State of Idaho

Department of Administration
Division of Public Works

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Governor
ROBERT L. GEDDES
Director
JAN P. FREW
Administrator

September 20, 2016

REQUEST FOR QUALIFICATIONS

TO: Architects / Engineers

DSM FROM: Jan P. Frew, Administrator
Division of Public Works

SUBJECT: DPW PROJECT NO. 16-241
Renovate Track, East Bleachers and Soccer Field
Idaho State University (ISU), Davis Field
Pocatello, Idaho

Submittals will be received at the Division of Public Works, 502 N. 4th Street, P.O. Box 83720, Boise, Idaho 83720-0072, until **Thursday, October 6th, at 10:00 a.m.**, for furnishing design/engineering services to the State of Idaho.

Questions that arise as a result of this Request for Qualifications should be addressed to:

Elaine Hill, Project Manager
Division of Public Works
P.O. Box 83720
Boise, Idaho 83720
(208) 332-1925

Modifications (addenda) to this RFQ, if any, will be posted on the Division of Public Works website at dpw.idaho.gov/professional services/. It is recommended the responders to this RFQ check this page prior to making their submittal.

The project will be funded by the Agency. The Division of Public Works will administer the project according to the terms and conditions of the award and State laws and guidelines. The Architects / Engineers will receive general instructions through the State. A Project Manager of the Division of Public Works will be assigned to serve as project manager and liaison between the Department of Administration, Idaho State University, the Architect, and the Construction Manager / General Contractor.

DESCRIPTION OF PROJECT

This project will renovate the Davis Field track to include the addition of a starting area and finish line on the west side, widen the soccer field to meet NCAA standards, demolish and remove the east concrete bleachers replacing them with a grassy area for informal seating as proposed in option 2 of exhibit "A", and rehabilitate the stone retaining wall above the east bleachers.

The project may have phased deliveries of constructed spaces in addition to possible separate design/bid packages. This soccer field portion of the project must be substantially complete by July 25, 2017.

The following attached exhibit will become a part of this RFQ:

Exhibit "A" Davis Field, ISU Assessment and Recommendations, dated March 2015.

REQUIRED SERVICES

The State is requesting proposals for complete design services including observation during construction. A total project budget of **$1,500,000** has been established to include fees, contingencies and tests. A relatively complete construction cost estimate will be required following the Design Development Phase and must be updated at each additional phase.

The Architect, and all design professional consultants shall be licensed to practice Architecture/Engineering in the State of Idaho.

The Architecture/Engineering will be responsible for Programming Development, Schematic Design, Design Development, Construction Documents, Bidding Assistance, and Construction Observation.

The Architecture/Engineering shall develop all necessary presentation materials for a minimum of one (1) presentation to the Permanent Building Fund Advisory Council and shall keep in mind that during all phases, code compliance, ADA, and maintenance concerns should be incorporated into the design.

The Architecture/Engineering will be required to meet monthly with the DPW Project Manager and ISU representatives and the Construction Manager for the purpose of providing a verbal report regarding the previous month's progress. Such monthly meetings will show funds expended in the completion of the project and specific accomplishments related to the completion of the project.

Additional work sessions with ISU client user groups, facilities and design staff, and the DPW Project Manager will be necessary at each phase of the design process. The programming document shall be reviewed by DPW and ISU for final approval of the program data, basis of design, and code analysis prior to proceeding to the schematic design phase.

The Architecture/Engineering shall produce the following major written products for review by the State and/or Permanent Building Fund Advisory Council (PBFAC).

1. A preliminary report to the Division of Public Works and the Agency after Schematic services have been completed.

2. A Design Development Report and update to the Owner, Agency, and the PBFAC, prior to beginning Construction Documents, along with recommended project budget.

3. A final report at the conclusion of the Construction Document Phase to the Owner, Agency, and PBFAC for any additional input and final acceptance.

PROPOSAL CONTENT

A. **Basic Qualifications:** Provide basic data relative to firm's size, history, personnel, special expertise and general credits. Individual resumes, awards, associations, etc., may be included. The Division of Public Works reserves the right to investigate and confirm the proposer's financial responsibility. This may include financial statements, bank references and interviews with past consultants, employees, and creditors. Unfavorable responses to these investigations are grounds for rejection of proposal.

B. **Specific Qualifications:** List the team expected to accomplish this work including anticipated consultants. Describe who will perform the various tasks, the amount of their involvement and responsibilities, and give their qualifications. Provide a list of at least five (5) projects, with brief descriptions that show ability to complete projects of this scope.

C. **Approach to Project:** Include a statement of your approach to this specific project including design philosophy, understanding of program, alternative concepts and methods for consideration. Limit to two (3) pages.

D. **Past Performance:** Submit reference letters from prior clients or client representatives. Letters from projects listed in item B are preferable. In addition, past performance comments will be obtained from DPW and Agency staff.

E. **Examples of Work:** Renderings, photographs, preliminary drawings, working drawings and specifications may be submitted as examples of your work. For Architecture/Engineering who have done work for the Division of Public Works in the past three years, a reference to the project or projects will be sufficient in lieu of examples. Provide the actual cost on all similar projects submitted for examples of work.

F. **Special Requirements:** Provide information regarding specific involvement with this project or a special expertise in this type of project. Examples are: design of original building or phase, preliminary studies or programming of this project, special training or experience in this type of building.

G. **Format:** To assist evaluation it is desirable to format the proposal similar to the headings listed above. The proposals should be clear and to the point. Emphasis should be placed on specific qualifications of the people to actually perform the project

and the approach to designing this specific project. Performance on past projects with the State of Idaho and other clients is a highly important factor.

SUBMITTAL

Five (5) bound copies of the submittal and One (1) DVD or thumb drive shall be delivered by the time and place specified above. Submittal shall clearly identify the single point of contact regarding the submittal, with e-mail and phone number listed.

EVALUATION

An evaluation committee consisting of persons from the Division of Public Works, Agency and an independent Architect/Engineer will rank the proposals, and at least three, but not more than five firms will be selected for personal interviews.

After interviewing the selected candidates, the evaluation committee will re-rank the proposals to determine the final point score.

AWARD

Based on the results of the proposals and review of previous projects awarded to each firm, the Division of Public Works will recommend a course of action to the PBFAC at their next scheduled meeting. If recommended, a notice of intent to negotiate will be issued by the Division of Public Works, Department of Administration in accordance with prescribed procedures.

PROPOSED DATES:

Receive Proposals	Thursday, October 6th, at 10:00 a.m.
Short List	October 17, 2016
Oral Interviews	October 26 or 27, 2016, ISU Pocatello
Review by PBFAC	November 3, 2016
Negotiate Contract	November 2016
Design Development presentation to PBFAC	March 1, 2017
Final Construction Documents	April 2017

SELECTION

The State will attempt to select a firm at the next scheduled Permanent Building Fund Advisory Council meeting. Upon selection of a firm, the State will issue a letter of intent. However, final award is contingent upon the successful negotiation of a contract. The contents of the proposal may be used in a legal contract or agreement. Proposers should be aware that methods and procedures proposed could become contractual obligations.

The State reserves the right to reject any or all proposals received as a result of this request.

The State may also negotiate separately with any source in any manner necessary to serve the best interests of the State of Idaho. Awards will be made on the basis of proposals resulting from this request and subsequent interviews.

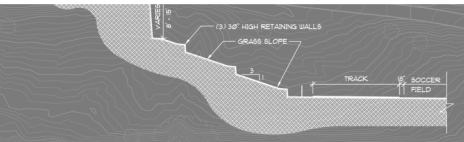
End of 16-241 RFQ

DAVIS FIELD, IDAHO STATE UNIVERSITY

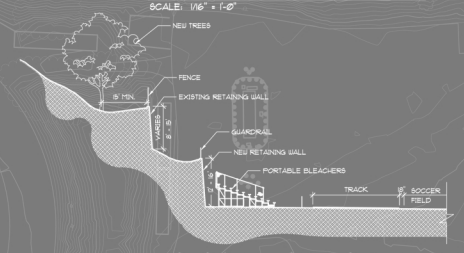
RENOVATIONS TO EAST BLEACHERS AND RETAINING WALL

POCATELLO, IDAHO

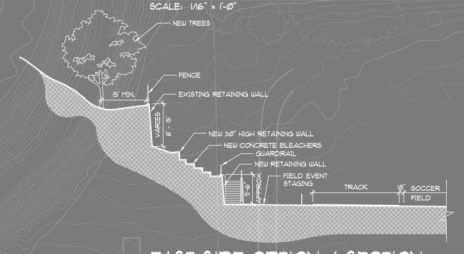
ASSESSMENT AND RECOMMENDATIONS
March 2015



EAST SIDE OPTION 2 SECTION
SCALE: 1/16" = 1'-0"



EAST SIDE OPTION 3 SECTION
SCALE: 1/16" = 1'-0"



EAST SIDE OPTION 4 SECTION
SCALE: 1/16" = 1'-0"

Prepared by

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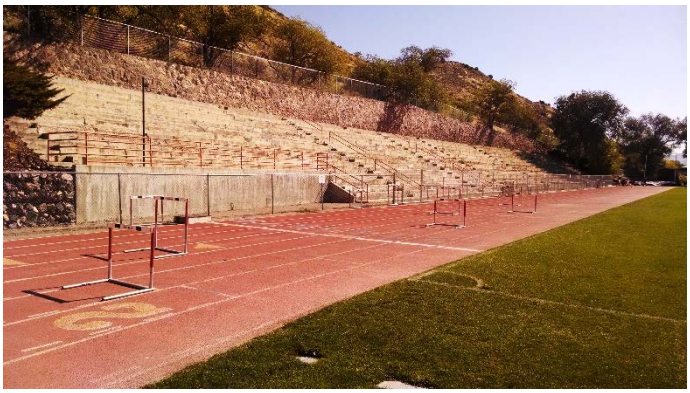

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1. Introduction

In August 2014 Myers Anderson was contracted by Idaho State University to assess the condition of the east side bleachers at Davis Field and present alternative concepts for their remedy and future development. This report is based on several site visits, site maps provided by ISU, and a meeting with various university stakeholders.

The scope of work is as follows:

1. Meet with all users and responsible parties to validate existing expectations, needs, and goals for the current and future use of Davis Field.
2. Prepare a structural report for the proposed work involving the east side concrete seating and stone retaining walls based on a site visit and previous geotechnical exploration of adjacent sites.
3. Provide a report illustrating concepts for remedy and development of the east side seating and walls and future development opportunities for Davis Field.
4. Provide budget estimate for proposed work.

This report is organized into six basic parts. First, this project introduction; second, an executive summary of findings and recommendations; third, an overview of existing conditions; fourth, a summary of needs and goals for the facility expressed by users; fifth, recommendations for future development; and sixth, appendices including a budget estimate for the proposed work, existing and proposed plans of Davis Field, current photographs, a structural report, a proposal for further structural investigation of the retaining wall, the Secretary of the Interior's Standards for Rehabilitation, and NCAA standards for track and field construction.

Myers Anderson Architects is very pleased to assist in this review of such an important and historic facility. We commend Idaho State University for ongoing efforts to preserve the historic and aesthetic qualities of the field. These efforts honor past contributions and demonstrate best practices in rehabilitating historic structures for continued, beneficial use.

2. Executive Summary

Davis Field is a beautiful historic structure in the heart of the ISU campus. It has iconic aesthetic value and is actively used for university athletics and recreation. However, over the years the bleachers have deteriorated and on the east side the damage is so extensive that the bleachers do not have any remaining useful life. Retaining the existing east side bleachers and building over them with new seating is not viable primarily because of the lack of structural integrity in the damaged bleachers and also because of the difficulty and expense of constructing a new seating system over the top of the uneven, deteriorated surfaces. For these reasons, the east side bleachers need to be removed for new development. The track serves well for track and field events, but because of the narrowness of the site, the soccer field is smaller than current NCAA minimums and should be enlarged if possible. In addition, the large retaining wall along Red Hill on the east side is showing significant cracking and should be stabilized.

Goals and needs for the track as given by ISU personnel include the following:

- Preserve the history and beauty of the field
- Continue to use the field for Track & Field and Soccer
- Enlarge soccer field to NCAA minimums
- Add straightaways to west side of track
- Target a total seating capacity of 3,000 (original is approx. 2,400 each side)
- Long-term, additional support facilities (restrooms and concessions) will be needed

Redevelopment of the east side bleacher area should be sized to accommodate future expansion of the track and soccer field. If the track is widened 6'-9" to provide 71 yards between the straights, the field could be increased to 70 yards by 115 yards, meeting the NCAA minimum for new facilities (see plans in Appendix B), however, at the same time this would reduce available staging area for field events, so additional space may be needed outside of the track. There are at least five distinct options for redeveloping the bleacher area.

Option 1: Replace east bleachers with concrete bleachers of similar design.

This option would provide the greatest seating capacity (1,700) but no additional space for field events. The estimated cost for this option is $1,928,160.

Option 2: Replace east bleachers with sloped grassy area for informal seating.

This option would reduce costs by eliminating new bleachers, but would provide no formal seating or staging area for field events. However, it would allow for informal seating and maintain the bowl shape of the historic field. The estimated cost for this option is $907,887. Because of its lower cost and acceptable functionality, this is the recommended option.

Option 3: Using high retaining wall, cut entire east bleacher area down to the level of the playing field.

This option would provide the greatest amount of staging area (10,000 SF) but would require portable bleachers for formal seating (up to 1,500). However, this option would require new retaining walls as high as or higher than the existing wall, and it is understood that portable bleachers are not desired. The estimated cost for this option is $1,809,767.

Option 4: Cut partway into hill for staging area and construct permanent seating on the remainder of the slope (combination of Options 1 and 3).

This hybrid option provides a balance of formal seating (800-1,000) and staging area for field events (5,000 SF) but the function of the staging area would be limited by its long, narrow shape. The estimated cost for this option is $1,847,175.

Option 5: Construction permanent seating on the lower portion of the slope with grass slope above (combination of Options 1 and 2).

> Options 1 and 2 could be combined by constructing permanent seating on the lower portion of the slope with a grassy area above. This could also provide seating for approximately 800-1,000 people at a lower cost, but would also not provide any additional space for field events. The estimated budget range for this approach is $1,214,598.

Other potential improvements for the Field include lowering the south end of the berm to provide a sloped grassy area for informal seating, replacing the trees around the perimeter – many of which would have to be removed anyway in stabilizing the retaining wall or lowering the berm – with higher-quality shade trees, and providing expanded support facilities (restrooms and concessions).

A long-term master plan for the field should include the replacement of the west side bleachers as well. Concessions and support areas could be included below the bleachers with good service access from the west and the entire seating area could be moved to the west approximately 26' to accommodate a standard IAAF track and soccer field layout.

In order to make a structural recommendation on the stabilization of the historic retaining wall, further investigation beyond the visual inspection included in this report will be required. A proposal for the next phase of investigation is included in Appendix E and totals $6,150. Because the extent of the stabilization work is not known, it is not included in the budget estimates in this report. The budget also does not include future expansion of the track and field, reconfiguring the southern end of the berm for informal seating, or other long-term recommendations made in this report.

Davis Field is a well-functioning historic facility with an iconic status for ISU students, staff, and visitors. A redevelopment project in line with the recommendations in this report would not only improve its safety and appearance dramatically, but would enhance is usefulness for years to come.

3. Existing Conditions

a. Overview

Davis Field is named in honor a previous University president – William E. "Bud" Davis – and was constructed between 1933 and 1936, being completed under the Works Progress Administration (WPA) program. Over the years it has served as a football field, a soccer field, a track-and-field events center, and events venue for the University.

Davis Field covers a site of approximately 6 acres (264,400 square feet) at the base of Red Hill. The east bleachers are built into the hill below a stone retaining wall, and the west bleachers are built into a large berm (approx. 18 feet high) which wraps around the south and west sides of the field. Trees have grown up around the field both on Red Hill and on the berm, consisting mostly of Siberian Elms. The hill, berm, and trees create an attractive basin in which the playing field is set and give the field its iconic appearance.

The main entrance and ticket booths are located on the north side facing East Humbolt Street adjacent to the Field House. The only other structures are a small press box at the top of the bleachers on the west side and box car in the south east corner used for storage. The field itself contains a 400-meter track surrounding a soccer field. Field events are laid out between the soccer field and the inside curve of the track.

Davis Field is currently being used for the Track-and-Field and Women's Soccer programs. Its aesthetic quality and historic importance distinguish it as an important piece of ISU's heritage.

b. Track/Field Layout

The running track is 400 meters long oriented lengthwise in the north-south direction with full straightaways with starting areas and run-outs on the west side at the base of Red Hill. The shape of the track is unusually long and narrow, only 262'-3" wide and 591-5" long to the outside edge. The existing straightaways are 329'-3" long and the inside radius of the existing curve is 103'-2".

Although the shape of the track is not typical, it is in compliance with NCAA standards for track layout (included in Appendix G) which read as follows:

> *The standard outdoor running track shall be 400 meters in length and not less than six lanes in width. The width of each lane shall be constant and not less than 1.067 meters. It shall normally consist of two parallel straights and two semicircular curves of equal design. … No lane around a full curve with a constant radius in excess of 50 meters [164'] shall be eligible for a record or championship qualifying.*
> (NCAA Track and Field Guidelines, Rule 1 - Construction of Facilities, Section 1 – The Track, Article 2)

Because of its location, the track is constrained on all four sides by the topography of the field and cannot expand or change shape without modifications to the surrounding seating and retaining walls.

The soccer field is laid out inside the running track. Because of the physical constraints of the site, the soccer field is also narrower than a typical soccer field, 206'-3" (68.67 yards) by 329' (109.67 yards) long. These dimensions are from inside of track to inside of track without any additional space between the track and the playing field. NCAA minimum dimensions for existing fields are 65 yards by 110 yards. New facilities are required to be a minimum of 70 yards by 115 yards. Complete NCAA standards for soccer field construction are included in Appendix H.

The space between the ends of the soccer field and the inside radius of the track is laid out for various field events including long/triple jump, high jump, shot put, discus, hammer, javelin, and pole vault.

c. Bleachers

Concrete bleachers were constructed on either side of the field with 14 rows beginning at the level of the field and extending up the side of the hill (east side) or the berm (west side). The dimensions of the rows vary somewhat, but average approximately 15 inches high by 29 inches deep with integral concrete steps. As originally constructed, the bleachers provide seating for approximately 2,400 spectators on each side, for an approximate total of 4,800.

Over the years the surface of the bleachers as degraded with exposure to the elements, and handrails are missing in many places. Settling has also occurred in the subsurface soils causing some of the rows to shift. Damage is especially significant on the east side, where it is in an advanced state of deterioration due to its exposure to direct sunlight. The east side bleachers face south-west, which is the hottest part of the sky, resulting the in the most dramatic daily temperature swings and freeze-thaw cycles. Deterioration has progressed far enough on the east side that the condition of the seating constitutes a life safety hazard and the area has been fenced off and removed from active use. These bleachers are at the end of their useful life and are in need of removal, as noted in the Structural Report in Appendix D.

