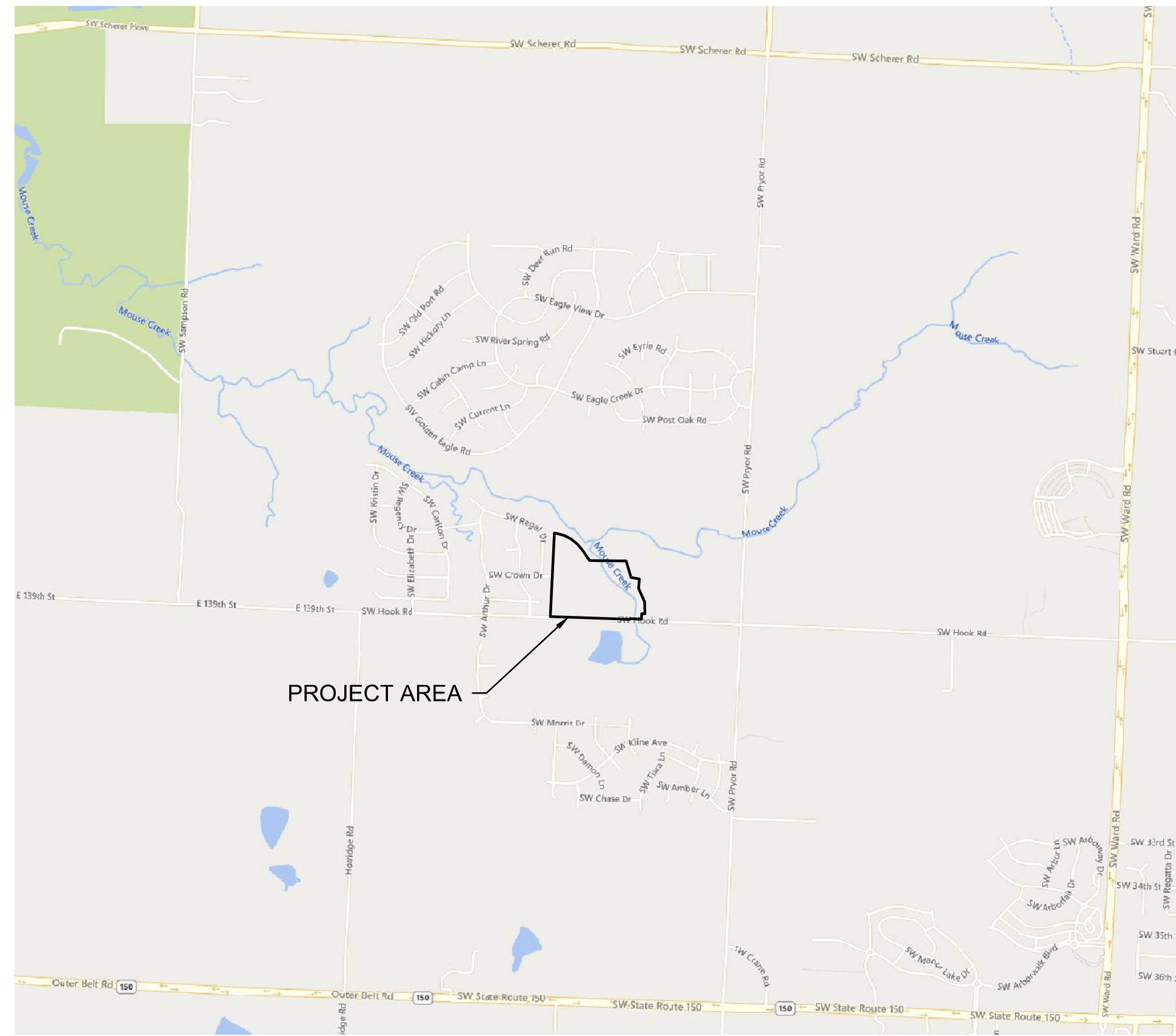
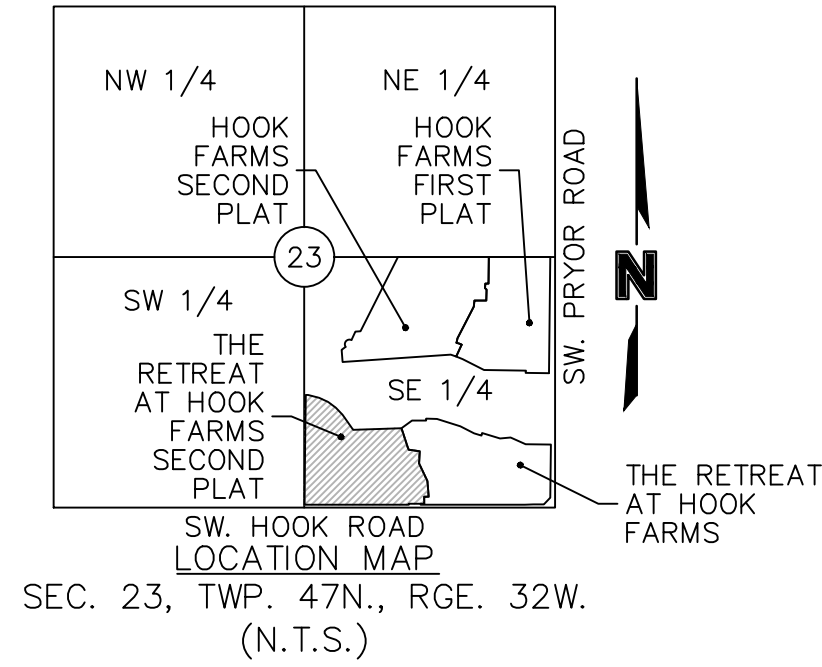


# THE RETREAT AT HOOK FARMS SECOND PLAT SITE GRADING & SITE DISTURBANCE PLANS

SECTION 23, TOWNSHIP 47 N, RANGE 32 W  
IN LEE'S SUMMIT, JACKSON COUNTY, MO  
AREA DISTURBED = 15.16 AC.



| PROJECT TEAM & UTILITY CONTACT LIST  |   |
|--|---|
| <b>OWNER / DEVELOPER</b><br>HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC.<br>8300 NE UNDERGROUND DRIVE<br>KANSAS CITY, MO 64161<br>CONTACT: AARON SCHMIDT<br>PHONE: 816.455.2500      | <b>UTILITY SERVICE NUMBERS</b><br>NAME: LEE'S SUMMIT PUBLIC WORKS<br>PHONE: 816-969-1800<br><br>NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT<br>PHONE: 816-969-1940<br><br>NAME: SPIRE (MGE)<br>PHONE: 314-342-0500<br><br>NAME: AT&T<br>PHONE: 800-286-8313<br><br>NAME: EVERGY<br>PHONE: 816-471-5275<br><br>NAME: SPECTRUM (TWC)<br>PHONE: 877-772-2253<br><br>NAME: GOOGLE FIBER<br>PHONE: 877-454-6959 |
| <b>ENGINEER</b><br>OLSSON<br>1301 BURLINGTON, SUITE 100<br>NORTH KANSAS CITY, MO 64116<br>CONTACT: JULIE E. SELLERS, P.E.<br>PHONE: 816.361.1177<br>EMAIL: JSSELLERS@OLSSON.COM    |   |
| <b>SURVEYOR</b><br>OLSSON<br>1301 BURLINGTON, SUITE 100<br>NORTH KANSAS CITY, MO 64116<br>CONTACT: JASON ROUDEBUSH, P.L.S.<br>PHONE: 816.361.1177<br>EMAIL: JROUDEBOUSH@OLSSON.COM |   |

|                          |                           |
|--------------------------|---------------------------|
| <input type="checkbox"/> | NOT FOR CONSTRUCTION      |
| <input type="checkbox"/> | REVIEWED FOR CONSTRUCTION |



### PROPERTY DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 23, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED BY OR UNDER THE DIRECT SUPERVISION OF JASON S. ROUDEBUSH, P.L.S. 2002014092 AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 87°58'53" WEST, ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 2,651.35 FEET TO THE SOUTHEAST CORNER OF MONARCH VIEW 1ST PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 98169637 IN BOOK 163 AT PAGE 62 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 02°43'00" EAST, ON THE WEST LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE EAST LINE OF SAID MONARCH VIEW 1ST PLAT, 30.00 FEET TO THE NORTHWEST CORNER OF SW HOOK ROAD AS ESTABLISHED BY RIGHT-OF-WAY DEED RECORDED AS INSTRUMENT NUMBER 199910077639 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 02°43'00" EAST, ON SAID WEST AND EAST LINES, AND ALSO BEING EAST LINE OF MONARCH VIEW 2ND PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT, RECORDED AS INSTRUMENT NUMBER 200010047892 IN BOOK 167 AT PAGE 87 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, 1,163.24 FEET; THENCE LEAVING SAID WEST AND EAST LINES, SOUTH 87°16'25" EAST, 25.54 FEET; THENCE SOUTH 73°15'30" EAST, 121.46 FEET; THENCE SOUTH 62°39'56" EAST, 102.90 FEET; THENCE SOUTH 52°04'22" EAST, 102.90 FEET; THENCE SOUTH 41°28'48" EAST, 102.90 FEET; THENCE SOUTH 33°05'07" EAST, 195.12 FEET; THENCE NORTH 90°00'00" EAST, 510.19 FEET TO A POINT ON THE WESTERLY LINE OF PROPOSED THE RETREAT AT HOOK FARMS; THENCE SOUTH 16°31'39" EAST, ALONG SAID WESTERLY LINE, 238.84 FEET; THENCE SOUTH 78°36'20" EAST, ALONG SAID WESTERLY LINE, 118.51 FEET; THENCE SOUTH 04°39'35" WEST, ALONG SAID WESTERLY LINE, 128.06 FEET; THENCE SOUTH 23°04'06" EAST, ALONG SAID WESTERLY LINE, 206.79 FEET; THENCE SOUTH 02°38'45" EAST, ALONG SAID WESTERLY LINE, 164.78 FEET; THENCE NORTH 87°58'48" WEST, ALONG SAID WESTERLY LINE, 45.85 FEET; THENCE SOUTH 01°54'56" WEST, ALONG SAID WESTERLY LINE, 76.13 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID WESTERLY LINE, 38.61 FEET TO A POINT ON THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SW HOOK ROAD, AS ESTABLISHED BY RIGHT OF WAY DEED RECORDED AS INSTRUMENT NUMBER 2007E0016663 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE LEAVING SAID WESTERLY LINE, CONTINUING NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 125.00 FEET; THENCE SOUTH 02°01'07" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 10.00 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 853.20 FEET TO THE NORTHWEST CORNER OF SAID RIGHT-OF-WAY DEED, ALSO BEING THE NORTHEAST CORNER OF SW HOOK ROAD, AS ESTABLISHED BY SAID RIGHT-OF-WAY DEED INSTRUMENT NUMBER 199910077639; THENCE CONTINUING NORTH 87°58'53" WEST ALONG THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SAID SW HOOK ROAD, 252.00 FEET TO THE POINT OF BEGINNING. CONTAINING 1,085,519 SQUARE FEET OR 24.92 ACRES, MORE OR LESS.

### BENCHMARK

JA-74  
 ELEVATION: 1058.10  
 N: 978461.2779  
 E: 2809447.9650  
 DESCRIPTION: KC METRO ALUMINUM GRS DISK SET IN CONCRETE. THE STATION IS STAMPED JA-74, 1988, AND PROJECTS ABOUT 1 INCH

| Sheet Number | Sheet Title                             |
|--------------|---|
| C401         | TITLE SHEET                             |
| C402         | GENERAL NOTES                           |
| C403         | GENERAL LAYOUT                          |
| C404         | GRADING PLAN                            |
| C405         | GRADING PLAN (FOR REFERENCE)            |
| C406         | SITE DISTURBANCE PLAN - PHASE A         |
| C407         | SITE DISTURBANCE PLAN - PHASE A         |
| C408         | SITE DISTURBANCE PLAN - PHASE A DETAILS |
| C409         | SITE DISTURBANCE PLAN - PHASE A DETAILS |
| C410         | SITE DISTURBANCE PLAN - PHASE B         |
| C411         | SITE DISTURBANCE PLAN - PHASE B         |
| C412         | SITE DISTURBANCE PLAN - PHASE C         |
| C413         | SITE DISTURBANCE PLAN - PHASE C         |
| C414         | SITE DISTURBANCE PLAN - PHASE D         |
| C415         | SITE DISTURBANCE PLAN - PHASE D         |
| C416         | DETAIL SHEET                            |
| C417         | DETAIL SHEET                            |
| C418         | DETAIL SHEET                            |
| C500         | STREAM BUFFER PLAN                      |

### OIL/GAS WELLS

NO OIL OR GAS WELLS ARE LOCATED WITHIN PROJECT LIMITS. INFORMATION OBTAINED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, GEOLOGICAL SURVEY GEOSCIENCES TECHNICAL RESOURCE ASSESSMENT TOOL (GEOSTRAT)

### FLOOD CERTIFICATION

PORTIONS OF THE SITE ARE LOCATED WITHIN ZONE AE "BASE FLOOD ELEVATIONS DETERMINED", ZONE X (SHADED) "AREAS OF 0.2% CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AND AREAS PROTECTED BY LEVEES FROM FROM 1% ANNUAL CHANCE FLOOD, AND ZONE X (UNSHADED)" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 29095C0531G, REVISION DATE JANUARY 20, 2017.

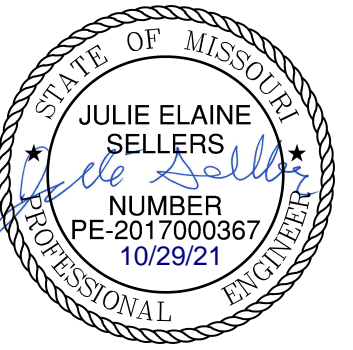
OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

*Julie E. Sellers*  
 JULIE E. SELLERS, P.E.  
 CIVIL ENGINEER  
 MO # PE-2017000367

10/29/21  
 DATE

**olsson**

Olsson - Civil Engineering  
 Missouri Certificate of Authority #001592  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 FAX 816.361.1888  
 www.olsson.com



| REV. NO. | DATE       | REVISIONS DESCRIPTION     |
|----------|------------|---------------------------|
| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |

TITLE SHEET  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4056  
 date: 05-05-2021

SHEET  
 C401

USER: bworthley

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCA\Site Grading & Site Disturbance Plans\C\_TTL01\_A194059.dwg  
 DATE: Oct 28, 2021 5:35pm  
 XREFS: C\_PTBK\_A194059

REVISIONS

2021

USER: bworthley

Design\AutoCAD\Final Plans\Sheets\GNCV\Site Grading & Site Disturbance Plans\C\_TTL01\_A194059.dwg

C\_PENDY\_A194059

F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Site Grading & Site Disturbance Plans\C\_TTL01\_A194059.dwg

DATE: Oct 28, 2021 5:35pm

GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCR OACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

- 1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

- 1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

- 1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES IN CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN 'APPROVED EQUAL' ALTERNATIVE.

GENERAL NOTES:

1. THE INTENT OF THIS LAND DISTURBANCE PLAN IS TO ASSIST THE DEVELOPER IN HIS RESPONSIBILITY TO PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR NECESSARY TO CONTROL EROSION, SILTATION AND DISCHARGES OF SOIL MATERIAL (SEDIMENT) INTO DOWNSTREAM SYSTEMS OR RECEIVING CHANNELS. THIS SHALL BE REQUIRED DURING ALL PHASES OF CONSTRUCTION AND UNTIL SUITABLE GROUND COVER IS ESTABLISHED FOR ALL DISTURBED AREAS. IF ANY METHOD OF CONTROL FAILS, THE DEVELOPER SHALL NOTIFY THE OWNER IMMEDIATELY, SO THAT THE OWNER OR HIS AGENT CAN REVIEW THE DEVELOPER'S PROPOSED METHOD OF REPAIR.

THIS PLAN INDICATES THE CRITICAL AREA(S) OF CONCERN AND THESE AREA(S) WILL BE CONTROLLED AS A MINIMUM. THE CONTROL MAY CONSIST OF TEMPORARY CONTROL MEASURES AS SHOWN ON THE PLANS OR ORDERED BY THE OWNER DURING THE LIFE OF THE CONTRACT TO CONTROL EROSION OR WATER POLLUTION, THROUGH THE USE OF BERMS, DIKES, DAMS, SEDIMENT BASINS, FIBER MATS, NETTING, STRAW BALES, GRAVEL, MULCHES, GRASSES, SLOPE DRAINS, DIVERSION SWALES OR OTHER EROSION CONTROL DEVICES OR METHODS. THE OWNER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY THE CONSTRUCTION OPERATIONS AND TO DIRECT THE DEVELOPER TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, OR OTHER AREAS OF WATER IMPOUNDMENT OR CONVEYANCES.

THE TEMPORARY POLLUTION CONTROL PROVISIONS CONTAINED HEREIN SHALL BE COORDINATED WITH ANY PERMANENT EROSION CONTROL FEATURES SPECIFIED ELSEWHERE IN THE CONTRACT TO THE EXTENT PRACTICAL TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION CONTROL THROUGHOUT THE CONSTRUCTION AND POST CONSTRUCTION PERIOD.

- 2. THIS SEDIMENTATION CONTROL PLAN MAKES USE OF THE FOLLOWING APPLICATIONS:
\_\_\_PRESERVATION OF EXISTING VEGETATION
\_\_X SEDIMENT BARRIERS
\_\_X SEDIMENT TRAPS
\_\_X INLET PROTECTION
\_\_\_OUTLET PROTECTION
\_\_\_SOIL RETAINING SYSTEMS
\_\_\_SLOPE DRAINS
\_\_\_SUBSURFACE DRAINS

PHYSICAL DESCRIPTION OF EACH SPECIFIC SEDIMENT CONTROL DEVICE TO BE UTILIZED IS CALLED OUT ON THE PLANS WITH INSTALLATION PROCEDURES, CONSTRUCTION SPECIFICATIONS AND MAINTENANCE ARRANGEMENT AS CALLED FOR ON THE DETAIL SHEET. IN ADDITION TO THE MEASURES SPECIFIED, THE FOLLOWING GENERAL PRACTICES SHALL BE ADHERED TO WHEN APPLICABLE.

A) CLEARING AND GRUBBING WITHIN 50' OF A DEFINED DRAINAGE COURSE SHOULD BE AVOIDED WHEN POSSIBLE. WHERE CHANGES TO A DEFINED DRAINAGE COURSE OCCUR, WORK SHOULD BE DELAYED UNTIL ALL MATERIALS AND EQUIPMENT NECESSARY TO PROTECT AND COMPLETE THE DRAINAGE CHANGE ARE ON SITE. CHANGES SHALL BE COMPLETED AS QUICKLY AS POSSIBLE ONCE THE WORK HAS BEEN INITIATED. THE AREA IMPACTED BY THE CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR PROTECTED FROM EROSION AS SOON AS POSSIBLE, AREAS WITHIN 50' OF A DEFINED DRAINAGE WAYS SHOULD BE RECONTOURED AS NEEDED OR OTHERWISE PROTECTED WITHIN FIVE (5) WORKING DAYS AFTER GRADING HAS CEASED.

B) WHERE SOIL DISTURBING ACTIVITIES CEASE IN AN AREA FOR MORE THAN 14 DAYS, THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES IF ACTIVITIES CEASE FOR MORE THAN SEVEN (7) DAYS.

C) EXISTING VEGETATION SHALL BE PRESERVED TO THE EXTENT AND WHERE PRACTICAL. IN NO CASE SHALL DISTURBED AREAS REMAIN WITHOUT VEGETATIVE GROUND COVER FOR A PERIOD IN EXCESS OF 60 DAYS.

D) ADDITIONAL SITE MANAGEMENT PRACTICES WHICH SHALL BE ADHERED TO DURING THE CONSTRUCTION PROCESS SHALL INCLUDE:

SOLID AND HAZARDOUS WASTE MANAGEMENT INCLUDING PROVIDING TRASH CONTAINERS AND REGULAR SITE CLEAN UP FOR PROPER DISPOSAL OF SOLID WASTE SUCH AS BUILDING MATERIAL, PRODUCT/MATERIAL SHIPPING WASTE, FOOD CONTAINERS AND CUPS, AND PROVIDING CONTAINERS FOR THE PROPER DISPOSAL OF WASTE PAINTS SOLVENTS, AND CLEANING COMPOUNDS.

PROVISIONS OF PORTABLE TOILETS FOR PROPER DISPOSAL OF SANITARY SEWAGE.

STORAGE OF CONSTRUCTION MATERIALS AWAY FROM DRAINAGE COURSES AND LOW AREAS.

INSTALLATION OF CONTAINMENT BERMS AND USE OF DRIP PANS AT PETROLEUM PRODUCT AND LIQUID STORAGE TANKS AND CONTAINERS.

3. ALL DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED, OR SODDED, IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF LEE'S SUMMIT AND GOOD ENGINEERING PRACTICES. THIS SHALL BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER COMPLETING THE WORK, IN ANY AREA. IF THIS IS OUTSIDE OF THE SEEDING PERIOD, SILT BARRIERS OR OTHER SIMILARLY EFFECTIVE MEASURES SHALL BE PROVIDED UNTIL SUCH TIME THAT THE AREAS CAN BE SEEDED.

4. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF LEE'S SUMMIT. THE DEVELOPER WILL BE RESPONSIBLE FOR DETERMINING ALL ADDITIONAL STANDARDS, SPECIFICATIONS OR REQUIREMENTS WHICH ARE REQUIRED BY GOVERNING AGENCIES (INCLUDING LOCAL, STATE AND FEDERAL AUTHORITIES) HAVING JURISDICTION OVER THE WORK PROPOSED BY THESE CONSTRUCTION DRAWINGS.

5. ALL EROSION CONTROL MEASURES, TEMPORARY OR PERMANENT, REQUIRE MAINTENANCE TO PRESERVE THEIR EFFECTIVENESS. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED IMMEDIATELY AFTER EACH HEAVY RAINSTORM AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. ALL COSTS ASSOCIATED WITH THE REPAIR WORK INCLUDING RELATED INCIDENTALS WILL BE THE DEVELOPER'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE DEVELOPER'S BID FOR THE PROPOSED WORK.

6. ALL EROSION CONTROL MEASURES TO BE PER APWA KANSAS CITY METRO CHAPTER STANDARD DETAILS.

7. THE DEVELOPER MUST REMOVE AT HIS COST ANY BAD SUBSURFACE SOIL WHICH WOULD NOT BE ABLE TO SUPPORT ANY PROPOSED PUBLIC IMPROVEMENT. BACKFILL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL SECTIONS 2100 AND 2201 ENTITLED "GRADING AND SITE PREPARATION" AND "SUBGRADE PREPARATION".

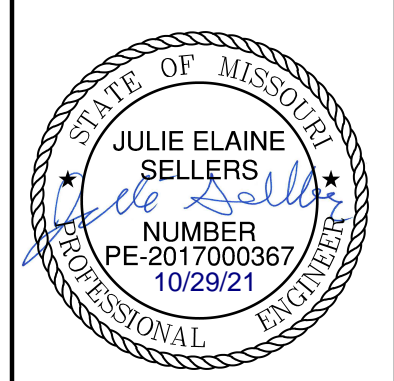
8. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH AN INSPECTOR PRIOR TO ANY DISTURBANCE WORK AT (816) 969-1200

9. TREE CLEARING TO HAPPEN BETWEEN NOVEMBER 1 AND MARCH 31. TREES CLEARED BETWEEN APRIL 1 AND OCTOBER 31 MUST BE TREES GREATER THAN 1,000 FEET FROM FORESTED OR WOODED AREAS OR TREES LESS THAN 3 INCHES IN DIAMETER, AT BREAETH HEIGHT, AND NOT MIXED WITH LARGER TREES. IF LARGER TREES NEED TO BE CLEARED, A SURVEY OF THE TREES MUST BE CONDUCTED TO MAKE SURE THERE ARE NO BAT ROOSTS IN THE TREES. TREE CLEARING TO BE CONDUCTED BY CUTTING DOWN AND MULCHING OR BY PUSHING OVER AND MULCHING. TREES SHALL NOT BE BURNED DOWN.

ESTIMATE OF QUANTITIES table with columns: ITEM NO., DESCRIPTION, UNIT, QUANTITY, AS-BUILT. Rows include PRIVATE GRADING (Excavation, Embankment) and SITE DISTURBANCE (Construction Entrance, Curb Inlet Protection, Area Inlet Protection, etc.).

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

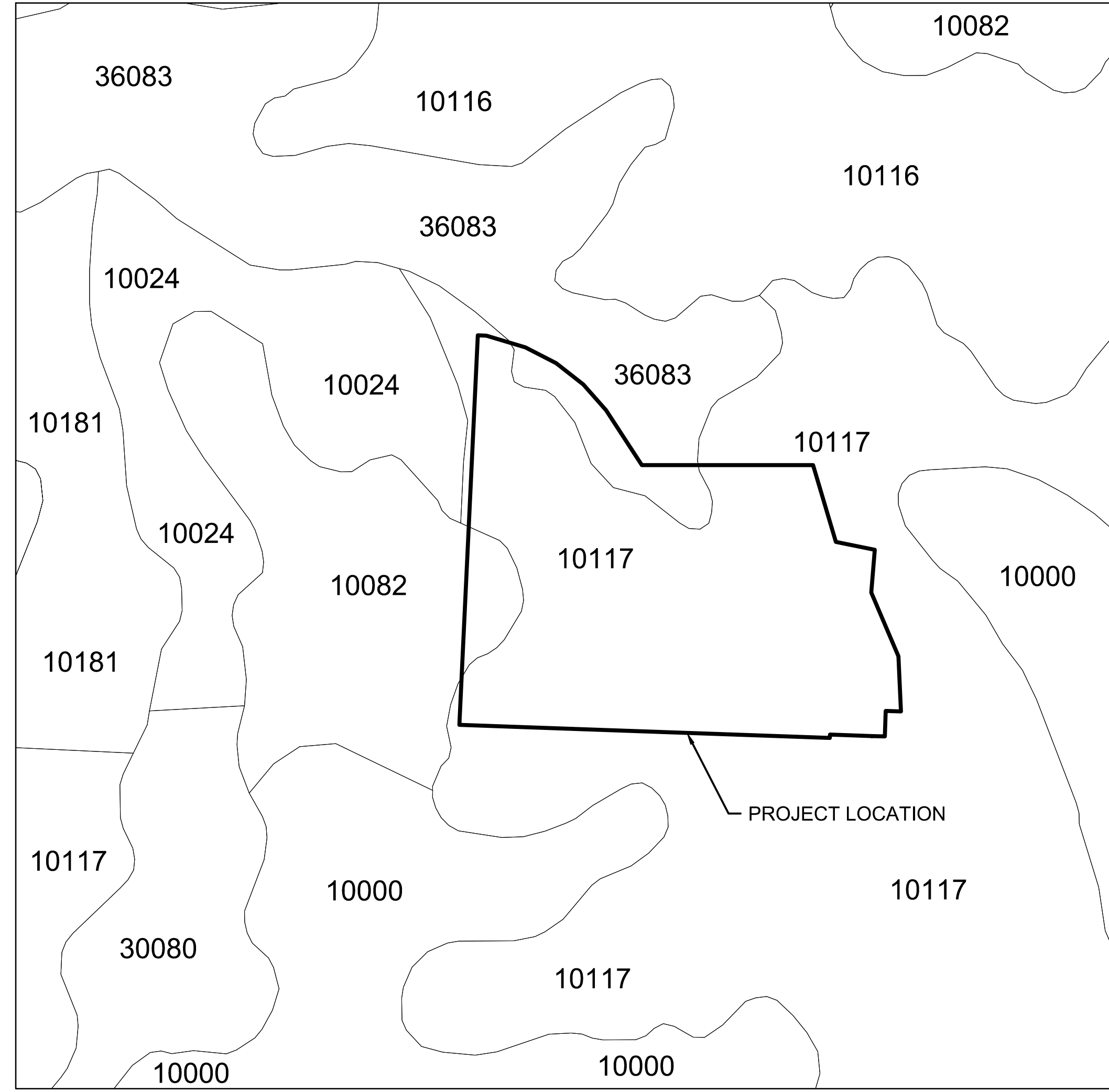
olsson logo and contact information: Olsson - Civil Engineering Missouri Certificate of Authority #001592 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 FAX 816.361.1888 www.olsson.com



REVISIONS table with columns: REV. NO., DATE, REVISIONS DESCRIPTION. Includes entries for PER CITY COMMENTS.

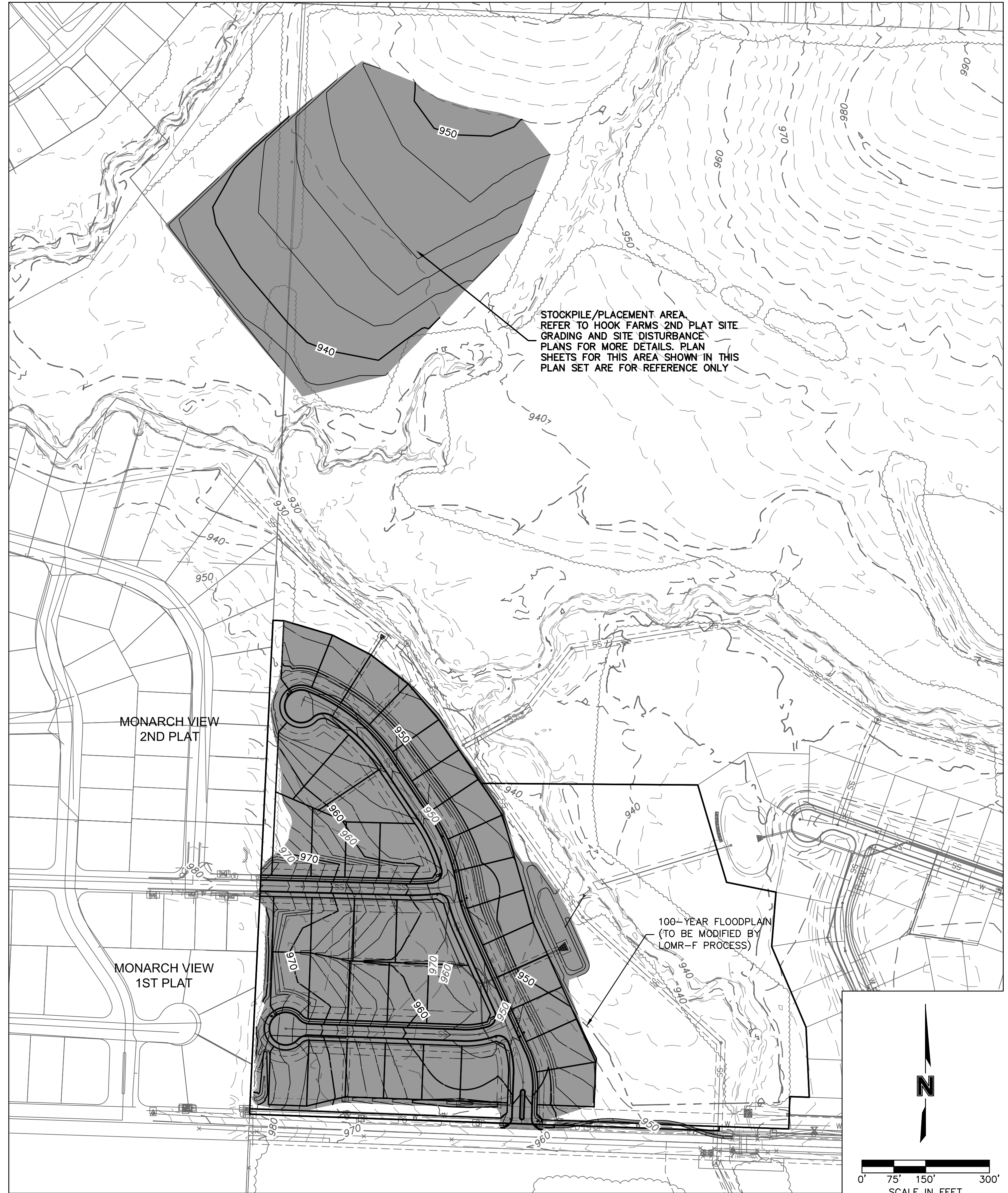
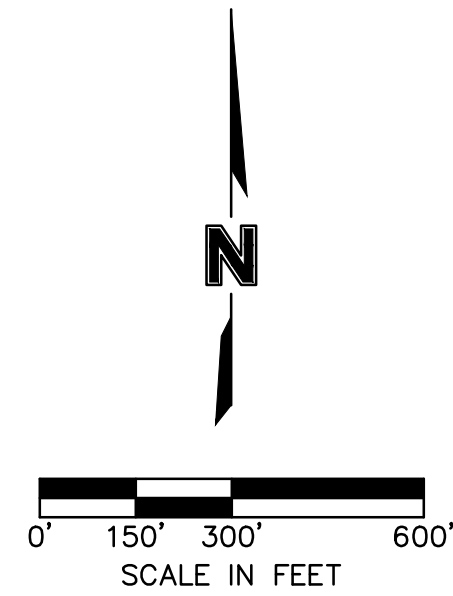
GENERAL NOTES SITE GRADING & SITE DISTURBANCE PLANS THE RETREAT AT HOOK FARMS SECOND PLAT LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A. checked by: B.M.W. designed by: B.M.W./A.A. QA/QC by: J.E.S. project no.: A19-4059 date: 05-05-2021



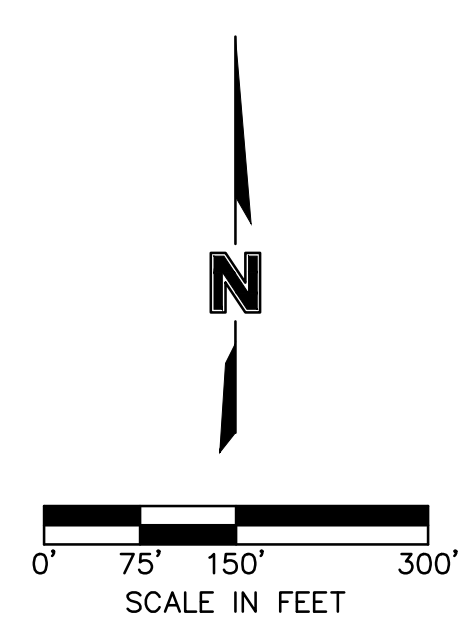
**SOILS MAP**

| SOILS LEGEND |                                     |                       |                            |
|--------------|-------------------------------------|-----------------------|----------------------------|
| MAP SYMBOL   | SOIL TYPE                           | HYDROLOGIC SOIL GROUP | SLOPES                     |
| 10000        | ARISBURG SILT LOAM                  | C                     | 1-5%                       |
| 10024        | GREENTON-URBAN LAND COMPLEX         | D                     | 5-9%                       |
| 10082        | ARISBURG-URBAN LAND COMPLEX         | C                     | 1-5%                       |
| 10116        | SAMPSEL SILTY CLAY LOAM             | C/D                   | 2-5%                       |
| 10117        | SAMPSEL SILTY CLAY LOAM             | C/D                   | 5-9%                       |
| 10181        | UDARENTS-URBAN LAND SAMPSEL COMPLEX | C                     | 5-9%                       |
| 30080        | GREENTON SILTY CLAY LOAM            | C/D                   | 5-9%                       |
| 36083        | KENNEBEC SILT LOAM                  | C                     | 1-4%, OCCASIONALLY FLOODED |



**DISTURBED AREA & PRESERVED VEGETATION**

| LEGEND  |                                |
|---------|--------------------------------|
| - - - - | EXISTING INDEX CONTOURS        |
| - - - - | EXISTING INTERMEDIATE CONTOURS |
| - - - - | PROPOSED INDEX CONTOURS        |
| - - - - | PROPOSED INTERMEDIATE CONTOURS |



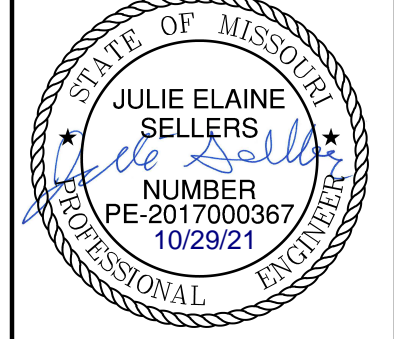
drawn by: B.M.W./A.A.  
checked by: B.M.W./A.A.  
designed by: B.M.W./A.A.  
QA/QC by: J.E.S.  
project no.: A19-4059  
date: 05-05-2021

**SHEET C403**

| REV. NO. | DATE       | REVISIONS DESCRIPTION     | BY |
|----------|------------|---------------------------|----|
| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |    |
| 2        | 10-28-2021 | REVISED PER CITY COMMENTS |    |

GENERAL LAYOUT  
SITE GRADING & SITE DISTURBANCE PLANS  
THE RETREAT AT HOOK FARMS  
SECOND PLAT  
LEES SUMMIT, MO  
2021

REVISIONS



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**GENERAL NOTES:**

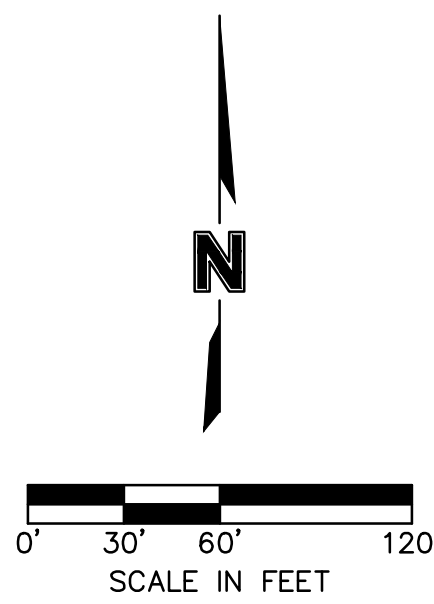
- CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
- AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.
- ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

| EARTHWORK QUANTITIES |            |             |
|----------------------|------------|-------------|
| LOCATION             | CUT (C.Y.) | FILL (C.Y.) |
| STREET               | 4,389      | 9,192       |
| SITE                 | 45,873     | 31,198      |
| TOTAL                | 50,262     | 40,390      |

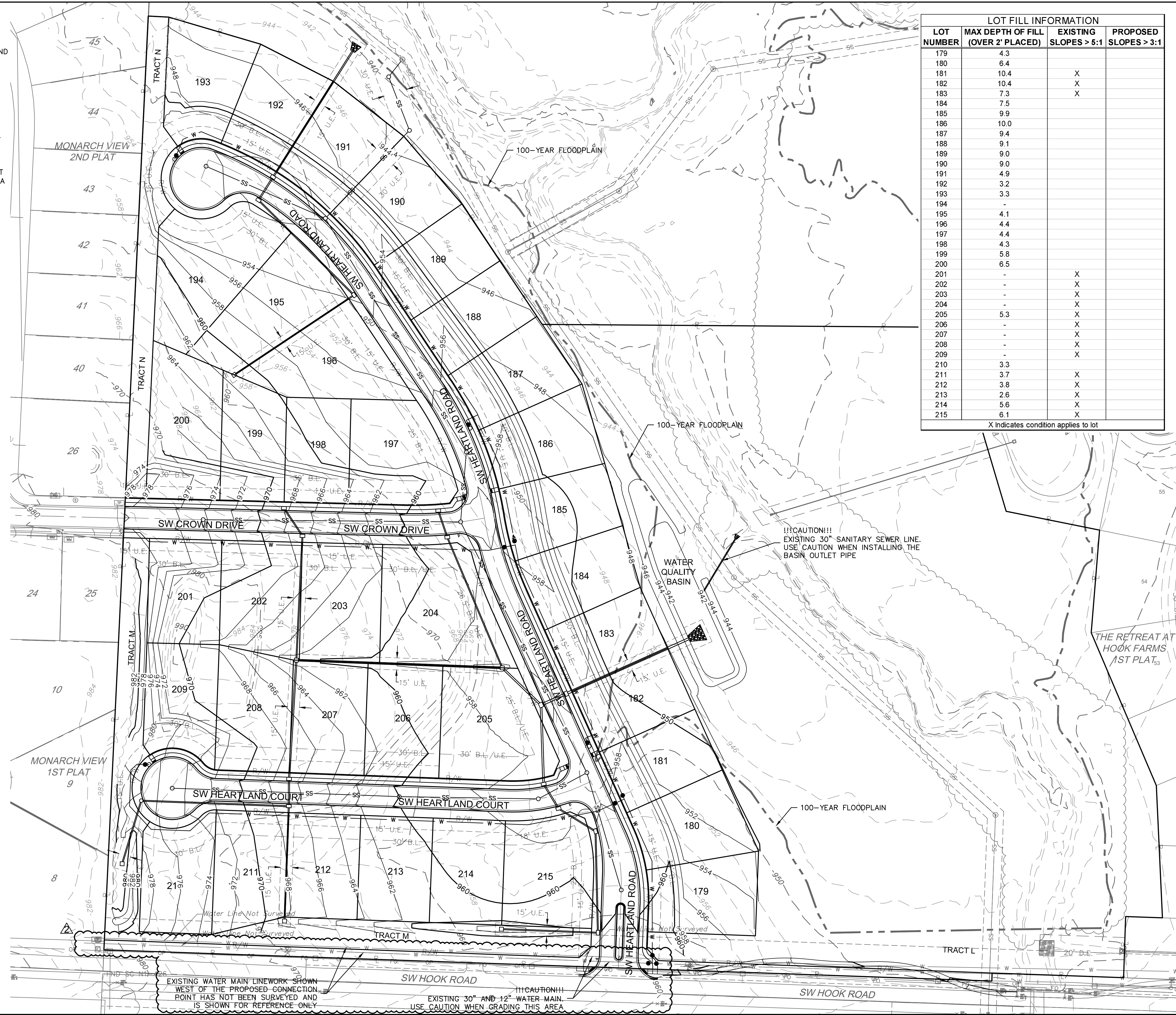
**EARTHWORK QUANTITIES NOTES:**

- EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
- EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.

