

4. NOI & NOC



4.1.3. ARE THERE BUFFER ZONE EXEMPTIONS (4.1.2.1)? YES NO
IF YES, EXISTING CONDITIONS DESCRIPTION: _____

4.2. OUTFALL INFORMATION :
A SEDIMENT BASIN OR EQUIVALENT MEASURE(S) WILL BE PROVIDED FOR ANY OUTFALL IN A DRAINAGE AREA:
4.2.1. OF TEN ACRES OR MORE FOR AN OUTFALL(S) THAT DOES NOT DISCHARGE TO AN IMPAIRED STREAM OR KNOWN EXCEPTIONAL TENNESSEE WATERS (3.5.3.3) OR
4.2.2. OF FIVE ACRES OR MORE FOR AN OUTFALL(S) THAT DISCHARGES TO AN IMPAIRED STREAM OR KNOWN EXCEPTIONAL TENNESSEE WATERS (5.4.1.f).
4.2.3. OUTFALL TABLE (3.5.1.d, 5.4.1.f).

SEE SWPPP SHEET S-6 FOR OUTFALL INFORMATION.

4.2.4. WHERE POSSIBLE, HAS NON-PROJECT RUN-ON BEEN DIVERTED THROUGH THE PROJECT SO THAT THE OFF-SITE RUN-ON WILL NOT FLOW OVER DISTURBED AREAS WITHIN THE ROW, THUS SEPARATING NON-PROJECT RUN-OFF FROM PROJECT RUN-OFF THEREBY REDUCING THE DRAINAGE AREA TO ANY ONE OUTFALL? YES NO N/A
4.2.5. ARE EQUIVALENT MEASURES BEING SUBSTITUTED FOR A SEDIMENT BASIN(S)? YES NO N/A
4.2.6. HAVE ALL OUTFALLS BEEN LABELED ON THE EPSC PLAN SHEETS (3.5.1.g, 5.4.1.f)? YES NO
4.2.7. HAVE ALL OUTFALLS BEEN LABELED ON A USGS TOPOGRAPHIC MAP INCLUDED IN THE "DOCUMENTATION AND PERMITS" BINDER (2.6.2)? YES NO

4.3. WETLAND INFORMATION
WILL CONSTRUCTION AND/OR EROSION AND SEDIMENT CONTROLS IMPACT ANY WETLANDS? YES NO
IF YES, THE STRUCTURAL EPSC MEASURES HAVE BEEN INCLUDED IN THE TOTAL PROJECT WETLAND IMPACTS AND HAVE BEEN INCLUDED IN THE ARAP PERMIT, 401 OR 404 PERMITS.

WETLAND INFORMATION				
WETLAND LABEL	FROM STATION LT OR RT	TO STATION LT OR RT	TEMPORARY IMPACTS (AC)	PERMANENT IMPACTS (AC)
WTL-1	102+00 LT	116+00 LT	0	0

4.4. TOTAL MAXIMUM DAILY LOADS (TMDL) INFORMATION (3.5.10)
4.4.1. IS THIS PROJECT LOCATED IN A WATERSHED THAT MAINTAINS AN EPA APPROVED TMDL FOR SILTATION? YES NO
4.4.2. IF YES, IS THIS PROJECT LOCATED WITHIN A SUBWATERSHED WITH A WASTE LOAD ALLOCATION (WLA)? YES NO
4.4.3. IF YES, DOES THE PROJECT HAVE A DIRECT DISCHARGE TO A 303(d) LISTED STREAM FOR SILTATION OR HABITAT ALTERATION? YES NO
4.4.4. IF YES, HAS A SUMMARY OF THE CONSULTATION (LETTER) BEEN INCLUDED WITH THE SWPPP DOCUMENTATION? YES NO

4.5. ECOLOGY INFORMATION (3.5.5.e)
IF SPECIAL NOTES ARE PRESENT IN THE TDOT ECOLOGY REPORT, HAVE THEY BEEN ADDED TO THE APPROPRIATE PLAN SHEETS?
YES NO NO NOTES REQUIRED
IF YES, LIST ALL PLAN SHEETS WHERE SPECIAL NOTES HAVE BEEN ADDED.

5. **EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES** (3.5.3)
5.1. EPSC MEASURES MUST BE DESIGNED, INSTALLED AND MAINTAINED TO CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE EROSION (4.1.1).

5.2. EPSC MEASURES MUST CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOWS AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS, STREAM CHANNELS AND STREAM BANKS. (4.1.1)
5.3. HAVE THE CONTROL MEASURES BEEN DESIGNED ACCORDING TO THE SIZE AND SLOPE OF THE DISTURBED DRAINAGE AREA (3.5.3.3)? YES NO
5.4. THE CONTROL MEASURES HAVE, AT A MINIMUM, BEEN DESIGNED FOR THE 2-YEAR, 24 HOUR STORM EVENT (3.5.3.3, 5.4.1.a). FOR SITES THAT DISCHARGE INTO AN IMPAIRED OR KNOWN EXCEPTIONAL TENNESSEE WATERS, EPSC MEASURES WILL BE DESIGNED TO CONTROL STORM RUNOFF GENERATED BY A 5-YEAR, 24-HOUR STORM EVENT.
5.5. ARE THE LIMITS OF DISTURBANCE CLEARLY MARKED ON THE EPSC PLANS (3.5.1.n)? YES NO
5.6. HAVE PHASED EPSC PLANS BEEN PREPARED FOR THE PROJECT (3.5.2)? YES NO (IF YES, CHECK ONE BELOW)

5.6.1. PROJECT DISTURBED AREA IS THAN LESS THAN 5 ACRES (MINIMUM OF TWO PHASES OF EPSC PLANS)
5.6.2. PROJECT DISTURBED AREA IS GREATER THAN 5 ACRES (MINIMUM OF THREE PHASES OF EPSC PLANS)

5.7. IS ADDITIONAL PHYSICAL OR CHEMICAL TREATMENT OF STORMWATER RUNOFF NECESSARY (5.4.1.a)? YES NO
5.8. HAVE STEEP SLOPES (GREATER THAN 35%) BEEN MINIMALLY DISTURBED AND/OR PROTECTED BY CONVEYING RUNOFF NON-EROSIVELY AROUND OR OVER THE SLOPE (3.5.3.2) (10. "STEEP SLOPE")? YES NO N/A
5.9. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE RESEARCHED, APPLIED IN ACCORDANCE WITH MANUFACTURE'S GUIDELINES AMD FULLY DESCRIBED ON THE EPSC PLANS (3.5.3.1.b).
5.10. ALL EPSC CONTROL MEASURES WILL BE INSTALLED ACCORDING TO TDOT STANDARDS (E.G. STANDARD DRAWINGS).
5.11. EPSC MEASURES WILL NOT BE INSTALLED IN A STREAM WITHOUT FIRST OBTAINING US COE SECTION 404, TDEC ARAP, AND TVA PERMITS.
5.12. DISCHARGES FROM DEWATERING ACTIVITIES ARE PROHIBITED UNLESS MANAGED BY CONTROLS PROVIDING EQUIVALENT LEVEL OF TREATMENT (FILTRATION) (4.14).
5.13. DISCHARGES FROM SEDIMENT BASINS AND IMPOUNDMENTS MUST USE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT, UNLESS INFEASIBLE (4.1.7).
5.14. THE CONTROL MEASURES LISTED IN THE QUANTITIES TABLE ON SHEET 12 HAVE BEEN SELECTED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES (3.5.3.1.b).
5.15. THE QUANTITIES REQUIRED FOR STABILIZED CONSTRUCTION EXITS PER TDOT STANDARDS HAVE BEEN SPECIFIED ON SHEET 2 & 12 (3.5.3.1.n).
5.16. STABILIZATION PRACTICES

PRE-CONSTRUCTION VEGETATIVE COVER WILL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 15 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA WILL BE SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED (3.5.3.1.h).
5.17. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS POSSIBLE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT STABILIZATION WILL BE COMPLETED WITHIN 14 DAYS AFTER ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IN THAT AREA. PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE (3.5.3.2).
5.18. STEEP SLOPES (3.5.3.2)
STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR STEEPER REGARDLESS OF HEIGHT. STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED.

6. **CONSTRUCTION SUPPORT ACTIVITIES - BORROW AND WASTE AREAS** (1.2.2)(3.5.3.1.g)
IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL AS INDICATED IN THE STATEWIDE STORMWATER MANAGEMENT PLAN (SSWMP).

7. **MAINTENANCE AND INSPECTION**

7.1. INSPECTION PRACTICES (3.5.8)
7.1.1. INSPECTORS MUST HAVE SUCCESSFULLY COMPLETED THE TDEC FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL COURSE (TDEC LEVEL I) AND MAINTAIN THE CERTIFICATION. A COPY OF THE INSPECTOR'S CERTIFICATION SHOULD BE KEPT ON SITE (3.5.8.1).
7.1.2. INSPECTIONS WILL BE CONDUCTED AT LEAST TWICE EVERY CALENDAR WEEK AND AT LEAST 72 HOURS A PART (3.5.8.2.a).
7.1.3. THE FREQUENCY OF EPSC INSPECTIONS MAY BE REDUCED TO ONCE A MONTH (I.E. EXTREME DROUGHT CONDITIONS, FROZEN GROUND, ETC.) WITH WRITTEN NOTIFICATION TO TDEC NASHVILLE CENTRAL OFFICE AND SUBSEQUENT TDEC APPROVAL. WRITTEN NOTIFICATION MUST INCLUDE THE INTENT TO CHANGE FREQUENCY AND JUSTIFICATION (3.5.8.2.a).
7.1.4. ALL DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR MATERIAL STORAGE THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AND EACH OUTFALL WILL BE INSPECTED (3.5.8.2.b).
7.1.5. THE INSPECTOR WILL OVERSEE THE REQUIREMENTS OF OTHER CONSTRUCTION-RELATED WATER QUALITY PERMITS (I.E. TDEC ARAP, US COE AND TVA SECTION 26a PERMITS) FOR CONSTRUCTION ACTIVITIES AROUND WATERS OF THE STATE (10 "INSPECTOR").
7.1.6. THE SWPPP WILL BE REVISED AS NECESSARY BASED ON THE RESULTS OF THE INSPECTION. REVISION(S) WILL BE RECORDED WITHIN 7 DAYS OF THE INSPECTION. REVISION(S) WILL BE IMPLEMENTED WITHIN 14 DAYS OF THE INSPECTION (3.8.5.2.e AND 3.8.5.2.f).
7.1.7. THE INSPECTOR SHALL CONDUCT PRE-CONSTRUCTION INSPECTIONS TO VERIFY AREAS THAT ARE NOT TO BE DISTURBED HAVE BEEN MARKED IN THE SWPPP AND IN THE FIELD BEFORE LAND DISTURBANCE ACTIVITIES BEGIN AND INITIAL MEASURES HAVE BEEN INSTALLED (10 "INSPECTOR") (3.5.1.n).
7.1.8. INSPECTIONS WILL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT (TDEC PRE-APPROVED) AND INCLUDE THE SCOPE OF THE INSPECTION, NAME(S), TITLE AND TN EPSC CERTIFICATION NUMBER OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, CURRENT APPROXIMATE DISTURBED ACREAGE AT TIME OF INSPECTION, CHECKLIST (NOC, SWPPP, RAIN GAUGE, SITE CONTACT INFORMATION, ETC.) AND MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWPPP (3.5.8.2.g).
7.1.9. DOCUMENTATION OF INSPECTIONS WILL BE MAINTAINED ON SITE IN THE "DOCUMENTATION AND PERMITS" BINDER. REPORTS WILL BE SUBMITTED TO THE TDOT PROJECT SUPERVISOR PER THE CONTRACT.
7.1.10. THESE INSPECTION REQUIREMENTS DO NOT APPLY TO DEFINABLE AREAS OF THE SITE THAT HAVE MET FINAL STABILIZATION REQUIREMENTS AND HAVE BEEN NOTED IN THE SWPPP.
7.1.11. TRAINED CERTIFIED INSPECTORS SHALL COMPLETE INSPECTION DOCUMENTATION TO THE BEST OF THEIR ABILITY. FALSIFYING INSPECTION RECORDS OR OTHER DOCUMENTATION OR FAILURE TO COMPLETE INSPECTION DOCUMENTATION SHALL RESULT IN A VIOLATION OF THIS PERMIT AND ANY OTHER APPLICABLE ACTS OR RULES (3.8.5.2.h).
7.2. DULY AUTHORIZED REPRESENTATIVE (7.7.3)
THE PROJECT SUPERVISOR MAY DELEGATE AN INDIVIDUAL AND/OR CONSULTANT TO SIGN EPSC INSPECTIONS REPORTS. FOR SATISFYING SIGNATORY REQUIREMENTS FOR EPSC INSPECTION REPORTS, THE PROJECT SUPERVISOR AND NEWLY AUTHORIZED INDIVIDUAL ACCEPTING RESPONSIBILITY MUST PERFORM THE FOLLOWING:
7.2.1. COMPLETE AND SIGN THE TDOT CONSTRUCTION DIVISION EPSC DELEGATION OF AUTHORITY.
7.2.2. SUBMIT THE EPSC DELEGATION OF AUTHORITY TO THE LOCAL TDEC EFO.
7.3. MAINTENANCE PRACTICES (3.5.3.1 AND 3.5.7)
7.3.1. ALL CONTROLS WILL BE MAINTAINED IN GOOD AND EFFECTIVE OPERATING ORDER. NECESSARY REPAIRS OR MAINTENANCE WILL BE ACCOMPLISHED BEFORE THE NEXT STORM EVENT AND IN NO CASE MORE THAN 24 HOURS AFTER THE NEED IS IDENTIFIED. IN A CASE WHERE THE ACTIVITY IS DEEMED IMPRACTICABLE, ANY SUCH CONDITIONS WILL BE DOCUMENTED (3.5.8.2.e).
7.3.2. ALL CONTROLS WILL BE MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES. (3.5.3.1.b)

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	16945-3473-04	S-3
P.E.	2014	16945-1473-04	

- 7.3.3. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS, SILT FENCE, SEDIMENT BASINS, AND OTHER CONTROLS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50% (3.5.3.1.e).
- 7.3.4. CHECK DAMS WILL BE INSPECTED FOR STABILITY. SEDIMENT WILL BE REMOVED WHEN DEPTH REACHES ONE-HALF (½) THE HEIGHT OF THE DAM.
- 7.3.5. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF OF THE SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EROSION CONTROL WILL BE REMOVED (3.5.3.1.f).
- 7.3.6. ALL SEEDED AREAS WILL BE CHECKED FOR BARE SPOTS, EROSION WASHOUTS, AND VIGOROUS GROWTH FREE OF SIGNIFICANT WEED INFESTATIONS.
- 7.3.7. THE TDOT PROJECT SUPERVISOR OR THEIR DESIGNEE AND THE CONTRACTOR'S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT PROJECT SUPERVISOR OR THEIR DESIGNEE WILL COMPLETE THE INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

8. SITE ASSESSMENTS (3.1.2)

QUALITY ASSURANCE SITE ASSESSMENTS OF EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE PERFORMED BY THE TDOT ENVIRONMENTAL DIVISION COMPREHENSIVE INSPECTIONS OFFICE GUIDELINES.

9. STORMWATER MANAGEMENT (3.5.4)

9.1. STORMWATER MANAGEMENT WILL BE HANDLED BY TEMPORARY CONTROLS OUTLINED IN THIS SWPPP AND ANY PERMANENT CONTROLS NEEDED TO MEET PERMANENT STORMWATER MANAGEMENT NEEDS IN THE POST CONSTRUCTION PERIOD. PERMANENT CONTROLS WILL BE SHOWN ON THE PLANS AND NOTED AS PERMANENT.

9.2. DESCRIBE ANY SPECIFIC POST-CONSTRUCTION MEASURES THAT WILL CONTROL VELOCITY, POLLUTANTS, AND/OR EROSION (3.5.1.F, 3.5.4): N/A

9.3. OTHER ITEMS NEEDING CONTROL (3.5.5)

9.3.1. CONSTRUCTION MATERIALS

THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

- 9.3.1.1. LUMBER, GUARDRAIL, TRAFFIC CONTROL DEVICES
- 9.3.1.2. CONCRETE WASHOUT
- 9.3.1.3. CONCRETE AND CORRUGATED METAL PIPES
- 9.3.1.4. MINERAL AGGREGATES, ASPHALT
- 9.3.1.5. EARTH
- 9.3.1.6. LIQUID TRAFFIC STRIPING MATERIALS, PAINT
- 9.3.1.7. ROCK
- 9.3.1.8. CURING COMPOUND
- 9.3.1.9. EXPLOSIVES
- 9.3.1.10. OTHER

THESE MATERIALS WILL BE HANDLED AS NOTED IN THIS SWPPP.

9.3.2. WASTE MATERIALS (3.5.5.b)

WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S) CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

9.3.3. HAZARDOUS WASTE (3.5.5.c) (7.9)

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S ON-SITE REPRESENTATIVE WILL BE RESPONSIBLE FOR SEEING THAT THESE

PRACTICES ARE FOLLOWED. THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

9.3.4. SANITARY WASTE (3.5.5.b)

PORTABLE SANITARY FACILITIES WILL BE PROVIDED ON ALL CONSTRUCTION SITES. SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY LOCAL REGULATIONS. THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

9.3.5. OTHER MATERIALS

THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

- 9.3.5.1. FERTILIZERS AND LIME
 - 9.3.5.2. PESTICIDES AND/OR HERBICIDES
 - 9.3.5.3. DIESEL AND GASOLINE
 - 9.3.5.4. MACHINERY LUBRICANTS (OIL AND GREASE)
- THESE MATERIALS WILL BE HANDLED AS NOTED THIS SWPPP.

10. NON-STORMWATER DISCHARGES (3.5.9)

10.1. THE FOLLOWING NON-STORMWATER DISCHARGES ARE ANTICIPATED DURING THE COURSE OF THIS PROJECT (CHECK ALL THAT APPLY):

- 10.1.1. DEWATERING OF WORK AREAS OF COLLECTED STORMWATER AND GROUND WATER
- 10.1.2. WATERS USED TO WASH VEHICLES (OF DUST AND SOIL) WHERE DETERGENTS ARE NOT USED AND DETENTION AND/OR FILTERING IS PROVIDED BEFORE THE WATER LEAVES SITE
- 10.1.3. WATER USED TO CONTROL DUST (3.5.3.1.n)
- 10.1.4. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS FROM WHICH CHLORINE HAS BEEN REMOVED TO THE MAXIMUM EXTENT PRACTICABLE
- 10.1.5. UNCONTAMINATED GROUNDWATER OR SPRING WATER
- 10.1.6. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH POLLUTANTS
- 10.1.7. OTHER:

10.2. ALL ALLOWABLE NON-STORMWATER DISCHARGES WILL BE DIRECTED TO STABLE DISCHARGE STRUCTURES PRIOR TO LEAVING THE SITE. FILTERING OR CHEMICAL TREATMENT MAY BE NECESSARY PRIOR TO DISCHARGE.

10.3. THE DESIGN OF ALL IMPACTED EPSC MEASURES RECEIVING FLOW FROM ALLOWABLE NON-STORMWATER DISCHARGES MUST BE DESIGNED TO HANDLE THE VOLUME OF THE NON-STORMWATER COMPONENT.

10.4. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON-SITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

10.5. ARE ANY DISCHARGES ASSOCIATED WITH INDUSTRIAL (NON-CONSTRUCTION STORMWATER) ACTIVITY EXPECTED (3.5.1.h)?
YES NO IF YES, SPECIFY THE LOCATION OF THE ACTIVITY AND ITS PERMIT NUMBER.

11. SPILL PREVENTION, MANAGEMENT AND NOTIFICATION (3.5.5.c, 5.1)

11.1. SPILL PREVENTION (3.5.5.c)

11.1.1. MATERIAL MANAGEMENT

11.1.1.1. HOUSEKEEPING

ONLY PRODUCTS NEEDED WILL BE STORED ON-SITE BY THE CONTRACTOR. EXCEPT FOR BULK MATERIALS THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN POSSIBLE, ALL PRODUCTS WILL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFF SITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED. THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL. DUST GENERATED WILL BE CONTROLLED IN

AN ENVIRONMENTALLY SAFE MANNER. VEGETATION AREAS NOT ESSENTIAL TO THE CONSTRUCTION PROJECT WILL BE PRESERVED AND MAINTAINED AS NOTED ON THE PLANS.

11.1.1.2. HAZARDOUS MATERIALS

PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THE CONTAINER IS NOT RESEALABLE. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS WILL BE RETAINED IN A SAFE PLACE TO RELAY IMPORTANT PRODUCT INFORMATION. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S LABEL DIRECTIONS FOR DISPOSAL WILL BE FOLLOWED. MAINTENANCE AND REPAIR OF ALL EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, DE-GREASING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN THE ACCIDENTAL RELEASE OF CONTAMINANTS WILL BE CONDUCTED ON AN IMPERVIOUS SURFACE AND UNDER COVER DURING WET WEATHER TO PREVENT THE RELEASE OF CONTAMINANTS ONTO THE GROUND. WHEEL WASH WATER WILL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER WILL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM. POTENTIAL PH-MODIFYING MATERIALS SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHINGS AND CURING WATERS, CONCRETE PUMPING, AND MIXER WASHOUT WATERS WILL BE COLLECTED ON SITE AND MANAGED TO PREVENT CONTAMINATION OF STORMWATER RUNOFF.

11.1.1.3. PRODUCT SPECIFIC PRACTICES

11.1.1.3.1. PETROLEUM PRODUCTS: ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

11.1.1.3.2. FERTILIZERS: FERTILIZERS WILL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED BY TDOT. ONCE APPLIED, FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER. FERTILIZERS WILL BE STORED IN AN ENCLOSED AREA UNDER COVER. THE CONTENTS OF PARTIALLY USED FERTILIZER BAGS WILL BE TRANSFERRED TO SEALABLE CONTAINERS TO AVOID SPILLS.

11.1.1.3.3. PAINTS: ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. THE EXCESS WILL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

11.1.1.3.4. CONCRETE TRUCKS: CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED AND NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE. UPON COMPLETION OF CONSTRUCTION WASHOUT AREAS WILL BE PROPERLY STABILIZED.

11.2. SPILL MANAGEMENT

11.2.1. IN ADDITION TO THE PREVIOUS HOUSEKEEPING AND MANAGEMENT PRACTICES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP IF NECESSARY.

11.2.2. FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

11.2.3. APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE AND UNDER COVER. AS APPROPRIATE, EQUIPMENT AND MATERIALS MAY INCLUDE ITEMS SUCH AS BOOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR CLEAN UP PURPOSES.

11.2.4. ALL SPILLS WILL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	16945-3473-04	S-4
P.E.	2014	16945-1473-04	

- PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- 11.2.5. THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.
- 11.2.6. IF SPILLS REPRESENT AN IMMINENT THREAT OF ESCAPING THE SITE AND ENTERING RECEIVING WATERS, PERSONNEL WILL RESPOND IMMEDIATELY TO CONTAIN THE RELEASE AND NOTIFY THE SUPERINTENDENT AFTER THE SITUATION HAS BEEN STABILIZED.
- 11.2.7. IF OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.
- 11.2.8. IF A SPILL OCCURS THE SUPERINTENDENT OR THE SUPERINTENDENT'S DESIGNEE WILL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT SUPERVISOR.
- 11.2.9. SPILL RESPONSE EQUIPMENT WILL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.
- 11.3. SPILL NOTIFICATION (5.1)
WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD:
- 11.3.1. THE TDOT PROJECT SUPERVISOR IS RESPONSIBLE FOR NOTIFYING THE REGIONAL ENVIRONMENTAL COORDINATOR OR ASSISTANT REGIONAL ENVIRONMENTAL COORDINATOR AS SOON AS HE OR SHE HAS KNOWLEDGE OF THE DISCHARGE.
- 11.3.2. THE TDOT REGIONAL ENVIRONMENTAL COORDINATOR WILL NOTIFY THE LOCAL TDEC ENVIRONMENTAL FIELD OFFICE AND ANY OTHER APPLICABLE REGULATORY AGENCIES WITHIN 24 HOURS OF THE SPILL.
- 11.3.3. A WRITTEN DESCRIPTION OF THE RELEASE, DATE OF RELEASE AND CIRCUMSTANCES LEADING TO THE RELEASE, WHAT ACTIONS WERE TAKEN TO MITIGATE EFFECTS OF THE RELEASE, AND STEPS TAKEN TO MINIMIZE THE CHANCE OF FUTURE OCCURRENCES WILL BE SUBMITTED TO THE APPROPRIATE TDEC ENVIRONMENTAL FIELD OFFICE WITHIN 14 DAYS OF KNOWLEDGE OF THE RELEASE.
- 11.3.4. THE SWPPP MUST BE MODIFIED WITHIN 14 DAYS OF KNOWLEDGE OF THE RELEASE PROVIDING A DESCRIPTION OF THE RELEASE, CIRCUMSTANCES LEADING TO THE RELEASE, AND THE DATE OF RELEASE. THE SWPPP WILL BE REVIEWED AND MODIFIED AS NECESSARY TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES AND TO RESPOND TO SUCH RELEASES.

12. RECORD-KEEPING

12.1. REQUIRED RECORDS

- TDOT OR THEIR DESIGNEE WILL MAINTAIN AT THE SITE THE FOLLOWING RECORDS OF CONSTRUCTION ACTIVITIES (3.5.3.1.m) (6.2.1):
- 12.1.1. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR
- 12.1.2. THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE
- 12.1.3. THE DATES WHEN STABILIZATION MEASURES ARE INITIATED
- 12.1.4. RECORDS OF TWICE WEEKLY EPSC INSPECTION REPORTS AND CORRECTIVE MEASURES
- 12.1.5. RECORDS OF QUALITY ASSURANCE SITE ASSESSMENTS
- 12.1.6. COPY OF SITE EPSC INSPECTOR'S TDEC LEVEL 1 CERTIFICATION
- 12.1.7. RAINFALL MONITORING PLAN (3.5.3.1.o):

12.1.7.1. EQUIPMENT

AT A MINIMUM, THE CONTRACTOR WILL INSTALL A FENCE POST TYPE RAIN GAUGE TO MEASURE RAINFALL. THE STANDARD FENCE POST RAIN GAUGE WILL BE A WEDGE-SHAPED GAUGE THAT MEASURES UP TO 6 INCHES OF RAINFALL. AN ENGLISH SCALE WILL BE PROVIDED ON ONE FACE, WITH A METRIC SCALE ON THE OTHER FACE. GRADUATION WILL BE PERMANENTLY

MOLDED IN DURABLE WEATHER-RESISTANT PLASTIC. THE MINIMUM GRADUATION WILL BE 0.01 INCH (OR 0.1MM). AN ALUMINUM BRACKET WITH SCREWS MAY BE USED TO MOUNT THE GAUGE ON A WOODEN SUPPORT.

12.1.7.2. LOCATION

THE RAIN GAUGE WILL BE LOCATED AT OR ALONG THE PROJECT SITE, AS DEFINED IN THE NOI OF THE NPDES PERMIT, IN AN OPEN AREA SUCH THAT THE MEASUREMENT WILL NOT BE INFLUENCED BY OUTSIDE FACTORS (I.E. OVERHANGS, GUTTER, TREES, ETC). AT LEAST ONE RAIN GAUGE PER LINEAR MILE IS REQUIRED ALONG (AS MEASURED ALONG THE CENTERLINE OF THE PRIMARY ALIGNMENT) THE PROJECT WHERE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING IS ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED.

12.1.7.3. METHODS

12.1.7.3.1. RAINFALL MONITORING WILL BE INITIATED PRIOR TO CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING, OR FILLING, EXCEPT AS SUCH MINIMAL CLEARING MAY BE NECESSARY TO INSTALL A RAIN GAUGE IN AN OPEN AREA. THE RAIN GAUGE WILL BE CHECKED FOR OPERATIONAL SOUNDNESS DAILY (DURING NORMAL BUSINESS HOURS) IN WET TIMES AND WEEKLY IN DRY TIMES. GAUGES WILL BE REPAIRED OR REPLACED ON THE SAME DAY IF FOUND TO BE NON-OPERATIONAL OR MISSING.

12.1.7.3.2. EACH RAIN GAUGE WILL BE READ (FOR DETAILED RECORDS OF RAINFALL) AND EMPTIED AFTER EVERY RAINFALL EVENT OCCURRING ON THE PROJECT SITE AT APPROXIMATELY THE SAME TIME OF THE DAY (DURING NORMAL BUSINESS HOURS). DURING PERIODS OF DRY CONDITIONS, IT WILL NOT BE NECESSARY TO READ THE RAIN GAUGE EVERY DAY. IN LIEU OF THIS REQUIREMENT ON WEEKENDS AND ON STATE HOLIDAYS, THE RAIN GAUGES CAN BE EMPTIED THE NEXT BUSINESS DAY AND A REFERENCE SITE USED FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION FOR THOSE DAYS. A REFERENCE SITE IS THE DOCUMENTATION FROM THE CLOSEST GAUGE WITHIN PROXIMITY OF THE PROJECT FROM A RECOGNIZED SOURCE SUCH AS THE NOAA NATIONAL WEATHER SERVICE.

12.1.7.3.3. DETAILED RECORDS WILL BE RECORDED OF RAINFALL EVENTS INCLUDE DATES, AMOUNTS OF RAINFALL, AND THE APPROXIMATE DURATION (OR THE STARTING AND ENDING TIMES). THE RAINFALL RECORDS SHALL BE RECORDED ON THE TDOT EROSION AND SEDIMENT CONTROL CONSTRUCTION INSPECTION REPORT LOCATED IN CONSTRUCTION CIRCULAR 209.01-02 AND SHALL BE MAINTAINED IN THE "DOCUMENTATION AND PERMITS" BINDER.

12.1.7.3.4. IF, IN THE EVENT THAT THE RAINFALL EVENT IS STILL IN PROGRESS AT THE DAILY RECORDING TIME, THE GAUGE WILL BE EMPTIED AND THE RECORD WILL INDICATE THAT THE STORM EVENT WAS STILL IN PROGRESS.

12.1.7.3.5. RAIN GAUGE INFORMATION (DETAILED RECORDS), INCLUDING THE LOCATION OF THE NEAREST OUTFALL, WILL BE RECORDED ON THE EPSC INSPECTION REPORT FORMS AT THE TIME OF MEASUREMENT.

12.2. KEEPING PLANS CURRENT (3.4)

TDOT OR THEIR DESIGNEE WILL MODIFY AND UPDATE THE SWPPP WHEN ANY OF THE FOLLOWING CONDITIONS APPLY:

12.2.1. WHENEVER THERE IS A CHANGE IN THE SCOPE OF THE PROJECT THAT WOULD BE EXPECTED TO HAVE A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE SWPPP;

12.2.2. WHENEVER INSPECTIONS OR INVESTIGATIONS BY SITE OPERATORS, LOCAL, STATE, OR FEDERAL OFFICIALS INDICATE THE SWPPP IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM CONSTRUCTION ACTIVITY SOURCES, OR IS OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY;

WHERE LOCAL, STATE, OR FEDERAL OFFICIALS DETERMINE THAT THE SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES, A COPY OF ANY CORRESPONDENCE TO THAT EFFECT MUST BE RETAINED IN THE SWPPP;

12.2.3. WHEN ANY NEW OPERATOR AND/OR SUB-OPERATOR IS ASSIGNED OR RELIEVED OF THEIR RESPONSIBILITY TO IMPLEMENT A PORTION OF THE SWPPP;

12.2.4. TO PREVENT A NEGATIVE IMPACT TO LEGALLY PROTECTED STATE OR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED AQUATIC FAUNA;

12.2.5. WHEN THERE IS A CHANGE IN CHEMICAL TREATMENT METHODS INCLUDING: USE OF DIFFERENT TREATMENT CHEMICALS, DIFFERENT DOSAGE OR APPLICATION RATES OR A DIFFERENT AREA OF APPLICATION NOT SPECIFIED ON THE EPSC PLANS; OR

12.2.6. WHEN A TMDL IS DEVELOPED FOR THE RECEIVING WATERS FOR A POLLUTANT OF CONCERN (SILTATION AND/OR HABITAT ALTERATION)

12.3. MAKING PLANS ACCESSIBLE

12.3.1. TDOT WILL RETAIN A COPY OF THIS SWPPP (INCLUDING A COPY OF THE "DOCUMENTATION AND PERMITS" BINDER AT THE CONSTRUCTION SITE (OR OTHER LOCATION ACCESSIBLE TO TDEC AND THE PUBLIC) FROM THE DATE CONSTRUCTION COMMENCES TO THE DATE OF FINAL STABILIZATION. TDOT WILL HAVE A COPY OF THE SWPPP AVAILABLE AT THE LOCATION WHERE WORK IS OCCURRING ON-SITE FOR THE USE OF OPERATORS AND THOSE IDENTIFIED AS HAVING RESPONSIBILITIES UNDER THE SWPPP WHENEVER THEY ARE ON THE CONSTRUCTION SITE (6.2).

12.3.2. PRIOR TO THE INITIATION OF LAND DISTURBING ACTIVITIES AND UNTIL THE SITE HAS MET THE FINAL STABILIZATION CRITERIA, TDOT OR THEIR DESIGNEE WILL POST A NOTICE NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE WITH THE FOLLOWING INFORMATION (3.3.3) (6.2.1):

12.3.2.1. A COPY OF THE NOTICE OF COVERAGE (NOC) WITH THE NPDES PERMIT NUMBER FOR THE PROJECT;

12.3.2.2. THE INDIVIDUAL NAME, COMPANY NAME, E-MAIL ADDRESS (IF APPLICABLE) AND TELEPHONE NUMBER OF THE LOCAL PROJECT SITE OWNER AND OPERATOR CONTACT;

12.3.2.3. A BRIEF DESCRIPTION OF THE PROJECT; AND

12.3.2.4. THE LOCATION OF THE SWPPP.

12.3.3. ALL INFORMATION DESCRIBED IN SECTION 10.3.2 MUST BE MAINTAINED IN LEGIBLE CONDITION. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE DUE TO SAFETY CONCERNS, THE NOTICE SHALL BE POSTED IN A LOCAL BUILDING. THE NOTICE MUST BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION WHERE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY.

12.4. NOTICE OF TERMINATION (8.0)

12.4.1. WHEN ALL STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED BY FINAL STABILIZATION, TDOT WILL SUBMIT A NOTICE OF TERMINATION (NOT) THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT TO THE TDEC CENTRAL OFFICE IN NASHVILLE, TN.

12.4.2. FOR THE PURPOSES OF THE CERTIFICATION REQUIRED BY THE NOT, THE ELIMINATION OF STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY MEANS THE FOLLOWING:

12.4.2.1. ALL EARTH-DISTURBING ACTIVITIES ON THE SITE ARE COMPLETED AND ALL DISTURBED SOILS AT THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL HAVE BEEN FINALLY STABILIZED; AND

12.4.2.2. ALL CONSTRUCTION MATERIALS, WASTE AND WASTE HANDLING DEVICES, AND ALL EQUIPMENT, AND VEHICLES THAT WERE USED DURING CONSTRUCTION HAVE BEEN REMOVED AND PROPERLY DISPOSED; AND

12.4.2.3. ALL STORMWATER CONTROLS THAT WERE INSTALLED AND MAINTAINED DURING CONSTRUCTION, EXCEPT THOSE THAT ARE INTENDED FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE, HAVE BEEN REMOVED; AND

12.4.2.4. ALL POTENTIAL POLLUTANTS AND POLLUTANT GENERATING ACTIVITIES ASSOCIATED WITH CONSTRUCTION HAVE BEEN REMOVED; AND

- 12.4.2.5. THE PERMITTEE HAS IDENTIFIED WHO IS RESPONSIBLE FOR ONGOING MAINTENANCE OF ANY STORMWATER CONTROLS LEFT ON THE SITE FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE; AND
- 12.4.2.6. TEMPORARY EPSC MEASURES HAVE BEEN OR WILL BE REMOVED AT AN APPROPRIATE TIME TO ENSURE FINAL STABILIZATION IS MAINTAINED; AND
- 12.4.2.7. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES FROM THE IDENTIFIED SITE THAT ARE AUTHORIZED BY A NPDES GENERAL PERMIT HAVE OTHERWISE BEEN ELIMINATED FROM THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL.

12.5. RETENTION OF RECORDS (6.2)

TDOT WILL RETAIN COPIES OF THE SWPPP, ALL REPORTS REQUIRED BY THE PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR THE PROJECT FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THE NOT WAS FILED.

13. SITE WIDE/PRIMARY PERMITTEE CERTIFICATION (7.7.5)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.



AUTHORIZED TDOT PERSONNEL SIGNATURE (3.3.1)

JIM OZMENT

PRINTED NAME

ENVIRONMENTAL DIVISION DIRECTOR

TITLE

08/14/2014

DATE

14. SECONDARY PERMITTEE (OPERATOR) CERTIFICATION (7.7.6)

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE REVIEWED THIS DOCUMENT, ANY ATTACHMENTS, AND THE SWPPP REFERENCED ABOVE. BASED ON MY INQUIRY OF THE CONSTRUCTION SITE OWNER/DEVELOPER IDENTIFIED ABOVE AND/OR MY INQUIRY OF THE PERSON DIRECTLY RESPONSIBLE FOR ASSEMBLING THIS NOI AND SWPPP, I BELIEVE THE INFORMATION SUBMITTED IS ACCURATE. I AM AWARE THAT THIS NOI, IF APPROVED, MAKES THE ABOVE-DESCRIBED CONSTRUCTION ACTIVITY SUBJECT TO NPDES PERMIT NUMBER TNR100000, AND THAT CERTAIN OF MY ACTIVITIES ON-SITE ARE THEREBY REGULATED. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS, AND FOR FAILURE TO COMPLY WITH THESE PERMIT REQUIREMENTS.

AUTHORIZED OPERATOR (CONTRACTOR) SIGNATURE (3.3.1)

PRINTED NAME

TITLE

DATE

15. ENVIRONMENTAL PERMITS (9.0)

LIST ALL ENVIRONMENTAL PERMITS AND EXPIRATION DATES FOR PROJECT (TO BE COMPLETED AT THE ENVIRONMENTAL PRECONSTRUCTION MEETING BY TDOT CONSTRUCTION OR THEIR DESIGNEE):

ENVIRONMENTAL PERMITS			
PERMIT	YES OR NO	PERMIT OR TRACKING NO.	EXPIRATION DATE*
TDEC ARAP			
CORPS OF ENGINEERS (COE)			
TVA 26A			
TDEC CGP			
OTHER:			

*THE TDOT ENVIRONMENTAL DIVISION MUST BE NOTIFIED SIX MONTHS PRIOR TO PERMIT EXPIRATION DATE.

Content Checklist



DOCUMENTS AND PERMITS BINDER

CHECKLIST

PROJECT NAME: SIA Serving Omar Industries

PIN: 118532.00

PROJECT NO. : 16945-1473-04

COUNTY: Coffee

1. INDEX OF REVISIONS
2. RAINFALL RECORD SHEETS
3. EPSC INSPECTION REPORTS
4. NOI AND NOC
5. BLANK NOT
6. CONSTRUCTION GENERAL PERMIT (CGP)
7. ENVIRONMENTAL PERMITS
 - 7.1 PERMIT APPLICATION LETTER
 - 7.2 PERMITS
 - a. TDEC ARAP
 - b. CORPS OF ENGINEERS (COE)
 - c. TVA 26A
 - d. OTHER
8. ECOLOGY REPORT
9. TRAINING CERTIFICATIONS
 - TDEC LEVEL I
 - a. EPSC INSPECTOR
 - b. TDOT PROJECT SUPERVISOR
 - c. TDOT PROJECT SUPERVISOR MANAGER
 - d. CONTRACTOR PROJECT SUPERVISOR
 - TDEC LEVEL II
 - e. TDOT PROJECT SUPERVISOR MANAGER
10. TMDL INFORMATION REQUIRED
 - a. Yes
 - b. No



1. Index of Revisions



2. Rainfall Record Sheets





TDOT EPSC Inspection Monthly Rainfall Data Log – _____

Date	Day of Week ¹	Predicted Precipitation (%) ²	Rainfall Gauge 1 (in)	Rainfall Gauge 2 (in)	Rainfall Gauge 3 (in)	Rainfall Gauge 4 (in)	Rainfall Gauge 5 (in)	Rainfall Gauge 6 (in)	Duration (hr)

¹ Day of Week= Su,M,Tu,W,Th,F,Sa
² Predicted Precipitation Source: _____
 Southern Regional Climate Center (SRCC); R = Gauge Removed



NOAA Atlas 14, Volume 2, Version 3
Location name: Manchester, Tennessee, US*
Latitude: 35.3978°, Longitude: -86.1223°
Elevation: 1053ft*
* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
 NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

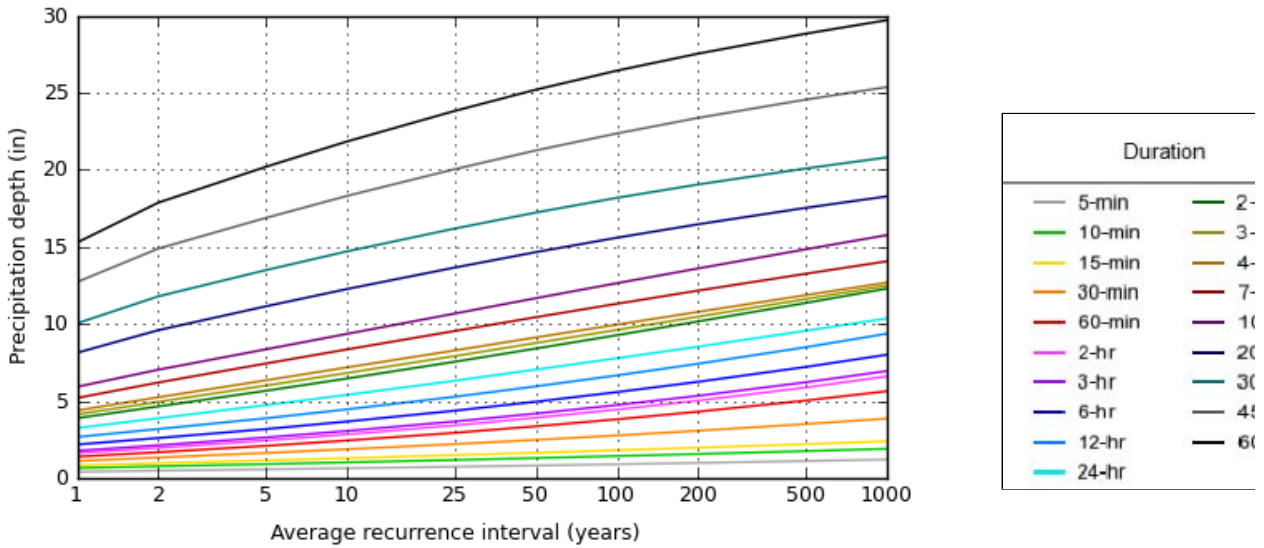
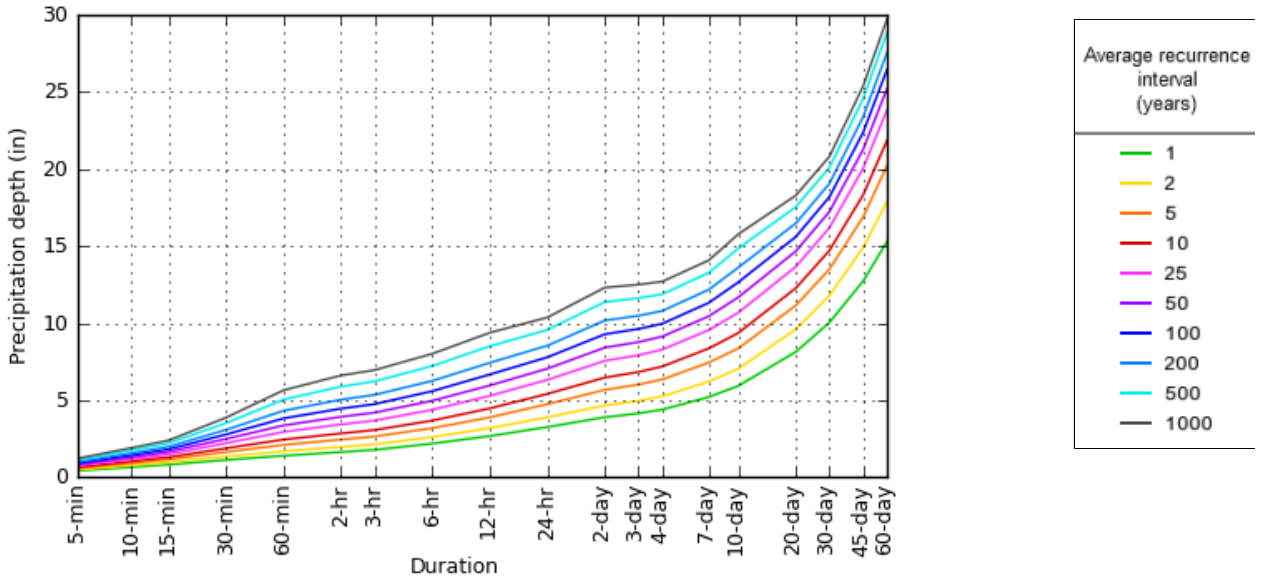
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval(years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.407 (0.371-0.451)	0.482 (0.438-0.533)	0.567 (0.515-0.627)	0.639 (0.578-0.705)	0.737 (0.663-0.811)	0.816 (0.730-0.896)	0.900 (0.798-0.988)	0.987 (0.868-1.08)	1.11 (0.961-1.22)	1.21 (1.03-1.33)
10-min	0.651 (0.592-0.720)	0.770 (0.701-0.853)	0.908 (0.824-1.00)	1.02 (0.925-1.13)	1.18 (1.06-1.29)	1.30 (1.16-1.43)	1.43 (1.27-1.57)	1.57 (1.38-1.72)	1.75 (1.52-1.92)	1.90 (1.63-2.09)
15-min	0.813 (0.740-0.900)	0.968 (0.881-1.07)	1.15 (1.04-1.27)	1.29 (1.17-1.43)	1.49 (1.34-1.64)	1.65 (1.47-1.81)	1.81 (1.60-1.98)	1.97 (1.74-2.17)	2.21 (1.91-2.42)	2.39 (2.04-2.62)
30-min	1.12 (1.02-1.23)	1.34 (1.22-1.48)	1.63 (1.48-1.81)	1.87 (1.70-2.07)	2.21 (1.98-2.43)	2.48 (2.22-2.72)	2.77 (2.46-3.04)	3.07 (2.70-3.37)	3.51 (3.04-3.85)	3.86 (3.31-4.25)
60-min	1.39 (1.27-1.54)	1.68 (1.53-1.86)	2.09 (1.90-2.31)	2.44 (2.21-2.69)	2.94 (2.64-3.23)	3.36 (3.01-3.69)	3.82 (3.38-4.19)	4.31 (3.79-4.73)	5.03 (4.37-5.53)	5.64 (4.83-6.20)
2-hr	1.63 (1.48-1.81)	1.96 (1.78-2.17)	2.44 (2.21-2.70)	2.84 (2.56-3.14)	3.42 (3.07-3.77)	3.92 (3.49-4.31)	4.45 (3.93-4.89)	5.03 (4.40-5.52)	5.88 (5.07-6.46)	6.60 (5.62-7.25)
3-hr	1.77 (1.61-1.96)	2.13 (1.94-2.37)	2.64 (2.39-2.92)	3.06 (2.77-3.39)	3.67 (3.30-4.05)	4.19 (3.74-4.61)	4.74 (4.20-5.22)	5.34 (4.68-5.88)	6.22 (5.38-6.86)	6.95 (5.94-7.66)
6-hr	2.18 (1.99-2.41)	2.60 (2.37-2.88)	3.18 (2.89-3.52)	3.67 (3.33-4.06)	4.37 (3.94-4.82)	4.96 (4.44-5.46)	5.58 (4.96-6.13)	6.25 (5.51-6.87)	7.21 (6.27-7.94)	8.01 (6.88-8.82)
12-hr	2.67 (2.45-2.93)	3.19 (2.92-3.50)	3.88 (3.56-4.25)	4.46 (4.07-4.88)	5.28 (4.79-5.77)	5.95 (5.38-6.50)	6.67 (5.98-7.27)	7.42 (6.61-8.10)	8.49 (7.47-9.28)	9.37 (8.15-10.3)
24-hr	3.25 (3.02-3.50)	3.88 (3.61-4.19)	4.73 (4.39-5.10)	5.40 (5.01-5.81)	6.32 (5.84-6.79)	7.04 (6.49-7.56)	7.78 (7.15-8.34)	8.53 (7.82-9.15)	9.56 (8.72-10.2)	10.4 (9.41-11.1)
2-day	3.89 (3.62-4.18)	4.65 (4.34-5.00)	5.67 (5.28-6.08)	6.46 (6.01-6.94)	7.55 (7.01-8.10)	8.41 (7.79-9.01)	9.28 (8.57-9.93)	10.2 (9.36-10.9)	11.4 (10.4-12.2)	12.3 (11.2-13.2)
3-day	4.14 (3.86-4.44)	4.95 (4.62-5.31)	6.00 (5.60-6.44)	6.82 (6.36-7.31)	7.92 (7.36-8.48)	8.77 (8.14-9.38)	9.62 (8.91-10.3)	10.5 (9.67-11.2)	11.6 (10.7-12.4)	12.5 (11.4-13.4)
4-day	4.39 (4.10-4.70)	5.25 (4.90-5.62)	6.34 (5.92-6.80)	7.18 (6.70-7.69)	8.28 (7.71-8.86)	9.13 (8.48-9.76)	9.96 (9.24-10.6)	10.8 (9.98-11.5)	11.9 (10.9-12.7)	12.7 (11.7-13.6)
7-day	5.20 (4.88-5.55)	6.20 (5.82-6.62)	7.43 (6.97-7.93)	8.35 (7.83-8.91)	9.54 (8.93-10.2)	10.4 (9.76-11.1)	11.3 (10.6-12.1)	12.2 (11.3-13.0)	13.3 (12.3-14.1)	14.1 (13.0-15.0)
10-day	5.92 (5.56-6.30)	7.03 (6.61-7.48)	8.36 (7.84-8.89)	9.36 (8.78-9.95)	10.7 (9.99-11.3)	11.7 (10.9-12.4)	12.7 (11.8-13.4)	13.6 (12.7-14.5)	14.8 (13.7-15.8)	15.8 (14.6-16.8)
20-day	8.13 (7.67-8.61)	9.60 (9.06-10.2)	11.1 (10.5-11.8)	12.3 (11.6-13.0)	13.7 (12.9-14.5)	14.7 (13.8-15.5)	15.6 (14.7-16.5)	16.5 (15.5-17.4)	17.5 (16.4-18.6)	18.3 (17.1-19.4)
30-day	10.0 (9.53-10.6)	11.8 (11.2-12.4)	13.5 (12.8-14.2)	14.7 (14.0-15.5)	16.2 (15.4-17.0)	17.2 (16.3-18.1)	18.2 (17.2-19.1)	19.1 (18.0-20.1)	20.1 (19.0-21.2)	20.8 (19.6-21.9)
45-day	12.7 (12.1-13.3)	14.9 (14.2-15.6)	16.9 (16.1-17.7)	18.3 (17.4-19.2)	20.0 (19.1-21.0)	21.3 (20.2-22.3)	22.4 (21.3-23.5)	23.4 (22.2-24.5)	24.6 (23.3-25.8)	25.4 (24.0-26.7)
60-day	15.3 (14.6-16.0)	17.9 (17.0-18.8)	20.2 (19.2-21.2)	21.8 (20.8-23.0)	23.8 (22.7-25.0)	25.2 (24.0-26.5)	26.4 (25.1-27.8)	27.5 (26.2-29.0)	28.8 (27.4-30.3)	29.7 (28.2-31.3)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves
 Latitude: 35.3978°, Longitude: -86.1223°



NOAA Atlas 14, Volume 2, Version 3

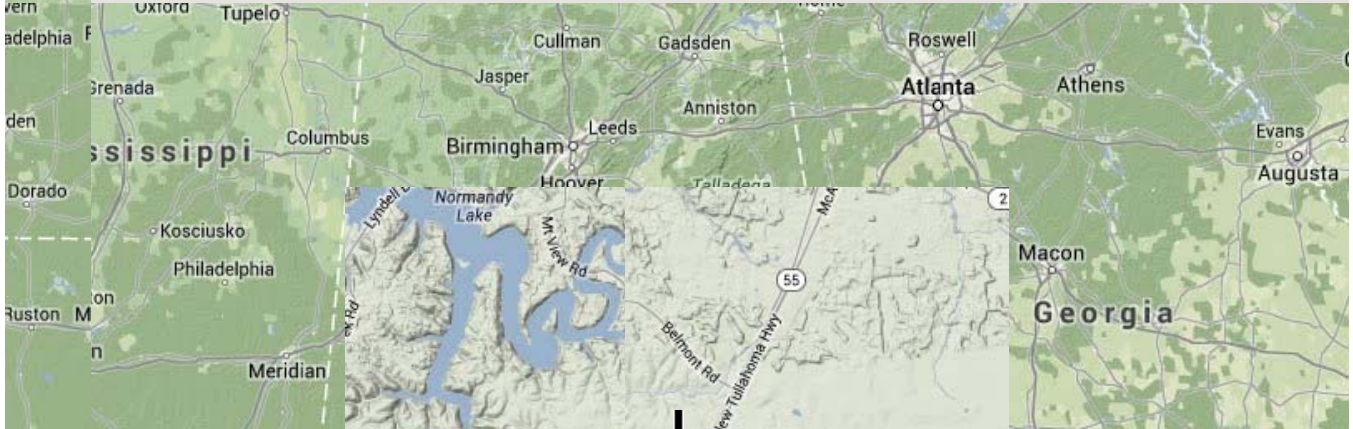
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[Back to Top](#)

Maps & aerials

Small scale terrain





Large scale map



Large scale aerial





[Office of Hydrologic Development](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

3. EPSC Inspection Reports





CONSTRUCTION DIVISION EPSC DELEGATION OF AUTHORITY

In accordance with Section 7.7.3 (Duly Authorized Representative) of the *Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activities*, I _____
(print name of TDOT project supervisor), delegate the reporting responsibility of coordination with the erosion prevention and sediment control (EPSC) inspection services consultant for TDOT contract # _____
to:

Name: _____ (print name of TDOT delegate)

Title: _____

Address: _____

Phone No.: _____

Email Address: _____

I am providing delegation of authority as stated above and confirm that the TDOT delegate stated above has direct knowledge of the subject project and the ability to discuss the reports and recommendations from the EPSC inspection services consultant on the subject project directly to the contractor.

_____ (signature of TDOT Project Supervisor)

_____ (signature of TDOT delegate)

_____ (date)

The EPSC Delegation of Authority shall be submitted to the local TDEC WPC Environmental Field Office (EFO) address (see table below) for record keeping. A copy shall be placed within the on-site SWPPP Documentation and Permits Binder.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305	Chattanooga	540 McCallie Avenue STE 550	37402
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601



**TENNESSEE DEPARTMENT OF TRANSPORTATION
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) INSPECTION REPORT**

EPSC Inspection Schedule (circle one): 1st Weekly or 2nd Weekly

Date of Inspection: _____

Site or Project Name (State Route (SR) / US Route or Road Name and Description):			Are corrective actions required by this inspection report (Yes /No):			Current approximate disturbed acreage:
County(ies):	TDOT PIN:	NPDES Tracking Number: TNR	Number of New Corrective Actions/Deficiencies:	Number of Recurring Corrective Actions/Deficiencies:	Number of New Sediment Releases:	Number of Un-Corrected Sediment Releases:
TDOT Project No.:	TDOT Contract No.:	Contractor:				

Please check the box if the following items are on-site:

- Notice of Coverage (NOC)
 Stormwater Pollution Prevention Plan (SWPPP)
 Twice Weekly Inspection Documentation
 Site Contact Information
 Rain Gauge(s)
- Off-site Reference Rain Gauge Location: _____
 Has daily rainfall been checked/documentated on the TDOT Monthly Rainfall Log? Yes No

Best Management Practices (BMPs)	TDOT/Contractor Agrees with EPSC Inspection Report: NO or YES. If No, Explain and initial comment:
Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly: If "No," see attached page(s) for description.	
1. Are all applicable (EPSCs) installed and maintained per the SWPPP? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Additional pages may be attached, if needed)
2. Are EPSC's functioning correctly at all disturbed areas/material storage areas per section 4.1.5 of the CGP? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Are EPSC's functioning correctly at outfall/discharge points such that there is no objectionable color contrast in the receiving stream, and no other water quality impacts per section 5.3.2 of the CGP? <input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Are EPSC's functioning correctly at ingress/egress points such that there is no evidence of track out? <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. If construction activity at any location on-site has temporarily/permanently ceased, was the area stabilized within 14 days per section 3.5.3.2 of the CGP? If, "No," refer to the attached page(s) for each location and measures taken to stabilize the area(s). <input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Have pollution prevention measures been installed, implemented, and maintained to minimize the discharge of pollutants from equipment and vehicle washing, wheel and wash water and other wash waters per section 4.1.5 of the CGP? If "No," refer to the attached page(s) for measures to be implemented to address deficiencies. <input type="checkbox"/> Yes <input type="checkbox"/> No	
7. If applicable, have discharges from dewatering activities been managed by appropriate controls per Section 4.1.4 of the CGP? If "No," refer to the attached page(s) for measures to be implemented to address deficiencies. <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No	
8. If a concrete washout facility is located on site, is it clearly identified on the project and maintained? If "No," refer to the attached page(s) for measures to be implemented to address deficiencies. <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No	

Certification and Signature (must be signed by the certified inspector and the permittees per Sections 3.5.8.2 (g) and 7.7.2 of the CGP)

<p>This document was prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated information presented. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, I certify that inspections of storm water discharge points (outfalls) and of erosion and sediment controls have been performed and recorded. I certify that erosion and sediment controls in the drainage area of the identified outfall were installed as planned and designed in working order as recorded in the table above.</p> <p>I certify, under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code annotated section 39-16-702(a) (4), this declaration is made under penalty of perjury.</p>	EPSC Inspector Name, Title and Company (print or type):	Signature:	Date:
	TN EPSC Certification No.:		
	Contractor (Secondary Permittee) Name and Title (print or type):	Signature:	Date:
	TDOT Project Supervisor or Designee (Primary Permittee) Name and Title (print or type):	Signature:	Date:



State/US Route or Road Name: _____ TDOT Project No.: _____ TDOT Contract No.: _____ Date of Inspection: _____

Outfall Name or Station No.	Rain Gauge No.	Approx. Station No. From/To	LT, RT, or CL	Date Last Disturbed	Date of Stabilization and Code T=Temporary P=Permanent	Existing EPSC Control Measures Codes *	Current Condition Codes *	Objectionable Color Contrast Discharge to Receiving Stream or Other Water Quality Impacts? Y, N, N/A	Corrective Action(s) or Comment(s)

EROSION PREVENTION AND SEDIMENT CONTROL MEASURE CODES

- | | | |
|--|---|--|
| 1. Temporary Silt Fence | 15. Temporary Seeding with Mulch | 29. Excess Dirt Removed from Rdwy. Daily |
| 2. Temporary Diversion Berm or Ditch | 16. Temporary Mulching | 30. Haul Roads Dampened for Dust Control |
| 3. Temporary Slope Drain | 17. Erosion Control Blanket | 31. Ditch Liner |
| 4. Rock Check Dams | 18. Flexible Channel Liner | 32. Rock Silt Screen |
| 5. Brush Barrier | 19. Catch Basin / Storm Inlet Protection | 33. Temporary Silt Fence with Backing |
| 6. Sediment Removal | 20. Riprap Outlet Structure | 34. Enhanced Silt Fence |
| 7. Rock Filter Ring / Rock Ring | 21. Riprap Energy / Velocity Dissipater | 35. Sediment Tube |
| 8. Sand Bags | 22. Curb, Gutter, or Storm Sewer Protection | 36. Sediment Dam |
| 9. Sediment Trap / Basin | 23. Temporary Construction Exit / Entrance | 37. Concrete Washout, other pollution issues |
| 10. Temporary Sediment Filter Bag / Dewatering | 24. Temporary Stream Crossing | 38. Berm (soil, riprap, rock) |
| 11. Polyethylene Sheeting | 25. Turbidity Barrier / Silt Boom | 39. Gabion |
| 12. Machined Rip Rap | 26. Temporary Stream Diversion | 40. Sheet Piling |
| 13. Geotextile | 27. Preserve Natural Resource / Buffer Zone | 41. |
| 14. Permanent Seeding with Mulch or Sod | 28. Mineral Aggregate Base on Subgrade | 42. |

CONDITION CODES

- A Active (Under Construction)
- C Cleaning Needed-Maintenance
- FM Future Maintenance
- FS Final Stabilized
- I Increase Measures
- R Repair and/or Replace-Maintenance
- RO Repeat Occurrence
- SR Sediment Release
- S Stable (No Action Needed)
- U Upgrade Needed (Failure Noted)
- W Too Wet to Work Conditions
- Other (#1): _____
- Other (#2): _____
- Other (#3): _____

4. NOI & NOC





TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Ave., 11th Floor, Nashville, TN 37243
1-888-891-8332 (TDEC)

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Form containing site information: Site or Project Name (PIN 118532.00; PROJECT #16945-1473-04), Existing NPDES Tracking Number (TNR), Street Address (Industrial Access Road Serving Omar, Inc. at the Joint Industrial Park), Site Activity (Addition of acceleration lane to SR-55...), County (Coffee), MS4 Jurisdiction (TDOT), and receiving waters (WTL-1 in Crumpton Creek Watershed).