Retaining the existing east side bleachers and building over them with new seating is not viable primarily because of the lack of structural integrity in the damaged bleachers and also because of the difficulty and expense of constructing a new seating system over the top of the uneven, deteriorated surfaces. Any effort to retain the existing bleachers and build a new seating system on top of them would likely end up being no less expensive than other options because of the labor-intensive nature of the approach in constructing a custom system that could be installed level over the deteriorated bleachers and the difficulty in attaching to the low-quality substrate in a way that provided sufficient structural stability. Other issues include the likelihood of further deterioration or settling of the old bleachers in the future and the creation of an inaccessible cavity between the old bleachers and the new system.

d. Retaining Wall

Above the bleachers on the east side of the stadium is a stone retaining wall approximately 580 feet long. Although no drawings of the wall are believed to exist, it is assumed to be a gravity retaining wall without reinforcement. Most of the wall is between 8’ and 12’ tall, with the highest point reaching approximately 15’.

Within the middle third of the wall horizontal cracks have opened up, some of which are over 1” wide. A few stones have also been dislodged and the wall should be considered structurally unstable due to its potential to fail during a seismic event or ground saturation. The exact cause of the cracking and the required repairs cannot be determined without further investigation. Possible causes of cracking and various approaches to stabilization are discussed in more detail in the full Structural Report included in Appendix D.

4. Needs and Goals

On August 21, 2014, Jerry Myers, Pete Anderson, and Ben Ledford from Myers Anderson met with ISU representatives to discuss needs and goals for the current and future use of Davis Field. Present at the meeting were Cheryl Hanson, Jason Adams, Jeff Tingey, George Casper, Allison Gibson, Dave Nielsen, and Hillary Merkley. The results of that discussion are summarized below.

a. Vision

- The history and beauty of the field should be preserved (stone walls, trees, and bowl shape).
- Long-range plan is for Davis Field to continue to be used for Track and Soccer only.

b. Field Layout

- Soccer field does not currently meet NCAA minimum dimensions. NCAA minimum is 70 yards by 115 yards, and a standard full-size soccer field is 80 yards by 120 yards. It is clear that a full-size field cannot be accommodated because of the existing topography and seating, but it would be preferred to surpass the minimum width a bit – 75 yards ideally.
- Space is needed for field events. If soccer field is enlarged, space on the ends for field events will be reduced.
- Ideal layout would have seating and straightaways (i.e. with extended starting areas and run-outs) on both sides. If primary finish line was on the west side, fewer rows of seating would be needed on the east side.

c. Seating

- Seating on the ends of the field would be useful for track and field but not for soccer.
- Permanent seating is preferred to portable bleachers because of durability.
- Target seating capacity is 3,000, which would handle most all events. Use 2,000 as a minimum.

d. Support

- Permanent restrooms will be needed.
- There are currently only two points of sale for concessions. Ideal is one for every 150 seats.
- Northwest corner is a better location for new support services than southeast corner.
- Ideally, lockers and training rooms should be located in a new facility to allow concessions and restrooms to be added/expanded in existing field house.

5. Recommendations

a. Track/Field Layout

Because the east bleachers are at the end of their useful life and need to be removed (see recommendations below), there is opportunity to modify and improve the existing layout of the track and soccer field, potentially bringing the soccer field up to the NCAA minimum dimensions. Since the field was constructed before 1995 it is not required to meet the minimum dimensions and so is not considered to be out of compliance with NCAA standards. Nevertheless, it would still be desirable to increase the field size and meet the minimum dimensions (70 yards by 115 yards), which would improve its functionality and remove ground for potential complaints.

Although the topography of the site is a significant constraint to the overall dimensions of the track, some minor modifications are possible with the reconfiguration of the east bleachers. In order to meet the minimum length as well as the minimum width, the track will need to be widened slightly more than the soccer field itself. If the track is widened 6'-9" to provide 71 yards between the straights, the field could be increased to 70 yards by 115 yards, meeting the NCAA minimum for new facilities. This would make the straightaways of the track 318'-5" with an inside radius of 116'-6".

Increasing the size of the soccer field while maintaining the 400-meter would necessarily reduce the space available inside the track for field events, so it would be preferred to provide additional staging area for field events outside of the track. Two of the options for redevelopment of the east bleacher area include some additional area for field events.

In addition to widening the field there is the possibility of adding starting areas and run-outs to the straightaways on the west side. On the north end this would simply require modifying the low retaining wall at the foot of the berm to allow for circulation around the track. At the south end it would require cutting into the berm with new retaining walls up to 10' high. Adding the starting areas and run-outs is especially recommended if permanent seating is not provided on the east side.

The height of these new walls could be reduced if the overall height of the berm along the south end is lowered, which could also allow for informal seating on the slope. If the berm was reduced by approximately 5' at the south end the slope would become shallow enough to plant with grass and would provide convenient informal seating for spectators watching field events at that end of the track. This approach would require the trees along the south end to be removed, and if this were to occur the berm should be replanted with new, higher-quality shade trees to maintain the aesthetic of the field.

b. Bleachers

As noted in the structural report, the east side bleachers are at the end of their useful life and should be completely removed for new development. Retaining the existing bleachers and building over them is not a viable option (see section 4.c of this report). Redevelopment could take many forms, but all of them should account for providing the additional space needed to expand the field in the future (see above). Another factor to consider is the potential for providing additional staging area for field events.

At least five distinct options for redevelopment are possible, with more that could potentially be created by modifying or combining these five.

Option 1: Replace bleachers with new bleachers consisting of essentially the same profile and layout.

This approach would provide the greatest seating capacity of the four options, with the potential to seat up to approximately 1,700 spectators on the east side. It would not, however provide any staging area for field events. The bleacher area would be reduced by a few rows from its current layout to allow for expansion of the track and soccer field. The estimated budget for this approach is $1,928,160.

Option 2: Replace bleachers with sloped grassy area for informal seating.

Replacing the bleachers with a grassy area rather than new concrete bleachers would reduce the cost of reconstruction, but would not provide any formal seating capacity. In order to maintain a slope shallow enough to plant with grass and mow (1:3), retaining walls would be required. Retaining walls could be kept at 30" high to avoid the need for guardrails. Stairs could be provided as required to allow access to the area. Although no formal seats would be provided, the grassy area could potentially be large enough to accommodate 1,000 spectators. This option would also not provide any additional space for field events. The estimated budget range for this approach is $907,887.

Option 3: Cut entire bleacher area down to the level of the field with high retaining walls around the perimeter.

In order to maximize the space available for staging of field events, the entire bleacher area could be leveled, using high retaining walls to cut into the slope of the hill. This option would provide approximately 10,000 square feet of staging area (27' x 318'). It would also be possible to set up portable bleachers in this area to increase seating capacity. In fact, the space could hold enough portable seating for up to 1,500 people. However, creating such a large flat area would require a retaining wall of similar size to the historic wall above, and it was understood from meeting with ISU personnel that portable bleachers are not preferred. Without portable bleachers this option would not provide any seating on the east side, and all spectators would have to use the west side. The estimated budget range for this approach is $1,807,767.

Option 4: Cut partway into hill for staging area and construct permanent seating on the remainder of the slope (combination of Options 1 and 3).

One option that would provide both staging area for field events as well as formal seating would be to use retaining walls to create a flat area extending approximately 20' into the slope of the hill and at least 200' long, which would provide enough space for a long-jump run. The remaining area of the slope above and on either side could be used for permanent seating similar to the original bleachers and could possibly be designed to accommodate 800-1,000 people. The estimated budget range for this approach is $1,847,175.

Option 5: Construct permanent seating on lower slope with grass slope above (combination of Options 1 and 2).

Options 1 and 2 could be combined by constructing permanent seating on the lower portion of the slope with a grassy area above. This could also provide seating for approximately 800-1,000 people at a lower cost, but would not provide any additional space for field events. The estimated budget range for this approach is $1,214,598.

The five options are summarized for comparison purposes in the matrix below.

ISU Davis Field

Comparison Matrix

East Side Redevelopment Options

#	DESCRIPTION	BUDGET ESTIMATE	FORMAL SEATING CAPACITY	INFORMAL SEATING CAPACITY	FIELD EVENT LAYOUT AREA	COMMENTS
0	Existing Bleachers	-	2,250	-	-	Life safety concerns
1	Reconstruct Permanent Bleachers	$ 1,928,160	1,700	-	-	
2	Replace Bleachers w/ Grass Slope	$ 907,887	-	1,000	-	
3	Large Staging Area w/ Portable Bleachers	$ 1,809,767	1,500	-	10,000 SF	Seating is portable
4	Combine Permanent Bleachers & Staging Area	$ 1,847,175	800-1,000	-	5,000 SF	Layout area very restricted
5	Combine Permanent Bleachers & Grass Slope	$ 1,214,598	800-1,000	450-550	-	

In analyzing the size and shape of additional layout space for field events that Options 4 and 5 offer, it is apparent that these spaces would be restricted in their function enough to make the benefit of the additional space negligible.

Of these options, Option 2 is recommended because it provides the functionality needed (informal overflow seating) at the lowest cost. Additionally, were it determined in the future that the space was needed for formal seating or field events, it would be the easiest to modify and represent the smallest loss of investment if it were changed.

More detailed budget estimates are included in Appendix A. Plans and sections illustrating each of these options are included in Appendix B.

These four options involve a range of seating capacities for the east side from no new formal seating in Option 2 to 1,700 seats in Option 1. When combined with the existing seating capacity of the west side (2,400), this gives us an approximate total seating capacity for Davis Field ranging from 2,400 to 4,100. Since the field is not an enclosed structure, the total occupancy is not limited by the number or size of exists, and the existing entrance/exit configuration may remain.

c. Retaining Wall

In order to determine the cause of the cracking and make an appropriate structural recommendation for stabilizing the wall, further investigation will be required involving temporarily shoring and

excavating behind the wall, which is outside the scope of this report. A proposal to provide the necessary further investigation is included in Appendix E.

Possible stabilization measures are outlined in the structural report in Appendix D. After further investigation is conducted and a structural recommendation is made, the approach taken should be one that minimizes disruption to the appearance of the existing wall and, if possible, is concealed altogether. Care should be taken to design and implement the stabilization measures so that the historic character of the wall is preserved.

It is anticipated that any solution to stabilizing the wall will involve significant excavation behind the wall during the stabilization process and the removal of the trees growing above the wall (which may be contributing to the cracking). New higher-quality shade trees should be replanted after the wall is backfilled, keeping the new trees at least 15' away from the wall. Trees should be selected with the help of an arborist to minimize the possibility of root growth damaging the wall in the future.

After stabilization of the wall is complete, all cracks should be repaired by repointing mortar joints and replacing stones where necessary.

d. Support

In addition to redeveloping the bleacher seating and modifying the track layout, Davis Field needs support facilities in the form of additional restrooms and concessions space.

For an A-5 occupancy (outdoor bleachers), the 2012 IBC requires 1 water closet per 75 men for the first 1,500 and 1 per 120 men for the remainder exceeding 1,500. For women, it requires 1 water closet per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520. Depending on the total occupancy, this would mean 16-25 fixtures for men and 30-47 for women.

While there are currently only 2 points of sale for concessions, an ideal ratio is 1 per 150 seats, which would mean 16-27 points of sale for Davis Field depending on seating capacity. Although this is not a code requirement, it does indicate that the concessions facilities are in need of expansion, if possible.

Eventually, the west side seating on the berm will need to be replaced as well. At that time, the berm could be removed so that the expanded support facilities listed above could be constructed below the new seating. Spectator access to restrooms and concessions could be provided from Davis Field with service and delivery access could be oriented toward the facilities parking lot on the west side of the berm. An exciting possibility is that the new seating and support areas could be built approximately 26 feet farther west than the existing bleachers, which would allow the track to be expanded to a standard IAAF layout which includes an 80 by 120 yard soccer field.

If built, the new seating and support areas should blend with the existing historic field in their shape and use of materials and provide large planter areas on top to maintain the existing tree line around the rim of the field. A rough budget estimate for this work is included as part of the overall master plan costs in Appendix A.

e. Budget

As indicated above, the estimated total cost of redeveloping the east bleacher area, including soft costs such as contractor overhead, architectural and engineering fees, etc., ranges from approximately $900,000 to $1.9 million. A detailed breakdown of the various elements of the different options and soft costs is included in Appendix A. These estimates are only for the east bleacher area. The retaining wall requires further investigation before a recommendation can be made.

Other opportunities for future development that have been mentioned in this report are widening the field and replacing the track, lowering the southern side of the berm and planting it with grass, removing and replanting trees along the berm and above the retaining wall, and, eventually, replacing the west side bleachers and constructing new restroom and concessions facilities below them, at which point the field and track could be expanded to a standard IAAF layout.

f. The Secretary of the Interior's Standards for Rehabilitation

Although Davis Field is not officially listed in the National Register of Historic Places, it is a contributing building to the University's historic heritage, and rehabilitation should be carried out in accordance with the Secretary of the Interior's Standards for Rehabilitation, which are included in Appendix F. Care should be taken to follow the Secretary of the Interior's Standards so that, should the University apply for grants requiring review by the State Historic Preservation Office (SHPO) or ever desire to apply for Historic Tax Credits (20%), the building will not be disqualified and SHPO or National Park Service review will not be compromised. Also helpful are the NPS preservation briefs on various aspects of historic rehabilitation. These can be found on the National Park Service website at http://www.nps.gov/tps/how-to-preserve/briefs.htm.

APPENDIX A

Budget Estimates for Proposed Work

ISU Davis Field

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Budget Estimate

Pocatello, Idaho

East Side OPTION 1 - Reconstruct Bleachers

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
	General Conditions @ 15%	1	LS		$ 172,425	11.86%
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	12.79%
	New Concrete	15,000	SF	$ 38.00	$ 570,000	39.20%
	Stair Systems	7	EA	$ 35,500.00	$ 248,500	17.09%
	Railing Systems	1	LS	$ 95,000.00	$ 95,000	6.53%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	3.44%
	CM Fee / Contractor Profit & Overhead (10%)	1	LS		$ 132,193	9.09%
TOTAL CONTRACT					**$ 1,454,118**	**100.00%**
	Contingency @ 20%				$ 290,824	
	Subtotal				$ 1,744,941	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 174,494	
	Survey/Testing .5%				$ 8,725	
	Option 1 Project Total				**$ 1,928,160**	

East Side OPTION 2 - Replace with Grass Slope

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
	General Conditions @ 15%	1	LS		$ 81,188	11.86%
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	27.17%
	Topsoil / Irrigation / Sod	10,000	SF	$ 4.00	$ 40,000	5.84%
	Stair Systems	4	EA	$ 6,000.00	$ 24,000	3.51%
	Retaining Walls	965	LF	$ 250.00	$ 241,250	35.24%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	7.30%
	CM Fee / Contractor Profit & Overhead (10%)	1	LS		$ 62,244	9.09%
TOTAL CONTRACT					**$ 684,681**	**100.00%**
	Contingency @ 20%				$ 136,936	
	Subtotal				$ 821,618	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 82,162	
	Survey/Testing .5%				$ 4,108	
	Option 2 Project Total				**$ 907,887**	

ISU Davis Field

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Budget Estimate

Pocatello, Idaho

East Side OPTION 3 - Staging Area w/ Portable Bleachers

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
	General Conditions @ 15%	1	LS		$ 164,565	12.06%
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	13.63%
	Excavation / Haul Off	3,140	CY	$ 15.00	$ 47,100	3.45%
	Retaining Walls	440	LF	$ 1,200.00	$ 528,000	38.69%
	Sport Paving / Event Staging / Drainage	10,600	SF	$ 10.00	$ 106,000	7.77%
	Portable Bleachers	1,500	Seat	$ 120.00	$ 180,000	13.19%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	3.66%
	CM Fee / Contractor Profit & Overhead (10%)	1	LS		$ 103,167	7.56%
TOTAL CONTRACT					**$ 1,364,832**	**100.00%**
	Contingency @ 20%				$ 272,966	
	Subtotal				$ 1,637,798	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 163,780	
	Survey/Testing .5%				$ 8,189	
	Option 1 Project Total				**$ 1,809,767**	

East Side OPTION 4 - Combine Permanent Bleachers & Staging Area

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
	General Conditions @ 15%	1	LS		$ 165,183	11.86%
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	13.35%
	Excavation / Haul Off	1,148	CY	$ 15.00	$ 17,220	1.24%
	New Concrete Bleachers	5,550	SF	$ 38.00	$ 210,900	15.14%
	Stair Systems	7	EA	$ 35,500.00	$ 248,500	17.84%
	High Retaining Walls	320	LF	$ 480.00	$ 153,600	11.03%
	Low Retaining Walls	312	LF	$ 250.00	$ 78,000	5.60%
	Railing Systems	1	LS	$ 95,000.00	$ 95,000	6.82%
	Sport Paving / Staging / Drainage	6,200	SF	$ 10.00	$ 62,000	4.45%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	3.59%
	CM Fee / Contractor Profit & Overhead (10%)	1	LS		$ 126,640	9.09%
TOTAL CONTRACT					**$ 1,393,043**	**100.00%**
	Contingency @ 20%				$ 278,609	
	Subtotal				$ 1,671,652	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 167,165	
	Survey/Testing .5%				$ 8,358	
	Option 2 Project Total				**$ 1,847,175**	

ISU Davis Field

Myers ■ Anderson

Budget Estimate

Pocatello, Idaho

East Side OPTION 5 - Combine Permanent Bleachers & Grass Slope

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
	General Conditions @ 15%	1	LS		$ 108,615	11.86%
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	20.31%
	New Concrete	5,000	SF	$ 38.00	$ 190,000	20.74%
	Stair Systems	7	EA	$ 20,000.00	$ 140,000	15.28%
	Railing Systems	1	LS	$ 55,000.00	$ 55,000	6.00%
	Topsoil / Irrigation / Sod	6,400	SF	$ 4.00	$ 25,600	2.79%
	Retaining Wall	310	LF	$ 250.00	$ 77,500	8.46%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	5.46%
	CM Fee / Contractor Profit & Overhead (10%)	1	LS		$ 83,272	9.09%
TOTAL CONTRACT					**$ 915,987**	**100.00%**
	Contingency @ 20%				$ 183,197	
	Subtotal				$ 1,099,184	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 109,918	
	Survey/Testing .5%				$ 5,496	
	Option 1 Project Total				**$ 1,214,598**	

