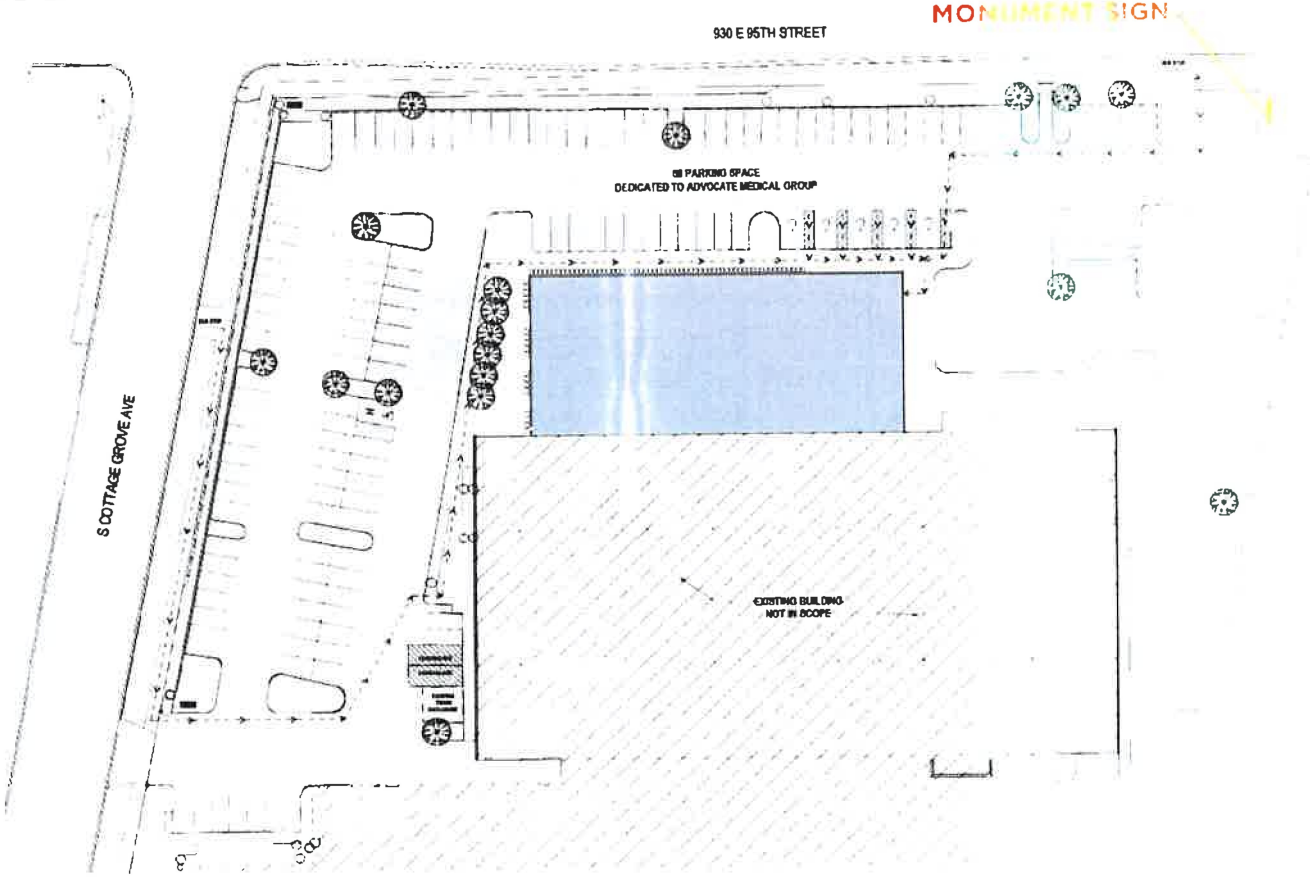
MONUMENT SIGN



Van Bruggen SIGNS
Since 1925
13401 SOUTHWEST HWY.
ORLAND PARK, ILLINOIS
708-448-0826 • vbsign.com

This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

©COPYRIGHT 2026 by Van Bruggen Signs, Inc., Orland Park, IL

Approved	
Date	
Scale	N.T.S.
Date	4-17-26
Drawn By	D.S.
Title	ADVOCATE MEDICAL GROUP - CHICAGO, IMANI VILLAGE
Description	MONUMENT SIGN
Revisions By / Date	
Drawing No.	26-065.5C