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 XREFS: C\_PTLBK\_A194059 C\_PBNDY\_A194059 C\_PUTIL\_A194059 C\_PBASE\_A194059  
 USER: bworthley



| LEGEND     |                                |
|------------|--------------------------------|
| - -100 - - | EXISTING INDEX CONTOURS        |
| - -100 - - | EXISTING INTERMEDIATE CONTOURS |
| - -100 - - | PROPOSED INDEX CONTOURS        |
| - -100 - - | PROPOSED INTERMEDIATE CONTOURS |



| LOT FILL INFORMATION |                                    |                       |                       |
|----------------------|------------------------------------|-----------------------|-----------------------|
| LOT NUMBER           | MAX DEPTH OF FILL (OVER 2' PLACED) | EXISTING SLOPES > 5:1 | PROPOSED SLOPES > 3:1 |
| 179                  | 4.3                                |                       |                       |
| 180                  | 6.4                                |                       |                       |
| 181                  | 10.4                               | X                     |                       |
| 182                  | 10.4                               | X                     |                       |
| 183                  | 7.3                                | X                     |                       |
| 184                  | 7.5                                |                       |                       |
| 185                  | 9.9                                |                       |                       |
| 186                  | 10.0                               |                       |                       |
| 187                  | 9.4                                |                       |                       |
| 188                  | 9.1                                |                       |                       |
| 189                  | 9.0                                |                       |                       |
| 190                  | 9.0                                |                       |                       |
| 191                  | 4.9                                |                       |                       |
| 192                  | 3.2                                |                       |                       |
| 193                  | 3.3                                |                       |                       |
| 194                  | -                                  |                       |                       |
| 195                  | 4.1                                |                       |                       |
| 196                  | 4.4                                |                       |                       |
| 197                  | 4.4                                |                       |                       |
| 198                  | 4.3                                |                       |                       |
| 199                  | 5.8                                |                       |                       |
| 200                  | 6.5                                |                       |                       |
| 201                  | -                                  | X                     |                       |
| 202                  | -                                  | X                     |                       |
| 203                  | -                                  | X                     |                       |
| 204                  | -                                  | X                     |                       |
| 205                  | 5.3                                | X                     |                       |
| 206                  | -                                  | X                     |                       |
| 207                  | -                                  | X                     |                       |
| 208                  | -                                  | X                     |                       |
| 209                  | -                                  | X                     |                       |
| 210                  | 3.3                                |                       |                       |
| 211                  | 3.7                                | X                     |                       |
| 212                  | 3.8                                | X                     |                       |
| 213                  | 2.6                                | X                     |                       |
| 214                  | 5.6                                | X                     |                       |
| 215                  | 6.1                                | X                     |                       |

X Indicates condition applies to lot

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STATE OF MISSOURI

JULIE ELAINE SELLERS

REGISTERED PROFESSIONAL ENGINEER

NUMBER PE-2017000367

10/29/21

BY

| REV. NO. | DATE       | REVISIONS DESCRIPTION     |
|----------|------------|---------------------------|
| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |

REVISIONS

GRADING PLAN

SITE GRADING & SITE DISTURBANCE PLANS

THE RETREAT AT HOOK FARMS

SECOND PLAT

2021

LEE'S SUMMIT, MO

2021

drawn by: B.M.W./A.A.

checked by: B.M.W.

designed by: B.M.W./A.A.

QA/QC by: J.E.S.

project no.: A19-4059

date: 05-05-2021

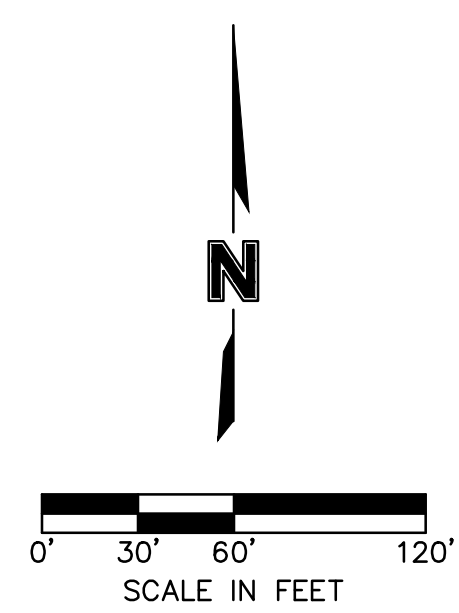
SHEET

C404

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**GENERAL NOTES:**

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- REFER TO HOOK FARMS 2ND PLAT PLANS FOR MORE DETAILS ABOUT EARTHWORK SHOWN ON THIS SHEET.

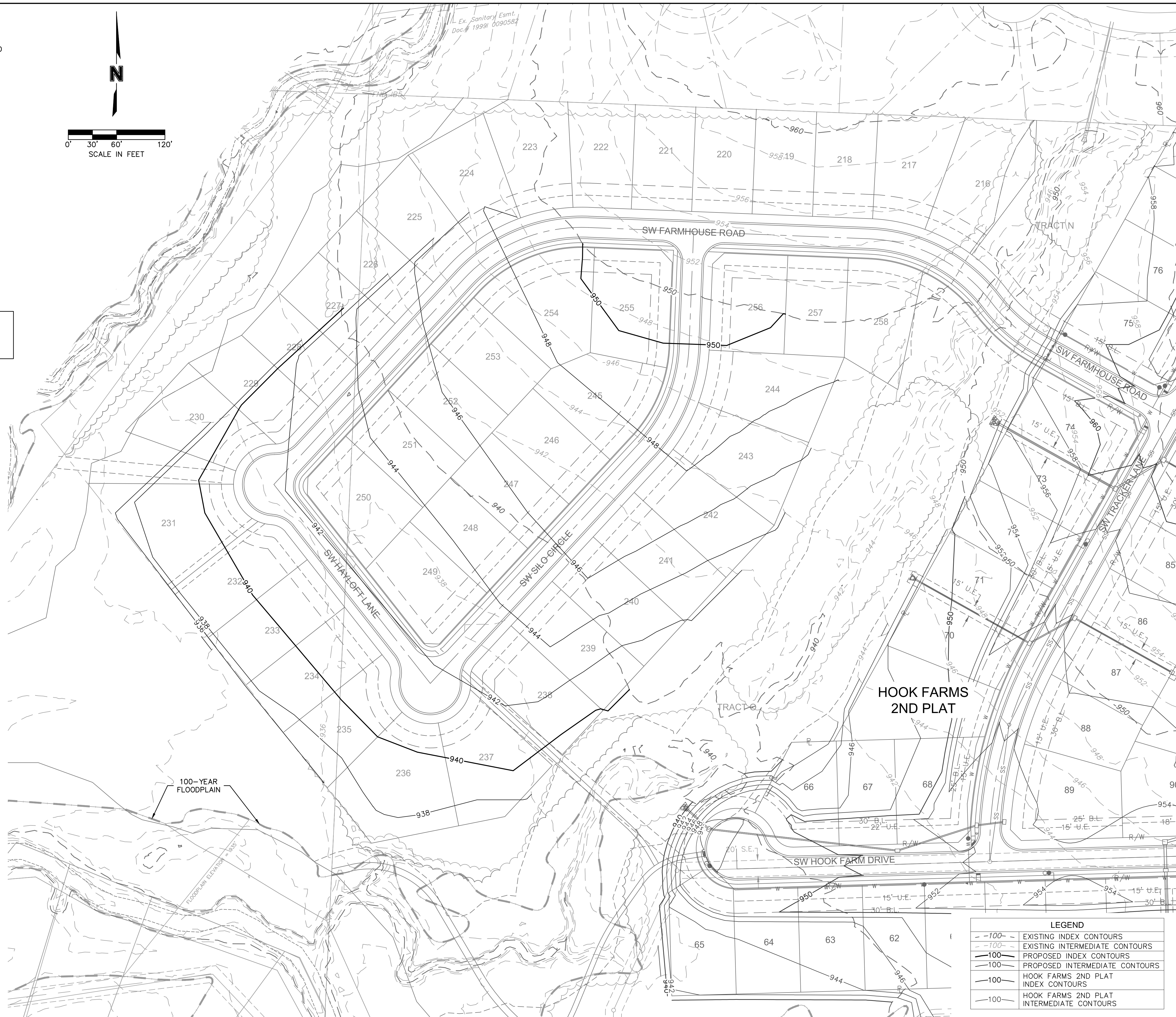


| EARTHWORK QUANTITIES |            |             |
|----------------------|------------|-------------|
| LOCATION             | CUT (C.Y.) | FILL (C.Y.) |
| FUTURE PHASE         | 0          | 54,547      |

| FUTURE PHASE EARTHWORK CONTRIBUTIONS |             |
|--------------------------------------|-------------|
| LOCATION                             | FILL (C.Y.) |
| HOOK FARMS 2ND PLAT                  | 42,194      |
| RETREAT AT HOOK FARMS 2ND PLAT       | 9,872       |
| EXCESS                               | 2,481       |

**EARTHWORK QUANTITIES NOTES:**

- EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
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| LEGEND          |   |
|-----------------|---|
| - - - 100 - - - | EXISTING INDEX CONTOURS                   |
| - - - 100 - - - | EXISTING INTERMEDIATE CONTOURS            |
| - - - 100 - - - | PROPOSED INDEX CONTOURS                   |
| - - - 100 - - - | PROPOSED INTERMEDIATE CONTOURS            |
| - - - 100 - - - | HOOK FARMS 2ND PLAT INDEX CONTOURS        |
| - - - 100 - - - | HOOK FARMS 2ND PLAT INTERMEDIATE CONTOURS |

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STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 NUMBER PE-2017000367  
 10/29/21  
 PROFESSIONAL ENGINEER

| REV. NO. | DATE       | REVISIONS DESCRIPTION     | BY |
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| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |    |

| REVISIONS |      |
|-----------|------|
| NO.       | DATE |
|           | 2021 |

GRADING PLAN (FOR REFERENCE)  
 SITE GRADING & SITE DISTURBANCE PLANS

THE RETREAT AT HOOK FARMS  
 SECOND PLAT

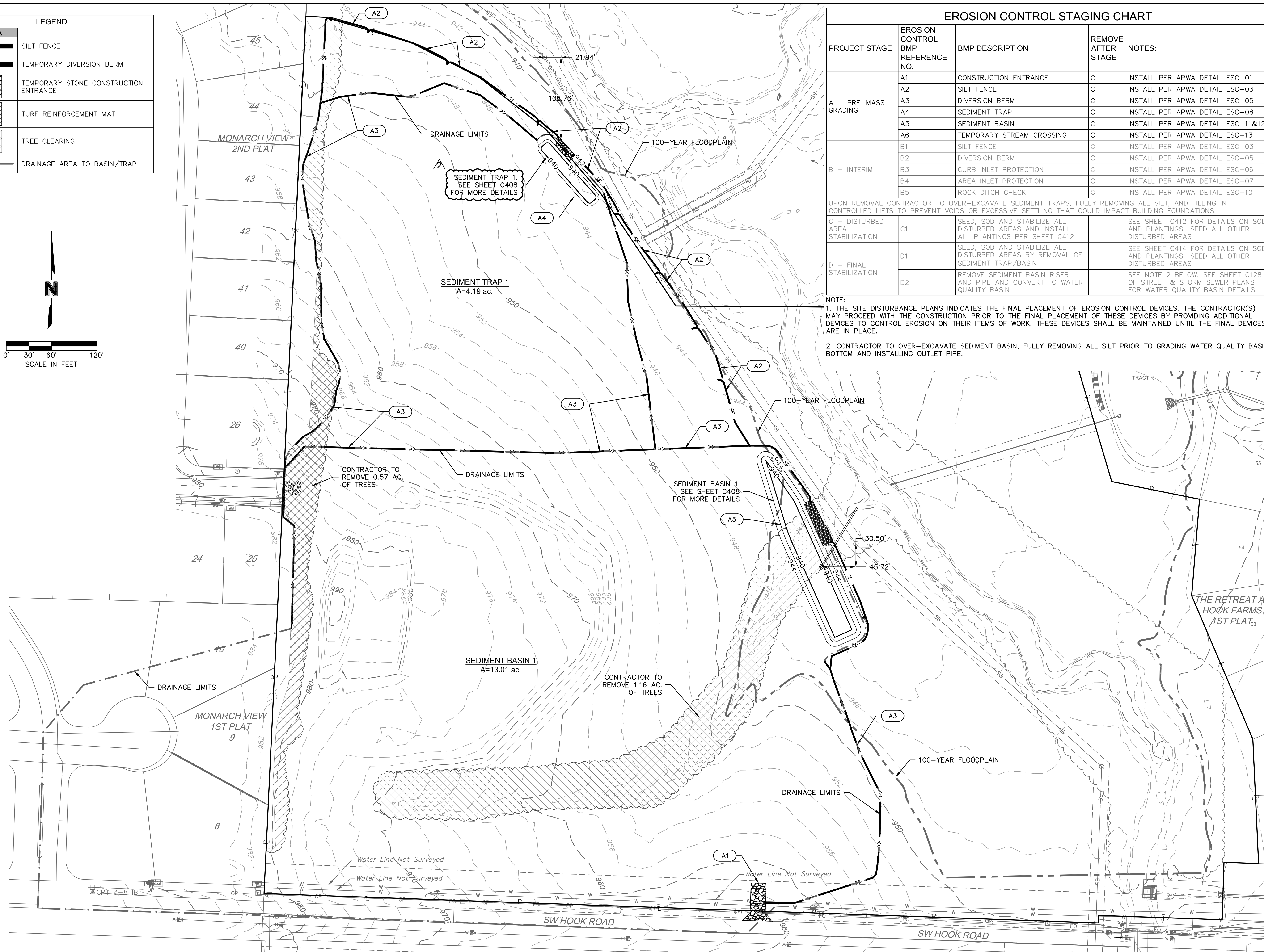
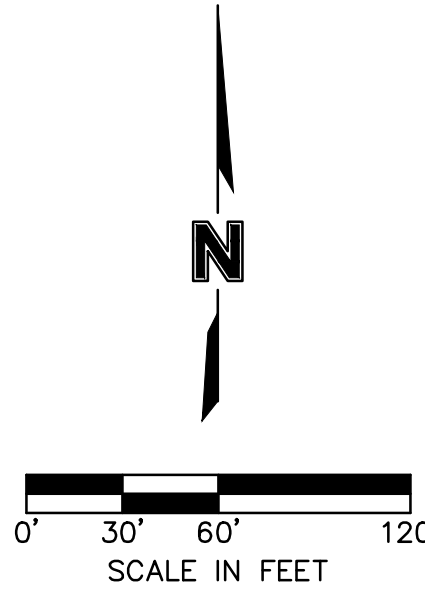
LEE'S SUMMIT, MO

SHEET C405

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

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| LEGEND  |                                       |
|---------|---------------------------------------|
| PHASE A |                                       |
|         | SILT FENCE                            |
|         | TEMPORARY DIVERSION BERM              |
|         | TEMPORARY STONE CONSTRUCTION ENTRANCE |
|         | TURF REINFORCEMENT MAT                |
|         | TREE CLEARING                         |
|         | DRAINAGE AREA TO BASIN/TRAP           |



| EROSION CONTROL STAGING CHART  |                                   |  |                    |  |
|--|-----------------------------------|--|--------------------|--|
| PROJECT STAGE  | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION  | REMOVE AFTER STAGE | NOTES:   |
| A - PRE-MASS GRADING   | A1                                | CONSTRUCTION ENTRANCE  | C                  | INSTALL PER APWA DETAIL ESC-01   |
|  | A2                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|  | A3                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|  | A4                                | SEDIMENT TRAP  | C                  | INSTALL PER APWA DETAIL ESC-08   |
|  | A5                                | SEDIMENT BASIN   | C                  | INSTALL PER APWA DETAIL ESC-11&12  |
|  | A6                                | TEMPORARY STREAM CROSSING  | C                  | INSTALL PER APWA DETAIL ESC-13   |
| B - INTERIM  | B1                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|  | B2                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|  | B3                                | CURB INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-06   |
|  | B4                                | AREA INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-07   |
|  | B5                                | ROCK DITCH CHECK   | C                  | INSTALL PER APWA DETAIL ESC-10   |
| UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS. |                                   |  |                    |  |
| C - DISTURBED AREA STABILIZATION   | C1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C412 |                    | SEE SHEET C412 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS                |
| D - FINAL STABILIZATION  | D1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAP/BASIN        |                    | SEE SHEET C414 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS                |
|  | D2                                | REMOVE SEDIMENT BASIN RISER AND PIPE AND CONVERT TO WATER QUALITY BASIN              |                    | SEE NOTE 2 BELOW. SEE SHEET C128 OF STREET & STORM SEWER PLANS FOR WATER QUALITY BASIN DETAILS |

NOTE:  
 1. THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.  
 2. CONTRACTOR TO OVER-EXCAVATE SEDIMENT BASIN, FULLY REMOVING ALL SILT PRIOR TO GRADING WATER QUALITY BASIN BOTTOM AND INSTALLING OUTLET PIPE.







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| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
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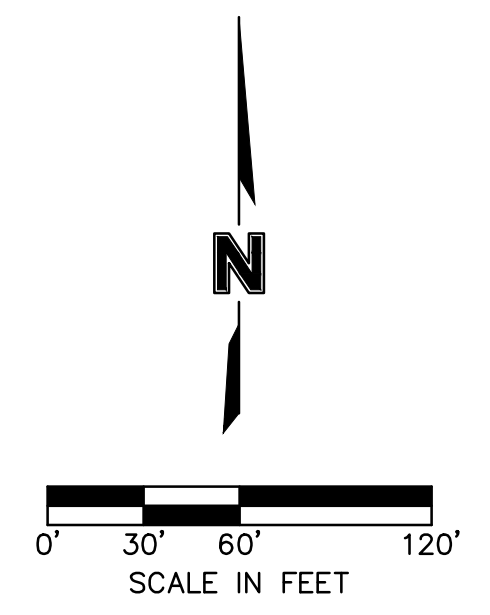
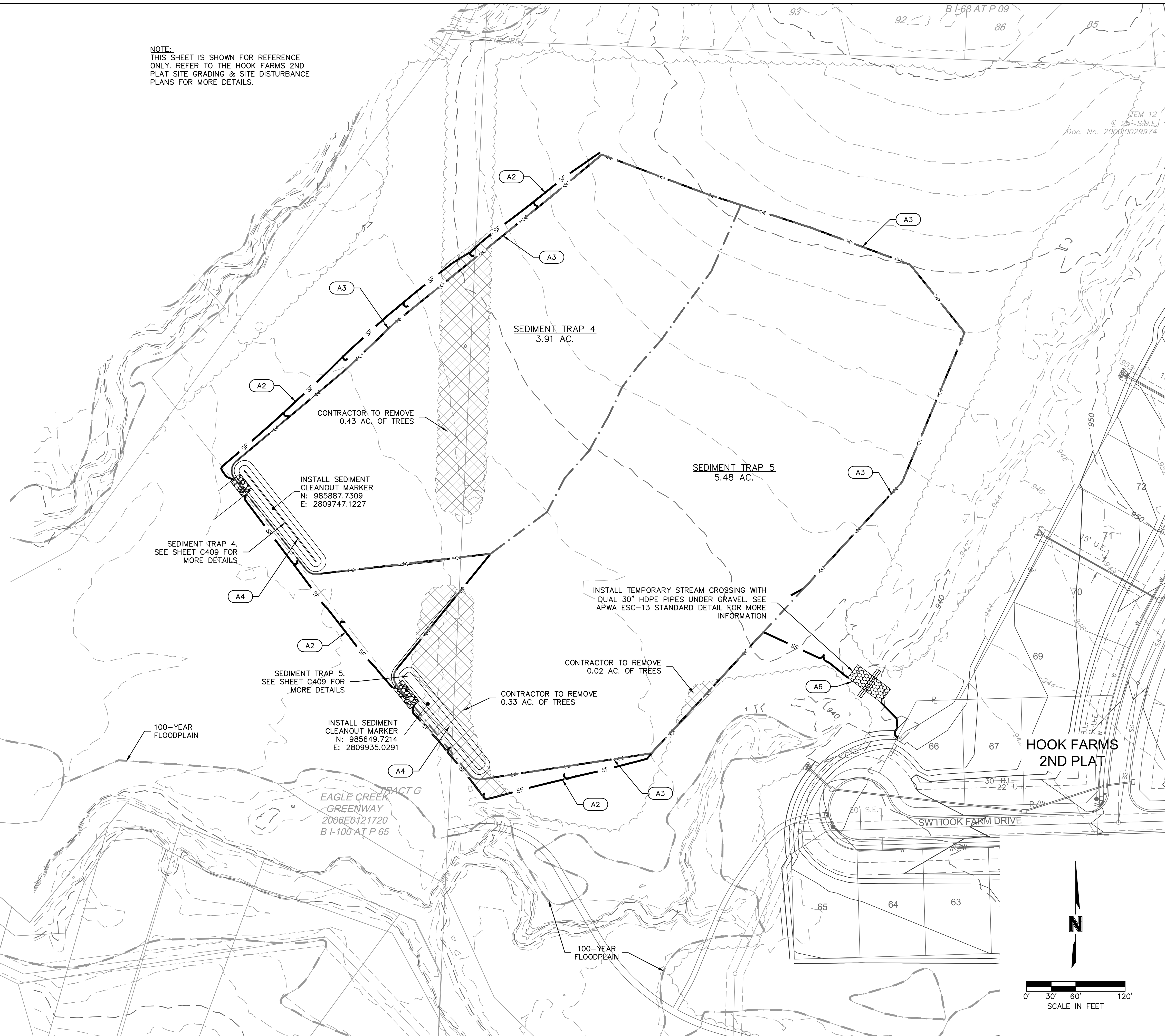
SITE DISTURBANCE PLAN - PHASE A  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

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| LEGEND  |                                       |
|---|---------------------------------------|
| PHASE A   |                                       |
|  | SILT FENCE                            |
|  | TEMPORARY DIVERSION BERM              |
|  | TEMPORARY STONE CONSTRUCTION ENTRANCE |
|  | TURF REINFORCEMENT MAT                |
|  | TREE CLEARING                         |
|  | DRAINAGE AREA TO BASIN/TRAP           |

**NOTE:**  
 THIS SHEET IS SHOWN FOR REFERENCE ONLY. REFER TO THE HOOK FARMS 2ND PLAT SITE GRADING & SITE DISTURBANCE PLANS FOR MORE DETAILS.