ISU Davis Field

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Budget Estimate

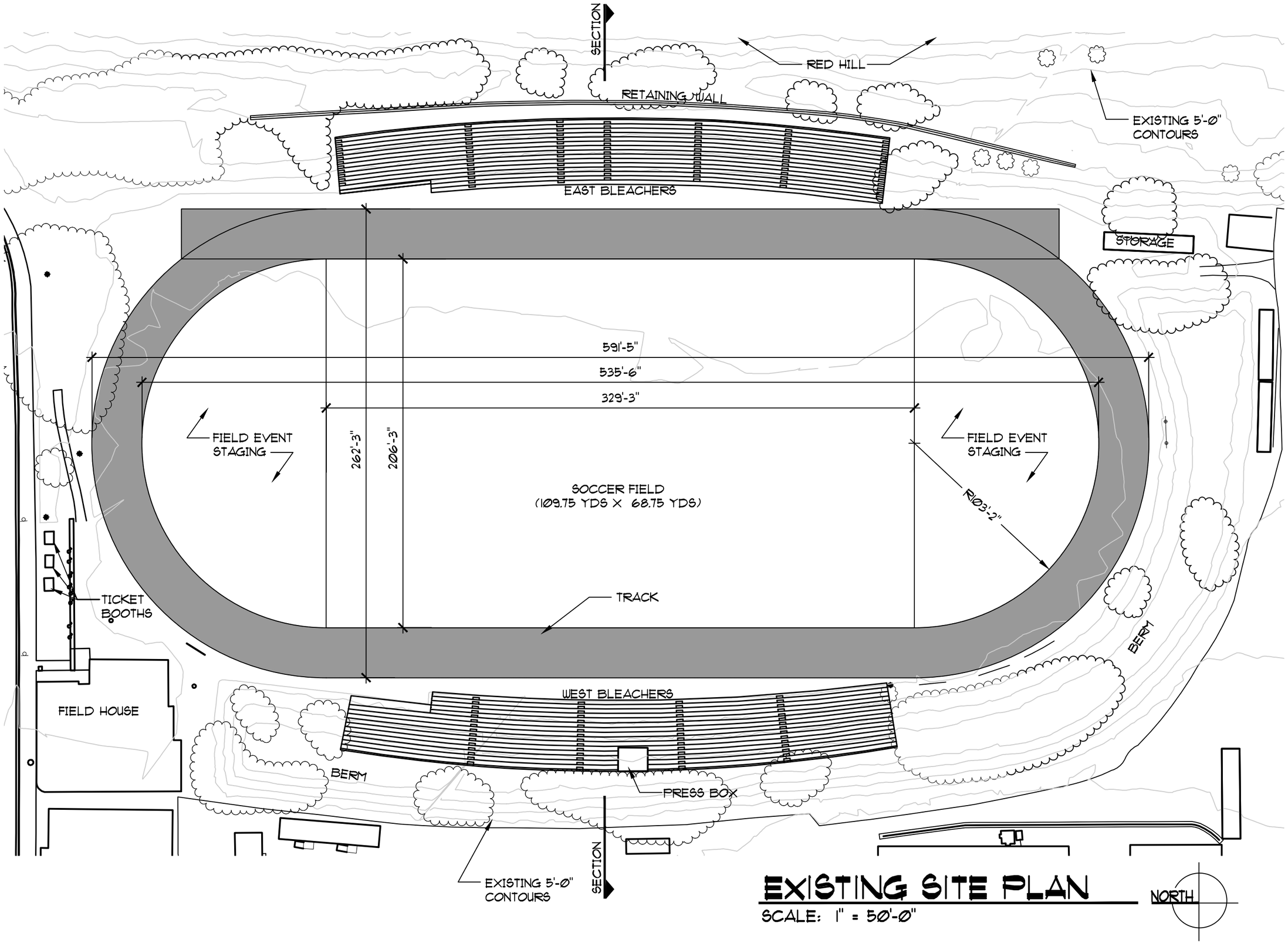
Pocatello, Idaho

Total Master Plan (with East Side Option 2)

	DESCRIPTION	QUANTITY	UNITS	$/UNIT	TOTAL CONTRACT	%/TOTAL
1.0	**General Conditions @ 15%**	1	LS		$ 1,416,394	11.86%
2.0	**Stabilize Existing Retaining Wall**			Unknown pending further investigation		
3.0	**East Side Redevelopment (Option 2)**					
	Demolish East Bleachers	15,500	SF	$ 12.00	$ 186,000	1.56%
	Topsoil / Irrigation / Sod	10,000	SF	$ 4.00	$ 40,000	0.33%
	Stair Systems	4	EA	$ 6,000.00	$ 24,000	0.20%
	Retaining Walls	965	LF	$ 250.00	$ 241,250	2.02%
	Miscellaneous Repair Work at Perimeter	1	LS	$ 50,000.00	$ 50,000	0.42%
4.0	**Master Plan Items**					
	Replace Track	1	LS	$ 500,000.00	$ 500,000	4.19%
	New Field Event Areas	30,000	SF	$ 10.00	$ 300,000	2.51%
	Soccer Field Modifications	1	LS	$ 25,000.00	$ 25,000	0.21%
	Lower South Berm - Excavation / Haul Off	1,425	CY	$ 15.00	$ 21,375	0.18%
	South Berm - Topsoil / Irrigation / Sod	5,000	SF	$ 4.00	$ 20,000	0.17%
	Remove Exsiting Trees	20	EA	$ 1,000.00	$ 20,000	0.17%
	New Trees	25	EA	$ 600.00	$ 15,000	0.13%
	Replace West Bleachers with Restrooms & Concessions Below	20,000	SF	$ 400.00	$ 8,000,000	66.97%
5.0	**CM Fee / Contractor Profit & Overhead (10%)**	1	LS		$ 1,085,902	9.09%
TOTAL CONTRACT					**$ 11,944,921**	**100.00%**
	Contingency @ 20%				$ 2,388,984	
	Subtotal				$ 14,333,905	
	Soft Costs					
	A/E 10% (includes reimbursables)				$ 1,433,390	
	Survey/Testing .5%				$ 71,670	
	Master Plan Total				**$ 15,838,965**	

APPENDIX B

Existing and Proposed Plans



EXISTING SITE PLAN

SCALE: 1" = 50'-0"

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Pocatello, Idaho 83204
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Fax (208) 232 - 3782

ISU DAVIS FIELD RENOVATIONS

POCATELLO, IDAHO

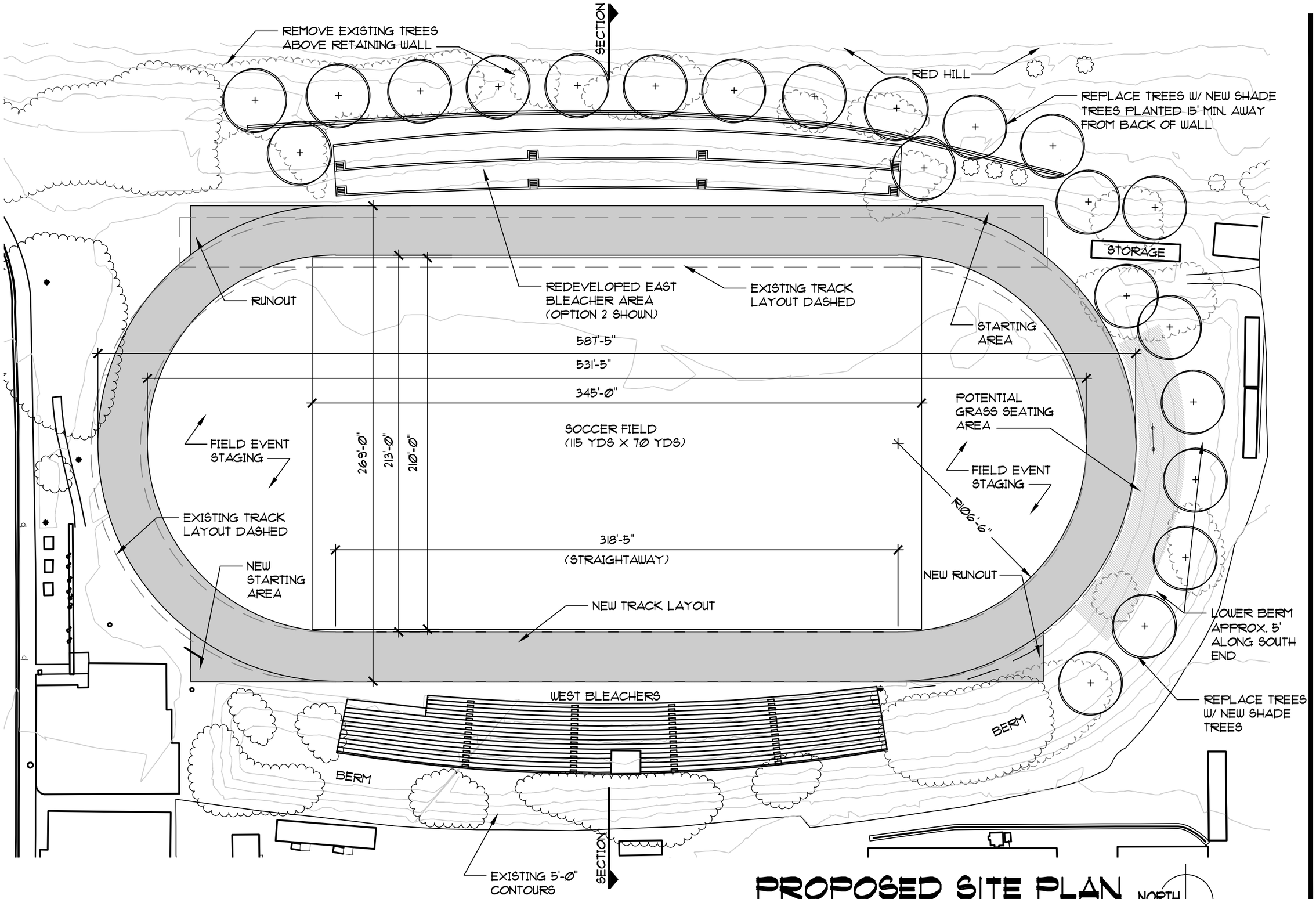
DRAWN BY: B. LEDFORD

CHECKED BY: J.T. MYERS

JOB NUMBER: 98609-14B

PROJECT DATE: MARCH 2015

SHEET 01 OF 9



PROPOSED SITE PLAN

SCALE: 1" = 50'-0"

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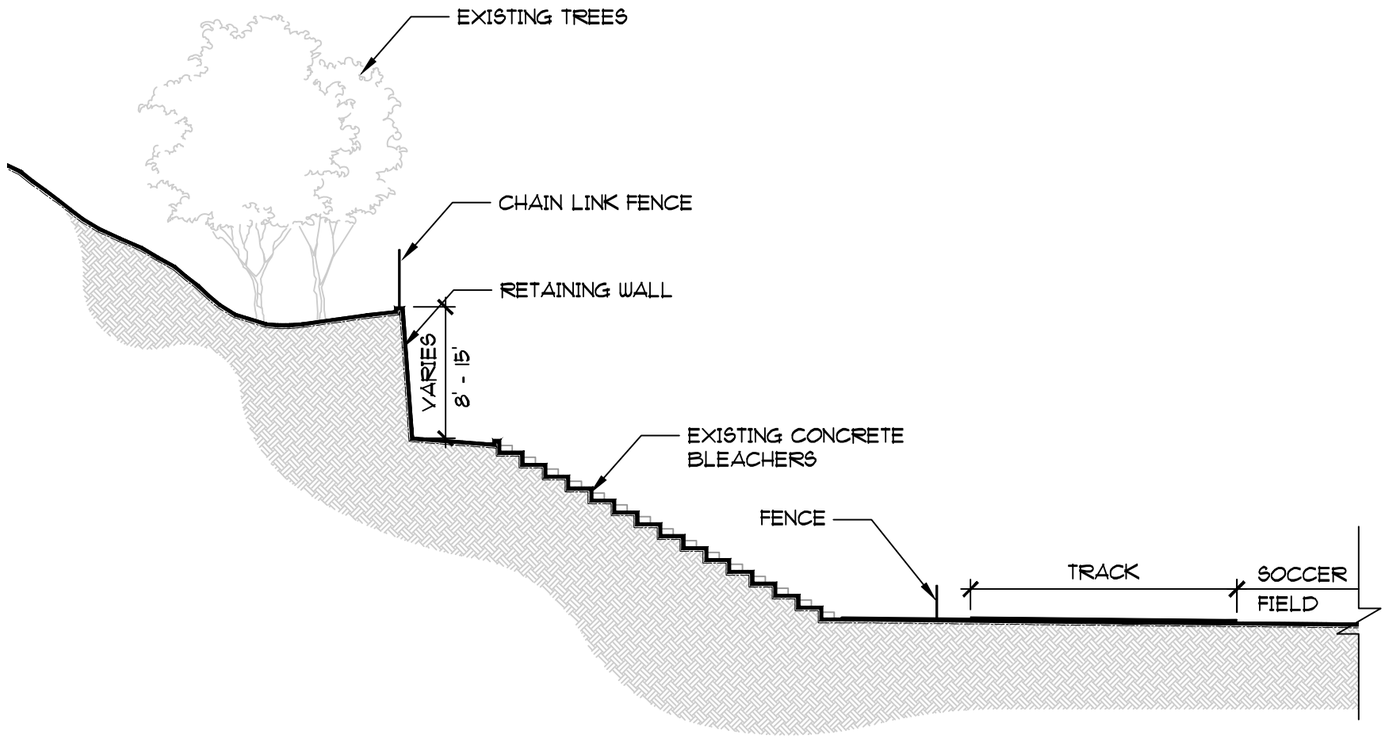
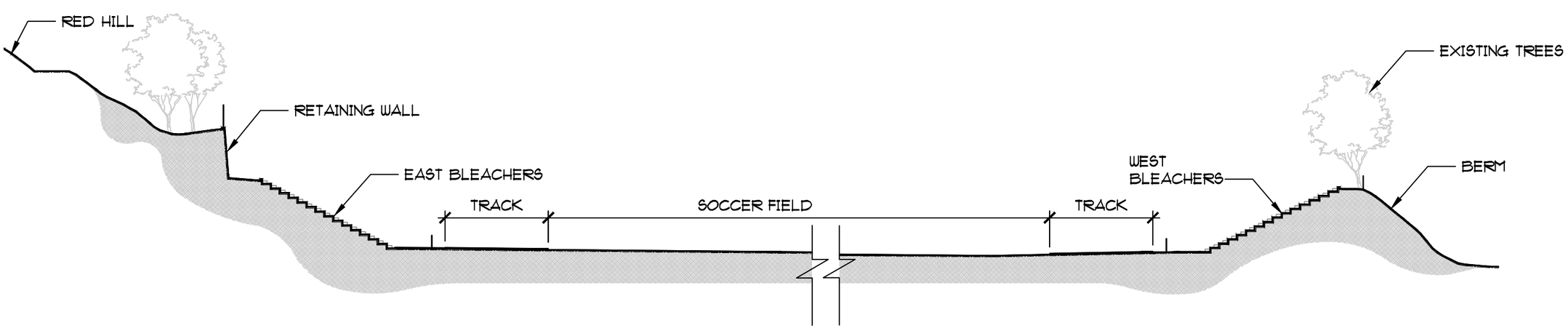


EXISTING EAST SIDE SECTION

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



EXISTING SECTION

SCALE: 1" = 30'-0"

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PROJECT DATE: MARCH 2015

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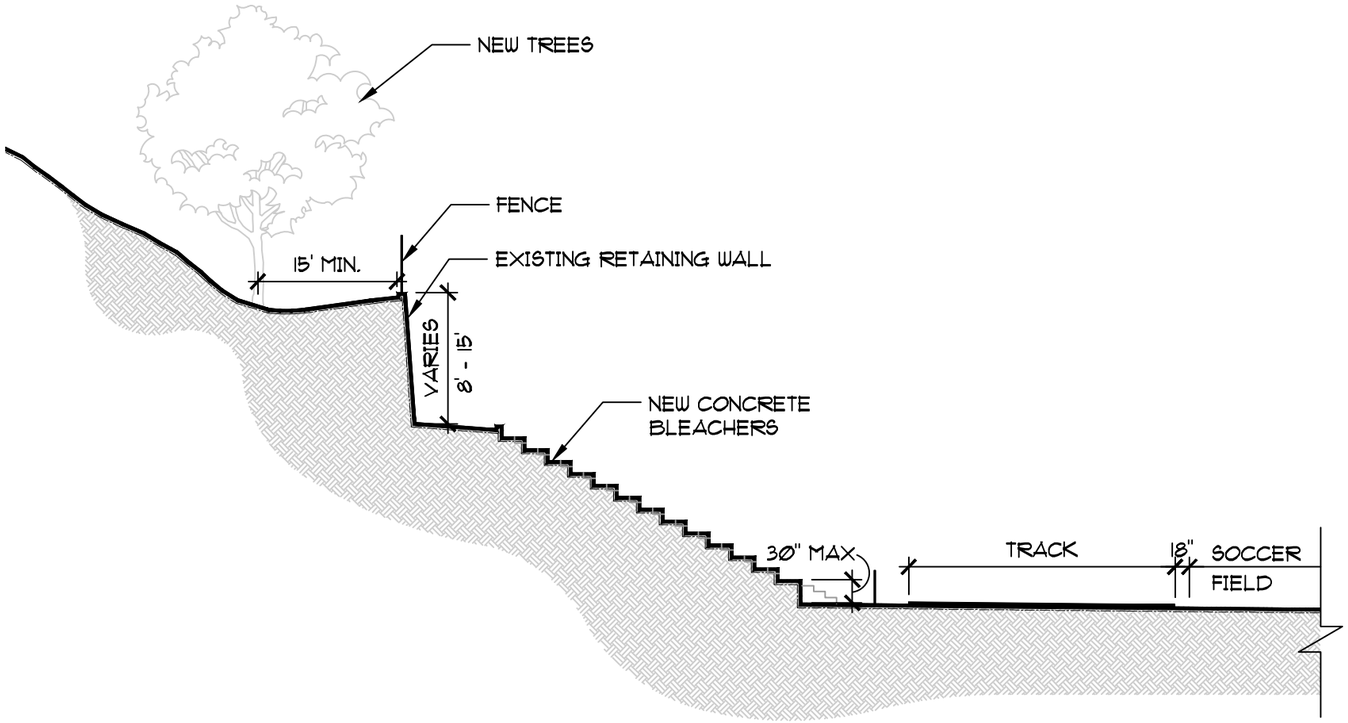


EAST SIDE OPTION 1 SECTION

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

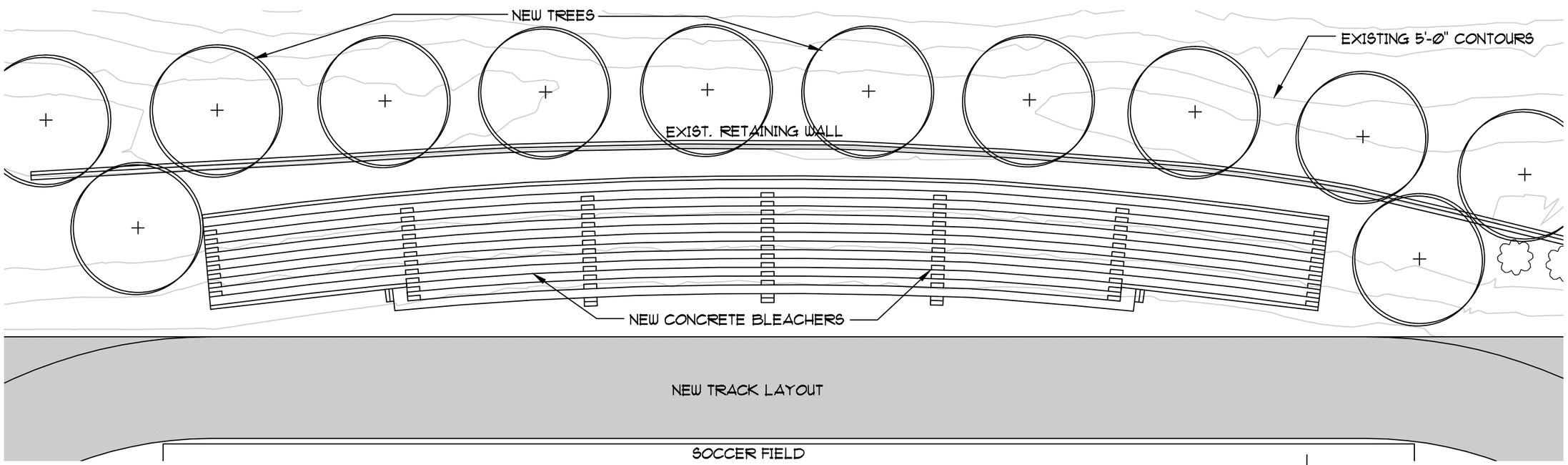
EAST SIDE OPTION 1:

DESCRIPTION: RECONSTRUCT BLEACHERS SIMILAR TO EXISTING.