EXISTING



PROPOSED

Van Bruggen SIGNS

Since 1925

13401 SOUTHWEST HWY.
ORLAND PARK, ILLINOIS

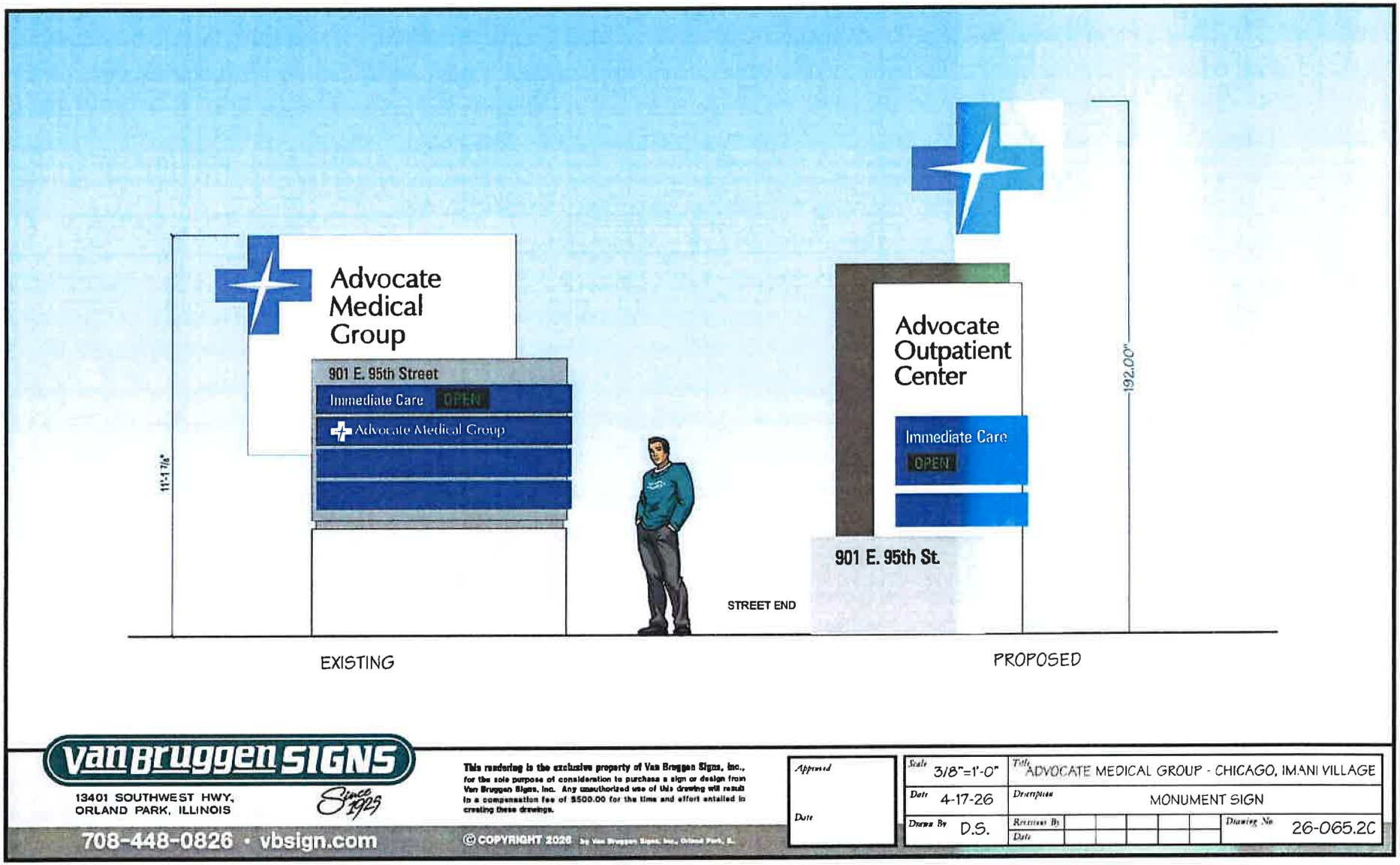
708-448-0826 • vbsign.com

This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

© COPYRIGHT 2026 by Van Bruggen Signs, Inc., Orland Park, IL

Approved	
Date	

Scale	N.T.S.	Title	ADVOCATE MEDICAL GROUP - CHICAGO, IMANI VILLAGE
Date	4-17-26	Description	MONUMENT SIGN
Drawn By	D.S.	Revisions By / Date	
		Drawing No.	26-065.1C



