



MVP Southgate Project

Docket No. CP19-14-000

Post-Application Environmental Information Request #3

Attachments

June 2019



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Docket No. CP19-14-000

Attachment 1-1

Virginia and North Carolina Erosion and Sediment Control Plans

June 2019

EROSION AND SEDIMENT CONTROL NARRATIVE

1. PROJECT DESCRIPTION:

THE MVP SOUTHGATE PROJECT (PROJECT) BEGINNING IN PITTSYLVANIA COUNTY WILL CONNECT FROM MOUNTAIN VALLEY PIPELINE, LLC IN PITTSYLVANIA COUNTY, VIRGINIA AND END AT THE T-21 HAW RIVER INTERCONNECT IN ALAMANCE COUNTY, NORTH CAROLINA.

THE PIPELINE WITHIN PITTSYLVANIA COUNTY CONSISTS OF APPROXIMATELY 26.2 MILES OF 24" NATURAL GAS PIPELINE. THE PROJECT CONTINUES APPROXIMATELY 4.2 MILES IN NORTH CAROLINA BEFORE REDUCING TO 16" DIAMETER PIPE FOR THE REMAINING APPROXIMATELY 42.8 MILES. ACCESS TO THE PIPELINE WILL BE PROVIDED BY EXISTING ROADS FOR BOTH PERMANENT AND TEMPORARY ACCESS. DISTURBED LAND WILL BE RETURNED TO PRE-EXISTING CONTOURS. THE CONSTRUCTION LIMITS OF DISTURBANCE (LOD) WILL GENERALLY BE 100 FEET WIDE. THE PERMANENT RIGHT-OF-WAY (ROW) WILL BE 50 FEET WIDE.

2. EXISTING SITE CONDITIONS:

EXISTING TOPOGRAPHY IS HIGHLY VARIABLE OVER THE PIPELINE ROUTE WITH GRADES RANGING FROM 0.5% TO 65%. EXISTING GROUND COVER INCLUDES PASTURE, AGRICULTURAL ACTIVITIES, SINGLE FAMILY HOMES AND OTHER STRUCTURES, STREAMS, WETLANDS, PONDS, ROADS AND RAILROADS AND FORESTED LANDS. THE LAND COVERS ARE DEPICTED IN THE PLANS VIA AERIAL IMAGERY. WETLANDS AND OTHER NATURAL RESOURCES ARE DELINEATED ON THE PLANS.

3. ADJACENT AREAS:

ADJACENT AREAS SHALL BE CONSIDERED ANYTHING IMMEDIATELY OUTSIDE THE TEMPORARY ROW. THESE AREAS INCLUDE FORESTED AREAS, SINGLE-FAMILY HOME SITES, AGRICULTURAL ACTIVITIES (E.G. CROPS, HAY PRODUCTION), PASTURE, STREAMS, WETLANDS, PONDS, AND ROADS AND RAILROADS. IN ADDITION, THIS PIPELINE PROJECT COLOCATES NEXT TO AN EXISTING UNDERGROUND TRANSMISSION GAS PIPELINE OWNED AND OPERATED BY OTHER COMPANIES.

4. OFF-SITE AREAS:

NO OFF-SITE LAND DISTURBING ACTIVITIES, DEFINED AS ACTIVITIES OUTSIDE THE PERMITTED LOD, ARE PROPOSED. ANY OFF-SITE LAND-DISTURBING ACTIVITY ASSOCIATED WITH THE PROJECT MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL (ESC) PLAN. OTHER PROJECT RELATED ACTIVITIES REQUIRING POTENTIAL LAND DISTURBANCE INCLUDE OFF-SITE LAYDOWN YARDS. THESE SITES WILL HAVE A SEPARATE ESC PLAN.

5. SOILS:

THE SOILS LOCATED WITHIN THE LOD INCLUDE:
MULTIPLE SOIL TYPES ARE PRESENT AND WILL BE LISTED IN DETAIL.

6. CRITICAL AREAS:

THERE ARE WETLAND AND WATERBODY CROSSINGS ALONG THE PIPELINE ROUTE, AS WELL AS WETLANDS AND STREAMS ADJACENT TO THE LOD. PRIOR TO GRADING ACTIVITIES, SEDIMENT BARRIERS WILL BE INSTALLED ACROSS THE CONSTRUCTION AREA AT THE EDGE OF THE WATER OR THE EDGE OF THE WETLAND, AND ALONG THE SIDES OF THE CONSTRUCTION WORK AREA AS NEEDED TO PREVENT THE FLOW OF SPOIL INTO THE WATERBODY OR WETLAND. SEDIMENT BARRIERS WILL BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION AND REINSTALLED AS NECESSARY UNTIL REPLACED BY PERMANENT EROSION CONTROLS OR RESTORATION OF DISTURBED ADJACENT UPLAND AREAS IS COMPLETE. AT WETLAND AND STREAM CROSSINGS, THE CONSTRUCTION LOD HAS BEEN REDUCED FROM 100 FEET TO 75 FEET TO MINIMIZE IMPACTS.

THE PRINCIPAL CROSSING METHOD WILL BE OPEN-CUT DRY-DITCH, INCLUDING FLUME PIPE CROSSING, COFFERDAM (PORTA-DAM) CROSSING, AND, DAM AND PUMP. WATERBODY AND WETLAND CROSSINGS WILL BE CLEARLY MARKED IN THE FIELD PRIOR TO THE START OF TREE CLEARING ACTIVITIES. TRENCH PLUGS WILL BE USED AT ALL WATERBODY CROSSINGS TO PREVENT DIVERSION OF WATER FROM UPLAND PORTIONS OF THE PIPELINE TRENCH TO KEEP TRENCH WATER OUT OF THE WATERBODY. FINAL GRADING WILL BEGIN PROMPTLY AFTER BACKFILLING IS COMPLETED AND THEN STABILIZED IMMEDIATELY. WHEN TIMBER MATS ARE USED FOR WETLAND AND WATERBODY CROSSINGS, THE BRIDGE ENTRANCE AND EXIT ARE PROTECTED WITH BEST MANAGEMENT PRACTICES (BMP'S) (TYPICALLY COMPOST FILTER SOCK) ALONG WITH GEOTEXTILE LAYERED BETWEEN THE TIMBER MATS. THE SIDES OF THE BRIDGE ARE PROTECTED WITH WOOD CURBS, TOE BOARDS, SIDE BOARDS OR WEDGES TO PROTECT THE WATERBODY FROM SPOIL SLOUGHING OFF THE TIMBER MATS INTO THE WATERBODY. TO FURTHER PROTECT WATERS FROM SEDIMENT TRACKED ONTO THE TIMBER MATS, ADDITIONAL CONTROLS WILL BE

ADDED IN THE FIELD AS NECESSARY. TIMBER MATS WILL BE CLEARED OF SOIL/ROCK MUD ACCUMULATION AT THE END OF EACH DAY.

ACIDIC SOILS AREAS ARE KNOWN TO OCCUR IN PORTIONS OF THE PROJECT AREA.

OTHER CRITICAL AREAS ARE LOW POINTS WITHIN THE ROW WHERE CONCENTRATED RUNOFF AND SEDIMENT WILL COLLECT AND POSE A RISK FOR OFF-SITE DEPOSITION AND IMPACT. SEDIMENT TRAPPING DEVICES SHALL BE SITED TO ACCOUNT FOR THE DRAINAGE AREA TO THESE LOCATIONS.

7. EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE STATE SPECIFIC EROSION AND SEDIMENT CONTROL MANUALS, AS WELL AS ANY ADDITIONAL MEASURES REQUIRED BY APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. THIS LIST IS SUBJECT TO CHANGE.

STRUCTURAL PRACTICES:

- 3.01 - SAFETY FENCE
- 3.02 - CONSTRUCTION ENTRANCE
- 3.04 - STRAW BALE BARRIER
- 3.05 - SILT FENCE BARRIER
- 3.06 - BRUSH BARRIER
- 3.09 - TEMPORARY DIVERSION DIKE
- 3.11 - TEMPORARY SLOPE BREAKERS / TEMPORARY RIGHT-OF-WAY DIVERSION
- 3.13 - TEMPORARY SEDIMENT TRAP
- 3.18 - OUTLET PROTECTION
- 3.20 - ROCK CHECK DAM
- 3.22 - VEGETATIVE STREAMBANK STABILIZATION
- 3.24 - TEMPORARY STREAM CROSSING
- 3.25 - DIVERSION CHANNEL CROSSING / FLUME PIPE CROSSING / COFFERDAM CROSSING
- 3.26 - DEWATERING STRUCTURE
- 3.27 - TURBIDITY CURTAIN
- MVP-ES2 - PUMPED WATER FILTER BAG
- MVP-ES3 - COMPOST FILTER SOCK
- MVP-ES9 - BELTED SILT RETENTION FENCE
- MVP-ES37 - TIMBER MAT / WETLAND CROSSING
- MVP-ES38 - DIVERSION DIKE / WATERBARS WITH COMPOST
- MVP-ES50 - CLEAN WATER DIVERSION WITH CLEAN WATER PIPE
- MVP-ES51 - PLUNGE POOL OUTLET ISOMETRIC VIEW
- MVP-ES51.1 - PLUNGE POOL OUTLET
- MVP-20 TRENCH PLUGS / BREAKERS

VEGETATIVE PRACTICES

3.29 - SURFACE ROUGHENING

3.30 - TOPSOIL (STOCKPILE)

3.31 - TEMPORARY SEEDING

3.32 - PERMANENT SEEDING

3.35 - MULCHING

3.36 - SOIL STABILIZATION BLANKETS AND MATTING

3.39 - DUST CONTROL

MVP-ES11.0 - TEMPORARY EROSION CONTROL SEEDING MIX

MVP-ES11.1 - FOREST REGENERATION WOODY SEED MIX AND APPLICATION RATES

MVP-ES11.2 - UPLAND MEADOW SEED MIX AND APPLICATION RATES

MVP-ES11.3 - UPLAND STEEP SLOPE SEED MIX AND APPLICATION RATES

MVP-ES11.4 - WETLAND SEED MIX AND APPLICATION RATES

MVP-ES11.5 - RIPARIAN SEED MIX AND APPLICATION RATES

MVP-ES11.6 - NATIVE TREE AND SHRUB SPECIES FOR BARE ROOT PLANTINGS WITHIN RIPARIAN AREAS AND FORESTED WETLANDS

MVP-ES11.7 - NATIVE TREE AND SHRUB SPECIES FOR BARE ROOT PLANTINGS WITHIN RIPARIAN AREAS AND FORESTED WETLANDS

MVP-ES11.8 - STREAM CROSSINGS PROPOSED FOR BARE ROOT SEEDING PLANTINGS

MVP-ES11.9 - STREAM CROSSING FOR BARE ROOT SEEDING PLANTING

MVP-ES46-46.2 - TOPSOILING & SOIL HANDLING

8. PERMANENT STABILIZATION:

ALL DISTURBED AREAS SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN SEVEN WORKING DAYS OF FINAL GRADING, WEATHER AND SOIL CONDITIONS PERMITTING.

EXISTING ACCESS ROADS WILL BE UTILIZED IN THEIR CURRENT CONFIGURATION WITH NO ADDITIONAL DISTURBANCE BEYOND EXISTING LIMITS TO THE GREATEST EXTENT POSSIBLE. WORK WILL BE LIMITED TO ROUTINE MAINTENANCE WITHIN THE EXISTING FOOTPRINT. ALL EXISTING ROADS WILL BE RETURNED TO DOCUMENTED PRE-DEVELOPMENT CONDITIONS PROVIDED TO DEQ PRIOR TO CONSTRUCTION.

IN NON-AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE DENSITY AND COVER OF ADJACENT UNDISTURBED LANDS. IN AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE ADJACENT UNDISTURBED PORTIONS OF THE SAME FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE.

WETLANDS ALONG THE PROPOSED PIPELINE ARE EXPECTED TO EXHIBIT VARYING DEGREES OF SATURATION AND WATER ELEVATION, THUS REQUIRING

A VARIETY OF PLANT SPECIES TO BE RE-ESTABLISHED. IN UNSATURATED WETLANDS, MOST VEGETATION WILL BE REPLACED BY SEEDING. SATURATED WETLANDS WILL TYPICALLY BE ALLOWED TO RE-VEGETATE NATURALLY. WETLAND RE-VEGETATION WILL BE CONSIDERED SUCCESSFUL WHEN THE COVER OF HERBACEOUS SPECIES IS AT LEAST 80 PERCENT OF THE TYPE, DENSITY AND DISTRIBUTION OF THE VEGETATION IN ADJACENT WETLAND AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION. RE-VEGETATION EFFORTS WILL CONTINUE UNTIL WETLAND RE-VEGETATION IS SUCCESSFUL.

9. MAINTENANCE:

TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED PROJECT EROSION AND SEDIMENT CONTROL PLAN.

INSPECTIONS OF TEMPORARY ESC DEVICES AND SWM BMP'S SHALL OCCUR AT INTERVALS OUTLINED BY THE RESPECTIVE STATE'S NPDES GENERAL CONSTRUCTION PERMIT.

TEMPORARY BMP'S WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION. DISTURBED AREAS NOT ATTAINING AN ACCEPTABLE VEGETATIVE COVER SHALL BE RE-SEEDING AS NEEDED UNTIL STABILIZATION IS ACHIEVED.

TEMPORARY ESC BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

10. GENERAL EROSION AND SEDIMENT CONTROL NOTES:

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS OF THE EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. REPAIR OF ALL INEFFECTIVE TEMPORARY EROSION CONTROL MEASURES WITHIN 24 HOURS OF IDENTIFICATION, OR AS SOON AS CONDITIONS ALLOW IF COMPLIANCE WITH THIS TIME FRAME WOULD RESULT IN GREATER ENVIRONMENTAL IMPACTS.

11. BEST MANAGEMENT PRACTICES GENERAL NOTES:

TEMPORARY BMP'S WILL BE USED DURING CONSTRUCTION TO MINIMIZE THE ABILITY OF THE WORK AREA TO RELEASE SEDIMENT LADEN WATER THAT WILL NEGATIVELY AFFECT ADJACENT AND DOWNGRADE PROPERTIES. THE FOLLOWING A GENERAL BMP INSTALLATION NOTES FOR PIPELINE CONSTRUCTION ACTIVITIES.

- A ROCK CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL BE ACCESSING A PAVED ROAD DIRECTLY FROM A DISTURBED AREA.
- TEMPORARY SEDIMENT BARRIERS, INCLUDING APPROPRIATELY SIZED SILT FENCE, WILL PLACED AROUND ALL SOIL STOCKPILES.
- A REINFORCED FILTRATION DEVICE (RFD) WILL BE PLACED AROUND WETLANDS AND WATERBODIES IN AND ADJACENT TO THE WORK AREA PRIOR TO ANY TRENCHING ACTIVITIES.
- TEMPORARY STREAM CROSSINGS SHALL BE INSTALLED AS INDICATED ON THE EROSION AND SEDIMENT CONTROL PLANS AND ASSOCIATED DETAILS.
- WATER BARS ARE TO BE INSTALLED AS A MEANS TO DIVERT SEDIMENT LADEN WATER TO A SEDIMENT TRAPPING DEVICE. THESE DEVICES SHALL BE

GENERALLY SPACED IN ACCORDANCE WITH THE PLANS AND ASSOCIATED PROJECT STANDARDS.

- TRENCH DEWATERING, IF NEEDED, WILL BE CONDUCTED USING A FILTER BAG DISCHARGED TO A STABILIZED VEGETATED AREA.
- TRENCH BREAKERS SHALL BE INSTALLED ON SLOPES ADJACENT TO STREAMS, WETLANDS, AND ROAD CROSSINGS TO PREVENT SUBSURFACE EROSION.
- FOR DISTURBED SLOPES 3:1 OR STEEPER, EROSION CONTROL MATTING SHALL BE PLACED ON THE SLOPE TO PREVENT RILLING ON THE SLOPES. PRIOR TO PLACEMENT, SURFACE ROUGHENING SHALL BE COMPLETED.
- TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL THE UP-GRADIENT AREAS ARE STABILIZED. MEANING THE VEGETATIVE COVER IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL COUNTER EROSION. UPON STABILIZATION THE TEMPORARY SEDIMENT BARRIERS SHALL BE REMOVED WITH PRECISION AS TO LIMIT NEW DISTURBANCES. THE FINAL DISTURBANCE SHALL BE PERMANENTLY SEEDED AND POSSIBLY MATTER IMMEDIATELY UPON RESTORATION.
- ALL WASTE MATERIAL WILL BE TRANSPORTED OFFSITE FOR RECYCLING AND/OR DISPOSAL AT A FACILITY APPROVED TO RECEIVE THE WASTE MATERIAL.
- IN NON-AGRICULTURAL AREAS THE VISUAL SURVEY SHALL BE COMPARED TO THE DENSITY AND COVER OF THE ADJACENT UNDISTURBED AREAS. IN AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE PORTIONS OF THE ADJACENT FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE.
- WETLANDS ALONG THE PROPOSED RIGHT-OF-WAY AND EASEMENT ARE EXPECTED TO EXHIBIT VARYING DEGREES OF SATURATION AND WATER ELEVATION, REQUIRING A VARIETY OF PLANT SPECIES TO BE RE-ESTABLISHED. IN UNSATURATED WETLANDS, VEGETATION WILL BE REPLACED BY PERMANENT SEEDING. SATURATED WETLANDS WILL TYPICALLY BE ALLOWED TO REVEGETATE NATURALLY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE WETLANDS PERMIT ISSUED FROM THE US CORPS OF ENGINEERS.

12. PROJECT GENERAL NOTES:

A. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED PROJECT STANDARDS.

B. INSPECTIONS OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONDUCTED AT THE REGULATORY DEFINED INTERVALS.

C. TOPSOIL SEGREGATION WILL BE PERFORMED IN ALL CONSTRUCTION AREAS OF THE PROJECT IDENTIFIED FOR SEGREGATION IN THE APPROVED PROJECT STANDARDS AND WETLANDS PERMIT FORM THE CORPS OF ENGINEERS.

D. FLEXTERRA, EARTHGUARD OR EQUIVALENT MAY BE USED AS A SUBSTITUTE TO EROSION CONTROL BLANKET AS DIRECTED BY MVP.

E. CONTRACTOR IS RESPONSIBLE TO IDENTIFY ALL UTILITIES. THE UTILITY LINES SHOWN ON THE PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT REPRESENT SURVEYED LINE INFORMATION.

F. SLOPES OF 30° OR GREATER EXIST. CONSTRUCTION FOR STEEP SLOPES TO BE PERFORMED USING STEEP SLOPE TECHNIQUES IDENTIFIED IN THE DETAIL SHEETS. ALSO REFER TO THE SITE-SPECIFIC DESIGN OF STABILIZATION MEASURES IN SELECTED HIGH-HAZARD PORTIONS OF THE ROUTE OF THE PROPOSED PROJECT.

G. IMPROVEMENTS TO PERMANENT AND TEMPORARY ACCESS ROADS WILL BE PERFORMED PER THE SITE-SPECIFIC ACCESS ROAD DETAILS.

H. TEMPORARY ACCESS ROAD CROSSING OF STREAMS AND WETLANDS WILL UTILIZE TIMBERMATS. ANY PERMANENT ROAD CROSSINGS WILL BE CONDUCTED VIA CULVERTS.

I. ALL WETLAND IMPACTS ARE SUBJECT TO A WETLANDS IMPACT PERMIT. THE CONTRACTOR SHALL KNOW THE PERMIT REQUIREMENTS PRIOR TO IMPACTING ANY WETLANDS OR WATERS OF THE STATE OR US.

13. GENERAL CONSTRUCTION SEQUENCE:

THE FOLLOWING IS A GENERAL SEQUENCE FOR EARTHMOVING ACTIVITIES ASSOCIATED WITH CONSTRUCTION OF THE PIPELINE:

A. TEMPORARY CONSTRUCTION ENTRANCES AND ACCESS ROADS SHALL BE INSTALLED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS. ROCK CONSTRUCTION ENTRANCES (RCE) ARE TO BE PROVIDED AT ALL LOCATIONS WHERE ACCESS ROADS AND PIPELINES WILL BE ACCESSING OR CROSSING A PUBLIC ROADWAY.

B. PERFORM INITIAL PERIMETER CLEARING SUFFICIENT TO INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS. PERIMETER CONTROLS INCLUDE UP-GRADIENT CLEANWATER DIVERSIONS, DOWN-GRADIENT DIVERSIONS, SEDIMENT BARRIER DEVICES (I.E. SILT FENCE, FILTER SOCKS, ETC.) AND ASSOCIATED SEDIMENT TRAPPING DEVICES. INSTALLATION OF SEDIMENT TRAPPING DEVICES SHALL BE INSTALLED AS SOON AS FEASIBLE AS SPECIFIED ON THE PLANS AND NATURAL SUMPS. MAJOR CLEARING OR EARTH DISTURBING ACTIVITIES SHOULD NOT COMMENCE UNTIL THE PERIMETER CONTROL BMP'S ARE IN PLACE. APPROPRIATE BMP'S SHOULD BE PLACED AROUND SENSITIVE AREAS PRIOR TO EARTH DISTURBANCE IN AREAS THAT WILL DIRECTLY IMPACT THE SENSITIVE NATURAL RESOURCE AREA.

C. INSTALL TEMPORARY E&S CONTROLS FOR STREAM CROSSINGS AT LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN. NO EARTH DISTURBANCE ACTIVITIES WITHIN 50 FEET OF STREAM CHANNELS WILL BE PERFORMED UNTIL MATERIALS NEEDED TO COMPLETE THE CROSSING ARE AT THE NEAREST AVAILABLE LOCATION.

D. GENERAL CLEARING AND GRUBBING OF THE TREES AND BRUSH ALONG THE RIGHT-OF-WAY (ROW) FOR PIPELINE TRENCHING MAY COMMENCE TO THE WIDTH SPECIFIED IN THE ROW AGREEMENTS OR CONSTRUCTION ALIGNMENT SHEETS, WHICHEVER IS LESS. SMALLER DEBRIS, SUCH AS SHRUBS OR LIMBS, ARE TO BE CHIPPED AND UTILIZED ON-SITE AS PART OF THE SOIL STABILIZATION. UNLESS OTHERWISE DIRECTED BY THE LANDOWNER, LOGS WILL EITHER BE HAULED OFF-SITE OR GIVEN TO THE LANDOWNER UPON THEIR REQUEST; STUMPS AND/OR LOGS WILL BE GROUND, CHIPPED, WINDROWED, OR HAULED OFF-SITE.

E. INSTALL TEMPORARY RIGHT-OF-WAY DIVERSIONS/WATERBARS IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE SOIL IN ACCORDANCE WITH THE WATERBAR SPACING AND SIZING REQUIREMENTS SHOWN ON THE PLAN AND DETAIL. RIGHT-OF-WAY DIVERSIONS/WATERBARS WILL BE CONSTRUCTED OF SOIL AND USED TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE PIPELINE ROW TO A SEDIMENT TRAPPING DEVICE.

F. EXCAVATE PIPELINE TRENCH AND BEGIN GRADING OF PROPOSED METER AND RECTIFIER ANODE BED SITES. THE PROPOSED CONSTRUCTION ROW AND EXTRA WORKSPACES ARE TO BE USED AS A WORK AREA FOR TRENCH EXCAVATION, EQUIPMENT MOVEMENT AND THE TEMPORARY STORAGE OF SOIL STOCKPILES, AS NEEDED. EQUIPMENT, SOIL STOCKPILES, AND OTHER MATERIALS ARE TO REMAIN UPSLOPE OF BMP'S DURING CONSTRUCTION ACTIVITIES. REFER TO BMP INSTALLATION AND REMOVAL NOTES FOR THE BMP'S TO BE USED DURING TRENCH EXCAVATION AND AROUND TEMPORARY SOIL STOCKPILES. STOCKPILES AND NON-WORK AREA SLOPES WILL BE STABILIZED THROUGH AN APPLICATION OF EITHER MULCH (ORGANIC, EROSION CONTROL BLANKET OR BONDED FIBER MATRIX) OR TEMPORARY SEED. SEGREGATION OF TOPSOIL AND SUBSOIL WILL BE PERFORMED WHERE TRENCH EXCAVATION TAKES PLACE IN AN AGRICULTURAL, WETLAND, OR RESIDENTIAL AREA.

G. PIPELINE SECTIONS WILL BE TRANSPORTED TO THE WORK AREA AND STRUNG ALONG THE WORKING SIDE OF THE ROW PARALLEL TO THE TRENCH LINE. WELDING CAN OCCUR IN OR OUT OF THE TRENCH. THE PIPELINE WILL BE BENT TO CONFORM TO THE TRENCH CONTOUR, ALIGNED WELDED AND PLACED ON TEMPORARY SUPPORTS ALONGSIDE THE TRENCH. WELDS WILL BE VISUALLY AND RADIO-GRAPHICALLY INSPECTED AND REPAIRED AS NECESSARY. THE PIPE SECTION WILL BE LOWERED INTO THE TRENCH AND PLACED ON PADDING PER MVP CONSTRUCTION STANDARDS. ANY WETNESS ENCOUNTERED DURING CONSTRUCTION WORK WILL BE DEWATERED BY PUMPS DISCHARGED THROUGH A SEDIMENT FILTER BAG AND WILL BE DISCHARGED TO A WELL VEGETATED DOWN-GRADIENT AREA.

H. PIPELINE STREAM CROSSING CONSTRUCTION METHODS WILL BE INSTALLED AT LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS AND AS SPECIFIED IN THE ASSOCIATED DETAILS. STREAM BANK STABILIZATION WILL BE INSTALLED IMMEDIATELY FOLLOWING COMPLETION OF PIPELINE INSTALLATION AS SHOWN ON THE DETAIL SHEET.

I. INSTALL TRENCH BREAKERS AT LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED BY MVP AND AS SPECIFIED ON THE DETAIL SHEET.

J. THE TRENCH WILL SUBSEQUENTLY BE BACKFILLED WITH SUITABLE EXCAVATED MATERIAL. THE BACKFILL MATERIAL WILL BE SLIGHTLY CROWNED IN UPLAND AREAS TO ALLOW FOR SETTLEMENT THAT MAY OCCUR. CROWNING THE SOIL SLIGHTLY OVER THE PIPELINE WILL HELP PREVENT FUTURE STORM WATER-RELATED PROBLEMS FROM SETTLING OF THE BACKFILLED AREA. NO CROWNING OF SOILS WILL TAKE PLACE IN WETLANDS, STREAMS, OR FLOOD-PLAINS. IN AREAS WHERE TOPSOIL HAS BEEN SEGREGATED, THE SUBSOIL WILL BE REPLACED FIRST, AND THEN THE TOPSOIL WILL BE SPREAD OVER THE AREA FROM WHICH IT WAS REMOVED. DISTURBED AREAS WILL BE RESTORED TO THEIR APPROXIMATE ORIGINAL TOPOGRAPHIC CONTOURS.

K. STABILIZE EXPOSED AND UNWORKED SOILS BY APPLICATION OF EFFECTIVE BMP'S THAT PROTECT THE SOIL FROM THE EROSION FORCES OF

RAINDROPS, FLOWING WATER, AND WIND. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

L. IN THE UNLIKELY EVENT THAT THERE ARE EXCESS EXCAVATED MATERIALS REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED, THE MATERIAL IS TO BE DISPOSED OF WITHIN THE EXISTING ROW IN AN UPLAND AREA OUTSIDE OF THE 100-YEAR FLOOD PLAIN. MATERIAL WILL BE SPREAD IN A THIN LAYER AND TIED INTO EXISTING CONTOURS TO CREATE POSITIVE DRAINAGE FOR STORMWATER RUNOFF AND MAINTAINING THE ORIGINAL DRAINAGE DIVIDES.