SEATS PROVIDED (APPROX): 1,700

LAYOUT AREA FOR FIELD EVENTS: NONE

BUDGET ESTIMATE: $1,928,160



EAST SIDE REDEVELOPMENT PLAN, OPTION 1

SCALE: 1" = 30'-0"

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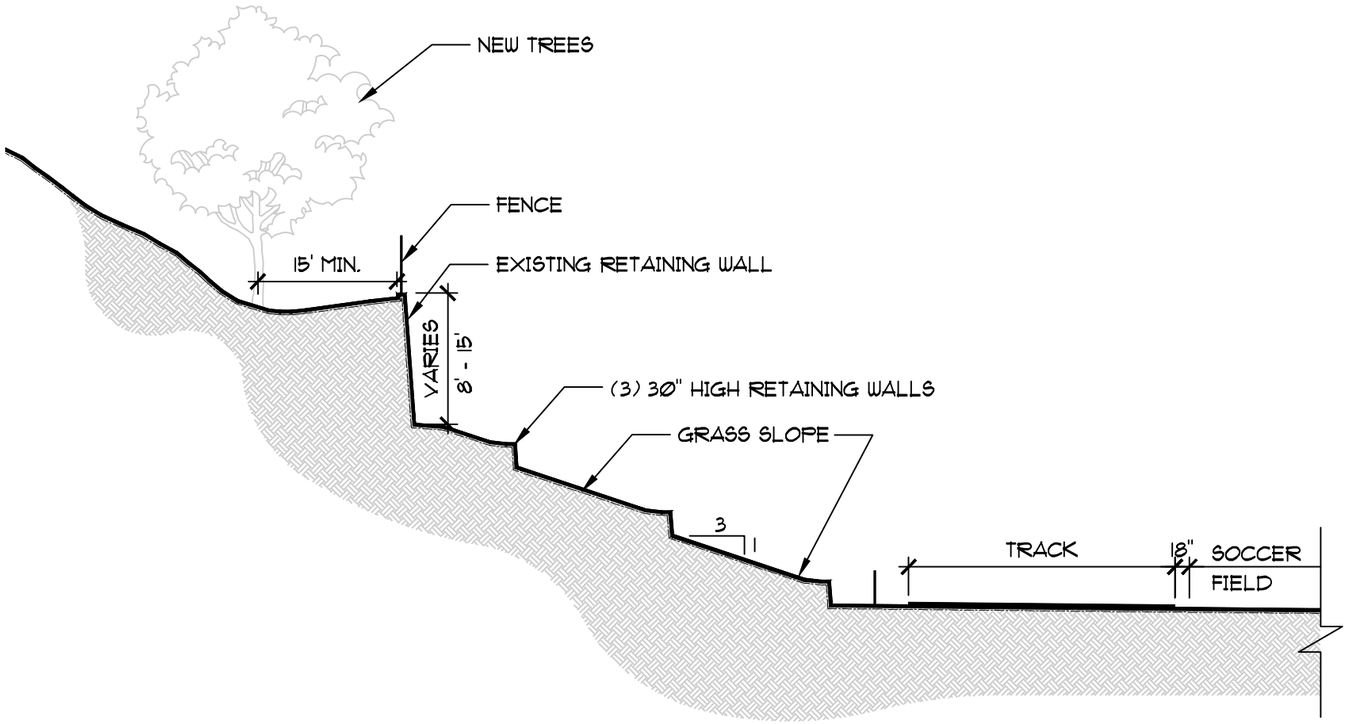
SHEET 04 OF 9



EAST SIDE OPTION 2 SECTION

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

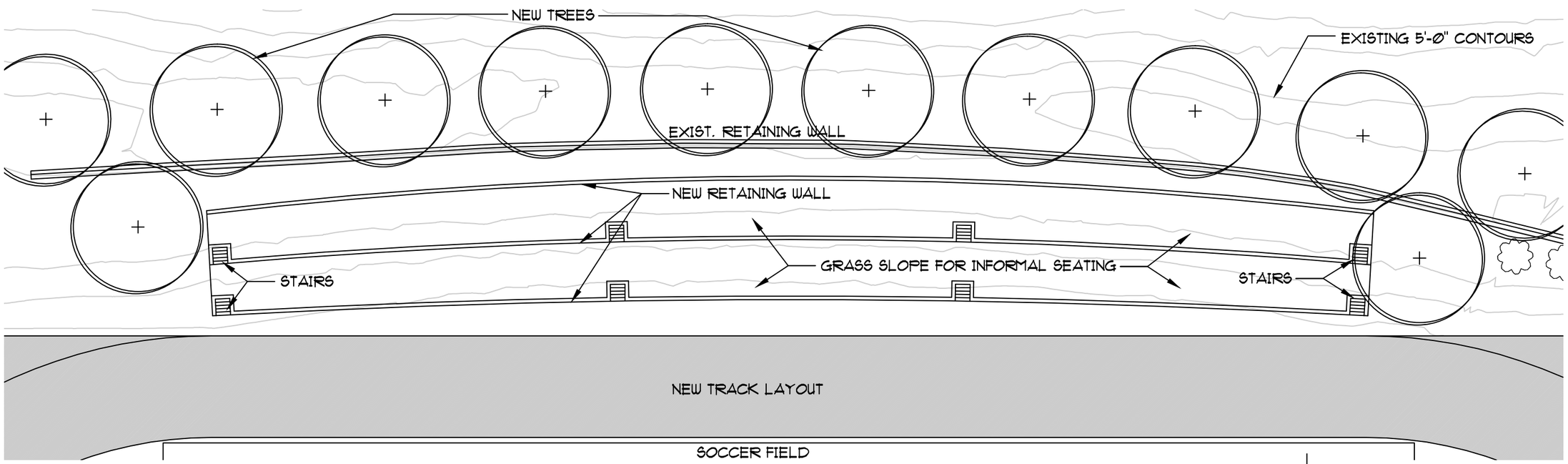
EAST SIDE OPTION 2:

DESCRIPTION: REPLACE BLEACHERS WITH GRASSY AREA.

SEATS PROVIDED (APPROX): 1,000 (INFORMAL)

LAYOUT AREA FOR FIELD EVENTS: NONE

BUDGET ESTIMATE: $907,887



EAST SIDE REDEVELOPMENT PLAN, OPTION 2

SCALE: 1" = 30'-0"

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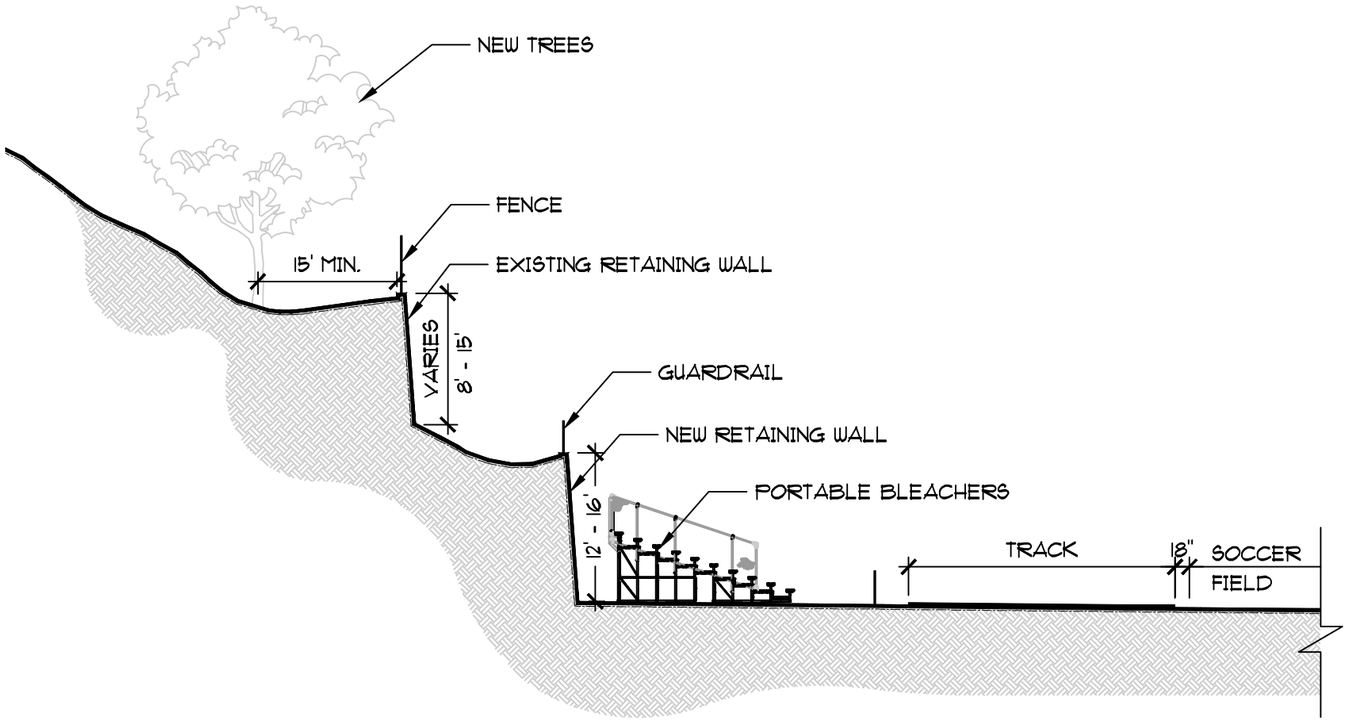


EAST SIDE OPTION 3 SECTION

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

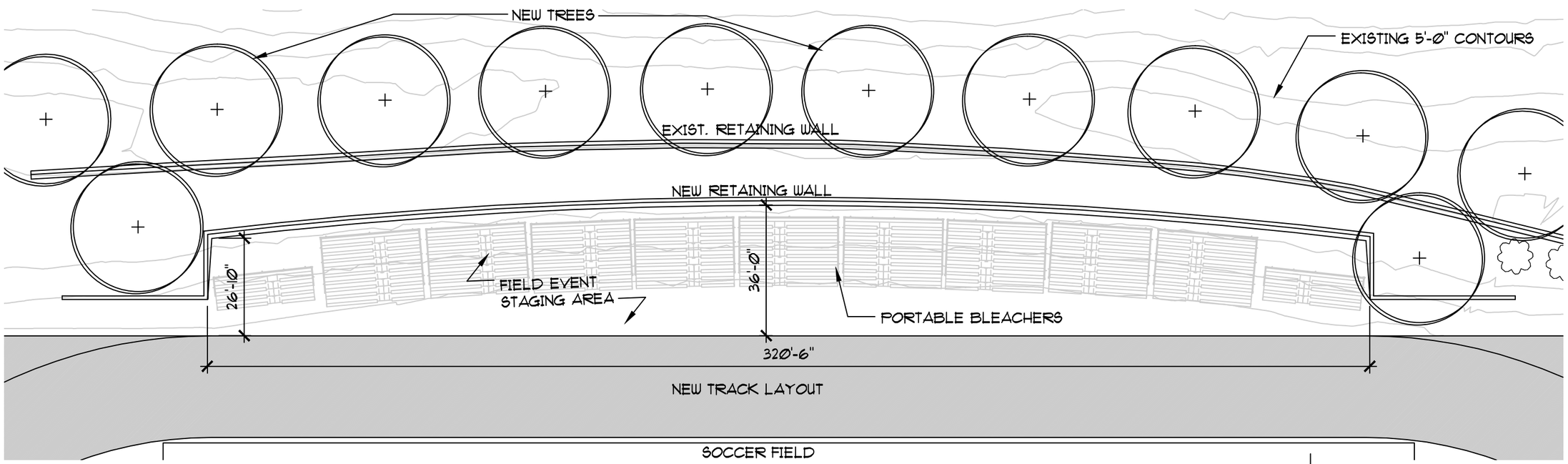
EAST SIDE OPTION 3:

DESCRIPTION: LEVEL STAGING AREA WITH PORTABLE BLEACHERS.

SEATS PROVIDED (APPROX): 1,500 (PORTABLE)

LAYOUT AREA FOR FIELD EVENTS: 10,000 SF

BUDGET ESTIMATE: $1,809,776



EAST SIDE REDEVELOPMENT PLAN, OPTION 3

SCALE: 1" = 30'-0"

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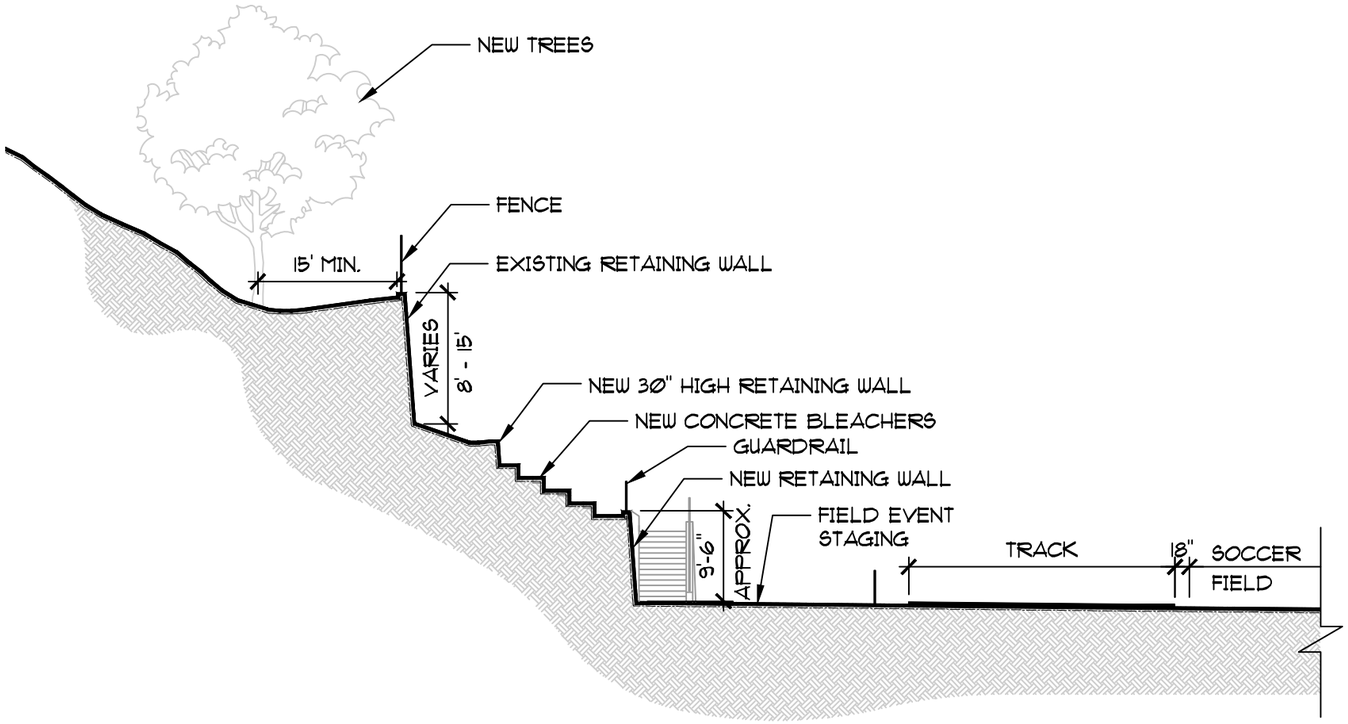


EAST SIDE OPTION 4 SECTION

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

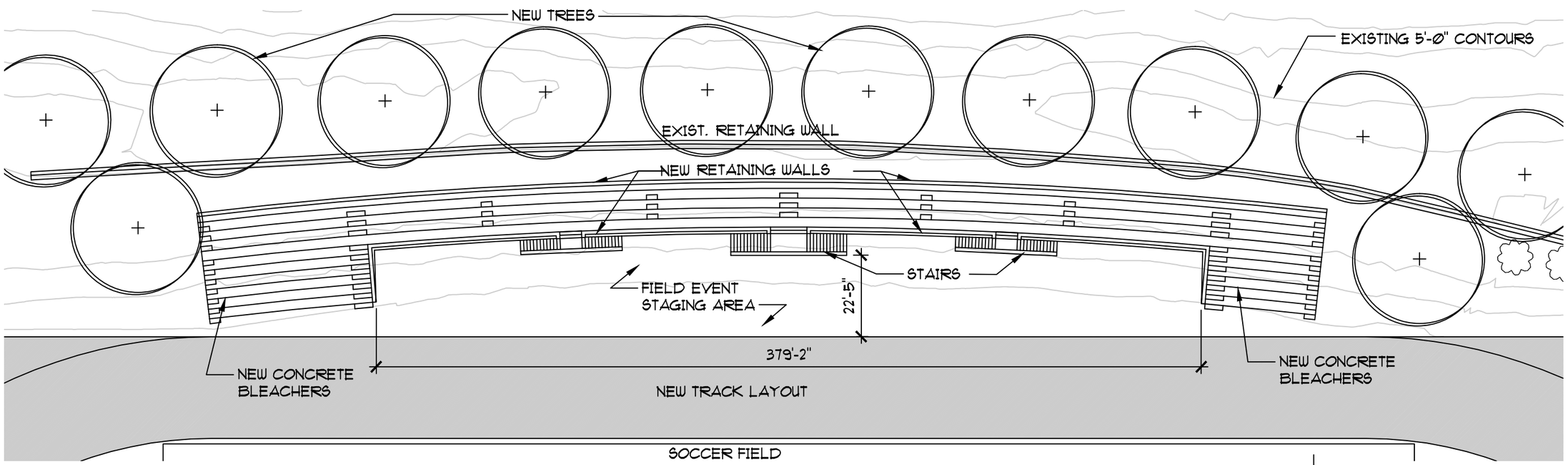
EAST SIDE OPTION 4:

DESCRIPTION: CUT INTO HILL TO PROVIDE SOME SPACE FOR FIELD EVENTS AND CONSTRUCT PERMANENT SEATING ON REMAINING SLOPE.

