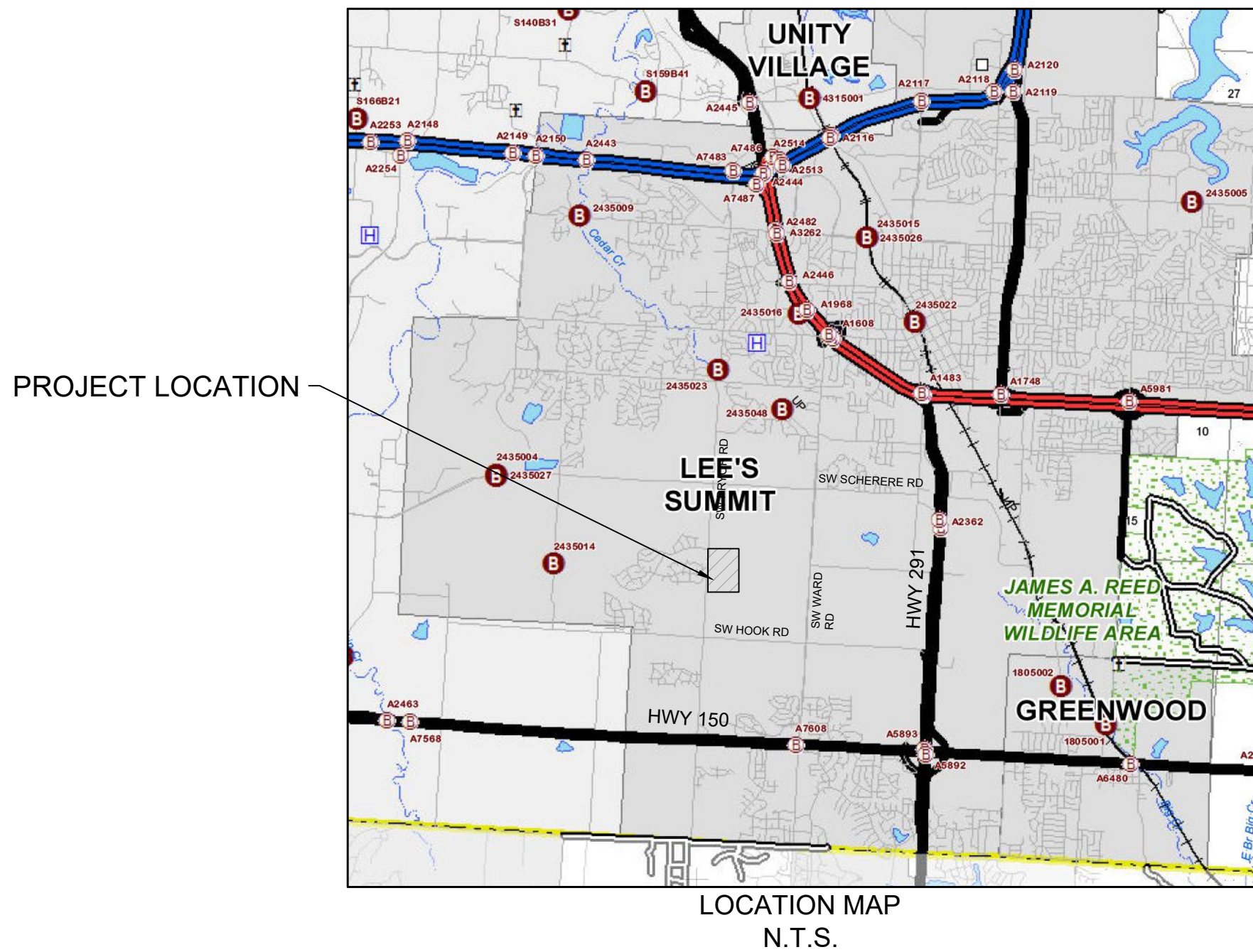


MASS GRADING AND EROSION & SEDIMENT CONTROL PLANS
FOR
WHISPERING WOODS 3RD PLAT
CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI



| SUMMARY OF QUANTITIES | | | |
|--|------|--------|----------|
| ITEM | UNIT | PLAN | AS-BUILT |
| Private Earthwork (CUT 161,325 FILL 121,200) | CY | 40,125 | |
| Low Water Crossing | EA | 1 | |
| Silt Fence | LF | 12,665 | |
| Temporary Construction Entrance | EA | 1 | |
| Concrete Washout | EA | 1 | |
| Ditch Check | EA | 7 | |
| | | | |
| | | | |

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.

TOTAL LAND DISTURBANCE = 42.5 AC.

INDEX TO SHEETS

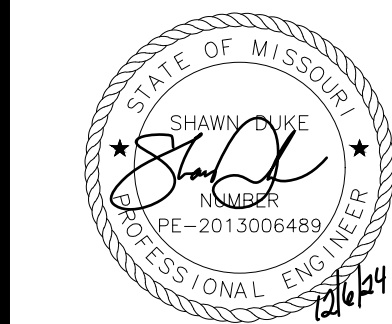
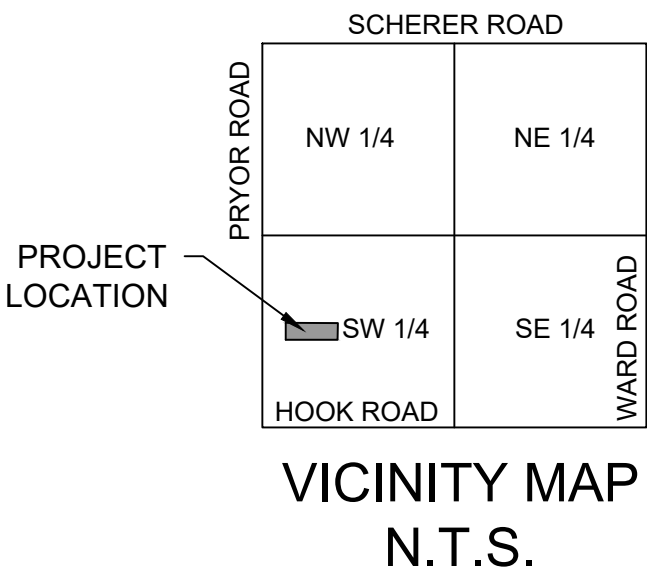
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| 2 | GENERAL NOTES |
| 3 | MASS GRADING PLAN |
| 4 | EROSION CONTROL PHASE 1 |
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| 9 | EAST OVERALL GRADING RESTORATION PLAN |
| 10-12 | EROSION CONTROL DETAILS |

APPROVED:

City Engineer

Date

| UTILITY SERVICE NUMBERS | |
|-----------------------------|--------------|
| SPECTRUM | 886-874-2389 |
| EVERGY | 816-220-5213 |
| SPIRE GAS | 816-399-9633 |
| LEE'S SUMMIT PUBLIC WORKS | 816-969-1800 |
| CITY PLANNING & DEVELOPMENT | 816-969-1600 |
| FIRE DEPARTMENT | 816-969-1300 |



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS
TITLE SHEET

LEE'S SUMMIT, MO

802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
www.snyder-associates.com



Project No: 120.0485.11

Sheet 1

1. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
2. GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION.
3. PRIOR TO ORDERING PRECAST STRUCTURES: SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. UPON APPROVAL THESE SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT FOR REVIEW.
4. ALL WATER LINES, SANITARY SEWER LINES, AND STORM WATER DRAINAGE CROSSINGS SHALL BE IN PLACE OR A CASING PIPE PROVIDED FOR FUTURE INSTALLATION PRIOR TO BASE AND SURFACE ASPHALT COURSES.
5. SIDEWALKS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY UNLESS OTHERWISE NOTES. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDICAP RAMP CONSTRUCTION IN CURBS.
6. REFER TO GRADING AND EROSION CONTROL SHEETS IN STREET AND STORM PLANS.
7. SITE TOPOGRAPHY TAKEN FROM SURVEY COMPLETED BY R.L. BUFORD & ASSOCIATES. CONTRACTOR TO VERIFY EXISTING CONDITIONS OF THE SITE THAT MAY NOT BE REPRESENTATIVE OF CONSTRUCTION PLANS.
8. PROTECT EXISTING TREES, SHRUBS, FENCE AND LANDSCAPING UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS. REPLACE ANY FENCE, TREES, SHRUBS, LANDSCAPING ITEMS, OR OTHER VEGETATION NOT SCHEDULED FOR REMOVAL THAT ARE DAMAGED DURING CONSTRUCTION OPERATIONS WITHOUT ADDITIONAL COMPENSATION.
9. NO OIL/GAS WELLS ARE PRESENT ON PROPERTY, PER MoDNR.

- CONTRACTOR SHALL REFER TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION (D&C) MANUAL.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THESE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION WAS PERFORMED ON THIS PROJECT.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.
7. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT A LOCATION TO BE SELECTED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SUCH LOCATION TO BE ON THE SITE.
8. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, HE SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS AND FOLLOW THE EROSION CONTROL PLAN PREPARED BY THE DESIGN ENGINEER.
9. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
10. SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FREE FROM MUCK AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMAN OR MACHINERY ENGAGED IN SUBGRADE, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUBGRADE TO PROVIDE A FIRM BASE FOR WORKING AND FOR PLACING THE FLOOR SLAB.
11. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET (10') SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. AT ANY POINT WHERE SANITARY SEWER LINES CROSS WATER MAIN, THE SANITARY SEWER SHALL BE CONSTRUCTED OF CAST IRON PIPE OR PIPE ENCASED IN CONCRETE FOR A DISTANCE OF TEN FEET (10') IN EACH DIRECTION FROM THE CROSSING UNLESS THE WATER IS A MINIMUM OF EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SANITARY SEWER LINE.
12. CONTRACTOR SHALL PROVIDE TESTING AND INSPECTION PER SECTION 3500 - SANITARY SEWERS CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
13. DEVELOPMENT PLANS ARE APPROVED INITIALLY FOR ONE (1) YEAR, AFTER WHICH THEY AUTOMATICALLY BECOME VOID AND MUST BE UPDATED AND APPROVED BY THE CITY ENGINEER BEFORE ANY CONSTRUCTION WILL BE PERMITTED.
14. ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND STAKED ON SITE BEFORE THE CONSTRUCTION OF SANITARY SERVICE STUBS.
15. THE CITY OF LEE'S SUMMIT PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF LEE'S SUMMIT DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OR DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF LEE'S SUMMIT THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.
16. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEE'S SUMMIT) AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
17. CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY ENGINEER IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND PERMIT FEES ARE RECEIVED AND APPROVED BY THE CITY ENGINEER.
18. ALL STUB LINES SHALL BE LAID ON 2.00% MINIMUM GRADE UNLESS APPROVED OTHERWISE.
19. CONTRACTOR SHALL NOT BE ALLOWED TO WORK ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT PRIOR APPROVAL OF THE CITY ENGINEER.
20. RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE.
21. THE CONTRACTOR SHALL INSTALL AND PROPERLY MAINTAIN A MECHANICAL PLUG AT ALL CONNECTION POINTS WITH EXISTING LINES UNTIL SUCH TIME THAT THE NEW LINE IS TESTED AND APPROVED.
22. THE CONTRACTOR SHALL CONSTRUCT MANHOLES PLACING ECCENTRIC CONE SECTION IN SUCH A MANNER THAT MANHOLE COVERS ARE ADJACENT TO THE PROPOSED SIDEWALKS. IN LOCATIONS WHERE MANHOLES ARE NOT NEAR PROPOSED SIDEWALKS THE MANHOLE COVERS SHALL GENERALLY BE PLACED ON THE UPSTREAM SIDE OF THE MANHOLES WHENEVER POSSIBLE.
23. STUB LINES, LOCATIONS, AND MINIMUM BASEMENT FLOOR ELEVATIONS ARE LOCATED IN THE TABLE LABELED "TABLE OF SERVICE LOCATIONS."
24. CONSTRUCTION PERMITS WILL NOT BE ISSUED UNTIL THE CITY OF LEE'S SUMMIT RECEIVES A SEWER EXTENSION PERMIT FROM MDNR.

- EROSION CONTROL NOTES:

A MISSOURI STATE OPERATING PERMIT FOR STORM WATER DISCHARGE IS REQUIRED IF CONSTRUCTION ACTIVITY DISTURBS ONE ACRE OR MORE IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES' REGULATION (10 CSR 20-6.200). COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED IN THIS INSTANCE. A CONSTRUCTION PERMIT FOR LAND DISTURBANCE WILL BE SECURED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AND PROVIDED TO THE CONTRACTOR.

SLOPES ARE TO BE LEFT IN A ROUGHENED CONDITION DURING GRADING

CURB INLET SEDIMENTATION FILTERS ARE TO BE INSTALLED AROUND CURB INLETS WHERE SEDIMENTATION IS A CONCERN. (SEE SWPP FOR DETAILS)

INLET PROTECTION
SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORM INLETS & REMAIN IN
PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO BEGINNING GRADING OPERATIONS WHERE POSSIBLE. ALL REMAINING EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IMMEDIATELY FOLLOWING GRADING OPERATIONS.

THE SITE IS TO BE SEEDED AND MULCHED AND TEMPORARY EROSION CONTROL MEASURES ARE TO REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS INCLUDING THE DETENTION BASIN.

ROCK LINING IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT
OUTLETS).

ROCK LINING SHALL BE TYPE 2 ROCK DITCH LINER ACCORDING TO MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SEC. 609.60. ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT SEDIMENT AND SOIL EROSION FROM BEING TRANSPORTED ONTO ADJACENT PROPERTY AND INTO STREAMS, LAKES, PONDS, OR OTHER AREAS.

CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY.

ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED.

A. EROSION PROTECTION

1. **CODE COMPLIANCE:** THE CONTRACTOR SHALL COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF THE MISSOURI CODE, THE MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES PERMIT, AND LOCAL ORDINANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASUREMENTS TO PROTECT AGAINST EROSION AND DUST POLLUTION ON THIS PROJECT SITE AND ALL OFF-SITE BORROW OR DEPOSIT AREAS DURING PERFORMANCE OR AS A RESULT OF PERFORMANCE.

2. DAMAGE CLAIMS: THE CONTRACTOR WILL HOLD THE OWNER, ARCHITECT AND ENGINEER HARMLESS FROM ANY AND ALL CLAIMS OF ANY TYPE WHATSOEVER RESULTING FROM DAMAGES TO ADJOINING PUBLIC OR PRIVATE PROPERTY, INCLUDING REASONABLE ATTORNEY FEES INCURRED TO OWNER. FURTHER, IF THE CONTRACTOR FAILS TO TAKE NECESSARY STEPS TO PROMPTLY REMOVE EARTH SEDIMENTATION OR DEBRIS WHICH COMES ONTO ADJOINING PUBLIC OR PRIVATE PROPERTY, THE OWNER MAY, BUT NEED NOT, REMOVE SUCH ITEMS AND DEDUCT THE COST THEREOF FROM AMOUNTS DUE TO THE CONTRACTOR.

3. ALL AREAS DISTURBED BY CONSTRUCTION ON THIS PROJECT WILL BE SUBJECT TO CURRENT REGULATORY REQUIREMENTS AND THESE STANDARDS.

B. STORM WATER DISCHARGE PERMIT:

1. THIS PROJECT REQUIRES A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, AS REQUIRED BY THE ENVIRONMENTAL PROTECTION COMMISSION (EPC). THE OWNER SHALL OBTAIN THE PERMIT. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL REQUIREMENTS OF THE PERMIT INCLUDING THE STORM WATER POLLUTION PREVENTION PLAN.

2. ALL DOCUMENTS RELATED TO THE STORM WATER DISCHARGE PERMIT SHALL BE KEPT ON SITE AT ALL TIMES AND MUST BE PRESENTED TO THE MISSOURI DNR UPON REQUEST WHICH INCLUDE THE NOTICE OF INTENT, PROOF OF PUBLICATION, POLLUTION PREVENTION PLAN, PROJECT INSPECTION DIARY, AND OTHER ITEMS. FAILURE TO COMPLY WITH THE DISCHARGE REQUIREMENTS IS IN VIOLATION OF THE CLEAN WATER ACT AND THE CODE OF MISSOURI.

3. UPON FINAL STABILIZATION OF THE DISTURBED AREA, A "NOTICE OF DISCONTINUATION" MUST BE FILED BY THE OWNER WITH THE MISSOURI DNR. ALL PLANS, INSPECTION REPORTS, AND OTHER DOCUMENTS MUST BE RETAINED FOR A PERIOD OF THREE YEARS AFTER PROJECT COMPLETION. THE CONTRACTOR SHALL RETAIN RECORD COPY AND PROVIDE ORIGINAL DOCUMENTS TO THE OWNER UPON ISSUANCE OF THE NOTICE OF DISCONTINUATION.

POLLUTION PREVENTION PLAN:

1. SITE DESCRIPTION: THIS PROJECT IS FOR THE CONSTRUCTION OF ROUGH GRADING FOR COMMERCIAL DEVELOPMENT. THE ENTIRE PROJECT COVERS APPROXIMATELY 1.70 ACRES. THE ESTIMATED AVERAGE RUNOFF COEFFICIENT WILL BE 0.80 RUNOFF FROM THIS PROJECT SITE AND WILL BE ROUTED THROUGH THE EXISTING CITY STORM SEWER.

2. POTENTIAL SOURCES OF POLLUTION FOR THIS PROJECT RELATE TO SILTS, SEDIMENT, AND OTHER MATERIALS WHICH MAY BE TRANSPORTED FROM THE CONSTRUCTION SITE AS THE RESULT OF A STORM EVENT .

3. RESPONSIBILITY: THIS POLLUTION PREVENTION PLAN ILLUSTRATES GENERAL MEASURES. TO BE TAKEN FOR COMPLIANCE WITH THE PERMIT. ALL MITIGATION MEASURES REQUIRED, AS A RESULT OF ACTIVITIES, ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL ACTIONS NECESSARY FOR INSTALLATION OF CONTROL MEASURES FOR COMPLIANCE WITH PERMIT REQUIREMENTS.

4. CONTROLS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL THE REQUIREMENTS OF THE GENERAL PERMIT INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

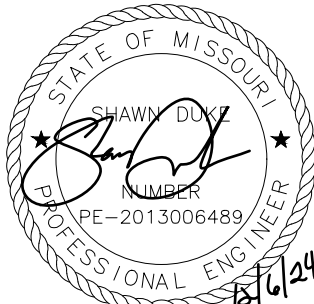
- a. THE CONTRACTOR SHALL PROTECT ADJOINING PROPERTY INCLUDING PUBLIC UTILITIES, SANITARY AND STORM DRAINAGE SYSTEMS, AND STREETS FROM ANY DAMAGE RESULTING FROM MOVEMENT OF EARTH OR OTHER DEBRIS FROM PROJECT SITE. REPAIR ANY DAMAGE IMMEDIATELY AT NO ADDITIONAL COST.

- b. THE CONTRACTOR SHALL PREVENT ACCUMULATION OF EARTH, SILTATION, OR DEBRIS ON ADJOINING PUBLIC OR PRIVATE PROPERTY FROM PROJECT SITE. REMOVE ANY ACCUMULATION OF EARTH OR DEBRIS IMMEDIATELY AND TAKE REMEDIAL ACTIONS FOR PREVENTION.

- c. PRIOR TO SITE CLEARING AND GRADING OPERATIONS, CONTRACTOR SHALL INSTALL SILT FENCE ALONG THE PERIMETER OF THE PROJECT DOWNSTREAM OF DISTURBING ACTIVITIES AS REQUIRED AND AS SHOWN ON THE PLANS.

- d. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.

| MARK | | REVISION | | DATE | BY |
|---|----|-------------|---------|-----------|---------|
| Engineer: | SD | Checked By: | SD | Scale: | 1"= N/A |
| Technician: | JS | Date: | 3-18-21 | Field Bk: | Pg: |
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SHAWN DUKE - ENGINEER
MO PE#2013006489

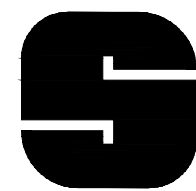
WHISPERING WOODS 3RD PLAT EROSION & SEDIMENT CONTROL PLANS

LEE'S SUMMIT, MO

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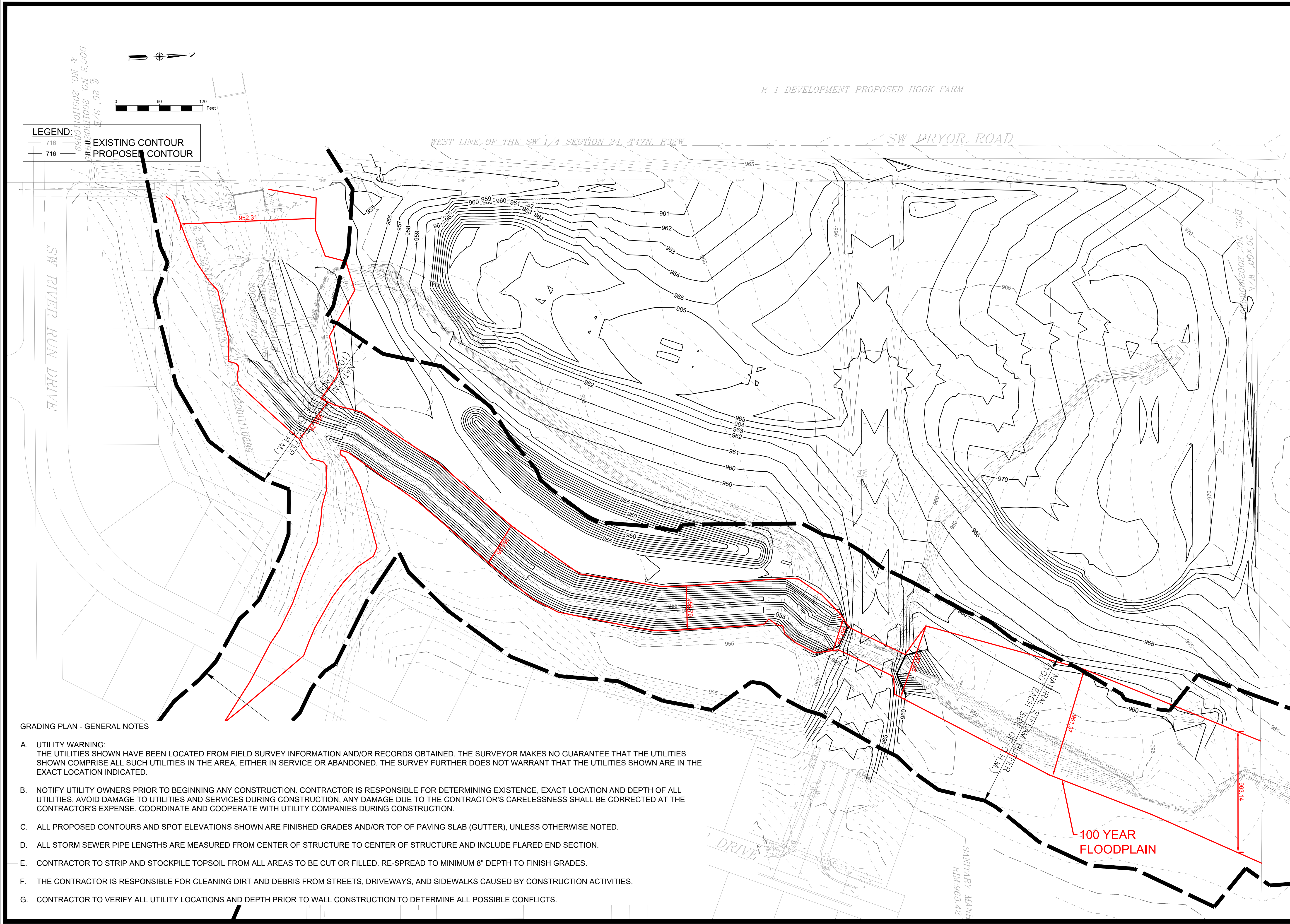
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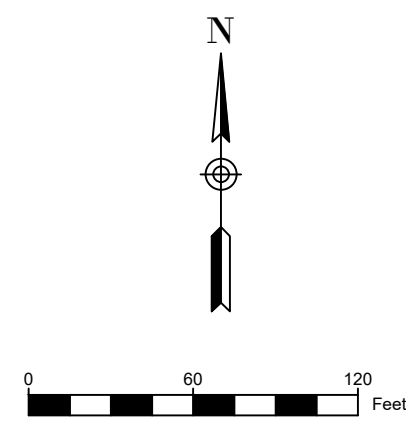


SNYDER
& ASSOCIATES

Project No: 120.0485.11

Sheet 2





LEGEND:
716 = EXISTING CONTOUR
716 = PROPOSED CONTOUR

= PROPOSED SILT FENCE
= INLET PROTECTION
= VEHICLE TRACKING CONTROL. INSTALL PER APWA STANDARD DETAIL ESC-01.

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL INLET PROTECTION FOR EXISTING INLETS

PHASE 2 WORK SCHEDULE

1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.
4. STABILIZE SITE
5. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

EROSION CONTROL PLAN - CONSTRUCTION NOTES

- ① CONTRACTOR TO INSTALL SILT FENCE PER APWA STANDARD DETAIL ESC 10-11. REMOVE AND RELOCATE AS NECESSARY FOR CONSTRUCTION.
- ② APPROXIMATE LOCATION OF VEHICLE TRACKING CONTROL. CONTRACTOR TO INSTALL PER APWA STANDARD DETAIL ESC-01. LOCATION CAN BE ADJUSTED AS NEEDED FOR CONSTRUCTION.

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

PROPOSED HOOK FARM
R-1 DEVELOPMENT
ZONED R-1
R-1 DEVELOPMENT PROPOSED HOOK FARM



**WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS**

EROSION CONTROL PLAN : PHASE 1

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

802 FRANCIS STREET
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816-364-5222

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Project No: 120.0485.11

Sheet 4



SHAWN DUKE - ENGINEER
MO PE#2013006489

| MARK | REVISION | DATE | BY |
|--|----------|-------------|-----------|
| Engineer: | SD | Checked By: | SD |
| Technician: | JS | Date: | 3-18-21 |
| Scale: 1"= 70' | | | Field Bk: |
| Pg: | | | 4 |
| Snyder & Associates Engineers & Planners, Inc. | | | Sheet |
| Missouri State Certificate of Authority #200006544 | | | 4 |

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL INLET PROTECTION FOR EXISTING INLETS

PHASE 2 WORK SCHEDULE

1. MASS GRADE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.

RESTORATION WORK SCHEDULE

1. ALL AREAS TO BE SEEDED SHALL BE SPREAD WITH A MINIMUM 6-INCH DEPTH OF TOP SOIL. ALL SEEDING SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF LEE'S SUMMIT SPECIFICATION AND DESIGN CRITERIA MANUAL.
2. ALL AREAS SEEDED ARE TO BE SPREAD WITH MULCH AT THE RATE OF 1 1/2 TON PER ACRE AND SHALL BE ANCHORED BY DISCING.
3. ALL AREAS DISTURBED BY GRADING OPERATIONS AUTHORIZED BY THIS PERMIT SHALL BE SEEDED WITHIN TWO WEEKS AFTER COMPLETION AND ACCEPTANCE OF SITE GRADING. THE ENTIRE AREA AFFECTED SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS HAVE BECOME ESTABLISHED.
4. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.
5. STABILIZE SITE.
6. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH TIMES AS ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BANKETS



LEGEND:

- 716 = EXISTING CONTOUR
716 = PROPOSED CONTOUR

EROSION CONTROL PLAN - CONSTRUCTION NOTES

1. CONTRACTOR TO INSTALL SILT FENCE PER APWA STANDARD DETAIL ESC 10-11. REMOVE AND RELOCATE AS NECESSARY FOR CONSTRUCTION.
2. APPROXIMATE LOCATION OF VEHICLE TRACKING CONTROL. CONTRACTOR TO INSTALL PER APWA STANDARD DETAIL ESC-01. LOCATION CAN BE ADJUSTED AS NEEDED FOR CONSTRUCTION.
3. CONTRACTOR TO PROVIDE INLET PROTECTION PER APWA STANDARD DETAILS.
4. CONCRETE WASHOUT PER APWA STANDARD DETAILS

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

DITCH CHECK (TYP.)

DITCH CHECK (TYP.)

DITCH CHECK (TYP.)

PHASE II

- = PROPOSED SILT FENCE
□ = INLET PROTECTION
▨ = CONCRETE WASHOUT

PHASE I

- = PROPOSED SILT FENCE
□ = INLET PROTECTION
▩ = VEHICLE TRACKING CONTROL. INSTALL PER APWA STANDARD DETAIL ESC-01.

LOW WATER CROSSING
STREAM ELEVATIONS

| LOCATION | EX. 10YR | PR. 10YR | EX. 100 YR | PR. 100 YR |
|--------------------------------|-------------|-------------|---------------|---------------|
| PROPERTY LINE | 961.33 | 961.33 | 963.23 | 963.23 |
| 267' SOUTH OF PROPERTY LINE | 959.14 | 959.14 | 960.95 | 960.95 |
| LOW WATER CROSSING | 956.62 | 956.82 | 958.58 | 958.86 |

NOTE:
THE LOW WATER CROSSING WILL BE INSPECTED AND MAINTAINED BY THE DEVELOPER. THE CROSSING WILL BE REMOVED DURING ANY DELAYS OR STOPPAGES IN WORK DUE TO PHASE CHANGE, SCHEDULES, ETC.
EROSION CONTROL IS TO IN PLACE AND ADJUSTED AS NEEDED TO ENSURE THAT EARTHMOVING EQUIPMENT CROSSING THE CREEK DOES NOT DROP EXCESS SOIL INTO THE STREAM.

PROPOSED TEMPORARY LOW WATER CROSSING.
CONTRACTOR TO INSTALL 2-24" CMP. SEE APWA
STANDARD DETAIL ESC-13.

NATURAL STREAM BUFFER
(100' EACH SIDE OF C.H.M.)

100 YEAR
FLOODPLAIN



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS

EROSION CONTROL PLAN : PHASE 2
SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

LEE'S SUMMIT, MO
802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222
www.snyder-associates.com



Project No: 120.0485.11

Sheet 5

| MARK | REVISION | DATE | BY |
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| Engineer: SD | Checked By: SD | Scale: 1"= 70' | |
| Technician: JS | Date: 3-18-21 | Field Bk: | Pg: |
| Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200008544 | | | Sheet 5 |

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL INLET PROTECTION FOR EXISTING INLETS

PHASE 2 WORK SCHEDULE

1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.

PHASE 3 WORK SCHEDULE

1. INSTALL ALL INLET PROTECTIONS FOR PROPOSED INLETS.
2. ALL AREAS TO BE SEEDED SHALL BE SPREAD WITH A MINIMUM 6-INCH DEPTH OF TOP SOIL. ALL SEEDING SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF LEE'S SUMMIT SPECIFICATION AND DESIGN CRITERIA MANUAL.
3. ALL AREAS SEEDED ARE TO BE SPREAD WITH MULCH AT THE RATE OF 1 1/2 TON PER ACRE AND SHALL BE ANCHORED BY DISCING.
4. ALL AREAS DISTURBED BY GRADING OPERATIONS AUTHORIZED BY THIS PERMIT SHALL BE SEEDED WITHIN TWO WEEKS AFTER COMPLETION AND ACCEPTANCE OF SITE GRADING. THE ENTIRE AREA AFFECTED SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS HAVE BECOME ESTABLISHED.
5. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.
6. STABILIZE SITE.
7. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.



LEGEND:

- 716 = EXISTING CONTOUR
716 = PROPOSED CONTOUR

EROSION CONTROL PLAN - CONSTRUCTION NOTES

1. CONTRACTOR TO INSTALL SILT FENCE PER APWA STANDARD DETAIL ESC 10-11. REMOVE AND RELOCATE AS NECESSARY FOR CONSTRUCTION.
2. APPROXIMATE LOCATION OF VEHICLE TRACKING CONTROL. CONTRACTOR TO INSTALL PER APWA STANDARD DETAIL ESC-01. LOCATION CAN BE ADJUSTED AS NEEDED FOR CONSTRUCTION.
3. CONTRACTOR TO PROVIDE INLET PROTECTION PER APWA STANDARD DETAILS.
4. CONCRETE WASHOUT PER APWA STANDARD DETAILS

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

EROSION CONTROL PLAN - CONSTRUCTION NOTES

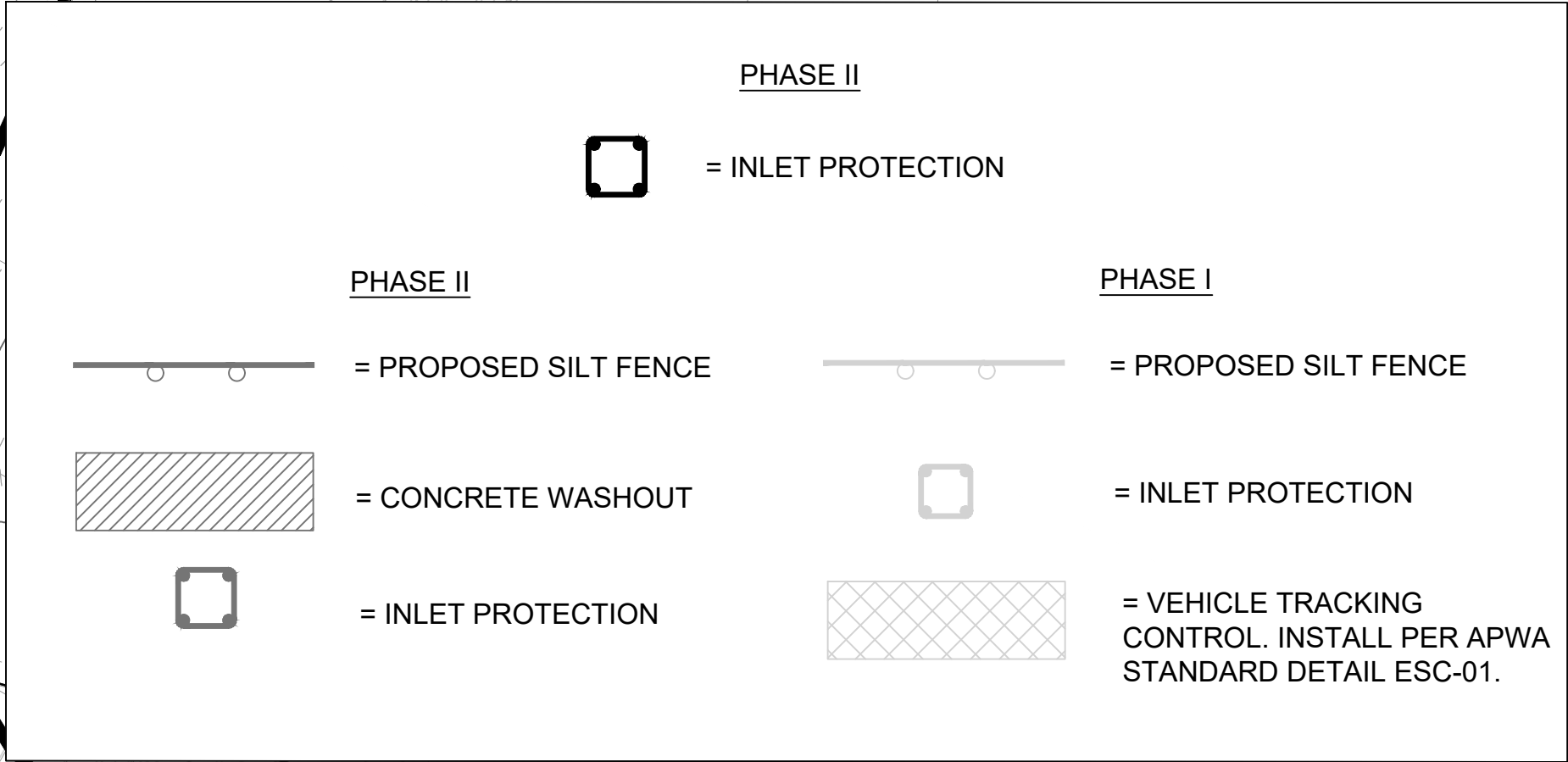
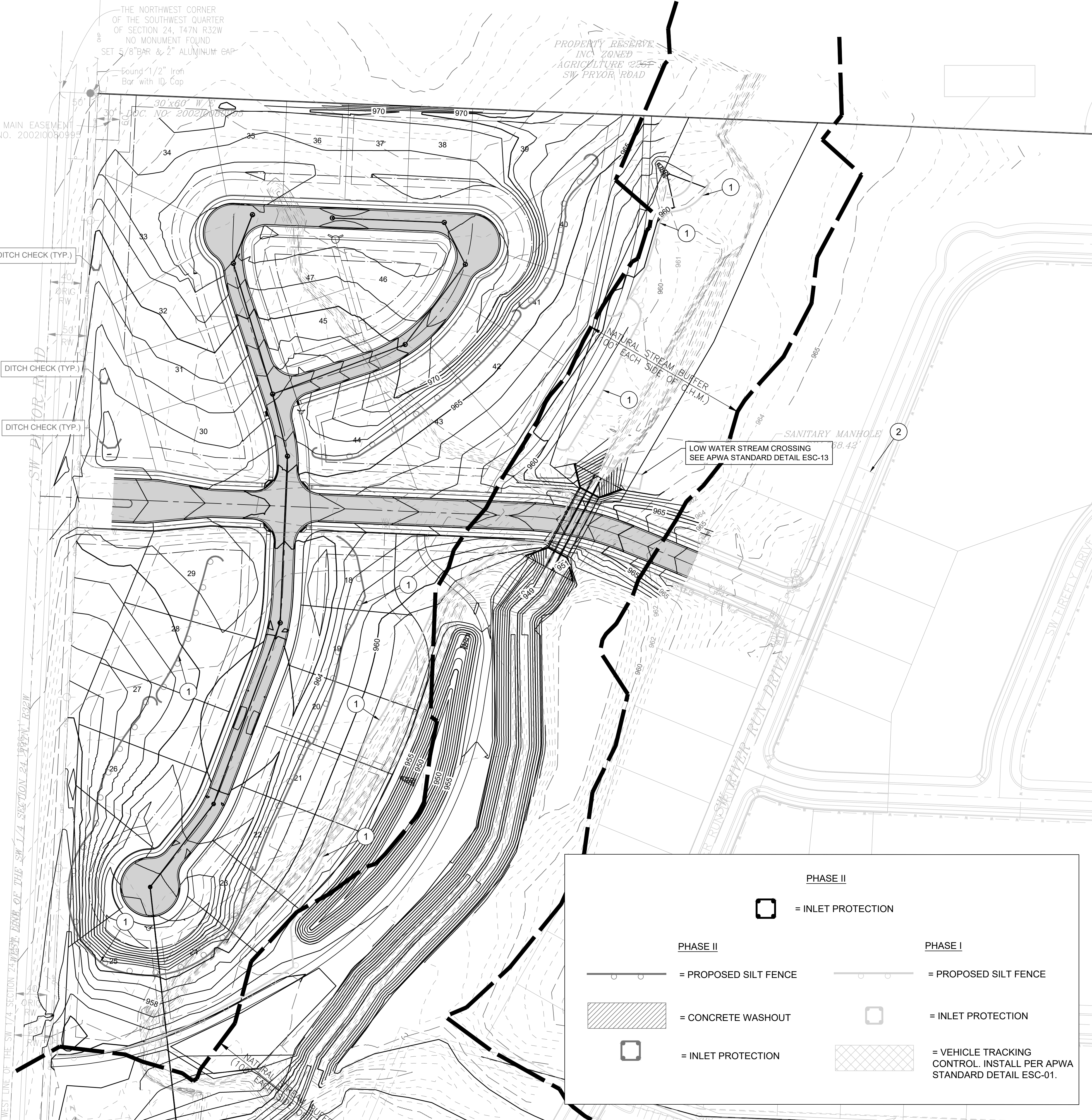
CONTRACTOR TO STABILIZE SITE IN PHASE III

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

PROPOSED HOOK FARM R-1 DEVELOPMENT ZONED R-1

R-1 DEVELOPMENT PROPOSED HOOK FARM



WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS
EROSION CONTROL PLAN : PHASE 3

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

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816-364-5222

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Project No: 120.0485.11

Sheet 6



SHAWN DUKE - ENGINEER
MO PE#2013006489

| MARK | REVISION | DATE | BY |
|---|-------------|---------|---------|
| SD | Checked By: | SD | |
| JS | Date: | 3-18-21 | |
| Engineer: | Scale: | 1"= 70' | |
| Technician: | Field Bk: | | |
| Snyder & Associates Engineers & Planners, Inc. | | | Sheet 6 |
| Missouri State Certificate of Authority #2000006544 | | | |

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL INLET PROTECTION FOR EXISTING INLETS

PHASE 2 WORK SCHEDULE

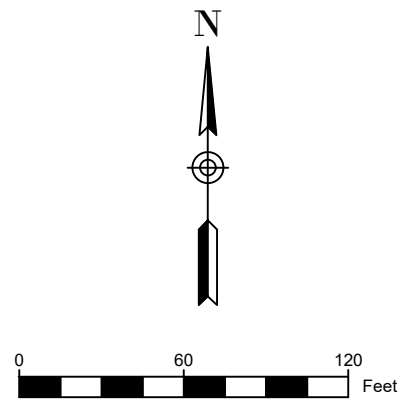
1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.

PHASE 3 WORK SCHEDULE

1. ALL AREAS TO BE SEEDED SHALL BE SPREAD WITH A MINIMUM 6-INCH DEPTH OF TOP SOIL. ALL SEEDING SHALL BE DONE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE CITY OF LEE'S SUMMIT SPECIFICATION AND DESIGN CRITERIA MANUAL.
2. ALL AREAS SEEDED ARE TO BE SPREAD WITH MULCH AT THE RATE OF 1 1/2 TON PER ACRE AND SHALL BE ANCHORED BY DISCING.
3. ALL AREAS DISTURBED BY GRADING OPERATIONS AUTHORIZED BY THIS PERMIT SHALL BE SEEDED WITHIN TWO WEEKS AFTER COMPLETION AND ACCEPTANCE OF SITE GRADING. THE ENTIRE AREA AFFECTED SHALL BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS HAVE BECOME ESTABLISHED.
4. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.
5. STABILIZE SITE.
6. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS



| LEGEND: | |
|---------|--------------------|
| | = EXISTING CONTOUR |
| | = PROPOSED CONTOUR |

EROSION CONTROL PLAN - CONSTRUCTION NOTES

1. CONTRACTOR TO INSTALL SILT FENCE PER APWA STANDARD DETAIL ESC 10-11. REMOVE AND RELOCATE AS NECESSARY FOR CONSTRUCTION.
2. APPROXIMATE LOCATION OF VEHICLE TRACKING CONTROL. CONTRACTOR TO INSTALL PER APWA STANDARD DETAIL ESC-01. LOCATION CAN BE ADJUSTED AS NEEDED FOR CONSTRUCTION.
3. CONTRACTOR TO PROVIDE INLET PROTECTION PER APWA STANDARD DETAILS.
4. CONCRETE WASHOUT PER APWA STANDARD DETAILS

EROSION CONTROL PLAN - CONSTRUCTION NOTES

1. INLET PROTECTION TO BE REMOVED BY CONTRACTOR / OWNER AT SUCH TIME ALL UPSTREAM DISTURBED AREAS HAVE BEEN STAILIZED.
2. SILT FENCE TO BE REMOVED BY CONTRACTOR / OWNER AT SUCH TIME ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED.

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.



WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS

FINAL RESTORATION PLAN

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
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ST. JOSEPH, MO 64501
816-364-5222




SHAWN DUKE - ENGINEER
MO PE#2013006489

| MARK | REVISION | DATE | BY |
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| Engineer: | SD | Checked By: | SD |
| Technician: | JS | Date: | 10-11-21 |
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Project No: 120.0485.11

Sheet 7

 = PROPOSED SILT FENCE
= VEHICLE TRACKING CONTROL.
INSTALL PER APWA STANDARD
DETAIL ESC-01.

NOTE
INLET PROTECTION AND SILT
FENCE SHALL BE REMOVED BY
CONTRACTOR/OWNER AT SUCH
ALL UPSTREAM DISTURBED
AREAS HAVE BEEN
PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1
WILL BE EVALUATED FOR USE OF
MATS/BLANKETS

EROSION CONTROL PLAN - CONSTRUCTION NOTES

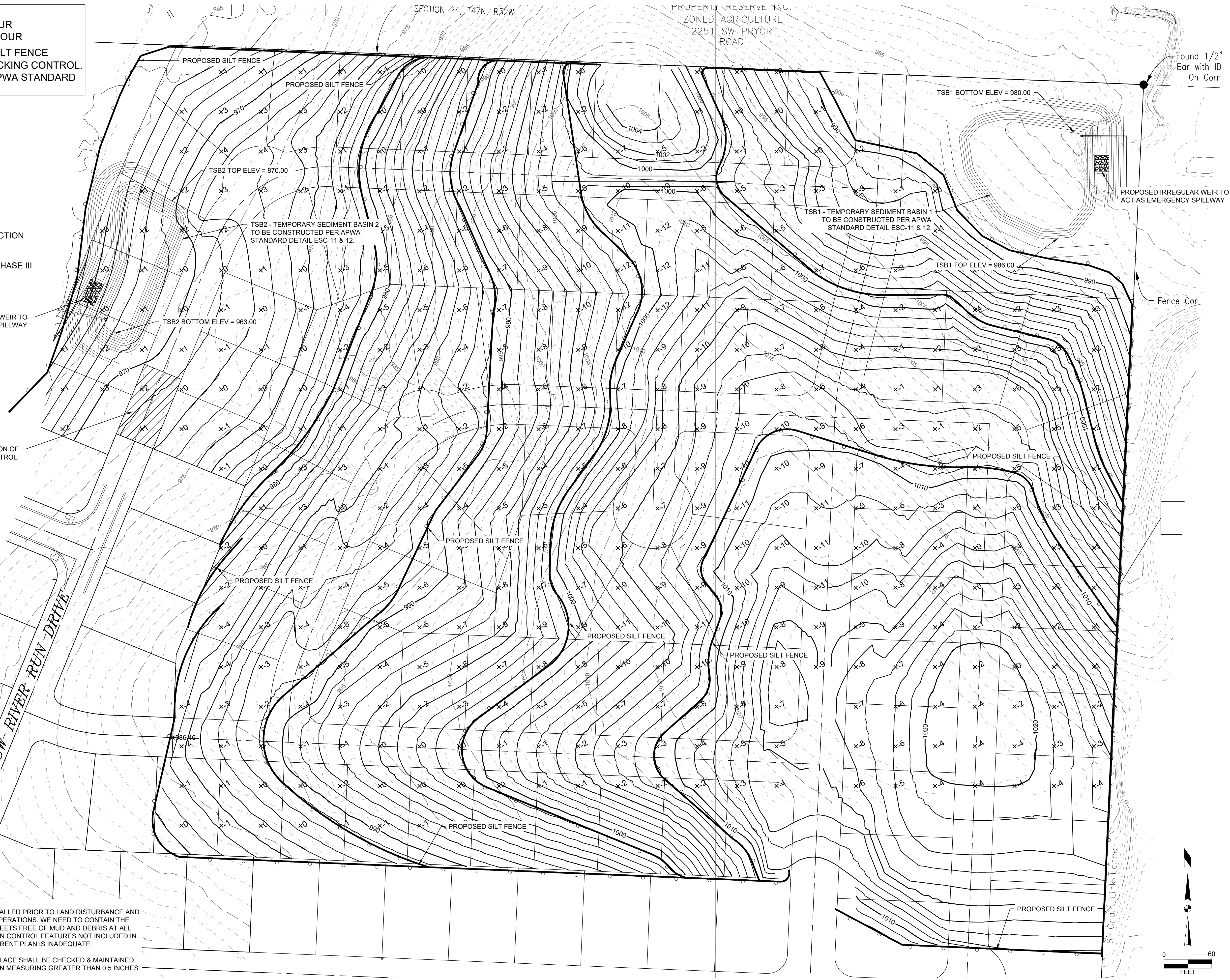
CONTRACTOR TO STABILIZE SITE IN PHASE II

PROPOSED IRREGULAR WEIR TO ACT AS EMERGENCY SPILLWAY

APPROXIMATE LOCATION OF
VEHICLE TRACKING CONTROL

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

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SHAWN DUKE - ENGINEER
MO PE#2013006489

**WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS**

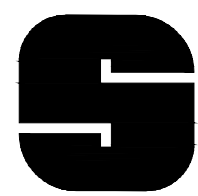
LEE'S SUMMIT, MO

FRANCIS STREET
JOSEPH, MO 64501
816-364-5222

EAST OVERALL EROSION CONTROL PLAN

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& ASSOCIATES

Project No: 120.0485.11

Sheet 8

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LEGEND:

- = EXISTING CONTOUR
- = PROPOSED CONTOUR
- = PROPOSED SILT FENCE
- ▨ = VEHICLE TRACKING CONTROL. INSTALL PER APWA STANDARD DETAIL ESC-01.

PHASE 1 WORK SCHEDULE

1. INSTALL PERIMETER SILT FENCE
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL INLET PROTECTION FOR EXISTING INLETS

PHASE 2 WORK SCHEDULE

1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES TO PROVIDE FOR SAID EROSION AND SEDIMENTATION CONTROL ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS SEEDED AREAS BECOME ESTABLISHED.

PHASE 3 WORK SCHEDULE

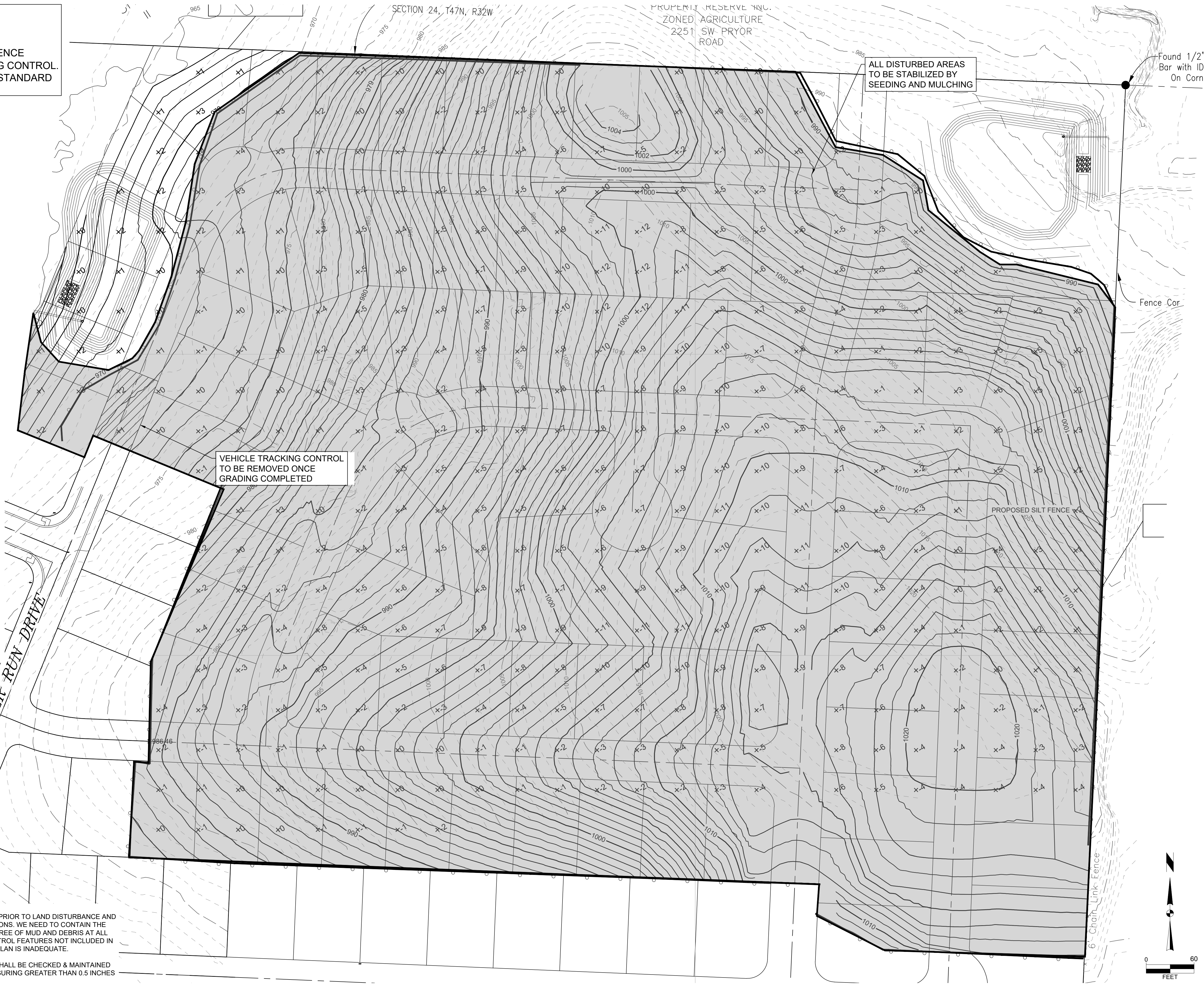
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4. ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED DURING FINAL CLEANUP WILL BE COMPLETED BY THE CONTRACTOR.
5. STABILIZE SITE.
6. REMOVE TEMPORARY CONSTRUCTION ENTRANCES.

NOTE
INLET PROTECTION AND SILT FENCE SHALL BE REMOVED BY CONTRACTOR/OWNER AT SUCH ALL UPSTREAM DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

NOTE
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

NOTE
EROSION CONTROL FEATURES NEED TO BE INSTALLED PRIOR TO LAND DISTURBANCE AND MAINTAINED THROUGHOUT THE DURATION OF OPERATIONS. WE NEED TO CONTAIN THE SILT TO THIS SITE AND KEEP THE ADJACENT STREETS FREE OF MUD AND DEBRIS AT ALL TIMES WHICH MAY INCLUDE ADDITIONAL EROSION CONTROL FEATURES NOT INCLUDED IN THESE PLAN IF IT IS DETERMINED THAT THE CURRENT PLAN IS INADEQUATE.

EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.

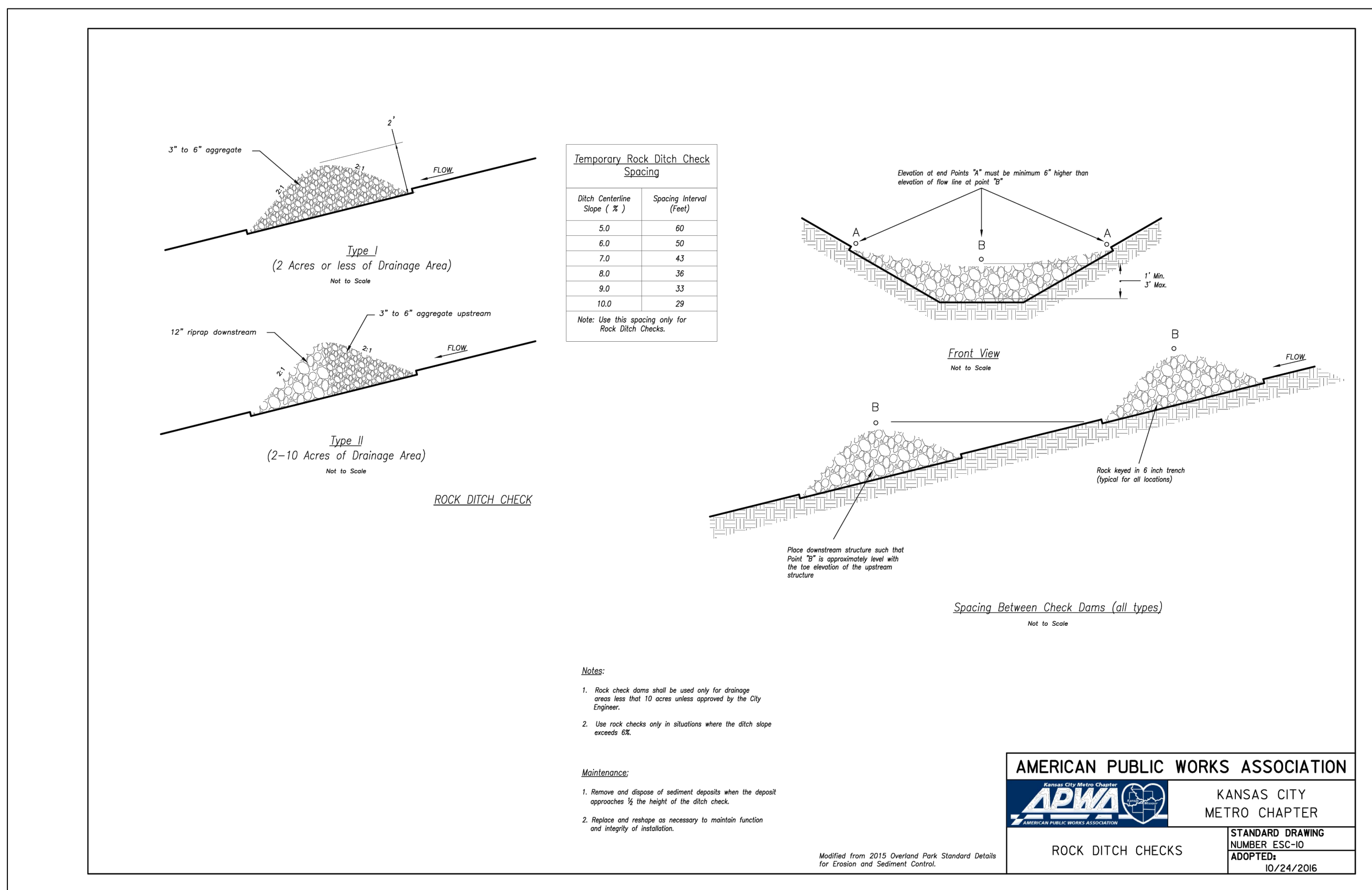
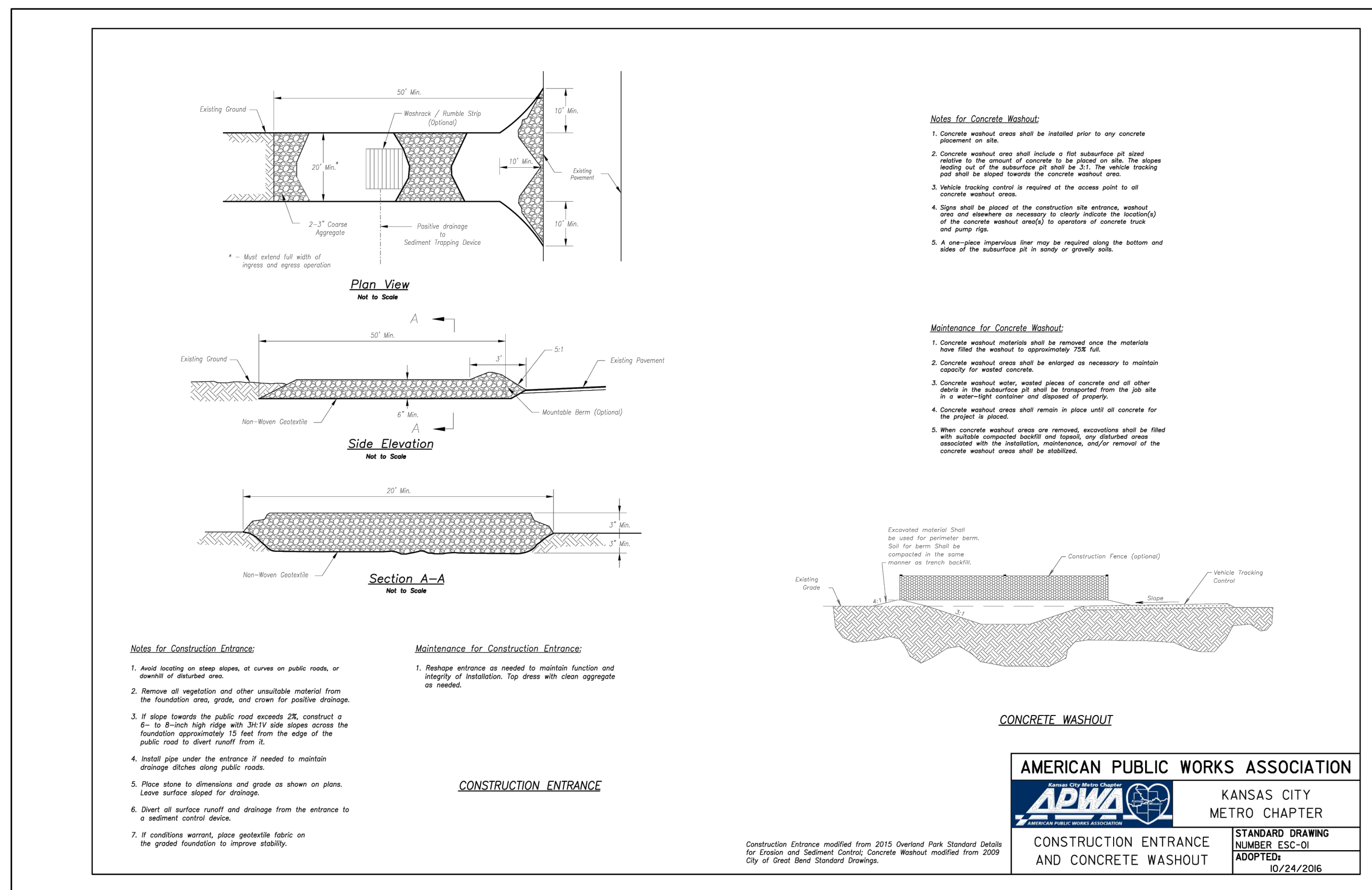
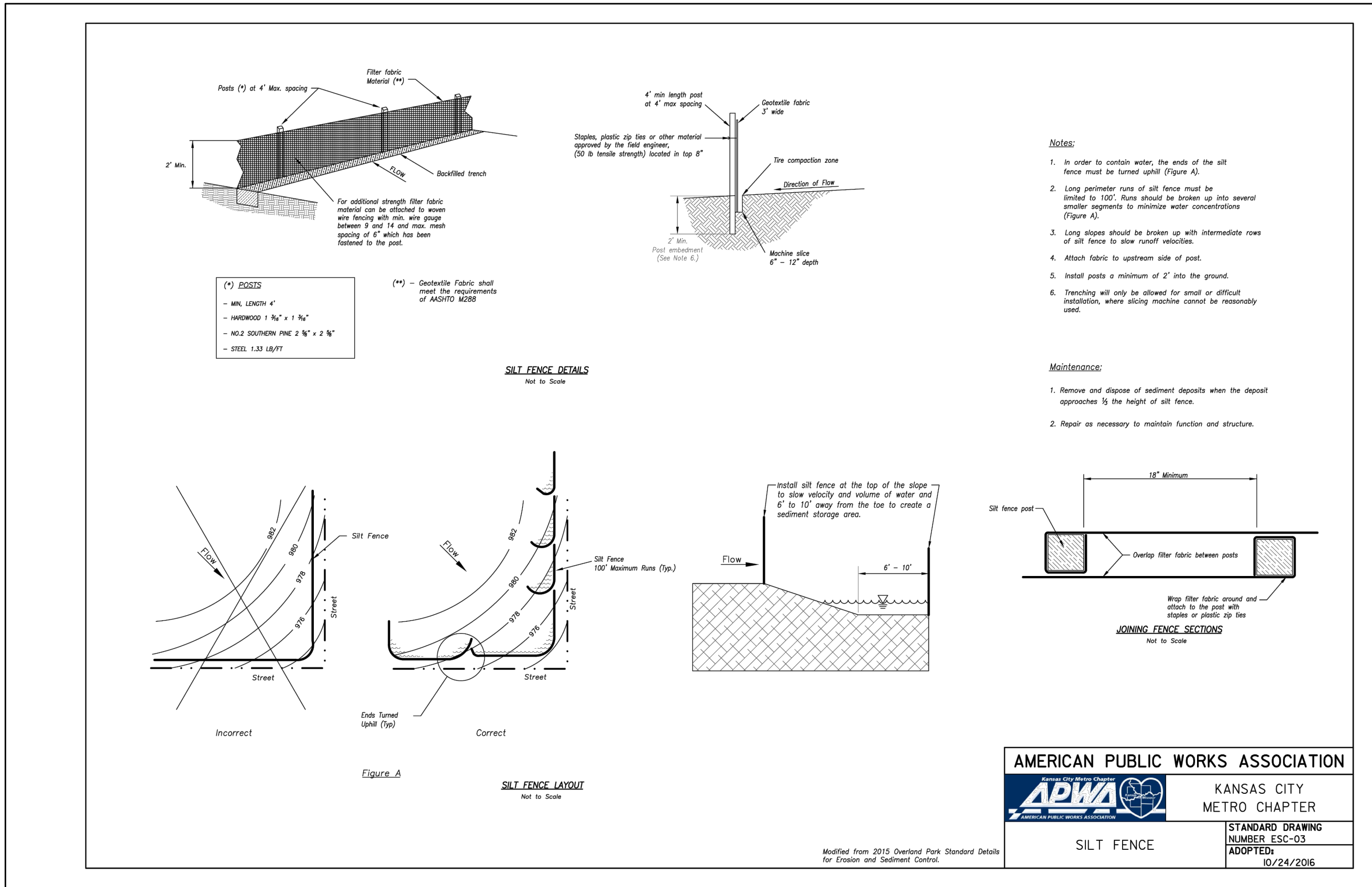
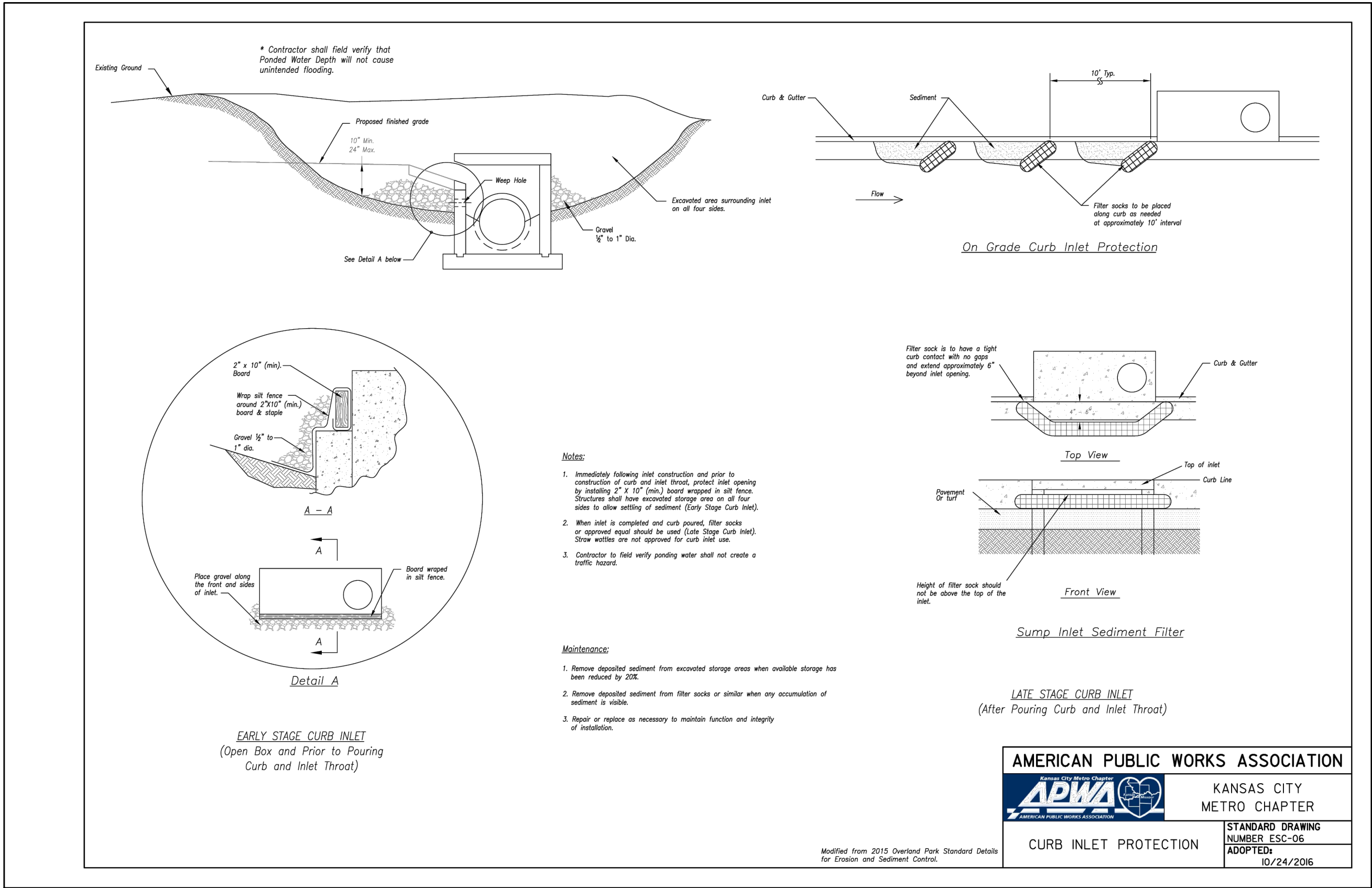


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| Technician: | Date: | Field Bk: | Pg: |
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| Sheet 9 | | | |

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS
EAST FINAL RESTORATION PLAN
LEE'S SUMMIT, MO
802 FRANCIS STREET
ST. JOSEPH, MO 64501
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Sheet 9



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| Technician: | JS | Date: | 10-11-21 |
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| | | | Snyder & Associates Engineers & Planners, Inc. |
| | | | Missouri State Certificate of Authority #200006544 |



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816-364-5222

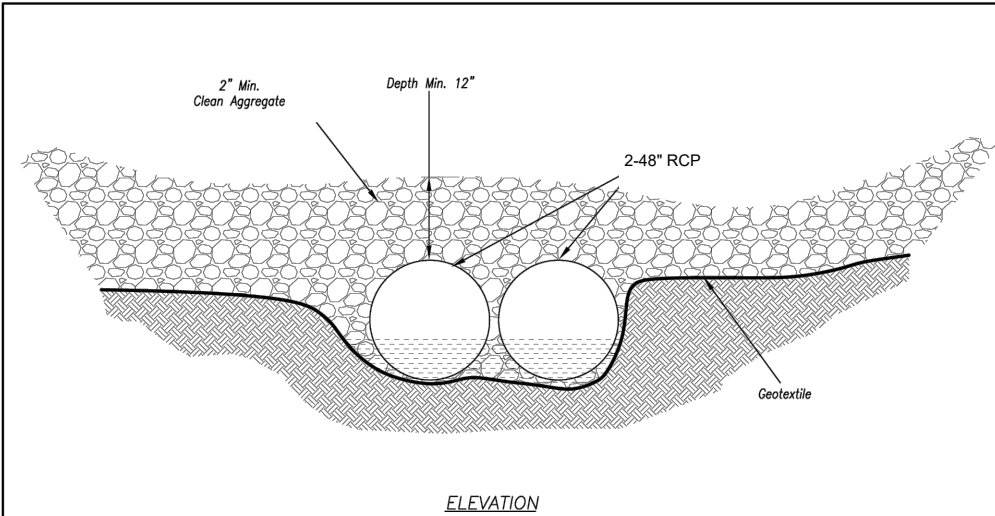
WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS
EROSION CONTROL DETAILS

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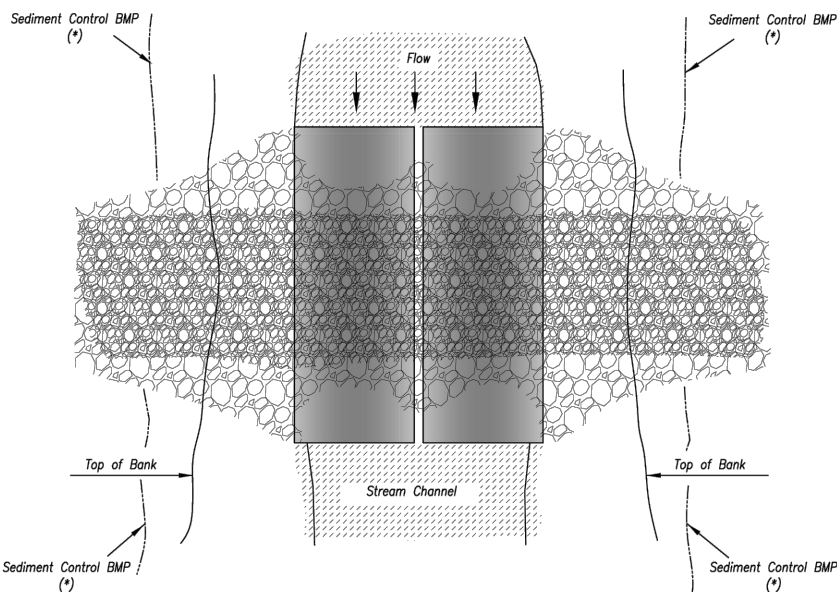
Project No: 120.0485.11

Sheet 10

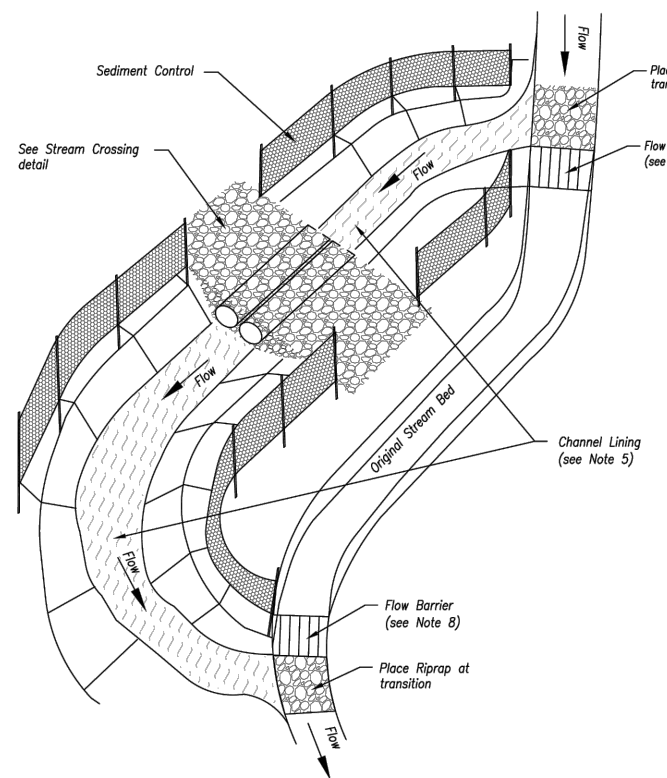


- Maintenance:**
- Repair stream bank erosion by stabilizing with erosion control BMP's such as erosion control blankets.
 - For in-stream degradation, armor the culvert outlet(s) with riprap to dissipate energy.
 - If sediment or debris is accumulating upstream of the crossing, remove as needed to maintain the functionality of the crossing.
 - If a temporary crossing is requiring excessive maintenance, replacement with a larger culvert or alternate design may be necessary.

- Notes for Temporary Stream Crossing:**
- Clearing and excavation of the stream bed and banks shall be kept to a minimum.
 - 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) flows designated in the Contract Documents shall flow through the pipes without overlapping the crossings. (See Specification for more information).
 - 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 sediment and improves crossing stability.
 - 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.
 - The culvert shall be covered with a minimum of 1 foot of aggregate. If multiple culverts are used, they shall be separated by at least 12" of compacted aggregate fill.
 - 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.
 - 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.



PLAN VIEW



- Notes for Temporary Diversion Channel:**
- The diversion channel crossing must be operational before work is done in the stream. Construction will be performed in the dry.
 - Minimum width of bottom shall be 6 feet or equal to bottom width of existing streambed, whichever is less.
 - Minimum 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.
 - Channel must be lined with riprap or turf reinforcement mat depending on the expected velocity and shear stress in the channel.
 - 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.
 - Stream diversion liners shall be entrenched at the top of slopes along with a sediment control BMP.
 - 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.
 - Stream should be re-diverted only after backfilling and re-stabilization of original streambed and banks is completed.

STREAM DIVERSION CHANNEL Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

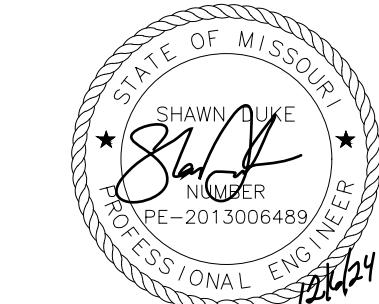
AMERICAN PUBLIC WORKS ASSOCIATION

APWA

KANSAS CITY
METRO CHAPTER

STREAM CROSSINGS AND
DIVERSION CHANNELS

STANDARD DRAWING
NUMBER ESC-13
ADOPTED:
10/24/2016



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
EROSION & SEDIMENT CONTROL PLANS

EROSION CONTROL DETAILS

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

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Sheet 11

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| Engineer: SD | Checked By: SD | Scale: 1"= 1A | |
| Technician: JS | Date: 10-11-21 | Field Bk: | Pg: |
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