M. CONSTRUCT PERMANENT RIGHT-OF-WAY DIVERSION/WATERBARS AFTER COMPLETION OF GRADING IN ACCORDANCE WITH THE WATERBAR SPACING AND SIZING REQUIREMENTS SHOWN ON THE STORMWATER MANAGEMENT PLAN (UNDER SEPARATE COVER) AND DETAIL SHEETS. TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE.

N. PRIOR TO SEEDING THE CONTRACTOR WILL DISC AREAS TO A DEPTH OF 4-6" TO FACILITATE REVEGETATION. DISCING WILL BE PERFORMED ON SUBSOILS TO A DEPTH OF 4-6" AND AGAIN FOLLOWING TOPSOILING.

O. REVEGETATE DISTURBED AREA PER THE TABLES IN THE DETAILS OR PER LANDOWNER REQUEST. FOR 3:1 OR STEEPER SLOPES THE DISTURBED AREA WILL HAVE EROSION CONTROL FABRIC (BLANKETING, HYDROSEEDING, FLEXTERRA, OR APPROVED EQUAL) INSTALLED AS SHOWN ON DETAIL SHEET.

P. RE-ESTABLISH APPROPRIATE DRAINAGE IN EXISTING ROAD CHANNELS PRIOR TO SEEDING AND MULCHING.

Q. TEMPORARY BMP'S WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION, WHICH IS DEFINED AS "A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION". DISTURBED AREAS NOT ATTAINING AN ACCEPTABLE VEGETATIVE COVER SHALL BE RESEEDDED AS NEEDED UNTIL THE ENDPOINT IS ACHIEVED.

R. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY SEEDDED. CLEAN WATER DIVERSIONS SHALL BE GRADED OUT IN PLACE UPON THE REMOVAL OF THE TEMPORARY CHECK DAMS. CLEAN WATER DIVERSION PIPES THAT BE REMOVED INCLUDING THE OUTLET STRUCTURE.

S. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATERS. WOODY DEBRIS MAY BE CHIPPED AND SPREAD ON-SITE.

14. STREAM CROSSING GENERAL SEQUENCE OF CONSTRUCTION:

- A. ENSURE THAT PERIMETER EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND IN WORKING ORDER,
- B. FOLLOW STREAM CROSSING PROCEDURE. INSTALL TEMPORARY EQUIPMENT BRIDGE, BYPASS HOSE, FLUME, PUMP, OR COFFERDAM AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.
- C. DEWATER WORK AREA UTILIZING PUMPS DISCHARGED TO SEDIMENT FILTER BAGS. WHERE POSSIBLE, EXCAVATION WILL BE FROM THE TOP OF THE STREAM BANK.
- D. PERFORM TRENCH EXCAVATION PLACING EXCESS SOILS INTO ADDITIONAL TEMPORARY WORK SPACES.
- E. INSTALL TRENCH PLUGS, PIPE, AND BACKFILL.
- F. STABILIZE CHANNEL EXCAVATION AND STREAM BANKS PRIOR TO REDIRECTING STREAM FLOW.
- G. REMOVE BYPASS HOSE, FLUME, PUMP, AND TEMPORARY DAM AS NEEDED.

15. WETLAND CROSSING GENERAL SEQUENCE OF CONSTRUCTION:

- A. INSTALL REINFORCED FILTRATION DEVICE (RFD) ALONG THE PERIMETERS OF THE SITE AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.
- B. MATS, PADS, OR SIMILAR DEVICES WILL BE USED DURING THE CROSSINGS OF WETLANDS. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIALS MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD WITHIN WETLANDS.

- C. SOIL EXCAVATED FROM WETLAND AREAS WILL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL WILL BE PLACED IN A SEPARATE STOCKPILE TO BE REUSED DURING THE WETLAND SURFACE RESTITUTION.
- D. DEWATER WORK AREA UTILIZING PUMPS AND SEDIMENT FILTER BAGS.
- E. INSTALL PIPE.
- F. INSTALL TRENCH PLUGS IN WETLAND AREAS TO PREVENT THE TRENCH FROM DRAINING THE WETLAND OR CHANGING ITS HYDROLOGY.
- G. BACKFILL PIPE TRENCH. BACKFILL THE TOP 12-INCHES OF THE EXCAVATED TRENCH WITH THE STOCKPILED WETLAND SOIL TO MATCH ORIGINAL SURFACE GRADES. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO PERIMETER EROSION AND SEDIMENT CONTROL MEASURES AND TO PREPARE DISTURBED AREAS FOR PERMANENT RESTORATION.
- H. MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A GROUND COVER IS ACHIEVED THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION.
- I. REMOVE ALL SOIL AND EROSION AND SEDIMENT CONTROL MEASURES UPON ESTABLISHMENT OF A GROUND COVER THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL E&SCS.

16. STREAM CROSSING PROCEDURES:

GENERAL:

PROCEDURES THAT WILL BE FOLLOWED AT STREAM CROSSING LOCATIONS INCLUDE THE FOLLOWING:

- MINIMIZE CLEARING AND GRUBBING OF VEGETATION UP TO STREAMS, AS POSSIBLE, UNTIL THE TIME OF THE PIPELINE INSTALLATION;
- ONLY THAT AREA WHICH IS REQUIRED FOR PIPELINE INSTALLATION SHALL BE DISTURBED WITHIN THE PROPOSED LIMIT OF DISTURBANCE OR RIGHT-OF-WAY AT STREAM CROSSINGS; LOCATING STAGING AREAS 50 FEET AWAY FROM THE STREAM, WHERE POSSIBLE;
- STORING CHEMICALS, STORING EQUIPMENT, WASHING EQUIPMENT, OR REFUELING EQUIPMENT MUST BE DONE IN AREAS THAT ARE GREATER THAN 100 FEET AWAY FROM THE STREAM;
- SPOIL PILE PLACEMENT AND BMP'S WILL BE MONITORED AT ALL TIMES DURING STREAM CROSSING PROCEDURES; ONCE WORK WITHIN A STREAM AREA IS

STARTED, IT WILL BE CONDUCTED CONTINUOUSLY TO COMPLETION; EMPHASIS WILL BE PLACED ON MINIMIZING TIME OF DISTURBANCE;

- SPOILS FROM STREAM CROSSINGS MUST BE PLACED AT LEAST 10 FEET FROM THE WATER'S EDGE; AND
- CONSTRUCTION EQUIPMENT WILL NOT BE ALLOWED IN THE STREAM CHANNEL WHEN EXCAVATION CAN BE DONE FROM EITHER SIDE OR A TEMPORARY CROSSING WHILE WORKING AT THE STREAM CROSSING.
- ESC BMP'S WILL BE MONITORED/MAINTAINED AT ALL TIMES FOLLOWING INITIAL EARTH DISTURBANCE AND WILL CONTINUE UNTIL RESTORATION IS DEEMED COMPLETE.

THE FOLLOWING SECTIONS DESCRIBE STREAM CROSSING TECHNIQUES THAT MAY BE USED DURING PIPELINE RELOCATION/INSTALLATION ACTIVITIES. REFER TO THE DETAIL SHEETS AND APPROVED STANDARDS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DRY CROSSING TECHNIQUES:

THESE TECHNIQUES WILL BE USED TO PERFORM PIPELINE WORK IN A RELATIVELY DRY WORKING CONDITION (SO NO DISCERNIBLE FLOW IS PRESENT), OR AROUND THE OPEN EXCAVATION. THESE TECHNIQUES INCLUDE PUMP AROUND AND FLUME PIPE CROSSING METHODS. THE LIMITING FACTORS FOR THESE TECHNIQUES ARE USUALLY STREAM SIZE, FLOW, AND WATER DEPTH.

DIRECTIONAL BORING IS ALSO A TECHNIQUE THAT CAN BE UTILIZED AS IT WILL LESSEN THE IMPACTS ON THE WATERBODIES.

E&S CONTROL MEASURES WILL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE AND MONITORED/MAINTAINED UNTIL CONSTRUCTION AND RESTORATION THROUGH THE WATER-BODY IS COMPLETE.

FLUME PIPE METHOD: PLEASE SEE DETAIL SHEETS AND SWPPP FOR MORE INFORMATION ON THE FLUME PIPE METHOD. THIS PROCEDURE INVOLVES CONSTRUCTING TWO BULKHEADS, EITHER SANDBAGS OR PLASTIC DAMS, TO DIRECT THE STREAM FLOW THROUGH A FLUME PIPE PLACED OVER THE TRENCH PRIOR TO EXCAVATION. THE FLUME SHALL BE ALIGNED AS TO PREVENT BANK EROSION AND BED SCOUR. THE FLUME WILL NOT BE REMOVED DURING TRENCHING, PIPE LAYING OR BACKFILLING.

PUMP AROUND METHOD: PLEASE SEE THE DETAIL SHEETS AND APPROVED STANDARDS AND SPECIFICATIONS FOR MORE INFORMATION ON THE PUMP AROUND METHOD. THIS PROCEDURE INVOLVES CONSTRUCTING TWO BULKHEADS, EITHER SANDBAGS OR PLASTIC DAMS. THE UPSTREAM DAM WILL CAUSE THE WATER TO POND WHERE IT CAN BE PUMPED AROUND THE WORK AREA AND BE DISCHARGED BEHIND THE DOWNSTREAM BULKHEAD. PUMPS OF SUFFICIENT SIZE TO TRANSMIT THE FLOW DOWNSTREAM WILL BE USED.

BACKUP PUMPS MUST BE ON-SITE. PUMP INTAKES MUST BE SCREENED. PUMP DISCHARGES MUST NOT CAUSE SCOUR.

TEMPORARY ROAD CROSSINGS:

TEMPORARY ROAD CROSSINGS, CONSISTING OF BRIDGES OF TIMBER MATS OR CLEAN ROCK FILL AND FLUME(S), WILL BE INSTALLED TO CROSS MINOR OR INTERMEDIATE STREAMS. TIMBER MATS SHALL BE USED TO CROSS SMALLER STREAMS WHERE THE SPAN OF THE MAT WILL STRETCH FROM BANK TO BANK. CLEAN ROCK FILL AND FLUMED CROSSINGS WILL BE UTILIZED WHERE IT IS NOT FEASIBLE TO UTILIZE TIMBER MATS. AS AN ALTERNATIVE, PORTABLE BRIDGES MAY BE USED INSTEAD FOR SMALL CROSSINGS. EQUIPMENT WILL NOT BE ALLOWED TO FORD FLOWING STREAMS DURING CONSTRUCTION ACTIVITIES. TEMPORARY ROAD CROSSINGS OF STREAMS MUST MAINTAIN FOR ADEQUATE FLOW DOWNSTREAM.

STREAM BANK STABILIZATION:

PERMANENT STABILIZATION SHALL OCCUR IMMEDIATELY UPON INSTALLATION, BACKFILLING, AND GRADING AT EACH STREAM CROSSING.



MVP Southgate Project

Docket No. CP19-14-000

Attachment 2-1

Updated Tables

June 2019

LIST OF TABLES

REVISED Table 1.3-1	Land Requirements for the MVP Southgate Project Pipeline/Associated Workspace	2
REVISED Table 1.3-2	Land Requirements for the MVP Southgate Project Aboveground Facilities ..	3
REVISED Table 1.3-4	Contractor Yards along the MVP Southgate Project Pipeline	4
REVISED Appendix 1-D	Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project.....	6
REVISED Appendix 1-F	Proposed New, Improved, and Private Access Roads for the MVP Southgate Project.....	45

REVISED Table 1.3-1		
Land Requirements for the MVP Southgate Project Pipeline/Associated Workspace		
Facility	Land Required for Construction (acres)	Land Required for Operation (acres)
H-605 Pipeline <u>a/</u>	5.2	2.7
H-650 Pipeline <u>a/</u>	849.2	423.0
Additional Temporary Workspace	277.4	0.0
Cathodic Protection <u>b/</u>	4.1	4.1
Contractor Yards	248.7	0.0
Access Roads <u>c/</u>	99.0	6.3
Total Project Pipeline / Associated Workspace <u>d/</u>	1,483.5	436.1
<p><u>a/</u> Acreage based on 100-foot construction right-of-way and 50-foot permanent right-of-way.</p> <p><u>b/</u> Acreage includes alternative groundbed locations, which have been identified in the event that the primary locations are deemed unsuitable. Final groundbed locations will be determined prior to the commencement of construction.</p> <p><u>c/</u> Acreage based on a 25-foot road width for temporary and permanent access roads. Includes access roads for aboveground facilities.</p> <p><u>d/</u> Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.</p>		

REVISED Table 1.3-2			
Land Requirements for the MVP Southgate Project Aboveground Facilities			
Facility Name	Approximate MP	Land Required for Construction (acres)	Land Required for Operation (acres)
Compressor Station			
Lambert Compressor Station / MLV 1	0.0RR	19.0	11.7
Meter Stations			
Lambert Interconnect <u>a/</u>	0.0RR	0.0	0.0
LN 3600 Interconnect	28.2 RR	4.7	0.7
T-15 Dan River Interconnect / MLV 4	30.4	5.2	0.8
T-21 Haw River Interconnect / MLV 8	73.2 RR	1.4	0.6
Pig Launcher/Receiver <u>b/</u>			
Mainline Valves			
MLVs 2, 3, 5, 6, 7	Various <u>c/</u>	0.1	0.1
Total <u>d/</u>	---	30.4	13.9
<p><u>Note:</u> MPs are on the H-650 pipeline. Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment. Impact calculations do not include associated access roads.</p> <p><u>a/</u> The Lambert Interconnect will be within the Lambert Compressor Station site; therefore, acreage calculations for the Lambert Interconnect are included with the Lambert Compressor Station.</p> <p><u>b/</u> Pig launchers will be within aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities.</p> <p><u>c/</u> See Table 1.2-3 for milepost locations of mainline valves ("MLV"). The land required for MLVs 2, 3, 5, 6, and 7 has been pulled out of the land requirements for pipeline operation (i.e., there is no overlap in acres for these facilities).</p> <p><u>d/</u> Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.</p>			

REVISED Table 1.3-4										
Contractor Yards along the MVP Southgate Project Pipeline										
Name	Type	Approx. MP	County	State	Municipality	Parcel	Current Landowner Status	Land Use <u>a/</u>	Total Acres	Justification for forest clearing
CY-01	Contractor Yard / Laydown Yard	0.0 on H-605	Pittsylvania	VA	Chatham	VA-PI-001.000 VA-PI-002.015.CY	MVP owned property; environmental survey complete	OL	22.2 (Forest to be cleared 0.0)	Not Applicable
CY-03	Contractor Yard / Laydown Yard	13 miles East of 20.5	Pittsylvania	VA	Danville	VA-PI-142.200.CY	VA-PI-142.200.CY - Survey permission granted; environmental survey complete	FW, OL, CI	16.9 (Forest to be cleared 0.1)	Needed for staging and storage of pipe and equipment. The property is developed with a manufacturing building and is zoned (M-1) Industrial District, Light Industry.
CY-05	Contractor Yard / Laydown Yard	3.6 miles West of 28.3	Rockingham	NC	Eden	NC-RO-001.200.CY NC-RO-001.300.CY NC-RO-001.400.CY	Survey permission granted; environmental survey complete	CI, OL	19.8	Not applicable
CY-08	Contractor Yard / Laydown Yard	2.9 miles West of 44.6	Rockingham	NC	Reidsville	NC-RO-136.100.CY NC-RO-136.300.CY	Survey permission granted; environmental survey complete	OL, CI	11.5	Not applicable
CY-19	Contractor Yard / Laydown Yard	1.9 miles northwest of 24.7	Pittsylvania	VA	Cascade	VA-PI-207	Survey permission granted; environmental survey complete	OL	36.6	Not applicable
CY-22	Contractor Yard / Laydown Yard	1.9 miles northwest of 16.1	Pittsylvania	VA	--	VA-PI-218.CY	Survey permission granted; environmental survey complete	FW, OL	23.1 (Forest to be cleared 2.9)	Needed for staging and storage of pipe, materials, equipment and possible contractor work area. The yard is part of a larger, previously disturbed roadside parcel. The remaining trees to be cleared are patchy, do not consist of interior forest, and are vulnerable to windthrow.
CY-25A	Contractor Yard / Laydown Yard	12.3 miles east of 38.9	Caswell	NC	Yanceyville	NC-CA-001.000.CY	Survey permission granted; environmental survey complete	OL	22.2	Not applicable

REVISED Table 1.3-4										
Contractor Yards along the MVP Southgate Project Pipeline										
Name	Type	Approx. MP	County	State	Municipality	Parcel	Current Landowner Status	Land Use ^{a/}	Total Acres	Justification for forest clearing
CY-25B	Contractor Yard / Laydown Yard	12.3 miles east of 38.9	Caswell	NC	Yanceyville	NC-CA-001.000.CY	Survey permission granted; environmental survey complete	FW, OL	74.1 (Forest to be Cleared 0.3)	Needed for staging and storage of pipe, materials, equipment and possible contractor work area. The yard is located in a previously disturbed / harvested area with a network of logging access trails. Remaining trees are patchy, do not consist of interior forest, and are vulnerable to windthrow.
CY-26A	Contractor Yard / Laydown Yard	2.4 miles east of 71.7	Alamance	NC	Swepsonville	NC-AL-226.CY NC-AL-227.CY	Survey permission granted; environmental survey complete	OL	11.8	Not applicable
CY-26B	Contractor Yard / Laydown Yard	2.4 miles east of 71.7	Alamance	NC	Swepsonville	NC-AL-226.CY NC-AL-227.CY	Survey permission granted; environmental survey complete	FW, OL	10.5 (Forest to be cleared 0.2)	Needed for staging and storage of pipe, materials, equipment and possible contractor work area. The yard is located in a previously cleared area with signs of gravel extraction, remaining trees are patchy, do not consist of interior forest, and are vulnerable to windthrow.
								Total	248.7	
^{a/} CI = Commercial / Industrial; FW = Upland Forest / Woodland; OL = Upland Open Land										

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
H-605 Pipeline						
0.0	1000		VA-PI-001.000 VA-PI-002.000	0.83	FW	materials, parking, turn around, pipe staging
0.0	1000A		VA-PI-001.000	1.05	FW, OL	parking, pipe staging, frac tanks for hydro test, materials
0.1	1001		VA-PI-002.000	0.23	FW	materials, pumps, mats, pipe fab
0.2	1001A		VA-PI-002.000	0.40	AG, FW, OL	materials, equipment, pipe staging, pipe fab, mats
H-650 Pipeline						
0.3	1001B		VA-PI-002.000	0.80	AG, FW, OL	materials, equipment, dumpsters for spoils from hydrovac around Transco line, parking, pipe
0.1	1001F		VA-PI-002.000	0.20	FW	material, equipment, mats
0.2	1008		VA-PI-002.000	0.20	FW	material, equipment, mats, pumps
0.3	1009		VA-PI-002.000	0.23	FW	material, pumps, mats
0.5	1010		VA-PI-003.000	0.30	FW, OL	material, pumps, mats
0.6	1012		VA-PI-003.000	0.36	OL	material, parking, equipment
0.7	1013		VA-PI-005.000	0.50	OL	material, equipment, boring equipment
0.8	1014		VA-PI-005.000	0.52	OL	material, pipe, boring equipment, parking
0.9	1015		VA-PI-006.000	0.50	OL, SC	material, pipe, boring equipment, parking
1.0	1016		VA-PI-008.000	0.46	AG	material, pipe, mats, pumps, equipment
1.2	1017		VA-PI-009.000	0.82	OL	material, pipe, mats, pumps, equipment
1.3 RR	1020		VA-PI-009.000	1.05	FW, OL	material, pumps, mats, pipe
1.6	1022	X	VA-PI-010.000	0.47	OL	ATWS needed to support crossing of Cherrystone Creek. Construction workspace in area has been reduced significantly due to environmental features and buffers. This ATWS was located outside of buffers .
1.7	1023		VA-PI-010.000	0.07	OL	materials, equipment
1.7	1024		VA-PI-010.000	0.14	OL	materials, pumps, mats
2.2	1025B		VA-PI-012.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
2.2	1025C		VA-PI-012.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
2.3	1025A	X	VA-PI-012.000	1.30	FW, OL	Staging / storage of materials, mats, equipment, pipe during construction, due to the large wetland crossing .
2.3	1025D		VA-PI-012.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
2.4	1025E		VA-PI-014.000	0.03	OL, RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
2.4	1025F		VA-PI-012.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
2.8	1026		VA-PI-014.000	0.13	OL	materials, equipment, pipe
2.8	1027		VA-PI-015.000	0.21	AG	materials, equipment, pipe
2.9	1028		VA-PI-015.000	0.49	AG	material, parking, equipment, pipe
2.9	1029		VA-PI-016.000	0.14	AG	materials, equipment
3.0	1030		VA-PI-018.000	0.51	AG	boring equipment, materials, parking
3.2	1031		VA-PI-022.000	0.45	OL	materials, pumps, mats, pipe
3.3	1032		VA-PI-023.000	0.51	AG, FW, OL	materials, pumps, mats, pipe
3.4	1033	X	VA-PI-023.000	0.12	AG	Project turn around access for TA-PI-006 and offloading / staging, materials, equipment
3.4	1034	X	VA-PI-023.000	0.09	AG	Project turn around access for TA-PI-006 and offloading / staging, materials, equipment. Supports road crossing.
3.4	1033A		VA-PI-023.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
3.4	1033B		VA-PI-023.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
3.5	1035		VA-PI-023.000	0.29	AG	pumps, mats, equipment
3.6	1036		VA-PI-022.000	0.19	AG, FW	pumps, mats, equipment
3.7 RR	1037		VA-PI-022.000	0.17	AG	materials, parking, turn around,
3.8 RR	1037A		VA-PI-025.000	0.39	AG	materials, equipment, pipe
4.0	1038		VA-PI-025.000	0.22	AG	pumps, mats, equipment
4.1	1039		VA-PI-025.000	0.35	AG, FW	pumps, mats, equipment
4.1	1040		VA-PI-026.000	0.22	AG	pumps, mats, equipment
4.2	1041		VA-PI-026.000	0.21	AG	boring equipment, materials, parking
4.3	1042		VA-PI-030.000	0.15	OL	boring equipment, materials, parking, pipe
4.3	1043		VA-PI-031.000	0.28	FW, OL	boring equipment, materials, parking, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
4.3	1044		VA-PI-030.001	0.31	FW	boring equipment, materials, parking, pipe
4.4	1045		VA-PI-032.000	0.62	FW, OL	fab sections, equipment, materials, parking
4.4	1046		VA-PI-032.000	0.64	FW, OL	fab sections, equipment, materials, parking
4.6	1047	X	VA-PI-033.000	1.25	FW, OL	Staging to help support RT 29 & Banister River crossings, for storage equipment, of materials, parking and turn around.
4.8	1049		VA-PI-032.000	0.46	FW	pumps, mats, equipment, material
5.0	1050		VA-PI-034.000	0.11	FW	pumps, mats, equipment, material
5.1	1051	X	VA-PI-034.000	0.70	FW, OL	Staging for storage of materials and timber mats for wetland crossing, Banister River, and railroad crossings.
5.1	1051A		VA-PI-034.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
5.1	1051C		VA-PI-034.100	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
5.1	1051D		VA-PI-034.100	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
5.1	1051E		VA-PI-034.100	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
5.2	1052		VA-PI-034.000	0.46	FW, WL	boring equipment, pipe, materials
5.2	1051B		VA-PI-034.000	0.03	FW	
5.3	1053		VA-PI-035.000	0.49	FW	boring equipment, pipe, materials
5.6	1054	X	VA-PI-036.000	0.69	FW, OL	Support construction through valley directly southwest of ATWS.
5.7	1054A		VA-PI-036.000	0.03	FW, OL	
5.8	1055	X	VA-PI-036.000	1.06	FW, OL	Support construction through valley directly northeast of ATWS
5.9	1056	X	VA-PI-036.000	0.40	CI, OL	To support construction activities with staging pipe, materials, to limit disturbing trucking access into the landfill, equipment and timber mats for pipeline crossing.
6.0	1057		VA-PI-036.000	0.46	FW	pumps, mats, equipment, material

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number <u>a/</u>	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use <u>b/</u>	Purpose
6.1	1058		VA-PI-036.000	0.25	FW	pumps, mats, equipment, material
6.2	1059		VA-PI-036.000	0.46	FW, OL	pumps, mats, equipment, material
6.2	1060		VA-PI-037.000	0.46	FW	pumps, mats, equipment, material
6.2	1061		VA-PI-037.000	0.83	OL	To support construction activities with staging pipe, materials, to limit disturbing trucking access into the County property, also parking, mats.
6.3	1061A		VA-PI-037.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
6.3	1061B		VA-PI-035.100	0.03	AG, CI	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
6.5	1062		VA-PI-037.000	0.46	FW	pumps, mats, equipment, material
6.7	1063		VA-PI-038.000	0.46	FW	pumps, mats, equipment, material
6.8	1064	X	VA-PI-038.000	0.25	FW, OL	Staging for timber mats and equipment needed for pipeline crossings through two streams / wetlands. Allows for equipment staging issues that will occur due to collocated foreign pipeline ROW.
6.8	1064A		VA-PI-038.000	0.03	FW	Staging for timber mats and equipment needed for pipeline crossings through two streams / wetlands. Allows for equipment staging issues that will occur due to collocated foreign pipeline ROW.
6.9	1065		VA-PI-039.000	0.53	FW	pumps, mats, equipment, material
6.9	1064B		VA-PI-039.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
6.9	1064C		VA-PI-039.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
7.1	1066		VA-PI-040.000	1.53	AG, FW, OL	pumps, mats, equipment, material
7.2	1068		VA-PI-041.000	0.45	FW, OL	pipe, materials, parking, equipment, boring equipment
7.4	1069		VA-PI-042.000	0.24	FW	pipe, materials, parking, equipment, boring equipment
7.4	1070		VA-PI-044.000	0.48	OL	pipe, materials, parking, equipment, boring equipment
7.6	1071		VA-PI-044.000	0.26	FW	pumps, mats, equipment, material