Van Bruggen SIGNS
Since 1925
13401 SOUTHWEST HWY,
ORLAND PARK, ILLINOIS
708-448-0826 • vbsign.com

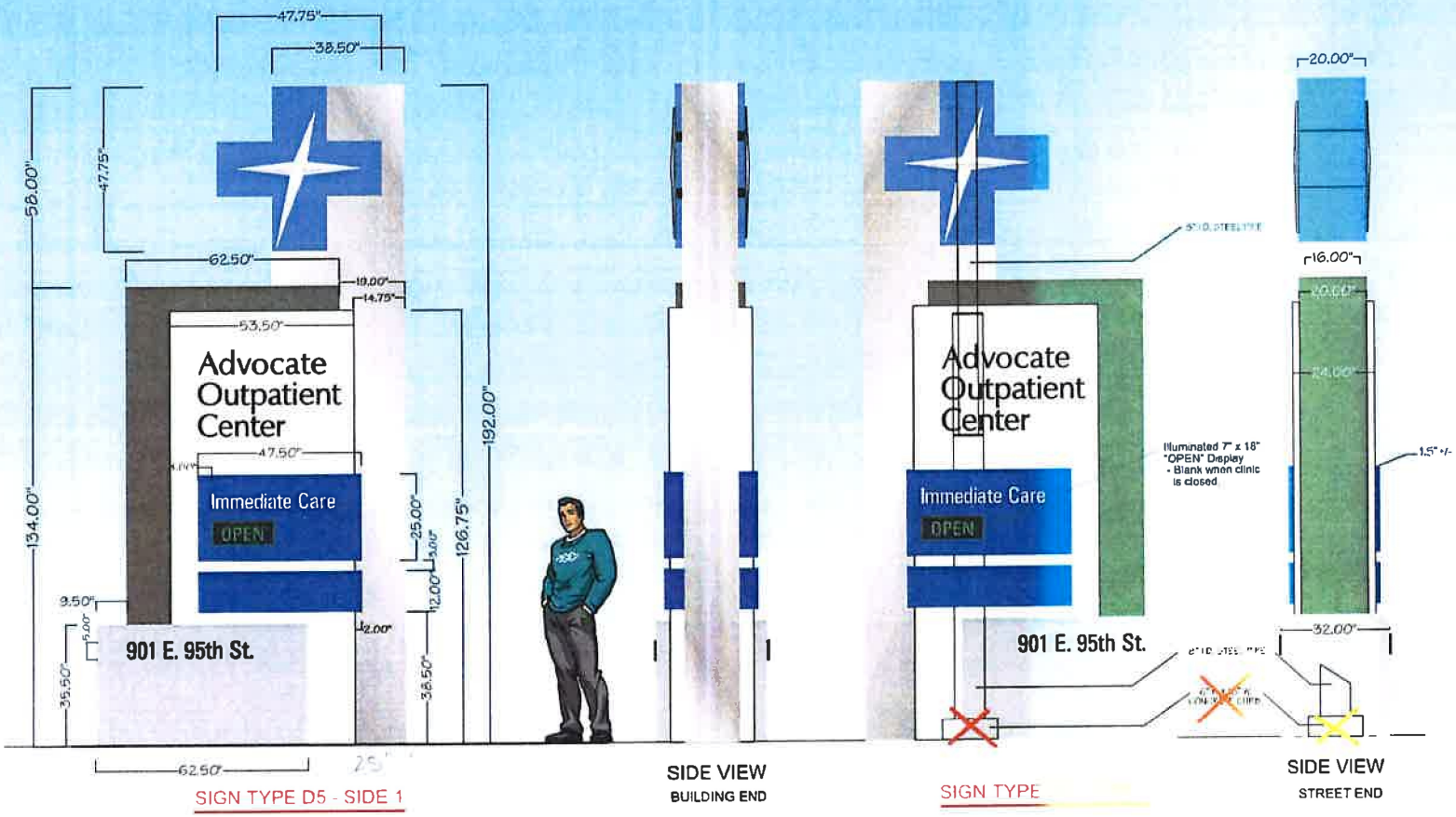
This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