SEATS PROVIDED (APPROX): 800-1,000

LAYOUT AREA FOR FIELD EVENTS: 5,000 SF

BUDGET RANGE: $1,847,175



EAST SIDE REDEVELOPMENT PLAN, OPTION 4

SCALE: 1" = 30'-0"

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POCATELLO, IDAHO

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JOB NUMBER: 98609-14B
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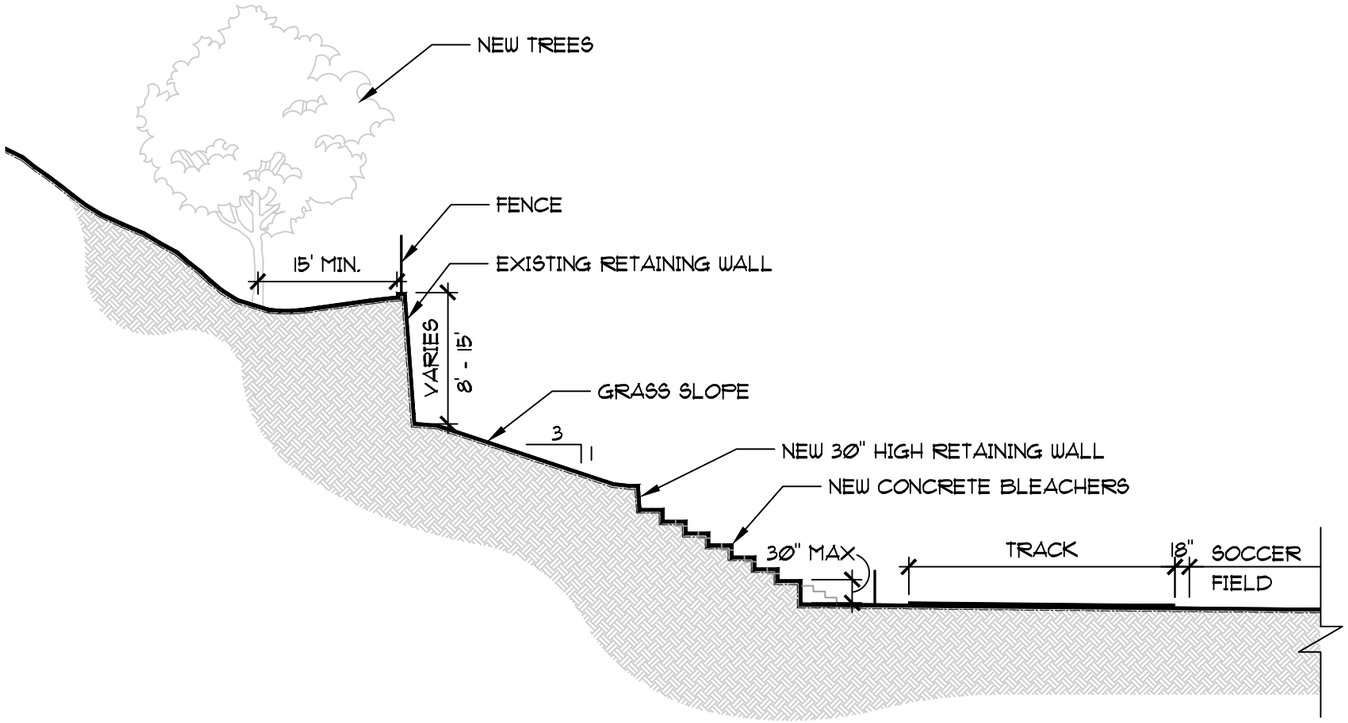


EAST SIDE OPTION 5 SECTION

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

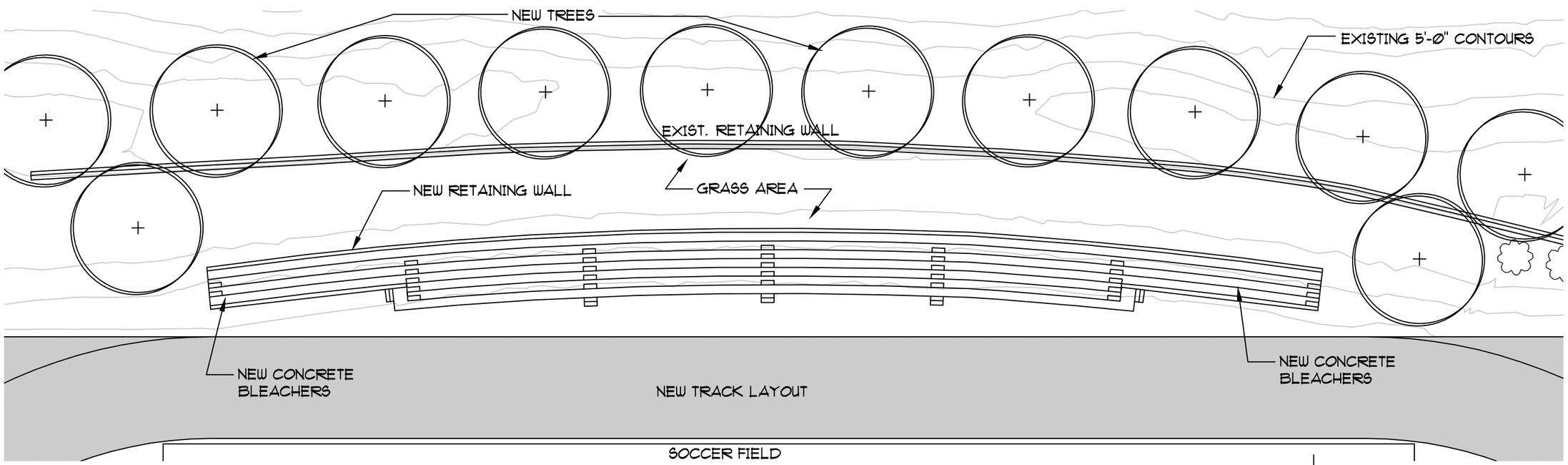
EAST SIDE OPTION 5:

DESCRIPTION: CONSTRUCT PERMANENT SEATING ON THE LOWER PORTION OF THE SLOPE WITH A GRASS SLOPE ABOVE.

SEATS PROVIDED (APPROX): 800-1,000 (FORMAL)
450-550 (INFORMAL)

LAYOUT AREA FOR FIELD EVENTS: NONE

BUDGET RANGE: $1,214,598



EAST SIDE REDEVELOPMENT PLAN, OPTION 5

SCALE: 1" = 30'-0"

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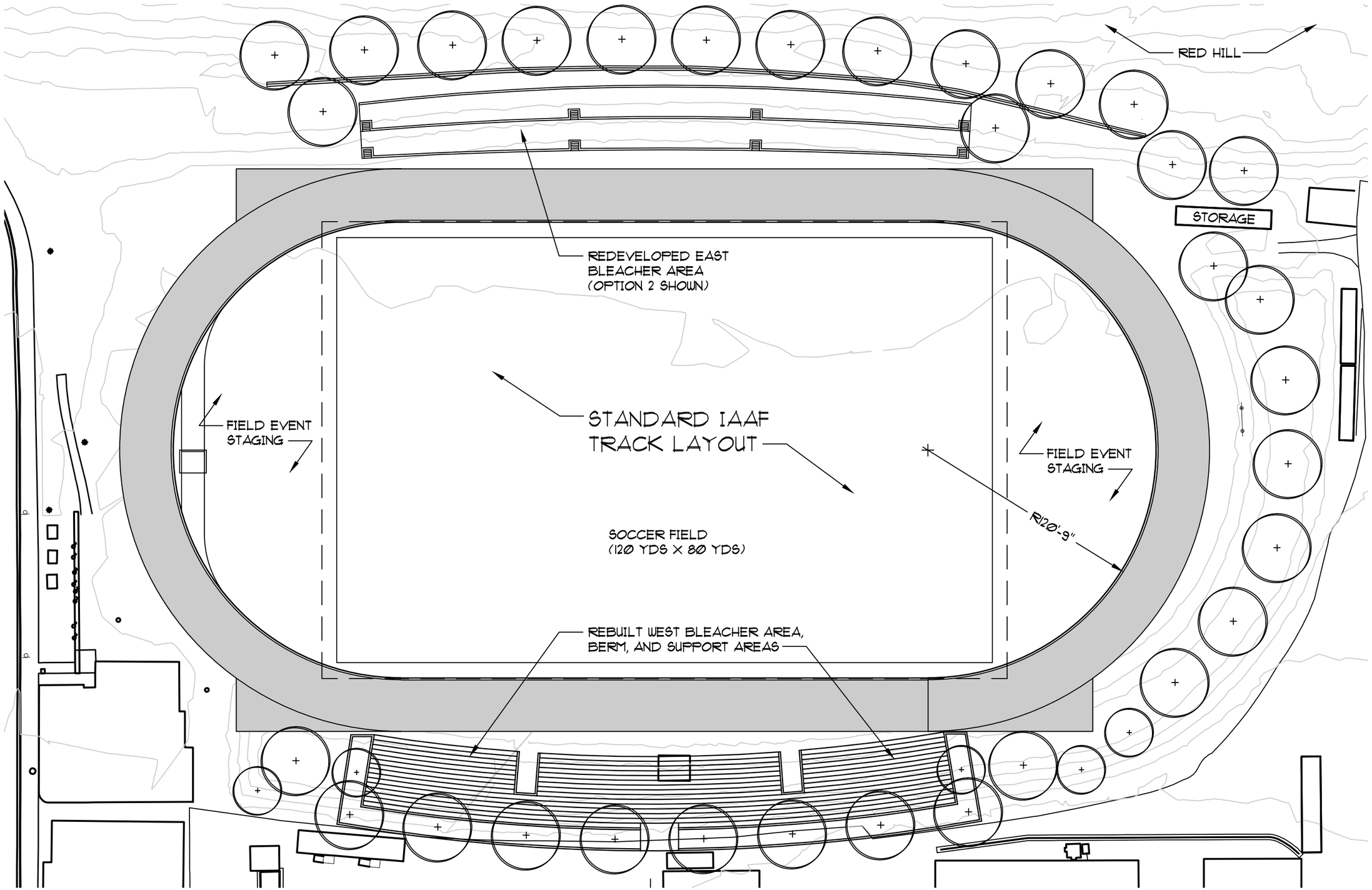

LONG-TERM LAYOUT WITH IAAF TRACK

SCALE: 1" = 50'-0"

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ISU DAVIS FIELD RENOVATIONS

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JOB NUMBER: 98609-14B

PROJECT DATE: MARCH 2015

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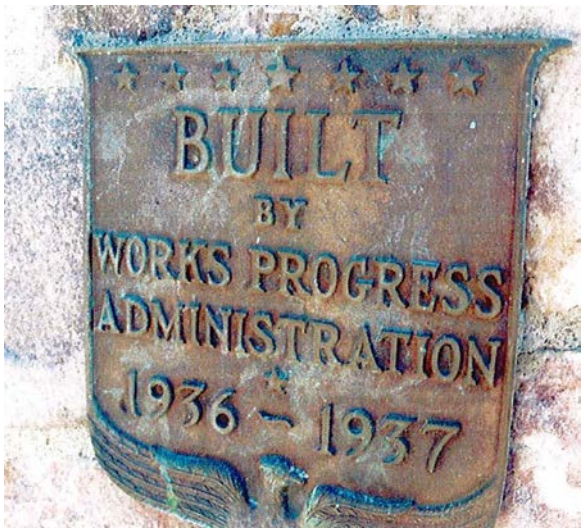
APPENDIX C
Photographs



Historic Plaque

Ticket Booth

West Entrance

North End

East Bleachers across Field

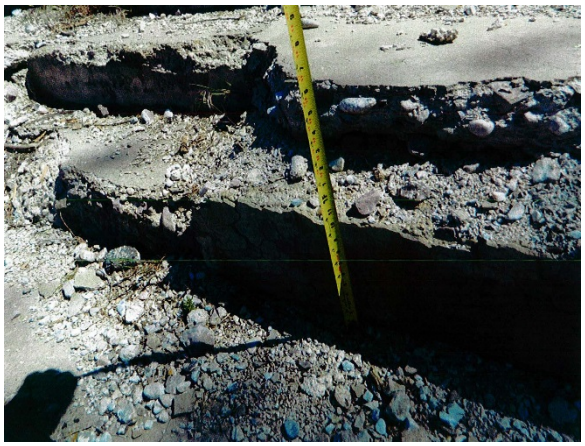
South End

West Bleachers Detail

East Bleachers from North

East Bleachers from South

East Bleachers Detail



East Bleachers Detail

Cracks in Retaining Wall

Cracks in Retaining Wall

APPENDIX D

Structural Report

AHJ ENGINEERS, PC
STRUCTURAL CONSULTANTS

5418 N. Eagle Rd. #140 Boise, Idaho 83713 p 208.323.0199 f 208.375.5251

DAVIS FIELD RETAINING WALL AND BLEACHERS STRUCTURAL ASSESSMENT FINDINGS AND RECOMMENDATIONS

AHJ PROJECT#14098.00

As requested by Myers Anderson Architects, a site visit was made to Davis Field at the Idaho State University campus on July 11, 2014. The purpose of the visit was to evaluate the large stone retaining wall at the east side of the field, behind the concrete bleachers. The concrete bleachers or risers were also requested to be assessed. Upon arriving and getting familiar with the site, it was apparent what issues were of concern.

The retaining wall is several hundred feet long with the majority of it being between 8' and 12' tall, reaching about 15' at its highest point. Within the middle third, approximately, there are horizontal cracks opened up on the outside face of the wall at waist level and above. The cracks are over 1" wide in places and a few of the stones have been dislodged.

The exact construction details of the wall are unknown as no drawings are believed to exist. It could be assumed that the wall is a gravity-type wall, which is thicker at the bottom and resists the earth pressures solely by mass. This is opposed to a cantilever-type wall that is steel-reinforced and resists earth pressures by its fixity at the base and it's bending capacity. Both of these wall types will rarely exhibit open cracks on the outside face since the face is in compression once backfilled. The existing wall is assumed to be a gravity wall and is probably very thick at the base and inconsistently thinner towards the top. Gravity type walls typically fail or become instable due to rotation about the base caused by saturated backfill, unexpected surcharges or weak sub-soils. None of these typical causes explain the cracks on the face of the wall in question. It is important to understand the nature of the cracks in order to properly address the repair solutions. Since the cracks are generally in the mid-height of the wall and above, there are a few explanations that make sense:

a. The wall may have been constructed thick at the base and at some higher point it tapers in, perhaps abruptly. This would create a weak plane or a weak link in the wall. Over the years, the soils behind the wall have experienced many wet/dry cycles and may have expanded, contracted and settled. This could cause the top of the wall to lean inward as the soils retreat and crack the wall at a weakened plane. One might expect the cracks to close up a bit during the wet season, but this has not been documented.

b. It is also possible that for such a tall wall tiebacks were installed, either initially or subsequent to construction. If the tiebacks were installed too close to the top of the wall, it would in effect be restrained at the top and bottom leaving the mid-section to resist all the soil pressure. This would result in the outside face being in tension, leading to bulging and eventually cracking at the mid-section.

c. The wall may be experiencing stress from the growth of several trees above the wall. They are planted relatively close to the wall and the roots may have exploited weakened planes mentioned in explanation (a.) above. At some locations the wall appears to be bulging near the trees, lending credibility to this explanation.

These explanations are inconclusive, but it is our opinion that either explanation (a.), (b.) or a combination of the two is responsible for the cracking on the outside face of the wall. Additional evidence or documentation would need to be brought forward to support explanation (b.).

The movement and cracking in the wall face needs to be halted to create a safe environment for the users of Davis Field. As is, the wall should be considered unstable. It is not inconceivable that, in a saturated condition or seismic event could bring down a weak section of the wall. This could be detrimental to anyone below. The wall is currently fenced off and should remain so until some remedial action is taken to stabilize the wall.

Comprehensive repair solutions will require soil analysis and load calculations that are beyond the scope of this report. However, repair concepts are listed below for discussion and cost consideration.

1. **Tree removal and re-grading.** The existing trees at the top of the wall should be removed and the root system dug out as much as can be done without imposing additional load on the wall. The remaining roots/stump should be systemically treated. Trees could be replanted a minimum of 15' away from the wall face, with consultation from an arborist regarding root growth. In conjunction with the tree removal, the grading above should be sloped, directing water away from the wall a minimum of 15'. This should reduce the possibility of the soil becoming saturated, which increases the load on the wall.

2. **Stabilize the wall in its existing state.** Attempting to return the wall to its original uncracked position would most likely prove futile. Therefore the wall can be stabilized by adding support structures, either uniformly across the entire suspect length or at selected problem areas. Support structures could include the following options:

   a) **Soil Nailing** – Soil nails could be installed at a point 1/3 the distance from the crack to the top of the wall. This will stabilize the 'broken off' portion of the wall. Soil nails are steel rods inserted in holes drilled at an angle through the wall into the soil mass behind the wall. The void around the nail is pressure injected with grout that engages the soil. The spacing of the nails could be as close as 6' o.c. depending on the calculated load requirements or strategically placed at problem areas. The nails would terminate on the surface of the wall with a small plate to capture the wall. This plate could be hidden just below the surface and covered with a new stone.

   b) **Soil Nailing with whalers** – This option would be the same as a) but with larger and less quantity of nails attached to a surface mounted horizontal beam or whaler. The whaler would be continuous, ensuring the entire captured length is stabilized.

   c) **Soldier Piles** – Soldier piles would require augering holes at the base of the wall and inserting steel H-piles in the holes with concrete. The soldier piles would extend up near the top of the wall and be placed at a determined spacing or as needed and dry-packed to the stone.

   d) **Soldier Piles with whalers** – This option would be the same as c) but with larger and less quantity of piles attached to a surface mounted horizontal beam or whaler. The whaler would be continuous, ensuring the entire captured length is stabilized.

3. **Install Weep Holes.** If water is determined to be collecting behind the wall and adding unintended hydrostatic pressure, weep holes need to be installed. This will involve drilling, say 1" diameter, holes near the base of the wall at around 10' on center and installing wicks in them.

4. **Repair all cracks.** The missing stones should be reinstalled and all cracks grouted and pointed. Water intrusion through the wall will inevitably cause further deterioration of the wall leading to increased repair costs.

The above repairs should be considered as a whole and not individually to provide a complete solution for the unstable wall. Other viable solutions may be possible, such as cutting down the height of the wall, adding a gunite skin, etcetera, but this report focuses on maintaining the historic nature of the wall. AHJ Engineers is available to design the wall repair system and perform site observation services if desired. It is recommended that a geotechnical engineer provide soil parameters for the design.

In addition to the unstable retaining wall, the east side concrete bleachers were observed. In short the entire east side stadium seating area has outlived its useful life and should be removed and replaced. Though no catastrophic failure is likely to occur, even casual use could result in 'trip and fall' type injuries for the public. Not only has the wear surface been totally deteriorated, but the subsurface soils appear to have subsided in places. In our opinion, the only viable option for opening this venue to the public is for complete removal and replacement of the east side stadium seating.

