University of South Carolina

DRAWINGS FOR

OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION

H27-6096-MJ

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LOCATION MAP
SCALE: 1"=1000'

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CONTRACTOR SHALL CONTACT THE UNDERGROUND LOCATORS EVERY 10 DAYS FOR AN UPDATE TO UTILITY LOCATIONS.

NOTE:
INFORMATION REGARDING THE REPUTED PRESENCE, SIZE, CHARACTER AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES WAS OBTAINED FROM LOCAL UTILITY COMPANIES AND AVAILABLE DRAWINGS SUPPLIED BY THE OWNER AND IS SHOWN HEREON. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS DRAWING. HOWEVER, COX and DINKINS, INC. HAS NO NOTICE OR KNOWLEDGE OF ANY FACTS THAT WOULD LEAD US TO CONCLUDE THAT THE INFORMATION IS NOT ACCURATE. BUT UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED, THE OWNER, HIS EMPLOYEES, HIS CONSULTANTS, HIS ASSIGNS AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT COX and DINKINS, INC. IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THE UNDERGROUND INFORMATION. INFORMATION WITH RESPECT TO ABOVE GROUND MONUMENTS OF SUCH UTILITIES IS BASED UPON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS, AND IS SHOWN HEREON.

ZONING CERTIFICATION:

"I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THESE PLANS COMPLY WITH APPLICABLE ZONING ORDINANCES, AND THAT PLANS HAVE BEEN SUBMITTED TO APPROPRIATE AUTHORITY FOR THEIR REVIEW AND/OR APPROVAL."

ENGINEER — DATE: 1/13/14

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

CHECKED BY: MTA/DKH
ORIG. BY — DRAWN BY

DRAWN BY: DLH/MTA
DATE

REV.	DATE	DESCRIPTION

DRAWING: 1/13/2014

BUILDING: N/A

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: COVER AND INDEX SHEET

T1.0 OF 8

SHEET IN SET: N/A

LOCATION MAP
SCALE: 1"=2000'

LEGEND

- HATCH INDICATES EXISTING MILLED ASPHALT TO REMAIN IN PLACE
- SHADED LINE INDICATES UTILITY OR STORM DRAINAGE TO BE DEMOLISHED.
- DASHED LINE INDICATES SAW-CUT LINE.
- POWER POLE AND ASSOCIATED GUY WIRE(S) TO BE REMOVED.
- LIGHT POLE TO BE REMOVED.
- BOLLARD TO BE REMOVED. SEE D13.
- ELEC. BOX TO BE REMOVED.
- WATER VALVE TO BE REMOVED.
- STORM BOX TO BE REMOVED.
- HATCHED AREA INDICATES ASPHALT TO BE DEMOLISHED AND RECYCLED ON SITE. 44,000± SQ. FT./2" THICK

CODED DEMOLITION NOTES

- D1 EXISTING CONCRETE PAD TO BE CRUSHED IN PLACE. REMOVE PIPE BOLLARDS AND DISPOSE OF PROPERLY, SEE NOTES TO CONTRACTOR.
- D2 EXISTING MILLED ASPHALT TO REMAIN IN PLACE.
- D3 SHADED PORTION OF SANITARY SEWER MAIN AND MANHOLES SHALL BE REMOVED AND DISPOSED OF PROPERLY. PLUG REMAINING LINE.
- D4 SHADED PORTION OF WATER SYSTEM SHALL BE REMOVED AND DISPOSED OF PROPERLY. WATER MAINS LESS THAN 6" CAN BE ABANDONED IN PLACE. PLUG REMAINING LINE ACCORDING TO CITY SPECIFICATIONS. SEE NOTES TO CONTRACTOR. ANY PITS REMAINING SHALL BE FILLED WITH COMPACTED DIRT OR GRAVEL.
- D5 SHADED PORTION OF STORM DRAINAGE LINE AND STRUCTURES TO BE REMOVED AND DISPOSED OF PROPERLY. CONTRACTOR TO PLUG UNUSED INVERTS AT STRUCTURES THAT REMAIN.
- D6 EXISTING CRUSHED CONCRETE PAD TO REMAIN IN PLACE.
- D7 TRANSFORMER TO BE REMOVED AND DISPOSED OF PROPERLY. COORDINATE WITH UTILITY COMPANY AS NECESSARY.
- D8 THESE DRAINAGE INLETS ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. CONTRACTOR TO ASSUME 10" PVC PIPE TO BE DEMOLISHED AND REMOVED. (TYPICAL WHERE PIPE NOT SHOWN)
- D9 EXISTING ASPHALT THAT SHALL BE CRUSHED IN PLACE AND REMAIN TO ALLOW INFILTRATION. CRUSHING SHALL RESULT IN ASPHALT PARTICLES NO LARGER THAN 6" IN ANY DIRECTION.
- D10 THIS EXISTING DRAINAGE SYSTEM SHALL BE ABANDONED IN PLACE AND FILLED WITH 500 psi FLOWABLE FILL MEETING SCDOT STANDARDS. THE CALCULATED VOLUME OF FLOWABLE FILL TO COMPLETELY FILL THIS SYSTEM IS 600 CUBIC YARDS.
- D11 PLUG CATCH BASIN BY FORMING AND POURING A MINIMUM 6" THICK 3,500 PSI CONCRETE WALL OVER THE EXISTING 48" AND 60" DIAMETER PIPE OPENINGS. THE BASE OF THE PLUG SHALL BE DOWELED INTO THE EXISTING CATCH BASIN FLOOR AND SIDE WALLS WITH 1" DIAMETER STEEL DOWELS AT 8" O.C. DRILLED A MINIMUM OF 6" DEEP INTO THE EXISTING BASE AND SIDE WALLS AND PROTRUDING A MINIMUM OF 12" OUTWARD. THE WALL SHALL BE FORMED WITH A MESH OF STEEL REINFORCEMENT CONSISTING OF #4 BARS AT 8" ON CENTER TIED TO THE DOWELS WHERE POSSIBLE.
- D12 THIS PORTION OF THE DRAINAGE SYSTEM SHALL REMAIN FUNCTIONAL. SEE SWPPP PLANS FOR PIPE RE-ROUTE INFORMATION.
- D13 BOLLARDS ON THIS SITE HAVE BEEN FOUND TO CONTAIN LEAD PAINT. REMOVE AND HANDLE ALL CONTAMINATED BOLLARDS WITH CARE AND ACCORDING TO APPLICABLE REGULATIONS TO INSURE NO LEAD PAINT CAN CONTAMINATE ANYTHING.
- D14 IF OPERABLE, THE TWO FIRE HYDRANTS REMOVED ON THIS SITE SHALL BE STORED ON SITE FOR REUSE BY THE OWNER.

NOTES TO CONTRACTOR:

1) DEMOLISHED ASPHALT AND CONCRETE THAT REMAINS ON SITE TO BE USED AS FILL MATERIAL MUST BE CRUSHED TO BE NO BIGGER THAN 3" IN SIZE AND SHALL ONLY BE USED IN FILL AREAS A MINIMUM OF 30" BELOW FINISHED GRADE.
2) COORDINATE ALL WATER MAIN AND SANITARY SEWER MAIN DEMOLITION WITH THE UTILITY COMPANY AS NECESSARY, IF A VALVE MUST BE CUT IN WHERE THE LINE TO BE DEMOLISHED CONNECTS TO A LINE TO REMAIN, THEN DO SO ONLY AS DIRECTED BY CITY FORCES. TAP FEES IF NECESSARY SHALL BE PAID BY THE OWNER.
3) PLUGGING OF STORM BOXES SHALL BE DONE BY FORMING UP AND POURING CONCRETE OR BY INSTALLING BRICKS AND MORTAR. SEE CONSTRUCTION PHASE SWPPP AND UTILITY PLAN FOR MORE INFORMATION.

DEMOLITION/CLEARING NOTES:

1) THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS TO BE DEMOLISHED AND REMOVED FROM THE SITE. THE VERIFICATION PROCESS SHALL INCLUDE VISITING AND WALKING THE SITE. ALL ITEMS REQUIRING DEMOLITION/REMOVAL, WHETHER SHOWN ON THIS PLAN OR NOT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2) EXISTING TREES SHALL BE PROTECTED BY THE CONTRACTOR.
3) THERE SHALL BE NO BURNING ON SITE; UNLESS AUTHORIZED BY APPROPRIATE AUTHORITY.
4) UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN.
5) EROSION AND SEDIMENT CONTROL DEVICES MUST BE IN PLACE PRIOR TO DEMOLITION.
6) IF ANY HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE AGENCIES FOR PROPER REMOVAL AND DISPOSAL.
7) DEMOLITION SHALL MEET ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS.
8) ALL DEMOLISHED ITEMS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF OR AS DIRECTED BY THE OWNER. COORDINATE WITH OWNER FOR ANY SALVAGE ITEMS.

The Palmetto Utility Protection Service, Inc.
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CONTRACTOR SHALL CONTACT THE UNDERGROUND LOCATORS EVERY 10 DAYS FOR AN UPDATE TO UTILITY LOCATIONS.

NOTE:
INFORMATION REGARDING THE REPUTED PRESENCE, SIZE, CHARACTER AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES WAS OBTAINED FROM LOCAL UTILITY COMPANIES AND AVAILABLE DRAWINGS SUPPLIED BY THE OWNER AND IS SHOWN HEREON. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS DRAWING, HOWEVER, COX and DINKINS, INC. HAS NO NOTICE OR KNOWLEDGE OF ANY FACTS THAT WOULD LEAD US TO CONCLUDE THAT THE INFORMATION IS NOT ACCURATE. BUT UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED, THE OWNER, HIS EMPLOYEES, HIS CONSULTANTS, HIS ASSIGNS AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT COX and DINKINS, INC. IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THE UNDERGROUND INFORMATION. INFORMATION WITH RESPECT TO ABOVE GROUND MONUMENTS OF SUCH UTILITIES IS BASED UPON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS, AND IS SHOWN HEREON.

GRAPHIC SCALE IN FEET
SCALE: 1"=40'

REFERENCES:

1) PLAT PREPARED FOR UNIVERSITY OF SOUTH CAROLINA, BY COX AND DINKINS, INC., DATED JANUARY 14, 2009.
2) A PLAT OF BOUNDARY SURVEY AND TOPOGRAPHIC MAP OF RICHLAND COUNTY TAX PARCELS R11205-01-09A, R11205-01-05 & R11205-01-08. PREPARED FOR THE UNIVERSITY OF SOUTH CAROLINA, BY WILBUR SMITH ASSOCIATES, DATED NOVEMBER 26, 2008, REVISED DECEMBER 11, 2008.

NOTES:

1) THE LOCATIONS OF OTHER UNDERGROUND UTILITIES ARE UNKNOWN.
2) THE CONTOUR INTERVAL = ONE (1') FOOT.
4) ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
5) VERTICAL DATA SHOWN HEREON IS BASED ON PUBLISHED VALUES FOR RICHLAND COUNTY CONTROL MONUMENT RC979711AZ, HAVING A PUBLISHED ELEVATION OF 187.50, BASED ON NAVD 88 DATUM.

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C&D PROJECT# 1664

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: NORTH CAROLINA PROFESSIONAL SEAL No. 14690 REGISTERED PROFESSIONAL ENGINEER

SEAL: SOUTH CAROLINA COX AND DINKINS, INC. No. C0264 CERTIFICATE OF AUTHORIZATION

DATE	DESCRIPTION	REV.
1/13/2014		

DRAWN BY: DLH/MTA
CHECKED BY: MTA/DKH
DATE | ORIG. BY | DRAWN BY

DRAWING:
BUILDING: N/A

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: EXISTING CONDITIONS/ DEMO PLAN
C1.0 OF 8

SHEET IN SET: N/A

GRADING LEGEND

187.50	PROPOSED SPOT SHOT ELEVATION – FINISHED GRADE
190	PROPOSED INDEX CONTOUR
189	PROPOSED INTERMEDIATE CONTOUR
190	EXISTING INDEX CONTOUR
189	EXISTING INTERMEDIATE CONTOUR

GRAPHIC SCALE IN FEET
SCALE: 1"=40'
0 40 80 120 160

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C&D PROJECT# 1664

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: REGISTERED PROFESSIONAL ENGINEER No. 16850

SEAL: COX AND DINKINS, INC. No. C00204 CERTIFICATE OF AUTHORIZATION

DATE	DESCRIPTION	BY
1/13/2014		

DRAWN BY: DLH/MTA
CHECKED BY: MTA/DKH
ORIG. BY
DRAWN BY

DRAWING:
BUILDING: N/A
REV.:

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: GRADING PLAN

C2.0 OF 8

SHEET IN SET: N/A

LOCATION MAP
SCALE: 1"=2000'

EROSION CONTROL NOTES

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:
   - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH–DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE IN INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT–LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
8. ALL WATERS OF THE STATE (WoS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50–FOOT BUFFER CANNOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WoS. A 10–FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WoS.
9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
10. A COPY OF THE SWPPP, INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND–DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
12. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC).
15. THE FOLLOWING DISCHARGES FROM SITE ARE PROHIBITED:
   - WASTEWATER FROM THE WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
   - WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   - SOAPS AND SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
16. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF ONCE AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SCˈS WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
18. A PRE–CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON–SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON–LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON–SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.
19. THE CONTRACTOR SHALL MAINTAIN A RAIN GAUGE ON SITE AND MAINTAIN DAILY PRECIPITATION RECORDS IN THE SWPPP MANUAL PER SCDHEC REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE SWPPP INSPECTOR OF ALL RAINFALL EVENTS OF OVER 1" PRECIPITATION.
20. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN ISSUED BY GOVERNING AUTHORITIES.
21. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
22. THE EROSION CONTROL MEASURES INCLUDED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING CONTROL PRACTICES AS SHOWN ON THIS PLAN. IF SHOWN ON THESE PLANS, ENERGY– DISSIPATION DEVICES OR EROSION CONTROL AT THE OUTFALL OF THE STORM SEWER SYSTEM SHALL BE INSTALLED AT THE TIME OF THE CONSTRUCTION OF THE OUTFALL. STRUCTURAL PRACTICES SHALL BE USED TO CONTROL EROSION FROM ALL SITES REMAINING UNDISTURBED FOR MORE THAN 14 DAYS.
23. THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIAL, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL, IS REQUIRED. COMPLIANCE IS REQUIRED WITH ALL STATE OR LOCAL REGULATIONS REGARDING WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEMS.
24. ALL ON–SITE STORM DRAIN INLETS SHALL BE PROTECTED AGAINST SEDIMENTATION AS SHOWN ON THESE PLANS.
25. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.
26. DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL SEDIMENT BASINS AND OTHER EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR. AT COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, IF REQUIRED, WITH THE OWNER. MAINTENANCE SHALL BE IN ACCORDANCE WITH DHEC'S MANUAL, "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
27. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
28. EXISTING VEGETATION SHALL BE PROTECTED AS MUCH AS PRACTICAL.
29. IF SYNTHETIC OR PERMANENT VEGETATIVE MATTING IS USED, THE MANUFACTURER'S REPRESENTATIVE WILL APPROVE, IN WRITING, THE INSTALLATION OF THE MATERIAL. A LETTER WILL BE PROVIDED TO THE ENGINEER AND OWNER.
30. IF THE INSTALLATION OF THE STORM DRAINAGE SYSTEM IS INTERRUPTED BY WEATHER OR NIGHTFALL, PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
31. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
32. THE CONTRACTOR SHALL RESPREAD THE TOPSOIL ON SITE AS MUCH AS POSSIBLE PRIOR TO FINAL GRADING AND STABILIZATION.
33. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AT HIS EXPENSE TO REDUCE EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL CLEANUP AND REPAIR ON–SITE AND DOWNSTREAM DUE TO EROSION AND SILTATION.

NOTE TO CONTRACTOR REGARDING PHASED SWPPP.

THE INTENT OF THE PHASED SWPPP IS TO LIMIT THE AMOUNT OF EXPOSED SOIL DURING CONSTRUCTION TO PREVENT LOSS OF SEDIMENT. THE CONTRACTOR MUST REVIEW ALL PORTIONS OF THE SWPPP TO UNDERSTAND EACH PHASE AND THE PURPOSE OF THE PHASING. THERE WILL BE INFORMATION CONTAINED IN THE CONSTRUCTION PHASE SWPPP AND DETAILS THAT WILL BE NEEDED AS YOU TRANSITION FROM INITIAL PHASE TO CONSTRUCTION PHASE. CONSULT ALL PLAN SHEETS AND DETAILS TO DETERMINE THE BEST COURSE OF ACTION WHILE KEEPING TO THE OVERALL INTENT OF THESE PHASED SWPPPS. IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR HAVE THE PROJECT ENGINEER OR SWPPP INSPECTOR PERFORM AN INSPECTION TO VERIFY THAT ALL ELEMENTS OF THE INITIAL SWPPP ARE INSTALLED PROPERLY PRIOR TO MOVING FORWARD WITH THE CONSTRUCTION PHASE SWPPP.

INITIAL LAND DISTURBANCE CONSTRUCTION SEQUENCE:

1. RECEIVE PERMIT COVERAGE FROM SCDHEC AND CITY OF COLUMBIA.
2. NOTIFY THE CITY OF COLUMBIA 48 HOURS PRIOR TO BEGINNING LAND–DISTURBING ACTIVITIES.
3. INSTALLATION OF CONSTRUCTION ENTRANCE(S).
4. INSTALLATION OF PERIMETER CONTROLS. (E.G., SILT FENCE).
5. PROCEED TO CONSTRUCTION PHASE SWPPP.

NOTE: CONSTRUCTION SEQUENCE ABOVE IS NOT A CONTRACTUAL SEQUENCE.

The Palmetto Utility Protection Service, Inc.
101 Dreck Square Blvd, Suite 101 Columbia, South Carolina 29210 (803) 934-1117

South Carolina 811 — Call 811 Before you Dig

3 DAYS BEFORE DIGGING IN SOUTH CAROLINA

CALL 811

CONTRACTOR SHALL CONTACT THE UNDERGROUND LOCATORS EVERY 10 DAYS FOR AN UPDATE TO UTILITY LOCATIONS.

NOTE:
INFORMATION REGARDING THE REPUTED PRESENCE, SIZE, CHARACTER AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES WAS OBTAINED FROM LOCAL UTILITY COMPANIES AND AVAILABLE DRAWINGS SUPPLIED BY THE OWNER AND IS SHOWN HEREON. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS DRAWING, HOWEVER, COX and DINKINS, INC. HAS NO NOTICE OR KNOWLEDGE OF ANY FACTS THAT WOULD LEAD US TO CONCLUDE THAT THE INFORMATION IS NOT ACCURATE. BUT UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. THE OWNER, HIS EMPLOYEES, HIS CONSULTANTS, HIS ASSIGNS AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT COX and DINKINS, INC. IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THE UNDERGROUND INFORMATION. INFORMATION WITH RESPECT TO ABOVE GROUND MONUMENTS OF SUCH UTILITIES IS BASED UPON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS, AND IS SHOWN HEREON.

NOTE:
IT IS CONTRACTORS RESPONSIBILITY TO VERIFY THAT THEY AND THEIR SUBCONTRACTORS HAVE THE CORRECT/MOST UP–TO–DATE PLANS AVAILABLE.

0 40 80 120 160
GRAPHIC SCALE IN FEET
SCALE 1"=40'

LAND DISTURBANCE AREA:

TOTAL AREA = 13.8 ac ±

REFERENCES:

1) PLAT PREPARED FOR UNIVERSITY OF SOUTH CAROLINA, BY COX AND DINKINS, INC., DATED JANUARY 14, 2009.
2) A PLAT OF BOUNDARY SURVEY AND TOPOGRAPHIC MAP OF RICHLAND COUNTY TAX PARCELS R11205–01–09A, R11205–01–05 & R11205–01–06, PREPARED FOR THE UNIVERSITY OF SOUTH CAROLINA, BY WILBUR SMITH ASSOCIATES, DATED NOVEMBER 26, 2008, REVISED DECEMBER 11, 2008.

NOTES:

1) THE LOCATIONS OF OTHER UNDERGROUND UTILITIES ARE UNKNOWN.
2) THE CONTOUR INTERVAL = ONE (1') FOOT.
4) ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
5) VERTICAL DATA SHOWN HEREON IS BASED ON PUBLISHED VALUES FOR RICHLAND COUNTY CONTROL MONUMENT RC979711AZ, HAVING A PUBLISHED ELEVATION OF 187.50, BASED ON NAVD 88 DATUM.

COX AND DINKINS
ENGINEERS - SURVEYORS
COX AND DINKINS, INC.
724 BELTLINE BLVD.
COLUMBIA, SC 29205
803-254-0518
Fax: 803-765-0993
Email: cdinc@coxanddinkins.com
C&D PROJECT# 1664

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 14890 REGISTERED PROFESSIONAL ENGINEER

SEAL: SOUTH CAROLINA COX AND DINKINS, INC. No. C00294 CERTIFICATE OF AUTHORIZATION

DATE:	DESCRIPTION	REV.
1/13/2014		

DRAWN BY: DLH/MTA | DATE | CHECKED BY: MTA/DKH | DRAWN BY | ORIG. BY | BUILDING: N/A

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27–6096–MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: PHASE I INITIAL SWPPP

C3.1 OF 8

SHEET IN SET: N/A

LOCATION MAP
SCALE: 1"=2000'

EROSION CONTROL NOTES

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:
   - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH–DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE IN INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT–LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
8. ALL WATERS OF THE STATE (WoS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50–FOOT BUFFER CANNOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WoS. A 10–FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WoS.
9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
10. A COPY OF THE SWPPP, INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND–DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
12. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC).
15. THE FOLLOWING DISCHARGES FROM SITE ARE PROHIBITED:
   - WASTEWATER FROM THE WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
   - WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   - SOAPS AND SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
16. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF ONCE AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
18. A PRE–CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON–SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON–LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON–SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.
19. THE CONTRACTOR SHALL MAINTAIN A RAIN GAUGE ON SITE AND MAINTAIN DAILY PRECIPITATION RECORDS IN THE SWPPP MANUAL PER SCDHEC REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE SWPPP INSPECTOR OF ALL RAINFALL EVENTS OF OVER 2" PRECIPITATION.
20. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN ISSUED BY GOVERNING AUTHORITIES.
21. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
22. THE EROSION CONTROL MEASURES INCLUDED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING CONTROL PRACTICES AS SHOWN ON THIS PLAN. IF SHOWN ON THESE PLANS, ENERGY– DISSIPATION DEVICES OR EROSION CONTROL AT THE OUTFALL OF THE STORM SEWER SYSTEM SHALL BE INSTALLED AT THE TIME OF THE CONSTRUCTION OF THE OUTFALL. STRUCTURAL PRACTICES SHALL BE USED TO CONTROL EROSION FROM ALL SITES REMAINING UNDISTURBED FOR MORE THAN 14 DAYS.
23. THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIAL, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL IS REQUIRED. COMPLIANCE IS REQUIRED WITH ALL STATE OR LOCAL REGULATIONS REGARDING WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEMS.
24. ALL ON–SITE STORM DRAIN INLETS SHALL BE PROTECTED AGAINST SEDIMENTATION AS SHOWN ON THESE PLANS.
25. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.
26. DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL SEDIMENT BASINS AND OTHER EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR. AT COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, IF REQUIRED, WITH THE OWNER. MAINTENANCE SHALL BE IN ACCORDANCE WITH DHEC'S MANUAL, "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
27. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
28. EXISTING VEGETATION SHALL BE PROTECTED AS MUCH AS PRACTICAL.
29. IF SYNTHETIC OR PERMANENT VEGETATIVE MATTING IS USED, THE MANUFACTURER'S REPRESENTATIVE WILL APPROVE, IN WRITING, THE INSTALLATION OF THE MATERIAL. A LETTER WILL BE PROVIDED TO THE ENGINEER AND OWNER.
30. IF THE INSTALLATION OF THE STORM DRAINAGE SYSTEM IS INTERRUPTED BY WEATHER OR NIGHTFALL, PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
31. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
32. THE CONTRACTOR SHALL RESPREAD THE TOPSOIL ON SITE AS MUCH AS POSSIBLE PRIOR TO FINAL GRADING AND STABILIZATION.
33. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AT HIS EXPENSE TO REDUCE EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL CLEANUP AND REPAIR ON–SITE AND DOWNSTREAM DUE TO EROSION AND SILTATION.

