Project Manual

For

Frank Ignatius Grein
Softball Field Renovations

For

Northern Kentucky University

Highland Heights, KY 41099

Project # - 080115.036
Project Record Drawings
April 2021

By

Sportworks Field Design
A Division of Kleingers
6219 Centre Park Drive
West Chester, OH 45069
513-779-7851

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

NORTHERN KENTUCKY UNIVERSITY
CAMPBELL COUNTY
SOFTBALL FIELD RENOVATIONS
LOUIE B NUNN DR.
HIGHLAND HEIGHTS, KENTUCKY 41099

SITE DATA:

OWNER:
NORTHERN KENTUCKY UNIVERSITY
LOUIE B NUNN DR,
HIGHLAND HEIGHTS, KY 41099
CONTACT: MARY PAULA SCHUH
(859)-572-5120

SITE ENGINEER:
SPORTWORKS FIELD DESIGN
6219 CENTRE PARK DRIVE
WEST CHESTER, OH 45069
CONTACT: BRAD D'AGNILLO
513-779-7851

TOPOGRAPHIC:
PER SURVEY BY THE KLEINGERS GROUP
DATED SEPTEMBER 2019 COMPILED
WITH RECORD DRAWINGS DATED
01/28/2020

Know what's below. Call before you dig.

SHEET INDEX

VICINITY MAP:

NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL
FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE:
SHEET NAME: TITLE SHEET
SHEET NO. C000

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
2. THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE KENTUCKY EPA FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. OWNER WILL OBTAIN PERMITS.
3. ITEM NUMBERS REFER TO THE KENTUCKY TRANSPORTATION CABINET CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF THE CITY OF HIGHLAND HEIGHTS AND CAMPBELL COUNTY. WHEN IN CONFLICT, THE KYTC REQUIREMENTS SHALL PREVAIL.
4. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
5. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
6. SUBGRADE EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. SUBGRADE PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM SITE, THEN PLACE & COMPACT BACKFILL MATERIAL AT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
7. COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
8. ADJUST ALL EXISTING CASTINGS AND CLEANOUTS WITHIN PROJECT AREA TO GRADE AS REQUIRED.
9. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY CAMPBELL COUNTY AND SD1.
10. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION SHALL BE SEEDED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS.
11. ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE PRIVATE AND MAINTAINED BY THE OWNER.
12. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, DOWNSPOUTS, PIPING AND CONNECTION ETC. AS REQUIRED TO CONVEY THE PAVED SURFACE DRAINAGE TO THE EXISTING DRAINAGE SYSTEM.
13. THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.
14. ANY FIELD TILE CUT MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
15. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.
16. ALL DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING, EDGE OF PAVEMENT AND/OR FACE OF CURB, UNLESS OTHERWISE NOTED.
17. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE DISPOSED OF AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY REMOVED OR STABILIZED TO PREVENT EROSION AND SEDIMENTATION.
18. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
19. DANDY BAGS TO BE USED AT ALL STORM INLETS FOR EROSION CONTROL
20. SANITATION DISTRICT NO. 1 IS TO BE CONTACTED 72 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY AT (859) 578-6892.

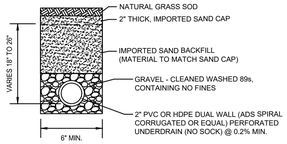
UTILITY NOTES

1. ALL CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
2. ALL STORM STRUCTURES ARE KYTC TYPES UNLESS OTHERWISE INDICATED.
3. STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: PVC SDR-35, OR HIGH DENSITY POLYETHYLENE. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE. ALL STORM PIPE USED MUST HAVE A MANUFACTURER SPECIFIED FRICTION FACTOR OF 0.013 (n=0.013) OR LESS.
4. STEPS SHALL BE PROVIDED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP.
5. CONTRACTOR SHALL SECURE ALL PERMITS AND FURNISH ALL DRAWINGS REQUIRED FOR UTILITY TAPS PRIOR TO STARTING CONSTRUCTION.
6. PROVIDE MANUFACTURERS RECOMMENDED COVER OVER TOP OF STORM PIPE DURING CONSTRUCTION, UNTIL PAVING OPERATIONS BEGIN.
7. SITE UTILITY CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED VERTICAL SEPARATION BETWEEN UTILITIES BY VARYING DEPTH OF UNDERGROUND ELECTRIC, TELEPHONE, WATER AND GAS.
9. A MINIMUM OF 1.5' OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES.
13. FORTY-EIGHT HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE KENTUCKY UNDERGROUND PROTECTION SERVICE, AND ALL OTHER AGENCIES WHICH MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF THE KENTUCKY UNDERGROUND PROTECTION SERVICE.
14. EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AS A GUIDE AND CANNOT BE GUARANTEED ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
   A. CONTACTING THE INDIVIDUAL UTILITY OWNERS TEN DAYS PRIOR TO CONSTRUCTION AND ADVISING THEM OF THE WORK TO TAKE PLACE.
   B. SOLICITING THEIR AID IN LOCATING AND PROTECTING ANY UTILITY WHICH MAY INTERFERE WITH CONSTRUCTION.
   C. EXCAVATING AND VERIFYING THE HORIZONTAL AND VERTICAL LOCATION OF EACH UTILITY.
   D. ALL DAMAGE TO ANY EXISTING UTILITY.

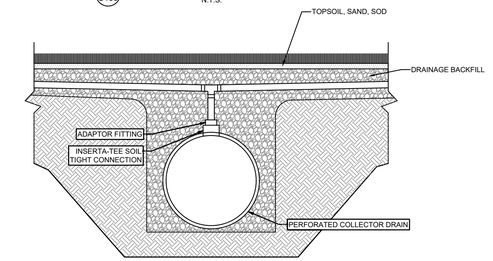
GRADING & EROSION CONTROL NOTES

1. THE NPDES PERMIT REQUIRES THAT ALL AREAS WHICH ARE AT OR NEAR FINAL GRADE, OR WHICH REMAIN DORMANT FOR MORE THAN 21 DAYS OR LONGER BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY. VELOCITY DISSIPATION DEVICES SHOULD BE PLACED AT THE OUTFALL OF ALL DETENTION OR RETENTION STRUCTURES AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSIVE FLOW VELOCITY FROM THE STRUCTURE TO THE WATER COURSE.
2. THE NPDES PERMIT REQUIRES THAT SEDIMENT AND EROSION CONTROLS BE INSPECTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF 0.5" OR GREATER RAINFALL. A WRITTEN LOG SHOULD INDICATE THE DATE OF INSPECTION NAME OF INSPECTOR, WEATHER CONDITIONS, OBSERVATIONS, ACTIONS TAKEN TO CORRECT ANY PROBLEMS AND THE DATE ACTION WAS TAKEN.
3. SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL REGULATIONS.
4. TEMPORARY SEEDING TYPES-
   A.) TALL FESCUE--SEED AT A RATE OF 50 LBS./ACRE (1 LB./100 SQ. FT.) AND MULCH WITH STRAW AT A RATE OF 2 TONS PER ACRE (90 LBS./1000 SQ. FT.). ESTABLISH BETWEEN MARCH 15 AND SEPTEMBER 30. COVER THE SEED 1/4-1/2 INCH BY RAKE OR SIMILAR TOOL. THIS IS THE MOST WIDELY USED AND BEST ADAPTED GRASS FOR STREAMBANK SEEDINGS. IT HAS GOOD TOLERANCE TO WET SOILS AND FLOODING. IT IS ALSO WELL ADAPTED TO WELL DRAINED SOILS.
   B.) REED CANARYGRASS (PHALARIS ARUNDINACAE) PLUS TALL FESCUE--SEED THE REED CANARYGRASS AT A RATE OF 15LBS./ACRE (1/3 LB./1000 SQ. FT.), PLUS 10 LBS./ACRE (1/4LB./1000 SQ. FT.) OF TALL FESCUE. MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE (90 LBS./1000 SQ. FT.). THIS MIXTURE SHOULD ONLY BE SEEDED FROM MARCH 1 TO MAY 15, OR AUGUST 1 TO SEPTEMBER 30. COVER THE SEED 1/4-1/2 INCH BY RAKING OR SIMILAR TOOL. THIS MIXTURE IS ADAPTABLE TO SOILS THAT ARE VERY WET AS WELL AS WELL DRAINED SOIL CONDITIONS. REED CANARYGRASS CAN WITHSTAND EXTENDED PERIODS OF FLOODING. IT IS EXCELLENT FOR EROSION CONTROL. REED CANARYGRASS CAN ALSO BE ESTABLISHED BY SOD STRIPS, USING RHIZIMES, OR FRESHLY CUT CULMS. THE LOCAL CONSERVATION SERVICE OFFICE CAN PROVIDE THE SPECIFIC DETAILS REQUIRED TO USE ONE OF THE ALTERNATIVE ESTABLISHMENT METHODS.

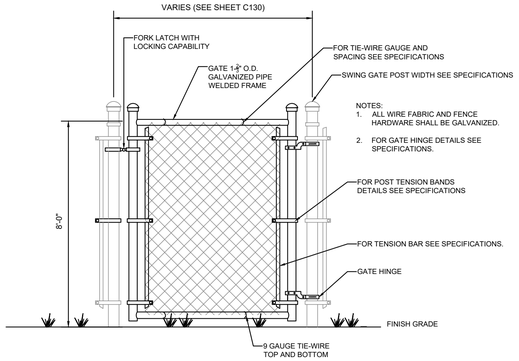
811 Know what's below. Call before you dig.



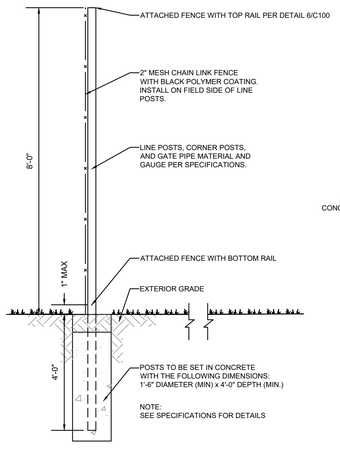
1 C100 **UNDERDRAIN DETAIL** N.T.S.