© COPYRIGHT 2026 by Van Bruggen Signs, Inc., Orland Park, IL

Approved

Date

Scale 3/8"=1'-0"	Title ADVOCATE MEDICAL GROUP - CHICAGO, IMANI VILLAGE
Date 4-17-26	Description MONUMENT SIGN
Drawn By D.S.	Revision By / Date / Drawing No. 26-065.2C



SIGN TYPE D5 - SIDE 1

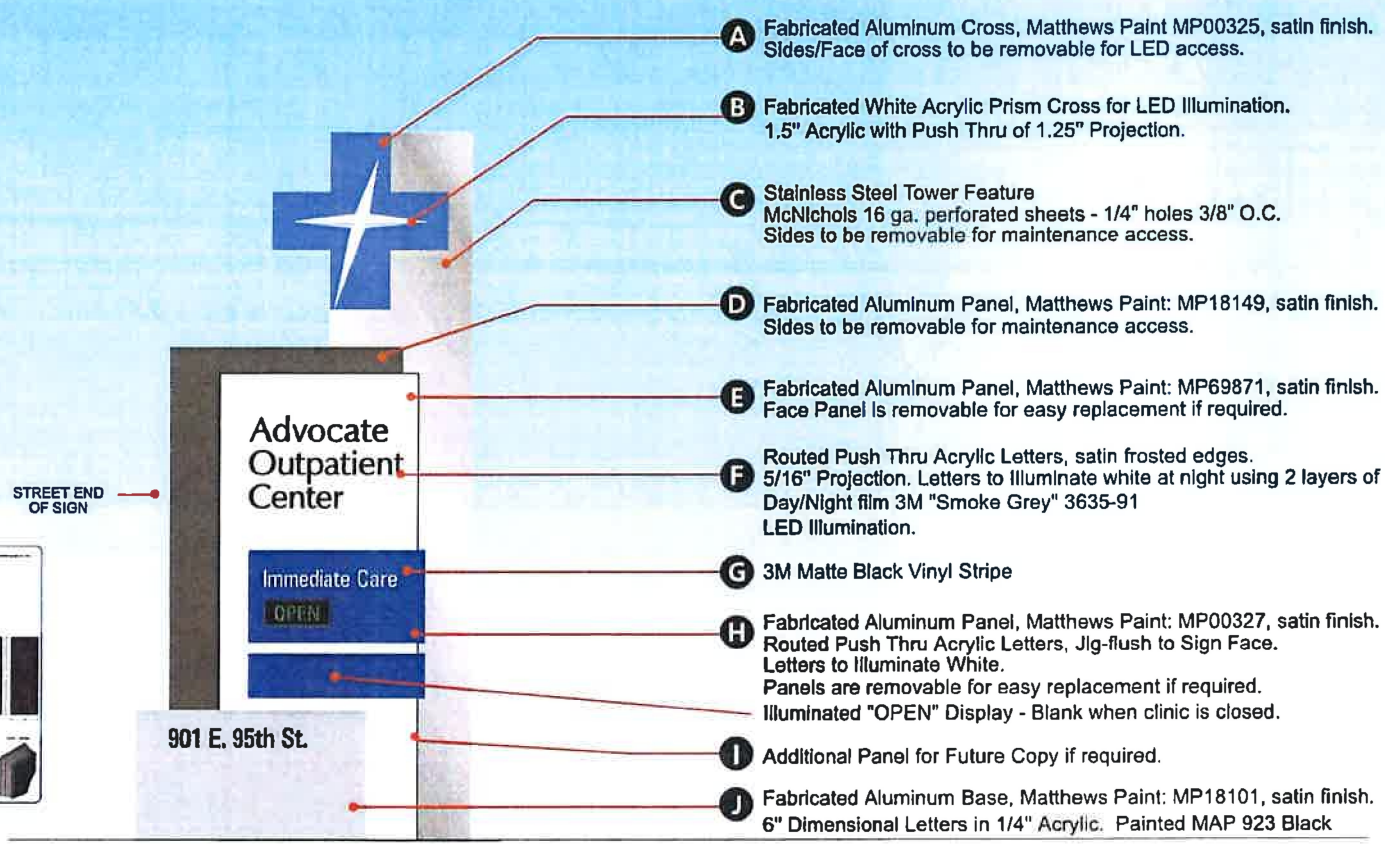
SIGN TYPE

VanBruggen SIGNS
Since 1929
13401 SOUTHWEST HWY,
ORLAND PARK, ILLINOIS
708-448-0826 · vbsign.com