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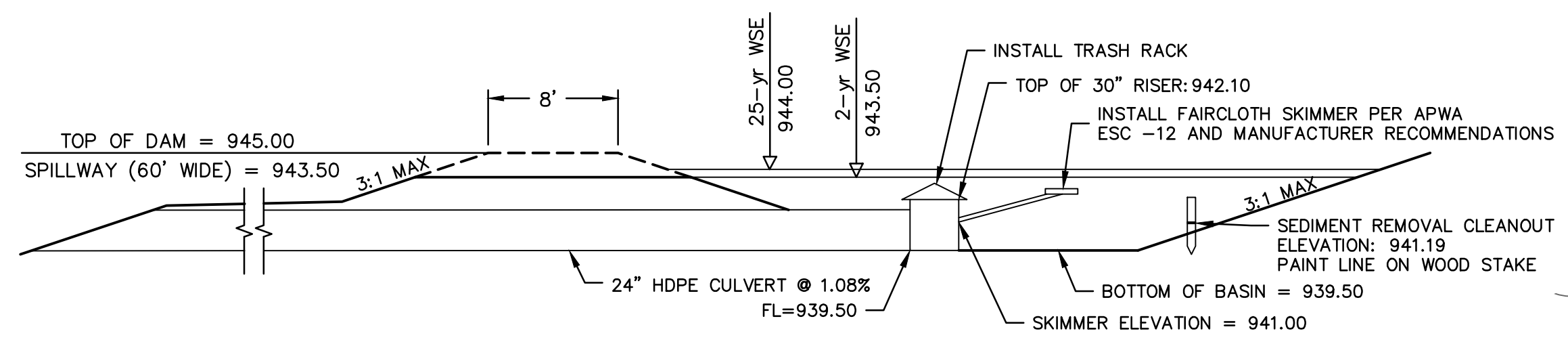
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| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
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**SITE DISTURBANCE PLAN - PHASE A**  
**SITE GRADING & SITE DISTURBANCE PLANS**  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

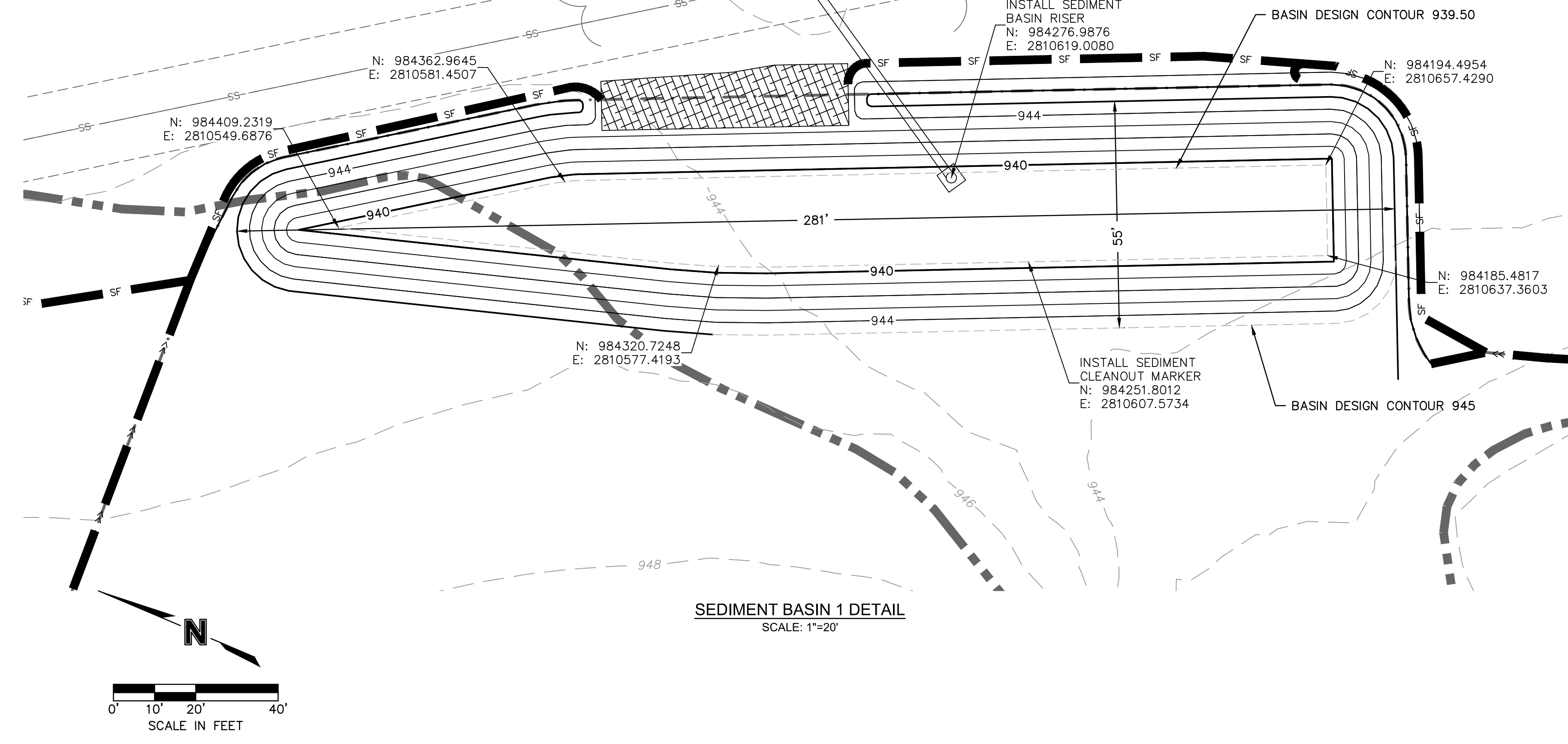
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 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

**SHEET C407**

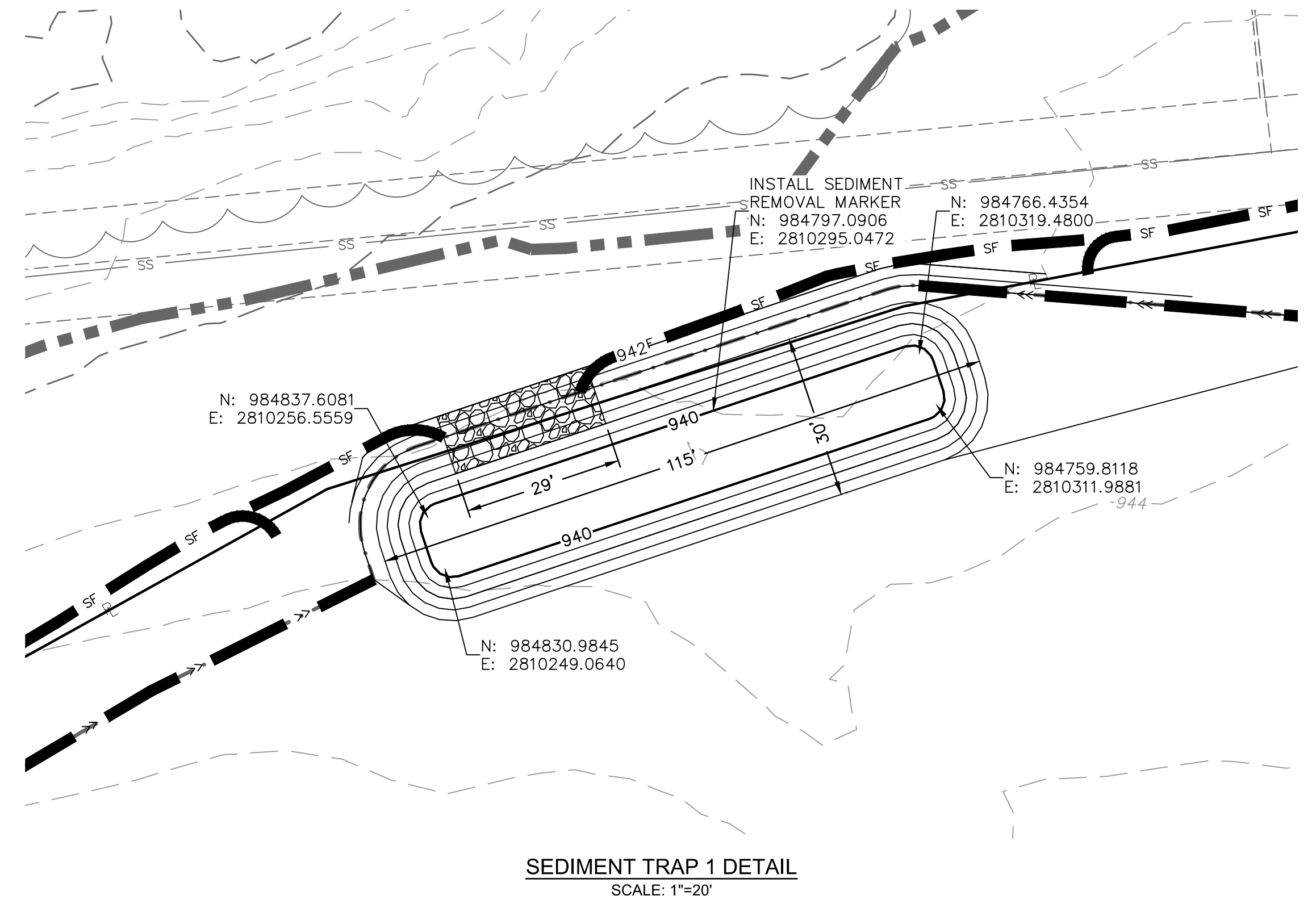
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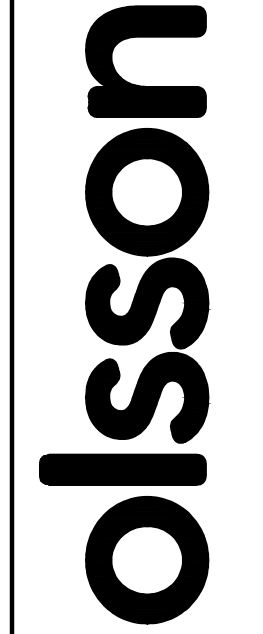


| SEDIMENT BASIN DESIGN DATA SUMMARY             |                                    |         |  |
|--|------------------------------------|---------|--|
| TITLE:   | The Retreat at Hook Farms 2nd Plat |         |  |
| JOB #:   | A19-4059                           |         |  |
| Design Item:                                   | Basin #1                           | Units   | Notes:   |
| <b>Site Data:</b>                              |                                    |         |  |
| Tributary Drainage Area to Pond:               | 13.01                              | Acres   |  |
| Disturbed Tributary Drainage Area to Pond:     | 13.01                              | Acres   |  |
| 50% (2 yr) Design Flow:                        | 37.39                              | cfs     |  |
| 4% (25 yr) Design Flow:                        | 66.07                              | cfs     |  |
| <b>Pond Data:</b>                              |                                    |         |  |
| Minimum Sediment Storage Volume:               | 1744                               | cu. yd. | 134 cy/acre minimum  |
| Provided Sediment Storage Volume:              | 1838                               | cu. yd. |  |
| Bottom Elevation:                              | 939.50                             | Ft      |  |
| Sediment Cleanout Elevation:                   | 941.19                             | Ft      | Elevation Equal to 20% of Original Design Volume.                              |
| Top of Riser Elevation:                        | 942.10                             | Ft      | Top of Dry Storage Volume  |
| Emergency Spillway Elevation:                  | 943.50                             | Ft      | At or above Q-2 elev. 1.0 ft min above principal spillway                      |
| Q-2 year Elevation:                            | 943.49                             | Ft      |  |
| Q-25 year Elevation:                           | 944.00                             | Ft      |  |
| Top of Dam Elevation:                          | 945.00                             | Ft      | 1.0 ft min above Q-25 elev.  |
| <b>Basin Shape Data:</b>                       |                                    |         |  |
| A= Area at Normal Pool                         | 8692                               | SF      |  |
| L = Length of Flow Path                        | 280                                | Ft      |  |
| We = Effective Width = A/L                     | 31.04                              | Ft      |  |
| Length to Width Ratio = L/We                   | 9.02                               |         | If Length to Width Ratio is less than 2, baffles are required                  |
| <b>Principal Spillway Data:</b>                |                                    |         |  |
| Riser Pipe Diameter or Length x Width:         | 30                                 | in      | 15-inch min. Size for 2 year flow minimum                                      |
| Barrell Pipe Diameter:                         | 24                                 | in      | 15-inch min. Size for 2 year flow minimum                                      |
| Riser Pipe Base Size:                          | 5.43                               | cu. yd. | Size to Prevent Flotation. 1.25 safety factor required.                        |
| **Skimmer Size:                                | 2.50                               | in      | Skimmer sized to dewater in 48 to 72 hours                                     |
| **Orifice Diameter (if reduced from standard): | -                                  | in      | **Based on ASP Enterprises Faircloth Skimmer Design Guide                      |
| <b>Emergency Spillway Data:</b>                |                                    |         |  |
| Design Width of Spillway:                      | 60.00                              | Ft      |  |
| Design Flow Depth in Spillway:                 | 0.56                               | Ft      | Use $Q_{25yr} = C_s b H^{3/2}$ where $C_s = 2.63$ , b is the Width of Spillway |
| Design Velocity in Spillway:                   | 2.20                               | Ft/sec  |  |
| Lining Material:                               | TRM                                | N/A     |  |




| SEDIMENT TRAP DESIGN SUMMARY |                      |                        |                       |   |                       |                          |                        |                          |                             |                            |                                 |                                   |
|------------------------------|----------------------|------------------------|-----------------------|---|-----------------------|--------------------------|------------------------|--------------------------|-----------------------------|----------------------------|---------------------------------|-----------------------------------|
| TRAP                         | TRIBUTARY AREA (AC.) | REQUIRED VOLUME (C.F.) | BERM HEIGHT "H" (FT.) | SPILLWAY HEIGHT "H <sub>s</sub> " (FT.) | STORAGE VOLUME (C.F.) | BERM TOP WIDTH "W" (FT.) | BOTTOM ELEVATION (FT.) | SPILLWAY ELEVATION (FT.) | TOP OF BERM ELEVATION (FT.) | MIN. SPILLWAY LENGTH (FT.) | SEDIMENT CLEANOUT VOLUME (C.F.) | SEDIMENT CLEANOUT ELEVATION (FT.) |
| 1 - Phase A                  | 4.19                 | 7542                   | 2                     | 1                                       | 9253                  | 2                        | 940                    | 942                      | 944                         | 26                         | 1851                            | 941.13                            |
| 1 - Phase B                  | 4.78                 | 8604                   | 2                     | 1                                       | 9253                  | 2                        | 940                    | 942                      | 944                         | 29                         | 1851                            | 941.13                            |





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 PE-2017000367  
 10/29/21

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| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |    |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |    |

2021

LEE'S SUMMIT, MO

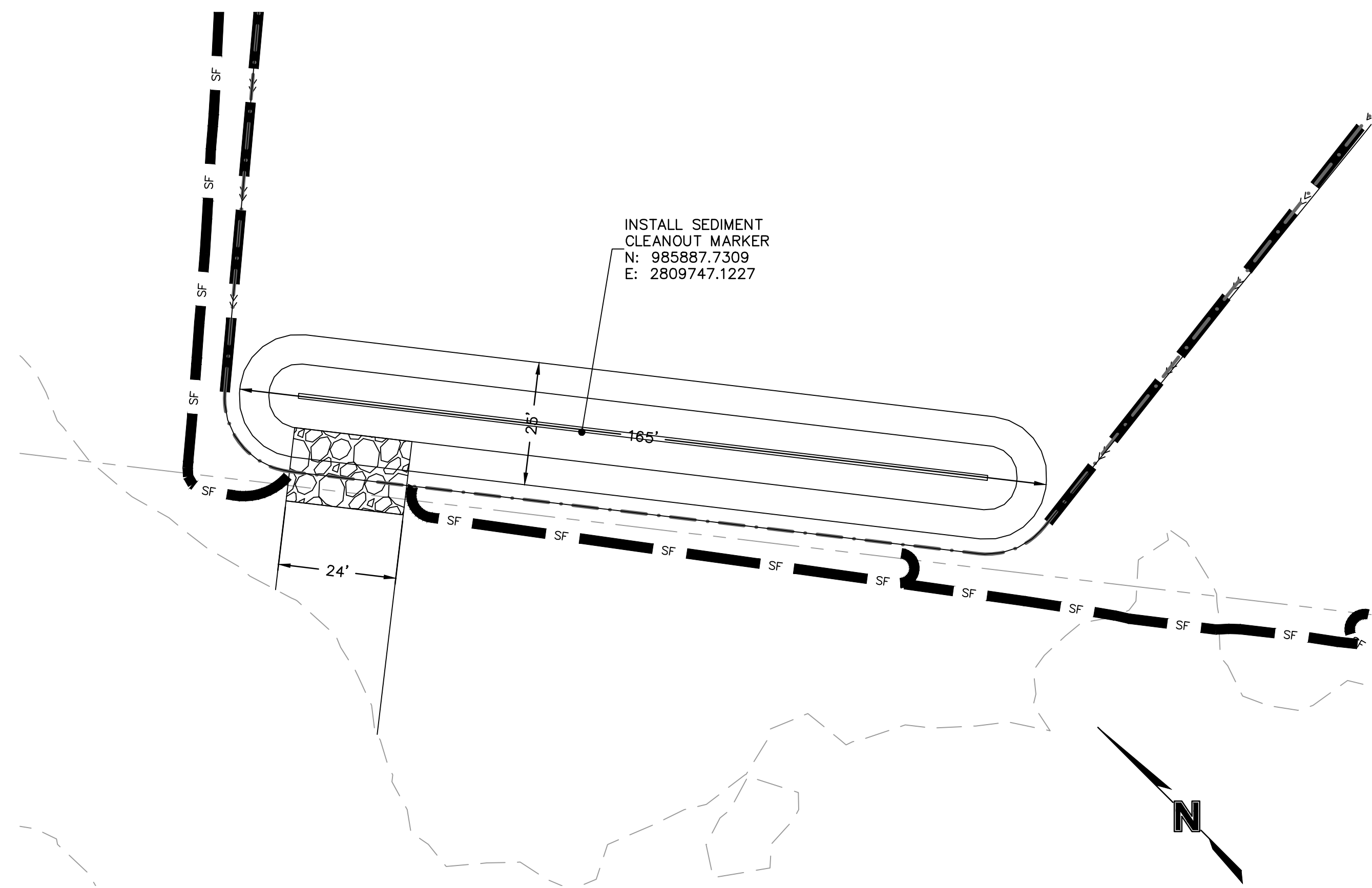
SITE DISTURBANCE PLAN - PHASE A DETAILS  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