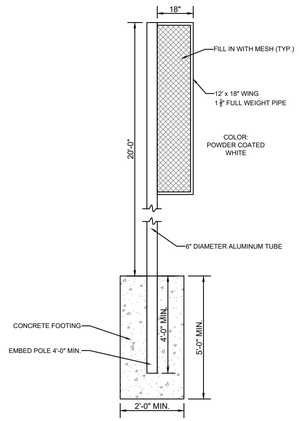
2 C100 **NATURAL TURF COLLECTOR PIPE** N.T.S.



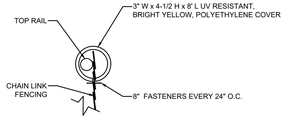
3 C100 **8' VINYL COATED CHAIN LINK FENCE GATE DETAIL** N.T.S.



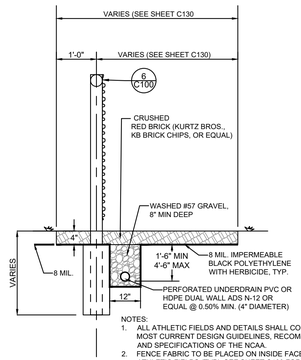
4 C100 **8' VINYL COATED CHAIN LINK FENCE** N.T.S.



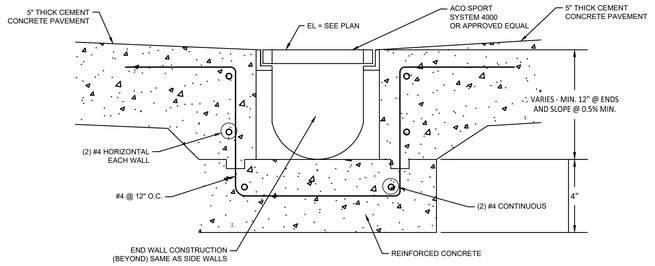
5 C100 **FOUL POLE** N.T.S.



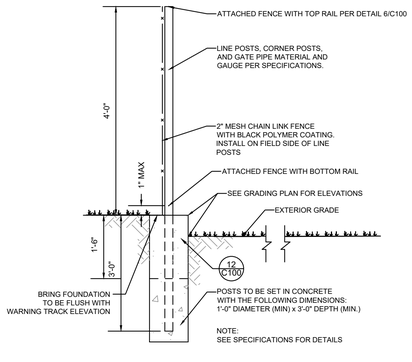
6 C100 **TOP RAIL COVER** N.T.S.



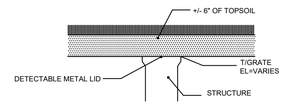
7 C100 **WARNING TRACK** N.T.S.



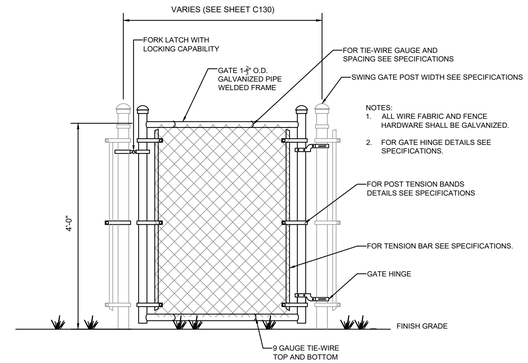
8 C100 **TRENCH DRAIN DETAIL** N.T.S.



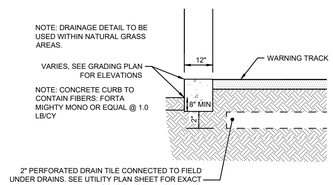
9 C100 **4' VINYL COATED CHAIN LINK FENCE** N.T.S.



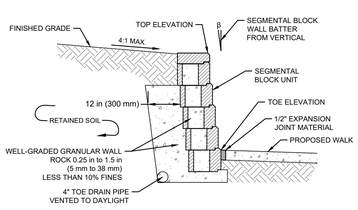
10 C100 **MANHOLE SETTING WITHIN FIELD LIMITS** N.T.S.



11 C100 **4' VINYL COATED CHAIN LINK FENCE GATE DETAIL** N.T.S.



12 C100 **PERIMETER CURB** N.T.S.



NOTES:
1. SUBMIT SAMPLES OF WALL AND CAP UNITS FOR ENGINEER'S APPROVAL.
2. CONSTRUCT FIELD MOCK-UP PRIOR TO INSTALLATION FOR ENGINEER'S APPROVAL AS SPECIFIED.
3. CONSTRUCT WALLS PER MANUFACTURER'S SPECIFICATIONS.
4. SEE SHEET C150 FOR WALL GRADES.

13 C100 **SEGMENTAL RETAINING WALL DETAIL** N.T.S.

NKU SPORT WORKS FIELD DESIGN
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NORTHERN KENTUCKY UNIVERSITY FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO:	080115.036
DATE:	APRIL 2021
SCALE:	

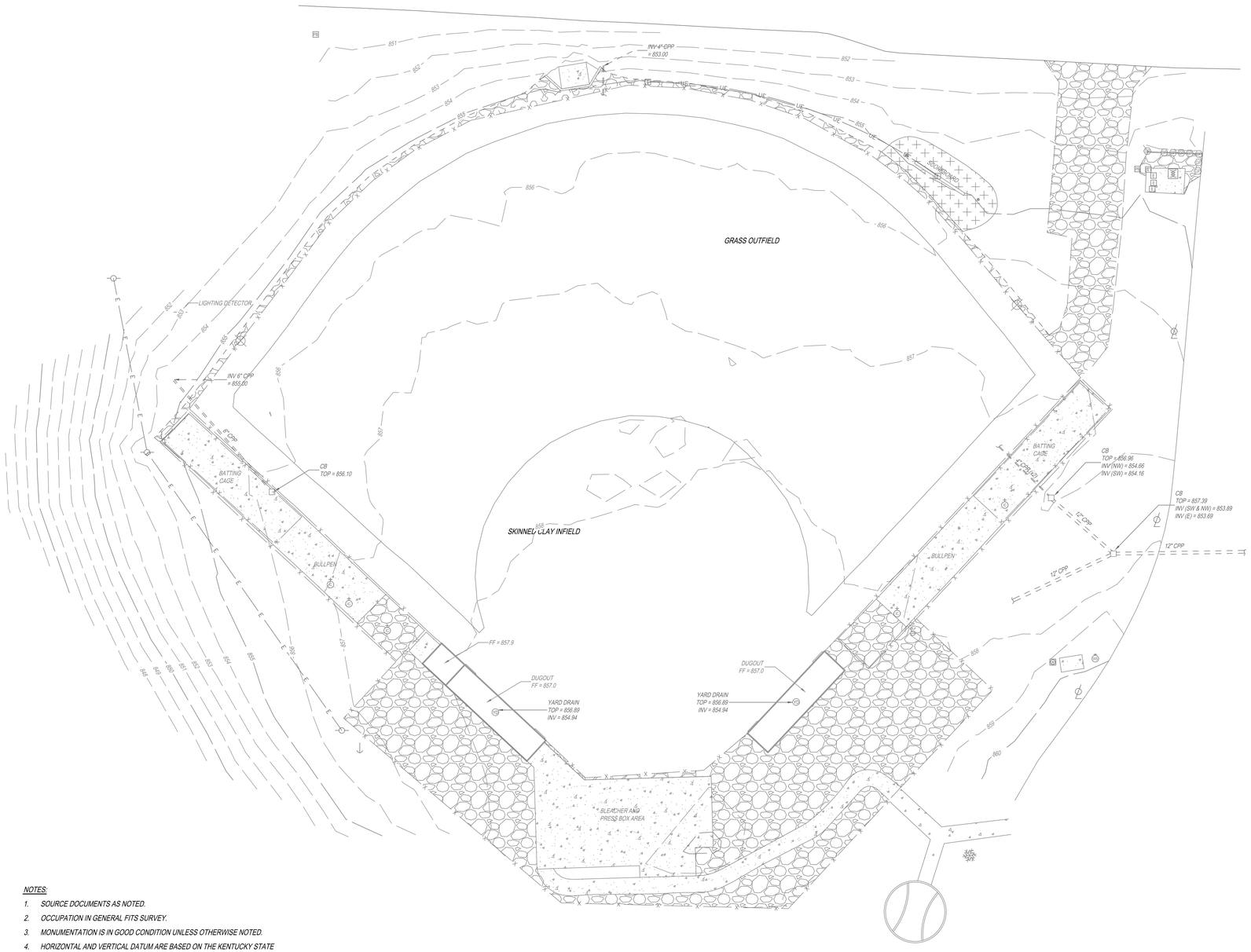
SHEET NAME:

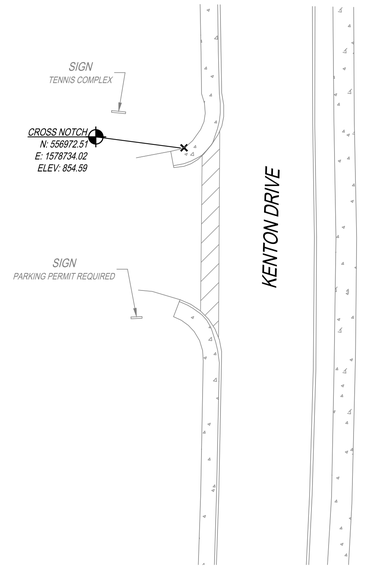
GENERAL NOTES & DETAILS

SHEET NO.

C100

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES





LEGEND

- SITE BENCHMARK
- ELECTRIC BOX
- ELECTRIC METER
- PULL BOX
- UNDERGROUND TRANSFORMER
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- CATCH BASIN
- STORM MANHOLE
- YARD DRAIN
- IRRIGATION CONTROL VALVE
- SPRINKLER HEAD
- WATER METER
- WATER SERVICE
- WATER FOUNTAIN
- GUARD POST
- CONIFEROUS TREE
- FENCE LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- WATER
- STORM SEWER
- CONCRETE AREA
- GRAVEL AREA
- LANDSCAPED AREA
- RIP RAP AREA

NOTES:

1. SOURCE DOCUMENTS AS NOTED.
2. OCCUPATION IN GENERAL FITS SURVEY.
3. MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.
4. HORIZONTAL AND VERTICAL DATUM ARE BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM NORTH ZONE (KSPC) AS DERIVED FROM THE KENTUCKY DEPARTMENT OF TRANSPORTATION'S VIRTUAL REFERENCE STATIONING (VRS) (NAD83) (NAVD88)
5. SITE BENCHMARK AS SHOWN HEREON.