This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

© COPYRIGHT 2026 by Van Bruggen Signs, Inc., Orland Park, IL

Approved			
Date			
Scale	3/8"=1'-0"	Title	ADVOCATE MEDICAL GROUP - CHICAGO, IMANI VILLAGE
Date	4-17-26	Description	MONUMENT SIGN
Drawn By	D.S.	Revisions By / Date	Drawing No. 26-065.3C



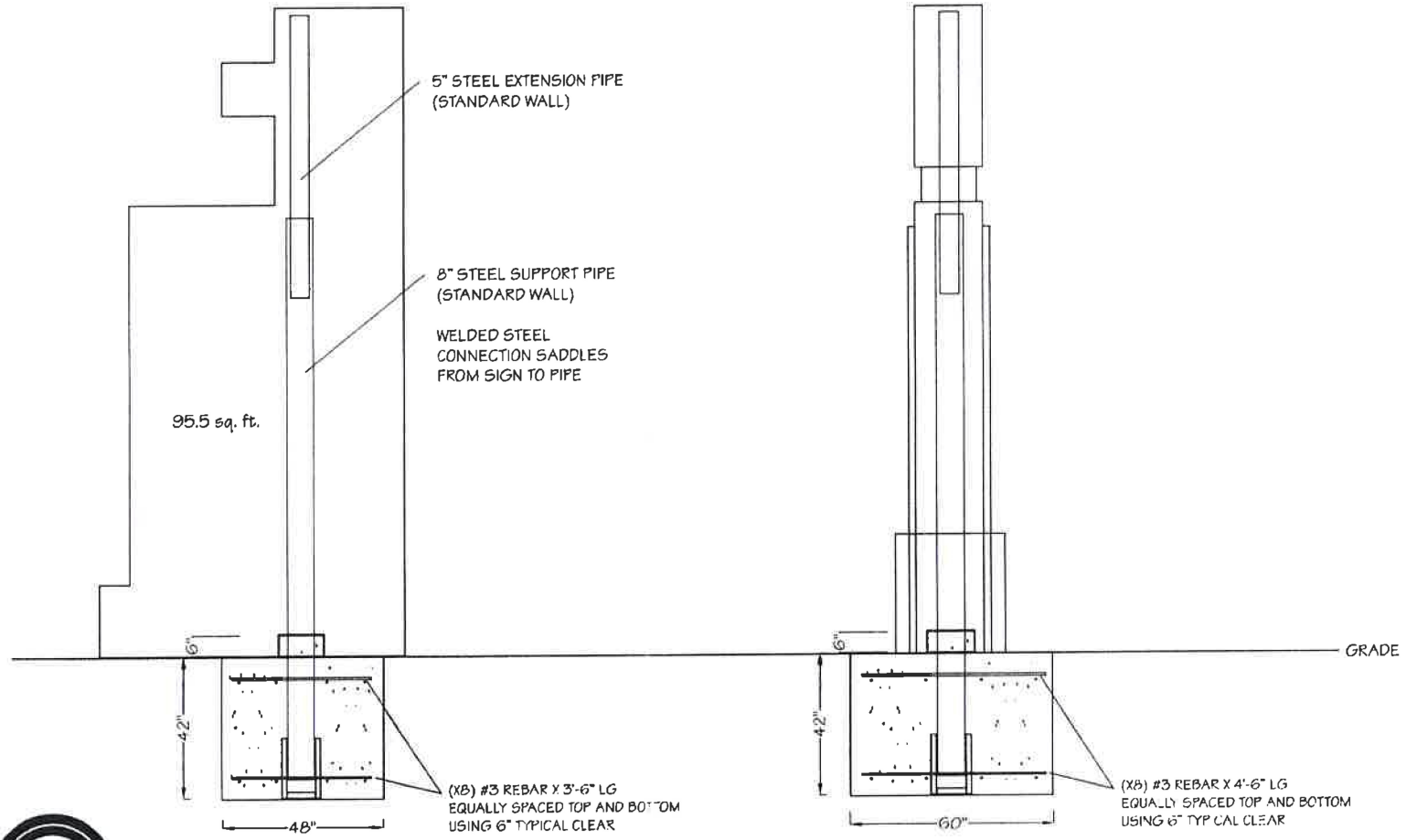
SIGN TYPE D5 - SPECIFICATIONS

Van Bruggen SIGNS
Since 1923
13401 SOUTHWEST HWY.
ORLAND PARK, ILLINOIS
708-448-0826 • vbsign.com

This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

© COPYRIGHT 2026 by Van Bruggen Signs, Inc., Orland Park, IL.