THE GRADING IN THIS AREA IS TO END AT THE EXISTING PAVEMENT EDGE. LANDSCAPING NEAR THAT EDGE SHALL NOT BE DISTURBED.
LIMITS OF DISTURBANCE (TYPICAL)
BANK GRADES SHOWN ARE 2' TO 1' SLOPE
"SUBGRADE LINE" WHERE SAND BASED FIELD WILL BE INSTALLED IS THE FENCE LINE. SEE FIELD LAYOUT AND FIELD GRADING PLANS FOR MORE INFORMATION.
THIS LINE AND ACCOMPANYING GRADE OF 186.05 REPRESENTS A LOW SPOT IN THE MIDDLE OF THIS AREA TO WHICH ALL SURROUNDING AREAS WITHIN THE BUILDING FOOTPRINT WILL DRAIN WITH A MINIMUM SLOPE OF 0.50%.
TO FACILITATE SEDIMENT CONTROLS BEYOND THE BMP'S SHOWN ON THIS PLAN, CONTRACTOR SHALL INSTALL TEMPORARY SWALES AND BERMS AS NEEDED TO INSURE RUNOFF IS DIRECTED TOWARD A PROTECTED INLET TO THE MAXIMUM EXTENT PRACTICAL. IT IS CRITICAL THAT LARGE AREA OF UN–GRASSED SOIL NOT BE ALLOWED TO FLOW FREELY INTO UNPROTECTED AREAS. UNPROTECTED AREAS ARE THOSE THAT DO NOT HAVE INLET PROTECTIONS OR SILT FENCES TO CONTROL SEDIMENTS.
CITY FILE NO. 325-24
EXISTING WATER SYSTEM
EXISTING DUMPSTER
ASPHALT
Existing 8\ Water Main. As-Built water plan prepared for S.C. Department of Agriculture, by Cox and Dinkins, inc., dated September 6, 1989, revised December 11, 1990.
Drop Inlet Grate=185.60 Inv.(in)=180.54 Inv.(out)=180.34
OVERHEAD ELECTRIC LINE
Sewer Manhole Rim=188.70 Inv.(in)=183.23 Inv.(out)=182.55
Junction Box Top=188.50 Inv.(in)=180.41 Inv.(out)=180.36
Junction Box Top=189.10 Inv.(in)=180.41 Inv.(out)=180.36
Sewer Manhole Rim=187.90 Inv.(in)=179.27 Inv.(out)=179.24
Inv=183.55 Well Site
Catch Basin Grate=184.00 Inv=180.00
Drop Inlet Grate=178.40 Inv.(in)=175.26 Inv.(out)=170.06
Drop Inlet Grate=178.78 Inv.(in)=176.78 Inv.(out)=176.78
Drop Inlet Grate=178.78 Inv.(in)=176.78 Inv.(out)=176.78
Drop Inlet Grate=178.78 Inv.(in)=176.78 Inv.(out)=176.78
Inv=167.81 Sewer Manhole Rim=181.55 Inv=166.85
Junction Box Top=188.50 Inv.(in)=180.11 Inv.(out)=180.11

LOCATION MAP
SCALE: 1"=2000'

EROSION CONTROL NOTES

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   - WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   - SOAPS AND SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
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21. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
22. THE EROSION CONTROL MEASURES INCLUDED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING CONTROL PRACTICES AS SHOWN ON THIS PLAN. IF SHOWN ON THESE PLANS, ENERGY– DISSIPATION DEVICES OR EROSION CONTROL AT THE OUTFALL OF THE STORM SEWER SYSTEM SHALL BE INSTALLED AT THE TIME OF THE CONSTRUCTION OF THE OUTFALL. STRUCTURAL PRACTICES SHALL BE USED TO CONTROL EROSION FROM ALL SITES REMAINING UNDISTURBED FOR MORE THAN 14 DAYS.
23. THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIAL, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL IS REQUIRED. COMPLIANCE IS REQUIRED WITH ALL STATE OR LOCAL REGULATIONS REGARDING WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEMS.
24. ALL ON–SITE STORM DRAIN INLETS SHALL BE PROTECTED AGAINST SEDIMENTATION AS SHOWN ON THESE PLANS.
25. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.
26. DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL SEDIMENT BASINS AND OTHER EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR. AT COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, IF REQUIRED, WITH THE OWNER. MAINTENANCE SHALL BE IN ACCORDANCE WITH DHEC'S MANUAL, "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
27. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH "SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES".
28. EXISTING VEGETATION SHALL BE PROTECTED AS MUCH AS PRACTICAL.
29. IF SYNTHETIC OR PERMANENT VEGETATIVE MATTING IS USED, THE MANUFACTURER'S REPRESENTATIVE WILL APPROVE, IN WRITING, THE INSTALLATION OF THE MATERIAL. A LETTER WILL BE PROVIDED TO THE ENGINEER AND OWNER.
30. IF THE INSTALLATION OF THE STORM DRAINAGE SYSTEM IS INTERRUPTED BY WEATHER OR NIGHTFALL, PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
31. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
32. THE CONTRACTOR SHALL RESPREAD THE TOPSOIL ON SITE AS MUCH AS POSSIBLE PRIOR TO FINAL GRADING AND STABILIZATION.
33. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AT HIS EXPENSE TO REDUCE EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL CLEANUP AND REPAIR ON–SITE AND DOWNSTREAM DUE TO EROSION AND SILTATION.

NOTE:
GRASSING SHALL OCCUR IN AREAS OUTSIDE THE FIELD TO ACHIEVE FINAL STABILIZATION. GRASS SHALL BE AS INDICATED SPECIFICATION 329200.
LIMITS OF DISTURBANCE (TYPICAL)
NOTE:
SEE FIELD PLANS FOR GRASSING IN THIS AREA
NOTE:
GRASSING SHALL OCCUR IN ALL AREAS OUTSIDE THE FIELD TO ACHIEVE FINAL STABILIZATION. GRASS SHALL BE AS INDICATED SPECIFICATION 329200.
NOTE:
GRASSING SHALL OCCUR IN THIS AREA TO ACHIEVE FINAL STABILIZATION. GRASS SHALL BE AS INDICATED SPECIFICATION 329200.
EXISTING DUMPSTER
SIGN
Water Service Line
6" Sewer Service
City of Columbia Water Easement
RV Pump-out station
6" Sewer Service
8"PVC
Inv=1
Sewer
R
Existing 8" Water Main As-water plan prepared for S.C. and Dinkins, Inc., dated Jan 1989, revised December 11,
Drop Inlet Grate=184.30 Inv.(in)=176.98 Inv.(out)=176.78
Drop Inlet Grate=185.60 Inv.(in)=180.54 Inv.(out)=180.34
Junction Box Top=185.20 Inv.(out)=180.11
Junction Box Top=189.10 Inv.(in)=180.41 Inv.(out)=180.36
Sewer Manhole Rim=188.70 Inv.(in)=179.04 Inv.(out)=178.99
Junction Box Top=188.50 Inv.(out)=178.53
CB Grate=188.30 Inv.(in)=183.22 Inv.(out)=182.96
Inv=180.03
Inv=180.11
24"RCP
18"RCP
8" Water Main City File #325-24
85° of 8" D.I.P. Bend to Tee
8" Valve
8" Bend
8" Tee
8" Cap
90° of 8" D.I.P. Valve-to-Plug
8" Tee
8" Valve on 3" of 8" D.I.P.
8" Tee
8" Valve
8" Valve
8" Valve

VALVE BOX PROTECTOR RING DETAIL

NOTES:
1. SCREW TYPE VALVE BOX MAY BE USED AS ALTERNATE.
2. GATE VALVES 24" AND LARGER MUST BE MECHANICAL JOINT AND EQUIPPED WITH BY-PASS VALVES.

GATE VALVE BOX DETAIL

NTS

THE PIPE IS TO BE BEDDED IN COMPACTED 6" LAYERS TO THE SPRING LINE FIRST, THEN BACKFILLED WITH HAND PLACED MATERIAL COMPACTED IN 6" LAYERS TO A DEPTH OF 12" MINIMUM ABOVE THE PIPE.

PVC PIPE BEDDING AND BACKFILLING DETAIL

NTS

INSIDE WALL DIMENSIONS 24"x36"

PLAN

NOTE:
CATCH BASINS 4 1/2' DEEP OR GREATER SHALL HAVE METAL RUNGS FOR DESCENT AND ASCENT.

SECTION A–A

GRATE AND FRAME CATCH BASIN DETAIL

WHEN MANHOLE IS IN A TRAVELED WAY, THE TOP OF THE LID SHALL BE FLUSH WITH THE FINAL SURFACE, AND BACKFILL SHALL BE GRANULAR TO SURFACE. IN ALL OTHER AREAS, THE TOP OF THE FRAME SHALL BE ONE FOOT ABOVE THE SURROUNDING GRADE, SLOPING AWAY FROM THE MANHOLE FOR A DISTANCE OF 6'-0" IN ALL DIRECTIONS.

STANDARD MANHOLE FRAME TO BE NEENAH R-1772CVH OR EQUAL SET IN BITUMASTIC SEALANT. LID TO BE TYPE "A" WITH CONCEALED PICKHOLE. ALL CASTINGS TO BE COATED WITH BITUMINOUS PAINT.

WHERE POSSIBLE, PIPE TO BE LAID THROUGH THE MANHOLE WITH THE UPPER PORTION REMOVED AS DIRECTED BY THE ENGINEER. WHEN CHANGES IN DIRECTION, GRADE, OR ELEVATION DO NOT PERMIT CARRYING A PIPE THROUGH A MANHOLE, THE FILLET SHALL BE FORMED TO PERMIT A SMOOTH TRANSITION OF FLOW.

NOTE:
PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478.

PRECAST CONCRETE BASE TO BE INTEGRAL WITH PRECAST RISER SECTION. CAST-IN-PLACE OR SEPARATE PRECAST FLAT BASES MAY BE USED ONLY WITH THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

#4 REINFORCING RODS 12" O.C. BOTH WAYS.

JUNCTION BOX DETAIL

NTS

NOTE:
BRICK PRECAST OR CAST IN PLACE MAY BE AN OPTION USED BY THE CONTRACTOR. VERIFY WITH CIVIL ENGINEER PRIOR TO INSTALLATION

BEDDING DETAILS

NOTE:
MIN. DEPTH OF BEDDING TO BE ONE FOURTH PIPE DIAMETER BUT IN NO CASE LESS THAN 4".

NOTE:
LOCAL SANDY BEDDING MATERIAL TO BE USED WHERE UNSUITABLE OR UNUSABLE DITCH BOTTOMS ARE ENCOUNTERED.

COX AND DINKINS
ENGINEERS - SURVEYORS
COX AND DINKINS, INC.
724 BELTLINE BLVD.
COLUMBIA, SC 29205
803-254-0518
Fax: 803-765-0993
Email: cdinc@coxanddinkins.com
C&D PROJECT# 1664

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

CONCRETE BLOCKING DIMENSIONS						
PIPE SIZE	X	A	B	C	MBA * 2 (SQ. FT.)	*1
(■ DENOTES BRANCH SIZE)			TEES			
■ 6"		2'-0"	2'-0"	1'-4"	2.7	0.13
■ 8"		2'-0"	2'-6"	1'-10"	4.6	0.20
■ 10"		2'-6"	3'-6"	2'-0"	7.0	0.39
■ 12"		2'-6"	4'-6"	2'-3"	10.1	0.54
■ 16"		3'-0"	6'-0"	2'-10"	17.0	1.08
■ 18"		3'-0"	7'-0"	3'-0"	21.0	1.33
■ 24"		4'-0"	10'-0"	3'-9"	37.5	3.17
■ 30"		5'-0"	12'-0"	4'-10"	58.0	5.96
90° BENDS						
6"		2'-0"	2'-0"	1'-3"	3.4	0.16
8"		2'-0"	3'-3"	2'-0"	6.5	0.28
10"		2'-6"	4'-0"	2'-6"	10.0	0.53
12"		2'-6"	5'-0"	2'-9"	13.8	0.73
16"		3'-0"	6'-0"	4'-0"	24.0	1.50
18"		3'-0"	7'-4"	4'-0"	29.3	1.85
24"		4'-6"	12'-0"	4'-5"	53.0	4.94
30"		6'-0"	14'-0"	5'-10"	81.7	9.97
45° BENDS						
6"		2'-0"	2'-0"	1'-0"	2.0	0.11
8"		2'-0"	2'-6"	1'-5"	3.5	0.17
10"		2'-6"	3'-6"	1'-6"	5.2	0.29
12"		2'-6"	4'-6"	1'-8"	7.5	0.40
16"		3'-0"	6'-0"	2'-2"	13.0	0.80
18"		3'-0"	6'-4"	2'-8"	15.8	1.10
24"		3'-0"	9'-9"	4'-3"	28.7	1.75
30"		3'-6"	9'-3"	4'-9"	43.9	3.22
22-1/2° BENDS						
6"		2'-0"	1'-0"	1'-0"	1.0	0.08
8"		2'-0"	1'-3"	1'-0"	1.7	0.11
10"		2'-6"	2'-3"	1'-3"	2.8	0.19
12"		2'-6"	2'-5"	1'-6"	3.7	0.24
16"		3'-0"	3'-0"	2'-3"	6.5	0.48
18"		3'-0"	3'-4"	2'-6"	8.3	0.68
24"		3'-0"	4'-6"	3'-5"	15.4	1.04
30"		3'-6"	5'-0"	4'-6"	22.5	1.93
11-1/4° BENDS						
6"		2'-0"	1'-0"	0'-6"	0.5	0.06
8"		2'-0"	1'-3"	0'-9"	0.9	0.08
10"		2'-6"	1'-6"	1'-0"	1.5	0.14
12"		2'-6"	2'-0"	1'-0"	2.0	0.17
16"		3'-0"	2'-6"	1'-4"	3.3	0.30
18"		3'-0"	2'-9"	1'-6"	4.1	0.38
24"		3'-0"	3'-3"	2'-3"	7.3	0.65
30"		3'-6"	3'-9"	3'-0"	11.2	1.22

*1 – ESTIMATED C.Y. CONCRETE FOR TEES AND BENDS.
*2 – MINIMUM BEARING AREA (MBA) IS BASED ON SOIL BEARING CAPACITY OF 2000 PSF.

SIDE VIEW – HORIZONTAL BEND
PLAN VIEW – VERTICAL BEND

BENDS
HORIZONTAL BLOCKING DETAIL

BENDS
VERTICAL BLOCKING DETAIL

THRUST BLOCK DETAILS

NTS

TRENCH SIDE SLOPES TO PROVIDE SAFE WORKING ENVIRONMENT. SIDE SLOPES SHALL MEET MINIMUM SAFETY REQUIREMENTS ESTABISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.) AND COE SAFETY MANUAL

NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE CONTRACTOR'S ON SITE TESTING REPRESENTATIVE AND REPLACE WITH SUITABLE MATERIAL, AS AN ALTERNATIVE, AND IN THE DISCRETION OF THE CONTRACTOR'S ON SITE TESTING REPRESENTATIVE, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4"-24".
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE TOP OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED DURING CONSTRUCTION TO ACCOMMODATE CONSTRUCTION EQUIPMENT LOADING.

MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" – 48"	12"	46"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

HDPE PIPE BEDDING DETAIL

N.T.S.

TRENCH DETAIL

NTS

PLAN VIEW

ELEVATION VIEW

METER BOX DIMENSIONS

METER SIZE	4"	6"	8"	10"
A	84"	96"	104"	120"
B	48"	59"	59"	80"
C	12"	12"	18"	18"
D	6"	6"	8"	8"

1. METER BOXES FOR METERS 4" AND ABOVE SHALL BE SITE CONSTRUCTED OF THE MATERIALS AND TO THE DIMENSIONS SPECIFIED HEREIN.
2. METER BOXES CONSTRUCTED WITHIN THE TRAVEL WAY MUST WITHSTAND HEAVY SUPERIMPOSES LOADS. EACH MUST BE DESIGNED TO MEET THE REQUIREMENTS OF THE INDIVIDUAL ENVIRONMENT IN WHICH IT IS TO BE USED. DETAILS/SHOP DRAWINGS AND DESIGN CALCULATIONS MUST BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION OF THE METER.
3. METER BOXES SHALL BE PROVIDED WITH A COVER FABRICATED FROM ONE FOURTH (¼") INCH THICK FLOOR PLATE STEEL WITH A NON-SKID SURFACE PRIMED AND PAINTED TO COVER THE ENTIRE BOX. THE COVER MUST HAVE A HINGED 24" X 24" INSPECTION LID IN THE CENTER OF THE COVER WITH LIFT HANDLES FOR MANIPULATING THE LID. COVER HANDLES AND HINGES MUST LAY FLAT AND BELOW THE SURFACE OF THE COVER.
4. THE BOX COVER SHALL BE FLUSH WITH THE SURROUNDING GROUND SURFACE AND SHALL HAVE ONE AND A HALF (1 ½") INCH GUIDES ALONG ADJACENT SIDES TO PREVENT LATERAL MOVEMENT.
5. THE BOX SHALL BE CONSTRUCTED OF STANDARD BRICK, OR CONCRETE BLOCK USING PORTLAND CEMENT MORTAR IN A STANDARD MIXTURE OR BY USING PRECAST CONCRETE.
6. SIX (6") INCHES OF #8 CRUSHED STONE SHALL BE PLACED IN THE BOTTOM OF EACH BOX. SEE "C" FOR PROPER CLEARANCE BETWEEN THE TOP OF THE STONE AND THE BOTTOM OF THE PIPE.
7. DUCTILE IRON PIPE MUST RUN COMPLETELY THROUGH THE METER BOX.
8. VALVE AND BOX SHALL BE INSTALLED BETWEEN METER BOX AND SOURCE WATER MAIN.
9. ALL METER BOXES SHALL HAVE THE DIMENSIONS SHOWN BY THE ABOVE TABLE.
10. METER BOXES FOR METERS TEN (10") INCHES AND ABOVE SHALL BE APPROVED BY THE CITY ENGINEERING DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION.
11. INSTALLATION OF FIRE METERS SHALL BE BY A CITY APPROVED CONTRACTOR.
12. TOUCH PADS TO BE INSTALLED BY THE APPROVED CONTRACTOR.
13. NO UNIFLANGES ARE ALLOWED.
14. WHERE POSSIBLE ALL METER BOXES ARE TO BE LOCATED OUTSIDE PAVED AREAS. SHOULD THE METER BOXES HAVE TO BE LOCATED IN PAVED AREAS OR SIDEWALKS, THE CONTRACTOR SHALL USE A TRAFFIC RATED SLAB AND A 4'X4' ALUMINUM HATCH RATED H20 LOADING.
15. ALL PIPING ARE TO BE DISINFECTED WITH CHLORINE IN ACCORDANCE WITH AWWA STANDARDS.
16. A LIEN WAVER MUST BE PROVIDED TO THE CITY PRIOR TO ANY METER BEING INSTALLED.

TYPICAL METER BOX FOR METERS 3" AND ABOVE

NTS

LINE A

DATE:	DESCRIPTION	BUILDING: N/A	DRAWING:	PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION STATE PROJECT #H27-6096-MJ LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC
1/13/2014		REV:		
	1 REVISED STORM DRAINAGE LAYOUT; ADD STORM DRAINAGE PROFILE			

DRAWN BY: DLH/MTA DATE: 10/15/2013
CHECKED BY: MTA/DKH DRAWN BY: ORIG. BY:

SEAL: VIRGINIA MICHAEL TOMPKINS PROFESSIONAL ENGINEER No. 14690 COMMONWEALTH OF VIRGINIA
SEAL: STATE OF SOUTH CAROLINA NOTICE OF CERTIFICATE OF AUTHORIZATION COX AND DINKINS, INC. No. C00294

University of South Carolina

SHEET: DETAILS
C4.0 OF 8
SHEET IN SET: N/A

CATCH BASIN SEDIMENT FILTER

*OR APPROVED EQUAL
NTS

MAINTENANCE:
Inspect every 7 calendar days and within 24-hours after each rainfall event that produces ½ inches or more of precipitation. Any repairs should be handled immediately. Inspect after installation to insure that no gaps exist that may permit sediment to enter the storm drainage system. Remove and/or replace rigid inlet filters to adapt to changing construction site conditions. Clean the rigid inlet protection filter material when it becomes covered or clogged with deposited sediment. Replace the rigid inlet protection filter material as directed by the Engineer.

GRATE & FRAME BLOCK & GRAVEL OPTION

GRATE & FRAME BLOCK & SEDIMENT TUBE OPTION

MAINTENANCE:
Inspect every 7 calendar days and within 24-hours after each rainfall event that produces ½ inches or more of precipitation. Remove sediment when it reaches ½ the height of the blocks or sediment tube. If a sump is used, remove sediment when it fills ½ the depth of the hole. If the stone becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet. Remove inlet protection structures after the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

DROP INLET SEDIMENT FILTER DETAIL

NTS

PLAN VIEW

SECTION A-A

GENERAL NOTES:

1. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.
2. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH STORM EVENT BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT AND REPAIRS MADE AS NECESSARY.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE BASIN HAS BEEN PROPERLY STABILIZED.
6. SEE SILT FENCE DETAIL FOR SILT FENCE INSTALLATION.

SILT-BOX INLET PROTECTION DETAIL

NTS

SILT FENCE INSTALLATION

FLAT-BOTTOM TRENCH DETAIL

V-SHAPED TRENCH DETAIL

South Carolina Department of Health and Environmental Control

SILT FENCE

STANDARD DRAWING NO. SC-03 Page 1 of 2

APPROVED BY: _____ SIGNED _____ AUGUST, 2005 DATE

INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.

DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.

South Carolina Department of Health and Environmental Control

STABILIZED CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 Page 1 of 2

APPROVED BY: _____ SIGNED _____ AUGUST, 2005 DATE

SEEDING SCHEDULE

FROM MAY 1 – AUGUST 31

- 1 pound Browntopmillet
- 2 pounds Hulled Bermuda
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

or

- 1 pound Browntopmillet
- 1 pound Hulled Bermuda
- *2 pounds Bahia Grass
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

or

(Deep Sandy Soils)

- 2 pounds Browntopmillet
- *3 pounds Bahia Grass
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

FROM SEPTEMBER 1 – APRIL 30

- 2 pounds Annual Rye Grass
- 0.5 pound Hulled Bermuda
- 1.5 pounds Unhulled Bermuda
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

or

- 2 pounds Annual Rye Grass
- 0.5 pound Hulled Bermuda
- 1 pound Unhulled Bermuda
- *2 pounds Bahia Grass
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

or

(Deep Sandy Soils)

- 1 pound Annual Rye Grass
- **3 pounds Fescue Grass
- 25 pounds 10–10–10 Fertilizer
- 75 pounds Limestone

* Bahia Grass is a good erosion control grass; however, it produces many seed heads which scatter to other areas. Bahia Grass is hard to mow, but it does not require the care that other grasses require. Around office buildings and within subdivisions, use 4 to 5 ounces of Centipede Grass in lieu of Bahia Grass or in combination with Bermuda Grass.

** For soils with clay subsoil. Do not plant in sandy soils.

Notes:

1. On all vegetated swales or ditches with side slopes (cut or fill) steeper than 2:1, add 4 to 6 ounces per 1,000 square feet of Weeping Love Grass seed to any of the above mixtures.
2. Swale and ditch bottoms should be double seeded.
3. All slopes steeper than 2:1 shall be hydroseeded.
4. Growth of Rye Grass in early spring must be suppressed to prevent Rye from choking out permanent grass such as Bermuda, Bahia or Fescue.

TEMPORARY SEEDBED PREPARATION

1. SURFACE WATER CONTROL MEASURES SHALL BE INSTALLED ACCORDING TO PLAN
2. AREA TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOP SOIL 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4" TO 5" DEEP.
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION, AT FINISH GRADES SHOWN, SHALL BE REASONABLY SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME TO BE ACCORDING TO SEEDING SCHEDULE. IN ADDITION, PROVIDE 15 LBS./100 SF OF SUPERPHOSPHATE.
5. IF SOIL TEST IS TAKEN, PROVIDE LIME AND FERTILIZER ACCORDING TO SOIL TEST REPORT.
6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
7. MULCH TO BE TACKED OR MECHANICALLY TIED DOWN WITHIN TWO DAYS AFTER MULCH IS SPREAD.

SILT FENCE DETAIL

When and Where to Use It
Silt fence is applicable in areas:

Where the maximum sheet or overland flow path length to the fence is 100–feet.
Where the maximum slope steepness (normal [perpendicular] to fence line) is 2H:1V.
That do not receive concentrated flows greater than 0.5 cfs.

Do not place silt fence across channels or use it as a velocity control BMP.

Materials
Steel Posts
Use 48–inch long steel posts that meet the following minimum physical requirements:
Composed of high strength steel with minimum yield strength of 50,000 psi.
Have a standard "T" section with a nominal face width of 1.38–inches and nominal "T" length of 1.48–inches.
Weigh 1.25 pounds per foot (± 8%).
Have a soil stabilization plate with a minimum cross section area of 17–square inches attached to the steel posts. Painted with a water based baked enamel paint.