Form containing owner and signatory information: Site Owner/Developer Entity (Tennessee Department of Transportation), Site Owner/Developer Signatory (Jim Ozment), Mailing Address (900 James K. Polk Bldg., 505 Deaderick Street), and Optional Contact (Khalid Ahmed).

Owner or Developer Certification section: Must be signed by president, vice-president or equivalent. Includes a signature line for Jim Ozment dated 08/14/2014.

Contractor(s) Certification section: Must be signed by president, vice-president or equivalent. Includes signature and date lines for the contractor.

Other Contractor company name and signatory information section: Includes fields for company name, signatory, signature, date, mailing address, and contact info.

OFFICIAL STATE USE ONLY

Official State Use Only section: Includes fields for Received Date, Reviewer, Field Office, Permit Number (TNR), Exceptional TN Water, Fee(s), T & E Aquatic Flora and Fauna, Impaired Receiving Stream, and Notice of Coverage Date.

5. Blank NOT





TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
 Division of Water Resources
 William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Ave., 11th Floor, Nashville, TN 37243
 1-888-891-TDEC (8332)

Notice of Termination (NOT) for General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)

This form is required to be submitted when requesting termination of coverage from the CGP. The purpose of this form is to notify the TDEC that either all stormwater discharges associated with construction activity from the portion of the identified facility where you, as an operator, have ceased or have been eliminated; or you are no longer an operator at the construction site. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the TDEC Nashville, TN address depicted below. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC).

Type or print clearly, using ink.

Site or Project Name: PIN 118532.00; PROJECT # 16945-1473-04	NPDES Tracking Number: TNR
Street Address or Location: Industrial Access Road Serving Omar, Inc. at the Joint Industrial Park	County(ies): Coffee

Name of Permittee Requesting Termination of Coverage: Tennessee Department of Transportation			
Permittee Contact Name:		Title or Position:	
Mailing Address:		City:	State: Zip:
Phone: ()		E-mail:	

Check the reason(s) for termination of permit coverage:

<input type="checkbox"/>	Stormwater discharge associated with construction activity is no longer occurring and the permitted area has a uniform 70% permanent vegetative cover OR has equivalent measures such as rip rap or geotextiles, in areas not covered with impervious surfaces.
<input type="checkbox"/>	You are no longer the operator at the construction site (i.e., termination of site-wide, primary or secondary permittee coverage).

Certification and Signature: (must be signed by president, vice-president or equivalent ranking elected official)

I certify under penalty of law that either: (a) all stormwater discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

For the purposes of this certification, elimination of stormwater discharges associated with construction activity means that all stormwater discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have been eliminated from the portion of the construction site where the operator had control. Specifically, this means that all disturbed soils at the portion of the construction site where the operator had control have been finally stabilized, the temporary erosion and sediment control measures have been removed, and/or subsequent operators have obtained permit coverage for the site or portions of the site where the operator had control.

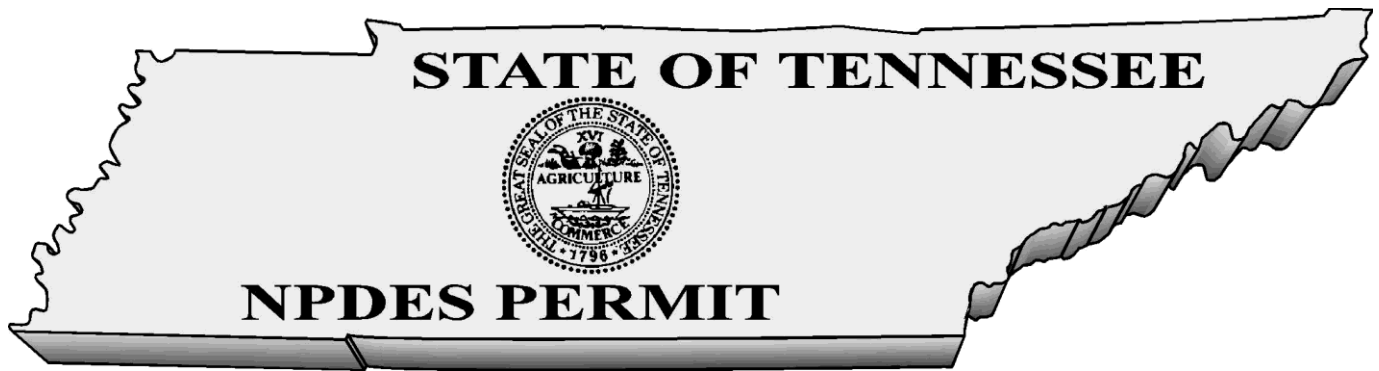
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Permittee name (print or type):	Signature:	Date:
---------------------------------	------------	-------

Tennessee Department of Environment and Conservation Division of Water Resources Attn: Storm Water NOI Processing William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 11 th Floor Nashville, TN 37243
--

6. Construction General Permit





GENERAL NPDES PERMIT
FOR DISCHARGES OF STORMWATER
ASSOCIATED WITH CONSTRUCTION ACTIVITIES

PERMIT NO. TNR100000

Under authority of the Tennessee Water Quality Control Act of 1977 ([T.C.A. 69-3-101](#) et seq.) and the authorization by the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 ([33 U.S.C. 1251](#), et seq.) and the [Water Quality Act of 1987, P.L. 100-4](#), including special requirements as provided in part 5.4 (Discharges into Impaired or Exceptional Tennessee Waters) of this general permit, operators of point source discharges of stormwater associated with construction activities into waters of the State of Tennessee, are authorized to discharge stormwater associated with construction activities in accordance with the following permit monitoring and reporting requirements, effluent limitations, and other provisions as set forth in parts 1 through 10 herein, from the subject outfalls to waters of the State of Tennessee.

This permit is issued on: **May 23, 2011**

This permit is effective on: **May 24, 2011**

This permit expires on: **May 23, 2016**

A handwritten signature in blue ink, appearing to read "P. Davis".

for Paul E. Davis, P.E., Director
Division of Water Pollution Control

Tennessee General Permit No. TNR100000
Stormwater Discharges Associated with Construction Activities

Table of Contents

1.	COVERAGE UNDER THIS GENERAL PERMIT	1
1.1.	Permit Area	1
1.2.	Discharges Covered by this Permit	1
1.2.1.	Stormwater discharges associated with construction activities.....	1
1.2.2.	Stormwater discharges associated with construction support activities.....	1
1.2.3.	Non-stormwater discharges authorized by this permit	2
1.2.4.	Other NPDES-permitted discharges	2
1.3.	Limitations on Coverage	2
1.4.	Obtaining Permit Coverage	4
1.4.1.	Notice of Intent (NOI)	4
1.4.2.	Stormwater Pollution Prevention Plan (SWPPP)	5
1.4.3.	Permit application fees	5
1.4.4.	Submittal of a copy of the NOC and NOT to the local MS4.....	6
1.4.5.	Permit Coverage through Qualifying Local Program.....	6
1.5.	Effective Date of Coverage	6
1.5.1.	Notice of Coverage (NOC)	6
1.5.2.	Permit tracking numbers	7
2.	NOTICE OF INTENT (NOI) REQUIREMENTS	7
2.1.	Who Must Submit an NOI?	7
2.2.	Typical Construction Site Operators	8
2.2.1.	Owner/Developer.....	8
2.2.2.	Commercial builders.....	8
2.2.3.	Contractors.....	8
2.3.	Responsibilities of Operators	8
2.3.1.	Permittee(s) with design control (owner/developer)	9
2.3.2.	Permittee(s) with day-to-day operational control (contractor – secondary permittee).....	9
2.4.	NOI Submittal	10
2.4.1.	Existing site	10
2.4.2.	Application for new permit coverage	10
2.4.3.	New operator	10
2.4.4.	Late NOIs.....	11
2.5.	Who Must Sign the NOI?	11
2.6.	NOI Form	11

2.6.1.	Contents of the NOI form	11
2.6.2.	Construction site map	11
2.6.3.	Application completeness	12
2.7.	Where to Submit the NOI, SWPPP and Permitting Fee?	12
2.8.	List of the TDEC Environmental Field Offices (EFOs) and Corresponding Counties	12
3.	STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS	13
3.1.	The General Purpose of the SWPPP	13
3.1.1.	Registered engineer or landscape architect requirement	13
3.1.2.	Site Assessment	14
3.2.	SWPPP Preparation and Compliance	15
3.2.1.	Existing site	15
3.2.2.	New site	15
3.3.	Signature Requirements, Plan Review and Making Plans Available.....	15
3.3.1.	Signature Requirements for a SWPPP.....	15
3.3.2.	SWPPP Review	15
3.3.3.	Making plans available	15
3.4.	Keeping Plans Current.....	15
3.4.1.	SWPPP modifications.....	15
3.5.	Components of the SWPPP	16
3.5.1.	Site description	16
3.5.2.	Description of stormwater runoff controls	17
3.5.3.	Erosion prevention and sediment controls	18
3.5.4.	Stormwater management	22
3.5.5.	Other items needing control	23
3.5.6.	Approved local government sediment and erosion control requirements	23
3.5.7.	Maintenance.....	23
3.5.8.	Inspections	23
3.5.9.	Pollution prevention measures for non-stormwater discharges.....	25
3.5.10.	Documentation of permit eligibility related to Total Maximum Daily Loads (TMDL)	25
4.	CONSTRUCTION AND DEVELOPMENT EFFLUENT GUIDELINES.....	25
4.1.	Non-Numeric Effluent Limitations.....	25
4.1.1.	Erosion Prevention and Sediment Controls.....	25
4.1.2.	Buffer zone requirements	26
4.1.3.	Soil stabilization	27
4.1.4.	Dewatering.....	27
4.1.5.	Pollution prevention measures.....	28
4.1.6.	Prohibited discharges.....	28
4.1.7.	Surface outlets	28

5.	SPECIAL CONDITIONS, MANAGEMENT PRACTICES, AND OTHER NON-NUMERIC LIMITATIONS.....	28
5.1.	Releases in Excess of Reportable Quantities.....	28
5.2.	Spills.....	29
5.3.	Discharge Compliance with State Water Quality Standards.....	29
5.3.1.	Violation of Water Quality Standards	29
5.3.2.	Discharge quality	29
5.4.	Discharges into Impaired or Exceptional Tennessee Waters	30
5.4.1.	Additional SWPPP/BMP Requirements for discharges into impaired or exceptional TN Waters	30
5.4.2.	Buffer zone requirements for discharges into impaired or exceptional TN waters.....	31
5.4.3.	Pre-Approved sites.....	32
6.	RETENTION, ACCESSIBILITY AND SUBMISSION OF RECORDS	32
6.1.	Documents	32
6.2.	Accessibility and Retention of Records	33
6.2.1.	Posting information at the construction site	33
6.3.	Electronic Submission of NOIs, NOTs and Reports	33
7.	STANDARD PERMIT CONDITIONS	34
7.1.	Duty to Comply	34
7.1.1.	Permittee's duty to comply.....	34
7.1.2.	Penalties for violations of permit conditions.....	34
7.1.3.	Civil and criminal liability.....	34
7.1.4.	Liability under state law	35
7.2.	Continuation of the Expired General Permit	35
7.3.	Need to Halt or Reduce Activity Not a Defense	35
7.4.	Duty to Mitigate	35
7.5.	Duty to Provide Information	35
7.6.	Other Information	35
7.7.	Signatory Requirements.....	36
7.7.1.	Signatory requirements for a Notice of Intent (NOI)	36
7.7.2.	Signatory requirements for reports and other items	37
7.7.3.	Duly authorized representative	37
7.7.4.	Changes to authorization	37
7.7.5.	Signatory requirements for primary permittees	37
7.7.6.	Signatory requirements for secondary permittees	38
7.8.	Penalties for Falsification of Reports	38
7.9.	Oil and Hazardous Substance Liability.....	38

7.10.	Property Rights.....	38
7.11.	Severability.....	39
7.12.	Requiring an Individual Permit	39
7.12.1.	Director can require a site to obtain an individual permit.....	39
7.12.2.	Permittee may request individual permit instead of coverage under this general permit.....	39
7.12.3.	Individual permit terminates general permit.....	39
7.13.	Other, Non-Stormwater, Program Requirements.....	40
7.14.	Proper Operation and Maintenance.....	40
7.15.	Inspection and Entry	40
7.16.	Permit Actions	40
8.	REQUIREMENTS FOR TERMINATION OF COVERAGE.....	41
8.1.	Termination of Developer and Builder Coverage	41
8.1.1.	Termination process for primary permittees	41
8.1.2.	NOT review	42
8.2.	Termination of Builder and Contractor Coverage.....	42
8.2.1.	Termination process for secondary permittees.....	42
8.3.	NOT certification.....	42
8.4.	Where to Submit a Notice of Termination (NOT)?.....	43
9.	AQUATIC RESOURCE ALTERATION PERMITS (ARAP).....	43
10.	DEFINITIONS.....	43
11.	LIST OF ACRONYMS	50

- APPENDIX A – Notice of Intent (NOI) Form**
- APPENDIX B – Notice of Termination (NOT) Form**
- APPENDIX C – Inspection Report Form**
- APPENDIX D – Stormwater Monitoring Report Form**

1. COVERAGE UNDER THIS GENERAL PERMIT

1.1. Permit Area

This construction general permit (CGP) covers all areas of the State of Tennessee.

1.2. Discharges Covered by this Permit

1.2.1. Stormwater discharges associated with construction activities

This permit authorizes point source discharges of stormwater from construction activities including clearing, grading, filling and excavating (including borrow pits and stockpile/material storage areas containing erodible material), or other similar construction activities that result in the disturbance of one acre or more of total land area. Projects or developments of less than one acre of land disturbance are required to obtain authorization under this permit if the construction activities at the site are part of a larger common plan of development or sale that comprise at least one acre of land disturbance. One or more site [operators](#) must maintain coverage under this permit for all portions of a site that have not been finally stabilized.

Projects or developments of less than one acre of total land disturbance may also be required to obtain authorization under this permit if:

- a) the director has determined that the stormwater discharge from a site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard;
- b) the director has determined that the stormwater discharge is, or is likely to be a significant contributor of pollutants to [waters of the state](#), or
- c) changes in state or federal rules require sites of less than one acre that are not part of a larger common plan of development or sale to obtain a stormwater permit.

Note: Any discharge of stormwater or other fluid to an improved sinkhole or other injection well, as defined, must be authorized by permit or rule as a Class V underground injection well under the provisions of TDEC Rules, Chapter [1200-4-6](#).

1.2.2. Stormwater discharges associated with construction support activities

This permit also authorizes stormwater discharges from support activities associated with a permitted construction site (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided all of the following are met:

- a) the support activity is primarily related to a construction site that is covered under this general permit;
- b) the [operator](#) of the support activity is the same as the [operator](#) of the construction site;
- c) the support activity is not a commercial operation serving multiple unrelated construction projects by different [operators](#);
- d) the support activity does not operate beyond the completion of the construction activity of the last construction project it supports; and

- e) support activities are identified in the Notice of Intent (NOI) and the Stormwater Pollution Prevention Plan (SWPPP). The appropriate erosion prevention and sediment controls and measures applicable to the support activity shall be described in a comprehensive SWPPP covering the discharges from the support activity areas.

TDOT projects shall be addressed in the Waste and Borrow Manual per the [Statewide Stormwater Management Plan \(SSWMP\)](#). Stormwater discharges associated with support activities that have been issued a separate individual permit or an alternative general permit are not authorized by this general permit. This permit does not authorize any process wastewater discharges from support activities. Process wastewater discharges from support activities must be authorized by an individual permit or other appropriate general permit.

1.2.3. Non-stormwater discharges authorized by this permit

The following non-stormwater discharges from active construction sites are authorized by this permit provided the non-stormwater component of the discharge is in compliance with section 3.5.9 below (*Pollution prevention measures for non-stormwater discharges*):

- a) dewatering of work areas of collected stormwater and ground water (filtering or chemical treatment may be necessary prior to discharge);
- b) waters used to wash vehicles (of dust and soil, not process materials such as oils, asphalt or concrete) where detergents are not used and detention and/or filtering is provided before the water leaves site;
- c) water used to control dust in accordance with section 3.5.5 below;
- d) potable water sources including waterline flushings from which chlorine has been removed to the maximum extent practicable;
- e) routine external building washdown that does not use detergents or other chemicals;
- f) uncontaminated groundwater or spring water; and
- g) foundation or footing drains where flows are not contaminated with pollutants (process materials such as solvents, heavy metals, etc.).

All non-stormwater discharges authorized by this permit must be free of sediment or other solids and must not cause erosion of soil or the stream bank, or result in sediment impacts to the receiving stream.

1.2.4. Other NPDES-permitted discharges

Discharges of stormwater or wastewater authorized by and in compliance with a different NPDES permit (other than this permit) may be mixed with discharges authorized by this permit.

1.3. **Limitations on Coverage**

Except for discharges from support activities, as described in section 1.2.2 above and certain non-stormwater discharges listed in section 1.2.3 above, all discharges covered by this permit shall be composed entirely of stormwater. This permit does not authorize the following discharges:

- a) Post-Construction Discharges (Permanent Stormwater Management) - Stormwater discharges associated with construction activity that originate from the construction site

- after construction activities have been completed, the site has undergone final stabilization, and the coverage under this permit has been terminated.
- b) Discharges Mixed with Non-Stormwater - Discharges that are mixed with sources of non-stormwater, other than discharges which are identified in section 1.2.4 above (*Other NPDES-permitted discharges*) and in compliance with section 3.5.9 below (*Pollution prevention measures for non-stormwater discharges*) of this permit.
 - c) Discharges Covered by Another Permit - Stormwater discharges associated with construction activity that have been issued an individual permit in accordance with subpart 7.12 below (*Requiring an Individual Permit*).
 - d) Discharges Threatening Water Quality - Stormwater discharges from construction sites, that the director determines will cause, have the reasonable potential to cause, or contribute to violations of water quality standards. Where such determination has been made, the discharger will be notified by the director in writing that an individual permit application is necessary as described in subpart 7.12 below (*Requiring an Individual Permit*). However, the division may authorize coverage under this permit after appropriate controls and implementation procedures have been included in the **SWPPP** that are designed to bring the discharge into compliance with water quality standards.
 - e) Discharges into Impaired Streams – This permit does not authorize discharges that would add loadings of a pollutant that is identified as causing or contributing to the impairment of a water body on the list of **impaired waters**. **Impaired waters** means any segment of surface waters that has been identified by the division as failing to support its designated classified uses. Compliance with the additional requirements set forth in sub-part 5.4 is not considered as contributing to loadings to **impaired waters** or degradation unless the division determines upon review of the SWPPP that there is a reason to limit coverage as set forth in paragraph d) above and the SWPPP cannot be modified to bring the site into compliance.
 - f) Discharges into Outstanding National Resource Waters - The director shall not grant coverage under this permit for discharges into waters that are designated by the Water Quality Control Board as Outstanding National Resource Waters (ONRWs). Designation of ONRWs are made according to TDEC Rules, [Chapter 1200-4-3-.06](#).
 - g) Discharges into Exceptional Quality Waters - The director shall not grant coverage under this permit for potential discharges of pollutants which would cause degradation to waters designated by TDEC as exceptional quality waters (see sub-part 5.4 (Discharges into Impaired or Exceptional Tennessee Waters for additional permit requirements). Compliance with the additional requirements set forth in sub-part 5.4 is not considered as contributing to loadings to exceptional quality waters or degradation unless the division determines upon review of the SWPPP that there is a reason to limit coverage as set forth in paragraph d) above and the SWPPP cannot be modified to bring the site into compliance. Identification of exceptional quality waters is made according to TDEC Rules, [Chapter 1200-4-3-.06](#).
 - h) Discharges Not Protective of Federal or State listed Threatened and Endangered Species, Species Deemed in Need of Management or Special Concern Species - Stormwater discharges and stormwater discharge-related activities that are not protective of legally protected listed or proposed threatened or endangered aquatic fauna or flora (or species proposed for such protection) in the receiving stream(s); or discharges or activities that would result in a “take” of a state or federal listed endangered or threatened aquatic or wildlife species deemed in need of management or special concern species, or such species’ habitat. If the division finds that stormwater discharges or stormwater related activities are likely to result in any of the above effects, the director will deny the

coverage under this general permit unless and until project plans are changed to adequately protect the species.

- i) Discharges from a New or Proposed Mining Operation - This permit does not cover discharges from a new or proposed mining operation.
- j) Discharges Negatively Affecting a Property on the National Historic Register - Stormwater discharges that would negatively affect a property that is listed or is eligible for listing in the [National Historic Register](#) maintained by the Secretary of Interior.
- k) Discharging into Receiving Waters With an Approved Total Maximum Daily Load Analysis - Discharges of pollutants of concern to waters for which there is an EPA-approved total maximum daily load (TMDL) for the same pollutant are not covered by this permit unless measures or controls that are consistent with the assumptions and requirements of such TMDL are incorporated into the SWPPP. If a specific wasteload allocation has been established that would apply to the discharge, that allocation must be incorporated into the SWPPP and steps necessary to meet that allocation must be implemented. In a situation where an EPA-approved or established TMDL has specified a general wasteload allocation applicable to construction stormwater discharges, but no specific requirements for construction sites have been identified, the permittee should consult with the division to confirm that adherence to a SWPPP that meets the requirements of this permit will be consistent with the approved TMDL. Where an EPA-approved or established TMDL has not specified a wasteload allocation applicable to construction stormwater discharges, but has not specifically excluded these discharges, adherence to a SWPPP that meets the requirements of the CGP will generally be assumed to be consistent with the approved TMDL. If the EPA-approved or established TMDL specifically precludes construction stormwater discharges, the operator is not eligible for coverage under the CGP.

1.4. Obtaining Permit Coverage

Submitting a complete NOI, a SWPPP and an appropriate permitting application fee are required to obtain coverage under this general permit. Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's claim of ability to comply with permit terms and conditions. Upon completing NOI review, the division will:

- a) issue a notice of coverage (NOC) to the operator identified as a primary permittee on the NOI form (see subpart 1.5 below - *Effective Date of Coverage*); or
- b) notify the applicant of needed changes to their NOI submittal (see section 2.6.3 below - *Application completeness*); or
- c) deny coverage under this general permit (see subpart 7.12 below - *Requiring an Individual Permit*).

1.4.1. Notice of Intent (NOI)

Operators wishing to obtain coverage under this permit must submit a completed NOI in accordance with requirements of part 2 below, using the NOI form provided in Appendix A of this permit (or a copy thereof). The division will review NOIs for completeness and accuracy and, when deemed necessary, investigate the proposed project for potential impacts to the [waters of the state](#).

1.4.2. Stormwater Pollution Prevention Plan (SWPPP)

Operators wishing to obtain coverage under this permit must develop and submit a site-specific **SWPPP** with the NOI. The initial, comprehensive **SWPPP**, developed and submitted by the site-wide permittee (typically owner/developer who applied for coverage at project commencement¹), should address all construction-related activities from the date construction commences to the date of termination of permit coverage, to the maximum extent practicable. The **SWPPP** must be developed, implemented and updated according to the requirements in part 3 below (*SWPPP Requirements*) and subpart 2.3 below (*Responsibilities of Operators*). The **SWPPP** must be implemented prior to commencement of construction activities.

If the initial, comprehensive **SWPPP** does not address all activities until final stabilization of the site, an updated **SWPPP** or addendums to the plan addressing all aspects of current site disturbance must be prepared. An active, updated **SWPPP** must be in place for all disturbed portions of a site until each portion has been completed and finally stabilized.

Preparation and implementation of the comprehensive **SWPPP** may be a cooperative effort with all **operators** at a site. New **operators** with design and operational control of their portion of the construction site are expected to adopt, modify, update and implement a comprehensive **SWPPP**. Primary permittees at the site may develop a **SWPPP** addressing only their portion of the project, as long as the proposed **Best Management Practices (BMPs)** are compatible with the comprehensive **SWPPP** and complying with conditions of this general permit.

1.4.3. Permit application fees

The permit application fee should accompany the site-wide permittee's NOI form. The fee is based on the total acreage planned to be disturbed by an entire construction project for which the site-wide permittee is requesting coverage, including any associated construction support activities (see section 1.2.2 above). *The disturbed area* means the total area presented as part of the development (and/or of a larger common plan of development) subject to being cleared, graded, or excavated during the life of the development. The area cannot be limited to only the portion of the total area that the site-wide owner/developer initially disturbs through the process of various land clearing activities and/or in the construction of roadways, sewers and water utilities, stormwater drainage structures, etc., to make the property marketable. The site-wide owner/developer may present documentation of common areas in the project that will not be subject to disturbance at anytime during the life of the project and have these areas excluded from the fee calculation.

The application fees shall be as specified in the TDEC Rules, [Chapter 1200-4-11](#). The application will be deemed incomplete until the appropriate application fee is paid in full. Checks for the appropriate fee should be made payable to "Treasurer, State of Tennessee." There is no additional fee for subsequent owner/**operator** to obtain permit coverage (see section 2.4.3 below - *New operator*), as long as the site-wide primary permittee has active permit coverage at the time of receipt of the subsequent **operator's** application, because the site-wide primary permittee paid the appropriate fee for the entire area of site disturbance. If a project was previously permitted, but permit coverage was terminated (see section 8.1.1 below - Termination process for primary permittees), and subsequent site disturbance or re-development occurs, the new **operator** must obtain coverage and pay the appropriate fee for the disturbed acreage.

¹ See sub-part 2.1 on page 7 for a definition of an site-wide permittee.

1.4.4. Submittal of a copy of the NOC and NOT to the local MS4

Permittees who discharge stormwater through an NPDES-permitted municipal separate storm sewer system (MS4) who are not exempted in section 1.4.5 below (*Permit Coverage through Qualifying Local Program*) must submit a courtesy copy of the notice of coverage (NOC), and at project completion, a copy of the signed notice of termination (NOT) to the MS4 upon their request. Permitting status of all permittees covered (or previously covered) under this general permit as well as the most current list of all MS4 permits is available at the division's DataViewer web site².

1.4.5. Permit Coverage through Qualifying Local Program

Coverage equivalent to coverage under this general permit may be obtained from a qualifying local erosion prevention and sediment control Municipal Separate Storm Sewer System (MS4) program. A qualifying local program (QLP) is a municipal stormwater program for stormwater discharges associated with construction activity that has been formally approved by the division. More information about Tennessee's QLP program and MS4 participants can be found at: http://www.tn.gov/environment/water/water-quality_storm-water-qualifying-local-programs.shtml.

If a construction site is within the jurisdiction of and has obtained a notice of coverage from a QLP, the operator of the construction activity is authorized to discharge stormwater associated with construction activity under this general permit without the submittal of an NOI to the division. The permittee is also not required to submit a SWPPP, a notice of termination or a permit fee to the division. At the time of issuance of this permit, there were no qualifying local erosion prevention and sediment control MS4 programs in Tennessee. Permitting of stormwater runoff from construction sites from federal or state agencies (including, but not limited to the Tennessee Department of Transportation (TDOT) and Tennessee Valley Authority (TVA)) and the local MS4 program itself will remain solely under the authority of TDEC.

The division may require any owner/developer or operator located within the jurisdiction of a QLP to obtain permit coverage directly from the division. The operator shall be notified in writing by the division that coverage by the QLP is no longer applicable, and how to obtain coverage under this permit.

1.5. Effective Date of Coverage

1.5.1. Notice of Coverage (NOC)

The NOC is a notice from the division to the primary permittee, which informs the primary permittee that the NOI, the SWPPP and the appropriate fee were received and accepted, and stormwater discharges from a specified area of a construction activity have been approved under this general permit. The permittee is authorized to discharge stormwater associated with construction activity as of the effective date listed on the NOC.

Assigning a permit tracking number by the division to a proposed discharge from a construction site does not confirm or imply an authorization to discharge under this permit. Correspondence

² <http://tnmap.tn.gov/wpc/>

with the permittee is maintained through the Site Owner or Developer listed in the NOI, not the optional contact or the secondary permittee.

If any [Aquatic Resource Alteration Permits](#) (ARAP) are required for a site in areas proposed for active construction, the NOC will not be issued until ARAP application(s) are submitted and deemed by TDEC to be complete. The treatment and disposal of wastewater (including, but not limited to sanitary wastewater) generated during and after the construction must be also addressed. The issuance of the NOC may be delayed until adequate wastewater treatment and accompanying permits are issued.

1.5.2. Permit tracking numbers

Construction sites covered under this permit will be assigned permit tracking numbers in the sequence TNR100001, TNR100002, etc. An [operator](#) presently permitted under a previous construction general permit shall be granted coverage under this new general permit. Permit tracking numbers assigned under a previous construction general permit will be retained (see section 2.4.1 below). An [operator](#) receiving new permit coverage will be assigned a new permit tracking number (see section 2.4.2 below).

2. NOTICE OF INTENT (NOI) REQUIREMENTS

2.1. Who Must Submit an NOI?

All site [operators](#) must submit an NOI form. “[Operator](#)” for the purpose of this permit and in the context of stormwater associated with construction activity means any person associated with a construction project who meets either or both of the following two criteria:

- a) The person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project (e.g. subsequent builder), or the person that is the current land owner of the construction site. This person is considered the primary permittee; or
- b) The person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a [SWPPP](#) for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee, and is considered a secondary permittee.

The site-wide permittee is the first primary permittee to apply for coverage at the site. There may be other primary permittees for a project, but there is only one site-wide permittee. Where there are multiple operators associated with the same project, all operators are required to obtain permit coverage. Once covered by a permit, all such operators are to be considered as co-permittees if their involvement in the construction activities affects the same project site, and are held jointly and severally responsible for complying with the permit.

2.2. Typical Construction Site Operators

2.2.1. Owner/Developer

An owner or developer(s) of a project is a primary permittee. This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person may include, but is not limited to a developer, landowner, realtor, commercial builder, homebuilder, etc. An owner or developer's responsibility to comply with requirements of this permit extends until permit coverage is terminated in accordance with requirements of part 8 below.

2.2.2. Commercial builders

A commercial builder can be a primary or secondary permittee at a construction site.

A commercial builder who purchases one or more lots from an owner/developer (site-wide permittee) for the purpose of constructing and selling a structure (e.g., residential house, non-residential structure, commercial building, industrial facility, etc.) and has design or operational control over construction plans and specifications is a primary permittee for that portion of the site. A commercial builder may also be hired by the end user (e.g., a lot owner who may not be a permittee). In either case the commercial builder is considered a new [operator](#) and must submit a new NOI following requirements in section 2.4.3 below.

The commercial builder may also be hired by the primary permittee or a lot owner to build a structure. In this case, the commercial builder signs the primary permittee's NOI and [SWPPP](#) as a contractor (see section 2.2.3 below) and is considered a secondary permittee.

2.2.3. Contractors

A contractor is considered a secondary permittee. This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a [SWPPP](#) for the site or other permit conditions (e.g., contractor is authorized to direct workers at a site to carry out activities required by the [SWPPP](#) or comply with other permit conditions).

A contractor may be, but is not limited to a general contractor, grading contractor, erosion control contractor, sub-contractor responsible for any land disturbing activities and/or erosion prevention and sediment control (EPSC) implementation/maintenance, commercial builder hired by the owner/developer, etc. The contractor may need to include in their contract with the party that hired them specific details for the contractor's responsibilities concerning EPSC measures. This includes the ability of the contractor to make EPSC modifications. The contractor should sign the NOI and [SWPPP](#) associated with the construction project at which they will be an operator.

2.3. Responsibilities of Operators

A permittee may meet one or more of the operational control components in the definition of "operator" found in subpart 2.1 above. Either section 2.3.1 or 2.3.2 below, or both, will apply depending on the type of operational control exerted by an individual permittee.

2.3.1. Permittee(s) with design control (owner/developer)

Permittee(s) with design control (i.e., operational control over construction plans and specifications) at the construction site, including the ability to make modifications to those plans and specifications (e.g., owner/developer) must:

- a) Ensure the project specifications they develop meet the minimum requirements of part 3 below (stormwater pollution prevention plan - [SWPPP](#)) and all other applicable conditions;
- b) Ensure that the [SWPPP](#) indicates the areas of the project where they have design control (including the ability to make modifications in specifications), and ensure all other permittees implementing and maintaining portions of the [SWPPP](#) impacted by any changes they make to the plan are notified of such modifications in a timely manner;
- c) Ensure that all common facilities (i.e., sediment treatment basin and drainage structures) that are necessary for the prevention of erosion or control of sediment are maintained and effective until all construction is complete and all disturbed areas in the entire project are stabilized, unless permit coverage has been obtained and responsibility has been taken over by a new (replacement) owner/operator.
- d) If parties with day-to-day operational control of the construction site have not been identified at the time the comprehensive [SWPPP](#) is initially developed, the permittee with design control shall be considered to be the responsible person until such time the supplemental NOI is submitted, identifying the new [operator\(s\)](#) (see section 2.4.3 below). These new [operators](#) (e.g., general contractor, utilities contractors, sub-contractors, erosion control contractors, hired commercial builders) are considered secondary permittees. The [SWPPP](#) must be updated to reflect the addition of new [operators](#) as needed to reflect operational or design control.
- e) Ensure that all [operators](#) on the site have permit coverage, if required, and are complying with the [SWPPP](#).

2.3.2. Permittee(s) with day-to-day operational control (contractor – secondary permittee)

Permittee(s) with day-to-day operational control of those activities at a project which are necessary to ensure compliance with the [SWPPP](#) for the site or other permit conditions (e.g., general contractor, utilities contractors, sub-contractors, erosion control contractors, hired commercial builders) must:

- a) Ensure that the [SWPPP](#) for portions of the project where they are operators meets the minimum requirements of part 3 below (*SWPPP Requirements*) and identifies the parties responsible for implementation of control measures identified in the plan;
- b) Ensure that the [SWPPP](#) indicates areas of the project where they have operational control over day-to-day activities;
- c) Ensure that measures in the [SWPPP](#) are adequate to prevent erosion and control any sediment that may result from their earth disturbing activity;
- d) Permittees with operational control over only a portion of a larger construction project are responsible for compliance with all applicable terms and conditions of this permit as it relates to their activities on their portion of the construction site. This includes, but is not limited to, implementation of [Best Management Practices \(BMPs\)](#) and other controls required by the [SWPPP](#). Permittees shall ensure either directly or through coordination with other permittees, that their activities do not render another person's pollution control ineffective. All permittees must implement their portions of a comprehensive [SWPPP](#).

2.4. NOI Submittal

2.4.1. Existing site

An [operator](#) presently permitted under the 2005 construction general permit shall be granted coverage under this new general permit. There will be no additional fees associated with an extension of coverage for existing sites under the new permit. The division may, at its discretion, require permittees to confirm their intent to be covered under this new general permit following its effective date through submission of an updated NOI. Should the confirmation be required and is not received, coverage under the new general permit will be terminated. Should a site with terminated coverage be unstable or construction continues, a new NOI, [SWPPP](#) and an appropriate fee must be submitted.

2.4.2. Application for new permit coverage

Except as provided in section 2.4.3 below, [operators](#) must submit a complete NOI, [SWPPP](#) and an appropriate fee in accordance with the requirements described in subpart 1.4 above. The complete application should be submitted at least 30 days prior to commencement of construction activities. The permittee is authorized to discharge stormwater associated with construction activity as of the effective date listed on the NOC. The land disturbing activities shall not start until a NOC is prepared and written approval by the division staff is obtained according to subpart 1.5 above.

2.4.3. New operator

For stormwater discharges from construction sites or portions of the sites where the [operator](#) changes (new owner), or projects where an [operator](#) is added (new contractor) after the initial NOI and comprehensive [SWPPP](#) have been submitted, the supplemental (submitted by a new contractor) or additional (submitted by a new owner) NOI should be submitted as soon as practicable, and always before the new [operator](#) commences work at the site. The supplemental NOI must reference the project name and tracking number assigned to the primary permittee's NOI.

If the site under the control of the new owner is inactive and all areas disturbed are completely stabilized, the NOI may not need to be submitted immediately upon assuming operational control. However, the division should be notified if a new [operator](#) obtains operational control at a site, but commencement of construction under the direction of the [operator](#) at the site is going to be delayed.

If upon the sale or transfer of the site's ownership does not change the signatory requirements for the NOI (see section 7.7.1 below), but the site's owner or developer's company name has changed, a new, updated NOI should be submitted to the division within 30 days of the name change. If the new [operator](#) agrees to comply with an existing comprehensive [SWPPP](#) already implemented at the site, a copy of the supplemental or modified [SWPPP](#) does not have to be submitted with the NOI. There will be no additional fees associated with the sale or transfer of ownership for existing permitted sites.

If the transfer of ownership is due to foreclosure or a permittee filing for bankruptcy proceedings, the new owner (including but not limited to a lending institution) must obtain permit coverage if the property is inactive, but is not stabilized sufficiently. If the property is sufficiently stabilized permit coverage may not be necessary, unless and until construction activity at the site resumes.

2.4.4. Late NOIs

Dischargers are not prohibited from submitting late NOIs. When a late NOI is submitted, and if the division authorizes coverage under this permit, such authorization is only for future discharges; any prior, unpermitted, discharges or permit noncompliances are subject to penalties as described in section 7.1.2 below.

2.5. **Who Must Sign the NOI?**

All construction site [operators](#) as defined in subsection 2.2 above (*Typical Construction Site Operators*) must sign the NOI form. Signatory requirements for a NOI are described in section 7.7.1 below. All signatures must be original. An NOI that does not bear an original signature will be deemed incomplete. The division recommends that signatures be in blue ink.

2.6. **NOI Form**

2.6.1. Contents of the NOI form

NOI for construction projects shall be submitted on the form provided in Appendix A of this permit, or on a copy thereof. This form and its instructions set forth the required content of the NOI. The NOI form must be filled in completely. If sections of the NOI are left blank, a narrative explaining the omission must be provided as an attachment.

Owners, developers and all contractors that meet the definition of the [operator](#) in subsection 2.2 above (*Typical Construction Site Operators*) shall apply for permit coverage on the same NOI, insofar as possible. The NOI is designed for more than one contractor (secondary permittee). The division may accept separate NOI forms from different [operators](#) for the same construction site when warranted.

After permit coverage has been granted to the primary permittee, any subsequent NOI submittals must include the site's previously assigned permit tracking number and the project name. The comprehensive site-specific [SWPPP](#) shall be prepared in accordance with the requirements of part 3 below, and must be submitted with the NOI unless the NOI being submitted is to only add a contractor (secondary permittee) to an existing coverage.

2.6.2. Construction site map

An excerpt (8 ½" by 11" or 11" by 17") from the appropriate 7.5 minute [United States Geological Survey](#) (USGS) topographic map, with the proposed construction site centered, must be included with the NOI. The entire proposed construction area must be clearly identified (outlined) on this map. The total area to be disturbed (in acres) should be included on the map. The map should outline the boundaries of projects, developments and the construction site in relation to major roads, streams or other landmarks. All outfalls where runoff will leave the property should be identified. Stream(s) receiving the discharge, and storm sewer system(s)

conveying the discharge from all site outfalls should be clearly identified and marked on the map. The map should also list and indicate the location of EPSCs that will be used at the construction site. NOIs for [linear projects](#) must specify the location of each end of the construction area and all areas to be disturbed. Commercial builders that develop separate [SWPPPs](#) that cover only their portion of the project shall also submit a site or plat map that clearly indicates the lots which they purchased and for which they are applying for permit coverage and the location of EPSCs that will be used at each lot.

2.6.3. Application completeness

Based on a review of the NOI or other available information, the division shall:

1. prepare a notice of coverage (NOC) for the construction site (see subpart 1.5 above); or
2. prepare a deficiency letter stating additional information must be provided before the NOC can be issued; or
3. deny coverage under this general permit and require the discharger to obtain coverage under an individual NPDES permit (see subpart 7.12 below).

2.7. Where to Submit the NOI, SWPPP and Permitting Fee?

The applicant shall submit the NOI, [SWPPP](#) and permitting fee to the appropriate TDEC Environmental Field Office (EFO) for the county(ies) where the construction activity is located and where stormwater discharges enters [waters of the state](#). If a site straddles a county line of counties that are in areas of different EFOs, the [operators](#) shall send NOIs to each EFO. The permitting fee should be submitted to the EFO that provides coverage for the majority of the proposed construction activity.

A list of counties and the corresponding EFOs is provided in subpart 2.8 below. The division’s Nashville Central Office will serve as a processing office for NOIs submitted by federal or state agencies (including, but not limited to the Tennessee Department of Transportation (TDOT), Tennessee Valley Authority (TVA) and the local [MS4](#) programs).

2.8. List of the TDEC Environmental Field Offices (EFOs) and Corresponding Counties

EFO Name	List of Counties
Chattanooga	Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie
Columbia	Bedford, Coffee, Franklin, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Wayne
Cookeville	Cannon, Clay, Cumberland, De Kalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren, White
Jackson	Benton, Carroll, Chester, Crockett, Decatur, Dyer, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Lake, Lauderdale, Madison, McNairy, Obion, Weakley
Johnson City	Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington
Knoxville	Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union
Memphis	Fayette, Shelby, Tipton
Nashville	Cheatham, Davidson, Dickson, Houston, Humphreys, Montgomery, Robertson, Rutherford, Stewart, Sumner, Trousdale, Williamson, Wilson

TDEC may be reached by telephone at the toll-free number 1-888-891-8332 (TDEC). Local EFOs may be reached directly when calling this number from the construction site, using a land line.

3. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

3.1. The General Purpose of the SWPPP

A comprehensive [SWPPP](#) must be prepared and submitted along with the NOI as required in section 1.4.2 above. The primary permittee must implement the [SWPPP](#) as written from commencement of construction activity until final stabilization is complete, or until the permittee does not have design or operational control of any portion of the construction site. Requirements for termination of site coverage are provided in part 8 below.

A site-specific [SWPPP](#) must be developed for each construction project or site covered by this permit. The design, inspection and maintenance of [Best Management Practices \(BMPs\)](#) described in [SWPPP](#) must be prepared in accordance with good engineering practices. At a minimum, [BMPs](#) shall be consistent with the requirements and recommendations contained in the current edition of the [Tennessee Erosion and Sediment Control Handbook](#) (the handbook). The handbook is designed to provide information to planners, developers, engineers, and contractors on the proper selection, installation, and maintenance of [BMPs](#). This permit allows the use of innovative or alternative [BMPs](#), whose performance has been documented to be equivalent or superior to conventional [BMPs](#) as certified by the [SWPPP](#) designer.

Once a definable area has been finally stabilized, the permittee may identify this area on the site-specific [SWPPP](#). No further [SWPPP](#) or inspection requirements apply to that portion of the site (e.g., earth-disturbing activities around one of three buildings in a complex are done and the area is finally stabilized, one mile of a roadway or pipeline project is done and finally stabilized, etc).

For more effective coordination of [BMPs](#) a cooperative effort by the different [operators](#) at a site to prepare and participate in a comprehensive [SWPPP](#) is expected. Primary permittees at a site may develop separate [SWPPPs](#) that cover only their portion of the project. In instances where there is more than one [SWPPP](#) for a site, the permittees must ensure the stormwater discharge controls and other measures are compatible with one another and do not prevent another [operator](#) from complying with permit conditions. The comprehensive [SWPPP](#) developed and submitted by the primary permittee must assign responsibilities to subsequent (secondary) permittees and coordinate all [BMPs](#) at the construction site. Assignment and coordination can be done by name or by job title.

3.1.1. Registered engineer or landscape architect requirement

The narrative portion of the [SWPPP](#) may be prepared by an individual that has a working knowledge of erosion prevention and sediment controls, such as a Certified Professional in Erosion and Sediment Control ([CPESC](#)) or a person that successfully completed the “[Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites](#)” course. Plans and specifications for any building or structure, including the design of sediment basins or other sediment controls involving structural, hydraulic, hydrologic or other engineering calculations shall be prepared by a licensed professional engineer or landscape architect and

stamped and certified in accordance with the [Tennessee Code Annotated](#), Title 62, Chapter 2 (see part 10 below) and the rules of the [Tennessee Board of Architectural and Engineering Examiners](#). Engineering design of sediment basins and other sediment controls must be included in SWPPPs for construction sites involving drainage to an outfall totaling 10 or more acres (see subsection 3.5.3.3 below) or 5 or more acres if draining to an impaired or exceptional quality waters (see subsection 5.4.1 below).

3.1.2. Site Assessment

Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment at a construction site. The site assessment shall be conducted at each outfall involving drainage totaling 10 or more acres (see subsection 3.5.3.3 below) or 5 or more acres if draining to an impaired or exceptional quality waters (see subsection 5.4.1 below), within a month of construction commencing at each portion of the site that drains the qualifying acreage of such portion of the site. The site assessment shall be performed by individuals with following qualifications:

- a licensed professional engineer or landscape architect;
- a Certified Professional in Erosion and Sediment Control ([CPESC](#)) or
- a person that successfully completed the “[Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites](#)” course.

As a minimum, site assessment should be performed to verify the installation, functionality and performance of the EPSC measures described in the [SWPPP](#). The site assessment should be performed with the inspector (as defined in part 10 below – Definitions), and should include a review and update (if applicable) of the [SWPPP](#). Modifications of plans and specifications for any building or structure, including the design of sediment basins or other sediment controls involving structural, hydraulic, hydrologic or other engineering calculations shall be prepared by a licensed professional engineer or landscape architect and stamped and certified in accordance with the [Tennessee Code Annotated](#), Title 62, Chapter 2 (see part 10 below) and the rules of the [Tennessee Board of Architectural and Engineering Examiners](#).

The site assessment findings shall be documented and the documentation kept with the [SWPPP](#) at the site. At a minimum, the documentation shall include information included in the inspection form provided in Appendix C of this permit. The documentation must contain the printed name and signature of the individual performing the site assessment and the following certification:

“I certify under penalty of law that this report and all attachments are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

The site assessment can take the place of one of the twice weekly inspections requirement from subsection 3.5.8.2 below.

The division may require additional site assessment(s) to be performed if site inspection by division’s personnel reveals site conditions that have potential of causing pollution to the [waters of the state](#).

3.2. SWPPP Preparation and Compliance

3.2.1. Existing site

Operator(s) of an existing site presently permitted under the division's previous construction general permit shall maintain full compliance with the current **SWPPP**. The current **SWPPP** should be modified, if necessary, to meet requirements of this new general permit, and the **SWPPP** changes implemented no later than 12 months following the new permit effective date (May 24, 2011), excluding the **buffer zone** requirements as stated in section 4.1.2 below. The permittee shall make the updated **SWPPP** available for the division's review upon request.

3.2.2. New site

For construction stormwater discharges not authorized under an NPDES permit as of the effective date of this permit, a **SWPPP** that meets the requirements of subpart 3.5 below of this permit shall be prepared and submitted along with the NOI and an appropriate fee for coverage under this permit.

3.3. Signature Requirements, Plan Review and Making Plans Available

3.3.1. Signature Requirements for a SWPPP

The **SWPPP** shall be signed by the **operator(s)** in accordance with subpart 7.7 below, and if applicable, certified according to requirements in section 3.1.1 above. All signatures must be original. A **SWPPP** that does not bear an original signature will be deemed incomplete. The division recommends that signatures be in blue ink.

3.3.2. SWPPP Review

The permittee shall make updated plans and inspection reports available upon request to the director, local agency approving erosion prevention and sediment control plan, grading plans, land disturbance plans, or stormwater management plans, or the operator of an **MS4**.

3.3.3. Making plans available

A copy of the **SWPPP** shall be retained on-site at the location which generates the stormwater discharge in accordance with part 6 below of this permit. If the site is inactive or does not have an onsite location adequate to store the **SWPPP**, the location of the **SWPPP**, along with a contact phone number, shall be posted on-site. If the **SWPPP** is located offsite, reasonable local access to the plan, during normal working hours, must be provided.

3.4. Keeping Plans Current

3.4.1. SWPPP modifications

The permittee must modify and update the **SWPPP** if any of the following are met:

- a) whenever there is a change in the scope of the project, which would be expected to have a significant effect on the discharge of pollutants to the **waters of the state** and which has

- not otherwise been addressed in the [SWPPP](#). If applicable, the SWPPP must be modified or updated whenever there is a change in chemical treatment methods, including the use of different treatment chemical, different dosage or application rate, or different area of application;
- b) whenever inspections or investigations by site [operators](#), local, state or federal officials indicate the [SWPPP](#) is proving ineffective in eliminating or significantly minimizing pollutants from sources identified under section 3.5.2 below of this permit, or is otherwise not achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity. Where local, state or federal officials determine that the SWPPP is ineffective in eliminating or significantly minimizing pollutant sources, a copy of any correspondence to that effect must be retained in the SWPPP;
 - c) to identify any new [operator](#) (typically contractor and/or subcontractor) as needed to reflect operational or design control that will implement a measure of the [SWPPP](#) (see subparts 2.1 and 2.2 above for further description of which [operators](#) must be identified); and
 - d) to include measures necessary to prevent a negative impact to legally protected state or federally listed fauna or flora (or species proposed for such protection – see subpart 1.3 above). Amendments to the [SWPPP](#) may be reviewed by the division, a local [MS4](#), the EPA or an authorized regulatory agency; and
 - e) a TMDL is developed for the receiving waters for a pollutant of concern (siltation and/or habitat alteration).

3.5. Components of the SWPPP

The [SWPPP](#) shall include the following items, as described in sections 3.5.1 to 3.5.10 below: site description, description of stormwater runoff controls, erosion prevention and sediment controls, stormwater management, description of other items needing control, approved local government sediment and erosion control requirements, maintenance, inspections, pollution prevention measures for non-stormwater discharges, and documentation of permit eligibility related to Total Maximum Daily Loads ([TMDL](#)). The [SWPPP](#) must:

- a) identify all potential sources of pollution which are likely to affect the quality of stormwater discharges from the construction site;
- b) describe practices to be used to reduce pollutants in stormwater discharges from the construction site; and
- c) assure compliance with the terms and conditions of this permit.

3.5.1. Site description

Each plan shall provide a description of pollutant sources and other information as indicated below:

- a) a description of all construction activities at the site (not just grading and street construction);
- b) the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.);
- c) estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, filling, or other construction activities;

- d) a description of the topography of the site including an estimation of the percent slope and the variation in percent slope found on the site; such estimation should be on a basis of a drainage area serving each outfall, rather than an entire project;
- e) any data describing the soil (data may be referenced or summarized) and how the soil type will dictate the needed control measures and how the soil may affect the expected quality of runoff from the site;
- f) an estimate of the runoff coefficient of the site after construction activities are completed and how the runoff will be handled to prevent erosion at the permanent outfall and receiving stream, as well as the estimate of the percentage of impervious area before and after construction;
- g) an erosion prevention and sediment control plan of the site with the proposed construction area clearly outlined. The plan should indicate the boundaries of the permitted area, drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which are not to be disturbed, the location of major structural and nonstructural controls identified in the [SWPPP](#), the location of areas where stabilization practices are expected to occur, surface waters including wetlands, sinkholes, and careful identification on the site plan of outfall points intended for coverage under the general permit for stormwater discharges from the site. The erosion control plan must meet requirements stated in section 3.5.2 below;
- h) a description of any discharge associated with industrial activity other than construction stormwater that originates on site and the location of that activity and its permit number;
- i) identification of any stream or wetland on or adjacent to the project, a description of any anticipated alteration of these waters and the permit number or the tracking number of the [Aquatic Resources Alteration Permit](#) (ARAP) or Section 401 Certification issued for the alteration;
- j) the name of the receiving water(s), and approximate size and location of affected wetland acreage at the site;
- k) if applicable, clearly identify and outline the [buffer zones](#) established to protect [waters of the state](#) located within the boundaries of the project;
- l) some construction projects, such as residential or commercial subdivisions and/or developments or industrial parks are subdivided. Subdivided lots are sometimes sold to new owners prior to completion of construction. The site-wide developer/owner must describe EPSC measures implemented at those lots. Once the property is sold, the new operator must obtain coverage under this permit;
- m) for projects of more than 50 acres, the construction phases must be described (see subsection 3.5.3.1 below); and
- n) if only a portion of the total acreage of the construction site is to be disturbed, then the protections employed to limit the disturbance must be discussed, i.e., caution fence, stream side [buffer zones](#), etc. Limits of disturbance shall be clearly marked in the [SWPPP](#) and areas to be undisturbed clearly marked in the field before construction activities begin.

3.5.2. Description of stormwater runoff controls

The [SWPPP](#) shall include a description of appropriate erosion prevention and sediment controls and other [Best Management Practices \(BMPs\)](#) that will be implemented at the construction site. The [SWPPP](#) must clearly describe each major activity which disturbs soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.):

- a) appropriate control measures and the general timing for the measures to be implemented during construction activities; and
- b) which permittee is responsible for implementation of which controls.

The [SWPPP](#) must include erosion prevention and sediment control (EPSC) plans showing the approximate location of each control measure along with a description of the timing during the construction process for implementing each measure (e.g., prior to the start of earth disturbance, as the slopes are altered and after major grading is finished). The different stages of construction (initial/major grading, installation of infrastructure, final contours, etc.) and the erosion preventions and sediment control measures that will be utilized during each stage should be depicted on multiple plan sheets (see paragraphs below). Half sheets are acceptable. One sheet showing all EPSCs that will be used during the life of the multi-phase project implementing different EPSC controls at each stage will not be considered complete.

For site disturbances less than 5 acres, at least two separate EPSC plan sheets shall be developed. At least two stages shall be identified, with associated EPSC measures addressed. The plan stages shall be addressed separately in plan sheets, with each stage reflecting the conditions and EPSC measures necessary to manage stormwater runoff, erosion and sediment during the initial land disturbance (initial grading) and the conditions and EPSC measures necessary to manage stormwater, erosion and sediment at final grading.

For site disturbances more than 5 acres, at least 3 separate EPSC plan sheets shall be developed. Three stages shall be identified. The first plan sheet should reflect the conditions and EPSC measures necessary to manage stormwater runoff, during the initial land disturbance (initial grading). The second plan sheet shall reflect the conditions and the EPSC measures necessary to manage stormwater runoff from interim land disturbance activities. The third plan sheet shall reflect the conditions and EPSC measures necessary to manage stormwater runoff, erosion and sediment at final grading.

The description and implementation of controls shall address the following minimum components, as described in sections 3.5.3, 3.5.4 and 3.5.5 below. Additional controls may be necessary to comply with section 5.3.2 below.

3.5.3. Erosion prevention and sediment controls

3.5.3.1. General criteria and requirements

- a) The construction-phase erosion prevention controls shall be designed to eliminate (or minimize if complete elimination is not possible) the dislodging and suspension of soil in water. Sediment controls shall be designed to retain mobilized sediment on site to the maximum extent practicable.
- b) The design, inspection and maintenance of [Best Management Practices \(BMPs\)](#) described in [SWPPP](#) must be prepared in accordance with good engineering practices and, at a minimum, shall be consistent with the requirements and recommendations contained in the current edition of the [Tennessee Erosion and Sediment Control Handbook](#). In addition, all control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications (where applicable). All control measures selected must be able to slow runoff so that rill and gully formation is prevented. When [steep slopes](#) and/or fine particle soils are present at the site, additional physical or chemical treatment of stormwater runoff may be required. Proposed physical

and/or chemical treatment must be researched and applied according to the manufacturer's guidelines and fully described in the SWPPP. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for relevant site situations.

- c) If permanent or temporary vegetation is to be used as a control measure, then the timing of the planting of the vegetation cover must be discussed in the SWPPP. Planning for planting cover vegetation during winter months or dry months should be avoided.
- d) If sediment escapes the permitted area, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment that has escaped the construction site and has collected in a street must be removed so that it is not subsequently washed into storm sewers and streams by the next rain and/or so that it does not pose a safety hazard to users of public streets). Permittees shall not initiate remediation/restoration of a stream without consulting the division first. This permit does not authorize access to private property. Arrangements concerning removal of sediment on adjoining property must be settled by the permittee with the adjoining landowner.
- e) Sediment should be removed from sediment traps, silt fences, sedimentation ponds, and other sediment controls as recommended in the [Tennessee Erosion and Sediment Control Handbook](#), and must be removed when design capacity has been reduced by 50%.
- f) Litter, construction debris, and construction chemicals exposed to stormwater shall be picked up prior to anticipated storm events or before being carried off of the site by wind (e.g., forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, daily pick-up, etc.). After use, materials used for erosion prevention and sediment control (such as silt fence) should be removed or otherwise prevented from becoming a pollutant source for stormwater discharges.
- g) Erodeable material storage areas (including but not limited to overburden and stockpiles of soil etc.) and borrow pits used primarily for the permitted project and which are contiguous to the site are considered a part of the site and shall be identified on the NOI, addressed in the SWPPP and included in the fee calculation. TDOT projects shall be addressed in the [Waste and Borrow Manual](#) per the [Statewide Stormwater Management Plan \(SSWMP\)](#).
- h) Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than 15 days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed.
- i) Clearing and grubbing must be held to the minimum necessary for grading and equipment operation. Existing vegetation at the site should be preserved to the maximum extent practicable.
- j) Construction must be sequenced to minimize the exposure time of graded or denuded areas.
- k) Construction phasing is required on all projects regardless of size as a major practice for minimizing erosion and limiting sedimentation. Construction must be phased to keep the total disturbed area less than 50 acres at any one time. Areas of the completed phase must be stabilized within 14 days (see subsection 3.5.3.2 below). No more than 50 acres of active soil disturbance is allowed at any time during the construction project. This includes off-site borrow or disposal areas that meet the conditions of section 1.2.2 above of this general permit.

The 50 acre limitation does not apply to [linear construction projects](#) (such as roadway, pipeline, and other infrastructure construction activities) if the following conditions are met:

- Where no one area of active soil disturbance is greater than 50 acres and the various areas of disturbance have distinct receiving waters; or
- Where contiguous disturbances amount to greater than 50 acres, but no one distinct water is receiving run off from more than 50 disturbed acres; or
- With the department's written concurrence, where more than 50 acres of disturbance is to occur and where one receiving water will receive run-off from more than 50 acres; or
- Where no one area of active soil disturbance is greater than 50 acres and the various areas of disturbance are more than 5 miles apart.

In order for a [linear project](#) to take advantage of the 50 acre rule exemption outlined in this paragraph, the contractor shall conduct monthly site assessments as described in section 3.1.2 above until the site is permanently stabilized.

- l) Erosion prevention and sediment control measures must be in place and functional before earth moving operations begin, and must be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the workday, but must be replaced at the end of the workday.
- m) The following records shall be maintained on or near site: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; the dates when stabilization measures are initiated; inspection records and rainfall records.
- n) Off-site vehicle tracking of sediments and the generation of dust shall be minimized. A stabilized construction access (a point of entrance/exit to a construction site) shall be described and implemented, as needed, to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- o) Permittees shall maintain a rain gauge and daily rainfall records at the site, or use a reference site for a record of daily amount of precipitation.

3.5.3.2. Stabilization practices

The [SWPPP](#) shall include a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Site plans should comply with [buffer zone](#) requirements (see sections 4.1.2 and 5.4.2 below), if applicable, in which construction activities, borrow and/or fill are prohibited. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Use of impervious surfaces for final stabilization in lieu of a permanent vegetative cover should be avoided where practicable. No stabilization, erosion prevention and sediment control measures are to be installed in a stream without obtaining a Section 404 permit and an [Aquatic Resources Alteration Permit](#) (ARAP), if such permits are required and appropriate.

Stabilization measures shall be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed no later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. In the following situations, [temporary stabilization](#) measures are not required:

- a) where the initiation of stabilization measures is precluded by snow cover or frozen ground conditions or adverse soggy ground conditions, stabilization measures shall be initiated as soon as practicable; or
- b) where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days.

[Steep slopes](#) shall be temporarily stabilized not later than 7 days after construction activity on the slope has temporarily or permanently ceased.

Permanent stabilization with perennial vegetation (using native herbaceous and woody plants where practicable) or other permanently stable, non-eroding surface shall replace any temporary measures as soon as practicable. Unpacked gravel containing fines (silt and clay sized particles) or crusher runs will not be considered a non-eroding surface.