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
7.6	1072		VA-PI-044.000	0.23	FW	pumps, mats, equipment, material
7.9	1074		VA-PI-045.000	0.47	OL	pumps, mats, equipment, material
8.0	1075		VA-PI-045.000	0.27	FW, OL	pumps, mats, equipment, material
8.1	1076		VA-PI-045.000	0.37	OL	pipe, materials, parking, equipment, boring equipment
8.1	1077		VA-PI-046.000	0.32	FW, OL	pipe, materials, parking, equipment, boring equipment
8.2	1078		VA-PI-047.000	0.34	FW, OL	Area for storage and turn around for large trucks.
8.3	1080B		VA-PI-048.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
8.3	1080C		VA-PI-048.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
8.4	1079		VA-PI-048.000	0.52	FW, OL	pumps, mats, equipment, material
8.4	1080A		VA-PI-048.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
8.5	1080		VA-PI-048.000	0.63	FW, OL	pumps, mats, equipment, material
8.6	1081		VA-PI-048.000	0.52	FW, OL	pumps, mats, equipment, material
8.9	1082	X	VA-PI-050.000	0.87	OL	ATWS to support large water body crossing for parking, pipe storage, material storage away from foreign pipeline ROW
8.9	1082A		VA-PI-051.000	0.03	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
8.9	1082B		VA-PI-050.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
9.0	1083		VA-PI-050.000, VA-PI-051.000	0.66	FW, OL	pumps, mats, equipment, material
9.0	1082C		VA-PI-051.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
9.0	1082D		VA-PI-051.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
9.1	1084		VA-PI-052.000	0.31	AG, FW, OL	Staging for storage of materials and timber mats for wetland and stream crossing.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
9.3	1085		VA-PI-052.000	0.37	AG	pipe, materials, parking, equipment, boring equipment
9.4	1086		VA-PI-053.000	0.08	FW, OL	pipe, materials, parking, equipment, boring equipment
9.4	1086A		VA-PI-053.000	0.27	OL	Installation of groundbed
9.6	1088	X	VA-PI-053.000	0.20	AG, FW	turn around for trucks, material staging for large wetland crossing due to ROW width restrictions and long access road
9.7	1088A		VA-PI-053.000	0.51	FW	materials, equipment, pipe
9.7	1088C		VA-PI-053.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
9.8	1088B		VA-PI-053.000	0.85	AG, FW, OL	pumps, mats, equipment, material
9.9	1089		VA-PI-053.000	0.23	FW	pumps, mats, equipment, material
10.0	1090		VA-PI-053.000	0.61	FW	pumps, mats, equipment, material
10.1	1091		VA-PI-055.000	0.23	FW	pumps, mats, equipment, material
10.1	1092		VA-PI-055.000	0.23	FW, OL	pumps, mats, equipment, material
10.3	1093	X	VA-PI-061.000	0.69	OL	project access ,parking, pipe storage, material storage due to ROW restriction from housing in the area.
10.8	1094		VA-PI-075.000	0.67	FW, OL	pipe, materials, parking, equipment, boring equipment
10.8	1095		VA-PI-075.000	0.49	OL	pipe, materials, parking, equipment, boring equipment
10.8	1094A		VA-PI-075.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
10.8	1094B		VA-PI-075.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
10.9	1095A		VA-PI-075.000	0.77	FW, OL	pumps, mats, equipment, material
11.1	1096	X	VA-PI-075.000	1.61	FW, OL	support multiple stream crossings between access points
11.4	1097		VA-PI-076.000	0.37	FW	pumps, mats, equipment, material
11.4	1098		VA-PI-076.000	0.51	FW, OL	pumps, mats, equipment, material
11.6	1099		VA-PI-076.000	0.48	FW	pumps, mats, equipment, material
11.7	1100		VA-PI-077.000	0.36	FW	pumps, mats, equipment, material
11.9	1101		VA-PI-077.000	0.47	FW	pumps, mats, equipment, material

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
12.0	1103		VA-PI-077.000	0.69	FW, OL	materials, pipe, equipment
12.3	1105		VA-PI-079.000	0.52	AG	pipe, materials, parking, equipment, boring equipment
12.4	1106		VA-PI-082.000	0.28	AG, FW	pipe, materials, parking, equipment, boring equipment
12.5	1106A		VA-PI-082.000	0.23	AG	materials, pipe, equipment
12.7	1107		VA-PI-082.000	0.97	AG, FW	materials, pipe, equipment
12.7	1108		VA-PI-082.000	0.26	FW	pumps, mats, equipment, material
12.8	1109		VA-PI-084.000	0.46	FW	pumps, mats, equipment, material
13.1	1110	X	VA-PI-084.000	0.46	FW, OL	support installation of pipeline PI
13.3	1111		VA-PI-085.000	0.26	FW, OL	materials, pipe, equipment
13.4	1112	X	VA-PI-087.000	0.43	OL	Area to be used to support pipe, materials, parking, equipment, boring equipment needed for Sandy Creek Rd & S-E18-27 / wetland crossing areas.
13.4	1112A		VA-PI-087.000	0.11	OL	pipe, materials, parking, equipment, boring equipment
13.4	1113		VA-PI-089.000	0.09	FW, OL	material, pumps, mats, pipe, boring equipment
13.5 RR	1114		VA-PI-090.000	0.42	FW	pumps, mats, equipment, material
13.7	1115		VA-PI-091.000	0.23	FW, OL	Staging and storage of materials (e.g. pipe and fittings) and turn around for delivery trucks.
14.1	1116	X	VA-PI-092.000	0.54	FW, OL	Turnaround and material storage for long access road
14.2	1117		VA-PI-094.000	0.46	FW	pumps, mats, equipment, material
14.3	1118		VA-PI-094.000	0.51	FW	pumps, mats, equipment, material
14.3	1116A	X	VA-PI-092.200	0.06	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
14.7	1118A		VA-PI-094.000	0.27	OL	pumps, mats, equipment, material
14.8	1118B		VA-PI-096.000	0.46	FW, OL	pumps, mats, equipment, material
14.8	1119		VA-PI-096.000	0.47	OL	pipe, materials, parking, equipment, boring equipment
14.9	1120		VA-PI-099.000	0.19	AG, RD	pipe, materials, parking, equipment, boring equipment
15.2	1120A	X	VA-PI-100.000	0.15	AG	ATWS to be used for pumps, mats, equipment, material, trucking turnaround, to support multiple stream crossings
15.2	1120B		VA-PI-100.000	0.39	AG	pumps, mats, equipment, material
15.3	1120C		VA-PI-100.000	0.38	AG, FW	pumps, mats, equipment, material

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
15.6	1122		VA-PI-101.000	0.64	FW, OL	pumps, mats, equipment, material
15.7	1123		VA-PI-102.000	0.52	FW	pumps, mats, equipment, material
15.8	1124		VA-PI-103.000	0.90	FW, OL	Staging and storage of materials and timber mats for stream crossing and PI. Also, for pipe storage.
16.0	1126	X	VA-PI-106.000	0.43	FW, OL	staging for materials, equipment, and timber mats for stream crossing and Mt. Cross Road crossing
16.0	1126A		VA-PI-106.000	0.23	FW, OL	materials, pipe, equipment
16.0	1127	X	VA-PI-106.000	0.54	AG, FW	staging for materials, equipment, and timber mats for multiple stream crossing and trucking turnaround. Reduced construction ROW in area.
16.1	1128		VA-PI-106.000	0.21	AG, FW	pumps, mats, equipment, material
16.3	1129		VA-PI-107.000	0.46	AG, RD	materials, pipe, equipment
16.4	1130		VA-PI-111.000	0.30	AG, RD	pipe, materials, parking, equipment, boring equipment
16.5	1131		VA-PI-115.000	0.53	AG, FW	pipe, materials, parking, equipment, boring equipment
16.6	1131A		VA-PI-115.000	0.23	AG	pumps, mats, equipment, material
16.7	1132	X	VA-PI-115.000	0.07	AG, FW, OL	Area to support stream crossings, and wetland crossings on either side
16.7	1132A		VA-PI-115.000 VA-PI-116.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
16.8	1133		VA-PI-115.000	0.06	AG, FW	pumps, mats, equipment, material
16.9	1134		VA-PI-115.000	0.66	AG	pumps, mats, equipment, material, pipe
17.1	1135C		VA-PI-115.100	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
17.1	1135D		VA-PI-115.100	0.03	AG, FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
17.2	1135	X	VA-PI-118.000	0.88	AG, FW, OL	Area to support stream crossings. Topography issues in area around stream crossings
17.2	1135A		VA-PI-118.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
17.2	1135B		VA-PI-118.000	0.03	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
17.4	1136		VA-PI-118.000	0.62	OL	pumps, mats, equipment, material, pipe
17.4	1136A		VA-PI-118.000	0.36	OL	pumps, mats, equipment, material, pipe
17.3	1137		VA-PI-118.000	0.11	OL	pumps, mats, equipment, material, pipe
17.6 RR	1136B		VA-PI-118.000	0.86	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
17.7 RR	1136C		VA-PI-121.000	0.58	FW, WL	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.
17.8 RR	1136D		VA-PI-121.000	0.49	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
17.9	1136E		VA-PI-120.000 VA-PI-121.000	0.36	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
18.0	1140	X	VA-PI-120.000	0.47	FW	staging and storage of materials, timber mats and equipment for multiple stream crossings
18.1	1141		VA-PI-120.000	0.61	FW, OL	pumps, mats, equipment, material, pipe
18.1	1141A		VA-PI-121.000	0.03	AG	
18.2	1142	X	VA-PI-121.000	0.47	OL	pipe, materials, parking, equipment, boring equipment for Pine Lake Rd
18.3	1143		VA-PI-124.000	0.45	AG	pipe, materials, parking, equipment, boring equipment
18.7	1144		VA-PI-128.000	0.57	FW, OL	materials, pipe, equipment
18.9	1145		VA-PI-128.000	0.62	FW, OL	pipe, materials, parking, equipment, boring equipment
19.0	1146		VA-PI-130.000	0.41	AG, FW, OL	pipe, materials, parking, equipment, boring equipment
19.2	1146A		VA-PI-132.000	0.17	RD	pipe, materials, parking, equipment, boring equipment
19.3	1147		VA-PI-135.000	0.32	AG, FW	pipe, materials, parking, equipment, boring equipment
19.4	1147A		VA-PI-137.100	0.27	AG, FW	materials, pipe, equipment
19.5	1147B		VA-PI-140.000	0.02	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
19.7	1148		VA-PI-144.000	0.23	FW	material, pumps, mats, pipe
19.8	1149		VA-PI-150.000	0.23	FW, OL	material, pumps, mats, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
19.9	1150	X	VA-PI-150.100	2.03	FW, OL	ATWS needed to support storage of pipe, mats, materials, parking, equipment, boring equipment for Hwy 58, also to support multiple foreign utility line crossing.
19.9	1151		VA-PI-151.000	0.27	FW, OL	pipe, materials, parking, equipment, boring equipment
20.0	1152		VA-PI-152.000	0.05	CI, OL	pipe, materials, parking, equipment, boring equipment
20.0	1152A		VA-PI-152.000	0.34	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
20.3	1158		VA-PI-160.000	0.46	AG	material, pumps, mats, pipe
20.4	1160	X	VA-PI-160.000	0.66	AG, OL	Staging and storage of materials, timber mats and equipment for multiple stream crossing. Area will also be used for turning around trucks/lowboys ,due to ROW restrictions
20.5	1160A		VA-PI-160.000	0.03	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
20.6	1161		VA-PI-160.000	0.46	AG, FW, OL	material, pumps, mats, pipe
20.6	1162		VA-PI-160.000	0.37	OL	material, pumps, mats, pipe
20.6	1160B		VA-PI-160.000	0.06	AG, FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
20.9	1163		VA-PI-162.000	0.46	AG, FW	material, pumps, mats, pipe
21.0	1164		VA-PI-162.000	0.65	FW	material, pumps, mats, pipe
21.2	1165		VA-PI-164.000	0.46	FW, OL	material, pumps, mats, pipe
21.3	1166		VA-PI-163.000	0.46	FW, OL	material, pumps, mats, pipe
21.6	1167		VA-PI-165.000	0.11	FW	turn around for trucks, material
22.0	1169		VA-PI-169.000	0.15	RD	material, pumps, mats, pipe, boring equipment
22.1	1170		VA-PI-171.000	0.46	FW, OL	material, pumps, mats, pipe, boring equipment
22.2	1170A		VA-PI-171.000	0.41	FW	material, pumps, mats, pipe
22.4	1171		VA-PI-173.000	0.34	FW, OL	turn around for trucks, material
22.4	1173		VA-PI-173.000	0.34	FW, OL	materials, pipe, equipment
22.6	1175		VA-PI-173.000	0.34	FW, OL	materials, pipe, equipment
22.6	1178E		VA-PI-172.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
22.6	1178F		VA-PI-172.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
22.7	1176		VA-PI-173.000	0.34	FW, OL	materials, pipe, equipment
22.8	1178A		VA-PI-174.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
22.8	1178B		VA-PI-174.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
22.8	1178C		VA-PI-172.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
22.8	1178D		VA-PI-172.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
23.0	1177		VA-PI-174.000	0.46	FW	material, pumps, mats, pipe
23.0	1178	X	VA-PI-174.000	0.21	FW, OL	Staging and storage of materials and timber mats for foreign pipeline crossing, multiple stream /wetland crossings with ROW width restrictions
23.0	1179		VA-PI-174.000	0.36	FW	material, pumps, mats, pipe
23.1	1180		VA-PI-174.000	0.46	FW	material, pumps, mats, pipe
23.2	1181		VA-PI-174.000	0.40	FW	material, pumps, mats, pipe
23.5	1183		VA-PI-175.000	0.46	FW	material, pumps, mats, pipe
23.6	1184		VA-PI-175.000	0.40	FW	material, pumps, mats, pipe
23.7	1185		VA-PI-175.000	0.47	FW	pipe, materials, parking, equipment, boring equipment
23.7	1186		VA-PI-178.000	0.48	FW, OL	pipe, materials, parking, equipment, boring equipment
23.8	1187		VA-PI-178.000	0.23	FW	material, pumps, mats, pipe
23.9	1188		VA-PI-178.000	0.23	FW	material, pumps, mats, pipe
24.0	1189		VA-PI-178.000	0.46	FW	material, pumps, mats, pipe
24.0	1190A		VA-PI-178.100	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
24.0	1190B		VA-PI-178.100	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
24.1	1190	X	VA-PI-178.000	0.69	FW, OL	Area for material storage and turn around for large trucks delivering equipment / materials. Topography issues in area.
24.3	1191		VA-PI-178.000	0.46	FW	material, pumps, mats, pipe
24.4	1192		VA-PI-178.000	0.43	FW	material, pumps, mats, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
24.6	1193		VA-PI-178.000	0.92	FW, OL	Area for material storage and turn around for large trucks.
24.8	1194	X	VA-PI-178.000	0.23	FW	Supports multiple stream/wetland crossings as well as the railroad bore crossing
24.8	1195		VA-PI-179.000	1.02	FW, OL	Area for material storage and turn around for large trucks
24.9	1196		VA-PI-179.000	0.47	FW	pipe, materials, parking, equipment, boring equipment
25.0	1197		VA-PI-180.000	0.45	FW	pipe, materials, parking, equipment, boring equipment
25.1	1198	X	VA-PI-180.000	0.69	FW, OL	ATWS needed for material storage and turn around for large trucks ,while supporting multiple stream/ wetland crossings as well as the railroad bore crossing
25.2	1200		VA-PI-180.000	0.23	FW	material, pumps, mats, pipe
25.7	1201		VA-PI-180.000	0.46	FW, OL	material, pumps, mats, pipe
25.7	1202		VA-PI-180.000	0.46	FW	material, pumps, mats, pipe
25.8	1203		VA-PI-180.000	0.35	FW	material, pumps, mats, pipe
25.9	1204		VA-PI-180.000	0.46	FW	material, pumps, mats, pipe
26.0	1205		VA-PI-180.000	0.46	FW	Area for material storage and turn around for large trucks.
26.2	1206		NC-RO-001.000	0.53	FW, OL	Staging for storage of equipment, materials and timber mats for wetland crossing and Buffalo Road crossing.
26.3	1207		NC-RO-002.000	0.37	FW	pipe, materials, parking, equipment, boring equipment
26.5	1208		NC-RO-002.000	0.46	FW	pipe, materials, parking, equipment, boring equipment
26.6 RR	1209		NC-RO-004.000	0.50	OL	pipe, materials, parking, equipment, boring equipment
26.6 RR	1210		NC-RO-004.000	0.34	OL	parking, pipe storage, material storage
26.8 RR	1211		NC-RO-004.000	1.24	FW, OL	parking, pipe storage, material storage
26.9	1212		NC-RO-004.000	0.14	FW	pipe, materials, parking, equipment, boring equipment
27.0 RR	1213	X	NC-RO-005.000	1.00	AG, WL	Due to large wetlands / streams ,and foreign line crossings- mats , pipe, materials, parking, equipment, boring equipment will need to be staged in ATWS
27.0 RR	1213A	X	NC-RO-005.000	1.31	AG, OL, RD	Due to large wetland / stream, and foreign line crossings mats, pipe, materials, parking, equipment, boring equipment will need to be staged in ATWS.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
27.3	1213D		NC-RO-005.000	0.40	WL	material, pumps, mats, pipe
27.4	1218		NC-RO-006.000	1.16	AG, OL	parking, pipe storage, material storage
27.6	1222		NC-RO-006.000	0.76	OL, WL	materials, pipe, equipment
27.8 RR	1224	X	NC-RO-006.000	0.93	AG	Due to large wetland / stream crossings in vicinity, area will be used for material storage
27.9 RR	1224F		NC-RO-006.000	0.04	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.2 RR	1224C		NC-RO-006.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.3 RR	1230	X	NC-RO-006.000	1.05	FW, OL	Multiple wetlands / streams, and foreign line crossings-mats, pipe, materials, parking, equipment, will need to be staged in ATWS, due to multiple ROW width restrictions.
28.5 RR	1224D		NC-RO-006.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.5 RR	1224E		NC-RO-006.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.5 RR	1230A		NC-RO-006.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.5 RR	1230B		NC-RO-006.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
28.5 RR	1231		NC-RO-006.000	0.23	FW, OL	material, pumps, mats, pipe
28.6 RR	1232	X	NC-RO-006.000	0.93	FW, OL	Staging and storage of materials for stream crossings. Topography issues in area and along access road
28.6 RR	1233		NC-RO-006.000	0.46	FW	materials, pipe, equipment
28.7	1234		NC-RO-007.000	0.50	FW	materials, pipe, equipment
28.8	1235		NC-RO-007.000	0.46	FW, OL	materials, pipe, equipment
28.9	1236		NC-RO-007.000	0.46	FW	material, pumps, mats, pipe
29.0	1237		NC-RO-007.000	0.46	FW	material, pumps, mats, pipe
29.1	1238		NC-RO-007.000	0.23	FW	material, pumps, mats, pipe
29.1	1239A		NC-RO-007.000	0.03	OL, RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
29.2	1239	X	NC-RO-007.000	0.49	FW, OL	Staging and storage of materials. Restrictions in area due to foreign pipeline ROW.
29.2	1240		NC-RO-007.000	0.46	FW, OL	materials, pipe, equipment
29.3 RR	1240A		NC-RO-007.000	0.93	FW, OL	materials, pipe, equipment
29.4 RR	1240B		NC-RO-007.000	0.25	FW	materials, pipe, equipment
29.5 RR	1242A		NC-RO-007.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
29.5 RR	1242B		NC-RO-007.000	0.03	OL, RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
29.6	1241		NC-RO-007.000	0.23	FW	material, pumps, mats, pipe
29.6	1242	X	NC-RO-007.000	0.46	FW, OL	support / staging for multiple foreign line equipment crossings Restrictions in area due to foreign pipeline ROW.
29.6	1243		NC-RO-007.000	0.75	AG	material, pumps, mats, pipe
29.7	1247C		NC-RO-011.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
29.7	1247D		NC-RO-011.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
29.9	1244		NC-RO-011.000	2.64	AG, FW, OL, WL	material, pumps, mats, pipe, boring equipment
29.9	1244A	X	NC-RO-011.000	0.51	AG, OL	ATWS to work in conjunction with ATWS 1244 to support wetland crossing , material, pumps, mats, pipe, boring equipment of the Dan River.
30.0	1247	X	NC-RO-011.000	0.39	AG	staging of mats / equipment needed to perform foreign line equipment crossing , then used for as needed for parking, materials, pipe, equipment to support HDD of Dan River and large wetland crossing.
30.0	1247A		NC-RO-011.000	0.03	AG, OL	materials, pipe, equipment
30.0	1247B		NC-RO-011.000	0.03	AG	
30.3	1251A	X	NC-RO-014.000 NC-RO-015.000	6.42	AG	Staging of mats / equipment needed to perform foreign line equipment crossings. Supports Dan River HDD. Restrictions in area due to large wetland features. Potential point of demarcation and testing between construction spreads.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
30.5	1250	X	NC-RO-015.000	0.18	CI, OL, WL	ATWS needed in this area to support the Hwy 700 road bore spoils, material, pumps, mats, pipe, boring equipment.
30.5	1252		NC-RO-018.000	0.12	OL	material, pumps, mats, pipe, boring equipment
30.6	1252A		NC-RO-019.000	0.28	OL	materials, pipe, equipment
30.7	1253		NC-RO-022.000	0.40	FW, OL	materials, pipe, equipment
30.9	1253D		NC-RO-019.000	0.11	OL	Supports multiple stream crossings on either side and reduced ROW due to environmental buffers.
31.0	1253A		NC-RO-025.000	0.59	FW, OL	materials, pipe, equipment
31.1	1253B		NC-RO-025.000	0.04	FW	material, mats, pumps, pipe
31.1	1253C		NC-RO-025.000	0.22	FW	material, mats, pumps, pipe
31.2	1258		NC-RO-025.000	0.36	FW, OL	materials, pipe, equipment
31.3	1259		NC-RO-025.000	0.23	FW	material, mats, pumps, pipe
31.3	1260		NC-RO-027.000	0.25	FW	material, mats, pumps, pipe
31.7	1261		NC-RO-033.000	0.62	FW, OL	material, pumps, mats, pipe, boring equipment
31.8	1262		NC-RO-033.000	0.53	FW, OL	materials, pipe, equipment
32.0	1263		NC-RO-035.000	0.17	FW, OL	material, mats, pumps, pipe
32.2	1265		NC-RO-037.000	0.17	FW, OL	material, mats, pumps, pipe
32.3	1266		NC-RO-038.000	0.46	OL	material, mats, pumps, pipe
32.4	1267	X	NC-RO-038.000	0.57	OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings.
32.5	1268		NC-RO-038.000	0.34	OL	materials, pipe, equipment
32.5	1267A		NC-RO-038.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
32.5	1267B		NC-RO-038.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
32.6	1269		NC-RO-038.000	0.46	FW, OL	materials, pipe, equipment
32.6	1267C		NC-RO-038.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
32.6	1267D		NC-RO-038.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
32.8	1270		NC-RO-039.000	0.74	FW	materials, pipe, equipment
32.8	1271	X	NC-RO-040.000	0.27	FW	ATWS, needed to stage equipment /mats for foreign line equipment crossing to access ROW.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
32.8	1272	X	NC-RO-039.000	0.37	FW, OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings. Topography issues in area.
32.8	1271A		NC-RO-039.000	0.03	FW	ATWS, needed to stage equipment /mats for foreign line equipment crossing to access ROW.
32.8	1271B		NC-RO-040.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
32.9	1273		NC-RO-040.000	0.23	FW, OL	material, mats, pumps, pipe
33.0	1274		NC-RO-040.000	0.19	FW, OL	material, mats, pumps, pipe
33.1	1275		NC-RO-041.000	0.17	OL	material, mats, pumps, pipe
33.1	1267E		NC-RO-038.100	0.03	FW, OL, RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
33.2	1276		NC-RO-041.000	0.31	FW, OL	material, pumps, mats, pipe, boring equipment
33.2	1277		NC-RO-041.000	0.18	FW	material, pumps, mats, pipe, boring equipment
33.2	1278		NC-RO-042.000	0.19	FW	material, pumps, mats, pipe, boring equipment
33.3	1279		NC-RO-042.000	0.27	FW	material, mats, pumps, pipe
33.4	1280		NC-RO-042.000	0.49	FW	material, mats, pumps, pipe
33.4	1280A		NC-RO-043.000.ABU	0.23	FW	material, mats, pumps, pipe
33.5	1281		NC-RO-044.000	0.23	FW	material, mats, pumps, pipe
33.5	1282C		NC-RO-044.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
33.5	1282D		NC-RO-044.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
33.6	1282	X	NC-RO-044.000	0.46	FW, OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings. Topography issues in area especially closer to stream crossing.
33.6	1282A		NC-RO-044.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
33.6	1282B		NC-RO-044.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
33.7	1283		NC-RO-042.000	0.29	FW	material, mats, pumps, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
33.8	1284		NC-RO-042.000	0.52	FW	material, mats, pumps, pipe
33.9	1285		NC-RO-045.000	0.46	FW	material, mats, pumps, pipe
34.0	1286		NC-RO-045.000	0.46	FW, OL	material, mats, pumps, pipe
34.1	1287	X	NC-RO-045.000	0.46	FW, OL	ATWS needed support multiple stream and wetland crossings for staging /storage of materials, equipment. Topography issues in area.
34.1	1287A		NC-RO-047.300	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
34.1	1287B		NC-RO-047.300	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
34.2 RR	1288		NC-RO-047.000	0.12	FW	material, mats, pumps, pipe
34.3	1289		NC-RO-047.000	0.52	OL	materials, pipe, equipment
34.5	1290		NC-RO-051.000	0.48	FW	material, mats, pumps, pipe
34.6	1291		NC-RO-051.000	0.44	FW	material, mats, pumps, pipe
34.7	1293		NC-RO-054.000	0.47	FW	material, mats, pumps, pipe
34.7	1293A		NC-RO-053.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
34.7	1293B		NC-RO-053.000	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
34.8	1294		NC-RO-054.000	0.23	FW	material, mats, pumps, pipe
34.8	1296		NC-RO-054.000	0.46	FW	material, mats, pumps, pipe
35.0	1297		NC-RO-054.000	0.57	FW	material, mats, pumps, pipe
35.1	1297A		NC-RO-057.000	0.46	FW	material, mats, pumps, pipe
35.2	1297B		NC-RO-057.000	0.48	FW	material, mats, pumps, pipe
35.4	1299	X	NC-RO-057.000	0.51	FW, OL	Support foreign line crossing. Restriction in area due to foreign line ROW.
35.4	1300		NC-RO-057.000	0.40	FW, OL	Staging and storage of materials, equipment and timber mats for PI work and pipeline crossing. Area may also be used for contractor parking.
35.4	1300A		NC-RO-059.000	0.06	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
35.7	1301		NC-RO-058.000	0.37	AG, FW	materials, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
35.9	1302	X	NC-RO-058.000	0.40	FW, OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings, and environmental features such as slopes and drainages.
35.9	1303		NC-RO-058.000	0.41	FW, OL	materials, pipe, equipment
35.9	1302A		NC-RO-058.000 NC-RO-059.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
35.9	1302B		NC-RO-058.000 NC-RO-059.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
36.0	1303A		NC-RO-061.000	0.17	FW, OL	material, mats, pumps, pipe
36.2	1305		NC-RO-061.000	0.46	FW, OL	Staging and storage of materials, equipment and turn around for large trucks. Area may also be used for contractor parking.
36.3	1306		NC-RO-061.000	0.25	AG	material, pumps, mats, pipe, boring equipment
36.3	1307		NC-RO-061.000	0.18	AG	material, pumps, mats, pipe, boring equipment
36.3	1308		NC-RO-063.000	0.25	AG	material, pumps, mats, pipe, boring equipment
36.3	1309		NC-RO-062.000	0.18	AG, FW	material, pumps, mats, pipe, boring equipment
36.3	1310		NC-RO-063.000	0.40	AG, FW	materials, pipe, equipment
36.6	1311		NC-RO-063.000	0.24	OL	material, pumps, mats, pipe, boring equipment
36.6	1312		NC-RO-063.000	0.18	OL	material, pumps, mats, pipe, boring equipment
36.6	1313		NC-RO-067.000.ABU	0.13	FW, RD	material, pumps, mats, pipe, boring equipment
36.8	1315		NC-RO-068.000	0.38	AG, FW	Staging and storage of materials, equipment and turn around for large trucks. Area may also be used for contractor parking.
36.8	1316		NC-RO-068.000	0.23	AG, FW	materials, pipe, equipment
36.9	1317A		NC-RO-069.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
36.9	1317B		NC-RO-069.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
37.0	1316A		NC-RO-069.000	0.16	OL	materials, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
37.1	1317	X	NC-RO-069.000	0.46	OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings, and environmental features such as slopes and drainages.
37.1	1318		NC-RO-072.000	0.23	FW	material, mats, pumps, pipe
37.2	1319		NC-RO-072.000	0.23	FW	material, mats, pumps, pipe
37.2	1320		NC-RO-072.000	0.23	FW	material, mats, pumps, pipe
37.3	1321		NC-RO-073.000	0.26	FW	material, mats, pumps, pipe
37.6	1324	X	NC-RO-077.000	0.53	OL	support multiple stream and wetland crossings, foreign line crossings. Restricted ROW in area.
37.7	1324B		NC-RO-077.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
37.8	1324A		NC-RO-080.000	0.45	FW, OL	materials, pipe, equipment
37.8	1326		NC-RO-080.000	0.53	FW, OL	materials, pipe, equipment
37.9	1327		NC-RO-083.000	0.42	FW, RD	materials, pipe, equipment
38.0	1328	X	NC-RO-084.000	0.76	FW, OL	ATWS needed to stage / off load materials, pipe, equipment to support multiple stream and wetland crossings, foreign line crossings
38.1	1328A		NC-RO-085.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
38.1	1328B		NC-RO-085.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
38.1	1328C		NC-RO-086.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
38.1	1328D		NC-RO-086.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
38.2	1329		NC-RO-086.000	0.29	OL	materials, pipe, equipment
38.2	1330A		NC-RO-087.000 NC-RO-088.000	0.22	FW	Supports multiple stream crossings. Topography issues in area.
38.3	1331		NC-RO-088.000	0.25	FW	materials, pipe, equipment
38.4	1332		NC-RO-089.000	0.53	FW	material, mats, pumps, pipe
38.6	1333		NC-RO-089.000	0.23	FW	material, mats, pumps, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
38.6	1334		NC-RO-089.000	0.40	FW, OL	Staging and storage of materials, equipment and turn around for large trucks. Area may also be used for contractor parking.
38.8	1335		NC-RO-090.000	0.28	FW, OL	material, pumps, mats, pipe, boring equipment
38.8	1336	X	NC-RO-090.000	0.40	FW, OL	Support multiple stream and wetland crossings and road bore. Restricted ROW in area.
38.8	1337		NC-RO-091.000	0.24	FW, OL	material, pumps, mats, pipe, boring equipment
38.9	1338	X	NC-RO-091.000	0.96	FW, OL	Support multiple stream and wetland crossings and road bore. Restricted ROW in area due to colocation with high voltage transmission lines.
39.0	1340		NC-RO-091.000	0.45	FW	material, mats, pumps, pipe
39.1	1341		NC-RO-092.000	0.25	FW, OL	material, mats, pumps, pipe
39.1	1342		NC-RO-092.000	0.19	FW	material, mats, pumps, pipe
39.2	1342A		NC-RO-092.000	0.06	FW	material, mats, pumps, pipe
39.3	1343		NC-RO-094.000	0.13	AG	material, mats, pumps, pipe
39.6	1344	X	NC-RO-095.000	0.60	FW, OL, RD	Support stream / wetland crossings and road bore. Tight workspace due to structures at crossings.
39.7	1345		NC-RO-095.000	0.12	FW, OL	material, pumps, mats, pipe, boring equipment
39.7	1346	X	NC-RO-100.000	0.30	FW, OL	stage / off load materials, pipe, equipment, mats, boring equipment to bore US 29 & railroad while supporting stream and wetland crossings
39.7	1347	X	NC-RO-100.000	0.57	FW, OL	stage / off load materials, pipe, equipment, mats, boring equipment to bore US 29 & railroad while supporting stream and wetland crossings.
39.7	1347A		NC-RO-100.100	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
39.9	1348		NC-RO-100.000	0.39	FW	materials, pipe, equipment
40.0	1349		NC-RO-099.000.AR	0.70	FW, OL	materials, pipe, equipment
40.1	1350		NC-RO-101.000	0.23	FW	material, mats, pumps, pipe
40.2	1351		NC-RO-101.000	0.23	FW	material, mats, pumps, pipe
40.2	1352		NC-RO-101.000	0.24	FW	material, mats, pumps, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
40.3 RR	1353A	X	NC-RO-102.000	0.20	FW	ATWS to be used for project access off of Narrow Gauge Rd, parking, staging of equipment to support road bore and stream/wetland crossing. ATWS was proposed in this location to avoid disturbing landowners to the east of the pipeline.
40.4 RR	1353B		NC-RO-105.000	0.11	FW	Supports road crossing and PI installation
40.4 RR	1354A		NC-RO-105.000	0.20	AG, FW, OL	Additional space for construction. Topography issues in area.
40.3 RR	1353		NC-RO-103.000	0.45	FW, OL	material, pumps, mats, pipe, boring equipment
40.4 RR	1354		NC-RO-104.000	0.18	AG, FW	material, pumps, mats, pipe, boring equipment
40.5	1355		NC-RO-106.000	0.44	AG	materials, pipe, equipment
40.5	1356		NC-RO-108.000	0.23	FW	material, mats, pumps, pipe
40.5	1363D		NC-RO-108.000	0.03	OL, RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
40.5	1363E		NC-RO-108.000	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
40.5 RR	1354B		NC-RO-105.000	0.06	AG	Supports stream crossings. Topography issues in area.
40.6	1357		NC-RO-108.000	0.22	FW	material, mats, pumps, pipe
40.6	1358		NC-RO-108.000	0.29	FW	material, mats, pumps, pipe
40.7	1359		NC-RO-109.000	0.50	FW	materials, pipe, equipment
40.8	1360		NC-RO-109.000	0.27	FW	material, mats, pumps, pipe
40.8	1361		NC-RO-109.000	0.18	FW	material, mats, pumps, pipe
40.8	1362		NC-RO-109.000	0.40	FW	materials, pipe, equipment
40.9	1363		NC-RO-109.000	0.35	FW, OL	Staging and storage of materials, equipment and turn around for large trucks.
40.9	1363A		NC-RO-109.000	0.06	AG, FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.0	1363B		NC-RO-109.000	0.03	AG, FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.0	1363C		NC-RO-109.000	0.03	AG, FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.1	1364		NC-RO-110.000	0.46	FW	material, mats, pumps, pipe
41.2	1366		NC-RO-111.000	0.53	FW	material, mats, pumps, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
41.4	1367	X	NC-RO-111.000	0.85	FW, OL	Support stream crossing, pipeline staging and boring equipment needed for Hwy 29 road bore. Topography and ROW restrictions in area due to foreign line ROW
41.5	1368		NC-RO-111.000	0.42	FW	material, pumps, mats, pipe, boring equipment
41.5	1367A		NC-RO-111.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.5	1367B		NC-RO-111.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.6	1369		NC-RO-112.000	0.28	FW	material, pumps, mats, pipe, boring equipment
41.8	1371		NC-RO-112.000	0.64	OL	material, mats, pumps, pipe
41.8	1373		NC-RO-113.000	0.52	FW	material, mats, pumps, pipe
41.8	1367C		NC-RO-111.000	0.03	CI, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.8	1367D		NC-RO-111.000	0.03	CI, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.8	1371A		NC-RO-112.000	0.06	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
41.9	1374		NC-RO-113.000	0.44	FW, OL	materials, pipe, equipment
42.0	1371B		NC-RO-112.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
42.2	1376		NC-RO-112.000	0.59	CI, OL	material, pumps, mats, pipe, boring equipment
42.2	1377		NC-RO-112.200	0.17	FW, OL	material, pumps, mats, pipe, boring equipment
42.3	1378		NC-RO-112.200	0.09	FW	materials, pipe, equipment
42.4	1379	X	NC-RO-117.000	0.26	FW, OL	Staging and storage of materials, equipment and turn around for large trucks to support multiple stream /wetland crossings
42.4	1379A		NC-RO-117.000	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
42.4	1379B		NC-RO-117.000	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
42.5	1380		NC-RO-117.000	0.82	FW, OL	materials, pipe, equipment
43.1	1383		NC-RO-117.000	0.23	FW	material, mats, pumps, pipe
43.1	1384	X	NC-RO-118.000.ABU	0.25	FW, OL, RD	Project access point off of Brooks Rd material, pumps, mats, pipe, boring equipment staging for Brooks Rd /Stream crossings.
43.2	1385	X	NC-RO-122.000	0.52	FW, OL	Project access point off of Brooks Rd material, pumps, mats, pipe, boring equipment staging for Brooks Rd /Stream crossings.. Topography issues in area along with ROW restrictions due to foreign line ROW.
43.3	1386		NC-RO-122.000	0.23	FW, OL	material, mats, pumps, pipe
43.3	1389		NC-RO-122.000	0.23	FW	material, mats, pumps, pipe
43.4	1390		NC-RO-122.000	0.30	FW, OL	Staging and storage of materials and equipment for road crossing.
43.4	1391	X	NC-RO-122.000	0.24	FW, OL	Project access point off of Knowles Rd material, pumps, mats, pipe, boring equipment staging for Knowles Rd /Stream crossings.
43.4	1392	X	NC-RO-122.100	0.38	OL	support boring equipment, needed for Knowles Rd, general pipeline construction and multiple stream crossings.
43.4	1393		NC-RO-122.100	0.27	FW, OL	material, pumps, mats, pipe, boring equipment
43.7	1394		NC-RO-126.000	0.23	FW	material, mats, pumps, pipe
43.8	1395		NC-RO-133.200	0.23	FW	material, mats, pumps, pipe
43.8	1396		NC-RO-133.200	0.23	FW	material, mats, pumps, pipe
43.9	1397	X	NC-RO-133.200	0.40	FW, OL	ATWS to be used for equipment, materials to support general pipeline construction and multiple stream crossings.
43.9	1397A		NC-RO-133.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
43.9	1397B		NC-RO-133.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
43.9	1397C		NC-RO-133.000	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
43.9	1397D		NC-RO-133.000	0.03	RD	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
44.0	1401		NC-RO-133.000	0.23	FW, OL	materials, pipe, equipment
44.1	1402		NC-RO-133.000	0.14	FW, OL	material, mats, pumps, pipe
44.1	1403	X	NC-RO-133.000	0.26	FW, OL	ATWS to be used for equipment, materials to support general pipeline construction and multiple stream crossings.
44.2	1404		NC-RO-133.000	0.59	FW, OL	material, mats, pumps, pipe
44.2	1403B		NC-RO-133.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
44.4	1404A		NC-RO-135.000	0.46	FW, OL, RD	materials, pipe, equipment
44.5	1407		NC-RO-136.000	0.46	AG, FW	materials, pipe, equipment
44.6	1407A		NC-RO-137.000	0.46	FW, OL	materials, pipe, equipment
44.8	1408		NC-RO-138.000	0.56	AG, FW, OL	Staging and storage of materials, equipment for PI work and power line crossing.
44.9	1409		NC-RO-138.000	0.09	AG	material, pumps, mats, pipe, boring equipment
44.9	1410		NC-RO-138.000	0.59	AG, OL	material, pumps, mats, pipe, boring equipment
44.9	1411		NC-RO-139.000	0.46	AG, FW	material, pumps, mats, pipe, boring equipment
44.9	1412		NC-RO-139.000	0.15	AG	material, pumps, mats, pipe, boring equipment
45.0	1413	X	NC-RO-139.000	0.11	AG, FW	Offloading and storing boring equipment needed to support Grooms Rd. Topography issues in area.
45.1	1414A		NC-RO-139.000	0.03	AG	
45.1	1414B		NC-RO-139.000	0.03	AG	
45.3	1414	X	NC-RO-139.000	0.51	AG, FW	ATWS needed to stage materials, pipe, equipment, used to complete multiple stream crossings. Topography issues in area
45.5	1415		NC-RO-140.000	0.33	FW, OL	material, mats, pumps, pipe
45.7	1416		NC-RO-142.000	0.44	FW, OL	material, mats, pumps, pipe
45.8	1417		NC-RO-142.000	0.51	OL	material, mats, pumps, pipe
45.8	1418		NC-RO-142.000	0.17	FW	material, mats, pumps, pipe
45.8	1419		NC-RO-142.000	0.23	FW	material, mats, pumps, pipe
45.9	1420C		NC-RO-143.400	0.06	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
46.0 RR	1420A		NC-RO-143.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
46.0 RR	1420B		NC-RO-143.000	0.02	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
46.1 RR	1420	X	NC-RO-143.000	0.48	FW, OL	ATWS needed to stage materials, pipe, equipment, used to complete multiple stream crossings. Topography issues in area
46.3 RR	1421		NC-RO-143.000	0.38	AG, FW, OL	materials, pipe, equipment
46.4	1422		NC-RO-146.100	0.23	FW	materials, pipe, equipment
46.4	1423		NC-RO-146.100	0.30	FW	material, mats, pumps, pipe
46.5	1423A		NC-RO-146.100	0.23	OL	material, mats, pumps, pipe
46.7	1426	X	NC-RO-148.500	1.29	AG, FW, OL	ATWS needed to stage materials, pipe, equipment, used to complete multiple stream crossings. Topography issues in area
46.7	1426A		NC-RO-148.505	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
46.7	1426B		NC-RO-148.505	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
47.0	1427		NC-RO-148.500	0.23	FW	material, mats, pumps, pipe
47.0	1428		NC-RO-148.500	0.16	FW	material, mats, pumps, pipe
47.0	1429		NC-RO-149.000	0.48	OL	material, mats, pumps, pipe
47.1	1431		NC-RO-149.000	0.76	FW, OL	materials, pipe, equipment
47.3	1432	X	NC-RO-153.000	0.42	FW, OL	ATWS needed to stage materials, pipe, equipment, used to complete multiple stream crossings. Topography issues in area
47.3	1432A		NC-RO-149.100	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
47.3	1432B		NC-RO-153.000	0.03	FW	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
47.4	1433		NC-RO-153.000	0.17	FW	material, mats, pumps, pipe
47.4	1434		NC-RO-153.000	0.15	FW	material, mats, pumps, pipe
47.4	1432C		NC-RO-149.100	0.03	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
47.5	1435		NC-RO-154.000	0.32	FW	material, mats, pumps, pipe
47.6	1436		NC-RO-154.000	0.56	FW	material, mats, pumps, pipe
47.6	1437		NC-RO-154.000	0.58	FW	material, mats, pumps, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
47.7	1438		NC-RO-154.000	0.23	FW	material, mats, pumps, pipe
47.7	1438A		NC-RO-155.000	0.21	FW	material, mats, pumps, pipe
47.8	1439		NC-RO-155.000	0.06	FW	materials, pipe, equipment
47.8	1440		NC-RO-155.000	0.57	FW	materials, pipe, equipment
47.9	1441		NC-RO-155.000	0.06	FW	materials, pipe, equipment
47.9	1442		NC-RO-155.000	0.40	FW	materials, pipe, equipment
48.2	1443		NC-RO-156.000	1.50	AG	materials, pipe, equipment
48.4	1444	X	NC-RO-157.000	0.35	AG	Project access to ROW off of Hwy 150, material, pumps, mats, pipe, boring equipment staging for Hwy 150 bore crossing.
48.4	1445		NC-RO-156.000	0.26	AG, FW	material, pumps, mats, pipe, boring equipment
48.4	1446	X	NC-RO-160.000	0.23	AG	Project access to ROW off of Hwy 150, material, pumps, mats, pipe, boring equipment staging for Hwy 150 bore crossing.
48.5	1446A		NC-RO-160.000	0.22	AG, OL	ATWS in agricultural field to support wetland crossing and associated equipment.
48.6	1448		NC-RO-162.000	0.23	FW	material, mats, pumps, pipe
48.7	1449		NC-RO-162.000	0.29	CI, FW	material, mats, pumps, pipe
48.7	1450		NC-RO-162.000	0.46	FW, OL	material, mats, pumps, pipe
49.1	1451		NC-RO-162.000	0.19	FW, RD	material, pumps, mats, pipe, boring equipment
49.2	1452		NC-RO-165.000	0.46	OL	material, pumps, mats, pipe, boring equipment
49.2	1454	X	NC-RO-165.000	0.28	FW, OL	Staging and storage of materials, equipment and timber mats for stream /wetland crossings. Also will be utilized for large truck turnaround and employee parking, spoils storage during open cut of stream crossing.
49.2	1454A		NC-RO-165.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
49.2	1454B		NC-RO-165.000 NC-RO-166.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
49.5	1456	X	NC-RO-168.000	0.51	OL	Project access to ROW off of High Rock Rd, material, pumps, mats, pipe, boring equipment staging for crossings.
49.5	1457	X	NC-RO-169.000	0.28	FW	Project access to ROW off of High Rock Rd, material, pumps, mats, pipe, boring equipment staging for crossings.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
49.6	1458		NC-RO-169.000	0.39	FW	materials, pipe, equipment
49.7	1459		NC-RO-170.000	0.55	FW, OL	materials, pipe, equipment
49.7	1460A		NC-RO-170.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
49.7	1460B		NC-RO-170.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time
49.8 RR	1460	X	NC-RO-171.000	0.32	FW, OL	staging and storage of materials, equipment for large stream and wetland crossing. Restricted ROW in area due to foreign utility ROW
49.9 RR	1461		NC-RO-171.000	0.46	FW	material, mats, pumps, pipe
50.0 RR	1462		NC-RO-173.000	0.64	FW	material, mats, pumps, pipe
50.1 RR	1463C		NC-RO-174.200	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
50.1 RR	1463D		NC-RO-174.200	0.03	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
50.2 RR	1462A		NC-RO-174.000	0.23	FW	material, mats, pumps, pipe
50.2 RR	1463B		NC-RO-174.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
50.3 RR	1463	X	NC-RO-175.000	0.46	FW, OL	Staging and storage of materials, equipment and turn around for large trucks. Area may also be used for contractor parking due to lack of access points in this section of the Project. Multiple stream crossings in this section requiring additional mats, equipment and materials.
50.7 RR	1463A		NC-RO-179.000	0.49	FW, OL	material, mats, pumps, pipe
51.2 RR	1464		NC-RO-181.000	0.42	AG, FW	material, mats, pumps, pipe
51.3 RR	1465		NC-RO-181.000	0.28	AG	material, mats, pumps, pipe
51.4 RR	1466	X	NC-RO-181.000	0.52	AG, FW, OL	Staging and storage of materials, equipment and timber mats for wetland /stream crossing spoils staging during open cut. Restricted ROW in area due to environmental features