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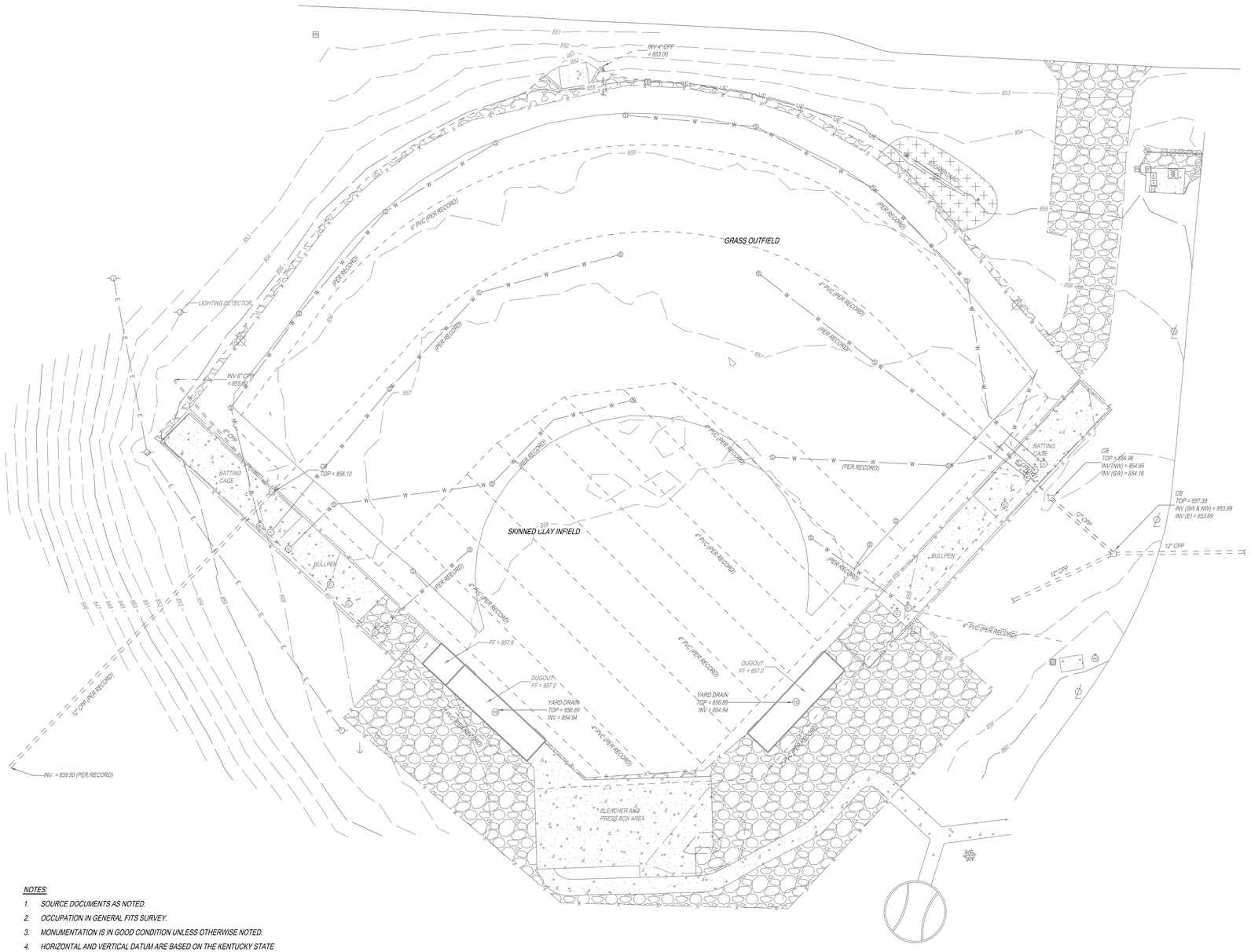
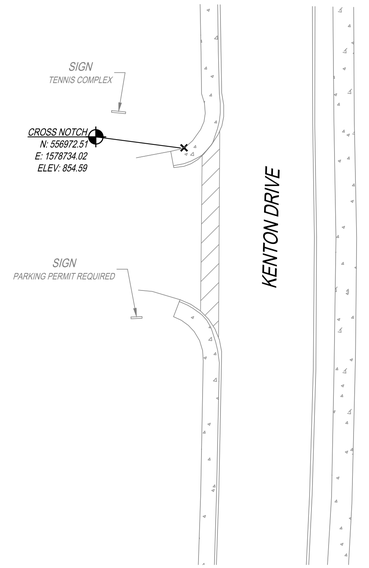
SCALE: 0 10 20 40

SHEET NAME:
SURVEY BASEMAP

SHEET NO.
C110

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES





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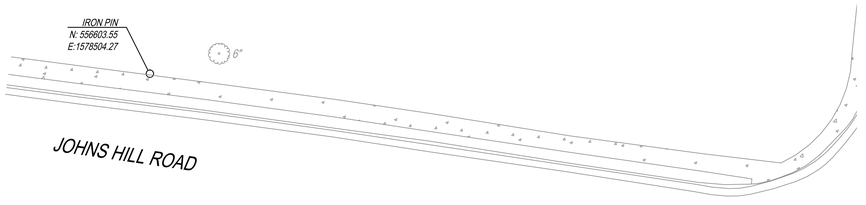

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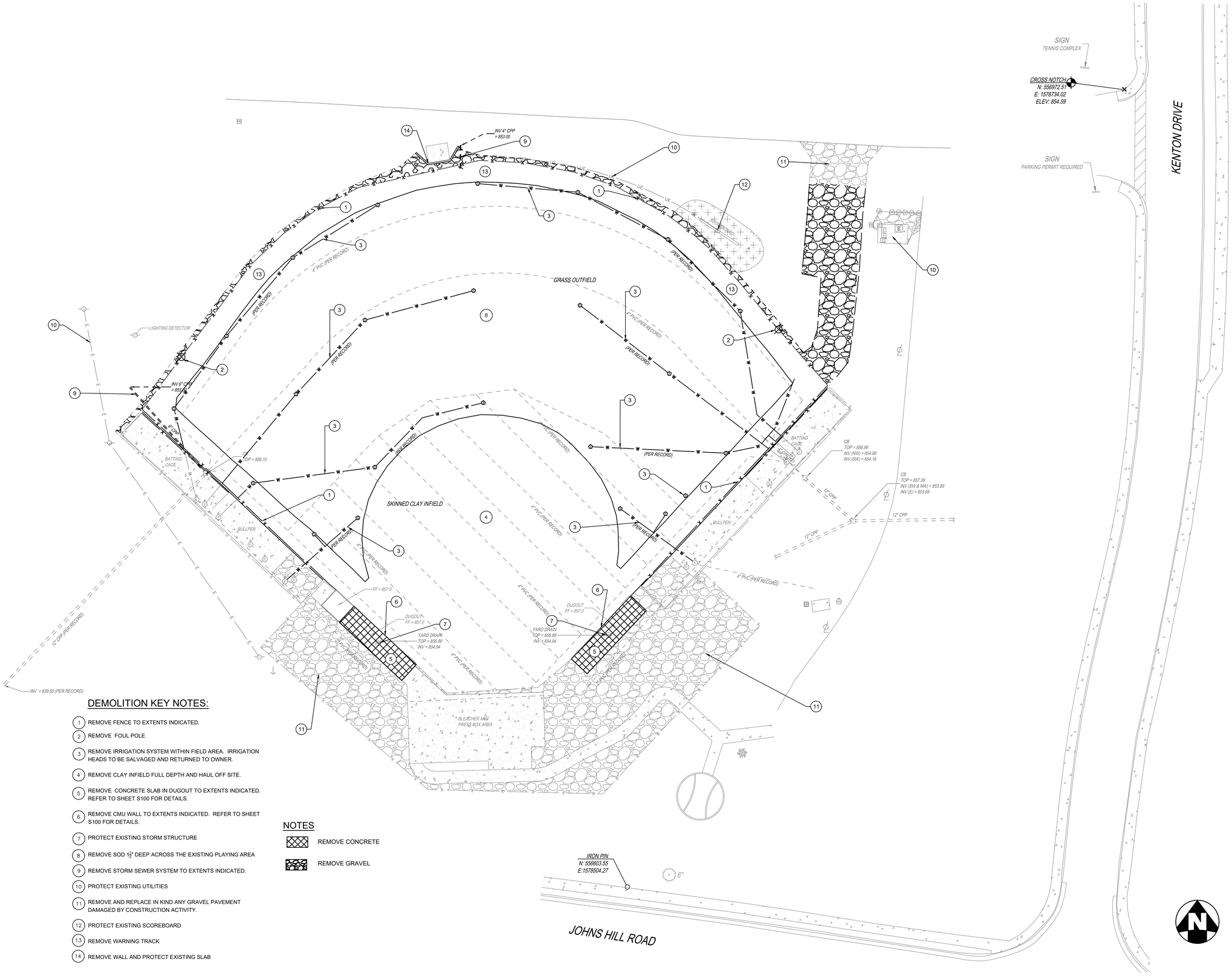
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE: 0 10 20 40

SHEET NAME:
SUPPLEMENTARY SURVEY BASEMAP

SHEET NO.
C111

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES



DEMOLITION KEY NOTES:

1. REMOVE FENCE TO EXTENTS INDICATED.
2. REMOVE FOUL POLE
3. REMOVE IRRIGATION SYSTEM WITHIN FIELD AREA. IRRIGATION HEADS TO BE SALVAGED AND RETURNED TO OWNER.
4. REMOVE CLAY INFIELD FULL DEPTH AND HAUL OFF SITE.
5. REMOVE CONCRETE SLAB IN DUGOUT TO EXTENTS INDICATED. REFER TO SHEET S100 FOR DETAILS.
6. REMOVE CMU WALL TO EXTENTS INDICATED. REFER TO SHEET S100 FOR DETAILS.
7. PROTECT EXISTING STORM STRUCTURE
8. REMOVE SOD 1½" DEEP ACROSS THE EXISTING PLAYING AREA
9. REMOVE STORM SEWER SYSTEM TO EXTENTS INDICATED.
10. PROTECT EXISTING UTILITIES
11. REMOVE AND REPLACE IN KIND ANY GRAVEL PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITY.
12. PROTECT EXISTING SCOREBOARD
13. REMOVE WARNING TRACK
14. REMOVE WALL AND PROTECT EXISTING SLAB

NOTES

REMOVE CONCRETE

REMOVE GRAVEL

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NKU SPORT WORKS FIELD DESIGN
a division of THE KLEINGERS GROUP

NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL
FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036

DATE: APRIL 2021

SCALE: 0 10 20 40

SHEET NAME:

DEMOLITION PLAN

SHEET NO.

