

**September 14, 2021**

**SOLICITATION ADDENDUM NO. 1**

**ITB 21-0006**

**Mountainside High School Field Turf Remediation**

**THE FOLLOWING CHANGES/ADDITIONS TO THE ABOVE CITED SOLICITATION ARE ANNOUNCED:**

This Addendum modifies the Invitation to Bid (ITB) document(s) only to the extent indicated herein. All other areas not changed or otherwise modified by this Addendum shall remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Failure to do so may result in Bid rejection. See the ITB regarding requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

This addendum is to be acknowledged in the space provided on the Bidder Certification form supplied in the solicitation document. Failure to acknowledge receipt of this addendum may be cause to reject your offer.

The closing date **REMAINS UNCHANGED:**  
**September 21, 2021 at 2:00 PM Pacific Time**

**CLARIFICATIONS:**

Please see the Additional Drawings C103 Soccer Field and Background Information.



P:21677-BSD-MOUNTAINSIDE HS TURF FIXCADCID21677-C103-SOUTH.DWG



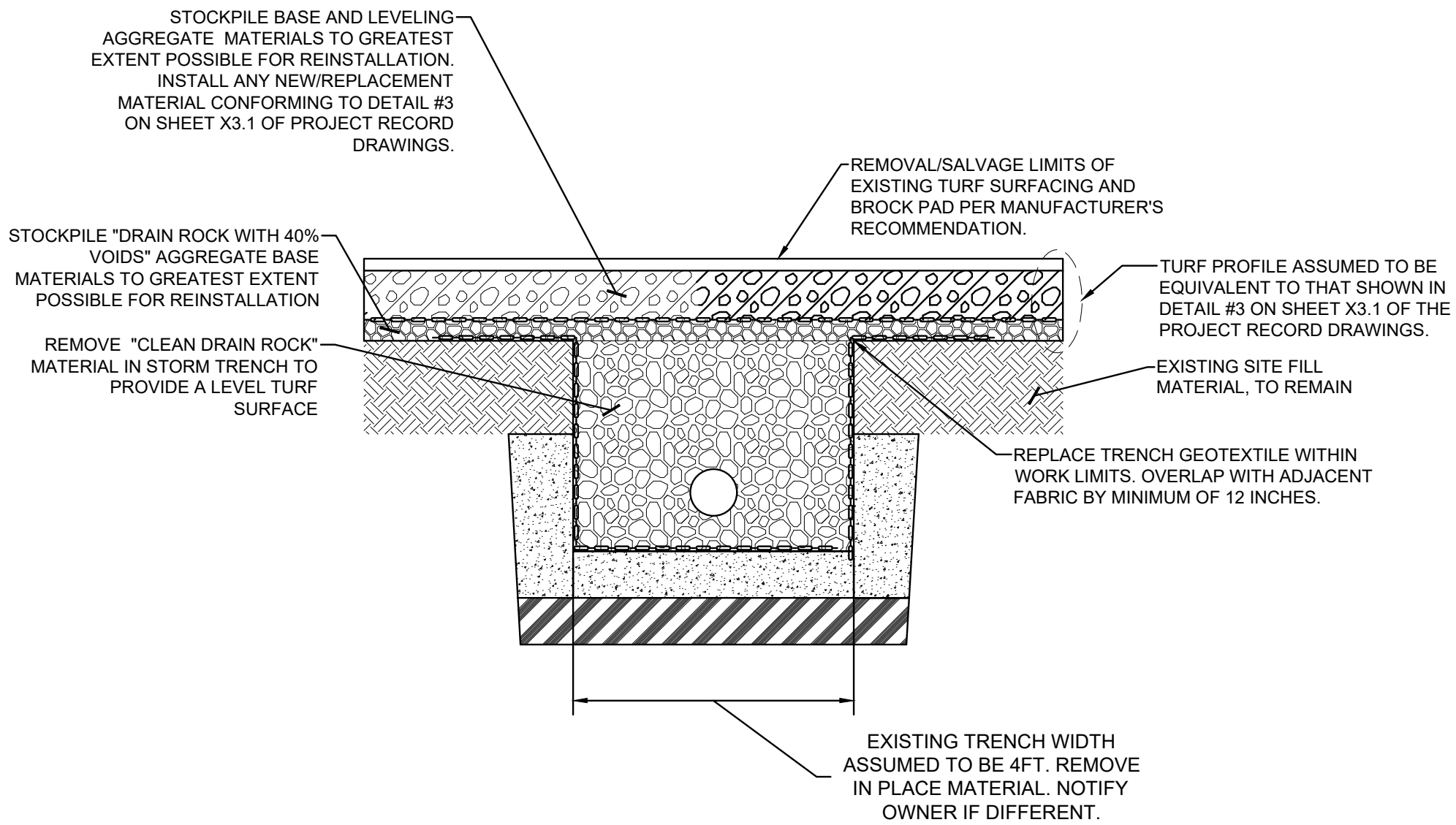
JV BASEBALL & SOCCER FIELD

CONSTRUCTION KEY NOTES

- 1 CONSTRUCTION EQUIPMENT AND VEHICLE ACCESS POINT.
- 3 APPROXIMATE LIMIT OF HEAVE REPAIR, THIS PHASE. REFER TO 'TRENCH LEVELING DIAGRAM', THIS SHEET.
- 4 PROVIDE NEW TURF PATCH EDGE, AS DIRECTED BY MANUFACTURER.
- 5 APPROXIMATE LIMITS OF FIELD ACCESS ROUTE. PROTECT EXISTING TURF FIELD AND CONCRETE SURFACING THROUGHOUT CONSTRUCTION. CONTRACTOR TO PROVIDE MEANS AND METHODS FOR PROTECTING EXISTING CONCRETE SURFACES DURING CONSTRUCTION FOR REVIEW BY OWNER, PRIOR TO COMMENCING WORK.

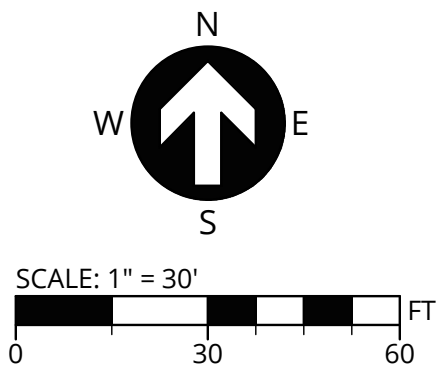
SYMBOL AND LINE TYPE LEGEND

- VEHICLE RATED CONCRETE (AS RECORDED)
- APPROXIMATE TURF SEAMING (AS SUBMITTED BY SUPPLIER)
- TURF UNDERDRAIN (AS RECORDED)
- STORM DRAIN (AS RECORDED)
- STORM DRAIN (AS RECORDED)
- STORM MAINTENANCE HOLE
- STORM DRAIN CLEANOUT (AS RECORDED)
- APPROXIMATE ALIGNMENT OF TRENCH HEAVE REPAIR (YELLOW)
- FIELD ACCESS ROUTE. PROTECT EXISTING SURFACE FROM RUBBER MARKS, TRACKING, AND STRUCTURAL DAMAGE SUCH AS CRACKING AND SPALLING.



TRENCH LEVELING DIAGRAM

N.T.S.

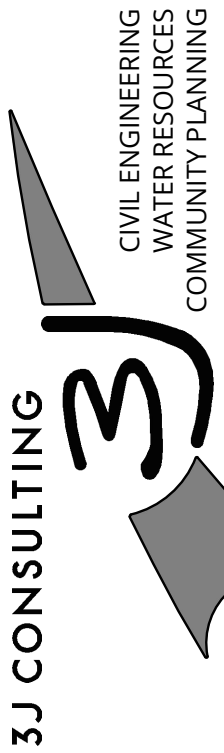


JV BASEBALL & SOCCER FIELD PLAN

**MOUNTAINSIDE HIGH SCHOOL**

**ATHLETIC FIELD TURF REPAIR**

BEAVERTON SCHOOL DISTRICT  
BEAVERTON, OR



9000 SW NIMBUS AVE., SUITE 100, BEAVERTON, OR 97008

PROJECT INFORMATION

3J PROJECT # | 21677

TAX LOT(S) | N/A

LAND USE # | N/A

DESIGNED BY | JTE

CHECKED BY | JDH

SHEET NUMBER

**C103**



## FOR INFORMATION ONLY



### *Submittal Review*

*item:* **Base and Leveling Aggregate for  
Synthetic Turf Fields**

*submittal no:* **409-312123-0**

*project:* **South Cooper Mountain High School**

*atlas project no.:* **14016**

*date:* **September 7, 2016**

*by:* **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

#### *Review Status:*

- ☒ No exception taken  
☐ Note comments below

- ☐ Rejected  
☐ Submittal incomplete

#### *Action required:*

- ☐ No re-submittal required  
☐ Revise and re-submit  
☐ Re-submittal not required if corrections are made as noted  
☐ Submit missing item(s) noted below  
☐ Submit specified item(s) noted below

#### *Comments:*

The base and leveling rock are a little out of spec on some sieve sizes but are within acceptable margins, and consistent with sieve analyses of rock successfully used on other projects.

12562 SW  
Main St.  
No. 210  
Tigard, OR  
97223

telephone  
503.224.5238

e-mail  
firstname@  
atlas-la.com

# SUBMITTAL TRANSMITTAL RECORD

**South Cooper Mountain High School**


Hoffman Construction Co.  
Lic. # 28417  
South Cooper Mountain High School  
12500 SW 175<sup>th</sup> Ave.  
Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:	
Description:	
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination	
Specification Reference:	
Bid Package:	
Supplier/Subcontractor:	
Address:	
Phone:	Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

R = Reproducible

P = Print

B = Brochure

**HCC Comments:**

HOFFMAN CONSTRUCTION COMPANY	
This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.	
08/27/2016	409-312123-0
Date	Submittal #
RobinsonA	
Reviewed By	

**DESIGN OPERATIONS:**



**SUBMITTAL TRANSMITTAL****DATE:**

August 19, 2016

**ATTENTION:**

Andrew Robinson  
Hoffman Construction Company  
805 SW Broadway, Suite 2100  
Portland, Oregon 97205

**PROJECT:**

South Cooper Mountain High School

I am sending you the following for approval and use on the above referenced project:

1. Base Aggregate – Baker Rock 1-1/2" – 3/4" Drain Rock – 1 Page.
2. Leveling Aggregate – Baker Rock 1/2"-#4F HMA AGG – 1 Page.
3. Subgrade Geotextile Fabric – TerraTex N06 Non-Woven – 1 Page.

**SUBMITTED BY:**

Kelly Fitzpatrick

**CONTRACT SECTION:**

Section 31 21 23

**REMARKS:**

Samples will be delivered to the jobsite under a separate transmittal.







## FIELD WORKSHEET FOR AGGREGATE

English (E) or Metric (M)

PROJECT NAME (SECTION) <b>SCMHS</b>				REGION #1 Comm. Product				CONTRACT NUMBER	
CONTRACTOR OR SUPPLIER <b>Baker Rock Resources</b>				PROJECT MANAGER <b>Barb Worthington</b>				BID ITEM NUMBER	
SOURCE NAME <b>Farmington Quarry</b>				SOURCE NUMBER <b>34-080-1</b>				MATERIAL SIZE <b>1/2" #4F</b>	
TEST NO. <b>QC</b>	DATE <b>7/28/2016</b>	TIME <b>8:00</b>	SAMPLED AT <b>Final Belt</b>				TO BE USED IN <b>HMAC AGG</b>		

SIEVE ANALYSIS AASHTO T27/11									FM
SIEVE SIZE	SPECS. LIMITS	MASS 1	MASS 2	MASS 3	MASS 4	TOTAL MASS	% RET	% PASS	CUMULATIVE % RETAINED
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
						0.0	0.0	100	
3/4	99-100	0.0				155.1	6.2	94	
1/2	90-100	155.1				394.0	15.7	78	
3/8	-	394.0				497.1	19.8	58	
1/4	-	497.1				262.4	10.5	48	
4	40-56	262.4				449.6	17.9	30	
8	24-34	449.6				271.0	10.8	19	
16	-	271.0				135.3	5.4	14	
30	10-16	135.3				89.6	3.6	10	
50	-	89.6				52.8	2.1	8	
100	-	52.8				45.4	1.8	6.2	
200	5.4-7.4	45.4				28.4	1.1		
PAN	---	28.4							
B = INITIAL DRY MASS:		2506	D = MASS AFTER SIEVING:		2380.7				

Does not meet spec 312123, please advise if this is acceptable.

SIEVE SIZE		FRACTURE % METHOD 2 TP-61				ELONGATED PIECES	
		FRAC MASS (F)	QUESTIONABLE MASS (Q)	NON FRAC MASS (N)	INDIVIDUAL FRAC %	TEST MASS	ELONG MASS
2	Face					155.1	0.0
1/2"	75-100%					394.0	7.6
3/8"	Roll down					497.1	13.1
1/4"	Roll down					262.4	2.5
#4	75-100%						
1	Face						
#8	75-100%						

SET 176			
1	2	3	Sample
			Clay
			Sand
			S.E.
AVG.		SPEC	N/A
PAN TARE			412.2
WET MASS & PAN			2982.2
DRY MASS & PAN			2918.2
AFTER WASH DRY MASS & PAN			2795.9

C = AFTER WASH DRY MASS &amp; PAN - PAN

B = DRY MASS &amp; PAN - PAN

A = WET MASS &amp; PAN - PAN

RESULT SPEC

☐ DRY ☒ WET

WAQTC AASHTO T-27/T11

☒ Round ☐ Square ☐ Rectangle  Size

Fracture % Method 1	TP-61		
Wood Waste	TM225	0.00%	0.10max%
Cleanness Value	TM 227		
Flat & Elongated	TM 229	1.8%	10.0max%
Fineness Modulus	T 27/T11		
MOISTURE % = ((A-B) / B) X 100		2.6%	
SIEVE LOSS % = ((C-D) / C) X 100		0.1%	0.3max
(N <sub>10</sub> / 1/4") x 100			

REMARKS

LEVELING  
AGGREGATE @  
SYNTHETIC  
TURF

<input checked="" type="checkbox"/> QUALITY CONTROL	<input type="checkbox"/> VERIFICATION	<input type="checkbox"/> INDEPENDENT ASSURANCE	DATE
CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER		COMPANY NAME	SIGNATURE
Patrick Jones #44313		Baker Rock Resources	7/28/2016





# TerraTex N06

## Nonwoven Geotextile

TerraTex N06 is a nonwoven geotextile made up of polypropylene fibers. These fibers are needed to form a stable and durable network such that the fibers retain their relative position. It is non-biodegradable and resistant to most soil chemicals, acids and alkali with a pH range of 3 to 12. TerraTex N06 is manufactured to meet or exceed the following minimum average roll values:

<u>Property</u>	<u>Test Method</u>	Minimum Average Roll Value <u>English</u>	Minimum Average Roll Value <u>Metric</u>
Weight (Typical)	ASTM D-5261	6 oz/yd <sup>2</sup>	203 g/m <sup>2</sup>
Grab Tensile	ASTM D-4632	160 lb	0.711 kN
Grab Elongation	ASTM D-4632	50%	50%
Trapezoid Tear	ASTM D-4533	65 lb	0.289 kN
CBR Puncture	ASTM D-6241	410 lb	1.82 kN
Puncture Resistance	ASTM D-4833	90 lb	0.40 kN
Mullen Burst	ASTM D-3786	315 psi	2170 kPa
UV Resistance	ASTM D-4355	70% @ 500 hr	70% @ 500 hr
AOS	ASTM D-4751	70 US Sieve	.212 mm
Permittivity	ASTM D-4491	1.6 sec-1	1.6 sec-1
Water Flow Rate	ASTM D-4491	110 gal/min/ft <sup>2</sup>	4480 l/min/m <sup>2</sup>

5/2012

**\*DISCLAIMER:** Descriptions regarding the products described herein are based solely upon information provided by the manufacturer and are provided for informational purposes only. NOTHING CONTAINED HEREIN SHOULD BE CONSTRUED AS CREATING AN EXPRESSED OR IMPLIED WARRANTY, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, EACH OF WHICH IS HEREBY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The final determination as to the suitability of any product of Hanes Geo Components in any particular application rests solely with the user. Hanes Geo Components reserves the right to alter or modify its products and descriptions at any time without notice.

2012-06-01



## FOR INFORMATION ONLY



### *Submittal Review*

*item:*           **Synthetic Turf Field Drainage**                      *submittal no:*           **410-334614-0**

*project:*       **South Cooper Mountain High School**            *atlas project no.:*           **14016**

*date:*           **September 7, 2016**

*by:*             **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

#### *Review Status:*

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> No exception taken  | <input type="checkbox"/> Rejected             |
| <input checked="" type="checkbox"/> Note comments below | <input type="checkbox"/> Submittal incomplete |

#### *Action required:*

- ☐ No re-submittal required
- ☐ Revise and re-submit
- ☒ Re-submittal not required if corrections are made as noted
- ☐ Submit missing item(s) noted below
- ☐ Submit specified item(s) noted below

#### *Comments:*

Note that Flat Pipe is available with or without geotextile wrap. Specs call for NO WRAP. Note that some required pipe sizes are not highlighted. Note that 10d nails have been omitted from this submittal. Alternate geotextile fabric is equivalent to specified item and is acceptable.

12562 SW  
Main St.  
No. 210  
Tigard, OR  
97223

telephone  
503.224.5238

e-mail  
firstname@  
atlas-la.com



# SUBMITTAL TRANSMITTAL RECORD

## South Cooper Mountain High School



Hoffman Construction Co.  
Lic. # 28417  
South Cooper Mountain High School  
12500 SW 175<sup>th</sup> Ave.  
Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:	
Description:	
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination	
Specification Reference:	
Bid Package:	
Supplier/Subcontractor:	
Address:	
Phone:	Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

R = Reproducible

P = Print

B = Brochure

### HCC Comments:

HOFFMAN CONSTRUCTION COMPANY  
This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.

08/27/2016

410-334614-0

Date

Submittal #

RobinsonA

Reviewed By

### DESIGN OPERATIONS:





SUBMITTAL #3

## SUBMITTAL TRANSMITTAL

**DATE:**

August 19, 2016

**ATTENTION:**

Andrew Robinson  
Hoffman Construction Company  
805 SW Broadway, Suite 2100  
Portland, Oregon 97205

**PROJECT:**

South Cooper Mountain High School

I am sending you the following for approval and use on the above referenced project:

1. Pipe & Fittings – HD Supply Waterworks – 10 Pages.
2. Trench Backfill – Baker Rock  $\frac{3}{4}$ " - #4 Drain Rock – 1 Page.
3. Geotextile @ Trench Sides & Bottom – TerraTex N04.5 – 1 Page.

**SUBMITTED BY:**

Kelly Fitzpatrick

**CONTRACT SECTION:**

Section 33 46 14

**REMARKS:**





MATERIAL SUBMITTAL PACKAGE FOR

SO COOPER MT HS BALL FIELD

CONTRACTOR

BENCHMARK CONTRACTING

***CONTACT: KELLY FITZPATRICK***  
***(503) 649-8762***

PROVIDED BY:

***HD SUPPLY WATERWORKS***  
***LAKE OSWEGO, OR***  
***(503) 620-9123***  
***FAX: (503) 684-7213***  
***GERALD EVANS***



## ADS N-12® ST IB PIPE (per ASTM F2648) SPECIFICATION

### Scope

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 ST IB pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

### Pipe Requirements

ADS N-12 ST IB pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.

- 4- through 60-inch (100 to 1500 mm) shall meet ASTM F2648.
- Manning's "n" value for use in design shall be 0.012.

### Joint Performance

Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be soil-tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

### Fittings

Fittings shall conform to ASTM F 2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of ASTM F 2306.

### Material Properties

Material for pipe production shall be an engineered compound of virgin and recycled high density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

### Installation

Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.02. Contact your local ADS representative or visit our website at [www.ads-pipe.com](http://www.ads-pipe.com) for a copy of the latest installation guidelines.

### Pipe Dimensions

Nominal Diameter, in (mm)													
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.** in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)
Perforations	All diameters available with or without perforations.												

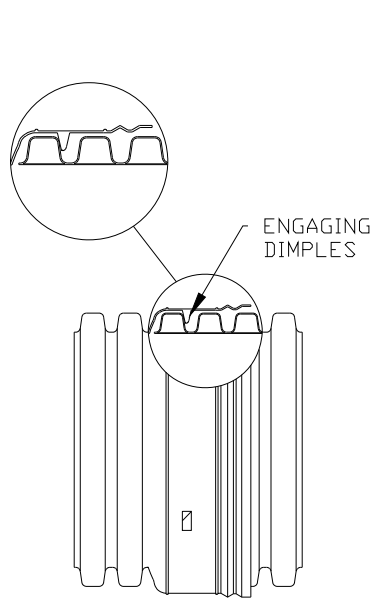
\*Check with sales representative for availability by region.

\*\*Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact a sales representative for exact values.

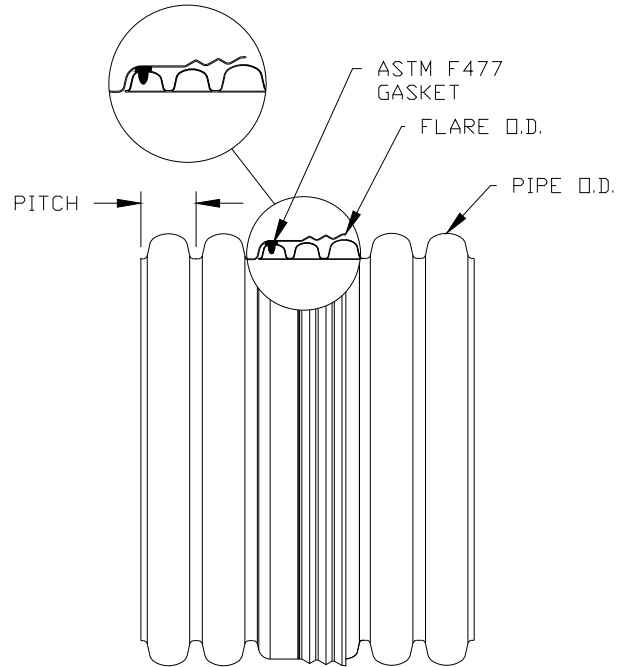


## N-12® ST IB (per ASTM F2648) JOINT SYSTEM

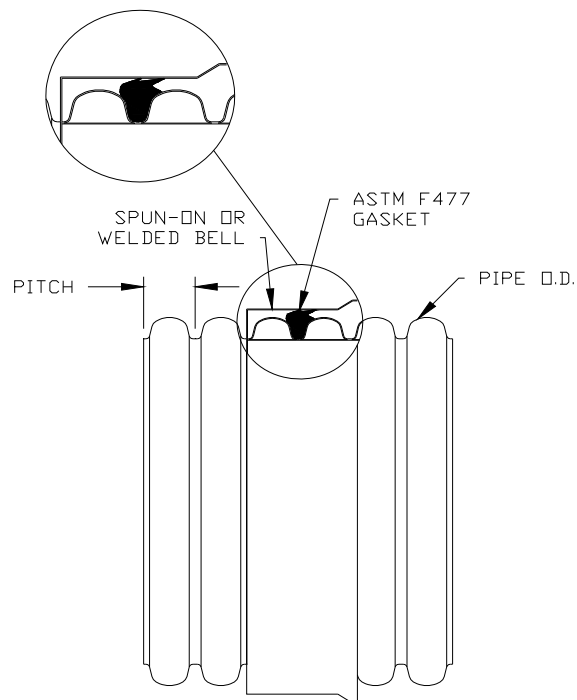
(Joint configuration & availability subject to change without notice. Product detail may differ slightly from actual product appearance.)



4" - 10"  
(100-250 MM)



12" - 60"  
(300-1500 MM)



4" - 60"  
(100-1500 MM)





# TECHNICAL NOTE

Dual Wall HDPE Perforation Patterns

TN 1.01  
December 2011

## Introduction

Perforated pipe plays an integral role in many applications of HDPE pipe. Generally, perforated pipe is used to accelerate the removal of subsurface water in soils or to allow storm water to percolate into the soil. Currently, two classifications of perforations are specified in the AASHTO material specifications for HDPE pipe: Class I, and Class II. Class I perforations are commonly used in combination storm/underdrain systems while Class II incorporates subsurface drainage and detention/retention systems. Both classes are explained in more detail in the AASHTO materials specifications (M294 and M252). AASHTO M252 covers pipe diameters 3- through 10-inch (75 - 250 mm) while M294 covers 12-inch through 60-inch (300 - 1500 mm).

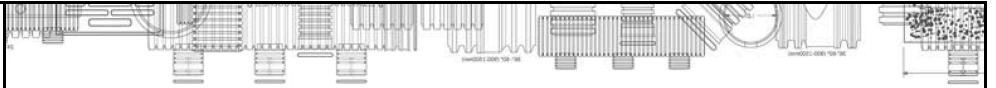
## Standard Perforation Patterns

### AASHTO Class II Perforation

The following terminology for perforations is derived from the applicable AASHTO specification. Differences between the specifications are covered in the table below. Class II perforations shall be located in the outside valleys of the corrugations, be circular and/or slotted and evenly spaced around the circumference and length of the pipe. The perforations shall be located in the outside valleys of the corrugations. The water inlet area shall be no less than 0.945 in<sup>2</sup>/ft (20 cm<sup>2</sup>/m) for pipe diameters 4- through 10-inch (100 - 250mm), 1.42 in<sup>2</sup>/ft (30 cm<sup>2</sup>/m) for pipe diameters 12- through 18-inch (300 - 450 mm) and 1.89 in<sup>2</sup>/ft (40 cm<sup>2</sup>/m) for pipe diameters larger than and equal to 24 inches (600 mm). Table 1 below represents ADS standard perforation patterns for AASHTO Class II.

Nominal I.D.		Perforation Type	Maximum Slot Length or Diameter		Maximum Slot Width		Minimum Inlet Area	
in	mm		in	mm	in	mm	in <sup>2</sup> /ft	cm <sup>2</sup> /m
4	100	Slot	0.875	22	0.125	3	1.0	21
6	150	Slot	0.875	22	0.125	3	1.0	21
8	200	Slot	1.18	30	0.125	3	1.0	21
10	250	Slot	1.18	30	0.125	3	1.0	21
12	300	Circular	0.313	8	-	-	1.5	32
15	375	Circular	0.313	8	-	-	1.5	32
18	450	Circular	0.313	8	-	-	1.5	32
24	600	Circular	0.313	8	-	-	2.0	42
30	750	Circular	0.375	9.5	-	-	2.0	42
36	900	Circular	0.375	9.5	-	-	2.0	42
42	1050	Circular	0.375	9.5	-	-	2.0	42
48	1200	Circular	0.375	9.5	-	-	2.0	42
54	1350	Circular	0.375	9.5	-	-	2.0	42
60	1500	Circular	0.375	9.5	-	-	2.0	42

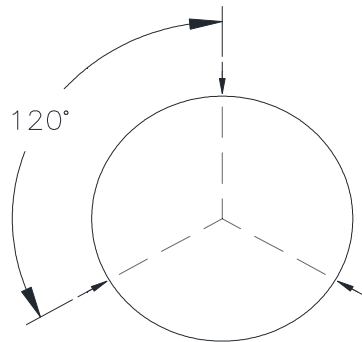


**Figure 1****AASHTO Class II Perforation Patterns**

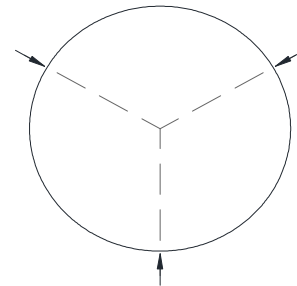
*Note: Actual pattern may vary by region, however all patterns meet the AASHTO and ASTM minimum requirements for the open inlet area.*

4" – 10"  
PIPE DIAMETERS

4-6-8 & 10

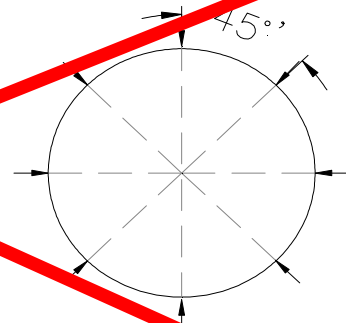
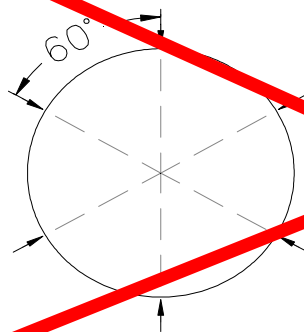


3 AT 120°



ROTATED  
EVERY VALLEY

12" – 18"  
PIPE DIAMETERS



\*\* NUMBER OF HOLES AROUND  
CIRCUMFERENCE VARIES BASED ON  
DIAMETER AND REGION \*\*

\*\* NUMBER OF HOLES AROUND  
CIRCUMFERENCE VARIES BASED ON  
DIAMETER AND REGION \*\*



# AdvanEDGE® Pipe

## The advanced panel pipe for rapid-response drainage

ADS AdvanEDGE panel pipe provides the dimensional stability and field-proven structural strength for quick, effective subsurface drainage. It consists of a perforated panel-shaped plastic core wrapped with geotextile for soil filtration. The distinguishing performance feature of panel pipe is its ability to rapidly collect and remove water. Compared to 4" round pipe with an equal length of 12", panel pipe has twice the soil contact area and will drain a given quantity of water in about 60% of the time. Its slim 1.5" profile permits a narrow trench and faster installation.

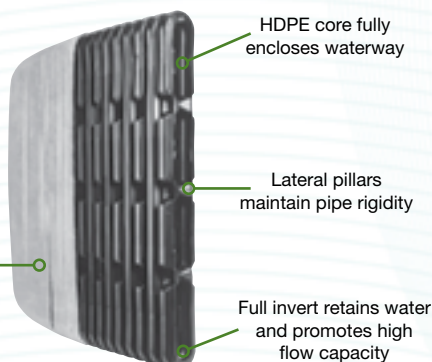
AdvanEDGE is truly a pipe. It's not round, of course, but its panel-shaped core fully encloses the waterway. Lateral pillars maintain the core opening, resulting in a series of oval-shaped channels providing superior strength and relatively few projections into the waterway. The design of the invert permits significantly higher flow velocity at lower head.

## An effective solution for a wide range of applications:

- Highway edge drains
- Athletic turf drainage
- Building foundations and retaining walls
- Waste management curtain drains

AdvanEDGE is designed to provide significantly higher flow and structural strength

Geotextile acts as a soil filter only, not as a structural member



## Features:

- 12" and 18" (300 and 450 mm) oblong dimensions available
- 100 ft and 500 ft lengths available
- Fast installation times
- Manufactured from high density polyethylene resin

## Benefits:

- Invert design permits significantly higher flow velocity at lower head
- Structural superiority confirmed by state field performance tests of edge drains
- Higher flow capacity compared to various geocomposites
- Slim-line design allows for narrow trench installation, easily cut in with high-speed trenching equipment
- Long-term durability of HDPE



## ADS AdvanEDGE Pipe Specifications

### Scope

This specification describes 12" and 18" (300 and 450 mm) ADS AdvanEDGE oblong corrugated pipe for use in subsurface drainage applications.

### Pipe Requirements

ADS AdvanEDGE shall meet ASTM D7001 and have outside dimensions of 1.5" wide by 13" tall or 1.5" wide by 18" tall. AdvanEDGE shall have internal bracing adjoining each long wall to prevent crushing under typical loading. AdvanEDGE shall be made available with or without external geotextile wrap.

### Material Properties

All pipe and fittings shall be made of polyethylene with a minimum cell classification of 424420C as defined and described in ASTM D3350.

Use 100d nails per specs and secure every 4'

### AdvanEDGE Perforations

Nominal Pipe Size, in. (mm)	12 (300)	18 (450)
Slot Length (Avg), in. (mm)	1.125 (29)	1.125 (29)
Slot Width (Avg), in. (mm)	0.125 (3.2)	0.15 (4)
Water Inlet Area (Approx), in <sup>2</sup> /ft	15	20

All Values provided are for reference purposes only.

### AdvanEDGE Geotextile Wrap

Fabric Properties	Test Method	Minimum Average Roll Values
Grab Tensile Strength (lbs.) (weakest principle direction)	ASTM D4632	120
Grab Elongation (%) (weakest principle direction)	ASTM D4633	60
Trapezoidal Tear (lbs.) (weakest principle direction)	ASTM D4533	40
Puncture (lbs.)	ASTM D3786	30
Permittivity	ASTM D4491	0.7
AOS (U.S. Sieve Size)	ASTM D4751	60
U.V. Resistance	ASTM D4355	70



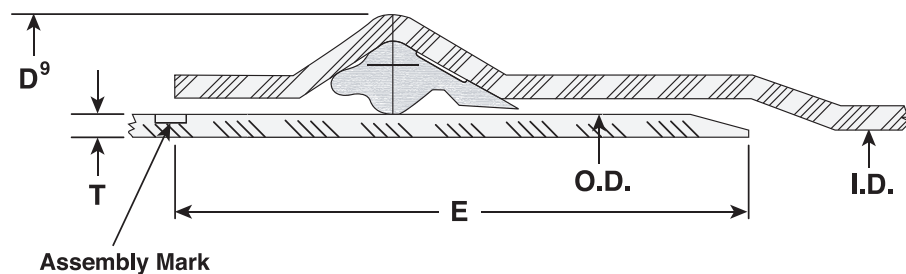
ADS "Terms and Conditions of Sale" are available on the ADS website, [www.ads-pipe.com](http://www.ads-pipe.com)  
Advanced Drainage Systems, the Green Stripe and AdvanEDGE are registered trademarks of Advanced Drainage Systems, Inc.  
© 2006 Advanced Drainage Systems, Inc. (2713)  
10598/0407

# GRAVITY SEWER

## SUBMITTAL AND DATA SHEET

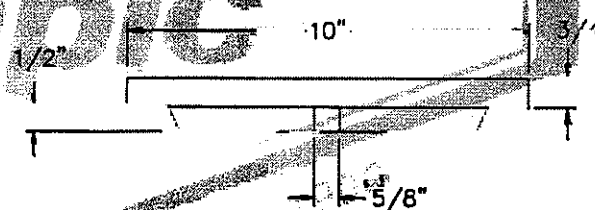
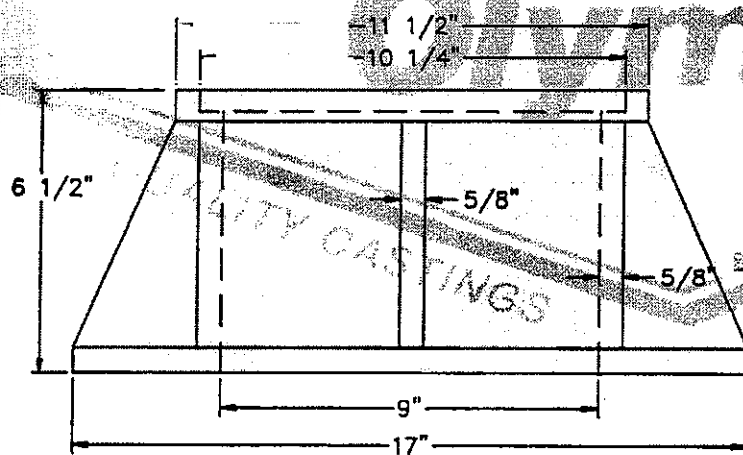
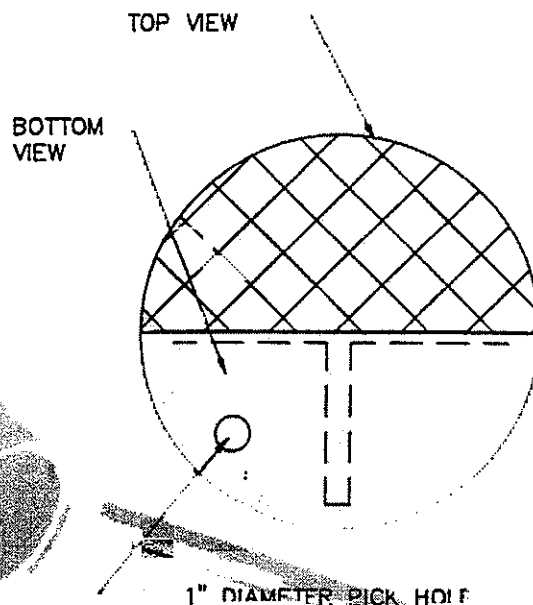
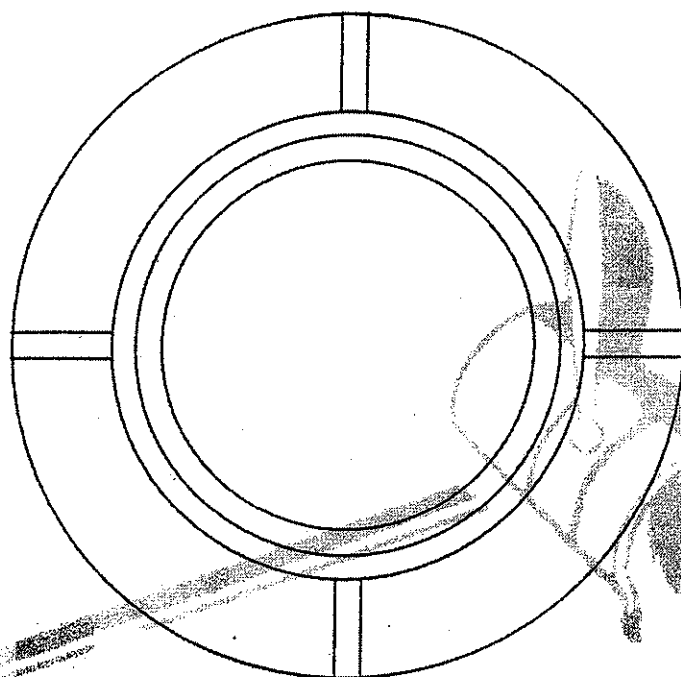
PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D (IN)	APPROX. WEIGHT (LBS/FT)
<b>SDR 35 (PS46) ASTM D3034</b>						
<b>4</b>	<b>4.215</b>	<b>3.975</b>	<b>0.120</b>	<b>3.50</b>	<b>4.695</b>	<b>1.05</b>
<b>6</b>	6.275	5.915	0.180	4.25	6.995	2.36
<b>8</b>	8.400	7.920	0.240	4.75	9.360	4.24
<b>10</b>	10.500	9.900	0.300	6.00	11.700	6.64
<b>12</b>	12.500	11.780	0.360	6.25	13.940	9.50
<b>15</b>	15.300	14.426	0.437	7.25	17.048	14.19
<b>SDR 26 (PS115) ASTM D3034</b>						
<b>4</b>	4.215	3.891	0.162	3.50	4.863	1.40
<b>6</b>	6.275	5.793	0.241	4.25	7.239	3.11
<b>8</b>	8.400	7.754	0.323	4.75	9.692	5.63
<b>10</b>	10.500	9.692	0.404	6.00	12.116	8.84
<b>12</b>	12.500	11.538	0.481	6.25	14.424	12.56
<b>15</b>	15.300	14.124	0.588	7.25	17.652	18.90
<b>PS46, ASTM F679</b>						
<b>18</b>	18.701	17.629	0.499	8.00	20.845	21.43
<b>21</b>	22.047	20.785	0.588	9.50	24.575	29.88
<b>24</b>	24.803	23.381	0.661	9.60	27.647	38.96
<b>27</b>	27.953	26.351	0.745	10.10	31.157	49.47
<b>30 CIOD</b>	32.000	30.194	0.855	16.75	35.612	64.18
<b>36 CIOD</b>	38.300	36.042	1.021	19.02	42.816	93.00
<b>42 CIOD</b>	44.500	41.948	1.187	22.43	49.604	—
<b>48 CIOD</b>	50.800	47.888	1.355	24.78	56.624	—
<b>PS115, ASTM F679</b>						
<b>18</b>	18.701	17.261	0.671	8.00	24.581	28.49
<b>21</b>	22.047	20.349	0.791	9.50	25.445	—
<b>24</b>	24.803	22.891	0.889	9.60	28.627	—
<b>27</b>	27.953	25.799	1.002	10.10	32.261	—
<b>30 CIOD</b>	32.000	29.070	1.148	16.75	36.348	—
<b>36 CIOD</b>	38.300	35.464	1.373	19.02	45.438	—
<b>42 CIOD</b>	44.500	41.072	1.596	22.43	51.356	—
<b>48 CIOD</b>	50.800	46.886	1.822	24.78	58.628	—





I.D. : Inside Diameter  
 O.D. : Outside Diameter  
 T. : Wall Thickness  
 D<sup>9</sup> : Bell Outside Diameter  
 E : Distance between Assembly Mark to  
 the end of spigot.

Product Standard: ASTM 3034 (4"–15")  
 ASTM F679 (18"–48")  
 Pipe Compound: ASTM D1784 Cells Class 12454 or 12364  
 Gasket: ASTM F477  
 Integral Bell Joint: ASTM D3212  
 Pipe Stiffness: ASTM D2412  $F/\Delta Y = 46 \text{ PSI}$  or  $115 \text{ PSI}$   
 Pipe Length: 14 ~~or 20 ft~~ laying length  
 Installation: ASTM D 2321  
 JM Eagle™ Installation Guide



FRAME

COVER

**M1018 C/O COVER**

REF# OF017

## NOTES:

- MATERIAL: CAST IRON, ASTM A-48, CL 30

**OLYMPIC FOUNDRY, INC.**9" x 6 1/2" CLEAN-OUT  
FRAME AND COVERAPPROX. WEIGHT: FRAME - 64 LBS.,  
COVER - 18 LBS.

RATING - H20

PART NO. M1018







815 Buxton Street | Winston Salem, NC | 27101

PH: 888.239.4539 | FAX: 336.747.1652

www.HanesGeo.com

Specs call for Mirafi 140N,  
please confirm this is  
acceptable.

## TerraTex® N04.5

TerraTex® N04.5 is a nonwoven geotextile made up of polypropylene fibers. These fibers are needed to form a stable and durable network such that the fibers retain their relative position. It is non-biodegradable and resistant to most soil chemicals, acids, and alkali with a pH range of 3 to 12. TerraTex® N04.5 is manufactured to meet or exceed the following minimum average roll values:

Unless noted otherwise, all values are minimum average roll values (MARV).

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight (Typical) <sup>1</sup>	ASTM D5261	4.2 oz/yd <sup>2</sup>	142 g/m <sup>2</sup>
Grab Tensile	ASTM D4632	120 lbs	0.533 kN
Grab Elongation	ASTM D4632	50 %	50 %
Trapezoid Tear	ASTM D4533	50 lbs	0.222 kN
CBR Puncture	ASTM D6241	340 lbs	1.51 kN
Permittivity <sup>1</sup>	ASTM D4491	1.70 sec <sup>-1</sup>	1.70 sec <sup>-1</sup>
Water Flow Rate <sup>1</sup>	ASTM D4491	120 gpm/ft <sup>2</sup>	4,885 Lpm/m <sup>2</sup>
AOS <sup>1, 2</sup>	ASTM D4751	70 US Std. Sieve	0.212 mm
UV Resistance	ASTM D4355	70 % @ 500 hrs	70 % @ 500 hrs

<sup>1</sup> At the time of manufacturing. Handling, storage, and shipping may change these properties.

<sup>2</sup> Value represents maximum average roll value.

**DISCLAIMER:** Descriptions regarding the products described herein are based solely upon information provided by the manufacturer and are provided for informational purposes only. NOTHING CONTAINED HEREIN SHOULD BE CONSTRUED AS CREATING AN EXPRESSED OR IMPLIED WARRANTY, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, EACH OF WHICH IS HEREBY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The final determination as to the suitability of any product of Hanes Geo Components in any particular application rests solely with the user. Hanes Geo Components reserves the right to alter or modify its products and descriptions at any time without notice.



## FOR INFORMATION ONLY



### *Submittal Review*

*item:*       **Synthetic Turf Shop Drawings**

*submittal no:*       **490-321823.29-1**

*project:*       **South Cooper Mountain High School**

*atlas project no.:*       **14016**

*date:*       **November 3, 2016**

*by:*       **Nick Wilson**

Review of submittal is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of this work with that of all other trades; and the satisfactory performance of his work. A submittal review does not alter the Contract Documents or relieve the contractor of any obligation thereunder.

Number of pages this submittal:

#### *Review Status:*

- ☒ No exception taken  
☐ Note comments below

- ☐ Rejected  
☐ Submittal incomplete

#### *Action required:*

- ☒ No re-submittal required  
☐ Revise and re-submit  
☐ Re-submittal not required if corrections are made as noted  
☐ Submit missing item(s) noted below  
☐ Submit specified item(s) noted below

#### *Comments:*

12562 SW  
Main St.  
No. 210  
Tigard, OR  
97223  
  
telephone  
503.224.5238  
  
e-mail  
firstname@  
atlas-la.com

FOR INFORMATION ONLY

# SUBMITTAL TRANSMITTAL RECORD

## South Cooper Mountain High School



Hoffman Construction Co.  
Lic. # 28417  
South Cooper Mountain High School  
12500 SW 175<sup>th</sup> Ave.  
Beaverton, OR 97007

HCC Job # 5169515

Submittal No.:
Description:
For: <input type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination
Specification Reference:
Bid Package:
Supplier/Subcontractor:
Address:
Phone: Contact:

Routing	# Copies	Attention	Date Sent	Date Received	Date Due

Submittal #	Description	Action	Comments
		Review	

R = Reproducible

P = Print

B = Brochure

### HCC Comments:

HOFFMAN CONSTRUCTION COMPANY	
This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.	
10/26/2016	490-321823.29-1
Date	Submittal #
RobinsonA	
Reviewed By	

### DESIGN OPERATIONS:



# SOUTH COOPER MOUNTAIN HIGH SCHOOL BASEBALL FIELD BEAVERTON , OR



DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60' TOTAL PERIMETER: 1499 ft.
TOTAL FIELD AREA:	141,151 sq. ft.
TURF MANUF'D:	155,340 sq.ft.
EXTRA TURF:	10.1 %



A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON, OR**

DATE: OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 1/6 PRESENTATION
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APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:



CONCEPTUAL DRAWINGS ONLY: DRAWINGS ARE INTENDED ONLY TO BE A GRAPHIC RENDERING FOR PURPOSES OF PRELIMINARY PRESENTATION;  
ALL DISTANCES AND MEASUREMENTS ARE APPROXIMATE IN NATURE AND SUBJECT TO FIELD VERIFICATION.



**SPORT COLORS:**

	<b>BASEBALL</b> COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
	<b>SOCCER</b> COMPLETE COLOR NAME: CANARY YELLOW PANTONE COLOR NUMBER: 136C

**LEGEND:**

	GREEN FIELDTURF 129,850 sq.ft.
	RUST FIELDTURF 11,301 sq.ft.
	TOTAL FIELDTURF 141,151 sq.ft.

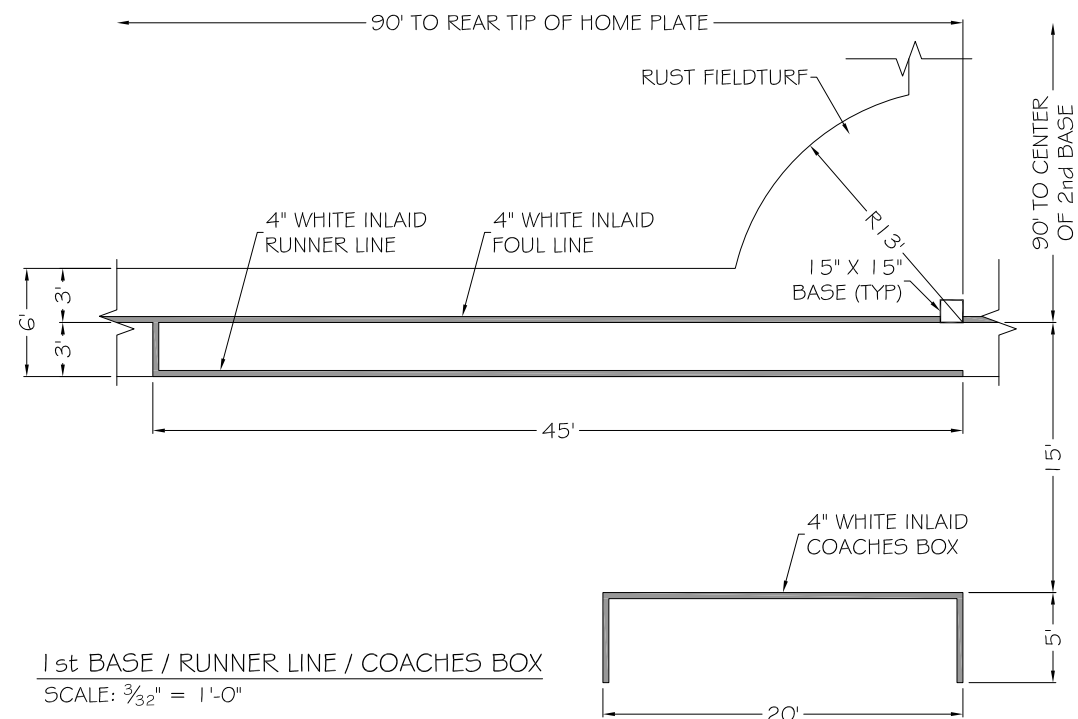
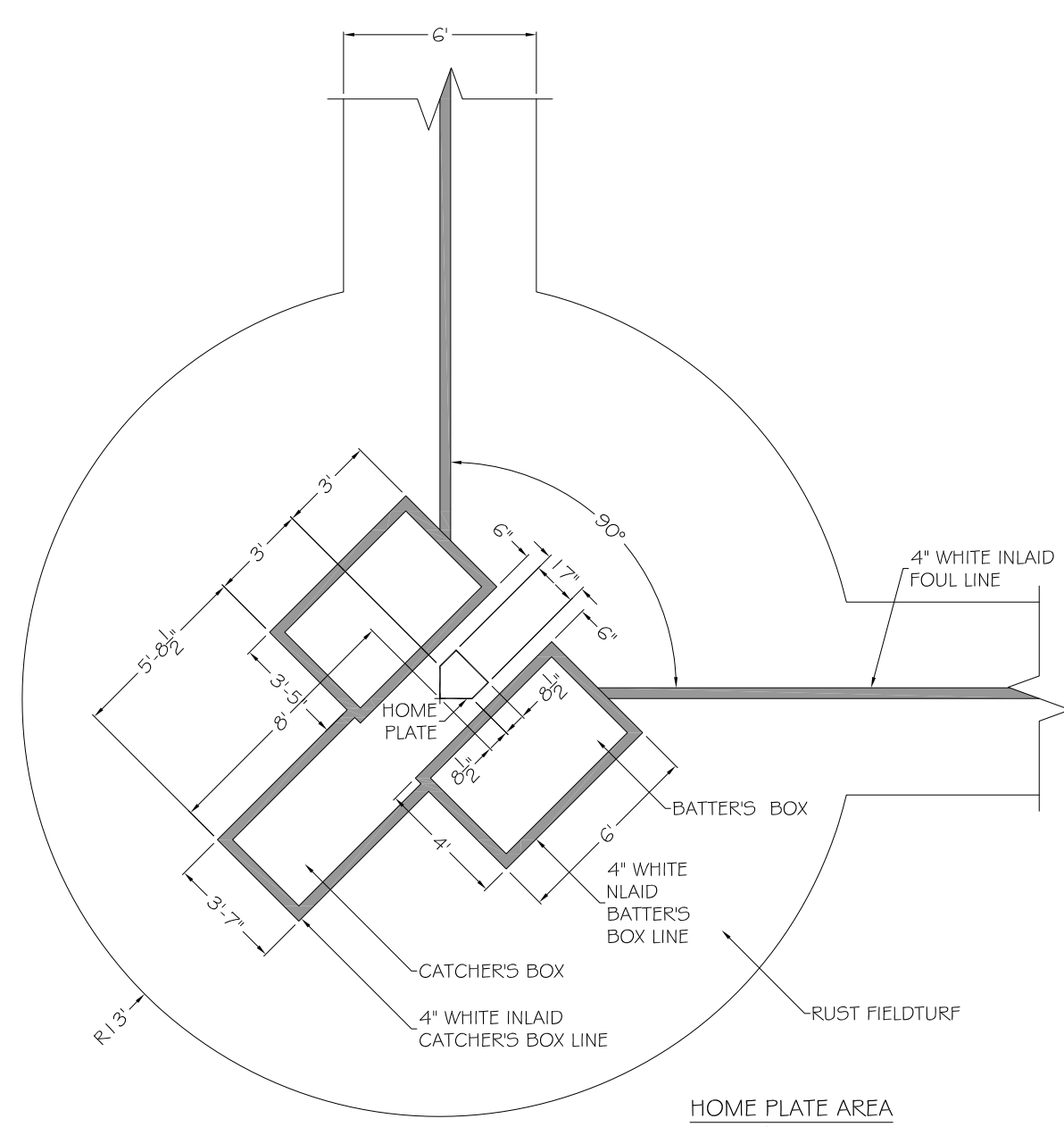
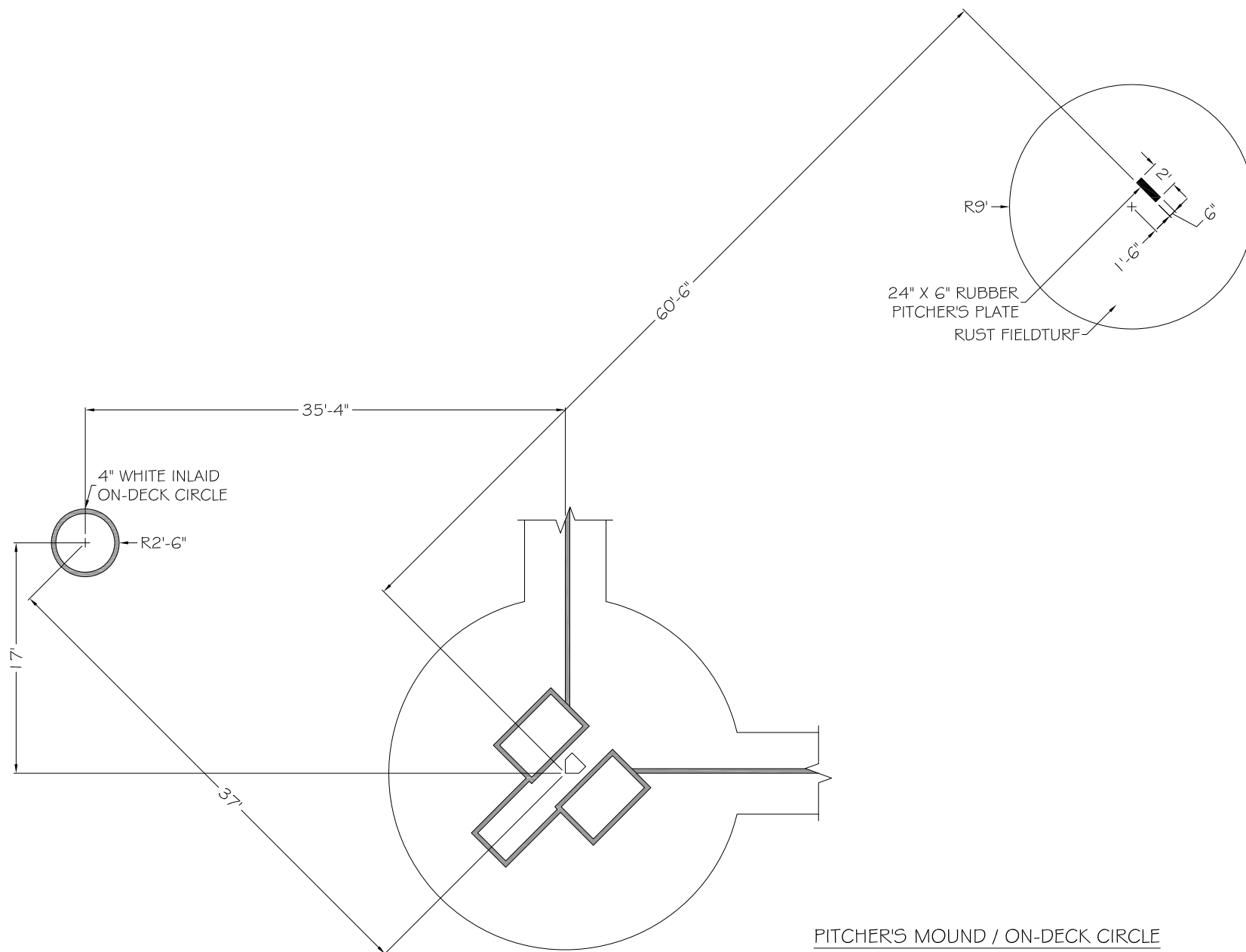
FIELD LAYOUT NOTES (sports are in order of dominance):

1. SOCCER MARKINGS ARE 4" YELLOW NFHS STANDARDS.
2. BASEBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

## NFHS STANDARDS





LEGEND:



SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON, OR



**FieldTurf**  
A Tarkett Sports Company

DRAWN BY: D. H.

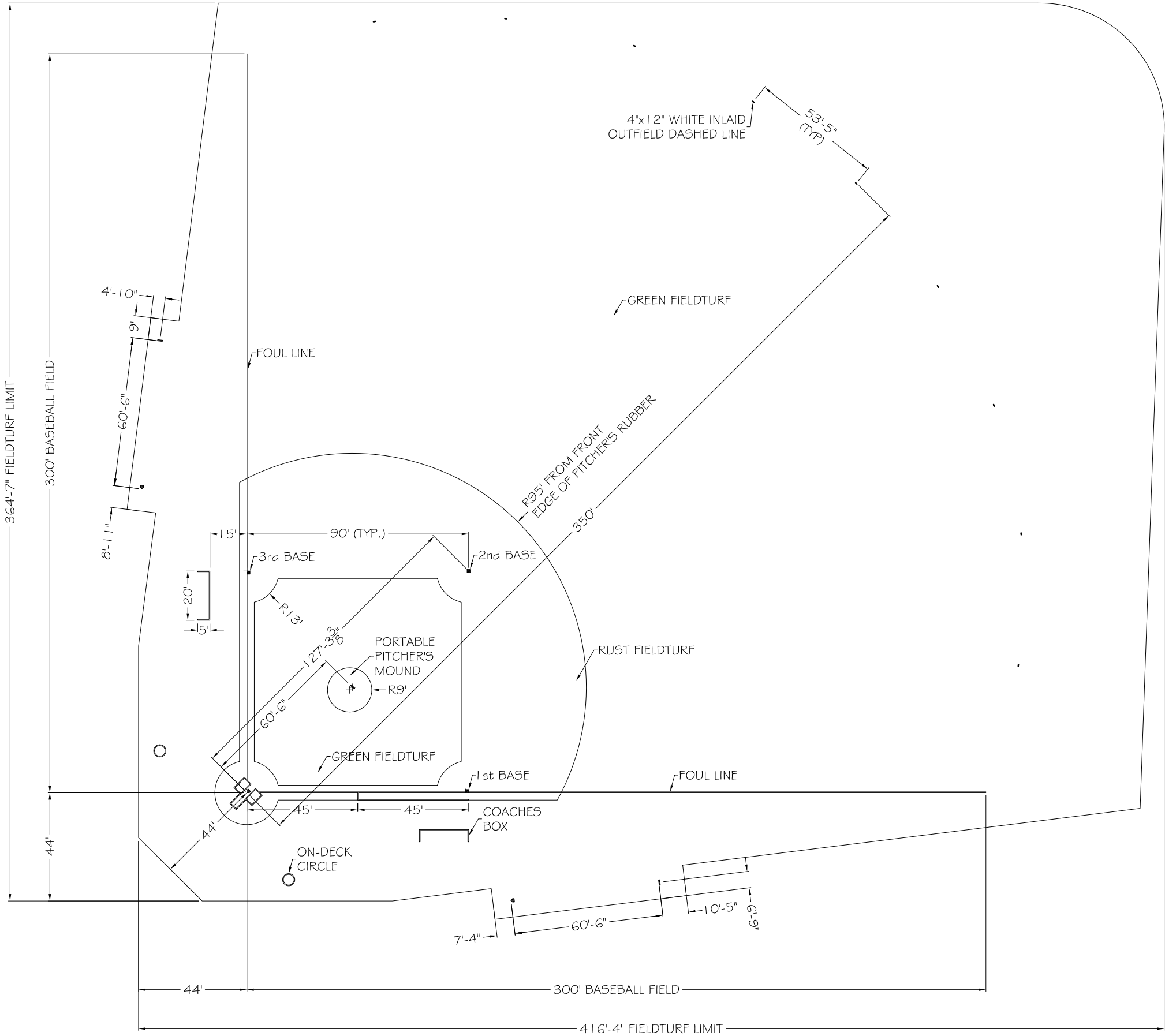
CHECKED BY: J. B.

SCALE: AS SHOWN

DATE: SEPTEMBER 12, 2016	ISSUE: SUBMITTAL	SHEET: 4/6 BASEBALL MARKINGS - B
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Scale is only accurate when this drawing is printed on 11" X 17" paper.



BASEBALL FIELD LAYOUT  
SCALE: 1" = 45'-0"

BASEBALL LAYOUT NOTES:  
ALL MARKINGS ARE 4" WHITE INLAID TURF.  
PLEASE REFER TO BASEBALL MARKINGS-B FOR DETAILS.


NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON, OR

DATE: OCTOBER 24, 2016

ISSUE: SUBMITTAL

SHEET: 3/6 BASEBALL MARKINGS - A

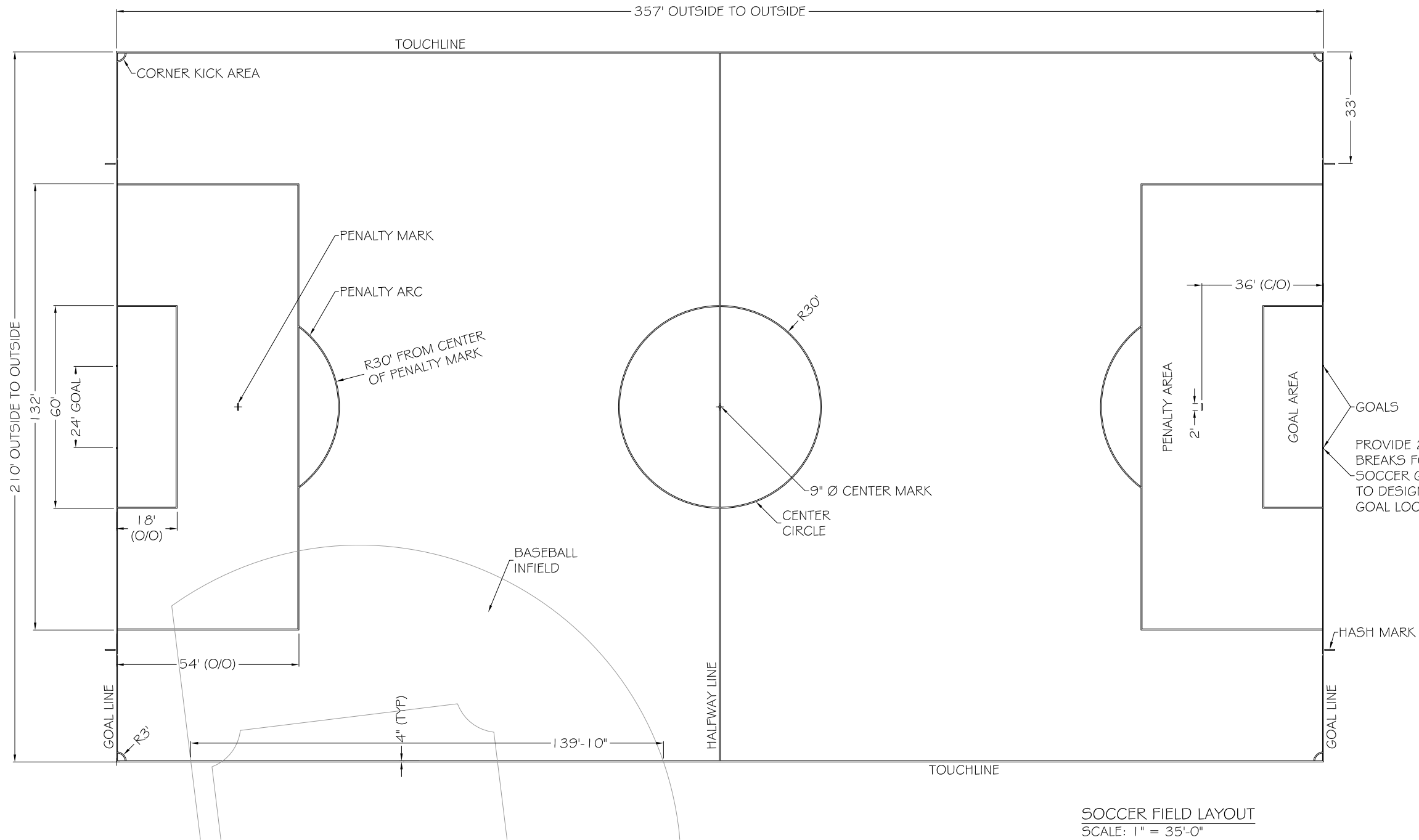
FieldTurf  
A Tarkett Sports Company

DRAWN BY: D. H.

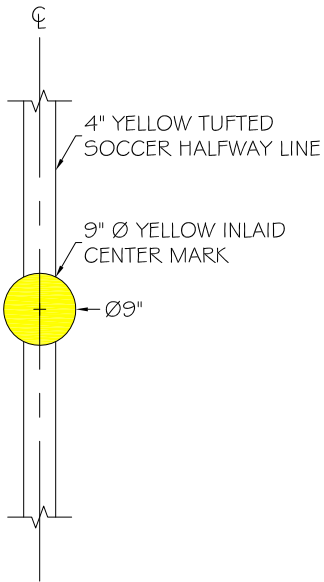
CHECKED BY: J. B.

SCALE: AS SHOWN

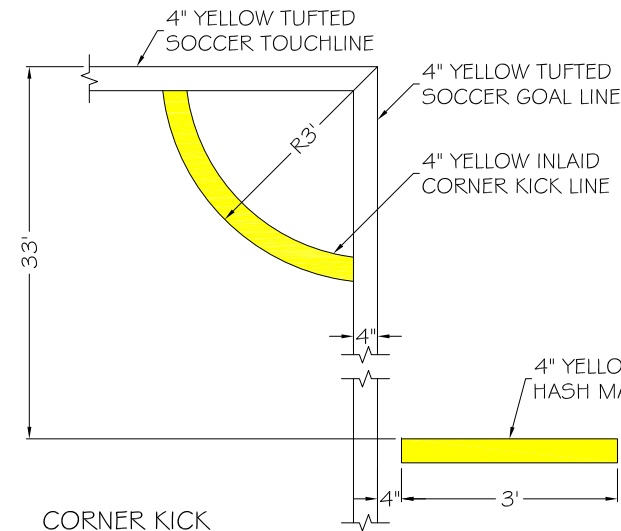




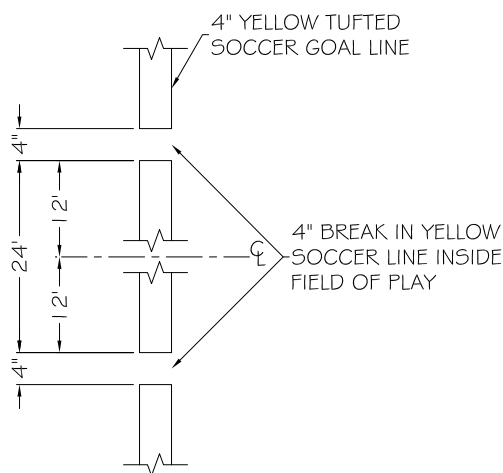
SOCCER FIELD LAYOUT  
SCALE: 1" = 35'-0"



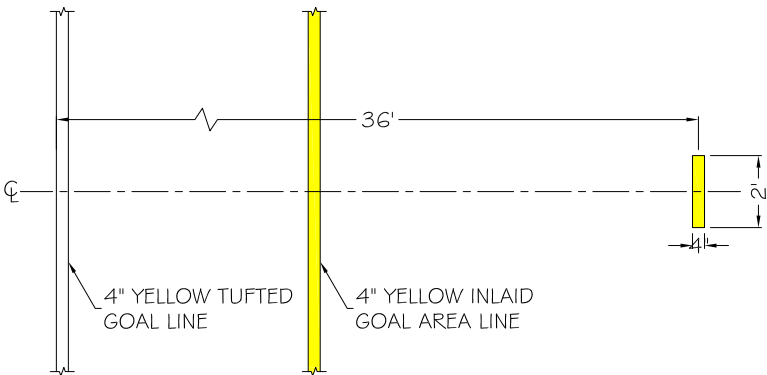
CENTER MARK  
SCALE: 1/2" = 1'-0"



CORNER KICK  
SCALE: 3/8" = 1'-0"



GOAL LOCATION  
SCALE: 1/2" = 1'-0"



PENALTY MARK  
SCALE: 3/16" = 1'-0"

LEGEND:

- TUFTED YELLOW LINE  
(INDICATED ON DETAILS ONLY)
- INLAID YELLOW LINE  
(INDICATED ON DETAILS ONLY)

SOCCER LAYOUT NOTES:

TOUCHLINES, GOAL LINES, AND HALFWAY LINE ARE TUFTED YELLOW LINES.

THE SOCCER GOAL AREA, PENALTY AREA, PENALTY MARK, PENALTY ARC, MIDFIELD CIRCLE, CENTER MARK, CORNER KICK LINE AND HASH MARK ARE TO BE YELLOW INLAID TURF.

LINES PASSING THROUGH BASEBALL INFIELD ARE INLAID.

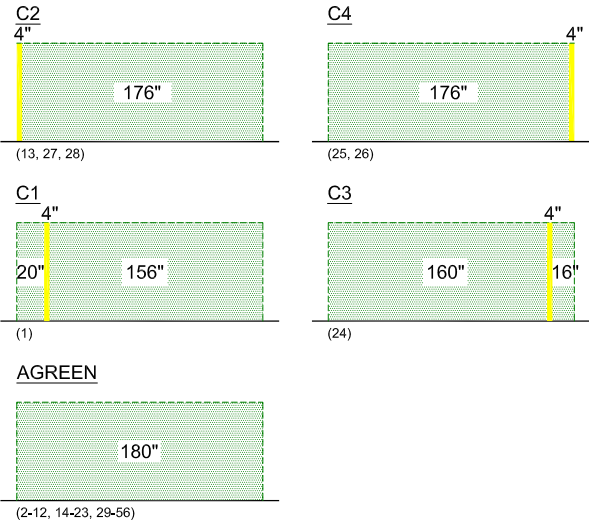
**NFHS STANDARDS**

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON, OR



DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

ROLL LEGEND:



INSTALLATIONS NOTES:

- ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- ROLLS #1 & #24 HAVE THE SOCCER GOAL LINES.
- ROLLS #26 TO #28 HAVE THE SOCCER TOUCHLINES.
- THE INSTALLATION OF THE ROLLS SHOULD START FROM THE HALFWAY LINE (ROLL #1).
- USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

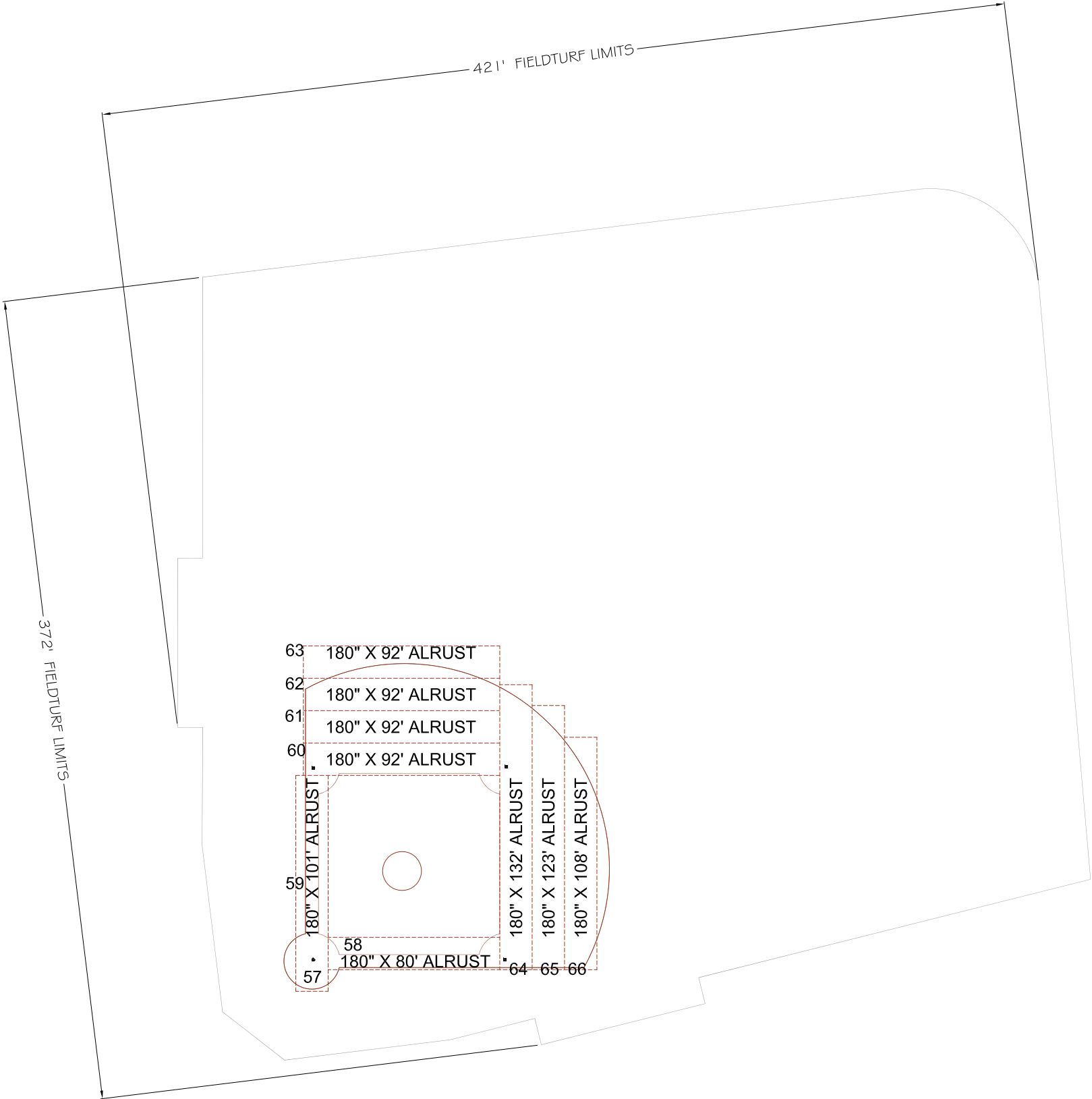


SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON , OR

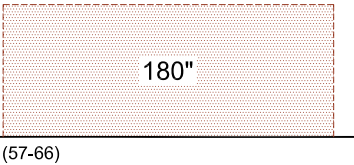


DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60'
FIELD AREA:	129,850 sq. ft.
TURF MANUF'D:	141,660 sq.ft.
EXTRA TURF:	9.1 %





ALRUST



CUT-OFFS FROM ROLLS

PLACEMENT OF CUT-OFFS

- INSTALLATIONS NOTES:
- ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
  - FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
  - THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #57).
  - USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
BASEBALL FIELD  
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016      ISSUE: SUBMITTAL      SHEET: 6/6 ROLL LAYOUT

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DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=60'
FIELD AREA:	11,301 sq. ft.
TURF MANUFD:	13,680 sq.ft.
EXTRA TURF:	21.1 %

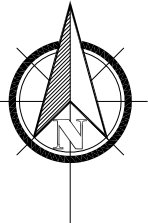
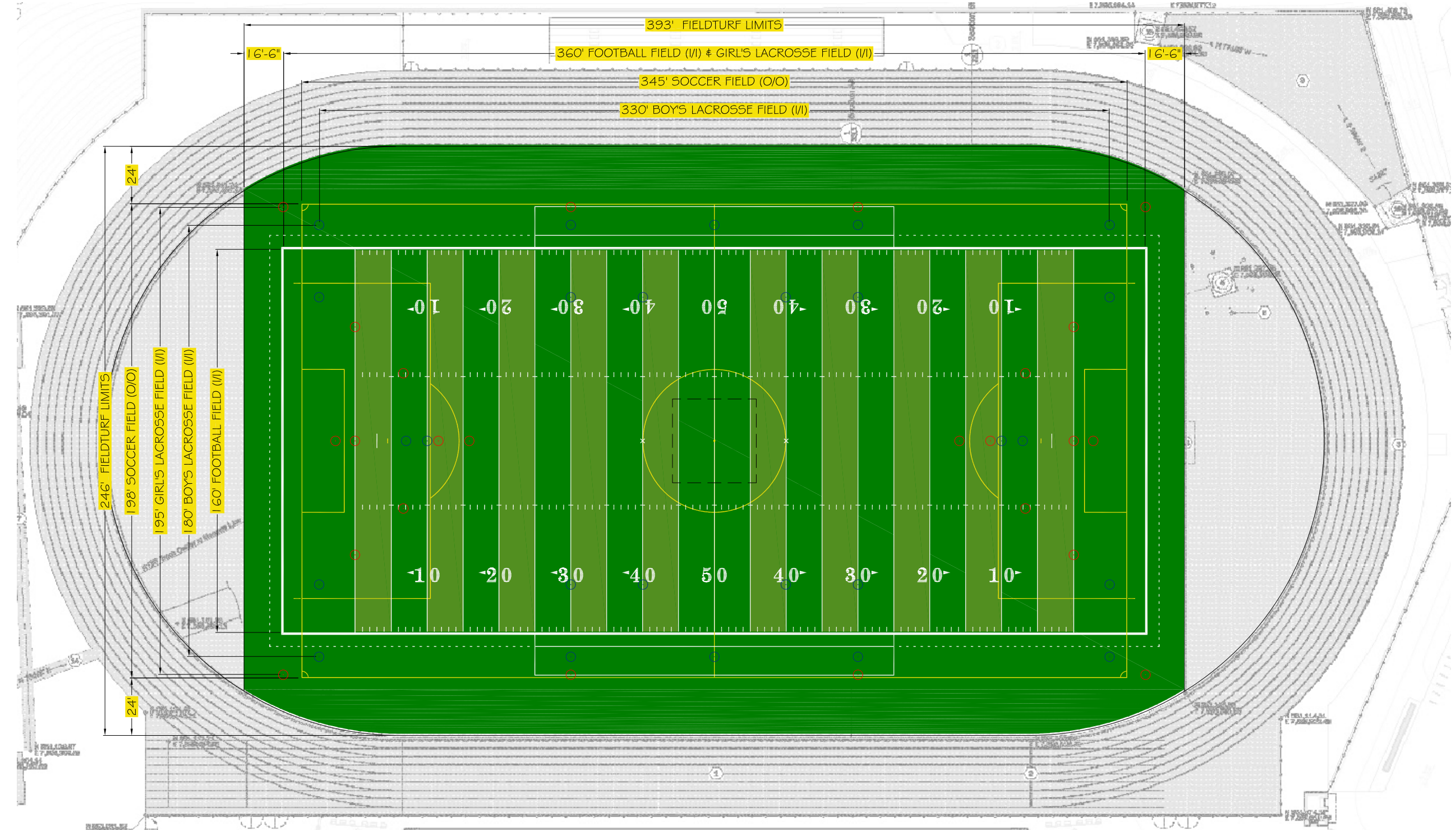
Scale is only accurate when this drawing is printed on 11" X 17" paper.

# SOUTH COOPER MOUNTAIN HIGH SCHOOL

## FOOTBALL FIELD

### BEAVERTON , OR





FTHD-1

APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:

- SPORT COLORS:
- FOOTBALL  
COMPLETE COLOR NAME: WHITE  
PANTONE COLOR NUMBER: WHITE
  - SOCCER  
COMPLETE COLOR NAME: CANARY YELLOW  
PANTONE COLOR NUMBER: 136C
  - BOYS LACROSSE  
COMPLETE COLOR NAME: REFLEX BLUE  
PANTONE COLOR NUMBER: 287C
  - GIRL'S LACROSSE  
COMPLETE COLOR NAME: RED  
PANTONE COLOR NUMBER: 185C

LEGEND:

GREEN FIELDTURF  
95,134 sq.ft.

NOTE:

THE 35'X35' RECTANGLE IN CENTER FIELD IS FOR LOGO PLACEMENT.

final approval needed on logo selection 21 days before field to be on site

- FIELD LAYOUT NOTES (sports are in order of dominance):
1. FOOTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
  2. SOCCER MARKINGS ARE 4" YELLOW NFHS STANDARDS.
  3. BOYS LACROSSE MARKINGS ARE 4" REFLEX BLUE NFHS STANDARDS.
  4. GIRL'S LACROSSE MARKINGS ARE 4" RED NFHS STANDARDS.
- FIELD DOMINANCY IS ONLY WITHIN THE FOOTBALL FIELD OF PLAY
- COLOR DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID BOYS AND GIRL'S LACROSSE TICK MARKS.
- ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

NFHS STANDARDS

**FieldTurf**  
A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN HIGH SCHOOL**  
**FOOTBALL FIELD**  
**BEAVERTON , OR**

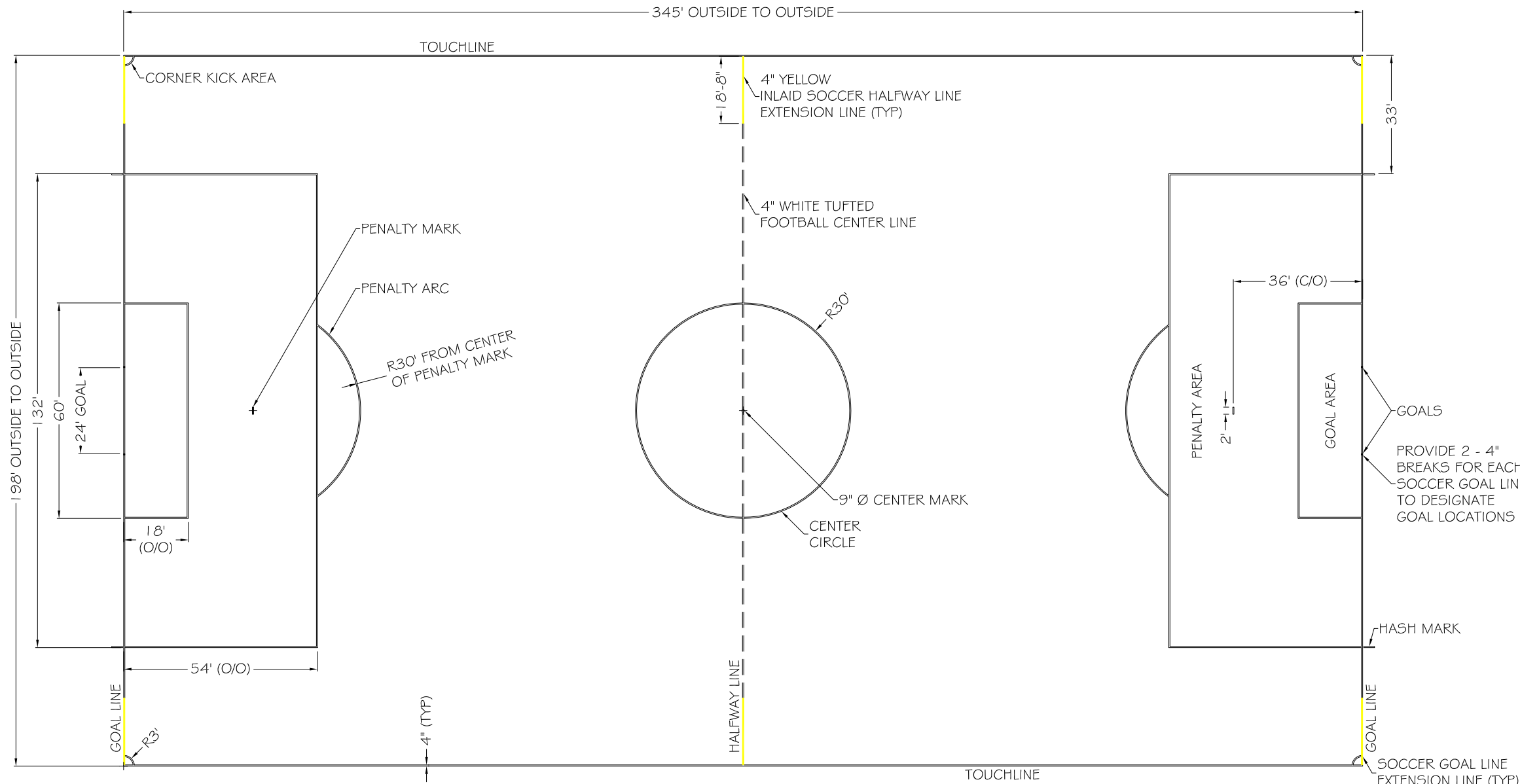
DATE:OCTOBER 24, 2016	ISSUE: SUBMITTAL	SHEET: 1/6 FIELD LAYOUT
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DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=45'
TOTAL FIELD AREA:	95,134 sq. ft.
TOTAL PERIMETER:	1,218 ft.

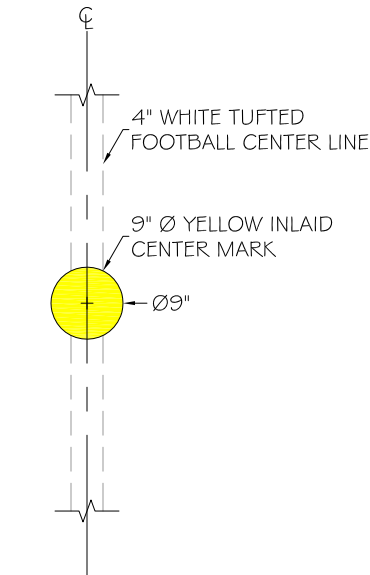
Scale is only accurate when this drawing is printed on 11" X 17" paper.  
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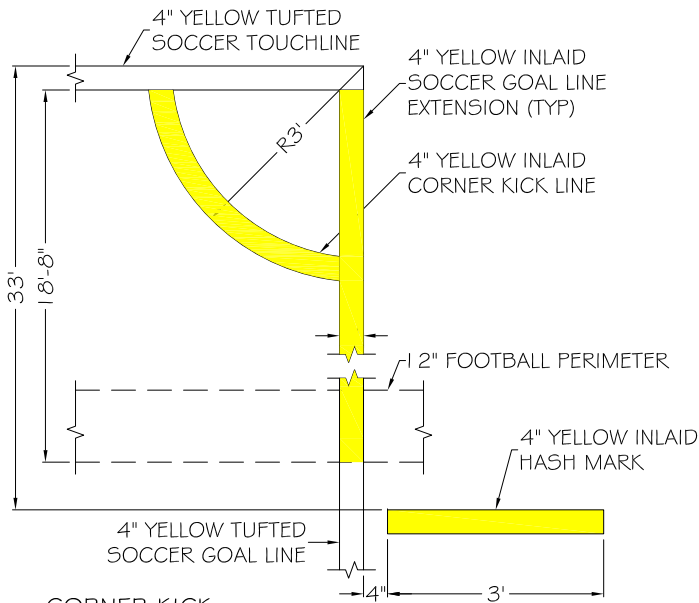




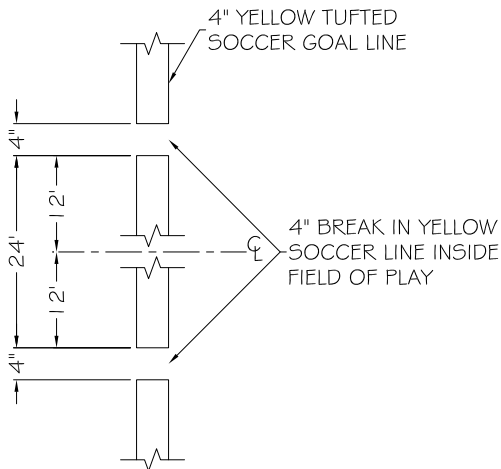
SOCCER FIELD LAYOUT  
SCALE: 1" = 35'-0"



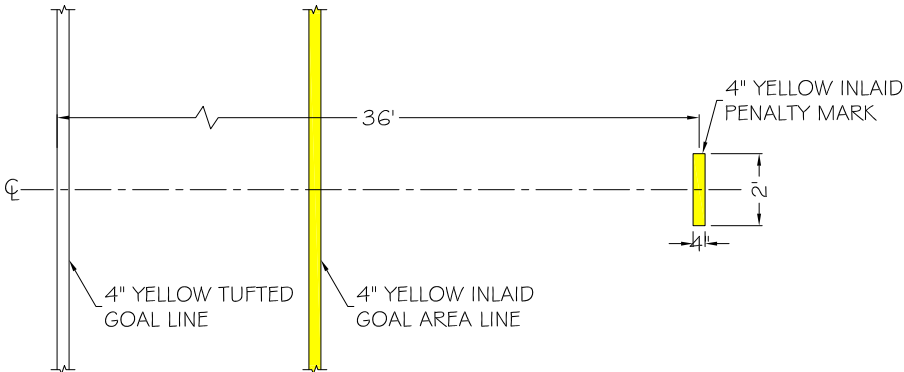
CENTER MARK  
SCALE: 1/2" = 1'-0"



CORNER KICK  
SCALE: 3/8" = 1'-0"



GOAL LOCATION  
SCALE: 1/2" = 1'-0"



PENALTY MARK  
SCALE: 3/16" = 1'-0"

LEGEND:

- TUFTED YELLOW LINE (INDICATED ON DETAILS ONLY)
- INLAID YELLOW LINE (INDICATED ON DETAILS ONLY)

SOCCER LAYOUT NOTES:

TOUCHLINES AND GOAL LINES ARE TUFTED YELLOW LINES.

THE SOCCER GOAL AREA, PENALTY AREA, PENALTY MARK, PENALTY ARC, MIDFIELD CIRCLE, CENTER MARK, CORNER KICK LINE, HASH MARK AND EXTENSION LINES ARE TO BE YELLOW INLAID TURF.

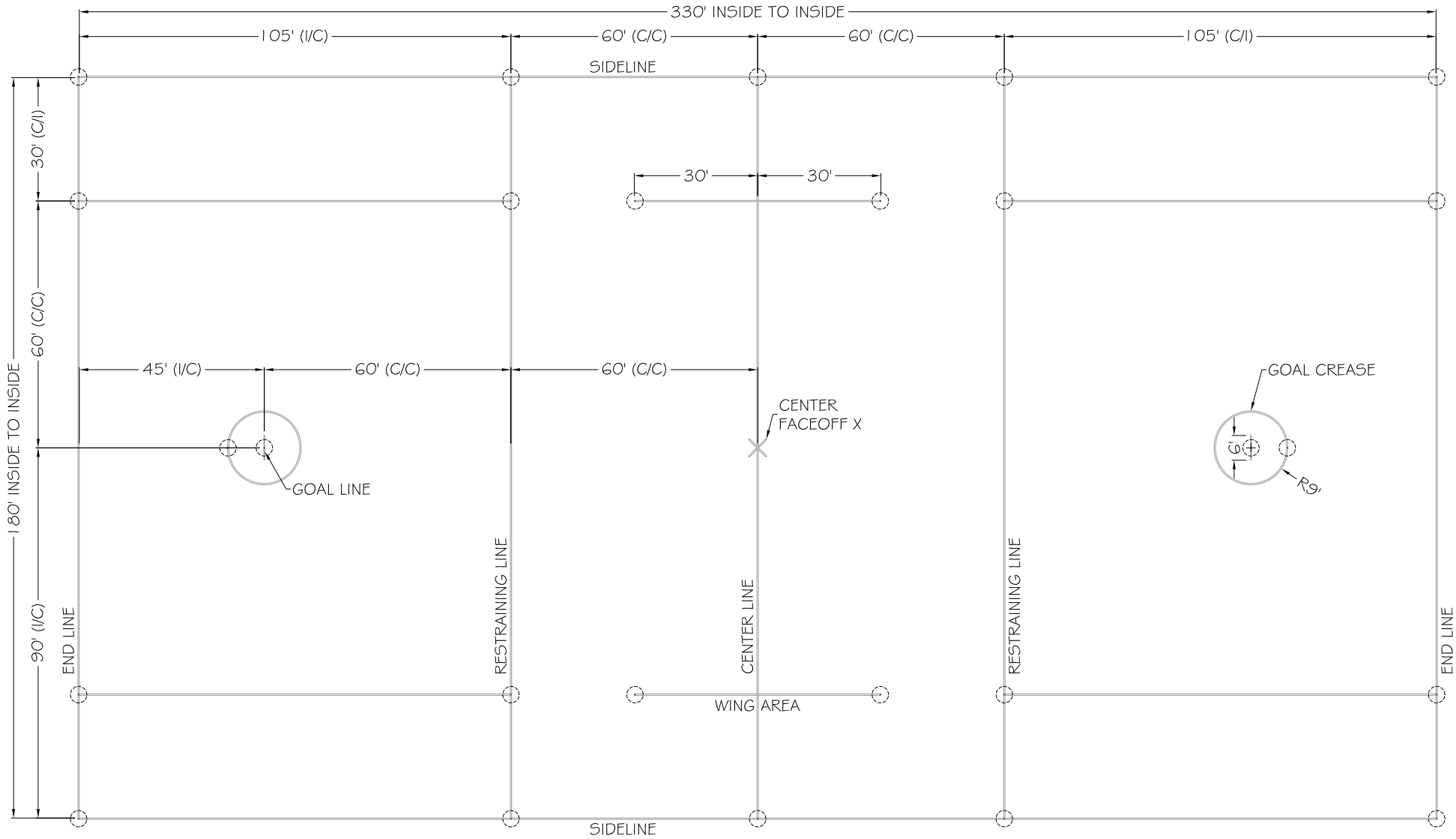
USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AS THE SOCCER HALFWAY LINE.

NFHS STANDARDS

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
FOOTBALL FIELD  
BEAVERTON , OR



DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



BOYS LACROSSE FIELD LAYOUT  
SCALE: 1" = 35'-0"

LEGEND:



INLAID REFLEX BLUE LINE  
(INDICATED ON DETAILS ONLY)

BOYS LACROSSE LAYOUT NOTES:

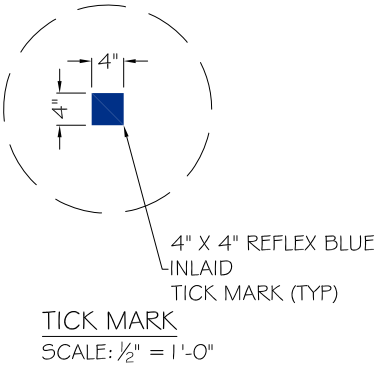
DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AND 30 YARD LINES FOR THE BOYS LACROSSE CENTER LINE AND RESTRAINING LINES

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

NFHS STANDARDS

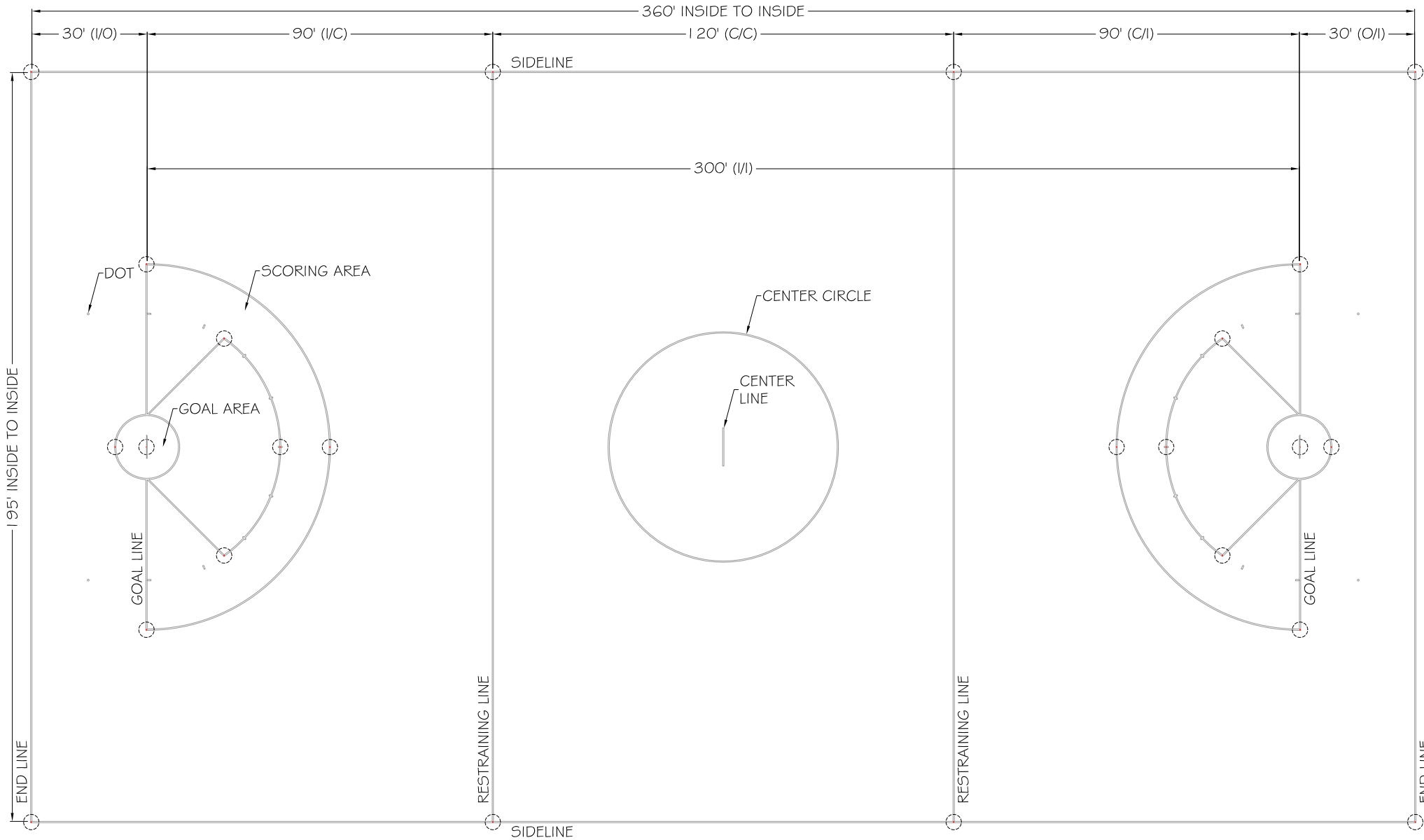


DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

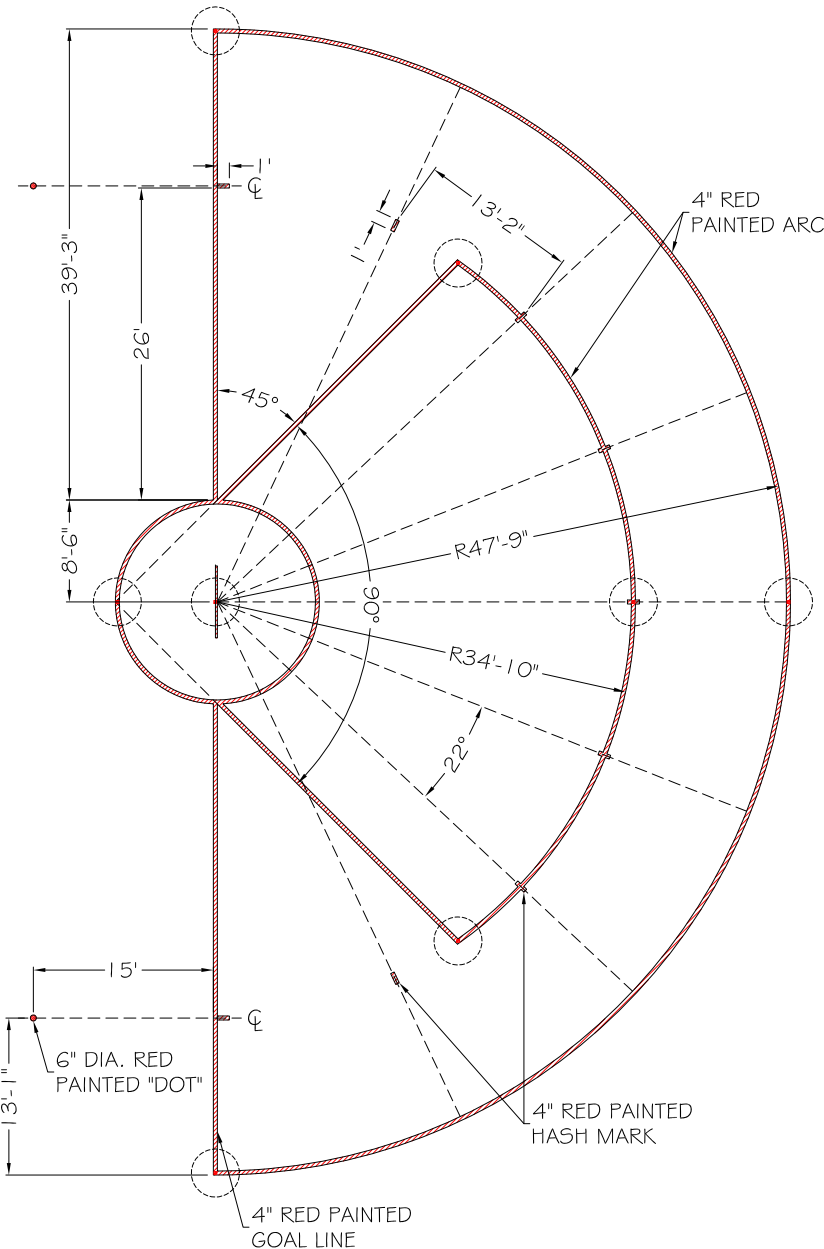
**FieldTurf**  
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL FOOTBALL FIELD BEAVERTON , OR			SHEET: 4/6 BOYS LACROSSE MARKINGS
DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL		

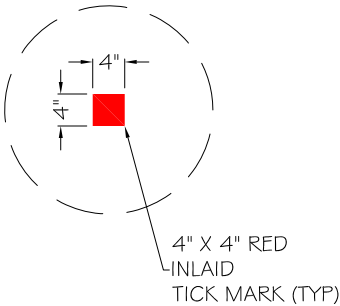




GIRL'S LACROSSE FIELD LAYOUT  
SCALE: 1" = 35'-0"


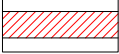


SCORING AREA  
SCALE: 1/16" = 1'-0"



TICK MARK  
SCALE: 1/2" = 1'-0"

**LEGEND:**

-  INLAID RED LINE (INDICATED ON DETAILS ONLY)
-  PAINTED RED LINE (INDICATED ON DETAILS ONLY)

**GIRL'S LACROSSE LAYOUT NOTES:**

DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED END LINES AND 30 YARD LINES FOR THE GIRL'S LACROSSE END LINES AND RESTRAINING LINES.

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

**NFHS STANDARDS**

**SOUTH COOPER MOUNTAIN HIGH SCHOOL**

**FOOTBALL FIELD**

**BEAVERTON , OR**

DATE: SEPTEMBER 13, 2016

ISSUE: SUBMITTAL

SHEET: 5/6 GIRL'S LACROSSE MARKINGS

DRAWN BY: D. H.

CHECKED BY: J. B.

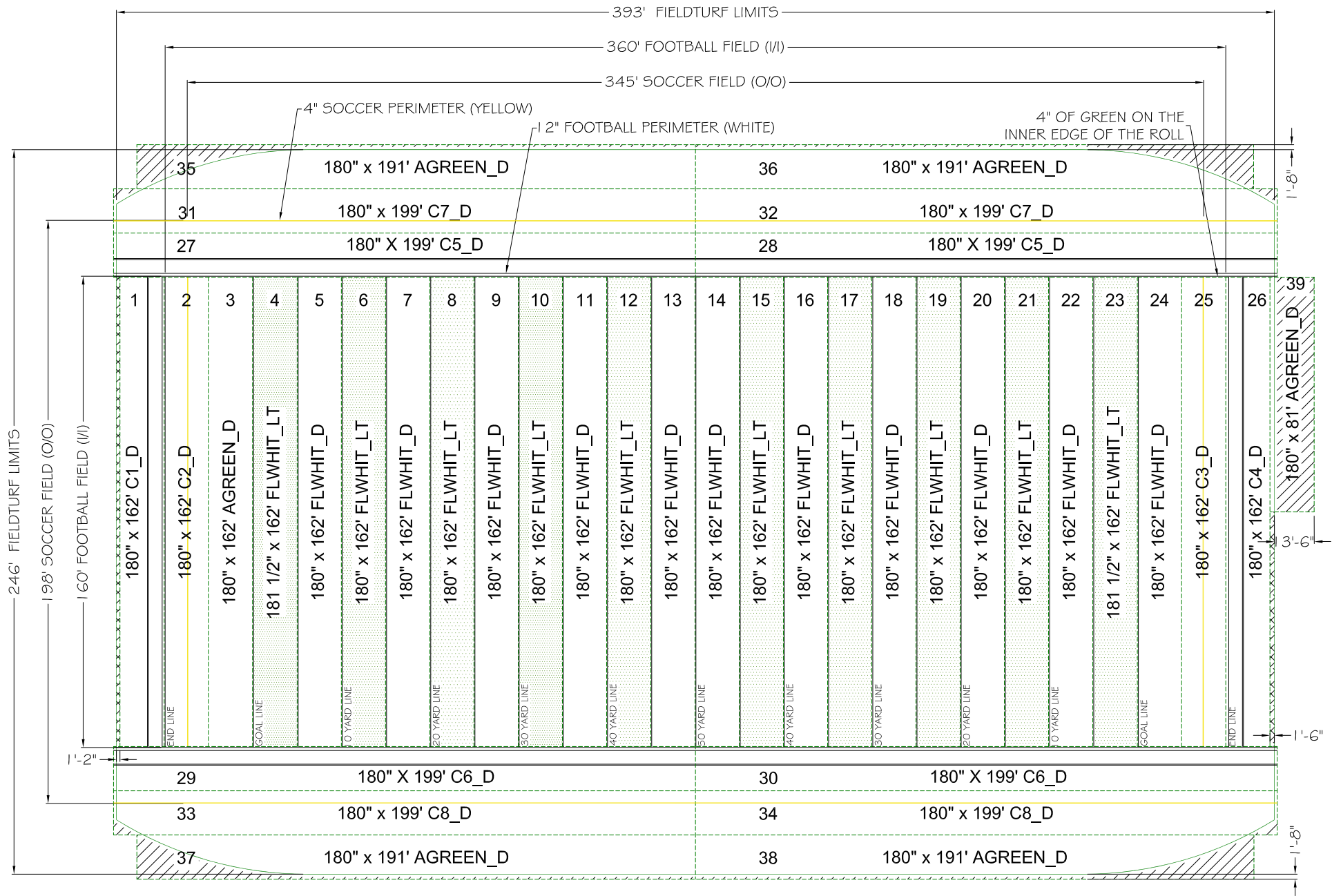
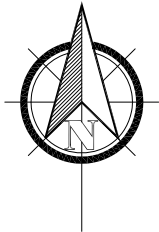
SCALE: AS SHOWN

**FieldTurf**

A Tarkett Sports Company

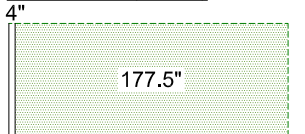
Scale is only accurate when this drawing is printed on 11" X 17" paper.

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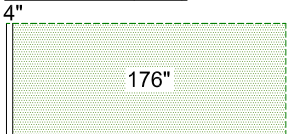
ROLL LEGEND:

FLWHIT\_LT (181.5")



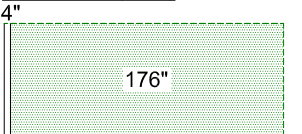
(4, 23)

FLWHIT\_LT (180")



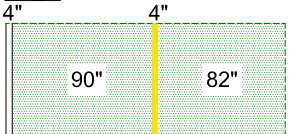
(6, 8, 10, 12, 15, 17, 19, 21)

FLWHIT\_D (180")



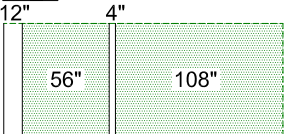
(5, 7, 9, 11, 13, 14, 16, 18, 20, 22, 24)

C2\_D



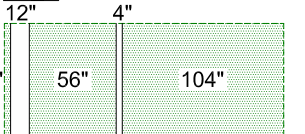
(2)

C4\_D



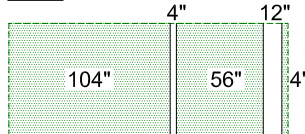
(26)

C6\_D



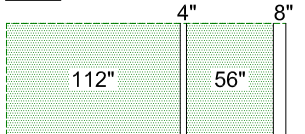
(29, 30)

C5\_D



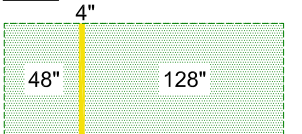
(27, 28)

C1\_D



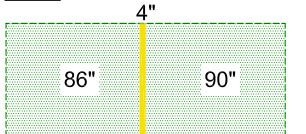
(1)

C8\_D



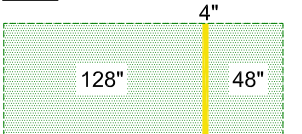
(33, 34)

C3\_D



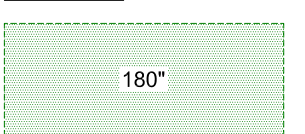
(25)

C7\_D



(31, 32)

AGREEN\_D



(3, 35-39)

INSTALLATIONS NOTES:

- ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- ROLLS #1, #2 & #26 HAVE THE FOOTBALL END LINES.
- ROLLS #4 & #24 HAVE THE FOOTBALL GOAL LINES.
- ROLLS #27 TO #30 HAVE THE FOOTBALL SIDELINES.
- ROLLS #2 & #25 HAVE THE SOCCER GOAL LINES.
- ROLLS #31 TO #34 HAVE THE SOCCER TOUCHLINES.
- THE FOOTBALL SIDELINE ROLLS HAVE 4" OF GREEN ON THE FIELD SIDE OF THE ROLLS.
- THE INSTALLATION OF THE ROLLS SHOULD START FROM THE 50-YARD LINE (ROLL #13/14).
- USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN HIGH SCHOOL  
FOOTBALL FIELD  
BEAVERTON , OR



DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=45'
FIELD AREA:	95,134 sq. ft.
TURF MANUFD:	99,776 sq.ft.
EXTRA TURF:	4.9 %

# SOUTH COOPER MOUNTAIN HIGH SCHOOL MULTI FIELD BEAVERTON , OR



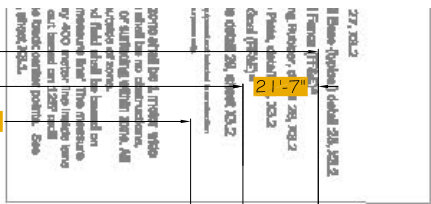


DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=55'
TOTAL FIELD AREA:	176,504 sq. ft.
TOTAL PERIMETER:	2,141 ft.




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DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 1/10 FIELD LAYOUT
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SPORT COLORS:

	FOOTBALL (TICK MARKS) / BASEBALL / SOFTBALL COMPLETE COLOR NAME: WHITE PANTONE COLOR NUMBER: WHITE
	BOY'S LACROSSE (TICK MARKS) COMPLETE COLOR NAME: REFLEX BLUE PANTONE COLOR NUMBER: 287C
	GIRL'S LACROSSE (TICK MARKS) COMPLETE COLOR NAME: RED PANTONE COLOR NUMBER: 185C

**LEGEND:**

	GREEN FIELDTURF (FTHD-2) 20,034 sq.ft.
	RUST FIELDTURF (FTHD-2) 11,301 sq.ft.
	TOTAL FIELDTURF (FTHD-2) 31,335 sq.ft.

FIELD LAYOUT NOTES (sports are in order of dominance):

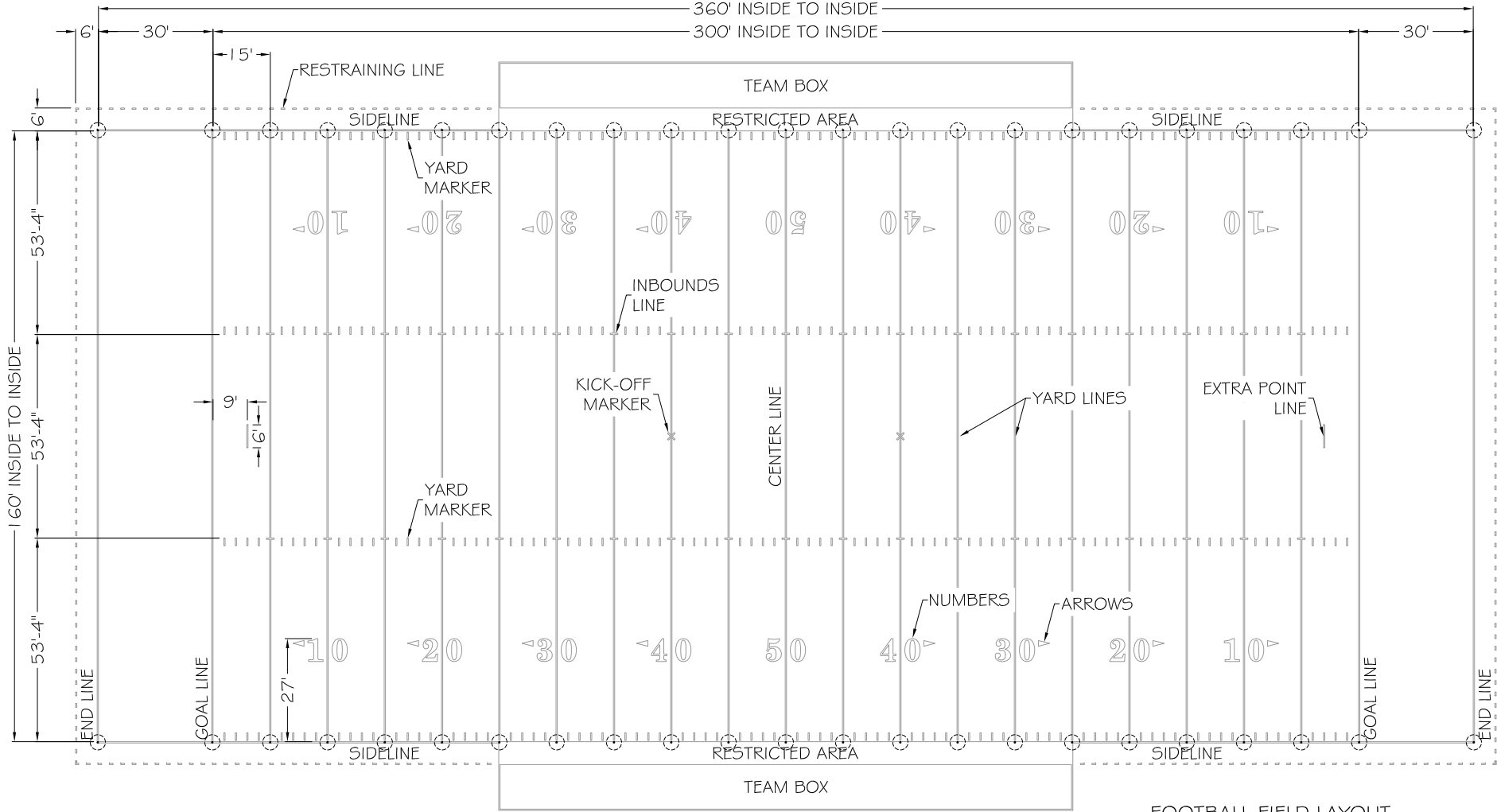
1. FOOTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
2. BOYS LACROSSE MARKINGS ARE 4" REFLEX BLUE NFHS STANDARDS.
3. GIRLS LACROSSE MARKINGS ARE 4" RED NFHS STANDARDS.
4. BASEBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.
5. SOFTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

COLOR DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID FOOTBALL/LACROSSE TICK MARKS.

ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

## NFHS STANDARDS

CONCEPTUAL DRAWINGS ONLY: DRAWINGS ARE INTENDED ONLY TO BE A GRAPHIC RENDERING FOR PURPOSES OF PRELIMINARY PRESENTATION;  
ALL DISTANCES AND MEASUREMENTS ARE APPROXIMATE IN NATURE AND SUBJECT TO FIELD VERIFICATION.



FOOTBALL FIELD LAYOUT  
SCALE: 1" = 40'-0"

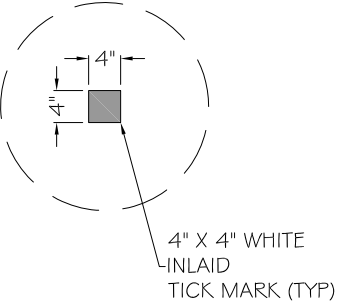
LEGEND:

 INLAID WHITE LINE  
(INDICATED ON DETAILS ONLY)

FOOTBALL LAYOUT NOTES:

DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

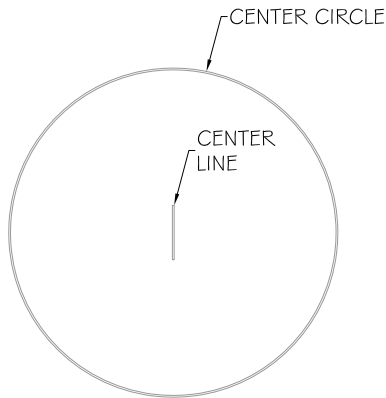
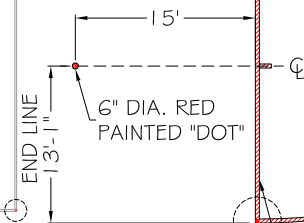


TICK MARK  
SCALE: 1/2" = 1'-0"

SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR



DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

[illegible]

GIRL'S LACROSSE LAYOUT NOTES:

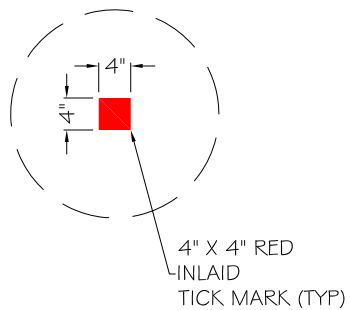
DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.

USE THE FOOTBALL 4" WHITE TUFTED END LINES AND 30 YARD LINES FOR THE GIRL'S LACROSSE END LINES AND RESTRAINING LINES.

ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE  
SHALL BE 2" WIDE.

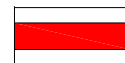
THE REST OF THE MARKINGS ARE TO BE PAINTED  
IN BY OTHERS.

## NFHS STANDARDS



TICK MARK  
SCALE:  $\frac{1}{2}" = 1'-0"$

LEGEND:



INLAID RED LINE  
(INDICATED ON DETAILS ONLY)



 PAINTED RED LINE  
(INDICATED ON DETAILS ONLY)

SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR



**A Jarkett Sports Company**

DRAWN BY:

V. B.

CHECKED BY:

---

J. B.

SCALE:

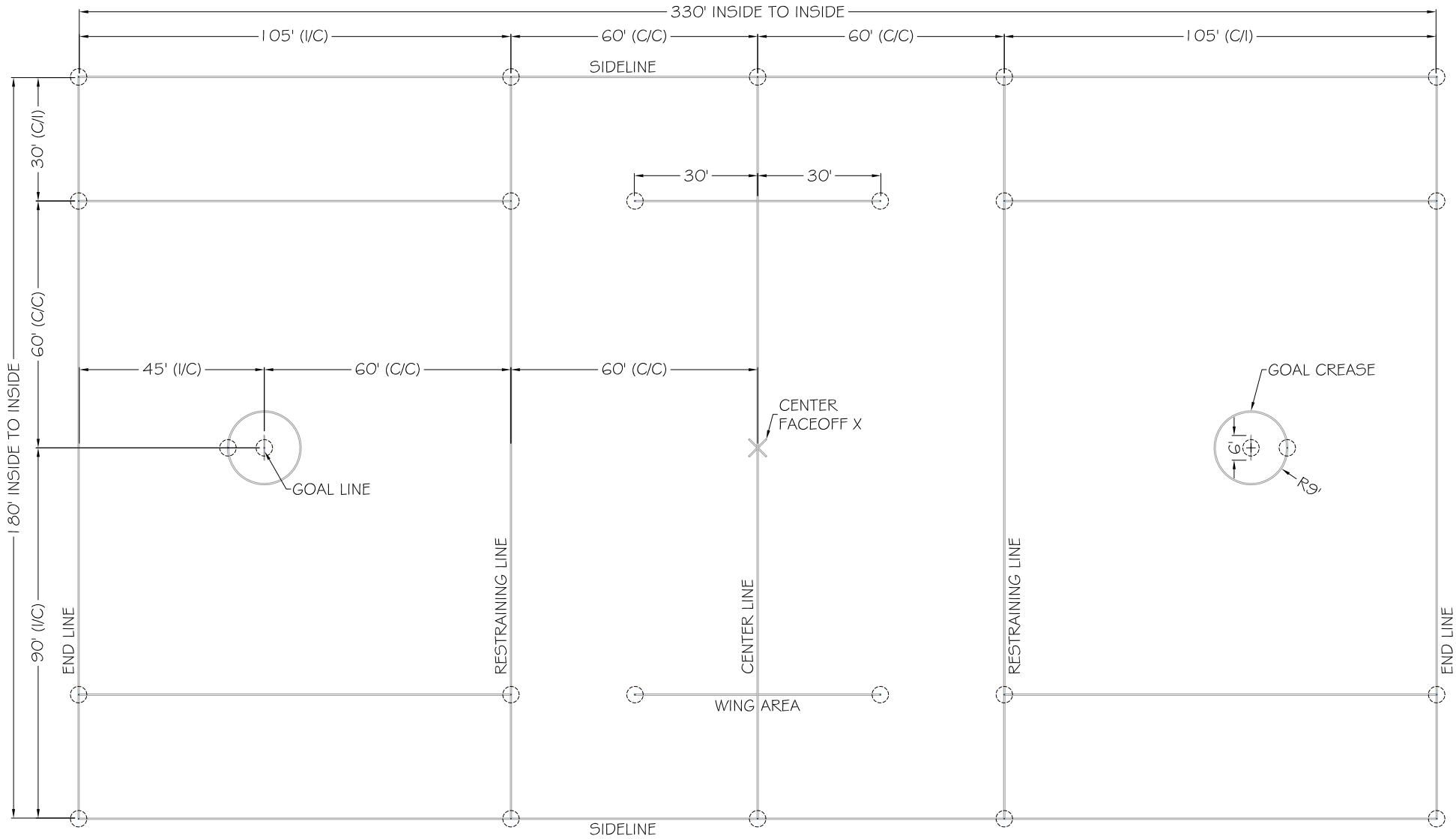
AS SHOWN

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 4/10 GIRL'S LACROSSE MARKINGS
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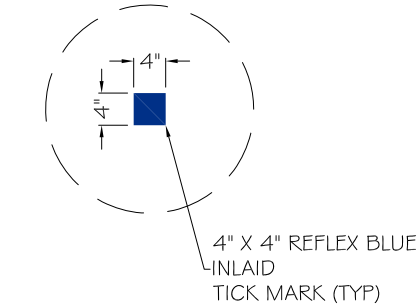


BOYS LACROSSE FIELD LAYOUT  
SCALE: 1" = 35'-0"

LEGEND:



INLAID REFLEX BLUE LINE  
(INDICATED ON DETAILS ONLY)



TICK MARK  
SCALE: 1/2" = 1'-0"

BOYS LACROSSE LAYOUT NOTES:

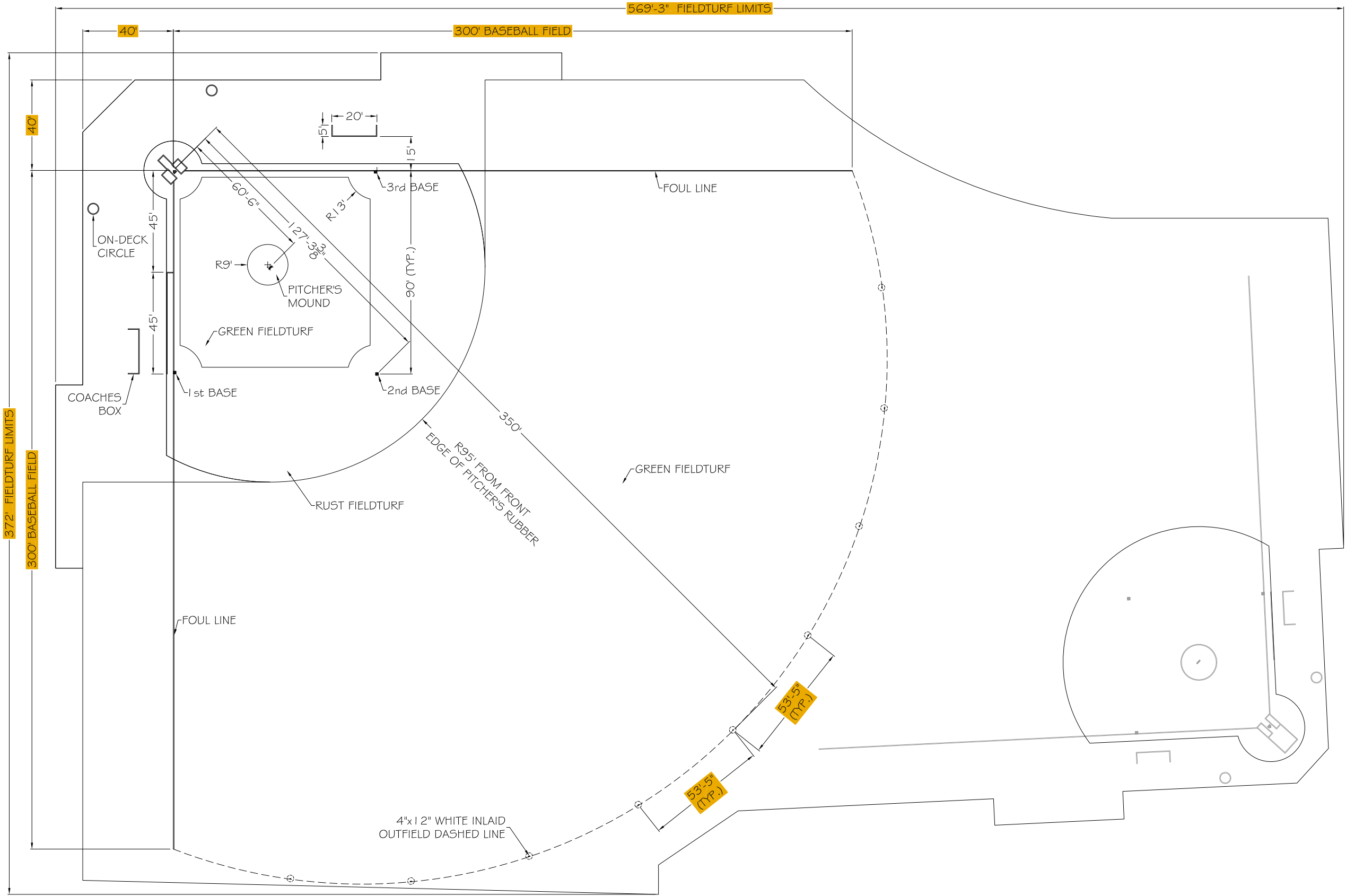
- DASHED CIRCLES ARE TO INDICATE PLACEMENT OF THE 4" X 4" INLAID TICK MARKS.
- USE THE FOOTBALL 4" WHITE TUFTED CENTER LINE AND 30 YARD LINES FOR THE BOYS LACROSSE CENTER LINE AND RESTRAINING LINES
- ALL LINES ARE 4" WIDE EXCEPT FOR THE GOAL LINE SHALL BE 2" WIDE.
- THE REST OF THE MARKINGS ARE TO BE PAINTED IN BY OTHERS.

NFHS STANDARDS

**FieldTurf**  
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL - MULTI FIELD BEAVERTON , OR		DATE:SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 3/10 BOY'S LACROSSE MARKINGS
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DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



BASEBALL FIELD LAYOUT  
SCALE: 1" = 45'-0"

BASEBALL LAYOUT NOTES:  
ALL MARKINGS ARE 4" WHITE INLAID TURF.  
PLEASE REFER TO BASEBALL MARKINGS-B FOR DETAILS.

NFHS STANDARDS

SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR

DATE: SEPTEMBER 13, 2016

ISSUE: SUBMITTAL

SHEET: 5/10 BASEBALL MARKINGS - A

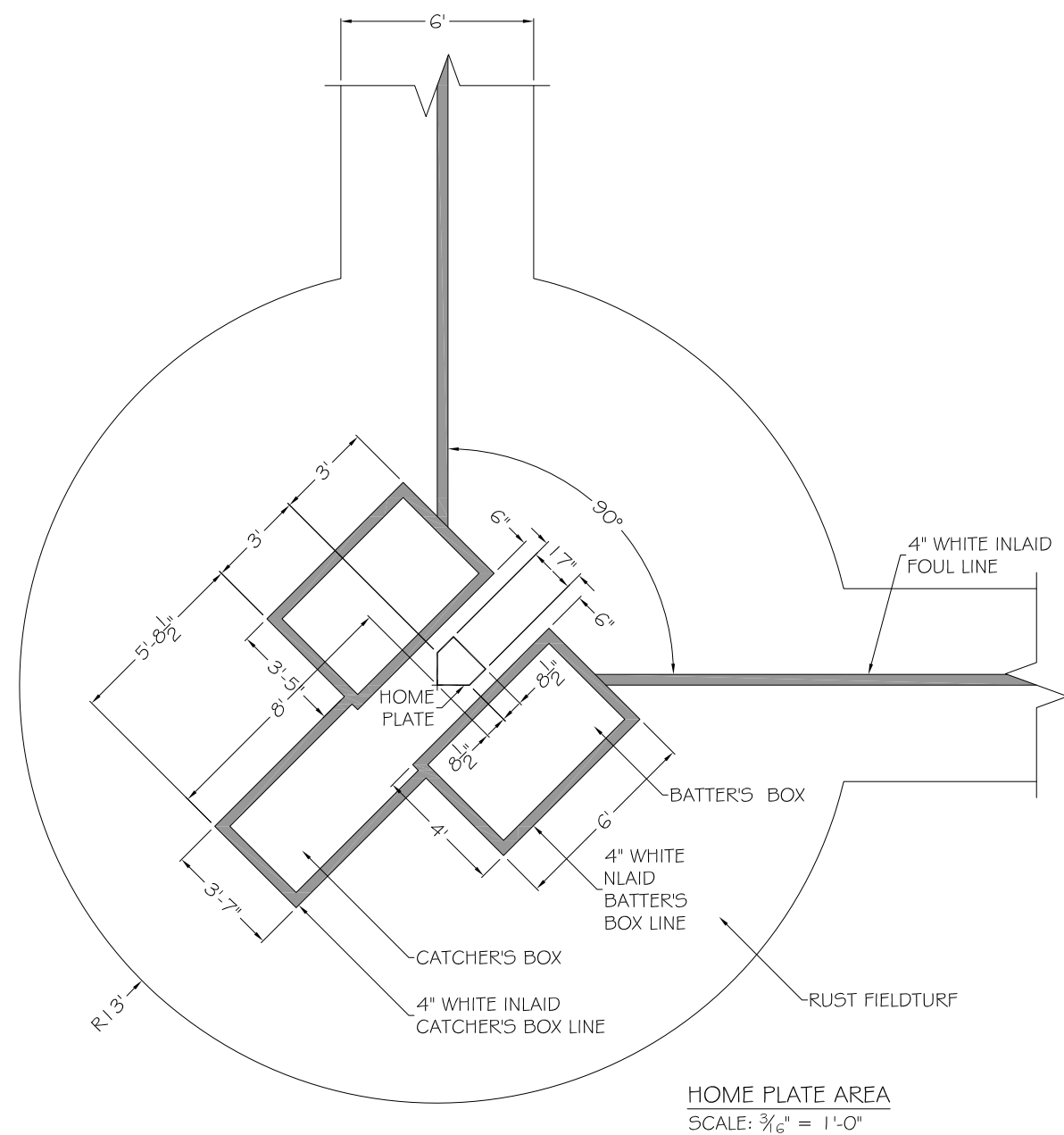
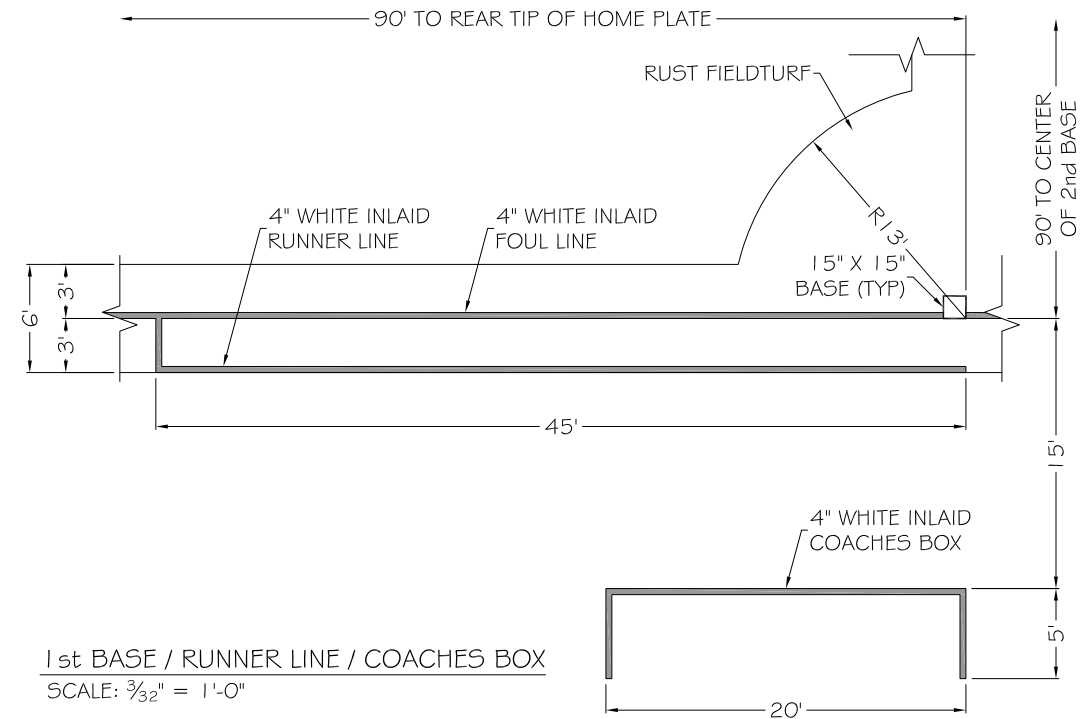
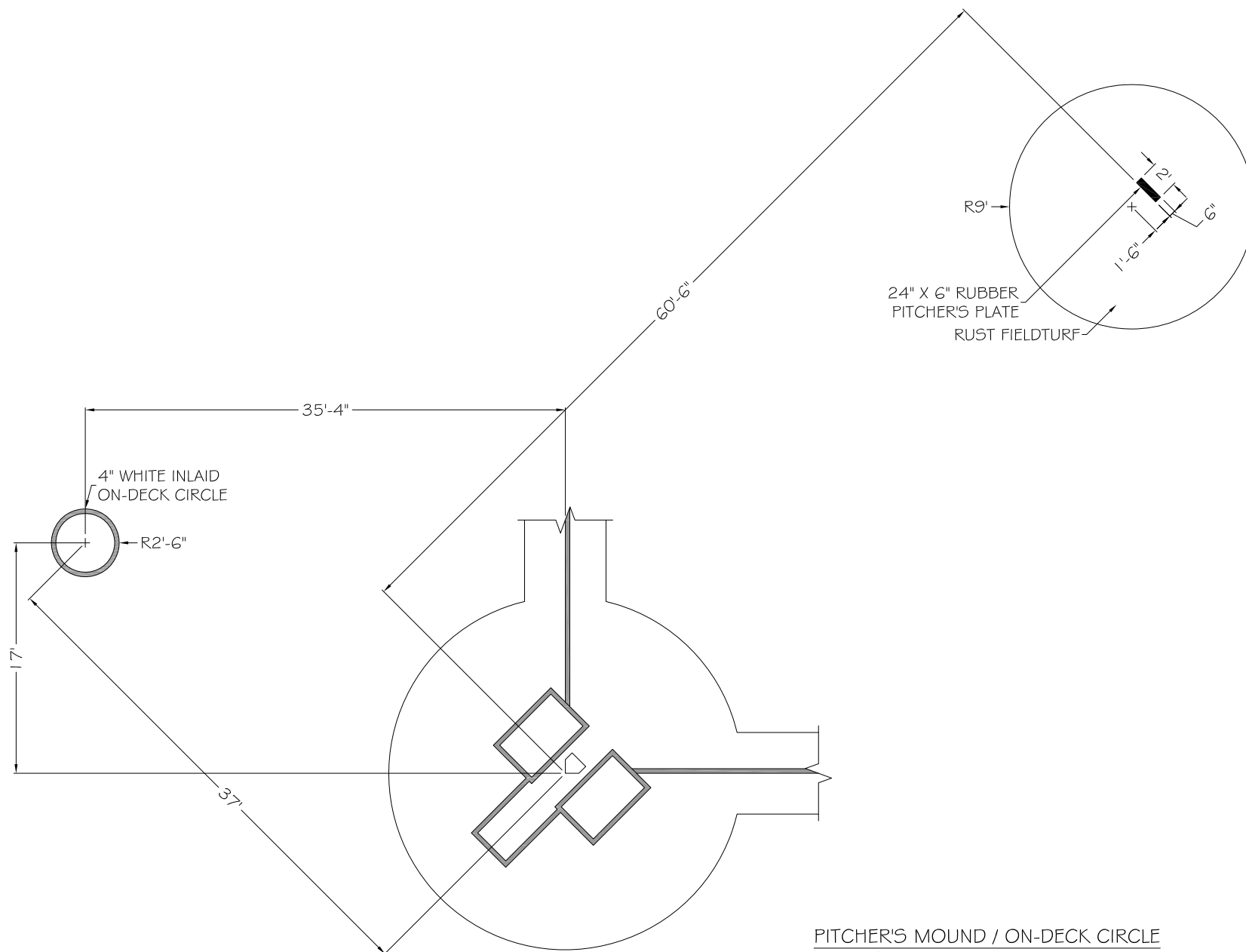


A Tarkett Sports Company

DRAWN BY: V. B.

CHECKED BY: J. B.

SCALE: AS SHOWN



LEGEND:



SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR



**FieldTurf**  
A Tarkett Sports Company

DRAWN BY: V. B.

CHECKED BY: J. B.

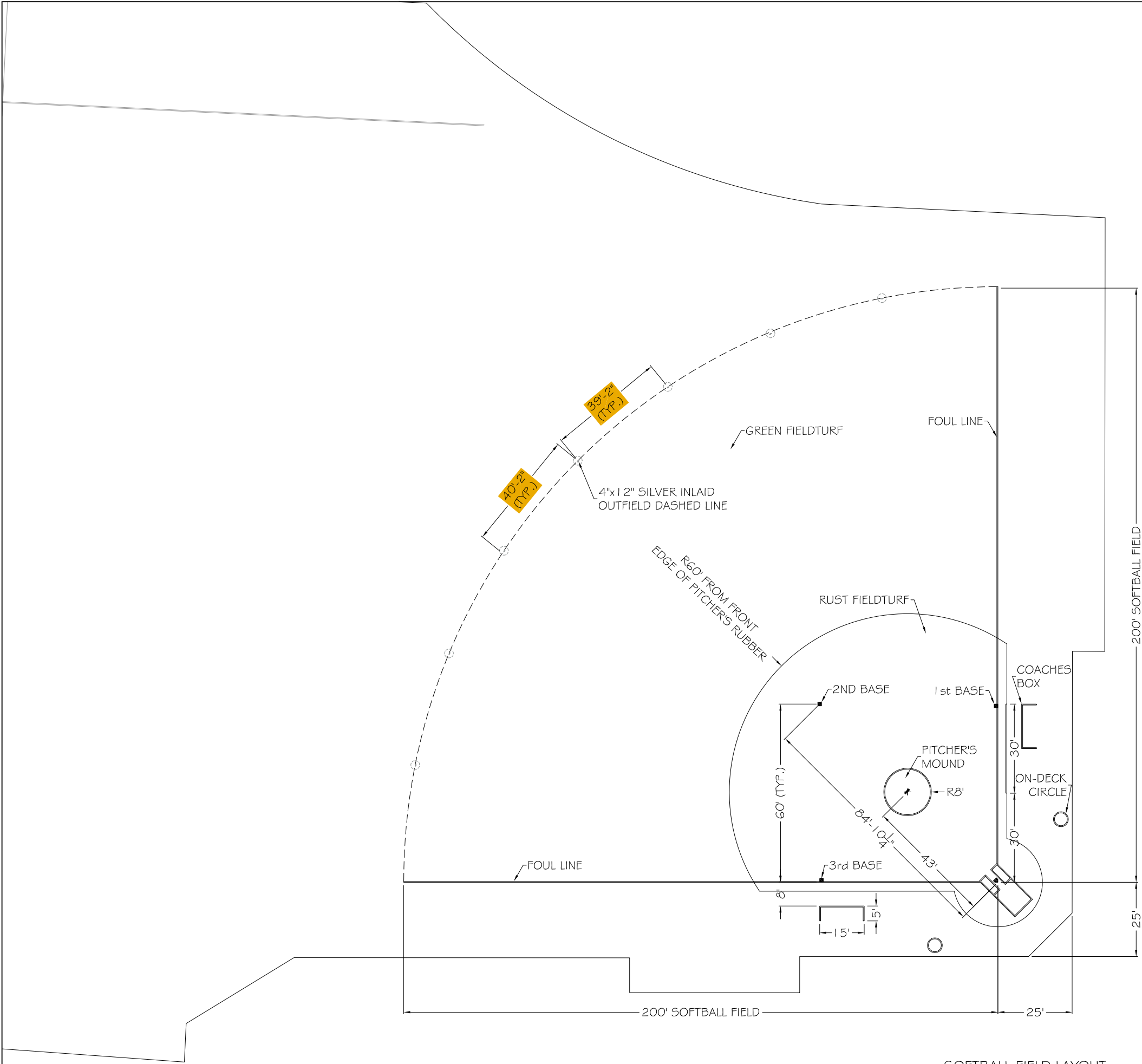
SCALE: AS SHOWN

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 6/10 BASEBALL MARKINGS - B
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SOFTBALL FIELD LAYOUT  
SCALE: 1" = 35'-0"

SOFTBALL LAYOUT NOTES:  
ALL MARKINGS ARE 4" WHITE INLAID TURF.  
OUTFIELD MARKERS TO BE SILVER INLAID TURF.  
PLEASE REFER TO SOFTBALL MARKINGS-B FOR DETAILS.

NFHS STANDARDS

**FieldTurf**  
A Tarkett Sports Company

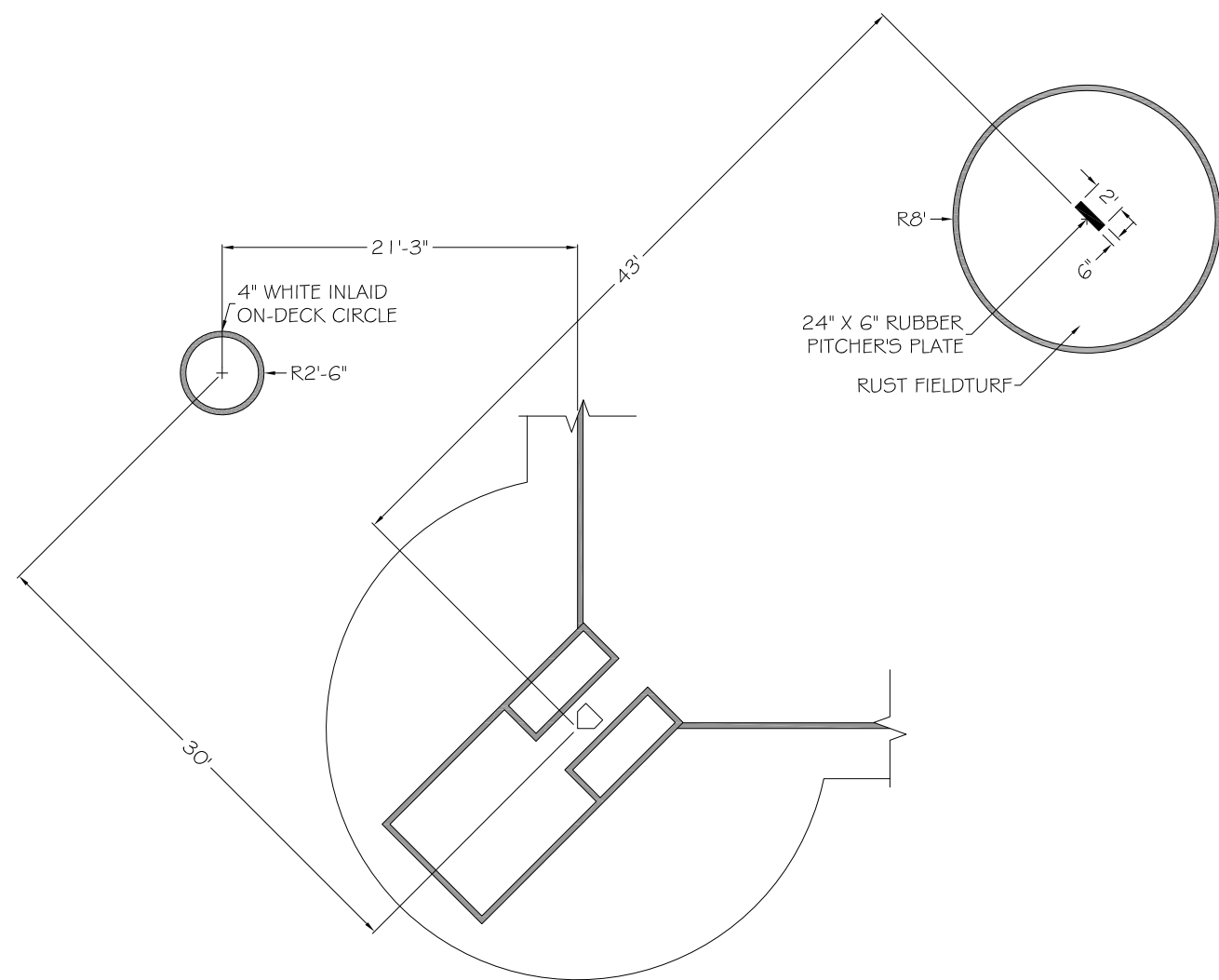
SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR

DATE: SEPTEMBER 13, 2016

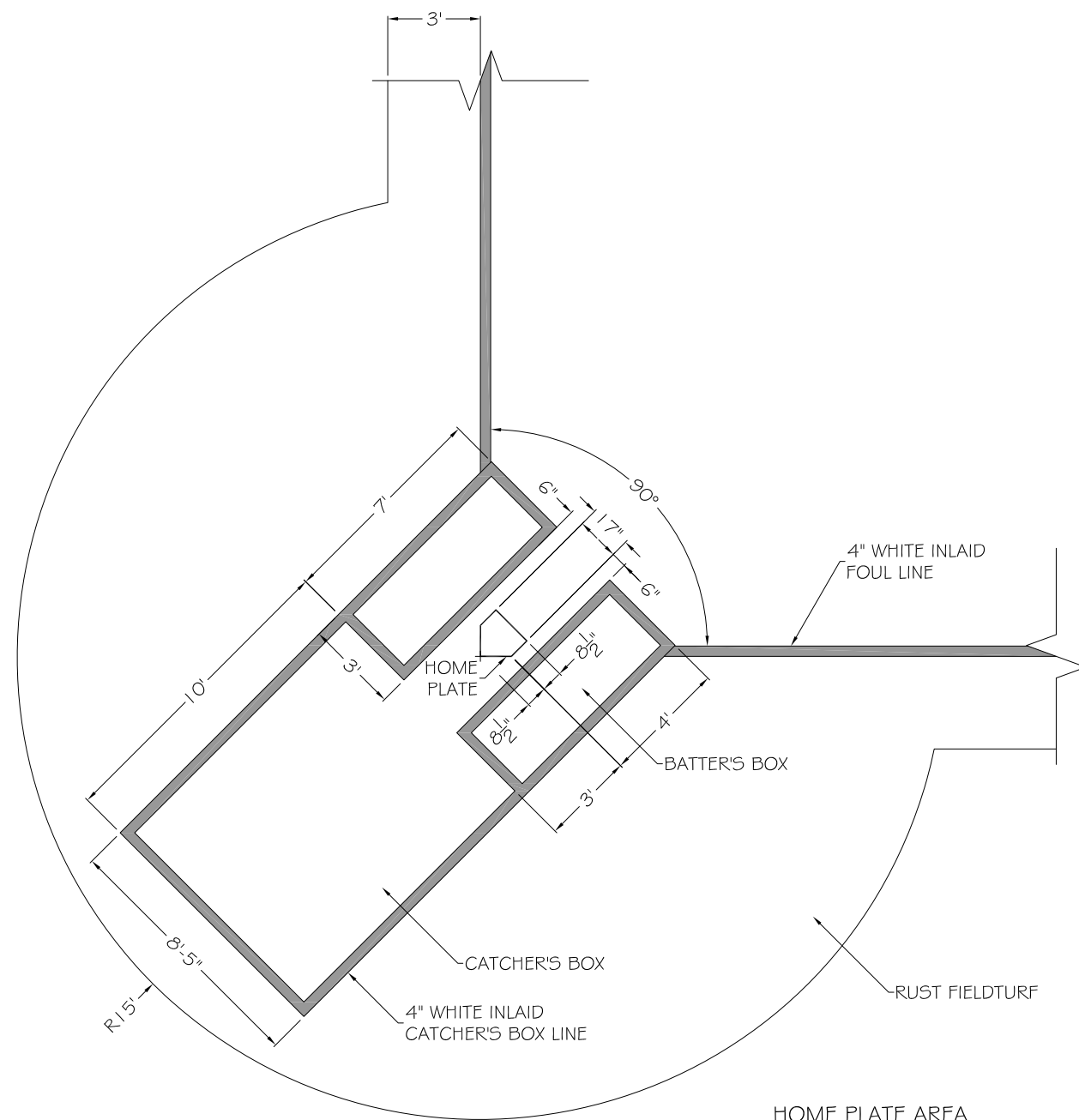
ISSUE: SUBMITTAL

SHEET: 7/10 SOFTBALL MARKINGS - A

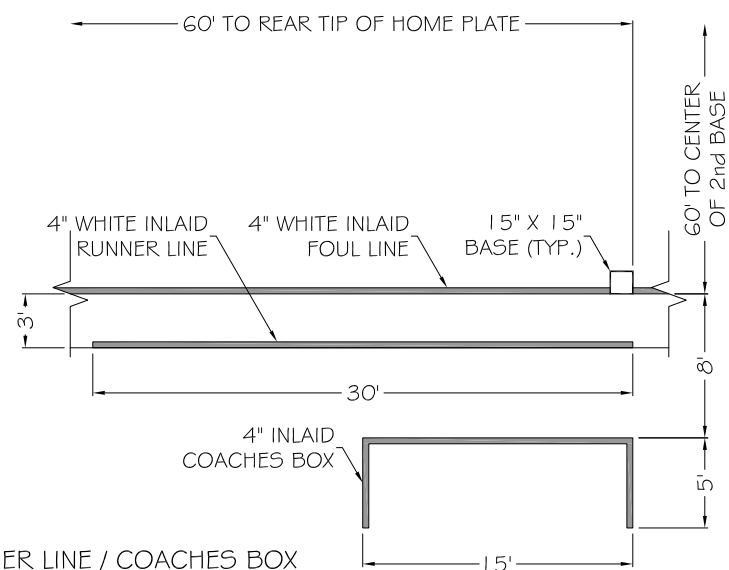
DRAWN BY:	V. B.
CHECKED BY:	J. B.
SCALE:	AS SHOWN



PITCHER'S MOUND / ON-DECK CIRCLE  
SCALE:  $\frac{3}{32}" = 1'-0"$



HOME PLATE AREA  
SCALE:  $\frac{3}{16}" = 1'-0"$



1st BASE / RUNNER LINE / COACHES BOX  
SCALE:  $\frac{3}{32}" = 1'-0"$

LEGEND:



**FieldTurf**  
A Tarkett Sports Company

**SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON, OR**

DRAWN BY: V. B.

CHECKED BY: J. B.

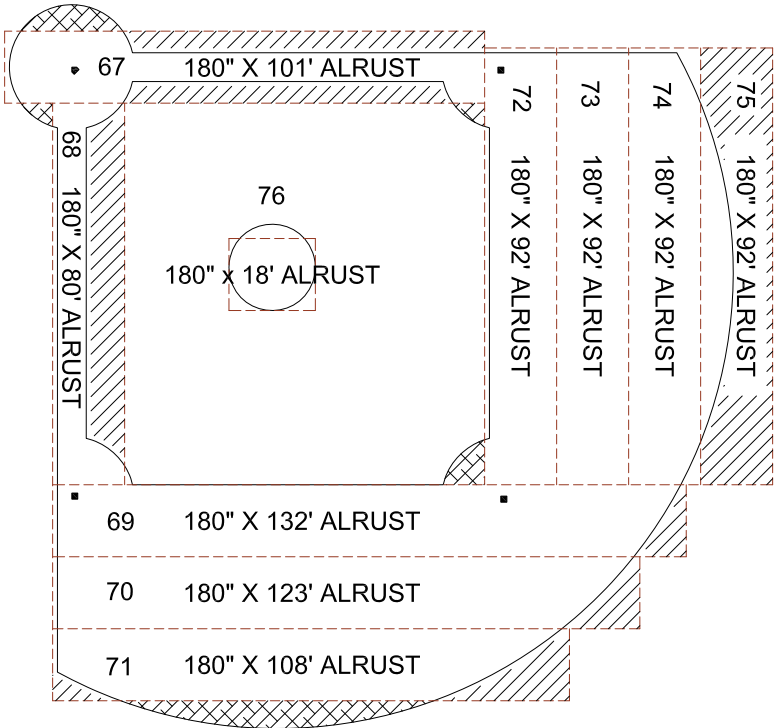
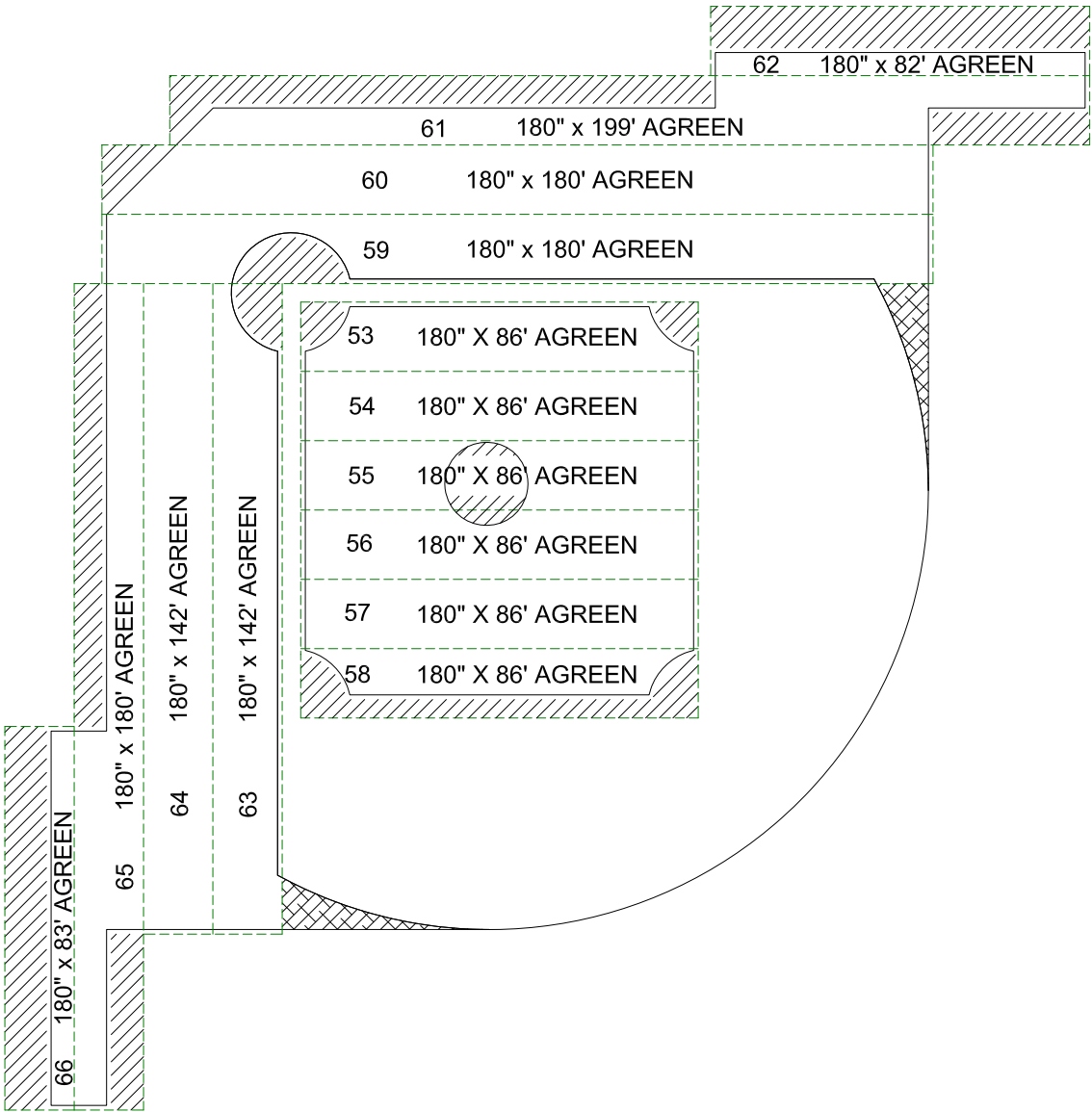
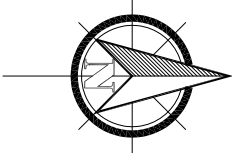
SCALE: AS SHOWN

DATE: SEPTEMBER 13, 2016	ISSUE: SUBMITTAL	SHEET: 8/10 SOFTBALL MARKINGS - B
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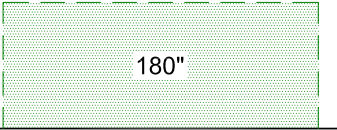
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## NFHS STANDARDS

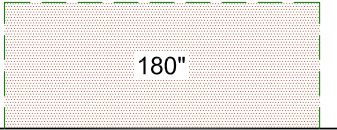


AGREEN



(53-66)

ALRUST



(67-76)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

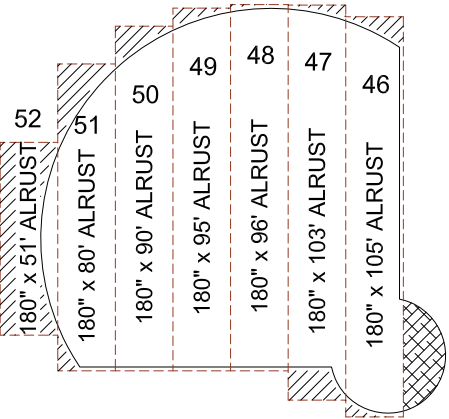
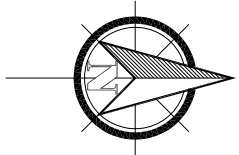
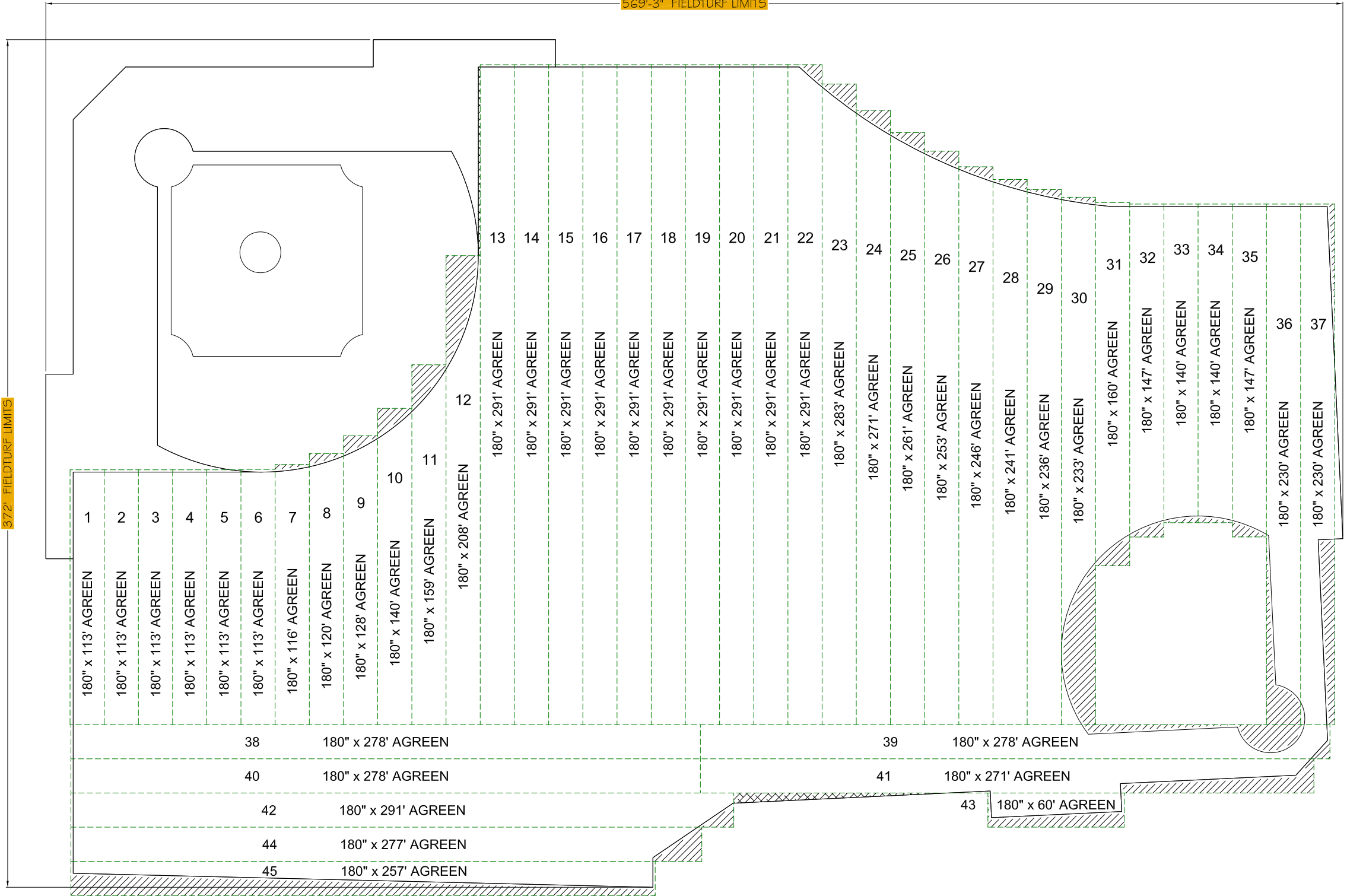


SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR

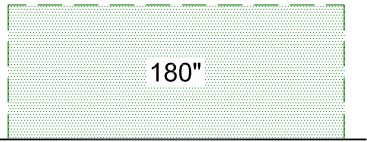


DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=40'
FIELD AREA:	31,335 sq. ft.
TURF MANUF'D:	39,510 sq.ft.
EXTRA TURF:	26.1 %



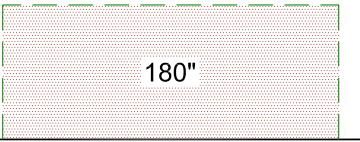


AGREEN



(1-45)

ALRUST



(46-52)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN  
HIGH SCHOOL - MULTI FIELD  
BEAVERTON , OR



DRAWN BY:	M. K. / V. B.
CHECKED BY:	J. B.
SCALE:	1"=50'
FIELD AREA:	145,169 sq. ft.
TURF MANUFD:	154,305 sq.ft.
EXTRA TURF:	6.3 %

# SOUTH COOPER MOUNTAIN HIGH SCHOOL SOFTBALL FIELD BEAVERTON , OR



CONCEPTUAL DRAWINGS ONLY: DRAWINGS ARE INTENDED ONLY TO BE A GRAPHIC RENDERING FOR PURPOSES OF PRELIMINARY PRESENTATION;  
ALL DISTANCES AND MEASUREMENTS ARE APPROXIMATE IN NATURE AND SUBJECT TO FIELD VERIFICATION.

NFHS STANDARDS

FIELD LAYOUT NOTES (sports are in order of dominance):

1. SOFTBALL MARKINGS ARE 4" WHITE NFHS STANDARDS.

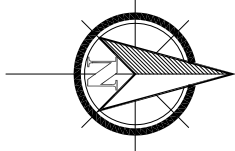
ALL DIMENSIONS TO BE VERIFIED BEFORE ANY CONSTRUCTION BEGINS.

LEGEND:

- GREEN FIELDTURF (FTHD-57)  
29,497sq.ft.
- GREEN FIELDTURF (FTHD-2)  
5,581 sq.ft.
- RUST FIELDTURF (FTHD-2)  
8,166 sq.ft.
- TOTAL FIELDTURF (FTHD-2)  
12,797 sq.ft.
- TOTAL FIELDTURF  
43,251 sq.ft.

SPORT COLORS:

- SOFTBALL  
COMPLETE COLOR NAME: WHITE  
PANTONE COLOR NUMBER: WHITE



FTHD-57  
FTHD-2



SOUTH COOPER MOUNTAIN HIGH SCHOOL  
SOFTBALL FIELD  
BEAVERTON , OR

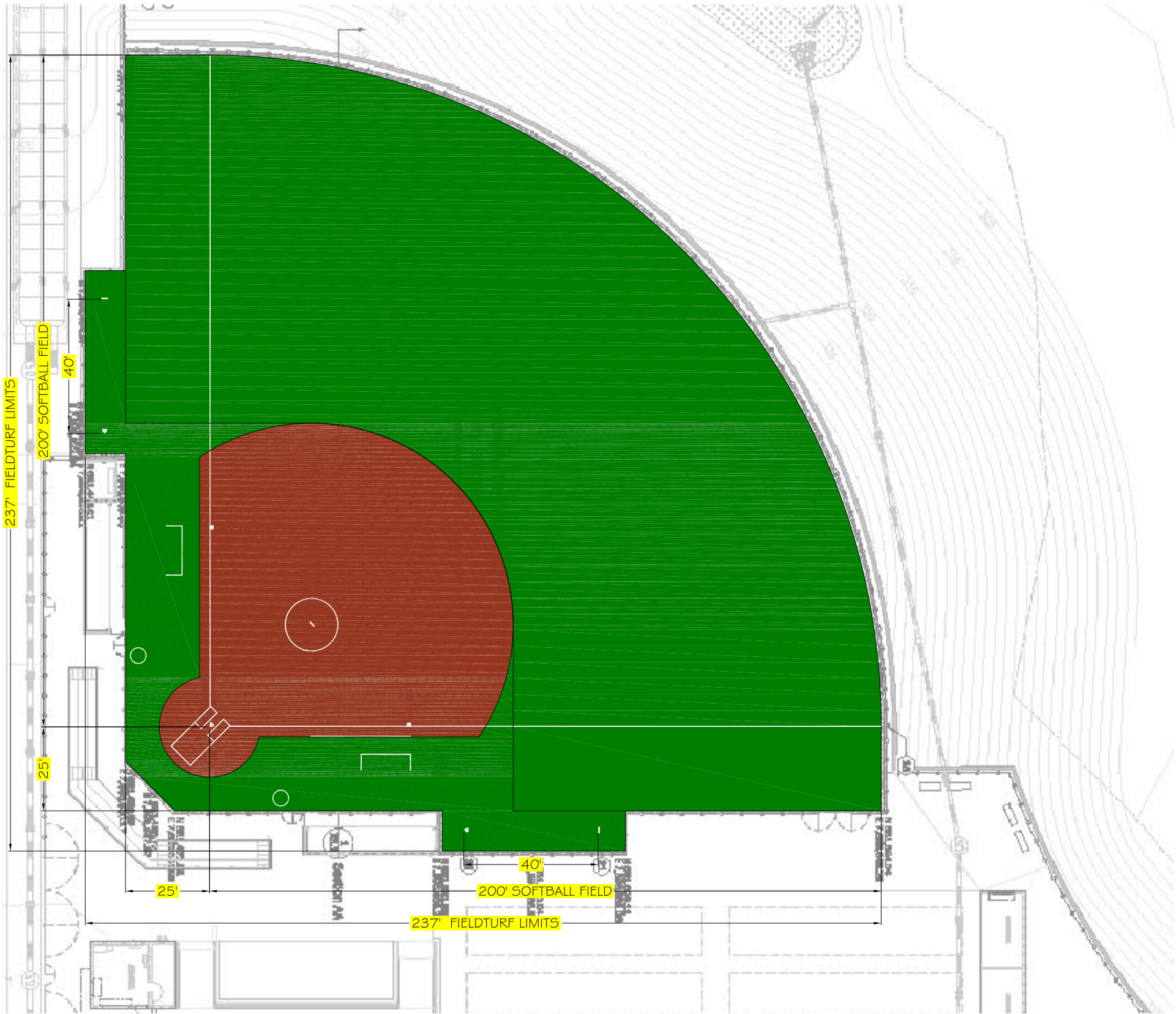
DATE: SEPTEMBER 12, 2016      ISSUE: SUBMITTAL      SHEET: 1/5 PRESENTATION

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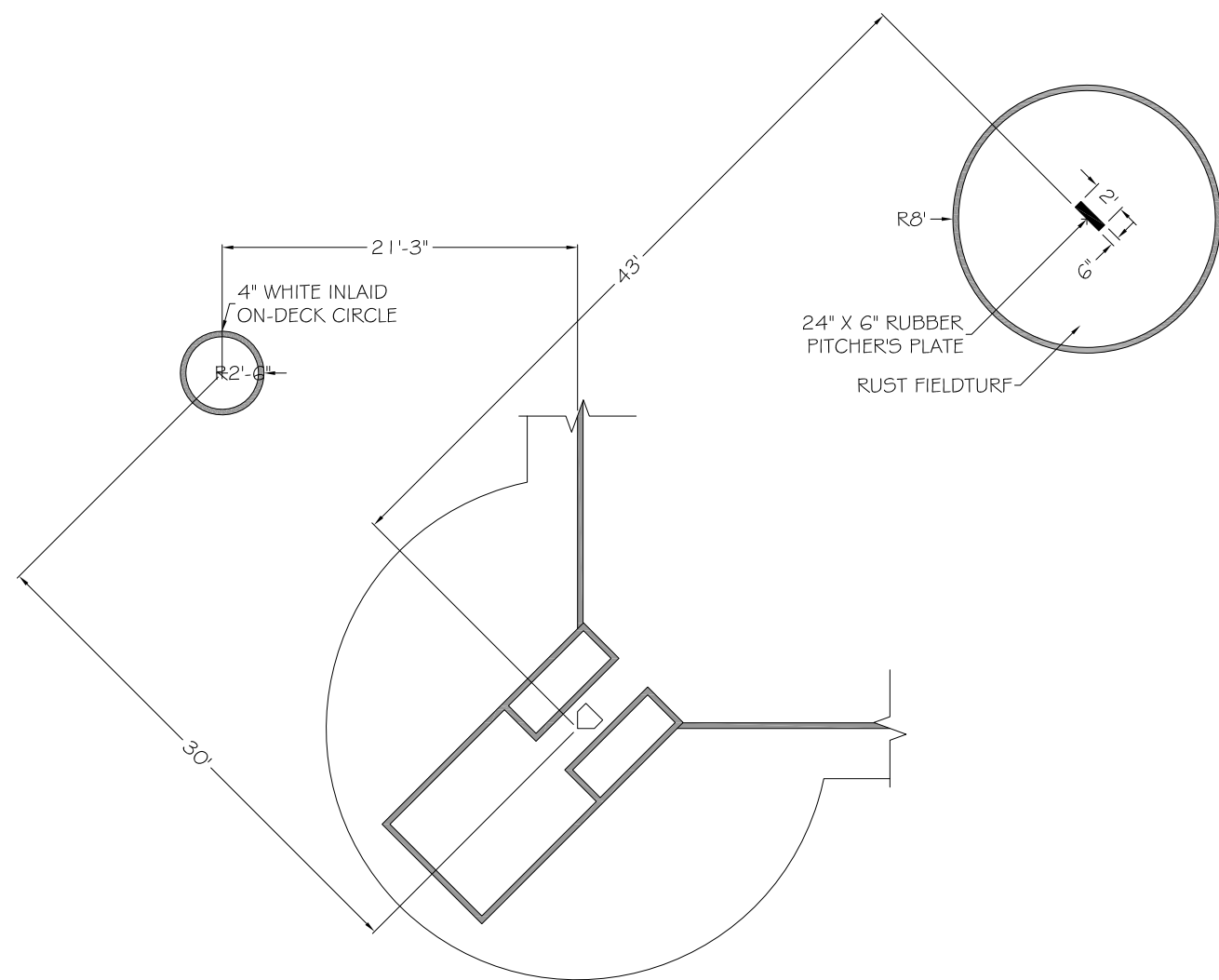
DRAWN BY:	M. K. / D. H.	
CHECKED BY:	J. B.	
SCALE:	1"=35'	TOTAL P
TOTAL FIELD AREA:	43,251 sq.ft.	
TURF MANUFD:	49,320 sq.ft.	
EXTRA TURF:	14 %	

Scale is only accurate when this drawing is printed on 11" X 17" paper.

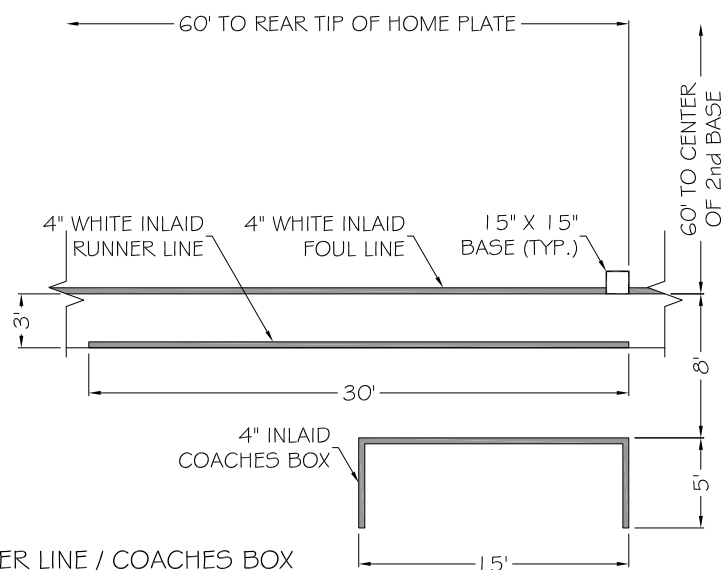
APPROVED BY:
SIGNATURE:
PRINTED NAME:
TITLE:
DATE:



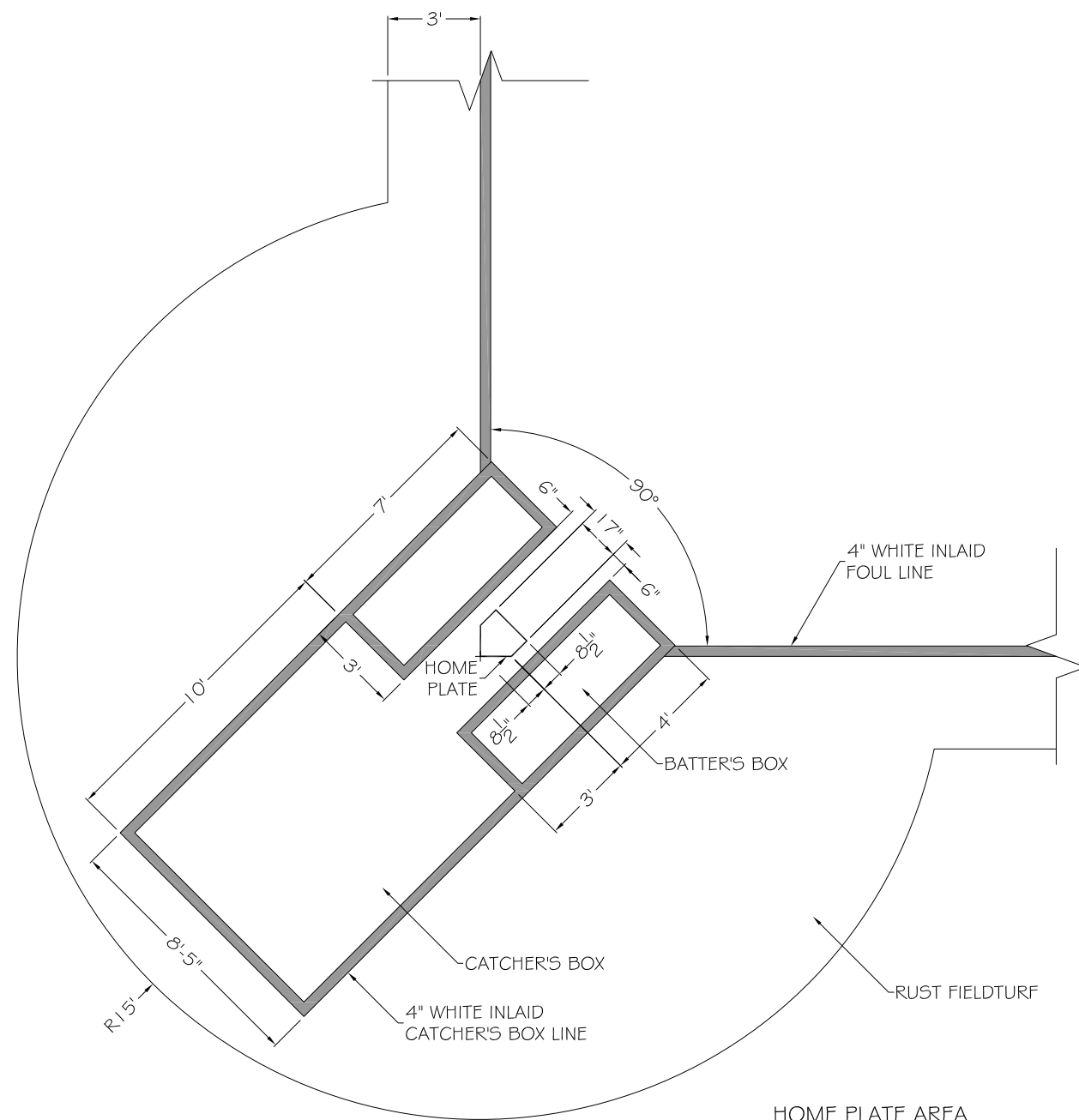




PITCHER'S MOUND / ON-DECK CIRCLE  
SCALE:  $\frac{3}{32}" = 1'-0"$



1st BASE / RUNNER LINE / COACHES BOX  
SCALE:  $\frac{3}{32}" = 1'-0"$



HOME PLATE AREA  
SCALE:  $\frac{3}{16}" = 1'-0"$

LEGEND:



**FieldTurf**  
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
SOFTBALL FIELD  
BEAVERTON, OR

DRAWN BY: D. H.

CHECKED BY: J.B.

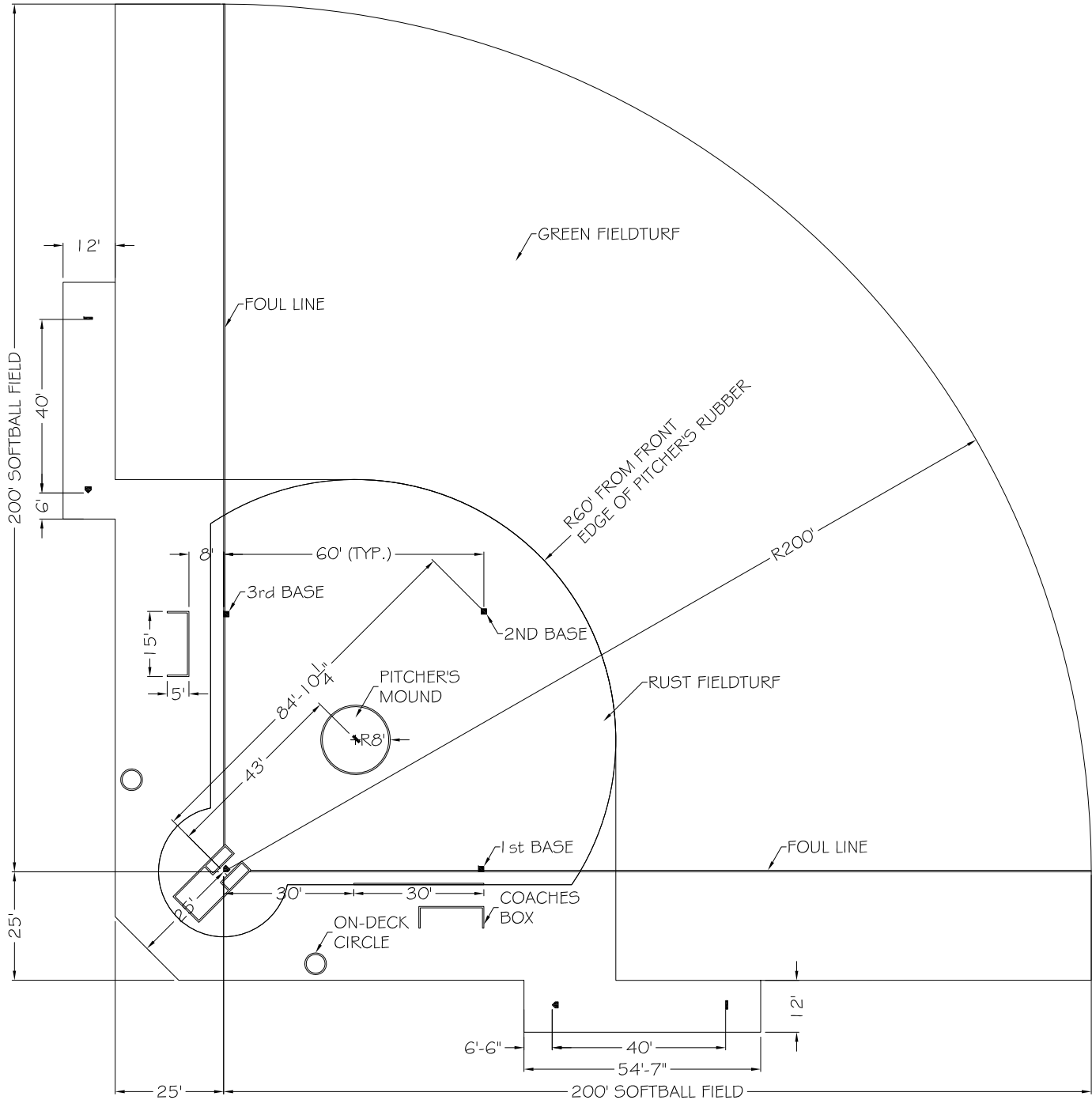
SCALE: AS SHOWN

DATE: SEPTEMBER 12, 2016	ISSUE: SUBMITTAL	SHEET: 3/5 SOFTBALL MARKINGS - B
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Scale is only accurate when this drawing is printed on 11" X 17" paper.

## NFHS STANDARDS



SOFTBALL FIELD LAYOUT  
SCALE: 1" = 35'-0"

SOFTBALL LAYOUT NOTES:  
ALL MARKINGS ARE 4" WHITE INLAID TURF.  
PLEASE REFER TO SOFTBALL MARKINGS-B FOR DETAILS.

NFHS STANDARDS

**FieldTurf**  
A Tarkett Sports Company

SOUTH COOPER MOUNTAIN HIGH SCHOOL  
SOFTBALL FIELD  
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016

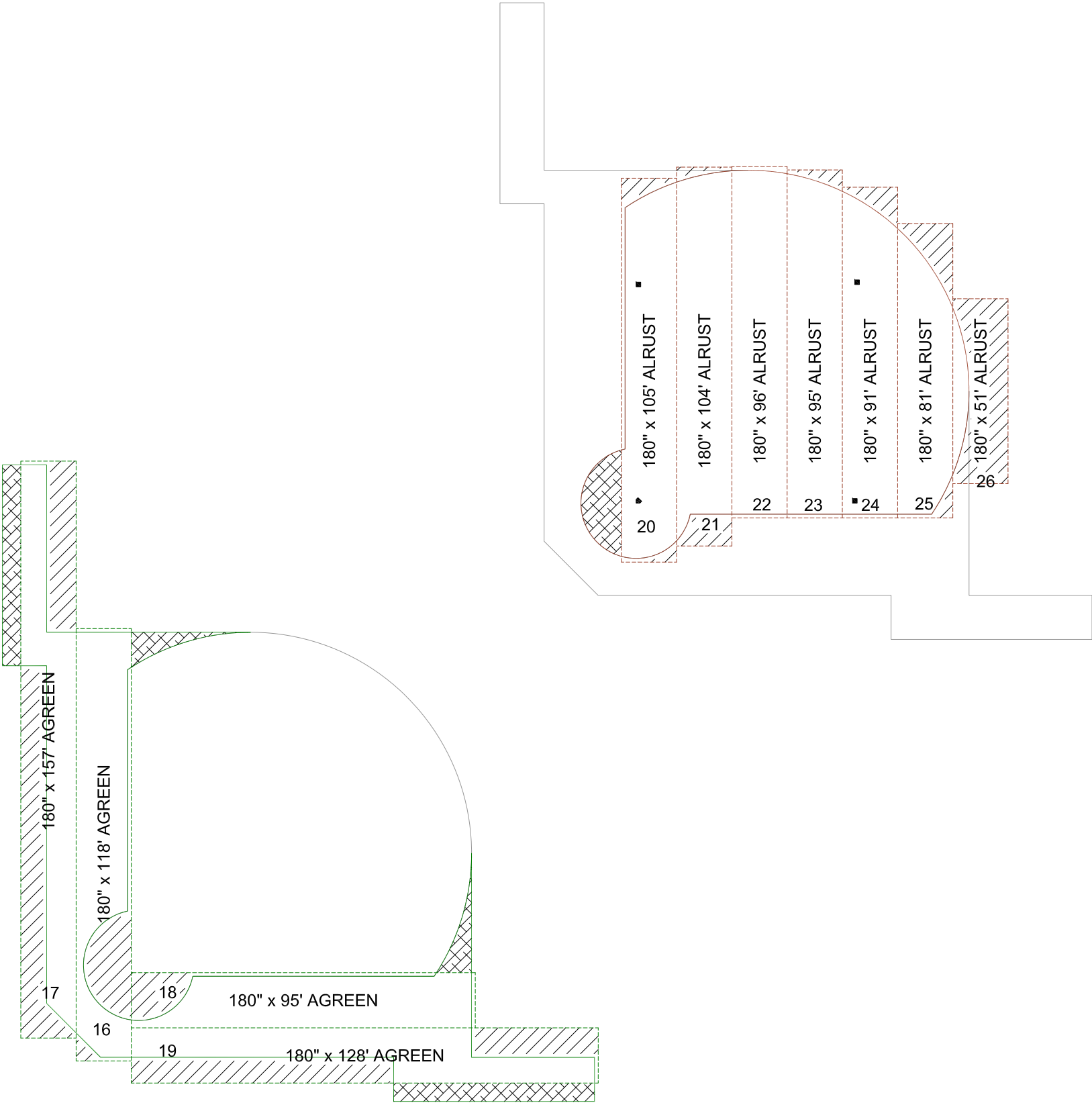
ISSUE: SUBMITTAL

SHEET: 2/5 SOFTBALL MARKINGS - A

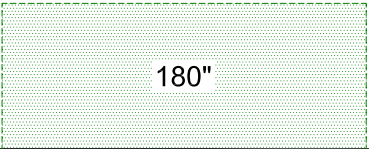
DRAWN BY:	D. H.
CHECKED BY:	J. B.
SCALE:	AS SHOWN

Scale is only accurate when this drawing is printed on 11" X 17" paper.

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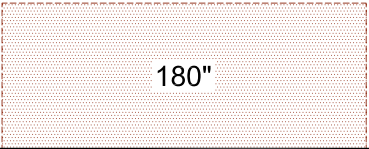


AGREEN



(16-19)

ALRUST



(20-26)

INSTALLATIONS NOTES:

1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
3. THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #16).
4. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.

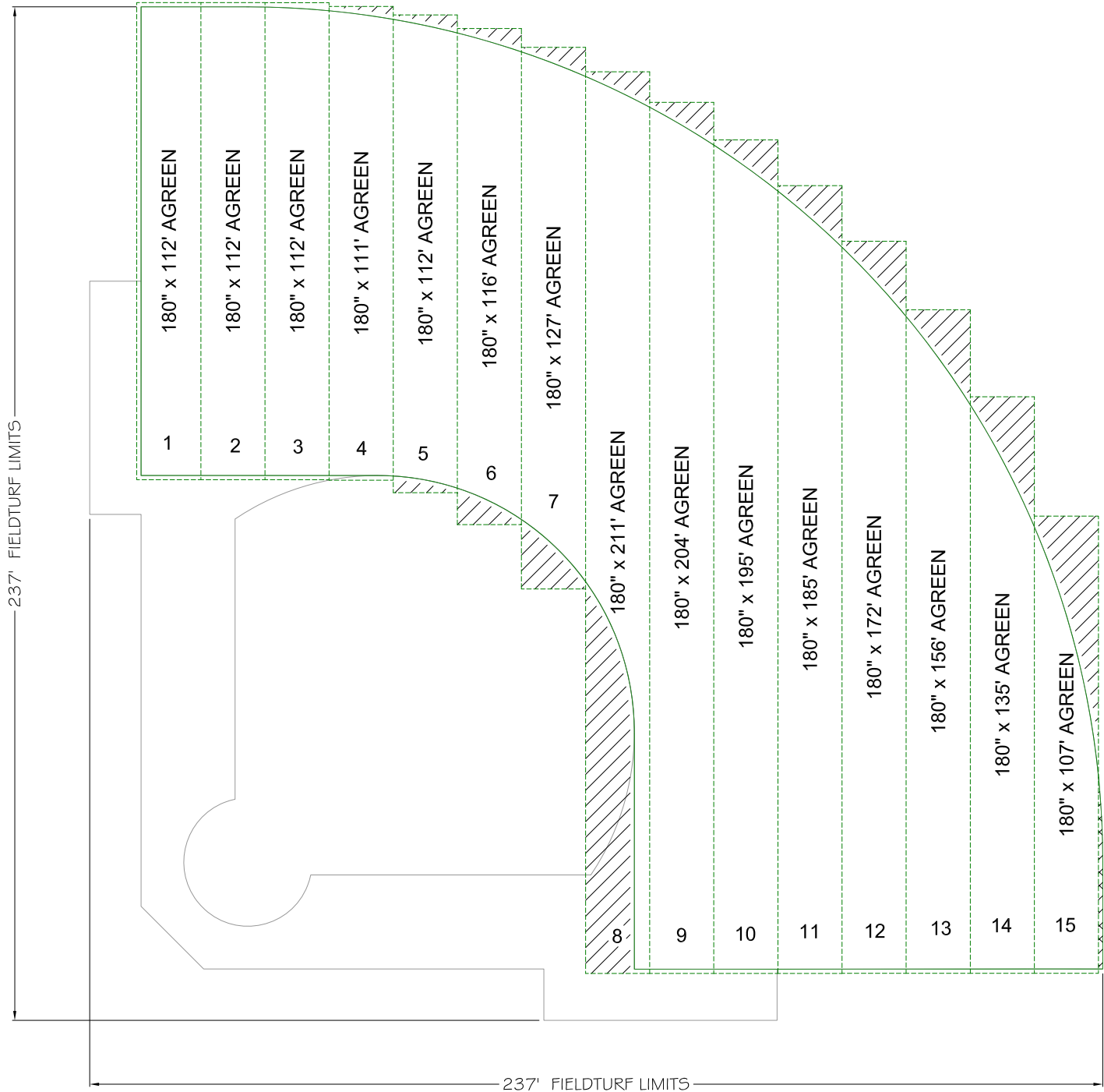


SOUTH COOPER MOUNTAIN HIGH SCHOOL  
SOFTBALL FIELD  
BEAVERTON , OR

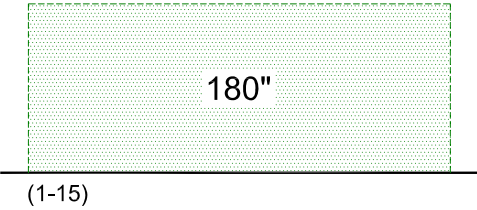


DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=35'
FIELD AREA:	13,754 sq.ft.
TURF MANUFD:	16,815 sq.ft.
EXTRA TURF:	22.3 %





AGREEN



INSTALLATIONS NOTES:

- 1. ROLLS (SEAMS) ARE SHOWN IN DASHED LINES.
- 2. FIELD EDGE AND SPORTS LINES ARE SHOWN IN CONTINUOUS LINES.
- 3. THE INSTALLATION OF THE ROLLS SHOULD START FROM (ROLL #1).
- 4. USE THE LEGEND FOR PLACEMENT OF EXCESS ROLLS.



SOUTH COOPER MOUNTAIN HIGH SCHOOL  
SOFTBALL FIELD  
BEAVERTON , OR

DATE: SEPTEMBER 12, 2016      ISSUE: SUBMITTAL      SHEET: 4/5 ROLL LAYOUT

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DRAWN BY:	M. K. / D. H.
CHECKED BY:	J. B.
SCALE:	1"=35'
FIELD AREA:	29,497 sq.ft.
TURF MANUF'D:	32,505 sq.ft.
EXTRA TURF:	10.2 %

Scale is only accurate when this drawing is printed on 11" X 17" paper.