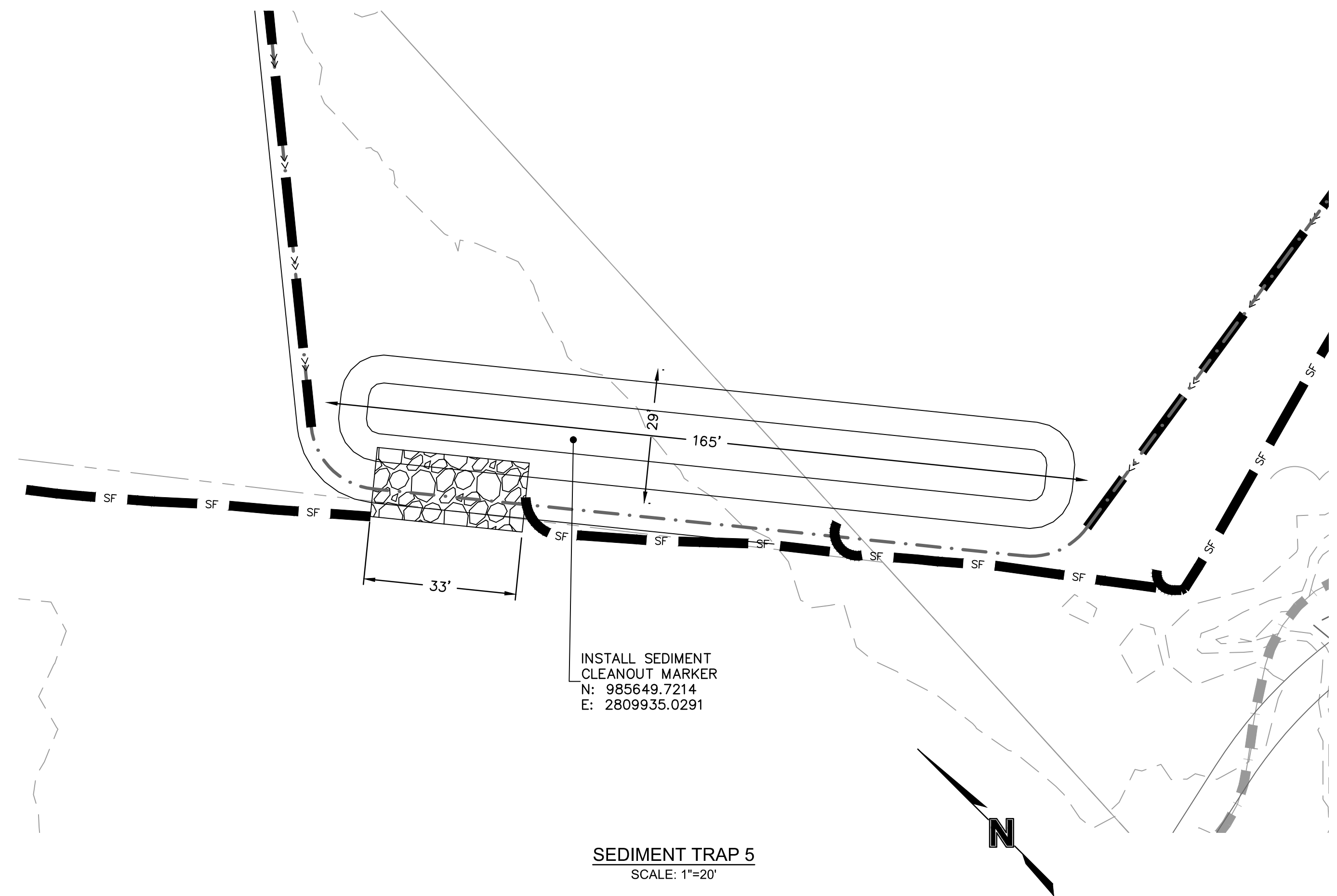
SHEET  
C408



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 USER: bworthley



**SEDIMENT TRAP 4**  
SCALE: 1"=20'



**SEDIMENT TRAP 5**  
SCALE: 1"=20'

| SEDIMENT TRAP DESIGN SUMMARY |                      |                        |                       |   |                       |                          |                        |                          |                             |                            |                                 |                                   |
|------------------------------|----------------------|------------------------|-----------------------|---|-----------------------|--------------------------|------------------------|--------------------------|-----------------------------|----------------------------|---------------------------------|-----------------------------------|
| TRAP                         | TRIBUTARY AREA (AC.) | REQUIRED VOLUME (C.F.) | BERM HEIGHT "H" (FT.) | SPILLWAY HEIGHT "H <sub>0</sub> " (FT.) | STORAGE VOLUME (C.F.) | BERM TOP WIDTH "W" (FT.) | BOTTOM ELEVATION (FT.) | SPILLWAY ELEVATION (FT.) | TOP OF BERM ELEVATION (FT.) | MIN. SPILLWAY LENGTH (FT.) | SEDIMENT CLEANOUT VOLUME (C.F.) | SEDIMENT CLEANOUT ELEVATION (FT.) |
| 4                            | 3.91                 | 7045.87                | 2                     | 1                                       | 7984.01               | 2                        | 932                    | 934                      | 936                         | 24                         | 1596.80                         | 933.67                            |
| 5                            | 5.48                 | 9871.45                | 2                     | 1                                       | 10415.42              | 2                        | 933                    | 935                      | 937                         | 33                         | 2083.08                         | 934.46                            |

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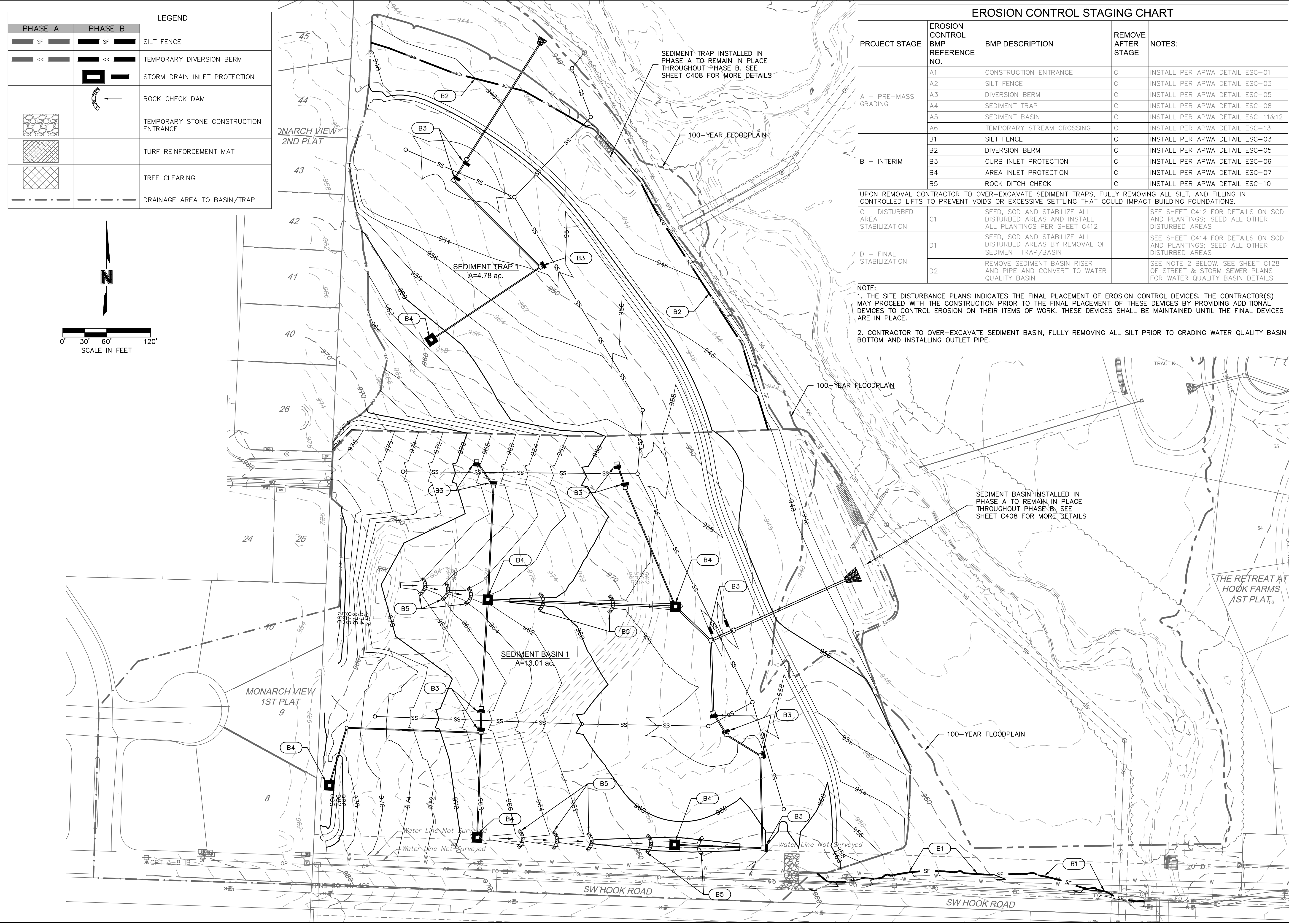
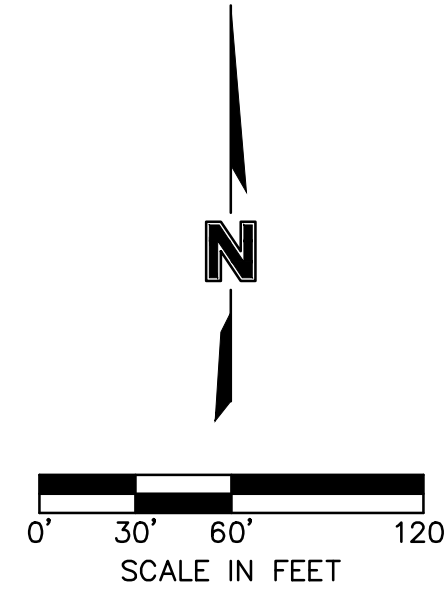
**SITE DISTURBANCE PLAN - PHASE A DETAILS**  
**SITE GRADING & SITE DISTURBANCE PLANS**  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

USER: bworthley

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| LEGEND   |          |                                       |
|----------|----------|---------------------------------------|
| PHASE A  | PHASE B  |                                       |
| [Symbol] | [Symbol] | SILT FENCE                            |
| [Symbol] | [Symbol] | TEMPORARY DIVERSION BERM              |
| [Symbol] | [Symbol] | STORM DRAIN INLET PROTECTION          |
| [Symbol] | [Symbol] | ROCK CHECK DAM                        |
| [Symbol] | [Symbol] | TEMPORARY STONE CONSTRUCTION ENTRANCE |
| [Symbol] | [Symbol] | TURF REINFORCEMENT MAT                |
| [Symbol] | [Symbol] | TREE CLEARING                         |
| [Symbol] | [Symbol] | DRAINAGE AREA TO BASIN/TRAP           |



| EROSION CONTROL STAGING CHART    |                                   |  |                    |  |
|----------------------------------|-----------------------------------|--|--------------------|--|
| PROJECT STAGE                    | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION  | REMOVE AFTER STAGE | NOTES:   |
| A - PRE-MASS GRADING             | A1                                | CONSTRUCTION ENTRANCE  | C                  | INSTALL PER APWA DETAIL ESC-01   |
|                                  | A2                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|                                  | A3                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|                                  | A4                                | SEDIMENT TRAP  | C                  | INSTALL PER APWA DETAIL ESC-08   |
|                                  | A5                                | SEDIMENT BASIN   | C                  | INSTALL PER APWA DETAIL ESC-11&12  |
|                                  | A6                                | TEMPORARY STREAM CROSSING  | C                  | INSTALL PER APWA DETAIL ESC-13   |
| B - INTERIM                      | B1                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|                                  | B2                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|                                  | B3                                | CURB INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-06   |
|                                  | B4                                | AREA INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-07   |
|                                  | B5                                | ROCK DITCH CHECK   | C                  | INSTALL PER APWA DETAIL ESC-10   |
| C - DISTURBED AREA STABILIZATION | C1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C412 |                    | SEE SHEET C412 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS                |
|                                  | D1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAP/BASIN        |                    | SEE SHEET C414 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS                |
| D - FINAL STABILIZATION          | D2                                | REMOVE SEDIMENT BASIN RISER AND PIPE AND CONVERT TO WATER QUALITY BASIN              |                    | SEE NOTE 2 BELOW. SEE SHEET C128 OF STREET & STORM SEWER PLANS FOR WATER QUALITY BASIN DETAILS |

UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS.

**NOTE:**  
 1. THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.  
 2. CONTRACTOR TO OVER-EXCAVATE SEDIMENT BASIN, FULLY REMOVING ALL SILT PRIOR TO GRADING WATER QUALITY BASIN BOTTOM AND INSTALLING OUTLET PIPE.

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STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 10/29/21

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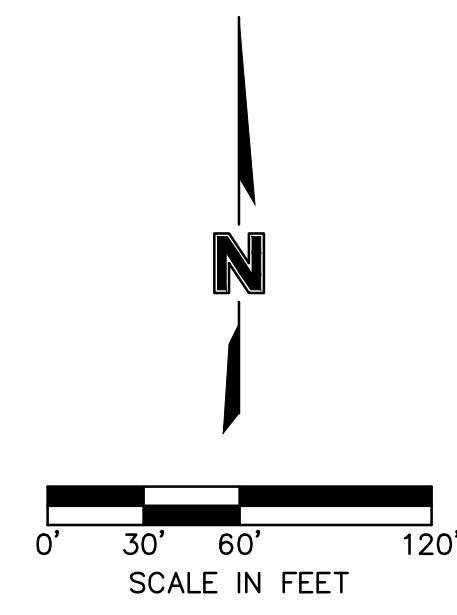
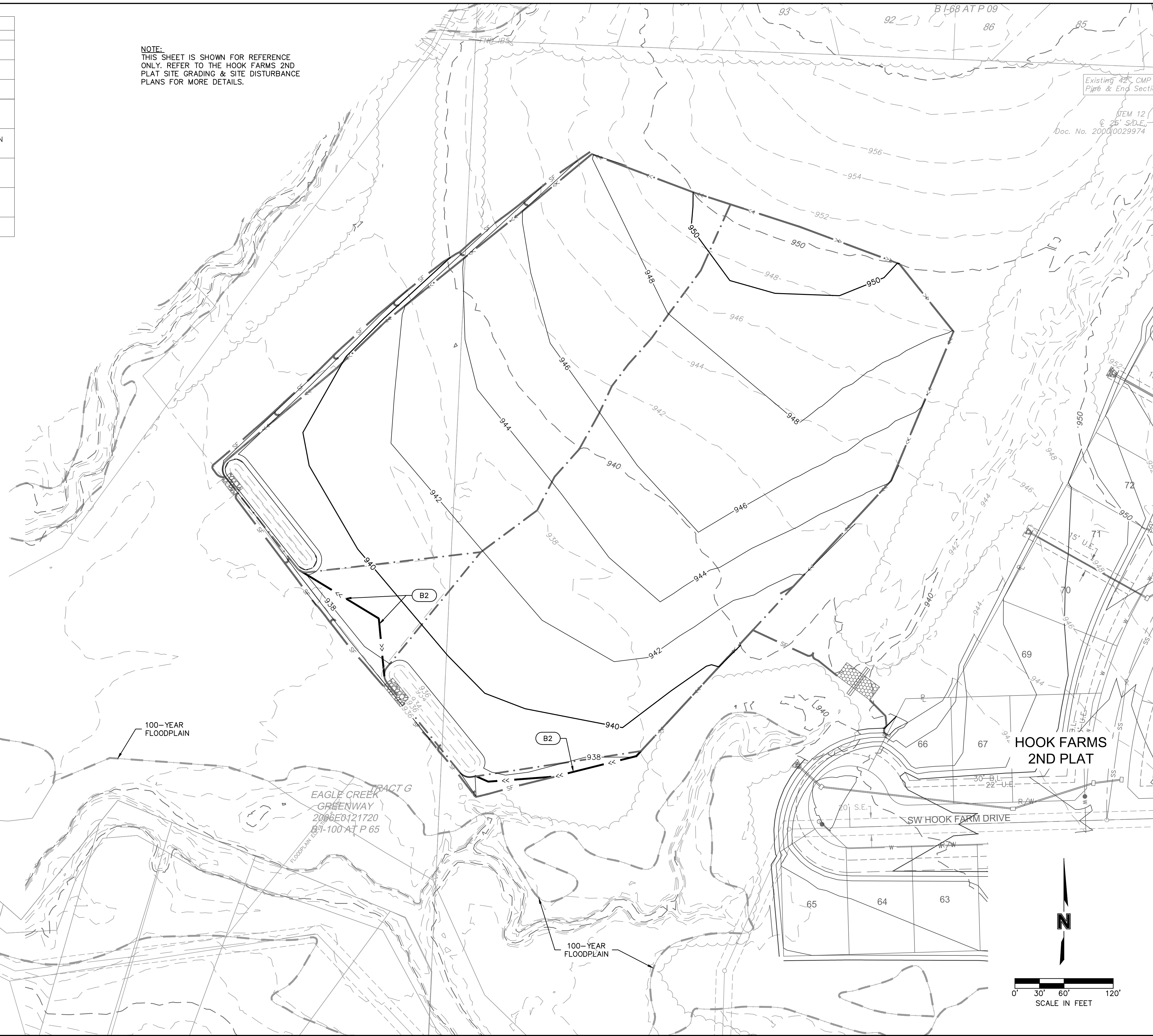
SITE DISTURBANCE PLAN - PHASE B  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

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| LEGEND  |         |                                       |
|---------|---------|---------------------------------------|
| PHASE A | PHASE B |                                       |
|         |         | SILT FENCE                            |
|         |         | TEMPORARY DIVERSION BERM              |
|         |         | STORM DRAIN INLET PROTECTION          |
|         |         | ROCK CHECK DAM                        |
|         |         | TEMPORARY STONE CONSTRUCTION ENTRANCE |
|         |         | TURF REINFORCEMENT MAT                |
|         |         | TREE CLEARING                         |
|         |         | DRAINAGE AREA TO BASIN/TRAP           |

**NOTE:**  
 THIS SHEET IS SHOWN FOR REFERENCE ONLY. REFER TO THE HOOK FARMS 2ND PLAT SITE GRADING & SITE DISTURBANCE PLANS FOR MORE DETAILS.



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| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |    |

**SITE DISTURBANCE PLAN - PHASE B**  
**SITE GRADING & SITE DISTURBANCE PLANS**  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

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 USER: bworthley

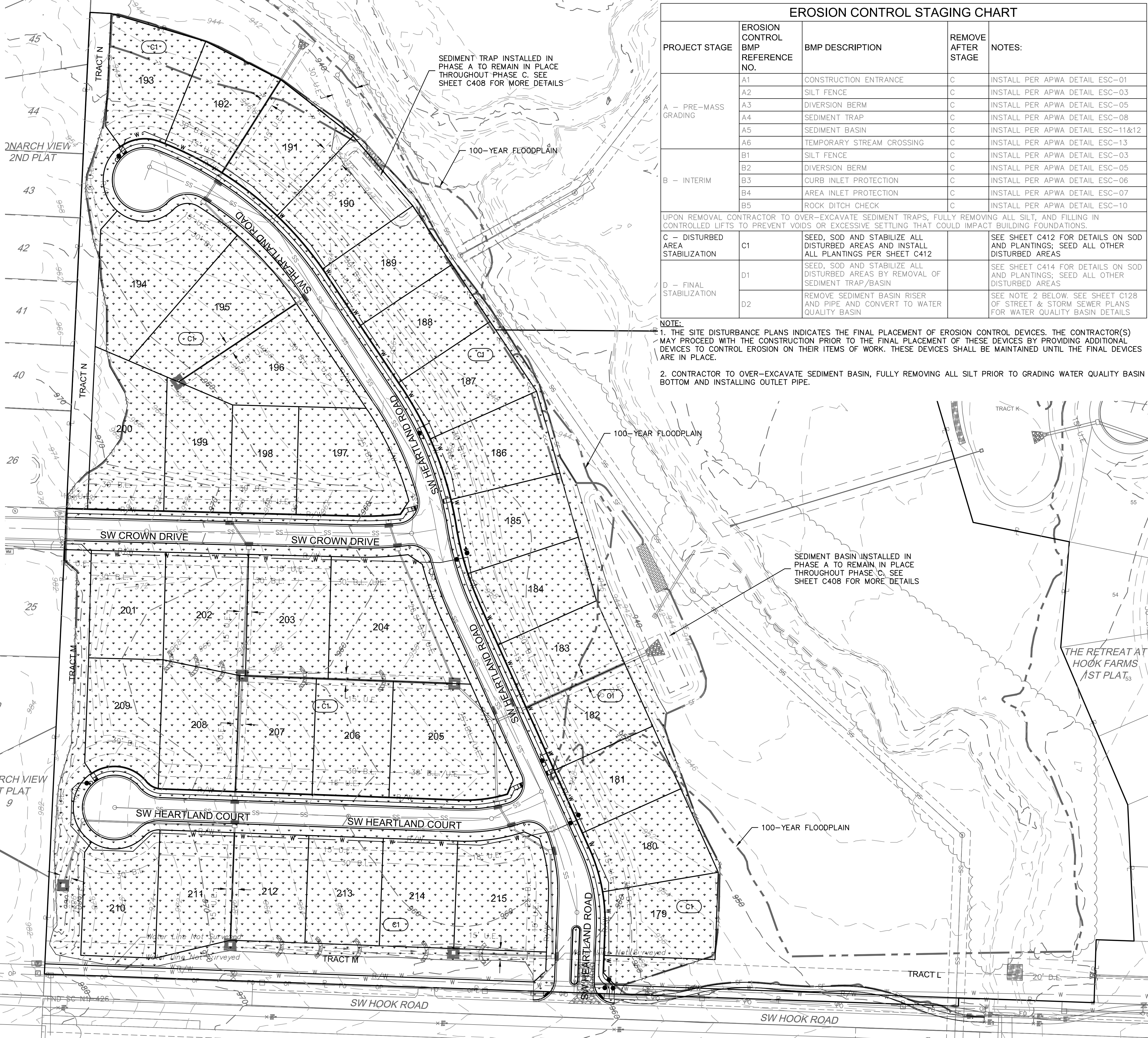
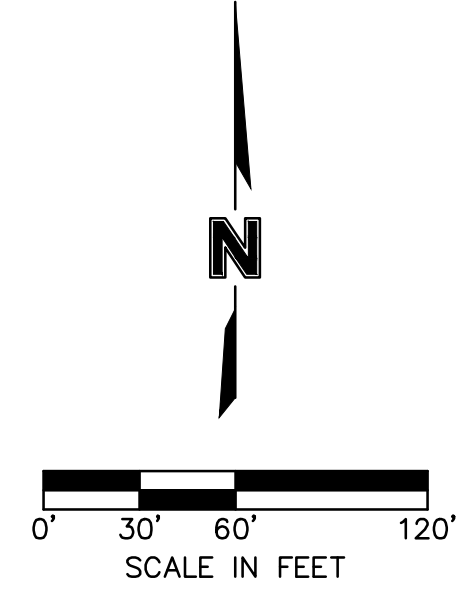
| LEGEND    |          |                                       |
|-----------|----------|---------------------------------------|
| PHASE A&B | PHASE C  |                                       |
| [Symbol]  | [Symbol] | SILT FENCE                            |
| [Symbol]  | [Symbol] | TEMPORARY DIVERSION BERM              |
| [Symbol]  | [Symbol] | STORM DRAIN INLET PROTECTION          |
| [Symbol]  | [Symbol] | ROCK CHECK DAM                        |
| [Symbol]  | [Symbol] | TEMPORARY STONE CONSTRUCTION ENTRANCE |
| [Symbol]  | [Symbol] | TURF REINFORCEMENT MAT                |
| [Symbol]  | [Symbol] | TREE CLEARING                         |
| [Symbol]  | [Symbol] | DRAINAGE AREA TO BASIN/TRAP           |
| [Symbol]  | [Symbol] | TURF GRASS SEEDING                    |

**GENERAL NOTES:**  
 SEED & MULCH NOTES:  
 SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED, CRUSTED OVER, OR DRIED OUT AND SHALL NOT BE DONE WHEN THE GROUND IS FROZEN, OR COVERED WITH SNOW. THE SEED SHALL COMPLY WITH THE REQUIREMENTS OF THE MISSOURI SEED LAW AND THE FEDERAL SEED ACT. ALSO, IT SHALL CONTAIN NO SEED OF ANY PLANT ON THE FEDERAL NOXIOUS WEED LIST. OTHER WEED SEED SHALL NOT EXCEED ONE PERCENT BY WEIGHT OF MIX.