C120

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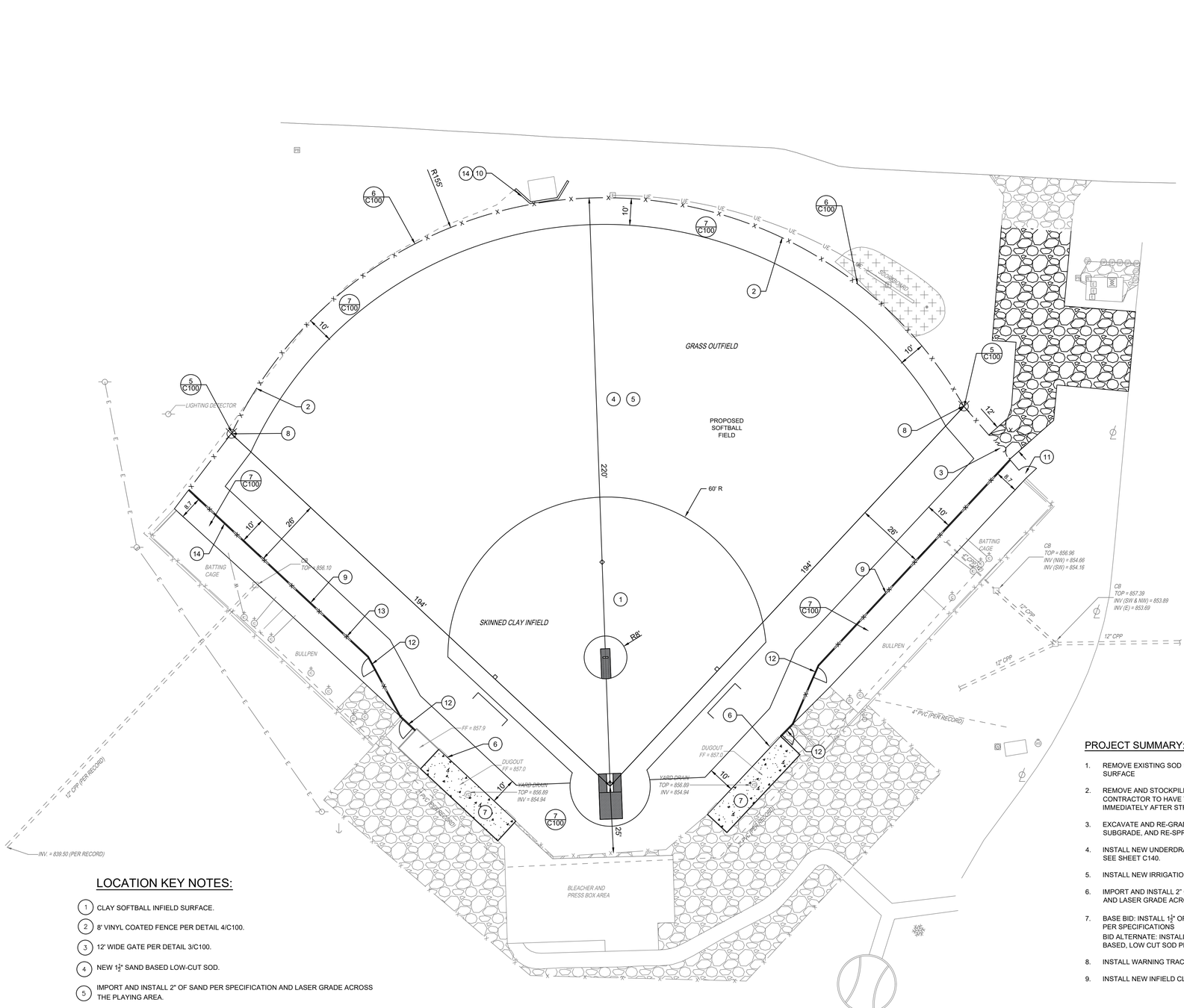

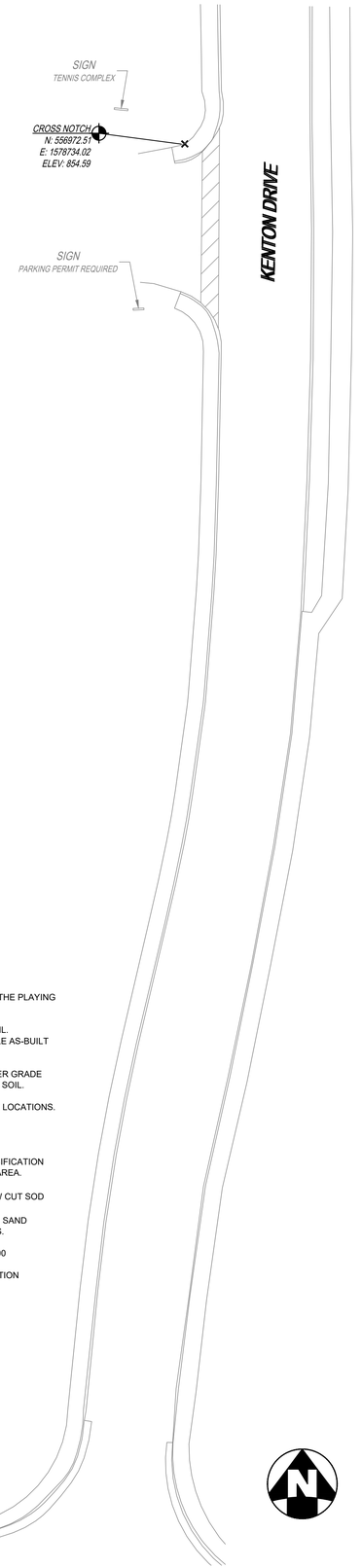

LOCATION KEY NOTES:

1. CLAY SOFTBALL INFIELD SURFACE.
2. 8' VINYL COATED FENCE PER DETAIL 4/C100.
3. 12' WIDE GATE PER DETAIL 3/C100.
4. NEW 1½" SAND BASED LOW-CUT SOD.
5. IMPORT AND INSTALL 2" OF SAND PER SPECIFICATION AND LASER GRADE ACROSS THE PLAYING AREA.
6. REPLACE CONCRETE WALL TO THE EXTENTS SHOWN. REFER TO PAGE S100 FOR DETAILS.
7. 4" CONCRETE SLAB. REFER TO SHEET S100 FOR DETAILS.
8. CONTRACTOR TO INSTALL NEW FOUL POLES PER DETAIL 5/C100
9. 4' VINYL COATED FENCE PER DETAIL 9/C100.
10. PROPOSED WALL. SEE GRADING PLANS FOR HEIGHT.
11. 4' WIDE GATE PER DETAIL 3/C100.
12. 4' WIDE GATE PER DETAIL 11/C100.
13. STOP CURB/BEGIN WALL.
14. RETAINING WALL PER DETAIL 13/C100.

NOTES

- PROPOSED CONCRETE
- PROPOSED GRAVEL
- PROPOSED CLAY BRICKS. SEE SPECS FOR DETAILS

PROJECT SUMMARY:

1. REMOVE EXISTING SOD 1½" DEEP ACROSS THE PLAYING SURFACE
2. REMOVE AND STOCKPILE EXISTING TOP SOIL. CONTRACTOR TO HAVE TOPSOIL STOCK PILE AS-BUILT IMMEDIATELY AFTER STRIPPING.
3. EXCAVATE AND RE-GRADE SUBGRADE LASER GRADE SUBGRADE, AND RE-SPREAD EXISTING TOP SOIL.
4. INSTALL NEW UNDERDRAINS AT PROPOSED LOCATIONS. SEE SHEET C140.
5. INSTALL NEW IRRIGATION SYSTEM.
6. IMPORT AND INSTALL 2" OF SAND PER SPECIFICATION AND LASER GRADE ACROSS THE PLAYING AREA.
7. BASE BID: INSTALL 1½" OF SAND BASED, LOW CUT SOD PER SPECIFICATIONS
   BID ALTERNATE: INSTALL 1½" OF TUCKAHOE, SAND BASED, LOW CUT SOD PER SPECIFICATIONS.
8. INSTALL WARNING TRACK PER DETAIL 7/C100
9. INSTALL NEW INFIELD CLAY PER SPECIFICATION

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NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE: 0 10 20 40