Use steel posts with a minimum length of 4–feet, weighing 1.25 pounds per linear foot (± 8%) with projections to aid in fastening the fabric. Except when heavy clay soils are present on site, steel posts will have a metal soil stabilization plate welded near the bottom such that when the post is driven to the proper depth, the plate will be below the ground level for added stability. The soil plates should have the following characteristics:
Be composed of minimum 15 gauge steel.
Have a minimum cross section area of 17–square inches.

Geotextile Filter Fabric
Filter fabric is:
Composed of fibers consisting of long chain synthetic polymers composed of at least 85% by weight of polyolefins, polyesters, or polyamides. Formed into a network such that the filaments or yarns retain dimensional stability relative to each other. Free of any treatment or coating which might adversely alter its physical properties after installation. Free of defects or flaws that significantly affect its physical and/or filtering properties. Cut to a minimum width of 36 inches.

Use only fabric appearing on SCDOT Approval Sheet #34 meeting the requirements of the most current edition of the SCDOT Standard Specifications for Highway Construction.

Installation
Excavate a trench approximately 6–inches wide and 6–inches deep when placing fabric by hand. Place 12–inches of geotextile fabric into the 6–inch deep trench, extending the remaining 6–inches towards the upslope side of the trench. Backfill the trench with soil or gravel and compact. Bury 12–inches of fabric into the ground when pneumatically installing silt fence with a slicing method. Purchase fabric in continuous rolls and cut to the length of the barrier to avoid joints. When joints are necessary, wrapped the fabric together at a support post with both ends fastened to the post, with a 6–inch minimum overlap. Install posts to a minimum depth of 18–inches. Install posts a minimum of 1– to 2– inches above the fabric, with no more than 3–feet of the post above the ground. Space posts to maximum 6–feet centers. Attach fabric to the steel posts using heavy–duty plastic ties that are evenly spaced and placed in a manner to prevent sagging or tearing of the fabric. In all cases, ties should be affixed in no less than 4 places. Install the fabric a minimum of 24–inches above the ground. When necessary, the height of the fence above ground may be greater than 24–inches. In tidal areas, extra silt fence height may be required. The post height will be twice the exposed post height. Post spacing will remain the same and extra height fabric will be 4–, 5–, or 6–feet tall. Locate silt fence checks every 100 feet maximum and at low points. Install the fence perpendicular to the direction of flow and place the fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.

Inspection and Maintenance
Inspect every seven calendar days and within 24–hours after each rainfall event that produces ½–inches or more of precipitation. Check for sediment buildup and fence integrity. Check where runoff has eroded a channel beneath the fence, or where the fence has sagged or collapsed by fence overtopping. If the fence fabric tears, begins to decompose, or in any way becomes ineffective, replace the section of fence immediately. Remove sediment accumulated along the fence when it reaches 1/3 the height of the fence, especially if heavy rains are expected. Remove trapped sediment from the site or stabilize it on site. Remove silt fence within 30 days after final stabilization is achieved or after temporary best management practices (BMPs) are no longer needed. Permanently stabilize disturbed areas resulting from fence removal.

South Carolina Department of Health and Environmental Control

SILT FENCE

STANDARD DRAWING NO. SC-03 Page 2 of 2

APPROVED BY: _____ SIGNED _____ AUGUST, 2005 DATE

STABILIZED CONSTRUCTION ENTRANCE

When and Where to Use It

Stabilized construction entrances should be used at all points where traffic will be leaving a construction site and moving directly onto a public road.

Important Considerations

If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried offsite. Washdown facilities shall be required as directed by SCDHEC as needed. Washdown areas in general must be established with crushed gravel and drain into a sediment trap or sediment basin. Construction entrances should be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by vehicles.

Installation:

–Remove all vegetation and any objectionable material from the foundation area.
–Divert all surface runoff and drainage from stones to a sediment trap or basin.
–Install a non–woven geotextile fabric prior to placing any stone.
–Install a culvert pipe across the entrance when needed to provide positive drainage.
–The entrance shall consist of 1–inch to 3–inch D50 stone placed at a minimum depth of 6–inches.
–Minimum dimensions of the entrance shall be 24–feet wide by 100–feet long, and may be modified as necessary to accommodate site constraints.
–The edges of the entrance shall be tapered out towards the road to prevent tracking of mud at the edge of the entrance.

Inspection and Maintenance:

Inspect construction entrances every seven (7) calendar days and within 24–hours after each rainfall event that produces ½–inches or more of precipitation, or after heavy use. Check for mud and sediment buildup and pad integrity. Make daily inspections during periods of wet weather. Maintenance is required more frequently in wet weather conditions. Reshape the stone pad as needed for drainage and runoff control.

Wash or replace stones as needed and as directed by the inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce mud being carried off–site by vehicles. Frequent washing will extend the useful life of stone.

Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.

Repair any broken pavement immediately.

South Carolina Department of Health and Environmental Control

STABILIZED CONSTRUCTION ENTRANCE

STANDARD DRAWING NO. SC-06 Page 2 of 2

APPROVED BY: _____ SIGNED _____ AUGUST, 2005 DATE

RIP-RAP CHECK DAM

NTS

MAINTENANCE:
Inspect every 7 calendar days and within 24–hours after each rainfall event that produces ½ inches or more of precipitation. Inspect for sediment and debris accumulation. Inspect rock check dam edges for erosion and repair promptly as required. Remove sediment when it reaches ½ the original check height. In the case of grass–lines swales, remove rock check dams when the grass has matured sufficiently to protect the ditch or swale unless the slope of the swale is greater than 4 percent.

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C&D PROJECT# 1664

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER No. 14893 REGISTERED

SEAL: SOUTH CAROLINA COX AND DINKINS, INC. No. COA0294 CERTIFICATE OF AUTHORIZATION

DATE:	DESCRIPTION	DRAWN BY:	CHECKED BY:
1/13/2014		DLH/MTA	MTA/DKH
		DATE	ORIG. BY	DRAWN BY

DRAWING: | BUILDING: N/A | REV:

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-WJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: DETAILS

C4.1 OF 8

SHEET IN SET: N/A

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Remove existing Rain Bird LXD controller from inside the pump control enclosure. Provide to sports turf contractor for use within the Outdoor Practice facility. Terminate 2-wire path as per manufacturers recommendations.
2	Remove control valves C25, C26, ductile iron fittings all associated sprinklers. Cap 4" mainline, leave 6' of 2-wire control wire for future use by Outdoor Practice field contractor. Terminate control wire with DBR6 splice kits. Leave wire in rectangular valve box directly over 4" cap.
3	Remove control valve, valve box, ductile iron fittings and all sprinklers associated to this zone. All components to be throughly cleaned, dried, boxed and given to the USC sports turf manager.
4	Remove isolation valve, valve restraints and valve box.
5	Remove quick coupler valve, ductile iron fittings and valve box.
6	Cut and cap 3" mainline 6' south of future drive, leave 6' of control wire, terminate control wire with DBR6 splice connectors. Install rectangular valve box with extra wire in it directly over 3" cap location.
7	Remove all sprinklers associated to zone C1.
8	Field locate existing 3" elbow and 3x2-1/2" reducer. Remove elbow and reducer, cap 3" from isolation valve just east for future use.
9	Remove grounding point surge protector , ground rod and valve box.

NOTES:

1. REMOVAL OF IRRIGATION SYSTEM COMPONENTS TO BE DONE ON A AS NEED BASIS. COORDINATE COMPONENT REMOVAL WITH GC TO INSURE SPRINKLERS, VALVES, VALVE BOXES, DUCTILE IRON FITTINGS ARE NOT DESTROYED DURING THE CONSTRUCTION PROCESSES.

2. CONTRACTOR TO MAINTAIN THE HEALTH OF ALL PLANT MATERIAL DURING THE IRRIGATION SYSTEM DEMO AND RECONSTRUCTION PROCESS. ANY LOSS OR DECLINE OF PLANT MATERIAL WILL BE THE CONTRACTORS RESPONSIBILITY TO REPLACE. PLANT MATERIAL DEATH OR DECLINE WILL BE DETERMINED BY THE LANDSCAPE ARCHITECT AND USC STAFF.

0' 40' 80' 120'

Scale 1" = 40'

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CAMPUS PLANNING
AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

REGISTERED PROFESSIONAL ENGINEER
NO. 14960

SEAL:

CHECKED BY: TG\KT
ORIG. BY DRAWN BY

REV.	DATE	DESCRIPTION

BUILDING: N/A
DRAWING:
DATE: 1/13/2014
DRAWN BY: MDC

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
IR 1.0
IRRIGATION DEMO PLAN

SHEET IN SET:

LEGEND

- NATURAL GRASS, RE:1/SR601
- SYNTHETIC TURF, BY OTHERS
- SAND, RE:8/SR601
- CONCRETE, BY OTHERS
- CHAIN LINK FENCE, RE:4/SR602, ALTERNATE #1

NOTES:

1. VERIFY ALL SITE CONDITIONS AND DIMENSIONS SHOWN ON THE PLANS PRIOR TO COMMENCEMENT OF WORK. NOTIFY OWNER AND ITS REPRESENTATIVES OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS.
2. CONTRACTOR TO SUBMIT SHOP DRAWING SHOWING ALL ELEMENTS PER SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP RECORD PLANS FOR ALL UTILITIES INSTALLED OR ENCOUNTERED PER SPECIFICATIONS.
4. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS BETWEEN NEW WORK AND EXISTING CONDITIONS.
5. ALL LINES AND MARKINGS ARE TO BE WHITE, BY OWNER.
6. OWNER TO FURNISH AND INSTALL ALL PLAYING FIELD SOD.

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SEAL:

PROJECT TITLE:	OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION STATE PROJECT #H27-6096-MJ LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC
DRAWN BY:	TM/BM
DATE:	1/13/2014
DRAWING:	
BUILDING:	N/A
REV.	
DESCRIPTION	
DATE	
ORIG. BY	
CHECKED BY:	EO
DRAWN BY	

University of South Carolina

SHEET:
FIELD LAYOUT PLAN

SR101 OF 7

SHEET IN SET:
N/A

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

LEGEND

- LIMITS OF WORK
- CONTOUR LINE
- 26.90-G — SPOT ELEVATION
- SHEET FLOW DIRECTION

NOTES:

1. FINISH GRADES TO MIRROR THAT OF THE FINISH SUBGRADE.

2. FINISH GRADES TO BE 0.5% SLOPE ON NATURAL GRASS FIELD, AS SHOWN ON PLAN.

3. THE CONTOUR INTERVAL ON PLAYING FIELD IS SHOWN AT 0.1 FOOT.

4. PROPOSED GRADES SHALL BLEND SMOOTHLY WITH ADJACENT PROPOSED ELEVATIONS.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.

6. GRADE FIELD TO A SMOOTH, EVEN PLAYING SURFACE TO THE SPOT ELEVATIONS AND CONTOURS SHOWN USING LASER OPERATED EQUIPMENT.

7. FINISH GRADES AND SPOT ELEVATIONS REPRESENT ELEVATIONS AFTER FIELD IS COMPLETED PER SPECIFICATIONS.

8. THE CONTRACTOR SHALL STAKE OUT ALL GRADES IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES. THE ENGINEER SHALL APPROVE STAKED GRADES.

9. PROTECT EXISTING UTILITIES, DRAINAGE STRUCTURES, AND FENCES FROM DAMAGE DURING GRADING.

10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO COORDINATE THE PROTECTION OF DRAINAGE STRUCTURES AND DRAINAGE WAYS WITHIN THE PLAYING FIELD PROJECT AREA. RE: EROSION CONTROL PLAN FOR THE ENTIRE WORK SITE.

11. EXCESS MATERIAL FROM TRENCHES SHALL BE COORDINATED FOR PLACEMENT ON PROJECT SITE.

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21468 1-13-14 COX AND DINKINS

SEAL: SOUTH CAROLINA CHA Consulting Inc No. 1410 CERTIFICATE OF AUTHORIZATION

REV.	DESCRIPTION	DATE:	DRAWN BY	ORIG. BY	CHECKED BY:
					EO

BUILDING: N/A
DRAWING:
DATE: 1/13/2014
DRAWN BY: TM/BM

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIELD GRADING PLAN

SR201 OF 7

SHEET IN SET: N/A

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

SEAL:

LEGEND

- COLLECTOR DRAIN PIPE RE: 5,6/SR601
- PANEL DRAIN, RE: 14/SR601
- LATERAL DRAIN, RE: 1/SR601
- DRAIN BASIN CLEANOUT, RE: 2/SR601

NOTES:

1. PERIMETER COLLECTOR PIPE TO BE HDPE, PERFORATED AND SIZED AS SHOWN.

2. LATERAL TRENCHES WITH PANEL DRAINS ARE SPACED 20 FEET ON CENTER, EXCEPT WHERE INDICATED.

3. CAP ENDS OF ALL PANEL DRAINS. PLACE WASHER/BOLT ON END OF CAP FOR METAL DETECTION.

4. FIELD COLLECTOR AND PANEL DRAINS TO SLOPE AS INDICATED.

5. INVERTS AT LATERALS BEGIN AT THE END OF THE DRAINS WHERE SHOWN. INVERT ELEVATION STARTS AT A MINIMUM OF 24 INCHES TO THE BOTTOM OF THE PIPE AS CALCULATED FROM FINISH GRADE.

5. GEOTEXTILE FABRIC TO BE PLACED AT BOTTOM AND SIDES OF COLLECTOR PIPE AND LATERAL TRENCHES.

6. ALL ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS NOTED OTHERWISE.

7. PLAYING FIELD CONTRACTOR TO COORDINATE AND BE AWARE OF SITE STORM PIPING AND STRUCTURES WITHIN THE CONSTRUCTION BOUNDARIES AS SHOWN ON THE DRAWINGS.

8. CONTRACTOR TO PROTECT DRAINAGE LINES DURING CONSTRUCTION FROM DEBRIS, INCLUDING SOIL OR GRAVEL MATERIAL OR OTHER TRASH FROM ENTERING OR BLOCKING LINES.

9. CONTRACTOR TO AVOID TRAFFIC OVER INSTALLED DRAINAGE TRENCHES TO PREVENT CRUSHING OF PIPE.

10. COLLECTOR LINE TO BE LOCATED 5' FROM EDGE OF PLAYING FIELD AND AS SHOWN ON DRAWINGS, RE: 5,6/SR-601.

11. COORDINATE DRAINAGE CONNECTION AND INVERTS WITH EXISTING, IN-PLACE CONDITIONS.

12. CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY IF DISCREPANCIES ARE FOUND IN FIELD.

13. EXCESS TOPSOIL MAY BE STOCKPILED ON SITE OR BE DISPOSED, AS DIRECTED BY THE OWNER. CONTRACTOR TO COORDINATE WITH OWNER.

14. SEE SITE DRAINAGE PLAN FOR DRAINAGE SYSTEM OUTSIDE OF PLAYING FIELD.

BUILDING:	DRAWING:	DATE:	DRAWN BY:	CHECKED BY:
N/A		1/13/2014	TM/BM	EO

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
FIELD DRAINAGE PLAN
SR202 OF 7

SHEET IN SET:
N/A

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

SEAL:

LEGEND

- PESB Electric Valve, Size as noted
- 8005-10 Sprinkler, 55' Radius, 11.1 GPM, 70 PSI
- 8005-10 Sprinkler, 55' Radius, 11.1 GPM, 70 PSI
- 8005-10 Sprinkler, 55' Radius, 11.1 GPM, 70 PSI
- Quick Coupling Valve, #7 – 1.5"
- Isolation Valve
- Controller
- Pressure Main Line, SDR-21, Gasketed
- Lateral Piping, SDR-21, SWBE

VALVE SYMBOL

VALVE SIZE — 1 (ZONE #) — 122 (GPM)

NOTES:

1. PLACE ALL QUICK COUPLERS IMMEDIATELY ADJACENT TO THE LIMITS OF PLAYING FIELD EITHER INSIDE OR OUTSIDE OF THE FIELD AS SHOWN ON THE DRAWINGS.

2. CONTACT ENGINEER PRIOR TO COMMENCEMENT OF THE WORK FOR REVIEW OF THE PROCESS.

3. DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. IS TO SHOW INTENT AND DESIGN CLARIFICATION. CONTRACTOR TO INSTALL IN A MANNER CONFORMING TO DETAILS AND CONSIDERATION OF OTHER COMPONENTS OF THE PLAYING FIELD SYSTEM.

4. IRRIGATION MAINLINE TO BE PLACED IN TRENCH WITH COLLECTOR PIPE, RE: 5,6/SR-601.

5. RE: SR-603 FOR SYSTEM DETAILS, OR AS NOTED.

6. EXERCISE EXTREME CARE IN EXCAVATION & WORKING AROUND EXISTING UTILITIES. VERIFY LOCATION & CONDITIONS OF ALL UTILITIES AND BE RESPONSIBLE FOR DAMAGE TO UTILITIES. FIELD ADJUST QUICK COUPLER LOCATIONS SO AS TO AVOID CONFLICTS WITH UTILITIES.

7. RE: SPECIFICATIONS FOR FURTHER IRRIGATION MATERIALS, EQUIPMENT & INSTALLATION INFORMATION.

0 20 40
Scale in feet

REV.	DESCRIPTION	DATE	DRAWN BY	ORIG. BY	CHECKED BY

DRAWING: DATE: 1/13/2014 DRAWN BY: TM/BM CHECKED BY: EO

BUILDING: N/A

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIELD IRRIGATION PLAN
SR302 OF 7

SHEET IN SET: N/A

12 IN-LINE CLEANOUT
SECTION — SCALE: 1" = 1'-0"

8 SAND PIT
SECTION — SCALE: 1" = 1'-0"

4 CONCRETE JOINTS
SECTION — SCALE: N.T.S.

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

SEAL:

16 NOT USED
DETAIL TYPE (SECTION, PLAN, ELEVATION) — SCALE: 1" = X'-X"

15 NOT USED
DETAIL TYPE (SECTION, PLAN, ELEVATION) — SCALE: 1" = X'-X"

7 CONCRETE MOW STRIP
SECTION, PLAN — SCALE: 1" = 1'-0"

NOTE:
1. MED. BROOM FINISH PERPENDICULAR TO TRAFFIC PATTERN.
2. NO BANDING (OVERSTRIKE) AT JOINT OR EDGE.

3 CONCRETE PAVEMENT
SECTION — SCALE: 3/4" = 1'-0"

14 NOT USED
DETAIL TYPE (SECTION, PLAN, ELEVATION) — SCALE: 1" = X'-X"

11 ACCESS FRAME KIT
SECTION, PLAN, ELEVATION — SCALE: N.T.S.

10 GOAL POST ANCHOR / FOOTING
SECTION — SCALE: 1" = 1'-0"

6 NATURAL GRASS FIELD AT COLLECTOR TRENCH
SECTION — SCALE: 1/2" = 1'-0"

2 DRAIN BASIN CLEANOUT
SECTION — SCALE: 1" = 1'-0"

NOTE: PROVIDE GEOMEMBRANE CONNECTION AT ALL TOWER AND GOAL POST FOUNDATIONS

13 GEOMEMBRANE CONNECTION TO FOUNDATION DETAIL
SECTION — SCALE: N.T.S.

NOTES:
1. POWDERCOAT FINISH, COLOR AS APPROVED BY OWNER
2. GOAL POST PAD COLOR TO BE APPROVED BY OWNER.

9 GOAL POST
ELEVATION — SCALE: 1/8" = 1'-0"

5 NATURAL GRASS FIELD AT COLLECTOR TRENCH
SECTION — SCALE: 1/2" = 1'-0"

1 NATURAL GRASS FIELD AT IRRIGATION LATERAL
SECTION — SCALE: 1-1/2" = 1'-0"

DRAWN BY:	TM/BM	DATE:	1/13/2014	DRAWING:	DESCRIPTION	BUILDING:	N/A
CHECKED BY:	EO	DRAWN BY				REV.	
		ORIG. BY					

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIELD DETAILS

SR601 OF 7

SHEET IN SET: N/A

11 NOT USED
DETAIL TYPE (SECTION, PLAN, ELEVATION) SCALE: 1" = X'-X"

9 END POST NET ATTACHMENT
ELEVATION SCALE: N.T.S.

6 CENTER POST NET ATTACHMENT
ELEVATION SCALE: N.T.S.

3 WINCH AND MOUNT BRACKET
ELEVATION SCALE: N.T.S.

10 PLAY/GAME CLOCK MOUNTING
ELEVATION SCALE: 3/4" = 1'-0"

8 BALL NET ATTACHMENT AT POST & FENCE RAIL
ELEVATION SCALE: 3" = 1'-0"

5 BALL NET SYSTEM FOOTING
SECTION SCALE: 3/4" = 1'-0"

2 BALL NET SYSTEM FOOTING
PLAN SCALE: 1" = 1'-0"

NOTES:
1. SEE SPECIFICATIONS FOR POST AND FENCE FRAME SIZING.
2. ALL POST FOOTINGS SHALL BE PER SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR FENCE FINISH REQUIREMENTS.
4. HOLD DOWN TOP OF FOOTING BELOW WALK (TYP.).
5. FENCING TO RECEIVE 6'-0" HEIGHT WINDSCREEN FABRIC PER SPECIFICATIONS. ALIGN TOP OF WINDSCREEN WITH TOP RAIL OF FENCE.

7 8'-0" HEIGHT DOUBLE SWING GATE
ELEVATION SCALE: 3/4" = 1'-0"

NOTES:
1. SEE SPECIFICATIONS FOR POST AND RAIL SIZING.
2. ALL POST FOOTINGS SHALL BE PER SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR FENCE FINISH REQUIREMENTS.
4. HOLD DOWN TOP OF FOOTING BELOW WALK (TYP.).
5. FENCING TO RECEIVE 6'-0" HEIGHT WINDSCREEN FABRIC PER SPECIFICATIONS. ALIGN TOP OF WINDSCREEN WITH TOP RAIL OF FENCE.

4 8'-0" HEIGHT CHAIN LINK FENCE
ELEVATION SCALE: 3/4" = 1'-0"

TYPICAL SECTION AT JOINTS: TOP VIEW

NOTE:
1. BACK SIDE OF BALL NET SYSTEM SHOWN IN ELEVATION
2. NETTING TO BE REMOVABLE.
3. POST HEIGHT TO BE DETERMINED BY MINIMUM SYSTEM HEIGHT (40'-0") & ALLOWABLE SAG IN NET (NOT TO EXCEED 1'-0")

1 40' HEIGHT BALL NET SYSTEM
ELEVATION SCALE: 1/8" = 1'-0"

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21453 1-13-14 STEVEN C. MCCRACKEN

SEAL:
SOUTH CAROLINA NOTIFICATION OF AVAILABILITY CERTIFICATE OF CHA Consulting Inc No. 4/0

DATE:	DESCRIPTION	REV.
1/13/2014		

DRAWN BY: TM/BM DATE
CHECKED BY: EO ORIG. BY DRAWN BY
DRAWING:
BUILDING: N/A

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIELD DETAILS ALTERNATE #1

SR602 OF 7

SHEET IN SET: N/A

NOTE:
1. CONTRACTOR TO HAND COMPACT ALL ROOTZONE MIX AROUND HEADS PRIOR TO GRASSING.

8 SPRINKLER ASSEMBLY
SECTION — SCALE: N.T.S.

NOTES:
1. INSTALL BOX ADJACENT TO THE PERIMETER FENCE.
2. INSTALL METAL OR PLASTIC I.D. MARKER ON FENCE AT BOX LOCATION

5 ELECTRIC VALVE ASSEMBLY
SECTION — SCALE: N.T.S.

NOTES:

1. USE HARCO QUICK COUPLER ANCHOR TO STABILIZE QUICK COUPLER RISER, RE: SPECIFICATIONS

3 QUICK COUPLER ASSEMBLY
SECTION — SCALE: N.T.S.

SOIL	SIZE	90 BEND		45 BEND		TEE	
		A	B	A	B	A	B
4000 PSF	2-1/2"	8"	10"	6"	8"	3"	8"
	3"	8"	10"	6"	8"	3"	8"
	4"	8"	10"	6"	8"	3"	8"
	6"	8"	10"	6"	8"	3"	8"
	8"	12"	12"	8"	10"	5"	9"
	10"	16"	14"	10"	12"	6"	10"
2000 PSF	2-1/2"	16"	10"	9"	10"	6"	8"
	3"	16"	10"	9"	10"	6"	8"
	4"	16"	10"	9"	10"	6"	8"
	6"	16"	10"	9"	10"	6"	8"
	8"	22"	13"	12"	13"	8"	10"
	10"	26"	17"	14"	17"	10"	13"

7 THRUST BLOCK DETAIL
SECTION — SCALE: N.T.S.

NOTE:
1. WHERE IRRIGATION MAIN LINE AND LATERALS ARE SHOWN IN THE PRACTICE FIELD AREA, THE PIPE SHALL BE PLACED IN THE GRAVEL DRAINAGE LAYER WITH THE FOLLOWING MINIMUM COVERAGE HEIGHTS:
   A. PVC PIPE 1" TO 2" – 14" COVER
   B. PVC PIPE 2.5" TO 4" – 18" COVER

2. WHERE IRRIGATION PIPING OCCURS OUTSIDE OF THE PLAYING FIELD PROVIDE THE FOLLOWING MINIMUM COVERAGE:
   A. PVC PIPE 1" TO 2" – 14" COVER
   B. PVC PIPE 2.5" TO 4" – 18" COVER

4 TRENCH DETAIL
SECTION — SCALE: N.T.S.

NOTE:
1. VALVE BOX COVERS SHALL BE CAST WITH AN ARROW POINTING TO THE DIRECTION OF THE OPENING AND THE WORD "OPEN RIGHT". BOX AND COVER SHALL BE TAR COATED. INSTALLATION OF EXTENSION STEM REQUIRED IF STANDARD STEM IS MORE THAN FIVE (5) FEET FROM FINISHED GRADE.
2. GATE VALVE MUST MEET AWWA C509 REQUIREMENTS.
3. SEE SPECIFICATIONS FOR VALVE OPEN DIRECTION REQUIRED.
4. PROVIDE A MINIMUM OF ONE VALVE KEY TO UTILITY OWNER. SEE SPECIFICATIONS FOR EXACT NUMBER TO BE REQUIRED.

