

Hitting it Out of the Park

Key Factors to Consider When Upgrading Your Campus's Ball Fields



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DEMONICA KEMPER ARCHITECTS

Illinois Community College
Chief Financial Officers

Key Factors to Consider for Ball Field Planning & Design

1. **Define Purpose / Utilization**
2. **Size & Dimensions**
3. **Orientation**
4. **Playing Surface**
5. **Spectator Seating**
6. **Safety**
7. **Support Facilities**
8. **Lighting**
9. **Parking / Access**
10. **Environment / Experience**

Define the **Purpose / Utilization** of the Complex

Potential Uses:

- **Regular Season Games**
- **Tournaments**
- **Practice Facilities**
- **Rental Facility / Leagues**

- **Community Use**
- **Assemblies / Events**
- **Concerts**
- **Fairs / Markets**

Playing Field Design Requirements & Recommendations (Field Dimensions, Striping, Fencing, Bases, etc.)



RULE 1

The Game, Playing Field and Equipment

An Approved Ruling (A.R.) or Note is an official decision of the NCAA Baseball Rules Committee [hereafter "rules committee"] regarding a specific rule or part of a rule. It serves to illustrate the spirit and application of the rules. Approved Rulings or Notes follow the rules they amplify.

The Game

SECTION 1. Baseball is a game made up of two teams of nine players each. The team at bat is known as the offensive team, and its objective is to have its batters become base runners and its runners to advance legally, touching all bases. When this is done, a run is scored.

The team in the field is known as the defensive team, and its objective is to prevent offensive players from becoming base runners and advancing around the bases. When three offensive players are legally put out, the teams change from the offensive to the defensive and from defensive to offensive.

The object of each team is to score more runs than its opponents. The winner of the game shall be the team that scores, in accordance with these rules, the greater number of runs at the conclusion of a regulation game.

In college baseball, the two teams represent their respective institutions and play the game in conformity with the rules that follow.

The Playing Field

Infield, Outfield Dimensions

SECTION 2. a. The infield shall be a 90-foot square. Note in the diagram in this section that the center of second base is one corner of the 90-foot square and the measurement to first and third bases is to the back edge of each base. All measurements are to be made from the apex or back point of home plate.

The outfield shall be the area between two foul lines formed by extending the two outer sides of the square.

b. The recommended distances for outfield fences are 330 feet from the apex of home plate to each foul pole; 375 feet in both right- and left-center field; 400 feet in straightaway center field. If the distance to the foul pole is less than 330 feet, the fence should be rounded out to the recommended distances in right- and left-center field and straightaway center field, if possible. The foul poles shall be painted fluorescent yellow for new construction and for repainting of existing foul poles.

Note: This requirement will apply only to college baseball facilities owned by NCAA member institutions.

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RULE 2

Field of Play

The following information regarding the playing facility and field specifications applies to all competition regulated by the NCAA Softball Rules.

2.1 Layout

For the layout of the playing field, refer to the drawing showing official dimensions.

2.1.1 All new fields should be oriented with consideration to the following factors: protection of players, comfort of spectators, season of use (February-June), latitude (north to south), east-west geographical location within time zone, prevailing winds, daylight saving time, background, and obstacles or barriers. In general, those considerations will lead to home plate being located in the southwest corner of the field, and a line drawn through home plate, the center of the pitcher's plate and out to centerfield will extend to the northeast.

2.1.2 When constructing a softball diamond, first designate a point for the rear tip of home plate. Secondly, with the aid of the above guidelines, locate the desired direction of second base. Measure 84 feet 10 1/4 inches in this direction. This is the center of second base. With the tape still in this position, locate the pitcher's plate 43 feet from home plate toward second base. With the tape still fastened to the rear point of home plate, measure 60 feet toward first base and scribe a short arc. Also measure 60 feet toward third base and scribe a short arc. Now fasten the tape at the center of second base and measure 60 feet toward first and third base, respectively. Scribe a short arc each time. The back edges of first and third bases are located where the respective arcs intersect. The skinned area should be determined by measuring a 60-foot arc from the front center of the pitcher's plate.

2.2 Artificial Turf

A synthetic turf surface field may be used for collegiate competition. It is recommended that the outfield portion be green and, if there is an infield portion, it be brown and have shorter blades than the outfield portion.

2.3 Backstop

2.3.1 A backstop is the required barrier behind home plate that usually stops the ball from going out of play.

2.3.2 It should be a minimum distance of 25 feet and a maximum distance of 30 feet from home plate (not including the padding). (See diagram at end of rule.)

2.3.3 It is recommended that the backstop be vertical and not extend over the playing field.

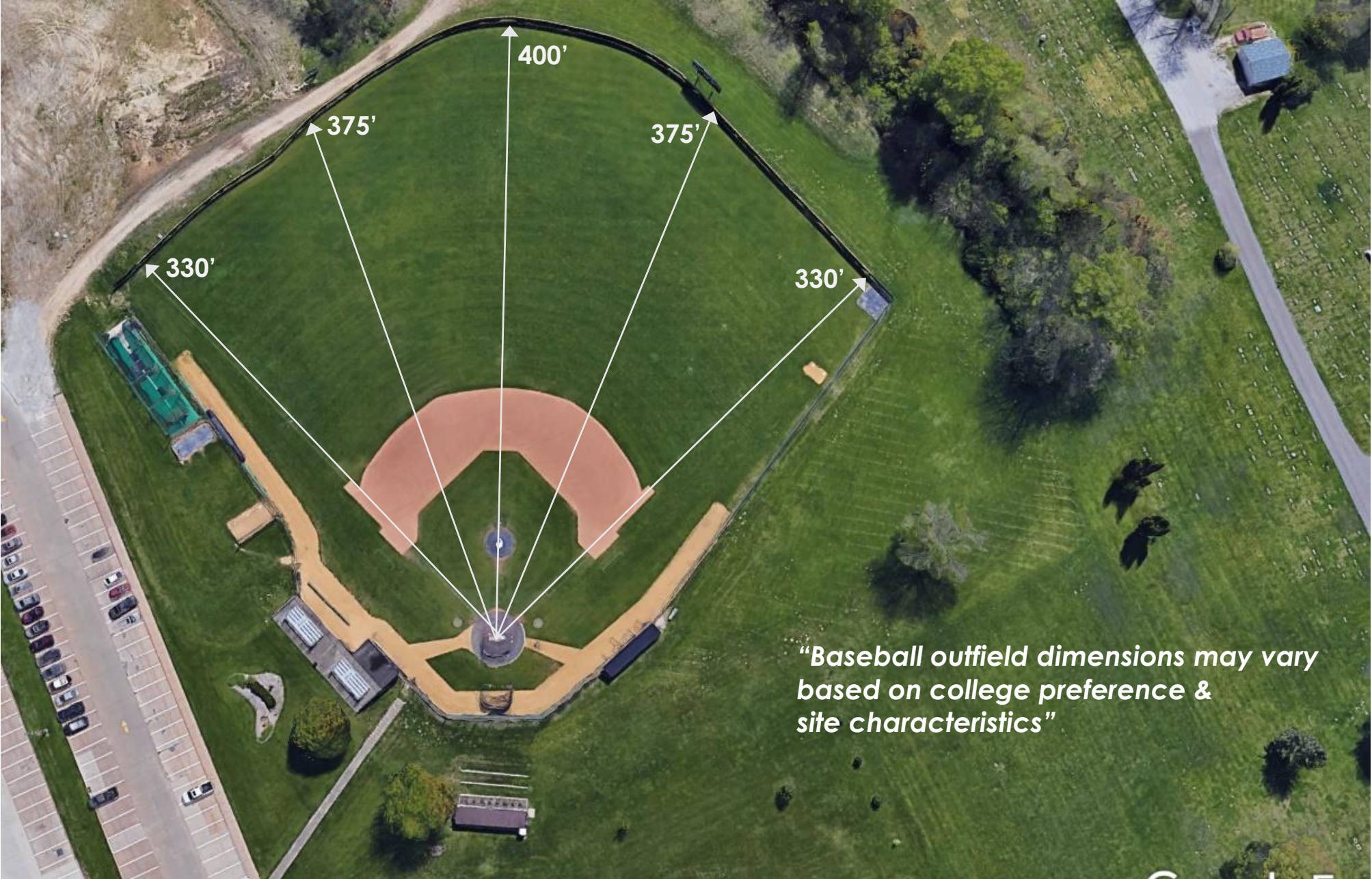
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NCAA Rule Books (NJCAA Follows)



Size & Dimensions of the Ball Fields

Baseball Outfield
NJCAA Recommendation
(From NCAA Rule Book)



“Baseball outfield dimensions may vary based on college preference & site characteristics”