SHEET NAME:
LOCATION PLAN

SHEET NO.
C130

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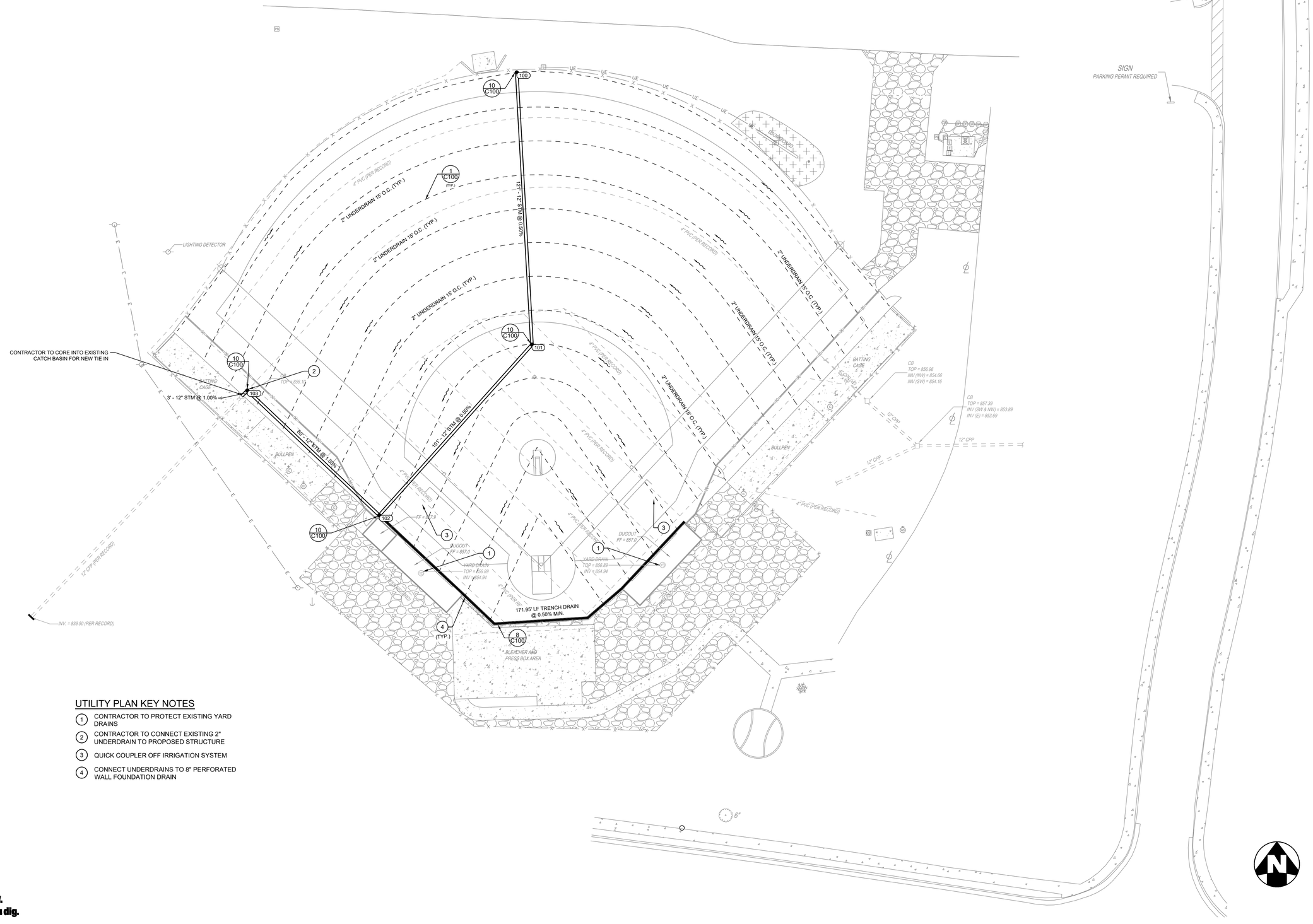

UTILITY PLAN KEY NOTES

1. CONTRACTOR TO PROTECT EXISTING YARD DRAINS
2. CONTRACTOR TO CONNECT EXISTING 2" UNDERDRAIN TO PROPOSED STRUCTURE
3. QUICK COUPLER OFF IRRIGATION SYSTEM
4. CONNECT UNDERDRAINS TO 8" PERFORATED WALL FOUNDATION DRAIN

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NORTHERN KENTUCKY UNIVERSITY FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

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NKU SOFTBALL FIELD RENOVATIONS

CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

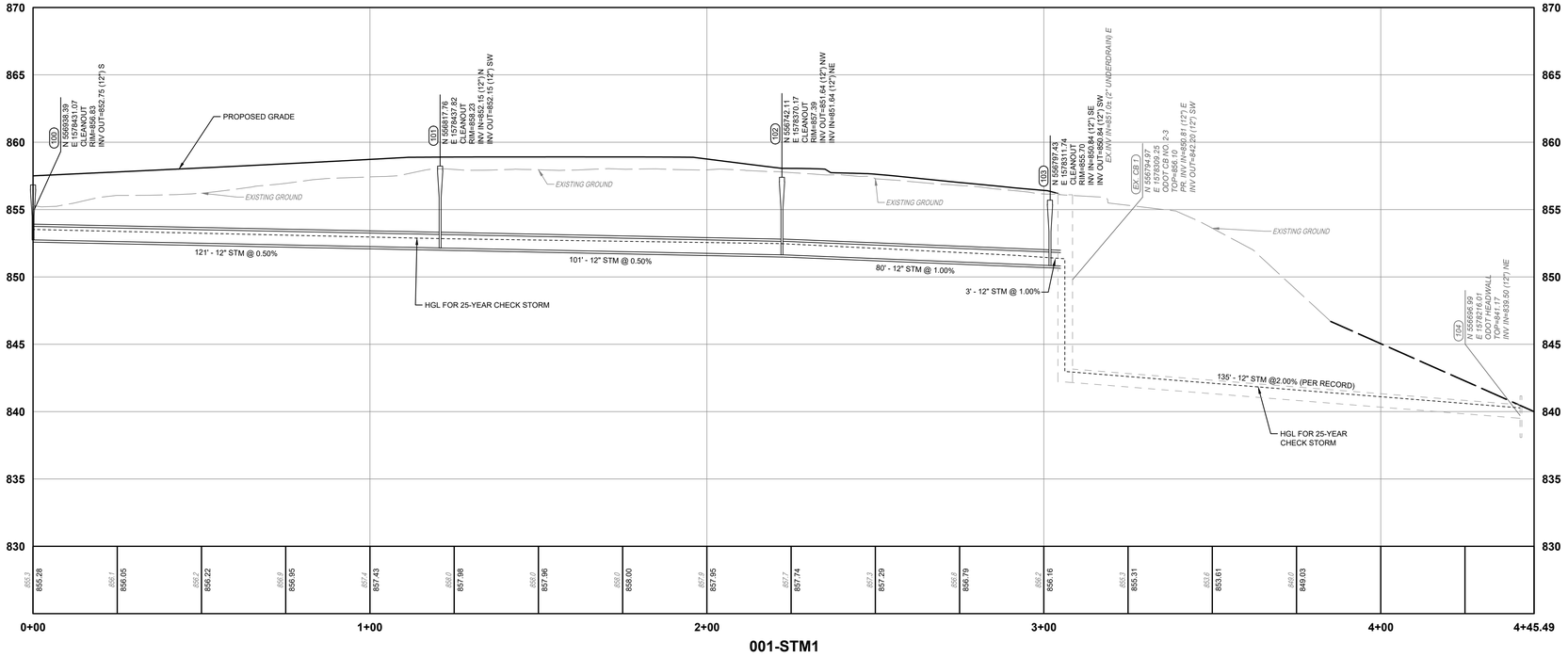
PROJECT NO: 080115.036

DATE: APRIL 2021

SCALE: 0 10 20 40

SHEET NAME: UTILITY PLAN

SHEET NO. C140



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NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

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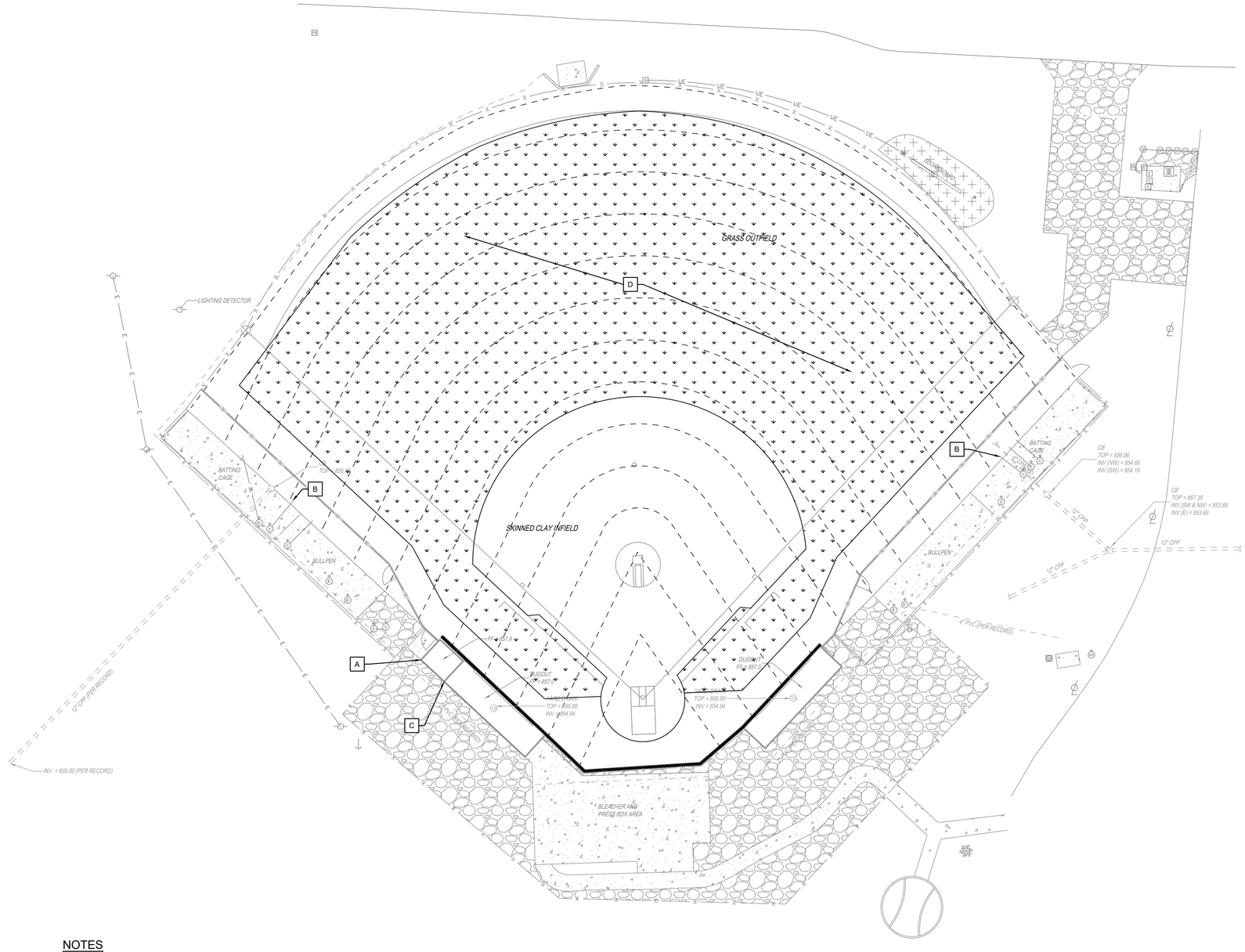
NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE: V 0 2.5 5 10 / H 0 10 20 40