3.5.3.3. Structural practices

The [SWPPP](#) shall include a description of structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Structural controls shall not be placed in streams or wetlands except as authorized by a section 404 permit and/or [Aquatic Resources Alteration Permit](#) (ARAP).

Erosion prevention and sediment control measures must be prepared in accordance with good engineering practices and the latest edition of the [Tennessee Erosion and Sediment Control Handbook](#). In addition, erosion prevention and sediment controls shall be designed to minimize erosion and maximize sediment removal resulting from a [2-year, 24-hour storm](#) (the design storm – see part 10 below: “2-year and 5-year design storm depths and intensities”), as a minimum, either from total rainfall in the designated period or the equivalent intensity as specified on the following website http://hdsc.nws.noaa.gov/hdsc/pfds/orb/tn_pfds.html. When clay and other fine particle soils are present at the construction site, chemical treatment may be used to minimize amount of sediment being discharged.

For an on-site outfall which receives drainage from 10 or more acres, a minimum sediment basin volume that will provide treatment for a calculated volume of runoff from a [2 year, 24 hour storm](#) and runoff from each acre drained, or equivalent control measures as specified in the [Tennessee Erosion and Sediment Control Handbook](#), shall be provided until final stabilization of the site. A drainage area of 10 or more acres includes both disturbed and undisturbed portions of the site or areas adjacent to the site, all draining through the common outfall. Where an equivalent control measure is substituted for a sediment retention basin, the equivalency must be justified to the division. Runoff from any undisturbed acreage should be diverted around the disturbed area and the sediment basin. Diverted runoff can be omitted from the volume calculation. Sediment storage expected from the disturbed areas must be included.

All calculations of drainage areas, runoff coefficients and basin volumes must be provided in the [SWPPP](#). The discharge structure from a sediment basin must be designed to retain sediment during the lower flows. Muddy water to be pumped from excavation and work areas must be held in settling basins or filtered or chemically treated prior to its discharge into surface waters. Water must be discharged through a pipe, well-grassed or lined channel or other equivalent means so that the discharge does not cause erosion and sedimentation. Discharged water must not cause an objectionable color contrast with the receiving stream.

3.5.4. Stormwater management

The [SWPPP](#) shall include a description of any measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed.

For projects discharging to waters considered impaired by sediment or habitat alteration due to in-channel erosion, the [SWPPP](#) shall include a description of measures that will be installed during the construction process to control pollutants and any increase in the volume of stormwater discharges that will occur after construction operations have been completed. For [steep slope](#) sites, the [SWPPP](#) shall also include a description of measures that will be installed to dissipate the volume and energy of the stormwater runoff to pre-development levels.

This permit only addresses the installation of stormwater management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed, the site has undergone final stabilization, and the permit coverage has been terminated. Permittees are only responsible for the installation and maintenance of stormwater management measures prior to final stabilization of the site, and are not responsible for maintenance after stormwater discharges associated with construction activity have been eliminated from the site. All permittees are encouraged to limit the amount of post construction runoff, if not required by local building regulations or local [MS4](#) program requirements, in order to minimize in-stream channel erosion in the receiving stream.

Construction stormwater runoff management practices may include: stormwater detention structures (including ponds with a permanent pool); stormwater retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive velocity flow from the structure to the receiving stream so that the natural physical and biological characteristics and functions of the stream are maintained and protected (e.g., there should be no significant changes in the hydrological regime of the receiving water). The [SWPPP](#) shall include an explanation of the technical basis used to select the velocity dissipation devices to control pollution where flows exceed pre-development levels. The [Tennessee Erosion and Sediment Control Handbook](#) provides measures that can be incorporated into the design or implemented on site to decrease erosive velocities. An [Aquatic Resources Alteration Permit](#) (ARAP) may be required if such velocity dissipation devices installed would alter the receiving stream and/or its banks.

3.5.5. Other items needing control

- a) No solid materials, including building materials, shall be placed in [waters of the state](#), except as authorized by a section 404 permit and/or [Aquatic Resources Alteration Permit \(ARAP\)](#)(see part 9 below).
- b) For installation of any waste disposal systems on site, or sanitary sewer or septic system, the [SWPPP](#) shall identify these systems and provide for the necessary EPSC controls. Permittees must also comply with applicable state and/or local waste disposal, sanitary sewer or septic system regulations for such systems to the extent these are located within the permitted area.
- c) The [SWPPP](#) shall include a description of construction and waste materials expected to be stored on-site. The [SWPPP](#) shall also include a description of controls used to reduce pollutants from materials stored on site, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.
- d) A description of stormwater sources from areas other than construction and a description of controls and measures that will be implemented at those sites.
- e) A description of measures necessary to prevent “taking” of legally protected state or federal listed threatened or endangered aquatic fauna and/or critical habitat (if applicable). The permittee must describe and implement such measures to maintain eligibility for coverage under this permit.

3.5.6. Approved local government sediment and erosion control requirements

Permittees must comply with any additional erosion prevention, sediment controls and stormwater management measures required by a local municipality or permitted [MS4](#) program.

3.5.7. Maintenance

The [SWPPP](#) shall describe procedures to ensure that vegetation, erosion and sediment control measures, [buffer zones](#), and other protective measures identified in the site plan are kept in good and effective operating condition. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event, but in no case more than 7 days after the need is identified.

3.5.8. Inspections

3.5.8.1. Inspector training and certification

Inspectors performing the required twice weekly inspections must have an active certification by completing the “[Fundamentals of Erosion Prevention and Sediment Control Level I](#)” course. A copy of the certification or training record for inspector certification should be kept on site.

3.5.8.2. Schedule of inspections

- a) Inspections described in paragraphs b, c and d below, shall be performed at least twice every calendar week. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice) or due to extreme drought, such inspection only has to be conducted once per month until thawing or precipitation results in runoff or construction activity resumes. Inspection requirements do not apply

- to definable areas that have been finally stabilized, as described in subpart 3.1 above. Written notification of the intent to change the inspection frequency and the justification for such request must be submitted to the local Environmental Field Office, or the division's Nashville Central Office for projects of the Tennessee Department of Transportation (TDOT) and the Tennessee Valley Authority (TVA). Should the division discover that monthly inspections of the site are not appropriate due to insufficient stabilization measures or otherwise, twice weekly inspections shall resume. The division may inspect the site to confirm or deny the notification to conduct monthly inspections.
- b) Qualified personnel, as defined in section 3.5.8.1 above (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.
 - c) Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.
 - d) Outfall points (where discharges leave the site and/or enter [waters of the state](#)) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.
 - e) Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event, but in no case more than 7 days after the need is identified.
 - f) Based on the results of the inspection, the site description identified in the [SWPPP](#) in accordance with section 3.5.1 above and pollution prevention measures identified in the [SWPPP](#) in accordance with section 3.5.2 above shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the [SWPPP](#), but in no case later than 14 days following the inspection.
 - g) All inspections shall be documented on the Construction Stormwater Inspection Certification form provided in Appendix C of this permit for all construction sites. An alternative inspection form may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the division's form (Appendix C) and the permittee has obtained a written approval from the division to use the alternative form. Inspection documentation will be maintained on site and made available to the division upon request. Inspection reports must be submitted to the division within 10 days of the request. If the division requests the Construction Stormwater Inspection Certification form to be submitted, the submitted form must contain the printed name and signature of the trained certified inspector and the person who meets the signatory requirements of section 7.7.2 below of this permit.
 - h) Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.
 - i) Subsequent [operator\(s\)](#) (primary permittees) who have obtained coverage under this permit should conduct twice weekly inspections, unless their portion(s) of the site has been temporarily stabilized, or runoff is unlikely due to winter conditions or due to

extreme drought as stated in paragraph a) above. The primary permittee (such as a developer) is no longer required to conduct inspections of portions of the site that are covered by a subsequent primary permittee (such as a home builder).

3.5.9. Pollution prevention measures for non-stormwater discharges

Sources of non-stormwater listed in section 1.2.3 above of this permit that are combined with stormwater discharges associated with construction activity must be identified in the [SWPPP](#). The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Any non-stormwater must be discharged through stable discharge structures. Estimated volume of the non-stormwater component(s) of the discharge must be included in the design of all impacted control measures.

3.5.10. Documentation of permit eligibility related to Total Maximum Daily Loads (TMDL)

The [SWPPP](#) must include documentation supporting a determination of permit eligibility with regard to waters that have an approved [TMDL](#) for a pollutant of concern, including:

- a) identification of whether the discharge is identified, either specifically or generally, in an approved [TMDL](#) and any associated wasteload allocations, site-specific requirements, and assumptions identified for the construction stormwater discharge;
- b) summaries of consultation with the division on consistency of [SWPPP](#) conditions with the approved [TMDL](#), and
- c) measures taken to ensure that the discharge of [TMDL](#) identified pollutants from the site is consistent with the assumptions and requirements of the approved [TMDL](#), including any specific wasteload allocation that has been established that would apply to the construction stormwater discharge.

4. CONSTRUCTION AND DEVELOPMENT EFFLUENT GUIDELINES

4.1. Non-Numeric Effluent Limitations

Any point source authorized by this general permit must achieve, at a minimum, the effluent limitations representing the degree of effluent reduction attainable by application of best practicable control technology (BPT) currently available and is described in sections 4.1.1 through 4.1.7 below.

4.1.1. Erosion Prevention and Sediment Controls

Design, install and maintain effective erosion prevention and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed and maintained to:

- (1) Control stormwater volume and velocity within the site to minimize soil erosion;
- (2) Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
- (3) Minimize the amount of soil exposed during construction activity;
- (4) Minimize the disturbance of [steep slopes](#);

- (5) Eliminate (or minimize if complete elimination is not possible) sediment discharges from the site. The design, installation and maintenance of erosion prevention and sediment controls must address factors such as the design storm (see sub-section 3.5.3.3 above) and soil characteristics, including the range of soil particle sizes expected to be present on the site;
- (6) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible (see section 4.1.2 below); and
- (7) Minimize soil compaction and, unless infeasible, preserve topsoil.

4.1.2. Buffer zone requirements

Buffer zone requirements in this section apply to all streams adjacent to construction sites, with an exception for streams designated as impaired or Exceptional Tennessee waters (see section 5.4.2 below). A 30-foot natural riparian **buffer zone** adjacent to all streams at the construction site shall be preserved, to the maximum extent practicable, during construction activities at the site. The water quality **buffer zone** is required to protect **waters of the state** (e.g., perennial and intermittent streams, rivers, lakes, wetlands) located within or immediately adjacent to the boundaries of the project, as identified using methodology from Standard Operating Procedures for Hydrologic Determinations (see rules to implement a certification program for Qualified Hydrologic Professionals, [TN Rules Chapter 0400-40-17](#)). **Buffer zones** are not primary sediment control measures and should not be relied on as such. Rehabilitation and enhancement of a natural **buffer zone** is allowed, if necessary, for improvement of its effectiveness of protection of the **waters of the state**. The **buffer zone** requirement only applies to new construction sites, as described in section 2.4.2 above.

The riparian **buffer zone** should be preserved between the top of stream bank and the disturbed construction area. The 30-foot criterion for the width of the **buffer zone** can be established on an average width basis at a project, as long as the minimum width of the **buffer zone** is more than 15 feet at any measured location.

Every attempt should be made for construction activities not to take place within the **buffer zone**. **BMPs** providing equivalent protection to a receiving stream as a natural riparian zone may be used at a construction site. Such equivalent **BMPs** shall be designed to be as effective in protecting the receiving stream from effects of stormwater runoff as a natural riparian zone. A justification for use and a design of equivalent **BMPs** shall be included in the **SWPPP**. Such equivalent **BMPs** are expected to be routinely used at construction projects typically located adjacent to surface waters. These projects include, but are not limited to: sewer line construction, roadway construction, utility line or equipment installation, greenway construction, construction of a permanent outfall or a velocity dissipating structure, etc.

This requirement does not apply to any valid [Aquatic Resources Alteration Permit](#) (ARAP), or equivalent permits issued by federal authorities. Additional **buffer zone** requirements may be established by the local [MS4](#) program.

4.1.2.1. Buffer zone exemption based on existing uses

Buffer zones as described in section 4.1.2 above shall not be required to portions of the buffer where certain land uses exist and are to remain in place according to the following:

1. A use shall be considered existing if it was present within the **buffer zone** as of the date of the Notice of Intent for coverage under the CGP. Existing uses shall include, but not be limited to, buildings, parking lots, roadways, utility lines and on-site sanitary sewage systems. Only the portion of the **buffer zone** that contains the footprint of the existing land use is exempt from **buffer zones**. Activities necessary to maintain uses are allowed provided that no additional vegetation is removed from the **buffer zone**.
2. If an area with an existing land use is proposed to be converted to another use or the impervious surfaces located within the buffer area are being removed **buffer zone** requirements shall apply.

4.1.2.2. Pre-Approved Sites

Construction activity at sites that have been pre-approved before February 1, 2010, are exempt from the buffer requirements of section 4.1.2 above. Evidence of pre-approval for highway projects shall be a final right-of-way plan and for other construction projects, the final design drawings with attached dated, written approval by the local, state or federal agency with authority to approve such design drawings for construction.

4.1.3. Soil stabilization

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have temporarily or permanently ceased on any portion of the site, and will not resume for a period exceeding 14 calendar days. Soil stabilization (temporary or permanent) of those of disturbed areas must be completed as soon as possible, but not later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures (such as, but not limited to: properly anchored mulch, soil binders, matting) must be employed.

4.1.4. Dewatering

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. Appropriate controls include, but are not limited to: weir tank, dewatering tank, gravity bag filter, sand media particulate filter, pressurized bag filter, cartridge filter or other control units providing the level of treatment necessary to comply with permit requirements.

4.1.5. Pollution prevention measures

The permittee must design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- (2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
- (3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

4.1.6. Prohibited discharges

The following discharges are prohibited:

- (1) Wastewater from washout of concrete, unless managed by an appropriate control;
- (2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
- (4) Soaps or solvents used in vehicle and equipment washing.

4.1.7. Surface outlets

When discharging from basins and impoundments, utilize outlet structures that only withdraw water from near the surface of the basin or impoundment, unless infeasible.

5. SPECIAL CONDITIONS, MANAGEMENT PRACTICES, AND OTHER NON-NUMERIC LIMITATIONS

5.1. Releases in Excess of Reportable Quantities

The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility. This permit does not relieve the permittee of the reporting requirements of [40 CFR 117](#) and [40 CFR 302](#). Where a release containing a hazardous substance in an amount equal to or in excess of a reportable quantity established under either [40 CFR 117](#) or [40 CFR 302](#) occurs during a 24 hour period:

- a) the permittee is required to notify the National Response Center (NRC) (800-424-8802) and the Tennessee Emergency Management Agency (emergencies: 800-262-3300; non-emergencies: 800-262-3400) in accordance with the requirements of [40 CFR 117](#) or [40 CFR 302](#) as soon as he or she has knowledge of the discharge;
- b) the permittee shall submit, within 14 days of knowledge of the release, a written description of: the release (including the type and estimate of the amount of material

released), the date that such release occurred, the circumstances leading to the release, what actions were taken to mitigate effects of the release, and steps to be taken to minimize the chance of future occurrences, to the appropriate Environmental Field Office (see subpart 2.8 above); and

- c) the [SWPPP](#) required under part 3 above of this permit must be updated within 14 days of knowledge of the release: to provide a description of the release, the circumstances leading to the release, and the date of the release. This can be accomplished by including a copy of a written description of the release as described in the paragraph b) above. In addition, the [SWPPP](#) must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

5.2. Spills

This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

5.3. Discharge Compliance with State Water Quality Standards

5.3.1. Violation of Water Quality Standards

This permit does not authorize stormwater or other discharges that would result in a violation of a state water quality standard (the TDEC Rules, Chapters [1200-4-3](#), [1200-4-4](#)). Such discharges constitute a violation of this permit.

Where a discharge is already authorized under this permit and the division determines the discharge to cause or contribute to the violation of applicable state water quality standards, the division will notify the [operator](#) of such violation(s). The permittee shall take all necessary actions to ensure future discharges do not cause or contribute to the violation of a water quality standard and shall document these actions in the [SWPPP](#).

5.3.2. Discharge quality

- a) The construction activity shall be carried out in such a manner that will prevent violations of water quality criteria as stated in the TDEC Rules, [Chapter 1200-4-3-.03](#). This includes but is not limited to the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or [turbidity](#) impairs the usefulness of [waters of the state](#) for any of the uses designated for that water body by TDEC Rules, [Chapter 1200-4-4](#). Construction activity carried out in the manner required by this permit shall be considered compliance with the TDEC Rules, [Chapter 1200-4-3-.03](#).
- b) There shall be no distinctly visible floating scum, oil or other matter contained in the stormwater discharge.
- c) The stormwater discharge must not cause an objectionable color contrast in the receiving stream.
- d) The stormwater discharge must result in no materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream. This provision includes species covered under subpart 1.3 above.

5.4. Discharges into Impaired or Exceptional Tennessee Waters

5.4.1. Additional SWPPP/BMP Requirements for discharges into impaired or exceptional TN Waters

Discharges that would add loadings of a pollutant that is identified as causing or contributing to an impairment of a water body on the list of [impaired waters](#), or which would cause degradation to waters designated by TDEC as Exceptional Tennessee waters are not authorized by this permit (see subpart 1.3 above). To be eligible to obtain and maintain coverage under this permit, the [operator](#) must satisfy, at a minimum, the following additional requirements for discharges into waters impaired by siltation (or discharges upstream of such waters and because of the proximity to the impaired segment and the nature of the discharge is likely to contribute pollutants of concern in amounts measurable in the impaired segment that may affect the [impaired waters](#)) and for discharges to waters identified by TDEC as Exceptional Tennessee waters (or discharges upstream of such waters and because of the proximity to the exceptional segment and the nature of the discharge is likely to contribute pollutants of concern in amounts measurable in the exceptional segment that may affect the Exceptional Tennessee waters):

- a) The [SWPPP](#) must certify that erosion prevention and sediment controls used at the site are designed to control storm runoff generated by a [5-year, 24-hour storm](#) event (the design storm - see part 10 below: “2-year and 5-year design storm depths and intensities”), as a minimum, either from total rainfall in the designated period or the equivalent intensity as specified on the following website http://hdsc.nws.noaa.gov/hdsc/pfds/orb/tn_pfds.html. When clay and other fine particle soils are found on sites, additional physical or chemical treatment of stormwater runoff may be used.
- b) The [SWPPP](#) must be prepared by a person who, at a minimum, has completed the department’s [Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites](#) course. This requirement goes in effect 24 months following the new permit effective date. A copy of the certification or training record for inspector certification should be included with the [SWPPP](#).
- c) The permittee shall perform inspections described in section 3.5.8 above at least twice every calendar week. Inspections shall be performed at least 72 hours apart.
- d) The permittee must certify on the form provided in Appendix C of this permit whether or not all planned and designed erosion prevention and sediment controls are installed and in working order. The form must contain the printed name and signature of the inspector and the certification must be executed by a person who meets the signatory requirements of section 7.7.2 below of this permit. The record of inspections must be kept at the construction site with a copy of the [SWPPP](#). For record retention requirements, see part 6 below.
- e) In the event the division finds that a discharger is complying with the [SWPPP](#), but contributing to the impairment of receiving stream, then the discharger will be notified by the director in writing that the discharge is no longer eligible for coverage under the general permit. The permittee may update the [SWPPP](#) and implement the necessary changes designed to eliminate further impairment of the receiving stream. If the permittee does not implement the [SWPPP](#) changes within 7 days of receipt of notification, the permittee will be notified in writing that continued discharges must be covered by an individual permit (see subpart 7.12 below). To obtain the individual permit, the [operator](#) must file an individual permit application (EPA Forms 1 and 2F). The project must be stabilized immediately until the [SWPPP](#) is updated and the

individual permit is issued. Only discharges from earth disturbing activities necessary for stabilization are authorized to continue until the individual permit is issued.

- f) For an on-site outfall in a drainage area of a total of 5 or more acres, a minimum temporary (or permanent) sediment basin volume that will provide treatment for a calculated volume of runoff from a [5 year, 24 hour storm](#) and runoff from each acre drained, or equivalent control measures as specified in the [Tennessee Erosion and Sediment Control Handbook](#)
- g) , shall be provided until final stabilization of the site. A drainage area of 5 or more acres includes both disturbed and undisturbed portions of the site or areas adjacent to the site, all draining through the common outfall. Where an equivalent control measure is substituted for a sediment retention basin, the equivalency must be justified. Runoff from any undisturbed acreage should be diverted around the disturbed area and the sediment basin and, if so, can be omitted from the volume calculation. Sediment storage expected from the disturbed areas must be included and a marker installed signifying a cleanout need.
- h) The director may require revisions to the [SWPPP](#) necessary to prevent a negative impact to legally protected state or federally listed aquatic fauna, their habitat, or the receiving waters.

5.4.2. Buffer zone requirements for discharges into impaired or exceptional TN waters

For sites that contain and/or are adjacent to a receiving stream designated as impaired or Exceptional Tennessee waters a 60-foot natural riparian [buffer zone](#) adjacent to the receiving stream shall be preserved, to the maximum extent practicable, during construction activities at the site. The water quality [buffer zone](#) is required to protect [waters of the state](#) (e.g., perennial and intermittent streams, rivers, lakes, wetlands) located within or immediately adjacent to the boundaries of the project, as identified using methodology from Standard Operating Procedures for Hydrologic Determinations (see rules to implement a certification program for Qualified Hydrologic Professionals , [TN Rules Chapter 0400-40-17](#)). [Buffer zones](#) are not primary sediment control measures and should not be relied on as such. Rehabilitation and enhancement of a natural [buffer zone](#) is allowed, if necessary, for improvement of its effectiveness of protection of the [waters of the state](#). The [buffer zone](#) requirement only applies to new construction sites, as described in section 2.4.2 above.

The natural [buffer zone](#) should be established between the top of stream bank and the disturbed construction area. The 60-foot criterion for the width of the [buffer zone](#) can be established on an average width basis at a project, as long as the minimum width of the [buffer zone](#) is more than 30 feet at any measured location.

Every attempt should be made for construction activities not to take place within the [buffer zone](#). [BMPs](#) providing equivalent protection to a receiving stream as a natural riparian zone may be used at a construction site. Such equivalent [BMPs](#) shall be designed to be as effective in protecting the receiving stream from effects of stormwater runoff as a natural [buffer zone](#). A justification for use and a design of equivalent [BMPs](#) shall be included in the [SWPPP](#). Such equivalent [BMPs](#) are expected to be routinely used at construction projects typically located adjacent to surface waters. These projects include, but are not limited to: sewer line construction, roadway construction, utility line or equipment installation, greenway construction, construction of a permanent outfall or a velocity dissipating structure, etc.

This requirement does not apply to an area that is being altered under the authorization of a valid [Aquatic Resources Alteration Permit](#) (ARAP), or equivalent permits issued by federal authorities. Additional natural [buffer zone](#) requirements may be established by the local [MS4](#) program.

5.4.2.1. Buffer zone exemption based on existing uses

[Buffer zones](#) as described in section 5.4.2 above shall not be required to portions of the buffer where certain land uses exist and are to remain in place according to the following:

1. A use shall be considered existing if it was present within the [buffer zone](#) as of the date of the Notice of Intent for coverage under the CGP. Existing uses shall include, but not be limited to, buildings, parking lots, roadways, utility lines and on-site sanitary sewage systems. Only the portion of the [buffer zone](#) that contains the footprint of the existing land use is exempt from [buffer zones](#). Activities necessary to maintain uses are allowed provided that no additional vegetation is removed from the [buffer zone](#).
2. If an area with an existing land use is proposed to be converted to another use or the impervious surfaces located within the buffer area are being removed [buffer zone](#) requirements shall apply.

5.4.3. Pre-Approved sites

Construction activity at sites that have been pre-approved before June 16, 2005, are exempt from the design storm requirements of section 5.4.1 a) and e) above and the buffer requirements of section 5.4.2 above. Evidence of pre-approval for highway projects shall be a final right-of-way plan and for other construction projects, the final design drawings with attached dated, written approval by the local, state or federal agency with authority to approve such design drawings for construction.

6. RETENTION, ACCESSIBILITY AND SUBMISSION OF RECORDS

6.1. Documents

The permittee shall retain copies of stormwater pollution prevention plans and all reports required by this permit, and records of all data used to complete the NOI and the NOT to be covered by this permit, for a period of at least three years from the date the notice of termination is submitted. This period may be extended by written request of the director.

6.2. Accessibility and Retention of Records

The permittee shall retain a copy of the [SWPPP](#) required by this permit (including a copy of the permit) at the construction site (or other local location accessible to the director and the public) from the date construction commences to the date of termination of permit coverage. Permittees with day-to-day operational control over pollution prevention plan implementation shall have a copy of the [SWPPP](#) available at a central location onsite for the use of all [operators](#) and those identified as having responsibilities under the plan whenever they are on the construction site. Once coverage is terminated, the permittee shall maintain a copy of all records for a period of three years.

6.2.1. Posting information at the construction site

The permittee shall post a notice near the main entrance of the construction site accessible to the public with the following information:

- a) a copy of the NOC with the NPDES permit tracking number for the construction project;
- b) name, company name, E-mail address (if available), telephone number and address of the project site owner/operator or a local contact person;
- c) a brief description of the project; and
- d) the location of the [SWPPP](#) (see section 3.3.3 above).

The notice must be maintained in a legible condition. If posting this information near a main entrance is infeasible due to safety concerns, or not accessible to the public, the notice shall be posted in a local public building. If the construction project is a [linear construction project](#) (e.g., pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway and moved as necessary. This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site. This permit does not require that permittees allow members of the public access to a construction site.

The permittee shall also retain following items/information in an appropriate location on-site:

- a) a rain gauge;
- b) a copy of twice weekly inspection reports;
- c) a documentation of quality assurance site assessments, if applicable (see section 3.1.2 above); and
- d) a copy of the site inspector's [Fundamentals of Erosion Prevention and Sediment Control Level 1](#) certification.

6.3. Electronic Submission of NOIs, NOTs and Reports

If the division notifies dischargers (directly by mail or E-mail, by public notice, or by making information available on the world wide web) of electronic forms or other report options that become available at a later date (e.g., electronic submission of forms), the [operators](#) may take advantage of those options to satisfy the NOI, NOT and other report notification requirements.

7. STANDARD PERMIT CONDITIONS

7.1. Duty to Comply

7.1.1. Permittee's duty to comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Tennessee Water Quality Control Act (TWQCA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

7.1.2. Penalties for violations of permit conditions

Pursuant to [T.C.A. § 69-3-115](#) of The Tennessee Water Quality Control Act of 1977, as amended:

- a) any person who violates an effluent standard or limitation or a water quality standard established under this part ([T.C.A. § 69-3-101](#), et. seq.); violates the terms or conditions of this permit; fails to complete a filing requirement; fails to allow or perform an entry, inspection, monitoring or reporting requirement; violates a final determination or order of the board, panel or commissioner; or violates any other provision of this part or any rule or regulation promulgated by the board, is subject to a civil penalty of up to ten thousand dollars (\$10,000) per day for each day during which the act or omission continues or occurs;
- b) any person unlawfully polluting the [waters of the state](#) or violating or failing, neglecting, or refusing to comply with any of the provisions of this part ([T.C.A. § 69-3-101](#), et. seq.) commits a Class C misdemeanor. Each day upon which such violation occurs constitutes a separate offense;
- c) any person who willfully and knowingly falsifies any records, information, plans, specifications, or other data required by the board or the commissioner, or who willfully and knowingly pollutes the [waters of the state](#), or willfully fails, neglects or refuses to comply with any of the provisions of this part ([T.C.A. § 69-3-101](#), et. seq.) commits a Class E felony and shall be punished by a fine of not more than twenty-five thousand dollars (\$25,000) or incarceration, or both.

7.1.3. Civil and criminal liability

Nothing in this permit shall be construed to relieve the discharger from civil or criminal penalties for noncompliance. Notwithstanding this permit, the discharger shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the discharger to conduct stormwater discharge activities in a manner such that public or private nuisances or health hazards will not be created. Furthermore, nothing in this permit shall be construed to preclude the State of Tennessee from any legal action or relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the Federal Water Pollution Control Act.

7.1.4. Liability under state law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable local, state or federal law.

7.2. Continuation of the Expired General Permit

Permittees shall maintain coverage under this general permit until a new general permit is issued. Permittees who choose not to maintain coverage under the expired general permit, or are required to obtain an individual permit, must submit an application (U.S. EPA NPDES Forms [1](#) and [2F](#) and any other [applicable forms](#)) at least 180 days prior to expiration of this general permit. Permittees who are eligible and choose to be covered by the new general permit must submit an NOI by the date specified in that permit. Facilities that have not obtained coverage under this permit by the permit expiration date cannot become authorized to discharge under the continued permit.

[Operator\(s\)](#) of an existing site permitted under the division's 2005 construction general permit shall maintain full compliance with the existing [SWPPP](#). The existing [SWPPP](#) should be modified, if necessary, to meet requirements of this new general permit, and the [SWPPP](#) changes implemented no later than 12 months following the new permit effective date. The permittee shall make the updated [SWPPP](#) available for the division's review upon request.

7.3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

7.4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

7.5. Duty to Provide Information

The permittee shall furnish to the division or an authorized representative of the division, within a time specified by the division, any information that the division may request to determine compliance with this permit or other information relevant to the protection of the [waters of the state](#). The permittee shall also furnish to the division, upon request, copies of records required to be kept by this permit.

7.6. Other Information

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the director, he or she shall promptly submit such facts or information.

7.7. Signatory Requirements

All Notices of Intent (NOIs), stormwater pollution prevention plans (SWPPPs), requests for termination of permit coverage (NOTs), Construction Stormwater Inspection Certifications, Construction Stormwater Monitoring Report forms, reports, certifications or information either submitted to the director or the operator of a large or medium municipal separate storm sewer system and/or any other information either submitted to the division, or that this permit requires be maintained by the permittee, shall be signed as described in sections 7.7.1 and 7.7.2 below and dated.

7.7.1. Signatory requirements for a Notice of Intent (NOI)³

NOI shall be signed as follows:

- a) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or
 - (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated site including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

NOTE: The division does not require specific assignments or delegations of authority to responsible corporate officers. The division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

- b) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.
- c) For a municipality, state, federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (i) the chief executive officer of the agency, or

³ As specified in 40 CFR 122.22(a)(1)-(3) [48 FR 14153, Apr. 1, 1983, as amended at 48 FR 39619, Sept. 1, 1983; 49 FR 38047, Sept. 29, 1984; 50 FR 6941, Feb. 19, 1985; 55 FR 48063, Nov. 16, 1990; 65 FR 30907, May 15, 2000]

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

7.7.2. Signatory requirements for reports and other items

SWPPPs, Construction Stormwater Inspection Certification forms, reports, certifications or other information submittals required by the permit and other information requested by the division, including but not limited to Notice of Violation responses, shall be signed by a person described in section 7.7.1 above, or by a duly authorized representative of that person.

7.7.3. Duly authorized representative

For a purpose of satisfying signatory requirements for reports (see section 7.7.2 above), a person is a duly authorized representative only if:

- a) the authorization is made in writing by a person described in section 7.7.1 above;
- b) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated site or activity such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; a duly authorized representative may thus be either a named individual or any individual occupying a named position and,
- c) the written authorization is submitted to the director or an appropriate EFO (see section 2.8 above). The written authorization shall be a written document including the name of the newly authorized person and the contact information (title, mailing address, phone number, fax number and E-mail address) for the authorized person. The written authorization shall be signed by the newly authorized person accepting responsibility and by the person described in section 7.7.1 above delegating the authority.

7.7.4. Changes to authorization

If an authorization under sections 7.7.1 above or 7.7.3 above is no longer accurate because a different individual or position has responsibility as the primary or secondary permittee, but the company name (permittee name) remains the same, a new NOI and SWPPP certification shall be submitted to an appropriate EFO (see section 2.8 above) and signed by the new party who meets signatory authority satisfying the requirements of sections 7.7.1 above or 7.7.3 above. The NOI shall include the new individual's information (title, mailing address, phone number, fax number and E-mail address), the existing tracking number and the project name.

7.7.5. Signatory requirements for primary permittees

Primary permittees required to sign an NOI and SWPPP because they meet the definition of an operator (see subpart 2.2 above) shall sign the following certification statement on the NOI and SWPPP:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the

information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

7.7.6. Signatory requirements for secondary permittees

Secondary permittees (typically construction contractors) required to sign an NOI and [SWPPP](#) because they meet the definition of an [operator](#) but who are not primarily responsible for preparing an NOI and [SWPPP](#), shall sign the following certification statement on the NOI and [SWPPP](#):

“I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements.”

7.8. **Penalties for Falsification of Reports**

Knowingly making any false statement on any report or form required by this permit may result in the imposition of criminal penalties as provided for in [Section 309 of the Clean Water Act](#) and in [T.C.A. §69-3-115](#) of the Tennessee Water Quality Control Act.

7.9. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to [Section 311 of the Clean Water Act](#) or [Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act](#) of 1980 (CERCLA).

7.10. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. The issuance of this permit does not authorize trespassing or discharges of stormwater or non-stormwater across private property.

7.11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

7.12. Requiring an Individual Permit

7.12.1. Director can require a site to obtain an individual permit

The director may require any person authorized by this permit to apply for and/or obtain an individual NPDES permit in order to obtain adequate protection of designated uses of a receiving stream. Any interested person may petition the director in writing to take action under this paragraph, but must include in their petition the justification for such an action. Where the director requires a discharger authorized to discharge under this permit to apply for an individual NPDES permit, the director shall notify the discharger in writing that an individual permit application is required. This notification will include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that coverage under this general permit shall terminate upon the effective date of an individual NPDES permit or denial of coverage under an individual permit. The notification may require stabilization of the site and suspend coverage under this general permit until the individual permit is issued. Individual permit applications shall be submitted to the appropriate Environmental Field Office of the division as indicated in subpart 2.8 above of this permit. The director may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual NPDES permit application as required by the director under this paragraph, then the applicability of this permit to the discharger will be terminated at the end of the day specified by the director for application submittal.

If the decision to require an individual NPDES permit precedes the issuance of coverage under this general permit, earth disturbing activities cannot begin until the individual permit is issued.

7.12.2. Permittee may request individual permit instead of coverage under this general permit

Any discharger authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. Any discharger that knowingly cannot abide by the terms and conditions of this permit must apply for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of [40 CFR 122.26\(c\)\(1\)\(ii\)](#), with reasons supporting the request, to the appropriate division's Environmental Field Office. The request may be granted by issuance of an individual permit, or alternative general permit, if the reasons cited by the permittee are adequate to support the request.

7.12.3. Individual permit terminates general permit

When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the discharger is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the discharger is terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an owner or [operator](#) otherwise

subject to this permit, or the owner or [operator](#) is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is terminated on the date of such denial, unless otherwise specified by the director. Coverage under the [Tennessee Multi-Sector General Permit for the Discharge of Stormwater from an Industrial Activity](#) (TMSP) will not be considered as an alternative general permit under this section without being specified by the director.

7.13. Other, Non-Stormwater, Program Requirements

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

7.14. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related equipment) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of stormwater pollution prevention plans.

Proper operation and maintenance also includes adequate laboratory quality assurance and quality control procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee, when determined by the permittee or the division to be necessary to achieve compliance with the conditions of the permit.

7.15. Inspection and Entry

The permittee shall allow authorized representatives of the Environmental Protection Agency, the director or an authorized representative of the commissioner of TDEC, or, in the case of a construction site which discharges through a municipal separate storm sewer, an authorized representative of the [MS4](#) receiving the discharge, upon the presentation of credentials and other documents as may be required by law:

- a) to enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- b) to have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
- c) to inspect any facilities or equipment (including monitoring and control equipment).

7.16. Permit Actions

This permit may be issued, modified, revoked, reissued or terminated for cause in accordance with this permit and the applicable requirements of [T.C.A. § 69-3-108](#). The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8.1.1. Termination of builder and contractor coverage

8. REQUIREMENTS FOR TERMINATION OF COVERAGE

8.1. Termination of Developer and Builder Coverage

8.1.1. Termination process for primary permittees

Primary permittees wishing to terminate coverage under this permit must submit a completed notice of termination (NOT) form, provided in Appendix B of this permit (or copy thereof). Primary permittees who abandon the site and fail to submit the NOT will be in violation of this permit. Signs notifying the public of the construction activity shall be in place until the NOT form has been submitted. Primary permittees may terminate permit coverage only if the conditions described in items 1, 2 or 3 below occur at the site:

1. All earth-disturbing activities at the site are completed and, if applicable, construction support activities permitted under section 1.2.2 above, and the following requirements are met:
 - (a) For any areas that
 - were disturbed during construction,
 - are not covered over by permanent structures, and
 - over which the permittee had control during the construction activitiesthe requirements for final vegetative or non-vegetative stabilization described in subsection 3.5.3.2 above are met;
 - (b) The permittee has removed and properly disposed of all construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use following termination of permit coverage;
 - (c) The permittee has removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following termination of permit coverage;
 - (d) The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following termination of permit coverage; and
 - (e) The permittee must identify who is responsible for ongoing maintenance of any stormwater controls left on the site for long-term use following termination of permit coverage; or
2. The permittee has transferred control of all areas of the site for which he is responsible (including, but not limited to, infrastructure, common areas, stormwater drainage structures, sediment control basin, etc.) under this permit to another operator, and that operator has submitted an NOI and obtained coverage under this permit; or
3. The permittee obtains coverage under an individual or alternative general NPDES permit.

8.1.2. NOT review

The division will review NOTs for completeness and accuracy and, when necessary, investigate the proposed site for which the NOT was submitted. Upon completing the NOT review, the division will:

- 1) prepare and transmit a notification that a NOT form was received;
- 2) notify the applicant of needed changes to their NOT submittal; or
- 3) deny a request for termination of coverage under this general permit.

The division retains the right to deny termination of coverage under this general permit upon receipt of the NOT. If the local Environmental Field Office has information indicating that the permit coverage is not eligible for termination, written notification will be provided that permit coverage has not been terminated. The notification will include a summary of existing deficiencies. When the site meets the termination criteria, the NOT should be re-submitted.

If any permittee files for bankruptcy or the site is foreclosed on by the lender, the permittee should notify the division of the situation so that the division may assess the site to determine if permit coverage should be obtained by any other person or whether other action is needed.

8.2. **Termination of Builder and Contractor Coverage**

8.2.1. Termination process for secondary permittees

Secondary permittees (builders/contractors) must request termination of coverage under this permit by submitting an NOT when they are no longer an operator at the construction site. Secondary permittees receive coverage under this permit, but are not normally mailed a Notice of Coverage. Consequently, the division may, but is not required to, notify secondary permittees that their notice of termination has been received. If the division has reason to believe that the secondary permittee's NOT should not have been submitted, the division will deny the secondary permittee's NOT in writing, with specific reasons as to why the NOT should not have been submitted.

8.3. **NOT certification**

The NOT and the following certification must be signed in accordance with subpart 7.7 above (Signatory Requirements) of this permit:

"I certify under penalty of law that either: (a) all stormwater discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act."

8.4. Where to Submit a Notice of Termination (NOT)?

The NOT shall be submitted to the Environmental Field Office (EFO) which issued the NOC to the primary permittee. A list of counties and the corresponding EFOs is provided in subpart 2.8 above. The appropriate permit tracking number must be clearly printed on the form.

9. Aquatic Resource Alteration Permits (ARAP)

Alterations to channels or waterbodies (stream, wetland and/or other [waters of the state](#)) that are contained on, traverse through or are adjacent to the construction site, may require an [Aquatic Resources Alteration Permit](#) (ARAP). It is the responsibility of the developer to provide a determination of the water's status⁴. This determination must be conducted using methodology from Standard Operating Procedures for Hydrologic Determinations (see rules to implement a certification program for Qualified Hydrologic Professionals, [TN Rules Chapter 0400-40-17](#)). The permittee can make an assumption that streams/wetlands are present at the site in order to expedite the permit process. In some cases, issuance of coverage under the CGP may be delayed or withheld if the appropriate ARAP has not been obtained. At a minimum, any delay in obtaining an ARAP for water body alteration associated with the proposed project must be adequately addressed in the [SWPPP](#) prior to issuance of an NOC. Failure to obtain an ARAP prior to any actual alteration may result in enforcement action for the unauthorized alteration.

10. DEFINITIONS

“2-year and 5-year design storm depths and intensities” The estimated design rainfall amounts, for any return period interval (i.e., 2-yr, 5-yr, 25-yr, etc.) in terms of either 24-hour depths or intensities for any duration, can be found by accessing the following NOAA National Weather Service Atlas 14 data for Tennessee: http://hdsc.nws.noaa.gov/hdsc/pfds/orb/tn_pfds.html. Other data sources may be acceptable with prior written approval by TDEC Water Pollution Control.

“Best Management Practices” (“BMPs”) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to [waters of the state](#). BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

“Borrow Pit” is an excavation from which erodible material (typically soil) is removed to be fill for another site. There is no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity for the purpose of this permit.

“Buffer Zone” is a strip of dense undisturbed perennial native vegetation, either original or re-established, that borders streams and rivers, ponds and lakes, wetlands, and seeps. Buffer zones are established for the purposes of slowing water runoff, enhancing water infiltration, and

⁴ The EPA considers inventorying a site's natural features is a technique called fingerprinting. More info can be found in EPA's document - EPA's Developing Your SWPPP – A Guide for Construction Sites (EPA-833-R-06-004 May 2007)

minimizing the risk of any potential nutrients or pollutants from leaving the upland area and reaching surface waters. Buffer zones are most effective when stormwater runoff is flowing into and through the buffer zone as shallow sheet flow, rather than in concentrated form such as in channels, gullies, or [wet weather conveyances](#). Therefore, it is critical that the design of any development include management practices, to the maximum extent practical, that will result in stormwater runoff flowing into and through the buffer zone as shallow sheet flow. Buffer zones are established for the primary purpose of protecting water quality and maintaining a healthy aquatic ecosystem in receiving waters.

“Clearing” in the definition of discharges associated with construction activity, typically refers to removal of vegetation and disturbance of soil prior to grading or excavation in anticipation of construction activities. Clearing may also refer to wide area land disturbance in anticipation of non-construction activities; for instance, clearing forested land in order to convert forestland to pasture for wildlife management purposes. Clearing, grading and excavation do not refer to clearing of vegetation along existing or new roadways, highways, dams or power lines for sight distance or other maintenance and/or safety concerns, or cold planing, milling, and/or removal of concrete and/or bituminous asphalt roadway pavement surfaces. The clearing of land for agricultural purposes is exempt from federal stormwater NPDES permitting in accordance with Section 401(1)(1) of the 1987 Water Quality Act and state stormwater NPDES permitting in accordance with the Tennessee Water Quality Control Act of 1977 ([T.C.A. 69-3-101](#) et seq.).

“Commencement of construction” The initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

“Common plan of development or sale” is broadly defined as any announcement or documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring on contiguous areas. This applies because the activities may take place at different times, on different schedules, by different [operators](#).

“Control measure” As used in this permit, refers to any Best Management Practice (BMP) or other method used to prevent or reduce the discharge of pollutants to [waters of the state](#).

“CWA” means the Clean Water Act of 1977 or the Federal Water Pollution Control Act ([33 U.S.C. 1251](#), et seq.)

“Department” means the Department of Environment and Conservation.

“Director” means the director, or authorized representative, of the Division of Water Pollution Control of the State of Tennessee, Department of Environment and Conservation.

“Discharge of stormwater associated with construction activity” As used in this permit, refers to stormwater point source discharges from areas where soil disturbing activities (e.g., clearing, grading, excavation, etc.), or construction materials or equipment storage or maintenance (e.g., earth fill piles, fueling, waste material etc.) are located.

“**Division**” means the Division of Water Pollution Control of the State of Tennessee, Department of Environment and Conservation.

“**Final Stabilization**” means that all soil disturbing activities at the site have been completed and one of the three following criteria is met:

- a. A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a uniform density of at least 70 percent of the (preferably) native vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, and all slopes and channels have been permanently stabilized against erosion, or
- b. Equivalent permanent stabilization measures (such as the use of riprap; permanent geotextiles, hardened surface materials including concrete, asphalt, gabion baskets, or Reno mattresses) have been employed, or
- c. For construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural or silvicultural use.

“**Exceptional Tennessee waters**” are surface waters of the State of Tennessee that satisfy characteristics of exceptional Tennessee waters as listed [Chapter 1200-4-3-.06](#) of the official compilation - Rules and Regulations of the State of Tennessee. Characteristics include waters designated by the Water Quality Control Board as Outstanding National Resource Waters (ONRW); waters that provide habitat for ecologically significant populations of certain aquatic or semi-aquatic plants or animals; waters that provide specialized recreational opportunities; waters that possess outstanding scenic or geologic values; or waters where existing conditions are better than water quality standards.

“**Impaired waters**” (unavailable conditions waters) means any segment of surface waters that has been identified by the division as failing to support one or more classified uses. For the purpose of this permit, pollutants of concern include, but are not limited to: siltation (silt/sediment) and habitat alterations. Based on the most recent assessment information available to staff, the division will notify applicants and permittees if their discharge is into, or is affecting, impaired waters. Resources to be used in making this determination include biennial compilations of impaired waters, databases of assessment information, updated [GIS](#) coverages (<http://tnmap.tn.gov/wpc/>), and the results of recent field surveys. [GIS](#) coverages of the streams and lakes not meeting water quality standards, plus the biennial list of impaired waters, can be found at http://www.tn.gov/environment/water/docs/wpc/2012_pf_303d_list.pdf.

“**Improved sinkhole**” is a natural surface depression that has been altered in order to direct fluids into the hole opening. Improved sinkhole is a type of injection well regulated under the [Underground Injection Control](#) (UIC) program. Underground injection constitutes an intentional disposal of waste waters in natural depressions, open fractures, and crevices (such as those commonly associated with weathering of limestone).

“**Inspector**” An inspector is a person that has successfully completed (has a valid certification from) the “[Fundamentals of Erosion Prevention and Sediment Control Level I](#)” course or equivalent course. An inspector performs and documents the required inspections, paying

particular attention to time-sensitive permit requirements such as stabilization and maintenance activities. An inspector may also have the following responsibilities:

- a) oversee the requirements of other construction-related permits, such as [Aquatic Resources Alteration Permit](#) (ARAP) or Corps of Engineers permit for construction activities in or around [waters of the state](#);
- b) update field [SWPPPs](#);
- c) conduct pre-construction inspection to verify that undisturbed areas have been properly marked and initial measures have been installed; and
- d) inform the permit holder of activities that may be necessary to gain or remain in compliance with the CGP and other environmental permits.

“Linear Project” – is a land disturbing activity as conducted by an underground/overhead utility or highway department, including but not limited to any cable line or wire for the transmission of electrical energy; any conveyance pipeline for transportation of gaseous or liquid substance; any cable line or wire for communications; or any other energy resource transmission ROW or utility infrastructure, e.g., roads and highways. Activities include the construction and installation of these utilities within a corridor. Linear project activities also include the construction of access roads, staging areas, and borrow/spoil sites associated with the linear project. Land disturbance specific to the development of a residential and/or commercial subdivision or high-rise structures is not considered a linear project.

“Monthly” refers to calendar months.

“Municipal Separate Storm Sewer System” or **“MS4”** is defined at [40 CFR §122.26\(b\)\(8\)](#) to mean a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section [208 of the CWA](#) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at [40 CFR §122.2](#).

“NOI” means notice of intent to be covered by this permit (see part 2 above of this permit.)

“NOT” means notice of termination (see part 8 above of this permit).

“Operator” for the purpose of this permit and in the context of stormwater associated with construction activity, means any person associated with a construction project that meets either of the following two criteria:

- a) This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person

is typically the owner or developer of the project or a portion of the project, and is considered the primary permittee; or

- b) This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a [SWPPP](#) for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee, and is considered a secondary permittee.

It is anticipated that at different phases of a construction project, different types of parties may satisfy the definition of “operator.”

“Point source” means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include introduction of pollutants from non point-source agricultural and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures, range lands, and forest lands or return flows from irrigated agriculture or agricultural stormwater runoff.

“Qualifying State, Tribal, or local erosion and sediment control program” is one that includes, as defined in [40 CFR 122.44\(s\)](#):

- (i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
- (ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- (iii) Requirements for construction site operators to develop and implement a stormwater pollution prevention plan. (A stormwater pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-stormwater discharges); and
- (iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

“Quality Assurance Site Assessment” means documented site inspection to verify the functionality and performance of the [SWPPP](#) and for determining if construction, operation and maintenance accurately comply with permit requirements, as presented in the narrative, engineering specifications; maps, plans and drawings; and details for erosion prevention, sediment control and stormwater management.

“Registered Engineer” and **“Registered Landscape Architect”** An engineer or landscape architect certified and registered by the [State Board of Architectural and Engineer Examiners](#) pursuant to [Section 62-202, Tennessee Code Annotated](#), to practice in Tennessee.

“Runoff coefficient” means the fraction of total rainfall that will appear at the conveyance as runoff. Runoff coefficient is also defined as the ratio of the amount of water that is NOT absorbed by the surface to the total amount of water that falls during a rainstorm.

“**Sediment**” means solid material, both inorganic (mineral) and organic, that is in suspension, is being transported, or has been moved from the site of origin by wind, water, gravity, or ice as a product of erosion.

“**Sediment basin**” A temporary basin consisting of an embankment constructed across a wet weather conveyance, or an excavation that creates a basin or by a combination of both. A sediment basin typically consists of a forebay cell, dam, impoundment, permanent pool, primary spillway, secondary or emergency spillway, and surface dewatering device. The size and shape of the basin depends on the location, size of drainage area, incoming runoff volume and peak flow, soil type and particle size, land cover, and receiving stream classification (i.e., impaired, HQ, or unimpaired).

“**Sedimentation**” means the action or process of forming or depositing sediment.

“**Significant contributor of pollutants to waters of the state**” means any discharge containing pollutants that are reasonably expected to cause or contribute to an impairment of receiving stream water quality or designated uses.

“**Soil**” means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.

“**Steep Slope**” A natural or created slope of 35% grade or greater. Designers of sites with steep slopes must pay attention to stormwater management in the [SWPPP](#) to engineer runoff non-erosively around or over a steep slope. In addition, site managers should focus on erosion prevention on the slope(s) and stabilize the slope(s) as soon as practicable to prevent slope failure and/or sediment discharges from the project.

“**Stormwater**” means rainfall runoff, snow melt runoff, and surface runoff and drainage.

“**Stormwater associated with industrial activity**” is defined at [40 CFR 122.26\(b\)\(14\)](#) and incorporated here by reference. Most relevant to this permit is [40 CFR 122.26\(b\)\(14\)\(x\)](#), which relates to construction activity including clearing, grading, filling and excavation activities (including borrow pits containing erodible material). Disturbance of soil for the purpose of crop production is exempted from permit requirements, but stormwater discharges from agriculture-related activities which involve construction of structures (e.g., barn construction, road construction, pond construction, etc.) are considered associated with industrial activity. Maintenance performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility, e.g. re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair, and repaving of an existing road, is not considered a construction activity for the purpose of this permit.

“**Stormwater discharge-related activities**” include: activities which cause, contribute to, or result in point source stormwater pollutant discharges, including but not limited to: excavation, site development, grading and other surface disturbance activities; and measures to control stormwater including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent stormwater pollution.

“**Stormwater Pollution Prevention Plan**”(SWPPP): A written plan required by this permit that includes site map(s), an identification of construction/contractor activities that could cause

pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and approved before construction begins. In order to effectively reduce erosion and sedimentation impacts, Best Management Practices (BMPs) must be designed, installed, and maintained during land disturbing activities. The SWPPP should be prepared in accordance with the [Tennessee Erosion and Sediment Control Handbook](#). The handbook is designed to provide information to planners, developers, engineers, and contractors on the proper selection, installation, and maintenance of BMPs. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect [waters of the state](#). It also aids in the development of SWPPPs and other reports, plans, or specifications required when participating in Tennessee's water quality regulations.

“**Take**” of an endangered species means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct.

“**Temporary stabilization**” is achieved when vegetation and/or a non-erodible surface have been established on the area of disturbance and construction activity has temporarily ceased. Under certain conditions, temporary stabilization is required when construction activities temporarily cease. However, if future construction activity is planned, permit coverage continues.

“**Total maximum daily load**” (TMDL) The sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources and natural background ([40 CFR 130.2\(I\)](#)). TMDL is a study that: quantifies the amount of a pollutant in a stream, identifies the sources of the pollutant, and recommends regulatory or other actions that may need to be taken in order for the stream to cease being polluted. Some of the actions that might be taken are:

- 1.) Re-allocation of limits on the sources of pollutants documented as impacting streams. It might be necessary to lower the amount of pollutants being discharged under NPDES permits or to require the installation of other control measures, if necessary, to ensure that water quality standards will be met.
- 2.) For sources over which the division does not have regulatory authority, such as ordinary agricultural or forestry activities, provide information and technical assistance to other state and federal agencies that work directly with these groups to install appropriate Best Management Practices (BMPs).

Even for impacted streams, TMDL development is not considered appropriate for all bodies of water: if enforcement has already been taken and a compliance schedule has been developed; or if best management practices have already been installed for non-regulated activities, the TMDL is considered not applicable. In cases involving pollution sources in other states, the recommendation may be that another state or EPA perform the TMDL . TMDLs can also be described by the following equation:

$$\text{TMDL} = \text{sum of non point sources (LA)} + \text{sum of point sources (WLA)} + \text{margin of safety}$$

A list of completed TMDLs that have been approved by EPA can be found at our web site: <http://www.tn.gov/environment/water/watersheds/>

“**Turbidity**” is the cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, similar to smoke in air.

“**Waters**” or “**waters of the state**” means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

“**Waste site**” is an area where material from a construction site is disposed of. When the material is erodible, such as soil, the site must be treated as a construction site.

“**Wet weather conveyances**” are man-made or natural watercourses, including natural watercourses that have been modified by channelization that flow only in direct response to precipitation runoff in their immediate locality; whose channels are at all times above the ground water table; that are not suitable for drinking water supplies; and in which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months. (Rules and Regulations of the State of Tennessee, Chapter [1200-4-3-.04\(3\)](#)).

11. LIST OF ACRONYMS

ARAP	Aquatic Resource Alteration Permit
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CGP	Construction General Permit
CWA	Clean Water Act
EFO	Environmental Field Office
EPA	(U.S.) Environmental Protection Agency
EPSC	Erosion Prevention and Sediment Control
MS4	Municipal Separate Storm Sewer System
NOC	Notice of Coverage
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
ONRW	Outstanding National Resource Waters
POTW	Publicly Owned Treatment Works
SWPPP	Stormwater Pollution Prevention Plan
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TMDL	Total Maximum Daily Load
TMSP	Tennessee Multi-Sector General Permit for the Discharge of Stormwater from an Industrial Activity
TVA	Tennessee Valley Authority
TWQCA	Tennessee Water Quality Control Act
UIC	Underground Injection Control
USGS	United States Geological Survey

(End of body of permit; appendices follow.)

Tennessee General Permit No. TNR100000
Stormwater Discharges from Construction Activities

APPENDIX A – Notice of Intent (NOI) Form

You may access a copy of the NOI at the division's Web page:

http://www.tn.gov/environment/water/water-quality_storm-water.shtml

If you do not have access to the Internet,
Please contact the division at 1-888-891-8332 (TDEC)
or
E-mail a request for the NOI at Storm.Water@tn.gov

APPENDIX B – Notice of Termination (NOT) Form

You may access a copy of the NOT at the division's Web page:

http://www.tn.gov/environment/water/water-quality_storm-water.shtml

If you do not have access to the Internet,
Please contact the division at 1-888-891-8332 (TDEC)
or
E-mail a request for the NOI at Storm.Water@tn.gov

APPENDIX C – Twice-Weekly Inspection Report Form

You may access a copy of the Twice Weekly Inspection Form at the division's Web page:

http://www.tn.gov/environment/water/water-quality_storm-water.shtml

If you do not have access to the Internet,
Please contact the division at 1-888-891-8332 (TDEC)
or
E-mail a request for the NOI at Storm.Water@tn.gov

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7. Environmental Permits



NO ENVIRONMENTAL PERMITS ARE REQUIRED

8. Ecology Report





**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

ENVIRONMENTAL DIVISION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

To: Robert Rodges, P.E.
TDOT Design

From: Rob Howard
TDOT Ecology

Robert L. Howard

Digitally signed by Robert L. Howard
DN: cn=Robert L. Howard, o=Ecology Section, ou=Tennessee
Department of Transportation, email=rob.howard@tn.gov, c=US
Date: 2013.12.16 08:50:51 -0600

DATE: 16 December 2013

**SUBJECT: ENVIRONMENTAL BOUNDARIES & MITIGATION DESIGN -
Coffee County, SIA Serving OMAR Industries
P.E. 16945-2473-04, PIN 118532.00**

TDOT Ecology staff revised the environmental boundaries field survey for the subject project and submits the following results:

WETLANDS

There are no wetlands in the project limits. There are numerous delineated wetlands within the industrial park. The proposed alignment will not impact the wetlands.

SPRINGS / STREAMS

There are no streams within the project limits. There is one (1) wet weather conveyance within the project limits.

PONDS

There is one storm water detention pond (PND-1) within the project limits.

PROTECTED SPECIES

There are records for four (4) protected species within a one (1) mile radius of the project limits and records for fifty-two (52) protected species within the four (4) mile radius of the project limits.

Stantec Consulting completed an Indiana bat survey in July 2013. The survey produced no captures or acoustic "hits" for the Indiana bat. In their 22 November 2013 letter, the U.S. Fish & Wildlife Service (USFWS) requests tree removal for trees greater than five (5) inches diameter at breast height (dbh) be limited to the time period October 15 through March 31.

Please refer to the Species Review Form included in the Environmental Boundaries Report for a complete list of protected species.

SPECIAL ECOLOGY NOTES

Please add to the following notes to the project plans:

- 1) To further minimize potential harm to the Indiana bat (*Myotis sodalis*), the USFWS requests tree removal for trees greater than five (5) inches diameter at breast height (dbh) be limited to the time period October 15 through March 31.

MITIGATION

If the project is completed as currently designed, there will be no required mitigation.

Please incorporate this information into the project plans as needed. Thank you for your assistance with this project. If you have any questions or comments please contact me at rob.howard@tn.gov or (615) 253-8690.

Attachment – Environmental Boundaries Report:

Memorandum, Water Resources Aerial & Topographic Maps, Water Resource Field Data Sheets, Water Resource Photographs, Plans With Water Resources Identified, Species Review Map, Species Review Form, Species Coordination Correspondence

Copy: Ecology: Deedee Kathman
Permits: John Hewitt, Khalid Ahmed
Project Management: Chester Sutherland
Project File: File Net



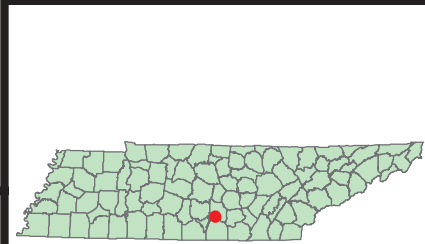
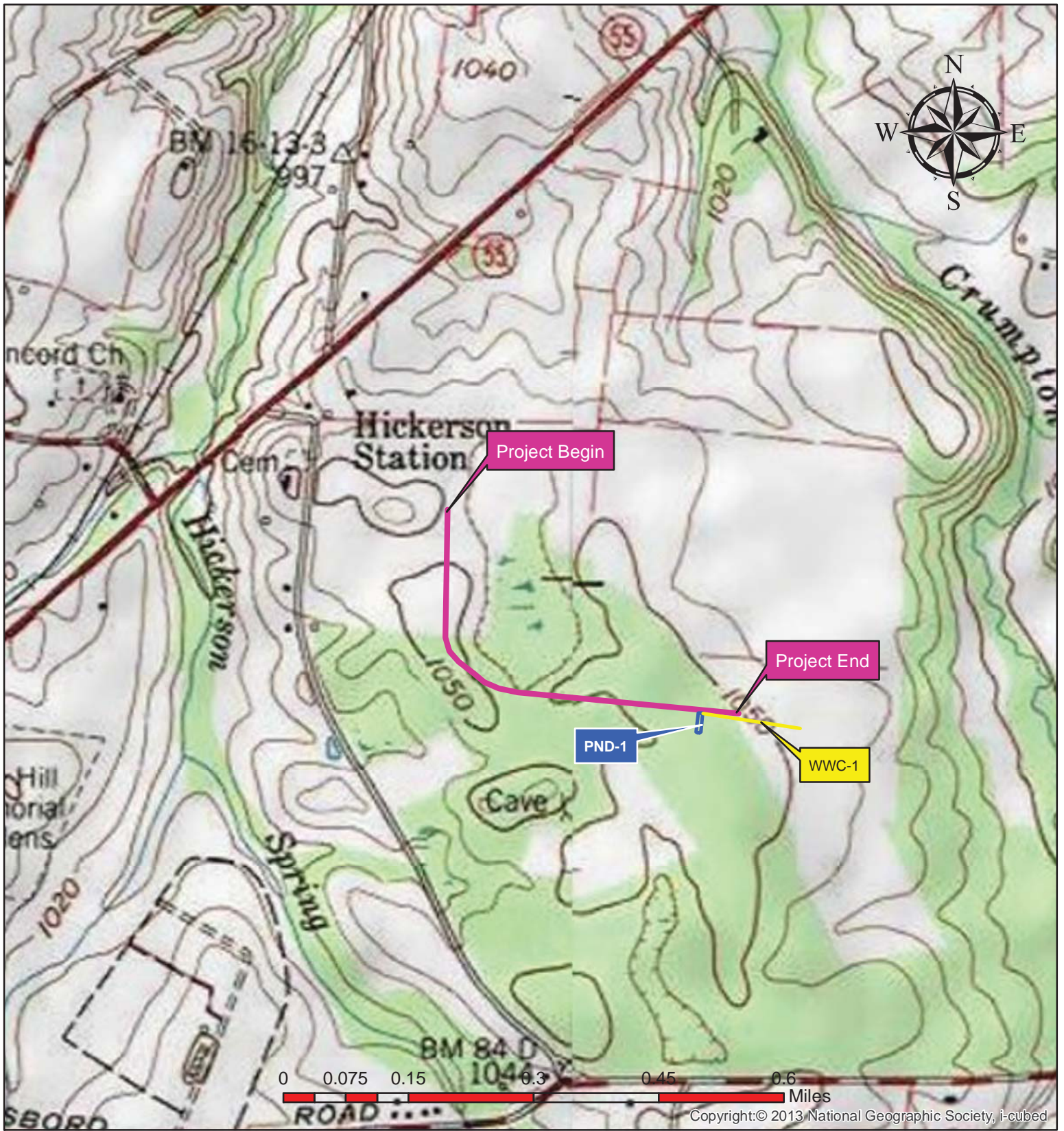
ENVIRONMENTAL BOUNDARIES REPORT

Coffee County, SIA Serving OMAR Industries, P.E. 16945-1473-04 PIN 118532.00

16 December 2013

Project Location



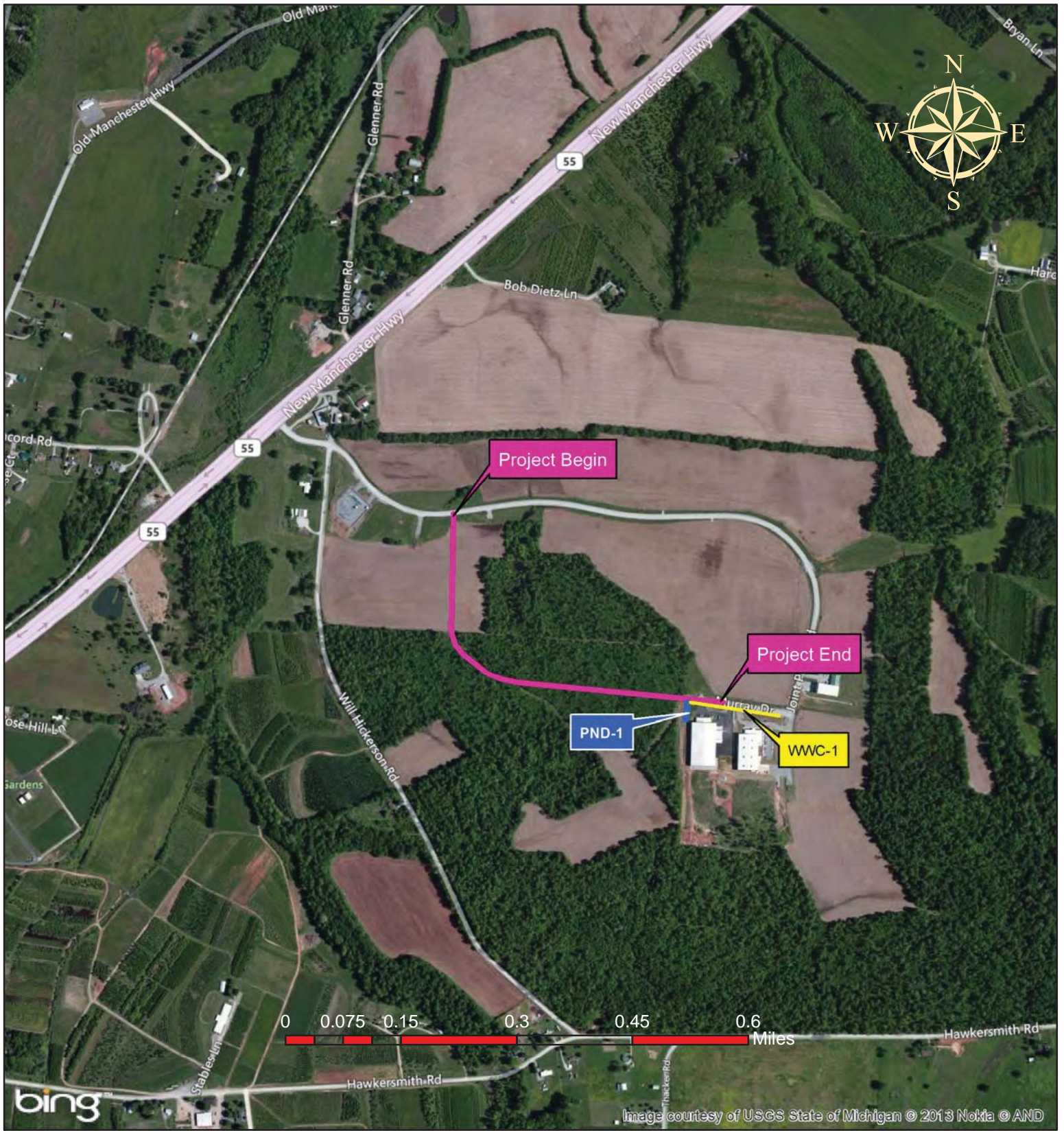


**Water Resources Topographic Map
Coffee County, SIA Serving OMAR Industries**

**Normandy Lake, TN Quad (86-NW)
12 December 2013**

**P.E. 16945-1473-04
PIN 118532.00**





**Water Resources Aerial Map
Coffee County, SIA Serving OMAR Industries**

**Normandy Lake, TN Quad (86-NW)
12 December 2013**

**P.E. 16945-1473-04
PIN 118532.00**

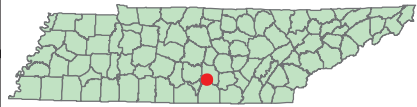


Photo Summary: 18 November 2013
Project Description: Coffee County, SIA Serving OMAR Industries
P.E.: 16945-1473-04 PIN: 118532.00



Photograph 1 – DSCN1854. N35.4012°, W-85.1278°. View of the proposed alignment facing south from Joint Park Blvd.



Photograph 2 – DSCN1855. N35.3976°, W-86.1209°. View of the proposed alignment facing west at Murray Drive.



Photograph 3 –DSCN 1865. N35.3978°, W-86.1223°. View of PND-1 facing south near OMAR facility on Murray Drive.



Photograph 4 – DSCN 1861. N35.3976°, W-86.1214°. View of WWC-1 facing up gradient and west toward PND -1 outfall point.

Index of Sheets

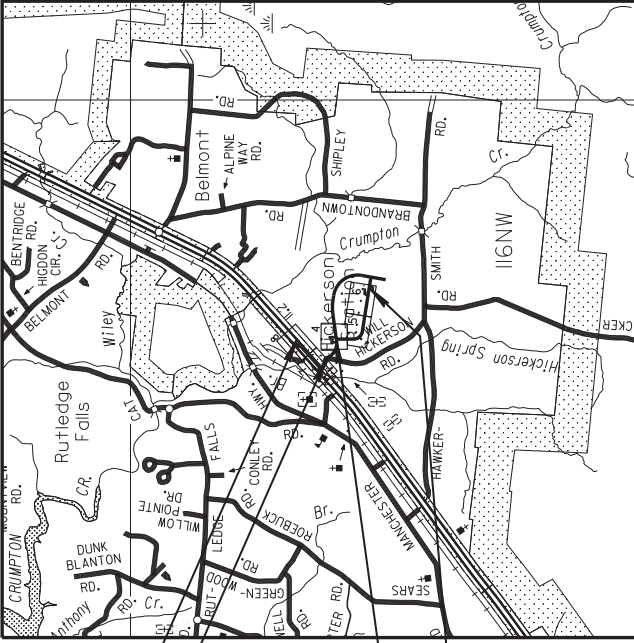
SHEET NO.	DESCRIPTION
1	TITLE SHEETS
2-2A	PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE
3,3A	PROPOSED LAYOUT
4-8	PROPOSED LAYOUT
4A-8A	PROPOSED LAYOUT
9B-8B	PROPOSED LAYOUT
9	PROPOSED LAYOUT
10	PROPOSED LAYOUT
11	PROPOSED LAYOUT
12	PROPOSED LAYOUT
12A	PROPOSED LAYOUT
12B	PROPOSED LAYOUT
12C	PROPOSED LAYOUT
12D	PROPOSED LAYOUT
12E	PROPOSED LAYOUT
12F	PROPOSED LAYOUT
12G	PROPOSED LAYOUT
12H	PROPOSED LAYOUT
12I	PROPOSED LAYOUT
12J	PROPOSED LAYOUT
12K	PROPOSED LAYOUT
12L	PROPOSED LAYOUT
12M	PROPOSED LAYOUT
12N	PROPOSED LAYOUT
12O	PROPOSED LAYOUT
12P	PROPOSED LAYOUT
12Q	PROPOSED LAYOUT
12R	PROPOSED LAYOUT
12S	PROPOSED LAYOUT
12T	PROPOSED LAYOUT
12U	PROPOSED LAYOUT
12V	PROPOSED LAYOUT
12W	PROPOSED LAYOUT
12X	PROPOSED LAYOUT
12Y	PROPOSED LAYOUT
12Z	PROPOSED LAYOUT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

COFFEE COUNTY

INDUSTRIAL ACCESS ROAD
SERVING OMAR, INC. AT
THE JOINT INDUSTRIAL PARK
RIGHT-OF-WAY

STATE HIGHWAY NO. 55 F.A.H.S. NO.



SCALE: 1" = 1/2 MILE

R.O.W. LENGTH (S.R. 55) 0.269 MILES
R.O.W. LENGTH (JAMES MURRAY DR.) 0.515 MILES
TOTAL R.O.W. LENGTH 0.784 MILES

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

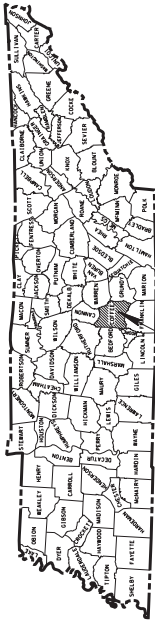
THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TOOT ROAD SP. SV. 2 ROBERT RODGERS, P.E.
DESIGNED BY NEEL-SCHAFFER, INC.
CHECKED BY JOSEPH C. DEERING, P.E.
P.E. NO. 16945-1473-04
P/N NO. 118532.00

S.R. 55
END PROJ. 16945-2473-04 (R.O.W.)
STA. 27+69.32
S.R. 55
BEG. PROJ. 16945-2473-04 (R.O.W.)
STA. 13+46.90

JAMES MURRAY DR.
BEG. PROJ. NO. 16945-2473-04 (R.O.W.)
STA. 100+22.90
JAMES MURRAY DR.
END PROJ. NO. 16945-2473-04 (R.O.W.)
STA. 127+43.81

TENN.	YEAR	SHEET NO.
FED. AID PROJ. NO.	2013	1
STATE PROJ. NO.	16945-2473-04	



PROJ. NO. 16945-2473-04
COFFEE COUNTY

NO EXCLUSIONS
NO EQUATIONS

ORIGINAL SURVEY
05-31-2013

R.O.W.
FIELD
REVIEW

SEALED BY

APPROVED: *Paul D. DeGges*
PAUL D. DEGGES, CHIEF ENGINEER
DATE:
APPROVED: *John Schroder*
JOHN SCHRODER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	DATE
APPROVED:	DIVISION ADMINISTRATOR

TRAFFIC FOR S.R. 55	
TRAFFIC DATA	
ADT (2014)	15200
ADT (2034)	16430
DHV (2034)	1807
D	55 - 45
T (ADT)	11 X
T (DHV)	7 X
V	** 30 MPH
	** 60 MPH

* S.R. 55
** JAMES MURRAY DR.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	4

**R.O.W.
FIELD
REVIEW**

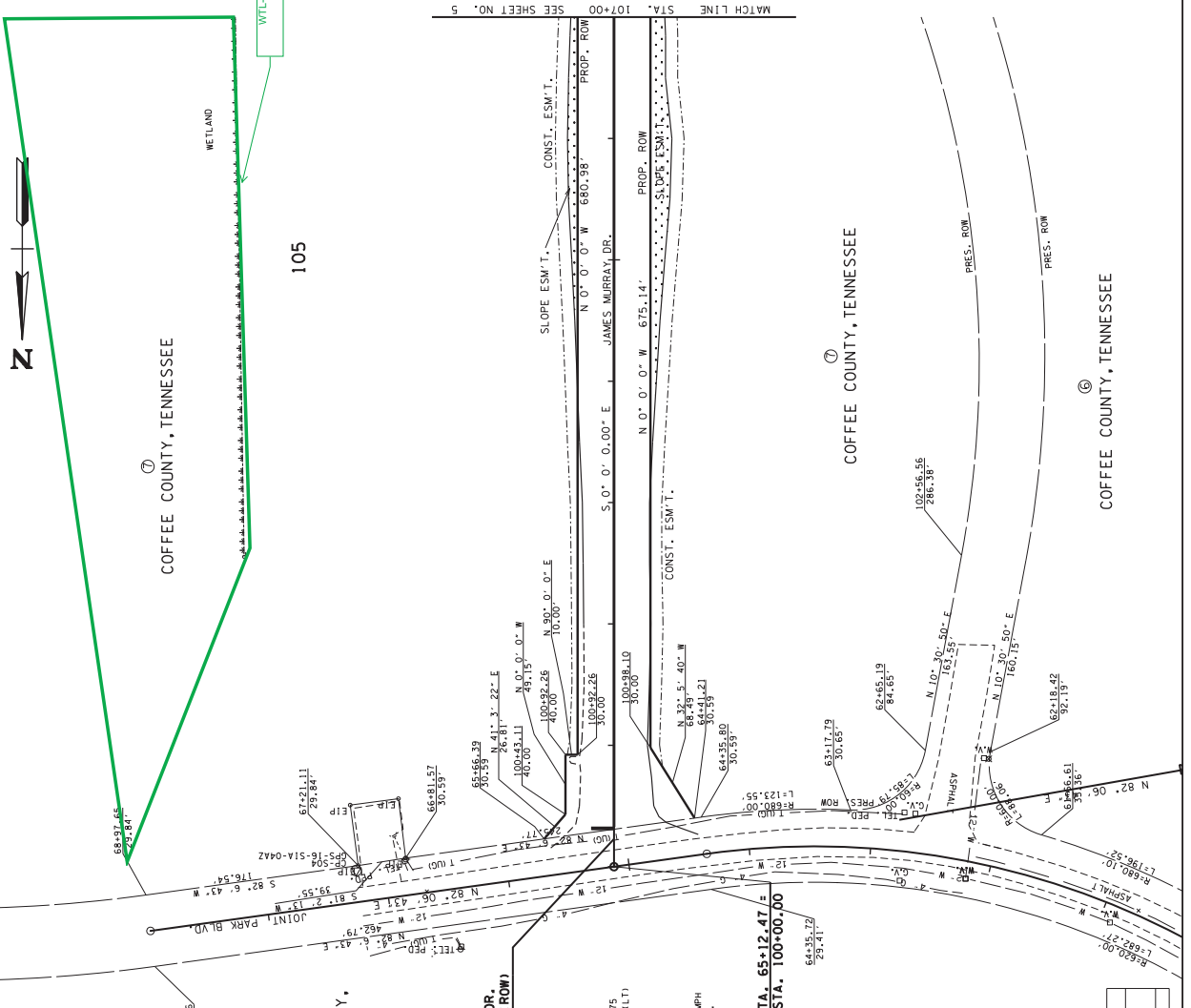
SEALED BY

COORDINATES ARE NAD(83) (985).
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE STATE DATUM. ELEVATION VALUES
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PRESENT
LAYOUT**

STA. 100+00 TO STA. 107+00
SCALE: 1" = 50'



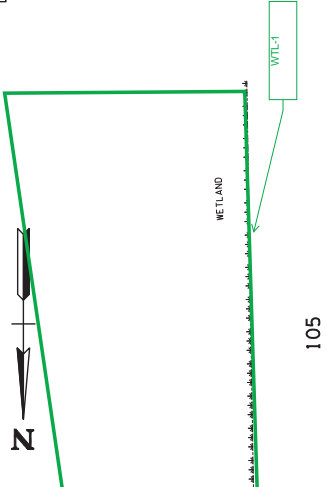
JAMES MURRAY DR.
BEG. PROJ. NO. 16945-2473-04 (ROW)
STA. 100+22.90
N 388777.5706
E 1930636.4932

PI 61+15.98
N 388.734.3200
E 1,930,159.0675
A 63° 49' 29" (LT)
R 650.00
L 724.07
T 404.78
SE EX. 61/FT
TRANS. LENGTH EX.
PT 64+35.27

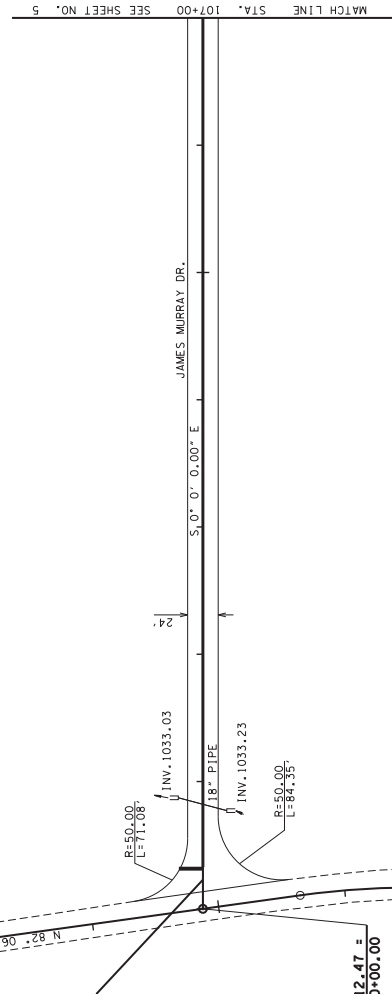
JOINT PARK BLVD. STA. 65+12.47 =
JAMES MURRAY DR. STA. 100+00.00
N 388800.4669
E 1930636.4932

Point	North	East	Elevation	Feature	Station	Offset
S04	388803.6958	1930548.4323	1034.7500	XCP	61+24.34	25.3964
S05	388912.6317	1929842.3985	1043.9000	XCP	56+16.93	44.8377

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	4A



105



JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 100+22.90
 N 388777.5706
 E 1930636.4932

PI 61+15.98
 N 388734.3200
 E 1930159.0675
 A 63° 49' 29" (LT)
 R 650.00
 L 724.07
 T 404.78
 SE EX. 51/FT
 BE EX. 51/FT
 TRANS. LENGTH EX.

JOINT PARK BLVD STA. 65+12.47 =
 JAMES MURRAY DR. STA. 100+00.00
 N 388800.4669
 E 1930636.4932

PT 6A+35.27

50

**R.O.W.
 FIELD
 REVIEW**

SEALED BY: _____

COORDINATES ARE NAD(83) UTM
 ARE DATUM ADJUSTED BY THE
 FACTOR OF 1.000088 AND TIED TO
 THE NATIONAL CONTROL POINT
 REFERENCED TO THE NAD(83) UTM.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

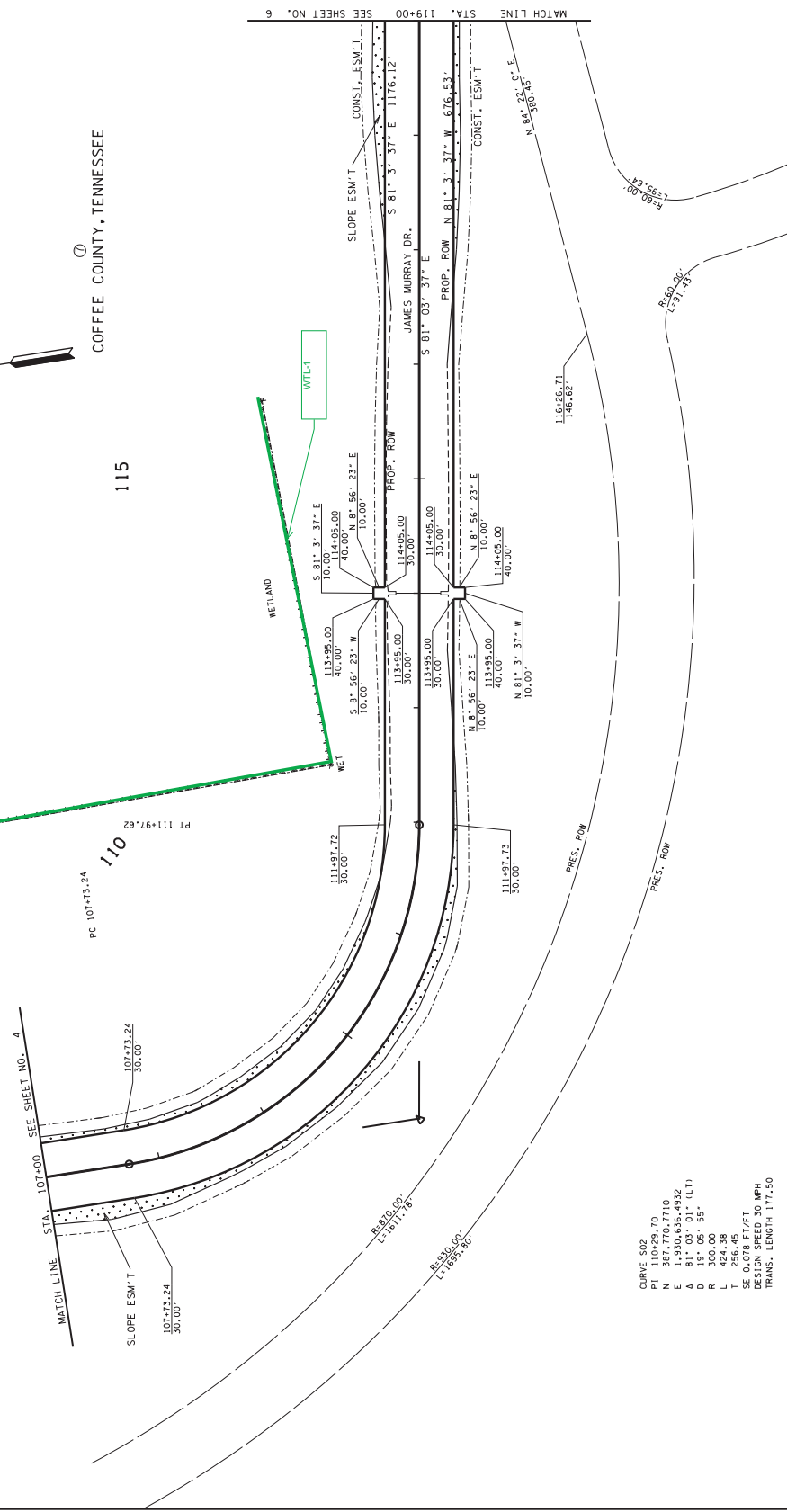
**PROPOSED
 LAYOUT**

STA. 100+00 TO STA. 107+00
 SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	5



COFFEE COUNTY, TENNESSEE
 115
 110



CURVE S02
 PI 110+29.70
 N 387.70/71.10
 Δ 116.26/71.10
 Δ 81° 03' 01" (LT1)
 D 19' 05' 55"
 R 300.00
 T 24.28
 L 75.48
 SE 0.078 FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH 177.50

**R.O.W.
FIELD
REVIEW**

SEALED BY: _____
 DATE: _____

COORDINATES ARE NAD(83) UTM
 ARE DATUM ADJUSTED BY THE
 FACTOR OF 1.000088 AND TIED TO
 THE NATIONAL GRID. ALL ELEVATIONS
 REFERRED TO THE NAVD 1988.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**PRESENT
LAYOUT**

STA. 107+00 TO STA. 119+00
 SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	5A

R.O.W. FIELD REVIEW

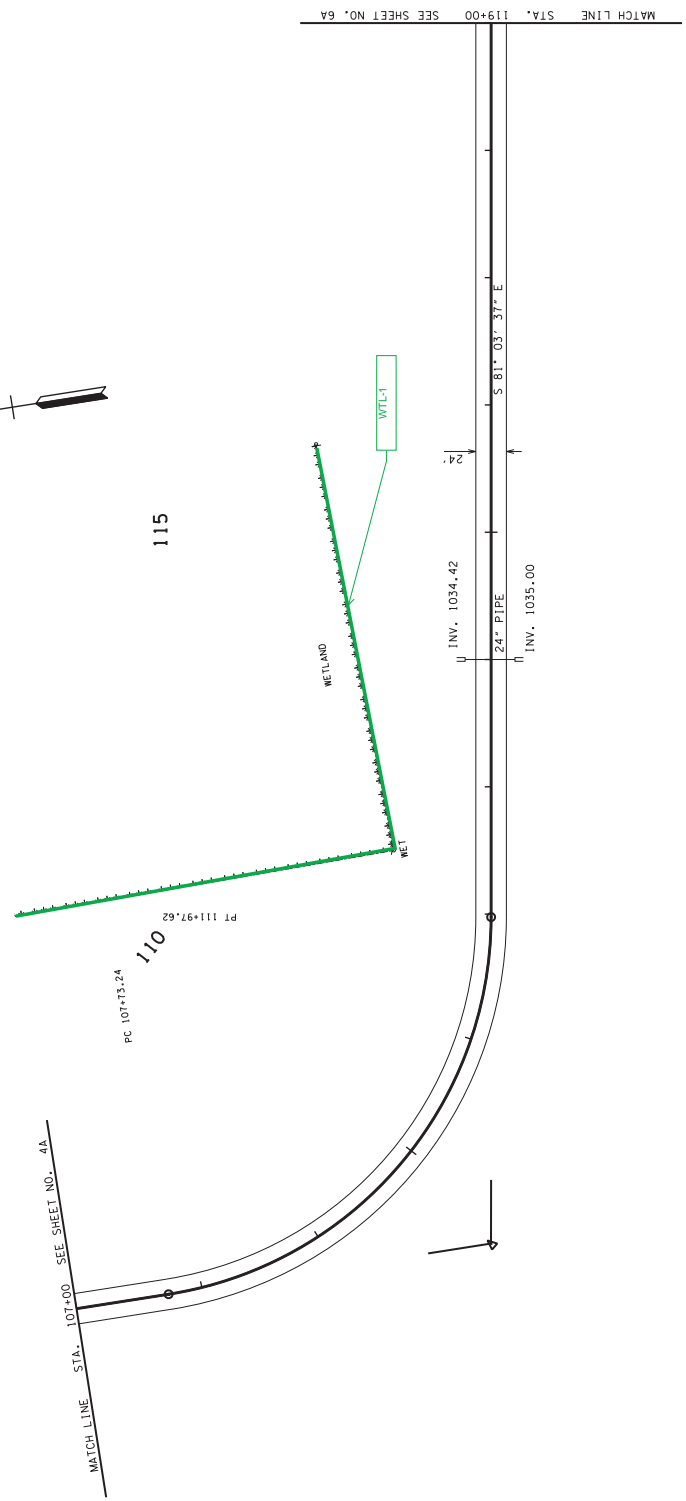
SEALED BY: _____

COORDINATES ARE NAD(83)UBRS,
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE STATE DATUM. ALL ELEVATIONS
REFERRED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 107+00 TO STA. 119+00
SCALE: 1" = 50'



CURVE S02
 PI 110+29.70
 N 387.70/710
 A 81' 03" 01" (LT)
 D 19' 05" 55"
 R 300.00
 T 24.28
 SE 0.078 FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH 177.50

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	6

R.O.W. FIELD REVIEW

SEAL BY: _____

COORDINATES ARE NAD(83) UTM, ARE DATUM ADJUSTED BY THE FACTOR OF 1.000088 AND TIED TO THE NAD(83) DATUM. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

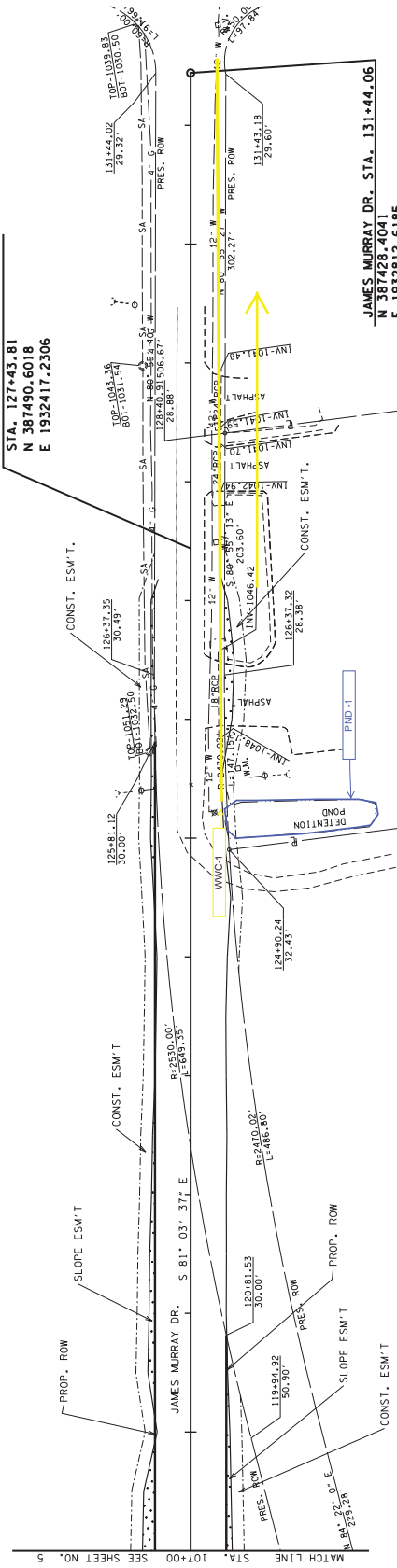
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PRESENT LAYOUT
STA. 119+00 TO STA. 131+44



120 COFFEE COUNTY, TENNESSEE 125 130
 POT 131+44.06

JAMES MURRAY DR.
 END PROJ. NO. 16945-2473-04 (ROW)
 STA. 127+43.81
 N 387490.6018
 E 1932417.2306

JAMES MURRAY DR. STA. 131+44.06
 N 387428.4041
 E 1932812.6185



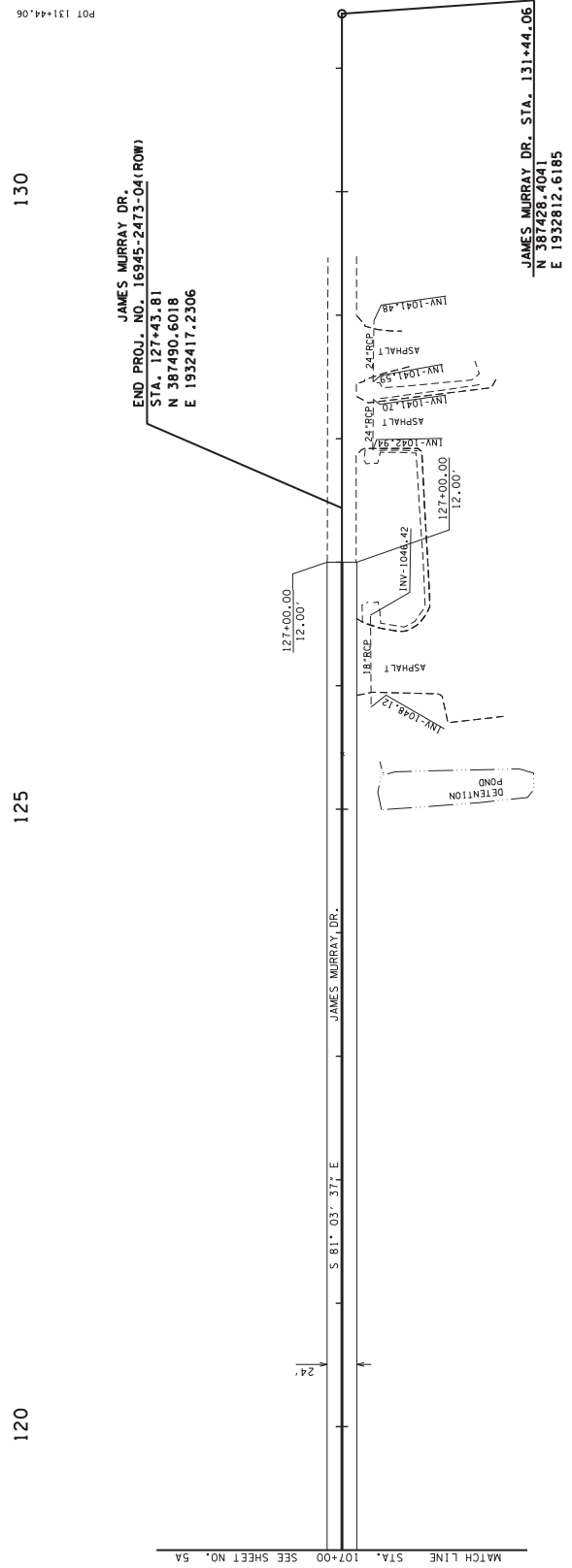
⑥ COFFEE COUNTY, TENNESSEE THE INDUSTRIAL BOARD OF COFFEE COUNTY, TENNESSEE, INCORPORATED

⑦ COFFEE COUNTY, TENNESSEE

⑧ THE INDUSTRIAL BOARD OF COFFEE COUNTY, TENNESSEE, INCORPORATED

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	6A



**R.O.W.
FIELD
REVIEW**

SEALED BY:

COORDINATES ARE NAD(83) (985).
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE NATIONAL GRID. ALL ELEVATIONS
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PROPOSED
LAYOUT**

STA. 119+00 TO STA. 131+44
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	7

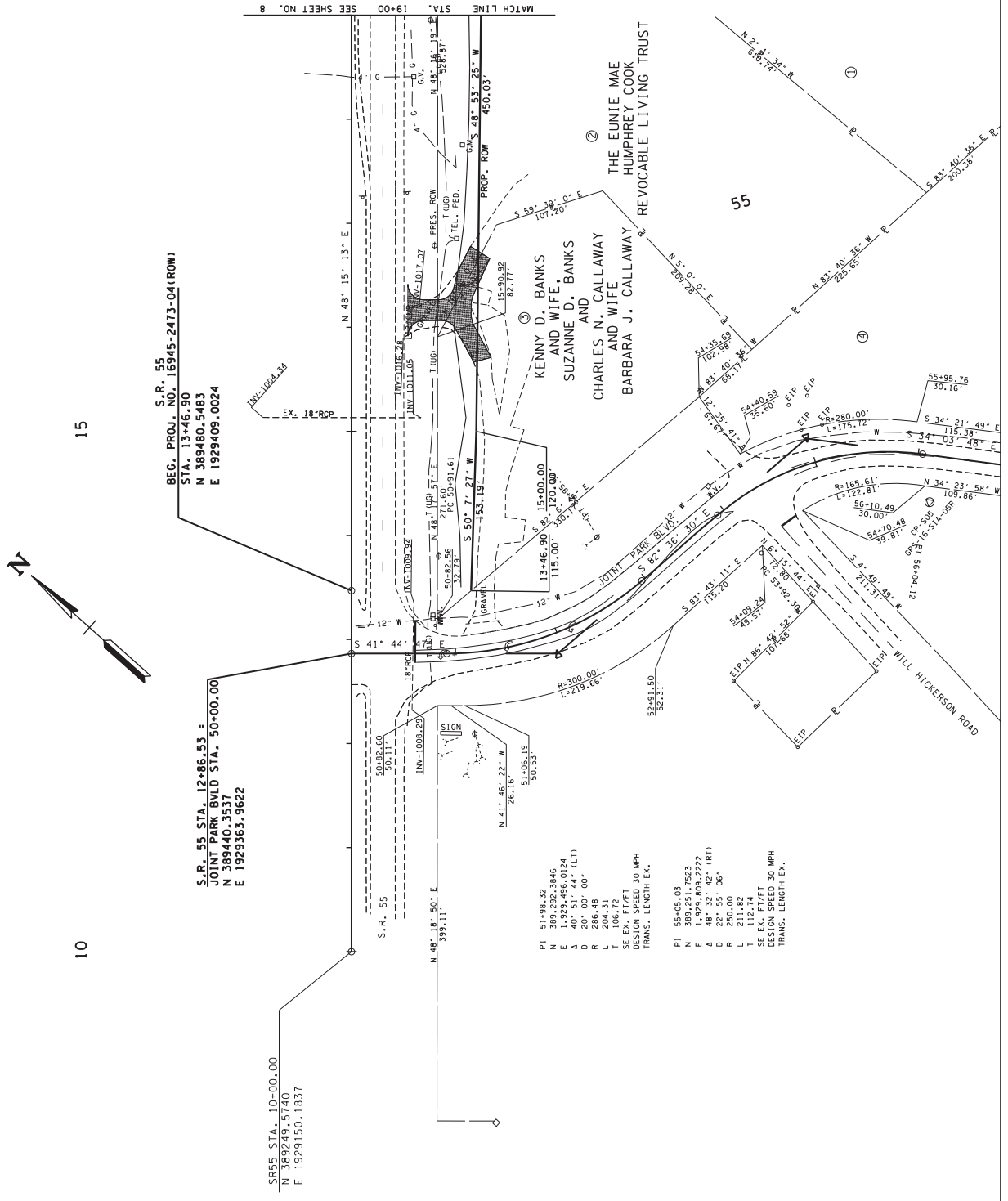
R.O.W. FIELD REVIEW

SEAL BY: _____
 DATE: _____

COORDINATES ARE NAD(83) UTM. ALL ARE DATUM ADJUSTED BY THE FACTOR OF 1.000088 AND TIED TO THE STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT
 STA. 10+00 TO STA. 19+00
 SCALE: 1" = 50'



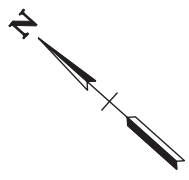
S.R. 55
 BEC. PROJ. NO. 16945-2473-04 (ROW)
 STA. 13+46.90
 N 389480.5483
 E 1929409.0024

S.R. 55 STA. 12+86.53 =
 JOINT PARK BULD STA. 50+00.00
 N 389440.3537
 E 1929363.9622

S.R. 55 STA. 10+00.00
 N 389249.5740
 E 1929150.1637

PI 51+98.32
 N 389292.3846
 E 1929496.0124
 A 20° 00' 00" (L1)
 R 286.48
 L 204.31
 T 106.72
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EX.

PI 55+05.03
 N 389251.7523
 E 1929409.2222
 A 48° 32' 42" (RT)
 D 22° 55' 06"
 L 211.82
 T 112.74
 SE EX. FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EX.



15

10

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	7A

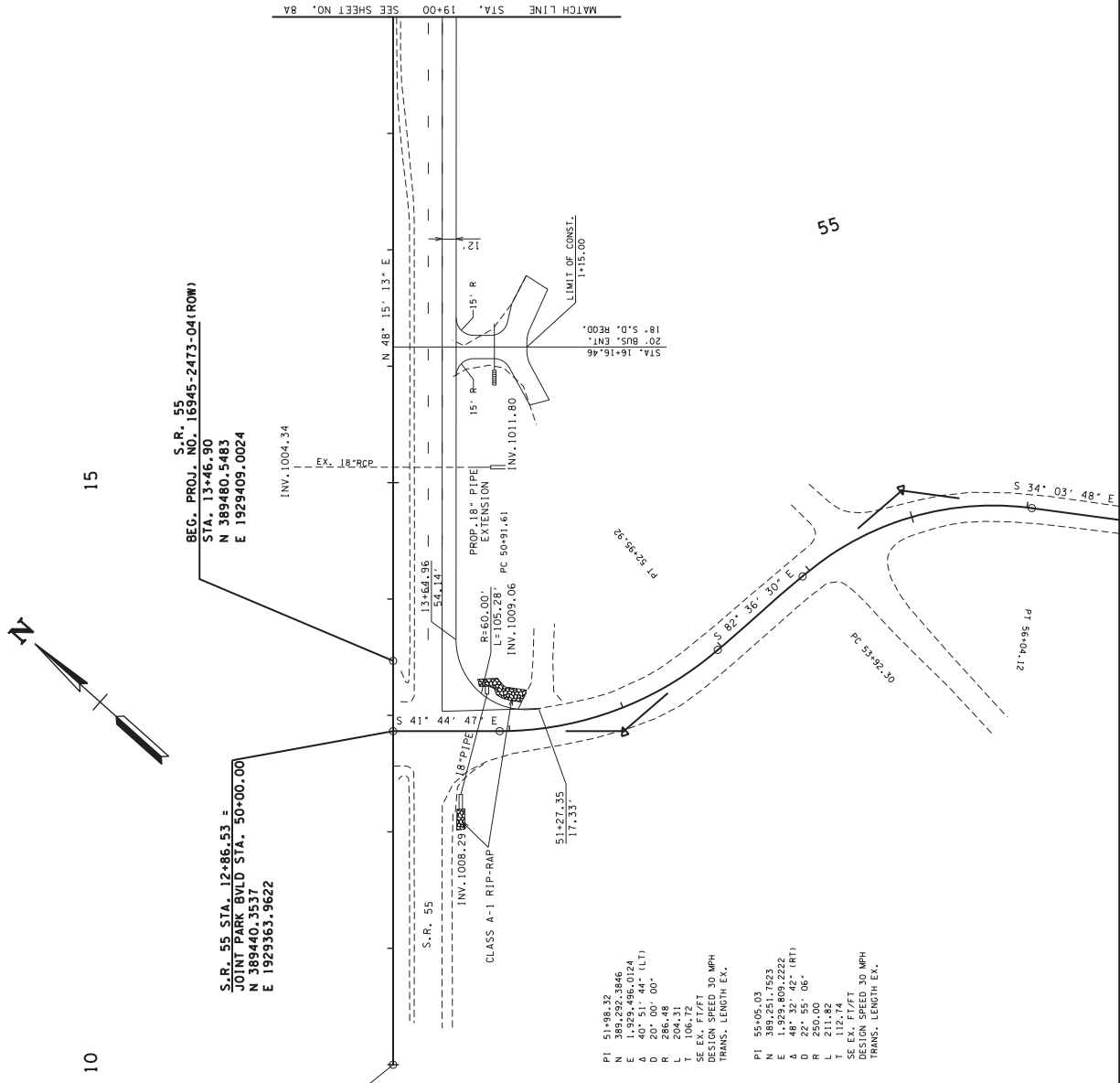
R.O.W. FIELD REVIEW

SEALED BY: _____

COORDINATES ARE NAD(83) UTM
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE STATE PLANE COORDINATE SYSTEM
REFERRED TO THE NAD(83).

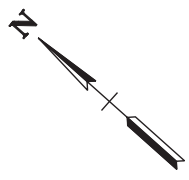
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PROPOSED
LAYOUT**
STA. 10+00 TO STA. 19+00
SCALE: 1" = 50'



PI 51+98.32
 N 389,292,3846
 E 1,929,496,0124
 A 20' 00' 00" (L1)
 R 286.48
 L 204.31
 T 106.72
 S 82° 36' 30" E
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EX.

PI 55+05.03
 N 389,251,7523
 E 1,929,809,2222
 A 48' 32' 42" (FT)
 D 22° 55' 06"
 L 211.82
 T 112.74
 SE EX. FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EX.



10

15

55

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	8

R.O.W. FIELD REVIEW

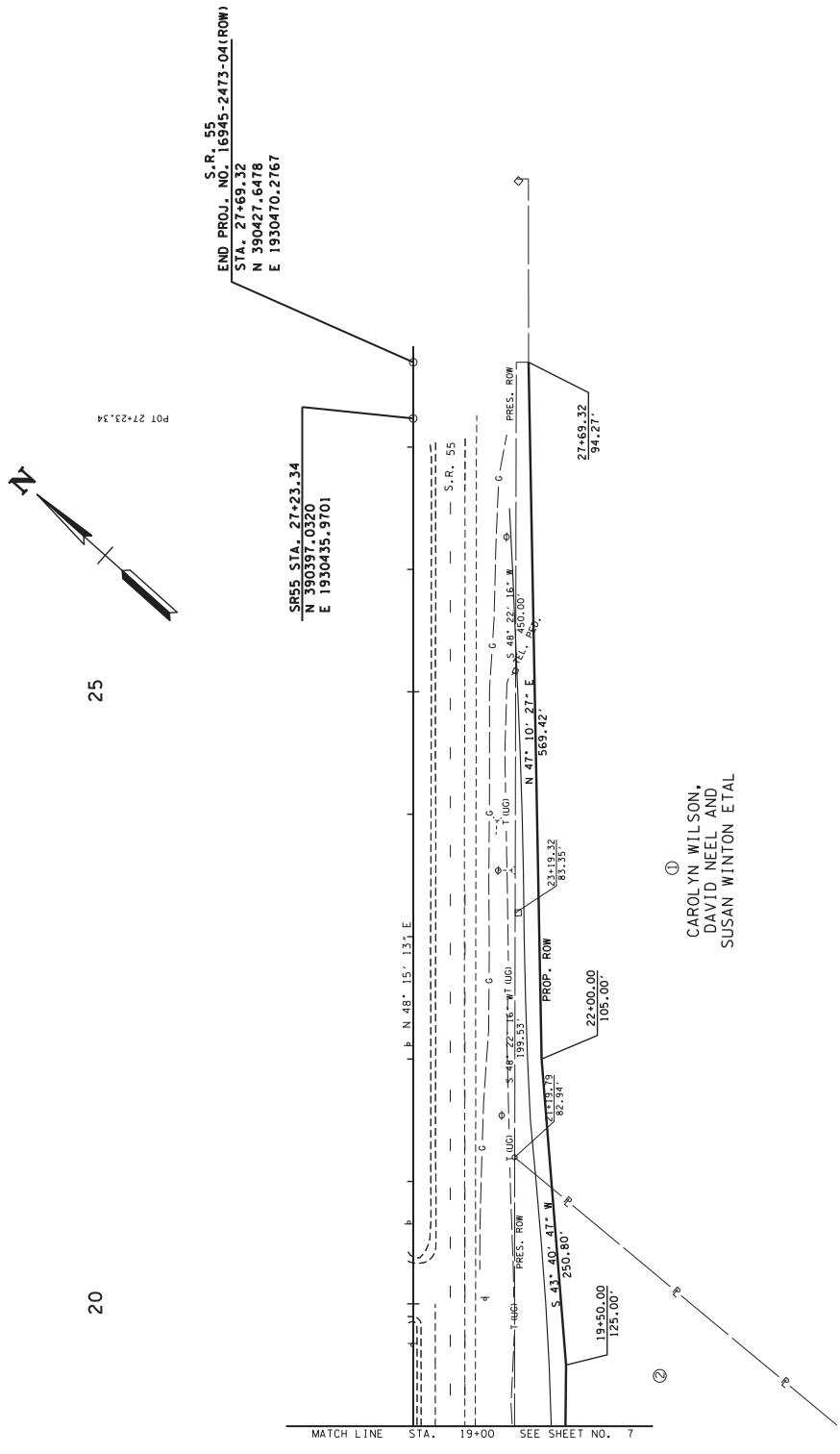
SEALED BY: _____

COORDINATES ARE NAD(83) UTM,
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE STATE PLANE COORDINATE
SYSTEM. ALL ELEVATIONS ARE
REFERRED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 19+00 TO STA. 27+00
SCALE: 1" = 50'



①
CAROLYN WILSON,
DAVID NEEL AND
SUSAN WINTON ETAL

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	8A

R.O.W. FIELD REVIEW

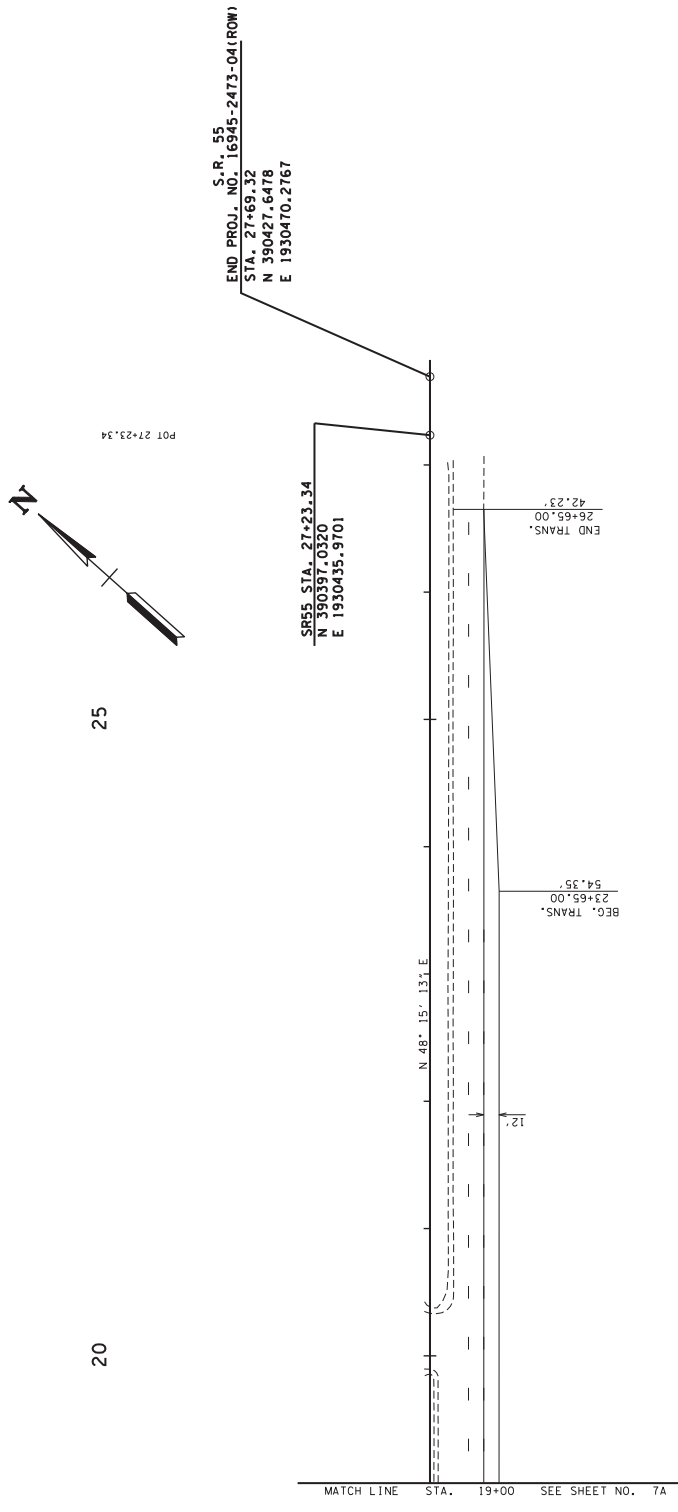
SEALED BY: _____

COORDINATES ARE NAD(83) (985).
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000088 AND TIED TO
THE STATE PLANE COORDINATE SYSTEM
REFERRED TO THE NAD(83).

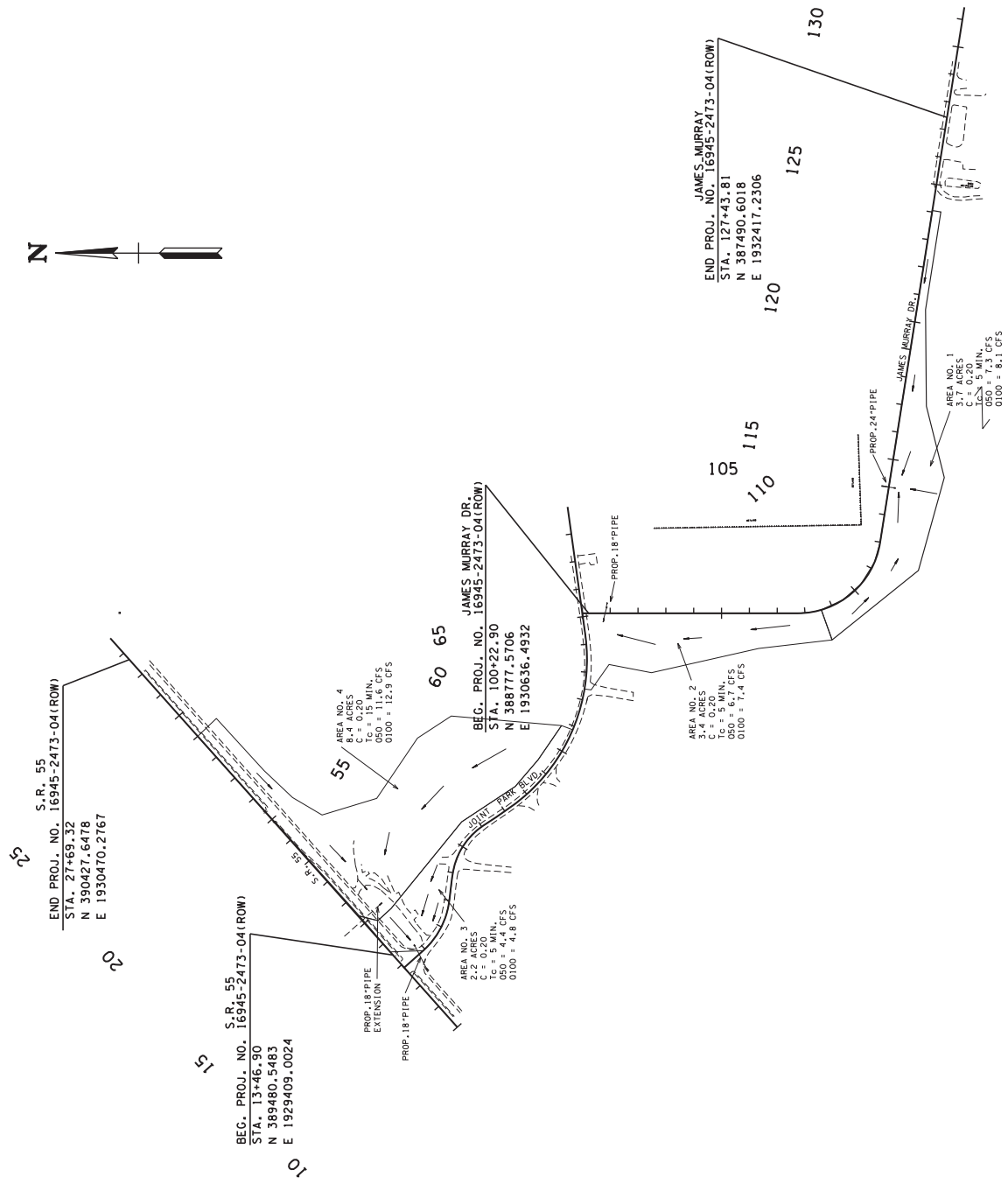
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 19+00 TO STA. 27+00
SCALE: 1" = 50'



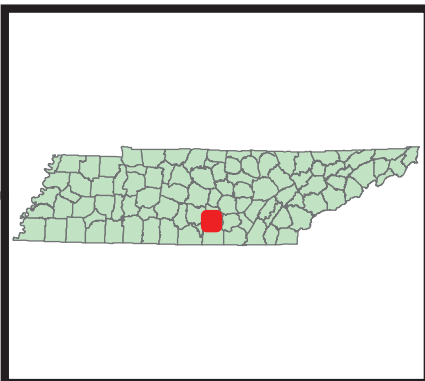
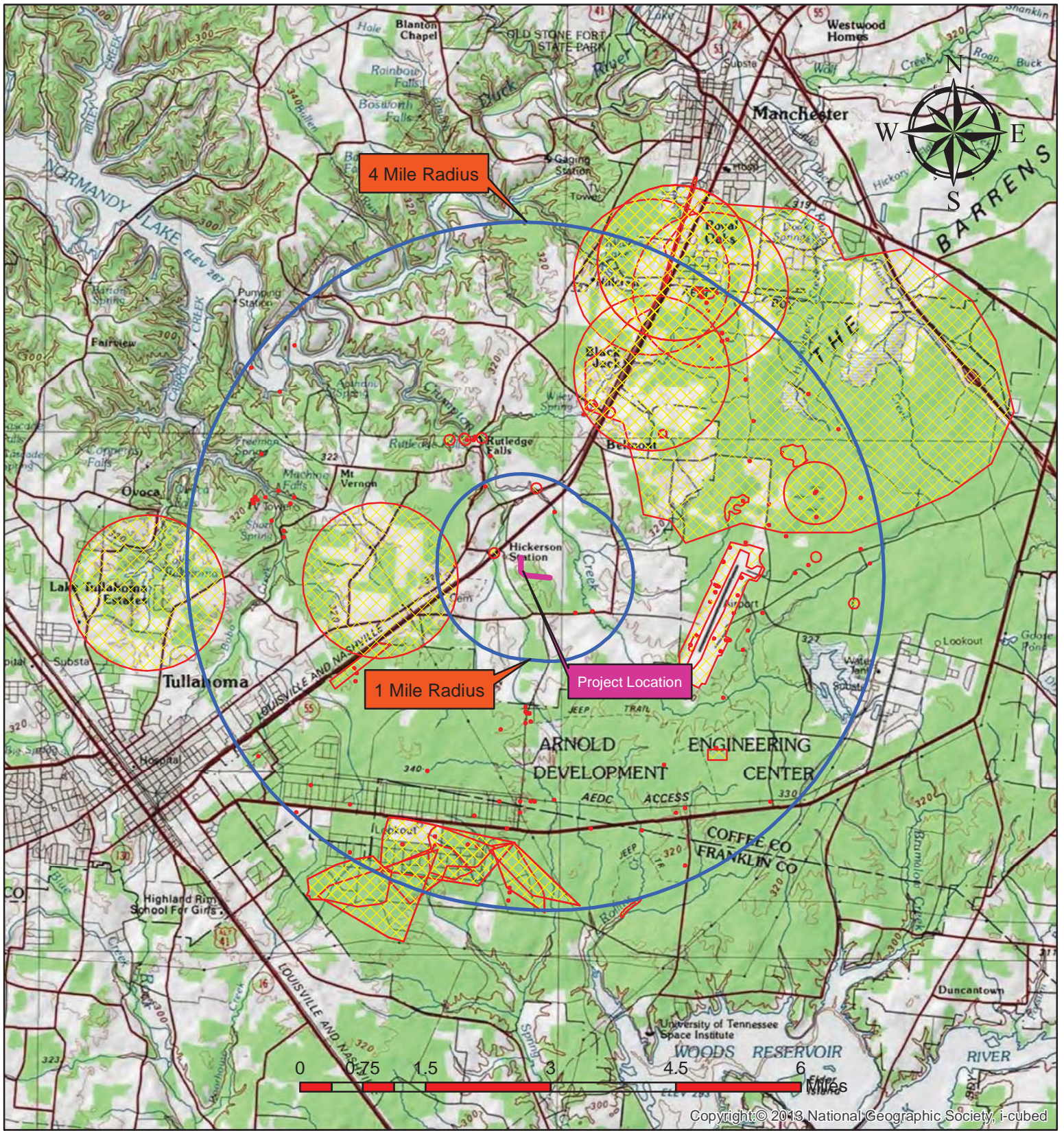
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	16945-2473-04	10



**R.O.W.
 FIELD
 REVIEW**

SEALED BY: _____

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
**DRAINAGE
 MAP**
 STA. 100+00 TO STA. 130+00
 SCALE: 1"=200'



**Species Review Topographic Map
Coffee County, SIA Serving OMAR Industries**

**Normandy Lake, TN Quad (86-NW)
09 September 2013**

**P.E. 16945-1473-04
PIN 118532.00**



Species Review Form

Project: Coffee County, SIA Serving OMAR Industries, P.E. 16945-1473-04, PIN 118532.00

Date of field study: 24 Jul 2013 & 18 Nov 2013

Date TDEC database checked: 09 Sept 2013

Completed by: R.L. Howard

Species reported within 1 mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status	Species is potentially present in R-O-W because: (A) it is listed by TDEC within ROW (B) habitat is present observed during site visit (C) critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: (A) Present habitat unsuitable (B) Not observed during site visit (C) Original record questionable (D) Considered extinct/extirpated	Accommodations to minimize impacts: (A) BMPs are sufficient to protect species (B) Special Notes are included on project plans (C) Individuals will be impacted. (D) Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
Refer to Attached Species List						

Species reported within 1-mile to 4-mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status	Species is potentially present in R-O-W because: (A) it is listed by TDEC within ROW (B) habitat is present observed during site visit (C) critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: (A) Present habitat unsuitable (B) Not observed during site visit (C) Original record questionable (D) Considered extinct/extirpated	Accommodations to minimize impacts: (A) BMPs are sufficient to protect species (B) Special Notes are included on project plans (C) Individuals will be impacted. (D) Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
Refer to Attached Species List						

Species Review Form

Project: Coffee County, SIA Serving OMAR Industries, P.E. 16945-1473-04, PIN 118532.00

Migratory Birds

List significant concentrations of migratory birds encountered within the project area (rookeries, aggregations, nesting areas, etc.).

Species (Scientific and Common Name)	Approximate No. of Nests (or Individuals)	Location of Nests (or Individuals) (Include Latitude & Longitude)	Nesting Dates and Reference	Photograph #
N/A				

USFWS letter: Yes (attached) No (explain)

Biological Assessment: Yes (response letter attached; see below) No

Species (scientific and common names)	USFWS conclusion ¹

¹ Choose from "no effect"; "not likely to adversely affect;" "likely to adversely affect;" if "likely to adversely affect" is chosen, indicate "no jeopardy to species and no adverse modification to habitat" or "jeopardy to species, or adverse modification to habitat" based on FWS concurrence letter

List Natural Areas, management areas, refuges, or similar sites within or adjacent to project (attach 7.5 minute topographic map with pertinent boundaries of area marked)

Area Name	Type of Area	Pertinent Notes
N/A		

List locations that contain potential Indiana bat habitat (Provide an aerial that indicates areas checked)

Location (description; lat/long or station number)	Tree Species	Photograph #
Indiana Bat Survey Conducted Summer 2013, Report is Attached		

EO_ID	Scientific Name	Common Name	Federal Protection	State Protection	Last Observation Date
7847	<i>Accipiter striatus</i>	Sharp-shinned Hawk	No Status	D	1993-12-20
10721	<i>Agalinis oligophylla</i>	Ridge-stem False-glove	--	E	1994-10-21
9977	<i>Aimophila aestivalis</i>	Bachman's Sparrow	--	E	1993-06-07
14217	<i>Ammodramus henslowii</i>	Henslow's Sparrow	--	D	1997-06-07
7608	<i>Carex barrattii</i>	Barratt's Sedge	--	E	1994-04-08
3545	<i>Carex hirtifolia</i>	Pubescent Sedge	--	S	1974-04-28
9317	<i>Dichanthelium acuminatum ssp. leucothrix</i>	Roughish Witchgrass	--	S	8/25/1992
6881	<i>Dichanthelium acuminatum ssp. spretum</i>	Eaton's Witchgrass	--	E	1994-10-22
2023	<i>Drosera brevifolia</i>	Dwarf Sundew	--	T	1995-04-25
10355	<i>Echinacea pallida</i>	Pale-purple Coneflower	--	E	1997-06-25
14519	<i>Eleocharis wolffii</i>	Wolf Spike-rush	--	E	1939-05-13
1518	<i>Eleoostoma luteovinctum</i>	Redband Darter	--	D	1972-10-03
4426	<i>Eupatorium leucolepis</i>	White-bracted Thoroughwort	--	E	1994-08-29
865	<i>Festuca paradoxa</i>	Cluster Fescue	--	S	1992-06-23
13035	<i>Frullania obcordata</i>	Swamp Frullania	--	S	1998-10-18
9623	<i>Fundulus julisia</i>	Barrens Topminnow	--	E	2009-02-25
1102	<i>Gaylussacia dumosa</i>	Dwarf Huckleberry	--	T	1994-08-30
1441	<i>Gentiana puberulenta</i>	Downy Gentian	--	E	1997-10-20
17183	<i>Gratiola brevifolia</i>	Sticky Hedge-hyssop	--	S	1994-10-28
14450	<i>Gymnopogon brevifolius</i>	Broad-leaved Beardgrass	--	S	1994-10-21
14658	<i>Helianthemum propinquum</i>	Low Frostweed	--	E	1996-05-23
2253	<i>Helianthus egerii</i>	Eggert's Sunflower	DM	S	1996-10-10
7611	<i>Hemidactylum scutatum</i>	Four-toed Salamander	--	D	1997-00-00
12520	<i>Hemitremia flammea</i>	Flame Chub	--	D	2008-04-23
166	<i>Iris prismatica</i>	Slender Blue Flag	--	T	1994-04-08
14367	<i>Isoetes melanopoda</i>	Blackfoot Quillwort	--	E	1996-04-29
10578	<i>Lechea pulchella</i>	Leggett's Pinweed	--	E	1994-10-22
9622	<i>Lejeunea sharpii</i>	Sharp's Lejeunea	--	E	1998-07-25
363	<i>Lespedeza angustifolia</i>	Narrowleaf Bushclover	--	T	1994-08-29
3345	<i>Liparis loeselii</i>	Fen Orchis	--	T	2003-05-28
1076	<i>Lobelia canbyi</i>	Canby's Lobelia	--	T	1996-06-02
6876	<i>Marshallia trinervia</i>	Broad-leaved Barbara's-buttons	--	T	1998-06-11

9213	<i>Melanthium latifolium</i>	Broadleaf Bunchflower	--	E	1985-07-00
16802	<i>Myotis grisescens</i>	Gray Myotis	LE	E	1998-10-09
6858	<i>Nestronia umbellata</i>	Nestronia	--	E	1984-04-15
1428	<i>Ophisaurus attenuatus longicaudus</i>	Eastern Slender Glass Lizard	--	D	1993-07
11132	<i>Panicum hemitomon</i>	Maidencane	--	S	1994-08-27
11287	<i>Parnassia grandifolia</i>	Large-leaved Grass-of-pamassus	--	S	1994-09-24
3959	<i>Pellia appalachiana</i>	A Liverwort	--	S	1998-07-06
18126	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake	--	T	2002-03-29
9595	<i>Prenanthes aspera</i>	Rough Rattlesnake-root	--	E	1998-09-19
2826	<i>Prunus pumila</i>	Sand Cherry	--	E	1997-06-13
6496	<i>Radula voluta</i>	A Liverwort	--	S	1998-07-25
8771	<i>Rhynchospora perplexa</i>	Obscure Beak-rush	--	T	1992-09-15
15090	<i>Solidago stricta var. gracillima</i>	Virginia goldenrod	--	S	2001-08-26
7628	<i>Sorex cinereus</i>	Cinereus Shrew	--	D	1994-08
9925	<i>Sorex longirostris</i>	Southeastern Shrew	--	D	1994-08
10296	<i>Trichomanes boschianum</i>	Bristle-fern	--	T	2002-05
11945	<i>Vaccinium elliotii</i>	Mayberry	--	E	1993-06-01
13306	<i>Xyris laxifolia var. iridifolia</i>	Wide-leaved Yellow-eyed Grass	--	T	1994-08-29
11765	<i>Zapus hudsonius</i>	Meadow Jumping Mouse	No Status	D	1994-06-30
11968	<i>Zigadenus leimanthoides</i>	Death-camas	--	T	1996-06-26



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

November 22, 2013

Mr. Rob Howard
Tennessee Department of Transportation
Environmental Planning and Permits
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, Tennessee 37243-0334

Subject: FWS# 13-I-0667. Proposed State Industrial Access Road serving OMAR Medical Supplies; PIN# 118532.00, P.E. 16945-1473-04, Coffee County, Tennessee

Dear Mr. Howard:

Thank you for your email dated October 24, 2013, transmitting acoustic and mist netting survey results for the proposed State Industrial Access Road serving OMAR Medical Supplies in Coffee County, Tennessee. The Tennessee Department of Transportation (TDOT) has concluded that the project is “not likely to adversely affect” the Indiana bat (*Myotis sodalis*) because none were identified during surveys. Personnel of the U.S. Fish and Wildlife Service have reviewed the subject proposal and offer the following comments.

Joint mist netting and acoustical studies were performed on July 29 and July 31, 2013, at one site determined to contain suitable habitat for the Indiana bat. The acoustical study resulted in 71 bat calls, of which none were identified as Indiana bats. The mist netting efforts resulted in the capture of four eastern red bats (*Lasiurus borealis*). Due to negative survey results for the Indiana bat, we concur with TDOT’s determination of “not likely to adversely affect” for this species. Unless new information otherwise indicates Indiana bat use of the area, this survey will be valid until April 1, 2016. Although it is likely that this project would have an insignificant effect on this species, we would appreciate consideration given to the removal of trees with a DBH (diameter at breast height) of five inches or greater from October 15 through March 31 to further minimize potential for harm to the Indiana bat.

You visited the site with personnel from our office on November 20, 2013, to determine whether listed or proposed bats use a cave on the property. No bats or signs of bat use were observed during the survey. Due to the small size of the cave and distance from the proposed alignment, we would not anticipate any impacts to this feature from construction of the project.

We are unaware of any federally listed or proposed species that would be impacted by this project. Therefore, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act of 1973, as amended, are fulfilled for all species that currently receive protection under the Act. Obligations under the Act must be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

If you have any questions regarding our comments, please contact John Griffith of my staff at 931/525-4995 or by email at john_griffith@fws.gov.

Sincerely,

A handwritten signature in blue ink that reads "Mary E. Jennings". The signature is written in a cursive style with a large, looped initial "M".

Mary E. Jennings
Field Supervisor

Rob Howard

From: Ed Harsson
Sent: Tuesday, September 03, 2013 12:23 PM
To: Rob Howard
Cc: Rob Todd; Ed Harsson
Subject: comment regarding the Coffee County, SIA Serving OMAR Industries PIN 118532.00
Attachments: 118532-00-ROW.pdf; Coffee Co SIA Serving OMAR Industries Proj Loc Topo PIN 118532.pdf; Coffee Co SIA Serving OMAR Industries Proj Loc Aerial PIN 118532.pdf

Importance: High

Rob-
The listed species that come to mind regarding the wetland area is the possibility of presence of the Flame Chub in wetland seep ad springs, the Four-toed salamander in the wetlands itself, and bat possible habitats in the forested area adjacent to the wetlands. I did not see flame chub habitat or four-toed salamander habitat during our site visit and it appears that the road location is trying to avoid the wetland area.
Thank you for taking this comment.

From: Rob Howard
Sent: Wednesday, August 28, 2013 1:03 PM
To: Ed Harsson
Subject: Coffee County, SIA Serving OMAR Industries PIN 118532.00

Ed,
TDOT proposes to construct a state industrial access (SIA) road to serve OMAR Industries in Coffee County.
Attached, please find the topo and aerial location maps and plan sheets.
Please review and provide any comments concerning state protected species.

Thank you,
Rob

Rob Howard | *Biologist*
Tennessee Department of Transportation
Ecology Section
(931) 526-7309 (Office)
(931) 212-4727 (Mobile)



STATE OF TENNESSEE

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Areas
Natural Heritage Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
Phone 615/532-0431 Fax 615/532-0046

October 22, 2013

Rob Howard
Tennessee Department of Transportation
505 Deaderick Street
Suite 900, James K. Polk Bldg.
Nashville, TN 37243

Subject: SIA Serving OMAR Industries
TDOT PIN: 118532.00
Coffee County, Tennessee
Rare Species Database Review

Dear Mr. Howard:

Thank you for your correspondence requesting a rare species database review for the construction of an industrial access road serving OMAR industries, located in Coffee County, Tennessee.

We have reviewed the state's natural heritage database with regard to the project boundaries, and we find that the following rare species have been observed previously within one mile of the project:

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vertebrate Animal	Etheostoma luteovinctum	Redband Darter	G4	S4	--	D	Limestone streams; Nashville Basin & portions of Highland Rim.
Vertebrate Animal	Fundulus julisia	Barrens Topminnow	G1	S1	--	E	Springs, spring runs, and first- and second-order headwaters and creeks in the Barrens of Cannon, Coffee, & Warren counties.
Vascular Plant	Helianthus eggertii	Eggert's Sunflower	G3	S3	DM	S	Barrens And Roadsides
Vertebrate Animal	Hemitremia flammea	Flame Chub	G3	S3	--	D	Springs and spring-fed streams with lush aquatic vegetation; Tennessee & middle Cumberland river watersheds.
Vascular Plant	Lilium michiganense	Michigan Lily	G5	S3	--	T	Swamps And Open Wet Woods

Within four miles of the project the following additional rare species have been reported:

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vertebrate Animal	<i>Accipiter striatus</i>	Sharp-shinned Hawk	G5	S3B,S4N	No Status	D	Forests and open woodlands.
Vascular Plant	<i>Agalinis oligophylla</i>	Ridge-stem False-foxglove	G4	S1	--	E	Barrens
Vertebrate Animal	<i>Aimophila aestivalis</i>	Bachman's Sparrow	G3	S1B	--	E	Dry open pine or oak woods; nests on the ground in dense cover.
Vertebrate Animal	<i>Ammodramus henslowii</i>	Henslow's Sparrow	G4	S1B	--	D	Damp open fields and meadows with grass interspersed with weeds or shrubs.
Vascular Plant	<i>Carex barrattii</i>	Barratt's Sedge	G4	S2	--	E	Wet Woods And Oak Barrens
Vascular Plant	<i>Carex hirtifolia</i>	Pubescent Sedge	G5	S1S2	--	S	Lowland Forests
International Terrestrial Ecological System Classification	Central Interior Highlands and Appalachian Sinkhole and Depression Pond	Highland Rim Sinkhole and Depression Pond	GNR	S2S3	--	Rare, Not State Listed	
Vascular Plant	<i>Dichantherium acuminatum</i> ssp. <i>leucothrix</i>	Roughish Witchgrass	G4?Q	S1	--	S	Moist Pine Barrens
Vascular Plant	<i>Dichantherium acuminatum</i> ssp. <i>spretum</i>	Eaton's Witchgrass	G5	S1	--	E	Sandy Peaty Pine Barrens
Vascular Plant	<i>Drosera brevifolia</i>	Dwarf Sundew	G5	S2	--	T	Wet Barrens And Ecotones
Vascular Plant	<i>Drosera capillaris</i>	Pink Sundew	G5	S1	--	T	Acidic Wetlands
Vascular Plant	<i>Drosera intermedia</i>	Spoonleaf Sundew	G5	S2	--	S	Acidic Wetlands
International Terrestrial Ecological System Classification	Eastern Highland Rim Prairie and Barrens	Eastern Highland Rim Prairie and Barrens	GNR	SNR	--	Rare, Not State Listed	
Vascular Plant	<i>Echinacea pallida</i>	Pale-purple Coneflower	G4	S1	--	E	Barrens And Dry Openings
Vascular Plant	<i>Eleocharis wolfii</i>	Wolf Spike-rush	G3G4	S1	--	E	Wet Woods On Floodplains

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	<i>Eupatorium leucolepis</i>	White-bracted Thoroughwort	G5	S1	--	E	Wet Barrens
Vascular Plant	<i>Festuca paradoxa</i>	Cluster Fescue	G5	S1	--	S	Wet Woods And Prairies
Nonvascular Plant	<i>Frullania obcordata</i>	Swamp Frullania	G4G5	S1	--	S	Swamps, On Tree Bark
Vascular Plant	<i>Gaylussacia dumosa</i>	Dwarf Huckleberry	G5	S3	--	T	Barrens
Vascular Plant	<i>Gentiana puberulenta</i>	Downy Gentian	G4G5	S1	--	E	Barrens
Vascular Plant	<i>Gratiola brevifolia</i>	Sticky Hedge-hyssop	G4	S1	--	S	Wet Barrens And Marshes
Vascular Plant	<i>Gymnopogon brevifolius</i>	Broad-leaved Beardgrass	G5	S1S2	--	S	Barrens
Vascular Plant	<i>Helianthemum propinquum</i>	Low Frostweed	G4	S1S2	--	E	Barrens
Vertebrate Animal	<i>Hemidactylium scutatum</i>	Four-toed Salamander	G5	S3	--	D	Woodland swamps, shallow depressions, & sphagnum mats on acidic soils; middle & east Tennessee.
Other (Ecological)	Heron rookery	Heron Rookery	GNR	SNR	--	Rare, Not State Listed	
Vascular Plant	<i>Iris prismatica</i>	Slender Blue Flag	G4G5	S2S3	--	T	Wet Barrens
Vascular Plant	<i>Isoetes melanopoda</i>	Blackfoot Quillwort	G5	S1S2	--	E	Seasonal Streambeds And Wet Depressions
Vascular Plant	<i>Juncus elliotii</i>	Elliott's Rush	G4	S1	--	S	Wet Barrens
Vascular Plant	<i>Lechea pulchella</i>	Leggett's Pinweed	G5	S1	--	E	Barrens
Nonvascular Plant	<i>Lejeunea sharpii</i>	Sharp's Lejeunea	G2G3	S1S2	--	E	Calcareous Bluffs, Rock & Logs Of Wet Sinks
Vascular Plant	<i>Lespedeza angustifolia</i>	Narrowleaf Bushclover	G5	S2	--	T	Barrens
Vascular Plant	<i>Liparis loeselii</i>	Fen Orchis	G5	S1	--	T	Calcareous Seeps
Vascular Plant	<i>Listera australis</i>	Southern Twayblade	G4	S1S2	--	E	Wet-Mesic Woods
Invertebrate Animal	<i>Lithasia geniculata fuliginosa</i>	Geniculate River Snail	G3T3Q	S2	--	Rare, Not State Listed	Medium-sized river form of <i>L. geniculata</i> ; portions of lower Cumberland and lower Tennessee river systems; Duck & Buffalo rivers.

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	<i>Lobelia canbyi</i>	Canby's Lobelia	G4	S2S3	--	T	Oak Barrens, Wet Areas
Vascular Plant	<i>Lycopodiella alopecuroides</i>	Foxtail Clubmoss	G5	S2	--	T	Wet Acidic Barrens
Vascular Plant	<i>Marshallia trinervia</i>	Broad-leaved Barbara's-buttons	G3	S2S3	--	T	Rocky Ravines
Vascular Plant	<i>Melanthium latifolium</i>	Broadleaf Bunchflower	G5	S1S2	--	E	Oak Forest
Vertebrate Animal	<i>Myotis grisescens</i>	Gray Myotis	G3	S2	LE	E	Cave obligate year-round; frequents forested areas; migratory.
Vascular Plant	<i>Myriophyllum pinnatum</i>	Cutleaf Water-milfoil	G5	S1	--	E	Acidic Wetland And Ponds
Vascular Plant	<i>Nestronia umbellula</i>	Nestronia	G4	S1	--	E	Upland Woods
Vertebrate Animal	<i>Ophisaurus attenuatus longicaudus</i>	Eastern Slender Glass Lizard	G5T5	S3	--	D	Dry upland areas including brushy, cut-over woodlands and grassy fields; nearly statewide but obscure; fossorial.
Vascular Plant	<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3S4	--	S-CE	Rich Woods
Vascular Plant	<i>Panicum hemitomon</i>	Maidencane	G5?	S2	--	S	Ponds In Barrens
Vascular Plant	<i>Parnassia grandifolia</i>	Large-leaved Grass-of-parnassus	G3	S3	--	S	Calcareous Seeps
Nonvascular Plant	<i>Pellia appalachiana</i>	A Liverwort	G4	S2	--	S	Wet Soil, Barrens
Vertebrate Animal	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake	G4T4	S3	--	T	Well-drained sandy soils in pine/pine-oak woods; dry mountain ridges; E portions of west TN, E to lower elev of the Appalachians.
Vascular Plant	<i>Pogonia ophioglossoides</i>	Rose Pogonia	G5	S2	--	E	Wet Acidic Barrens
Vascular Plant	<i>Prenanthes aspera</i>	Rough Rattlesnake-root	G4?	S1	--	T	Barrens And Roadsides
Vascular Plant	<i>Prunus pumila</i>	Sand Cherry	G5	S1	--	E	Barrens

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
International Vegetation Classification	Quercus (falcata, stellata) / Quercus marilandica / Gaylussacia (baccata, dumosa) Woodland	Highland Rim Blackjack Oak Barrens	G2G3	S2S3	--	Rare, Not State Listed	
International Vegetation Classification	Quercus phellos - Quercus alba / Vaccinium fuscatum - (Viburnum nudum) / Carex (barrattii, intumescens) Forest	Barrens Depression Willow Oak Forest	G2	SNR	--	Rare, Not State Listed	
International Vegetation Classification	Quercus stellata - (Quercus coccinea) / Quercus marilandica / Vaccinium pallidum - (Vaccinium stamineum) Woodland	Highland Rim Post Oak - Blackjack Oak Woodland	G2G3	S2	--	Rare, Not State Listed	
Nonvascular Plant	Radula voluta	A Liverwort	G3	S2	--	S	Shady Moist Boulders By Waterfalls Or Sreams
Vertebrate Animal	Rana capito	Carolina Gopher Frog	G3	S1	--	Rare, Not State Listed	Seasonally flooded ponds in the Barrens of Coffee County.
Vascular Plant	Rhynchospora macrostachya	Tall Horned Beak-Rush	G4	S1S2	--	S	Depression Ponds And Wet Barrens
Vascular Plant	Rhynchospora perplexa	Obscure Beak-rush	G5	S2	--	T	Marshes, Wet Barrens
Vascular Plant	Solidago stricta var. gracillima	Virginia goldenrod	G4?	S1	--	S	Wet Barrens And Fields
Vertebrate Animal	Sorex cinereus	Cinereus Shrew	G5	S4	--	D	Rich woodlands of many types; open fields; middle and east Tennessee.
Vertebrate Animal	Sorex longirostris	Southeastern Shrew	G5	S4	--	D	Various habitats including wet meadows, damp woods, and uplands;

Type	Scientific Name	Common Name	Global Rank	St. Rank	Fed. Prot.	St. Prot.	Habitat
Vascular Plant	<i>Trichomanes boschianum</i>	Bristle-fern	G4	S1S2	--	T	Rocky Seeps
Vascular Plant	<i>Vaccinium elliottii</i>	Mayberry	G5	S1	--	E	Open Flat Woods And Dry Slopes
Vascular Plant	<i>Xyris laxifolia</i> var. <i>iridifolia</i>	Wide-leaved Yellow-eyed Grass	G4G5T4T5	S2	--	T	Pond Margins And Marshes
Vertebrate Animal	<i>Zapus hudsonius</i>	Meadow Jumping Mouse	G5	S4	No Status	D	Open grassy fields; often abundant in thick vegetation near water bodies; statewide.
Vascular Plant	<i>Zigadenus leimanthoides</i>	Death-camas	G4Q	S2	--	T	Acidic Wetlands

Eggert's Sunflower (*Helianthus eggertii*) could be present in the area but we see no likely significant impacts on the rare plant species listed above based on the project area map provided. Should suitable habitat exist on or immediately downstream of the site, we ask that project plans provide for the protection of these species. We ask that you coordinate this project with the Tennessee Wildlife Resources Agency (Rob Todd, rob.todd@tn.gov, 615-781-6577) to ensure that legal requirements for protection of state listed rare animals are addressed. Additionally, we ask that you contact the U.S. Fish and Wildlife Service Field Office, Cookeville, Tennessee (931-525-4970) for comments regarding federally listed species.

For stabilization of disturbed areas, the Tennessee Natural Heritage Program advocates the use of native trees, shrubs, and warm season grasses, where practicable. Care should be taken to prevent re-vegetation of disturbed areas with plants listed by the Tennessee Exotic Pest Plant Council as harmful exotic plants: <http://www.tneppc.org/>

Please keep in mind that not all of Tennessee has been surveyed and that a lack of records for any particular area should not be construed to mean that rare species necessarily are absent. For information regarding species protection status and ranks, please visit <http://www.tn.gov/environment/na/pdf/Status&Ranks.pdf>.

To assist in determining whether rare species are located at a given site, the Tennessee Natural Heritage Program has implemented a publicly accessible website where rare species data lists by county, quadrangle, watershed, and MS4 boundaries can be obtained: http://environment-online.state.tn.us:8080/pls/enf_reports/f?p=9014:3:3875605994273657.

Thank you for considering Tennessee's rare species throughout the planning of this project. Should you have any questions, please do not hesitate to contact Stephanie at (615) 532-4799 or stephanie.whitaker@tn.gov.

Sincerely,



Stephanie A. Whitaker
Natural Heritage Data Manager

Rob Howard

From: Rob Howard
Sent: Thursday, October 24, 2013 8:32 AM
To: john_griffith@fws.gov
Cc: R.Deedee Kathman
Subject: Coffee Co, SIA Serving OMAR Industries Indiana Bat Survey Report 10 Oct 2013 PIN 118532.00
Attachments: Coffee Co, SIA Serving OMAR Industries 10 Oct 2013 Indiana Bat Survey Report PIN 118532.00.pdf

John,

Attached for your review is the Indiana Bat Survey Report for the subject project.

Stantec Consulting Services, Inc. (Stantec) prepared the 10 October 2013 report on behalf of the Tennessee Department of Transportation (TDOT).

Stantec's report provides information for one acoustic monitoring site (AS-01) and one mist net site (MS-01).

Acoustic Monitoring Site AS-01

Stantec biologists deployed a single Anabat detector near the mist net site during both nights of survey (29 July 2013 and 31 July 2013), resulting in two nights of acoustic data.

EchoClass identified 221 calls for the following species: eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), tricolored bat (*Perimyotis subflavus*), and little brown bat (*Myotis lucifugus*).

EchoClass Acoustic ID Program-version 2.0 identified no files representing a possible Indiana bat (*Myotis sodalis*).

Mist Net Site MS-01

Stantec biologists conducted mist net surveys on 29 July 2013 and 31 July 2013 and captured four (4) bats, representing one (1) species, the eastern red bat (*Lasiurus borealis*; n=4).

Netting efforts resulted in no captures of the federally endangered Indiana bat (*Myotis sodalis*).

Complete results, including data sheets, are available in the attached report.

Based on the information collected by Stantec, TDOT concludes this project is "not likely to adversely affect" Indiana bats, *Myotis sodalis*.

Best Regards,
Rob

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***Indiana Bat (*Myotis sodalis*) Mist Net
& Acoustic Survey
for SIA Road Serving Omar Medical
Supplies
Coffee County, Tennessee***

PIN: 118532.00

P.E. No.: 16945-1473-04



Prepared for:
Tennessee Department of Transportation
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October 10, 2013

Sign-off Sheet

This document entitled Indiana Bat (*Myotis sodalis*) Mist Net & Acoustic Survey for SIA Road Serving Omar Medical Supplies, Coffee County, Tennessee was prepared by Stantec Consulting Services Inc. for the account of Tennessee Department of Transportation. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by _____
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Reviewed by _____
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James D. Kiser

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
 FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
 COFFEE COUNTY, TENNESSEE**

Table of Contents

EXECUTIVE SUMMARY I

1.0 INTRODUCTION 1

1.1 PROJECT SETTING 1

1.2 REGULATORY SETTING..... 1

1.3 PURPOSE OF REPORT 1

2.0 INDIANA BAT (*MYOLIS SODALIS*) SPECIES DESCRIPTION 2

2.1 SPECIES STATUS 2

2.2 DISTRIBUTION AND POPULATION 2

2.3 LIFE HISTORY 3

3.0 GRAY BAT (*MYOTIS GRISESCENS*) SPECIES DESCRIPTION 6

3.1 SPECIES STATUS 6

3.2 DISTRIBUTION AND POPULATION 6

3.3 LIFE HISTORY 7

4.0 METHODS..... 9

4.1 MIST NETTING GUIDELINES 9

4.2 MIST NET SITE SELECTION..... 10

4.3 BAT CAPTURE AND PROCESSING 10

4.4 ACOUSTICAL SURVEY 11

4.5 WEATHER AND TEMPERATURE..... 11

4.6 HABITAT ASSESSMENT 11

5.0 RESULTS 12

5.1 BAT CAPTURE 12

5.2 ACOUSTICAL SURVEY 13

5.3 WEATHER AND TEMPERATURE..... 16

5.4 HABITAT ASSESSMENT 16

6.0 DISCUSSION 17

7.0 LITERATURE CITED 17



**INDIANA BAT (MYOTIS SODALIS) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

Table of Contents (continued)

LIST OF TABLES

Table 1. Bat capture by sex, reproductive condition, and age during 2013 summer mist netting surveys at the Proposed SIA Road Serving OMAR Industries Project Coffee County, Tennessee. 12

Table 2. Acoustic data filtering results using EchoClass Acoustic ID Program-version 2.0 during 2013 summer mist netting at the Proposed SIA Road Serving OMAR Industries Project, Coffee County, Tennessee. 13

Table 3. Results using EchoClass Acoustic ID Program-version 2.0 for acoustic data collected during the 2013 summer mist netting and acoustical survey at the Proposed SIA Road Serving OMAR Industries Project Coffee County, Tennessee..... 15

Table 4. Temperatures, wind speed, and cloud cover per hour during 2013 summer mist netting at the Proposed SIA Road Serving OMAR Industries Project Coffee County, Tennessee. 16

LIST OF APPENDICES

APPENDIX A Figures

APPENDIX B Bat Capture Data Sheets

APPENDIX C Photographs

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

Executive Summary

Tennessee Department of Transportation (TDOT) is preparing to construct a State Industrial Access (SIA) Road to serve Omar Medical Supplies, near Manchester, Coffee County, Tennessee (Appendix A). The proposed SIA road will connect the existing Joint Park Boulevard directly with OMAR Medical Supplies. Construction of the proposed project will impact agricultural land, forested stands, and developed urban sites within the area. Due to the presence of potential Indiana bat (*Myotis sodalis*) summer habitat within the forested stands along the proposed road improvement area, Stantec Consulting Services (Stantec) was retained by TDOT to conduct surveys for the Indiana bat. The project area is located on the Normandy Lake U.S.G.S Topographic Quadrangle.

The objective of this survey was to assess the presence, or probable absence, of Indiana bats using summer habitat within the proposed SIA road project corridor. To effectively investigate the project area, we used guidelines outlined by the U.S. Fish and Wildlife Service (USFWS) dated May 2013, as well as the Indiana bat survey guidance for Kentucky dated May 1, 2013. Weather restrictions outlined in the above guidance were also followed, as well as conducting mist netting in areas with potentially suitable habitat for the Indiana bat. The deciduous hardwood forests within the project area provided potentially suitable habitat for Indiana bats. All mist net locations were located in areas where bats were likely to be found traveling, foraging, or both. All forested habitats in the project area were similar in form and generally provided some large trees and snags (>16 inches dbh) for maternity roosts, a moderate-to-closed subcanopy clutter, and moderate to open canopy closure. Although subcanopy clutter was not ideal, canopy closure was generally moderate to open (ideal = open subcanopy clutter and open canopy closure), making the habitat sufficient to support Indiana bats.

No federally-listed endangered Indiana bats were captured during this 2013 summer mist net survey. A total of four bats, representing one species, were captured during summer mist net surveys at the proposed SIA road project in Coffee County, Tennessee. Bats were captured at one mist net site (MS-01) which was located along an old dirt farm road near Manchester, Tennessee. The only species captured was the eastern red bat [*Lasiurus borealis* (n=4)] .

Based on the data collected during mist net surveys, the apparent absence of the Indiana bat, and the apparent absence of any structures that could provide summer or winter habitat for the gray bat (*Myotis grisescens*) within the project corridor, a May Affect – Not Likely to Adversely Affect determination is anticipated from the USFWS's Tennessee Field Office.

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

1.0 Introduction

Tennessee Department of Transportation (TDOT) is preparing to construct a State Industrial Access (SIA) road to serve Omar Medical Supplies, near Manchester, Coffee County, Tennessee (Appendix A). The proposed SIA road will connect the existing Joint Park Boulevard directly with Omar Medical Supplies. Construction activities will consist of building a new roadway, as well as potentially improving current roadway conditions. Due to the presence of potential Indiana bat (*Myotis sodalis*) summer habitat along the project corridor, Stantec Consulting Services (Stantec) was retained by TDOT to conduct surveys for the Indiana bat.

1.1 PROJECT SETTING

The proposed project is located in Coffee County, Tennessee. It is shown on the Normandy Lake USGS 7.5 minute topographic quadrangle (TN, 35086D2). This portion of the state is located within the Central or Nashville Basin physiographic region (Miller 1974), and is characterized by flat areas of low elevation underlain by limestone soils. Some areas, known as the "limestone" or "cedar" glades have very shallow limestone bedrock. Land use in the project area consists of forested, agricultural fields, and suburban. Approximately 70% of the project area is forested, approximately 20% consists of agricultural lands (soybean fields), and the remaining 10% consists small, developed suburban neighborhoods.

1.2 REGULATORY SETTING

The federal Endangered Species Act (ESA) [16 U.S.C. 1531 *et seq.*] became law in 1973. This law provides for the listing, conservation, and recovery of endangered and threatened species of plants and wildlife. Under the Act, the U.S. Fish and Wildlife Service (USFWS) strive to protect and monitor the numbers and populations of listed species. Many states enacted similar laws.

Section 7(a)(2) of ESA states that each federal agency shall insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of designated critical habitat. Federal actions include (1) expenditure of federal funds for roads, buildings, or other construction projects, and (2) approval of a permit or license, and the activities resulting from such permit or license. This is true regardless of whether involvement is apparent, such as issuance of a Federal permit, or less direct, such as Federal oversight of a state-operated program.

Section 9 of ESA prohibits the take of listed species. Take is defined by ESA as "*to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect.*" The definition of harm includes adverse habitat modification. Actions of federal agencies that do not result in jeopardy or adverse modification, but that could result in a take, must be addressed under Section 7.

1.3 PURPOSE OF REPORT

The purpose of this report is to provide a scientifically-defensible document detailing the mist netting and acoustic survey efforts for TDOT for their use in consultation with USFWS. The report includes a



INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

description of methods, results and summarized data, a discussion, and conclusion in regards to the survey. Data sheets are provided as an appendix in the report. Maps, representative photographs of site locations, and illustrations are also included. This report will also be used by Stantec for annual coordination of our federal and state permit activities.

2.0 Indiana Bat (*Myotis sodalis*) Species Description

2.1 SPECIES STATUS

Because of the Indiana bat's strong resemblance to the little brown bat (*Myotis lucifugus*), it was not described as a separate species until 1928 (Miller and Allen, 1928) from a specimen collected in Wyandotte Cave, Crawford County, Indiana. The Indiana bat can be distinguished from other larger *Myotis*, particularly the little brown bat, by its short, inconspicuous toe hairs, by its smaller foot (9 mm instead of 10 mm long), by its keeled calcar, by its more uniform colored fur, and its pinkish colored pug-nose (Whitaker and Hamilton, 1998). Albino and partially white bats are rarely encountered, but may occur in large hibernacula (Brack et al., 2005). Since its description as a separate species, the Indiana bat has suffered drastic population declines, primarily from human-induced alterations of winter habitat. Commercialization and mining of "salt peter" at significant caves have created environments, especially warmer temperatures, which are unsuitable or marginal for hibernating Indiana bats.

The USFWS listed the Indiana bat as an endangered species on March 11, 1967. However, the bat did not receive any protection until the ESA was instated in 1973 (Public Law 93-205). Several years following its listing, an Indiana bat recovery plan was developed by biologists (i.e., the recovery team), which outlined habitat requirements, critical habitat, potential causes for declines, and recovery objectives. The recovery plan was reviewed and published by the USFWS in 1983. On April 16, 2007 the notice of availability for review and comment on an updated "Draft Indiana Bat Recovery Plan, First Revision and Draft Survey Protocol" was published in the Federal Register (72 FR 19015 – 19016). This updated document provides an extensive literature review of historical and recent species information, and the revised plan lists three new fundamental recovery objectives. These objectives are to: (1) obtain permanent protection of 80% of Priority 1 hibernacula, (2) maintain a minimum overall population equal to the 2005 estimate (457,000 individuals), and (3) document a positive population growth rate over five sequential survey periods. However, the plan says "if identified research on summer habitat characteristics and requirements indicates the quality and quantity of maternity habitat is threatening recovery of the species, the Service will amend these objectives" (USFWS, 2007).

2.2 DISTRIBUTION AND POPULATION

The range of the Indiana bat includes much of the eastern United States. It occurs from Iowa, Oklahoma and Wisconsin, northeast to Vermont, and south to northwestern Florida and northern Arkansas (Barbour and Davis, 1969). The majority of the wintering population occurs within the limestone cave region of Indiana, Kentucky, and Missouri. However, large colonies have been found in some abandoned underground mines in Illinois, Missouri, Ohio, New Jersey, and New York. According to the USFWS (1999), more than 85 % of the range-wide population is found in nine Priority One hibernacula. Indiana,

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

Kentucky, and Missouri each contain three Priority One hibernacula. Due to sampling methodology and inaccurate counts, Clawson (2002) determined that Dixon Cave in Kentucky and Pilot Knob Mine in Missouri should no longer be considered Priority One sites. In the 2007 revised Indiana bat recovery plan, Priority One hibernacula was changed and now includes 16 total sites with seven in Indiana, two each in Kentucky, Missouri, and New York, and one each in Illinois, Tennessee, and West Virginia. As of the 2011 surveying period, 424,708 Indiana bats were estimated range-wide, and hibernacula that contained these occurred in 15 states, including Alabama, Arkansas, Illinois, Indiana, Kentucky, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Vermont, Virginia, and West Virginia (USFWS, 2012). Currently, critical winter habitat is established and includes 11 caves and two non-coal mines, including six in Missouri, two each in Indiana and Kentucky; and one each in Illinois, Tennessee, and West Virginia (USFWS, 2007).

Summer distribution of the Indiana bat occurs throughout a wider geographic area than winter distribution. The core summer range includes southern Iowa, northern Missouri, northern Illinois, northern Indiana, southern Michigan, and western Ohio. However, population distribution during summer is poorly known because of wide gaps between the known maternity colonies and unknown amount of movement between roost sites. Summer colonies of Indiana bats occur as far north as Michigan, New York, and Vermont, and as far south as Alabama, Georgia, Mississippi, Missouri, and Tennessee, and as far west as Iowa. Britzke et al. (2003) found that Indiana bat maternity colonies were less frequently encountered in mountainous terrain, and were usually smaller in size. Britzke et al. (2003) found three maternity colony sites in the mountains of western North Carolina and eastern Tennessee, but failed to relocate the colonies at the same roost sites the following year. In non-mountainous terrain in Michigan and Vermont, researchers have been tracking the same colonies for more than five consecutive years and the bats seem to show some degree of site fidelity to a given area (Kurta, 2004; Scott Darling, unpublished data), and many of these colonies often exceed several hundred individuals.

2.3 LIFE HISTORY

The Indiana bat hibernates from late October/early November to middle of April with emergence dependent upon location and weather. Typically, the Indiana bat forms dense clusters on cave and mine ceilings and walls where winter temperatures are 3.0° C - 7.2° C (37.4° F – 44.96° F). Sites containing populations where temperatures are outside this range have shown population declines (Tuttle and Kennedy, 2002). Stable, low temperatures allow Indiana bats to maintain a low rate of metabolism and conserve fat reserves through the winter until spring emergence when outside temperatures have increased and insects (food) are more abundant (Humphrey, 1978; Richter et al., 1993). As with cave temperature, relative humidity in the cave also determines hibernation site suitability for Indiana bats. According to Hall (1962), Humphrey (1978), and LaVal et al. (1976), humidity at roost sites during hibernation is usually above 74%, but below saturation. Cave configuration determines internal environments and larger more complex cave systems with multiple entrances are more likely to provide suitable habitat for the Indiana bat (Tuttle and Stevenson, 1978; LaVal and LaVal, 1980). Depending on cave environments, the Indiana bat may hibernate near the entrance where cool air seeps in from outside or deeper in the cave where cold air is trapped in a sink.

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

Although some bats may awaken during the winter and exit hibernacula early, the majority of individuals start exiting hibernacula early to mid-April. Female Indiana bats leave the hibernacula earlier in spring than males. Peak departure from hibernacula is in late April through early May. This period is often referred to as spring staging. Some males may remain near the hibernacula throughout the year, move short distances to other caves or mines, or migrate to distant areas (Whitaker and Brack, 2002). When female Indiana bats emerge they may migrate only a few miles, or up to 465 km (288 miles) from their hibernacula to summer habitat. Winhold et al. (2005) reported a female traveling 465 km (288 miles) from a summer colony near Norvell, Michigan to a hibernaculum near Frenchburg, Kentucky. Conversely, Indiana bats tracked from an abandoned mine in New York only flew between 14.6 to 40.0 km (9 and 24 miles) from the foothills of the Adirondack Mountains to roost trees scattered throughout the Lake Champlain Valley (Britzke et al., 2006). Based on a combination of aerial and ground tracking, Indiana bats tracked from a hibernaculum in Pennsylvania flew almost a straight line to their roost trees 135 and 148 km (83 and 92 miles) away in Maryland (Butchkoski et al., 2006). Recent migration studies in Tennessee have shown Indiana bats migrating south into Alabama, Georgia, and Mississippi (Copperhead Consulting, unpublished data).

Little effort has been focused on spring roost trees of the Indiana bat. Britzke et al. (2006) found female bats roosting primarily in live shagbark hickory (*Carya ovata*) and roost changing was much lower than during the summer. Live shagbark hickory provides more shelter to roosting bats than does sloughing bark on dead trees. Such differences may have been associated with unpredictable spring weather in the northeast because summer bats and males during the spring, switch roosts every one to three days (Menzel et al., 2001; Gumbert et al., 2002; Kurta et al., 1996, 2002). According to Britzke et al. (2006), spring roost trees used in Lake Champlain Valley were similar in structure (e.g., sloughing bark, solar exposure) to trees used throughout the species range. Trees used during the spring included shagbark hickory, American elm (*Ulmus americana*), quaking aspen (*Populus tremuloides*), sugar maple (*Acer saccharum*), black locust (*Robinia pseudoacacia*), white ash (*Fraxinus americana*), American beech (*Fagus grandifolia*), yellow birch (*Betula lutea*), eastern hemlock (*Tsuga canadensis*), and red maple (*Acer rubrum*).

Based on Britzke et al.'s (2006) work, some of the spring roosting activity occurs within the same area where maternity roosts have been found. Female Indiana bats form maternity roosts under exfoliating bark of dead, dying and live trees in both upland and riparian habitats. A single maternity colony typically consists of 25 to 100 bats, but can contain as many as 384 individuals (Kiser et al., 2002). Over 30 species of tree have been documented as maternity roosts, but 87% of these are various ashes (*Fraxinus* spp.), elms (*Ulmus* spp.), hickories (*Carya* spp.), maples (*Acer* spp.), poplars (*Populus* spp.), and oaks (*Quercus* spp.) (Kurta, 2004). Most trees used by reproductive females are deciduous, but eastern hemlock (*Tsuga canadensis*) and pitch pine (*Pinus rigida*) have been used in western North Carolina and eastern Tennessee, and white pine (*Pinus strobus*) has been used in Vermont (Britzke et al., 2003; J. Kiser, pers. obs., 2004).

Roost trees used by Indiana bats vary in size. The minimum tree size (in diameter at breast height, dbh) reported for a male roost is 6.4 cm (2.5 in) (Gumbert, 2001) and 11 cm (4.3 in) for an individual female roost (Britzke, 2003). Primary maternity roosts are always found in larger diameter trees usually greater than 22 cm (8.6 in) dbh (Kurta, 2004). Larger diameter trees provide thermal advantages to reproductive

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

females and their pups and give them more room to move around while locating appropriate temperatures. Females are pregnant when they arrive at maternity roost and fecundity is low, only one pup per year. Pups are normally born in late June and early July and grow quickly becoming volant between early July and early August.

Indiana bats may travel several miles from day roosts to foraging areas. Gardner et al (1991) found that individuals from an Illinois maternity colony traveled 4.02 km (2.5 miles) to foraging areas. In fragmented habitat, bats will use hedge rows and other features on the landscape as travel ways between foraging areas and day roosts (Murray and Kurta, 2004). Rather than crossing open habitats (e.g., pasture land, open water, agricultural fields) Indiana bats increased their travel distance by 55% in Michigan to take advantage of the protective cover of tree-lines (Murray and Kurta, 2004). Indiana bats will forage in upland and floodplain forest (Brack, 1983; Humphrey et al., 1977; LaVal and LaVal, 1980; Gardner et al., 1991; Kiser and Elliott, 1996). Indiana bats are opportunistic foragers, feeding on a variety of small insects. The diet of Indiana bats vary between habitats, geographic locations, season, sex, and age of bats (Kurta and Whitaker, 1998; Brack and LaVal, 1985; Belwood, 1979). Sparks and Whitaker (2004) summarized food habit studies conducted over 30 years and determined that Indiana bat diet consists primarily of insects belonging to the orders Diptera (flies), Lepidoptera (moths) and Coleoptera (beetles), but when locally abundant, Trichoptera (caddisflies) and Hymenoptera (wasps and ants) may be the predominant food. Several pest species including mosquitoes (Diptera:Culicidae), Asiatic oak weevil (*Cyrtopistomus castaneus*), spotted cucumber beetle (*Diabrotica undecimpunctata*), and Hessian fly (*Mayetola destructor*) (Sparks and Whitaker, 2004; Kurta and Whitaker, 1998; Kiser and Elliott, 1996) are also consumed by Indiana bats when locally abundant.

Foraging activity is usually interrupted by periods of rest, referred to as night roosting. Most Indiana bats apparently use trees as night roosts (Butchkoski and Hassinger, 2002; Murray and Kurta, 2004), although they do occasionally utilize bat boxes (Burchkoski and Hassinger, 2002), and concrete bridges (Kiser et al., 2002). Night roosting is any time a bat stops flying during the night. The purpose of night roosts is to provide bats a resting place between foraging bouts, promote digestion and energy conservation, provide retreats from predators and inclement weather, provide places to ingest food transported from nearby feeding areas, function as feeding perches for sit-and-wait predators, and serve as a place to promote social interactions and information transfer (Ormsbee et al., 2007).

Indiana bats start arriving at hibernacula during late August and fly around the entrances in an attempt to find mates. This phenomenon is referred to as “swarming” and is typically a multispecies event (Cope and Humphrey, 1977). During swarming, Indiana bats day roost under sloughing bark of trees near the cave and travel to the entrance each night (Kiser and Elliott, 1996). Roost trees used during autumn, range from 11.75 cm to 66.0 cm (4.62 in – 25.98 in) in dbh and occurred primarily on ridge-tops and upper slopes (Kiser and Elliott, 1996). As with summer roosts, site fidelity to autumn roosting areas is exhibited by male Indiana bats (Gumbert et al., 2002). Male Indiana bats typically remain active longer during autumn than females. Once arriving at hibernacula, females may only remain active for a few days, whereas males remain active and seeking mates into late October and early November.

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

3.0 Gray Bat (*Myotis grisescens*) Species Description

3.1 SPECIES STATUS

The gray bat was described as a separate species in 1909 from specimens collected at Nickajack Cave, Marion County, Tennessee (Decher and Choate, 1995). The gray bat can be distinguished from other smaller *Myotis* by its long forearm, typically 40 mm – 46 mm (1.57 – 1.81 in), attachment of wing membrane to the ankle rather than on the foot, and by uniformly gray fur from base to tip of hair (Barbour and Davis, 1969; Barbour and Davis, 1974; USFWS, 1982; Sealander and Heidt, 1990). Apparently, gray bat declines began during the nineteenth century when exploitation of caves first began on a large scale from mining of salt peter, onyx, and other cave minerals, but the rate of decline accelerated during the 1960's and 1970's, especially from growing popularity in spelunking (USFWS, 1982). Prior to these declines, individual hibernacula contained populations of gray bat, which ranged from 100,000 to 1,500,000 or more bats (USFWS, 1982). The gray bat suffered drastic population declines, primarily from visitation of critical wintering and summering caves, and human-induced alterations of habitat. According to the USFWS (1982), if gray bats had continued to decline at a rate of 54% every six years there should have only been 100,000 gray bats left in 2000. Such a decline did not occur and the population recovered to the point where biologists were discussing the potential of down-listing the species from endangered to threatened, prior to the arrival of white-nose syndrome (WNS).

The USFWS listed the gray bat as an endangered species on April 28, 1976, and the bat received protection under the ESA, which was instated in 1973 (Public Law 93-205). Several years following its listing, a gray bat recovery plan was developed by biologists (i.e., the recovery team), which outlined habitat requirements, critical habitat, potential causes for declines, and recovery objectives. The recovery plan was reviewed and published by the USFWS in 1982.

3.2 DISTRIBUTION AND POPULATION

The gray bat is restricted in distribution to the limestone-karst areas of the eastern and southern United States (Hall, 1981; Hall and Wilson, 1966; USFWS, 1982). Major populations occur in Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee, but a few smaller populations occur in northwestern Florida, western Georgia, southeastern Kansas, southern Indiana and Illinois, northeastern Oklahoma, northeastern Mississippi, and western Virginia (Barbour and Davis, 1969; Tuttle, 1979; USFWS, 1982). The majority of the wintering population occurs in only nine caves, primarily found in Arkansas, Kentucky, Missouri, and Tennessee. According to the USFWS (1982), approximately 95% of the range wide population is found in nine hibernacula with more than half in a single cave. Based on the 1982 Recovery Plan, ten Priority One hibernacula are listed for the gray bat with three each in Missouri and Tennessee, and one each in Alabama, Arkansas, Florida, and Kentucky.

Even though gray bats require cave-like habitats during the summer, the species summer distribution occurs throughout a slightly larger geographic area than winter distribution. Gray bats can establish maternity and bachelor colonies in dams, mines, under bridges and in storm sewers, which enables them to venture away from karst regions. According to the USFWS (1982), 30 different caves are listed as

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

Priority One maternity colony sites with eight in Missouri, six each in Alabama and Tennessee, four in Kentucky, three in Florida, two in Arkansas, and one in Illinois.

3.3 LIFE HISTORY

The gray bat arrives at caves used as hibernacula during September and October each year. Ninety-five percent of the entire gray bat population hibernates in only nine caves in the limestone karst region of the eastern/southern United States (Lacki, 1994). These bats typically form dense clusters of up to several thousand individuals on cave ceilings and walls where cave temperatures range from 5.6° – 11.1° C (42.1° – 52.0° F) (Sealander and Heidt, 1990; Hall, 1962). Gray bats choose a slightly warmer temperature in the cave than do Indiana bats (Hall, 1962). Stable, low temperatures allow gray bats to maintain a low rate of metabolism and conserve fat reserves through the winter until spring emergence when outside temperatures have increased and insects (food) are more abundant (Humphrey, 1978; Richter et al., 1993). Cave configuration determines internal environments, and larger, more complex cave systems with multiple entrances are more likely to provide suitable habitat for hibernating bats (Tuttle and Stevenson, 1978; LaVal and LaVal, 1980).

Copulation in gray bats occurs in late fall prior to hibernation (Sealander and Heidt, 1990; Barbour and Davis 1969). Once mating has occurred, the females immediately go into hibernation. Some mate and enter hibernation in early September, but all do so by early October (USFWS, 1982). After mating, the males remain active for several weeks, during which time the fat reserves that were depleted during the mating season are replenished. While adult males and juveniles of both sexes tend to enter hibernation several weeks later than females, most are in hibernation by early November. These stored fat reserves must last six to seven months to ensure survival of the bats.

Adult female gray bats are the first to emerge from hibernation in late March and early April, followed by juveniles of both sexes and adult males (Tuttle, 1976). Most juveniles and adult males leave the hibernacula between mid-April and mid-May. Gray bats are known to disperse at distances of 17 km – 525 km (10.56 mi – 326.21 mi) to summer locations (Sealander and Heidt, 1990; Tuttle, 1976). Hall and Wilson (1966) indicated that summer colonies that were scattered over an area of 27,194 km² (10,500 mi²) in Kentucky, southern Illinois, and Tennessee migrated to a single cave in Edmonson County, Kentucky. Gray bats are very loyal to their home range and to where they disperse after hibernation; most using the same roosting and foraging sites from year to year (USFWS, 1982). This dispersal period in early spring is hazardous because fat reserves and food supplies are low at that time, yielding a high adult mortality in late March and early April (Tuttle and Stevenson, 1978).

Summer maternity colonies of gray bats are generally found in large caves containing streams (Sealander and Heidt, 1990). These colonies range from a few hundred to several thousand individuals in large caves in the central part of the eastern United States. Undisturbed summer colonies in Tennessee and Alabama contain between 5,000 – 250,000 or more bats with most averaging 10,000 – 50,000 individuals (Tuttle, 1979). The relative humidity in these maternity caves ranges from 86 – 99% (Decher and Choate, 1995). Males and non-reproductive females form bachelor colonies in less suitable caves within 30 km (18.64 mi) of maternity sites (BCI, 1999).

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

Although mating occurs in late fall, female gray bats have delayed ovulation with fertilization occurring in late March to early April when they emerge from hibernation (Sealander and Heidt, 1990; Guthrie and Jeffers, 1938). Each female gives birth to a single young in late May to mid-June. The young mature rapidly. Growth rate is faster in colonies with large number of bats due to the energy saved from decreased heat dissipation by clustering behavior and the selection of roost in heat-trapping domes and related cave structures (Tuttle, 1975). Tuttle (1975) also says that the growth rate of nonvolant young is positively correlated with colony size. Increasing numbers roosting together reduce the thermoregulatory cost per individual (Herreid, 1963, 1967). Growth rates are also positively affected by higher ambient cave temperatures and porous or domed ceiling at roosts. The female generally leaves the young in the roost while foraging. The first flight of the young usually occurs 20 – 25 days after birth, but in colonies of reduced size this may increase to 30 – 35 days (Sealander and Heidt, 1990; Tuttle, 1975). For newly volant young, growth rates and survival are inversely proportional to the distance of their roost to the nearest available over-water foraging habitat (Tuttle, 1975). After the young are weaned, the maternity colony disperses. Most nursery caves are abandoned by August or early September.

As with most bats, gray bats emerge from caves or other roosts at dusk to forage for insects. Gray bats most often forage over bodies of water (reservoirs and streams), but do also forage in riparian vegetation and over land (Sealander and Heidt, 1990; LaVal et al, 1977). They indicated that gray bats usually forage below treetop height, sometimes as low as two meters (6.56 ft) or lower. LaVal et al, (1977) also suggested that while gray bats forage over even the smallest, permanently-flowing streams, larger numbers use larger streams. Tuttle (1979) estimated that a maternity colony of 250,000 bats may consume as much as a ton of insects each night. Decher and Choate (1995) stated that the main prey of gray bats consisted of several genera and at least six species of mayflies (Ephemeroptera). Rabinowitz and Tuttle (1982) said that gray bats selected foraging areas with abundant mayflies. However, Ephemeroptera were less abundant in fecal pellet studies in Jessamine County, Kentucky (Lacki et al, 1995) and in Indiana (Whitaker et al, 2001). Decher and Choate (1995) suggest that fecal pellet studies are biased against Ephemeroptera because they are more digestible by the bat with less identifiable remains in the fecal pellets. This is especially true if the wings are culled by the bat prior to consumption (Rabinowitz and Tuttle, 1982). Based on food studies using fecal pellets, it appears that the gray bat is primarily an opportunistic feeder, feeding on the most abundant aquatic insects available at the time (Lacki et al, 1995; Whitaker et al, 2001). Orders of insect consumed include Diptera (primarily midges – Chironomidae), Trichoptera (caddisflies), Coleoptera (beetles), and Lepidoptera (moths). Whitaker et al (2001) found some chironomid pupae, indicating that the gray bat apparently picked it up by skimming the surface of the water during foraging. LaVal and LaVal (1980) indicated a dietary preference of Plecoptera (stoneflies), Ephemeroptera (mayflies) and Trichoptera (caddisflies), comprising up to 98% of insects consumed. They also suggested that types of insects consumed depended on the phase of the moon, with the light or dark affecting foraging location.

During peak insect abundance in early evening, many gray bats feed in slowly traveling groups; when insect numbers drop later in the evening, gray bats become more territorial (Tuttle, 1976). He indicates that territories seem to be controlled by reproductive females. Depending on prey abundance, these territories may be occupied by one to as many as fifteen or more individuals. During lactating, some females feed continually for more than seven hours in a single night. This helps them maintain higher body temperatures at their relatively cool roosts.

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

4.0 Methods

4.1 MIST NETTING GUIDELINES

Efforts to survey for endangered bats are difficult to standardize because of the great deal of variability that exists in a field situation. However, a number of practices used for summer surveys for Indiana bats have become relatively standardized through implementation of netting and acoustical guidelines provided by USFWS in the 2013 Revised Range-Wide Indiana Bat Summer Survey Guidelines.¹ Those guidelines, a summary of which follows, were employed for this survey. Great care was observed to ensure USFWS netting requirements were met during the study as well as WNS Disinfectant Protocols (version 06.25.2012).

USFWS Netting Guidelines

1. **Netting Season:** 15 May to 15 August, when Indiana bats occupy summer habitat.
2. **Equipment** (Mist Nets): constructed of the finest, lowest visibility mesh commercially available – monofilament or black nylon – with the mesh size approximately 1½ inch (1¼ – 1¾) (38 mm).
3. **Net Placement:** mist nets extend approximately from water or ground level to tree canopy and are bounded by foliage on the sides. Net width and height are adjusted for the fullest coverage of the flight corridor at each site. A “typical” net set consists of nets “stacked” on top of one another with heights from up to 8 m (30 ft); width may vary up to 18 m (60 ft).
4. **Net Site Spacing:**
 - ◆ Streams – one net site per 1 km (0.6 km)
 - ◆ Land Tracts – two net sites per 1 square km (250 acres)
5. **Minimum Level of Effort Per Net Site:**
 - ◆ Two net locations (sets) per net site, with locations (sets) at least 30 m (100 feet) apart
 - ◆ Two (calendar) nights of netting
 - ◆ At least four net–nights (1 net–night = 1 net set deployed for 1 night); typically, two net sets are deployed at one site for two nights, resulting in four net-nights
 - ◆ Sample Period: begin at dusk and net for 5 hours (approximately 0200h)
 - ◆ Nets are monitored at approximately 10-minute intervals
 - ◆ No disturbance near the nets between checks
6. **Weather Conditions:** net only if the following weather conditions are met:
 - ◆ No precipitation
 - ◆ Temperature ≥ 10°C (50°F)
 - ◆ No strong winds
7. **Moonlight:** avoid net sets with direct exposure to a moon ½ -full or greater – typically by utilizing forest canopy cover

¹ <http://www.fws.gov/arkansas-es/docs/FinalRevised2013IndianaBatSummerSurveyGuidelines5May2013.pdf>

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

4.2 MIST NET SITE SELECTION

Site selection was based upon an expectation of greatest bat activity and an effort to provide survey coverage of the project area. Net placement was based upon a variety of characteristics including canopy cover, presence of a flight corridor, water, and forest conditions near the site. Mist net site selection includes consideration of habitat characterizations described for the Indiana bat in current literature and Stantec personnel's extensive knowledge and experience with this species. General habitat types selected included the following characteristics:

- Large trees >40.64 cm (16 inches dbh) that can support primary maternity roosts;
- An open canopy, allowing solar exposure for warming of roost sites;
- An open, uncluttered understory, used for travel and foraging; and
- Stream corridor or other water source for drinking and prey production

Nets are typically set to maximize coverage of flight paths used by Indiana bats along suitable travel corridors. Riparian corridors often provide successful mist net sites. However, upland corridors (e.g., trails or logging roads) also provide suitable sites (Kiser and MacGregor, 2005). In upland areas, road ruts or other areas of standing water frequently facilitate capture of bats, including the Indiana bat. The actual location and orientation of each net was determined in the field.

4.3 BAT CAPTURE AND PROCESSING

All bats captured in the mist nets were carefully removed and placed individually in a disposable brown paper bag in order to keep bats isolated and reduce risk of cross exposure to WNS that may have been present on bats within the project area. This occurred for all bats regardless of whether they showed signs of WNS or not. After each paper bag was used they were disposed into a large plastic sealable bag as refuse. Disposable gloves were also worn for handling individual bats and hands were periodically washed with Purell®. Protocols for bat capture, handling, and equipment decontamination for WNS was followed at all mist net sites.

Bats were identified to species using a combination of morphological characteristics: ear and tragus, calcar, pelage, size/weight, length of right forearm, and overall appearance of the animal. The species, sex, reproductive condition, age, weight, length of right forearm, time and location, and net site of capture were recorded for all bats. Age (adult or juvenile) of bats was determined by examining ephiphyseal-diaphyseal fusion (calcification) of long bones in the wing. Weight was measured to 0.1 grams using a Pesola spring scale. Length of the right forearm of each bat was measured in millimeters using a field ruler. The reproductive condition of captured bats was classified as non-descended male, descended male, non-reproductive female, pregnant female (based on gentle abdominal palpation), lactating female, or post-lactating female.