2 CAST IRON GATE VALVE
SECTION — SCALE: N.T.S.

STATION COMPONENTS:
PERFORMANCE: 150 GPM AT 45 PSI BOOST
INLET PRESSURE: 55 PSI. NET DISCHARGE: 100 PSI
A 10 HP PUMP AND MOTOR
B 3" CHECK VALVE
C PRESSURE TRANSDUCER WITH GAUGE
D BY-PASS VALVE
E FLOW SENSOR
F TEMP SENSOR
G STATION FAN HOOD MOUNTED
H PUMP INTAKE ISOLATION VALVE
I PUMP DISCHARGE ISOLATION VALVE
J STATION DISCHARGE ISOLATION VALVE
K PAINTED STEEL ENCLOSURE
L PRESSURE GAUGE LIQUID FILLED
M 1" WELD-O-LET FOR WINTER BLOWOUT

6 BOOSTER PUMP
PLAN/SECTION — SCALE: N.T.S.

1 IRRIGATION PLAN AT POINT OF CONNECTION
PLAN — SCALE: 1" = 20'-0"

COX AND DINKINS
ENGINEERS - SURVEYORS
COX AND DINKINS, INC.
724 BELTLINE BLVD.
COLUMBIA, SC 29205
803-254-0518
Fax: 803-765-0993
Email: cdinc@coxanddinkins.com
C&D PROJECT# 1664
CHA

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SEAL:

DATE	DESCRIPTION	DRAWN BY

DATE: 1/13/2014 DRAWN BY: TM/BM CHECKED BY: EO
ORIG. BY
DRAWING: BUILDING: N/A REV.

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIELD DETAILS

SR603 OF 7

SHEET IN SET: N/A

TABLE 5-1 FLOOD HAZARD INFORMATION and FLOOD LOADS

FLOOD HAZARD AREA

Base Flood Elevation _____ MSL NGVD or ***FIRM* panel 45079C0160H, 2.20.2002**
Design Flood Elevation _____ MSL IBC 1612.3 and ASCE 24

NON HIGH-VELOCITY WAVE ACTION - ***NA***

Elevation of Lowest Proposed Floor _____ MSL Meet ASCE 24 Section 2.6.2.1
Dry floodproofing ☐ no ☐yes per ASCE 24

HIGH-VELOCITY WAVE ACTION - ***NA***

Elevation of bottom of Lowest Horizontal Structural Member of lowest floor _____ MSL
Flotation resistant☐ no ☐yes per ASCE 24
Breakaway wall ☐ no ☐yes per ASCE 24

IBC 1612 and SE-900, as applicable

ZONING CERTIFICATION

"I hereby certify that, to the best of my knowledge, these plans comply with applicable zoning ordinances, and that plans have been submitted to appropriate authority for their review and/or approval."

Signed: _____ _____
Architect/Engineer Date

If the project does not require a National Pollution Discharge Elimination System (NPDES) permit from SCDHEC, include the following certification on the Site Plan(s):

EROSION AND SEDIMENT REDUCTION/STORMWATER MANAGEMENT

Designer's Certification:
"I hereby certify that the measures in this plan are designed to control erosion, retain sediment on the site, and manage stormwater in a manner that neither any on-site nor off-site damage or problem is caused or increased, that all structural measures are designed to the minimum standards for health and safety, and that all the provisions of the plan are in compliance with the Regulations contained in Chapter 72, Article 2, SC Code of Regulations (Erosion and Sediment Reduction and Stormwater Management Regulations)."

Signed: _____ _____
Engineer or Registered Landscape Architect (Circle one) Date

TABLE 5-2 SOILS & SITE

SOILS INVESTIGATION (If required)
Completed, Report dated 11.21.2013 ☐ no X yes per IBC 1803.2

SOILS CLASSIFICATION

Site Class (seismic class) D per IBC 1613.5.2
Classes Soil of Materials (UCS System) SC, SM, SP, CL, CL-ML, per IBC 1803.5.1
Allowable Footing Bearing Pressure NA psf (using more stringent Minimum

MINIMUM DESIGN SOIL BEARING LOAD
1500 psf per IBC table 1806.2

COMPACTION

Subgrade (backfill) 98 Percent ? ASTM D698 X ASTM D1557 ? AASHTO (only for paving & roads)
Base 100 Percent ? ASTM D698 X ASTM D1557 ? AASHTO(only for paving & roads)
Other 85 Percent ? ASTM D698 X ASTM D1557 ? AASHTO(only for paving & roads)

MINIMUM DESIGN SOIL LATERAL LOAD
NA psf per IBC 1610.1

FOOTINGS

Undisturbed footings X no ☐yes
Compacted Fill Material ☐ no X yes per IBC 1804.5

ELEVATIONS

Elevation of Water Table 18' to 29' below grade MSL
Elevation of lowest footing 183.9' MSL
Elevation of lowest floor or basement 187.4' MSL

TABLE 5-3 BASIC BUILDING CODE INFORMATION

CONSTRUCTION CLASSIFICATION	TYPE IIB (IBC 602)		
OCCUPANCY GROUP (indicate all)(Note IBC 506.5)	UTILITY AND MISCELLANEOUS - GROUP U (IBC 312)		
OCCUPANCY GROUP (indicate most restrictive)	UTILITY AND MISCELLANEOUS - GROUP U (IBC Table 503)		
Does building require Incidental Use Area Separation?	X no ☐yes	(IBC 508.2.5)	
Does building have Accessory Occupancy (ies)? What percent of story is accessory occupancy?	X no ☐yes	(IBC 508.2)	_____ SF _____ %
Mixed Occupancy	X no ☐yes	(IBC 508)	
Non separated	X no ☐yes	(IBC 508.3)	
Separated	X no ☐yes	(IBC 508.4) (IBC 506.5)	

OTHER FIRE PROTECTION SYSTEMS, DEVICES or FEATURES
If the building has any special or notable fire protection or safety feature or hazard the designers should list them here, describe the performance characteristics and refer to locations in construction documents. (e.g. fire extinguishers, smoke- evacuation/control/compartments. Note IBC 414.1.3.)

TABLE 5-4 BUILDING AREA

AREA LIMIT BY TABLE 503 OF IBC (Do not indicate increases for sprinklers & street frontage.)	8,500 SF (area limitation per story)
AREA MODIFICATION FROM EQUATION 5-1 OF IBC (Insert equation from IBC 506.1 with completed calculations in this box) (Equation 5-1) Aa = At + [At x If] + [At x Is] Aa = Allowable area per floor (square feet). At = Tabular area per floor in accordance with Table 503 If = Area increase factor due to frontage (percent) as calculated in accordance with Section 506.2. Is = Area increase due to sprinkler protection as calculated in accordance with Section 506.3. (Repeat equation for each story of differing occupancies, IBC 506.5.2) Note: footnote "e." from table 601	N/A SF (maximum modified area per story)
	N/A SF (maximum area per story)
Total Allowed Area of Building (summary of all stories)	17,000 SF
AREA AS DESIGNED PER STORY (Ground Level) Towers 1, 2, 3	36 SF (area per story)
(Filming Level) Tower 1 only	213 SF (area per story – filming deck)
(Filming Level) Tower 2 & 3 only	73 SF (area per story – filming deck)
Total Designed Area of Building Tower 1 only Tower 2 & 3 only	249 SF 106 SF

TABLE 5-5 BUILDING HEIGHT – Towers 1, 2 & 3

	AS DESIGNED		AS ALLOWED BY IBC	
	In Feet	In Stories	In Feet	In Stories
Without any Allowable Increase (per IBC Table 503)	57 feet	2	55	2
Allowable Height Increase (per IBC 504.2)	0	0	0	0
Total Height including any Allowable Increase	57 feet	2	55	2

TABLE 5-6 BUILDING DESIGN OCCUPANT LOAD

Stories & Levels	Function of Space 1	A Floor Area (specify NSF or GSF)	B Max Area allowed /Occupant (specify NSF or GSF)	C Persons on floor for this Function	D Design Occupant Load
1	Entry/Landing Towers 1, 2 & 3	36 NSF	15 NET	NA (stair access only)	NA
	(Add additional rows as needed for each Function Type on this story)				
	Subtotal Design Occupant Load for This Story				NA
2	Filming Deck – Tower 1 Towers 2 & 3	213 NSF 73 NSF		8 4	8 4
	(Add additional rows as needed for each Function Type on this story)				
	Subtotal Design Occupant Load for This Story Tower 1 Towers 2 & 3				8 4

Add or delete rows as needed for each story & level of building (including mezzanine)

Total Building Design Occupant Load Tower 1 Towers 2 & 3	8 4

Footnotes:
1. Provide the complete name of the Function of space using the left column of Table 1004.1.1 of the IBC.
2. Design Area per each occupant of this function on this floor in either Gross or Net square footage
3. Allowed Floor Areas in SF per Occupant per right column in Table 1004.1.1 of the IBC
4. Divide Column A (2) by Column B (3) for each function and enter the result, rounded up to the nearest whole person (4)
5 Subtotal all Column C values for this floor to yield the Design Occupant Load, (5)
6. Total Building Design Occupant Load –sum of all Column D value (6)

TABLE 5-7 GENERAL FIRE PROTECTION REQUIREMENTS

SEPERATIONS		
Fireblocking Required	X no ☐yes	per IBC Section 717
Draftstopping Required	X no ☐yes	per IBC Section 717
Smoke Control System Required	X no ☐yes	per IBC Section 909
Smoke Barriers Required	X no ☐yes	per IBC Sections 407 and 408
Smoke Partitions Required	X no ☐yes	per IBC Section 407
Fire Partition Required	X no ☐yes	per IBC Section 420
Fire Barrier Required	X no ☐yes	per IBC Section 707
ALARM & DETECTION		
Fire Alarm System Required	X no ☐yes	per IFC Section 907
Emergency Alarm System Required	X no ☐yes	per IFC 908
SUPPRESSION		
Standpipes Required	X no ☐yes	per IFC Section 905
Sprinklers Required	X no ☐yes	per IFC Section 903
Sprinklers Provided	X no ☐yes	
Portable extinguishers required	X no ☐yes	per IFC 906
Other suppression systems required	X no ☐yes	per IFC 904
Smoke & heat vents required	X no ☐yes	per IFC 910

Other: *(Indicate other provided fire and life safety features not listed above, if any)*

TABLE 5-8 FIRE RESISTANCE RATING OF BUILDING ELEMENTS

BUILDING ELEMENT	Rating As Required (in hours)	Rating As Designed (in hours)	Testing Agency & Design No. (UL, FM, etc)	Designers Wall/Partition Key Code
Structural Frame (per IBC Table 601)	0	0	NA	NA
Bearing Walls Exterior Interior (per IBC Table 601)	0	0	NA	NA
Nonbearing Walls & Partitions Exterior Interior (per IBC Table 601 & 602)	0	0	NA	NA
Floor Construction including supporting beams & joists (per IBC Table 601)	0	0	NA	NA
Roof Construction including supporting beams & joists (per IBC Table 601)	0	0	NA	NA
Fire Walls (per IBC Section 706)	0	0	NA	NA
Fire Barriers (per IBC Section 707)	0	0	NA	NA
Shaft Enclosures (per IBC Section 708)	0	0	NA	NA
Fire Partitions (per IBC Section 709)	0	0	NA	NA
Opening & Protective Listing by Category (fire shutters, doors, etc. per IBC Section 715)	0	0	NA	NA
Others (as required by Designer)	NA	NA	NA	NA

TABLE 5-9 STRUCTURAL DESIGN INFORMATION

OCCUPANCY CATEGORY (IES) *RISK CATEGORY I*	***[Figure 26.5-1C]*** *[ASCE 07-10]*

LIVE LOADS

Ships Ladders/Catwalks F_a= *40 psf*
Observation Level F_a=*100 psf*
Roof Live Load R_a = *20 psf*
Ground Snow Load p_g =*10 psf,*
C_s =*0.9,* C_e=*1.2,*
I_s =*0.8*

WIND LOADS
Analysis Procedure – OPEN, FLEXIBLE *IBC 1609.6 w/S.Carolina*
STRUCTURE *Ammendments – Richland County*

Basic Wind Speed *V =**105 MPH***
Exposure Category *C*
Wind Importance Factor I_w =*1.0*
Internal Pressure Coefficient GC_{pi} =*n/a*
External Pressure Coefficient GC_p =*+1.134, -1.04*

SEISMIC LOADS (Non-building Structures – [ASCE Chapter 15])
Seismic Importance Factor *I =1.0* *ASCE 7-10, Table 1.5-2*
Soil Class *D* *IBC 1613.5.2*
Mapped Spectral Response Accelerations S_s =*0.42* S_1=*0.144*
Design Spectral Response Acceleration Parameters S_{DS} =*0.41* S_{D1} =*0.213*

Seismic Design Category *D* *IBC Tables 1613.5.6(1) & 1613.5.6(2)*
Basic Seismic Force Resisting System: *Ordinary Steel Moment Frames with permitted height increase per AISC 341*
Design Base Shear *11.2 KIPS*
Seismic Response Coefficient(s) C_s =*0.164*
Response Modification Factor(s) *R =2.5*
Analysis Procedure *Equivalent Lateral Force*

ARCHITECTURAL-MECHANICAL-ETC. LOADS *Provide as applicable: architectural items, mechanical, plumbing, etc. per ASCE 7*

SPECIAL LOADS *Provide as applicable: abnormal items, moving loads, impact, hoisting, etc. per ASCE)*

WATER SYSTEM

Service Line Size 0 Inches
Peak
Total Demand 0 No. Fixture Units

SANITARY SEWER SYSTEM

Loading 0 GPD
Service Line Size 0 Inches
Slope NA min inches/ft

MINIMUM PLUMBING FIXTURES REQUIRED/PROVIDED per IPC Section 403 & Table 403.1

	Male-Required	Male-Provided	Female-Required	Female-Provided
Water Closets	0	0	0	0
Lavatories	0	0	0	0
Urinals*	0	0	0	0

OTHER FIXTURES Required Provided per IPC Section 403 & Table 403.1
Drinking Fountains 0 ? 0
Unisex toilet 0?
Service Sink 0?
Others (list) _____ 0 ?

TABLE 5-12 MECHANICAL INFORMATION

AIR COMFORT SYSTEMS
Overall Thermal Transfer Value (OTTV): _____NA_____
Building Heating Load _____NA_____ SF / Ton
Building Cooling Load _____NA_____ BTU / SF

OTHER LOADING FEATURES
Glass U Factor ___NA_____ Window to wall ratio ___NA_____
Insulation Values Roof ___NA_____ Exterior Walls ___NA_____
Outside Air minimum while occupied ____NA____ CFM ____NA____ Occupants

MECHANCIAL SYSTEMS, SERVICE SYSTEMS & EQUIPMENT
Briefly describe mechanical system:
No mechanical systems, service systems or equipment necessary or designed.

TABLE 5-13 ELECTRICAL INFORMATION

SERVICE TRANSFORMER X By Utility Co. ☐ By Agency(if by Agency) _____KVA Primary _____Voltage/Phase

ELECTRICALSERVICE INFORMATION
Service Voltage/Phase **480/277 volts 3 phase 4wire**
Service **500** Amperes
Service Entrance Conductors Size 2 Quantity per Phase
Total Connected Load 296 KVA
Estimated Maximum Demand 290 KVA
Available Fault Current in Symmetrical Amperes **18990** Amperes
Interrupting Capacity of Service Overcurrent Device 65 KAIC

GROUNDING ELECTRODE SYSTEM COMPONENTS: Ground Rods & **#1/0 AWG**
(NEC 250)

EMERGENCY SERVICE INFORMATION
EmergencyGenerator X No ☐ Yes _____ KVA Voltage/Phase_____ _____ Fuel
Exit/Emergency Lights Backup Power X Integral Battery ☐ Generator
Fire Alarm System ☐ Manual ☐ Automatic ☐ Addressable ☐ Class A ☐ Class B
NONE

LIGHTNING PROTECTION PROVIDED ☐ No X Yes At Sports Lighting Poles only.

COMMUNICATIONS COORDINATED Contact DSIT Network/Infrastructure Planning for applicability at (803) 896-0001
X Not Required ☐ Yes

TABLE 5-14 DESIGN-RELATED CONSTRUCTION PERMITS/APPROVALS
The following list is not all-inclusive of every, permit and standards applicable to each project. Agencies and A/Es must delete non-applicable listings and add others for each specific project.

Type of Development	SC Law or Reg.	Where to Obtain Permit/Approval	Status
Air pollutant discharge	48-1-100, R61-62.1	SCDHEC - Air Quality Control	
Ambulatory surgical facilities	R61-91	SCDHEC - Health Facilities Construction	
Asbestos abatement	R61-86.1	SCDHEC - Air Quality Control	
Building construction, Zoning	6-7-830, 6-9-110	Local Authority	
Community residential care facilities	R61-84	SCDHEC - Health Facilities Construction	
Construction in critical coastal areas	48-39-10, 130, 190	SCDHEC - Ocean & Coastal Res. Mgmnt.	
Construction in navigable waters	49-1-16	SCDHEC - Water Pollution Control	
Dams and reservoirs	49-11-200, R72-1, 2, 3	SCDHEC - Water Pollution Control	
Demolition of Real Property	R61-86.1	SCDHEC - Air Quality Control	
Design Review Board (BARs, SC Dept Archives & History, etc.)	Various local	Various local	
Educational facilities (K through 12)	59-23-40	SC Department of Education – Office of District Facilities Management	
Elevators	14-16-90	SC Department of Labor, Licensing & Regulation	
Fire Department (Local)	Various local & State	Servicing Fire Department	
Fire Protection Sprinkler	40-10	State Fire Marshal	
Fire suppression systems	R19-300.7	State Fire Marshal	
Floodplains, construction in	Exec. Order 82-19	Office of State Engineer	
Food service establishments	R61-25	SCDHEC – Local County Health Dept.	
Historical building rehabilitation	R12-125, 126	Archives and History, Local Authority	
Hospitals & infirmaries	R61-16	SCDHEC – Health Facilities Construction	
Road encroachment, local	57-7-60	Local City or County Authority	
Road encroachment, state	57-5-1080	Local SCDOT Maintenance Office	
Sanitary sewer; treatment & disposal	R61-56, 57	SCDHEC – Domestic Wastewater	
Storm water discharge, erosion and sediment control	R61-9; R72-100-108	SCDHEC – Water Pollution Control; State Engineer; Local Authority	
Swimming areas, natural public	R61-50	SCDHEC – Water Supply Construction	
Swimming pools, public	R61-51	SCDHEC – Water Supply Construction	
Underground storage tanks	R61-92	SCDHEC – Groundwater Protection	
Waste discharge (sewage, industrial waste, etc.)	48-1-100, 110, R61-9	SCDHEC – Water Pollution Control	
Water supply	44-55-40, R61-57, 58	SCDHEC – Water Supply Construction	
Wells, Underground injection	R61-71, 87	SCDHEC – Groundwater Protection	
Zoning(Municipal, County or District)	Various		

PROJECT DESIGNED IN ACCORDANCE WITH WHERE APPLICABLE:
A. INTERNATIONAL BUILDING CODE (IBC), 2009 EDITION
B. INTERNATIONAL EXISTING BUILDING CODE (IEBC), 2009 EDITION
C. INTERNATIONAL FIRE CODE (IFC), 2009 EDITION
D. INTERNATIONAL ENERGY CONSERVATION CODE (IBC), 2006 EDITION
E. INTERNATIONAL FUEL GAS CODE (IFGC), 2009 EDITION
F. INTERNATIONAL MECHANICAL CODE (IMC), 2009 EDITION
G. INTERNATIONAL PLUMBING CODE (IBC), 2009 EDITION
H. INTERNATIONAL BUILDING CODE (IBC), 2009 EDITION
I. INTERNATIONAL PROPERTY MAINTENANCE CODE (IPMC), 2009 EDITION
J. INTERNATIONAL WILDLAND - URBAN INTERFACE CODE (IUWIC), 2009 EDITION
K. NATIONAL ELECTRICAL CODE (NEC), NPFA 70, 2008 EDITION
L. NATIONAL ELECTRICAL SAFETY CODE, ANSI-C2-2007 EDITION
M. ICC/ANSI-A117.1-2003, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIE
N. STATE FIRE MARSHALL RULES, REGULATIONS AND POLICIES, LATEST REVISIONS

TABLE 5-15 STATEMENT OF SPECIAL INSPECTIONS

Project Name: Outdoor Football Practice Fields - Construction

Project Number: H27-6096-MJ

The Designer(s) of Record shall determine the material and/or work on the project requiring Special Inspections. The Special Inspection requirements shall be based on Section 1704 of the 2009 International Building Code. Any deviations from the requirements of Section 1704 must be approved by OSE.

TYPE OF WORK	FREQUENCY / TYPE OF INSPECTION	PERFORMED BY	REFERENCE
Structural fill and soils inspection	Periodic observation and testing	Geotechnical engineer	Geotechnical Report
Installation of reinforcing steel	Periodic observation	Engineer-of-record	ACI and CRSI Code of Standard Practice
Concrete placement	Periodic observation and testing	Independent ACI–certified concrete testing agency	ACI Code of Standard Practice
Steel erection	Periodic observation	Engineer-of-record and Pre-engineered Tower Manufacturer	AISC Code of Standard Practice

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

UNLIMITED SEAL ATTACH ON LAST SHEET OF DOCUMENT. ELECTRONIC SEAL NOT VALID WITHOUT APPROPRIATE STATE REGISTRATION LICENSE

STATE OF SOUTH CAROLINA
TIMOTHY W. MAYNARD
Concord, No. 9120
REGISTERED ARCHITECT

SEAL:

CHECKED BY: EO
ORIG. BY
DRAWN BY

DRAWN BY: SW
DATE: 1/13/2014
DESCRIPTION

DRAWING:

BUILDING: N/A
REV.

PROJECT TITLE:
OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
CODE SUMMARY

A0.0 OF 3

SHEET IN SET:
N/A

4 SECTION @ TOWER STAIRS
SCALE: 1/4" = 1' - 0"

3 ELEVATION @ TOWER ENTRY
SCALE: 1/4" = 1' - 0"

RENDERED VIEW FOR COLOR REFERENCE ONLY

2 FLOOR PLAN - FILMING DECK LEVEL
SCALE: 1/4" = 1' - 0"

1 FLOOR PLAN - GROUND LEVEL
SCALE: 1/4" = 1' - 0"

5 FLOOR PLAN - TYPICAL LANDING 3 THRU 11 - TOWER 1
SCALE: 1/4" = 1' - 0"

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

STATE OF SOUTH CAROLINA
TIMOTHY W. WHITNEY
ARCHITECT
No. 11450

UNAUTHORIZED ALTERATION OR ADDITIONS TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE LAW FOR LICENSED ARCHITECTS

SOUTH CAROLINA CONSULTING, INC.
SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION No. C-1405

SEAL:	CHECKED BY: EO	DRAWN BY: SW	DATE: 1/13/2014	DRAWING:	BUILDING: N/A
	ORIG. BY	DRAWN BY	DESCRIPTION		REV.