SHEET NAME:
STORM PROFILES

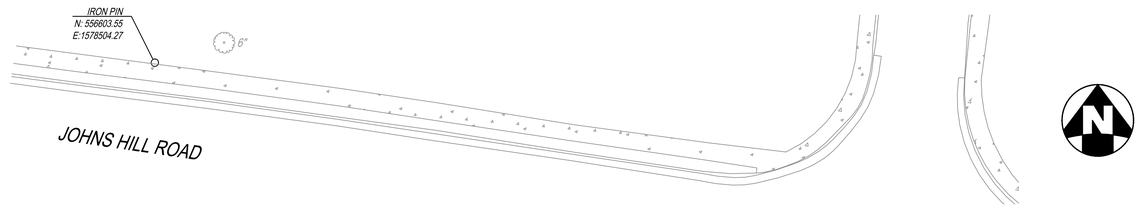
SHEET NO.
C141

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES



NOTES

AREA TO BE IRRIGATED



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IRRIGATION KEY NOTES:

A. INSTALL SMART IRRIGATION CONTROL (RAINBIRD ST8-2.0, OR EQUAL) IN EXISTING 3RD BASE DUGOUT STORAGE ROOM.

B. POINT OF CONNECTION.

C. INSTALL RAIN SENSOR NEAR ROOF OF DUGOUT.

D. AREA TO BE IRRIGATED.

GENERAL IRRIGATION NOTES

1. CONTRACTOR IS TO TEST IRRIGATION SYSTEM FOR LEAKS AFTER EXISTING FIELD IRRIGATION HAS BEEN REMOVED AND PRIOR TO NEW IRRIGATION SYSTEM BEING INSTALLED.
2. THIS IRRIGATION ZONE PLAN IS DIAGRAMMATIC AND ONLY SHOWS AREAS TO BE IRRIGATED. CONTRACTOR TO DESIGN SYSTEM TO ENSURE FULL AND EQUAL IRRIGATION COVERAGE ON AREAS SHOWN TO BE IRRIGATED.
3. IRRIGATION CONTRACTOR TO COORDINATE THE SIZE OF THE TAP AND THE LOCATION OF THE POINT OF CONNECTION PRIOR TO CONSTRUCTION.
4. THE IRRIGATION SYSTEM SHALL BE INSTALLED USING ACCEPTED AND QUALITY INSTALLATION STANDARDS AS USED IN THE INDUSTRY.
5. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES, AND UTILITIES AND MAKE THE NECESSARY ADJUSTMENTS TO ACCOMMODATE THE IRRIGATION SYSTEM. ANY OBSTRUCTIONS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY COSTS.
6. MAINLINE PIPING SHALL BE BURIED A MINIMUM OF 12" OF COVER AND A MAXIMUM OF 18" OF COVER. LATERAL LINE PIPING A MINIMUM OF 12" COVER. ALL BACKFILL SURROUNDING THE PIPE SHALL BE SCREENED AND CLEANED OF MATERIAL LARGER THAN 1" IN SIZE.
7. IRRIGATION CONTRACTOR SHALL PROVIDE FIRST WINTERIZATION AND SPRING TURN ON IN BID.
8. THE GENERAL CONTRACTOR IS RESPONSIBLE TO PROVIDE POWER TO THE IRRIGATION, CONTROLLER, SET METER, ALL SLEEVES, TAP, BACKFLOW PREVENTION DEVICE AND TO GAIN ANY AND ALL PERMITTING. IRRIGATION CONTRACTOR TO COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR.
9. WATER FROM IRRIGATION SHALL NOT ENCROACH ON PAVEMENTS.

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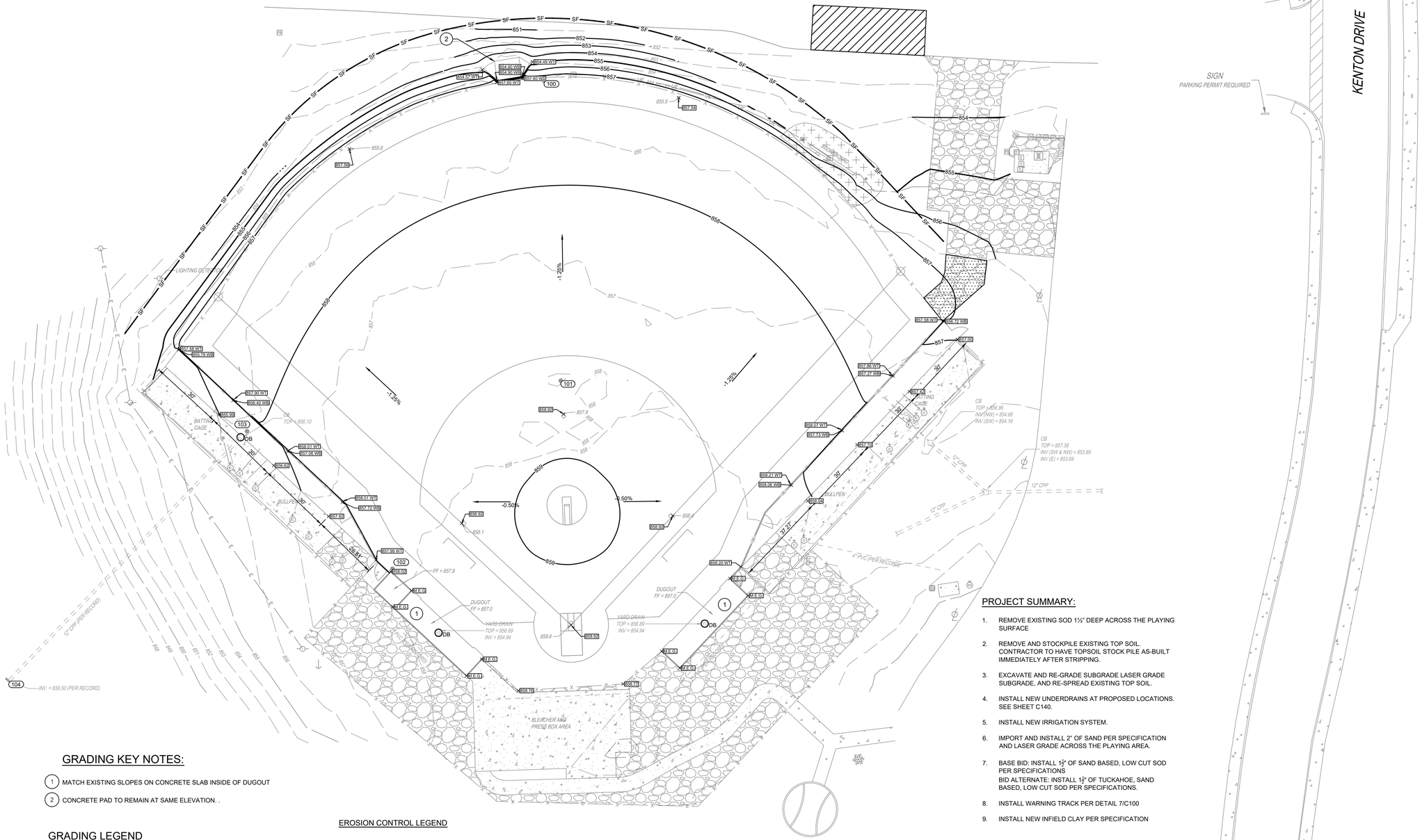
NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO:	080115.036
DATE:	APRIL 2021
SCALE:	0 10 20 40
SHEET NAME:	IRRIGATION PLAN
SHEET NO.	C142



INSPIRED PEOPLE ▸ CREATIVE DESIGN ▸ TRANSFORMING COMMUNITIES

PROJECT SUMMARY:

1. REMOVE EXISTING SOD 1½" DEEP ACROSS THE PLAYING SURFACE
2. REMOVE AND STOCKPILE EXISTING TOP SOIL. CONTRACTOR TO HAVE TOPSOIL STOCK PILE AS-BUILT IMMEDIATELY AFTER STRIPPING.
3. EXCAVATE AND RE-GRADE SUBGRADE LASER GRADE SUBGRADE, AND RE-SPREAD EXISTING TOP SOIL.
4. INSTALL NEW UNDERDRAINS AT PROPOSED LOCATIONS. SEE SHEET C140.
5. INSTALL NEW IRRIGATION SYSTEM.
6. IMPORT AND INSTALL 2" OF SAND PER SPECIFICATION AND LASER GRADE ACROSS THE PLAYING AREA.
7. BASE BID: INSTALL $1\frac{1}{2}$" OF SAND BASED, LOW CUT SOD PER SPECIFICATIONS

   BID ALTERNATE: INSTALL $1\frac{1}{2}$" OF TUCKAHOE, SAND BASED, LOW CUT SOD PER SPECIFICATIONS.
8. INSTALL WARNING TRACK PER DETAIL 7/C100
9. INSTALL NEW INFIELD CLAY PER SPECIFICATION

GRADING KEY NOTES:

① MATCH EXISTING SLOPES ON CONCRETE SLAB INSIDE OF DUGOUT

② CONCRETE PAD TO REMAIN AT SAME ELEVATION. .

GRADING LEGEND

—— 855 ——	EXISTING MAJOR CONTOUR
— — 856 — —	EXISTING MINOR CONTOUR
━━ 855 ━━	PROPOSED MAJOR CONTOUR
—— 856 ——	PROPOSED MINOR CONTOUR
× 855.00	PROPOSED SPOT ELEVATION
× 855.00 WT	PROPOSED SPOT ELEVATION TOP OF WALL
× 855.00 WB	PROPOSED SPOT ELEVATION BOTTOM OF WALL

EROSION CONTROL LEGEND

—— SF ——	SILT FENCE PER DETAIL 1/C161
	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 2/C161
DB ○	INLET PROTECTION PER DETAIL 3/C161
▨	CONCRETE WASHOUT PER DETAIL 4/C161

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NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: **080115.036**

DATE: **APRIL 2021**

SCALE:
0 10 20 40

SHEET NAME:
GRADING PLAN

SHEET NO.
C150

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

PROJECT DESCRIPTION

IMPROVING THE CONDITION OF THE EXISTING SOFTBALL FIELD BY REPLACING THE FIELD WITH HIGH PERFORMANCE NATURAL GRASS AND SKINNED INFIELD AS WELL AS IMPROVING THE DRAINAGE AND IRRIGATION WITH THE DESIGN OF ASSOCIATED UTILITIES.