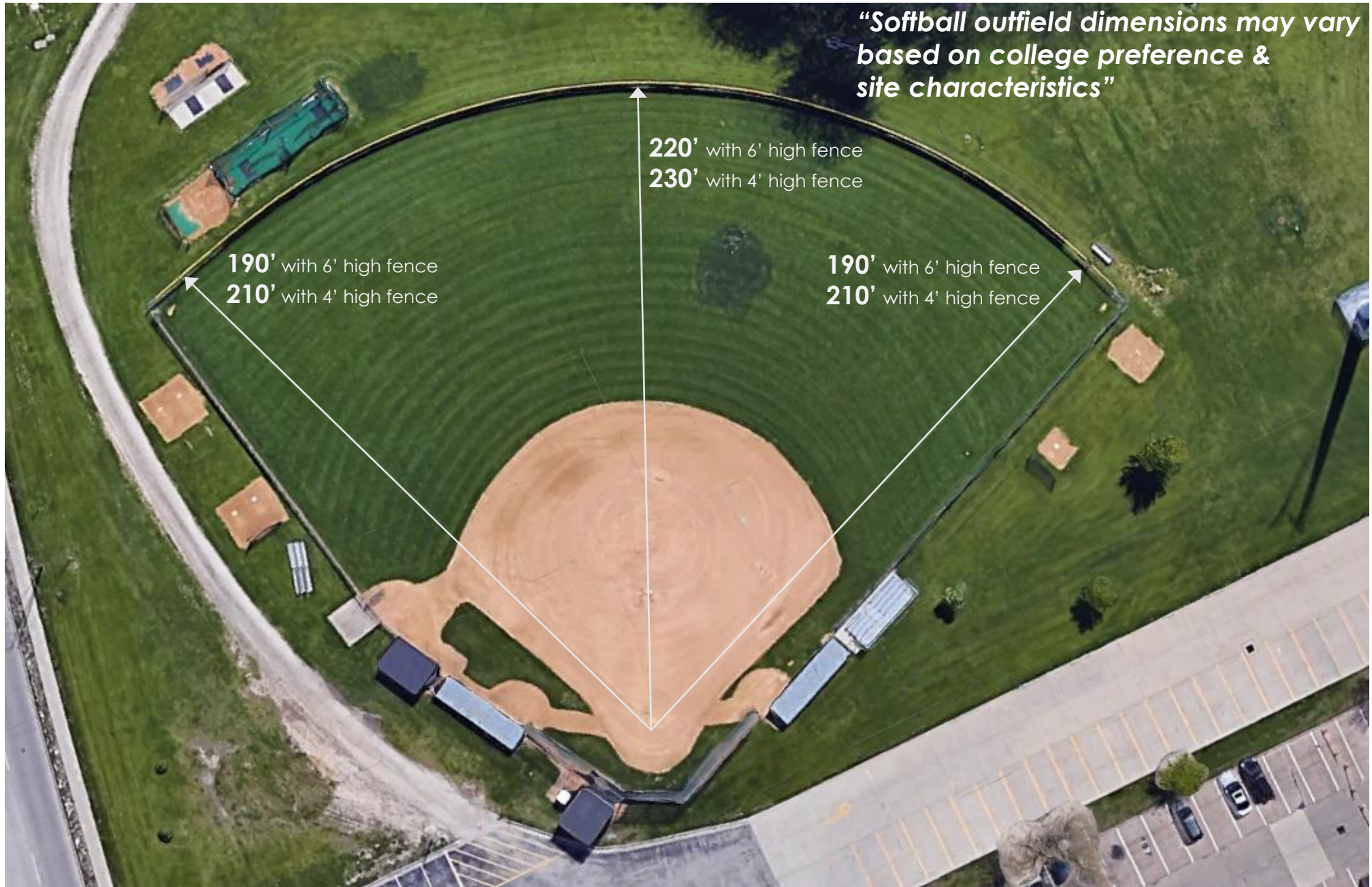


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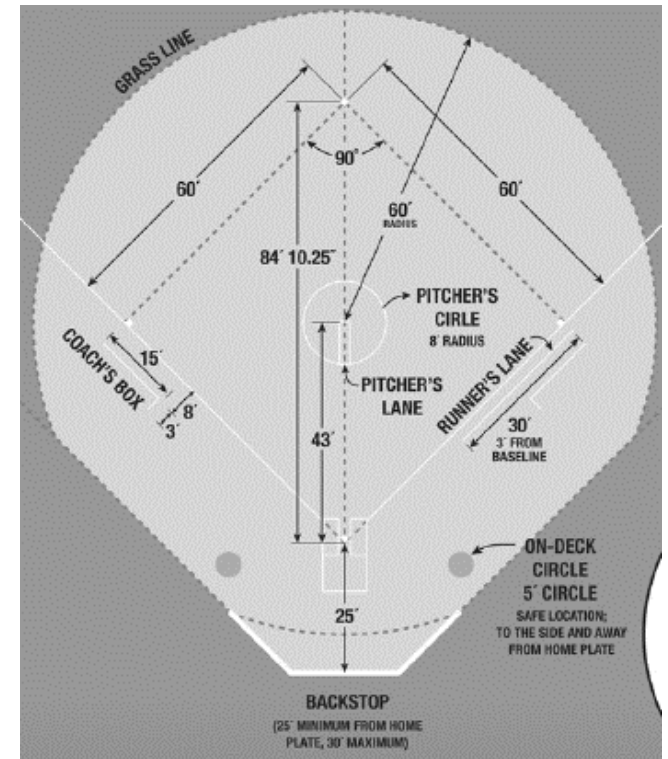
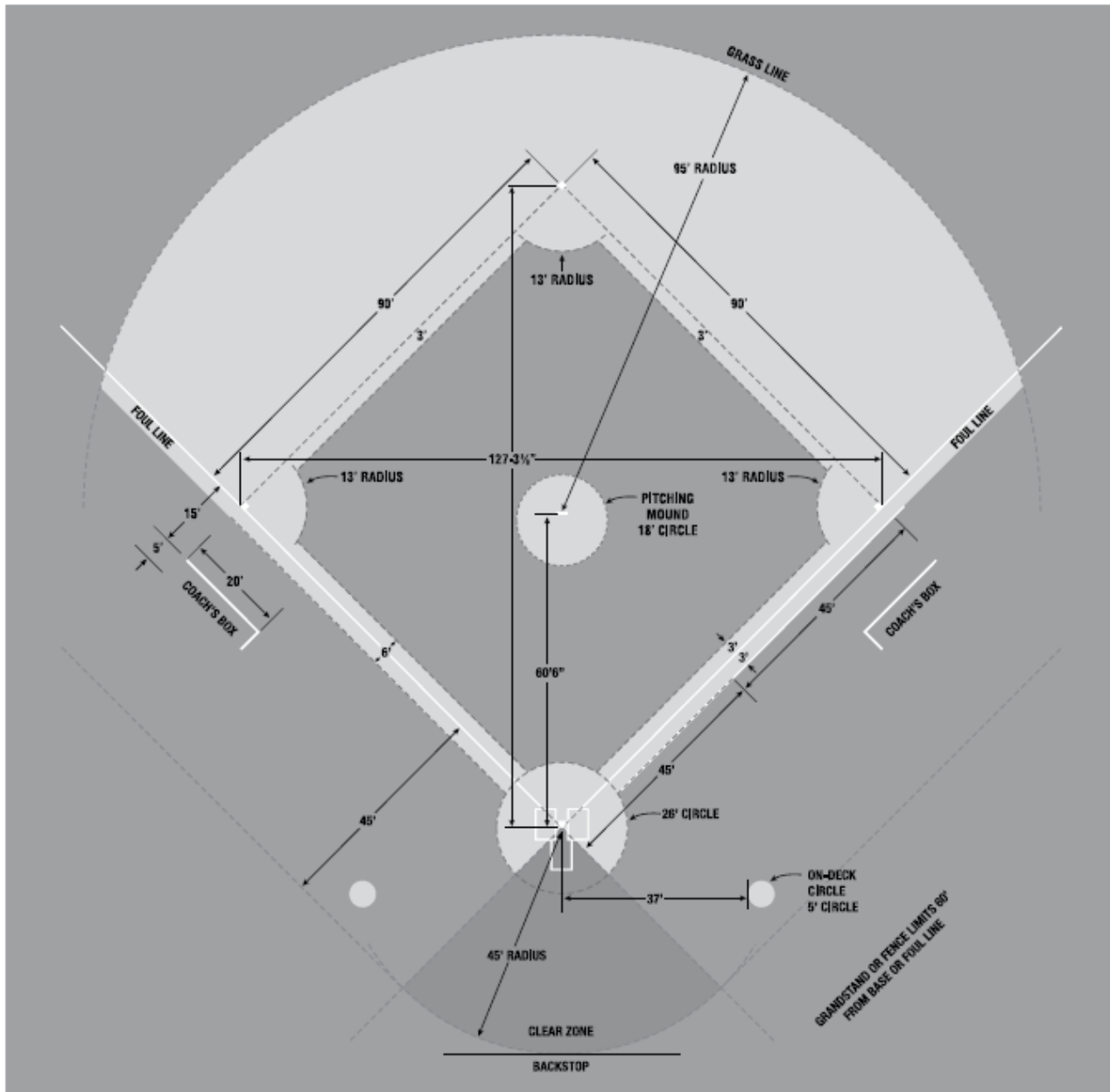
Size & Dimensions of the Ball Fields

Softball Outfield
NJCAA Recommendation
(From NCAA Rule Book)



Size & Dimensions of the Ball Fields

Baseball Infield NJCAA Requirements (From NCAA Rulebook)



Orientation of the Ball Field

From NCAA Rule Book:

“Ball Fields should be oriented with consideration to the following factors:

1. **Protection** of Players
2. **Comfort** of Spectators
3. **Sun** angles
4. Prevailing **Winds**
5. Outfield **Backdrop**
6. Existing **Conditions**: Obstacles / Barriers / Geography”

From Major League Baseball Rule Book:

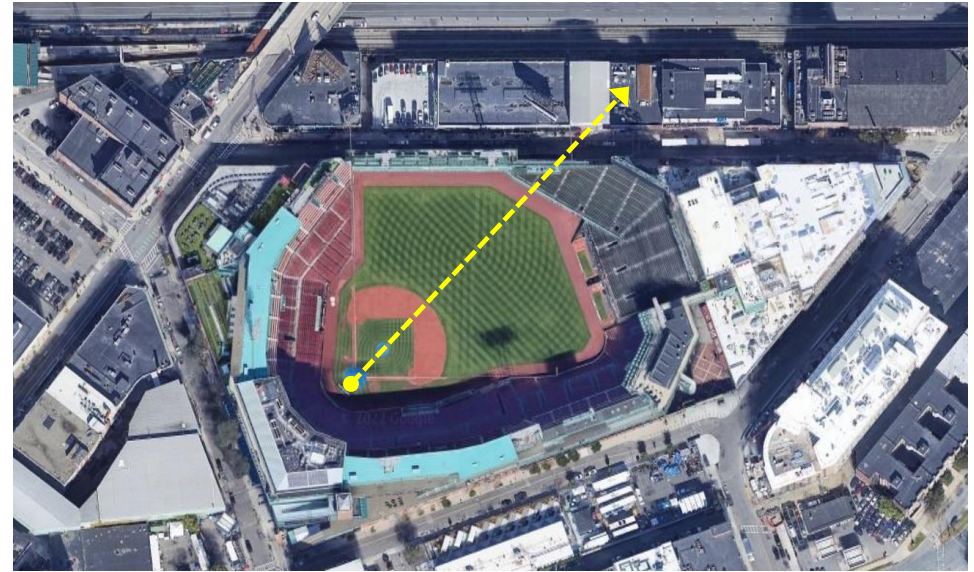
“It is desirable that the line from home base through the pitcher’s plate to second base shall run **East / Northeast.**”.....to keep the afternoon sun out of the batter’s eyes.

Orientation of the Ball Field

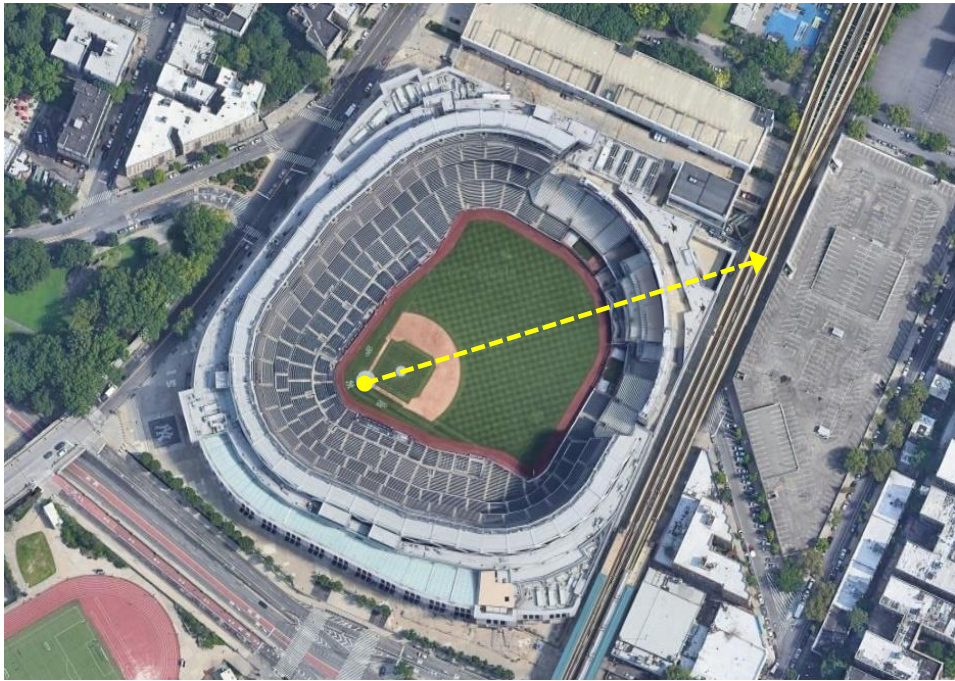


Wrigley Field – Chicago Cubs (Northeast)

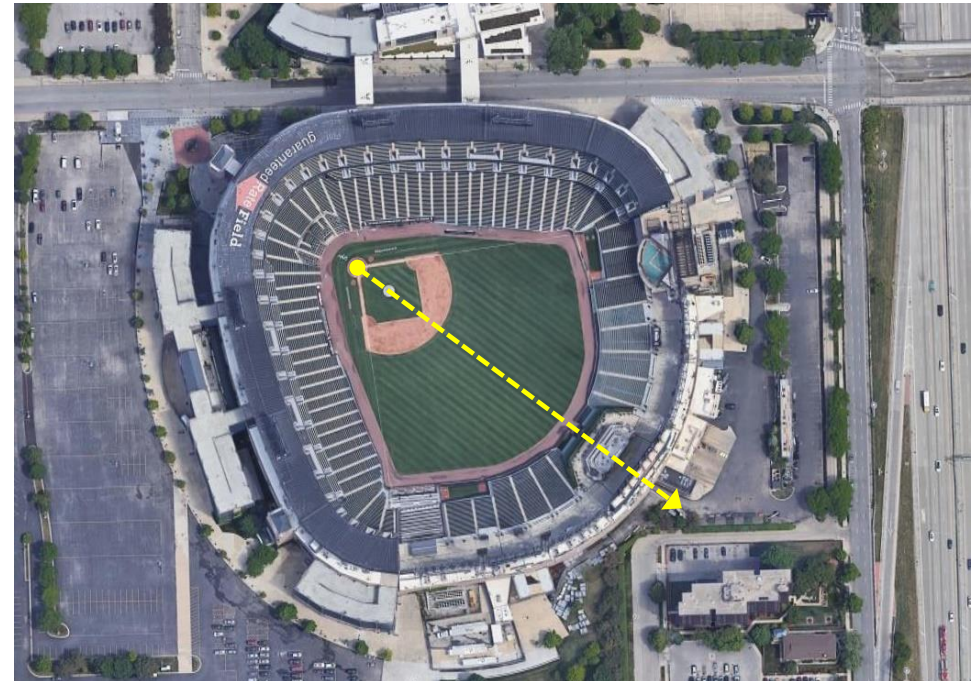
Major League Baseball Examples Notable Ball Field Configurations



Fenway Park – Boston Red Sox (Northeast)



Yankee Stadium – New York Yankees (Northeast)



Guaranteed Rate Field – Chicago White Sox (Southeast)



Type of **Playing Surface**

Artificial Turf vs. Natural Grass (Pros):

- **Lower** cost of **regular maintenance**. (Irrigation / pesticides / mowing / striping)
- **Playable** immediately **after construction** vs waiting for grass to grow
- **No rainfall protection** required (Playable 30 min after rain / Increased playing time)
- **Customizable** ball **play speeds**...based on field dimensions.
- **Consistent** playing surface / **Predictable** ball bounces / No differential settlement.
- **Attractive**...Manicured and consistent appearance.
- Long-term **logo integration**.
- Often **viewed by athletes** as a **higher quality** playing surface.



Artificial Turf

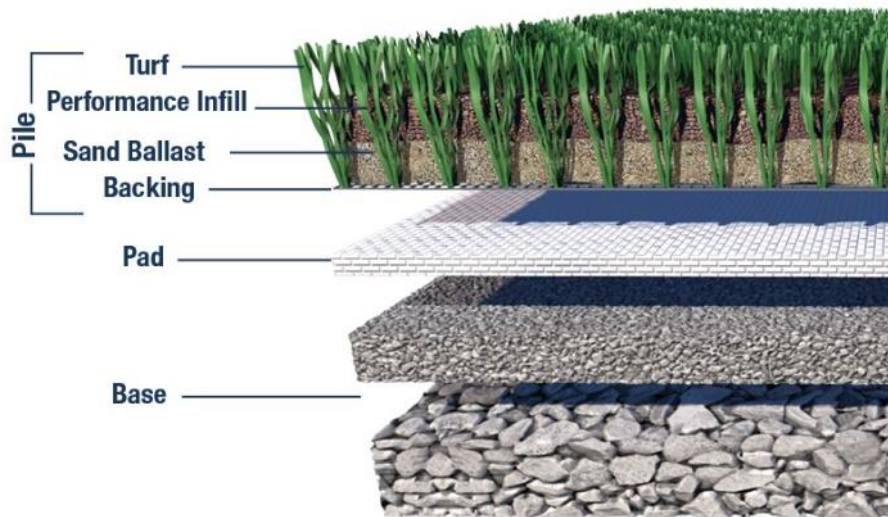


Natural Grass

Type of **Playing Surface**

Artificial Turf vs. Natural Grass (Cons):

- **Higher** up-front **cost**: \$11 - \$13/sf (vs) \$5 - \$6/sf for natural grass.
- More extensive **Stormwater** Management requirements / costs.
- Playing surface **replacement** required every **8-12 years**. (\$6/sf)
- Playing surface can be **Warmer** than natural grass on hot days (*Due to rubber infill mix*)



Artificial Turf



Natural Grass

Type of **Playing Surface** – Cost Comparison

(Baseball + Softball Fields)

	Artificial Turf (Baseball + Softball)	Natural Grass (Baseball + Softball)
Playing Surface / Base / Drainage	\$2,200,000	\$1,000,000
Irrigation	\$0	\$500,000
Stormwater Detention	\$600,000	\$0 - \$300,000
Total (Baseball + Softball Fields)	\$2,800,000	\$1,800,000

Field Size Comparisons

Softball Field 40,000 sf
 Baseball Field 125,000 sf
Total **165,000 sf**

Soccer Field 95,000 sf
 Football Field 66,000 sf

(One Acre = 43,560 sf)

<p>O & M Costs:</p> <ul style="list-style-type: none"> • Grooming • Sweeping • Surface Repairs <p>Requires Surface Replacement Every 8-12 Years:</p> <ul style="list-style-type: none"> • \$1,000,000 	<p>O & M Costs:</p> <ul style="list-style-type: none"> • Mowing • Striping • Pesticides • Water Use
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Spectator Seating Type & Capacity

Grandstand Design Factors:

- *Expected Attendance (Capacity)*
- *Aesthetics (Image)*
- *Longevity (Construction Type)*
- *Site Characteristics*
- *Budget / Cost*



Raised Aluminum Bleachers (\$)



Stands Integrated into Sloping Grade (\$\$)



Raised Stands with Enclosure (\$\$ - \$\$\$)

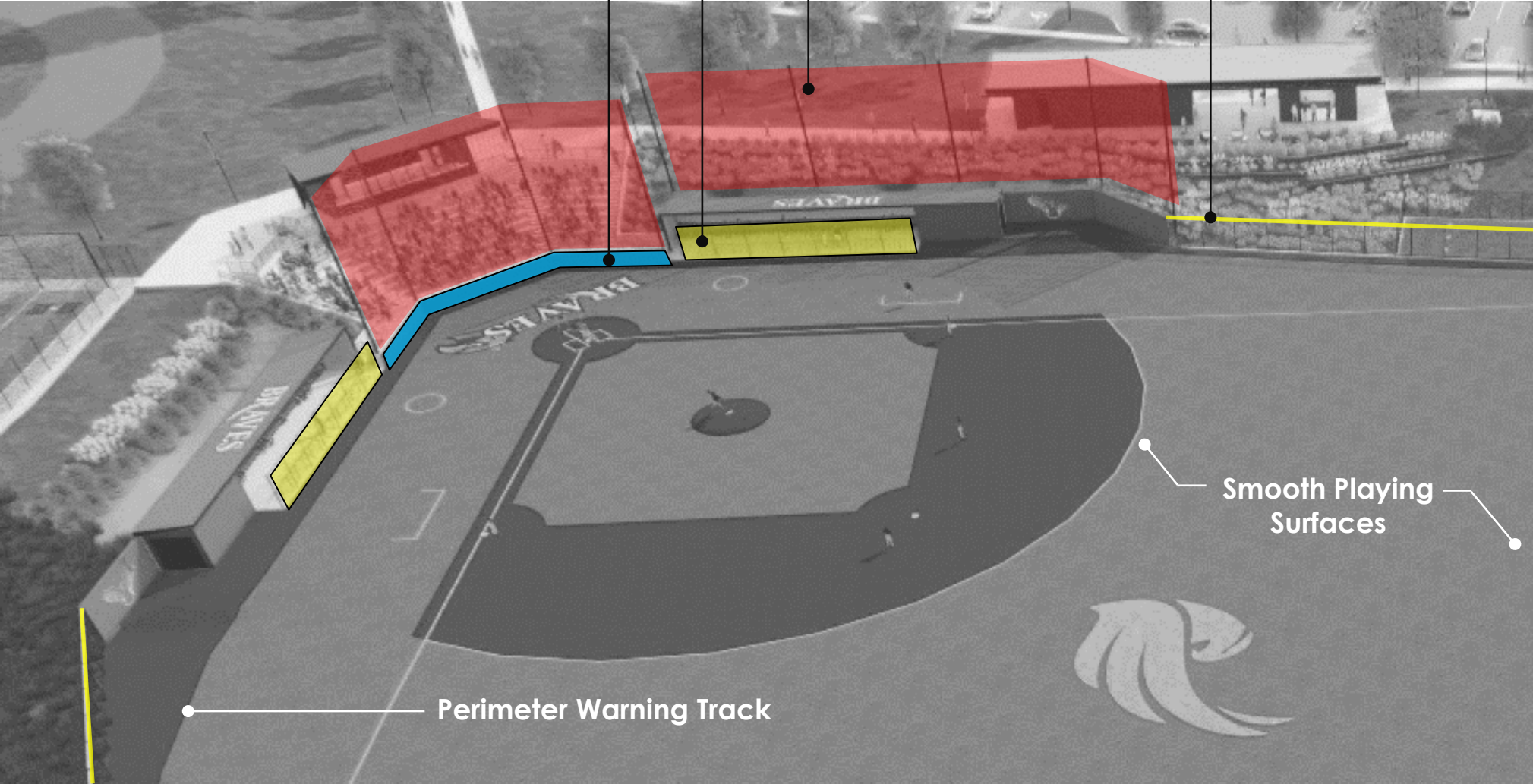
Safety Components (For Players & Spectators)

Protection Fencing at Dugouts

Protective Netting / Fencing for Spectators

Backstop Wall Padding

PVC Fence Cap



Smooth Playing Surfaces

Perimeter Warning Track

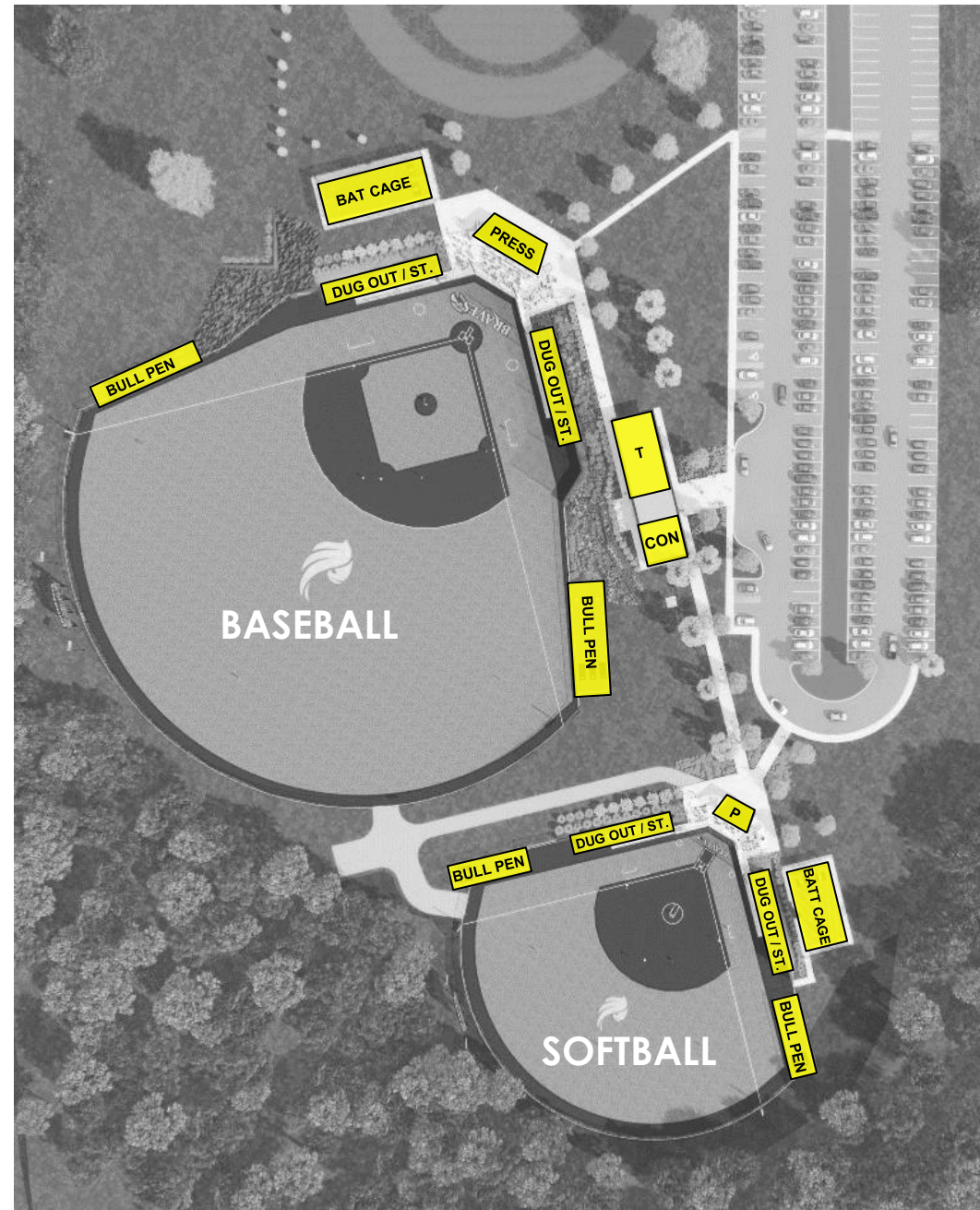


Support Facilities

- **Dugouts** (*On-Grade / Sunken / Hybrid*)
- **Storage** (*Field Equip. & Maint. Supplies*)
- **Bull Pens** (*Pitching Lanes*)
- **Batting Cages** (*Interior and/or Exterior*)
- **Press Boxes + AV Systems**
- **Restroom Facilities** (*Spectators & Teams*)
- **Locker Facilities** (*Teams & Officials*)
- **Concessions** (*Determine Offerings*)

Title IX Compliance Requirements:

Provide Comparable Quality / Equitable Facilities Between BB & SB Fields



Ball Field Lighting

Guidelines	Infield	Outfield
Park & Recreational	30 fc	20 fc
High School / Some Comm. Colleges	50 fc	30 fc

Lower Cost

\$600 - \$700 K (BB + SB)

NCAA – Best Practices	Infield	Outfield
Standard Intercollegiate Play	70 fc	50 fc
Regional & National TV	100 fc	70 fc
National Championship TV	125 fc	100 fc

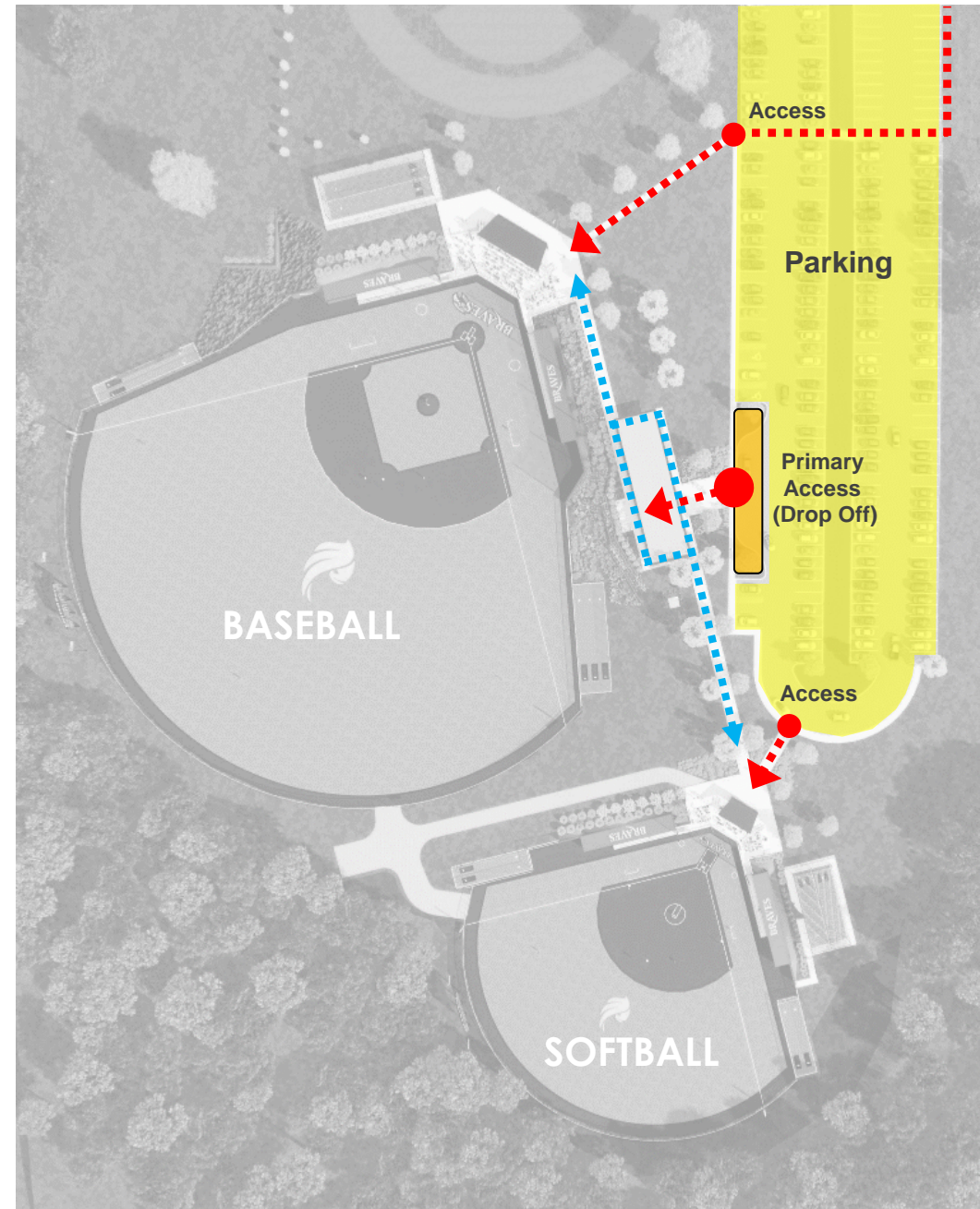
\$800 - \$900 K (BB + SB)

Higher Cost



Ease of **Parking & Access**

- Convenient Parking in Proximity to Fields
- Vehicular Drop Off Zone
- Identifiable Entry / Access Points
- Clear Pedestrian Circulation



BLACK HAWK COLLEGE'S BALL FIELDS VISION



BHC 2020 Facilities Master Plan

Consolidate Fields / Create Athletic Complex

Building 4 Renovation

- Student Activities (Lvl. 1)
- Vet Services / Counseling
- Dining / Food Service
- Upgrade Balconies
- Art Expansion (Lvl. 2)

Building 3 Renovation

- Athletics / Fitness
- Campus Police
- (7) Natural Science Labs
- (4) Health Sciences Labs
- (3) Classrooms
- Offices
- New Entry

Parking Lot 3 Expansion

- Increase 150 to 320 Spaces
(170 Additional)

New Fieldhouse

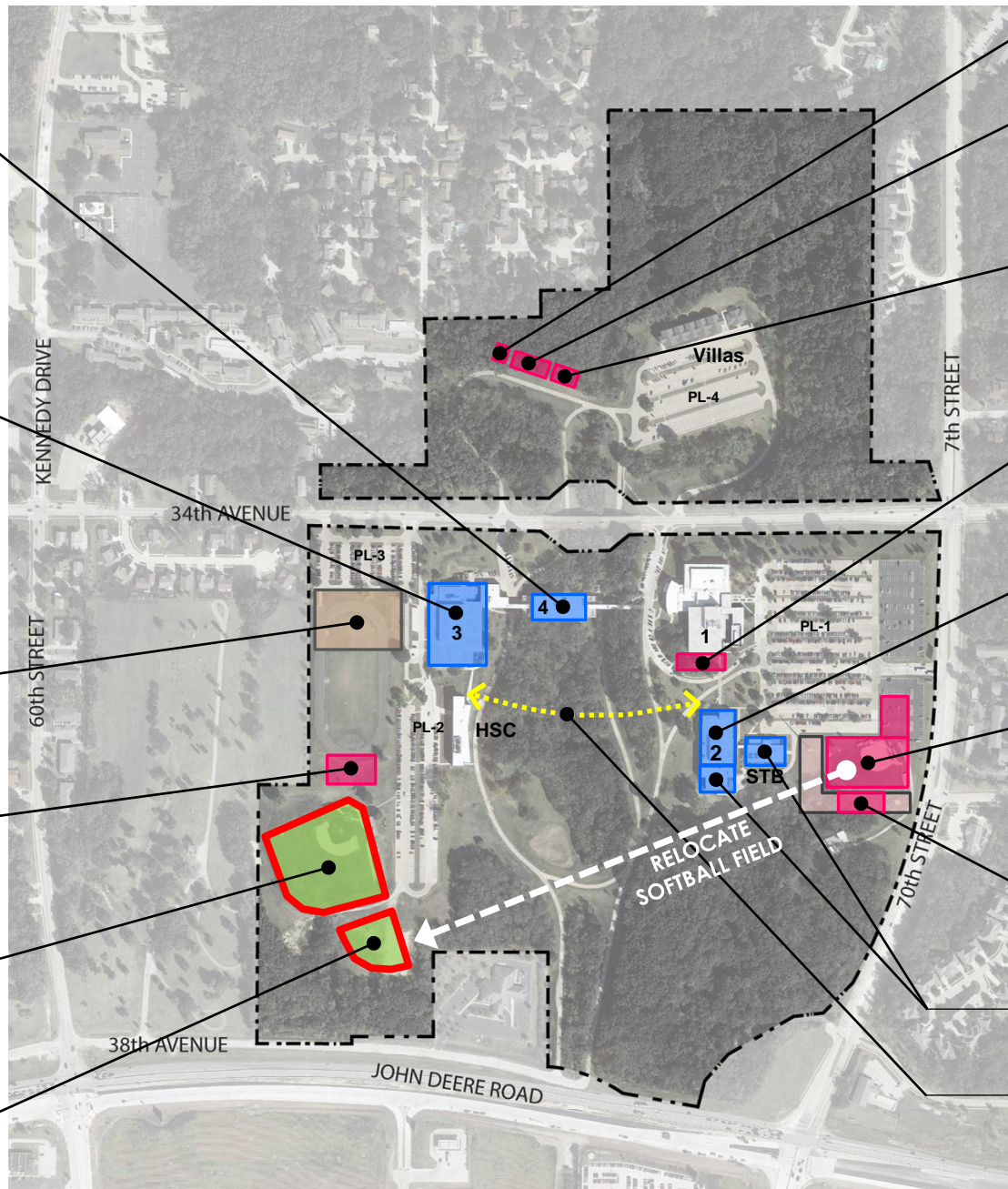
- 36,200 sf
- 85' x 200' Indoor Turf (Soccer)

New Baseball Field

- Synthetic Turf
- Support Facilities & Lighting

Softball Field Relocate

- Synthetic Turf
- Support Facilities & Lighting



New Storage Building

- Furniture Storage (4000 sf)

New Facilities / HCCTP Building

- 8000 sf
- Facilities Vehicle Storage
- HCCTP Storage & Classroom

New Art Annex

- Ceramics Lab / Kiln (5000 sf)

Building 1 Addition

- 19,500 sf
- Music Relocation / Expansion
- Conference Center

Building 2 Renovation

- (20) Enlarged Classrooms
- Offices
- New Entry

New CTE Building

- 80,640 sf (16 Auto Bays)
- CTE Labs (High Bay / Auto / Manuf.)
- Outdoor Yard Space
- (2) Classrooms
- Offices

Diesel / Large Truck – CTE

- 19,000 sf (4 Semi Truck Bays)

Building 2 & STB CTE Renovation

- CTE Labs

Cross Campus Pathway

- Exterior Pathway, Bridge & Lighting

■ New Construction
 ■ Renovation
 ■ New Parking
 ■ Site Development



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Creating an **Environment / Experience**



Existing Black Hawk College Baseball Field



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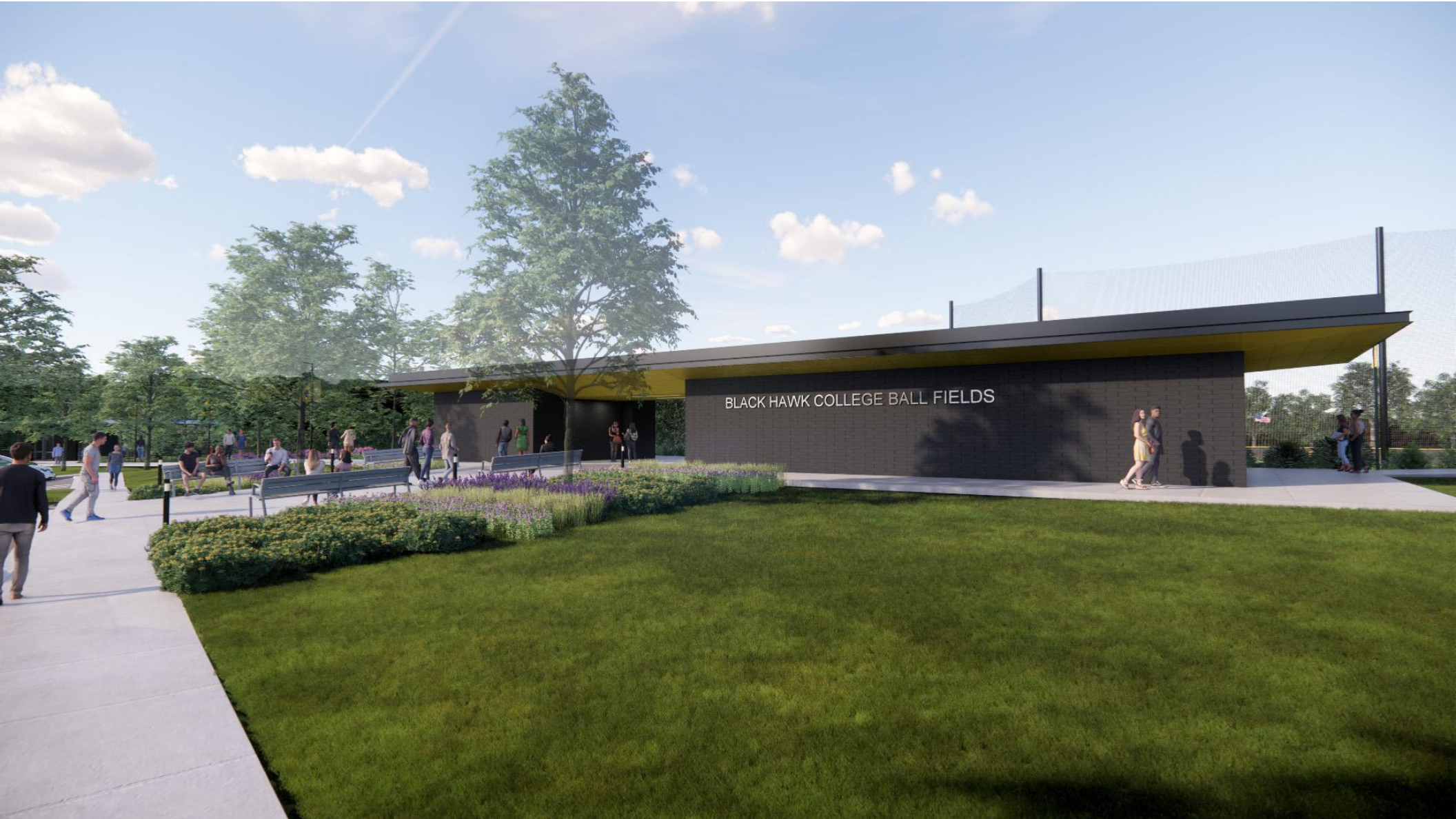
New Black Hawk College Ball Field Complex



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Welcoming **Image / Gateway** into the Complex



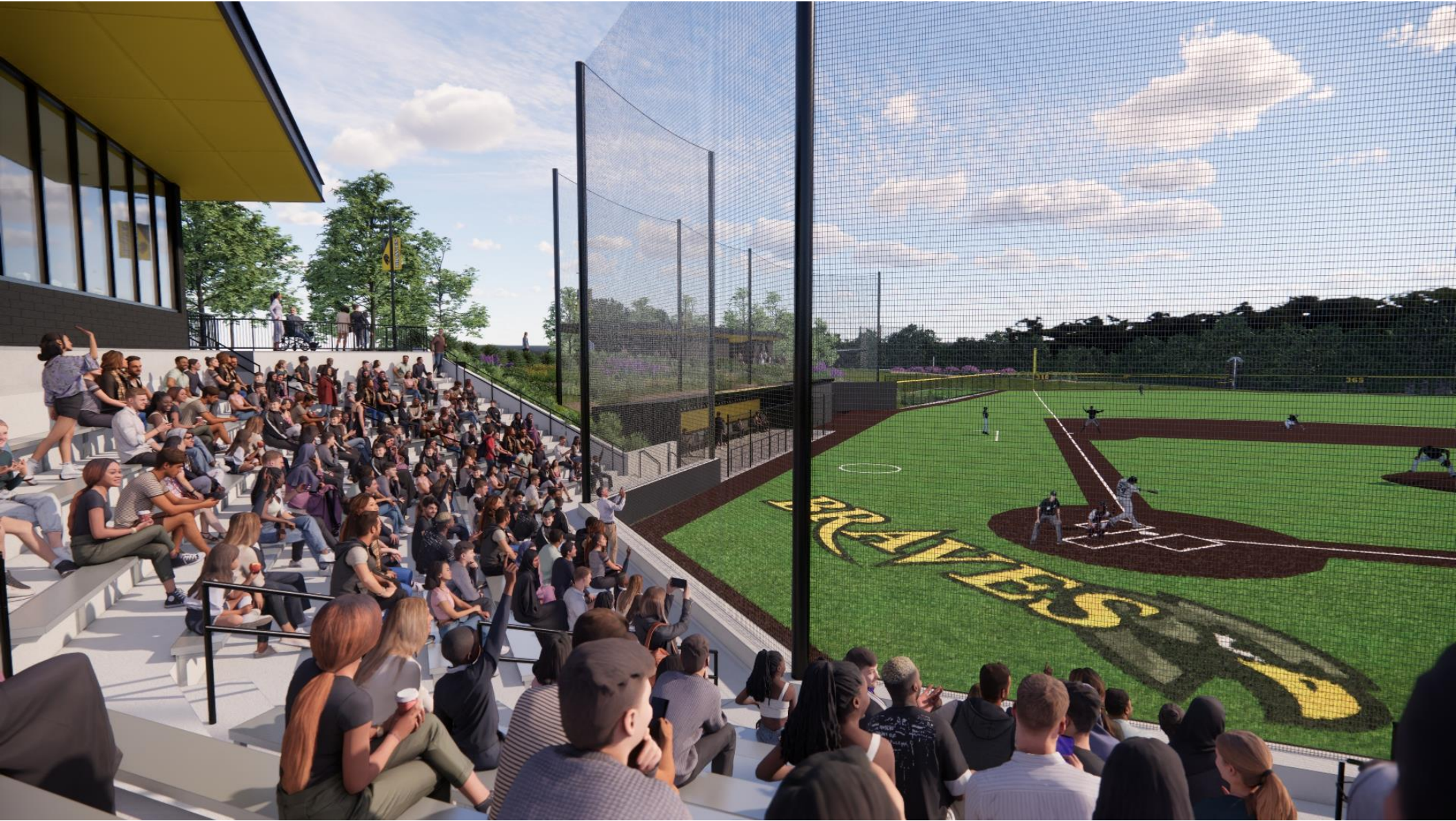
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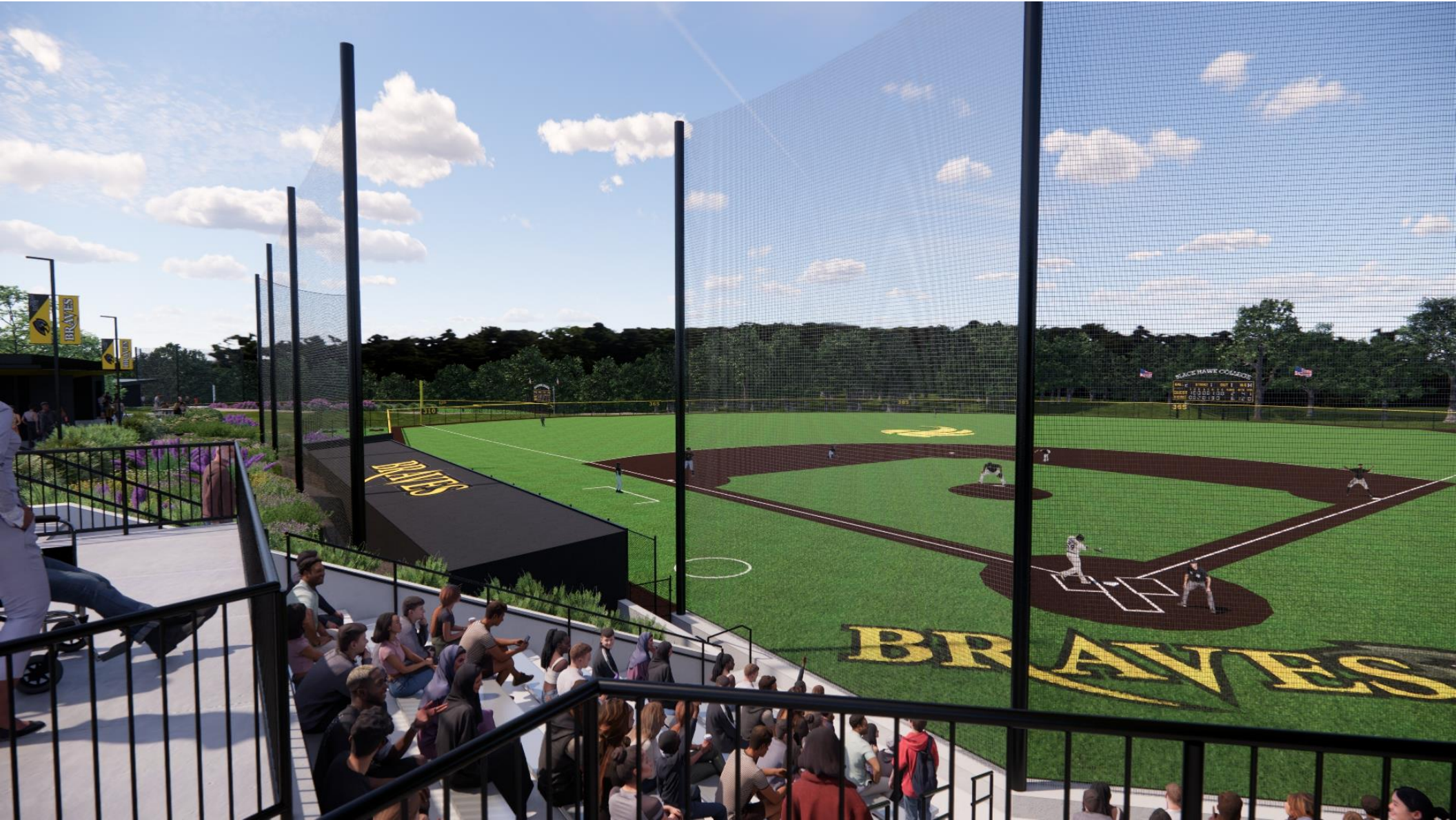
Spectator Experience / Views of Field from Concessions & Plaza



Spectator Experience / Views of Field from Seating



Incorporation of BHC Logos and Branding (Field / Roofs / Banners)