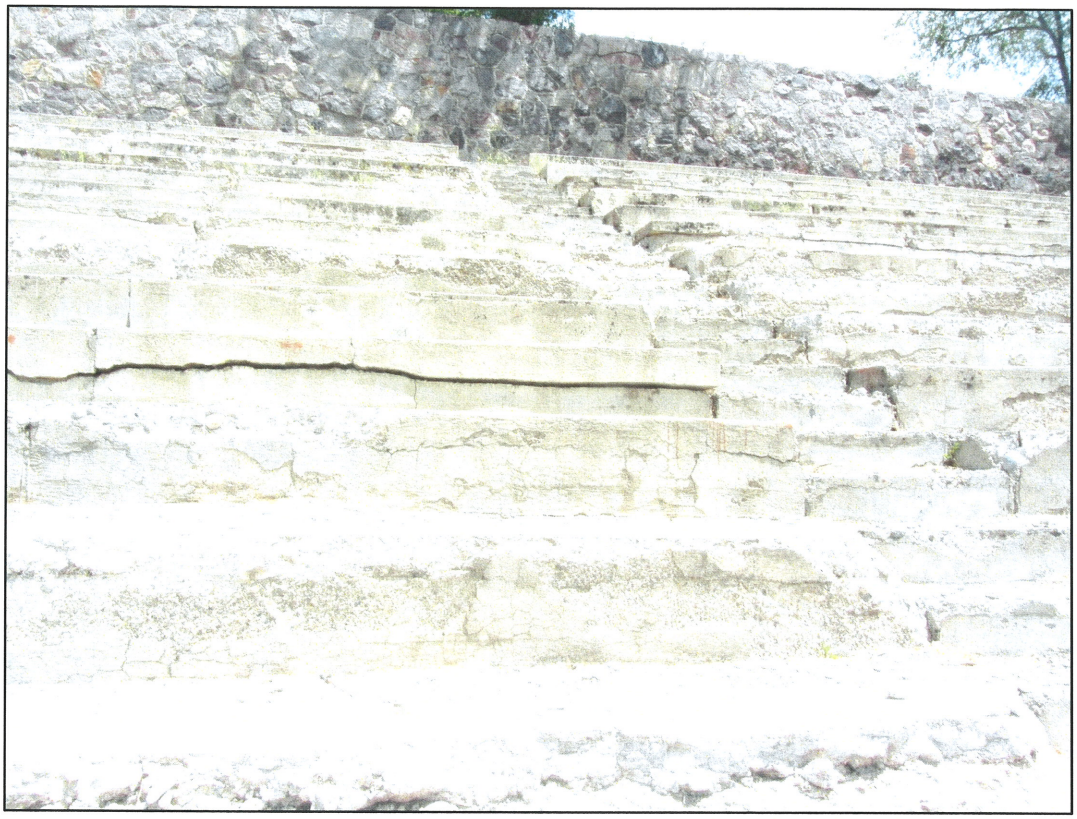
This structural assessment and the recommendations presented in this report were made based on a visual, non-destructive inspection of the venue. Most of the structural components were not readily accessible. Therefore it is possible that structural conditions other than those listed above, may exist. If you have any further questions please contact our office at your convenience.

AHJ Engineers, P.C.

PROFESSIONAL ENGINEER
REGISTERED
8454
STATE OF IDAHO
DAVID W. HAUGLAND

By: _____
David W. Haugland, PE, SECB,
LEED AP, Principal

Attachments: Photos



APPENDIX E

Proposal for Structural Investigation

Myers ■ **Anderson**
- **Architecture**
- Interior Design
- *Landscape Architecture*

October 6, 2014

Cheryl Hanson, Director of Planning, Design and Construction
Jason Adams, Project Manager/Engineer
Idaho State University
Facilities Services
Physical Plant, Box 8137
Pocatello, Idaho 83209

Re: ISU Davis Field Renovations
Proposal for Services – Retaining Wall Investigation and Structural Recommendation

Dear Cheryl and Jason,

Earlier this year, Myers Anderson was retained by ISU to provide an assessment report of Davis Field, focusing recommendations for repair of the east bleachers and future development opportunities. As a result of the visual structural assessment for that report, it was concluded that the retaining wall above the east bleachers is unstable and requires further investigation and repair prior to any work on the bleachers below. Since such detailed structural analysis of the retaining wall was not included in the scope of the original report, we are pleased to provide a proposal for a second phase of investigation and structural recommendation to address the issues that have been identified.

The scope of the second phase of investigation on the retaining wall would be to excavate behind and in front of the wall to determine its profile and construction. Temporary shoring would be constructed prior to the excavation and remain until repairs are made. Following the excavation the cause of the cracking in the wall should become apparent and appropriate structural recommendations can be made.

In order to minimize the cost of the required excavation work, we suggest conducting the excavation near the south end of the wall rather than at the mid-point as previously discussed. Based on results of the excavation, the construction of the wall could be determined and assumptions could be made about the conditions along the remainder of the wall.

Myers Anderson will provide the architectural and engineering services required to complete the investigation and provide a structural recommendation for the fees listed below.

1.	Geotechnical analysis	$950
2.	Structural analysis and recommendation, including design of temporary shoring during excavation	$3,200
3.	Report summarizing findings and recommending architecturally appropriate solutions, including cost estimates and coordination with other long-term plans and recommendations for Davis Field	$2,000
	Fee Total:	**$6,150**

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Idaho Office
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Pocatello, Idaho 83204
P 208-232-3741
F 208-232-3782

E-mail: maa@myers-anderson.com Website: www.myers-anderson.com

In addition to these A/E fees, this investigation will require excavation work to be completed by others. Based on our suggested approach above we estimate the cost for the excavation to be approximately $1,000.

If all or part of this proposal is acceptable please highlight/designate the desired services to be provided, sign and return a copy of this letter of proposal to our office.

Please contact our office if you have any questions.

Sincerely,

Benjamin Ledford, AIA, NCARB
Architect
Myers ■ **Anderson**

ACCEPTED: _____
Authorized Representative

DATE: _____

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APPENDIX F

Secretary of the Interior's Standards for Rehabilitation

Rehabilitation Standards and Guildelines

The Secretary of the Interior's Standards for Rehabilitation, codified as 36 CFR 67, are regulatory for the Historic Preservation Tax Incentives program. The Guidelines for Rehabilitating Historic Buildings and the Guidelines on Sustainability for Rehabilitating Historic Buildings, which assist in applying the Standards, are advisory.

Secretary's Standards for Rehabilitation

Rehabilitation projects must meet the following Standards, as interpreted by the National Park Service, to qualify as "certified rehabilitations" eligible for the 20% rehabilitation tax credit. The Standards are applied to projects in a reasonable manner, taking into consideration economic and technical feasibility.

The Standards apply to historic buildings of all periods, styles, types, materials, and sizes. They apply to both the exterior and the interior of historic buildings. The Standards also encompass related landscape features and the building's site and environment as well as attached, adjacent, or related new construction.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Guidelines for Rehabilitating Historic Buildings

The Guidelines assist in applying the Standards to rehabilitation projects in general; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell a building owner which features of an historic building are important in defining the historic character and must be preserved or which features could be altered, if necessary, for the new use. Careful case-by-case decision-making is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of the historic properties. These Guidelines are also available in PDF format.

The Guidelines on Sustainability for Rehabilitating Historic Buildings stress the inherent sustainability of historic buildings and offer specific guidance on "recommended" rehabilitation treatments and "not recommended" treatments, which could negatively impact a building's historic character. These Guidelines are also available as an interactive web feature.

APPENDIX G

NCAA Standards for Track and Field Construction

RULE 1

Construction of Facilities

The facilities specifications listed in this rule represent the minimums necessary to host intercollegiate track and field. Technical information on construction, layout and marking is contained in the American Sports Builders Association Construction and Maintenance Manual and the International Association of Athletics Federations' (IAAF) Track and Field Facilities Manual. The tolerances listed in those manuals are acceptable.

Track calculations and measurements, to verify compliance with NCAA rules, must be metric. Imperial distances, used within these rules for convenience, are conversions from, approximations of and less accurate than the stated metric values.

Note: Figures are not drawn to scale.

SECTION 1. The Track

The Area

ARTICLE 1. With respect to grade or slope:

a. The maximum lateral inclination permitted for the track across the full width of the track, preferably toward the inside lane, and across all runways, shall not exceed 1:100, one percent (1%).
b. The maximum overall downward inclination permitted in the running direction for the track, the running direction for all runways and the throwing direction for all landing sectors shall not exceed 1:1,000, one-tenth of one percent (0.1%). Inclination shall be measured by comparing the start and end points of the races that use the straightaway portion of the oval, the last 20 meters of the javelin runway, the start and end points of other runways, not to exceed 40 meters, and the full graded length of each landing sector.
c. In the high jump approach and takeoff area, the maximum overall downward inclination of the last 15 meters shall not exceed 1:250, four-tenths of one percent (0.4%), in the running direction toward the center of the crossbar.
d. The surface of a throwing circle shall be level.

ARTICLE 2. The standard outdoor running track shall be 400 meters in length and not less than six lanes in width. The width of each lane shall be constant and not less than 1.067 meters. It shall normally consist of two parallel straights and two semicircular curves of equal design. Lanes shall be marked on both sides by white lines 5 centimeters wide. The lanes shall be numbered with lane one on the left when facing the finish line. No lane around a full curve with a constant radius in excess of 50 meters shall be eligible for a record or championship qualifying.

Whenever possible, it is recommended that there be an obstacle-free zone on the inside and on the outside of the track at least 1 meter in width.

Note: For larger meets, nine lanes of at least 1.067 meters each are desirable.

Track Surveying

ARTICLE 3. Tracks shall be surveyed and all measurements certified after initial construction and after resurfacing. This certification shall be maintained and made available upon request.

A surveyor's written certification shall list the exact measurements for the following:

a. Levels of the track, runways, approaches and landing surfaces;
b. Permanent track, runway, approach and landing surface measurements;
c. Start and finish lines;
d. Track lanes;
e. Baton-passing zones;
f. Steeplechase water-jump pit;
g. Hurdle placements; and
h. Throwing surfaces — the shot put, hammer and discus circles.

Track Markings

ARTICLE 4. It is recommended that the following international color code be used when marking an indoor or outdoor track:

a. Starting line (white) — 55/60 Meters, 55/60 Meter Hurdles, 100 Meters, 100/110 Meter Hurdles, 200 Meters, 300 Meters, 400 Meters, 1500 Meters, Mile, 3000 Meters, Steeplechase, 5000 Meters, 10,000 Meters;
b. Starting line (white with green insert) — 800 Meters, one-turn stagger;
c. Starting line (white with red insert) — 4x200 Meter Relay, four-turn stagger;
d. Starting line (white with blue insert) — 4x400 Meter Relay, three-turn stagger;
e. Multiple waterfall starting lines (white);
f. Finish line (white) — all;
g. Relay exchange zones — 4x100 Meter Relay (yellow), 4x200 Meter Relay (red), 4x400 Meter Relay (blue);
h. Hurdle locations — 100 Meter Hurdles (yellow), 110 Meter Hurdles (blue), 400 Meter Hurdles (green), Steeplechase (black); and
i. Break line (green).

Measuring Distances

ARTICLE 5. The distance to be run in any race shall be measured from start to finish between two theoretical hairlines. In races run on straightaway courses, the distance shall be measured in a straight line from the starting line to the finish line. In races around a curve, lane one, and all distances not run in lanes, shall be measured 30 centimeters outward from the inner edge of the track if designed for and surveyed based on the existence of a regulation curb. If not so designed, lane one shall be measured 20 centimeters from the left-hand lane line.

For all races in lanes around one or more curves, the distance to be run in each lane, except lane one, shall be measured 20 centimeters from the outer edge of the lane line that is on the runner's left. See Figure 1.

Note: The measurement of lane staggers should be determined by a competent surveyor since they are not the same for races run entirely in lanes and races that use a break line. Additional variation occurs as the actual length of the straightaway varies. Tables for in-lane race staggers and break line race staggers with varying straightaways are available on the NCAA playing rules website at www.ncaa.org/playingrules.

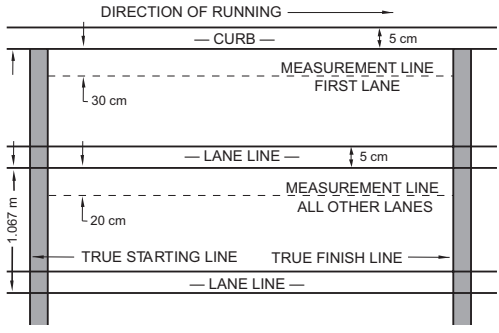


Figure 1—Track Measurements

Cones and Curbing

ARTICLE 6. A track surveyed based on the existence of a curb shall, at a minimum, have the full curves bordered by a curb of suitable material approximately 5 centimeters in height and a minimum of 5 centimeters in width. The edges of the curb shall be rounded. See Figure 1.

Cones may be used to replace a curb temporarily when the curb interferes with other events, but not as a substitute for a curb. If a section of the curb must be temporarily removed for any reason, its place shall be marked by a white line 5 centimeters in width and by cones at least 15 centimeters in height. The cones shall be placed on the track on top of the line so that the outward face of the cone coincides with the edge of the white line closest to the track. The cones shall be placed at distances not exceeding 4 meters outdoors and 1.5 meters indoors.

For world, American and NCAA outdoor championship records, a regulation curb must be in place. For championship qualifying on a track surveyed for a curb, a regulation curb must be in place. For indoor records and all championship qualifying on a track surveyed for no curb, the inside white line must be marked additionally with cones.

Visible Starting Line

ARTICLE 7. A visible starting line, 5 centimeters wide, shall be marked on the track just within the measured distance so that its near edge is identical with the exactly measured and true starting line. See Figure 1.

The visible starting line for all races not run in lanes (including the 800 Meters, when alleys are used) shall be curved so that all competitors run the same distance going into the curve. See Figure 2.

Visible Finish Line

ARTICLE 8. A visible finish line, 5 centimeters wide, shall be marked on the track just outside the measured distance so that its edge nearer the start is identical with the exactly measured and true finish line. See Figure 1.

Lane numbers of reasonable size shall be placed at least 15 centimeters from the common finish line.

A section of the intersection of each lane line and the finish line shall be painted black in a pattern to assist photo-finish lane identification and camera alignment. Figure 3 is an example.

Note: A common finish line is recommended for all races. Lines in the finish area should be kept to a minimum. If additional lines are necessary, they should be of a less conspicuous color than the finish line, so as not to cause confusion.

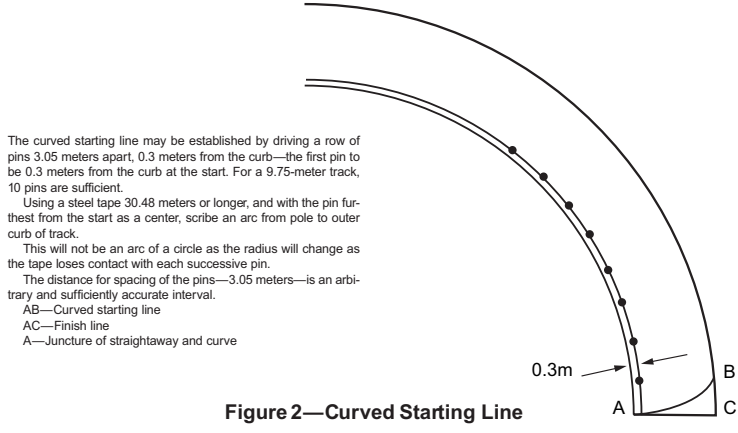


Figure 2—Curved Starting Line

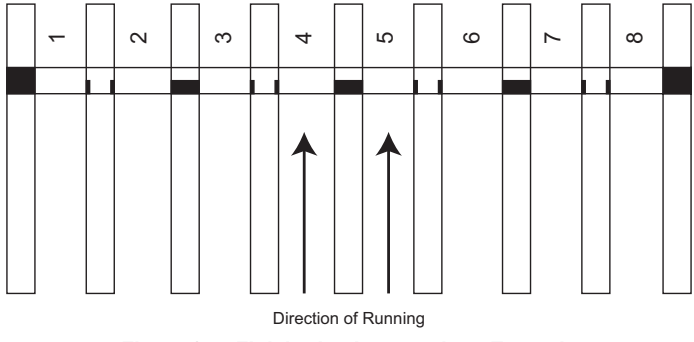


Figure 3 — Finish-Line Intersections Example

Except where their use may interfere with fully automatic timing devices, two white posts may denote the finish line and be placed at least 30 centimeters from the edge of the track. The finish posts shall be of rigid construction, approximately 1.4 meters high and 5 to 8 centimeters in diameter.

Running Lanes

ARTICLE 9. a. In all race distances up to and including 400 meters, each contestant shall have a separate lane to be marked by white lines of paint or suitable substance 5 centimeters in width. Lanes shall have the same width, with a recommended minimum of 1.067 (±0.01) meters (42 inches) and a maximum of 1.22 (±0.01) meters (48 inches), including the white line to the right. See Figure 1.

b. Hurdle lanes shall be at least 1.067 meters in width. If hurdle lanes are not marked on the track, they shall be judged as equivalent to 2 centimeters wider than the total width of each hurdle.

Break Line

ARTICLE 10. A visible break line 5 centimeters wide shall be an arc across the track showing the position at which competitors are permitted to leave their respective lanes or staggered alleys. This applies to outdoor events of at least 800 meters and indoor events authorized to use a break line and shall be positioned accordingly for specific events. The marking of an outdoor one-turn break line on the home straight may be limited to the outside lanes.

The arc of the break line should reflect an adjustment in each lane so that competitors in outside lanes travel the same distance to reach an inside position as competitors in the inside lanes.

Small cones shall be placed on the lane lines immediately before the intersection of the lane lines and the break line. Cones, as described in Rule 1-1.6, shall be used to mark the inside of any single outer alley used for a race between the start of the alley and the break line.

Relay Zones

ARTICLE 11. In all relays around the track, the baton exchange must be made within a 20-meter zone, formed by lines drawn 10 meters on each side of the measured centerline. If designated by lines, the zone is between the edges of the lines closest to the start. All boxes or triangles denoting the limits of the zone shall be within the zone.

International Zones

ARTICLE 12. A distinctive short mark 10 meters before the relay zone shall be placed within, and indicate the beginning of, the international zone. In races that allow an international zone, outgoing runners, while waiting to receive the baton, may take a position and begin running anywhere within this zone. See Rule 5-8.4.

SECTION 2. The Hurdles

The placement of hurdles shall be in accordance with the following table:

PLACEMENT OF HURDLES

	No. of Hurdles	Distance Start to 1st Hurdle	Distance Between Hurdles	Distance Last Hurdle to Finish
55 Meter Hurdles (men)	5	13.72 m	9.14 m	4.72 m
55 Meter Hurdles (women)	5	13 m	8.5 m	8 m
60 Meter Hurdles (men)	5	13.72 m	9.14 m	9.72 m
60 Meter Hurdles (women)	5	13 m	8.5 m	13 m
100 Meter Hurdles	10	13 m	8.5 m	10.5 m
110 Meter Hurdles	10	13.72 m	9.14 m	14.02 m
400 Meter Hurdles	10	45 m	35 m	40 m

SECTION 3. The Steeplechase

Distance

ARTICLE 1. The standard distance for the Steeplechase shall be 3000 meters.

Jumps

ARTICLE 2. There shall be 28 hurdle jumps and seven water jumps included in the 3000 Meter Steeplechase. The distance from the starting point to the

finish line on the first lap shall not include any jumps. The water jump shall be the fourth jump in each lap. If necessary, the finish line shall be moved to accommodate this rule.

Measuring Course

ARTICLE 3. The following measurements are given as a guide, and any adjustments necessary shall be made by lengthening or shortening the distance at the starting point of the race. In this chart, it is assumed that a lap of 400 meters has been shortened 10 meters by constructing the water jump inside the track. It is recommended that the approach to and exit from the water-jump hurdle be straight for approximately 7 meters.

POSSIBLE STEEPLECHASE MEASUREMENTS

	Lap of 390 meters
Distance from starting point to commencement of 1st lap, to be run without jumps	270 m
Distance from start of 1st full lap to 1st hurdle	10 m
From 1st to 2nd hurdle	78 m
From 2nd to 3rd hurdle	78 m
From 3rd hurdle to water jump	78 m
From water jump to 4th hurdle	78 m
From 4th hurdle to finish line	68 m
390 m x 7 laps =	2730 m
	3000 m

Note: Since the water jump may be constructed in the area inside or outside the track, thereby lessening or lengthening the normal distance of the laps, it is not possible to prescribe any rule specifying the exact length of the laps or to state precisely the position of the water jump. It should be kept in mind that there must be enough distance from the starting line to the first hurdle to prevent the competitors from overcrowding, and there should be approximately 68 meters from the last hurdle to the finish line.