Approved		Scale	3/8"=1'-0"
Date		Title	ADVOCATE MEDICAL GROUP - CHICAGO, IMANI VILLAGE
		Date	4-17-26
		Description	MONUMENT SIGN
		Drawn By	D.S.
		Revised By / Date	
		Drawing No.	26-065.4C



Van Bruggen SIGNS
1925 – 2025
13401 SOUTHWEST HWY.
ORLAND PARK, ILLINOIS
708.448.0826
vbsign.com

© COPYRIGHT 2025 by Van Bruggen Signs, Inc., Orland Park, IL.
This rendering is the exclusive property of Van Bruggen Signs, Inc., for the sole purpose of consideration to purchase a sign or design from Van Bruggen Signs, Inc. Any unauthorized use of this drawing will result in a compensation fee of $500.00 for the time and effort entailed in creating these drawings.

ADVOCATE MEDICAL GROUP, WESTMONT

8/29/25 - 3/8"=1"

ROBERT-JAMES & ASSOCIATES, Inc.
12255 West 187th Street
Mokena, Illinois 60448
(708) 479-8385

File : VanBruggen110.mcd

Site : Advocate Medical Group
Westmont, Illinois

Project : Design of spread footing for a 16'-0" overall height direct bury single pole pylon sign.

Design wind load is based on the 2021 International Building Code (ASCE 7-16) using Exposure C and 107 mph wind speed.

Design Wind Speed : (mph.) $V := 107.0$ Based on Risk Category II

Velocity Pressure Coefficient at a Height of Less Than 16', Exposure C : $Kz := 0.86$

Topographic Factor : $Kzt := 1.00$ Based on Table 26.8-1

Wind Directionality Factor : $Kd := 0.85$ Based on Table 26.6-1

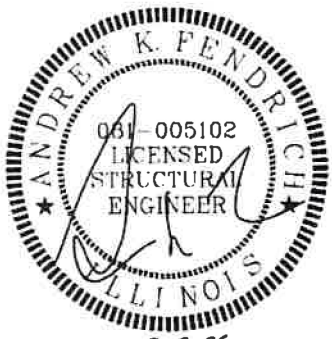
Velocity Pressure : (PSF) $qz := 0.00256 \cdot Kz \cdot Kzt \cdot Kd \cdot V^2$ $qz = 21.425$

For Figure 29.4-1

Overall Height : (ft.) $h := 16.0$ Overall Width : (ft.) $B := 6.79$

Where 's' equals 'h' $s := 16.0$

$\frac{s}{h} = 1$ $\frac{B}{s} = 0.424$



Force Coefficient : $Cf := 1.58$ Based on Figure 29.4-1

Gust Effect Factor : $G := 0.85$ Based on 26.11.4 for Other Structures

ASD Conversion Factor : $LCF := 0.60$

Design Pressure : (PSF) $F := qz \cdot Cf \cdot G \cdot LCF$ $F = 17.264$

Reference : American Concrete Institute, Code 318-19

Concrete : 3,000 psi. Compressive Strength after 28 days.

Rebar : ASTM A-615 Grade 60 Fy = 60.0 ksi.