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
51.6	1467	X	NC-RO-181.000	0.74	AG	material, pumps, mats, pipe, boring equipment needed to bore Kernoble Rd , spoil pile storage, and parking. Restricted area due to foreign utility structures
51.7	1469		NC-RO-183.000	0.52	AG	material, pumps, mats, pipe, boring equipment
52.0	1472		NC-RO-184.000	0.50	FW, OL	material, pumps, mats, pipe, boring equipment
52.1	1473		NC-RO-185.000	0.23	FW	material, mats, pumps, pipe
52.2	1474	X	NC-GU-001.000	0.46	FW, OL	Staging and storage of materials, equipment and timber mats for multiple stream /wetland crossing. Area may also be used as turnaround for large trucks. Topography issues in area
52.3	1475	X	NC-GU-001.000	0.59	FW, OL	Staging and storage of materials, equipment and timber mats for multiple stream wetland crossing. Supports foreign utility crossing
52.5	1475A		NC-GU-001.000	0.55	AG, FW	material, mats, pumps, pipe
52.6	1478	X	NC-RO-186.000	0.14	FW, OL	Staging and storage of materials, equipment and timber mats for multiple stream /wetland crossing.
52.6	1478		NC-AL-000.005	0.41	CI, FW, OL	materials, pipe, equipment
52.7	1480		NC-AL-000.005	0.33	FW	materials, pipe, equipment
52.7	1481		NC-AL-000.005	0.17	FW	material, mats, pumps, pipe
52.8	1482		NC-AL-000.015	0.28	FW, RD	material, mats, pumps, pipe
52.9	1483		NC-AL-000.020	0.19	FW	materials, pipe, equipment
53.0	1484	X	NC-AL-000.045	0.52	FW, OL, RD	Project access, staging and storage of materials and equipment for road bore crossing equipment
53.1	1485		NC-AL-000.050	0.62	AG, FW	material, pumps, mats, pipe, boring equipment
53.3	1486	X	NC-AL-000.055	0.57	AG, FW, OL	ATWS needed for Project access, equipment, soil , parking and boring equipment needed to bore Lee Lewis Rd. Restricted ROW in area due to foreign utility
53.3	1487	X	NC-AL-000.065	0.23	FW, OL, SC	ATWS needed for Project access, equipment, soil, parking and boring equipment needed to bore Lee Lewis Rd. Restricted ROW in area due to foreign utility
53.5	1489		NC-AL-000.065	0.31	FW, RD, SC	materials, pipe, equipment
53.6	1492		NC-AL-000.065	0.46	RD, SC	materials, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
53.8	1493	X	NC-AL-003.000	0.52	AG, FW, OL	ATWS needed for Staging and storage of materials, equipment and timber mats for multiple stream crossing. Area may also be used as turnaround for large trucks. Restricted ROW due to environmental features.
53.8	1493A		NC-AL-003.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
53.8	1493B		NC-AL-003.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
53.9	1494		NC-AL-005.000	0.46	FW, OL	material, mats, pumps, pipe
54.1	1496		NC-AL-005.000	0.47	AG	material, pumps, mats, pipe, boring equipment
54.1	1497		NC-AL-006.000	0.47	AG	material, pumps, mats, pipe, boring equipment
54.1	1498A		NC-AL-006.000	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
54.3	1498	X	NC-AL-006.000	0.54	AG	ATWS to be used for unloading / staging material, pipe, equipment, needed to cross large wetland in the area, also parking.
54.4	1499		NC-AL-006.000	0.82	AG, FW	material, mats, pumps, pipe
54.6	1500		NC-AL-007.000	0.78	FW	material, mats, pumps, pipe
54.6	1502A		NC-AL-008.100	0.05	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
54.7	1502	X	NC-AL-007.000	0.63	AG, FW	ATWS to be used for offloading / staging material, mats, pumps, pipe to be used in the multiple stream /wetland crossings
54.9	1503		NC-AL-008.000	0.46	AG, OL	material, mats, pumps, pipe
55.0	1504		NC-AL-009.000	0.43	FW	material, mats, pumps, pipe
55.0	1505		NC-AL-009.000	0.13	AG, OL	material, pumps, mats, pipe, boring equipment
55.1	1506		NC-AL-009.000	0.39	AG, FW, OL	material, pumps, mats, pipe, boring equipment
55.1	1507		NC-AL-010.000	0.27	AG	materials, pipe, equipment
55.2	1508		NC-AL-010.000	0.46	AG, OL	material, mats, pumps, pipe
55.3	1509		NC-AL-010.000	0.47	FW	material, mats, pumps, pipe
55.5	1511	X	NC-AL-018.000	0.99	AG, FW	Project access, staging and storage of materials, equipment and timber mats for stream/wetland crossing.
55.7	1514		NC-AL-022.000	0.32	FW	material, pumps, mats, pipe, boring equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
55.8	1515		NC-AL-022.000	1.03	AG, FW	material, pumps, mats, pipe, boring equipment
56.0	1516		NC-AL-025.000	0.46	AG, FW	materials, pipe, equipment
56.3	1518		NC-AL-025.000	0.54	AG, FW, OL	materials, pipe, equipment
56.3	1519		NC-AL-027.000	0.13	FW	material, pumps, mats, pipe, boring equipment
56.4	1521		NC-AL-028.000	0.09	FW	material, pumps, mats, pipe, boring equipment
56.6	1522		NC-AL-028.000	0.20	FW	material, mats, pumps, pipe, equipment
56.7	1524		NC-AL-028.000	0.46	AG, FW, OL	material, mats, pumps, pipe, equipment
56.8	1524A	X	NC-AL-033.000	0.22	FW, OL	ATWS needed for multiple streams / wetland crossings to allow staging of tools, equipment and materials
56.8	1526A		NC-AL-033.000	0.03	CI, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
56.8	1526B		NC-AL-033.000	0.03	CI, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
56.9	1526		NC-AL-036.000	0.65	AG	material, mats, pumps, pipe, equipment
57.0	1527		NC-AL-037.000	0.12	FW	material, mats, pumps, pipe, equipment
57.1	1529		NC-AL-039.000	0.49	FW	material, mats, pumps, pipe, equipment
57.3	1530		NC-AL-039.000	0.05	RD	materials, pipe, equipment
57.3	1531		NC-AL-039.000	0.38	FW, OL	materials, pipe, equipment
57.4	1532		NC-AL-041.000	0.45	OL	material, pumps, mats, pipe, boring equipment
57.5	1533		NC-AL-042.000	0.28	FW, OL	material, pumps, mats, pipe, boring equipment
57.5	1533A		NC-AL-042.000	0.61	FW, OL	material, pumps, mats, pipe, boring equipment
57.6	1533B		NC-AL-043.000	0.46	AG, FW, OL	material, mats, pumps, pipe, equipment
57.7	1535	X	NC-AL-043.000	0.41	FW, OL	ATWS to be used for staging and storage of materials, equipment and turn around Supports foreign utility crossing, installation of pipeline PI.
57.7	1535A		NC-AL-043.000	0.02	OL	Increased turning radius for large trucks.
57.8	1536		NC-AL-043.000	0.20	RD	material, pumps, mats, pipe, boring equipment
57.8	1537		NC-AL-044.000	0.24	FW, OL	material, pumps, mats, pipe, boring equipment
57.9	1538		NC-AL-046.000	0.34	OL	material, mats, pumps, pipe, equipment
57.9	1539		NC-AL-046.000	0.15	OL	material, mats, pumps, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
57.9	1540B		NC-AL-046.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
58.1	1540	X	NC-AL-046.000	0.46	OL	Supports wetland crossings in area. Restricted ROW due to environmental features.
58.3	1540A		NC-AL-050.000	0.44	OL	materials, pipe, equipment
58.4	1541	X	NC-AL-050.000	0.27	FW, OL	materials, pipe, equipment
58.4	1541A		NC-AL-050.100	0.06	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
58.6	1542		NC-AL-051.000	0.23	FW	material, mats, pumps, pipe, equipment
58.6	1543		NC-AL-051.000	0.23	FW	material, mats, pumps, pipe, equipment
58.7	1544		NC-AL-052.000	0.23	FW	material, mats, pumps, pipe, equipment
58.7	1545		NC-AL-052.000	0.21	FW	material, mats, pumps, pipe, equipment
58.8	1546		NC-AL-052.000	0.41	FW, OL	Staging and storage of materials, equipment and turn around for large trucks.
59.1	1548		NC-AL-054.000	0.44	FW, OL, RD	material, pumps, mats, pipe, boring equipment
59.1	1549		NC-AL-054.000	0.34	FW, RD	material, pumps, mats, pipe, boring equipment
59.2	1550		NC-AL-058.000	0.32	OL, RD	material, pumps, mats, pipe, boring equipment
59.3	1551		NC-AL-057.000	0.41	FW	materials, pipe, equipment
59.6	1552		NC-AL-064.000	0.39	FW, OL	materials, pipe, equipment
59.6	1553		NC-AL-064.000	0.49	FW, OL	materials, pipe, equipment
59.7	1554		NC-AL-064.000	0.26	FW, OL	materials, pipe, equipment
60.0	1555	X	NC-AL-066.000	0.64	FW, OL	ATWS needed for Project access, equipment, soil, parking and boring equipment needed to bore Burch Bridge Rd.
60.0	1556	X	NC-AL-067.000	0.49	OL	ATWS needed for Project access, equipment, soil, parking and boring equipment needed to bore Burch Bridge Rd.
60.2	1557		NC-AL-068.000	0.40	OL	material, pumps, mats, pipe, boring equipment
60.4	1558		NC-AL-070.000	0.46	FW, OL	materials, pipe, equipment
60.7	1559		NC-AL-075.000	0.23	FW	material, mats, pumps, pipe, equipment
60.7	1560		NC-AL-075.000	0.23	FW	material, mats, pumps, pipe, equipment
60.8	1561		NC-AL-074.000	0.23	OL	material, mats, pumps, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
61.1	1561A	X	NC-AL-076.100.AR	2.04	AG, FW, OL	ATWS needed to stage for materials, pipe, equipment and mats to be used during large wetland crossing / stream crossing.
61.1	1561B		NC-AL-076.100.AR	0.03	AG	General equipment staging and parking in open field
61.4	1562		NC-AL-077.000	0.22	FW, OL	material, pumps, mats, pipe, boring equipment
61.4	1563		NC-AL-081.000	0.35	FW, OL	material, pumps, mats, pipe, boring equipment
61.4	1564		NC-AL-081.000	0.45	AG, FW, OL	material, pumps, mats, pipe, boring equipment
61.4	1565		NC-AL-081.000	0.38	AG, OL	material, pumps, mats, pipe, boring equipment
61.5	1566	X	NC-AL-081.000	0.35	AG, OL	ATWS needed to stage for materials, pipe, equipment and mats to be used during multiple wetland crossing / stream crossing
61.5	1566A		NC-AL-081.000	0.06	AG, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
61.7	1567		NC-AL-081.000	0.23	FW, OL	materials, pipe, equipment
61.8	1568		NC-AL-081.000	0.53	OL	material, mats, pumps, pipe, equipment
62.2	1569		NC-AL-084.000	0.39	AG, FW, OL	materials, pipe, equipment
62.2	1569A		NC-AL-084.000	0.37	AG	materials, pipe, equipment
62.4	1571		NC-AL-085.000	0.54	FW, OL	material, mats, pumps, pipe, equipment
62.5	1572	X	NC-AL-086.000	0.27	OL	ATWS needed to stage for materials, pipe, pumps, equipment and mats to be used during multiple wetland crossing / stream crossing. Reduced ROW in area due to residence.
62.6	1573		NC-AL-086.000	0.23	OL	material, mats, pumps, pipe, equipment
62.7	1574		NC-AL-086.000	0.20	OL	material, mats, pumps, pipe, equipment
62.7	1572A		NC-AL-086.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
62.7	1572B		NC-AL-086.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
62.8	1575		NC-AL-089.000	0.58	OL	material, pumps, mats, pipe, boring equipment
62.8	1576		NC-AL-093.000	0.24	FW, OL	material, pumps, mats, pipe, boring equipment
63.0	1577		NC-AL-093.000	0.41	FW	material, mats, pumps, pipe, equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
63.1	1580		NC-AL-096.000	0.41	FW	material, mats, pumps, pipe, equipment
63.2	1581	X	NC-AL-097.000	0.39	AG, FW	material, mats, pumps, pipe, equipment
63.4	1582		NC-AL-101.000.AR	0.64	AG, FW, OL	Staging and storage of materials and equipment for HDD. Area may also be used as turnaround for large trucks.
63.8	1584	X	NC-AL-103.000	1.15	FW, OL, SC	Staging and storage of materials and equipment for HDD Sandy Creek, also staging for Deep Creek Stream bore. Area may also be used as turnaround for large trucks
63.8	1585		NC-AL-104.000	0.46	FW	material, mats, pumps, pipe, equipment
63.9	1587		NC-AL-103.000	0.19	FW, SC	material, mats, pumps, pipe, equipment
64.0	1588		NC-AL-103.000	0.33	FW, SC	material, mats, pumps, pipe, equipment
64.4	1588A		MVF-NC-AL-002.000	0.23	FW	material, mats, pumps, pipe, equipment
64.5	1588B		MVF-NC-AL-004.000	0.23	FW	material, mats, pumps, pipe, equipment
64.8	1588C		MVF-NC-AL-005.000	0.29	FW	material, pumps, mats, pipe, boring equipment
64.8	1588D		MVF-NC-AL-005.000	0.29	FW, OL	material, pumps, mats, pipe, boring equipment
64.8	1588E		MVF-NC-AL-007.000	0.38	FW, OL	material, pumps, mats, pipe, boring equipment
64.8	1588F	X	MVF-NC-AL-007.000	0.48	OL	material, pumps, mats, pipe, boring equipment needed to bore Faucette Ln, also staging for multiple streams/ wetlands in this section.
65.2 RR	1588FF		MVF-NC-AL-007.000	0.43	OL	material, pipe, equipment
65.3 RR	1588G		MVF-NC-AL-007.000	0.52	OL, WL	material, pumps, mats, pipe, boring equipment
65.3 RR	1588H		MVF-NC-AL-007.000	0.27	OL	material, pumps, mats, pipe, boring equipment
65.3 RR	1588I		MVF-NC-AL-012.000.ABU	0.07	AG, FW, OL	material, pumps, mats, pipe, boring equipment
65.3 RR	1588J		MVF-NC-AL-011.000	0.33	AG, OL	material, pumps, mats, pipe, boring equipment
65.5 RR	1588JJ		MVF-NC-AL-011.000	0.35	AG, FW	material, pipe, equipment
65.5	1588K		MVF-NC-AL-013.000	0.80	FW, OL, WL	material, mats, pipe, equipment
65.6	1588L		NC-AL-119.000	0.46	FW, OL	material, mats, pumps, pipe, equipment
66.1	1588M		FA34-AL-001.000	0.23	AG	material, pumps, mats, pipe, boring equipment
66.1	1588N		FA34-AL-001.000	0.21	AG	material, pumps, mats, pipe, boring equipment
66.1	1588O		FA3-AL-003.000	0.24	AG, OL	material, pumps, mats, pipe, boring equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
66.1	1588P		FA3-AL-002.000	0.22	AG, OL, RD	material, pumps, mats, pipe, boring equipment
66.2	1588Q		FA3-AL-003.000	0.58	AG, OL, RD	materials, pipe, equipment
66.4	1588R		FA3-AL-005.000	0.33	FW, OL	material, pumps, mats, pipe, boring equipment
66.4	1588S		FA3-AL-005.000	0.32	OL	material, pumps, mats, pipe, boring equipment
66.4	1588T		FA3-AL-006.000	0.25	OL	material, pumps, mats, pipe, boring equipment
66.4	1588U		FA3-AL-006.000	0.27	OL	material, pumps, mats, pipe, boring equipment
66.7	1588V		FA3-AL-009.000	0.51	OL	materials, pipe, equipment
66.8 RR	1588W		FA3-AL-010.000	0.14	OL	Staging and storage of materials, equipment and timber mats for stream crossing. Area may also be used as turnaround for large trucks and contractor parking.
66.9 RR	1588X		NC-AL-128.000	0.56	OL	materials, pipe, equipment
67.0 RR	1588Y		NC-AL-128.000	0.38	OL	material, pumps, mats, pipe
67.1 RR	1588Y1	X	NC-AL-131.000	0.43	OL	ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing. Reduced workspace in area due to foreign utilities, structures, etc.
67.2 RR	1588Y2		NC-AL-131.000	0.19	OL	Supports foreign utility crossing
67.3 RR	1588Y3		NC-AL-132.000	0.62	FW	Additional space to support stream crossings in area
67.4 RR	1588Z1A		NC-AL-132.100	0.03	AG	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
67.4 RR	1588Z	X	NC-AL-128.000	0.46	OL	ATWS needed to staging and storage of materials, equipment and timber mats for multiple stream crossings and ROW width restrictions. Area may also be used as turnaround for large trucks and contractor parking. Limited access points in area.
67.6	1619		NC-AL-135.000	0.15	FW	material, pumps, mats, pipe
67.6	1619A		NC-AL-135.000	0.20	FW	material, pumps, mats, pipe
67.6	1619B		NC-AL-137.000	0.20	FW, OL	material, pumps, mats, pipe
67.9	1621A		NC-AL-136.000	0.06	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
67.6	1620		NC-AL-137.000	0.23	FW, OL	material, pumps, mats, pipe
67.6 RR	1588Z1		NC-AL-133.000	0.46	FW, OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
68.0	1621	X	NC-AL-139.000	0.78	FW, OL	ATWS to be used for materials, pipe, equipment, needed to complete multiple stream crossings in this section. Topography issues in area.
68.0	1622		NC-AL-139.000	0.69	FW, OL	materials, pipe, equipment
68.1	1622A		NC-AL-141.000	0.12	FW	material, pumps, mats, pipe
68.1	1623		NC-AL-141.000	0.23	FW	material, pumps, mats, pipe
68.1	1623A		NC-AL-142.000	0.23	FW	material, pumps, mats, pipe
68.1	1624		NC-AL-142.000	0.23	FW	material, pumps, mats, pipe
68.2	1625		NC-AL-142.000	0.45	FW, OL, RD	materials, pipe, equipment
68.2	1627	X	NC-AL-142.000	0.31	FW, OL, RD	To be used for boring equipment staging / bore pit spoils, materials, pipe, equipment for Indian Village Trail crossing
68.2	1627A		NC-AL-143.000	0.03	OL	materials, pipe, equipment
68.2	1627B		NC-AL-143.000	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
68.3	1628		NC-AL-143.000	0.23	FW, OL	materials, pipe, equipment
68.3	1629		NC-AL-143.000	0.20	FW	material, pumps, mats, pipe
68.3	1630		NC-AL-143.000	0.23	FW	material, pumps, mats, pipe
68.3	1631		NC-AL-143.000	0.20	FW	material, pumps, mats, pipe
68.3	1627C		NC-AL-143.300	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
68.3	1627D		NC-AL-143.300	0.03	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
68.4	1632		NC-AL-143.000	0.22	FW, SC	material, pumps, mats, pipe
68.4	1633		NC-AL-143.000	0.23	FW	material, pumps, mats, pipe
68.4	1634		NC-AL-143.000	0.22	FW	material, pumps, mats, pipe
68.5	1635		NC-AL-145.000	0.23	FW	material, pumps, mats, pipe
68.6	1636		NC-AL-144.000	0.23	FW, OL	material, pumps, mats, pipe
68.6	1637		NC-AL-144.000	0.11	FW, OL	material, pumps, mats, pipe, boring equipment
68.7	1639		NC-AL-148.000	0.29	FW, OL	material, pumps, mats, pipe, boring equipment
68.8	1640		NC-AL-148.000	0.23	FW	material, pumps, mats, pipe
68.8	1641		NC-AL-148.000	0.22	FW	material, pumps, mats, pipe
68.8	1643		NC-AL-148.000	0.08	FW, OL	material, pumps, mats, pipe
68.9	1644		NC-AL-148.000	0.48	FW, OL	material, pumps, mats, pipe
68.9	1645		NC-AL-148.000	0.23	FW	material, pumps, mats, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
68.9	1646A		NC-AL-149.000	0.06	OL	Vehicle pull of in the event construction vehicles or landowner vehicles are utilizing the road at the same time.
69.0	1646	X	NC-AL-149.000	0.52	FW, OL	ATWS is off of the main access point to bore the Haw River Bypass all boring equipment, material, pumps, mats, pipe, will be hauled into this location for this bore
69.0	1647		NC-AL-149.000	0.18	OL	material, pumps, mats, pipe, boring equipment
69.0	1648		NC-AL-149.000	0.53	FW, OL	material, pumps, mats, pipe, boring equipment
69.1	1649		NC-AL-150.000	0.10	FW, RD	material, pumps, mats, pipe
69.2	1650		NC-AL-151.000	0.29	OL	material, pumps, mats, pipe
69.3	1651		NC-AL-164.000.ABU	0.18	FW	material, pumps, mats, pipe
69.4	1652		NC-AL-161.000	0.15	FW, OL	material, pumps, mats, pipe
69.5	1653	X	NC-AL-166.000	0.44	FW	ATWS , to be used for staging and storage of materials, equipment and timber mats to avoid staging equipment / materials near housing in the area, may also be used as turnaround for large trucks
69.7	1653A		NC-AL-179.000.ABU	0.31	CI, FW, OL, RD	material, pumps, mats, pipe, boring equipment
69.7	1653B		NC-AL-176.000.ABU	0.35	CI	material, pumps, mats, pipe, boring equipment
69.8	1653C		NC-AL-180.000.ABU	0.30	CI, FW, OL, RD	material, pumps, mats, pipe, boring equipment
69.8	1653D		NC-AL-183.000.ABU	0.48	CI, FW, OL, WL	material, pumps, mats, pipe, boring equipment
69.8	1653E	X	NC-AL-184.000	0.26	FW, OL	material, pumps, mats, pipe, boring equipment needed for boring under railroad, this ATWS is also needed due to wetland in opposing ATWS restricting usages.
69.9	1653F		NC-AL-184.000	0.24	FW	materials, pipe, equipment
70.2	1661		NC-AL-184.000	0.20	FW	material, pumps, mats, pipe
70.3	1662		NC-AL-186.000	0.20	FW, OL	material, pumps, mats, pipe
70.4	1663		NC-AL-186.000	0.20	FW	material, pumps, mats, pipe
70.4	1664		NC-AL-188.000	0.20	FW	material, pumps, mats, pipe
70.6	1665		NC-AL-188.000	0.20	FW	material, pumps, mats, pipe
70.7	1666		NC-AL-188.000	0.20	FW	material, pumps, mats, pipe
70.7	1667		NC-AL-189.000	0.23	FW	material, pumps, mats, pipe
70.8	1668		NC-AL-189.000	0.57	FW, OL	material, pumps, mats, pipe
70.9	1669		NC-AL-191.000	0.23	FW	material, pumps, mats, pipe