PROJECT TITLE:
OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
PLAN/SECT./ELEV.
TOWER 1

A1.1 OF 3

SHEET IN SET:
N/A

NOTES:
1. FOOTING DESIGN SHALL BE VERIFIED BY TOWER MANUFACTURER AND IS SUBJECT TO FINAL TOWER DESIGN LOADS SUBMITTED BY TOWER MANUFACTURER
2. F'C = 4000 PSI

4 SECTION @ TOWER STAIRS
SCALE: 1/4" = 1' - 0"

NOTES:
1. FOOTING DESIGN SHALL BE VERIFIED BY TOWER MANUFACTURER AND IS SUBJECT TO FINAL TOWER DESIGN LOADS SUBMITTED BY TOWER MANUFACTURER
2. F'C = 4000 PSI

3 WEST ELEVATION @ TOWER ENTRY
SCALE: 1/4" = 1' - 0"

RENDERED VIEW FOR COLOR REFERENCE ONLY

2 FLOOR PLAN - FILMING DECK LEVEL
SCALE: 1/4" = 1' - 0"

1 FLOOR PLAN - GROUND LEVEL - TOWER 2 & 3
SCALE: 1/4" = 1' - 0"

5 FLOOR PLAN - TYPICAL LANDING 3 THRU 11 - TOWER 2 & 3
SCALE: 1/4" = 1' - 0"

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

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STATE OF SOUTH CAROLINA
TIMOTHY W. HAWTHORNE
Corporal, USMC
No. 9120
REGISTERED ARCHITECT

SOUTH CAROLINA CONSULTING, INC.
COA #2005 / SOUTH CAROLINA LICENSE #C00708

DRAWN BY: SW	CHECKED BY: EO
DATE	ORIG. BY
	DRAWN BY

DATE: 1/13/2014
DESCRIPTION

DRAWING:

BUILDING: N/A
REV.

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: PLAN/SECT./ELEV. TOWER 2 & 3

A2.1 OF 3

SHEET IN SET: N/A

2 ESD1.0 SCE&G TRANSFORMER – PAD DETAIL
NOT TO SCALE

NOTES:

1. FINAL PAD LOCATION AND ORIENTATION TO BE SPOTTED ON THE JOB SITE BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT AND USC PROJECT MANAGER. PAD SHALL BE INSTALLED LEVEL.
2. A MINIMUM WORKING DISTANCE OF 10 FT. FROM THE FRONT OF THE PAD TO ANY PERMANENT STRUCTURE MUST BE PROVIDED.
3. NO FOREIGN UNDERGROUND UTILITY LINES SHALL PASS UNDERNEATH OR WITHIN 6 FT. FROM THE EDGE OF THE CONCRETE PAD.
4. COMPLY WITH SCE&G SPECIFICATIONS FOR PAD CONSTRUCTION.

3 ESD1.0 SCE&G TRANSFORMER – CLEARANCE DETAIL
NOT TO SCALE

ELECTRICAL SERVICE DISTRIBUTION NOTES:

GENERAL:

G1. WHEREVER ON THE ELECTRICAL SERVICE DISTRIBUTION DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "PROVIDE, INSTALL AND CONNECT", UNO.

G2. WORK INDICATED ON SHEETS ESD1.0 & ESD2.0 SHALL BE INCLUDED AS PART OF PROJECT #H27–6096–MJ, "OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION". THIS PROJECT WILL BE CONSTRUCTED CONCURRENTLY WITH PROJECT #H27–6090–MJ, "INDOOR FOOTBALL PRACTICE FACILITY – CONSTRUCTION".

G3. EXACT LOCATIONS OF PAD–MOUNTED TRANSFORMER, ENCLOSURE, MOUNTING FRAME, HANDHOLES, AND ALL OTHER SITE ELECTRICAL EQUIPMENT SHALL BE STAKED AND APPROVED BY THE CIVIL ENGINEER & LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

POWER:

P1. PROVIDE SCE&G TRANSFORMER PAD IN ACCORDANCE WITH UTILITY REQUIREMENTS. PROVIDE (2) 5" PVC CONDUITS ACROSS ROADWAY FROM EXISTING SCE&G PAD–MOUNTED SWITCH. EXTEND CONDUIT AT 42"BFG TO LOCATION OF NEW SCE&G PAD–MOUNTED TRANSFORMER. ELBOWS SHALL BE RMC. MAKE LONG, SWEEPING TURNS. REFER TO PAD DETAILS 2 & 3 ON SHEET ESD1.0. COMPLY WITH SCE&G ELECTRICAL UNDERGROUND DISTRIBUTION COMMERCIAL AND OTHER GUIDELINES. PATCH ROADWAY TO ORIGINAL CONDITIONS.
SCE&G POINT OF CONTACT IS: JEFF HOLLEY, PHONE 803–217–9186, EMAIL JHOLLEY@SCANA.COM.

P2. PROVIDE KWH DEMAND METER AND MOUNT ON SCE&G TRANSFORMER ENCLOSURE. PROVIDE W/ CT'S FOR MONITORING SERVICE FEEDER TO PANEL "H–PF1". EXTEND 1"C FROM METER TO 3' BEYOND TRANSFORMER PAD FOR CONNECTION TO EMCS IN IFPF ONCE CONSTRUCTION ON THAT FACILITY IS COMPLETED.

P3. PROVIDE (2) 5" PVC CONDUITS STUB–OUTS FROM SCE&G PAD–MOUNTED TRANSFORMER FOR FUTURE CONNECTION TO THE INDOORS FOOTBALL PRACTICE FACILITY.

LEGEND

S	PAD–MOUNTED SWITCH, EXISTING
T	TRANSFORMER, NEW
H	HANDHOLE, NEW
	PANELBOARD, LIGHTING/APPLIANCE TYPE, SURFACE–MOUNTED
	PANELBOARD, DISTRIBUTION TYPE, SURFACE–MOUNTED
— — ugp — —	PRIMARY DISTRIBUTION, UNDERGROUND, EXISTING
— — UGP — —	PRIMARY DISTRIBUTION, UNDERGROUND, NEW
— — UGS — —	SERVICE FEEDER, UNDERGROUND, NEW
OFPF	OUTDOOR FOOTBALL PRACTICE FACILITY
IFPF	INDOOR FOOTBALL PRACTICE FACILITY
AFG	ABOVE FINISHED GRADE
BFG	BELOW FINISHED GRADE
EXTG	EXISTING
PMS	PAD–MOUNTED SWITCH
PMT	PAD–MOUNTED TRANSFORMER
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

1 ESD1.0 PARTIAL RISER DIAGRAM – OFPF DISTRIBUTION
NOT TO SCALE

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: CAROLINA HARDIN BRIANS BSB 27238 REGISTERED PROFESSIONAL ENGINEER

SEAL: CAROLINA NOLINDER DWG, INC. CONSULTING ENGINEERS No.C2584 HIGHWAY CERTIFICATE OF AUTHORIZATION

CHECKED BY:	DRAWN BY:	DATE:	BUILDING:	DRAWING:
BSB	TGW	1/13/2014	N/A	
DRAWN BY	ORIG. BY	DATE	REV.	DESCRIPTION

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27–6096–MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
ELECTRICAL SERVICE DISTRIBUTION LEGEND, NOTES & DETAILS
ESD1.0 OF 2

SHEET IN SET:
N/A

1 ESD2.0 ELECTRICAL SERVICE DISTRIBUTION PLAN
SCALE: 1" = 10'-0"

CAMPUS PLANNING
AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: SOUTH CAROLINA PROFESSIONAL ENGINEER No. 27238 BRIANS BAYLESS
REGISTERED PROFESSIONAL ENGINEER NO. 27238

SEAL: NORTH CAROLINA INC. PROFESSIONAL ENGINEERS No.C2584-9 CERTIFICATE OF AUTHORIZATION

DATE	DESCRIPTION	REV.
1/13/2014		

DRAWN BY: TGW
CHECKED BY: BSB
DATE | ORIG. BY | DRAWN BY

BUILDING: N/A
DRAWING:

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS - CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
ELECTRICAL SERVICE DISTRIBUTION PLAN
ESD2.0 OF 2

SHEET IN SET:
N/A

NOTES:

1. SIZE HANDHOLES AT EACH LOCATION PER NEC REQUIREMENTS. MINIMUM SIZE SHALL BE 18" WIDE x 24" LONG x 24" DEEP.
2. PROVIDE A PULL ROPE IN ALL SPARE CONDUITS.
3. REPLACE EXISTING SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT CONCRETE, TOPSOIL AND GRASS.
4. STUB CONDUITS UP INTO HANDHOLE FROM THE BOTTOM.
5. SEAL CONDUITS WATER–TIGHT AFTER WIRING HAS BEEN INSTALLED.

1 – HANDHOLE
SCALE: NONE

NOTE:

1. REPLACE EXISTING SURFACE CONDITIONS IN KIND TO INCLUDE, BUT NOT LIMITED TO: CONCRETE, CRUSHED STONE, SELECT GRAVEL, ASPHALT, TOPSOIL AND GRASS.

2 – UNDERGROUND CONDUIT
SCALE: NONE

ABBREVIATIONS

A/AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BLDG	BUILDING
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
EC	ELECTRICAL CONTRACTOR
FLUOR	FLUORESCENT
G	GROUND
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HOA	HAND / OFF / AUTO
HO	HIGH OUTPUT
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
KV	KILO VOLT
kVA	KILO VOLT AMPS
KW	KILO WATTS
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MH	METAL HALIDE
MLO	MAIN LUG ONLY
MC	MECHANICAL CONTRACTOR
MOCP	MAXIMUM OVER–CURRENT PROTECTION
NEC	NATIONAL ELECTRICAL CODE – 2011 EDITION
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
No. #	NUMBER
OH	OVERHEAD
P	POLE(S)
ø	PHASE
±	PLUS OR MINUS (APPROXIMATELY)
PRI	PRIMARY
RLA	RUNNING LOAD AMPS
SEC	SECONDARY
TYP	TYPICAL
UG	UNDER GROUND
UON	UNLESS OTHERWISE NOTED
USC	UNIVERSITY OF SOUTH CAROLINA
V	VOLT(S)
W	WATT(S) OR WIRE
w/	WITH
WP	WEATHERPROOF

ELECTRICAL LEGEND

REFER TO LIGHT FIXTURE SCHEDULE FOR LIGHTING SYMBOLS

	PROVIDE ABOVE GROUND CONDUITS(S) WITH WIRING OR PULL ROPE AS INDICATED MINIMUM CONDUIT SHALL BE 1/2 INCH TRADE SIZE AND MINIMUM WIRE SIZE SHALL BE #12 AWG BCW. TYPICAL ALL INSTALLATIONS. NOTES: WHERE LARGER SIZE WIRES ARE CALLED FOR TO LIMIT VOLTAGE DROP, PROVIDE SIZE AS NOTED TO LAST DEVICE OR FIXTURE ON THE CIRCUIT. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN EACH AND EVERY CONDUIT INSTALLED. DO NOT SHARE NEUTRAL CONDUCTORS. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH AND EVERY 120 VOLT AND 277 VOLT SINGLE PHASE BRANCH CIRCUIT.
	PROVIDE CONDUIT(S) BELOW GROUND WITH WIRING OR PULL ROPE AS NOTED ON PLANS AND/OR DIAGRAMS PROVIDE TYPES OF CIRCUITRY AS NOTED BELOW: # ONE 120 OR 277 VOLT SINGLE PHASE CIRCUIT #,# TWO 120 OR 277 VOLT SINGLE PHASE CIRCUITS #,#,# THREE 120 OR 277 VOLT SINGLE PHASE CIRCUITS #/# ONE 208 OR 480 VOLT SINGLE PHASE CIRCUIT #/#/# ONE 208 OR 480 VOLT THREE PHASE CIRCUIT NOTE: MULTIPLE HOMERUNS MAY BE COMBINED IN A SINGLE CONDUIT SUBJECT TO COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF NEC.
	BELOW GROUND CONDUIT(S) TURNED UP
	BELOW GROUND CONDUIT(S) CAPPED AND SEALED BELOW GROUND FOR EXTENSION BY OTHERS
	PROVIDE BRANCH CIRCUIT PANELBOARD; 480/277 V, 3ø, 4W
	PROVIDE BRANCH CIRCUIT PANELBOARD; 208/120 V, 3ø, 4W
	PROVIDE20 AMP, 120 VOLT SPECIFICATION GRADE, GFI DUPLEX RECEPTACLE WP – INDICATES DEVICE IN WEATHERPROOF BOX WITH WEATHERPROOF COVER WITH AND WITHOUT PLUG INSERTED
30/3	PROVIDE NON–FUSED SAFETY DISCONNECT SWITCH – VOLTAGE, AMPERE RATING AND NUMBER OF POLES AS INDICATED BY SUBSCRIPT AND COVER WITH PROVISIONS TO LOCK SWITCH IN ON AND OFF POSITIONS
WP	PROVIDE 20 AMP, 277 VOLT, SINGLE POLE, SPECIFICATION GRADE LIGHT SWITCH IN WEATHERPROOF BOX WITH WEATHERPROOF COVER.
PC	PROVIDE 20 AMP, 277 VOLT PHOTO CELL IN WEATHERPROOF BOX WITH WEATHERPROOF COVER.
E	PROVIDE HANDHOLES FOR ELECTRICAL AND COMMUNICATIONS SYSTEMS SUBSCRIPT E – ELECTRICAL SUBSCRIPT C – COMMUNICATIONS
PA	PROVIDE PUBLIC ADDRESS SYSTEM SPEAKERS IN WEATHERPROOF ENCLOSURES
AMP TRIP → 400A No. of POLES → 3P	CIRCUIT BREAKER – 600 VOLT OR 250 VOLT AS REQUIRED
	GROUNDING CONNECTION
1	TRANSFORMER

GENERAL

#	INDICATES CODED NOTE FOR PROPOSED WORK
#	INDICATES CODED NOTE FOR REMOVAL WORK
# / E–#	PLAN OR DETAIL NUMBER DRAWING NUMBER WHERE DETAIL IS SHOWN – INDICATES DETAIL SHOWN ON SAME DRAWING

GENERAL NOTES

1. GENERAL NOTES ON THIS DRAWING APPLY TO ALL ELECTRICAL ('E' SERIES) DRAWINGS.
2. ALL WORK SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE BY A LICENSED ELECTRICAL CONTRACTOR UNLESS OTHERWISE INDICATED.
3. REFER TO ARCHITECTURAL, CIVIL AND STRUCTURAL DRAWINGS FOR SYMBOLS ASSOCIATED WITH WORK, EQUIPMENT, ETC. BY OTHER TRADES.
4. COORDINATE WORK WITH ALL TRADES. EQUIPMENT INDICATED ON 'A' AND 'C' DRAWINGS THAT REQUIRES 480V, 277V, 208V AND/OR 120V CIRCUITRY WILL BE FURNISHED AND INSTALLED BY THE RESPECTIVE DIVISION AND WIRED COMPLETE BY DIVISION 16 UNLESS OTHERWISE NOTED. REFER TO ARCHITECTURAL, CIVIL AND STRUCTURAL SCHEDULES AND DRAWINGS FOR DETAILED EQUIPMENT INFORMATION.
5. CIRCUITRY SHOWN IS DIAGRAMMATIC UNLESS OTHERWISE NOTED. EXACT LOCATION OF ALL CONDUIT RUNS SHALL BE DETERMINED IN THE FIELD. COORDINATE INSTALLATIONS AND AVOID CONFLICT WITH WORK BY OTHER TRADES.
6. PROVIDE LOCAL DISCONNECT SWITCHES FOR EQUIPMENT FURNISHED BY OTHERS UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING COMPLETE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING COMPLETE.
7. DISCONNECT SWITCHES AND FOR EQUIPMENT FURNISHED BY OTHERS ARE NOT SHOWN FOR CLARITY. INSTALL EQUIPMENT TO COMPLY WITH NEC REQUIREMENTS FOR MINIMUM CLEARANCES, DEDICATED SPACE AND WORKING SPACE.
8. PROVIDE COMPLETE INSTALLATION FOR ALL WORK SHOWN ON THE ELECTRICAL SERIES OF DRAWINGS. ALL INSTALLATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE PROJECT DRAWINGS AND SPECIFICATIONS AND WITH APPLICABLE ARTICLES IN THE NATIONAL ELECTRICAL CODE (NEC) 2011 EDITION, IF A CONFLICT EXISTS BETWEEN THE CONSTRUCTION DOCUMENTS AND ANY OF THESE CODES, THE MORE STRINGENT OF THESE REQUIREMENTS SHALL APPLY.
9. PROVIDE SUBMITTALS PER SPECIFICATIONS TO THE ENGINEER.
10. PROVIDE AS–BUILT DRAWINGS THAT IDENTIFY ACTUAL CONDUIT ROUTING AND EQUIPMENT LOCATIONS TO THE ENGINEER.

ONE LINE DIAGRAM – CONDUIT & CABLE SCHEDULE		
TAG	DESCRIPTION	REMARKS
F1	PROVIDE (2) 4" C. EACH w/ (4) 250 kcmil	
F2	PROVIDE 2" C. w/ (4) #2/0, #6 G.	
F3	PROVIDE 3/4" C. w/ (2) #10, #10 G.	
F4	PROVIDE 3/4" C. w/ (2) #6, #10 G.	
F5	PROVIDE CONDUITS AND CABLES PER DRAWING E–101	

3 – ELECTRICAL ONE LINE DIAGRAM
SCALE: NONE

ONE LINE DIAGRAM NOTES:

1. PROVIDE CONDUITS PER DRAWINGS ESD1.0 AND ESD2.0. MEDIUM VOLTAGE CABLES AND TERMINATIONS BY SCE&G.
2. PROVIDE REINFORCED CONCRETE PAD PER SCE&G REQUIREMENTS.
3. PROVIDE GROUNDING SYSTEMS AT TRANSFORMER PAD PER SCE&G REQUIREMENTS.
4. PAD MOUNT TRANSFORMER BY SCE&G.
5. PROVIDE METER SOCKET ON SIDE OF TRANSFORMER PER SCE&G REQUIREMENTS.
6. PROVIDE SERVICE LATERAL CONDUITS AND CABLES PER SCHEDULE.
7. PROVIDE PANELBOARD THAT IS LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" PER PANELBOARD SCHEDULE AND TECHNICAL SPECIFICATIONS. PROVIDE WITH INTEGRAL TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE. INSTALL AT LOCATION SHOWN ON THE ELECTRICAL PLANS.
8. PROVIDE GROUNDING AND BONDING PER NEC WITH #1/0 AWG BCW GROUNDING ELECTRODE CONDUCTOR.
9. PROVIDE PANELBOARDS PER PANELBOARD SCHEDULES AND TECHNICAL SPECIFICATIONS. INSTALL AT LOCATIONS SHOWN ON THE ELECTRICAL PLANS.
10. PROVIDE 10 kVA DRY TYPE TRANSFORMER 480V PRI – 240/120V 1ø 3 WIRE SEC WITH MANUFACTURER'S WALL MOUNT BRACKETS AND TECHNICAL SPECIFICATIONS. PROVIDE GROUNDING PER NEC REQUIREMENTS. INSTALL AT LOCATION SHOWN ON THE ELECTRICAL PLANS.
11. PROVIDE GROUNDING PER NEC REQUIREMENTS.
12. PROVIDE LIGHTING CONTROL PANELS PER PLANS AND TECHNICAL SPECIFICATIONS. INSTALL AT THE LOCATIONS SHOWN ON THE ELECTRICAL PLANS.
13. PROVIDE FEEDERS PER THE CONDUIT AND CABLE SCHEDULE.
14. REFER TO DRAWING E–101 AND E–103 FOR EQUIPMENT LOCATIONS AND FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

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C&D PROJECT# 1664
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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SEAL:

CHECKED BY:	MS	DRAWN BY:	RB/AM	DATE:	1–13–2014
ORIG. BY		DRAWING:		BUILDING:	N/A

REV.	DESCRIPTION

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27–6096–MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: LEGEND, ABBREVIATIONS, DETAILS & DIAGRAMS
E–001 OF 6

SHEET IN SET:
N/A

1 SITE ELECTRICAL PLAN
SCALE: 1" = 20'

DRAWING NOTES:

1. ALL EXISTING ELECTRICAL EQUIPMENT SHALL REMAIN UNLESS OTHERWISE NOTED.
2. PROVIDE CONDUITS AND CABLES TO SUPPLY SPORTS LIGHTING, MAINTENANCE LIGHTING AND SECURITY LIGHTING FROM THE SOURCE PANEL TO THE SPORTS LIGHTING CONTROL PANEL AND FROM THE SPORTS LIGHTING CONTROL PANEL TO THE SPORTS LIGHTING POLE.
3. PROVIDE UL LISTED ADAPTERS TO TERMINATE CONDUCTORS AT EQUIPMENT AND DEVICES THAT ARE SIZED TO MINIMIZE VOLTAGE DROP PER NEC REQUIREMENTS.
4. PROVIDE CONDUIT SYSTEM FOR VOICE, DATA AND VIDEO SYSTEMS. VOICE, DATA AND VIDEO SYSTEMS EQUIPMENT, CABLES AND TERMINATION BY THE UNIVERSITY OF SOUTH CAROLINA.
5. HANDHOLES SHOWN ON PLANS ARE NOT DRAWN TO SCALE. PROVIDE MINIMUM SIZE AS NOTED AND LARGER SIZE AS REQUIRED BY NEC.
6. FURNISH AND INSTALL THE ELECTRICAL SERVICE, THE SERVICE EQUIPMENT, THE LIGHTING DISTRIBUTION EQUIPMENT AND ALL CONDUITS AND CABLES TO SUPPORT THE PRACTICE FIELDS.

CODED DRAWING NOTES:

1. SCE&G SHALL PROVIDE A PAD MOUNT TRANSFORMER TO SUPPLY THE SERVICE ENTRANCE PANEL H-PF1 IN THE INDOOR FOOTBALL PRACTICE FACILITY.
2. PROVIDE CONDUIT AND CABLES PER ONE LINE DIAGRAM.
3. SEE DRAWING E-102 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
4. SEE DRAWING E-103 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
5. PROVIDE CONCRETE PAD AND GROUNDING PER SCE&G REQUIREMENTS.
6. PROVIDE SPORTS LIGHTING POLE WITH FIXTURES AND REINFORCED, CONCRETE LIGHT POLE BASE PER LIGHT FIXTURE SCHEDULE, PER DETAILS AND PER TECHNICAL SPECIFICATIONS.
7. PROVIDE HANDHOLE PER DETAIL AND PER TECHNICAL SPECIFICATIONS.
8. PROVIDE EXCAVATION AND BACKFILL PER DETAIL.
9. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F1:
   PRACTICE LIGHTS CIRCUIT H-PF1, #1/3/5 PROVIDE (3) #6
   MAINTENANCE LIGHTS CIRCUIT H-PF1, #7/9/11 PROVIDE (3) #10
   SECURITY LIGHTS CIRCUIT H-PF1, #13/15/17 PROVIDE (3) #10
   PROVIDE #6 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
10. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F2:
    PRACTICE LIGHTS CIRCUIT H-PF1, #2/4/6 PROVIDE (3) #4
    MAINTENANCE LIGHTS CIRCUIT H-PF1, #8/10/12 .
    PROVIDE #4 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
11. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F3:
    PRACTICE LIGHTS CIRCUIT H-PF1, #19/21/23 PROVIDE (3) #4
    MAINTENANCE LIGHTS CIRCUIT H-PF1, #25/27/29 PROVIDE (3) #6
    SECURITY LIGHTS CIRCUIT H-PF1, #31/33/35 PROVIDE (3) #6
    PROVIDE #4 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
12. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F4:
    PRACTICE LIGHTS CIRCUIT H-PF1, #20/22/24 PROVIDE (3) #2
    MAINTENANCE LIGHTS CIRCUIT H-PF1, #26/28/30 PROVIDE (3) #4
    SECURITY LIGHTS CIRCUIT H-PF1, #32/34/36 PROVIDE (3) #4
    PROVIDE #2 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
13. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F5:
    PRACTICE LIGHTS CIRCUIT H-PF2, #1/3/5 PROVIDE (3) #1
    MAINTENANCE LIGHTS CIRCUIT H-PF2, #7/9/11. PROVIDE #1 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
14. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F6:
    PRACTICE LIGHTS CIRCUIT H-PF2, #2/4/6 PROVIDE (3) #1
    MAINTENANCE LIGHTS CIRCUIT H-PF2, #8/10/12 PROVIDE (3) #4
    SECURITY LIGHTS CIRCUIT H-PF2, #14/16/18 PROVIDE (3) #4
    PROVIDE #1 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
15. FILM TOWER FURNISHED AND INSTALLED BY OTHERS. SEE DRAWING E-102, ENLARGED PLANS FOR ADDITIONAL REQUIREMENTS.
16. PROVIDE 1-1/2"C. w/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 1.
17. PROVIDE 1-1/2"C. W/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 2.
18. PROVIDE 1-1/2"C. W/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 3.
19. PUBLIC ADDRESS SYSTEM WIRING FURNISHED AND INSTALLED BY THE UNIVERSITY OF SOUTH CAROLINA.
20. PUBLIC ADDRESS SYSTEM SPEAKER IN WEATHERPROOF ENCLOSURE FURNISHED BY THE UNIVERSITY OF SOUTH CAROLINA AND INSTALLED BY THIS CONTRACTOR.
21. PROVIDE 1" C. w/ (3) #6, #6 G. FOR FUTURE TEMPORARY POWER.
22. PROVIDE (2) 4" CONDUITS WITH 1/4" NYLON PULL ROPE.
23. PROVIDE 2" CONDUIT WITH 1/4" NYLON PULL ROPE INTO LIGHT POLE BASE.
24. PROVIDE (2) 2" CONDUITS EACH WITH 1/4" NYLON PULL ROPE UP TO 48 FOOT FILMING PLATFORM ON TOWER.
25. PROVIDE 1"C. w/ (2) #6, #6 G. FOR POLE F6 GFI OUTLET.
26. PROVIDE 1-1/4"C. w/ (2) #3, #3 G. FOR POLE F4 GFI OUTLET.
27. PROVIDE 3/4"C. W/ (2) #12, #12 G. TO 2 kVA TRANSFORMER, POLE F1.
28. PROVIDE 3/4"C. W/ (2) #10, #10 G. TO 2 KVA TRANSFORMER, POLE F3.
29. PROVIDE A 20A/1P SWITCH, A 2 kVA TRANSFORMER 277 VOLT PRIMARY TO 120 VOLT SECONDARY, SECONDARY FUSE PROTECTION PER NEC AND (1) 120 VOLT GFI RECEPTACLE IN A WEATHERPROOF BOX WITH WEATHERPROOF COVER ON FENCE POST.
30. PROVIDE A 120 VOLT GFI RECEPTACLE IN A WEATHERPROOF BOX WITH WEATHERPROOF COVER ON FENCE POST.
31. IRRIGATION CONTROLLER TEMPORARILY LOCATED HERE.
32. EXTEND 2 WIRE SYSTEM TO TEMPORARY LOCATION. SEE DRAWING SR603 FOR POINT OF CONNECTION.
33. IRRIGATION CONTROLLER PERMANENTLY LOCATED HERE.
34. EXTEND 2 WIRE SYSTEM TO PERMANENT LOCATION.
35. PROVIDE 1" C. w/ (3) #8, #8 G. FOR EXPLOSION PROOF BLOWER MOTOR. PROVIDE CONNECTION PER MANUFACTURER'S INSTRUCTIONS AND PER NEC REQUIREMENTS.