Bat processing and data collection was typically completed within 20 minutes of the time the bat is removed from the net. Bats were caught live and released unharmed near the point of capture after

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

processing. The survey was conducted under a USFWS approved Survey Plan, Federal Fish and Wildlife permit # TE38821A-1 and Tennessee Scientific Collection permit # 3640.

4.4 ACOUSTICAL SURVEY

As required by the most recent Indiana bat survey guidance for Kentucky dated 1 May 2013 and adopted by USFWS's Tennessee Field Office, acoustical sampling equipment was used in conjunction with mist netting to provide presence/absence survey results that have a greater accuracy of documenting Indiana bat use in a project area. The detection of bat calls similar to Indiana bats using acoustical monitoring was only used as an indicator that additional mist netting was necessary at the location where the call was recorded. Stantec conducted passive acoustic bat surveys using one Anabat II detector near each mist net site for two consecutive nights, resulting in two detector nights of sampling effort per site. Anabat II detectors were positioned at least 100 meters from net sites, in different habitat types, in order to maximize coverage of project area. Detectors sampled habitats that could not be sampled with mist nets (e.g. forest edges, large streams, large ponds, etc.).

Anabat II detectors (Titley Electronics Pty Ltd.) were used for acoustical data collection. Detectors were programmed to begin monitoring at one half hour before sunset each night. Detectors were removed at the end of mist netting activities each night, so acoustical data was only collected for a period of 30 minutes prior to dusk until five (5) hours after dusk (approximately 0200 h). The audio sensitivity setting of each Anabat system was set between six and seven (on a scale of one to ten) to maximize sensitivity while limiting ambient background noise and interference. Detectors were powered by internal alkaline batteries. Since severe weather adversely affects the activity levels of bats, Stantec monitored temperature, rainfall, and wind conditions on those nights when acoustical sampling was conducted. Data was downloaded to a laptop computer in the field for subsequent analysis. Acoustic data was analyzed using the EchoClass Acoustic ID Program-version 2.0.

4.5 WEATHER AND TEMPERATURE

Weather conditions were monitored each night of the survey. Conditions recorded include temperature, wind speed and direction, percent cloud cover, and moon phase (if visible). A standard digital thermometer was used to record temperature, wind speed was estimated by using the Beaufort wind scale, and cloud cover was visually estimated.

4.6 HABITAT ASSESSMENT

A habitat description and a sketch of each net location were completed. The emphasis of this description was habitat form: size and relative abundance of large trees and snags that may potentially serve as roost trees, canopy closure, understory clutter/openness, distance to water, stream or pond characteristics (if net was placed over them), and flight corridors. Habitat form is emphasized because the Indiana bat roosts in a great many species of trees. Tree species composition is included in the assessment, because it provides insight to edaphic conditions of each site.

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

Habitat characterization identifies components of the canopy and subcanopy layers. All trees that reach into the canopy are canopy trees, regardless of their diameter/size. As defined in the Indiana Bat Habitat Suitability Index Model (3D/Environmental 1995), dominant trees are the large trees in the canopy >40.64 cm (16" dbh) that have the greatest likelihood of being used by maternity colonies of Indiana bats. Many smaller trees are often also found in the canopy, and in some situations, the canopy can be entirely composed of smaller-diameter trees.

The subcanopy, or understory, vegetation layer is well defined in classical ecological literature. It is that portion of the forest structure between the ground vegetation to approximately 2 feet (0.6 m) and the canopy layers, usually beginning at about 25 feet (7.6 m).

Vegetation in the understory may come from lower branches of overstory trees, young overstory trees or small trees and shrubs that are confined to the understory. The amount of vegetation in the understory is termed clutter. Many species of bats, including the Indiana bat, tend to avoid areas of high clutter.

5.0 Results

5.1 BAT CAPTURE

Mist netting effort for this project was conducted from 29 – 31 July 2013. A total of four bats, representing one species, were captured during summer mist net surveys at the SIA Road Serving OMAR Medical Supplies project in Coffee County, Tennessee (Table 1). No endangered Indiana bats were captured during netting efforts. Bats were captured at one mist net site (MS-01) located over two semi-permanent road ruts on an old dirt farm road adjacent to a soybean field near Manchester, Tennessee. The only species of bat captured was the Eastern Red bat [*Lasiurus borealis* (n=4)]. Captures were broken up over three life phases including post lactating female (n=1), non-reproductive adult female (n=1), and juvenile female (n=1). Each life phase represented 25 percent of total captures, with the remaining 25 percent being one escaped individual. Bat Capture Data Sheets can be found in Appendix B.

**Table 1.
Bat capture by sex, reproductive condition, and age during 2013 summer mist netting surveys at
the Proposed SIA Road Serving OMAR Industries Project
Coffee County, Tennessee.**

Species	Adult Male	Juvenile Male	Adult Female ¹				Juvenile Female	Escape ²	Total
			P	L	PL	NR			
Red Bat (<i>Lasiurus borealis</i>)	0	0	0	0	1	1	1	1	4
Total	0	0	0	0	1	1	1	1	4

¹ P = pregnant; L = lactating; PL = Post lactating; NR = non-reproductive

² Escape = escaped from net or hand before processing was complete

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

5.2 ACOUSTICAL SURVEY

A single Anabat detector was deployed near the mist net site during both nights of completed survey effort, resulting in two nights of acoustic data (Table 2). Overall, there were a total of 221 files recorded on a single detector during the survey period, with the night of 29 July having the most calls (N=159) and the night of 31 July having the fewest calls (N=62) (Table 2).

No files representing a possible Indiana bat made it through the EchoClass Acoustic ID Program-version 2.0, thus no extra netting was required. With the exception of files representing the little brown bat, no files were recorded representing any species of *Myotis*. The EchoClass Acoustic ID Program-version 2.0 identified the following species; eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), tricolored bat (*Perimyotis subflavus*), and little brown bat (*Myotis lucifugus*) (Table 3).

Table 2.
Acoustic data filtering results using EchoClass Acoustic ID Program-version 2.0 during 2013 summer mist netting at the Proposed SIA Road Serving OMAR Industries Project, Coffee County, Tennessee.

Site	Date	Total # of Files	# Unknown Calls	# of Identifiable Bat Calls	# Calls Similar to Indiana Bat Detected
AS – 01	29 July 2013	159	93	66	0
AS – 01	31 July 2013	62	57	5	0
Total		221	150	71	0

^a Rain-out

**INDIANA BAT (MYOTIS SODALIS) MIST NET & ACOUSTIC SURVEY
 FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
 COFFEE COUNTY, TENNESSEE**

Table 3.
**Results using EchoClass Acoustic ID Program-version 2.0 for acoustic data collected during the 2013 summer mist netting and
 acoustical survey at the Proposed SIA Road Serving OMAR Industries Project
 Coffee County, Tennessee.**

Site Number	Adjusted Date	EPFU	LANO	LABO	LACI	NYHU	MYGR	MYLE	MYLU	MYSE	MYSO	PESU
AS - 01	29-July-13	-1	-1	0	1	-1	-1	-1	0.000692	-1	-1	1
AS - 01	31-July-13	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1

*-1 values represent species that were not detected at the site/night

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

5.3 WEATHER AND TEMPERATURE

In general, weather was typical of late July in central Tennessee. Days were warm and humid with high temperatures ranging from the upper to mid-80's, while low temperatures ranged from the upper 60's, with rain and thunderstorms being typical during early afternoon hours. There was one rain out event during the sampling period (30 July 2013), and no data was collected, as rain began before sampling commenced and continued throughout the night. Weather conditions were favorable for surveying for Indiana bats during the remainder of the survey period (29 and 31 July 2013). Moon phases for the survey period were Third Quarter and Waning Crescent.

**Table 4.
Temperatures, wind speed, and cloud cover per hour during 2013 summer mist netting at the
Proposed SIA Road Serving OMAR Industries Project
Coffee County, Tennessee.**

Site	Date	Temp.°F			Wind Speed ¹			Cloud Cover %		
		2000h	2300h	0100h	2000h	2300h	0100h	2000h	2300h	0100h
MS-01	29-July-13	75.0	65.0	65.0	1	1	1	10%	0%	0%
MS-01	31-July-13	78.0	72.0	69.0	1	1	1	100%	40%	20%

¹ Wind speed estimated using Beaufort Wind Scale

5.4 HABITAT ASSESSMENT

The project consisted of one mist net site. Habitat at this location consisted of soybean fields, woodlots, and urbanized roadways. The mist net site was located on a dirt road, running through one woodlot connecting two soybean fields. Net set A, which consisted of two nets stacked vertically on top of each other, was placed across the above mentioned road over a semi-permanent road rut. The road rut had a maximum depth of approximately 0.45 meters (1.5 ft), with an average depth of approximately 0.22 m (0.75 ft). Net set B, consisting of two nets stacked on top of each other, was placed over a second semi-permanent road rut, in an area where the water was more shallow, approximately 0.15 m deep (0.5 ft) on average, with a maximum depth of approximately 0.22 m (0.75 ft) (Appendix A). Both road ruts contained large populations of frogs and aquatic insects.

Forest canopy species ranged from 20.32 cm – 25.40 cm (8 in to 10 in) dbh, and consisted primarily of red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and Hazelnut (*Corylus americanus*). Dominant subcanopy species also consisted of primarily of red maple and tulip poplar. The canopy was generally open with a cluttered midstory and understory, limiting the foraging and travel opportunities for bats. Dominant shrub species included small Hazelnut, red maple, hazelnut, winged sumac (*Rhus copalina*), and multiflora rose (*Rosa multiflora*).

INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES COFFEE COUNTY, TENNESSEE

The potential for bat roosts consisted of both large trees and snags. Roost potential was considered moderate at the site based on clutter, size and conditions of trees and available water sources for both drinking and prey production.

6.0 Discussion

No federally-listed endangered Indiana bats were captured during this 2013 summer mist net survey in Coffee County, Tennessee. The objective of this survey was to assess the presence, or probable absence, of Indiana bats using summer habitat within the SIA Road Project Area. To effectively investigate the project area, we used guidelines recommended by the draft Indiana Bat Recovery Plan (USFWS 2007), and the Indiana Bat Summer Survey Guidance for Kentucky dated May 2013. Mist netting was conducted during the summer Indiana bat maternity season (i.e. May, June, July, and August). Weather restrictions outlined in the above guidance were also followed, as well as conducting mist netting in areas with potentially suitable habitat for the Indiana bat.

The only species of bat that was captured during survey efforts was the eastern red bat (N=4), although three other species were detected as potentially occurring in the project area with acoustic detectors. These species include: hoary bat, little brown bat, and tri-colored bat. As several bats were observed flying at dusk in the open soybean fields, it is likely that these species are present in the project area, but not flying the corridors that were netted.

The deciduous hardwood forests within the project area provided potentially suitable habitat for Indiana bats. Mist net locations distributed throughout the project area were in locations where bats were likely to be found traveling, foraging, or both. All forested habitats in the project area were similar in form and generally provided some large trees and snags >40.64 cm (16 inches) dbh for maternity roosts, a moderate-to-closed subcanopy clutter, and moderate to open canopy closure. Although subcanopy clutter was not ideal, canopy closure was generally moderate to open (ideal = open subcanopy clutter and open canopy closure), making the habitat sufficient to support Indiana bats.

Based on the data collected during mist net surveys following USFWS approved guidelines, the apparent absence of the Indiana bat, and the apparent absence of any structures that could provide summer or winter habitat for the gray bat within the project corridor, a May Affect – Not Likely to Adversely Affect determination is anticipated from the USFWS's Tennessee Field Office.

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**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

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**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

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**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

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**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

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FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**

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**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
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COFFEE COUNTY, TENNESSEE**

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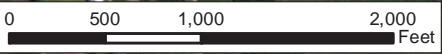
APPENDIX A

Figures



Legend

- Acoustic Site
- Mist Net Site



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Stantec
 Stantec Consulting Inc.
 10509 Timberwood Circle, Suite 100
 Louisville, Kentucky, 40223-5301
 tel 502-212-5000 fax 502-212-5055

Indiana Bat Summer Mist Netting Survey
SIA Road Serving OMAR Industries
 Coffee County, Tennessee

The information on this map has been compiled by Stantec staff from a variety of sources and is subject to change without notice. Stantec makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information.

APPENDIX B

Bat Captures Data Sheets



Stantec

Bat Capture Data Sheet

Project Name/No.: IDOT-Coffee Co-SIA Date: 29 July 2013 Biologist(s): J. E. Lyons & B. Washburn

Site Name/No.: MS-01 State/County: Ill/McAfee Lat/Long: N 35, 39779 W 8612566

USGS Quad/Datum: Normandy Lake Nets Opened: 1930h Nets Closed: Crack Moon Phase: Third Class

Site Location: Site located in woodlot behind OMR Industries off of Merry Drive @ Joint Park Blvd

Time	Temp	Wind	Cloud Cover
2000h	75°C	1	10%
2100h	77°C	1	20%
2200h	68°C	1	20%
2300h	65°C	1	0%
0200h	65°C	1	0%
0300h	65°C	1	0%

Scale	Beaufort Wind Scale
0	Smoke rises vertically (<1 mph)
1	Wind direction shown by smoke drift (1-3 mph)
2	Wind felt on face; leaves rustle (4-7 mph)
3	Leaves, small twigs in constant motion (8-12 mph)
4	Dust rises; small branches move (13-18 mph)
5	Small trees in leaf begin to sway (19-24 mph)

Net	Length	Height	Road	Stream	Pond	Cave/Portal	Other
A	7m	6m					P&H
B	6m	6m					RedKW

No.	Species	Time	Age	Sex	Repro.*	RFA (mm)	Wt (g)	Guano (Y/N)	Net/Location	WNS Wing Score
1	Lasiurus borealis	2050	A	F	NR	41	10.0g		NET B/1/6 M	0
2	Lasiurus borealis	2145	ESCAPED FROM NET						A-1 M	

If found, please return to:
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10509 Timberwood Circle, Suite 100
Louisville, Kentucky 40223-5301

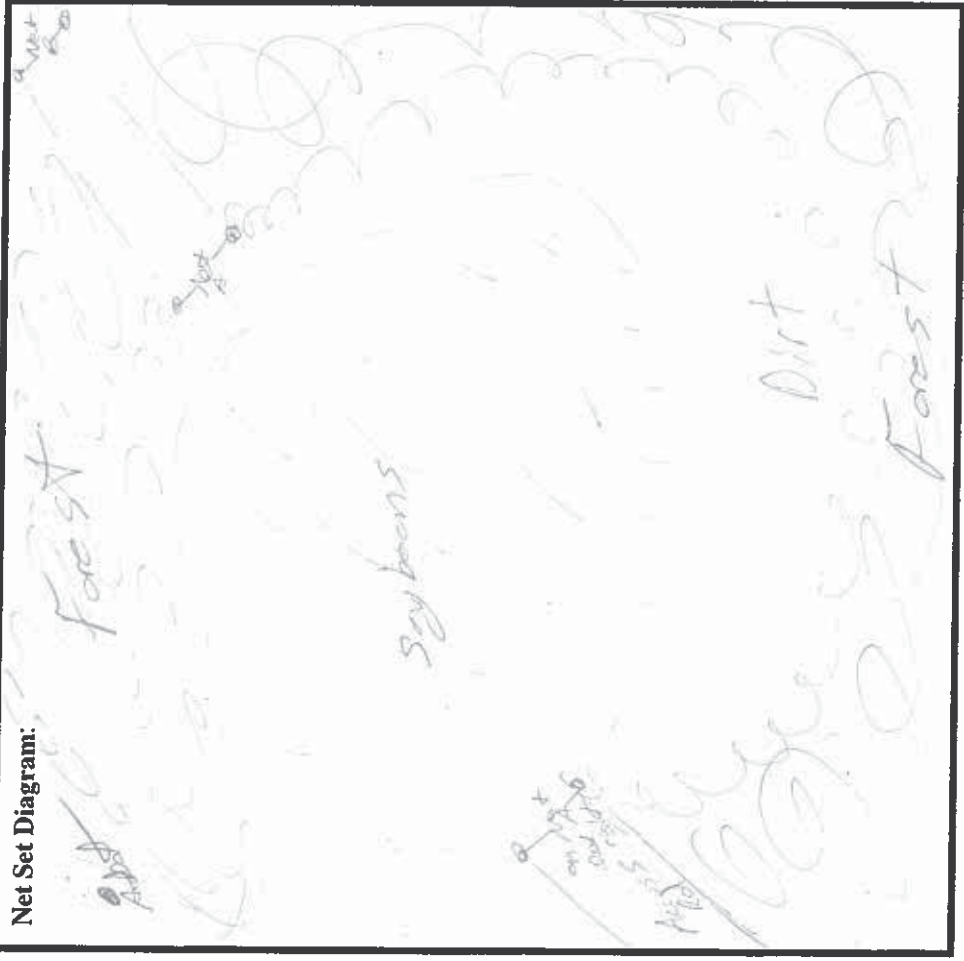


Stantec

Bat Capture Data Sheet

NET SITE HABITAT DESCRIPTION

Net Set Diagram:



Project Name/No.: DOT/CO-6-SIA

Date: 29 July 2013 Site Name: RLR at site

Estimated Distance to Water Source: RLR at site

Other Wildlife Observations _____

STREAM CHARACTERISTICS

Bank Height: N/A Channel Width: N/A

Stream Width: N/A Riparian Width: (rt bank) N/A (lt bank) N/A

Avg. Water Depth: N/A % Canopy Cover N/A

% Substrate type: Bedrock _____, Boulder _____, Cobble _____, Gravel _____, Sand _____, Fines _____.

VEGETATION

Estimated Canopy Closure: closed moderate open

Dominant Canopy Species Avg. DBH range 8-10"

- 1. A. cubens
- 2. L. tulipifera
- 3. _____

Roost Tree Potential consists of: Large Trees _____ Snags Both

Roost Tree Potential for Area: High Moderate Low

Dominant Subcanopy Species

- 1. A. cubens
- 2. L. tulipifera
- 3. _____

Dominant Shrub Species

- 1. _____
- 2. A. cubens
- 3. Corylus americana

Comments: _____



Stantec

Bat Capture Data Sheet

Page 1 of 2

Project Name/No.: DOT-Coffee Co-SIA

Date: 31 July 2013

Biologist(s): T. Finnes & B. Workman

Site Name/No.: MS-01

State/County: Tulsa/Ape

Lat/Long: N 35 39779 W 86 12566

USGS Quad/Datum: Normonby Lake

Nets Opened: 1930h

Nets Closed: 0906h

Moon Phase: Waning Crescent

Site Location: Site located in woodlot behind OMAP Industries off of Marry Dr @ Joint Park Blvd.

Time	Temp	Wind	Cloud Cover
2000h	48°F	1	100%
2100h	48°F	3	100%
2200h	48°F	3	100%
2300h	47°F	1	40%
0800h	70°F	1	20%
0900h	69°F	1	20%

Scale	Beaufort Wind Scale
0	Smoke rises vertically (<1 mph)
1	Wind direction shown by smoke drift (1-3 mph)
2	Wind felt on face; leaves rustle (4-7 mph)
3	Leaves, small twigs in constant motion (8-12 mph)
4	Dust rises; small branches move (13-18 mph)
5	Small trees in leaf begin to sway (19-24 mph)

Net	Length	Height	Road	Stream	Pond	Cave/Portal	Other
A	9.0		✓				
B	6.0		✓				Road side

No.	Species	Time	Age	Sex	Repro.*	RFA (mm)	Wt (g)	Guano (Y/N)	Net/Location	WNS Wing Score
1	<i>Lasiurus borealis</i>	2100	A	♀	RL	17	16.5		Net A/M	0
2	<i>Lasiurus borealis</i>	2150	♂	♀	NR	43	12.0		Net B/BM	0

If found, please return to:
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 10509 Timberwood Circle, Suite 100
 Louisville, Kentucky 40223-5301

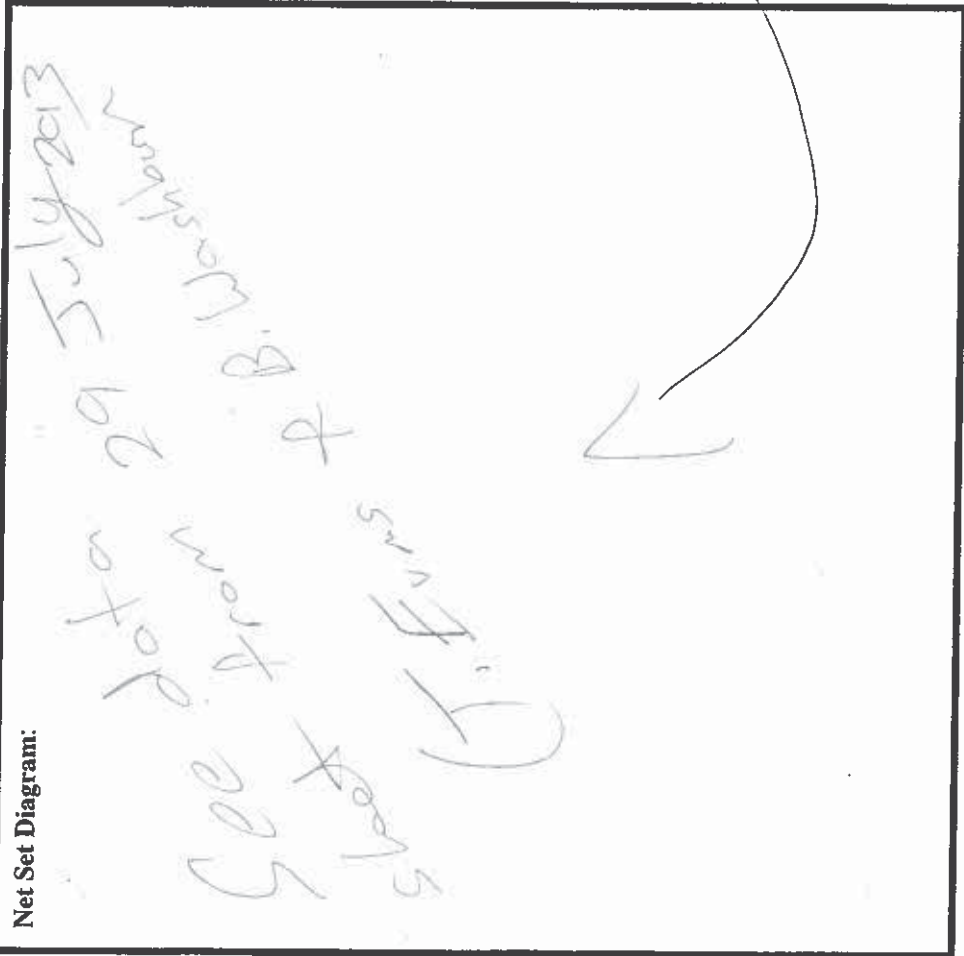


Stantec

Bat Capture Data Sheet

NET SITE HABITAT DESCRIPTION

Net Set Diagram:



Project Name/No.: DDT-Coffee County - SIA

Date: 31 July 2013 Site Name: MSCA

Estimated Distance to Water Source: Road Right of Way

Other Wildlife Observations _____

STREAM CHARACTERISTICS

Bank Height: _____ Channel Width: _____

Stream Width: _____ Riparian Width: (rt bank) _____ (lt bank) _____

Avg. Water Depth: _____ % Canopy Cover _____

% Substrate type: Bedrock _____, Boulder _____, Cobble _____, Gravel _____, Sand _____, Fines _____.

VEGETATION

Estimated Canopy Closure: closed moderate open

Dominant Canopy Species Avg. DBH range _____

1. _____ 2. _____ 3. _____

Roost Tree Potential consists of: Large Trees Snags Both

Roost Tree Potential for Area: High Moderate Low

Dominant Subcanopy Species

1. _____ 2. _____ 3. _____

Dominant Shrub Species

1. _____ 2. _____ 3. _____

Comments: _____

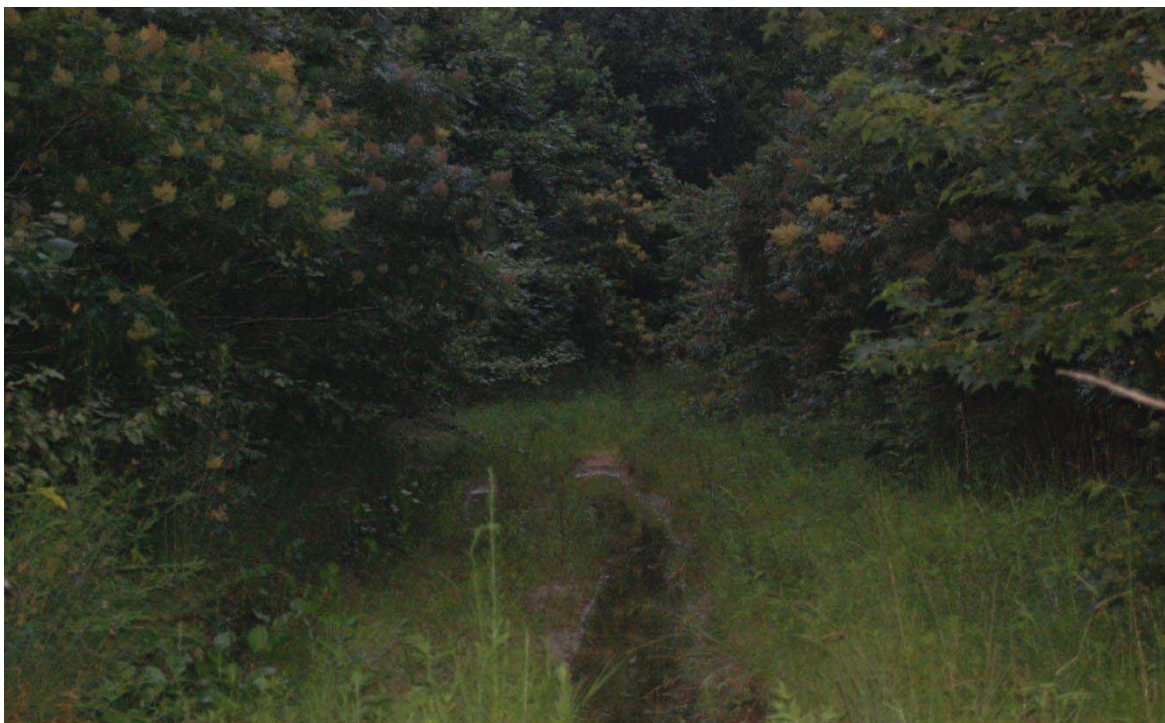
APPENDIX C

Photographs

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**



MS-01 – NET – A

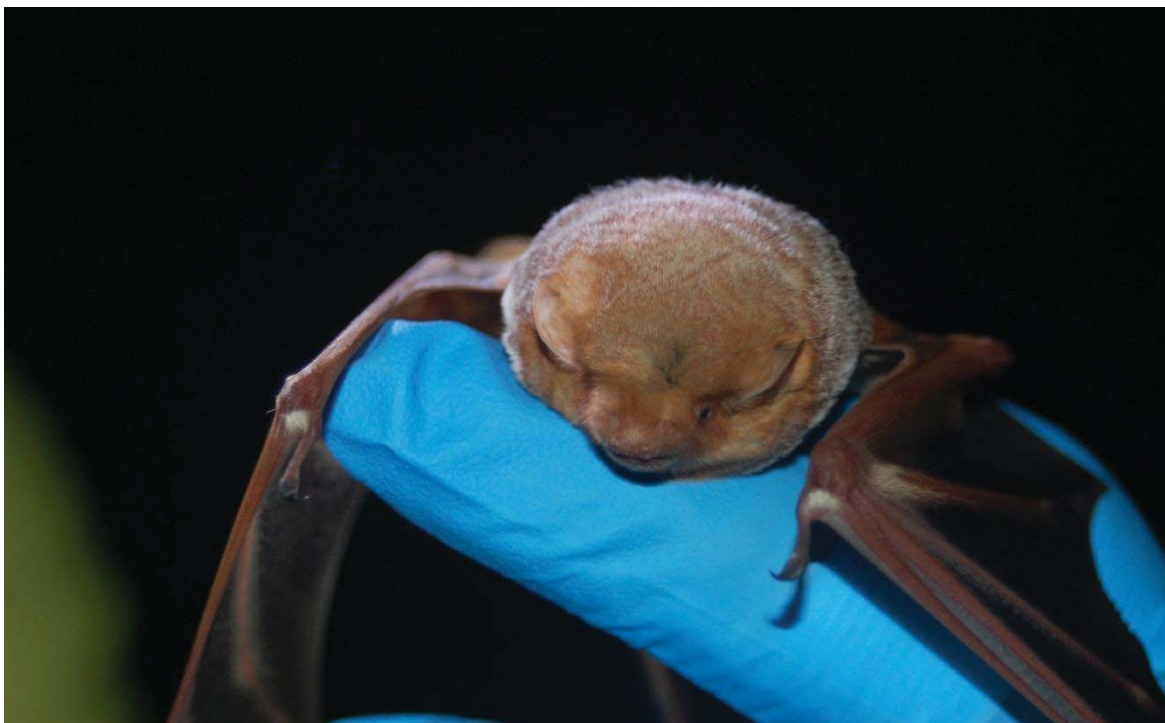


MS-01 – NET – B

**INDIANA BAT (*MYOTIS SODALIS*) MIST NET & ACOUSTIC SURVEY
FOR SIA ROAD SERVING OMAR MEDICAL SUPPLIES
COFFEE COUNTY, TENNESSEE**



AS-01 - ANABAT



Eastern Red Bat (*Lasiurus borealis*)

Ecology Field Data Sheet: Water Resources

Project: Coffee Co, SIA Serving OMAR Industries, PE 16945-1473-04, PIN 118532.00

Date of survey: 18 Nov 2013 **Biologist:** R.L. Howard **Affiliation:** TDOT

1-Station: from plans	
2-Map label and name	PND-1
3-Latitude/Longitude	N 35.3978° W-86.1223°
4-Potential impact	Runoff
5-Feature description:	
what is it	Storm Water Detention Pond
blue-line on topo? (y/n)	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
defined channel (y/n)	No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>
straight or meandering	Straight <input type="checkbox"/> Meandering <input type="checkbox"/>
channel bottom width	30-35'
top of bank width	50'
bank height and slope ratio	4', 2:1
avg. gradient of stream (%)	N/A
substratum	N/A
rifle/run/pool	N/A
width of buffer zone	LDB: -- RDB: --
water flow	N/A
water depth	1-2'
water width	20-30'
general water quality	N/A
OHWM indicators	N/A
groundwater connection	Unknown
bank stability: LDB, RDB	LDB: Stable <input checked="" type="checkbox"/> Eroding <input type="checkbox"/> Undercutting <input type="checkbox"/> Slumping/Sloughing <input type="checkbox"/> Roots Exposed <input type="checkbox"/> RDB: Stable <input checked="" type="checkbox"/> Eroding <input type="checkbox"/> Undercutting <input type="checkbox"/> Slumping/Sloughing <input type="checkbox"/> Roots Exposed <input type="checkbox"/>
dominant species: LDB, RDB	LDB: N/A RDB: N/A
overhead canopy (%)	0%
benthos	None Observed
fish	None Observed
algae or other aquatic life	Algae, Amphibians
habitat assessment score	--
photo number (s)	#3
rainfall information	The area received 0.00" rainfall in the ten (10) days prior to field assessment. - NOAA NCDC Weather Station, Tullahoma, TN
6-HUC code & name (12-digit)	Crumpton Creek - 060400020103
7-Confirmed by:	N/A
8-Mitigation	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (include on Mitigation Form)
9-ETW	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
10-303 (d) List	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Habitat <input type="checkbox"/> Siltation <input type="checkbox"/> Other <input type="checkbox"/>
11-Assessed	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
12-Notes Estimate size (acres) of lake or pond if applicable; provide any pertinent information needed to better describe feature; indicate if hydrologic determination form was completed.	PND-1 : Constructed storm water detention pond approximately 150' x 30'.

Ecology Field Data Sheet: Water Resources

Project: Coffee Co, SIA Serving OMAR Industries, PE 16945-1473-04, PIN 118532.00

Date of survey: 18 Nov 2013 **Biologist:** R.L. Howard **Affiliation:** TDOT

1-Station: from plans	
2-Map label and name	WWC-1
3-Latitude/Longitude	N 35.3977° W-86.1221° to N 35.3974° W-86.1202°
4-Potential impact	Runoff
5-Feature description:	
what is it	Wet Weather Conveyance
blue-line on topo? (y/n)	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
defined channel (y/n)	No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>
straight or meandering	Straight <input checked="" type="checkbox"/> Meandering <input type="checkbox"/>
channel bottom width	2-3'
top of bank width	5-8'
bank height and slope ratio	3', 2:1
avg. gradient of stream (%)	5-10%
substratum	Grasses, Weeds, Soil
rifle/run/pool	N/A
width of buffer zone	LDB: -- RDB: --
water flow	No
water depth	N/A
water width	N/A
general water quality	N/A
OHWM indicators	N/A
groundwater connection	Unknown
bank stability: LDB, RDB	LDB: Stable <input type="checkbox"/> Eroding <input checked="" type="checkbox"/> Undercutting <input type="checkbox"/> Slumping/Sloughing <input type="checkbox"/> Roots Exposed <input type="checkbox"/> RDB: Stable <input type="checkbox"/> Eroding <input checked="" type="checkbox"/> Undercutting <input type="checkbox"/> Slumping/Sloughing <input type="checkbox"/> Roots Exposed <input type="checkbox"/>
dominant species: LDB, RDB	LDB: N/A RDB: N/A
overhead canopy (%)	0%
benthos	None Observed
fish	None Observed
algae or other aquatic life	None Observed
habitat assessment score	--
photo number (s)	#4
rainfall information	The area received 0.00" rainfall in the ten (10) days prior to field assessment. - NOAA NCDC Weather Station, Tullahoma, TN
6-HUC code & name (12-digit)	Crumpton Creek - 060400020103
7-Confirmed by:	N/A
8-Mitigation	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (include on Mitigation Form)
9-ETW	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
10-303 (d) List	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Habitat <input type="checkbox"/> Siltation <input type="checkbox"/> Other <input type="checkbox"/>
11-Assessed	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
12-Notes Estimate size (acres) of lake or pond if applicable; provide any pertinent information needed to better describe feature; indicate if hydrologic determination form was completed.	WWC-1 is adjacent to James Murray Drive (south side).


Coffee County Joint Park Management Committee

1329 McArthur Street, Suite 04
Manchester, TN 37355

Phone: 931-723-5120
FAX: 931-723-5121
Email: ccind@cafes.net

Chairman: Bill Johnson
Secretary: Jasper Smith
Member: Bill Comer
Member: Jeff Fishman
Member: John Greeter

MEMORANDUM

TO: Joint Park Management Committee
FROM: Ted L. Hackney 
DATE: November 18, 2003
SUBJECT: Jurisdictional Wetland Verification

Attached is a copy of the ENSAFE report verifying the wetland determination previously performed by EMPE at the Coffee County Joint Industrial Park. A Wetland Delineation Map is being provided to each industrial board office.

If these designated wetland areas are not to be disturbed, then no further permits are required from either TDEC or the Corps of Engineer.

The next step will be to 1) survey and stake each area and 2) erect "wetland" signs along the boundaries.

c: Kim Finn w/map
Janna Hellums w/map
Mary Niederhauser



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November 14, 2003

Mr. Ted Hackney
Executive Director
The Industrial Board of Coffee County, Tennessee
1329 McArthur Street, Suite 4
Manchester, Tennessee 37355

**Re: Jurisdictional Wetland Verification
Coffee County Joint Industrial Park**

Dear Ted:

I recently completed activities related to verifying the wetland determination previously performed by EMPE at the Coffee County Joint Industrial Park. Methods used in performing this evaluation adhered to the Wetland Delineation Protocol established by the U.S. Army Corps of Engineers, whereby the site's soils, vegetation and hydrology were examined to determine areas of jurisdictional wetlands.

Wetland areas identified during the survey are shown on the enclosed industrial park base map, originally prepared by St. John Engineering. While the general locations of the wetland areas coincide fairly closely with those previously identified, the wetland boundaries, as recorded by GPS, differ somewhat from those shown in the original report. The following table presents my findings from the recent survey:

Wetland Area	Acres	Lot Locations
1	2.80	12, 13, 20, 21
2	0.96	25
3	0.26	26, 34
4	3.00	34, 35
5	0.50	33
Total Acreage	<u>7.52</u>	<u>7.52</u>

All wetland areas identified, with the exception of Wetland Area 5, are hydrologically isolated and will therefore be regulated only by the Tennessee Division of Water Pollution Control (Division). Wetland Area 5, due to its proximity to Crumpton Creek, will be regulated by both the Division and the U.S. Army Corps of Engineers, which requires the applicant to obtain both a

Section 401 and Section 404 permit. Considering the wetland's location on Lot 33, however, the parcel could be easily developed without encroaching upon this jurisdictional area.

If development of the other lots requires unavoidable impact to the wetlands, an Aquatic Resource Alteration Permit must be obtained from the Division before grading activities can lawfully proceed. For areas 0.25-acres or less (or closely thereto), a general ARAP permit can be obtained that does not require mitigation. For impacts to wetland areas between 0.25 and 1.0 acres, a general permit will likewise suffice; however, the impacted area must be mitigated by creating wetlands or buying wetland credits at an approved bank at likely a 2:1 ratio. Impacts to wetlands greater than 1-acre will require acquisition of an individual ARAP permit plus the 2:1 mitigation effort. (The individual permit differs from a general in that it is placed on public notice and comments solicited from other natural resources management agencies, e.g. TWRA, U.S. Fish and Wildlife Service, and TVA, before the record of decision is reached relative to permit issuance and conditions.)

There is no application fee associated with the General ARAP Permit; however, an individual permit carries a \$1,000 application fee for areas 10-acres or less in size.

More information about this permitting program can be found on the web at www.state.tn.us/environment/permits/arap.php.

I have contacted officials from the Division to schedule a trip to the site so that my findings can be confirmed and any permitting activities that you require can proceed expeditiously.

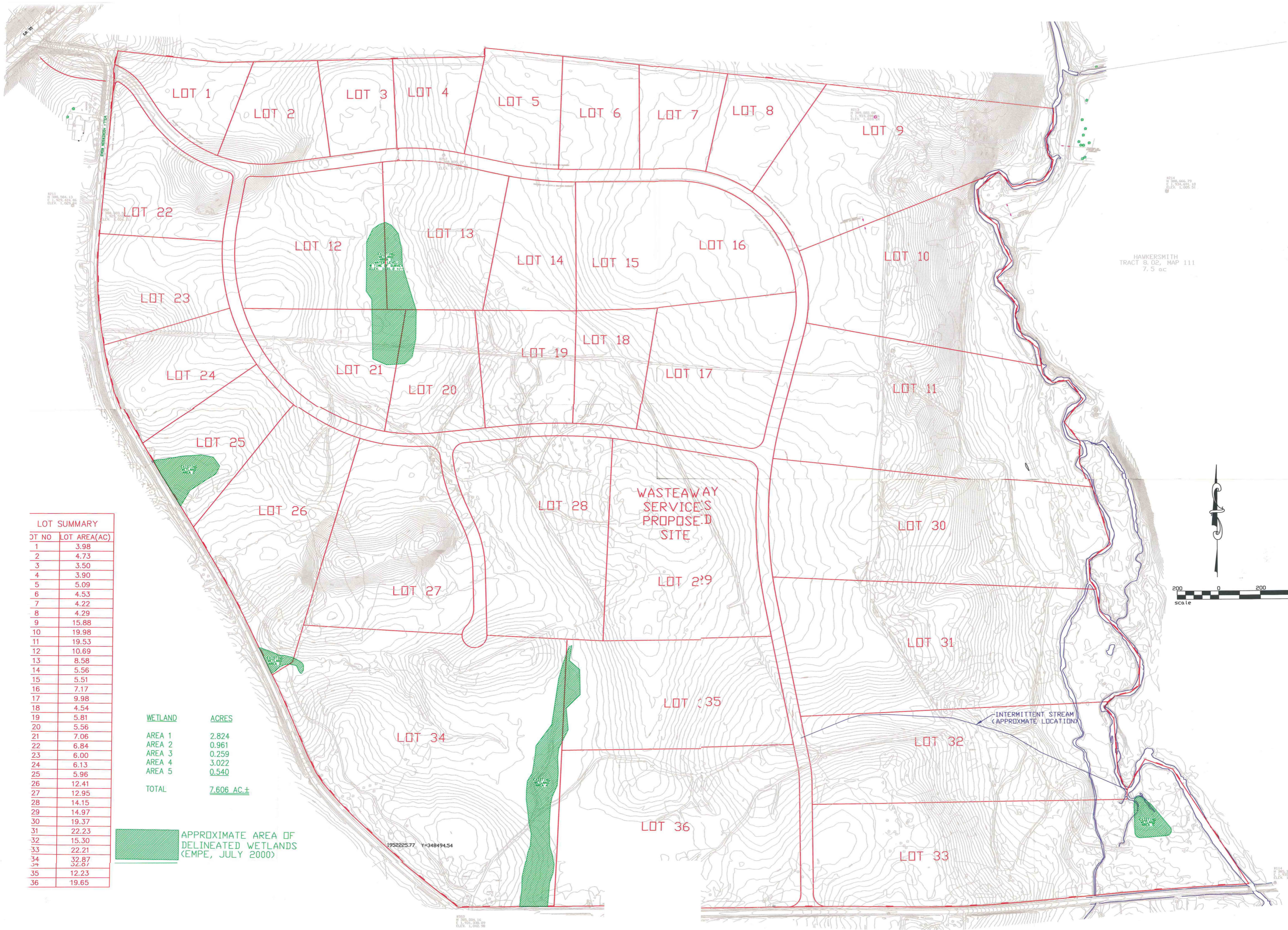
Thank you for enlisting our services for this project. Please let me know if you have any questions or comments.

Very truly yours,



Richard D. Martin, P.G.
Senior Project Manager

Enclosures (3)



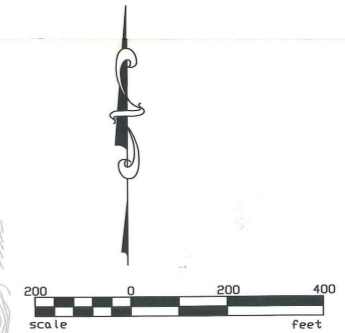
LOT SUMMARY

LOT NO	LOT AREA(AC)
1	3.98
2	4.73
3	3.50
4	3.90
5	5.09
6	4.53
7	4.22
8	4.29
9	15.88
10	19.98
11	19.53
12	10.69
13	8.58
14	5.56
15	5.51
16	7.17
17	9.98
18	4.54
19	5.81
20	5.56
21	7.06
22	6.84
23	6.00
24	6.13
25	5.96
26	12.41
27	12.95
28	14.15
29	14.97
30	19.37
31	22.23
32	15.30
33	22.21
34	32.87
35	12.23
36	19.65

WETLAND	ACRES
AREA 1	2.824
AREA 2	0.961
AREA 3	0.259
AREA 4	3.022
AREA 5	0.540
TOTAL	7.606 AC.±

 APPROXIMATE AREA OF DELINEATED WETLANDS (EMPE, JULY 2000)

HAWKERSMITH TRACT 8.02, MAP 111
7.5 ac

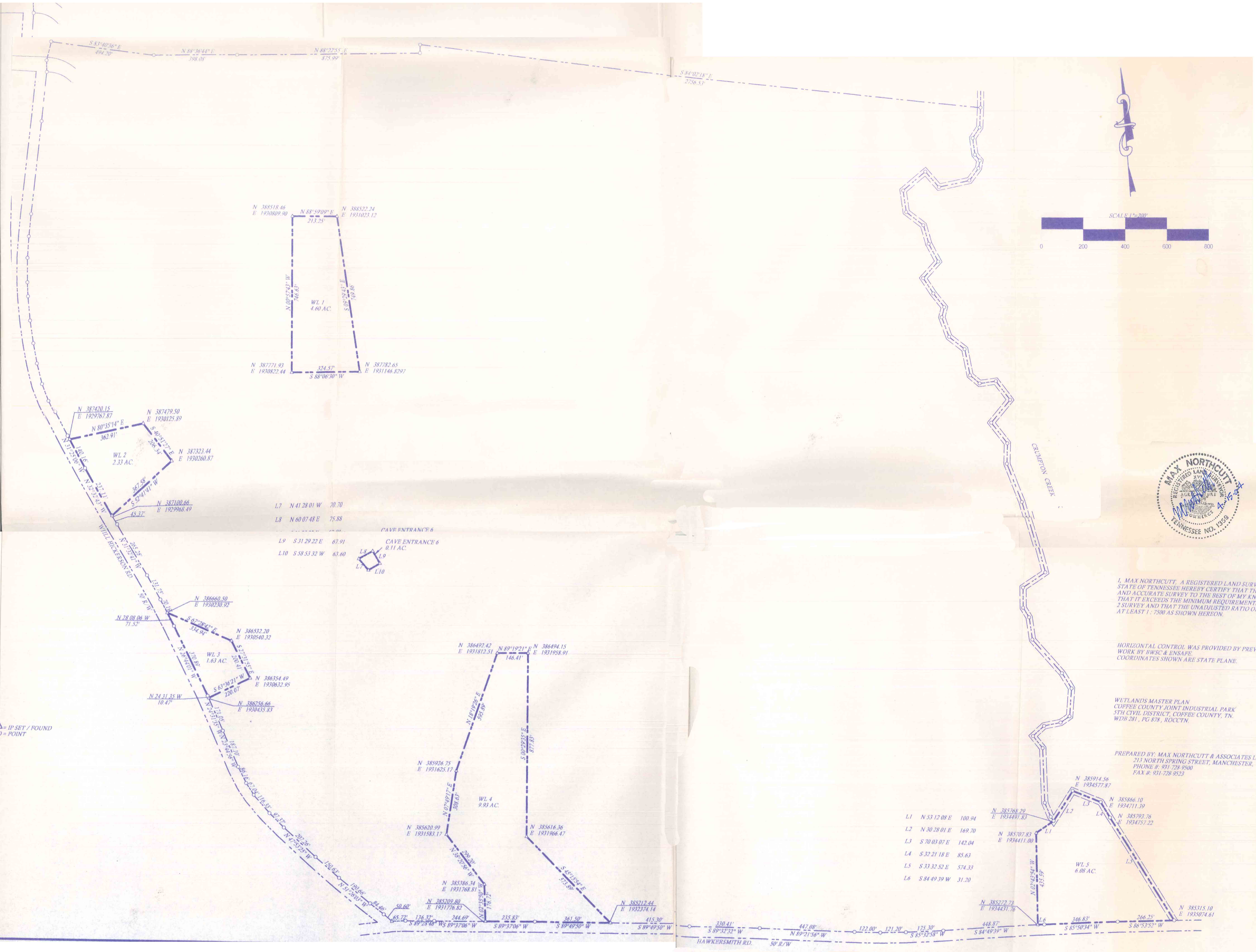


DESIGNED: R.M.	SCALE: 1" = 200'	APPR'D:	REV.
DRAWN BY: R.D.P.	DATE: 14 NOV. 03	JOB NO.	
		4444-001-05-000-01	

WETLAND LINEATION
JOINT INDU
COFFEE COUN

ENSAFE, INC. ENVIRONMENTAL AND MANAGEMENT CONSULTANTS
220 Alhara Way, Suite 410 - Nashville, Tennessee 37228
Telephone #1-252-5300 - Facsimile #1-252-5345 - www.ensafe.com
Atlanta - Florida - Kentucky - Michigan - Mississippi - Ohio - Tennessee - Texas - Utah - Virginia - Wisconsin





I, MAX NORTHCUTT, A REGISTERED LAND SURVEYOR IN THE STATE OF TENNESSEE, HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE SURVEY TO THE BEST OF MY KNOWLEDGE, AND THAT IT EXCEEDS THE MINIMUM REQUIREMENTS FOR A CATEGORY 2 SURVEY AND THAT THE UNADJUSTED RATIO OF PRECISION IS AT LEAST 1 : 7500 AS SHOWN HEREON.

HORIZONTAL CONTROL WAS PROVIDED BY PREVIOUS WORK BY BWSC & ENSAFE. COORDINATES SHOWN ARE STATE PLANE.

WETLANDS MASTER PLAN
 COFFEE COUNTY JOINT INDUSTRIAL PARK
 5TH CIVIL DISTRICT, COFFEE COUNTY, TN.
 WDB 281, PG 878, ROCCTN.

PREPARED BY: MAX NORTHCUTT & ASSOCIATES LAND SURVEYORS
 213 NORTH SPRING STREET, MANCHESTER, TN. 37355
 PHONE #: 931-728-9500
 FAX #: 931-728-9523

L1	N 53 12 08 E	100.94
L2	N 30 28 01 E	169.70
L3	S 70 03 07 E	142.04
L4	S 32 21 18 E	85.63
L5	S 33 32 52 E	574.33
L6	S 84 49 39 W	31.20

Δ = 1" SET / FOUND
 ○ = POINT

9. Training Certifications



10. TMDL Information



NO TMDL CONSULTATION IS REQUIRED FOR THIS PROJECT

Index Of Sheets

SEE SHEET NO. 1A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

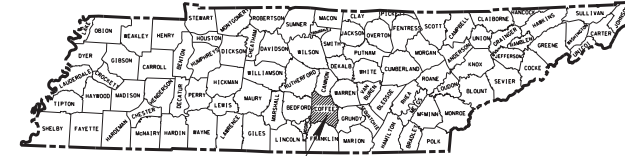
COFFEE COUNTY

INDUSTRIAL ACCESS ROAD
SERVING OMAR, INC. AT
THE JOINT INDUSTRIAL PARK

CONSTRUCTION

STATE HIGHWAY NO. 55 F.A.H.S. NO.

TENN.	YEAR	SHEET NO.
	2014	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		16945-3473-04



PROJ. NO. 16945-3473-04
COFFEE COUNTY

NO EXCLUSIONS
NO EQUATIONS

**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

ORIGINAL SURVEY
05-31-2013

APPROVED: *Paul D. Degges*
PAUL D. DEGGES, CHIEF ENGINEER

DATE: _____

APPROVED: *John Schroer*
JOHN SCHROER, COMMISSIONER

S.R. 55
END PROJ. 16945-3473-04 (CONST.)
STA. 26+65.00
S.R. 55
BEG. PROJ. 16945-3473-04 (CONST.)
STA. 12+00.00

JAMES MURRAY DR.
BEG. PROJ. NO. 16945-3473-04 (CONST.)
STA. 100+22.90

JAMES MURRAY DR.
END PROJ. NO. 16945-3473-04 (CONST.)
STA. 127+00.00

SPECIAL NOTES

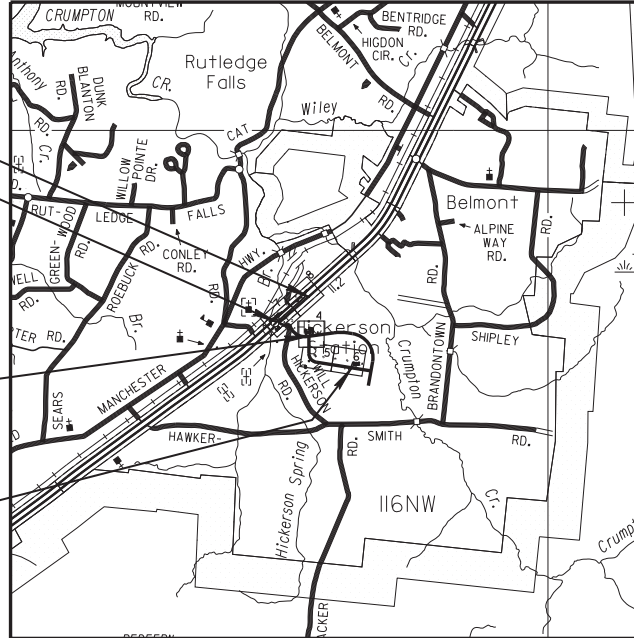
PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT ROAD SP. SV. 2 ROBERT RODGERS, P.E.
DESIGNED BY NEEL-SCHAFFER, INC.
DESIGNER JOSEPH C. DEERING, PE CHECKED BY STEVEN C. LAMM, P.E.

P.E. NO. 16945-1473-04

PIN NO. 118532.00



SCALE: 1" = 1/2 MILE

ROADWAY LENGTH (S.R. 55) 0.272 MILES
ROADWAY LENGTH (JAMES MURRAY DR.) 0.509 MILES
BRIDGE LENGTH 0.000 MILES
BOX BRIDGE LENGTH 0.000 MILES
TOTAL PROJECT LENGTH 0.781 MILES



TRAFFIC FOR S.R. 55

TRAFFIC DATA

ADT (2014)	15200
ADT (2034)	16430
DHV (2034)	1807
D	55 - 45
T (ADT)	11 X
T (DHV)	7 X
V	•• 30 MPH
V	• 60 MPH

• S.R. 55
•• JAMES MURRAY DR.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	16945-3473-04	1A

INDEX

SHEET NAME	SHEET NO.
TITLE SHEET	1
ROADWAY INDEX AND STANDARD DRAWINGS INDEX	1A
ESTIMATED ROADWAY QUANTITIES	2
TYPICAL SECTIONS AND PAVING SCHEDULE	2A - 2B
GENERAL NOTES AND SPECIAL NOTES	2C
TABULATED QUANTITIES	2H - 2J
DETAIL SHEETS	2K - 2L
PROPERTY MAPS AND RIGHT-OF-WAY ACQUISITION TABLES	3 - 3A
PRESENT LAYOUTS	4 - 8
PROPOSED LAYOUTS	4A - 8A
PROPOSED PROFILES	4B - 8B
PRIVATE DRIVE PROFILES	9
DRAINAGE MAPS	10
CULVERT SECTIONS	11
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE-1	12, 12A - 12E
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE-2	13, 13A - 113D
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE-3	14, 14A - 14D
TRAFFIC CONTROL PLANS WITH CONSTRUCTION	
PHASING NOTES	15, 15A - 15D
SOILS SHEETS	16, 16A - 16K
ROADWAY CROSS SECTIONS	17 - 33
SIDE ROAD CROSS SECTIONS	34 - 44
UTILITIES INDEX	U1-1

*NO PROJECT COMMITMENTS SHEET INCLUDED IN THIS SET OF PLANS.

STANDARD ROADWAY DRAWINGS

DWG. NO	REV.	DESCRIPTION
ROADWAY DESIGN STANDARDS		
RD-A-1	12-18-96	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-8		STANDARD LEGEND FOR NATURAL STREAM DESIGN
RD01-S-11	04-04-03	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD01-S-11A	10-15-02	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD01-SE-3	10-15-02	RURAL SUPERELEVATION DETAILS
RD01-TS-1	10-15-02	DESIGN STANDARDS FOR LOCAL ROADS AND STREETS
RD01-TS-3A	10-15-02	DESIGN STANDARDS 4 AND 6 LANE ARTERIAL HIGHWAYS WITH DEPRESSED MEDIANS
DRAINAGE - CULVERTS AND ENDWALL		
D-PB-1	01-02-12	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PE-18A	06-14-13	18" CONCRETE ENDWALL CROSS DRAIN
D-PE-18B		18" CONCRETE ENDWALL CROSS DRAIN
D-PE-24A	06-14-13	24" CONCRETE ENDWALL CROSS DRAIN
D-PE-24B		24" CONCRETE ENDWALL CROSS DRAIN
D-PE-99		PIPE GRATE & SKEWED CONNECTION DETAILS FOR "U" ENDWALLS CONCRETE ENDWALL CROSS DRAIN WITH
D-SEW-1A	06-14-13	SIDE DRAIN CONCRETE ENDWALL WITH STEEL PIPE GRATE
SAFETY APPURTENANCES AND FENCE		
S-F-1	05/24/12	HIGH VISIBILITY FENCE
S-RP-2	01-19-96	STANDARD CONCRETE RIGHT-OF-WAY MARKERS

DWG. NO	REV.	DESCRIPTION
TRAFFIC CONTROL APPURTENANCES		
T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-1	11-01-11	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	01-15-13	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-3	09-19-91	MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS
T-M-4	11-01-11	STANDARD INTERSECTION PAVEMENT MARKINGS
T-M-15A	11-01-11	ASPHALT SHOULDER RUMBLE STRIPE INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-11	06-06-11	DELINEATOR AND MILEPOST DETAILS
T-S-16	11-01-11	GROUND MOUNTED ROADSIDE SIGN AND DETAILS
T-S-19	07-19-13	STANDARD STEEL SIGN SUPPORTS
T-S-20	11-01-11	SIGN DETAILS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-11	03-13-09	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-3B	08-01-12	SILT FENCE
EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-6	08-01-12	ROCK CHECK DAM
EC-STR-6A	08-01-12	ENHANCED ROCK CHECK DAM
EC-STR-11	08-01-12	CULVERT PROTECTION TYPE 1
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-34	08-01-12	EROSION CONTROL BLANKET FOR SLOPE

**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INDEX
AND
STANDARD
DRAWINGS

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	16945-3473-04	2

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
201-01	CLEARING AND GRUBBING	LS	1
202-01	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	33500
203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	26670
203-04	PLACING AND SPREADING TOPSOIL	C.Y.	2000
203-06	WATER	M.G.	155
209-05	SEDIMENT REMOVAL	C.Y.	162
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	560
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	420
209-08.07	ROCK CHECK DAMPER	EACH	9
209-08.08	ENHANCED ROCK CHECK DAM	EACH	2
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	10263
303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	6590
307-01.01	ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING A	TON	1257
307-02.01	ASPHALT CONCRETE MIX (PG70-22)(BPMB-HM) GRADING A	TON	392
307-01.08	ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING B-M2	TON	895
307-02.08	ASPHALT CONCRETE MIX (PG70-22)(BPMB-HM) GRADING B-M2	TON	482
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	17
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	68
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	6
407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	1720
411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	121
411-01.10	ACS MIX(PG64-22) GRADING D	TON	627
411-02.10	ACS MIX(PG70-22) GRADING D	TON	113
411-12.01	SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.	0.23
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	520
607-03.30	18" PIPE CULVERT	L.F.	159
607-05.30	24" PIPE CULVERT	L.F.	40
607-39.02	18" PIPE CULVERT (SIDE DRAIN)	L.F.	68
611-07.54	18N ENDWALL (CROSS DRAIN) 3:1	EACH	2
611-07.56	18N ENDWALL (CROSS DRAIN) 6:1	EACH	1
611-07.57	24N ENDWALL (CROSS DRAIN) 3:1	EACH	2
621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	88
707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	1170
708-02.01	MARKERS (CONCRETE R.O.W. POSTS)	EACH	5
709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	150
709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	133
712-01	TRAFFIC CONTROL	LS	1
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	45
712-05.01	WARNING LIGHTS (TYPE A)	EACH	10
712-06	SIGNS (CONSTRUCTION)	S.F.	252
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	130
712-08.03	ARROW BOARD (TYPE C)	EACH	1
712-09.02	REMOVABLE PAVEMENT MARKING (8" BARRIER LINE)	L.F.	2010
712-09.05	REMOVABLE PAVEMENT MARKING (ARROW)	EACH	1
713-02.04	DELINEATOR (MILE MARKER) & STEEL POST	EACH	1
713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
713-16.20	SIGNS (R1-1)(STOP)	EACH	2
713-16.21	SIGNS (R5-1)(WRONG WAY)	EACH	1
713-16.22	SIGNS (R5-1A)(DO NOT ENTER)	EACH	1
713-16.23	SIGNS (R6-1R)(ONE WAY RIGHT)	EACH	2
713-16.24	SIGNS (R6-1L)(ONE WAY LEFT)	EACH	2
713-16.25	SIGNS (W4-2R)(LANE ENDS MERGE SYMBOL)	EACH	1

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
716-01.23	Snowplowable Pavement Markers (Bi-Dir)(2 Color)	EACH	29
716-01.30	REMOVAL OF SNOWPLOWABLE REFLECTIVE MARKER	EACH	14
716-02.04	PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)	S.Y.	33
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	30
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	6
716-12.01	ENHANCED FLATLINE THERMO PAVEMENT MARKING (4IN LINE)	L.M.	0.42
716-13.06	SPRAY THERMO PAVEMENT MARKING (40 mil) (4IN LINE)	L.M.	2.1
717-01	MOBILIZATION	LS	1
740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	2477
801-01	SEEDING (WITH MULCH)	UNIT	135
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	50
801-03	WATER (SEEDING & SODDING)	M.G.	21
801-07	SEED (SUPPLEMENTAL APPLICATION)	LB.	30
801-08	FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	1
803-01	SODDING (NEW SOD)	S.Y.	200
805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	15538

- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
- THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
- INCLUDES FIVE THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.
- TO BE USED AS DIRECTED BY THE ENGINEER.
- SEE SPECIAL NOTES
- TO BE USED ON S.R. 55
- TO BE USED ON JAMES MURRAY DRIVE
- INCLUDES 12" CMP.