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number a/	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use b/	Purpose
70.9	1670	X	NC-AL-191.000	0.59	FW, OL	Supports multiple stream crossings in area. Restricted workspace due to environmental features
71.0	1672		NC-AL-191.000	0.19	FW	material, pumps, mats, pipe, boring equipment
71.0	1674		NC-AL-191.100.AR	0.09	OL	material, pumps, mats, pipe, boring equipment
71.1	1675		NC-AL-191.000	0.23	FW, OL	material, pumps, mats, pipe, boring equipment
71.3	1676	X	NC-AL-191.000	0.50	FW	Main access point to the I-40 road bore that area will be used for staging and storage of materials, equipment and timber mats for road crossing.
71.3	1677		NC-AL-191.000	0.51	FW	material, pumps, mats, pipe, boring equipment
71.4	1678		NC-AL-192.000	0.71	FW, OL	material, pumps, mats, pipe, boring equipment
71.7	1679		NC-AL-192.000	0.60	FW, OL	material, pumps, mats, pipe
71.8	1680		NC-AL-193.000	0.50	FW	material, pumps, mats, pipe
71.9	1681		NC-AL-194.000	0.57	FW, OL	materials, pipe, equipment
72.0	1683		NC-AL-194.000	0.24	FW, OL	materials, pipe, equipment
72.1	1684		NC-AL-199.000	0.21	FW, OL	material, pumps, mats, pipe
72.2	1685		NC-AL-196.000	0.23	FW	material, pumps, mats, pipe
72.2	1686	X	NC-AL-197.000	0.36	FW, OL	ATWS needed to staging and storage of materials, equipment and timber mats for stream crossing. Area may also be used as turnaround for large trucks, due to limited Project access in this area.
72.3	1680A		NC-AL-198.000	0.26	FW	materials, pipe, equipment
72.4	1688	X	NC-AL-199.000	1.00	FW, OL	ATWS needed to stage and storage materials, equipment and timber mats for stream crossing. Area may also be used as turnaround for large trucks, due to limited Project access in this area.
72.5	1688A		NC-AL-199.000	0.13	FW	material, pumps, mats, pipe
72.6	1688B		NC-AL-199.000	0.23	FW	material, pumps, mats, pipe
72.7	1689		NC-AL-200.000	0.23	FW	materials, pipe, equipment
72.8 RR	1689A		NC-AL-204.000	0.15	FW, RD	materials, pipe, equipment
72.9 RR	1690	X	NC-AL-207.000	0.30	FW, RD, OL	ATWS needed to store / offload material, pumps, mats, pipe, Hwy 54 boring equipment needed to cross the Hwy also, parking for the boring crews
72.8 RR	1691		NC-AL-207.000	0.06	FW, RD	material, pumps, mats, pipe, boring equipment, parking
73.0 RR	1692A		NC-AL-210.000	0.41	CI, OL, WL	material, pumps, mats, pipe, boring equipment

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number <u>a/</u>	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use <u>b/</u>	Purpose
73.1 RR	1692		NC-AL-210.000	3.66	OL, WL	material, pumps, mats, pipe, boring equipment, parking
Total ATWS Acres Pipeline <u>c/</u>				277.36		
Lambert Compressor Station & Interconnect / MLV 1						
0.4	1001C	X	VA-PI-002.000 VA-PI-001.200.AR	0.77	AG, OL	ATWS to be used for equipment staging during construction, parking, materials, turn around for unload of materials, pipe, fab yard.
0.0 RR	1001D		VA-PI-002.000	0.77	AG, FW, OL	pipe, materials, parking, work trailers
0.0 RR	1001E	X	VA-PI-002.000	5.76	AG, FW, OL	ATWS to be used for equipment staging during construction, parking, materials, turn around for unload of materials, pipe, fab yard.
LN 3600 Interconnect						
28.1 RR	1224A	X	NC-RO-006.000	1.83	AG, OL, WL	ATWS to be used by both the pipeline and Interconnect during construction of both and will hold material, mats, pipe, equipment and tools.
28.1 RR	1224B	X	NC-RO-006.000	1.79	OL, SC	ATWS to be used by both the pipeline and Interconnect during construction of both and will hold material, mats, pipe, equipment and tools
28.2 RR	1229		NC-RO-006.000	0.35	FW, OL	materials, pipe, equipment
T-15 Dan River Interconnect / MLV 4						
30.4	1249	X	NC-RO-014.000	4.34	AG, OL, WL	ATWS will mainly be used during the construction of both the pipeline & Interconnect and will hold material, pumps, mats, pipe, equipment, HDD equipment and heavy construction equipment
30.4	1251		NC-RO-016.000	0.06	OL, WL	material, mats, pumps, pipe
T-21 Haw River Interconnect / MLV 8						
73.17 RR	1692B	X	NC-AL-210.000	0.71	OL	ATWS will mainly be used during the construction of the T-21 Interconnect and will hold material, pumps, mats, pipe, equipment, heavy construction equipment.
73.17 RR	1692C		NC-AL-210.000	0.02	OL	material, pumps, mats, pipe, boring equipment, parking
73.17 RR	1692D		NC-AL-210.000	0.07	OL	material, pumps, mats, pipe, boring equipment, parking
Total ATWS Acres Aboveground Facilities <u>c/</u>				16.48		

REVISED Appendix 1-D						
Additional Temporary Workspace Areas Associated with Construction of MVP Southgate Project						
Milepost	Name ID Number <i>a/</i>	ATWS is located at the intersection of an access road and the right-of-way, noted with an "X"	Ownership	Area (Acres)	Current Land Use <i>b/</i>	Purpose
<p>Note: Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment.</p> <p><i>a/</i> Includes additional temporary workspace ("ATWS") areas for the H-605 pipeline, the H-650 pipeline, and aboveground facilities.</p> <p><i>b/</i> AG = Agricultural; CI = Commercial / Industrial; FW = Upland Forest / Woodland; OL = Upland Open Land; RD = Residential; SC = Silviculture; WL = Wetland.</p> <p><i>c/</i> Totals may not equal the sum of addends due to rounding. Addends consists of 6-decimal digits.</p>						

REVISED Appendix 1-F												
Proposed New, Improved, and Private Access Roads for the MVP Southgate Project												
State/ Facility/ Road ID <u>a/</u>	Road Name	Milepost <u>b/</u>	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface <u>c/</u>	Existing Land Use <u>d/</u>	Proposed Improvement <u>e/</u>	Construction Area (acres) <u>f/</u>	Operation Area (acres) <u>g/</u>
						Width (feet)	Length (feet)					
Virginia												
TAR	TA-PI-000A	CY-01	Existing	Temporary	Mountain Valley Pipeline, LLC	60	9	G	CI, OL	S, W	0.01	0.00
TAR	TA-PI-000B	CY-03	Existing	Temporary	Private	38	62	A	CI	None	0.10	0.00
TAR	TA-PI-000	0.0	Existing	Temporary	Mountain Valley Pipeline, LLC	25	334	Gr	FW, OL	G, S	0.19	0.00
PAR	PA-PI-001A	0.4	Existing	Permanent	Transcontinental Gas Pipeline Company, LLC Private Mountain Valley Pipeline, LLC	20	3028	A, G, D	AG, CI, FW, OL	S, W	1.46	1.46
PAR	PA-PI-001B	0.4	New	Permanent	Transcontinental Gas Pipeline Company, LLC Private Mountain Valley Pipeline, LLC	20	827	Gr	AG, FW, OL	S, W	0.49	0.49
PAR	PA-PI-001C	0.4	Existing	Permanent	Private	20	713	D	OL	S, W	0.34	0.34
TAR	TA-PI-004	1.6	Existing	Temporary	Private	25	2874	D	CI, FW, OL, RD	S, W	1.82	0.00
TAR	TA-PI-005	2.3	Existing	Temporary	Private	25	3755	G, D, Gr	CI, FW, OL, OW, RD, WL	S, C, W	2.20	0.00
TAR	TA-PI-006	3.4	Existing	Temporary	Private	25	1285	G, D, Gr	AG, CI, OL	S, C, W	0.75	0.00
TAR	TA-PI-007	4.6	Existing	Temporary	Private	25	896	G, D, Gr	OL, RD	S, W	0.53	0.00
TAR	TA-PI-008	4.5	Existing	Temporary	Private	25	304	G	CI, RD	S, W	0.17	0.00
TAR	TA-PI-011	5.1	Existing	Temporary	Private	25	5360	D	AG, CI, FW, OL, RD, WL	S, W	3.08	0.00
TAR	TA-PI-015	5.6	Existing	Temporary	Pittsylvania County, VA	25	1076	G	FW, OL	S, W	0.62	0.00
TAR	TA-PI-016	5.9	Existing	Temporary	Pittsylvania County, VA	25	3461	G, Gr	CI, FW, OL	S, W	1.99	0.00
TAR	TA-PI-017	6.2	Existing	Temporary	Pittsylvania County, VA	25	823	G	CI, OL	S, W	0.51	0.00
TAR	TA-PI-018	6.8	Existing	Temporary	Private	25	1530	D	FW, OL	S, W	0.89	0.00
PAR	PA-PI-018A	7.2	New	Permanent	Private	33	21	Gr	CI, OL	S, W	0.02	0.02
PAR	PA-PI-018B	7.4	New	Permanent	Private	12.5	50	Gr	CI	S, W	0.02	0.02
PAR	PA-PI-018C	8.1	New	Permanent	Private	29	20	Gr	CI, OL	S, W	0.01	0.01
TAR	TA-PI-022	8.5	Existing	Temporary	Private	25	2071	D	FW, OL, RD	S, W	1.19	0.00
TAR	TA-PI-023	9.0	Existing	Temporary	Private	25	2121	G	AG, CI, FW, OL, RD	S, W	1.23	0.00
PAR	PA-PI-024	9.3	New	Permanent	Private	12.5	16	Gr	FW, OL	S, W	0.01	0.01
TAR	TA-PI-025	9.6	Existing	Temporary	Private	25	2226	D, Gr	AG, CI, FW, OL	S, W	1.37	0.00
TAR	TA-PI-026B	10.4	New	Temporary	Private	25	31	D, Gr	CI, OL	S, W	0.03	0.00
PAR	PA-PI-026C	10.7	New	Permanent	Independent Timber, Inc.	25	16	Gr	OL	S, W	0.01	0.01
TAR	TA-PI-026C	10.7	New	Temporary	Private	12.5	236	Gr	CI, OL, RD	S, W	0.07	0.00
TAR	TA-PI-027	11.1	Existing	Temporary	Independent Timber, Inc.	25	1590	G, D	FW, OL	S, W	0.92	0.00
TAR	TA-PI-032	13.2	Existing	Temporary	Private	25	1052	G	OL	S, W	0.60	0.00
TAR	TA-PI-033	13.2	Existing	Temporary	Private	25	735	G	FW, OL	S, W	0.43	0.00
TAR	TA-PI-035	14.2	Existing	Temporary	Private	25	4377	D, Gr	AG, FW, OL, OW, RD	S, W	2.52	0.00
TAR	TA-PI-037	15.2	Existing	Temporary	Private	25	1698	G	AG, CI, OL	S, W	0.98	0.00
TAR	TA-PI-039	16.0	Existing	Temporary	Private	25	573	G	AG, CI, FW, OL, RD	S, W	0.34	0.00
TAR	TA-PI-041	16.7	Existing	Temporary	Private	25	639	G	FW, OL, RD	S, W	0.38	0.00
TAR	TA-PI-043	17.2	Existing	Temporary	Private	25	2123	D	AG, CI, FW, OL, OW, RD	S, W	1.23	0.00

REVISED Appendix 1-F												
Proposed New, Improved, and Private Access Roads for the MVP Southgate Project												
State/ Facility/ Road ID <u>a/</u>	Road Name	Milepost <u>b/</u>	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface <u>c/</u>	Existing Land Use <u>d/</u>	Proposed Improvement <u>e/</u>	Construction Area (acres) <u>f/</u>	Operation Area (acres) <u>g/</u>
						Width (feet)	Length (feet)					
TAR	TA-PI-046	18.0	Existing	Temporary	Private	25	1543	G, D, Gr	AG, CI, FW, OL	S, W	0.89	0.00
PAR	PA-PI-046A	18.3	New	Permanent	Private	12.5	24	Gr	AG, CI	S, W	0.01	0.01
TAR	TA-PI-049	19.5	Existing	Temporary	Private	25	273	G	OL, RD	S, W	0.17	0.00
PAR	PA-PI-050	20.0	New	Permanent	Private	35	17	Gr	CI	S, W	0.01	0.01
TAR	TA-PI-050	20.0	Existing	Temporary	Private	25	307	A	CI, OL	None	0.19	0.00
TAR	TA-PI-051A	20.2	Existing	Temporary	Private	25	101	D	CI, RD	S, W	0.06	0.00
TAR	TA-PI-052	20.4	Existing	Temporary	Private	25	2871	D	AG, CI, FW, OL, WL	S, W, C	1.66	0.00
PAR	PA-PI-053	21.1	Existing	Permanent	Private	25	916	G, Gr	OL, RD	S, W	0.53	0.53
TAR	TA-PI-061	23.0	Existing	Temporary	Danville-Pittsylvania Regional Industrial Facility Authority	25	4103	G, D, Gr	FW, OL, OW, WL	S, W, C	2.36	0.00
TAR	TA-PI-063	24.0	Existing	Temporary	Danville-Pittsylvania Regional Industrial Facility Authority	25	2750	G, D, Gr	CI, FW, OL, OW	S, W, C	1.59	0.00
TAR	TA-PI-066	24.8	Existing	Temporary	Private	25	2345	G, D, Gr	CI, FW, OL	S, W	1.45	0.00
TAR	TA-PI-067	25.1	Existing	Temporary	Private	25	1917	G, D, Gr	FW, OL, OW, WL	S, W	1.19	0.00
Virginia Subtotal											36.61	2.91
North Carolina												
TAR	TA-RO-082C	CY-05	Existing	Temporary	Private	80	8	C	CI	None	0.02	0.00
TAR	TA-RO-082D	CY-05	Existing	Temporary	Private	72	6	A	CI	None	0.01	0.00
TAR	TA-RO-082E	CY-05	Existing	Temporary	Private	70	7	A	CI	None	0.01	0.00
TAR	TA-RO-000A	CY-08	Existing	Temporary	Private	25	344	A	CI, OL	None	0.21	0.00
TAR	TA-RO-072	26.9	Existing	Temporary	Private	25	1049	G	CI, FW, OL, RD	S, W	0.61	0.00
TAR	TA-RO-072A	26.9	New	Temporary	Private	25	229	Gr	AG, OL, RD	S, W	0.14	0.00
TAR	TA-RO-072B	27.0 RR	Existing	Temporary	Private	25	423	G, Gr	AG, CI, FW, OL	S, W	0.25	0.00
TAR	TA-RO-075	28.1 RR	Existing	Temporary	Private	25	2219	G, D, Gr	AG, OL, WL	S, W	1.28	0.00
PAR	PA-RO-000	28.2 RR	Existing	Permanent	Private	25	4959	G, Gr	CI, FW, OL, WL	S, W	2.86	2.86
TAR	TA-RO-076	28.6 RR	Existing	Temporary	Private	25	2506	G, D	FW, OL	S, W	1.45	0.00
TAR	TA-RO-078	29.2	Existing	Temporary	Private	25	2209	C, G, D	CI, FW, OL, RD	S, W	1.29	0.00
TAR	TA-RO-079	29.6	Existing	Temporary	Private	25	288	G, D, Gr	AG, OL	S, W	0.17	0.00
TAR	TA-RO-079A	29.6	Existing	Temporary	Private	25	1846	G, D, Gr	OL, RD	S, W	1.06	0.00
TAR	TA-RO-080	29.9	Existing	Temporary	Private	25	3587	G, D, Gr	AG, CI, OL, RD	S, W	2.15	0.00
TAR	TA-RO-081	30.4	New	Temporary	Private	34	17	G	OL	S, W	0.02	0.00
PAR	PA-RO-082	30.4	Existing	Permanent	Public Service Company Of North Carolina, Inc.	25	161	G	CI, OL, WL	S, W	0.12	0.12
PAR	PA-RO-082A	30.4	Existing	Permanent	Public Service Company Of North Carolina, Inc.	25	118	G	CI, OL	S,W	0.06	0.06
TAR	TA-RO-083	30.4	Existing	Temporary	Public Service Company Of North Carolina, Inc.	25	233	G, Gr	CI, OL	S, W	0.12	0.00
TAR	TA-RO-085	32.4	Existing	Temporary	Private	25	3670	G, D	CI, FW, OL, RD	S, W	2.12	0.00
TAR	TA-RO-087	32.8	Existing	Temporary	Private	25	2654	G, D, Gr	FW, OL, RD	S, W	1.54	0.00
TAR	TA-RO-088	33.6	Existing	Temporary	Private	25	1752	G, D, Gr	CI, FW, OL, RD	S, W	1.05	0.00
TAR	TA-RO-089	34.1	Existing	Temporary	Private	25	1812	G, Gr	CI, FW, OL, RD	S, W	1.07	0.00