Placement of Hurdles on Track

ARTICLE 4. The hurdles shall be placed on the track so that 30 centimeters of the top bar, measured from the inside edge of the track, will extend inside the inner edge of the track. See Figure 4.

Note: For hurdle specifications, see Rule 2-3.

Water-Jump Construction

ARTICLE 5. It is recommended that the water jump be placed on the inside of the track. The water jump, including the hurdle, shall be 3.66 (±0.02) meters in length and 3.66 (±0.02) meters in width. The water shall be a minimum of 70 centimeters in depth immediately after the hurdle, and the pit shall have a constant upward slope from a point 30 centimeters past the water-jump hurdle to the level of the track at the far end. The landing surface inside the water jump should be composed of a nonskid, shock-absorbent material. A suitable material between the vertical uprights of the water-jump hurdle is recommended to aid the competitor with depth perception. See Figure 4.

The hurdle at the water jump shall be firmly fixed in front of the water and be of the same height as the other hurdles in the competition.

For construction or resurfacing after January 1, 2008, the approach to and run-out from the water jump shall be of the same material as the track surface.

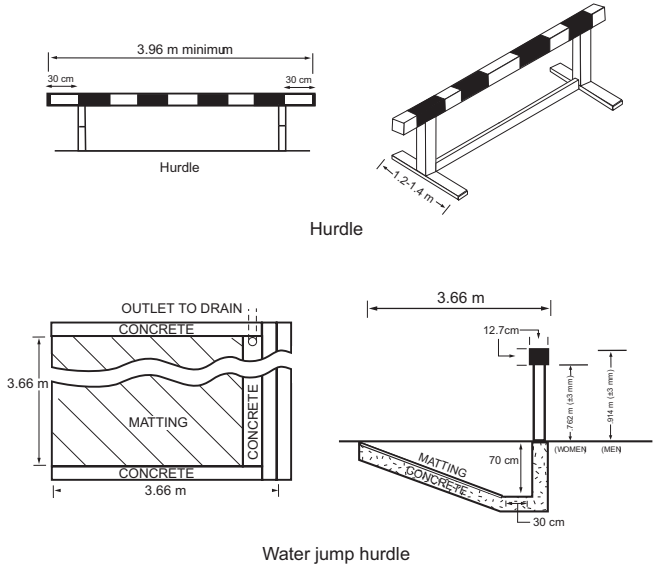


Figure 4 — Water-Jump and Hurdle Measurements

SECTION 4. The High Jump

Approach

ARTICLE 1. It is recommended that the approach be an octagon or square with a surface of at least 21 meters. The minimum length provided shall be 15 meters. The length of the approach run is unlimited.

Takeoff Area

ARTICLE 2. The takeoff area is the semicircle enclosed by a 3-meter radius whose center point is directly under the center of the crossbar. For a record to be approved, the tolerances specified in Rule 1-1.1 may not be exceeded.

SECTION 5. The Pole Vault

Vaulting Box

ARTICLE 1. The vaulting box in which the vaulting pole is planted shall be constructed of suitable rigid materials. Its dimensions and shape shall be those shown in the accompanying diagram.

The box shall be of a contrasting color from the runway and shall be immovably fixed in the ground so that all of its upper edges are flush with the takeoff area. The angle between the bottom of the box and the back of the box shall be 105 degrees. See Figure 5.

Runway

ARTICLE 2. For new construction after January 2006, the vaulting runway shall have a minimum length of 40 meters. It is recommended that the width of the runway be 1.22 (±0.01) meters. See Rule 1-1.1.

Runway Markings

ARTICLE 3. The center of the runway, when marked after January 1, 2011, shall be marked with seven permanent lines in the pattern shown in Figure 6. Each line is 5 centimeters (2 inches) in width and 30 centimeters (12 inches) from the same respective point of an adjacent line. Each short line is 30 centimeters in length. The long line is 90 centimeters (36 inches) in length. The distance from the edge of the long line closest to the landing pit to the point where the back of the vaulting box meets the runway is 3.65 meters (12 feet).

Runway Markers

ARTICLE 4. The full length of the runway may be permanently marked with lines on or touching the edge that are not more than 2 centimeters wide by 5 centimeters long to indicate the distance from the back of the vaulting box.

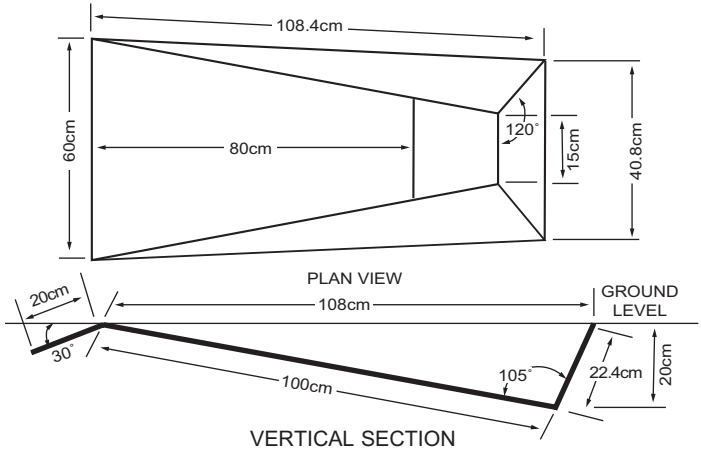


Figure 5—Pole-Vault Box

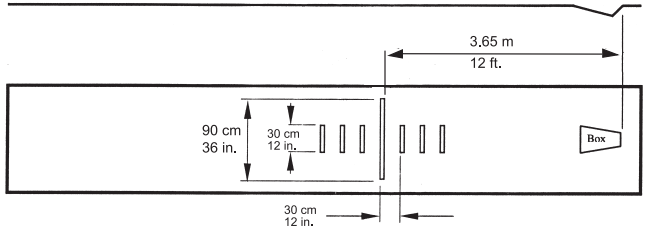


Figure 6—Pole-Vault Runway Markings

SECTION 6. The Long Jump and Triple Jump

Runway

ARTICLE 1. For new construction after January 2006, the minimum length of the runway for the Long Jump and Triple Jump shall be 40 meters from the edge nearest the pit of each event's takeoff board. It is recommended that the width of

the runway be 1.22 (±0.01) meters. The construction and material of the runway shall be extended beyond the takeoff board to the nearer edge of the landing pit. See Rule 1-1.1.

When the runway is not distinguishable from the adjacent surface, it is recommended that it be bordered by lines 5 centimeters in width from the start of the nearer edge of the landing pit.

The full length of the runway may be permanently marked with lines on or touching the edge that are not more than 2 centimeters wide and 5 centimeters long to indicate the distance from the foul line.

Landing Area

ARTICLE 2. The landing area in new construction after January 2006 shall be not less than 2.75 or more than 3 meters in width, and shall be filled with damp sand to an elevation identical with that of the takeoff board. Figure 7 shows an appropriate device for ensuring proper sand level.

a. In the Long Jump, the distance between the takeoff board and the nearer edge of the landing area shall be not less than 1 meter or greater than 3 meters. The distance between the foul line and the farther edge of the landing area shall be at least 10 meters.
b. In the Triple Jump, the nearer edge of the landing area shall be at least 11 meters from the foul line for men and 8.5 meters for women. Distances of 12.5 meters and 11 meters, respectively, are recommended.

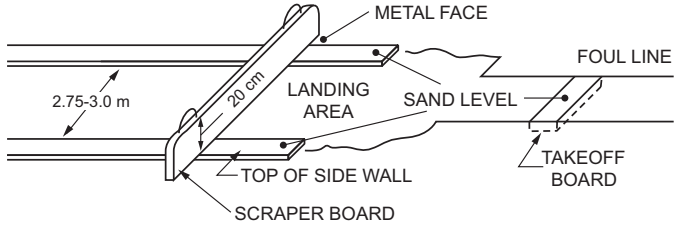


Figure 7—Control of Sand Level in Long Jump and Triple Jump

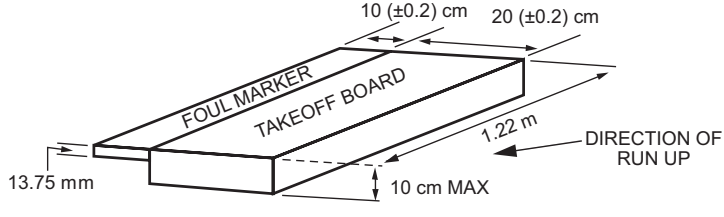


Figure 8—Long Jump and Triple Jump Takeoff Board and Foul Marker

Takeoff

ARTICLE 3. The takeoff shall be a board made of wood or other suitable rigid material approximately 20 centimeters wide, at least 1.22 meters long and not more than 10 centimeters thick. The upper surface of the board must be level

with the runway surface. This board shall be painted white and be firmly fixed in the runway.

In the absence of a takeoff board, the triple-jump takeoff area shall be approximately 20 centimeters wide and at least 1.22 meters long, and shall be painted white or firmly affixed (that is, tape) on the all-weather runway.

Foul Line

ARTICLE 4. The edge of the takeoff board nearest the landing pit shall be the foul line.

Foul-Indicator Aid

ARTICLE 5. For the purpose of aiding the calling of fouls:

a. The area immediately beyond the foul line may be prepared as shown in Figure 8.
b. The foul may be detected by an electronic foul-line indicator with validation by an image capturing system.

SECTION 7. The Throwing Area

Materials

ARTICLE 1. The circles in throwing events shall be made of a band of metal 6 millimeters in thickness or suitable rigid material firmly secured flush with the throwing surface, the top of which shall be flush with the surface outside the circle. See Figures 10, 11 and 14. The interior surface should be of concrete or material providing a similar surface and shall be 19 (±6) millimeters lower than the surface outside the circle.

Note: The IAAF stipulates a flanged circle 76 millimeters in height, embedded below the throwing surface, to provide rigidity.

Diameters

ARTICLE 2. The inside diameters of the Shot Put, Weight Throw and Hammer Throw circles shall be 2.135 (±0.005) meters, and the diameter of the Discus Throw circle shall be 2.500 (±0.005) meters.

Insert

ARTICLE 3. An insert may be used to convert a throwing circle from a 2.5-meter diameter to a 2.135-meter diameter. The insert shall be made of metal or suitable extremely rigid material (malleable rubber is not suitable) and be flush with the throwing surface. The height of the insert shall be 19 (±6) millimeters.

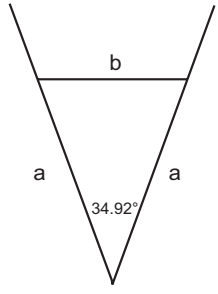
Dividing Line

ARTICLE 4. All circles shall be divided in half by a 5-centimeter line extending not less than 75 centimeters from the outer edge of the circle to the end of the throwing pad and measured at right angles to the imaginary center of the throwing sector. Lines shall not be painted within any throwing circle.

Sector

ARTICLE 5. Radial lines 5 centimeters wide shall form a 34.92-degree angle extended from the center of the circle. See Figure 9. The inside edges of these lines shall mark the sector. For the Discus Throw and the Hammer Throw, sector flags should mark the ends of the lines and the sector shall be centered within the enclosure.

The level of the surface within the landing area shall be the same as the level of the surface of the throwing circle. See Rule 1-1.1.



a (meters)	b (meters)
5	3
10	6
15	9
20	12
25	15
50	30
75	45

Figure 9—Establishing the Sector

SECTION 8. The Shot Put Area

Circle

ARTICLE 1. The circle shall be constructed in accordance with Figure 10. See Rule 1-7.

Stopboard

ARTICLE 2. The stopboard shall be an arc of wood, or other suitable materials, painted white and firmly fixed so that its inner edge coincides with the inner edge of the shot-put circle. It shall measure 1.21 (±0.01) meters in length along the chord between its endpoints, 112 millimeters and increasing to 300 millimeters in width, and 100 (±2) millimeters in height. See Figure 10.

Sector

ARTICLE 3. See Rule 1-7.5.

SECTION 9. The Discus Throw/Hammer Throw Area

Circle

ARTICLE 1. The circle for the Hammer Throw shall be constructed in accordance with Figure 11. The circle for the Discus Throw shall be constructed in accordance with Figure 14. See Rule 1-7.

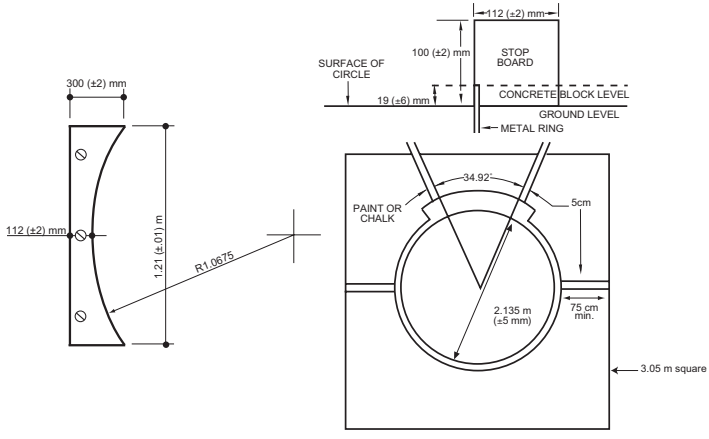


Figure 10—Shot Put Circle
Note: Lines shall not be inside the circle.

Enclosure

ARTICLE 2. All hammer and discus throws shall be made from an enclosure or cage that shall be centered on the circle and with the sector centered on the nonmovable cage opening, designed in such a way to provide adequate control of the implement landing and a fair venue for the throwers. Cage design is acknowledged to provide limited protection for spectators, officials and competitors. It does not ensure their safety. Exact measurements and pole placements may vary based on local conditions and cage design, but should provide for the minimum distances specified.

The following specifications are for the hammer or discus cage when thrown outside the stadium while spectators are present, or inside the stadium while other events are in progress, and should be considered a minimum configuration. The dimensions listed, while not absolute, are considered acceptable for achieving the overall purpose of a cage. All possible efforts shall be made to achieve the minimum configuration in the construction of new facilities after January 2006. Figures 12 and 13 provide illustrations of possible cage designs.

a. The throwing circle shall be surrounded by a cage made with suitable material, hung from and between rigid posts, sufficient to withstand and absorb an impact from the implement so that the implement will not escape over or through, and to reduce the possibility of the implement ricocheting or rebounding back toward the competitor. The purpose of the cage is to contain, but not interfere with, the flight path of the implement.
b. Rigid posts, approximately six in number, positioned in line with and to the rear of the front edge of the throwing circle, shall be approximately 4 meters from the center of the circle and allow for panels of suitable material between 2.74 and 2.90 meters in width that are at least 3.50 meters from the center of the circle. The height of these panels for the discus shall be at least 4 meters. The height of these panels for the hammer cage shall be at least 5 meters.
c. Panels of suitable material between 2.74 and 2.90 meters in width and at least 6.15 meters in height, shall be hung between each of the two rigid posts in line with the front edge of the throwing circle and each of two additional rigid

posts toward the throwing sector that are not less than 2.85 meters away from the sector line. The location of these posts will be approximately 6 meters from the center of the throwing circle and provide a total fixed cage opening of between 8 and 9 meters.

d. When used for throwing the hammer, movable panels of suitable material not less than 4.20 meters in length and not less than 6.15 meters in height, shall be affixed to the rigid posts furthest from the circle toward the landing area. For a right-handed thrower (counter-clockwise rotation), the right movable panel is to be open so that it is parallel to the sector line on the right side and maintains the minimum 2.85-meter distance from the sector line. For a right-handed thrower, the left movable panel is placed in a position so that its nonpivot end is as perpendicular to the sector line as possible and is not greater than 1.5 meters into the sector and not less than 6 meters away from the center of the circle. For a left-handed thrower (clockwise rotation), the movable panel configuration is reversed.

e. Any area of flagging shall identify an implement landing danger zone of at least 55 degrees from the center of the throwing circle.

f. Cage configurations that are more restrictive than the minimums set forth in this rule may only be used with the consent of each participating institution.

Note 1: Whenever possible, the height of the panels of suitable material described in paragraphs c and d shall be increased. The recommended minimum height is 8 meters. Cages may have additional panels or designs to increase control of the implement landing area.

Note 2: The movable panel that is normally parallel to the sector line should be positioned closer to the sector line in cases in which the facility has the throwing area in close proximity to other event venues, so that greater control of the implement landing is achieved.

Note 3: Cage design to allow for throwing both hammer and discus from the same cage is permitted. Circle placement, suitable material height and movable panel size and location must achieve the overall goals indicated above, but these panels or designs may not create a restricted area for the thrower that is less than specified in this rule.

Note 4: The height of the discus cage shall be at least 4 meters.

Sector

ARTICLE 3. See Rule 1-7.5.

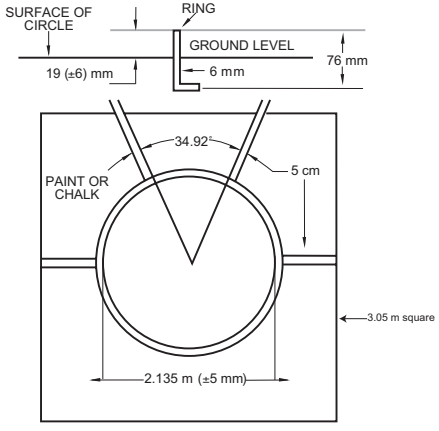


Figure 11—Hammer Throw/Weight Throw Circle
Note: Lines shall not be inside the circle.

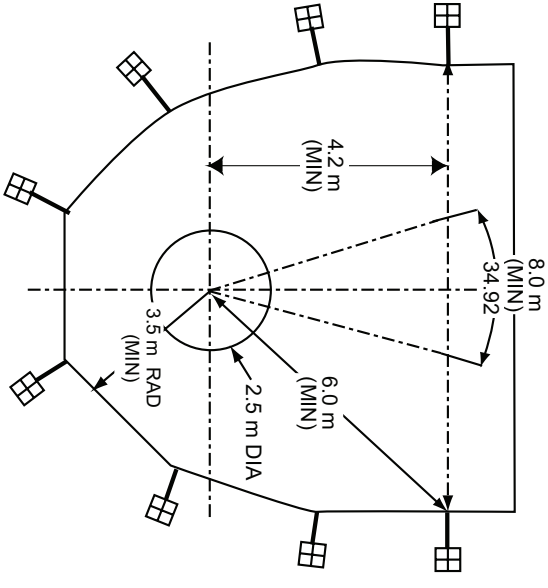


Figure 12

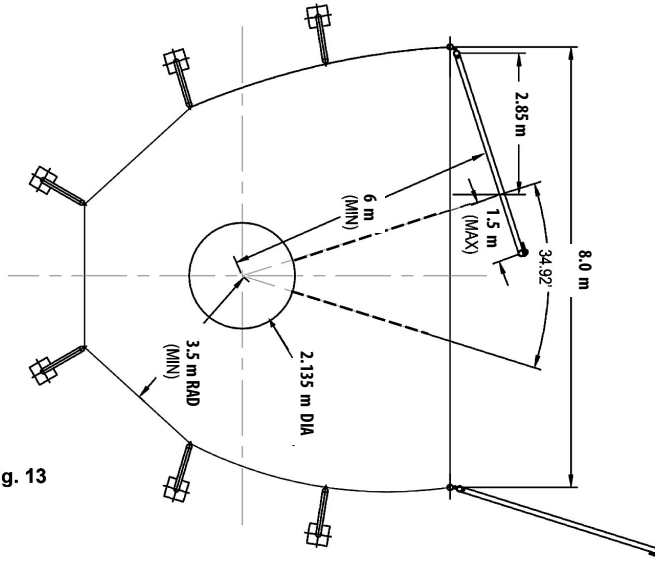


Fig. 13

Figures 12 and 13 — Possible Discus/Hammer Cage Designs

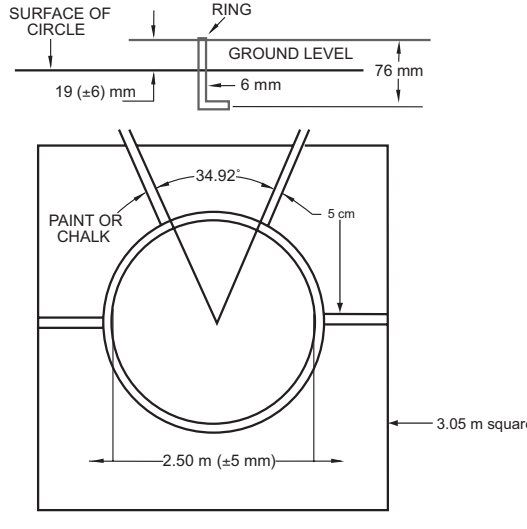


Figure 14—Discus Throw Circle

Hammer Throw requires an insert in the circle (see Figure 11 and Rule 1-7.4).
Note: Lines shall not be inside the circle.