**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**ESTIMATED
ROADWAY
QUANTITIES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONSTRUCTION	2014	16945-3473-04	2C

GENERAL NOTES

GRADING

- ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

- SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.
- ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.
- ITEM NO. 801-02, SEEDING (WITHOUT MULCH) AND EROSION CONTROL BLANKET SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS AS WELL AS LOCATIONS DIRECTED BY THE ENGINEER.

DRAINAGE

- THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- EXCAVATION FOR PIPE CULVERTS, SEWERS, CONDUITS, ALL OTHER CULVERTS, ALL MINOR STRUCTURES OF ANY TYPE AND DESCRIPTION WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PIPE (PIPE CULVERTS, STORM SEWERS, CONDUITS, ALL OTHER CULVERTS AND MINOR STRUCTURES).
- CULVERT EXCAVATION FOR CONCRETE BOX OR SLAB TYPE CULVERTS OR BRIDGES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- THE CUTTING OF INLET AND OUTLET DITCHES WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER WILL BE MEASURED AND PAID FOR AS ITEM NO. 203-01 ROAD AND DRAINAGE EXCAVATION UNCLASSIFIED).
- WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION, NO INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT WILL BE MADE DUE TO SUCH CHANGE.
- DURING CONSTRUCTION OF DRAINAGE STRUCTURES ALL COST ASSOCIATED WITH MAINTAINING THE FLOW OF WATER AND TRAFFIC, AT THESE STRUCTURES, DURING THE PHASED CONSTRUCTION OF THIS PROJECT ARE TO BE INCLUDED IN THE UNIT PRICE OF THE DRAINAGE

MISCELLANEOUS

- THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES WHERE AND AS DIRECTED BY THE ENGINEER.
- NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA

PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING ON INTERMEDIATE LAYERS

- TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01, PAINTED PAVEMENT MARKING (4" LINE), L.M.

FINAL PAVEMENT MARKING IF 4" ENHANCED FLATLINE THERMOPLASTIC IS USED

- PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.01, ENHANCED FLATLINE THERMOPLASTIC (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

FINAL PAVEMENT MARKING IF 4" SPRAY THERMOPLASTIC (60 mil) IS USED

- PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.01, SPRAY THERMOPLASTIC (60 mil) (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

- THE PAVEMENT MARKING ON THE LANE SHIFT FOR LANE LINES WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARDS AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01 PAINTED PAVEMENT MARKING (4IN LINE, LIN. M).
- BEFORE OPENING THE LANE SHIFT TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01 TRAFFIC CONTROL, LUMP SUM.

PAVEMENT

PAVING

- THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.
- THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
- THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

GRADED SOLID ROCK

- THE ROCK FILL (GRADED SOLID ROCK) MATERIAL SHALL CONSIST OF SOUND, NONDEGRADABLE LIMESTONE OR SANDSTONE WITH A MAXIMUM SIZE OF 3'-0". AT LEAST 50% (BY WEIGHT) OF THE ROCK SHALL BE UNIFORMLY DISTRIBUTED BETWEEN 1'-0" AND 3'-0" IN DIAMETER, AND NO GREATER THAN 10% (BY WEIGHT) SHALL BE LESS THAN 2" IN DIAMETER. THE MATERIAL SHALL BE ROUGHLY EQUIDIMENSIONAL; THIN, SLABBY MATERIALS WILL NOT BE ACCEPTED. THE CONTRACTOR SHALL BE REQUIRED TO PROCESS THE MATERIAL WITH AN ACCEPTABLE MECHANICAL MEANS (A SCREENING PROCESS CAPABLE OF PRODUCING THE REQUIRED GRADATION). THE ROCK SHALL BE APPROVED BY A REPRESENTATIVE OF THE DIVISION OF MATERIALS AND TESTS BEFORE USE.

- THIS GRADED SOLID ROCK MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING FIVE FEET IN DEPTH.

SIGNING

- THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.
- AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD
- ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM 713-15 AND BECOME THE PROPERTY OF THE CONTRACTOR.
- THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.
- THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ERECTION.
- THE LETTERS, DIGITS, ARROWS, BORDERS AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL
NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	16945-3473-04	2D

GENERAL NOTES

EROSION PREVENTION AND SEDIMENT CONTROL.

DISTURBED AREA

- (1) AREAS TO BE UNDISURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (2) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 15 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS INSTALLED.
- (3) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.
- (4) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.
- (5) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.
- (6) NO MORE THAN 50 ACRES OF ACTIVE SOIL DISTURBANCE IS ALLOWED AT ANY TIME DURING THE CONSTRUCTION OF THE PROJECT. OFF-SITE BORROW OR WASTE AREAS ARE TO BE INCLUDED IN THE TOTAL DISTURBED AREA IF THE BORROW OR WASTE AREA IS EXCLUSIVE TO THE PROJECT PER TDOT'S WASTE AND BORROW MANUAL.

SEDIMENT CONTROL

- (7) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- (8) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE MIGRATION OR DEPOSIT OF SEDIMENT ON ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
- (9) WATER PUMPED FROM WORK AREAS AND EXCAVATION MUST BE HELD IN SETTLING BASINS OR TREATED BY FILTRATION OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE INTO SURFACE WATERS. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.
- (10) CHECK DAMS SHALL BE USED WHERE RUNOFF IS CONCENTRATED. CLEAN ROCK, BRUSH, GABION, OR SANDBAG CHECK DAMS SHALL BE PROPERLY CONSTRUCTED TO REDUCE VELOCITY AND CONTROL EROSION.
- (11) FOR AN OUTFALL IN A DRAINAGE AREA OF 10 ACRES OR MORE, A TEMPORARY (OR PERMANENT) SEDIMENT BASIN OR EQUIVALENT CONTROL MEASURES THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A MINIMUM 2-YEAR/24-HOUR STORM EVENT, SHALL BE PROVIDED UNTIL FINAL STABILIZATION OF THE SITE. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS MAY BE CONTACTED TO REVIEW AND CONCUR WITH ANY REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE OUTFALL PROCEEDS.

- (12) IF PERMANENT OR TEMPORARY VEGETATION IS TO BE USED AS AN EPSC MEASURE, THEN THE TIMING OF PLANTING OF VEGETATION SHALL BE SHOWN IN THE SWPPP. DELAYING PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.
- (13) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ACCESS (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED, AS NEEDED, TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (14) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

STREAM/WETLAND

- (15) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE U.S. EPSC MEASURES TO PROTECT WATER QUALITY MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG STREAM BANKS IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS IN ACCORDANCE WITH TDOT STANDARDS. THEY MUST BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (16) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.
- (17) INSTREAM EPSC DEVICES REQUIRE THE ENVIRONMENTAL DIVISION'S PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN TDEC, USACE, AND TVA PERMITS.
- (18) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE U.S., INCLUDING WETLANDS, SHALL BE ONLY AS SHOWN ON THE PROJECT PLANS AND/OR AS SO SPECIFIED IN THE ARAP(40), SECTION 404 PERMIT(S) AND/OR TVA26(A), IF APPLICABLE. ANY ADDITIONAL PERMITS REQUIRED BY THE CONTRACTOR'S METHOD OF OPERATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AFTER RECEIVING THE APPROVAL OF TDOT ENVIRONMENTAL DIVISION.
- (19) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING.
- (20) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CROSSINGS MUST BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES MUST BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK MUST BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS MUST BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO THEIR PREEXISTING ELEVATION. ALL TEMPORARY CROSSINGS MUST BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.
- (21) HEAVY EQUIPMENT WORKING IN WETLANDS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT MUST BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED.
- (22) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS PROVIDED FOR IN THE PLANS.

SPECIES

- (23) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA. THE SWPPP SHALL BE MODIFIED TO INCLUDE EPSC MEASURES TO PREVENT NEGATIVE IMPACTS TO LEGALLY PROTECTED STATE OR FEDERAL FAUNA OR FLORA OR AS INDICATED IN THE ECOLOGICAL STUDIES OR ON THE PERMIT(S).

INSPECTION, MAINTENANCE, REPAIR

- (24) EPSC CONTROLS WILL BE MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES.
- (25) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES/STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN EXPENSE.
- (26) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND BE TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE INTO WATERS OF THE STATE U.S. COST FOR THIS TREATMENT IS TO BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.
- (27) THE CONTRACTOR SHALL INSTALL A RAIN GAUGE EVERY LINEAR MILE AT ALL SITES WHERE CLEARING, GRUBBING, EXCAVATION, GRADING CUTTING OR FILLING IS BEING ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED. IF THE PROJECT LENGTH IS LESS THAN ONE LINEAR MILE, ONE RAIN GAUGE SHALL BE INSTALLED AT THE CENTER OF THE PROJECT OR AS INDICATED BY THE TDOT EPSC INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT EACH GAUGE IS MAINTAINED IN GOOD WORKING CONDITION. TDOT AND/OR THE CONTRACTOR SHALL RECORD DAILY PRECIPITATION AND FORECASTED PERCENTAGE OF PRECIPITATION IN DETAILED RECORDS OF RAINFALL EVENTS INCLUDING DATES, AMOUNTS OF RAINFALL PER GAUGE, THE ESTIMATED DURATION (OR STARTING AND ENDING TIMES), AND FORECASTED PERCENTAGE OF PRECIPITATION FOR THE PROJECT. THIS INFORMATION SHALL BE PROVIDED TO THE ENGINEER ON A MONTHLY BASIS. THE COST FOR THE RAIN GAUGES IS TO BE INCLUDED IN THE UNIT BID PRICES FOR OTHER ITEMS. RAIN GAUGES SHALL BE AS SPECIFIED IN THE APPROVED TDOT RAINFALL MONITORING PLAN.
- (28) INSPECTION OF EPSC MEASURES SHALL BE DONE AT LEAST TWICE PER CALENDAR WEEK AT LEAST 7 HOURS APART. A CALENDAR WEEK IS DEFINED AS SUNDAY THROUGH SATURDAY. QUALITY ASSURANCE/QUALITY CONTROL SITE ASSESSMENT OF EPSC SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION'S COMPREHENSIVE INSPECTION OFFICE GUIDELINES.
- (29) OUTFALL PONTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO SURROUNDING WATERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE ROADWAY SEDIMENT TRACKING.
- (30) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE TIMEFRAME, WRITTEN DOCUMENTATION MUST BE PROVIDED IN THE FIELD BOOK AND AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.
- (31) THE TDOT PROJECT SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT PROJECT SUPERVISOR OR THEIR DESIGNEE WILL COMPLETE THE INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

CONSTRUCTABILITY
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NOTES

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CONST.	2014	16945-3473-04	2E

GENERAL NOTES

MATERIALS

- (1) WASTE AND BORROW AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN. BORROW AND WASTE DISPOSAL AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY AN ARAP, 404, OR NPDES PERMIT, OBTAINED SOLELY BY THE CONTRACTOR.

SWPPP, PERMITS, PLANS, RECORDS

- (2) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO DEC ARAP401, USACE SECTION 404, TVA SECTION 36A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS.
- (3) ANY DISAGREEMENT BETWEEN THE PROJECT PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDDOT PROJECT ENGINEER. THE ENVIRONMENTAL DIVISION, ROADWAY DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.
- (4) THE FOLLOWING INFORMATION SHALL BE MAINTAINED ON OR NEAR THE SITE. DATES THAT MAJOR GRADING ACTIVITIES OCCUR, DATES WHERE CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, DATES WHEN STABILIZATION MEASURES ARE INITIATED, EPSC INSPECTION RECORDS, QUALITY ASSURANCE SITE ASSESSMENT RECORDS, PRECIPITATION RECORDS SWPPP, PROJECT ENVIRONMENTAL PERMITS, AND A COPY OF THE PROJECT EPSC INSPECTOR'S TDEC LEVEL 1 CERTIFICATION.
- (5) ALL WATER QUALITY AND STORM WATER PERMITS, INCLUDING A COPY OF THE NOC WITH NPDES PERMIT TRACKING NUMBER AND THE LOCATION OF THE SWPPP, SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.
- (6) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS OR MODIFICATIONS OF THE SWPPP ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (7) THE SWPPP SHALL BE UPDATED BY CONSTRUCTION WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY. THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED WHEN MAJOR DESIGN REVISIONS ARE REQUESTED BY CONSTRUCTION. THE ENVIRONMENTAL DIVISION MAY BE CONTACTED FOR GUIDANCE ON SPECIFIC SWPPP NEEDS. A COPY OF ANY CORRESPONDENCE REGARDING THE EFFECTIVENESS OF THE SWPPP OR EPSC CONTROLS SHALL BE RETAINED IN THE SWPPP.
- (8) THE SWPPP SHALL BE UPDATED BY CONSTRUCTION WHENEVER A CHANGE IN CHEMICAL TREATMENT METHODS IS MADE INCLUDING USE OF A DIFFERENT CHEMICAL, DIFFERENT DOSAGE OR APPLICATION RATE, OR A DIFFERENT AREA OF APPLICATION.
- (9) IF A TMDL IS DEVELOPED FOR THE RECEIVING WATERS FOR A POLLUTANT OF CONCERN (SITUATION AND/OR HABITAT ALTERATION) THE SWPPP SHALL BE MODIFIED OR UPDATED.
- (10) PROJECT INSPECTORS AND SUPERVISORS (INCLUDING TDDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF EPSC PLANS SHALL SUCCESSFULLY COMPLETE THE TDEC LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION

SITES' COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. A COPY OF CERTIFICATION RECORDS FOR THE COURSES SHALL BE KEPT ON SITE AND AVAILABLE UPON REQUEST.

LITTER, DEBRIS, WASTE, PETROLEUM

- (11) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.
- (12) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

SPECIAL NOTES

GRADING

- (1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.
- (2) BORING DECTIONS SHOWN ON THE FOUNDATION DATA SHEETS, SOILS SHEETS, PLANS, AND CROSS-SECTIONS INDICATE SOIL AND ROCK CONDITIONS AT THE SPECIFIC BORING LOCATIONS. ANY SOIL PROFILE AND/OR ROCK LINE IS INTERPRETIVE BASED ON THE JUDGMENT OF THE GEOTECHNICAL ENGINEER/ GEOLOGIST. THE TRANSITION BETWEEN BORINGS AND LAYERS MAY VARY SIGNIFICANTLY DEPENDING ON THE GEOLOGIC FORMATIONS ENCOUNTERED.
- (3) TO ASSIST IN BID PREPARATION FOR EARTHWORK AND FOUNDATION CONSTRUCTION, DETAIL ROCK AND SOIL DESCRIPTION AND ON SOME PROJECTS, ROCK CORE SAMPLES ARE AVAILABLE FOR INSPECTION AT THE MATERIALS AND TESTS HEADQUARTERS AT 6601 CENTENNIAL BOULEVARD, NASHVILLE, TN OR AT THE TDDOT REGION 1 BUILDING IN KNOXVILLE, TN.
- (4) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- (5) EARTHWORK IS PAID FOR UNDER ITEM 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.

PAVEMENT

RESURFACING

- (1) TRAFFIC WILL BE ALLOWED TO TEMPORARILY DRIVE ON THE MILLED SURFACE OF THE ROADWAY UNDER THE FOLLOWING CONDITIONS ONLY:
- A. THE MILLED SURFACE IS FINE TEXTURED. THE FINE TEXTURE SHALL BE OBTAINED BY A MILLING MACHINE UTILIZING A MILLING HEAD WITH TEETH SPACING 3/8" OR LESS OPERATING AT LESS THAN 80 FEET PER MINUTE.
- B. THE SURFACE SHALL BE SWEEPED AND CLEANED OF ALL LOOSE MATERIALS.

- C. THE DIFFERENCE IN ELEVATION BETWEEN THE MILLED SURFACE AND THE ADJACENT LANE SHALL NOT EXCEED 1 1/2 INCHES.
- D. THE MILLED SURFACE SHALL BE PAVED WITHIN 48 HOURS.
- E. RAIN OR INCLEMENT WEATHER IS NOT EXPECTED OF FORECASTED WITHIN 48 HOURS AFTER MILLING.
- F. ALL APPLICABLE SIGNING IS INSTALLED IN ACCORDANCE WITH THE MUTCD SIGNING SHALL INCLUDE MOTORCYCLE WARNING SIGNS (TN-64) PLACED IN ADVANCE OF ANY MILLED AREAS.
- G. IF TRAVELING OR DETERIORATION OF THE MILLED SURFACE IS OCCURRING WHILE TRAFFIC IS DRIVING ON THE MILLED SURFACE, THEN THIS PRACTICE WILL NOT BE ALLOWED AND PAVING SHALL BE COMPLETED IMMEDIATELY AFTER MILLING.
- H. ONLY ONE LANE IN EACH DIRECTION SHALL HAVE A MILLED SURFACE AT ONE TIME.

EROSION PREVENTION AND SEDIMENT CONTROL NPDES

- (1) REFER TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN, SHEET NO. 12, FOR NOTES REGARDING SEASONAL WORK LIMITATION OR LIMITATION ON THE TOTAL AREA OF EXPOSED SOIL.

ENVIRONMENTAL ECOLOGY

- (1) STAFF FROM THE TDDOT ENVIRONMENTAL DIVISION OR A DESIGNEE WILL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING CONCERNING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR DESIGNATED CONSULTANT WILL NEED TO BE ON-SITE FOR WORK BEING DONE WHICH COULD AFFECT THE STREAM OR SPECIES.
- (2) STAFF FROM THE TDDOT ENVIRONMENTAL DIVISION OR A DESIGNEE WILL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED BRIDGE WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS WHICH MUST BE FOLLOWED.
- (3) ALL BRIDGE PROJECTS WITH THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT IDENTIFIED MUST HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER THE STREAM.

CONSTRUCTABILITY
FIELD
REVIEW

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL
NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	4
CONST.	2014	16945-3473-04	4



COFFEE COUNTY, TENNESSEE

105

WETLAND
MARKER

WETLAND

COFFEE COUNTY,
TENNESSEE

JAMES MURRAY DR.
BEG. PROJ. NO. 16945-2473-04 (ROW)
STA. 100+22.90
N 388777.5706
E 1930636.4932

JAMES MURRAY DR.
BEG. PROJ. NO. 16945-3473-04 (CONST.)
STA. 100+13.52
N 388786.9433
E 1930636.4932

PI 61+15.98
N 388,734.3200
E 1,930,159.0675
Δ 63° 49' 29" (LT)
D 8' 48" 53"
R 650.00
L 724.07
T 404.78
SE EX. FT/PT
DESIGN SPEED 30 MPH
TRANS. LENGTH EXIST.

PT 64+35.27
JOINT PARK BLVD STA. 65+12.47 =
JAMES MURRAY DR. STA. 100+00.00
N 388800.4669
E 1930636.4932

CONTROL POINTS

Point	North	East	Elevation	Feature	GPS POINT	Station	Offset
S04	388803.6958	1930848.9329	1034.7500	XCP	GPS-16-S1A-04A2	61+23.14	25.9564
S05	389122.6317	1929842.3985	1043.9000	XCP	GPS-16-S1A-05R	56+16.93	44.8377

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**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

COORDINATES ARE NAD/83(1995),
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000068 AND TIED TO
THE TORN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

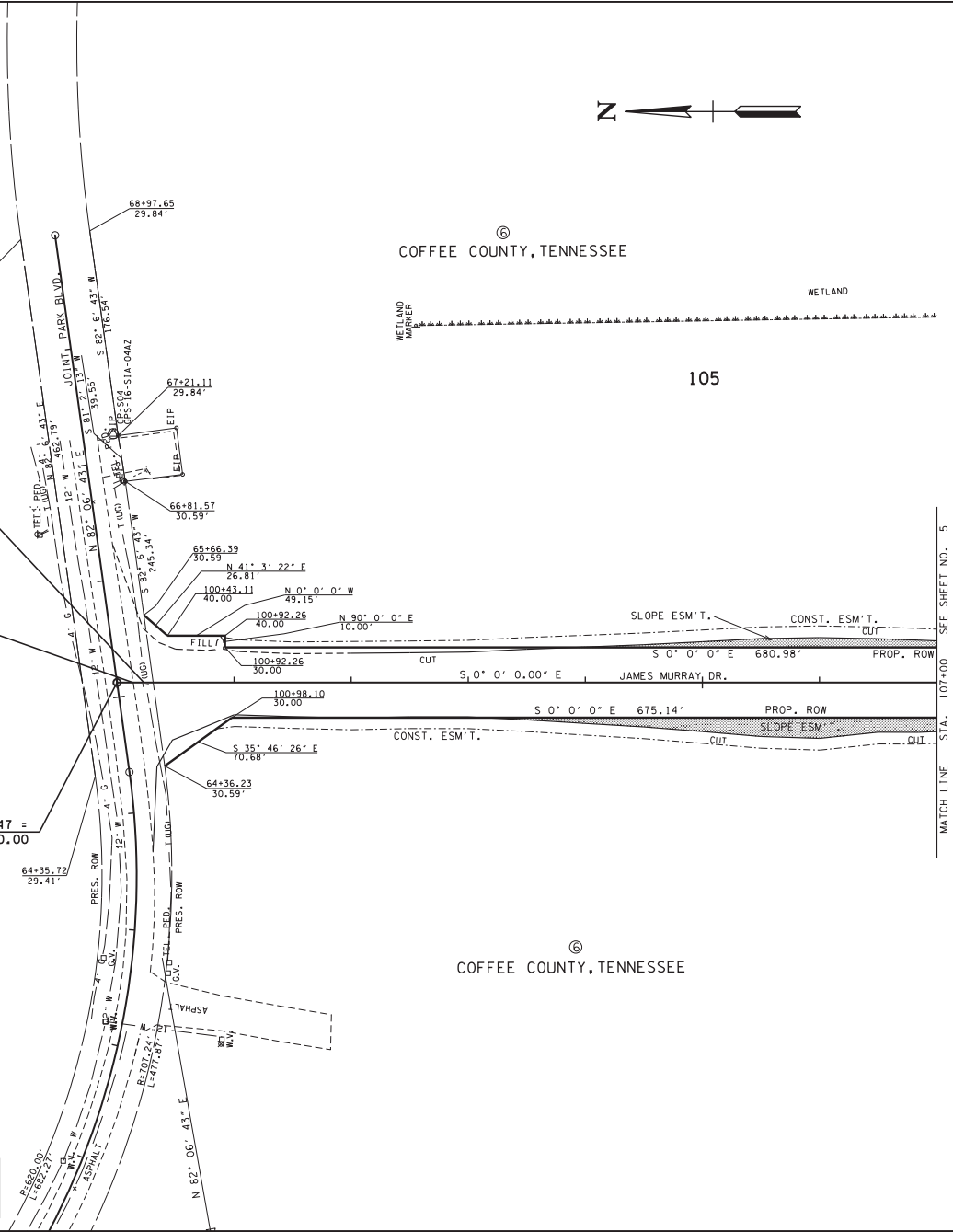
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PRESENT
LAYOUT**

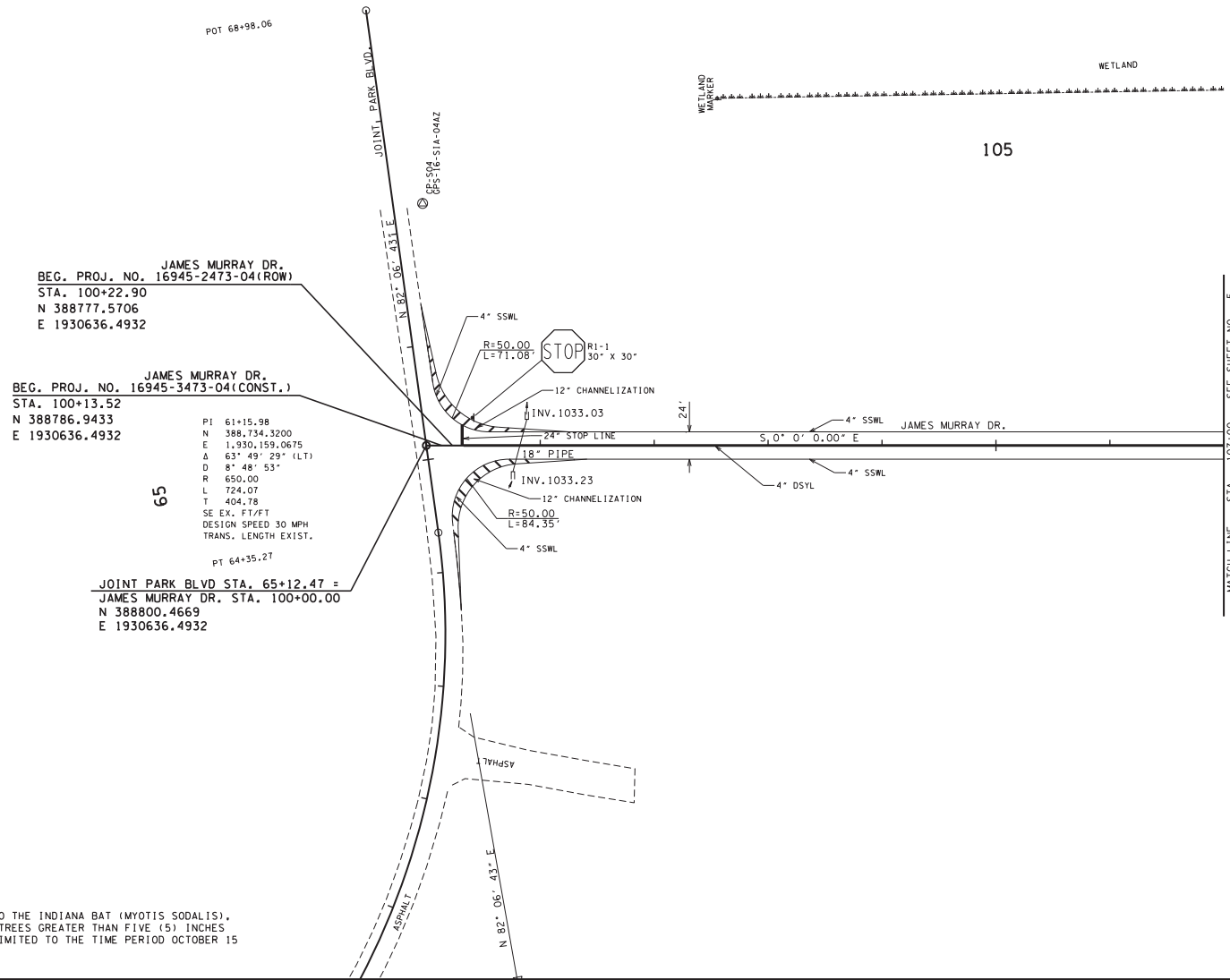
STA. 100+00 TO STA. 107+00

SCALE: 1" = 50'

MATCH LINE STA. 107+00 SEE SHEET NO. 5



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	4A
CONST.	2014	16945-3473-04	4A



**CONSTRUCTABILITY
FIELD
REVIEW**

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PROPOSED
LAYOUT**

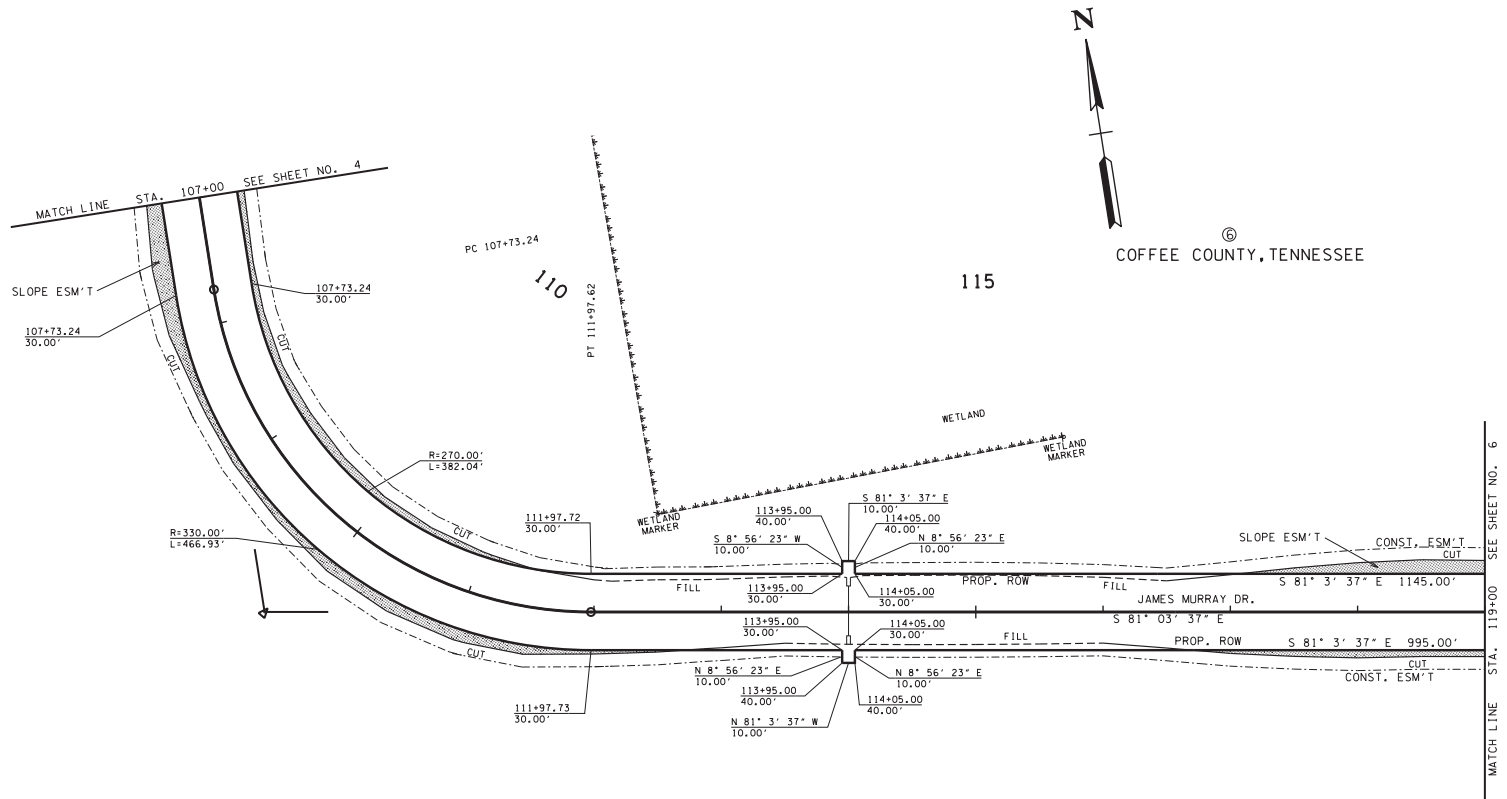
STA. 100+00 TO STA. 107+00

SCALE: 1" = 50'

NOTE:
TO FURTHER MINIMIZE POTENTIAL HARM TO THE INDIANA BAT (MYOTIS SODALIS),
THE USFWS REQUESTS TREE REMOVAL FOR TREES GREATER THAN FIVE (5) INCHES
DIAMETER AT BREAST HEIGHT (DBH) BE LIMITED TO THE TIME PERIOD OCTOBER 15
THROUGH MARCH 31.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	5
CONST.	2014	16945-3473-04	5



CURVE S02
 PI 110+29.70
 N 387,770.7710
 E 1,930,636.4932
 Δ 81° 03' 01" (LT)
 D 19° 05' 55"
 R 300.00
 L 424.38
 T 256.45
 SE 0.078 FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH 177.50

COFFEE COUNTY, TENNESSEE

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 107+00 TO STA. 119+00

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	5A
CONST.	2014	16945-3473-04	5A

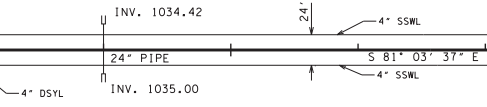
MATCH LINE STA. 107+00 SEE SHEET NO. 4A

PC 107+73.24

110

PT 111+97.62

115



MATCH LINE STA. 119+00 SEE SHEET NO. 6A

CURVE S02
 PI 110+29.70
 N 387,770.7710
 E 1,930,636.4932
 Δ 81° 03' 01" (LT)
 D 19° 05' 55"
 R 300.00
 L 424.38
 T 256.45
 SE 0.078 FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH 177.50

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 107+00 TO STA. 119+00

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	6
CONST.	2014	16945-3473-04	6



120

125

130

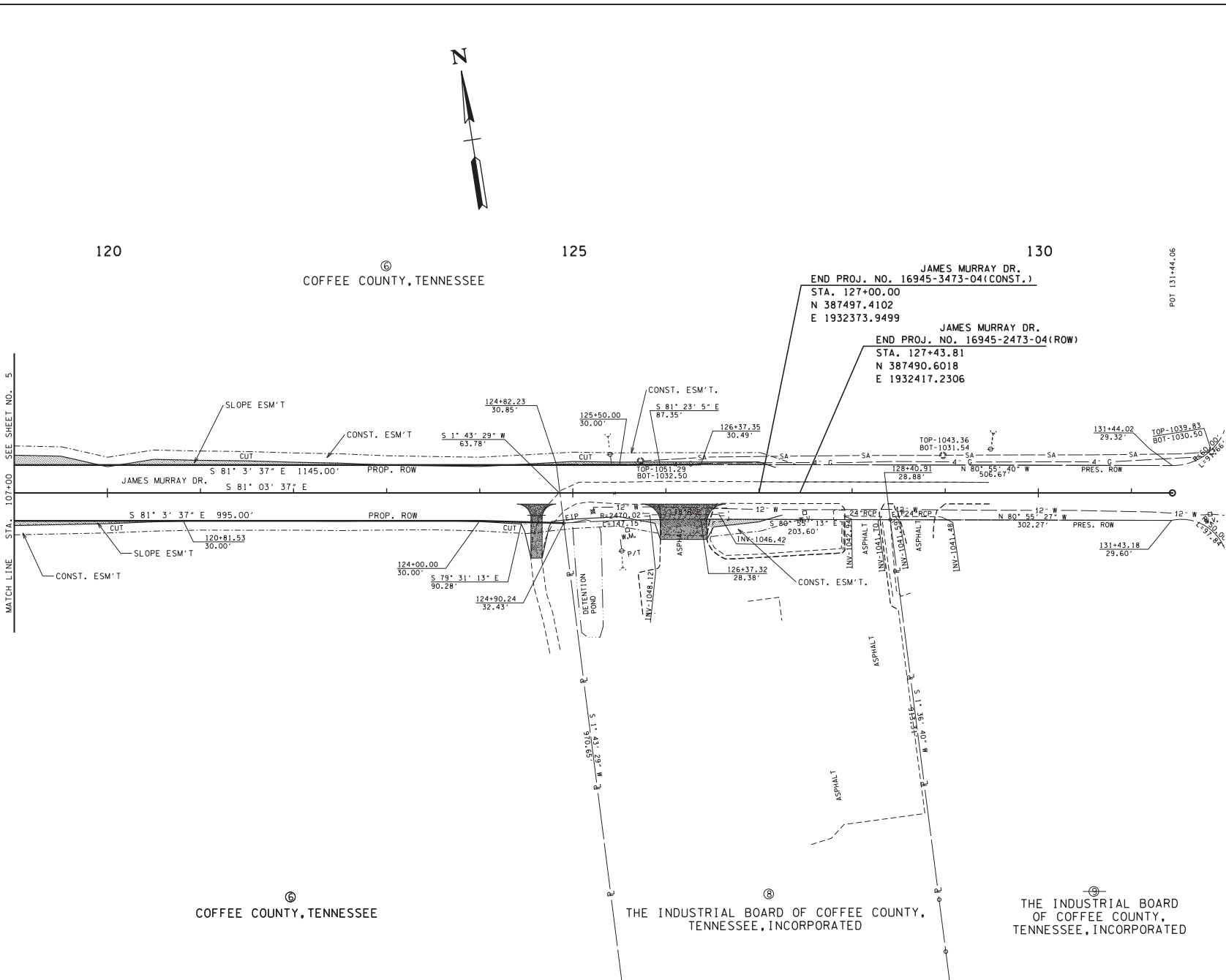
COFFEE COUNTY, TENNESSEE

JAMES MURRAY DR.
END PROJ. NO. 16945-3473-04(CONST.)
STA. 127+00.00
N 387497.4102
E 1932373.9499

JAMES MURRAY DR.
END PROJ. NO. 16945-2473-04(ROW)
STA. 127+43.81
N 387490.6018
E 1932417.2306

POT 131+44.06

MATCH LINE STA. 107+00 SEE SHEET NO. 5



**CONSTRUCTABILITY
FIELD
REVIEW**

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**PRESENT
LAYOUT**
STA. 119+00 TO STA. 131+44
SCALE: 1" = 50'

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COFFEE COUNTY, TENNESSEE

THE INDUSTRIAL BOARD OF COFFEE COUNTY,
TENNESSEE, INCORPORATED

THE INDUSTRIAL BOARD
OF COFFEE COUNTY,
TENNESSEE, INCORPORATED

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	6A
CONST.	2014	16945-3473-04	6A



120

125

130

POT 131+44.06

MATCH LINE STA. 107+00 SEE SHEET NO. 5A

JAMES MURRAY DR.
 END PROJ. NO. 16945-3473-04 (CONST.)
 STA. 127+00.00
 N 387497.4102
 E 1932373.9499

JAMES MURRAY DR.
 END PROJ. NO. 16945-2473-04 (ROW)
 STA. 127+43.81
 N 387490.6018
 E 1932417.2306

TIE TO EXIST.
 PAVEMENT MARKING

127+00.00
 12.00'

127+00.00
 12.00'

LIMIT OF CONST.
 0+70.00

LIMIT OF CONST.
 0+50.00

STA. 124+61.01
 12' PVT. DR.
 20'-18" S.D. RECD.

STA. 126+18.89
 20' PVT. DR.
 EX. S.D. TO REMAIN

15' R
 15' R
 20' R
 20' R

24'
 4" SSWL
 4" SSWL
 S 81° 03' 37" E

4" SSWL
 4" SSWL
 4" DSYL
 4" SSWL

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**CONSTRUCTABILITY
 FIELD
 REVIEW**

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**PROPOSED
 LAYOUT**

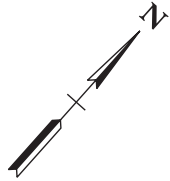
STA. 119+00 TO STA. 131+44

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	7
CONST.	2014	16945-3473-04	7

10

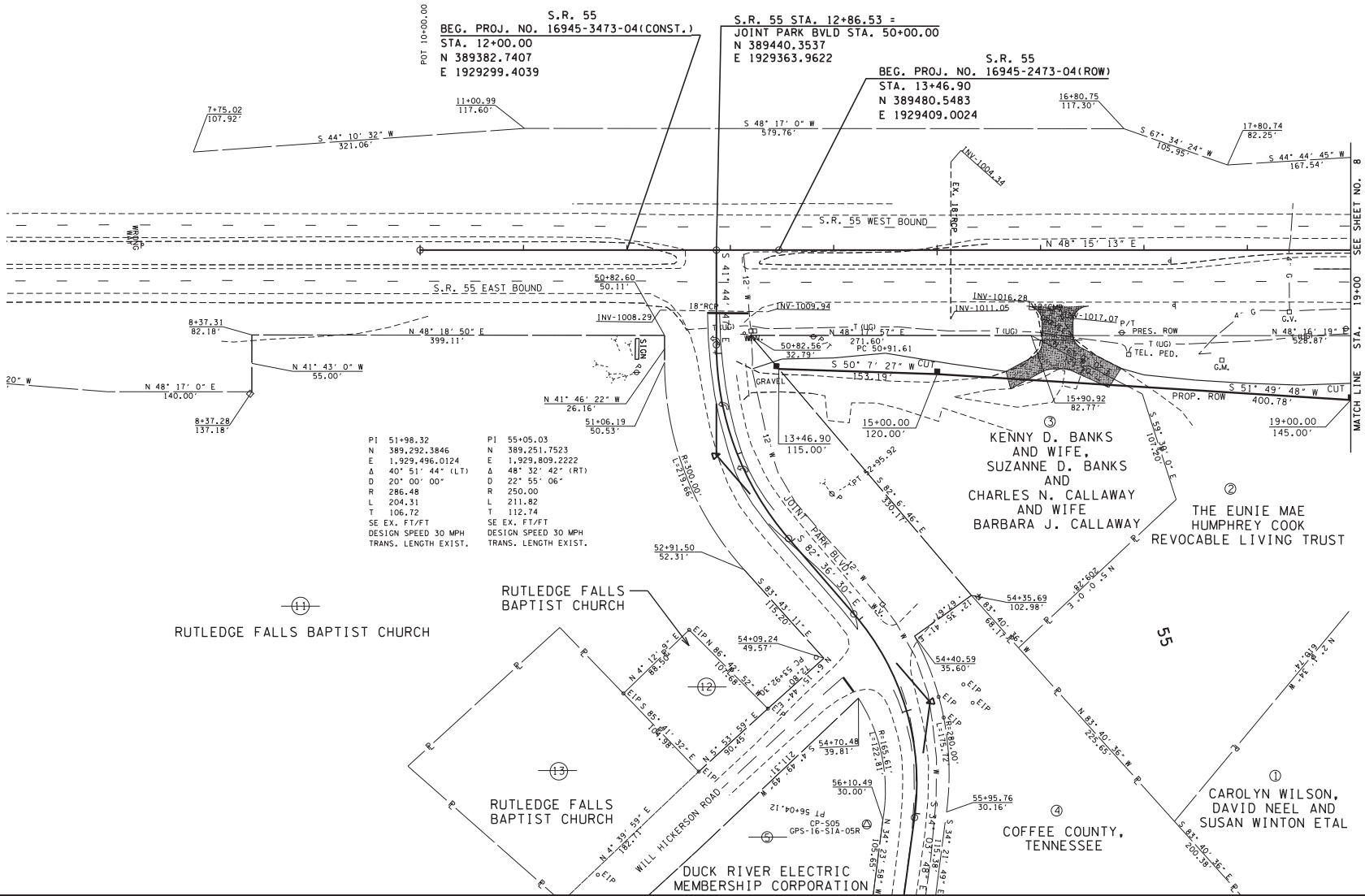
15



S.R. 55
 BEG. PROJ. NO. 16945-3473-04 (CONST.)
 STA. 12+00.00
 N 389382.7407
 E 1929299.4039

S.R. 55 STA. 12+86.53 =
 JOINT PARK BLVD STA. 50+00.00
 N 389440.3537
 E 1929363.9622

S.R. 55
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 13+46.90
 N 389480.5483
 E 1929409.0024



PI 51+98.32
 N 389,292.3846
 E 1,929,496.0124
 Δ 40° 51' 44" (LT)
 D 20' 00' 00"
 R 286.48
 L 204.31
 T 106.72
 SE EX. FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EXIST.

PI 55+05.03
 N 389,251.7523
 E 1,929,809.2222
 Δ 48° 32' 42" (RT)
 D 22° 55' 06"
 R 250.00
 L 211.82
 T 112.74
 SE EX. FT/FT
 DESIGN SPEED 30 MPH
 TRANS. LENGTH EXIST.

RUTLEDGE FALLS BAPTIST CHURCH

RUTLEDGE FALLS BAPTIST CHURCH

RUTLEDGE FALLS BAPTIST CHURCH

DUCK RIVER ELECTRIC MEMBERSHIP CORPORATION

KENNY D. BANKS AND WIFE,
 SUZANNE D. BANKS AND
 CHARLES N. CALLAWAY AND WIFE
 BARBARA J. CALLAWAY

THE EUNIE MAE HUMPHREY COOK REVOCABLE LIVING TRUST

COFFEE COUNTY, TENNESSEE

CAROLYN WILSON, DAVID NEEL AND SUSAN WINTON ETAL

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 10+00 TO STA. 19+00

SCALE: 1" = 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	7A
CONST.	2014	16945-3473-04	7A

10

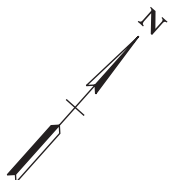
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POT 10+00.00

S.R. 55
 BEG. PROJ. NO. 16945-3473-04 (CONST.)
 STA. 12+00.00
 N 389382.7407
 E 1929299.4039

S.R. 55 STA. 12+86.53 =
 JOINT PARK BLVD STA. 50+00.00
 N 389440.3537
 E 1929363.9622

S.R. 55
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 13+46.90
 N 389480.5483
 E 1929409.0024



R1-1
30' X 30'
 R6-1R
36' X 12'

INV. 1004.34

B1-DIRECTIONAL
 2 COLOR SNOW
 FLOWABLE MARKERS
 AT 80' C TO C.

MATCH LINE STA. 19+00 SEE SHEET NO. 8A

P1 51+98.32	P1 55+05.03
N 389,292.3846	N 389,251.7523
E 1,929,496.0124	E 1,929,809.2222
Δ 40° 51' 44" (LT)	Δ 48° 32' 42" (RT)
D 20' 00' 00"	D 22' 55' 06"
R 286.48	R 250.00
L 204.31	L 211.82
T 106.72	T 112.74
SE EX. FT/FT	SE EX. FT/FT
DESIGN SPEED 30 MPH	DESIGN SPEED 30 MPH
TRANS. LENGTH EXIST.	TRANS. LENGTH EXIST.

LIMIT OF CONST.
51+22.86

LIMIT OF CONST.
1+15.00

55

CONSTRUCTABILITY FIELD REVIEW

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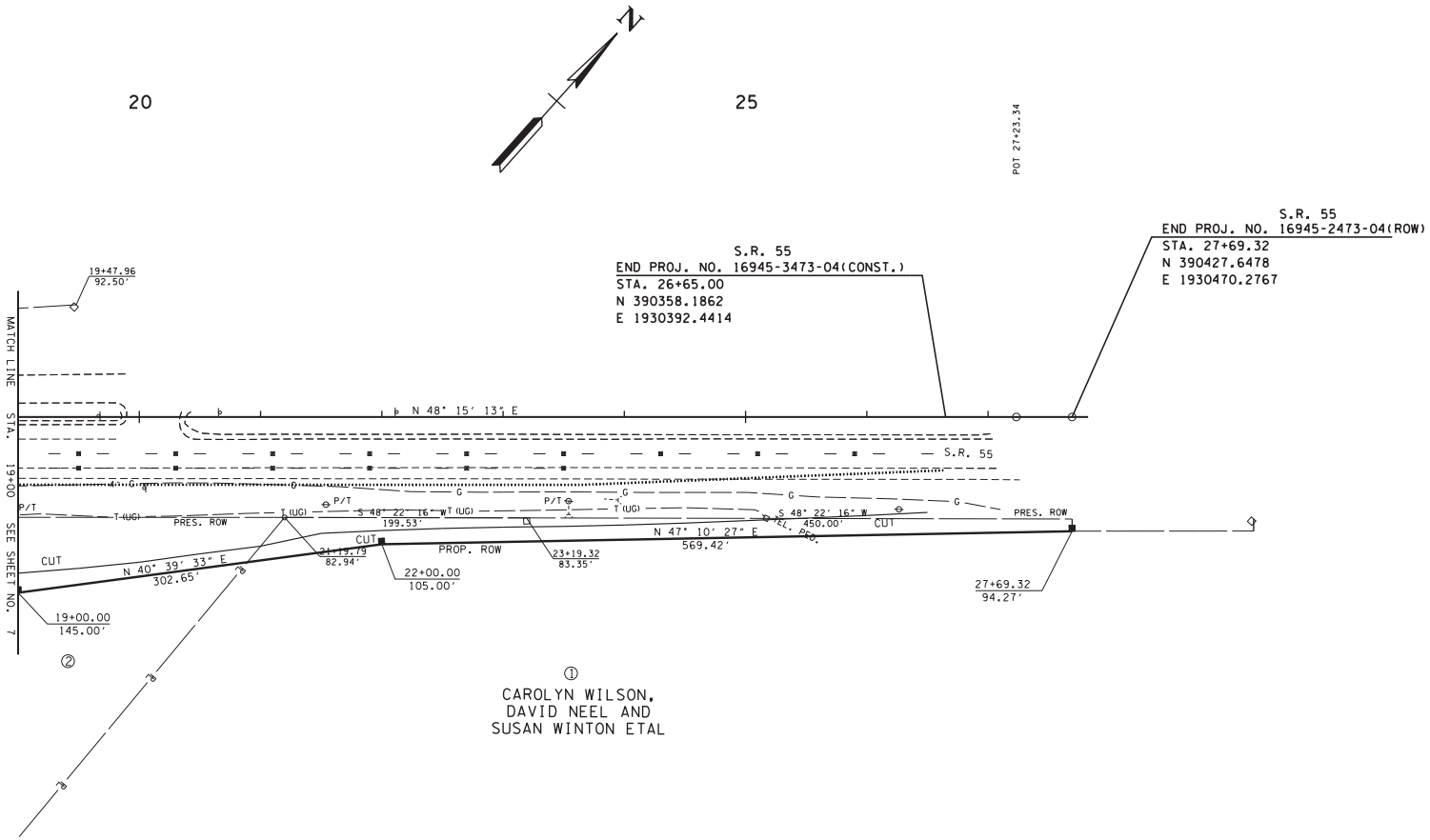
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 10+00 TO STA. 19+00

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	8
CONST.	2014	16945-3473-04	8



①
 CAROLYN WILSON,
 DAVID NEEL AND
 SUSAN WINTON ET AL

**CONSTRUCTABILITY
 FIELD
 REVIEW**

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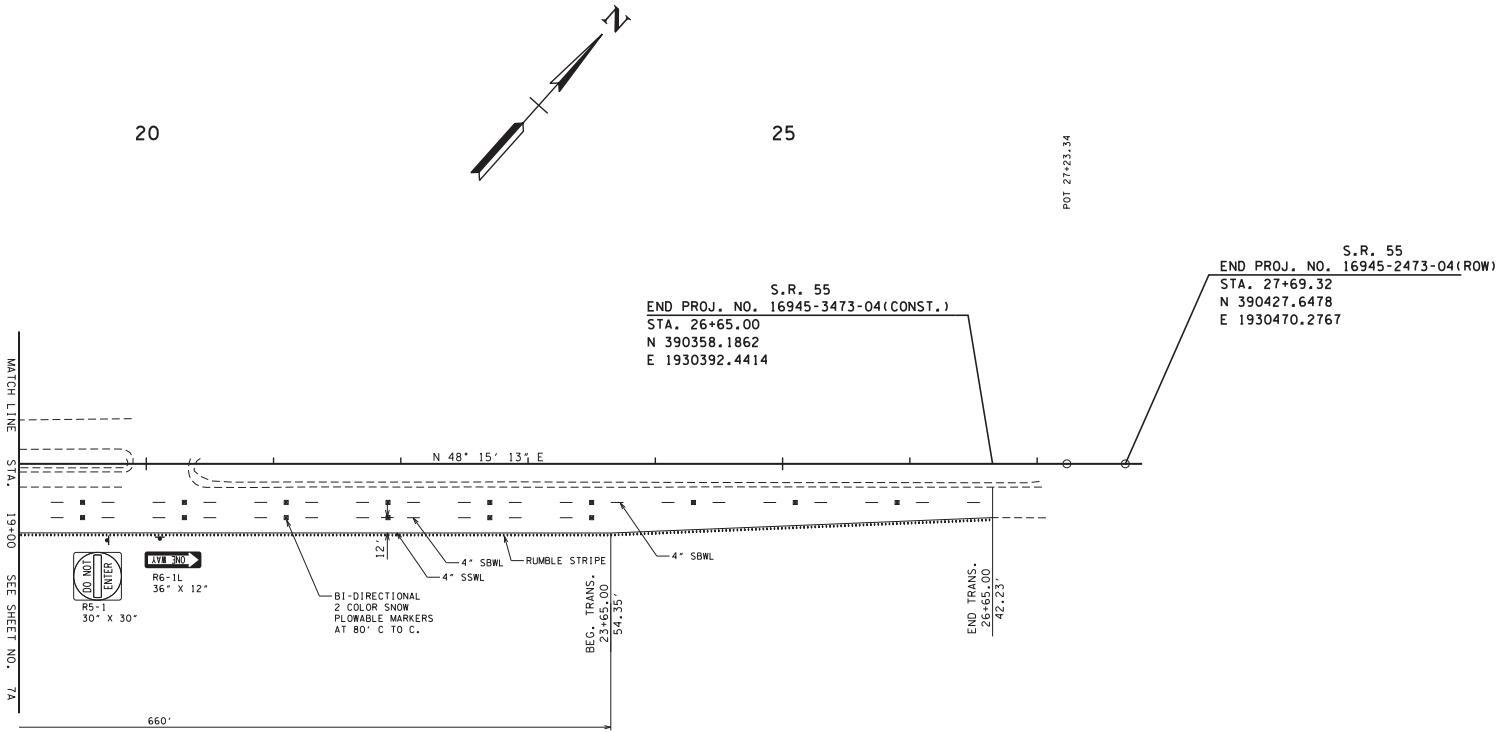
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**PRESENT
 LAYOUT**

STA. 19+00 TO STA. 27+00

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	8A
CONST.	2014	16945-3473-04	8A



CONSTRUCTABILITY FIELD REVIEW

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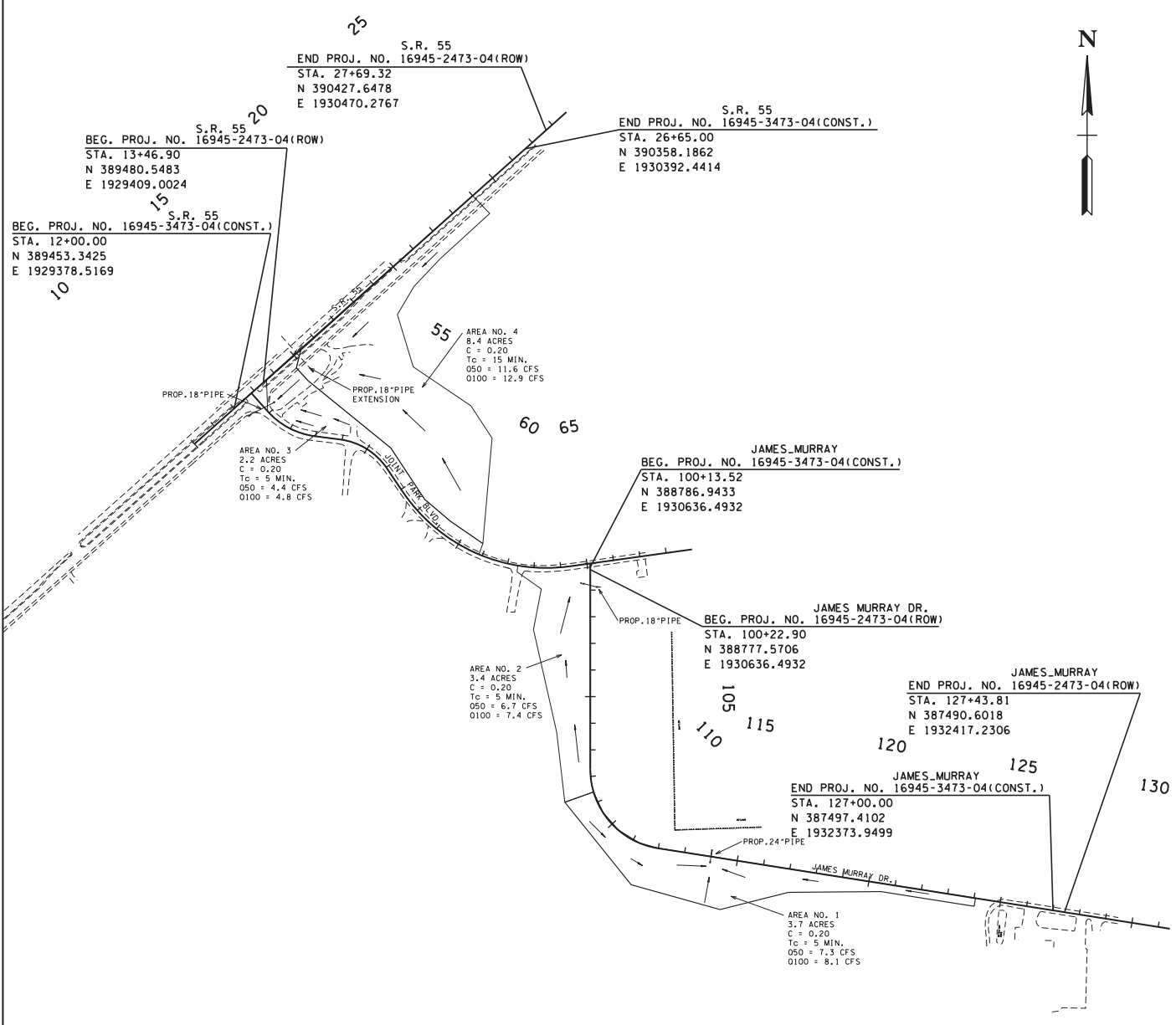
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED
LAYOUT

STA. 19+00 TO STA. 27+00

SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	10
CONST.	2014	16945-3473-04	10



**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

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DEPARTMENT OF TRANSPORTATION

**DRAINAGE
MAP**

STA. 100+00 TO STA. 130+00
SCALE: 1"=200'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12
CONST.	2014	16945-3473-04	12

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

STREAM/WETLAND

- (1) ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., FOR PIER FOOTING, RIP-RAP PLACEMENT, MULTI-BARREL CULVERT/BRIDGE CONSTRUCTION, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR THE TEMPORARY DIVERSION CHANNELS, EC-STR-31 AND TEMPORARY DIVERSION CULVERTS, EC-STR-32 FOR SINGLE BARREL CULVERT CONSTRUCTION.
- (2) A 30 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM SHALL BE PRESERVED, TO THE MAXIMUM EXTENT PRACTICABLE, DURING CONSTRUCTION ACTIVITIES AT THE SITE. BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND SHOULD NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES. BEST MANAGEMENT PRACTICES (BMPs) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MAY BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE SWPPP BEFORE DISURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CONSTRUCTION GENERAL PERMIT, WHERE ISSUED, AR/PA/01 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

NPDES

- (3) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN CONTAINED IN THE APPROVED SWPPP.
- (4) THE EPSC MEASURES AND/OR PLAN SHALL BE MODIFIED AS NECESSARY SO THAT THEY ARE EFFECTIVE AT ALL TIMES THROUGHOUT THE COURSE OF THE PROJECT.
- (5) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES, INCLUDING WITHOUT LIMITATION AS FOLLOWS:
- A. INITIAL CLEARING AND GRUBBING SHALL BE LIMITED TO THAT NECESSARY FOR THE INSTALLATION OF APPLICABLE EPSC MEASURES IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - B. NO OTHER CLEARING AND GRUBBING OPERATIONS SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - C. NO CULVERT OR BRIDGE CONSTRUCTION SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
 - D. NO GRADING, EXCAVATION, CUTTING, FILLING, OR OTHER EARTHWORK SHALL BE STARTED BEFORE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
- (6) PERMANENT EPSC MEASURES SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED

- GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER-RUN WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE.
- (7) STEEP SLOPES (A NATURAL OR CREATED SLOPE OF 35% GRADE (2:1H:1V) OR GREATER REGARDLESS OF HEIGHT) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED.
- (8) FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SUPPORT ACTIVITIES, TDOT PROJECTS ARE COVERED UNDER THE "WASTE AND BORROW" MANUAL PER THE SSWMP.
- (9) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

UTILITY RELOCATION

- (10) RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND MAINTAINED.
- (11) SILT FENCE SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.
- (12) UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO UTILITIES IN THIS PROJECT IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC). THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLANS (SWPPP).
- (13) IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM THEIR OPERATIONS AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM THEIR OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE/US.
- (14) FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SOEDED DAILY IF POSSIBLE, BUT NO LATER THAN SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOIL OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.
- (15) IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC), TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS IN THIS PROJECT. THEREFORE, THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTIONS PREVENTION PLANS (SWPPP). THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT WORK.
- (16) TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORM WATER RUNOFF TO CONCENTRATE AT THE TRENCHLINE. ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT ENGINEER.
- (17) FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT RIGHT-OF-WAY, EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.

- (18) THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS (AS APPROVED BY THE TDOT PROJECT ENGINEER).
- (19) THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES TO REPLACE IN-PLACE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT PROJECT ENGINEER BEFORE COMMENCING WORK.