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SEAL:

DRAWN BY:	RB/AM
CHECKED BY:	MS
DATE:	1-13-2014
DRAWING:	
BUILDING:	N/A
REV.	

DATE	DESCRIPTION	DRAWN BY	ORIG. BY

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: SITE ELECTRICAL PLAN

E-101 OF 6

SHEET IN SET: N/A

1 ENLARGED FILMING PLATFORM – TOWER 1
– SCALE: 1/4" = 1'-0"

3 ENLARGED FILMING PLATFORM – TOWER 2
– SCALE: 1/4" = 1'-0"

5 ENLARGED FILMING PLATFORM – TOWER 3
– SCALE: 1/4" = 1'-0"

2 ENLARGED GROUND LEVEL PLAN – TOWER 1
– SCALE: 1/4" = 1'-0"

4 ENLARGED GROUND LEVEL PLAN – TOWER 2
– SCALE: 1/4" = 1'-0"

6 ENLARGED GROUND LEVEL PLAN – TOWER 3
– SCALE: 1/4" = 1'-0"

GRAPHIC SCALE (FEET)
1/4"=1' 0' 4' 8' 12' 16' 20'

DRAWING NOTES:

1. PROVIDE ALL FIXTURES, DEVICES EQUIPMENT, BOXES, RACEWAYS, ETC. FOR A COMPLETE, CODE COMPLIANT AND OPERATIONAL SYSTEM.

CODED DRAWING NOTES:

1. PROVIDE CONDUIT(S) AND CABLE PER DRAWING E-101 AND/OR ONE LINE DIAGRAMS.
2. PROVIDE CONDUIT(S) FOR COMMUNICATIONS SYSTEMS PER RISER DIAGRAM.
3. PROVIDE 30A/2P, 480 VOLT SAFETY DISCONNECT SWITCH IN NEMA 4 ENCLOSURE.
4. PROVIDE 10 kVA DRY TYPE TRANSFORMER IN NEMA 3R ENCLOSURE.
   PROVIDE 480 VOLT 1ø PRIMARY AND 240/120 VOLT, 1ø 3 WIRE SECONDARY.
5. PROVIDE 240/120 VOLT LOADCENTER IN NEMA 4 ENCLOSURE PER PANEL SCHEDULE.
6. PROVIDE GROUND ROD PER DETAIL.
7. PROVIDE #2 AWG BCW BURIED GROUND RING.
8. PROVIDE LIGHT FIXTURES AT FILMING PLATFORM LEVEL AS SHOWN.
9. PROVIDE LIGHT FIXTURE UNDER EACH STAIR LANDING (± 8 FEET) SEGMENTS AT EACH TOWER. SEE ARCHITECTURAL PLANS AND ELEVATIONS FOR ADDITIONAL INFORMATION.
10. CADWELD #2 AWG BCW TO GROUND RING AND TO TOWER.

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: STATE OF SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24377 LICENSED JAMES B. FRIER

SEAL: STATE OF SOUTH CAROLINA CHA Consulting Inc No. 4419 CERTIFICATE OF AUTHORIZATION

REV.	DESCRIPTION	DATE	DRAWN BY	ORIG. BY	DRAWN BY

BUILDING: N/A
DRAWING:
DATE: 1-13-2014
DRAWN BY: RB/AM
CHECKED BY: MS

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
ENLARGED TOWERS POWER & LIGHTING PLANS

E-102 OF 6

SHEET IN SET:
N/A

1 ENLARGED ELECTRICAL ROOM PLAN – PERMANENT ELECTRICAL SERVICE
– SCALE: 1/8" = 1'-0"

PERMANENT ELECTRICAL SERVICE CODED NOTES:

1. THE SCE&G PAD MOUNT TRANSFORMER SHALL SUPPLY PANEL H-PF1 IN THE INDOOR FOOTBALL PRACTICE FACILITY.
2. PROVIDE PANEL H-PF1 THAT IS LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT PER PANELBOARD SCHEDULE AND TECHNICAL SPECIFICATIONS.
3. PROVIDE PANEL H-PF2 PER PANELBOARD SCHEDULE AND TECHNICAL SPECIFICATIONS.
4. PROVIDE LIGHTING CONTROL PANEL LCP1.
5. PROVIDE LIGHTING CONTROL PANEL LCP2.
6. PROVIDE DRY TYPE TRANSFORMER PER TECHNICAL SPECIFICATIONS.
7. PROVIDE PANEL PP PER PANELBOARD SCHEDULE AND TECHNICAL SPECIFICATIONS.
8. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F1:
   PRACTICE LIGHTS CIRCUIT H-PF1, #1/3/5 PROVIDE (3) #6
   MAINTENANCE LIGHTS CIRCUIT H-PF1, #7/9/11 PROVIDE (3) #10
   SECURITY LIGHTS CIRCUIT H-PF1, #13/15/17 PROVIDE (3) #10
   PROVIDE #6 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
9. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F2:
   PRACTICE LIGHTS CIRCUIT H-PF1, #2/4/6 PROVIDE (3) #4
   MAINTENANCE LIGHTS CIRCUIT H-PF1, #8/10/12 .
   PROVIDE #4 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
10. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F3:
    PRACTICE LIGHTS CIRCUIT H-PF1, #19/21/23 PROVIDE (3) #4
    MAINTENANCE LIGHTS CIRCUIT H-PF1, #25/27/29 PROVIDE (3) #6
    SECURITY LIGHTS CIRCUIT H-PF1, #31/33/35 PROVIDE (3) #6
    PROVIDE #4 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
11. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F4:
    PRACTICE LIGHTS CIRCUIT H-PF1, #20/22/24 PROVIDE (3) #2
    MAINTENANCE LIGHTS CIRCUIT H-PF1, #26/28/30 PROVIDE (3) #4
    SECURITY LIGHTS CIRCUIT H-PF1, #32/34/36 PROVIDE (3) #4
    PROVIDE #2 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
12. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F5:
    PRACTICE LIGHTS CIRCUIT H-PF2, #1/3/5 PROVIDE (3) #1
    MAINTENANCE LIGHTS CIRCUIT H-PF2, #7/9/11. PROVIDE #1 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
13. PROVIDE 2 INCH CONDUIT WITH CABLE TO SPORTS LIGHTING POLE F6:
    PRACTICE LIGHTS CIRCUIT H-PF2, #2/4/6 PROVIDE (3) #1
    MAINTENANCE LIGHTS CIRCUIT H-PF2, #8/10/12 PROVIDE (3) #4
    SECURITY LIGHTS CIRCUIT H-PF2, #14/16/18 PROVIDE (3) #4
    PROVIDE #1 AWG, GREEN EQUIPMENT GROUNDING CONDUCTOR
14. PROVIDE (2) 4 INCH CONDUITS WITH NYLON PULLING ROPE FOR COMMUNICATIONS AND PUBLIC ADDRESS WIRING. WIRING AND TERMINATIONS BY THE UNIVERSITY OF SOUTH CAROLINA.
15. PROVIDE 1" C. w/ (2) #6, #6 G. POLE F6, GFI OUTLET.
16. PROVIDE 1-1/4" C. W/ (2) #3, #3 G. POLE F4, GFI OUTLET.
17. PROVIDE 1" C. W/ (3) #6, #6 G. FUTURE TEMPORARY POWER SOURCE.
18. PROVIDE 3/4" C. W/ (2) #12, #12 G. POLE F1, 2 kVA TRANSFORMER.
19. PROVIDE 3/4" C. W/ (2) #10, #10 G. POLE F3, 2 KVA TRANSFORMER.
20. PROVIDE 1-1/2"C. w/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 1.
21. PROVIDE 1-1/2"C. W/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 2.
22. PROVIDE 1-1/2"C. W/ (2) #4, #8 G. TO SAFETY DISCONNECT AT FILMING TOWER 3.
23. HANDHOLE IS NOT SHOWN TO SCALE FOR CLARITY. PROVIDE HANDHOLE QUANTITY AND SIZES AS REQUIRED BY NEC AND SITE CONDITIONS..
24. PROVIDE UNDERGROUND SERVICE LATERAL CONDUITS AND CABLES PER ONE LINE DIAGRAM.
25. 10 HP BOOSTER PUMP SUPPLIED WITH VFD. PROVIDE 480 VOLT ELECTRICAL CONNECTIONS COMPLETE.
26. PROVIDE 3/4"C w/ (3) #10, #10 G. FROM PANEL H-PF2 #19/21/23 FOR BOOSTER PUMP STATION.
27. PROVIDE 30A/3P, 600V, NON-FUSED SAFETY SWITCH IN NEMA 3R ENCLOSURE.
28. PROVIDE 1" C. w/ (3) #8, #8 G. FOR 1 HP BLOWER MOTOR.

GRAPHIC SCALE (FEET)
1/4"=1' 0' 4' 8' 12' 16' 20'

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CHA

CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 24371 JAMES R. MUTTIS
SEAL: NORTH CAROLINA CERTIFICATE OF AUTHORIZATION CHA Consulting Inc No. 4/0

DRAWN BY:	RB/AM	CHECKED BY:	MS
DATE:	1-13-2014	ORIG. BY	DRAWN BY
DRAWING:		BUILDING: N/A	
DESCRIPTION		REV.	

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: ENLARGED ELECTRICAL ROOM PLAN PERMANENT ELECTRICAL SERVICE
E-103 OF 6

SHEET IN SET: N/A

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LIGHTING FIXTURE SCHEDULE									
SYMBOL	TAG	TYPE	DESCRIPTION	MOUNTING	LAMP(S)	BALLAST(S) [INPUT AMPS]	VOLTS	MANUFACTURER & SERIES	COMMENTS
	F1 F3 F4 F6	METAL HALIDE	(4) SPORT LIGHTING POLES EACH WITH 1500W METAL HALIDE LIGHT FIXTURES WITH CONTROLS FOR PRACTICE ACTIVITIES, MAINTENANCE ACTIVITIES AND SECURITY FUNCTION. EACH POLE HAS (14) 1500W FIXTURES ON A DEDICATED 3-PHASE CIRCUIT FOR PRACTICE FUNCTION EACH POLE HAS (4) 1500W FIXTURES ON A DEDICATED 3-PHASE CIRCUIT FOR MAINTENANCE FUNCTION EACH POLE HAS (2) 1000W FIXTURES ON A DEDICATED 3-PHASE CIRCUIT FOR SECURITY FUNCTION	90'-0" POLE	(18) 1500W PER POLE (2) 1000W PER POLE	(18) 1500W HPF 3.7 AMPS EACH (2) 1000W HPF 2.9 AMPS EACH	480V	MUSCO-GENERATION GREEN OR APPROVED EQUAL	(1) DEDICATED 60 AMP, 3ø CIRCUIT PER POLE FOR PRACTICE FUNCTION (1) DEDICATED 30 AMP, 3ø CIRCUIT PER POLE FOR MAINTENANCE FUNCTION (1) DEDICATED 30 AMP, 3ø CIRCUIT PER POLE FOR SECURITY FUNCTION
	F2 F5	METAL HALIDE	(2) SPORT LIGHTING POLES EACH WITH 1500W METAL HALIDE LIGHT FIXTURES WITH CONTROLS FOR PRACTICE ACTIVITIES, MAINTENANCE ACTIVITIES AND SECURITY FUNCTION. EACH POLE HAS (18) 1500W FIXTURES ON A DEDICATED 3-PHASE CIRCUIT FOR PRACTICE FUNCTION EACH POLE HAS (4) 1500W FIXTURES ON A DEDICATED 3-PHASE CIRCUIT FOR MAINTENANCE FUNCTION	90'-0" POLE	(22) 1500W PER POLE	(22) 1500W HPF 3.7 AMPS EACH	480V	MUSCO-GENERATION GREEN OR APPROVED EQUAL	(1) DEDICATED 60 AMP, 3ø CIRCUIT PER POLE FOR PRACTICE FUNCTION (1) DEDICATED 30 AMP, 3ø CIRCUIT PER POLE FOR MAINTENANCE FUNCTION
	FA/EM	FLUOR.	NOMINAL 1' X 4' ENCLOSED FIXTURE WITH FIBERGLASS HOUSING, HIGH INPACT ACRYLIC LENS AND METAL LATCHES. PROVIDE WITH EMERGENCY BALLAST AND NORMAL BALLAST TO OPERATE AT LOW TEMPERATURE CONDITIONS. PROVIDE FIXTURE LISTED FOR WET LOCATIONS.	SURFACE OR PENDANT	(2) 32W T8 HO	(1) ELECTRONIC LOW TEMP (1) EMERGENCY 900 LUMEN	120V	LITHONIA DMW SERIES OR APPROVED EQUAL	INSTALL ON UNDERSIDE OF STAIR AND/OR LANDINGS AT FILM TOWERS. CONNECT EMERGENCY BALLAST TO CIRCUIT AS INDICATED AND AHEAD OF LOCAL SWITCH(ES)

NOTES:

1. PROVIDE PRE-CONSTRUCTED WIRE HARNESS FOR LIGHTING FIXTURE WIRING WITH KELLUM GRIPS AND QUICK CONNECT PLUGS FOR EASE OF CONNECTION IN THE FIELD. (HARNESSES WRAPPED IN MYLAR CASING AND A PROTECTIVE SLEEVE FOR ABRASION RESISTANCE.)
2. ALL STEEL CROSSARMS AND POLES SHALL BE HOT DIPPED GALVANIZED.
3. ALL ELECTRICAL ENCLOSURES SHALL BE POWDER COATED ALUMINUM.
4. ALL THREADED FASTENERS, HINGES, AND LATCHES SHALL BE STAINLESS STEEL.
5. PROVIDE POLE TOP ASSEMBLY W/ FACTORY WIRING AND AIMING (COMPLETE WELDED ASSEMBLY).
6. JACKING BRACKET DESIGN ALLOWS FOR EASY USE OF "COME-A-LONGS" FOR INSTALLATION.
7. INCLUDED ARE; BASE INSTALLATION WEDGES, ONE OFFSET INSTALLATION LEVEL, AND ONE INSTALLATION LIFTING ROD.
8. ALL EXPOSED HARDWARE SHALL BE TAMPER RESISTANT.

1 SPORTS LIGHTING POLE – SIMILAR FOR (6) POLES
- NOT TO SCALE

NOTES

1. FOR CLARITY, THIS DIAGRAM DOES NOT SHOW ALL SPORTS LIGHTING POLES THAT WILL BE FURNISHED AND INSTALLED UNDER THIS PROJECT. REFER TO PLANS AND SCHEDULES FOR EXACT QUANTITIES AND LOCATIONS OF POLES AND EQUIPMENT TO BE PROVIDED FOR THE PRACTICE FIELD LIGHTING PROJECT.
2. PROVIDE LIGHTING CONTROL PANELS THAT ARE FACTORY ASSEMBLED BY SPORTS LIGHTING MANUFACTURER. PROVIDE WITH 60 AMP AND 30 AMP 3-POLE CONTACTORS AS INDICATED BY SOURCE CIRCUIT BREAKERS. PROVIDE OVER-CURRENT PROTECTIONS FOR ALL WIRING AT POLES PER NEC REQUIREMENTS. PROVIDE PHOTO CELL, ASTRONOMICAL TIME CLOCK AND/OR DIGITAL PROGRAMMING TO CONTROL ALL LIGHT LEVEL FUNCTIONS (PRACTICE-MAINTENANCE-SECURITY).
3. PROVIDE BALLAST ENCLOSURE(S) BY SPORTS LIGHTING MANUFACTURER INSTALLED ON SPORTS LIGHTING POLES.
4. PROVIDE WITH WIRING FROM BALLAST ENCLOSURE(S) TO LUMINAIRES BY SPORTS LIGHTING MANUFACTURER.
5. PROVIDE CONDUIT AND WIRING FROM SOURCE PANEL TO LIGHTING CONTROL PANEL AND FROM LIGHTING CONTROL PANEL TO SPORTS LIGHTING POLES AS NOTED ON THE ELECTRICAL PLAN.
6. PROVIDE THREE ON-OFF-AUTO SWITCHES IN LIGHTING CONTROL PANELS TO CONTROL PRACTICE, MAINTENANCE AND SECURITY FUNCTIONS (ZONES 1, 2 AND 3) AT ALL POLES. SWITCHES SHALL BE OPERABLE ON OUTSIDE OF PANEL DOOR.
7. LIGHTING CONTROL PANEL(S) SHALL BE SUPPLIED WITH NUMBER OF CONTACTORS AS INDICATED AND AS REQUIRED TO SUPPORT THE NUMBER OF POLES AND ZONES AS INDICATED.
8. SEE ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
9. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC REQUIREMENTS IN EVERY RACEWAY INSTALLED UNDER THIS PROJECT.

2 SPORTS LIGHTING – CONTROL DIAGRAM
- SCALE: NONE

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER No. 24371 JAMES B. MITTLER (Signature) (Date)

SEAL: SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION CHA Consulting Inc No. 4403

DRAWN BY:	CHECKED BY:
RB/AM	MS
DATE	DRAWN BY
ORIG. BY	

DATE: 1-13-2014
DRAWING:
DESCRIPTION
BUILDING: N/A
REV.

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: FIXTURE SCHEDULES, DETAILS AND DIAGRAMS
E-201 OF 6

SHEET IN SET: N/A

LOCATION: OUTDOOR TEMPORARY – INDOOR PERMANENT
MOUNTING: SURFACE
SOURCE: SCE&G PAD MOUNT TRANSFORMER

SWITCHBOARD ID: **H-PF1**

VOLTS, PHASE, WIRE: 480/277V 3ø 4W
MAINS: 600 AMP w/ 500A/3P MCB
SHORT CIRCUIT RATING: MINIMUM 65 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD kVA Aø	CONN LOAD kVA Bø	CONN LOAD kVA Cø		CONN LOAD kVA Aø	CONN LOAD kVA Bø	CONN LOAD kVA Cø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	LIGHT POLE F1 ZONE 1 (14) 1500W (37 FLA)	60/3	10.2				12.3			60/3	LIGHT POLE F2 ZONE 1 (18) 1500W (44.4 FLA)	2
3				10.2				12.3				4
5					10.2				12.3			6
7	LIGHT POLE F1 ZONE 2 (4) 1500W (11.1 FLA)	30/3	3.1				3.1			30/3	LIGHT POLE F2 ZONE 2 (4) 1500W (11.1 FLA)	8
9				3.1				3.1				10
11					3.1				3.1			12
13	LIGHT POLE F1 ZONE 3 (2) 1000W (5.8 FLA)	30/3	1.6							xx/3	NOTE 4 TVSS	14
15				1.6								16
17					1.6							18
19	LIGHT POLE F3 ZONE 1 (14) 1500W (37 FLA)	60/3	10.2				10.2			60/3	LIGHT POLE F4 ZONE 1 (14) 1500W (37 FLA)	20
21				10.2				10.2				22
23					10.2				10.2			24
25	LIGHT POLE F3 ZONE 2 (4) 1500W (11.1 FLA)	30/3	3.1				3.1			30/3	LIGHT POLE F4 ZONE 2 (4) 1500W (11.1 FLA)	26
27				3.1				3.1				28
29					3.1				3.1			30
31	LIGHT POLE F3 ZONE 3 (2) 1000W (5.8 FLA)	30/3	1.6				1.6			30/3	LIGHT POLE F4 ZONE 3 (2) 1000W (5.8 FLA)	32
33				1.6				1.6				34
35					1.6				1.6			36
37	PANEL PP VIA 10 kVA TRANSFORMER	25/2	1.4				38.2			175/3	PANEL H-PF2	38
39				1.4				38.2				40
41	PROVISIONED SPACE								36.2			42
			31.2	31.2	29.8	SUB. T	68.5	68.5	66.5			
		A øB øC ø TOTAL			99.7	99.7	96.3					
		TOTAL kVA										
		295.7										
		295.7 x 1000 / (480 x 1.73) = 356.1 AMPS										
		356.1 x 1.25 = 445										

NOTES:
1. PROVIDE PANEL WITH DEAD FRONT COVER THAT HAS PROVISIONS TO INDIVIDUALLY LOCK EACH CIRCUIT BREAKER IN THE ON AND OFF POSITIONS.
2. PROVIDE 600 AMP FRAME, ELECTRONIC TRIP MAIN CIRCUIT BREAKER WITH FIELD ADJUSTABLE TRIP ELEMENT.
3. PROVIDE MAIN CIRCUIT BREAKER THAT IS 100% RATED.
4. PROVIDE PANEL WITH INTEGRAL TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE (TVSS) PROVIDE OVERCURRENT DEVICE SIZED PER TVSS MANUFACTURER'S SPECIFICATIONS.

LOCATION: TO BE DETERMINED
MOUNTING: SURFACE
SOURCE: PANEL H-PF1

SWITCHBOARD ID: **H-PF2**

VOLTS, PHASE, WIRE: 480/277V 3ø 4W
MAINS: 225 AMP MLO
SHORT CIRCUIT RATING: MINIMUM 65 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD kVA Aø	CONN LOAD kVA Bø	CONN LOAD kVA Cø		CONN LOAD kVA Aø	CONN LOAD kVA Bø	CONN LOAD kVA Cø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	LIGHT POLE F5 ZONE 1 (18) 1500W (44.4 FLA)	60/3	12.3				10.2			60/3	LIGHT POLE F6 ZONE 1 (14) 1500W (37 FLA)	2
3				12.3				10.2				4
5					12.3				10.2			6
7	LIGHT POLE F5 ZONE 2 (4) 1500W (11.1 FLA)	30/3	3.1				3.1			30/3	LIGHT POLE F6 ZONE 2 (4) 1500W (11.1 FLA)	8
9				3.1				3.1				10
11					3.1				3.1			12
13	1 HP BLOWER MOTOR	15/3	0.5				1.6			30/3	LIGHT POLE F6 ZONE 3 (2) 1000W (5.8 FLA)	14
15				0.5				1.6				16
17					0.5				1.6			18
19	10 HP BOOSTER PUMP	25/3	3.9				0.9			25/2	TOWER 1 PANEL TP1 VIA 10 KVA TRANSFORMER	20
21				3.9				0.8				22
23					3.9				0.9	25/2	TOWER 2 PANEL TP2 VIA 10 KVA TRANSFORMER	24
25	2 kVA TRANS (277V TO 120V) AND GFI AT POLE F1	20/1	1.8				0.8					26
27	2 kVA TRANS (277V TO 120V) AND GFI AT POLE F1	20/1		1.8				0.9		25/2	TOWER 3 PANEL TP3 VIA 10 KVA TRANSFORMER	28
29	PROVISIONED SPACE								0.6			30
31	PROVISIONED SPACE										PROVISIONED SPACE	32
33	PROVISIONED SPACE										PROVISIONED SPACE	34
35	PROVISIONED SPACE										PROVISIONED SPACE	36
37	PROVISIONED SPACE										PROVISIONED SPACE	38
39	PROVISIONED SPACE										PROVISIONED SPACE	40
41	PROVISIONED SPACE										PROVISIONED SPACE	42
			21.6	21.6	19.8	SUB. T	16.6	16.6	16.4			
		A øB øC ø TOTAL			38.2	38.2	36.2					
		TOTAL kVA										
		112.6										
		112.6 x 1000 / (480 x 1.73) = 135.6 AMPS										
		135.6 x 1.25 = 170										

NOTES:
1. PROVIDE PANEL WITH DEAD FRONT COVER THAT HAS PROVISIONS TO INDIVIDUALLY LOCK EACH CIRCUIT BREAKER IN THE ON AND OFF POSITIONS.