REVISED Appendix 1-F												
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State/ Facility/ Road ID <u>a/</u>	Road Name	Milepost <u>b/</u>	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface <u>c/</u>	Existing Land Use <u>d/</u>	Proposed Improvement <u>e/</u>	Construction Area (acres) <u>f/</u>	Operation Area (acres) <u>g/</u>
						Width (feet)	Length (feet)					
TAR	TA-RO-091	34.7	Existing	Temporary	Private	25	1001	D	FW, OL	S, W	0.58	0.00
TAR	TA-RO-092	35.4	Existing	Temporary	Private	25	867	G, D	FW, OL, RD	S, W	0.51	0.00
TAR	TA-RO-094	35.9	Existing	Temporary	Private	25	778	D	AG, FW, OL	S, W	0.46	0.00
TAR	TA-RO-100	37.0	Existing	Temporary	Private	25	1744	D	FW, OL	S, W	1.00	0.00
TAR	TA-RO-102	37.6	Existing	Temporary	Private	25	1532	A, G, D, Gr	OL, RD	S, W	0.89	0.00
TAR	TA-RO-103	38.1	Existing	Temporary	Private	25	1440	G, D	FW, OL, RD	S, W	0.87	0.00
TAR	TA-RO-106	38.8	Existing	Temporary	City Of Reidsville	25	271	G	FW, OL	S, W	0.16	0.00
TAR	TA-RO-106A	38.8	New	Temporary	Private	25	20	Gr	CI, OL	S, W	0.02	0.00
TAR	TA-RO-107	39.6	Existing	Temporary	Private	25	673	D	CI, OL, RD	S, W	0.40	0.00
TAR	TA-RO-108	39.6	New	Temporary	Private	25	195	Gr	FW, OL	S, W	0.12	0.00
TAR	TA-RO-109	39.7	Existing	Temporary	Duke Power Company	25	1148	G, Gr	CI, OL	S, W	0.67	0.00
TAR	TA-RO-110	40.4 RR	New	Temporary	Private	45	22	Gr	CI, FW, OL	S, W	0.02	0.00
TAR	TA-RO-111	40.9	Existing	Temporary	Private	25	3243	G, D, Gr	AG, CI, FW, OL, RD	S, W	1.90	0.00
TAR	TA-RO-112	41.4	Existing	Temporary	Private	25	3433	G, D	CI, FW, OL	S, W	1.97	0.00
TAR	TA-RO-113	41.8	Existing	Temporary	Private	25	162	D, Gr	FW, OL	S, W	0.11	0.00
TAR	TA-RO-113A	41.8	New	Temporary	Private	25	1874	Gr	FW, OL, WL	S, W	1.03	0.00
PAR	PA-RO-114A	42.2	New	Permanent	Private	12.5	83	Gr	CI, FW, OL	S, W	0.03	0.03
TAR	TA-RO-115	42.4	Existing	Temporary	Private	25	585	G	CI, FW, OL, RD	S, W	0.34	0.00
TAR	TA-RO-115B	43.2	New	Temporary	Private	25	27	Gr	CI, OL	S, W	0.02	0.00
TAR	TA-RO-115C	43.2	New	Temporary	Private	25	10	Gr	OL	S, W	0.01	0.00
TAR	TA-RO-118A	43.4	New	Temporary	Private	25	41	Gr	CI, OL	S, W	0.03	0.00
TAR	TA-RO-118B	43.4	New	Temporary	Private	25	9	Gr	CI, OL	S, W	0.01	0.00
TAR	TA-RO-119	43.9	Existing	Temporary	Private	25	1889	G, D	CI, FW, OL, RD	S, W	1.11	0.00
TAR	TA-RO-122	44.1	Existing	Temporary	Private	25	1845	G, D	CI, FW, OL, RD	S, W	1.09	0.00
PAR	PA-RO-124A	44.9	New	Permanent	Private	14	16	Gr	AG	S, W	0.01	0.01
TAR	TA-RO-125	45.0	New	Temporary	Private	25	227	Gr	AG, FW	S, W	0.14	0.00
TAR	TA-RO-126	45.3	Existing	Temporary	Private	25	2268	D	AG, FW, OL, RD	S, W	1.31	0.00
TAR	TA-RO-127	46.1 RR	Existing	Temporary	Private	25	2753	G, D	AG, CI, FW, OL, RD	S, W	1.60	0.00
TAR	TA-RO-129	46.7	Existing	Temporary	Private	25	1636	G, D	AG, CI, FW, OL	S, W	0.96	0.00
TAR	TA-RO-130	47.3	Existing	Temporary	Private	25	2200	G, D	CI, FW, OL, RD	S, W	1.27	0.00
TAR	TA-RO-131A	48.4	New	Temporary	Private	25	30	Gr	AG, CI	S, W	0.03	0.00
TAR	TA-RO-131B	48.4	New	Temporary	Private	25	18	Gr	AG, CI	S, W	0.02	0.00
TAR	TA-RO-134	48.9	Existing	Temporary	Private	34	26	G	CI	S, W	0.03	0.00
TAR	TA-RO-135	49.2	Existing	Temporary	Private	25	446	D	CI, OL	S, W	0.27	0.00
TAR	TA-RO-136A	49.5	New	Temporary	Private	25	19	Gr	CI, OL	S, W	0.02	0.00
TAR	TA-RO-136B	49.5	New	Temporary	Private	25	20	Gr	CI, FW	S, W	0.02	0.00
TAR	TA-RO-138	49.8 RR	Existing	Temporary	Private	25	785	D, Gr	FW, OL	S, W	0.46	0.00
TAR	TA-RO-139	50.3 RR	Existing	Temporary	Private	25	2779	D	AG, FW, OL	S, W	1.60	0.00
TAR	TA-RO-140	51.4 RR	Existing	Temporary	Private	25	864	D	AG, FW, OL	S, W	0.50	0.00
TAR	TA-RO-141	51.6	Existing	Temporary	Private	25	457	D	AG, OL	S, W	0.27	0.00

REVISED Appendix 1-F												
Proposed New, Improved, and Private Access Roads for the MVP Southgate Project												
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						Width (feet)	Length (feet)					
TAR	TA-RO-142	51.7	Existing	Temporary	Private	25	657	D	AG, CI, OL	S, W	0.40	0.00
TAR	TA-RO-144	52.2	Existing	Temporary	Private	25	1204	D	AG, FW, OL	S, W	0.71	0.00
TAR	TA-RO-145	52.3	Existing	Temporary	Private	25	533	D	FW, OL	S, W	0.32	0.00
TAR	TA-RO-146A	52.6	Existing	Temporary	Private	25	549	G	CI, OL	S, W	0.31	0.00
TAR	TA-AL-147	53.0	Existing	Temporary	Private	25	116	D	CI, FW, OL, RD	S, W	0.08	0.00
TAR	TA-AL-149A	53.3	New	Temporary	Private	25	18	Gr	CI, OL	S, W	0.01	0.00
TAR	TA-AL-149B	53.3	New	Temporary	Private	25	15	Gr	OL	S, W	0.02	0.00
TAR	TA-AL-153	53.8	Existing	Temporary	Private	25	1411	D	AG, OL	S, W	0.82	0.00
TAR	TA-AL-154	54.2	Existing	Temporary	Private	25	1230	D	AG, FW, OL	S, W	0.71	0.00
TAR	TA-AL-155	54.7	Existing	Temporary	Private	25	3468	D	AG, CI, FW, OL, OW	S, W	2.02	0.00
PAR	PA-AL-155A	55.1	New	Permanent	Private	12.5	40	Gr	AG, OL	S, W	0.02	0.02
PAR	PA-AL-155B	55.1	New	Permanent	Private	12.5	16	Gr	CI, OL	S, W	0.01	0.01
TAR	TA-AL-156	55.5	Existing	Temporary	Private	25	599	D	AG, FW, OL	S, W	0.34	0.00
TAR	TA-AL-157	55.6	Existing	Temporary	Private	25	427	D	FW, OL	S, W	0.28	0.00
TAR	TA-AL-159B	56.8	Existing	Temporary	Private	25	212	G, D, Gr	CI, OL	S, W	0.13	0.00
TAR	TA-AL-159A	56.9	Existing	Temporary	Private	25	1816	A, G, Gr	CI, OL	S, W	1.07	0.00
TAR	TA-AL-161	57.7	New	Temporary	Private	25	651	G, Gr	CI, FW, OL, RD	S, W	0.38	0.00
TAR	TA-AL-162	58.1	Existing	Temporary	Private	25	993	Gr, D	AG, FW, OL	S, W	0.58	0.00
TAR	TA-AL-163	58.4	Existing	Temporary	Private	25	1032	OL, G	CI, OL	S, W	0.60	0.00
TAR	TA-AL-165A	60.0	New	Temporary	Private	25	17	Gr	OL	S, W	0.02	0.00
TAR	TA-AL-165B	60.0	New	Temporary	Private	25	16	Gr	OL	S, W	0.02	0.00
TAR	TA-AL-166A	60.2	New	Temporary	Private	12.5	16	Gr	CI, OL	S, W	0.01	0.00
TAR	TA-AL-166B	60.2	New	Temporary	Private	12.5	16	Gr	CI, OL	S, W	0.01	0.00
PAR	PA-AL-166	60.3	Existing	Permanent	Private	25	144	Gr	CI, OL	S, W	0.09	0.09
TAR	TA-AL-167	61.2	Existing	Temporary	Private	25	757	D	AG, CI, FW, OL	S, W	0.44	0.00
TAR	TA-AL-168	61.6	Existing	Temporary	Private	25	578	G, Gr	AG, CI, FW, OL	S, W	0.36	0.00
TAR	TA-AL-169	62.4	Existing	Temporary	Private	25	1945	D	FW, OL, OW, RD, WL	S, W	1.12	0.00
TAR	TA-AL-171A	63.2	New	Temporary	Private	25	233	Gr	AG	S, W	0.14	0.00
TAR	TA-AL-172	63.7	New	Temporary	Private	25	2384	Gr	CI, FW, OL, SC	S, W	1.38	0.00
PAR	PA-AL-175A	64.8	New	Permanent	Private	12.5	68	Gr	CI, OL	S, W	0.02	0.02
TAR	TA-AL-172A	64.8	New	Temporary	Private	25	20	Gr	CI, FW, OL	S, W	0.01	0.00
TAR	TA-AL-172B	64.8	New	Temporary	Private	25	22	Gr	CI, OL	S, W	0.02	0.00
TAR	TA-AL-179B	67.2 RR	Existing	Temporary	Private	25	1977	G	CI, OL	S, W	1.14	0.00
TAR	TA-AL-180	67.4 RR	New	Temporary	Private	25	1987	G, Gr	AG, CI, FW, OL, RD	S, W	1.16	0.00
TAR	TA-AL-181	68.0	Existing	Temporary	Private	25	1527	G, D	CI, FW, OL, RD	S, W	0.88	0.00
TAR	TA-AL-181A	68.2	Existing	Temporary	Private	25	1991	G	CL, OL, RD	S, W	1.16	0.00
PAR	PA-AL-182	68.7	New	Permanent	Private	12.5	219	Gr	CI, FW, OL	S, W	0.07	0.07
TAR	TA-AL-185	68.9	Existing	Temporary	Private	25	1586	Gr	FW, OL	S, W	0.92	0.00
TAR	TA-AL-186	69.2	Existing	Temporary	Private	45	11	G, Gr	FW, RD	S, W	0.02	0.00
TAR	TA-AL-187	69.5	Existing	Temporary	Private	25	1317	A, G, Gr	CI, FW, RD	S, W	0.77	0.00

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						Width (feet)	Length (feet)					
TAR	TA-AL-187A	69.8	Existing	Temporary	Private	20	60	G	CI, OL	S, W	0.05	0.00
TAR	TA-AL-188	70.9	Existing	Temporary	Private	25	784	C, D	CI, FW, OL	S, W	0.45	0.00
TAR	TA-AL-189	71.2	Existing	Temporary	Private	25	2151	Gr	FW, OL	S, W	1.32	0.00
TAR	TA-AL-190	71.5	Existing	Temporary	Alamance Community College	25	1512	A, G, Gr	CI, FW, OL	S, W	0.89	0.00
TAR	TA-AL-192	72.2	Existing	Temporary	Private	25	1275	G, D, Gr	CI, FW, OL, RD	S, W	0.74	0.00
TAR	TA-AL-193	72.4	Existing	Temporary	Private	25	1262	Gr	CI, FW, OL	S, W	0.73	0.00
TAR	TA-AL-193A	72.9 RR	Existing	Temporary	Private	25	67	Gr	CI, OL	S, W	0.05	0.00
PAR	PA-AL-194	73.17 RR	Existing	Permanent	Transcontinental Gas Pipeline Company, LLC Public Service Company Of North Carolina, Inc. Private	20	205	G	CI, FW, OL	S	0.12	0.12
North Carolina Total											62.37	3.40
Project Total											98.98	6.31
<p>Note: The totals shown in this table may not equal the sum of addends due to rounding.</p> <p>a/ TAR=Temporary, PAR=Permanent Access Road.</p> <p>b/ Milepost (MP) at final intersection of access road with construction workspace. Approximate MP rounded to the nearest tenth.</p> <p>c/ Dominant surface condition provided. A=Asphalt, C=Concrete, G=Gravel, D=Dirt, Gr=Greenfield.</p> <p>d/ AG = Agricultural; CI = Commercial / Industrial; FW = Upland Forest / Woodland; OL = Upland Open Land; OW = Open Water; RD = Residential; SC = Silviculture; WL = Wetland. Where wetlands (WL) are identified within permanent access roads, permanent impacts are not anticipated. PA-RO-113A has been removed from the Project. Final groundbed locations and permanent access to groundbeds for cathodic protection will be filed with the Commission, prior to construction.</p> <p>e/ P=Paving, G=Grading, S=Stone, C=Culverts, W=Widening, R=Realignment. No improvements to occur within WLS crossed by the access road.</p> <p>f/ Does not include area overlapping with pipeline, aboveground facility, or contractor/pipe storage yard construction workspaces.</p> <p>g/ Does not include area overlapping with pipeline permanent right-of-way or aboveground facility permanent facility boundary (fence line/footprint). Only PARs will have an operational area impact.</p>												

LIST OF TABLES

REVISED Table 2.2-2	Private Wells and Springs within 150 feet of the MVP Southgate Project Construction Workspace a/.....	2
REVISED Table 2.3-3	Permanent Impacts within the 100-year Flood Zone.....	4
REVISED Table 2.3-4	Summary of Waterbodies Crossed by the Pipeline of the MVP Southgate Project a/.....	5
REVISED Table 2.3-5	Summary of FERC Classification of Waterbody Crossings by the Pipeline of the MVP Southgate Project a/.....	5
REVISED Table 2.4-1	Summary of Wetlands Crossed by the MVP Southgate Project.....	6
REVISED Appendix 2-A	Waterbodies Crossed by MVP Southgate Project.....	7
REVISED Appendix 2-B	Wetlands Crossed by the MVP Southgate Project.....	14
REVISED Appendix 2-F	ATWS Within 50 feet of Wetland or Waterbody.....	24

REVISED Table 2.2-2				
Private Wells and Springs within 150 feet of the MVP Southgate Project Construction Workspace <u>a/</u>				
State, County, Milepost	Line List Number	Status (active, inactive, plugged, etc.)	Use (irrigation, monitoring, domestic, etc.)	Distance from Project Construction Workspace (Feet) <u>b/</u>
Virginia				
Pittsylvania				
H-605 Pipeline				
No private wells located within 150 feet of workspace areas				
H-650 Pipeline				
4.3	VA-PI-030.000	TBD	TBD	0
4.6	VA-PI-033.100	TBD	TBD	16
6.2	VA-PI-036.000	Active	Ground Water Testing	0
6.2	VA-PI-036.000	Active	Ground Water Testing	0
6.2	VA-PI-036.000	Active	Ground Water Testing	0
6.2	VA-PI-036.000	Active	Ground Water Testing	0
6.2	VA-PI-036.000	Active	Ground Water Testing	0
6.2	VA-PI-036.000	Active	Ground Water Testing	5
6.3	VA-PI-037.000	Active	TBD	22
6.3	VA-PI-037.000	Active	TBD	127
6.3	VA-PI-037.000	Active	TBD	0
6.3	VA-PI-037.000	Active	TBD	0
6.5	VA-PI-037.000	Active	TBD	86
6.5	VA-PI-037.000	Active	TBD	0
6.5	VA-PI-037.000	Active	TBD	96
14.8	Pittsylvania, Virginia	TBD	TBD	113
19.6	VA-PI-140.000	TBD	TBD	12
21.9	VA-PI-167.000	Active	TBD	99
North Carolina				
Rockingham				
43.15	NC-RO-117.250	TBD	TBD	12
43.9	NC-RO-133.100.AR	Active	TBD	31
45.0	NC-RO-139.000	TBD	TBD	39
Alamance				
52.9	NC-AL-000.035	TBD	TBD	25
52.9	NC-AL-000.030	TBD	TBD	65
53.5	NC-AL-000.060 NC-AL-000.065	TBD	TBD	145
56.7	NC-AL-028.000	Inactive	TBD	0
58.7	NC-AL-051.000	TBD	TBD	17
65.1 RR	MVF-NC-AL-007.000	TBD	TBD	65
65.1 RR	MVF-NC-AL-007.000	Active	TBD	117
65.2 RR	MVF-NC-AL-007.000	TBD	TBD	65
65.2 RR	MVF-NC-AL-010.000	TBD	TBD	71
69.1	NC-AL-150.000	TBD	TBD	4
69.8	NC-AL-179.000	Inactive	TBD	0
72.8 RR	NC-AL-203.000	TBD	TBD	67

REVISED Table 2.2-2				
Private Wells and Springs within 150 feet of the MVP Southgate Project Construction Workspace <u>a/</u>				
State, County, Milepost	Line List Number	Status (active, inactive, plugged, etc.)	Use (irrigation, monitoring, domestic, etc.)	Distance from Project Construction Workspace (Feet) <u>b/</u>
CY-25	Caswell, North Carolina	TBD	TBD	76
<p><u>Note:</u> The Southgate Project is currently working with landowners to identify the status and use of wells within 150 feet. The status and type of well will be determined during easement negotiations with the landowner. TBD = To Be Determined.</p> <p><u>a/</u> Private wells identified by civil survey where access has been granted. No springs have been identified within 150 feet of the Project construction workspace on parcels surveyed through May 9, 2019.</p> <p><u>b/</u> Wells with a distance of 0 feet from Southgate Project Construction Workspace are located within the current construction workspace.</p>				

REVISED Table 2.3-3	
Permanent Impacts within the 100-year Flood Zone	
Facility	Impact (acre)
T-15 Dan River Interconnect/ MLV 4	0.8
PA-RO-082	0.1
PA-RO-082A	0.1
Total	0.9

NOTE: Totals may not equal the sum of addends due to rounding. Addends consists of 6-decimal digits.

REVISED Table 2.3-4		
Summary of Waterbodies Crossed by the Pipeline of the MVP Southgate Project a/		
Facility, State	Flow Type	Number of Waterbodies Crossed
H-605 Pipeline		
Virginia	Ephemeral	0
	Intermittent	1
	Perennial	0
H-605 Pipeline Virginia Total		1
H-650 Pipeline		
Virginia	Ephemeral	4
	Intermittent	20
	Perennial	38
	Pond	1
H-650 Pipeline Virginia Total		63
North Carolina	Ephemeral	20
	Intermittent	55
	Perennial	90
	Pond	1
H-650 Pipeline North Carolina Total		166
Project Total		230

a/ Based on data from field delineation as of May 9, 2019 where access has been obtained to the pipeline corridor, approximated and NHD data elsewhere. Table only includes waterbodies that cross the centerline of the Southgate Project.

REVISED Table 2.3-5				
Summary of FERC Classification of Waterbody Crossings by the Pipeline of the MVP Southgate Project a/				
State	Minor b/	Intermediate c/	Major d/	Total
Virginia	42	22	0	64
North Carolina	128	35	3	166
Total	170	57	3	230

a/ Based on data from field delineation as of May 9, 2019 where access has been obtained to the pipeline corridor, approximated and NHD data elsewhere. Table only includes waterbodies that cross the centerline of the Southgate Project.
b/ FERC classified Minor Waterbodies – waterbodies less than or equal to 10 feet wide at the water’s edge
c/ FERC classified Intermediate Waterbodies – waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water’s edge
d/ FERC classified Major Waterbodies – waterbodies greater than 100 feet wide at the water’s edge

REVISED Table 2.4-1				
Summary of Wetlands Crossed by the MVP Southgate Project				
State / County	Wetland Type	Length of Pipeline Crossing (Feet)	Acres Impacted ^{a/}	
			Construction	Operation
Virginia				
Pittsylvania	PEM	3,561	6.29	0.74
	PFO	2,730	5.07	1.94
	PSS	362	0.69	0.08
Virginia Total		6,653	12.04	2.77
North Carolina				
Rockingham	PEM	1,957	5.28	0.44
	PFO	2,282	4.36	1.46
	PSS	193	0.42	0.05
Alamance	PEM	467	1.96	0.11
	PFO	1,769	2.90	1.21
	PSS	52	0.11	0.01
Caswell	PSS	0	0.00	0.00
North Carolina Total		6,720	15.03	3.27
Project Total		13,373	27.07	6.04
<p>^{a/} Construction impacts are impacts associated with all areas within the construction workspace limits, temporary and permanent. Operation impacts are impacts associated with vegetation maintenance (10 feet in PEM and PSS wetlands and 30 feet in PFO wetlands). Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.</p>				

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
Virginia									
Pittsylvania									
H-605 Pipeline									
S-F18-6	0.1	Trib. To Little Cherrystone Creek	Intermittent	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
H-650 Pipeline									
S-F18-65	0.4	Little Cherrystone Creek	Perennial	22	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-63	0.6	Trib. To Little Cherrystone Creek	Intermittent	14	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-18	1.1	Trib. To Cherrystone Creek	Perennial	5	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-56	1.4	Trib. To Cherrystone Creek	Intermittent	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-18	1.7	Cherrystone Creek	Perennial	29	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-2	3.2	Trib. To Banister River	Intermittent	8	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-6	3.6	Trib. To Banister River	Intermittent	10	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-10	4.0	Trib. To Banister River	Intermittent	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-9	4.1	Trib. To Banister River	Intermittent	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-4	4.8	Trib. To Banister River	Intermittent	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-3	4.9	Banister River	Perennial	48	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-2	5.0	White Oak Creek	Perennial	33	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-2	5.1	White Oak Creek	Perennial	23	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-36	6.6	Trib. To White Oak Creek	Intermittent	5	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-7	7.0	Trib. To White Oak Creek	Intermittent	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-6	7.0	Trib. To White Oak Creek	Intermittent	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-13	7.6	Trib. To White Oak Creek	Perennial	3	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-13	8.0	Trib. To White Oak Creek	Intermittent	9	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-16	8.5	Trib. To White Oak Creek	Intermittent	8	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-14	8.6	Trib. To White Oak Creek	Perennial	9	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
WB-E18-24	9.0	Trib. To White Oak Creek	Pond	23	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-15	9.9	Trib. To White Oak Creek	Perennial	3	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-17	9.9	White Oak Creek	Perennial	14	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-22	11.0	Trib. To Sandy Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-F18-20	11.0	Trib. To Sandy Creek	Perennial	27	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-20	11.0	Trib. To Sandy Creek	Perennial	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-20	11.0	Trib. To Sandy Creek	Perennial	9	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-28	11.4	Trib. To Sandy Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-F18-20	11.4	Trib. To Sandy Creek	Perennial	12	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-C18-85	11.6	Trib. To Sandy Creek	Perennial	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-C18-86	11.9	Trib. To Sandy Creek	Perennial	23	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-21	12.8	Sandy Creek	Perennial	15	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-27	13.4	Trib. To Sandy Creek	Perennial	11	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-22	14.3	Trib. To Sandy Creek	Perennial	12	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-47	14.7	Trib. To Sandy Creek	Perennial	3	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-A18-188	15.2	Trib. To Silver Creek	Perennial	5	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-37	15.7	Trib. To Silver Creek	Perennial	24	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-A18-190	15.9	Trib. To Silver Creek	Intermittent	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-A18-194	16.0	Trib. To Silver Creek	Perennial	7	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-A18-195	16.2	Trib. To Silver Creek	Perennial	2	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-G18-10	16.2	Trib. To Silver Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-C18-97	16.8	Trib. To Sandy River	Intermittent	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-B18-202	17.0	Trib. To Sandy River	Perennial	3	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-51	17.3	Trib. To Sandy River	Perennial	12	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-44	17.7 RR	Sandy River	Perennial	113	Intermediate	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-A19-292	17.8 RR	Trib. to Sandy River	Perennial	6	Minor	WWH	AL,R,W	N/A	Open Cut - Dam and pump, Flume