PROJECT DATA

TOTAL SITE AREA:	1.13 ACRES
TOTAL DISTURBED AREA:	1.30 ACRES
EXISTING IMPERVIOUS AREA:	0.02 ACRES
PROPOSED IMPERVIOUS AREA:	0.02 ACRES
PERCENTAGE OF CREATED IMPERVIOUS AREA:	0.00%
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION:	C=0.35
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION*:	C=0.65
PRIOR LAND USE:	SOFTBALL FIELD
RECEIVING WATER:	UNNAMED TRIBUTARY TO LICKING RIVER
ESTIMATED CONSTRUCTIONS DATES:	MAY 2021 - OCTOBER 2021
SOIL TYPES, DESCRIPTIONS:	NICHOLSON SILT LOAM 2-6% SLOPES, NICHOLSON SILT LOAM 6-12% SLOPES

GENERAL NOTES

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE KENTUCKY DEP. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS OF THE REQUIREMENTS AND RESPONSIBILITIES OF THE SWPPP AND SHALL DOCUMENT ALL SUCH NOTIFICATIONS AND/OR DISCUSSIONS. ALL SUBCONTRACTORS SHALL SIGN THE NOI.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE KY "BEST MANAGEMENT PRACTICES FOR CONTROLLING EROSION, SEDIMENT, AND POLLUTANT RUNOFF FROM CONSTRUCTION SITES" SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (S&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE CONTRACTOR, OWNER, ENGINEER OR THE KENTUCKY DEP CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF REPORT ANY POTENTIAL VIOLATIONS OF THE KENTUCKY KPDES PERMIT TO THE OWNER, ENGINEER AND THE KENTUCKY DEP.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRICTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO KENTUCKY DEP REQUIREMENTS.

THE CONTRACTOR WILL BE REQUIRED TO BUILD SEDIMENT BASINS OR SEDIMENT TRAPS OR USE EQUAL METHODS TO DETAIN AND CLEAN WATER TO ACCEPTABLE EPA STANDARDS BEFORE RELEASING THE WATER BACK INTO THE STREAM.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

"TEMPORARY STABILIZATION" MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

"PERMANENT STABILIZATION" MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

OPERATION SEQUENCE FOR TEMPORARY AND PERMANENT BMP INSTALLATION

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED JOB IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. THE EXISTING DITCHES WILL PERFORM TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION. WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS:

A) INSTALL EROSION CONTROL ITEMS.
B) STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA.
C) INSTALL TEMPORARY DITCH CHECKS IN DOWNSTREAM END OF EXISTING DITCH WITHIN 24 HOURS FOLLOWING THE STRIPPING OPERATION. \
D) ANY DISTURBED OR EXPOSED AREAS SHALL BE STABILIZED PER KENTUCKY EPA TEMPORARY AND PERMANENT STABILIZATION REGULATIONS INCLUDING;
   1. SEEDING
   2. DITCH MATTING
   3. INLET PROTECTION
   4. MULCHING
   5. WATERING

STABILIZATION PRACTICES

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER KENTUCKY EPA GUIDELINES.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

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TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITH 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

SEEDING & MULCHING

MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 3 TONS/AC. OR 138 LB./1000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1000-SQ.-FT. SECTIONS AND PLACE THREE 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

1) MECHANICAL-USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 IN.
2) MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
3) ASPHALT EMULSION-FOR STRAW MULCH, APPLY AT THE RATE OF 160 GAL./AC. (0.1 GAL./SY) INTO THE MULCH AS IT IS BEING APPLIED OR AS RECOMMENDED BY THE MANUFACTURE.
4) SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL

SEED TYPE	PER 1000 SQ FT	PER ACRE
PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 POUND 1 POUND 1 POUND	40 POUNDS 40 POUNDS 40 POUNDS
SMALL GRAIN STRAW	90 POUNDS	2 TONS
FERTILIZER	6 POUNDS OF 10-10-10 OR 12-12-12	250 POUNDS OF 10-10-10 OR 12-12-12

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

WINTER SEEDING & MULCHING

WINTER SEED AND MULCH IS REQUIRED FOR EARTH DISTURBANCE ACTIVITY OPERATIONS OCCURRING BETWEEN OCTOBER 15 AND MARCH 15 AND CAN ONLY BE INSTALLED DURING THAT TIME. ALL STRAW MULCH INCLUDED IN THIS WORK MUST BE EITHER CRIMPED IN PLACE OR INSTALLED WITH A BIODEGRADABLE BONDED FIBER MATRIX. CRIMPED MULCH IS REQUIRED TO BE ANCHORED INTO THE SOIL SURFACE WITH A MECHANICAL CRIMPING IMPLEMENT OR OTHER SUITABLE IMPLEMENT APPROVED BY THE ENGINEER. THE MULCH INCLUDED IN THIS WORK MUST BE CAPABLE OF PROVIDING SUFFICIENT DURABLE PROTECTIVE COVER THAT PROVIDES KENTUCKY DEP KPDES PERMIT COMPLIANT EROSION CONTROL FOR A MINIMUM OF 6 MONTHS. THE USE OF OTHER SEED AND/OR MULCH MATERIALS IN THIS TIME PERIOD REQUIRES SPECIFIC APPROVAL BY THE ENGINEER. THE USE OF WINTER SEEDING AND MULCHING IS NOT AN ACCEPTABLE PRACTICE FOR PROTECTING THE SUBGRADE SURFACE.

STOCKPILE

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING			●	●	●	*	*	*	●	●		
DORMANT SEEDING	●	●	●							●	●	●
TEMPORARY SEEDING			●	●	●	*	*	*	●	●		
SODDING			**	**	**	**	**	**	**	**		
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●

* - IRRIGATION NEEDED
** - IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SOD IS APPLIED

INSPECTIONS

ALL BMPS ON THIS SITE SHALL BE INSPECTED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD. A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:

1. THE INSPECTION DATE;
2. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
3. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF ONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
4. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
5. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
6. LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED;
7. LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
8. LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
9. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES.

THE PERMITTEE SHALL MAINTAIN A RECORD OF ALL INSPECTIONS FOR A PERIOD OF 3 YEARS FOLLOWING THE SUBMITTAL OF THE NOTICE OF TERMINATION.

MAINTENANCE

THE CONTRACTOR SHALL MAINTAIN, REPAIR, OR REPLACE ALL EROSION CONTROL INSTALLATIONS AS NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL REPAIRS TO BMPS SHALL BE MADE WITHIN 3 DAYS (OR SOONER IF POSSIBLE) OF NOTIFICATION OF DEFICIENCIES. IF THE CORRECTIONS ARE NOT MADE WITHIN THE 3 DAY PERIOD, LIQUIDATED DAMAGES MAY BE ASSESSED.

ONGOING INSPECTION OF INSTALLATIONS WILL BE PERFORMED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE.

ANY TRAPPED SEDIMENT OR DEBRIS REMOVED DURING CLEANING OF OR REMOVAL OF BMP INSTALLATIONS SHALL BE PLACED IN AREAS NOT SUBJECT TO EROSION AND PERMANENTLY STABILIZED.

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF 25 OR MORE GALLONS OF PETROLEUM WASTE MUST BE REPORTED TO KENTUCKY EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL.
5. SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT A KENTUCKY EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
7. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS - ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FUEL STORAGE TANKS SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.

FERTILIZERS - FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS - ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

1. VEGETATIVE COVER AND/MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

NKU SPORT WORKS FIELD DESIGN
a division of KLEINGERS GROUP

NORTHERN KENTUCKY UNIVERSITY FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

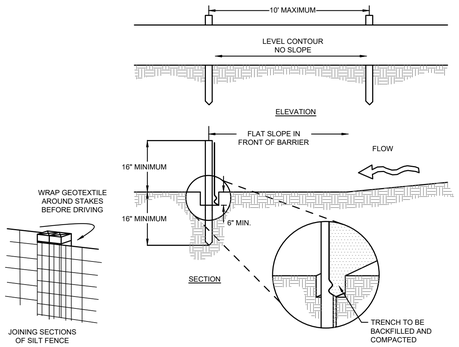
NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE:

SHEET NAME:
EROSION CONTROL NOTES

SHEET NO.
C160

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES



NOTES:

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND.
10. MAINTENANCE—SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

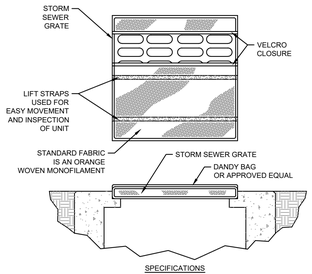
SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POST – THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC – SEE CHART BELOW.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4632
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS. (220 N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS. (180 N)	ASTM D 4533
APPARENT OPENING SIZE	<0.84 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10-2 SEC-1	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G 4355

1 / C161 SILT FENCE DETAIL
N.T.S.



SPECIFICATIONS

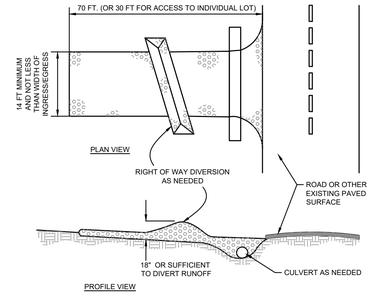
MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (LBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4833	KN (LBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (LBS)	0.51 (115) X 0.33 (75)
UV RESISTENCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MM (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	1/MIN/M²(GAL/MIN/FT²)	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC	2.1

INSTALLATION: THE EMPTY DANDY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS: PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS: REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

2 / C161 DANDY BAG DETAIL
N.T.S.

811 Know what's below. Call before you dig.



NOTES

1. STONE SIZE - ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).
3. THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE ARE PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

MINIMUM TENSILE STRENGTH	200 LBS
MINIMUM PUNCTURE STRENGTH	80 LBS
MINIMUM TEAR STRENGTH	50 LBS
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS< 0.6MM
PERMITTIVITY	$1X10^{-2}$ CM/SEC

6. TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEED ED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVE IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

3 / C161 CONSTRUCTION ENTRANCE DETAIL
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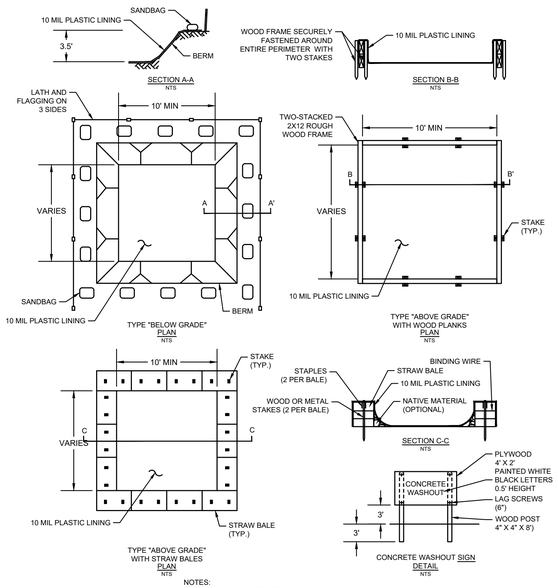


NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

4 / C161 CONCRETE WASHOUT DETAIL
N.T.S.

