would request this variance on the basis that the flag will inform visitors of the location of the brewery.

We hope that this explains our request and the reason we are asking for it to be permitted but please do not hesitate to ask for any further information.

List of Neighbouring Properties:

Crossroads Church
Gender Road and Canal Street
43110

South Central Power Company
Gender Road
Canal Winchester
OH43110

Madison Township Fire Department
6600 Gender Rd
Canal Winchester
OH 43110

HFI LLC
59 Gender Rd
Canal Winchester
OH 43110

TS Trim Industries
6360 Canal St
Canal Winchester
OH 43110

City of Canal Winchester
36 South High Street
Canal Winchester
OH 43110



08/25/2017 14:46



08/25/2017 14:48

Structural Calculations for Flag Pole

At

Brewdog

96 Gender Road, Canal Winchester

Ohio

By

Korda Nemeth Engineering Inc.

1650 Watermark Drive

Columbus, OH 43215

Phone: 614-487-1650

For

The Flag Lady, Inc

The Flagpole Center

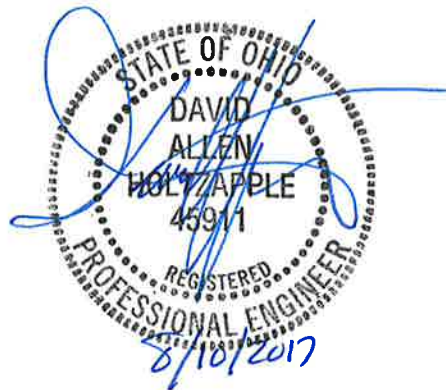
4567 North High Street

Columbus, Ohio 43214

Phone 614-263-1776

By

David Holtzapple, PE , LEED AP



Brewdog Pole

Pole Description: EC80

Height above Grade : 80 feet

Total length of Pole: 88 feet

Base diameter of Pole: 12"

Straight portion of pole: 12.666'

Top diameter of Pole : 4"

Wall Thickness: 0.375"

Section Modulus at Base: S= 38.5 in³

No opening in pole

Area of pole at base: A= 5.39 sq in.

Weight of Pole Approximate: 500 lb.



Design Basis: Calculations are based on American National Standard FP 1001-07

Wind speed 90 Mph

Flag size: 20'x 30' Nylon

Flag Pole Material: Non Welded 6063T6 Alloy of Aluminum

Yield Stress - 25,000 psi

Shear Yield Stress 14,000 psi assume allowable 7000 psi

Modulus of Elasticity 10,000,000 psi

R/t ratio R=5.625" t=.375 R/t= 15 less than 33 then use

Fb= 24,000 psi

Analysis:

Drag on 20'x30' flag = 396 pounds

Total moment at base (See attached chart) = 47,321 ft pound = 567,852 in pounds

Bending stress = M/S = 14,750 psi. Less than 24,000 psi ok

80 ft pole Moment at Base

Segment	wind Pressure	dist. To centroid	Length of seg	Ave dia	area of seg	drag coef	wind force	Bending M
1	20	2.333	4.5	1.00	4.5	0.45	40.5	94.4865
2	21.6	12.33	15.33	0.88	13.4904	0.45	131.126688	1616.792063
3	23	22.5	5	0.83	4.165	0.45	43.10775	969.924375
4	25	27.5	5	0.70	3.5	0.45	39.375	1082.8125
5	25	35	10	0.60	6	0.45	67.5	2362.5
6	26	45	10	0.55	5.5	0.45	64.35	2895.75
7	27	55	10	0.50	5	0.45	60.75	3341.25
8	29	70	20	0.40	8	0.45	104.4	7308
Flag		70					395	27650

Moment at Base

946.109438 47321.51544

Shear Vmax = 946 pound

Shear stress V/a = 946/5.39 = 175 psi ok less than 7000 psi

Axial Stress P/A = 500/5.39 = 92 psi ok less than 3000 psi

Pole will safely carry required loads



Model EC80

- 12" - 14 gauge spun aluminum ball gold anodized
- Double sheave truck, cast aluminum revolving, non-fouling type
- 3 Bronze swivel snap with covers per halyard
- 1 Set of halyards: #12 poly



- 1 - 9" Cast aluminum cleats

Aluminum flash collar

3000 PSI concrete

Hardwood wedges (supplied by others)

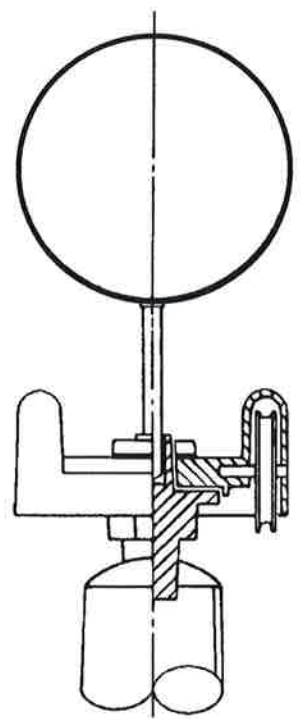
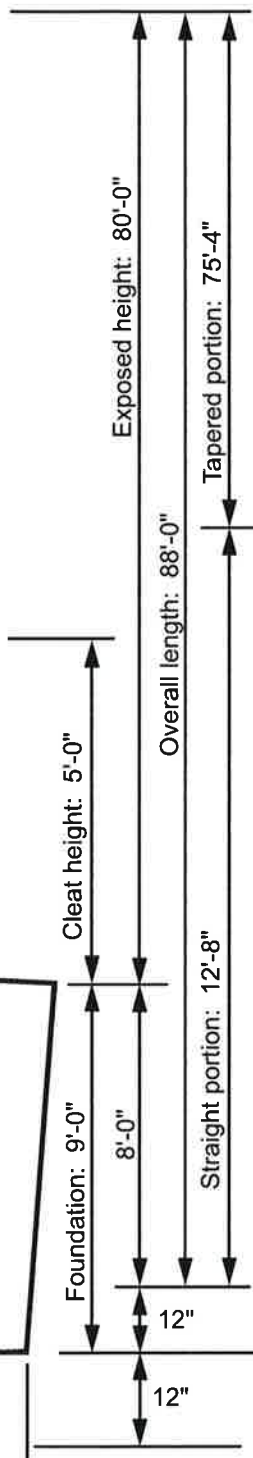
Dry sand tightly tamped after aligning pole

Foundation sleeve -16 ga hot dip galvanized steel

Steel centering wedges

1/4" Steel base plate

1/4" Steel support plate welded to grounding spike



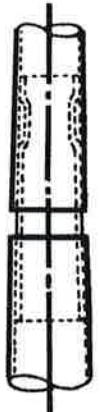
Truck Detail

- Revolving, non-fouling truck
- Cast aluminum body
- Stainless steel ball bearings
- Nylon sheaves
- Cast aluminum spindle

All shafts with overall length of more than 38'-6" are shipped in two sections.

Each section matched marked for field assembly. Exposed portion of jam sleeve must be **well lubricated** prior to assembly.

1-1/2" maximum shop gap allowed for field fitting (ram for tight joint)



Filename: EC80 double sheave_single halyard_revolving truck.ai

Project:	Ground set tapered aluminum flagpole: ALLOY: 6063T6	EDER FLAG	Date:
Location:	Exposed height: 80'-0"	Overall height: 88'-0"	Revision:
Architect:	Ship in 3 sections	Butt diameter: 12"	1000 W. Rawson Avenue
Contractor:	Top diameter: 4"	Wall thickness: .375"	Oak Creek, WI 53154
Customer:	Finish: 100 grit polish		Job: