

# WHISPERING WOODS 3RD PLAT

MARK	REVISION	DATE	BY
Engineer: SD	Checked By:	Scale:	1"= N/A
Technician: JS	Date: 3-18-21	Field Bk:	Pg:
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #2006008544			Sheet 1



SHAWN DUKE - ENGINEER  
MO PE#2013006489

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SUMMARY OF QUANTITIES			
ITEM	UNIT	PLAN	AS-BUILT
Private Earthwork (CUT 130,890 FILL 108,860)	CY	130,890	
Low Water Crossing	EA	1	
Silt Fence	LF	9,438	
Temporary Construction Entrance	EA	1	
Concrete Washout	EA	1	
Ditch Check	EA	5	

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.

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



APPROVED:

City Engineer

Date

DEVELOPER:

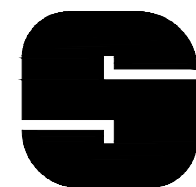
WHISPERING WOODS LAND, L.L.C.  
803 P.C.A. ROAD  
WARRENSBURG, MO 64093  
AGENT: RICK FRYE  
PHONE: 816.564.2230  
FAX: 660.429.1801

# WHISPERING WOODS 3RD PLAT EROSION & SEDIMENT CONTROL PLANS

LEE'S SUMMIT, MO

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

**SNYDER & ASSOCIATES**  
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Project No: 120.0485.11

Sheet

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3. 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.

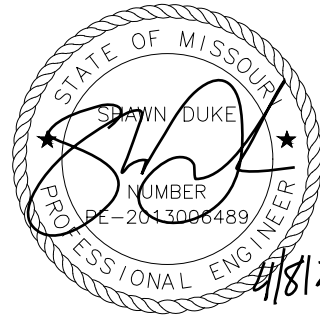
4. CONTROLS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL THE REQUIREMENTS OF THE GENERAL PERMIT INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- 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.

[illegible]

SHAWN DUKE - ENGINEER  
MO PE#2013006489

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EROSION & SEDIMENT CONTROL PLANS

LEE'S SUMMIT, MO

FRANCIS STREET  
JOSEPH, MO 64501  
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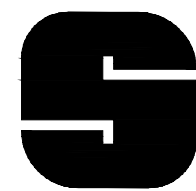
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## GENERAL NOTES

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Sheet

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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.

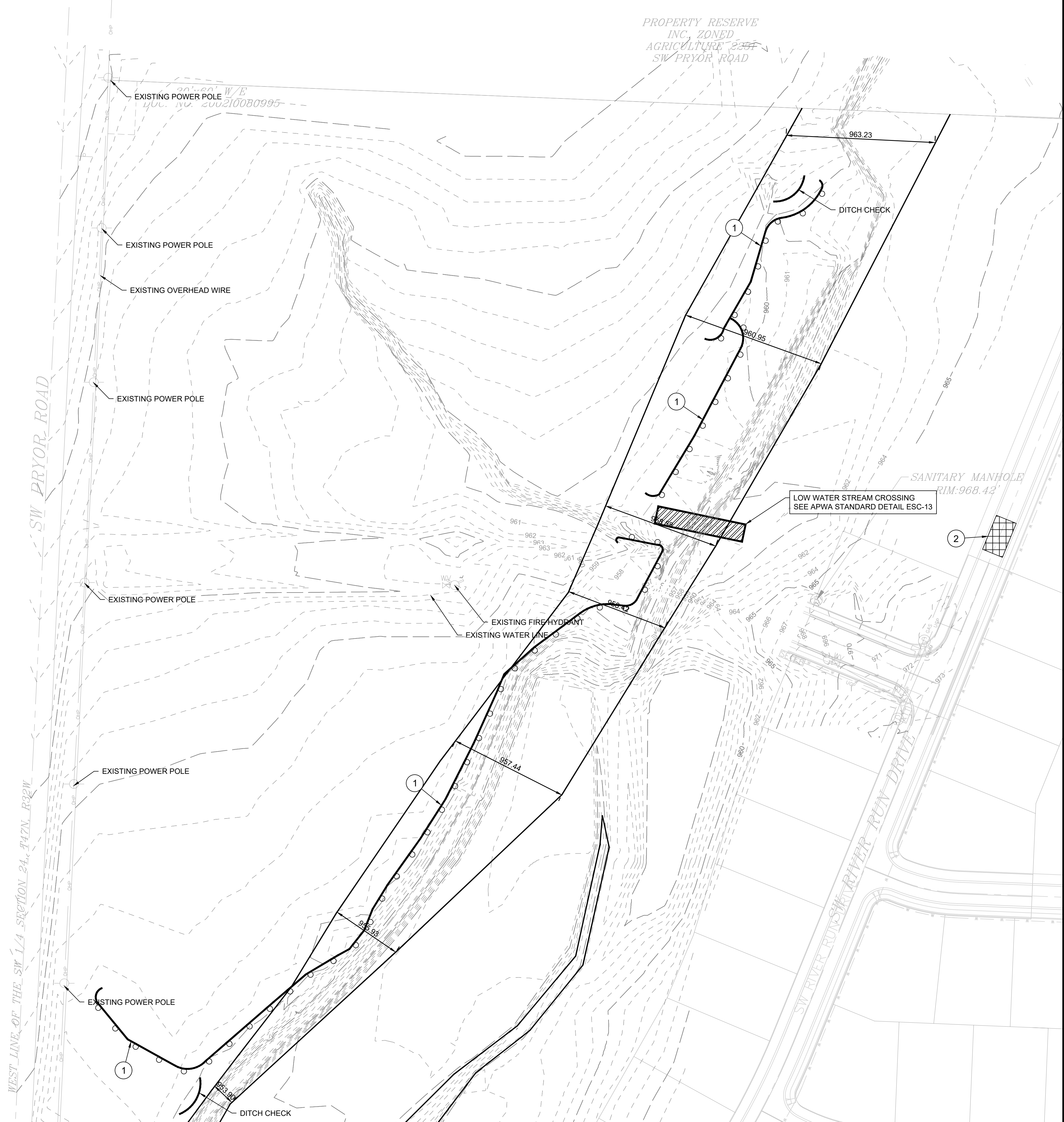
NOTE  
ALL SLOPES GREATER THAN 4:1  
WILL BE EVALUATED FOR USE OF  
MATS/BLANKETS

## 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.

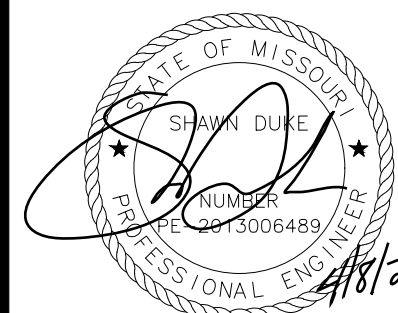
EROSION & SEDIMENT CONTROL MEASURES IN PLACE SHALL BE CHECKED & MAINTAINED WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES IN 24 HOURS AS RECORDED AT KCI AIRPORT.



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**Sheet 4**

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MO PE#2013006489

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Sheet 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

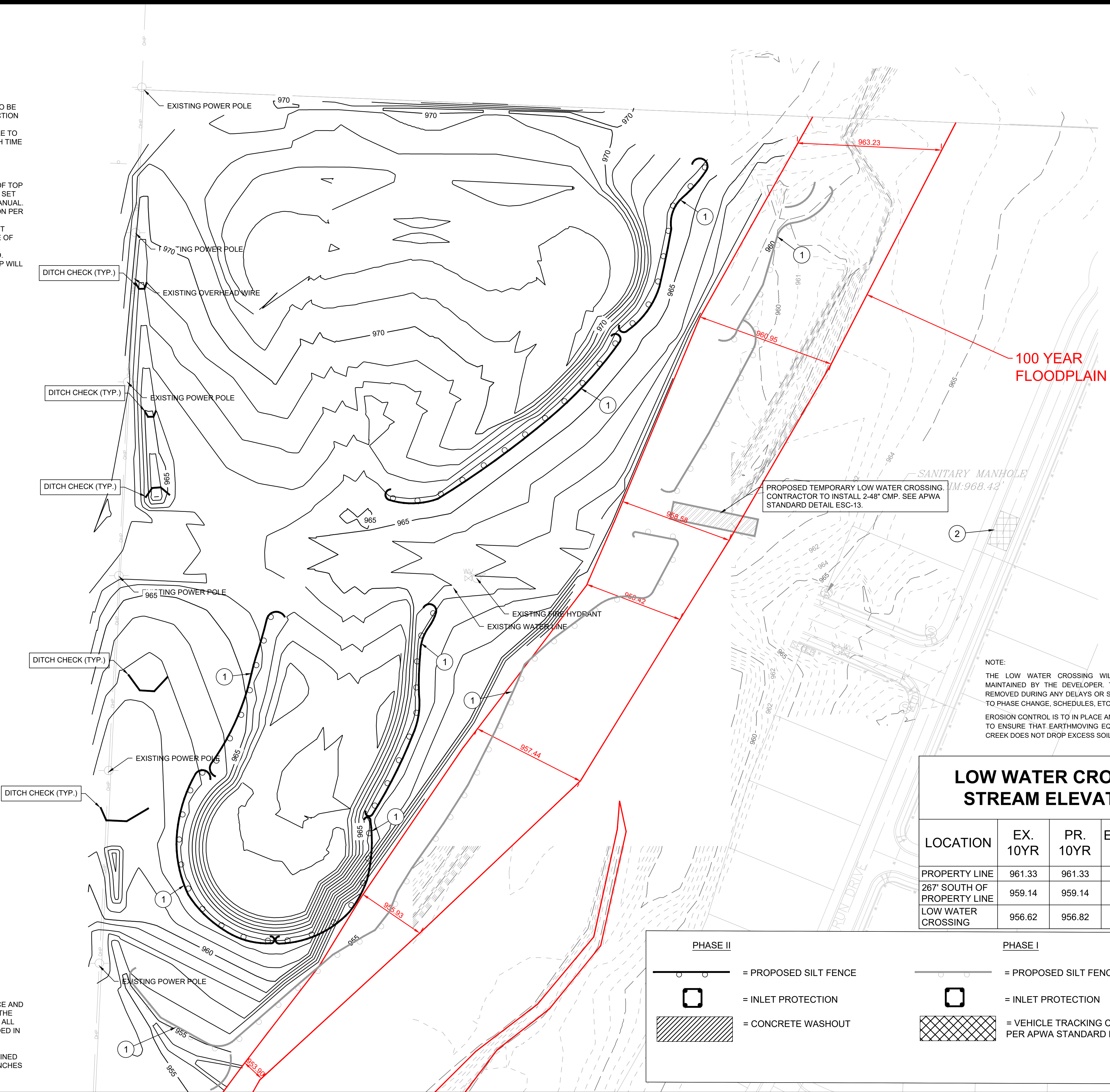
1. MASS GRADE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES 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



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

PHASE II		PHASE I	
	= PROPOSED SILT FENCE		= PROPOSED SILT FENCE
	= INLET PROTECTION		= INLET PROTECTION
	= CONCRETE WASHOUT		= VEHICLE TRACKING CONTROL. INSTALL PER APWA STANDARD DETAIL ESC-01.

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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.

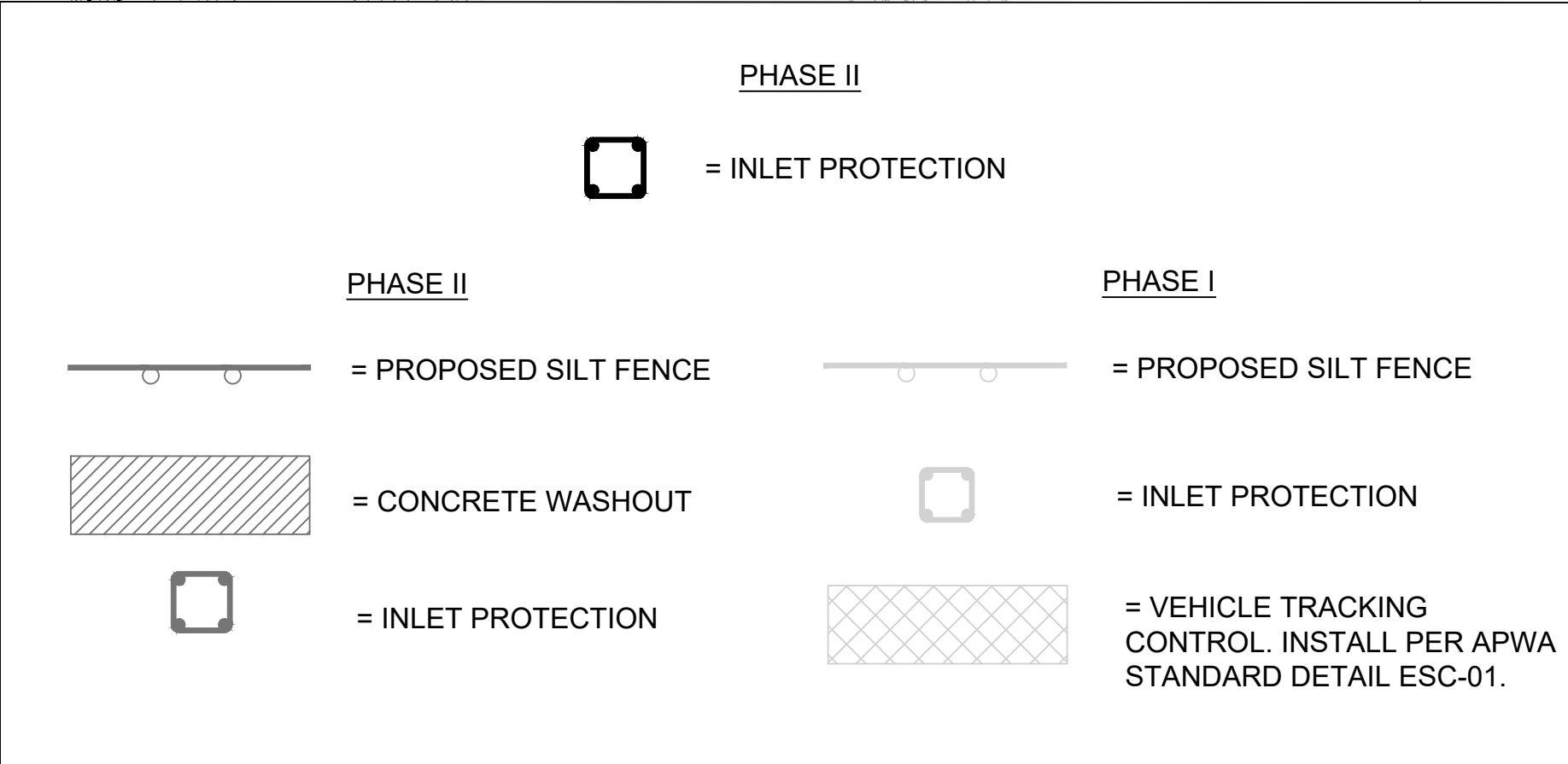
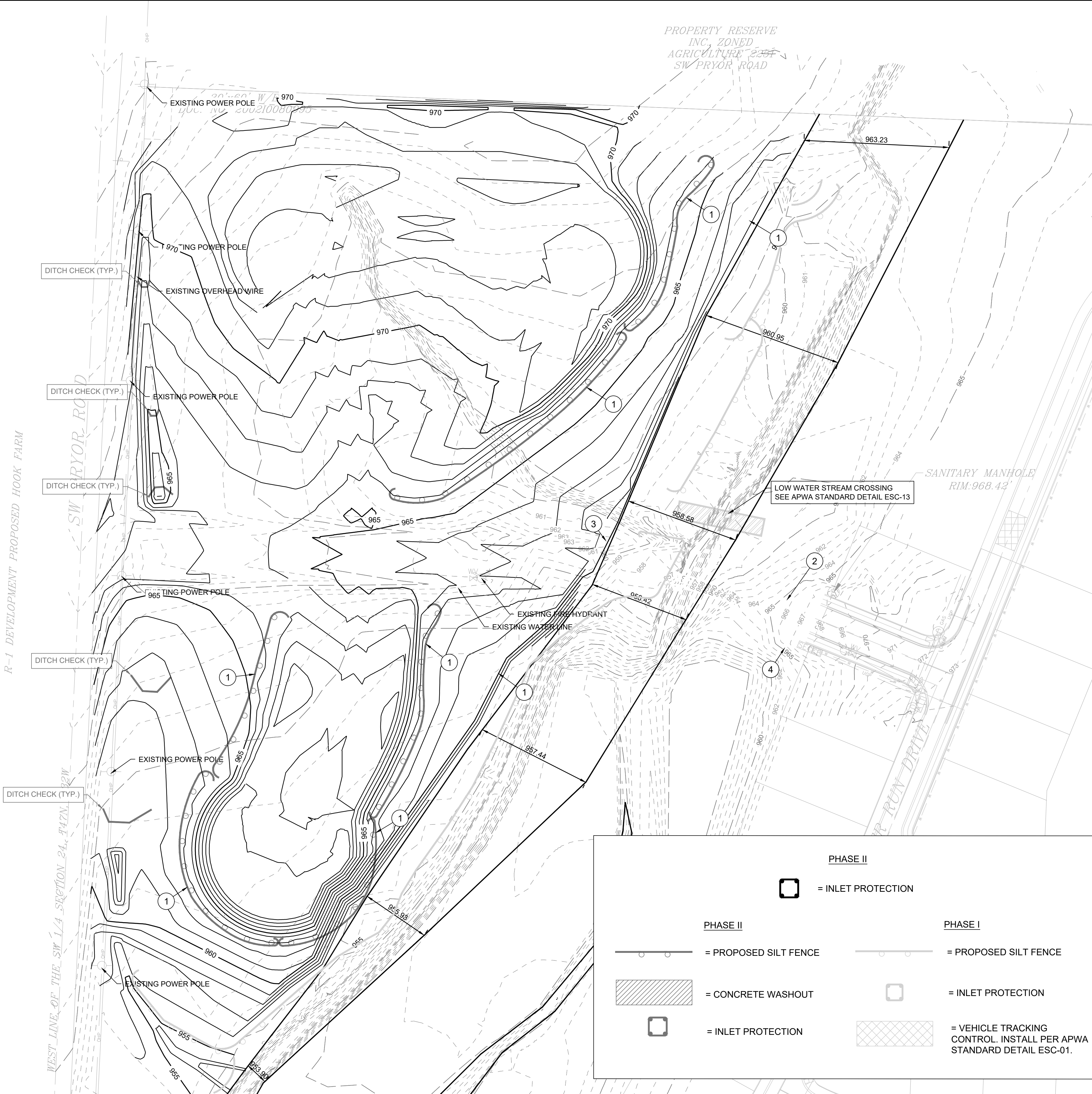
NOTE  
ALL SLOPES GREATER THAN 4:1 WILL BE EVALUATED FOR USE OF MATS/BLANKETS

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.



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

LEE'S SUMMIT, MO

**SNYDER & ASSOCIATES**  
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ST. JOSEPH, MO 64501  
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Project No: 120.0485.11

Sheet 6



SHAWN DUKE - ENGINEER  
MO PE#2013006489

MARK	REVISION	DATE	BY
Engineer:	SD	Checked By: SD	Scale: 1"= 60'
Technician:	JS	Date: 3-18-21	Field Bk: Pg:
Snyder & Associates Engineers & Planners, Inc.			Sheet 6
Missouri State Certificate of Authority #200006544			



PHASE 1 WORK SCHEDULE

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

PHASE 2 WORK SCHEDULE

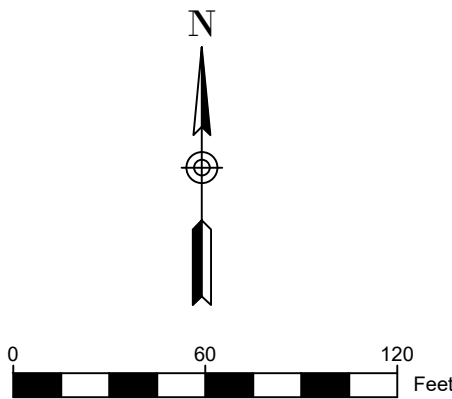
1. GRADE ENTIRE SITE AS SHOWN.
2. SEED AND MULCH AREAS THAT ARE COMPLETED WITHIN TWO WEEKS.
3. METHODS AND MATERIALS TO CONTROL SEDIMENTATION AND EROSION ARE TO BE INCORPORATED INTO THE GRADING OPERATIONS AS SHOWN OR AT THE DIRECTION OF THE CITY ENGINEER. UPON COMPLETION OF GRADING OPERATIONS, SUCH FACILITIES 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.
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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.

R-1 DEVELOPMENT PROPOSED HOOK FARM

WEST LINE OF THE SW 1/4 SECTION 24, T47N, R32W

SW PRYOR ROAD



WHISPERING WOODS 3RD PLAT  
EROSION & SEDIMENT CONTROL PLANS  
FINAL RESTORATION PLAN

LEE'S SUMMIT, MO

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Project No: 120.0485.11

Sheet 7



SHAWN DUKE - ENGINEER  
MO PE#2013006489

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 60'	
Technician: JS	Date: 10-11-21	Field Bk: Pg:	
Snyder & Associates Engineers & Planners, Inc.			Sheet 7
Missouri State Certificate of Authority #2000006544			



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**LEGEND:**

- = EXISTING CONTOUR
- = PROPOSED CONTOUR
- = 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.

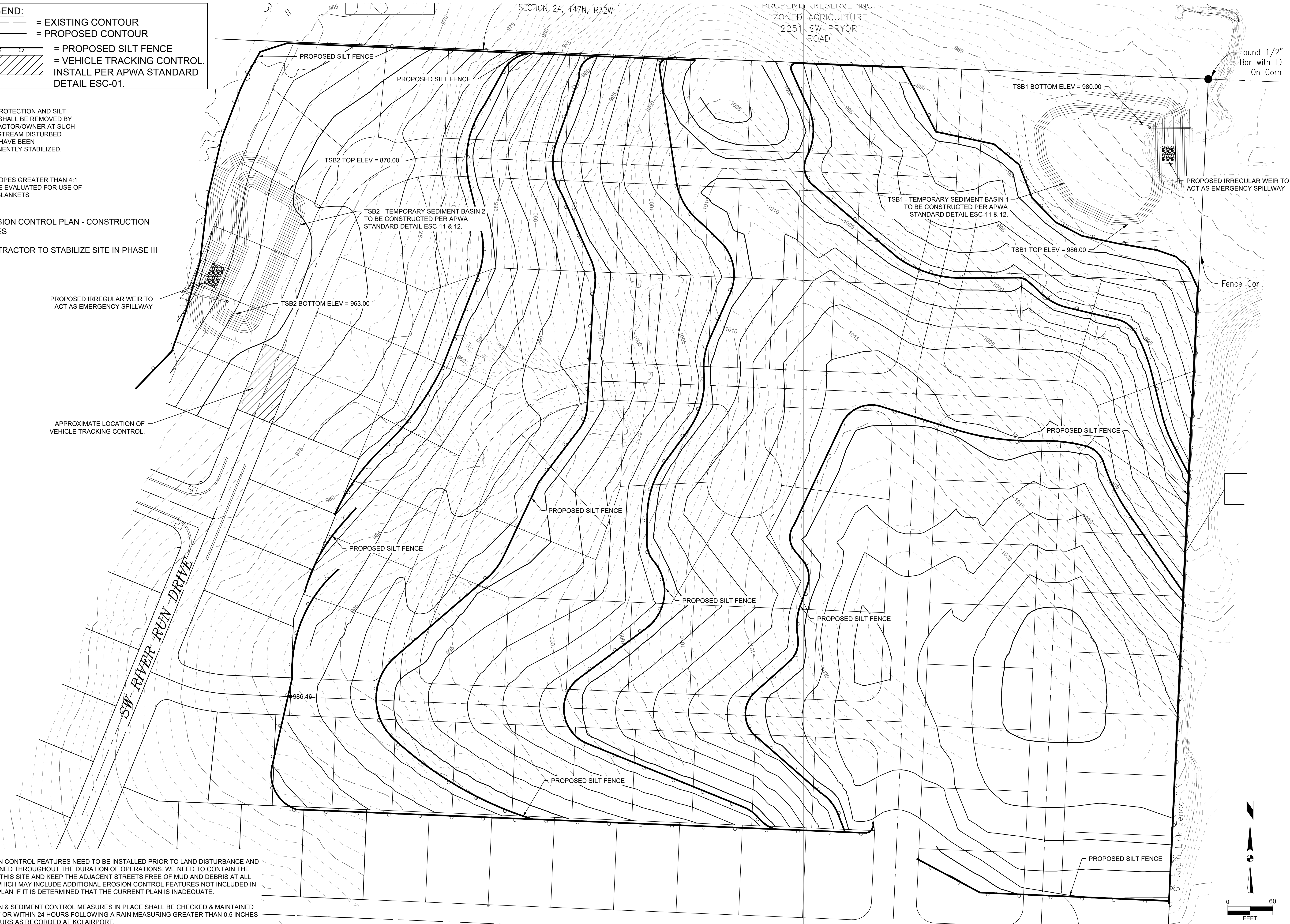
**NOTE**  
ALL SLOPES GREATER THAN 4:1  
WILL BE EVALUATED FOR USE OF  
MATS/BLANKETS

**EROSION CONTROL PLAN - CONSTRUCTION  
NOTES**

CONTRACTOR TO STABILIZE SITE IN PHASE 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  
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WEEKLY OR WITHIN 24 HOURS FOLLOWING A RAIN MEASURING GREATER THAN 0.5 INCHES  
IN 24 HOURS AS RECORDED AT KCI AIRPORT.



MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 60'	
Technician: JS	Date: 10-11-21	Field Bk:	Pg:

Shawm Duke - Engineer  
MO PE#2013006489

SHAWN DUKE - ENGINEER  
MO PE#2013006489

WHISPERING WOODS 3RD PLAT  
EROSION & SEDIMENT CONTROL PLANS  
EAST OVERALL EROSION CONTROL PLAN

LEE'S SUMMIT, MO

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Project No: 120.0485.11

Sheet 8

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

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PHASE 3 WORK SCHEDULE

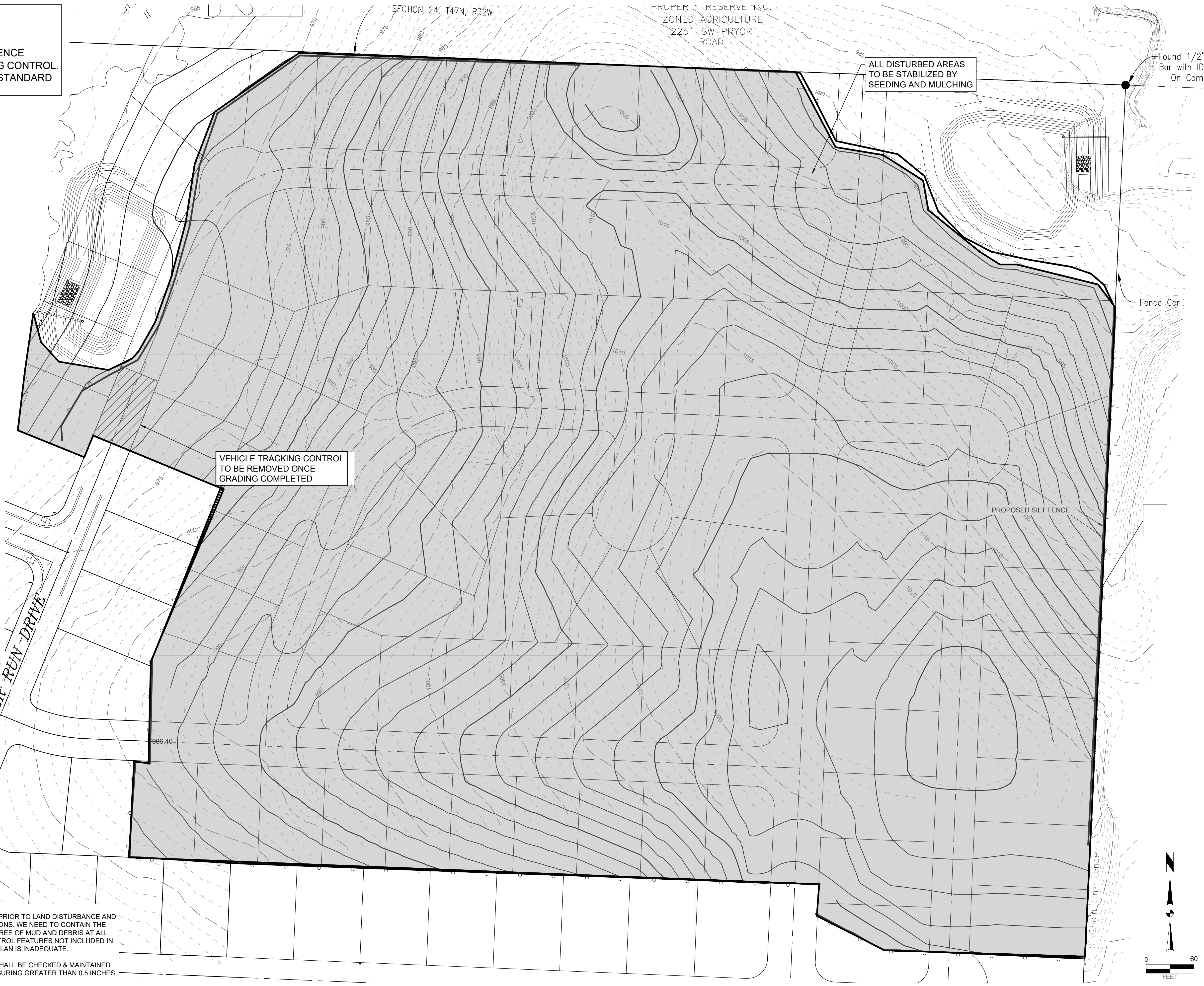
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MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1"= 60'	
Technician: JS	Date: 10-11-21	Field Bk: Pg: 9	
Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200608544			

SHAWN DUKE - ENGINEER  
MO PE#2013006489

WHISPERING WOODS 3RD PLAT  
EROSION & SEDIMENT CONTROL PLANS

EAST FINAL RESTORATION PLAN

LEE'S SUMMIT, MO

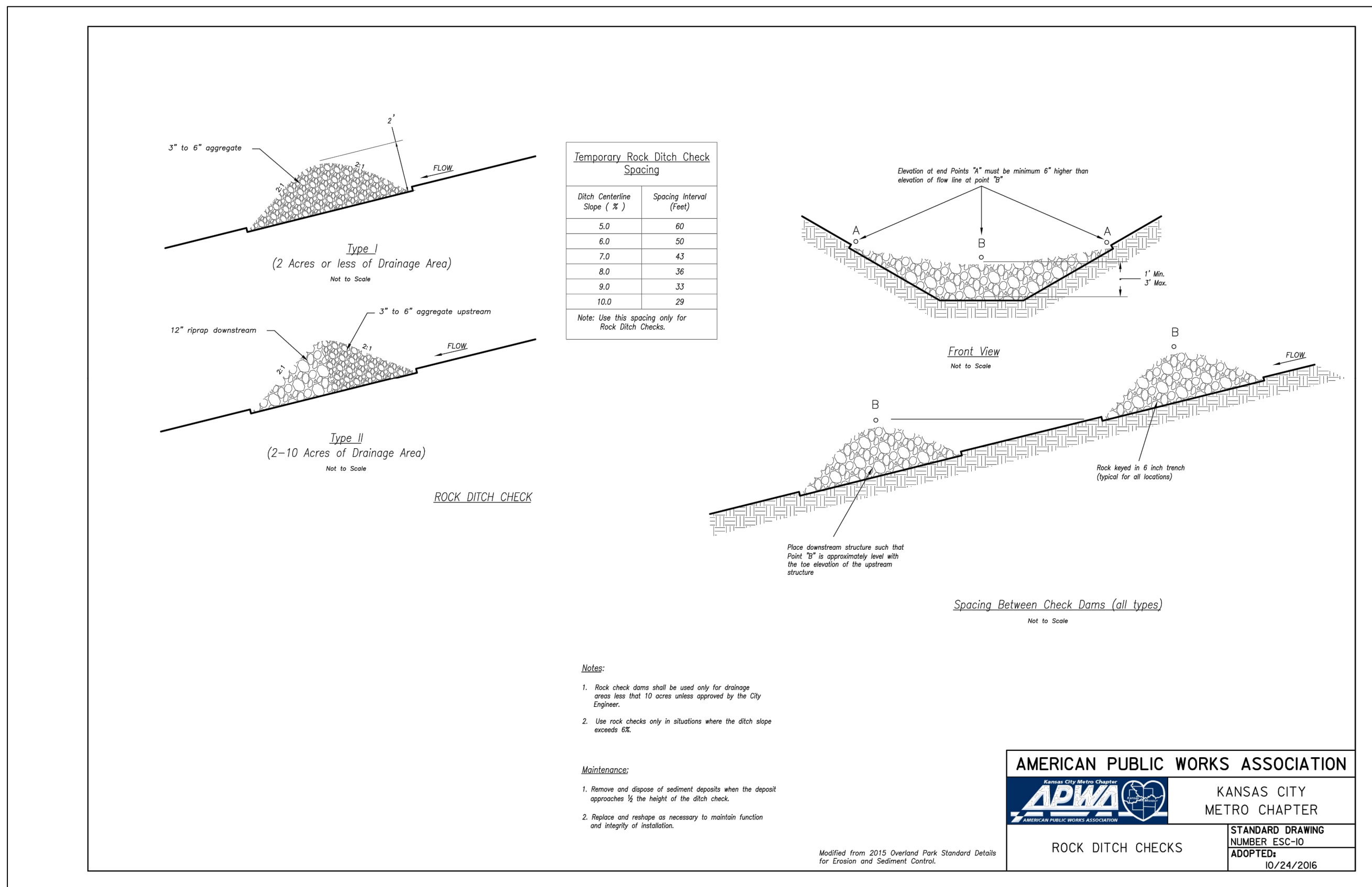
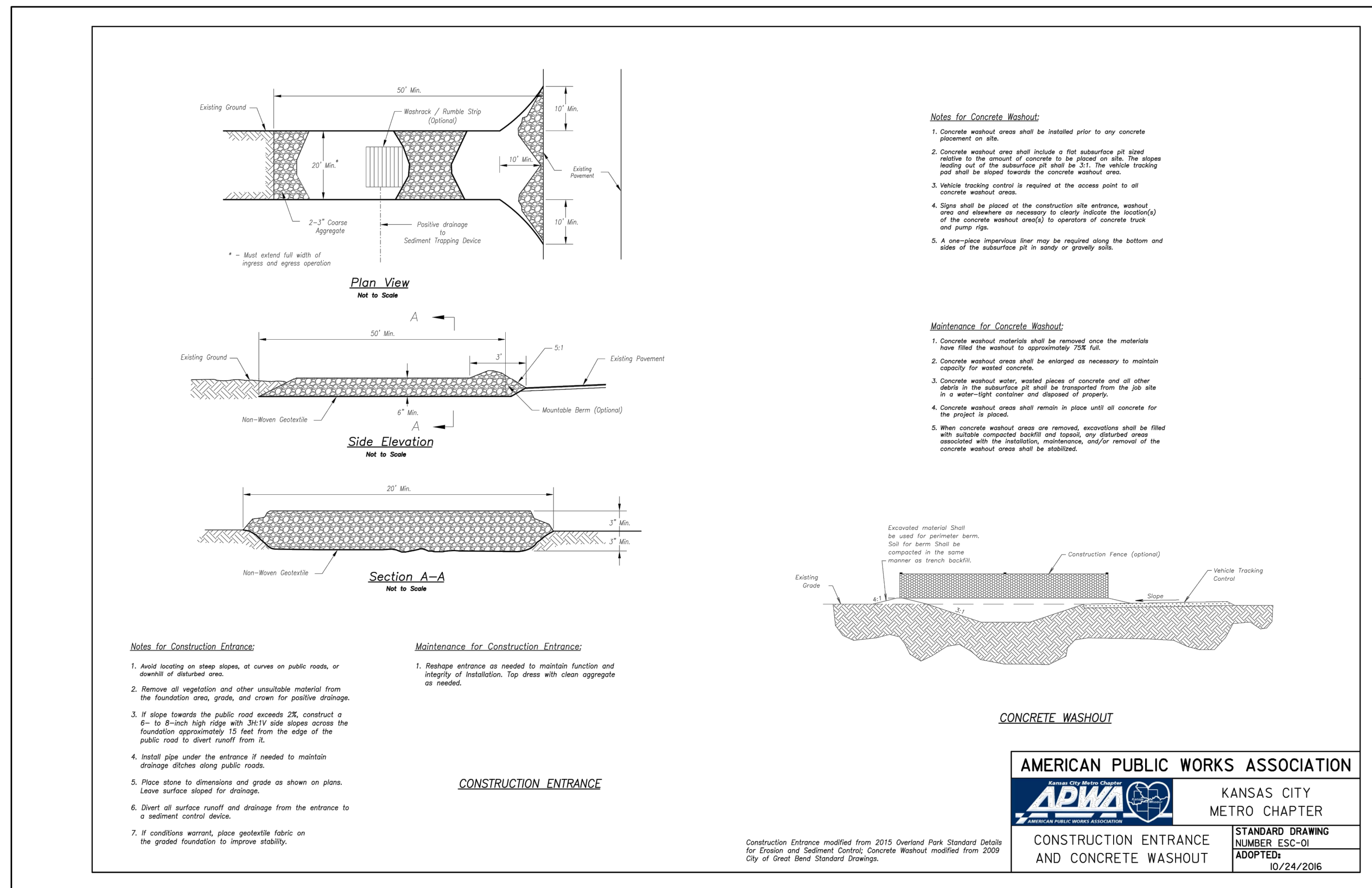
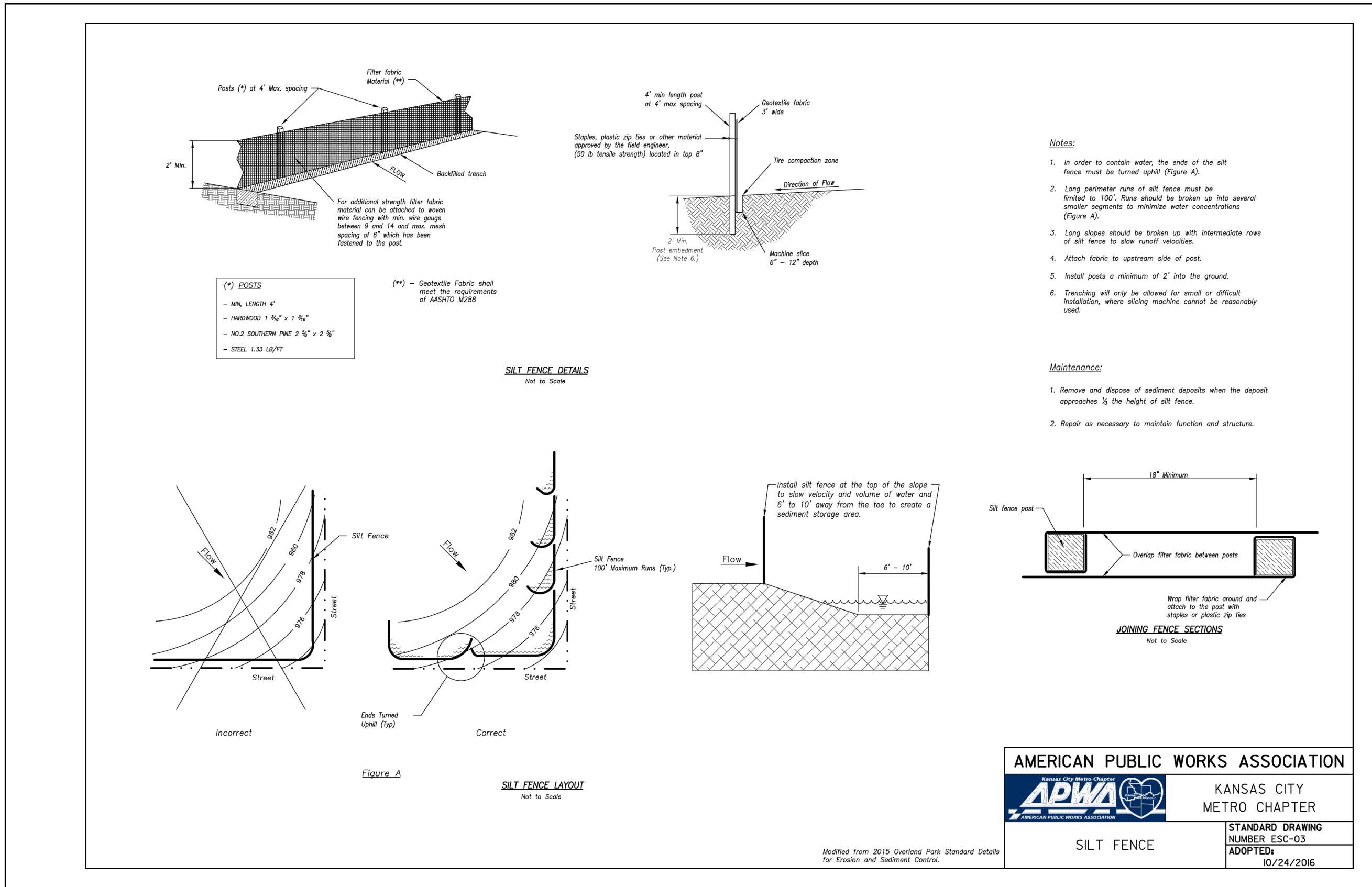
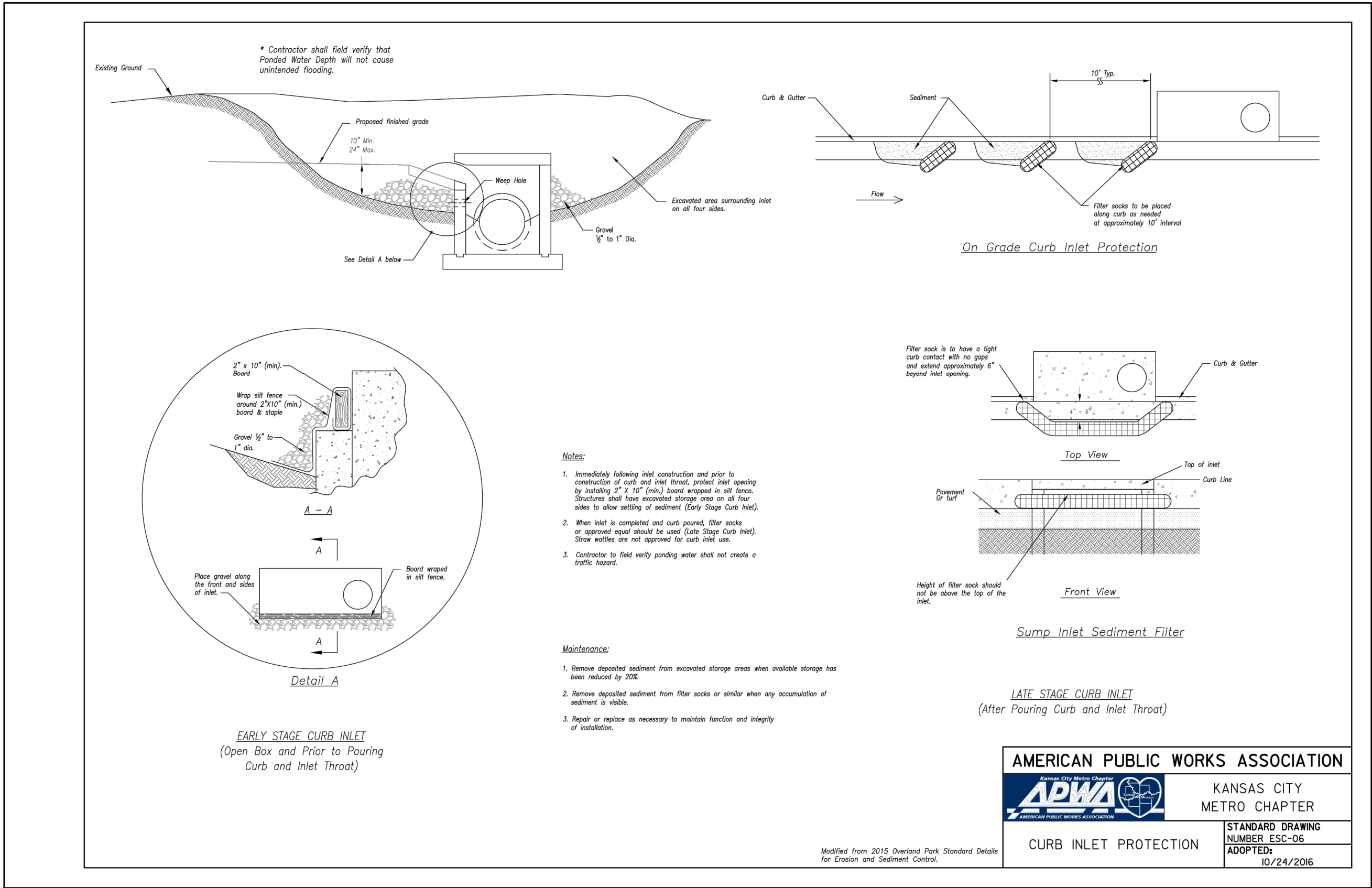
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Project No: 120.0485.11

Sheet 9





MARK	REVISION	DATE	BY
		11-21-10	NA
Engineer:	SD	Checked By:	SD
Technician:	JS	Date:	10-11-21
		Field Bk:	
		Pg:	
		Sheet	10



SHAWN DUKE - ENGINEER  
MO PE#2013006489

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816-364-5222

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

**SNYDER & ASSOCIATES**  
ENGINEERS & PLANNERS, INC.

Project No: 120.0485.11  
Sheet 10



ELEVATION

Maintenance:

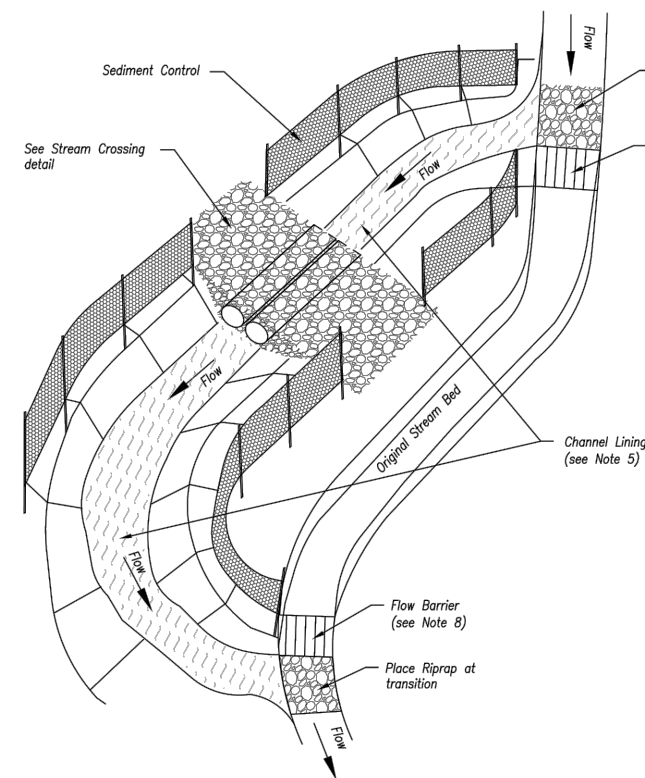
1. Repair stream bank erosion by stabilizing with erosion control BMPs such as erosion control blankets.
2. For in-stream degradation, armor the culvert outlet(s) with riprap to dissipate energy.
3. If sediment or debris is accumulating upstream of the crossing remove as needed to maintain the functionality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

### Notes for Temporary Stream Crossing

2. Clearing and excavation of the stream bed and banks shall be performed in accordance with the following:
  - a. Place one pipe, buried 6" into the stream bottom, at the lowest point of the channel to allow the passage of aquatic organisms. The pipe shall be placed in the center of the stream channel bottom such that ordinary water velocity is maintained. The pipe shall be placed in the stream bed through the pipes without overlapping the crossing. (See Specification for more information.)
  - b. Scatter rocks and gravel over the streambed and streambanks prior to placement of the pipe culvert and aggregate. The rocks shall be placed in the streambed in a layer of 8 inches and a maximum of 1' foot beyond the end of the culvert. The rocks shall be placed in the streambed to reduce and improve crossing stability.
  - c. The culvert shall extend a minimum of 1' foot beyond the streambed and streambanks on both ends of the culvert. The culvert shall be covered with the culvert excited 40 feet in length.
  - d. 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 culvert aggregate.
  - e. As much as is no longer needed, including rocks, bedding and geotextile materials shall be removed. Removal of the culvert shall be done in a manner that does not require without construction equipment working in the channel.
  - f. Upon removal of the structure, the stream and banks shall immediately be stabilized with riprap. Riprap shall be placed in the stream bed to minimize the amount of sediment lost into the stream.

PLAN VIEW

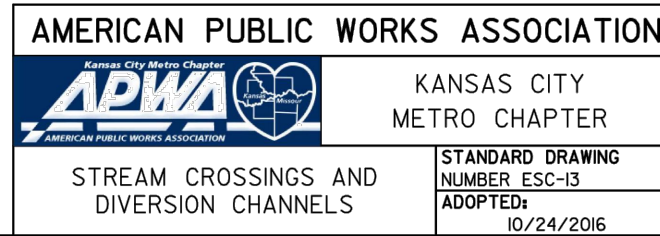
TEMPORARY STREAM CROSSING



Notes for Temporary Diversion Channel

7. The diversion channel crossing must be operational before the work is done in the stream. Construction will be performed in the dry.
8. Minimum width of bottom shall be 6 feet or equal to bottom width of existing streambed, whichever is less.
9. Maximum steepness of side slopes shall be 2H:1V. Depth and grade may be variable, depending on site conditions. But shall be sufficient to drain the stream bed.
10. Channel must be lined with riprap or turf reinforcement mat depending on the expected velocity and shear stress in the channel.
11. Stream diversion liners shall be secured at the upstream and downstream divisions with non-erodible weights such as riprap. These weights shall allow normal flow of the stream. Soil and vegetation shall be secured at the downstream division. Additional weights may be needed along the diversion's length to secure line.
12. Stream diversion liners shall be entrenched at the top of slopes.
13. Non-erodible materials such as riprap, armor barriers, and bags, plywood, or sheet piling shall be used as flow barriers to divert the stream away from it's original channel and into the diversion.
14. Stream should be re-routed 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.



SHAWN DUKE - ENGINEER  
MO PE#2013006489

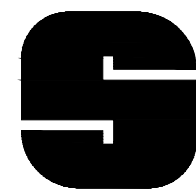
## WHISPERING WOODS 3RD PLAT EROSION & SEDIMENT CONTROL PLANS

LEE'S SUMMIT, MO

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

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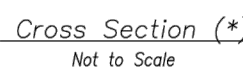
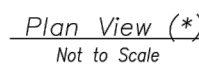


**SNYDER**  
**& ASSOCIATES**

Project No: 120.0485.11

Sheet 11





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.

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

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

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



SKIMMER DETAIL (Typ.) \*

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



ANTI-SEEPAGE COLLAR LOCATIONS



## CORRUGATED METAL

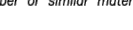
Not to Scale



PARTIAL ELEVATION




### Option B – Coir Fiber Material



### BAFFLE DETAILS

Not to Scale

<b>AMERICAN PUBLIC WORKS ASSOCIATION</b> Kansas City Metro Chapter  <b>KANSAS CITY METRO CHAPTER</b>	
<b>SEDIMENT BASIN - DETAILS</b>	<b>STANDARD DRAWING NUMBER ESC-12 ADOPTED:</b> 10/24/2016