LOCATION: AT LIGHTING & CONTROL PANEL LOCATION
MOUNTING: SURFACE
SOURCE: PANEL H-PF1 VIA 10 kVA TRANSFORMER

PP

VOLTS, PHASE, WIRE: 240/120V 1ø 3W
MAINS: 60 AMP w/ 50A/2P MCB
SHORT CIRCUIT RATING: MINIMUM 10 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD KVA Aø	CONN LOAD KVA Bø		CONN LOAD KVA Aø	CONN LOAD KVA Bø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	LIGHT POLE F1 GFI OUTLET	20/1	0.2			0.2		20/1	LIGHT POLE F4 GFI OUTLET	2
3	LIGHT POLE F3 GFI OUTLET	20/1		0.2			0.2	20/1	LIGHT POLE F6 GFI OUTLET	4
5	LIGHTING CONTROL PANEL LCP1 (CONTROL POWER)	20/1	1.0						PROVISIONED SPACE	6
7	LIGHTING CONTROL PANEL LCP2 (CONTROL POWER)	20/1		1.0					PROVISIONED SPACE	8
9	TEMPORARY TENT POWER SUPPLY	40/2							PROVISIONED SPACE	10
12									PROVISIONED SPACE	12
			1.2	1.2	SUB. T	0.2	0.2			
		A ø B ø TOTALS	1.4			1.4				
		TOTAL kVA								
		2.8								

NOTES:
1. PROVIDE PANELBOARD DEAD FRON COVER WITH PROVISIONS TO LOCK THE CIRCUIT BREAKER IN THE OFF POSITION.

LOCATION: FILMING TOWER 1 – MID FIELD
MOUNTING: SURFACE
SOURCE: PANEL H-PF2 VIA 10 kVA TRANSFORMER

PT1

VOLTS, PHASE, WIRE: 240/120V 1ø 3W
MAINS: 60 AMP w/ 50A/2P MCB
SHORT CIRCUIT RATING: MINIMUM 10 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD KVA Aø	CONN LOAD KVA Bø		CONN LOAD KVA Aø	CONN LOAD KVA Bø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	TOWER STAIR LIGHT FIXTURES	15/1	0.5			0.4		20/1	GROUND LEVEL GFI OUTLETS	2
3	TOWER FILMING PLATFORM LIGHT FIXTURES	15/1		0.4			0.4	20/1	FILMING PLATFORM GFI OUTLETS	4
5	PROVISIONED SPACE								PROVISIONED SPACE	6
7	PROVISIONED SPACE								PROVISIONED SPACE	8
9	PROVISIONED SPACE								PROVISIONED SPACE	10
12	PROVISIONED SPACE								PROVISIONED SPACE	12
			0.5	0.4	SUB. T	0.4	0.4			
		A ø B ø TOTALS	0.9			0.8				
		TOTAL kVA								
		1.7								

NOTES:
1. PROVIDE PANELBOARD IN A NEMA 4 ENCLOSURE WITH PROVISIONS TO LOCK THE OUTER DOOR.

LOCATION: FILMING TOWER 2 – NORTHEAST END ZONE
MOUNTING: SURFACE
SOURCE: PANEL H-PF2 VIA 10 kVA TRANSFORMER

PT2

VOLTS, PHASE, WIRE: 240/120V 1ø 3W
MAINS: 60 AMP w/ 50A/2P MCB
SHORT CIRCUIT RATING: MINIMUM 10 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD KVA Aø	CONN LOAD KVA Bø		CONN LOAD KVA Aø	CONN LOAD KVA Bø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	TOWER STAIR LIGHT FIXTURES	15/1	0.5			0.4		20/1	GROUND LEVEL GFI OUTLETS	2
3	TOWER FILMING PLATFORM LIGHT FIXTURES	15/1		0.2			0.4	20/1	FILMING PLATFORM GFI OUTLETS	4
5	CLOCK OUTLET	20/1							PROVISIONED SPACE	6
7	PROVISIONED SPACE								PROVISIONED SPACE	8
9	PROVISIONED SPACE								PROVISIONED SPACE	10
12	PROVISIONED SPACE								PROVISIONED SPACE	12
			0.5	0.2	SUB. T	0.4	0.4			
		A ø B ø TOTALS	0.9			0.6				
		TOTAL kVA								
		1.5								

NOTES:
1. PROVIDE PANELBOARD IN A NEMA 4 ENCLOSURE WITH PROVISIONS TO LOCK THE OUTER DOOR.

LOCATION: FILMING TOWER 3 – NORTHWEST END ZONE
MOUNTING: SURFACE
SOURCE: PANEL H-PF2 VIA 10 kVA TRANSFORMER

PT3

VOLTS, PHASE, WIRE: 240/120V 1ø 3W
MAINS: 60 AMP w/ 50A/2P MCB
SHORT CIRCUIT RATING: MINIMUM 10 KAIC

CKT	LOAD DESCRIPTION	CB AMPS/ POLE	CONN LOAD KVA Aø	CONN LOAD KVA Bø		CONN LOAD KVA Aø	CONN LOAD KVA Bø	CB AMPS/ POLE	LOAD DESCRIPTION	CKT
1	TOWER STAIR LIGHT FIXTURES	15/1	0.5			0.4		20/1	GROUND LEVEL GFI OUTLETS	2
3	TOWER FILMING PLATFORM LIGHT FIXTURES	15/1		0.2			0.4	20/1	FILMING PLATFORM GFI OUTLETS	4
5	CLOCK OUTLET	20/1							PROVISIONED SPACE	6
7	PROVISIONED SPACE								PROVISIONED SPACE	8
9	PROVISIONED SPACE								PROVISIONED SPACE	10
12	PROVISIONED SPACE								PROVISIONED SPACE	12
			0.5	0.2	SUB. T	0.4	0.4			
		A ø B ø TOTALS	0.9			0.6				
		TOTAL kVA								
		1.5								

NOTES:
1. PROVIDE PANELBOARD IN A NEMA 4 ENCLOSURE WITH PROVISIONS TO LOCK THE OUTER DOOR.

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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:
SEAL:

DATE:	DRAWING:	BUILDING:	DRAWN BY:	CHECKED BY:
1-13-2014		N/A	RB/AM	MS

REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
ELECTRICAL PANEL SCHEDULES

E-301 OF 6

SHEET IN SET:
N/A

Terracon
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CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

SEAL:

SECTION 1 - SCOPE OF WORK

1.1 LOCATION OF WORK

THE USC OUTDOOR FOOTBALL PRACTICE FACILITY IS LOCATED ON NATIONAL GUARD ROAD IN COLUMBIA, SOUTH CAROLINA.

1.2 INTENT

THE INTENT OF THIS DOCUMENT IS TO PROVIDE FOR CONSTRUCTION AND COMPLETION OF THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS USING A STANDARD OF CARE CONSISTENT WITHIN THE GAS COLLECTION SYSTEM CONSTRUCTION INDUSTRY AND CONSISTENT WITH THE GENERAL CONDITIONS AND OTHER REQUIREMENTS CONTAINED HEREIN. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS THAT ARE NECESSARY TO COMPLETE THE WORK IN A PROPER, COMPLETE AND ACCEPTABLE MANNER IN ACCORDANCE WITH THIS DOCUMENT AND THE ATTACHED DRAWINGS AND SPECIFICATIONS.

1.3 DESCRIPTION OF WORK

THE WORK TO BE PERFORMED FOR THIS CONTRACT INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THE CONSTRUCTION OF A VAPOR MANAGEMENT SYSTEM (VMS) AND RELATED STRUCTURES.

THE BASIS OF DESIGN IS AN ACTIVE VMS CONSTRUCTED BENEATH AN IMPERMEABLE MEMBRANE, (SEE CHA FIELD DETAIL DRAWING), WITHIN A 6-INCH GRAVEL BLANKET INSTALLED JUST BELOW THE MEMBRANE. SUBSURFACE GASES FROM THE SUBSURFACE WILL MIGRATE NATURALLY INTO THE GRAVEL LAYER, AND WILL BE COLLECTED WITH LOW-PROFILE TRENCHLESS GAS COLLECTION PIPING CONSTRUCTED IN FOUR ZONES BENEATH THE TWO OUTDOOR PRACTICE FIELDS. THE VENT PIPING WILL BE ATTACHED TO 3-INCH PVC CARRIER PIPE AND CONNECTED TO AN ACTIVE BLOWER SYSTEM WHICH CAN BE MANUALLY ADJUSTED FOR DIFFERENT FLOW RATES WITHIN EACH ZONE OF EXTRACTION.

IN ORDER TO ALLOW FOR VENTING OF SUBSURFACE GASES BETWEEN THE OPEN, OUTDOOR FACILITY TO THE PROPOSED ENCLOSED INDOOR FACILITY, A GAS COLLECTION TRENCH WILL BE INSTALLED AND PASSIVELY VENTED TO THE ATMOSPHERE.

THE VMS CONSTRUCTION SHALL CONSIST OF BUT NOT BE LIMITED TO, THE FOLLOWING.

- EXCAVATION AND COMPACTION OF SUBGRADE MATERIAL BENEATH GAS COLLECTION SYSTEM;
- SUPPLY AND PLACE 6-INCH SAND/GRAVEL BLANKET LAYER, FOLLOWING THE FIELD GRADE OF FACILITY;
- SUPPLY AND INSTALL LOW PROFILE VENT PIPING AND ASSOCIATED FITTINGS;
- SUPPLY AND INSTALL 3-INCH PVC CARRIER PIPE AND ASSOCIATED FITTINGS;
- SUPPLY AND INSTALL AN ACTIVE BLOWER SYSTEM AND CONTROL PANEL TO INCLUDE AN EXPLOSION-PROOF BLOWER, CONTROLS, AND PASSIVE VENTILATOR;
- PROVIDE ELECTRICAL SERVICE TO BLOWERS AND TEST FOR OPERATION;
- EXCAVATION OF A 3FT X 10 FT X 500 FT. GAS COLLECTION TRENCH FILLED WITH GRAVEL;
- SUPPLY AND INSTALL 4-INCH SLOTTED PVC PIPING, 4-INCH LATERAL PIPING, 4-INCH STEEL VENT RISER, SUPPORT, AND PASSIVE TURBINE VENTILATOR;
- SUPPLY AND INSTALL A CONCRETE EQUIPMENT PAD WITH FENCED ENCLOSURE.

ALL WORK MUST BE CARRIED OUT AND MAINTAINED PER THESE DRAWINGS AND SPECIFICATIONS.

CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE THEIR OPERATIONS CAUSE TO ANY PORTION OF THE WORK, REGARDLESS OF THE CIRCUMSTANCES, AND WILL REPAIR THIS DAMAGE TO THE APPROVAL OF THE ON-SITE COORDINATOR (OSC) AND AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL DEWATERING AND REPAIRS REQUIRED DUE TO RAIN OR FREEZING.

1.4 SCOPE OF WORK

THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE CONSTRUCTION OF THE WORK AS SHOWN AND INDICATED ON THE CONSTRUCTION DRAWINGS, EITHER BY DIRECT LABOR OR SUBCONTRACT. THE SCOPE OF WORK COVERED BY THIS DOCUMENT INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, THE FOLLOWING:

1. FURNISH ALL TRANSPORTATION, EQUIPMENT, AND LABOR REQUIRED TO SUPPLY ALL MATERIALS AND EQUIPMENT AT THE SITE.
2. FURNISH MATERIAL, LABOR AND EQUIPMENT NECESSARY INSTALL 6-INCH SAND/GRAVEL BLANKET FOR GAS COLLECTION SYSTEM TO REQUIRED GRADES. THE SAND/GRAVEL SHALL BE COMPACTED FIRM USING A SMOOTH DRUM ROLLER.
3. SUPPLY AND INSTALL ALL VENT PIPING, PVC PIPE, AND ASSOCIATED FITTINGS. THIS INCLUDES THE 1X12-INCH LOW PROFILE VENT PIPING, AND 3-INCH SCH 40 PVC CARRIER LINES, ALL ASSOCIATED FITTINGS, INCLUDING VALVES, INCLUDING TRANSITION FITTINGS, T-JOINTS, QUICK CONNECTS, ELBOWS, AND/OR WYES.
4. FURNISH MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL A GAS COLLECTION TRENCH, 2 FOOT WIDE BY X 10-FOOT DEEP, 500 FEET ALONG THE SOUTH SIDE OF THE FACILITY, AND INSTALL 4-INCH SCHEDULE 40 SLOTTED PVC PIPING AND #57 GRAVEL THROUGHOUT TRENCH TO REQUIRED GRADES.
5. SUPPLY AND INSTALL 4-INCH SCHEDULE 40 SOLID PVC RISER FROM END OF GAS COLLECTION TRENCH TO REQUIRED GRADES AND 4-INCH CAST IRON OR STEEL RISER FROM BELOW-GRADE PIPING TO FINISHED GRADE;
6. SUPPLY AND INSTALL A 16 FT. 4-INCH DIAMETER STEEL OR CAST IRON PIPING A MINIMUM OF 4 FEET BELOW THE SURFACE WITH 12 FT MINIMUM HEIGHT ABOVE GROUND AT A LOCATION APPROVED BY THE OWNER, AND SUPPLY AND INSTALL A PASSIVE TURBINE VENTILATOR ON SUPPORT POLE.
7. FURNISH MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL BLOWER SYSTEM AND ELECTRICAL REQUIREMENTS AND TEST FOR OPERATION.
8. SUPPLY AND INSTALL A 6'X8'X6" CONCRETE PAD WITH SURROUNDING CHAIN-LINK FENCE FOR THE BLOWER EQUIPMENT.

C. SUBMITTALS

1. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT DATA AND RECOMMENDED INSTALLATION PROCEDURES TO THE VMS DESIGNER FOR REVIEW AND APPROVAL AT LEAST ONE WEEK PRIOR TO THE CONSTRUCTION FOR APPROVAL. PRODUCT DATA TO INCLUDE:

- VENT PIPING AND END OUTLET
- PASSIVE TURBINE VENTILATOR
- BLOWER AND SYSTEM CONTROLS AND COMPONENTS

2. THE VMS SUBCONTRACTOR SHALL SUBMIT REPRESENTATIVE SAMPLES OF THE FOLLOWING TO THE VMS DESIGNER AT LEAST ONE WEEK PRIOR TO THE CONSTRUCTION FOR APPROVAL:

- VENT PIPING AND END OUTLET
- GEOTEXTILES
- PROTECTION COURSE

1.5 COORDINATION BETWEEN CONTRACTORS

BEFORE ANY WORK IS INSTALLED, EACH CONTRACTOR SHALL CAREFULLY CHECK ALL PLANS AND SPECIFICATIONS FOR EACH TRADE AND JOB CONDITION. ANY LACK OF COORDINATION BETWEEN HIS WORK, OTHER CONTRACTORS, PLANS, SPECIFICATIONS, OR JOB CONDITIONS SHALL BE IMMEDIATELY REPORTED TO OWNER, IN WRITING. IF CONTRACTOR FAILS TO CALL SUCH CONFLICT OR LACK OF COORDINATION BETWEEN OTHER CONTRACTORS, PLANS, SPECIFICATIONS, OR JOB CONDITIONS TO THE OWNER'S ATTENTION BEFORE ANY WORK IS DONE, IT WILL BE ASSUMED THAT NO CONFLICT OR LACK OF COORDINATION EXISTS, AND THAT ALL SPECIFIED MILESTONES CONTAINED IN THE APPROVED BASELINE SCHEDULE WOULD BE MET.

NOTWITHSTANDING THE ABOVE, EVERY ATTEMPT WILL BE MADE BY CONTRACTOR AND OWNER TO ENSURE WELL-COORDINATED OPERATIONS AND CONSTRUCTION ACTIVITIES DURING THE PROJECT.

1.6 SCHEDULE

TIMELY COMPLETION OF THE WORK REQUIRED FOR THIS CONTRACT IS ESSENTIAL. THE SELECTION OF THE SUCCESSFUL BIDDER MAY BE DETERMINED BY HIS SCHEDULE AS WELL AS HIS BID AMOUNT. THE CONTRACTOR SHALL PROVIDE A DETAILED SCHEDULE THAT INCLUDES SPECIFIC DURATION FOR COMPLETION OF, AT A MINIMUM, THE WORK AS DETAILED.

1.7 FAMILIARIZATION

PRIOR TO IMPLEMENTING ANY WORK DESCRIBED IN THIS DOCUMENT, THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE SITE, THE SITE CONDITIONS, AND ALL PORTIONS OF THE WORK FALLING WITHIN THIS DOCUMENT.

A. INSPECTION:

1. PRIOR TO IMPLEMENTING ANY OF THE WORK IN THIS SECTION, THE CONTRACTOR SHALL CAREFULLY INSPECT THE INSTALLED WORK AND VERIFY THAT ALL WORK IS COMPLETE TO THE POINT WHERE THE INSTALLATION MAY PROPERLY COMMENCE WITHOUT ADVERSE IMPACT.
2. IF THE CONTRACTOR HAS ANY CONCERNS REGARDING THE INSTALLED WORK OF OTHER SECTIONS, HE/SHE SHOULD IMMEDIATELY NOTIFY THE OSC OR OWNERS REPRESENTATIVE IN WRITING WITHIN 24 HOURS OF THE SITE VISIT. FAILURE TO NOTIFY THE OSC OR OWNERS REPRESENTATIVE OR CONTINUANCE WITH SITE WORK SHALL BE CONSTRUED AS CONTRACTOR'S ACCEPTANCE OF THE RELATED WORK.

1.8 PROTECTION OF WORK

A. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT ALL MATERIALS AND ALL PARTIALLY-COMPLETED AND COMPLETED WORK OF THIS SECTION.

B. IN THE EVENT OF DAMAGE, THE OSC SHALL IDENTIFY AREAS REQUIRING REPAIR, AND THE CONTRACTOR SHALL MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE OSC AND AT NO ADDITIONAL COST TO THE OWNER.

C. AT THE END OF EACH DAY, THE CONTRACTOR SHALL VERIFY THAT THE ENTIRE WORK AREA WAS LEFT IN A STATE THAT PROMOTES SURFACE DRAINAGE OFF AND AWAY FROM THE AREA AND FROM FINISHED WORK. IF THREATENING WEATHER CONDITIONS ARE FORECAST, COMPACTED SURFACES SHALL BE SEAL-ROLLED TO PROTECT FINISHED WORK.

1.9 PUMPING AND DRAINAGE

A. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER EQUIPMENT AND FACILITIES TO REMOVE ALL WATER ENTERING EXCAVATIONS AND KEEP SUCH EXCAVATIONS DRY SO AS TO OBTAIN A SATISFACTORY SUBGRADE TO ALLOW THE CONSTRUCTION OF THE FILL AND INSTALLATION OF THE GAS COLLECTION SYSTEM.

B. WATER ENTERING THE WORK AREA FROM SURFACE RUNOFF SHALL BE COLLECTED IN SHALLOW DITCHES AROUND THE PERIMETER OF THE WORK AREA, DRAINED TO SUMPS, AND PUMPED FROM THE EXCAVATION TO THE PERIMETER DRAINAGE DITCH OR TO POND IN ORDER TO MAINTAIN THE WORK AREA FREE FROM STANDING WATER.

C. DRAINAGE SHALL BE DISPOSED OF ONLY IN AN AREA APPROVED BY THE OWNER. DRAINAGE SHALL BE DISPOSED OF IN A MANNER, WHICH PREVENTS FLOW OR SEEPAGE BACK INTO THE WORK AREA.

DRAWN BY: PTK	CHECKED BY: PMH	DRAWN BY	
		ORIG. BY	
		DATE	
DATE: 1/13/14			
DESCRIPTION			
DRAWING:			
BUILDING: N/A			
REV.			

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:
VMS
PLAN LAYOUT
1 OF 3

SHEET IN SET:
N/A

1 *LOW PROFILE GAS VENT SYSTEM*

NOT TO SCALE

2 *LOW PROFILE GAS VENT PIPE TERMINATION*

NOT TO SCALE

3 *LOW PROFILE GAS VENT PIPE TERMINATION*

NOT TO SCALE

4 *GAS VENT END OUTLET CONNECTION TO HORIZONTAL COLLECTION PIPING*

NOT TO SCALE

5 *GAS VENT END OUTLET CONNECTION TO HORIZONTAL COLLECTION PIPING*

NOT TO SCALE

6 *GAS VENT END OUTLET CONNECTION TO COLLECTOR PIPE BETWEEN OUTDOOR FIELDS*

NOT TO SCALE

7 *GAS COLLECTION TRENCH BETWEEN INDOOR AND OUTDOOR PRACTICE FACILITIES*

NOT TO SCALE

8 *GAS COLLECTION TRENCH BETWEEN INDOOR AND OUTDOOR PRACTICE FACILITIES*

NOT TO SCALE

SECTION 2 - SPECIFICATIONS

2.1 GAS COLLECTION SYSTEM

2.1.1 SUBGRADE SURFACE PREPARATION

A. THE SUBGRADE SHALL HAVE A SMOOTH COMPACTED SURFACE TO PROVIDE A FIRM UNYIELDING FOUNDATION SUFFICIENT TO PERMIT THE MOVEMENT OF VEHICLES AND EQUIPMENT OVER THE SUBGRADE WITHOUT CAUSING RUTTING OR OTHER DELETERIOUS EFFECTS.

B. THE COMPACTED SUBGRADE SHALL BE EXCAVATED AND COMPACTED AT A MINIMUM DEPTH OF 22-INCHES BELOW FINISHED FIELD GRADE.

C. NO MATERIAL SHALL BE PLACED OR SPREAD DURING UNFAVORABLE WEATHER CONDITIONS, OR DURING PERIODS OF PRECIPITATION. SURPLUS EXCAVATED SOILS SHALL NOT BE REMOVED FROM THE SITE OR DISPOSED OF BY THE CONTRACTOR UNLESS DIRECTED TO DO SO BY THE OWNER OR OSC.

2.1.2 GRAVEL BLANKET

A. A MINIMUM OF SIX INCH LAYER OF SAND (OR GRAVEL) SHALL BE PROVIDED ABOVE THE PREPARED SUBGRADE, EXTENDING TO THE GRAVEL SPECIFIED FOR THE DRAINAGE COLLECTION GRAVEL AS SHOWN IN DETAIL 1, VMS SHEET 2.

B. THE GRADATION OF THE SAND (OR GRAVEL) PLACED BELOW THE MEMBRANE SHALL MEET THE SPECIFICATIONS IN THE TABLE BELOW. THE SAND OR GRAVEL LAYER MUST BE REVIEWED BY THE GEOTECHNICAL ENGINEER TO MEET THE PROJECT REQUIREMENTS. A REPRESENTATIVE SAMPLE SHALL BE SUBMITTED TO THE GEOTECHNICAL LABORATORY FOR CONFORMANCE TESTING.

Sieve	Percent Passing
3/8 inch	100
No. 4	90-100
No. 8	75-90
No. 16	55-75
No. 30	30-50
No. 50	10-25
No. 100	2-10
No. 200	0-3

C. THE SAND/GRAVEL LAYER SHALL BE ROLLED SMOOTH AND MOISTURE CONDITIONED AS NECESSARY TO ACHIEVE THE COMPACTION SPECIFIED IN THE PROJECT REQUIREMENTS.