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
S-E18-42	18.0	Trib. To Hardys Creek	Perennial	6	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-D18-38	19.4	Trib. To Sandy River	Ephemeral	4	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-50	19.7	Trib. To Sandy River	Perennial	9	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-52	20.4	Trib. To Trayner Branch	Perennial	14	Intermediate	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-E18-54	20.6	Trib. To Trayner Branch	Perennial	6	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-D18-34	21.0	Trayner Branch	Perennial	7	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-D18-40	21.2	Trib. To Trayner Branch	Perennial	5	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-C18-94	21.7	Trib. To Trotters Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
WB-C18-93	21.9	Trib. To Trotters Creek	Pond	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-A18-205	22.0	Trib. To Trotters Creek	Intermittent	19	Intermediate	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-A18-203	22.1	Trib. To Trotters Creek	Intermittent	<1	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-A18-206	22.2	Trib. To Trotters Creek	Intermittent	9	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-F18-43	23.0	Trib. To Trotters Creek	Intermittent	4	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-F18-42	23.2	Trib. To Trotters Creek	Ephemeral	10	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-F18-40	23.2	Trotters Creek	Perennial	22	Intermediate	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-F18-38	23.5	Trib. To Dan River	Intermittent	4	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-F18-35	23.8	Trib. To Dan River	Ephemeral	7	Minor	WWH	AL, R, FC, W	N/A	Open Cut - Dam and pump, Flume
S-E18-34	23.9	Trib. To Dan River	Intermittent	0	Minor	WWH	AL, R, FC, W, PWS	N/A	N/A
S-F18-34	24.4	Trib. To Dan River	Ephemeral	7	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-F18-33	24.8	Trib. To Dan River	Perennial	9	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-C18-89	25.1	Trib. To Dan River	Perennial	19	Intermediate	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-C18-90	25.7	Trib. To Dan River	Perennial	11	Intermediate	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
S-C18-92	25.9	Trib. To Dan River	Intermittent	7	Minor	WWH	AL, R, FC, W, PWS	N/A	Open Cut - Dam and pump, Flume
North Carolina									
Rockingham									
S-B18-99	26.5	Trib. To Cascade Creek	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-42	27.3	Trib. To Cascade Creek	Intermittent	20	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-40	27.5	Cascade Creek	Perennial	108	Major	WWH	Class C	N/A	Conventional Bore
S-A19-273	27.5	Dry Creek	Perennial	29	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-31	28.3 RR	Trib. To Dan River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-32	28.4 RR	Trib. To Dan River	Perennial	14	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-34	28.4 RR	Trib. To Dan River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-36	28.4 RR	Trib. To Dan River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-37	28.6 RR	Trib. To Dan River	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-49	28.8	Trib. To Dan River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-47	29.1	Trib. To Dan River	Ephemeral	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-160	29.3 RR	Trib. To Dan River	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-A18-47	29.6	Trib. To Dan River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-17	30.1	Dan River	Perennial	247	Major	WWH	Class C	N/A	HDD
S-B18-38	30.3	Trib. To Dan River	Ephemeral	3	Minor	WWH	Class C	N/A	HDD
S-B18-104	30.8 RR	Trib. To Rock Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-153	30.9 RR	Trib. To Rock Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-105	31.1	Trib. To Rock Creek	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-102	31.1	Trib. To Rock Creek	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-95	31.3	Rock Creek	Perennial	28	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-143	31.9	Trib. To Machine Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-140	31.9	Trib. To Machine Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-144	32.0	Trib. To Machine Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-140	32.0	Trib. To Machine Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-148	32.1	Trib. To Machine Creek	Ephemeral	0	Minor	WWH	Class C	N/A	N/A

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
S-A18-147	32.2	Machine Creek	Perennial	20*	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-150	32.5	Trib. To Town Creek	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-153	32.6	Trib. To Town Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-151	32.7 RR	Town Creek	Perennial	55	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-151	33.0	Town Creek	Perennial	48	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-154	33.0	Trib. To Town Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-154	33.0	Trib. To Town Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-154	33.0	Trib. To Town Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-220	33.3	Trib. To Town Creek	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-221	33.3	Trib. To Town Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-52	33.4	Trib. To Town Creek	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-51	33.5	Trib. To Town Creek	Intermittent	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-223	33.7	Trib. To Town Creek	Intermittent	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-225	33.7	Trib. To Town Creek	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-49	33.9	Trib. To Town Creek	Intermittent	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-48	34.0	Trib. To Town Creek	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-C18-38	34.2 RR	Trib. To Town Creek	Perennial	33	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-39	34.5	Trib. To Town Creek	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-38	34.6	Trib. To Town Creek	Perennial	17	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-53	34.7	Trib. To Town Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-38	34.8	Trib. To Town Creek	Perennial	23	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-74	34.8	Trib. To Town Creek	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-38	35.0	Trib. To Town Creek	Perennial	7	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-57	35.1	Trib. To Town Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-35	36.0	Trib. To Town Creek	Perennial	10	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-94	37.0	Trib. To Wolf Island Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-97	37.2	Trib. To Wolf Island Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-101	37.3	Trib. To Wolf Island Creek	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-157	37.6 RR	Trib. To Wolf Island Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cute – Dam and pump, Flume
*AS-B18-117	37.7	Trib. To Wolf Island Creek	Perennial	12	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-2	38.2	Trib. To Wolf Island Creek	Perennial	21	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-9	38.4	Trib. To Wolf Island Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-4	38.5	Trib. To Wolf Island Creek	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-4	38.5	Trib. To Wolf Island Creek	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-8	38.8	Wolf Island Creek	Perennial	53	Intermediate	WWH	Class C	N/A	Conventional Bore
S-A19-269	38.8 RR	Trib. To Wolf Island Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
S-B18-72	39.0	Trib. To Wolf Island Creek	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-73	39.1	Trib. To Wolf Island Creek	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-B18-74	39.1	Trib. To Wolf Island Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-74	39.6	Trib. To Wolf Island Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-108	40.2	Trib. To Lick Fork	Perennial	27	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-109	40.2	Trib. To Lick Fork	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-210	40.5 RR	Trib. To Lick Fork	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-210	40.5 RR	Trib. To Lick Fork	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-51	40.6	Trib. To Lick Fork	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-52	40.7	Trib. To Lick Fork	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-57	41.1	Trib. To Lick Fork	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-56	41.2 RR	Lick Fork	Perennial	39	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-171	41.2	Trib. To Lick Fork	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-B18-44	41.6	Trib. To Lick Fork	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-45	41.7	Trib. To Lick Fork	Ephemeral	0	Minor	WWH	Class C	N/A	N/A

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
S-B18-44	41.7	Trib. To Lick Fork	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-41	41.8	Trib. To Lick Fork	Perennial	19	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-89	42.3	Trib. To Jones Creek	Ephemeral	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-256	42.9	Trib. To Jones Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-92	43.1	Trib. To Jones Creek	Perennial	12	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-176	43.3	Jones Creek	Perennial	26	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-181	43.3	Trib. To Jones Creek	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-80	43.7	Trib. To Jones Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-105	43.7	Trib. To Jones Creek	Perennial	53	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-25	44.1	Trib. To Jones Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-102	44.1	Trib. To Jones Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-226	44.4	Trib. To Jones Creek	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-228	44.5	Trib. To Jones Creek	Ephemeral	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-213	45.7	Trib. To Hogans Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-71	45.7	Trib. To Hogans Creek	Perennial	23	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-68	45.8	Trib. To Hogans Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-231	46.4	Trib. To Hogans Creek	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-A18-234	46.5	Trib. To Hogans Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-235	46.5	Trib. To Hogans Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-76	47.0	Hogans Creek	Perennial	19	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-79	47.4	Trib. To Hogans Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-90	47.6	Trib. To Hogans Creek	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-167	47.7 RR	Trib. To Hogans Creek	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-242	47.7	Trib. To Hogans Creek	Perennial	19	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-60	48.7	Giles Creek	Perennial	4	Minor	WWH	Class C, WS-IV, NSW	N/A	Open Cut - Dam and pump, Flume
S-A18-55	49.3	Trib. To Giles Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-183	49.9 RR	Trib. To Haw River	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-185	49.9 RR	Trib. To Haw River	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-A18-182 / S-A18-182	49.9 RR	Trib. To Haw River	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-244	50.2 RR	Trib. To Haw River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A19-289	50.7 RR	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A19-286	50.8 RR	Trib. To Haw River	Perennial	43	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A19-286	50.8 RR	Trib. To Haw River	Perennial	29*	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
AS-A19-285	51.2 RR	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-C18-22	51.3 RR	Trib. To Haw River	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-21	51.4 RR	Trib. To Haw River	Perennial	0	Minor	WWH	Class C	N/A	N/A
WB-C18-19	51.4 RR	Trib. To Haw River	Pond	0	Minor	WWH	Class C	N/A	N/A
S-C18-15	52.1	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-217	52.1	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
*AS-A18-219	52.4 RR	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
Alamance									
S-B18-94	52.7	Trib. To Haw River	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-84	53.7	Trib. To Haw River	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-87	53.7	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-89	54.0	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-C18-63	54.5	Trib. To Haw River	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-62	54.6	Trib. To Haw River	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-60	54.9	Trib. To Haw River	Intermittent	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-143	54.9	Trib. To Haw River	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-B18-142	54.9	Trib. To Haw River	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-61	54.9	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
S-C18-68	55.2	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-59	55.3	Trib. To Haw River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-59	55.3	Trib. To Haw River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-59	55.3	Trib. To Haw River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-B18-65	56.4	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-120	56.4	Trib. To Haw River	Perennial	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
WB-A18-121	56.5	Trib. To Haw River	Pond	32	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-125	56.5	Trib. To Haw River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-125	56.6	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-126	56.6	Trib. To Haw River	Ephemeral	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-125	56.6	Trib. To Haw River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-132	57.1	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A19-290	57.5 RR	Trib. To Haw River	Ephemeral	0	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-2	57.9	Trib. To Haw River	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-13	58.7	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-11	58.7	Trib. To Haw River	Perennial	79	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-12	58.7	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
*AS-NHD-1549	59.6	Trib. To Haw River	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-30	60.7	Trib. To Haw River	Intermittent	13	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-28	60.8	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-78	61.8	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-77	61.8	Trib. To Haw River	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-A18-70	62.4	Trib. To Haw River	Perennial	19	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-72	62.5	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-23	63.0	Trib. To Stony Creek Reservoir	Ephemeral	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-24	63.0	Trib. To Stony Creek Reservoir	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-B18-22	63.0	Trib. To Stony Creek Reservoir	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-22	63.1	Trib. To Stony Creek Reservoir	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-26	63.1	Trib. To Stony Creek Reservoir	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-12	63.1	Trib. To Stony Creek Reservoir	Perennial	6	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-12	63.1	Trib. To Stony Creek Reservoir	Perennial	6	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-29	63.1	Trib. To Stony Creek Reservoir	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-B18-12	63.1	Trib. To Stony Creek Reservoir	Perennial	6	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-14	63.2	Trib. To Stony Creek Reservoir	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-B18-12	63.2	Trib. To Stony Creek Reservoir	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-B18-12	63.2	Trib. To Stony Creek Reservoir	Perennial	21	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-15	63.5	Trib. To Stony Creek Reservoir	Intermittent	0	Minor	WWH	Class C	N/A	N/A
*AS-B18-16 / S-B18-16	63.6	Stony Creek Reservoir	Perennial	305	Major	WWH	Class C, WS-II, HQW, NSW, CA	N/A	HDD
*AS-B18-20	63.8	Trib. To Deep Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-NHD-1547	64.0	Deep Creek	Perennial	9	Minor	WWH	Class C, WS-II, HQW, NSW, CA	N/A	Conventional Bore
*AS-NHD-3040	64.5	Trib. To Deep Creek	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID <u>a/</u>	Approx. MP <u>b/</u>	Waterbody Name	Flow Type <u>c/</u>	Crossing Width (Feet) <u>d/</u>	FERC Class <u>e/</u>	Fishery Classification <u>f/</u>	State Water Quality Classification / Designations <u>g/</u>	Construction Timing Windows <u>h/</u>	Crossing Method <u>i/</u>
S-A19-319	65.0 RR	Trib. To Boyds Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A19-321	65.1 RR	Trib. To Boyds Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
S-A19-324	65.1 RR	Trib. To Boyds Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
S-A18-251	65.6	Trib. To Boyds Creek	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-NHD-3025	66.8 RR	Trib. To Boyds Creek	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
*AS-A18-177	67.3 RR	Trib. To Boyds Creek	Perennial	5	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
AS-A18-180	67.3 RR	Trib. To Boyds Creek	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
AS-A18-177	67.3 RR	Trib. To Boyds Creek	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-B18-80	67.3 RR	Trib. To Boyds Creek	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut – Dam and pump, Flume
S-A18-250	65.6	Trib. To Boyds Creek	Perennial	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-A18-233 / S-A18-233	67.6	Boyds Creek	Perennial	24	Intermediate	WWH	Class C, WS-V, NSW	N/A	Open Cut - Dam and pump, Flume
*AS-NHD-1551	68.1	Trib. To Boyds Creek	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-7	68.4	Trib. To Boyds Creek	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-NHD-1552	68.6	Trib. To Boyds Creek	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-8	68.8	Trib. To Haw River	Intermittent	12	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-11	68.9	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-10	69.1	Trib. To Haw River	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-15	69.2	Trib. To Haw River	Intermittent	4	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-B18-132	69.5	Trib. To Haw River	Perennial	8	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-147	69.7	Trib. To Haw River	Ephemeral	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-174	69.8	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
*AS-A18-115	69.9	Trib. To Haw River	Perennial	18	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-135	70.3	Trib. To Haw River	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-134	70.3	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-133	70.3	Trib. To Haw River	Perennial	11	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-82	70.4	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-C18-81	70.7	Trib. To Haw River	Perennial	24	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-109	70.9	Trib. To Haw River	Perennial	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-108	71.0	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-107	71.0	Trib. To Haw River	Ephemeral	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-64	71.5	Trib. To Haw River	Perennial	26	Intermediate	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-65	71.6	Trib. To Haw River	Intermittent	1	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-68	71.8	Trib. To Haw River	Perennial	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
*AS-NHD-1560	72.1	Trib. To Haw River	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-A18-207	72.2	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-125	72.4	Trib. To Haw River	Intermittent	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-127	72.5	Trib. To Haw River	Intermittent	5	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-128	72.5	Trib. To Haw River	Ephemeral	2	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B18-129	72.6	Trib. To Haw River	Ephemeral	3	Minor	WWH	Class C	N/A	Open Cut - Dam and pump, Flume
S-B19-150	73.0 RR	Trib. To Back Creek	Perennial	0	Minor	WWH	Class C	N/A	N/A
Aboveground Facilities									
North Carolina									
Rockingham									
*AS-A18-248 / S-A18-248 - CY-05	30.6	Trib. To Dry Creek	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-B18-38 - T-15 Dan River Interconnect	30.3	Trib. To Dan River	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
Access Roads									
Virginia									
Pittsylvania									
S-D18-20 - TA-PI-005	2.2	Trib. To Cherrystone Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-F18-61 - TA-PI-035	14.2	Trib. To Sandy Creek	Perennial	0	Minor	WWH	AL, R, FC, W	N/A	N/A

REVISED Appendix 2-A									
Waterbodies Crossed by MVP Southgate Project									
Facility/ State/ County/ Waterbody ID ^{a/}	Approx. MP ^{b/}	Waterbody Name	Flow Type ^{c/}	Crossing Width (Feet) ^{d/}	FERC Class ^{e/}	Fishery Classification ^{f/}	State Water Quality Classification / Designations ^{g/}	Construction Timing Windows ^{h/}	Crossing Method ^{i/}
S-F18-47 - TA-PI-043	17.2	Trib. To Sandy River	Intermittent	1	Minor	WWH	AL, R, FC, W	N/A	Bridge or Flume
S-E18-39 - TA-PI-061	22.6	Trib. To Trotters Creek	Intermittent	4	Minor	WWH	AL, R, FC, W	N/A	Bridge or Flume
S-E18-38 - TA-PI-061	22.6	Trib. To Trotters Creek	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-E18-41 - TA-PI-061	22.7	Trib. To Trotters Creek	Ephemeral	0	Minor	WWH	AL, R, FC, W	N/A	N/A
S-E18-32 - TA-PI-063	24.0	Trib. To Dan River	Intermittent	5	Minor	WWH	AL, R, FC, W	N/A	Bridge or Flume
S-C18-88 - TA-PI-067	25.0	Trib. To Dan River	Intermittent	0	Minor	WWH	AL, R, FC, W	N/A	N/A
North Carolina									
Rockingham									
S-A18-23 - TA-RO-076	28.3 RR	Trib. To Dan River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-27 - TA-RO-076	28.4 RR	Trib. To Dan River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-19 - TA-RO-080	29.8	Trib. To Dan River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-19 - TA-RO-080	29.7	Trib. To Dan River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-1 - TA-RO-103	38.1	Trib. To Wolf Island Creek	Ephemeral	1	Minor	WWH	Class C	N/A	Bridge or Flume
S-B18-42 - TA-RO-113A	41.8	Trib. To Lick Fork	Intermittent	4	Minor	WWH	Class C	N/A	Bridge or Flume
S-A18-239 - TA-RO-129	46.7	Trib. To Hogans Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-A18-238 - TA-RO-129	46.7	Trib. To Hogans Creek	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-C18-71 - TA-RO-139	50.2 RR	Trib. To Haw River	Ephemeral	0	Minor	WWH	Class C	N/A	N/A
S-C18-15 - TA-RO-144	52.2	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
Alamance									
S-A18-216 - TA-AL-155	54.6	Trib. To Haw River	Intermittent	2	Minor	WWH	Class C	N/A	Bridge or Flume
S-A18-215 - TA-AL-155	54.6	Trib. To Haw River	Perennial	6	Minor	WWH	Class C	N/A	Bridge or Flume
S-A18-70 - TA-AL-169	62.4	Trib. To Haw River	Perennial	0	Minor	WWH	Class C	N/A	N/A
S-A18-72 - TA-AL-169	62.5	Trib. To Haw River	Intermittent	0	Minor	WWH	Class C	N/A	N/A
S-B18-138 - TA-AL-172	63.7	Trib. To Stony Creek Reservoir	Perennial	3	Minor	WWH	Class C	N/A	Bridge or Flume
S-B18-137 - TA-AL-172	63.7	Trib. To Stony Creek Reservoir	Intermittent	2	Minor	WWH	Class C	N/A	Bridge or Flume
<p>^{a/} Data is based on waterbody field delineations completed through May 9, 2019 where access has been obtained, National Hydrography Database (NHD), and desktop analysis of approximated resources. "S" indicates stream, "WB" indicates pond, "AS" indicates approximate stream or pond. Approximated streams are also indicated with ""</p> <p>^{b/} MP is closest milepost to waterbody. Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment.</p> <p>^{c/} Perennial: flowing throughout the year for all or most years, Intermittent: flowing water during certain times of the year, Ephemeral: flowing water only during short periods of the year. For delineated waterbodies, flow type in North Carolina was determined using the NCDWQ Stream Identification Form Version 4.11 and flow type in Virginia has been field estimated. For approximated waterbodies, flow type was estimated based on aerial imagery unless the approximated stream is directly associated with a delineated waterbody in which the approximated waterbody was assigned the same flow type as the associated delineated waterbody.</p> <p>^{d/} Crossing width is the intersection of the waterbody and the centerline of the pipeline or access road (unless followed by "" which indicates the stream width for a parallel pipeline crossing),. For approximated streams, the crossing width was measure using aerial imagery if wide enough to discern, and defaulted to 5 feet if too narrow to be measured using aerial imagery. If the crossing width is "0", the waterbody is not crossed by the centerline.</p> <p>^{e/} FERC Classification from the 2013 FERC Procedures. Minor (≤10 feet); Intermediate (>10 - ≤100 feet); Major (>100 feet).</p> <p>^{f/} WWH - Warm Water Habitat.</p> <p>^{g/} Virginia Water Quality Designations (VADEQ, 2016b). North Carolina Water Quality Classifications (NCDEQ, 2018d). In Virginia AL = Aquatic Life, R = Recreation, W = Wildlife, FC = Fish Consumption, PWS = PUBLIC Water Source. In North Carolina WS-II = Water Supply II, WA-IV = Water Supply IV, WS-V = Water Supply V, HQW = High Quality Waters, NSW = Nutrient Sensitive Waters</p> <p>^{h/} Construction timing windows are dependent on state permit approval conditions. No construction timing windows are anticipated at this time based on correspondence with the applicable Virginia and North Carolina state agencies. Construction timing windows for mussels may be applicable depending on final consultation with the applicable agencies.</p> <p>^{i/} HDD: Horizontal Directional Drill. Conventional Crossing will only be used when there is no discernable flow within the waterbody at the time of crossing. Dry Crossing will consist of either Flume, Dam and Pump, or Cofferdam. N/A indicates that the waterbody is not crossed by centerline.</p>									

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
Virginia						
Pittsylvania						
H-605 Pipeline						
W-F18-7	PEM	0.1	11	<0.01	<0.01	Open-cut
H-650 Pipeline						
W-F18-11	PFO	0.2	57	0.12	0.04	Open-cut
W-F18-66	PEM	0.4	377	0.48	0.08	Open-cut
W-F18-66	PFO	0.4	0	0.14	0.00	Workspace Only
W-F18-64	PEM	0.6	234	0.36	0.05	Open-cut
W-G18-2	PEM	1.0	13	0.04	<0.01	Open-cut
W-G18-2	PFO	1.0	0	<0.01	<0.01	Workspace Only
W-F18-57	PEM	1.1	0	<0.01	0.00	Workspace Only
W-F18-57	PEM	1.1	0	<0.01	0.00	Workspace Only
W-F18-5	PFO	1.4	156	0.16	0.10	Open-cut
W-F18-5	PEM	1.4	0	0.01	<0.01	Workspace Only
W-F18-5	PFO	1.4	11	0.01	<0.01	Open-cut
W-F18-5	PFO	1.4	255	0.39	0.16	Open-cut
W-F18-5	PEM	1.6	770	1.25	0.18	Open-cut
W-F18-5	PSS	1.5	0	0.14	0.00	Workspace Only
W-F18-5	PEM	1.7	55	0.07	0.01	Open-cut
W-F18-5	PSS	1.8	362	0.45	0.08	Open-cut
W-F18-5	PFO	1.9	290	0.34	0.20	Open-cut
W-F18-5	PEM	2.0	1470	2.90	0.34	Open-cut
W-D18-5	PFO	3.6	44	0.07	0.02	Open-cut
W-D18-5	PFO	3.6	2	<0.01	<0.01	Open-cut
W-D18-11	PFO	4.0	0	<0.01	0.00	Workspace Only
W-D18-11	PFO	4.0	5	<0.01	<0.01	Open-cut
W-D18-7	PFO	4.9	373	0.46	0.25	Open-cut
W-D18-7	PEM	4.9	9	0.20	0.01	Open-cut
W-D18-1	PFO	5.0	14	0.02	<0.01	Open-cut
W-D18-1	PFO	5.0	123	0.18	0.07	Open-cut
W-D18-1	PFO	5.1	87	0.15	0.05	Open-cut
W-D18-1	PFO	5.2	309	0.51	0.21	Open-cut
W-D18-1	PFO	5.2	0	0.06	0.00	Workspace Only
W-D18-1	PFO	5.2	112	0.31	0.08	Open-cut
W-D18-1	PFO	5.2	10	0.00	0.00	Bore

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-D18-10	PFO	6.5	0	0.01	0.00	Workspace Only
W-D18-10	PEM	6.6	0	0.14	<0.01	Workspace Only
W-D18-10	PFO	6.6	53	0.10	0.04	Open-cut
W-D18-8	PEM	7.0	0	<0.01	0.00	Workspace Only
W-D18-8	PEM	7.0	0	<0.01	0.00	Workspace Only
W-D18-14	PEM	7.6	0	<0.01	0.00	Workspace Only
W-D18-14	PFO	7.6	0	<0.01	0.00	Workspace Only
W-F18-14	PEM	8.0	0	<0.01	0.00	Workspace Only
W-F18-14	PEM	8.0	0	<0.01	0.00	Workspace Only
W-F18-14	PFO	8.0	3	0.01	<0.01	Open-cut
W-F18-14	PEM	8.0	0	0.01	<0.01	Workspace Only
W-F18-14	PFO	8.0	5	<0.01	<0.01	Open-cut
W-E18-17	PEM	8.4	98	0.16	0.02	Open-cut
W-E18-13	PFO	8.5	94	0.15	0.05	Open-cut
W-E18-13	PEM	8.5	0	0.02	0.00	Workspace Only
W-E18-13	PFO	8.6	32	0.05	0.01	Open-cut
W-E18-13	PEM	8.6	0	0.01	0.00	Workspace Only
W-E18-13	PFO	8.6	47	0.07	0.03	Open-cut
W-E18-13	PEM	8.6	0	0.01	0.00	Workspace Only
W-E18-24	PFO	9.0	0	0.01	<0.01	Workspace Only
W-E18-24	PEM	9.1	23	0.09	0.00	Workspace Only
W-F18-58	PEM	9.7	393	0.09	0.00	Open-Cut
W-F18-16	PFO	9.9	27	0.05	0.01	Open-cut
W-F18-18	PFO	9.9	0	0.01	<0.01	Workspace Only
W-F18-18	PFO	9.9	0	<0.01	0.00	Workspace Only
W-F18-18	PFO	9.9	40	0.06	0.03	Open-cut
W-E18-23	PEM	10.1	0	<0.01	0.00	Workspace Only
W-E18-23	PFO	10.1	4	0.01	<0.01	Open-cut
W-F18-24	PFO	11.0	0	0.03	0.00	Workspace Only
W-F18-21	PFO	11.0	0	<0.01	0.00	Workspace Only
W-F18-21	PFO	11.1	0	<0.01	0.00	Workspace Only
W-F18-29	PFO	11.4	0	<0.01	0.00	Workspace Only
W-F18-27	PFO	11.4	0	<0.01	<0.01	Workspace Only
W-C18-84	PFO	11.6	29	0.06	0.01	Open-cut
W-C18-84	PFO	11.6	20	0.02	<0.01	Open-cut
W-F18-53	PFO	12.8	8	<0.01	<0.01	Open-cut

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-F18-53	PFO	12.8	0	<0.01	0.00	Workspace Only
W-F18-53	PFO	12.8	6	<0.01	<0.01	Open-cut
W-F18-53	PFO	12.8	0	<0.01	0.00	Workspace Only
W-E18-28	PFO	13.4	63	0.11	0.03	Open-cut
W-E18-28	PFO	13.4	0	<0.01	0.00	Workspace Only
W-E18-28	PFO	13.5 RR	26	0.06	0.02	Open-cut
W-E18-28	PFO	13.5 RR	24	0.04	0.02	Open-cut
W-D18-23	PFO	14.3	56	0.12	0.04	Open-cut
W-E18-45	PEM	14.7	0	<0.01	0.00	Workspace Only
W-E18-45	PEM	14.7	0	<0.01	0.00	Workspace Only
W-E18-45	PEM	14.7	3	<0.01	<0.01	Open-cut
W-E18-45	PEM	14.7	0	<0.01	0.00	Workspace Only
W-A18-198	PEM	16.2	39	0.03	0.01	Open-cut
W-A18-198	PFO	16.2	0	<0.01	0.00	Workspace Only
W-A18-200	PSS	16.7	0	0.05	0.00	Workspace Only
W-A18-201	PEM	16.7	0	0.02	0.00	Workspace Only
W-A18-201	PEM	16.8	0	0.02	<0.01	Workspace Only
W-A19-296	PFO	17.7R	34	0.16	0.02	Open-cut
W-E18-43	PEM	18.0	0	0.01	0.00	Workspace Only
W-E18-43	PFO	18.0	0	<0.01	0.00	Workspace Only
W-E18-43	PFO	18.0	0	<0.01	0.00	Workspace Only
W-D18-42	PEM	19.4	0	0.03	0.00	Workspace Only
W-F18-51	PFO	19.7	0	<0.01	0.00	Workspace Only
W-E18-53	PEM	20.4	0	0.04	0.00	Workspace Only
W-E18-53	PEM	20.4	0	<0.01	0.00	Workspace Only
W-E18-53	PEM	20.4	0	<0.01	0.00	Workspace Only
W-E18-53	PEM	20.4	0	<0.01	0.00	Workspace Only
W-E18-53	PEM	20.4	6	<0.01	<0.01	Open-cut
W-E18-53	PEM	20.4	0	<0.01	0.00	Workspace Only
W-E18-53	PEM	20.4	3	<0.01	<0.01	Open-cut
W-E18-55	PEM	20.6	0	<0.01	0.00	Workspace Only
W-E18-55	PEM	20.6	3	<0.01	<0.01	Open-cut
W-D18-35	PFO	21.0	54	0.08	0.04	Open-cut
W-D18-35	PEM	21.0	0	0.04	0.00	Workspace Only
W-D18-41	PEM	21.2	47	0.09	0.01	Open-cut
W-D18-41	PFO	21.2	7	0.01	<0.01	Open-cut