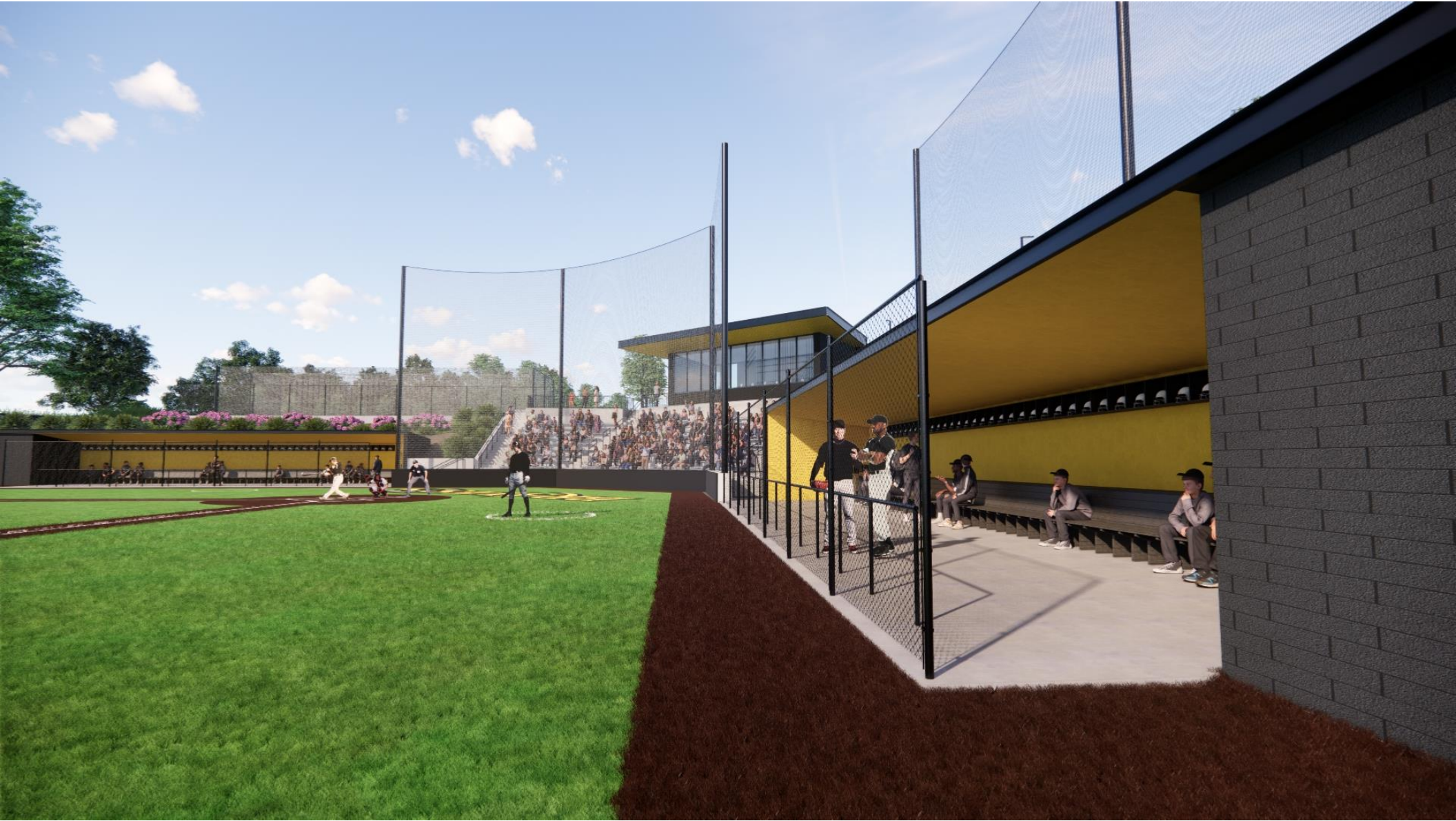
Player Experience / Incorporation of BHC Colors and Branding



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Player Experience / Incorporation of BHC Colors and Branding



Existing Morton College Ball Fields



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New Morton College Ball Field Complex

(Connects to Neighborhood / Creates Destination for College & Community)



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Primary Gateway into the Complex



New Main Street & Central Plaza



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North Neighborhood Gate / New Main Street Through Complex



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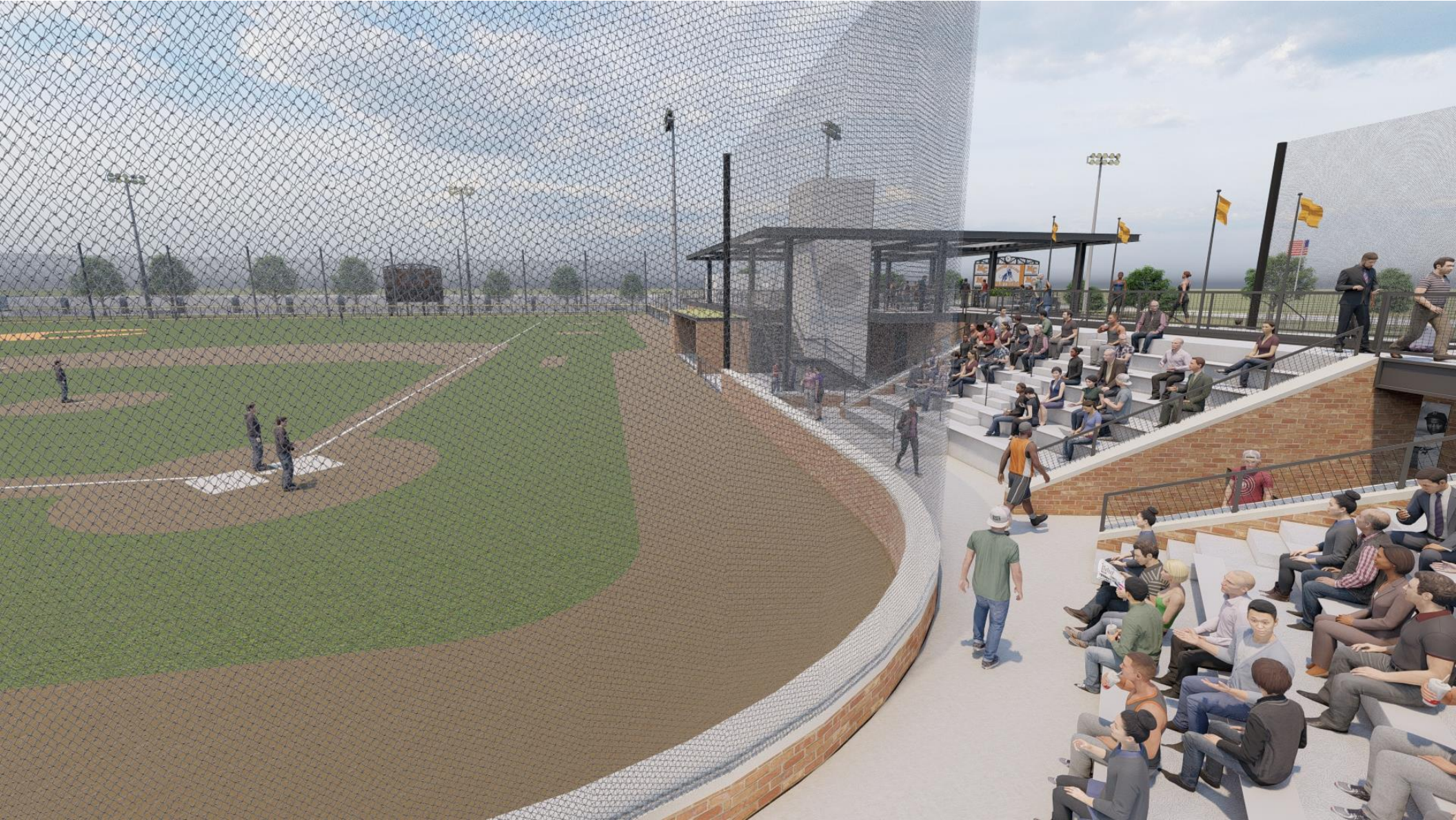
Clear / Identifiable Stadium Entries



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Spectator Experience / Views of Field