2.1.2 GAS VENT PIPING

A. LOW PROFILE VENT PIPING

1. LOW PROFILE VENT PIPING SHALL BE LOW PROFILE, TRENCHLESS, POLYSTRENE VENT PIPING, 1" THICK BY X12" WIDE WITH A COMPRESSIVE STRENGTH OF 9000 LBS / ft2 AND A FLOW CAPACITY OF 30 GPM PER FOOT.
2. LOW PROFILE VENT PIPING SHALL BE WRAPPED WITH NON-WOVEN, NEEDLE PUNCHED FILTER FABIRIC.
3. LOW PROFILE VENT PIPING SHALL BE PLACED 75 FEET APART AS DESIGNATED ON THE VMS PLAN LAYOUT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. THE VENT PIPING SHALL BE PLACED A MAXIMUM OF THREE INCHES ABOVE THE BOTTOM OF THE GRAVEL LAYER. A MINIMUM OF TWO INCHES OF GRAVEL SHALL BE PLACED ABOVE THE VENT PIPING (SEE DETAIL 4, VMS SHEET 2).
5. THE CENTRAL ENDS OF THE VENT PIPING WILL BE EQUIPPED WITH 3-INCH END OUTLETS AND SEALED WITH FABRIC REINFORCED TAPE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
6. CONNECT END OUTLETS TO FOUR LINES OF 3-INCH COLLECTOR PIPING AS SHOWN ON SYSTEM DRAWINGS. EACH COLLECTOR LINE WILL BE CONNECTED TO THREE VENT LATERALS EACH, CREATING FOUR COLLECTION ZONES BENEATH THE FACILITY.
7. ALL OVERLYING AND ADJACENT MATERIAL SHALL BE PLACED OR INSTALLED USING APPROVED PROCEDURES AND GUIDELINES TO PREVENT DAMAGE TO THE VENT LINES.
8. EQUIPMENT SHALL NOT BE DIRECTLY DRIVEN OVER AND STAKES OR ANY OTHER MATERIALS MAY NOT BE DRIVEN THROUGH THE STRIP
9. VAPOR-VENT™ POLY AND ASSOCIATED INSTALLATION PRODUCTS IS AN APPROVED VENT PIPING AND 3" END OUTLET MANUFACTURER (SEE DETAIL 5, SHEET VMS-2). THESE PRODUCTS ARE MANUFACTURED BY LAND SCIENCE TECHNOLOGIES, SAN CLEMENTE, CA.
10. OTHER APPROVED EQUAL MATERIALS WILL BE CONSIDERED FOR USE AND APPROVAL BY THE VMS DESIGNER.

B. COLLECTOR PIPING

1. FOUR HORIZONTAL PVC COLLECTOR PIPES SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. EACH SHALL BE CONSTRUCTED OF SOLID 3-INCH SCH 40 PVC PIPE AND WILL CONNECT TO THE LOW PROFILE VENT PIPING WITH A 3-INCH END OUTLET (SEE DETAIL 5, VMS SHEET 2). THE PIPES SHALL BE CONNECTED TO PROVIDE A GAS-TIGHT SEAL AT ALL CONNECTIONS AND FITTINGS AND SHALL BE CONSTRUCTED OF MATERIALS THAT COMPLY WITH THE UNIFORM PLUMBING AND MECHANICAL CODES. ALL JOINTS SHALL BE TIGHTLY SEALED WITH APPROVED MATERIALS.
2. COLLECTOR PIPING INSTALLED OUTSIDE OF THE GRAVEL LAYER SHALL BE INSTALLED IN COMPACTED FILL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AS SPECIFIED FOR PVC PIPE BEDDING AND BACKFILLING. THIS PIPING SHALL BE PLACED AT A DEPTH CORRESPONDING TO THE APPROVED EQUAL DEPTH AS THE VENT PIPING ALONG THE NORTHERN FACILITY BOUNDARY TO THE TO THE BLOWER COMPOUND. ALL PIPE SHALL BE PROTECTED FROM PHYSICAL DAMAGE.
3. COLLECTOR PIPING SHALL TURN UP AT THE BLOWER COMPOUND USING SCH 40 PVC ELBOWS, TRANSITIONING THE COLLECTOR PIPING TO SCHEDULE 80 PVC PIPING FOR ALL PIPING TO AND ABOVE THE CONCRETE BLOWER COMPOUND SLAB.
4. PRIOR TO PLACING THE MEMBRANE, THE VMS DESIGNER SHALL INSPECT AND APPROVE THE VENT PIPING AND COLLECTOR PIPING LAYOUT IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. CONSTRUCTION OF THE OVERLYING MEMBRANE OR CONCRETE BLOWER SLAB SHALL NOT PROCEED WITHOUT INSPECTION BY THE VMS DESIGNER.
5. PVC PIPE, AS WELL AS FITTINGS SHALL BE TRANSPORTED AND HANDLED IN A MANNER TO PREVENT DAMAGE TO PIPE, FITTINGS, AND ENDS. PRIOR TO INSTALLATION OF THE PIPE AND FITTINGS, THE PIPE AND FITTING WILL BE INSPECTED. ANY PIPE SECTION OR FITTING THAT SHOWS CRACKS, CHIPS OR OTHER DAMAGES OR EXCESSIVE IMPERFECTIONS SHALL BE REJECTED AND REPAIRED.

C. DELIVERY, STORAGE, AND HANDLING

1. DELIVER MATERIALS TO PROJECT SITE AS SPECIFIED BY MANUFACTURER LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, SHELF LIFE, AND DIRECTIONS FOR HANDLING.
2. STORE MATERIALS AS SPECIFIED BY THE MANUFACTURER IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY MANUFACTURER. PROTECT STORED MATERIALS FROM DIRECT SUNLIGHT.
3. REMOVE AND REPLACE MATERIAL THAT IS DAMAGED.

2.2 GAS COLLECTION TRENCH

2.2.1 TRENCH EXCAVATION

A. EXCAVATE A GAS COLLECTOR TRENCH FOR A LENGTH OF 500 FEET TO A DEPTH OF 17 FEET BELOW FINISHED GRADE, LOCATED BETWEEN THE OUTDOOR AND INDOOR PRACTICE FACILITIES AS SHOWN ON THE VMS PLAN LAYOUT.

B. MINIMUM TRENCH WIDTH SHALL BE TWO FEET UNLESS APPROVED SPECIFICALLY BY THE OWNER OR OSC DUE TO UNUSUAL BRACING AND SHORING REQUIREMENTS.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION AND DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL AND BACKFILL WITH CLEAN MATERIAL.

2.2.2 SHEETING, SHORING, AND BRACING

A. WHEN NECESSARY, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE, AND MAINTAIN SUCH SHEETING, BRACING, ETC., AS MAY BE REQUIRED TO SUPPORT THE SIDES OF THE EXCAVATION.

B. CARE SHALL BE TAKEN TO PREVENT VOIDS OUTSIDE THE SHEETING.

C. IF VOIDS ARE FORMED, THEY SHALL BE IMMEDIATELY FILLED AND COMPACTED.

D. UNLESS ADJACENT FACILITIES WILL BE DAMAGED, THE CONTRACTOR SHALL REMOVE ALL SHEETING, SHORING, AND BRACING AFTER BACKFILL HAS BEEN PLACED OVER THE GAS COLLECTION PIPING.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMANCE AND SAFETY ON ALL SHEETING, SHORING, AND BRACING.

2.2.3 GAS COLLECTION GRAVEL, PIPE INSTALLATION AND VENTING

A. GAS COLLECTION GRAVEL

1. A 2 FT. X 10 FT. GRAVEL LAYER SHALL BE PROVIDED AND PLACED IN THE TRENCH IN ACCORDANCE WITH THE DETAILS SHOWN IN THESE PLANS. THE GRADATION OF THE GRAVEL SHALL MEET THE SPECIFICATIONS AS AN AGGREGATE MATERIAL CLASSIFIED AS SIZE NUMBER 57 STONE .
2. GRAVEL WILL BE PLACED FROM THE BOTTOM OF THE TRENCH TO A DEPTH OF SEVEN FEET BELOW FINISHED GRADE.
3. THE CONTRACTOR SHALL DEPOSIT BEDDING GRAVEL IN LOOSE LIFTS NOT EXCEEDING 2 FOOT IN THICKNESS.
4. THE UPPER SURFACE OF THE GRAVEL LAYER SHALL BE COVERED BY A GEOTEXTILE LAYER, PLACED BETWEEN GRAVEL LAYER AND COMPACTED SUBGRADE, AS SPECIFIED ON THESE PLANS (SEE DETAIL 6, VMS SHEET 2).
5. COMPACTED SUBGRADE SHALL BE PLACED FROM THE TOP OF THE GRAVEL TO FINISHED GRADE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

B. GAS COLLECTION PIPE

1. GAS COLLECTION PIPING SHALL BE CONSTRUCTED OF 4-INCH SCH 40 SLOTTED PVC PIPING, WRAPPED IN GEOTEXTILE AND PLACED WITHIN THE GRAVEL LAYER.
2. PIPE DEPTH SHALL BE PLACED TEN FEET BELOW GRADE AND RISE AT A GRADE OF 1 PERCENT (1%) OVER THE LENGTH OF THE TRENCH (EAST TO WEST) TO THE TERMINAL END OF THE TRENCH, NOTED AS A-A' ON VMS PLAN LAYOUT.
3. THE PIPES SHALL BE CONNECTED TO PROVIDE A GAS-TIGHT SEAL AT ALL CONNECTIONS AND FITTINGS AND SHALL BE CONSTRUCTED OF MATERIALS THAT COMPLY WITH THE UNIFORM PLUMBING AND MECHANICAL CODES. ALL JOINTS SHALL BE TIGHTLY SEALED WITH APPROVED MATERIALS.
4. ALL PIPE SHALL BE LOCATED WITHIN THE GRAVEL LAYER SHALL BE PROTECTED FROM PHYSICAL DAMAGE.
5. PLACEMENT OF GRAVEL ABOVE THE PIPE SHALL NOT BEGIN BEFORE THE VMS DESIGNER HAS INSPECTED THE GRADE AND ALIGNMENT OF THE PIPE, THE BEDDING OF THE PIPE, AND THE JOINTS BETWEEN THE PIPE.
6. THE PIPE SHALL BE JOINTED IN ACCORDANCE WITH THE UNIFORM PLUMBING AND MECHANICAL CODES.
7. IT IS IMPORTANT THAT THE PIPE FITTINGS BE CLEAN AND PROPERLY SEATED AND THE BELL AND SPIGOT ENDS ALIGNED CORRECTLY IN BOTH PLANES.

C. SUBURFACE VENT PIPE INSTALLATION AND TURBINE VENTILATOR

1. A 4-INCH SCHEDULE 40 SOLID PVC PIPING SHALL BE CONNECTED TO THE END OF THE SLOTTED PIPING FROM THE END OF TRENCH TO A MINIMUM DEPTH OF FOUR FEET BELOW GRADE. EXCAVATION FOR THIS PIPING WILL FOLLOW THE UTILITY TRENCHING AND INSTALLATION GUIDELINES AS SPECIFIED FOR THE PROJECT.
2. 4-INCH STEEL OR CAST IRON VERTICAL VENT RISER SHALL BE USED TO VENT THE GASES FROM THE COLLECTION TRENCH (SEE DETAIL 7, VMS SHEET 2). THIS PIPING WILL BE INSTALLED TO A MINIMUM OF 10 FEET ABOVE GROUND SURFACE *AT A LOCATION APPROVED BY THE OWNER*. A TRANSITION COUPLING WILL BE USED TO CONNECT THE HORIZONTAL PVC PIPING TO VERTICAL STEEL RISER PIPING.
3. THE VENT RISER PIPE SHALL BE APPROPRIATELY SECURED BY ENCASING IT WITH A 18" DIAMETER X 6'-0" CONCRETE SONITUBE, CONSTRUCTED FOUR FEET BELOW SURFACE GRADE AND TWO FEET ABOVE GRADE AS SHOWN ON DETAIL 6, VMS SHEET 2.

D. PASSIVE TURBINE VENTILATOR

1. A PASSIVE TURBINE VENTILATOR CAPABLE OF 80 CFM WITH A 4 MPH WIND SHALL BE INSTALLED ON AT THE TOP OF THE VENT RISER PIPE FOR THE TRENCHING VENT SYSTEM AT A HEIGHT OF 10'-0" ABOVE GROUND SURFACE. THE VENTILATOR SHALL INCLUDE BASES, REDUCING COUPLINGS, AND ALL OTHER REQUIRED ACCESSORIES FOR A SECURE CONNECTION TO THE STEEL PIPING.
2. THE AURA AV-6-C4 ROOF VENT IS AN ACCEPTABLE PASSIVE TURBINE VENTILATOR (SEE DETAIL 8, SHEET VMS-2. THESE PRODUCTS ARE MANUFACTURED BY ACTIVE VENTILATION PRODUCTS, INC, NEWBURGH, NEW YORK 12551-152 WWW.ROOFVENTS.COM.
3. PASSIVE VENTILATORS WILL HAVE A MILL FINISH AND MANUFACTURER PAINTED WITH POWDER COATED PAINT, COLOR SELECTED BY THE OWNER.
4. THE PASSIVE TURBINE VENTILATORS SHALL BE INSTALLED IN ACCORDANCE WITH INDUSTRY STANDARDS AS RECOMMENDED BY THE MANUFACTURER.

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COLUMBIA, SC 29208

SEAL:

SEAL:

CHECKED BY:	PMH	DRAWN BY	
ORIG. BY		DATE	
DRAWN BY:	PTK		
DATE:	1/13/2014	DESCRIPTION	
DRAWING:			
BUILDING:	N/A		
REV:			

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET:

VMS DETAILS

2 OF 3

SHEET IN SET:

N/A

1 *ACTIVE BLOWER SYSTEM LOCATION*

NOT TO SCALE

2 *PLAN VIEW OF ACTIVE BLOWER SYSTEM LAYOUT*

NOT TO SCALE

3 *CROSS SECTION VIEW OF ACTIVE BOWER SYSTEM LAYOUT*

NOT TO SCALE

2.3 ACTIVE BLOWER SYSTEM

2.3.1 BLOWER AND SYSTEM CONTROLS

A. AN ACTIVE VACUUM SYSTEM SHALL BE INSTALLED TO REMOVE ACCUMULATED VAPORS FROM THE COLLECTOR MANIFOLD(S) FOR EXHAUST TO THE ATMOSPHERE THROUGH AN ABOVEGROUND PIPING NETWORK. THE BLOWER SYSTEM SHALL BE CONFIGURED SUCH THAT IN THE EVENT OF AN ELECTRIC POWER FAILURE OR VACUUM BLOWER SHUT-DOWN, THE COLLECTOR MANIFOLD WILL BE MANUALLY CONNECTED TO A SINGLE VENT, CAPABLE OF OPERATING IN A PASSIVE MODE THROUGH A PASSIVE VENTILATOR MANIFOLDED TO THE INDIVIDUAL LEGS OF THE SYSTEM. THE BLOWER SYSTEM WILL CONSIST OF THE FOLLOWING COMPONENTS.

1. HP CHEMICAL PROCESS REGENERATIVE BLOWER, AMETEK ROTRON CP 404 MODEL 038958 (OR APPROVED EQUAL) WITH MOTOR RATED EXPLOSION-PROOF (XP) FOR TOTALLY ENCLOSED FAN COOLED (TEFC) 230/460 VAC THREE PHASE.
2. NEMA 4/12 CONTROL PANEL WITH EXTERNAL FUSED DISCONNECT, HAND-OFF-AUTO (HOA) CONTROLS, 1-HP MOTOR STARTER AND OVERLOAD PROTECTION, AND INTRINSICALLY SAFE INPUT FOR MOISTURE SEPARATOR TANK HIGH LEVEL SHUT-DOWN (LSHH). ALL INTERIOR CONTROLS SHALL BE MOUNTED ON THE INTERIOR DOOR PANEL.
3. ROTRON MODEL 038519 (OR APPROVED EQUAL) POLYHDPE MOISTURE SEPARATOR TANK WITH INTEGRAL LSHH, VACUUM RELIEF VALVE, INLET/OUTLET VACUUM GAUGES, AND DRAIN VALVE.
4. BLOWER INLET FILTER WITH REPLACEABLE ELEMENT
5. EXHAUST AND INLET PIPING, CONNECTION TO 3" SCH 80 PVC
6. HAYWARD (OR APPROVED EQUAL) TRU-UNION PVC BALL VALVES (6)
7. VACUUM GAUGES (6) - DWYER (OR APPROVED EQUIVALENT) WITH RANGE OF 0 TO 5 PSI W.C. (4) AND 0 TO 40 PSI (2)
8. 3" SCH 80 PVC EXHAUST PIPING WITH SCH 80 PVC TEE COUPLING
9. 3'X2' FIBERGLASS BLOWER ENCLOSURE MOUNTED AND HINGED TO THE CONCRETE SLAB

B. THE INSTALLATION AREA FOR THE BLOWER SHALL BE CLASSIFIED AS CLASS 1, DIVISION 2 AS DEFINED BY THE NATIONAL ELECTRIC CODE (NEC). ALL FIELD WIRING, BLOWERS, AND SENSOR SWITCHES SHALL BE RATED ACCEPTABLE FOR INSTALLATION INSIDE A CLASS 1 DIVISION 2 HAZARDOUS LOCATION AS DEFINED BY THE NEC. THE CONTROL PANEL SHALL BE RATED NEMA 4/12, INSTALLED IN AN UNCLASSIFIED LOCATION, AND INCLUDE CONDUIT SEAL-OFF DEVICES IN WIRE RUNS SEPARATING THE PANEL FROM EQUIPMENT LOCATED IN THE CLASS I, DIVISION II AREA.

THE ELECTRICAL WIRING RUNS FOR THE BLOWER AND VAPOR SEPARATOR SHUT DOWN CONTROL SHALL BE INSTALLED IN SEPARATE, RIGID CONDUIT CONSTRUCTED ABOVE AND CLAMPED TO THE CONCRETE SLAB. SEE ELECTRICAL DRAWING (SHEET E101) FOR POWER SUPPLY DETAIL TO BLOWER PAD.

C. PASSIVE TURBINE VENTILATOR

1. A PASSIVE TURBINE VENTILATOR CAPABLE OF 80 CFM WITH A 4 MPH WIND SHALL BE INSTALLED AT THE TOP OF THE HORIZONTAL SYSTEM VENT PIPE FROM THE COLLECTOR MANIFOLD, AT A HEIGHT OF 10'-0" ABOVE THE CONCRETE SLAB. THE VENTILATOR SHALL INCLUDE BASES, REDUCING COUPLING, AND ALL OTHER REQUIRED ACCESSORIES FOR SECURE CONNECTION TO THE SCH 80 PVC PIPING.
2. THE AURA AV-6-C4 ROOF VENT (OR APPROVED EQUAL) IS AN ACCEPTABLE VENTILATOR (SEE DETAIL 8, VMS SHEET 2). THESE PRODUCTS ARE MANUFACTURED BY ACTIVE VENTILATION PRODUCTS, INC. NEWBURGH, NEW YORK 12551-1521.
3. PASSIVE VENTILATORS WILL HAVE A MILL FINISH AND WILL BE MANUFACTURER-PAINTED WITH POWDER COATED PAINT, COLOR SELECTED BY THE OWNER.
4. THE PASSIVE TURBINE VENTILATOR SHALL BE INSTALLED IN ACCORDANCE WITH INDUSTRY STANDARDS AS RECOMMENDED BY THE MANUFACTURER.

2.3.2 ACTIVE BLOWER SYSTEM COMPOUND

A. STABILIZATION POLES

1. TWO 4" DIAMETER STEEL STABILIZATION POLES SHALL BE CONSTRUCTED TO A HEIGHT OF 7'-0" ABOVE AND 3'-0" BELOW THE TOP OF THE CONCRETE SLAB. THE POLES WILL BE INSTALLED WITHIN 6" OF THE WESTERN EDGE OF THE CONCRETE SLAB AS SHOWN ON DETAIL 2, VMS SHEET 2.

B. EQUIPMENT PAD

1. A 6'X8'X6" CONCRETE EQUIPMENT PAD WILL BE INSTALLED AT THE NORTHWEST PORTION OF THE FACILITY AS SHOWN ON VMS PLAN LAYOUT. THE PAD WILL BE INSTALLED OVERLYING 4" OF CLEAN GRAVEL PLACED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REQUIREMENTS. THE CONCRETE WILL HAVE A 28 DESIGN STRENGTH AT 3000 PSI. THE PAD WILL BE BROOM-FINISHED.
2. COLLECTOR PIPING AND STABILIZATION POLES FROM THE VENT SYSTEM WILL BE PLACED AND SECURED PRIOR TO PAD CONSTRUCTION.

C. SECURITY FENCE

1. A 8' HEIGHT CHAIN LINK FENCE AND LOCKABLE ENTRY GATE (4' X 8') WILL BE INSTALLED AROUND THE CONCRETE PAD. THE FENCE WILL BE INSTALLED IN ACCORDANCE WITH THE PROJECT FENCE CONSTRUCTION SPECIFICATIONS (SEE PROJECT FIELD DETAILS). THE ENTRY GATE WILL BE INSTALLED TO OPEN OUTWARD TOWARD THE FIELD.
2. FENCING SHALL RECEIVE 6'-0" HEIGHT OF WINDSCREEN FABRIC AS PER THE PROJECT SPECIFICATIONS.

D. CONTROL PANEL AND MOUNTING

1. THE CONTROL PANEL WILL BE A 12"X12"X6" NEMA 4 RATED SINGLE DOOR WALL MOUNT WITH A 1/8" X 12"X12" SUBPANEL.
2. THE CONTROL PANEL WILL BE MOUNTED ON TWO 2"X2"X 8' UNI-STRUT METAL FRAMING CHANNELS PLACED PRIOR TO CONCRETE SLAB CONSTRUCTION. THE FRAMING CHANNELS WILL BE CONSTRUCTED 6'-0" ABOVE THE SLAB AND 2'-)FEET BELOW THE TOP OF THE CONCRETE SLAB, LOCATED AS SHOWN ON DETAIL 2, VMS SHEET 3

E. FIBERGLASS BLOWER ENCLOSURE

1. A FOAM-INSULATED FIBERGLASS ENCLOSURE SHALL BE PLACED OVER THE BLOWER MOTOR AND MOUNTED TO THE CONCRETE SLAB. THE CONTROL PANEL WILL BE A 33"X21"X25" WITH A CONTINUOUS REAR HINGE.
2. SYSTEM PIPING SHALL BE INSTALLED THROUGH 4" DRILLED HOLES IN THE BOTTOM PORTION OF THE ENCLOSURE SIDES

2.4 METHANE MONITORING PROGRAM

AFTER INSTALLATION OF THE VENTING SYSTEM, THE SYSTEM WILL REQUIRE PERIODIC MONITORING FOR THE PRESENCE OF METHANE. A METHANE MONITORING PLAN SHALL BE INCPOPORATED INTO THESE PLANS AND SPECS TO INCLUDE, BUT NOT BE LIMITED, TO THE FOLLOWING:

A. MONITORING LOCATIONS - TO IDENTIFY THE LOCATIONS WHERE METHANE GAS COULD POTENTIALLY BE ROUTINELY MONITORED.
B. MONITORING FREQUENCY - MONITORING WILL NORMALLY OCCUR INITIALLY ON A MONTHLY BASIS, FOLLOWED BY A QUARTERLY SCHEDULE UNTIL SUCH TIME IT IS DETERMINED THAT MONITORING IS NOT NEEEDED.
C. MONITORING PERSONNEL AND INSTRUMENTS - TO IDENTIFY THE PERSONS RESPONSIBLE FOR MONITORING AND THE APPORPRATE INSTRUMENTS TO COLLECT USEFUL DATA, AND INCLUDE CALIBRATION PROCEDURES AND MAINTENANCE INFORMATION THAT WILL HELP ENSURE THAT THE EQUIPMENT IS IN PROPER WORKING CONDITION AT ALL TIMES.
D. CONTINGENCY PROGRAM - TO IDENTIFY THE EXCEEDENCE CRITERIA AND THE STEPS TO BE TAKEN IN THE EVENT METHANE IS DETECTED ABOVE UNDESIRABLE LEVELS.

SECTION 3 - CLEANUP AND RESTORATION

THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, SUPERVISION, TRANSPORTATION, AND EQUIPMENT NECESSARY TO PERFORM SITE CLEANUP, PATCHING OF PAVEMENT, REPAIRING AND/OR REINSTALLING OF ALL PUBLIC AND PRIVATE IMPROVEMENTS DISTURBED BY THE CONSTRUCTION.

ALL OTHER PUBLIC OR PRIVATE IMPROVEMENTS DISTURBED BY THE CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION UNLESS SPECIFICALLY EXEMPTED IN THE CONTRACT DOCUMENTS.

Terracon
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CAMPUS PLANNING
AND CONSTRUCTION
COLUMBIA, SC 29208

SEAL:

SEAL:

STATE OF SOUTH CAROLINA
NOLAN JAMES MOORE
TERRACON CONSULTANTS, INC.
No. 2220
CERTIFICATE OF AUTHORIZATION

DRAWN BY:	CHECKED BY:
PTK	PMH
DATE	DRAWN BY
ORIG. BY	

DATE: 1/13/14

DRAWING: DESCRIPTION

BUILDING: N/A

REV:

PROJECT TITLE: OUTDOOR FOOTBALL PRACTICE FIELDS – CONSTRUCTION
STATE PROJECT #H27-6096-MJ
LOCATED IN CITY OF COLUMBIA, RICHLAND COUNTY, SC

University of South Carolina

SHEET: VMS DETAILS

3 OF 3

SHEET IN SET: N/A