**SEED & FERTILIZER RATE:**  
 MIX I - RYE GRASS / BLUE GRASS -----100 LBS. PER ACRE  
 MIX II - TALL FESCUE / BLUE GRASS -----195 LBS. PER ACRE  
 FERTILIZER -----800 TO 1200 LBS. PER ACRE  
 (25 LBS. PER 1000 SQ. FT.)

**DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:**  
 LIME - 100 % OF SPECIFIED QUANTITY  
 FERTILIZER - 75 % OF THE SPECIFIED QUANTITY  
 SEED - 50 % OF THE SPECIFIED QUANTITY  
 MULCH - 100 % OF THE SPECIFIED QUANTITY  
 MULCH SHALL BE VEGETATIVE TYPE, CEREAL STRAW FROM STALKS OF OATS, RYE, OR BARLEY, OR APPROVED EQUAL. THE STRAW SHALL BE FREE OF PROHIBITED WEED SEED AND RELATIVELY FREE OF ALL OTHER NOXIOUS AND UNDESIRABLE SEED. MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE, (70 TO 90 LBS. PER 1000 SQ. FT.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL BE PROVIDED.

THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.



| EROSION CONTROL STAGING CHART    |                                   |  |                    |  |
|----------------------------------|-----------------------------------|--|--------------------|--|
| PROJECT STAGE                    | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION  | REMOVE AFTER STAGE | NOTES:   |
| A - PRE-MASS GRADING             | A1                                | CONSTRUCTION ENTRANCE  | C                  | INSTALL PER APWA DETAIL ESC-01   |
|                                  | A2                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|                                  | A3                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|                                  | A4                                | SEDIMENT TRAP  | C                  | INSTALL PER APWA DETAIL ESC-08   |
|                                  | A5                                | SEDIMENT BASIN   | C                  | INSTALL PER APWA DETAIL ESC-11&12  |
|                                  | A6                                | TEMPORARY STREAM CROSSING  | C                  | INSTALL PER APWA DETAIL ESC-13   |
| B - INTERIM                      | B1                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|                                  | B2                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|                                  | B3                                | CURB INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-06   |
|                                  | B4                                | AREA INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-07   |
|                                  | B5                                | ROCK DITCH CHECK   | C                  | INSTALL PER APWA DETAIL ESC-10   |
| C - DISTURBED AREA STABILIZATION | C1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C412 |                    | SEE SHEET C412 FOR DETAILS ON SOD AND PLANTINGS; SEE ALL OTHER DISTURBED AREAS                 |
| D - FINAL STABILIZATION          | D1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAP/BASIN        |                    | SEE SHEET C414 FOR DETAILS ON SOD AND PLANTINGS; SEE ALL OTHER DISTURBED AREAS                 |
|                                  | D2                                | REMOVE SEDIMENT BASIN RISER AND PIPE AND CONVERT TO WATER QUALITY BASIN              |                    | SEE NOTE 2 BELOW. SEE SHEET C128 OF STREET & STORM SEWER PLANS FOR WATER QUALITY BASIN DETAILS |

**NOTE:**  
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|----------|------------|---------------------------|----|
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| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |    |

SITE DISTURBANCE PLAN - PHASE C  
 SITE GRADING & SITE DISTURBANCE PLANS

THE RETREAT AT HOOK FARMS  
 SECOND PLAT

2021

LEE'S SUMMIT, MO

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET  
 C412

DWG: F:\2019\4001-4500\019-4059-A 40-Design\AutoCAD\Final Plans\Sheets\GNCV\Site Grading & Site Disturbance Plans\VC-ERC03-OFFSITE\_A194059.dwg  
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| LEGEND    |         |                                       |
|-----------|---------|---------------------------------------|
| PHASE A&B | PHASE C |                                       |
|           |         | SILT FENCE                            |
|           |         | TEMPORARY DIVERSION BERM              |
|           |         | STORM DRAIN INLET PROTECTION          |
|           |         | ROCK CHECK DAM                        |
|           |         | TEMPORARY STONE CONSTRUCTION ENTRANCE |
|           |         | TURF REINFORCEMENT MAT                |
|           |         | TREE CLEARING                         |
|           |         | DRAINAGE AREA TO BASIN/TRAP           |
|           |         | TURF GRASS SEEDING                    |

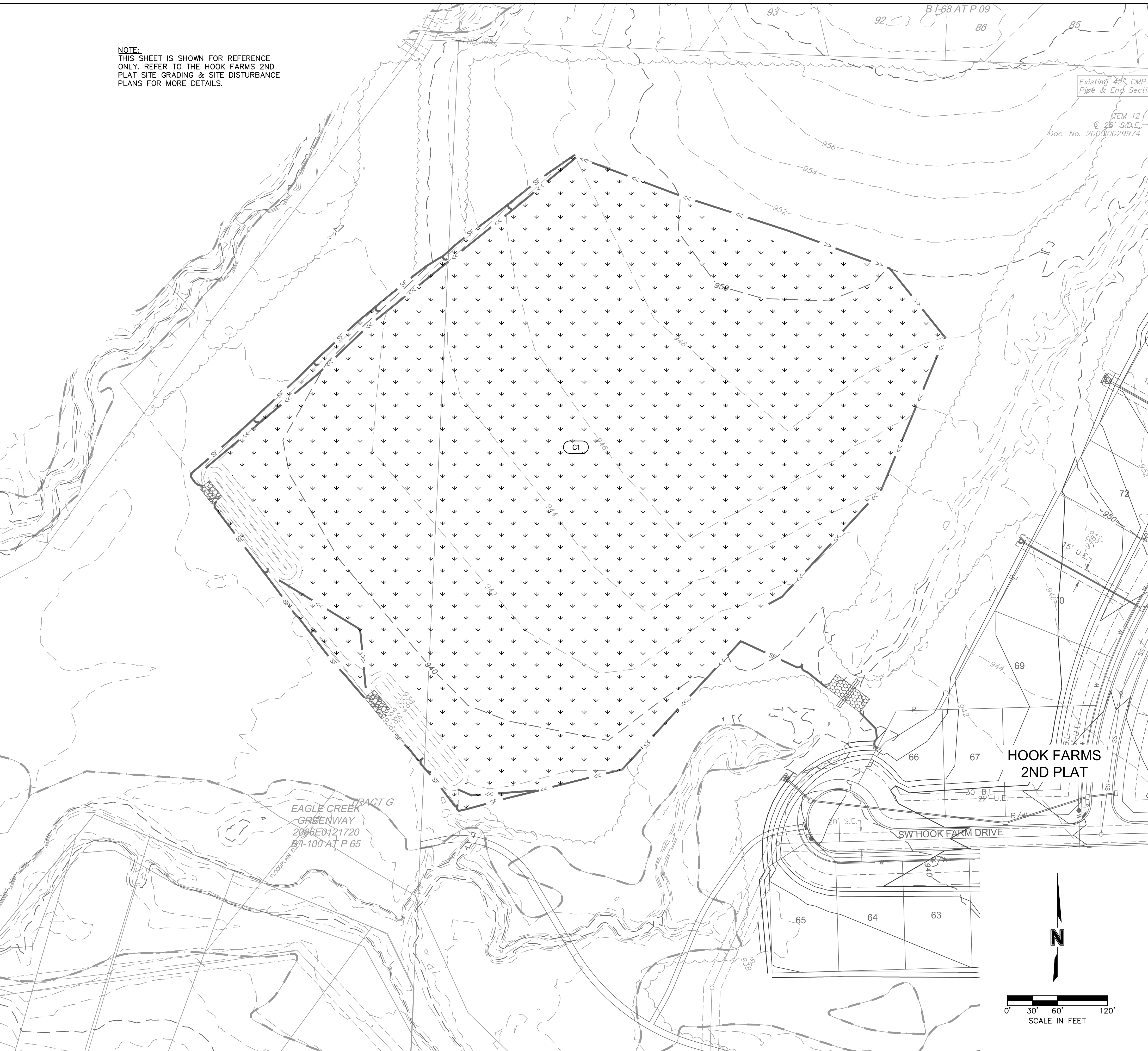
**NOTE:**  
 THIS SHEET IS SHOWN FOR REFERENCE ONLY. REFER TO THE HOOK FARMS 2ND PLAT SITE GRADING & SITE DISTURBANCE PLANS FOR MORE DETAILS.

**GENERAL NOTES:**  
**SEED & MULCH NOTES:**  
 SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED, CRUSTED OVER, OR DRIED OUT AND SHALL NOT BE DONE WHEN THE GROUND IS FROZEN, OR COVERED WITH SNOW. THE SEED SHALL COMPLY WITH THE REQUIREMENTS OF THE MISSOURI SEED LAW AND THE FEDERAL SEED ACT. ALSO, IT SHALL CONTAIN NO SEED OF ANY PLANT ON THE FEDERAL NOXIOUS WEED LIST. OTHER WEED SEED SHALL NOT EXCEED ONE PERCENT BY WEIGHT OF MIX.

**SEED & FERTILIZER RATE:**  
 MIX I - RYE GRASS / BLUE GRASS -----100 LBS. PER ACRE  
 MIX II - TALL FESCUE / BLUE GRASS -----195 LBS. PER ACRE  
 FERTILIZER -----800 TO 1200 LBS. PER ACRE (25 LBS. PER 1000 SQ. FT.)

**DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:**  
 LIME - 100 % OF SPECIFIED QUANTITY  
 FERTILIZER - 75 % OF THE SPECIFIED QUANTITY  
 SEED - 50 % OF THE SPECIFIED QUANTITY  
 MULCH - 100 % OF THE SPECIFIED QUANTITY  
 MULCH SHALL BE VEGETATIVE TYPE, CEREAL STRAW FROM STALKS OF OATS, RYE, OR BARLEY, OR APPROVED EQUAL. THE STRAW SHALL BE FREE OF PROHIBITED WEED SEED AND RELATIVELY FREE OF ALL OTHER NOXIOUS AND UNDESIRABLE SEED. MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE, (70 TO 90 LBS. PER 1000 SQ. FT.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL BE PROVIDED.

**THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.**



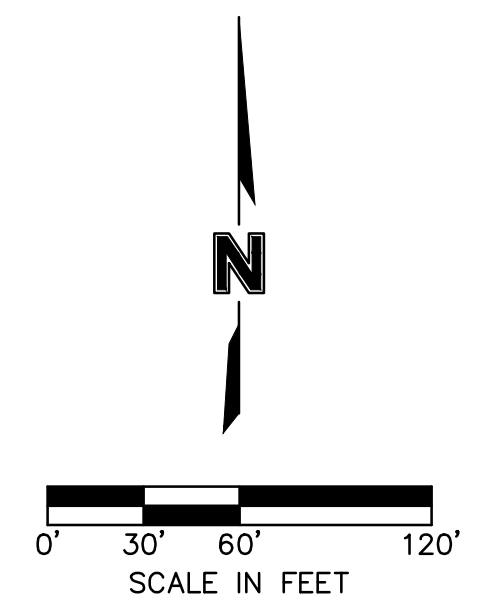
**olsson**  
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|----------|------------|---------------------------|----|
| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |    |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |    |

**SITE DISTURBANCE PLAN - PHASE C**  
**SITE GRADING & SITE DISTURBANCE PLANS**  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021



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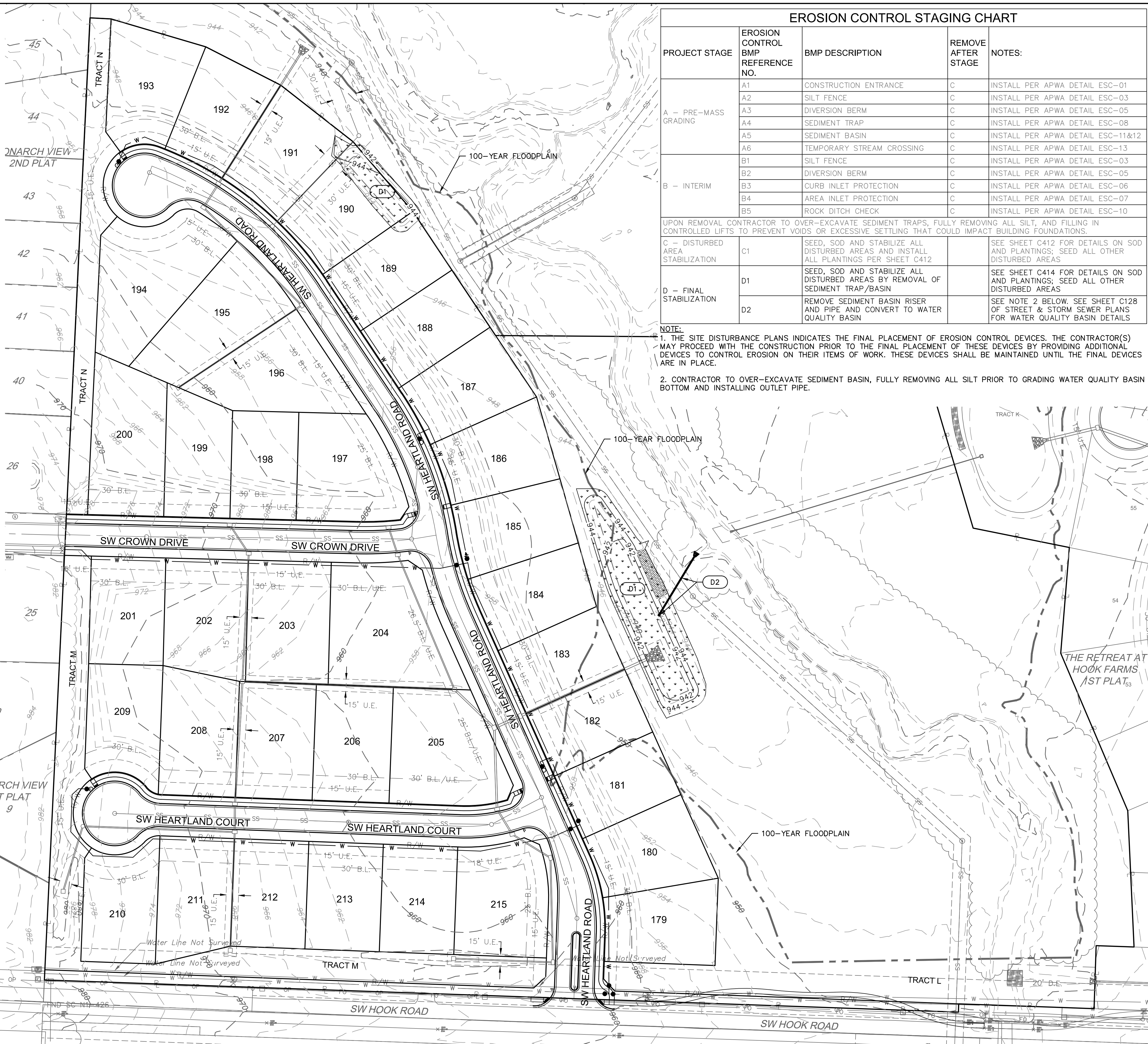
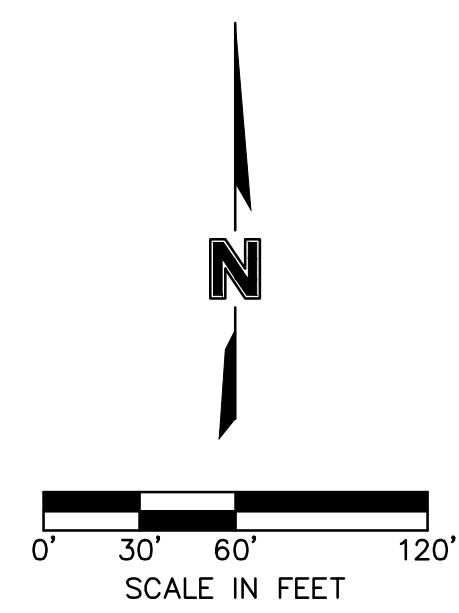
| LEGEND      |          |                                       |
|-------------|----------|---------------------------------------|
| PHASE A,B&C | PHASE D  |                                       |
| [Symbol]    | [Symbol] | SILT FENCE                            |
| [Symbol]    | [Symbol] | TEMPORARY DIVERSION BERM              |
| [Symbol]    | [Symbol] | STORM DRAIN INLET PROTECTION          |
| [Symbol]    | [Symbol] | ROCK CHECK DAM                        |
| [Symbol]    | [Symbol] | TEMPORARY STONE CONSTRUCTION ENTRANCE |
| [Symbol]    | [Symbol] | TURF REINFORCEMENT MAT                |
| [Symbol]    | [Symbol] | TREE CLEARING                         |
| [Symbol]    | [Symbol] | DRAINAGE AREA TO BASIN/TRAP           |
| [Symbol]    | [Symbol] | TURF GRASS SEEDING                    |

**GENERAL NOTES:**  
 SEED & MULCH NOTES:  
 SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED, CRUSTED OVER, OR DRIED OUT AND SHALL NOT BE DONE WHEN THE GROUND IS FROZEN, OR COVERED WITH SNOW. THE SEED SHALL COMPLY WITH THE REQUIREMENTS OF THE MISSOURI SEED LAW AND THE FEDERAL SEED ACT. ALSO, IT SHALL CONTAIN NO SEED OF ANY PLANT ON THE FEDERAL NOXIOUS WEED LIST. OTHER WEED SEED SHALL NOT EXCEED ONE PERCENT BY WEIGHT OF MIX.

**SEED & FERTILIZER RATE:**  
 MIX I - RYE GRASS / BLUE GRASS -----100 LBS. PER ACRE  
 MIX II - TALL FESCUE / BLUE GRASS -----195 LBS. PER ACRE  
 FERTILIZER -----800 TO 1200 LBS. PER ACRE (25 LBS. PER 1000 SQ. FT.)

**DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:**  
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 SEED - 50 % OF THE SPECIFIED QUANTITY  
 MULCH - 100 % OF THE SPECIFIED QUANTITY  
 MULCH SHALL BE VEGETATIVE TYPE, CEREAL STRAW FROM STALKS OF OATS, RYE, OR BARLEY, OR APPROVED EQUAL. THE STRAW SHALL BE FREE OF PROHIBITED WEED SEED AND RELATIVELY FREE OF ALL OTHER NOXIOUS AND UNDESIRABLE SEED. MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE, (70 TO 90 LBS. PER 1000 SQ. FT.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL BE PROVIDED.

THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.



| EROSION CONTROL STAGING CHART  |                                   |  |                    |  |
|--|-----------------------------------|--|--------------------|--|
| PROJECT STAGE  | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION  | REMOVE AFTER STAGE | NOTES:   |
| A - PRE-MASS GRADING   | A1                                | CONSTRUCTION ENTRANCE  | C                  | INSTALL PER APWA DETAIL ESC-01   |
|  | A2                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|  | A3                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|  | A4                                | SEDIMENT TRAP  | C                  | INSTALL PER APWA DETAIL ESC-08   |
|  | A5                                | SEDIMENT BASIN   | C                  | INSTALL PER APWA DETAIL ESC-11&12  |
|  | A6                                | TEMPORARY STREAM CROSSING  | C                  | INSTALL PER APWA DETAIL ESC-13   |
| B - INTERIM  | B1                                | SILT FENCE   | C                  | INSTALL PER APWA DETAIL ESC-03   |
|  | B2                                | DIVERSION BERM   | C                  | INSTALL PER APWA DETAIL ESC-05   |
|  | B3                                | CURB INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-06   |
|  | B4                                | AREA INLET PROTECTION  | C                  | INSTALL PER APWA DETAIL ESC-07   |
|  | B5                                | ROCK DITCH CHECK   | C                  | INSTALL PER APWA DETAIL ESC-10   |
| UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS. |                                   |  |                    |  |
| C - DISTURBED AREA STABILIZATION   | C1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C412 |                    | SEE SHEET C412 FOR DETAILS ON SOD AND PLANTINGS; SEE ALL OTHER DISTURBED AREAS                 |
| D - FINAL STABILIZATION  | D1                                | SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAP/BASIN        |                    | SEE SHEET C414 FOR DETAILS ON SOD AND PLANTINGS; SEE ALL OTHER DISTURBED AREAS                 |
|  | D2                                | REMOVE SEDIMENT BASIN RISER AND PIPE AND CONVERT TO WATER QUALITY BASIN              |                    | SEE NOTE 2 BELOW. SEE SHEET C128 OF STREET & STORM SEWER PLANS FOR WATER QUALITY BASIN DETAILS |

**NOTE:**  
 1. THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.  
 2. CONTRACTOR TO OVER-EXCAVATE SEDIMENT BASIN, FULLY REMOVING ALL SILT PRIOR TO GRADING WATER QUALITY BASIN BOTTOM AND INSTALLING OUTLET PIPE.

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 www.olsson.com

STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PE-2017000367  
 10/29/21

| REV. NO. | DATE       | REVISIONS DESCRIPTION     |
|----------|------------|---------------------------|
| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |

SITE DISTURBANCE PLAN - PHASE D  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET C414

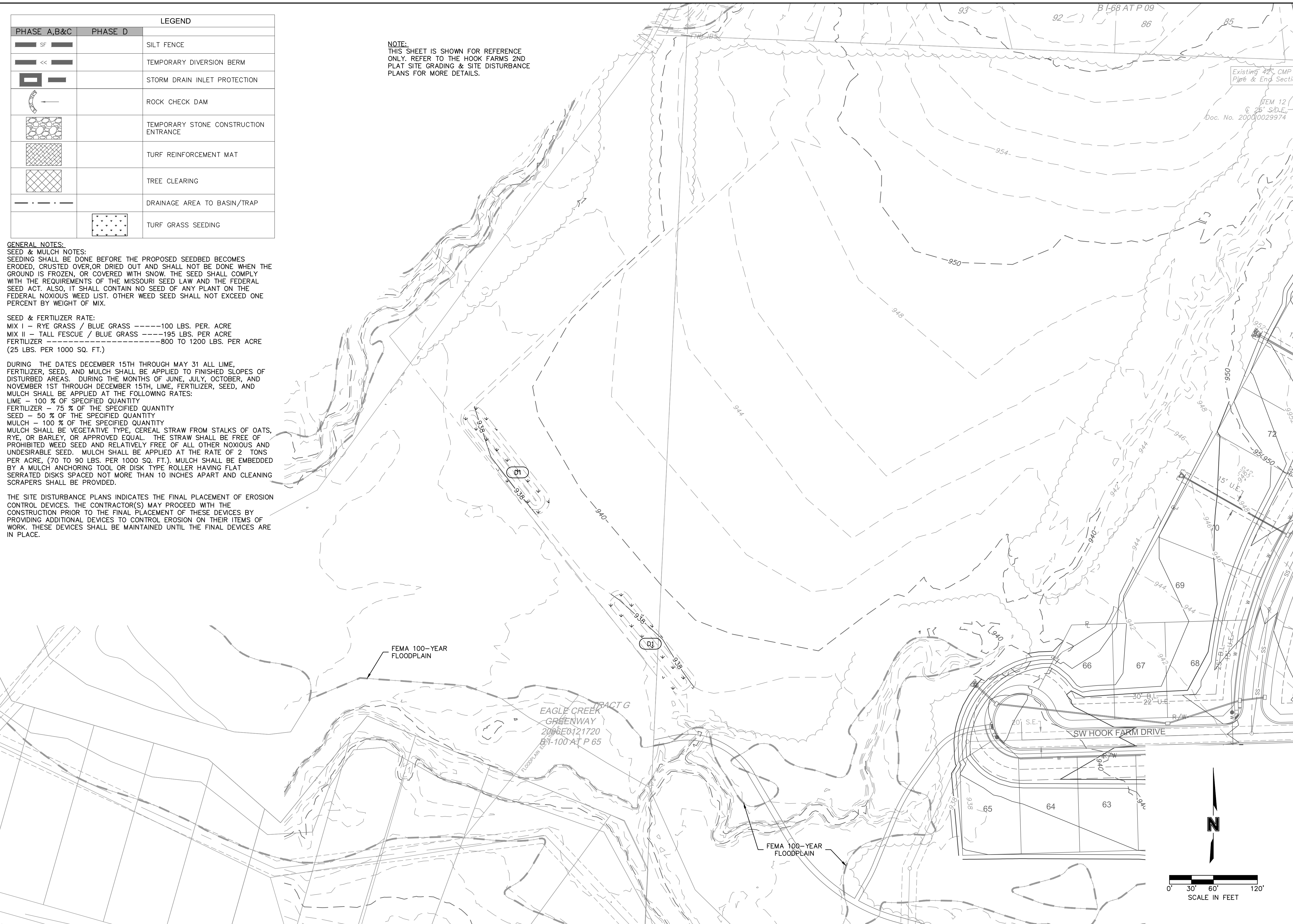
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| LEGEND      |         |                                       |
|-------------|---------|---------------------------------------|
| PHASE A,B&C | PHASE D |                                       |
|             |         | SILT FENCE                            |
|             |         | TEMPORARY DIVERSION BERM              |
|             |         | STORM DRAIN INLET PROTECTION          |
|             |         | ROCK CHECK DAM                        |
|             |         | TEMPORARY STONE CONSTRUCTION ENTRANCE |
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|             |         | TREE CLEARING                         |
|             |         | DRAINAGE AREA TO BASIN/TRAP           |
|             |         | TURF GRASS SEEDING                    |

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| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |    |
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**SITE DISTURBANCE PLAN - PHASE D**  
**SITE GRADING & SITE DISTURBANCE PLANS**

THE RETREAT AT HOOK FARMS  
 SECOND PLAT

2021

LEES SUMMIT, MO

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

**SHEET**  
**C415**

**Notes for Concrete Washout:**

- Concrete washout areas shall be installed prior to any concrete placement on site.
- Concrete washout area shall include a flat substructure pit sized relative to the volume of concrete to be placed on site. The slope leading out of the substructure pit shall be 2:1. The entire tracking pool shall be sloped towards the concrete washout area.
- Vehicle tracking control is required at the access point to all concrete washout areas.
- Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete trucks and pump rigs.
- A one-way vehicular flow may be required along the bottom and sides of the substructure pit in sandy or gravelly soils.

**Maintenance for Concrete Washout:**

- Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
- Concrete washout areas shall be enlarged as necessary to maintain capacity for washed concrete.
- Concrete washout water, washed pieces of concrete and all other debris in the substructure pit shall be transported from the job site in a water-tight container and disposed of properly.
- Concrete washout areas shall remain in place until all concrete for the project is placed.
- When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and tamped; any disturbed area associated with the installation, maintenance, and/or removal of the concrete washout areas shall be restored.

**Notes for Construction Entrance:**

- Avoid locating on steep slopes, or curves on public roads, or downhill of disturbed areas.
- Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
- If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3/4" x 1/4" side slopes across the foundation approximately 12 feet from the edge of the public road to divert runoff from it.
- Install pipe under the entrance if needed to maintain drainage ditches along public roads.
- Place stone to dimensions and grade as shown on plans. Lower surface sloped for drainage.
- Divert all surface runoff and drainage from the entrance to a sediment control device.
- If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

**Maintenance for Construction Entrance:**

- Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

**CONCRETE WASHOUT**

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT  
STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016

**General Notes:**

- APWA Specifications 2150 and Design Guidance 5100 shall be referenced to select type of blanket or mat to be used.
- Typical anchors and softeners/spacing shall be installed according to the manufacturer's instructions.
- LONGITUDINAL SEAMS: The edges of the blanket or mat should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.

**Maintenance:**

- Torn or degraded product shall be repaired or replaced, unless such degradation is within the functional longevity specified by the manufacturer.
- Edges of seams that are loose or frayed shall be secured.

**Notes for Installation in Channels:**

- Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course of the centerline of channel, where applicable. In order for the mat to be in contact with the soil, lay blanket loosely, avoiding stretching.
- ANCHOR FOLDS: The top of the mat should be folded under, buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.
- SPURSE SEAM: When splices are necessary, overlap and a minimum of 12 inches in direction of water flow. Stagger splice seams.
- CHECK SLOTS: Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 8 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be secured in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.
- EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.
- TERMINUS: The bottom edge of the mat shall be anchored.

**Critical Points:**

- A - Overlaps and seams;
- B - Projected water line;
- C - Channel bottom / side slope vertices;

**CONCRETE WASHOUT**

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS  
STANDARD DRAWING NUMBER ESC-02 ADOPTED: 10/24/2016

**Notes:**

- In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
- Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
- Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
- Attach fabric to upstream side of post.
- Install posts a minimum of 2' into the ground.
- Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

**Maintenance:**

- Remove and dispose of sediment deposits when the deposit approaches 1/2 the height of silt fence.
- Repair as necessary to maintain function and structure.

**JOINING FENCE SECTIONS**

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
SILT FENCE  
STANDARD DRAWING NUMBER ESC-03 ADOPTED: 10/24/2016

**Notes for Diversion Berm:**

- Slope drains are optional but may be required by the engineer if the berm is at the top of a steep slope.
- Diversion berms must be installed as a first step in the land-disturbing activity and must be functional prior to upstate land disturbance.
- The berms should be adequately compacted to prevent failure.
- Temporary or permanent seeding and mulch shall be applied to the berm immediately following its construction.
- Place the berm so to minimize damages by construction operations and traffic.
- The berm must discharge to a temporary sediment trap or stabilized area.
- All trees, brush, stumps, obstructions and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of diversion.
- Fill shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion. Fill shall be composed of soil which is free from excessive organic debris, rocks or other objectionable materials.

**Maintenance:**

- Berm shall be reshaped, compacted, and stabilized as necessary to maintain its function.
- Breaches in the berm shall be repaired immediately.

**Notes for Slope Drain:**

- Slope Drain and Diversion Berm may be used on either project foreslopes or project backlopes.
- Discharge of Slope Drains shall be into stabilized ditch or area, or into Sediment Basin.
- Pipe shall be secured in place as approved by Engineer.

**Maintenance:**

- Accumulation of any visible sediment at the inlet and outlet shall be removed promptly.
- Outlet conditions shall be repaired if scour is observed. Leaking or damaged section of pipe shall be repaired immediately.
- Barriers directing water to the inlet shall be monitored for continually and effectiveness.

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
DIVERSION BERMS AND SLOPE DRAINS  
STANDARD DRAWING NUMBER ESC-05 ADOPTED: 10/24/2016

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**JULIE ELAINE SELLERS**  
Professional Engineer  
NUMBER PE-2017000367  
10/29/21

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS  
STANDARD DRAWING NUMBER ESC-02 ADOPTED: 10/24/2016

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT  
STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
SILT FENCE  
STANDARD DRAWING NUMBER ESC-03 ADOPTED: 10/24/2016

**AMERICAN PUBLIC WORKS ASSOCIATION**  
KANSAS CITY METRO CHAPTER  
DIVERSION BERMS AND SLOPE DRAINS  
STANDARD DRAWING NUMBER ESC-05 ADOPTED: 10/24/2016

BY: [Blank]  
DATE: [Blank]  
REV. NO. 1 08-26-2021 REVISIONS PER CITY COMMENTS  
2 10-29-2021 REVISIONS PER CITY COMMENTS

REVISIONS

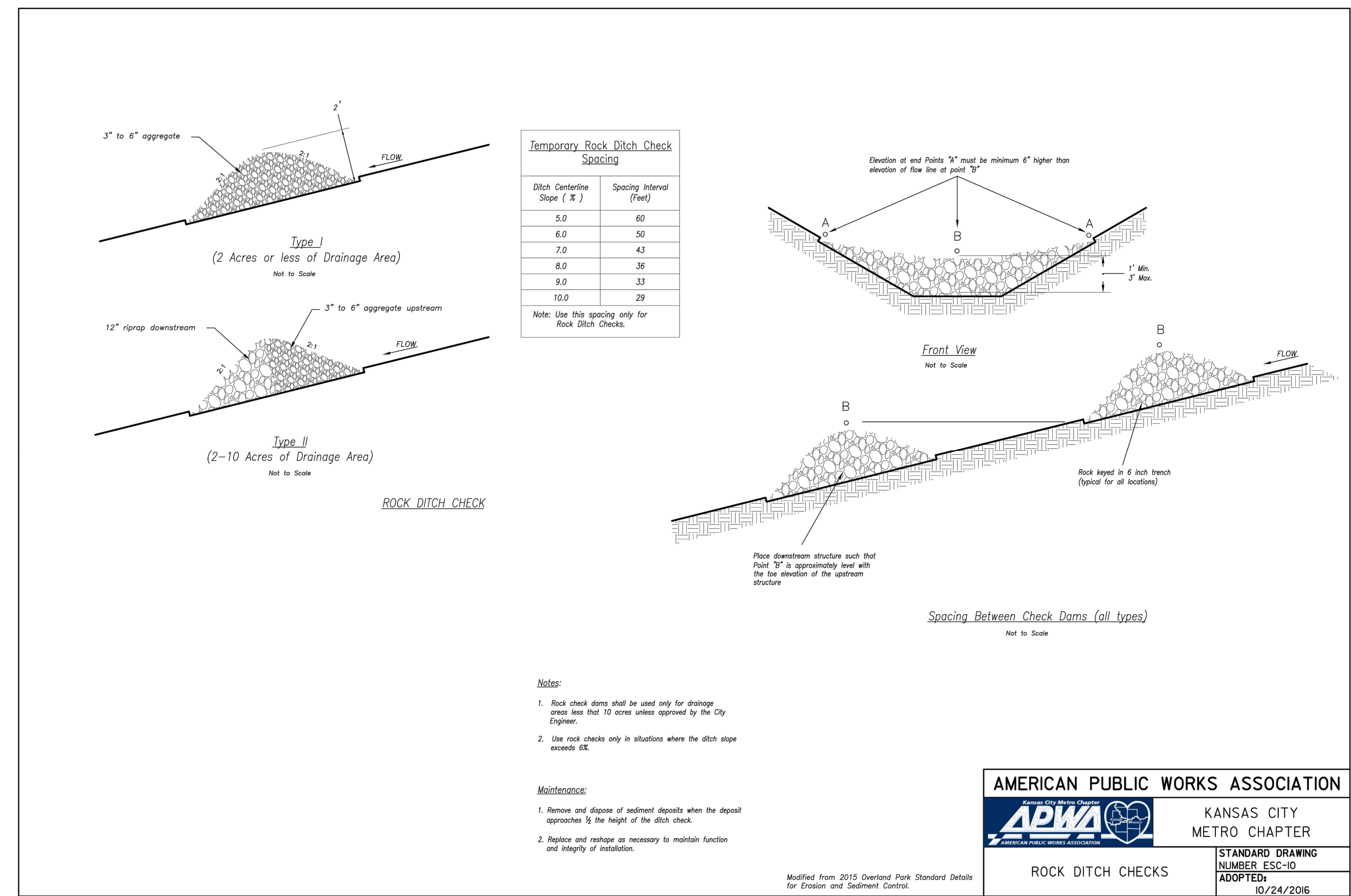
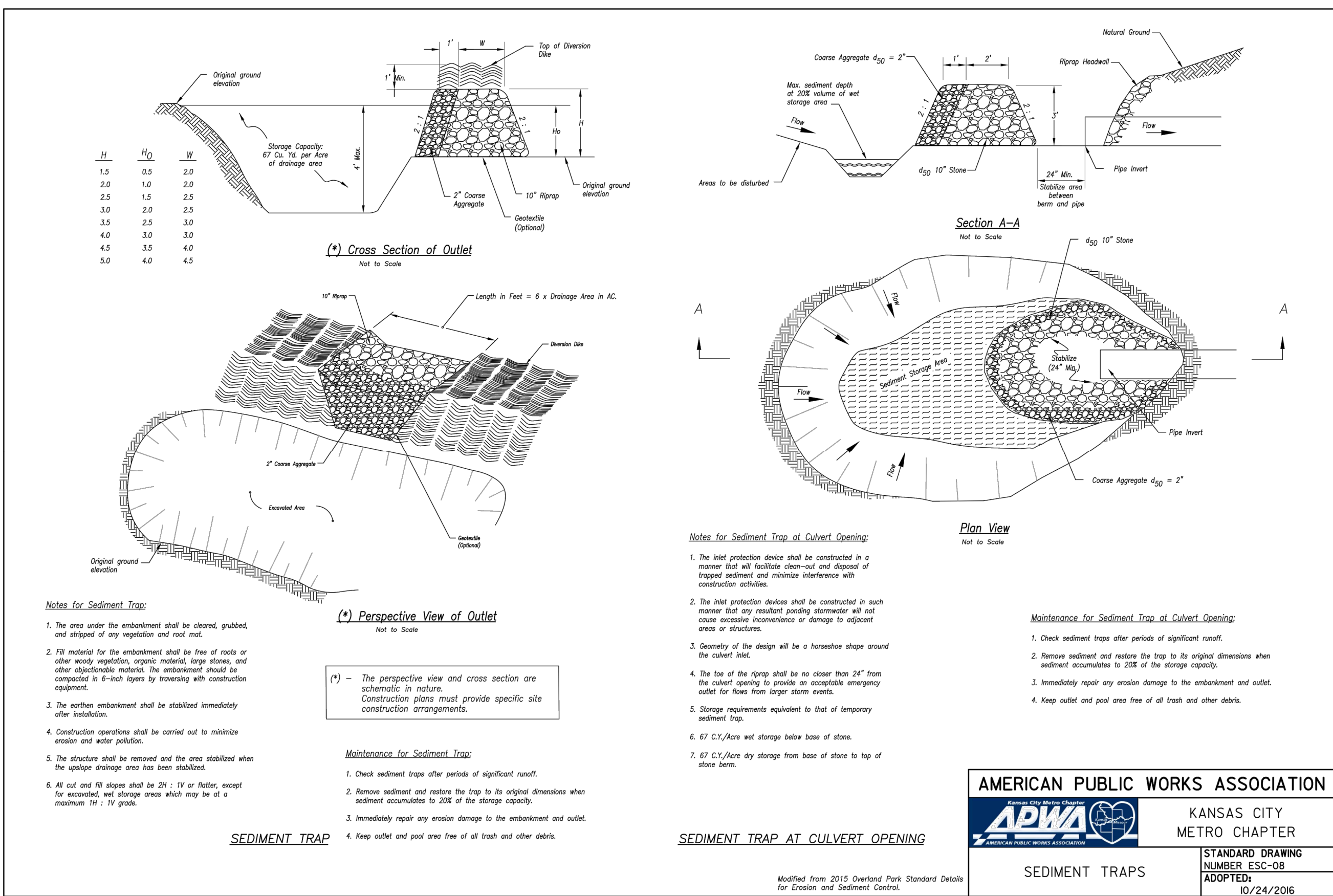
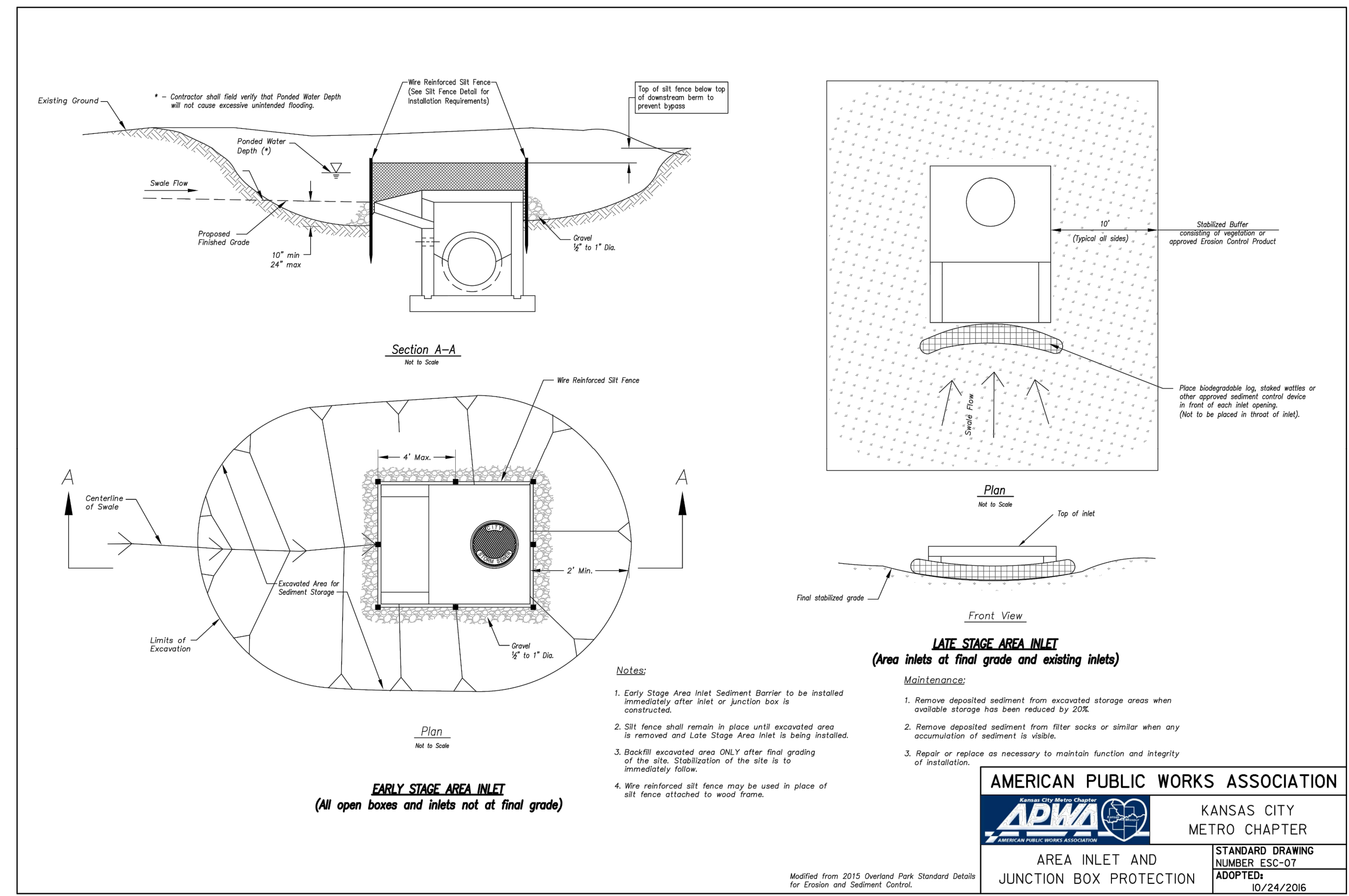
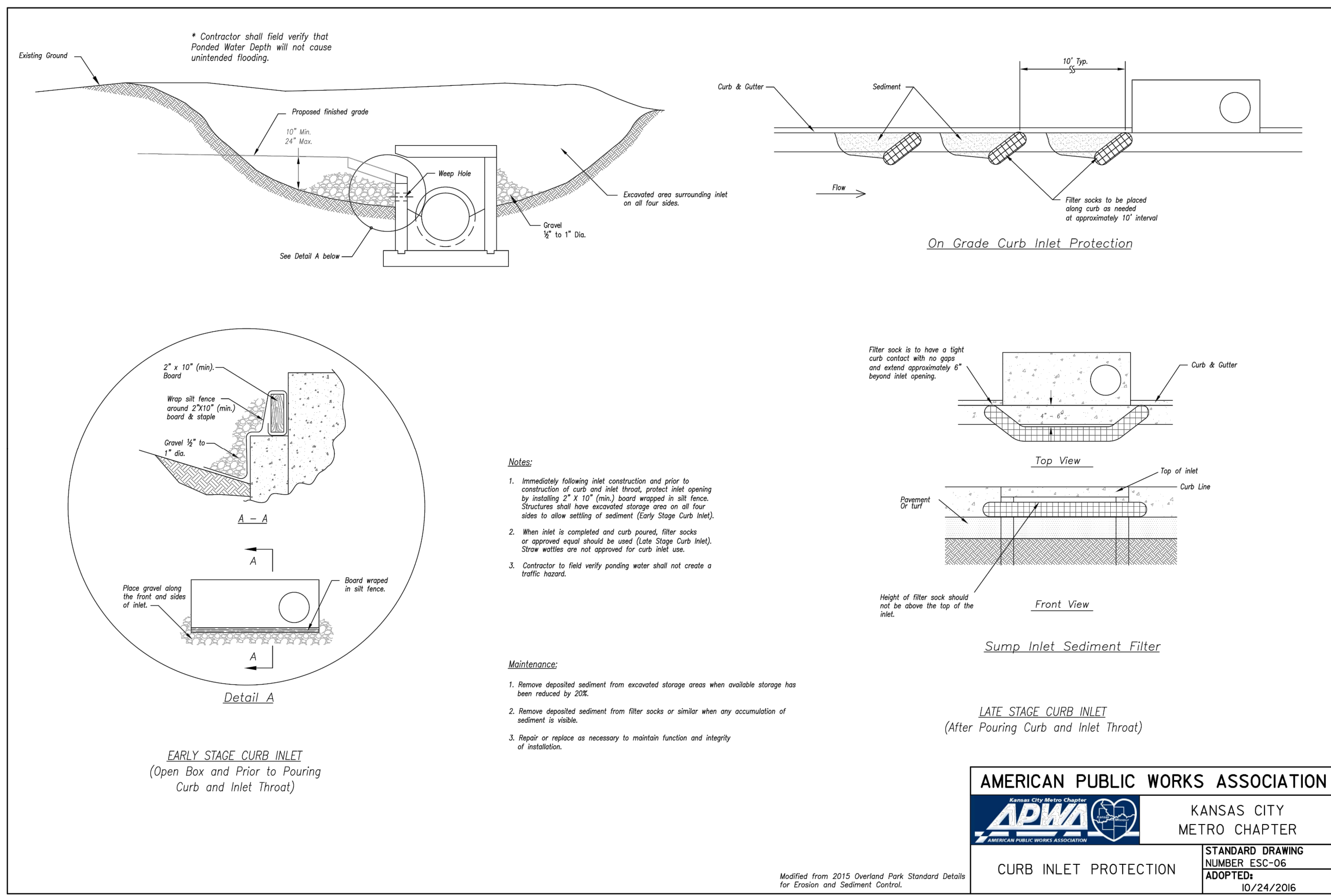
2021