SECTION 10. The Weight Throw Area

The Weight Throw is an indoor event. It may be contested outdoors. For construction of facilities, see Figure 11 and Rule 10-8.

SECTION 11. The Javelin Throw Area

Foul Line

ARTICLE 1. The foul line shall be 7 centimeters wide, painted white, and shall be made in the shape of an arc with a radius of 8 meters. The distance between its extremities shall be 4 meters, measured straight across from end to end. Lines shall be drawn from the extremities of the arc at right angles to the parallel lines marking the runway. These lines should be 75 centimeters in length and 7 centimeters wide.

Runway

ARTICLE 2. The runway shall be marked by two parallel lines 5 centimeters in width. The minimum length shall be 33.5 meters and the width shall be 4 meters between the inside edges of the marked parallel lines. It is recommended that the runway be constructed of an artificial surface for its entire length. If an artificial surface is used, it is recommended that the runway be extended 1 meter beyond the foul line for safety reasons.

The full length of the runway may be permanently marked with lines on or touching the edge that are not more than 2 centimeters wide and 5 centimeters long to indicate the distance from the foul line.

Sector

ARTICLE 3. Radial lines 5 centimeters wide shall be extended from the center of the circle of which the arc of the foul line is a part through the extremities of the arc. The inside edges of these lines shall mark the sector. The surface within the landing area shall be on the same level as the throwing surface. See Rule 1-1.1. Sector flags should mark the ends of the lines. See Figure 15.

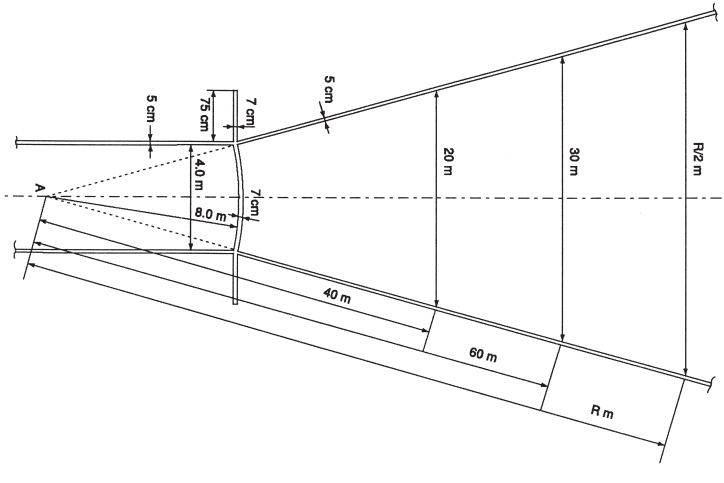


Figure 15—Javelin Throw Area (Not to Scale)

APPENDIX H

NCAA Standards for Soccer Field Construction

RULE 1

The Field of Play

1.1 Dimensions

1.1.1 The field of play shall be rectangular, the width of which shall not exceed the length.

1.1.2 The width shall not be more than 80 yards [73.15m] nor less than 65 yards [59.44m] and the length shall not be more than 120 yards [109.73m] nor less than 110 yards [100.58m]; however, fields of less than minimal dimensions may be used by prior written mutual consent of the competing institutions. The optimum size is 75 yards [68.58m] by 120 yards [109.73m].

New facilities shall be a minimum of 70 yards [64.01m] in width by 115 yards [105.15m] in length.

It is the responsibility of the home team to notify the visiting team, before the date of the game, of any changes in field dimensions (e.g., greater or lesser than minimal requirements), playing surface (e.g., from grass to artificial or vice versa) or location of the playing site. Further, it is recommended that teams agree on field dimensions before confirming contests or signing game contracts.

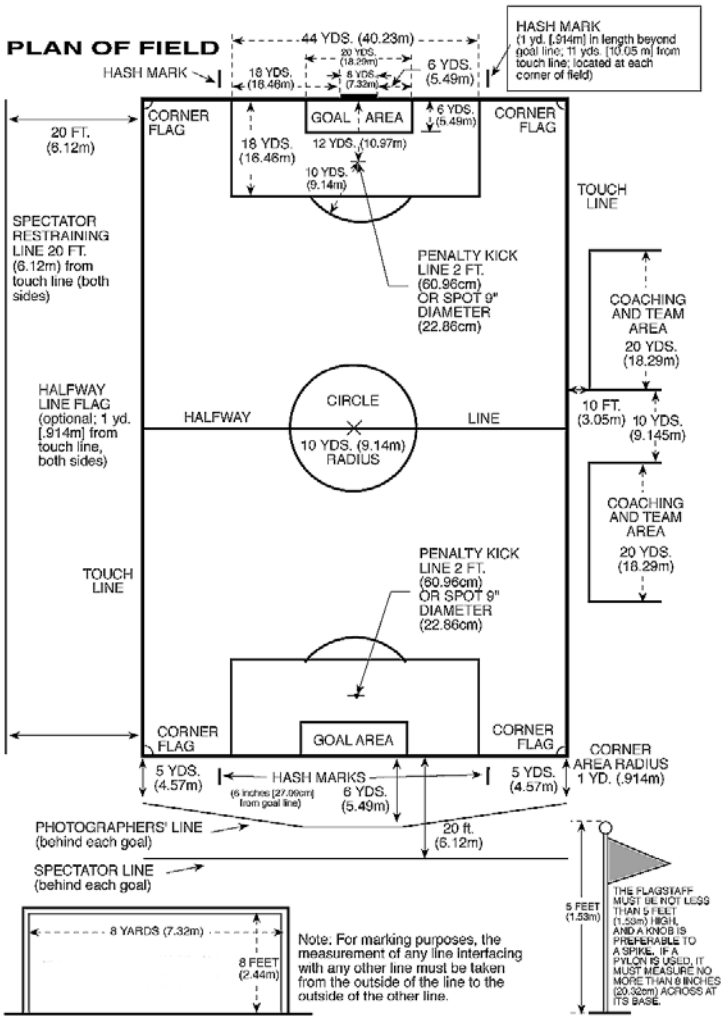
Note: Rule 1.1.2 is an administrative rule and may be altered by prior written mutual consent.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

A.R. 1.1.2. Is it legal to conduct a collegiate soccer game in an indoor facility?
RULING: Yes, provided the dimensions are in compliance with Rule 1.1.2 and an outdoor facility is not available.

1.2 Boundary Lines

The field shall be marked with distinctive lines, in accordance with the diagram on page 10, the longer boundary lines being called the touch lines and the shorter the goal lines. The home team is responsible for the proper marking of the field.


PLAN OF FIELD
44 YDS. (40.23m)
HASH MARK
(1 yd. [.914m] in length beyond goal line; 11 yds. [10.05 m] from touch line; located at each corner of field)
HASH MARK
18 YDS. (16.46m)
20 YDS. (18.29m)
8 YDS. (7.32m)
6 YDS. (5.49m)
CORNER FLAG
GOAL AREA
6 YDS. (5.49m)
CORNER FLAG
20 FT. (6.12m)
18 YDS. (16.46m)
12 YDS. (10.97m)
10 YDS. (9.14m)
TOUCH LINE
SPECTATOR RESTRAINING LINE 20 FT. (6.12m) from touch line (both sides)
PENALTY KICK LINE 2 FT. (60.96cm) OR SPOT 9" DIAMETER (22.86cm)
COACHING AND TEAM AREA
20 YDS. (18.29m)
HALFWAY LINE FLAG (optional; 1 yd. [.914m] from touch line, both sides)
CIRCLE
HALFWAY
LINE
10 YDS. (9.14m) RADIUS
10 FT. (3.05m)
10 YDS. (9.145m)
COACHING AND TEAM AREA
20 YDS. (18.29m)
TOUCH LINE
PENALTY KICK LINE 2 FT. (60.96cm) OR SPOT 9" DIAMETER (22.86cm)
CORNER FLAG
GOAL AREA
CORNER FLAG
CORNER AREA RADIUS 1 YD. (.914m)
5 YDS. (4.57m)
HASH MARKS
(6 inches [27.09cm] from goal line)
6 YDS. (5.49m)
5 YDS. (4.57m)
PHOTOGRAPHERS' LINE (behind each goal)
20 ft. (6.12m)
SPECTATOR LINE (behind each goal)
8 YARDS (7.32m)
8 FEET (2.44m)
Note: For marking purposes, the measurement of any line interfacing with any other line must be taken from the outside of the line to the outside of the other line.
5 FEET (1.53m)
THE FLAGSTAFF MUST BE NOT LESS THAN 5 FEET (1.53m) HIGH, AND A KNOB IS PREFERABLE TO A SPIKE. IF A PYLON IS USED, IT MUST MEASURE NO MORE THAN 8 INCHES (20.32cm) ACROSS AT ITS BASE.

The lines shall meet at the corners; that is, the goal lines shall extend completely across the field of play, including the area between the goal posts, and the touch lines shall extend the entire length of the field.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.3 Field Markings and Measurements

All lines, which are part of the areas they define, shall be the same width and measure not less than 4 inches [10.16cm] in width nor more than 5 inches [12.7cm] in width.

Measurements shall be taken from the outside of the line to the outside of the line with which it interfaces. However, when measuring the width of the goal and penalty areas, the measurements shall be taken from the inside of the goal post to the outside of the six- and 18-yard lines, respectively.

In the case of a field that is playable but on which, during the course of the game, the lines and markings have become invisible due to snow or other such conditions, the lines and markings shall be assumed to be present and decisions rendered accordingly.

All lines shall be clearly marked but may not be of a form (e.g., grooves, curbs or other items) that could prove dangerous to players. Further, during the regular season, painted logos or other noncommercial field markings are at the discretion of the host institution.

A.R. 1.3. May an institution place markings of a commercial nature on the field?
RULING: No.

1.4 Halfway Line, Center Circle

A halfway line shall be marked out across the field of play. The center of the field shall be indicated by a suitable mark, and a circle with a 10-yard [9.14m] radius shall be marked around it.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.5 Goal Area

At each end of the field of play, two lines shall be drawn at right angles to the goal line, 6 yards [5.49m] from the inside of each goal post. These shall extend into the field of play for a distance of 6 yards [5.49m] and shall

be joined by a line drawn parallel with the goal line. Each of the spaces enclosed by these lines and the goal line shall be called a goal area.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.6 Penalty Area

At each end of the field of play, two lines shall be drawn at right angles to the goal line, 18 yards [16.46m] from the inside of each goal post. These shall extend into the field of play for a distance of 18 yards [16.46m] and shall be joined by a line drawn parallel with the goal line. Each of the spaces enclosed by these lines and the goal line shall be called the penalty area.

At each end of the field, a 2-foot [60.96cm] line or 9-inch [22.86cm] spot shall be placed at a point 12 yards [10.97m] from the midpoint of, and parallel to, the goal line. The line shall extend 1 foot [30.48cm] on either side of the undrawn center line. The spot shall be situated at a point 12 yards [10.97m] from the midpoint of, and parallel to, the goal line. The spot shall extend 4½ inches on either side of the undrawn center line. The penalty kick may be taken from any position on this line or spot.

Using the center of this penalty-kick line or spot, describe a 10-yard [9.14m] arc outside the penalty area and closing on the penalty area line. This is the restraining line for penalty kicks.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.7 Corner Area, Hash Mark

From each corner, a quarter circle, having a radius of 1 yard [.914m], shall be drawn inside the field of play. In addition, a hash mark 1 yard [.914m] in length, situated 6 inches beyond (but not touching) the field of play and 11 yards [10.05m] from the touch line shall be marked perpendicular to the goal line at each corner of the field. (see Plan of Field, page 10)

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.8 Corner Flags

A flag on a post not less than 5 feet [1.53m] high and having a nonpointed top shall be placed at each corner; a similar flagpost may be placed opposite

the halfway line on each side of the field of play, at least 1 yard [.914m] outside the touch line.

The staff or post shall be approximately 1½ inches [3.81cm] thick and may be either round or square. The corner flag may not be removed for any purpose during the game. The flag shall be of some bright color, easily distinguishable from the surroundings, and shall be about 2 feet [60.96cm] long by 1 foot [30.48cm] wide and securely fastened to the post or staff.

The flagpost shall be implanted in the ground or shall rise from a pylon that measures not more than 8 inches [20.32cm] across at its base, providing the post itself rises directly above the center of the intersection of the touch line and goal line.

A.R. 1.8. Upon inspecting the field, the referee discovers the absence of corner flags on the corner flagposts. **RULING:** The home team shall obtain appropriate flags for the corner flagposts. If unsuccessful, the game shall begin and the referee shall file a report with the governing sports authority. (see page 8)

1.9 Goals

The goals shall be anchored, secured or counterweighted. The goal posts, which shall be superimposed on goal lines of the same width and depth, shall consist of two wooden or metal posts, equidistant from the corner flags and 8 yards [7.32m] apart (inside measurement), joined by a horizontal crossbar of similar material, the lower edge of which shall be 8 feet [2.44m] from the ground.

The width or diameter of the goal posts and crossbar shall not be less than 4 inches [10.16cm] nor more than 5 inches [12.7cm]. The posts and crossbar may be square, rectangular, round or elliptical in shape, and shall be painted white.

In addition, no markings other than a single manufacturer's identification/logo of appropriate size may appear on the goal posts or the crossbar.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

A.R. 1.9.a. The goal line is 4 inches wide and the depth of the goal post is 2 inches **RULING:** Illegal. The goal line and goal post shall be the same width and depth.

A.R. 1.9.b. Goal posts are 5 inches in depth and the goal line 4 inches in width. **RULING:** Illegal. The goal posts and goal line shall be the same dimensions.

1.10 Goal Nets

Nets shall be attached to the uprights and crossbars and secured behind each goal.

The goal nets shall be properly and firmly secured and put in order before every match, and care taken that there are no holes or possible openings for the escape of the ball. The nets shall be properly supported so that the top of the net will extend backward on a level with the crossbar for a distance of about 2 feet [.609m].

Nets may be multicolored; however, no markings other than a single manufacturer's identification/logo of appropriate size may appear on the net. Further, banners may not be hung from the goals or nets and the nets shall not be lettered, nor reflect school names, logos, slogans or any commercial design.

PENALTY—The game shall not begin and the referee shall file a report with the governing sports authority. (see page 8)

1.11 Displaced Crossbar, Goal Post

If any part of the goal becomes displaced during the game, play shall be suspended, and every effort shall be made to repair or replace the goal. If, in the referee's opinion, it cannot be repaired to its original condition within a reasonable period of time, the game shall be suspended. When the goal is repaired or replaced, the referee shall restart the game by dropping the ball where it was when play was suspended; or, if the ball was inside the goal area, it shall be dropped at the nearest point outside the goal area.

1.12 Coaching and Team Areas

1.12.1 There shall be a coaching and team area. Team benches shall be on the same side of the field, separated by a 10-yard neutral zone, and shall be at least 10 feet [3.05m] (whenever possible) from the touch line.

1.12.2 Each coaching and team area shall be marked parallel to the touch line and situated at least 10 feet [3.05m] from the touch line and extending 20 yards [18.29m] from the five-yard neutral zone measured from the halfway line in both directions.

Note: Rule 1.12.2 is an administrative rule and may be altered by prior written mutual consent.

PENALTY—The game shall begin but the coach shall be reminded that in the future, proper markings are to be provided, and the referee shall file a report with the governing sports authority. (see page 8)

1.12.3 A member of the coaching staff who is part of the official traveling party and is listed on the game roster, is permitted to view the game from the press box or other areas, provided a press box or other suitable area is available and there is no communication, in any way, with other bench personnel in the coaching and team areas. ***Exception:*** *Communication and/or contact is permitted during halftime, overtime intervals and/or any time the staff member returns to the coaching and team areas.*

1.13 Photographers' Line.

There shall be a designated photographers' area. (see Plan of Field, page 10)

Note: Rule 1.13 is an administrative rule and may be altered by prior written mutual consent.

1.14 Scorekeeper's/Timekeeper's Table

If not using a press box for timekeeping, it is recommended that the scorekeeper's/timekeeper's table be placed on the same side of the field as the team benches, situated equidistant between the two team benches and at least 10 feet [3.05m] (whenever possible) from the touch lines.

Note: Rule 1.14 is an administrative rule and may be altered by prior written mutual consent.

1.15 Spectator Restraining Line

It is recommended that a rope, fence or some form of demarcation be used to keep spectators a minimum of 20 feet [6.10m] (whenever possible) away from the touch lines and goal lines.

Note: Rule 1.15 is an administrative rule and may be altered by prior written mutual consent.

1.16 Scoreboard and Clock

It is recommended that an electronically controlled clock and scoreboard, which can be seen by spectators and both benches, be provided and maintained in proper working order. (see Rule 6.3)

Note: Rule 1.16 is an administrative rule and may be altered by prior written mutual consent.

1.17 Lighting

The field should be uniformly and adequately lighted. Lighting engineers should be placed in charge of this important factor when planning new installations. For information on recommended specifications for lighting, contact the Illuminating Engineering Society of North America, 120 Wall Street, 17th Floor, New York, New York 10005; telephone 212/248-5000.

According to the NCAA Broadcasting Manual, the target light of NCAA championships for television broadcasting should be a range of 125 to 150 maintained vertical foot candles. The minimum levels should read 125-foot candles.

1.18 Grading, Slope of Field

The rules of conduct in the NCAA Men's and Women's Soccer Rules do not specify, nor do they legislate matters pertaining to the slope or grading of playing facilities. The rules specify only maximum and minimum dimensions of fields constructed after September 1995. New field construction minimum dimensions are 115 yards (length) by 70 yards (width). The following guidelines appear to be generally accepted standards for new facilities: A field with no greater than a two percent slope at the declining edges of the touchlines, provided that the outer lines of demarcation do not abut with hazardous curbing or boundary materials, is considered preferable. Architectural engineers should be consulted with reference to the actual height references that pertain to grading percentages or broken back construction.