Spectator Experience / Roof Terrace over Lockers and Restrooms



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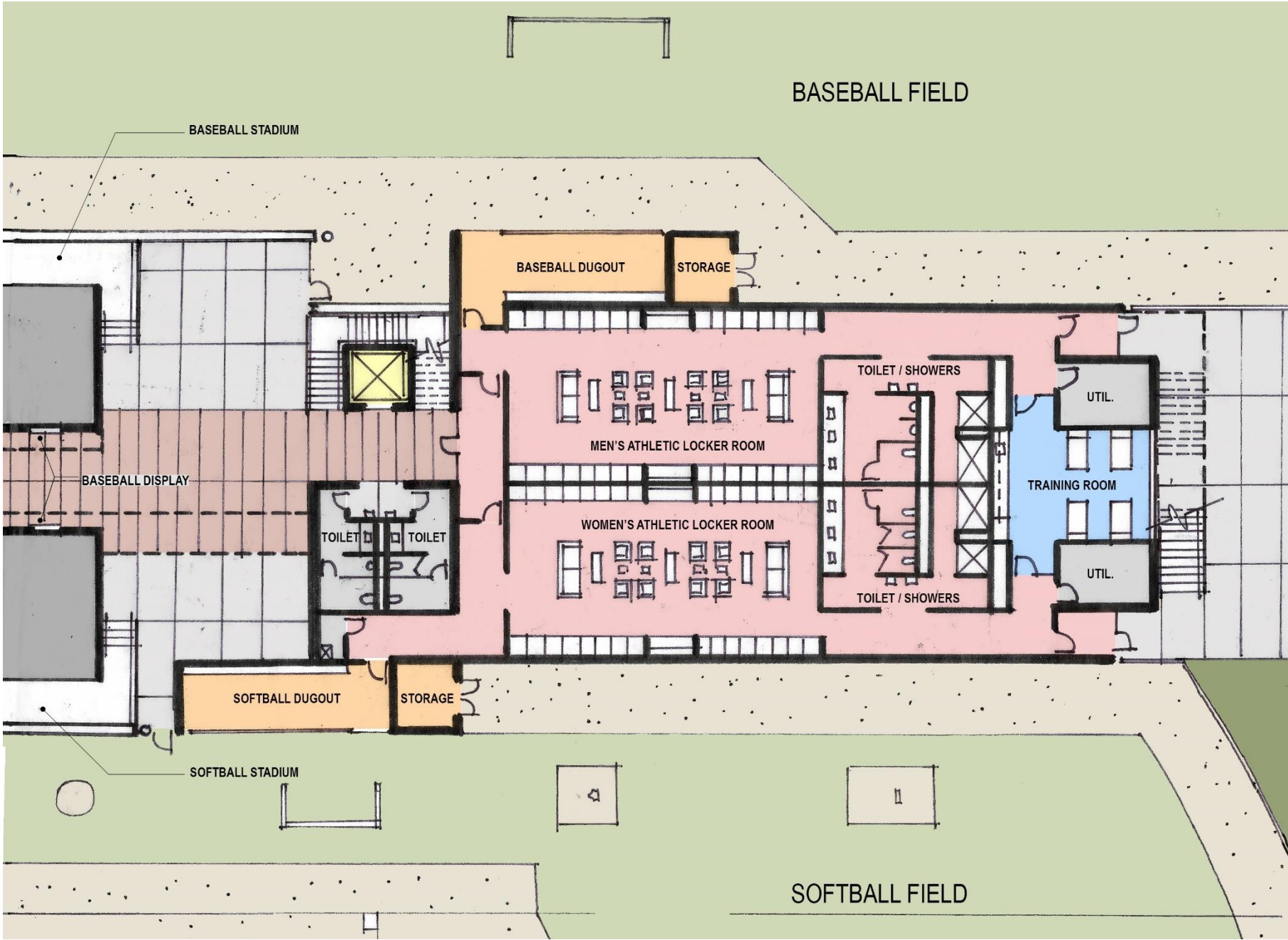
Spectator Experience / Roof Terrace over Lockers and Restrooms



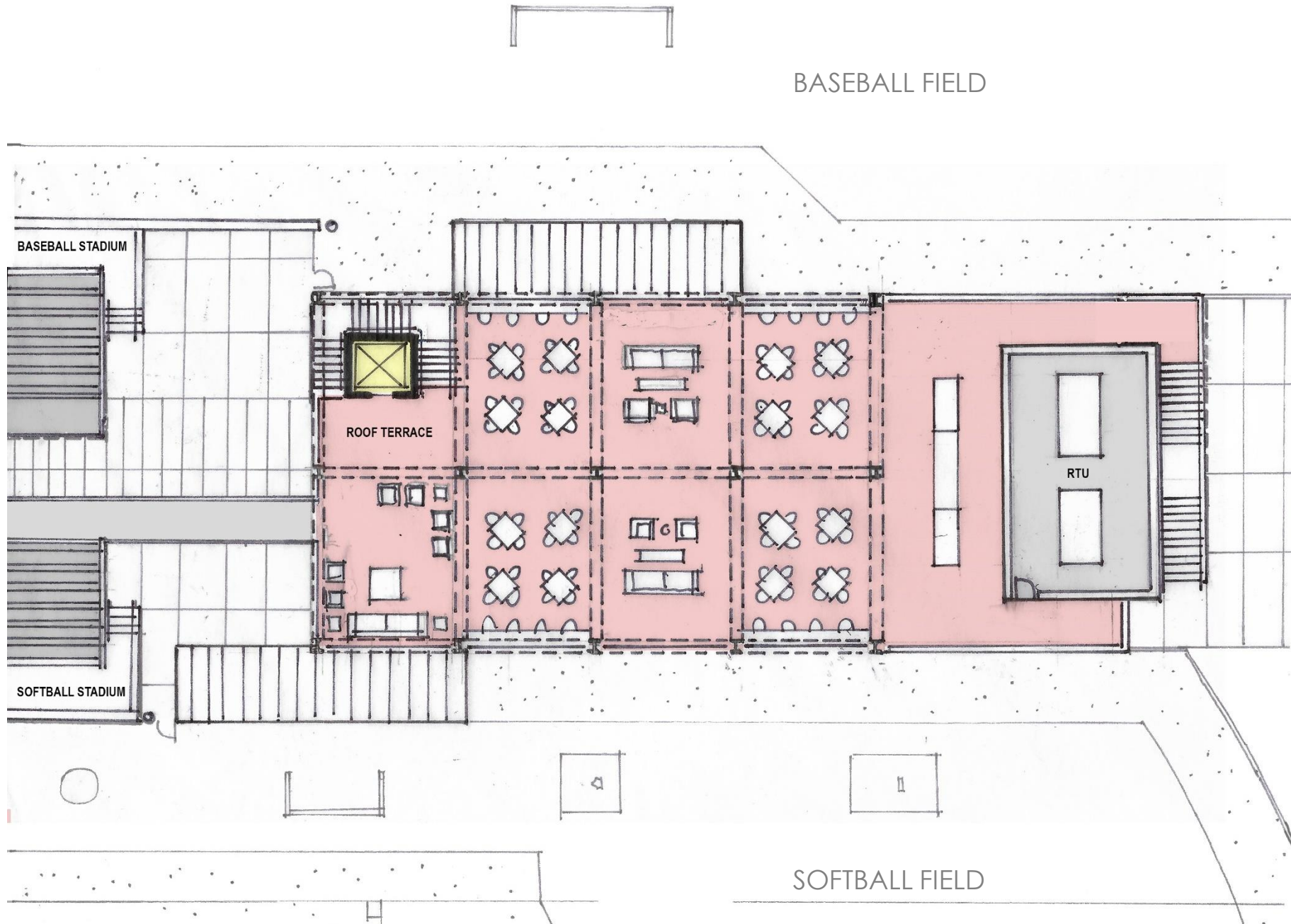
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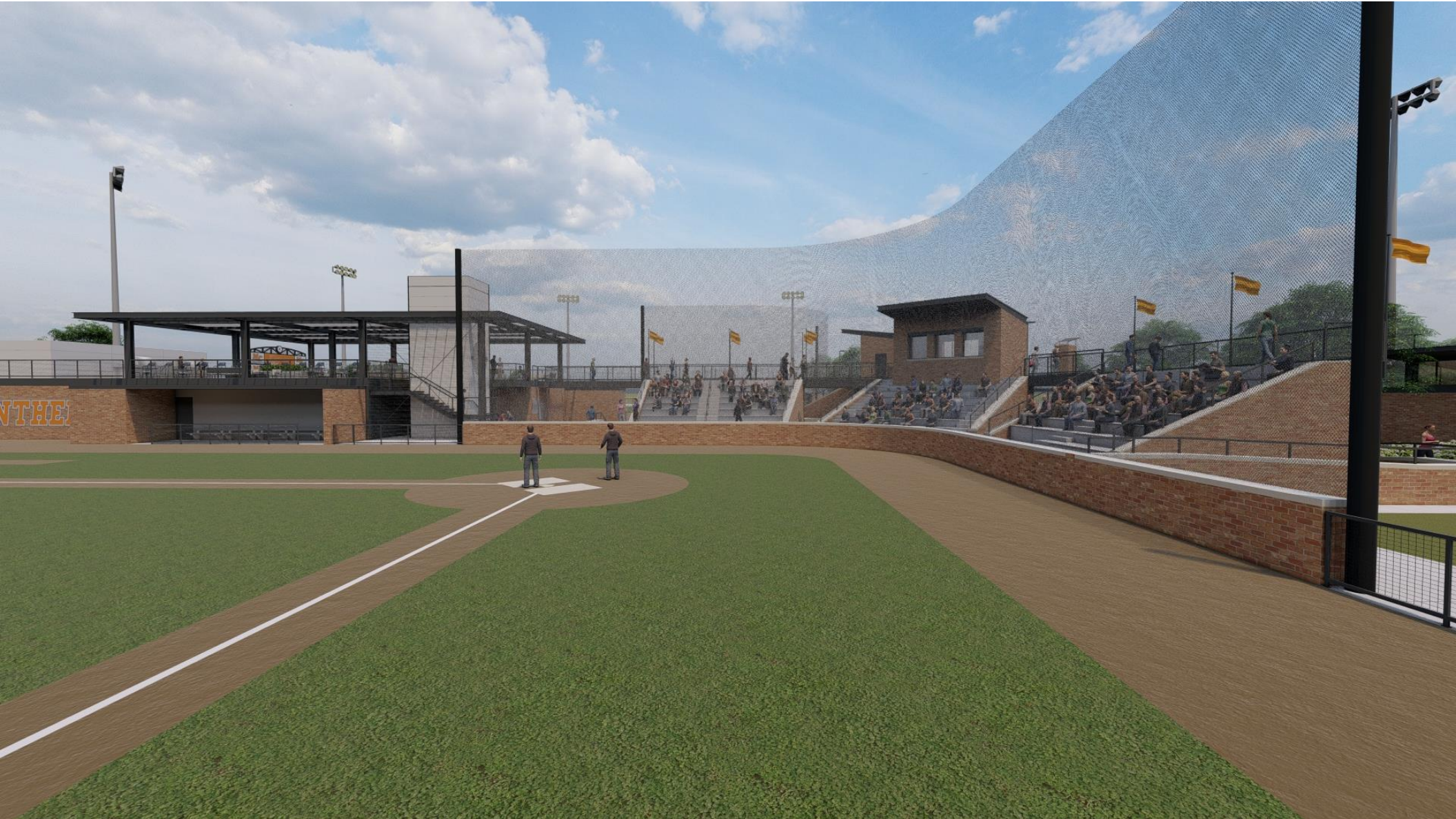
Athletic Lockers / Restrooms / Dugouts Facility



Roof Terrace Above



Experience on Field / Dugout Access



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View of Complex from Above



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Hitting it Out of the Park

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**THANK YOU...
QUESTIONS?**

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