DETAIL SHEET  
SITE GRADING & SITE DISTURBANCE PLANS  
THE RETREAT AT HOOK FARMS  
SECOND PLAT  
LEES SUMMIT, MO

drawn by: B.M.W./A.A.  
checked by: B.M.W./A.A.  
designed by: B.M.W./A.A.  
QA/QC by: J.E.S.  
project no.: A19-4059  
date: 05-05-2021

SHEET C416





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 10/29/21

**AMERICAN PUBLIC WORKS ASSOCIATION**  
 KANSAS CITY METRO CHAPTER  
 STANDARD DRAWING NUMBER ESC-07 ADOPTED: 10/24/2016

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| 1        | 08-26-2021 | REVISED PER CITY COMMENTS |
| 2        | 10-29-2021 | REVISED PER CITY COMMENTS |

**DETAIL SHEET**  
**SITE GRADING & SITE DISTURBANCE PLANS**  
**THE RETREAT AT HOOK FARMS**  
**SECOND PLAT**

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

REVISED PER CITY COMMENTS: \_\_\_\_\_

2021

LEE'S SUMMIT, MO

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USER: bworthley

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Site Grading & Site Disturbance Plans\C\_DTL01\_A194059.dwg  
DATE: Oct 28, 2021 5:55pm XREFS: C\_PTBK\_A194059

### Sediment Basin Design Summary (\*\*)

| Design Item                       | Basin #1 | Basin #2 | Units  | Notes |
|-----------------------------------|----------|----------|--|-------|
| <b>Site Data:</b>                 |          |          |  |       |
| Tributary Drainage Area to Pond   |          |          | Acres  |       |
| 50% (2 yr) Design Flow            |          |          | cfs  |       |
| 4% (25 yr) Design Flow            |          |          | cfs  |       |
| <b>Pond Data:</b>                 |          |          |  |       |
| Minimum Sediment Storage Volume   | cu yd    | 134      | cu/acre required minimum   |       |
| Provided Sediment Storage Volume  | cu yd    |          |  |       |
| Bottom Elevation                  | ft       |          |  |       |
| Sediment Cleanout Elevation       | ft       |          | Elevation equal to 20% of original design volume   |       |
| Top of Riser Elevation            | ft       |          | at or above 4'-2" elevation, 1.0 ft min above principal spillway                                   |       |
| Emergency Spillway Elevation      | ft       |          | 1.0 ft min above 0-25 elevation  |       |
| Top of Dam Elevation              | ft       |          |  |       |
| <b>Basin Shape Data:</b>          |          |          |  |       |
| A = Area of Normal Pool           | SF       |          |  |       |
| L = Length of Flow Path           | ft       |          |  |       |
| We = Effective Width = A/L        | ft       |          |  |       |
| Length to Width Ratio = L/We      |          |          |  |       |
| <b>Principal Spillway Data:</b>   |          |          |  |       |
| Riser Pipe dia                    | in       | 15"      | min. Size for 2 year flow minimum  |       |
| Barrel Pipe dia                   | in       | 15"      | min. Size for 2 year flow minimum  |       |
| Concrete Base size for Riser Pipe | CY       |          | Size to prevent flotation, 1.25 safety factor required   |       |
| Skimmer Size                      |          |          | Designer to provide specific details and calculations per application to dewater in 48 to 72 hours |       |
| <b>Emergency Spillway Data:</b>   |          |          |  |       |
| Design Depth in Spillway          | ft       |          |  |       |
| Design Velocity in Spillway       | ft/sec   |          |  |       |
| Lining Material                   |          |          | Designer to provide specific details and calculations per application                              |       |

(\*\*) - Required on all Sediment Basin Plan Sheets

**Plan View (\*)**  
Not to Scale

| Sediment Basin Notes: |   |
|-----------------------|---|
| 1.                    | Interior baffles shall be provided to reduce short-circuiting of the basin. See Sht. ESC-12 for approved baffle options.  |
| 2.                    | Emergency spillways to be located in a non-fill location when feasible and shall be lined with a non-erodible material such as riprap or turf reinforcement mat.      |
| 3.                    | When directed, sediment basins shall be fenced using construction fence or other material for safety reasons and include warning signs, reading: "DANGER - KEEP OUT". |

**Maintenance:**

1. Check temporary sediment basins after periods of significant runoff.
2. Remove sediment and restore the basin to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlets.
4. Repair and/or replace baffles as necessary to maintain function and integrity of installation.
5. Keep outlet, skimmer and pool area free of all trash and other debris.

**Cross Section (\*)**  
Not to Scale

(\*) - The plan and cross section are schematic in nature. Construction plans must provide specific site construction arrangements.

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SEDIMENT BASIN - DETAILS

**PRINCIPAL SPILLWAY DETAIL**

**SKIMMER DETAIL (Typ.) \***

\* Designer to provide specific details per application (e.g. pipe sizes, screen sizes, perforation, etc.) as required.

**Option A - Rock with Weir**

**Option B - Coir Fiber Material**

**BAFFLE DETAILS**  
Not to Scale

**CORRUGATED METAL ANTI-SEEPAGE COLLAR DETAIL**  
Not to Scale

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STANDARD DRAWING NUMBER ESC-12 ADOPTED 10/24/2016  
SEDIMENT BASIN - DETAILS

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STANDARD DRAWING NUMBER ESC-12 ADOPTED 10/24/2016  
SEDIMENT BASIN - DETAILS

**ELEVATION**

**Notes for Temporary Stream Crossing:**

1. Clearing and excavation of the stream bed and banks shall be kept to a minimum.
2. Place one pipe buried 6" into the stream bottom, at the lowest point of the channel to allow the passage of aquatic organisms. Additional pipes shall be placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flow designated in the Contract Documents shall flow through the pipes without overflowing the crossing. (See Specification for more information.)
3. Geotextile shall be placed on the streambed and streambanks prior to placement of the pipe culvert and aggregate. The geotextile shall cover the streambed and extend a minimum of 6 inches and a maximum of 1 foot beyond the end of culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
4. The culvert shall extend a minimum of 1 foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
5. The culvert shall be covered with a minimum of 1 foot of aggregate. If multiple culverts are used, they shall be supported by at least 12" of compacted aggregate fill.
6. As soon as crossing no longer needed, all structures including culverts, bedding and geotextile materials shall be removed. Removal of the structure and clean-up of the area shall be accomplished without construction equipment working in the channel.
7. Upon removal of the structure, the stream and banks shall immediately be shaped to its original cross-section and properly stabilized. Take care to minimize the amount of sediment lost into the stream.

**TEMPORARY STREAM CROSSING**

**PLAN VIEW**

\* - Install as shown on plans

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STANDARD DRAWING NUMBER ESC-13 ADOPTED 10/24/2016  
STREAM CROSSINGS AND DIVERSION CHANNELS

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KANSAS CITY METRO CHAPTER  
STANDARD DRAWING NUMBER ESC-13 ADOPTED 10/24/2016  
STREAM CROSSINGS AND DIVERSION CHANNELS

**ELEVATION**

**Notes for Temporary Diversion Channel:**

1. The diversion channel crossing must be operational before work is done in the stream. Construction will be performed in the dry.
2. Minimum width of bottom shall be 6 feet or equal to bottom width of existing streambed, whichever is less.
3. Maximum steepness of side slopes shall be 2H:1V. Depth and grade may be variable, dependent on site conditions, but shall be sufficient to ensure continuous flow of water in diversion.
4. Channel must be lined with riprap or turf reinforcement mat depending on the expected velocity and shear stress in the channel.
5. Stream diversion liners shall be secured at the upstream and downstream sides with non-erodible weights such as riprap. These weights shall allow normal flow of the stream. Soil shall not be mixed with stream diversion weights. Weights may also be needed along the diversion's length to secure liner.
6. Stream diversion liners shall be entrenched at the top of slopes along with a sediment control BMP.
7. Non-erodible materials such as riprap, Jersey barriers, sand bags, plywood, or sheet piling shall be used as flow barriers to divert the stream away from it's original channel and prevent or reduce water backup into the construction area.
8. Stream should be re-diverted only after backfilling and re-stabilization of original streambed and banks is completed.

**STREAM DIVERSION CHANNEL**

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STREAM CROSSINGS AND DIVERSION CHANNELS

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STREAM CROSSINGS AND DIVERSION CHANNELS

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10/29/21

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KANSAS CITY METRO CHAPTER  
STANDARD DRAWING NUMBER ESC-12 ADOPTED 10/24/2016  
SEDIMENT BASIN - DETAILS

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DETAIL SHEET  
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THE RETREAT AT HOOK FARMS  
SECOND PLAT  
LEE'S SUMMIT, MO

2021

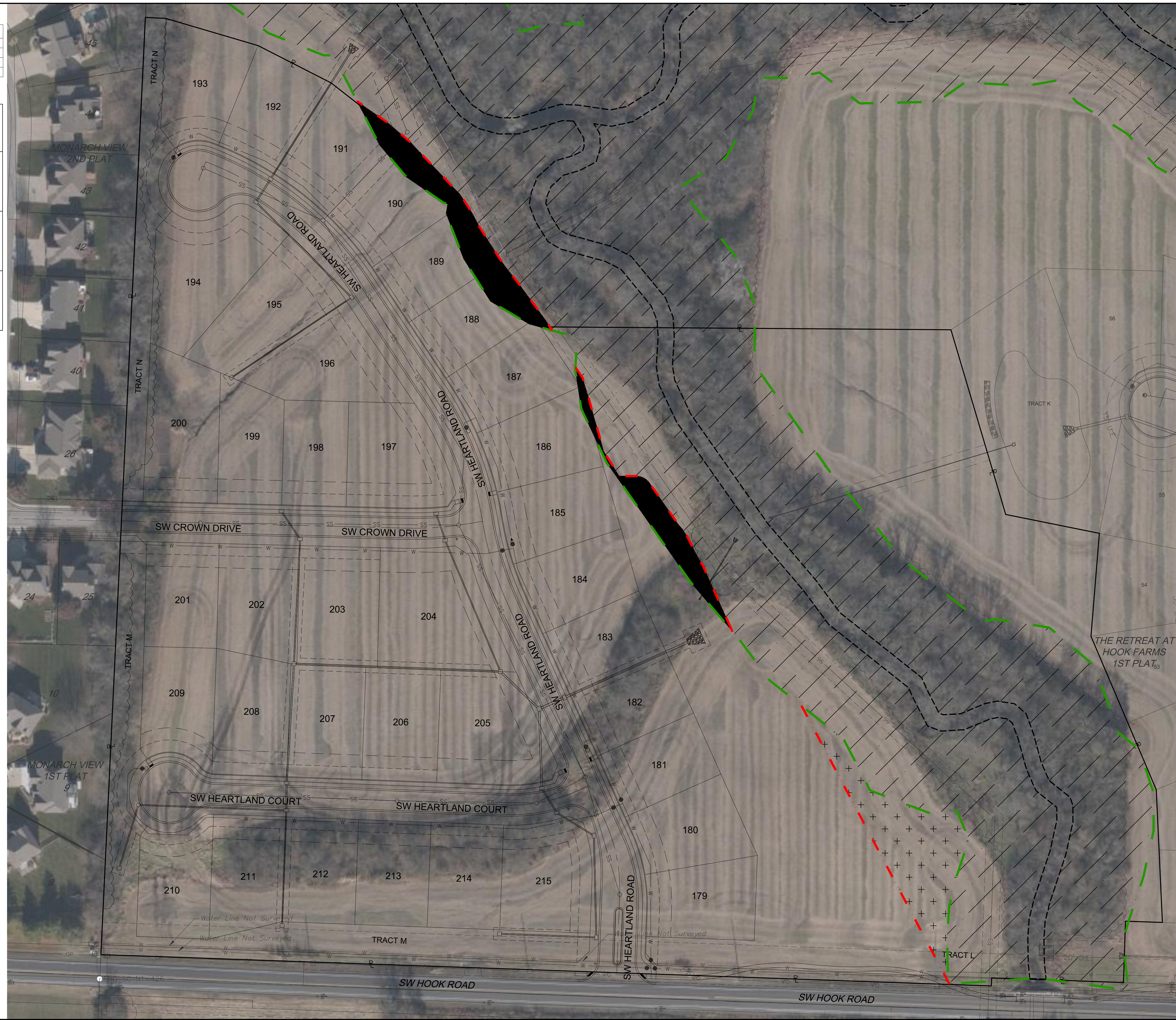
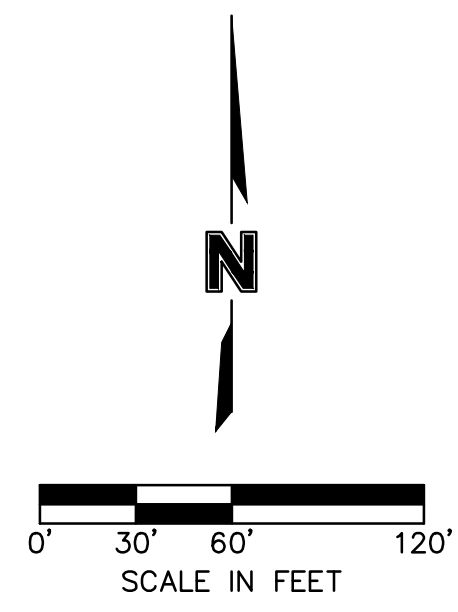
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DWG: F:\2019\4001-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCA\Site Grading & Site Disturbance Plans\C\_SBF01\_A194059.dwg  
 DATE: Oct 28, 2021 5:55pm XREFS: C\_PTBK\_A194059 C\_PUTIL\_A194059 C\_PBASE\_A194059 C\_SBUFF\_A194059 USER: bworthley

| LEGEND |                                   |
|--------|-----------------------------------|
|        | PROPERTY BOUNDARY                 |
|        | EDGES OF EXISTING STREAM          |
|        | EXISTING STREAM BUFFER OUTER EDGE |
|        | PROPOSED STREAM BUFFER OUTER EDGE |

| STREAM BUFFER ZONE CALCULATIONS<br>PRE-DEVELOPMENT AND PROPOSED<br>DISTURBANCE |                                       |           |
|--|---------------------------------------|-----------|
|  | EXISTING STREAM BUFFER ZONE TO REMAIN | N/A       |
|  | DISTURBED STREAM BUFFER ZONE          | 0.378 AC. |
|  | ADDITIONAL STREAM BUFFER GRANTED      | 0.400 AC. |



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STREAM BUFFER PLAN  
 SITE GRADING & SITE DISTURBANCE PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

2021

REVISIONS

LEE'S SUMMIT, MO

|              |             |
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