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	HIGH VISIBILITY FENCE	S-F-1
	SILT FENCE	EC-STR-3B
	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ROCK CHECK DAM (V-DITCH)	EC-STR-6
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
	CULVERT PROTECTION (TYPE I)	EC-STR-11
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	EROSION CONTROL BLANKET	EC-STR-34

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
209-05	SEDIMENT REMOVAL	C.Y.	162
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	560
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	420
209-08.07	ROCK CHECK DAM PER	EACH	9
209-08.08	ENHANCED ROCK CHECK DAM	EACH	2
303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	13
621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	88
707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	1170
709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	150
709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	68
740-10.03	GEO-TEXTILE (TYPE III) (EROSION CONTROL)	S.Y.	2477
805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	15538

CONSTRUCTABILITY
FIELD
REVIEW

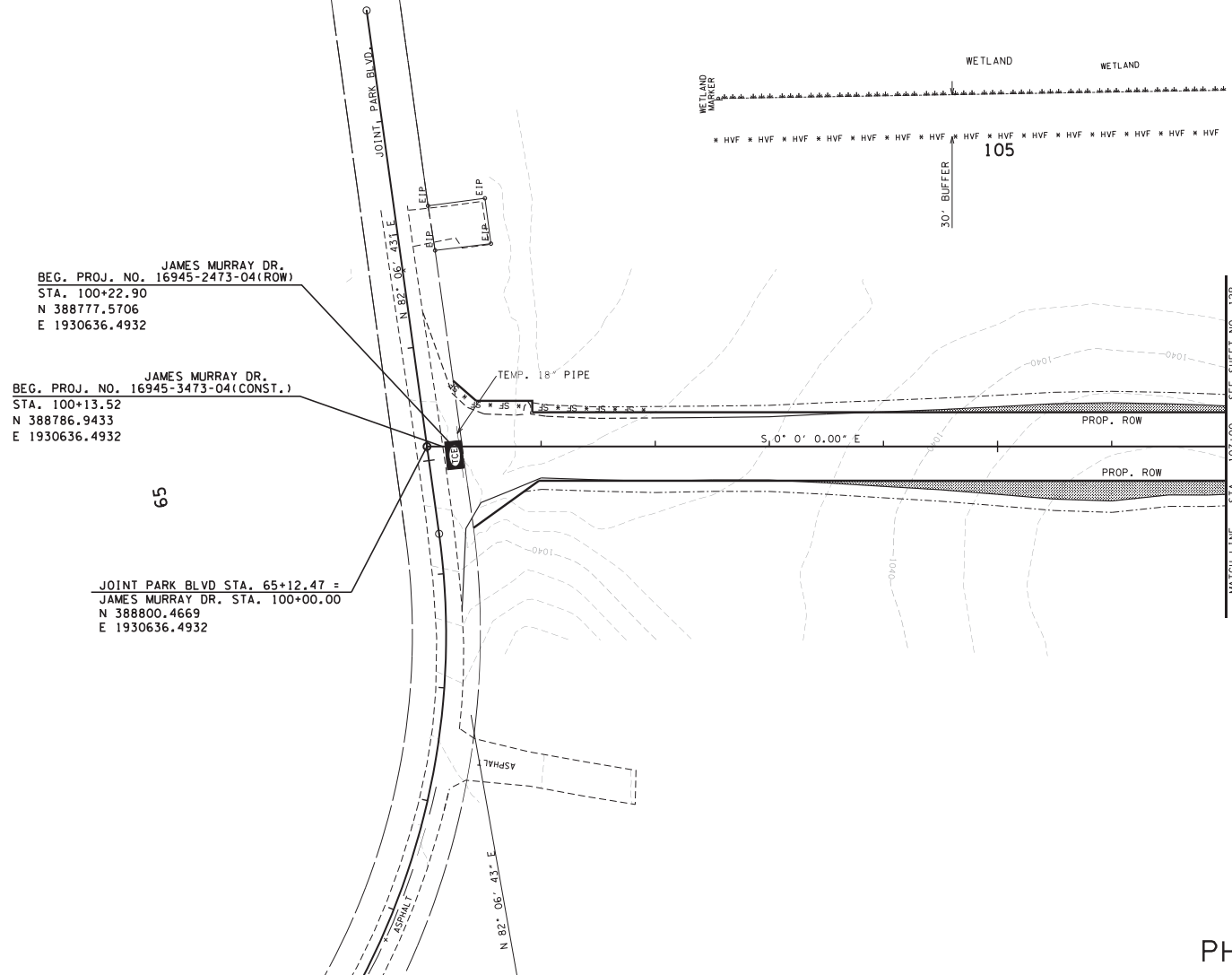
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION
PREVENTION
AND SEDIMENT
CONTROL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12A
CONST.	2014	16945-3473-04	12A

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
◆ SF ◆ SF ◆ SF ◆	SILT FENCE	EC-STR-3B
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1



JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 100+22.90
 N 388777.5706
 E 1930636.4932

JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-3473-04 (CONST.)
 STA. 100+13.52
 N 388786.9433
 E 1930636.4932

JOINT PARK BLVD STA. 65+12.47 =
 JAMES MURRAY DR. STA. 100+00.00
 N 388800.4669
 E 1930636.4932

**CONSTRUCTABILITY
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

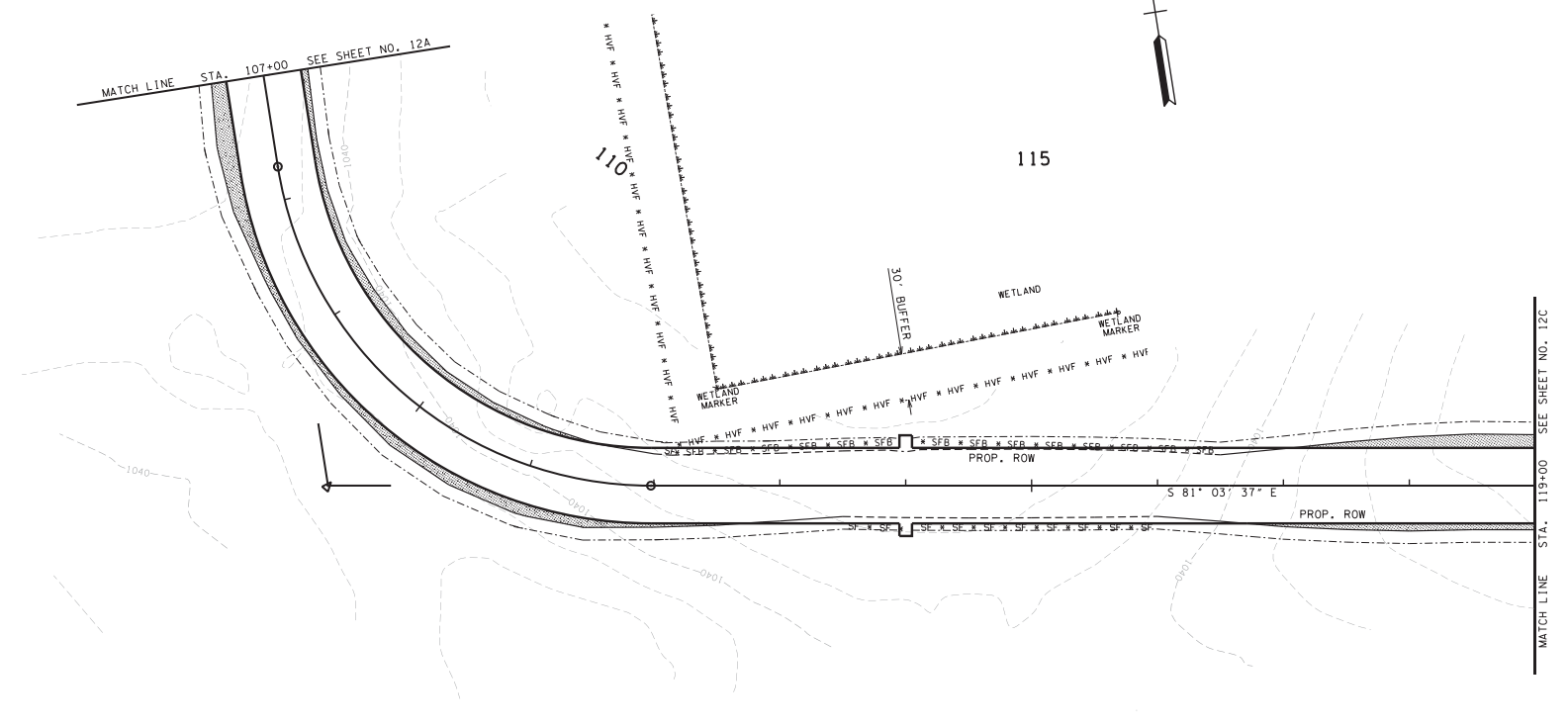
**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**
 STA. 100+00 TO STA. 107+00
 SCALE: 1" = 50'

PHASE 1

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12B
CONST.	2014	16945-3473-04	12B

MATCH LINE STA. 107+00 SEE SHEET NO. 12A



EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
• SF • SF • SF •	SILT FENCE	EC-STR-3B
× HVF × HVF	HIGH VISIBILITY FENCE	S-F-1
• SFB • SFB • SFB •	SILT FENCE WITH WIRE BACKING	EC-STR-3C

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN
STA. 107+00 TO STA. 119+00
SCALE: 1" = 50'

PHASE 1

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12C
CONST.	2014	16945-3473-04	12C

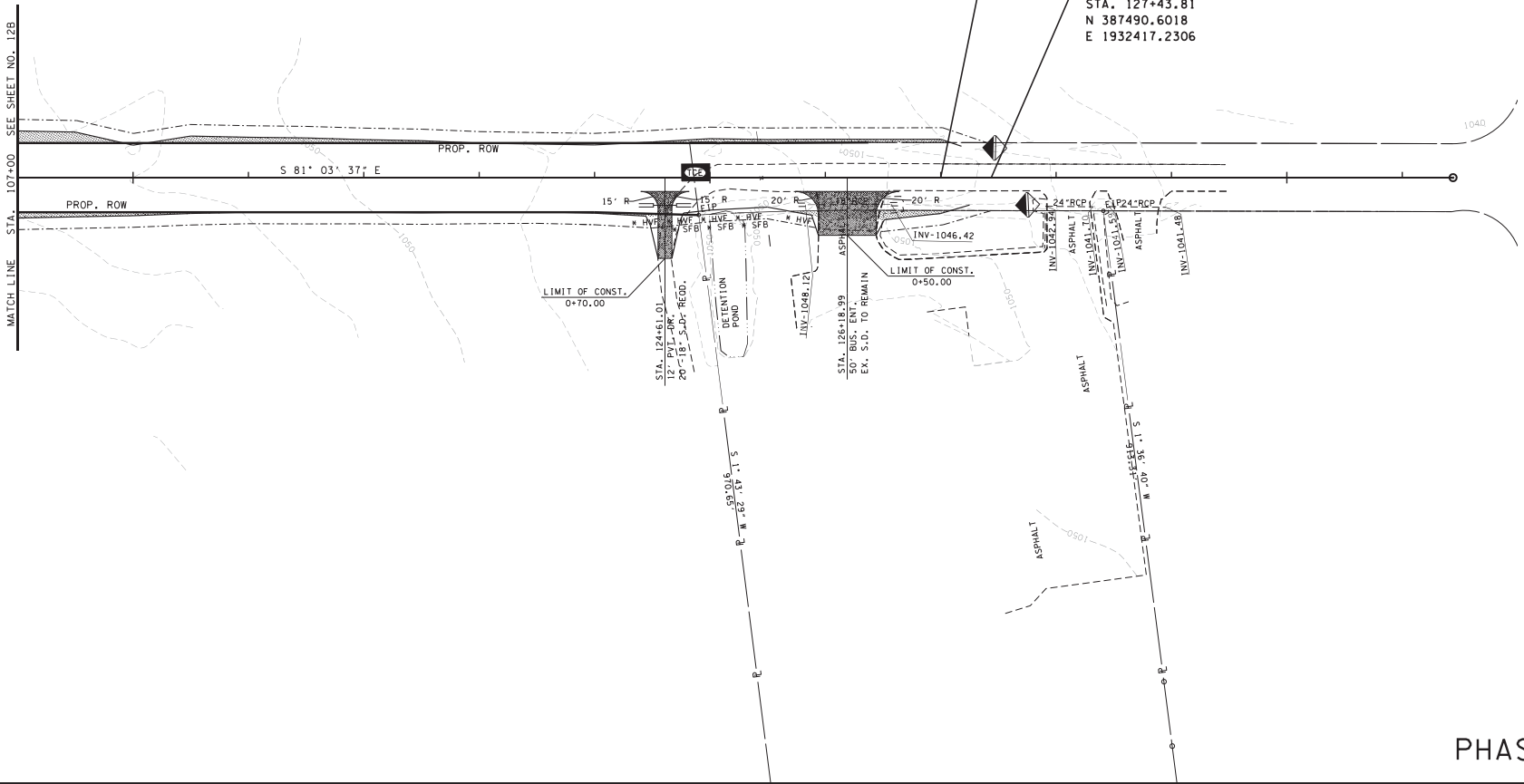
EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
•SFB•SFB•SFB•	SILT FENCE WITH WIRE BACKING	EC-STR-3C
◀▶	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
⊠	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1



120

125

130



JAMES MURRAY DR.
 END PROJ. NO. 16945-3473-04 (CONST.)
 STA. 127+00.00
 N 387497.4102
 E 1932373.9499

JAMES MURRAY DR.
 END PROJ. NO. 16945-2473-04 (ROW)
 STA. 127+43.81
 N 387490.6018
 E 1932417.2306

POT 131+44.06

**CONSTRUCTABILITY
 FIELD
 REVIEW**

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**
 STA. 119+00 TO STA. 131+44
 SCALE: 1" = 50'

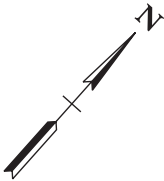
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12D
CONST.	2014	16945-3473-04	12D

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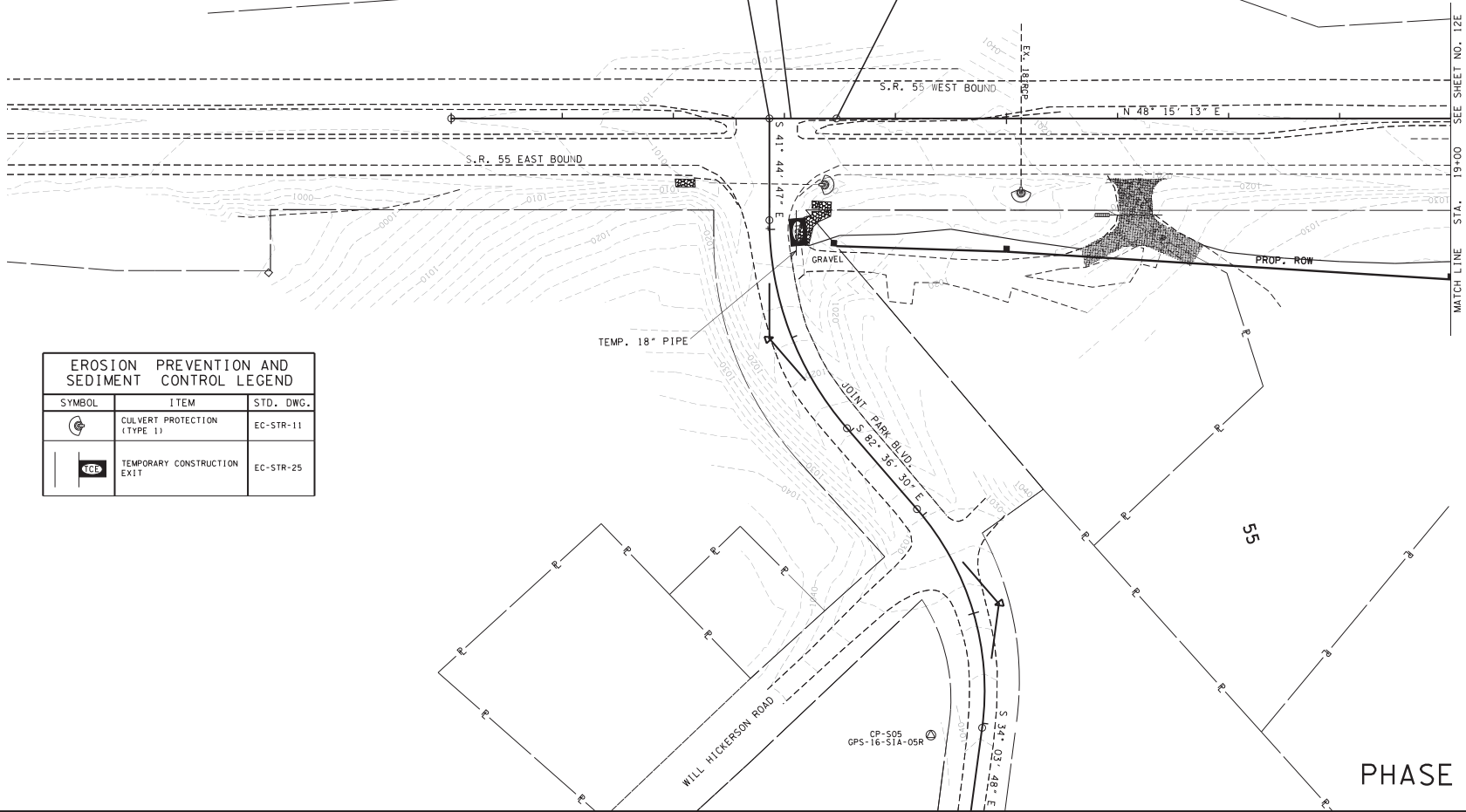
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S.R. 55 STA. 12+86.53 =
JOINT PARK BLVD STA. 50+00.00
N 389440.3537
E 1929363.9622

S.R. 55
BEG. PROJ. NO. 16945-3473-04 (CONST.)
STA. 13+06.04
N 389453.3425
E 1929378.5169

S.R. 55
BEG. PROJ. NO. 16945-2473-04 (ROW)
STA. 13+46.90
N 389480.5483
E 1929409.0024



MATCH LINE STA. 19+00 SEE SHEET NO. 12E

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	CULVERT PROTECTION (TYPE 1)	EC-STR-11
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25

**CONSTRUCTABILITY
FIELD
REVIEW**

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN**

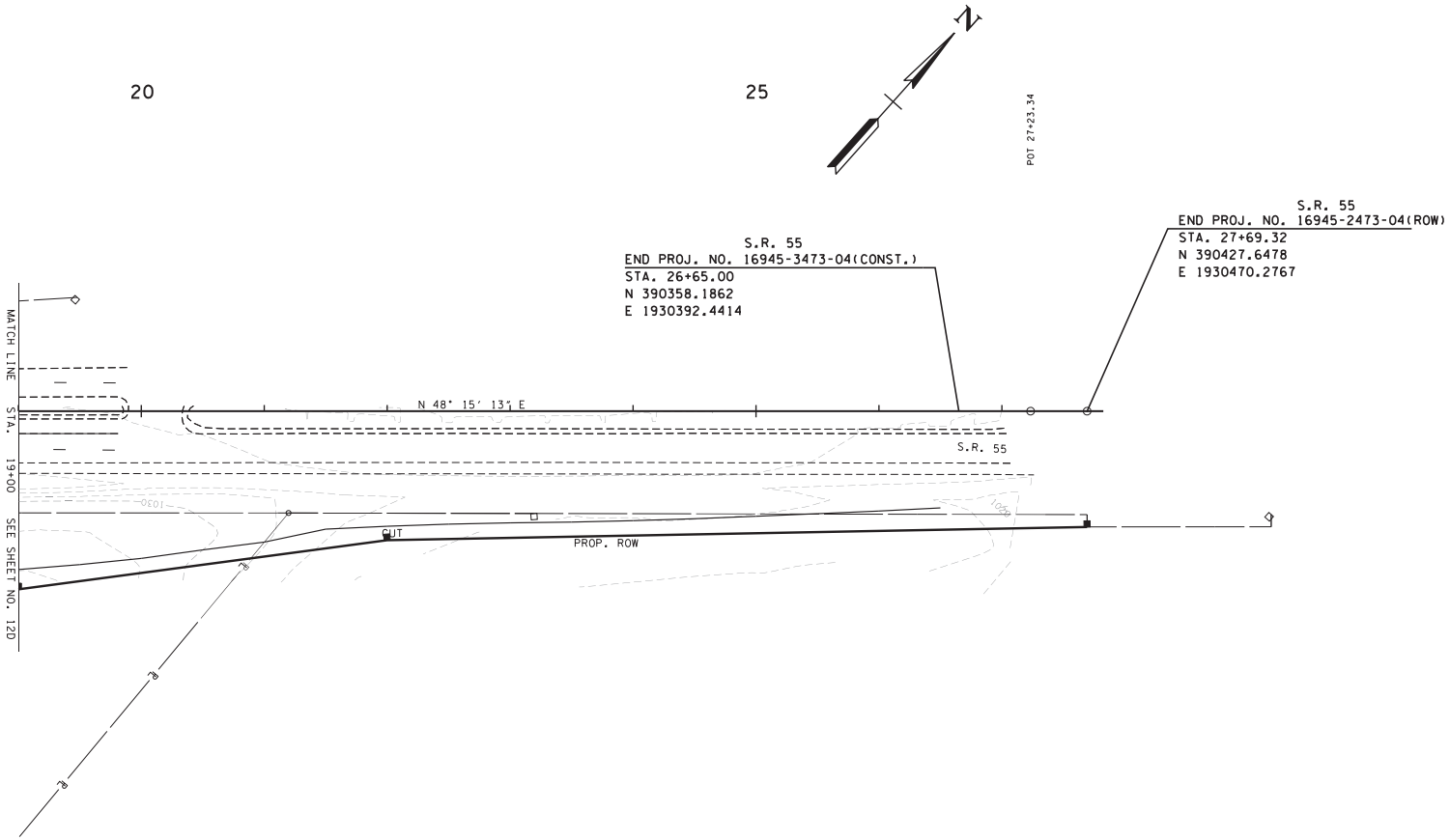
STA. 10+00 TO STA. 19+00
SCALE: 1" = 50'

PHASE 1

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GPS-16-S1A-05R

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	12E
CONST.	2014	16945-3473-04	12E



CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN
STA. 19+00 TO STA. 27+00
SCALE: 1" = 50'

PHASE 1

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	13
CONST.	2014	16945-3473-04	13

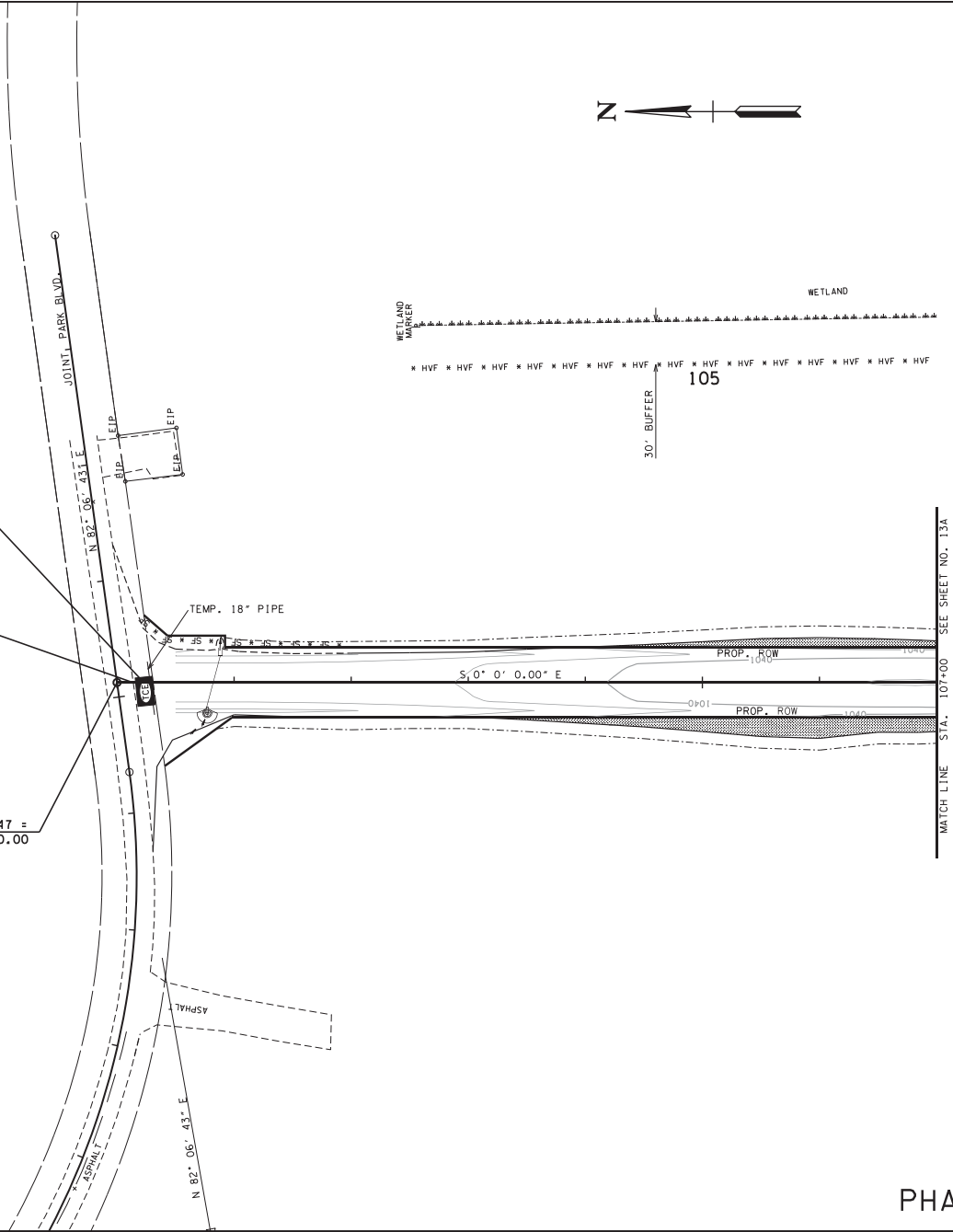
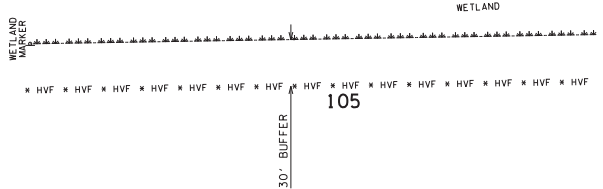
EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
* SF * SF * SF *	SILT FENCE	EC-STR-3B
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
* HVF * HVF *	HIGH VISIBILITY FENCE	S-F-1
	CULVERT PROTECTION (TYPE 1)	EC-STR-11



JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 100+22.90
 N 388777.5706
 E 1930636.4932

JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-3473-04 (CONST.)
 STA. 100+13.52
 N 388786.9433
 E 1930636.4932

JOINT PARK BLVD STA. 65+12.47 =
 JAMES MURRAY DR. STA. 100+00.00
 N 388800.4669
 E 1930636.4932



MATCH LINE STA. 107+00 SEE SHEET NO. 13A

CONSTRUCTABILITY FIELD REVIEW

SEALED BY

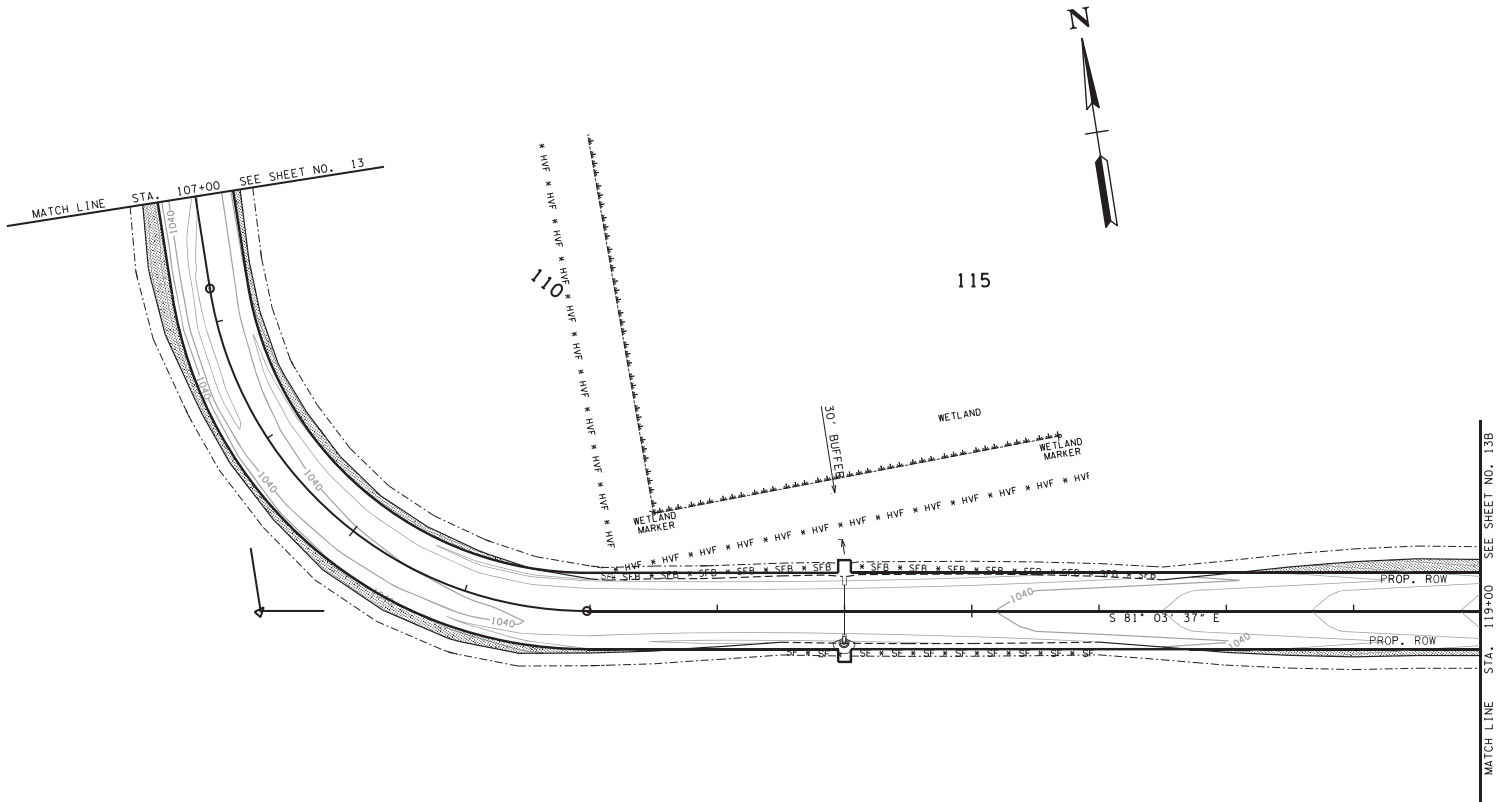
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**
 STA. 100+00 TO STA. 107+00
 SCALE: 1" = 50'

PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	13A
CONST.	2014	16945-3473-04	13A



EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1
(Symbol)	CULVERT PROTECTION (TYPE 1)	EC-STR-11
* SFB * SFB * SFB	SILT FENCE WITH WIRE BACKING	EC-STR-3C

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN
STA. 107+00 TO STA. 119+00
SCALE: 1" = 50'

PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	13B
CONST.	2014	16945-3473-04	13B

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
•SFB•SFB•SFB	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1



120

125

130

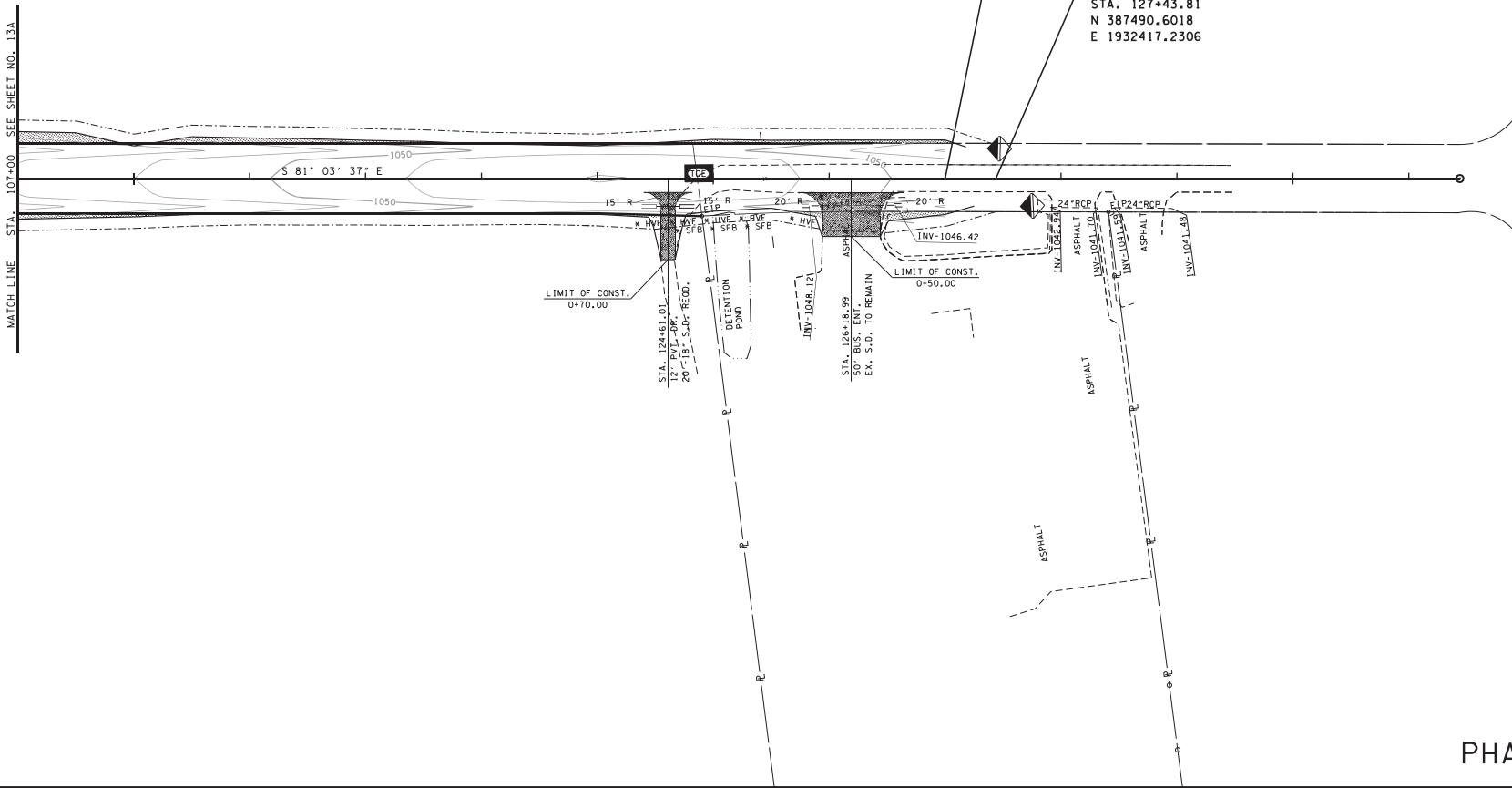
MATCH LINE STA. 107+00 SEE SHEET NO. 13A

JAMES MURRAY DR.
 END PROJ. NO. 16945-3473-04 (CONST.)
 STA. 127+00.00
 N 387497.4102
 E 1932373.9499

JAMES MURRAY DR.
 END PROJ. NO. 16945-2473-04 (ROW)
 STA. 127+43.81
 N 387490.6018
 E 1932417.2306

POT 131+44.06

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**CONSTRUCTABILITY
 FIELD
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

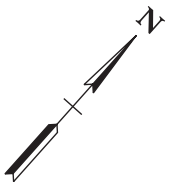
**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**
 STA. 119+00 TO STA. 131+44
 SCALE: 1" = 50'

PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	13C
CONST.	2014	16945-3473-04	13C

10

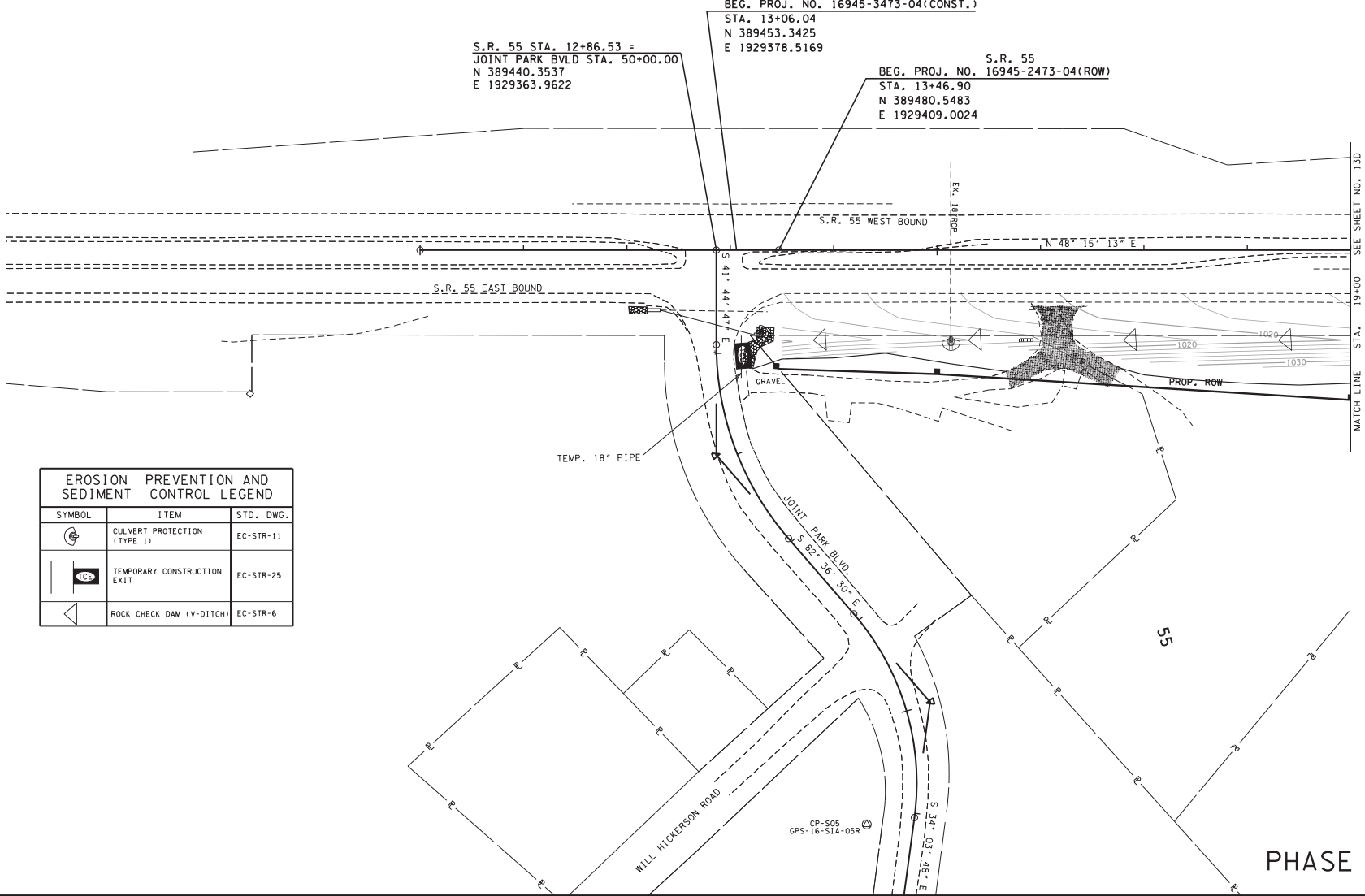
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S.R. 55 STA. 12+86.53 =
JOINT PARK BLVD STA. 50+00.00
N 389440.3537
E 1929363.9622

S.R. 55
BEG. PROJ. NO. 16945-3473-04 (CONST.)
STA. 13+06.04
N 389453.3425
E 1929378.5169

S.R. 55
BEG. PROJ. NO. 16945-2473-04 (ROW)
STA. 13+46.90
N 389480.5483
E 1929409.0024



EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	CULVERT PROTECTION (TYPE 1)	EC-STR-11
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	ROCK CHECK DAM (V-DITCH)	EC-STR-6

**CONSTRUCTABILITY
FIELD
REVIEW**

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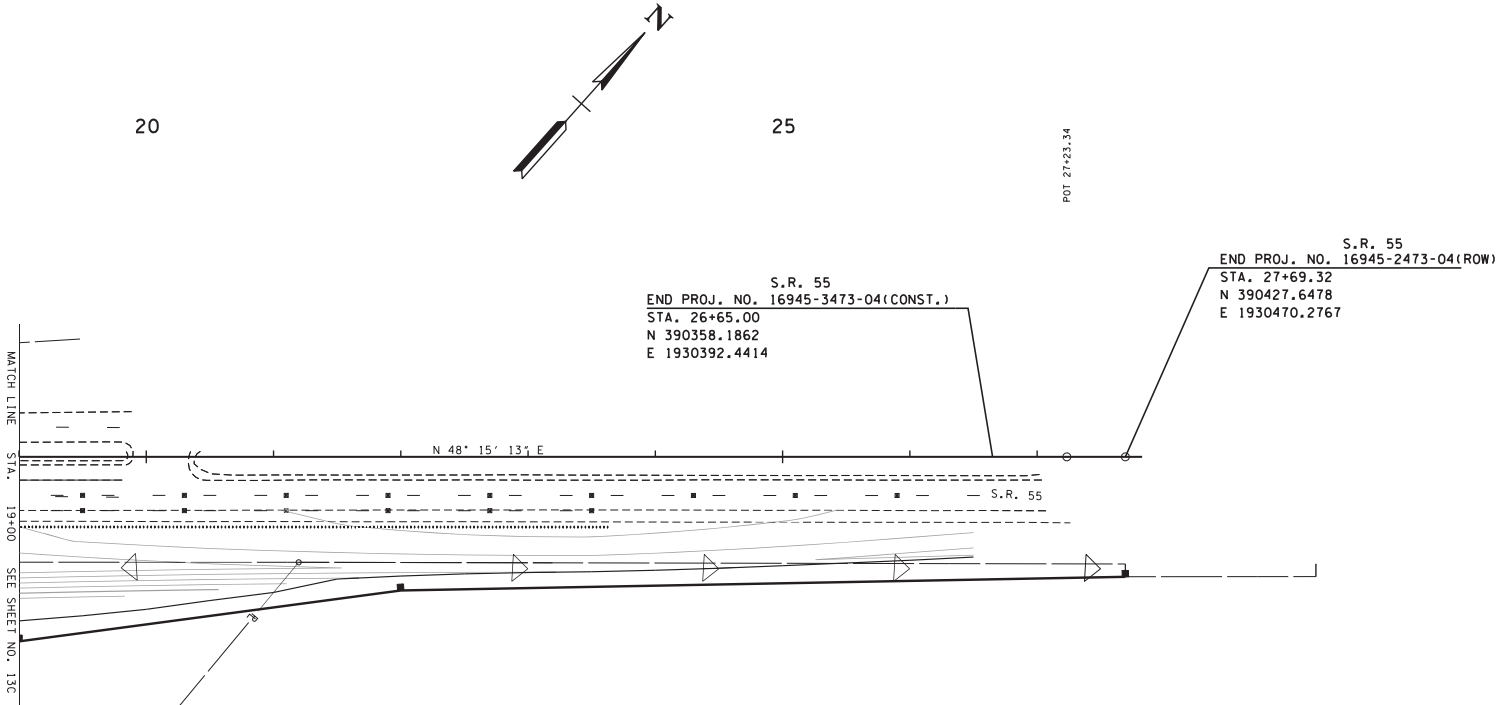
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN**
STA. 10+00 TO STA. 19+00
SCALE: 1"= 50'

PHASE 2

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	13D
CONST.	2014	16945-3473-04	13D



EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	ROCK CHECK DAM (V-DITCH)	EC-STR-6

CONSTRUCTABILITY FIELD REVIEW

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN
STA. 19+00 TO STA. 27+00
SCALE: 1" = 50'

PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	14
CONST.	2014	16945-3473-04	14

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	EROSION CONTROL BLANKET	EC-STR-34



JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-2473-04 (ROW)
 STA. 100+22.90
 N 388777.5706
 E 1930636.4932

JAMES MURRAY DR.
 BEG. PROJ. NO. 16945-3473-04 (CONST.)
 STA. 100+13.52
 N 388786.9433
 E 1930636.4932

JOINT PARK BLVD STA. 65+12.47 =
 JAMES MURRAY DR. STA. 100+00.00
 N 388800.4669
 E 1930636.4932

JOINT PARK BLVD.

N 82° 06' 43" E

N 82° 06' 43" E

WETLAND
 MARKER

WETLAND

105

65

S 0° 0' 0.00" E

MATCH LINE STA. 107+00 SEE SHEET NO. 144

**CONSTRUCTABILITY
 FIELD
 REVIEW**

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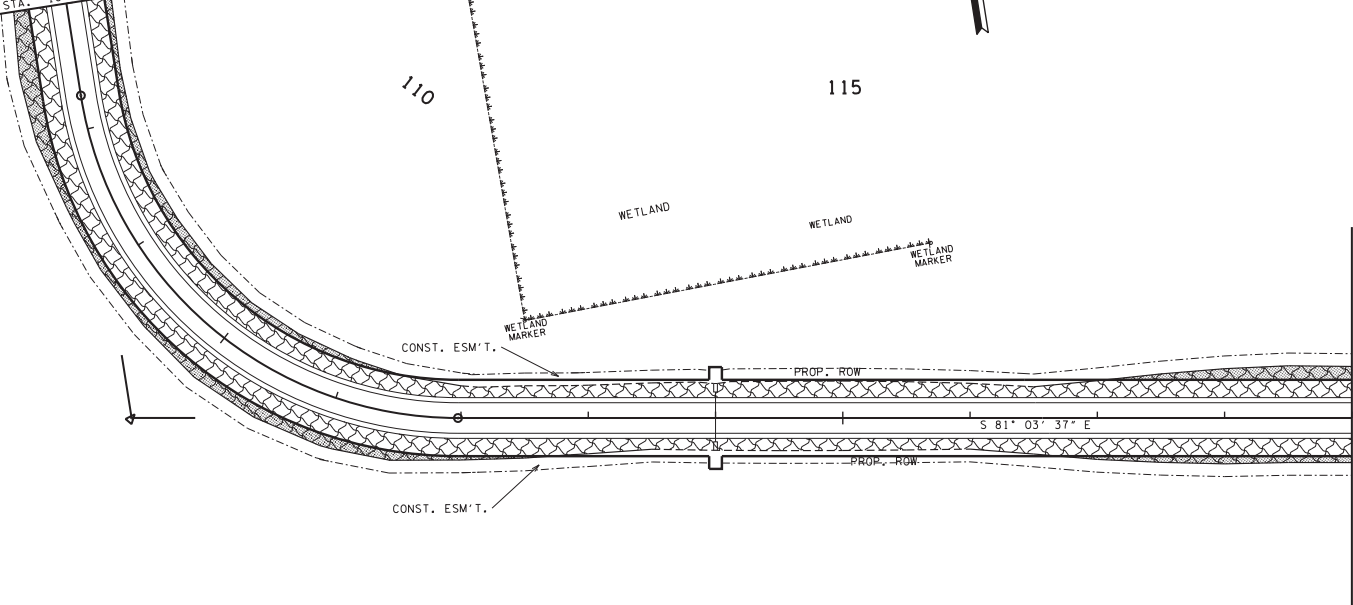
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**
 STA. 100+00 TO STA. 107+00
 SCALE: 1" = 50'

PHASE 3

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	14A
CONST.	2014	16945-3473-04	14A

MATCH LINE STA. 107+00 SEE SHEET NO. 14



110

115

WETLAND

WETLAND

CONST. ESM'T.

WETLAND MARKER

PROP. ROW

S 81° 03' 37" E

PROP. ROW

CONST. ESM'T.

MATCH LINE STA. 119+00 SEE SHEET NO. 14B

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	EROSION CONTROL BLANKET	EC-S1R-34

**CONSTRUCTABILITY
FIELD
REVIEW**

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN**
STA. 107+00 TO STA. 119+00
SCALE: 1" = 50'

PHASE 3

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	14B
CONST.	2014	16945-3473-04	14B

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	EROSION CONTROL BLANKET	EC-STR-34

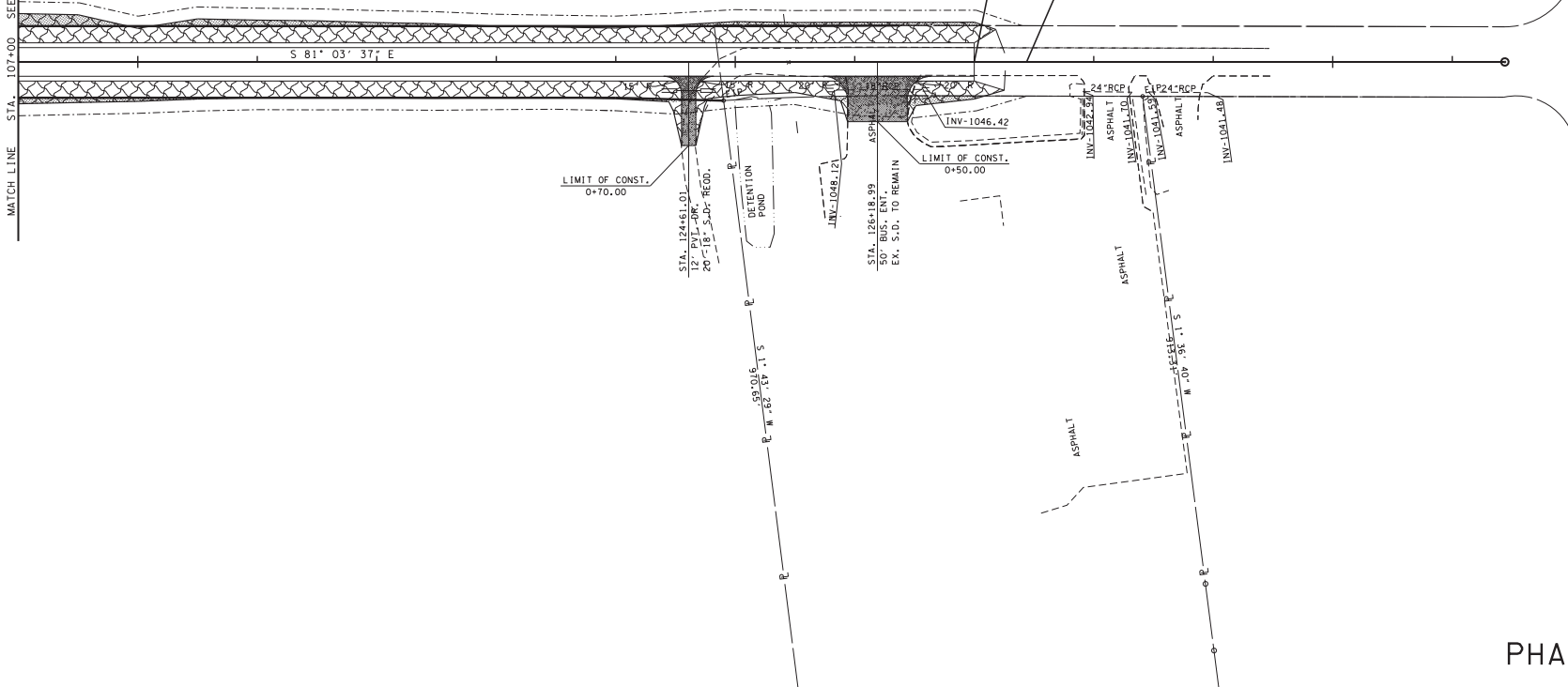


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MATCH LINE STA. 107+00 SEE SHEET NO. 14A



JAMES MURRAY DR.
 END PROJ. NO. 16945-3473-04 (CONST.)
 STA. 127+00.00
 N 387497.4102
 E 1932373.9499

JAMES MURRAY DR.
 END PROJ. NO. 16945-2473-04 (ROW)
 STA. 127+43.81
 N 387490.6018
 E 1932417.2306

POT 131+44.06

**CONSTRUCTABILITY
 FIELD
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN**

STA. 119+00 TO STA. 131+44
 SCALE: 1" = 50'

PHASE 3

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	14C
CONST.	2014	16945-3473-04	14C

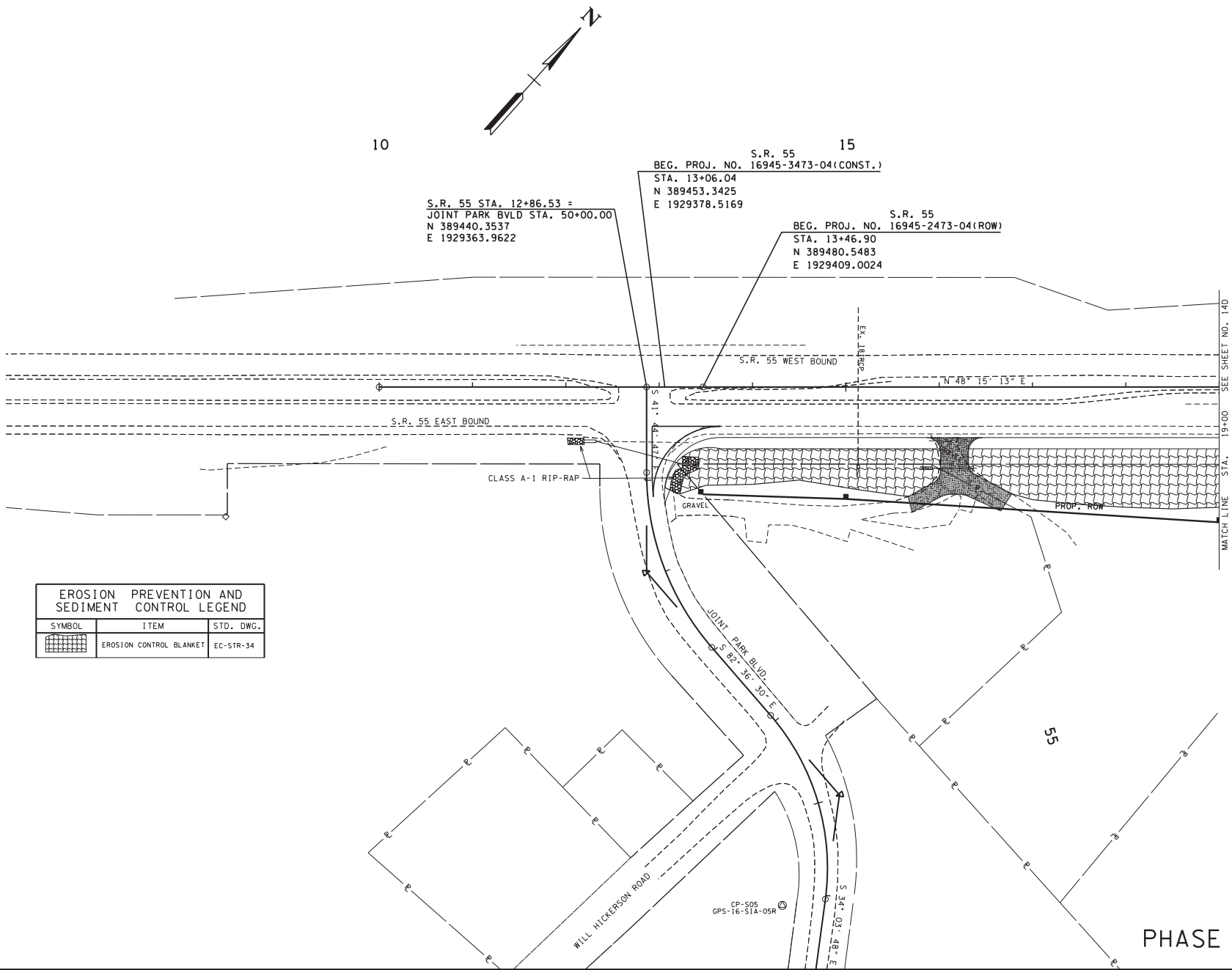
10

15

S.R. 55 STA. 12+86.53 =
JOINT PARK BLVD STA. 50+00.00
N 389440.3537
E 1929363.9622

S.R. 55
BEG. PROJ. NO. 16945-3473-04 (CONST.)
STA. 13+06.04
N 389453.3425
E 1929378.5169

S.R. 55
BEG. PROJ. NO. 16945-2473-04 (ROW)
STA. 13+46.90
N 389480.5483
E 1929409.0024



EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	EROSION CONTROL BLANKET	EC-STR-34

**CONSTRUCTABILITY
FIELD
REVIEW**

SEALED BY

COORDINATES ARE NAD/83(1995),
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.000068 AND TIED TO
THE TORN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

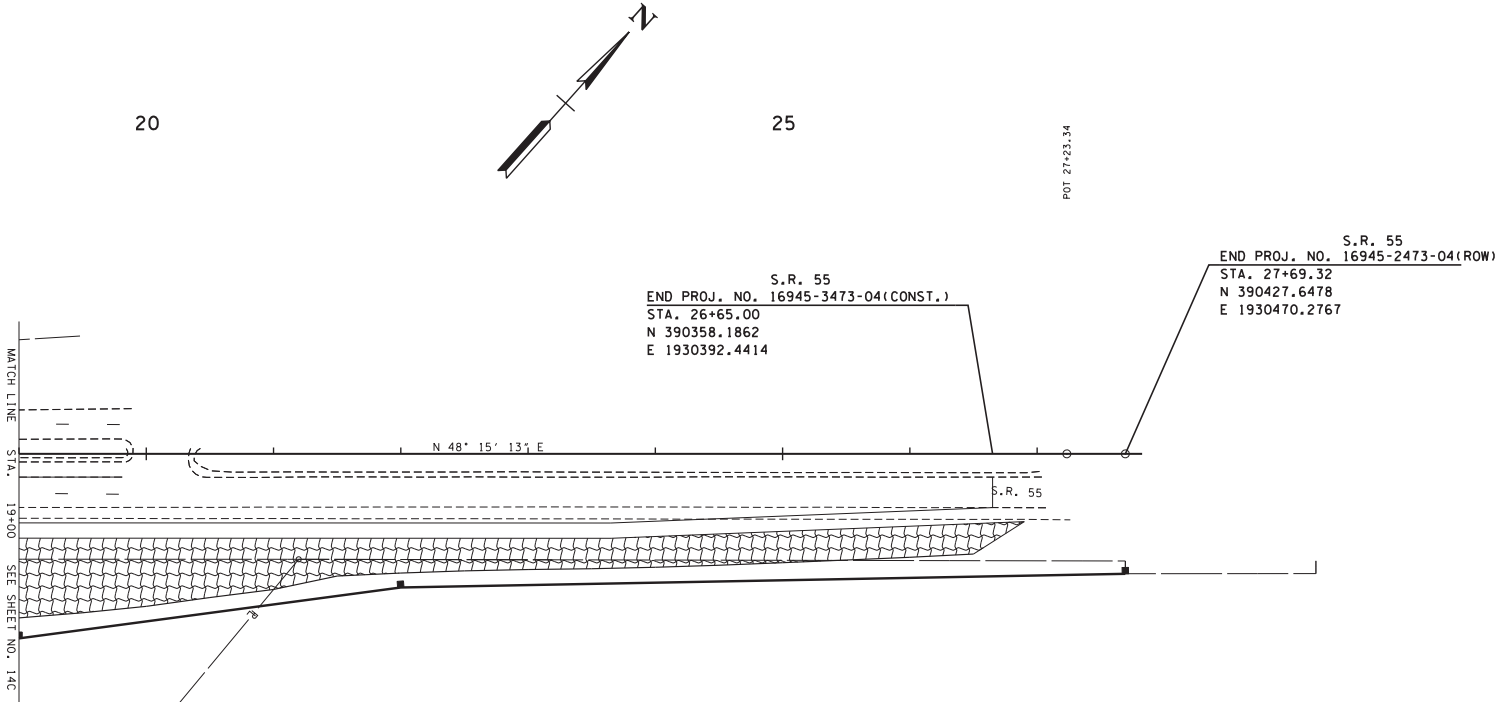
**EROSION
PREVENTION
AND SEDIMENT
CONTROL PLAN**
STA. 10+00 TO STA. 19+00
SCALE: 1"= 50'

PHASE 3

4/8/2014 11:54:42 AM
R4535 T001 Conrtblty\04 0mar SIA\Dgn\3-Const\04C.SHT

CP-S02
GPS-16-S1A-05R

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	16945-2473-04	14D
CONST.	2014	16945-3473-04	14D



S.R. 55
 END PROJ. NO. 16945-3473-04(CONST.)
 STA. 26+65.00
 N 390358.1862
 E 1930392.4414

S.R. 55
 END PROJ. NO. 16945-2473-04(ROW)
 STA. 27+69.32
 N 390427.6478
 E 1930470.2767

MATCH LINE
 STA. 19+00
 SEE SHEET NO. 14C

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	EROSION CONTROL BLANKET	EC-STR-34

CONSTRUCTABILITY FIELD REVIEW

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EROSION
 PREVENTION
 AND SEDIMENT
 CONTROL PLAN
 STA. 19+00 TO STA. 27+00
 SCALE: 1" = 50'

PHASE 3