NKU SPORT WORKS FIELD DESIGN
a division of KLEINGERS GROUP

NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

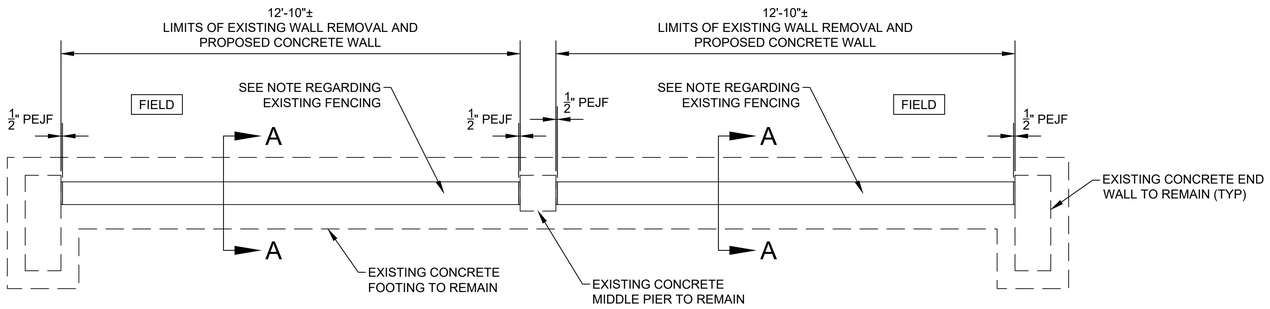
NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE:

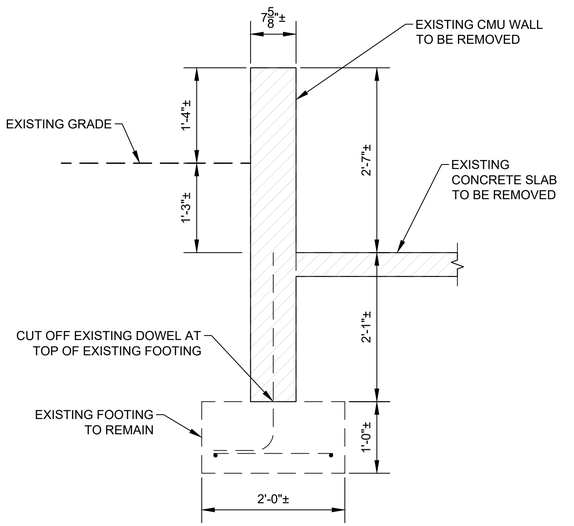
SHEET NAME:
EROSION CONTROL DETAILS

SHEET NO.
C161

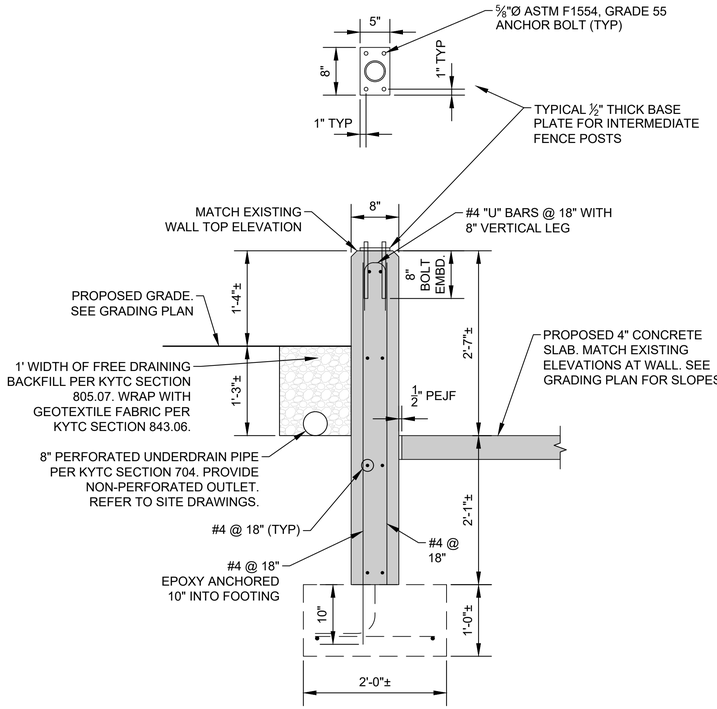


PLAN - TYPICAL DUGOUT

0 1' 2' 4'



DEMOLITION



PROPOSED

SECTION A-A - TYPICAL WALL

0 6" 1' 2'

STRUCTURAL NOTES:

REFERENCES TO KYTC SECTION NUMBERS:
- KYTC SECTION NUMBERS REFER TO THE 2019 EDITION OF THE KYTC STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. COMPLY WITH ALL REQUIREMENTS OF THE SECTION NUMBER CITED, AS WELL AS ALL OTHER KYTC SECTION NUMBERS CITED THEREIN.
- THE KYTC STANDARD SPECIFICATIONS ARE AVAILABLE FOR FREE DOWNLOAD FROM THE KYTC WEBPAGE.

DESIGN LOADS, MATERIAL PROPERTIES AND FOUNDATION CAPACITY:
- NO BORINGS OR GEOTECHNICAL REPORT INFORMATION WERE AVAILABLE FOR THE WALL DESIGN. ALL DESIGN LOADS, FOUNDATION AND RETAINED MATERIAL PROPERTIES, AND FOUNDATION CAPACITIES ARE BASED ON PROFESSIONAL EXPERIENCE AND ASSUMPTIONS.
- ACTIVE LATERAL EARTH PRESSURE = 60 pcf EQUIVALENT FLUID.
- NO LATERAL PRESSURE FROM SURCHARGES ON THE SURFACE OF THE FINISHED GRADE ON THE HIGH SIDE OF THE WALL WERE INCLUDED
- ALLOWABLE FOUNDATION BEARING PRESSURE = 2,000 psf
- COEFFICIENT OF FRICTION FOR RESISTING SLIDING = 0.25
- ALLOWABLE PASSIVE PRESSURE = 150 pcf.

EXCAVATION FOR WALL:
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL OSHA REQUIREMENTS PERTAINING TO SAFE EXCAVATION PRACTICES.
- THE CONTRACTOR SHALL DESIGN ALL REQUIRED CONSTRUCTION SHORING.

EXISTING FOUNDATION:
- THE EXISTENCE OF THE 2'-0"± WIDE FOOTING BELOW THE EXISTING CMU WALLS IS BASED ON RECORD DRAWING L7 FROM THE 1998 CONSTRUCTION DRAWINGS.
- NOTIFY THE ENGINEER IMMEDIATELY IF THIS FOOTING IS SMALLER THAN INDICATED OR IF IT DOES NOT EXIST.

EXISTING FENCING:
- THE POSTS ON TOP OF THE EXISTING CONCRETE END WALLS AND THE MIDDLE CONCRETE PIER ARE TO REMAIN IN PLACE.
- DOCUMENT THE LOCATION OF THE TWO INTERMEDIATE FENCE POSTS FOR ANCHOR BOLT PLACEMENT FOR LATER POST RE-INSTALLATION.
- REMOVE AND STORE THE EXISTING FENCE FABRIC, THE BOTTOM HORIZONTAL FENCE MEMBERS, AND THE TWO INTERMEDIATE FENCE POSTS.
- MODIFY THE TWO EXISTING INTERMEDIATE POSTS BY TRIMMING AS NECESSARY AND WELDING THE BASE PLATE SHOWN TO THE BOTTOM OF EACH POST.
- RE-INSTALL THE MODIFIED INTERMEDIATE POSTS TO THE TOP OF THE COMPLETED PROPOSED CONCRETE WALL WITH THE ANCHOR BOLTS THAT WERE CAST INTO THE WALL.
- RE-ATTACH THE EXISTING BOTTOM HORIZONTAL FENCE MEMBERS AND FENCE FABRIC.

CONCRETE:
- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE.
- REINFORCING STEEL SHALL COMPLY WITH KYTC SECTION 602 AND MEET ASTM A 615, GRADE 60.
- CONCRETE SHALL COMPLY WITH KYTC SECTION 601, CLASS AA, 4,000 psi COMPRESSIVE STRENGTH.
- THE MINIMUM REINFORCING STEEL LAPS ARE:
  #4 = 30"
- PROVIDE 2" CLEAR COVER OVER ALL REINFORCING IN THE WALL.
- ALL EXPOSED WALL CORNERS SHALL HAVE ¾" CHAMPFERS.

TYPICAL DETAILS:
- DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE KEYED AT EACH LOCATION.

CONSTRUCTION:
- CONTRACTOR SHALL BRACE THE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.

EXISTING CONDITIONS:
- FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE FABRICATING ANY MATERIALS. NOTIFY ENGINEER IMMEDIATELY OF ANY EXISTING CONDITIONS THAT DIFFER FROM THE CONSTRUCTION DOCUMENTS BEFORE PROCEEDING.

SAFETY:
- IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
- PERFORMANCE OF THE THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
- IF ENGINEER PROVIDES CONSTRUCTION REVIEW SERVICES, SUCH SERVICES SHALL NOT INCLUDE REVIEW OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

NKU SPORT WORKS FIELD DESIGN
a division of THE KLEINGERS GROUP

NORTHERN KENTUCKY UNIVERSITY
FRANK IGNATIUS GREIN SOFTBALL FIELD RENOVATIONS

SEAL:

NO.	DATE	DESCRIPTION
1	04/30/2021	FOR BID

NKU SOFTBALL FIELD RENOVATIONS
CITY OF HIGHLAND HEIGHTS
CAMPBELL COUNTY
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.036
DATE: APRIL 2021
SCALE: VARIES
SHEET NAME: STRUCTURAL DETAILS
SHEET NO. S100