Design Loads at Grade :

Shear : (lbs.) $ShrGrd := (16.0 \cdot 6.79 \cdot F)$ $ShrGrd = 1875.607$

Moment : (ft.lbs.) $MtGrd := ShrGrd \cdot \left(\left(\frac{16.0}{2} \right) + (0.05 \cdot 16.0) \right)$ $MtGrd = 16505.344$

Design of Spread Footing :

Loads :

Moment : (ft.lbs.) $Ma := MtGrd$ $Ma = 16505.344$

Shear : (lbs.) $Va := ShrGrd$ $Va = 1875.607$

Allowables :

Lateral passive pressure against foundation : (lbs./sq.ft. per foot) $PP := 250$

Static soil pressure : (lbs./sq.ft.) $SSP := 2000$

Dynamic soil pressure : (lbs./sq.ft.) $DSP := 2660$

Foundation parameters :

Depth of footing below grade : (ft.) $DF := 3.5$

Width of footing : (ft.) $WF := 4.0$

Length of footing : (ft.) $LF := 5.0$
(Wind direction)

Weight of structure and foundation :

Design weight of concrete : (lbs./cu.ft.) $CWT := 150$

Sign weight : (lbs.) $SWT := 975$

Footing weight : (lbs.) $FTWT := DF \cdot WF \cdot LF \cdot CWT$ $FTWT = 10500$

Net weight of foundation : (lbs.) $NETWT := SWT + FTWT$ $NETWT = 11475$

Check Factor of Safety :

Overturning moment about heel point of foundation : (ft.lbs.)

$Mo := Va \cdot DF + Ma$ $Mo = 23069.97$

Total passive pressure on footing : (lbs./sq.ft.) $Tpp := PP \cdot DF^2 \cdot \left(\frac{WF}{2}\right)$ $Tpp = 6125$

Resisting moment about the heel point : (ft.lbs.)

$Mr := NETWT \cdot \left(\frac{LF}{2}\right) + Tpp \cdot \left(\frac{DF}{3}\right)$ $Mr = 35833.333$

Factor of Safety : $FS := \frac{Mr}{Mo}$ $FS = 1.553 > 1.5$ OK

Check soil bearing pressures :

Static soil pressure : (lbs./sq.ft.) $SBP := \frac{NETWT}{LF \cdot WF}$ $SBP = 573.75 < SSP = 2000$ OK

Dynamic soil pressure : (lbs./sq.ft.)

$e := \frac{\left(Mo - Tpp \cdot \left(\frac{DF}{3}\right)\right)}{NETWT}$ $e = 1.388$

$\left(\frac{LF}{2}\right)=2.5$ > $e=1.388$ > $\left(\frac{LF}{6}\right)=0.833$

$qa:=\left(\frac{2\cdot NETWT}{3\cdot WF\cdot\left(\left(\frac{LF}{2}\right)-e\right)}\right)$ $qa=1719.448$ < $DSP=2660$ OK

Check tensile stress of concrete at pole :

Compressive Strength of Concrete : (psi.) $fc:=3000$

Overturning moment at pole : (ft.lbs./ft.) $Mp:=\left(\frac{LF}{2}\right)^2\cdot\left(\frac{qa}{2}\right)$ $Mp=5373.274$

Section modulus of footing - Per foot of width : (in.3)

$Sw:=12\cdot\frac{(DF\cdot 12)^2}{6}$ $Sw=3528$

Tensile stress in concrete : (psi.) $ft:=\frac{(Mp\cdot 12)}{Sw}$ $ft=18.276$

Allowable stress in concrete : (psi.) $\phi Ft:=0.65\cdot\left(5\cdot\sqrt{fc}\right)$ $\phi Ft=178.01$ > $ft=18.276$

REBAR NOT REQUIRED FOR STRESS

Design of temperature and shrinkage steel in footing :

Rebar size : $Number:=3$

Rebar Area : (in.2) $Area:=\frac{\pi\cdot\left(\frac{Number}{8}\right)^2}{4}$ $Area=0.11$

For length of footing : $Asl:=0.00034\cdot DF\cdot WF\cdot 144$ $Asl=0.685$

Number required : $\frac{Asl}{Area}=6.206$ Use four (4) #3 Rebar x 4'-6" LG. equally spaced top and bottom using 6" typical clear. (Eight (8) total required.)

For width of footing : $Asw:=0.00034\cdot DF\cdot LF\cdot 144$ $Asw=0.857$

Number required : $\frac{Asw}{Area}=7.758$ Use four (4) #3 Rebar x 3'-6" LG. equally spaced top and bottom using 6" typical clear. (Eight (8) total required.)

Quantity of concrete : (yds.3) $Cy:=\left(\frac{(LF\cdot WF\cdot DF)}{27}\right)$ $Cy=2.593$

Note : Use a 1" thick x 12" square concrete paver at the bottom of the footing, to rest the pole on, for water exclusion.