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-D18-41	PFO	21.2	75	0.09	0.04	Open-cut
W-D18-41	PEM	21.3	7	0.09	0.02	Open-cut
W-C18-95	PEM	21.7	0	0.03	0.00	Workspace Only
W-A18-204	PFO	22.0	0	<0.01	0.00	Workspace Only
W-A18-204	PFO	22.0	2	0.02	<0.01	Open-cut
W-A18-204	PFO	22.0	40	0.10	0.03	Open-cut
W-A18-204	PEM	22.1	0	0.02	0.00	Workspace Only
W-A18-204	PEM	22.1	0	0.01	0.00	Workspace Only
W-A18-204	PFO	22.1	18	0.02	0.01	Open-cut
W-F18-44	PEM	23.0	0	0.01	0.00	Workspace Only
W-G18-16	PEM	23.5	0	0.01	0.00	Workspace Only
W-F18-36	PFO	23.8	0	<0.01	0.00	Workspace Only
W-E18-33	PFO	23.9	0	<0.01	0.00	Workspace Only
W-E18-33	PFO	23.9	0	0.01	0.00	Workspace Only
W-A19-297	PEM	24.6	0	0.01	0.00	Workspace Only
W-C18-91	PFO	25.9	18	0.04	0.01	Open-cut
W-C18-91	PFO	25.8	0	<0.01	0.00	Workspace Only
W-C18-96	PEM	26.1	0	0.03	<0.01	Workspace Only
W-C18-96	PFO	26.1	97	0.08	0.05	Open-cut
Virginia Subtotal			6,653	11.86	2.75	
North Carolina						
Rockingham						
W-C18-96	PEM	26.1	0	0.03	<0.01	Workspace Only
W-C18-96	PFO	26.1	0	<0.01	<0.01	Workspace Only
W-C18-96	PFO	26.1	97	0.08	0.05	Open-cut
W-B18-98	PFO	26.5	15	0.03	0.01	Open-cut
W-A18-22	PEM	26.7 RR	78	0.15	0.02	Open-cut
W-A18-44	PEM	27.0 RR	0	<0.01	0.00	Workspace Only
W-A18-44	PEM	27.1	1,197	3.07	0.27	Open-cut
W-A18-44	PFO	27.3	38	0.05	0.01	Open-cut
W-A19-274	PEM	27.6	42	0.19	0.01	Open-cut
W-A19-274	PEM	27.6	38	0.04	0.01	Open-cut
W-A19-274	PEM	27.6	0	0.17	0.00	Workspace Only
W-A19-39	PEM	28.0 RR	0	0.02	0.00	Workspace Only
W-A18-26	PEM	28.1 RR	24	0.06	0.01	Open-cut
W-A18-30	PEM	28.3 RR	26	0.03	0.01	Open-cut
W-A18-30	PFO	28.3 RR	18	0.01	0.01	Open-cut

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-A18-38	PEM	28.6 RR	0	0.02	<0.01	Open-cut
W-A18-38	PFO	28.6 RR	41	0.04	0.03	Open-cut
W-B18-48	PFO	29.1	23	0.05	0.02	Open-cut
W-B18-48	PEM	29.1	0	0.01	<0.01	Workspace Only
W-A18-18	PFO	29.7	935	2.33	0.64	Open-cut
W-A18-18	PEM	29.9	50	0.07	0.01	Open-cut
W-B18-39	PEM	30.2	25	<0.01	0.00	HDD
W-B18-39	PEM	30.2	40	<0.01	0.00	HDD
W-B18-39	PEM	30.2	30	<0.01	0.00	HDD
W-B18-39	PEM	30.2	32	<0.01	0.00	HDD
W-B18-36	PEM	30.2	37	<0.01	0.00	HDD
W-B18-36	PEM	30.3	17	<0.01	0.00	HDD
W-B18-36	PFO	30.3	31	<0.01	0.00	HDD
W-B18-36	PEM	30.3	18	<0.01	0.00	HDD
W-B18-36	PEM	30.4	0	0.00	0.00	HDD
W-B18-36	PEM	30.4	26	0.03	0.01	Open-cut
W-B18-36	PEM	30.4	0	<0.01	0.00	Open-cut
W-B18-34	PFO	30.5	180	0.30	0.12	Open-cut
W-A18-54	PEM	30.7	11	0.01	<0.01	Open-cut
W-B18-103	PEM	31.1	0	<0.01	0.00	Workspace Only
W-A18-141	PFO	32.0	183	0.34	0.13	Open-cut
W-A18-141	PEM	32.0	0	0.02	0.0	Workspace Only
W-A18-149	PEM	32.2	52	0.16	0.01	Open-cut
W-A18-149	PSS	32.2	51	0.07	0.01	Open-cut
W-A18-152	PEM	32.6	21	0.06	0.01	Open-cut
W-A18-152	PFO	32.6	29	0.03	0.02	Open-cut
W-A18-155	PEM	33.1	0	0.06	0.00	Workspace Only
W-A18-155	PSS	33.1	0	<0.01	0.00	Workspace Only
W-A18-155	PSS	33.1	69	0.16	0.02	Open-cut
W-A18-222	PFO	33.4	43	0.08	0.03	Open-cut
W-A18-222	PEM	33.4	0	<0.01	0.00	Workspace Only
W-A18-224	PFO	33.7	10	0.02	0.01	Open-cut
W-A18-224	PEM	33.7	0	<0.01	0.00	Workspace Only
W-C18-40	PEM	34.6	0	<0.01	0.00	Workspace Only
W-A18-95	PEM	37.0	8	0.02	<0.01	Open-cut
W-A18-98	PFO	37.2	0	0.01	0.00	Workspace Only

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-S18-1	PFO	37.3	8	0.01	0.01	Open-cut
W-A18-6	PFO	38.5	130	0.15	0.08	Open-cut
W-A18-6	PFO	38.5	0	<0.01	0.00	Workspace Only
W-A18-6	PFO	38.5	92	0.09	0.06	Open-cut
W-A18-6	PEM	38.5	46	0.09	0.01	Open-cut
W-A18-7	PFO	38.6	0	<0.01	0.00	Workspace Only
W-A18-7	PEM	38.6	76	0.18	0.02	Open-cut
W-A18-7	PSS	38.6	33	0.08	0.01	Open-cut
W-A18-7	PEM	38.6	0	<0.01	0.00	Workspace Only
W-A18-7	PEM	38.7	16	0.05	<0.01	Open-cut
W-A18-7	PEM	38.7	29	0.07	0.01	Open-cut
W-A18-7	PEM	38.7	17	0.04	<0.01	Open-cut
W-A19-270	PFO	38.8	0	0.02	<0.01	Workspace Only
W-B18-78	PFO	39.7	56	0.06	0.03	Open-cut
W-B18-112	PEM	40.1	0	0.01	0.00	Workspace Only
W-B18-110	PFO	40.2	0	0.02	<0.01	Workspace Only
W-B18-55	PEM	41.1	0	0.01	0.00	Workspace Only
W-B18-55	PFO	41.1	84	0.13	0.06	Open-cut
W-B18-46	PFO	41.7	6	0.02	0.01	Open-cut
W-C18-77	PFO	47.0	46	0.08	0.03	Open-cut
W-B18-139	PFO	48.5	24	0.03	0.02	Open-cut
W-A18-62	PSS	48.6	40	0.11	0.01	Open-cut
W-A18-62	PSS	48.6	0	<0.01	0.00	Workspace Only
W-A18-61	PEM	48.7	1	0.01	<0.01	Workspace Only
W-A18-184	PEM	49.9 RR	0	0.01	0.00	Workspace Only
W-A18-184	PEM	49.9 RR	0	0.01	0.00	Workspace Only
W-A18-184	PFO	49.9 RR	39	0.06	0.03	Open-cut
W-A19-284	PSS	51.2 RR	0	0.01	0	Workspace Only
W-C18-20	PFO	51.4 RR	19	0.02	0.01	Open-cut
W-C18-20	PFO	51.4 RR	135	0.21	0.09	Open-cut
W-C18-20	PEM	51.4 RR	0	<0.01	0.01	Workspace Only
Rockingham County Subtotal			4,432	9.31	1.92	
Alamance						
W-A18-83	PEM	53.3	27	0.06	0.01	Open-cut
W-A18-85	PEM	53.6	9	0.03	<0.01	Open-cut
W-A18-85	PSS	53.7	0	0.04	0.00	Workspace Only

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-A18-85	PEM	53.7	0	<0.01	0.00	Workspace Only
W-C18-67	PFO	54.3	103	0.26	0.07	Open-cut
W-C18-69	PFO	55.3	37	0.07	0.03	Open-cut
W-B18-60	PSS	55.3	0	<0.01	0.00	Workspace Only
W-B18-61	PEM	55.5	39	0.06	0.01	Open-cut
W-A18-119	PFO	56.4	95	0.11	0.06	Open-cut
W-A18-119	PEM	56.4	0	0.06	<0.01	Workspace Only
W-A18-119	PFO	56.5	297	0.47	0.21	Open-cut
W-A18-119	PEM	56.5	0	0.06	0.00	Workspace Only
W-A18-127	PEM	56.6	0	0.02	<0.01	Workspace Only
W-A18-127	PFO	56.6	61	0.07	0.04	Open-cut
W-A18-127	PEM	56.6	0	0.02	<0.01	Workspace Only
W-A18-130	PEM	56.8	0	0.01	0.00	Workspace Only
W-A18-130	PFO	56.9	17	0.09	0.03	Open-cut
W-A18-133	PFO	57.1	56	0.10	0.04	Open-cut
W-A18-133	PEM	57.1	0	0.02	0.00	Workspace Only
W-A18-133	PEM	57.1	0	0.01	0.00	Workspace Only
W-A18-135	PFO	57.2	146	0.20	0.10	Open-cut
W-A18-135	PEM	57.2	0	0.02	0.00	Workspace Only
W-A18-254	PFO	57.6	154	0.22	0.10	Open-cut
W-C18-3	PEM	57.8	13	0.04	<0.01	Open-cut
W-C18-3	PFO	57.9	0	<0.01	0.00	Workspace Only
W-C18-3	PEM	57.9	12	0.02	<0.01	Open-cut
W-C18-3	PFO	57.9	8	0.01	0.01	Open-cut
W-C18-5	PSS	58.0	52	0.07	0.01	Open-cut
W-C18-5	PEM	58.0	0	0.03	<0.01	Workspace Only
W-C18-29	PFO	60.8	317	0.55	0.21	Open-cut
W-A18-79	PFO	61.8	0	<0.01	0.00	Workspace Only
W-A18-73	PFO	62.5	0	<0.01	<0.01	Workspace Only
W-A18-74	PFO	62.5	9	0.01	0.01	Open-cut
W-A18-80	PEM	62.7	64	0.09	0.01	Open-cut
W-B18-32	PEM	62.9	0	<0.01	0.00	Workspace Only
W-B18-28	PFO	63.1	313	0.50	0.21	Open-cut
*AW-B18-19	PFO	63.8	50	0.08	0.03	Open-cut
W-A19-320	PEM	65.0 RR	0	0.03	0.00	Workspace Only
W-A19-326	PFO	65.1 RR	6	0.02	0.01	Open-cut

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
W-A19-323	PEM	65.3 RR	0	0.33	0.00	Workspace Only
W-B19-168	PEM	65.6	0	0.28	0.00	Workspace Only
W-B19-164	PFO	66.6	9	0.03	0.01	Open-cut
AW-B19-164	PFO	66.6	32	0.05	0.02	Open-cut
W-B18-5	PFO	68.4	16	0.02	0.01	Workspace Only
W-B19-173	PEM	69.8	0	0.13	0.00	Workspace Only
W-A18-67	PFO	71.8	43	0.04	0.03	Open-cut
W-A18-67	PFO	71.8	0	<0.01	0.00	Workspace Only
W-A18-208	PEM	72.2	0	<0.01	0.00	Workspace Only
W-B19-151	PEM	72.9 RR	258	0.56	0.06	Open-Cut
W-A18-111	PEM	73.0 RR	0	0.04	0.00	Workspace Only
W-B19-151	PEM	73.0 RR	45	0.04	0.01	Open-Cut
Alamance County Subtotal			2,288	4.96	1.33	
North Carolina Subtotal			6,720	14.27	3.25	
Pipeline Subtotal			13,373	26.13	6.00	
Aboveground Facilities						
Virginia						
Pittsylvania						
W-F18-11 – Lambert CS & Interconnect / MLV 1 ^{a/}	PFO	0.0 RR	0	0.02	0.02	Workspace Only
North Carolina						
Rockingham						
W-A18-39 – LN 3600 Interconnect	PEM	28.0 RR	0	<0.01	0.00	Workspace Only
W-B18-36 - T15 Dan River Interconnect	PEM	30.3	0	0.47	0.00	
*AW-B18-36 - T15 Dan River Interconnect	PEM	30.3	0	<0.01	0.00	Workspace Only
W-B18-36 - T15 Dan River Interconnect	PEM	30.3	0	<0.01	0.00	Workspace Only
W-B18-36 - T15 Dan River Interconnect	PEM	30.4	0	0.05	0.00	Workspace Only
W-B18-36 - T15 Dan River Interconnect	PEM	30.4	0	0.01	0.00	Workspace Only
W-B18-36 - T15 Dan River Interconnect	PEM	30.4	0	<0.01	0.00	Workspace Only
W-B18-34 – T-15 Dan River Interconnect	PFO	30.5	0	0.15	0.00	Workspace Only
Aboveground Facilities Subtotal			0	0.71	0.02	
Cathodic Protection Groundbeds						
North Carolina						
Rockingham						
None						

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
Cathodic Protection Groundbeds Total			0	0.00	0.00	
Temporary Access Roads						
Virginia						
Pittsylvania						
*AW-F18-5 - TA-PI-005	PEM	2.2	58	0.03	0.00	Workspace Only
W-F18-1 - TA-PI-011	PSS	5.2	110	0.05	0.00	Workspace Only
W-F18-54 - TA-PI-052	PEM	20.5	0	<0.01	0.00	Workspace Only
W-E18-37 - TA-PI-061	PFO	22.6	0	<0.01	0.00	Workspace Only
W-E18-37 - TA-PI-061	PFO	22.6	0	<0.01	0.00	Workspace Only
W-C18-87 - TA-PI-067	PFO	25.0	106	0.08	0.00	Workspace Only
W-C18-87 - TA-PI-067	PFO	25.0	0	<0.01	0.00	Workspace Only
Virginia Access Road Subtotal			274	0.17	0.00	
North Carolina						
Rockingham						
W-A18-39 - TA-RO-075	PEM	27.9 RR	14	0.01	0.00	Workspace Only
W-A18-39 - TA-RO-075	PEM	28.1 RR	0	<0.01	0.00	Workspace Only
W-B18-43 - TA-RO-113A	PEM	41.8	0	<0.01	0.00	Workspace Only
W-B18-43 - TA-RO-113A	PEM	41.8	0	0.01	0.00	Workspace Only
Alamance						
W-A18-75 - TA-AL-169	PEM	62.5	0	0.01	0.00	Workspace Only
W-A18-75 - TA-AL-169	PEM	62.5	0	0.01	0.00	Workspace Only
North Carolina Access Road Subtotal			14	0.04	0.00	
Temporary Access Road Subtotal			288	0.21	0.00	
Permanent Access Road						
North Carolina						
Rockingham						
W-A19-280 - PA-RO-000	PEM	28.7	0	0.01	0.01	Workspace Only
W-A19-280 - PA-RO-000	PEM	28.7	0	0.02	0.02	Workspace Only
W-B18-34 - PA-RO-082	PFO	30.5	0	<0.01	<0.01 <u>h/</u>	Workspace Only
Permanent Access Road Subtotal			0	0.02	0.02	
Project Total			13,661	27.07	6.04	

Note: Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment.

REVISED Appendix 2-B						
Wetlands Crossed by the MVP Southgate Project						
Facility/ State/ County/ Wetland ID <u>a/</u>	Wetland Type <u>b/</u>	Approx. MP	Crossing Length (feet) <u>c/</u>	Total Construction Impacts (acres) <u>d/</u>	Total Operation Vegetation Impacts (acres) <u>e/</u>	Construction Crossing Method <u>f/</u>
<p><u>a/</u> Data is based on wetland field delineations completed through May 9, 2019 where access has been obtained, National Wetland Inventory (NWI) data, and desktop analysis of approximated resources. Wetland IDs starting with "W" have been field delineated and wetland ID starting with "AW" are approximated based on NWI data and desktop analysis. Approximated wetlands are also indicated by "***". Environmental survey is complete for the Contractor Yards (i.e., CY-01, CY-03, CY-05, CY-08, CY-19, CY-22, CY-25A, CY-25B, CY-26A, CY-26B). Limits of disturbance for contractor yards have been adjusted to avoid impacting wetlands.</p> <p><u>b/</u> Wetland Classifications PEM = palustrine emergent wetland, PSS = palustrine scrub shrub wetland, PFO = palustrine forested wetland</p> <p><u>c/</u> Crossing length is measured at the intersection of the wetland and centerline of the pipeline or center of the access road. Crossing length of "0" indicates the wetland is not crossed by the centerline of the pipeline, but is located within the construction workspace. Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.</p> <p><u>d/</u> Total construction impacts include all wetland impacts (PEM, PFO, PSS) associated with the construction workspace. Wetland impacts of "<0.01" indicates the impact is less than 0.01 acre, but the impact is included in the project totals. Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.</p> <p><u>e/</u> Total operation vegetation impacts include PEM, PSS and PFO impacts for vegetation maintenance. Operational vegetation impacts for PEM and PSS wetlands include a 10-foot-wide vegetation maintenance corridor; operational vegetation maintenance impacts for PFO wetlands include a 30-foot-wide vegetation maintenance corridor (i.e., 10-foot-wide cleared corridor and selective removal of trees within 15 feet of the pipeline). Wetland impacts of "<0.01" indicates the impact is less than 0.01 acre, but the impact is included in the project totals. Minor discrepancies in totals are due to rounding.</p> <p><u>f/</u> Construction crossing method will ultimately be determined based on field conditions observed during construction. "Workspace Only" indicates that the wetland is not crossed by the pipeline but is located within construction workspace.</p> <p><u>g/</u> There is no permanent wetland fill associated with the Lambert Compressor Station. Impacts associated with the construction and operation of the post-construction stormwater management system are limited to modification of dominant wetland vegetation type (PFO to PEM/PSS) only. The Project is finalizing the stormwater management design and evaluating modifications to eliminate Project-related activities with the wetland.</p> <p><u>h/</u> The Project will not import fill into wetlands to improve temporary or permanent access roads.</p>						

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
Virginia, Pittsylvania County							
1001C	0.4		X	AS-APP-6001	20	ATWS situated in this location to provide support of Lambert construction.	Y
1020	1.3 RR	X		W-F18-5	38	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	Y
1030	4.0		X	S-F18-67	43	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	N
1052	5.2	X		W-D18-1	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1088B	9.8	X		W-F18-58	47	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland crossing and point of intersect.	N
1113	13.4	X		W-E18-28	19	ATWS situated in this location to support conventional bore and associated equipment.	Y
1136C	17.7 RR		X	S-A19-295	1	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	Y
			X	S-E18-44	49		
		X		W-A19-296	0		
1169	22.0	X		W-A18-204	33	ATWS situated in this location to support conventional bore and associated equipment.	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1178	23.0	X		W-A19-318	24	ATWS situated in this location to support staging and storage of materials and timber mats for foreign pipeline crossing, multiple stream/wetland crossings with row width restrictions	Y
North Carolina, Rockingham County							
1213	27.0 RR	X		W-A18-44	0	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1213A	27.0 RR	X		W-A18-44	6	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1213D	27.3	X		W-A18-44	0	ATWS in this location to be used for support during stream crossing	Y
1222	27.6	X		W-A19-274	0	ATWS in this location to be used for support during stream crossing.	Y
1224A	28.1 RR	X		W-A18-39	0	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1244	29.9	X		W-A18-18	0	ATWS situated in this location to support HDD and associated equipment.	Y
1244A	29.9	X		W-A18-18	2	ATWS situated in this location to support HDD and associated equipment	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1251A	30.3	X		AW-B18-34	16	Staging of mats / equipment needed to perform foreign line crossings, then used for as needed for parking, materials, pipe, and equipment to support Dan River HDD, and also to support connection point between spreads.	N
				AW-B18-36	8		
1249	30.4	X	X	S-B18-38	0	ATWS situated in this location to support HDD and associated equipment	Y
				W-B18-34	35	ATWS situated in this location to support HDD and associated equipment	Y
				AW-B18-36 / W-B18-36	0	ATWS situated in this location to support HDD and associated equipment// hydrostatic testing equipment.	Y
1250	30.5	X		W-B18-34	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1251	30.4	X		W-B18-36	0	ATWS situated in this location to support HDD and associated equipment.	Y
1253D	30.9		X	S-B19-153	49	ATWS in this location to be used for support during stream crossing.	N
1368	41.5		X	S-B18-44	15	ATWS situated in this location to support conventional bore and associated equipment.	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1369	41.6		X	AS-B18-44	45	ATWS situated in this location to support conventional bore and associated equipment.	Y
1446A	48.5	X		W-B18-139	29	ATWS in agricultural field to support wetland crossing and associated equipment.	N
1426A	46.7		X	S-A19-291	38	ATWS for vehicle passage along access road	Y
1426B	46.7		X	S-A19-291	9	ATWS for vehicle passage along access road	Y
North Carolina, Alamance County							
1511	55.5	X		W-B18-61	24	This ATWS is inside an agriculture field and will be used to support crews at PI.	N
1588G	65.3 RR	X	X	S-A19-324	37	ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing.	N
				W-A19-323	0		
1588K	65.5	X		W-B19-168	0	This ATWS is inside an agriculture field and will be used to support crews at PI.	N
1588Y1	67.1 RR		X	AS-APP-1568	17	ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing.	N
1653B	69.7		X	S-B19-147	34	This ATWS to be used as support for crews working in the congested area	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1653C	69.8		X	S-B19-147	37	This ATWS to be used as support for crews working in the congested area	Y
1653D	69.8	X	X	AS-B19-174	17	ATWS situated in this location for staging / storage of material, pumps, mats, pipe, boring equipment to support railroad crossing and stream crossing.	Y
				S-B19-174	0		
				W-B19-173	0		
1692A	73.0 RR	X		W-A18-111	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1692	73.1RR	X	X	AS-B18-58 / SB18-58	43	This ATWS to be used as a support for crews performing multiple pipeline crossings in this area	Y
				S-B19-150	0	ATWS situated in this location to support conventional bore and associated equipment / hydrostatic test support equipment.	Y
				W-B19-151	0	This ATWS to be used as a support for crews performing multiple pipeline crossings in this area.	Y
Note: Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment. a/ Distance from resource area of 0 feet indicate the wetland or waterbody is located within the ATWS.							

TABLE OF CONTENTS

REVISED Table 3.4-1	Vegetation Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline	2
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REVISED Table 3.4-1																
Vegetation Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline																
Facility County, State	Agricultural Land <u>a/</u>		Upland Forest / Woodland <u>b/</u>						Open Upland <u>c/</u>		Wetlands <u>d/</u>				Total Vegetation Acreage <u>e/</u>	
			Deciduous		Evergreen		Mixed		Upland Herbaceous / Scrub-shrub		Herbaceous / Scrub Shrub Wetland		Forested Wetland			
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <u>f/</u>	Operational <u>g/</u>
H-605 Pipeline Right-of-Way <u>h/</u>	1.0	0.6	2.3	1.1	1.2	0.6	0.0	0.0	0.7	0.4	<0.1	<0.1	0.0	0.0	5.2	2.7
Pittsylvania, VA	1.0	0.6	2.3	1.1	1.2	0.6	0.0	0.0	0.7	0.4	<0.1	<0.1	0.0	0.0	5.2	2.7
Additional Temporary Workspace	<0.1	0.0	0.7	0.0	1.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Pittsylvania, VA	<0.1	0.0	0.7	0.0	1.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.5	0.0
H-650 Pipeline Right-of-Way <u>h/</u>	118.7	59.8	307.7	159.5	62.3	31.1	75.3	39.4	239.3	118.0	12.6	1.4	11.1	4.6	827.1	413.8
Pittsylvania, VA	51.7	25.9	72.7	36.3	26.8	13.0	39.0	20.1	96.8	48.7	6.9	0.8	4.7	1.9	298.6	146.7
Rockingham, NC	32.5	17.0	124.5	64.7	26.7	13.7	33.0	17.7	72.9	34.5	4.5	0.5	3.5	1.5	297.6	149.5
Alamance, NC	34.5	16.9	110.5	58.5	8.8	4.3	3.3	1.7	69.6	34.8	1.2	0.1	2.9	1.2	230.9	117.5
Additional Temporary Workspace <u>i/</u>	53.9	0.0	87.5	0.0	20.2	0.0	21.9	0.0	85.6	0.0	1.5	0.0	1.1	0.0	271.8	0.0
Pittsylvania, VA	15.4	0.0	23.7	0.0	9.2	0.0	10.1	0.0	30.8	0.0	0.0	0.0	0.2	0.0	89.5	0.0
Rockingham, NC	24.7	0.0	35.0	0.0	8.5	0.0	11.2	0.0	25.3	0.0	0.7	0.0	0.9	0.0	106.2	0.0
Alamance, NC	13.7	0.0	28.8	0.0	2.5	0.0	0.7	0.0	29.5	0.0	0.8	0.0	0.0	0.0	76.1	0.0
Cathodic Protection Groundbeds	<0.1	0.0	0.1	0.1	0.4	0.4	0.0	0.0	3.5	3.5	0.0	0.0	0.0	0.0	4.1	4.1
Pittsylvania, VA	0.0	0.0	0.1	0.1	0.4	0.4	0.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	3.5	3.5

REVISED Table 3.4-1																
Vegetation Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline																
Facility County, State	Agricultural Land <u>g/</u>		Upland Forest / Woodland <u>b/</u>						Open Upland <u>c/</u>		Wetlands <u>d/</u>				Total Vegetation Acreage <u>e/</u>	
			Deciduous		Evergreen		Mixed		Upland Herbaceous / Scrub-shrub		Herbaceous / Scrub Shrub Wetland		Forested Wetland			
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <u>f/</u>	Operational <u>g/</u>
Rockingham, NC	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Alamance, NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.6
Permanent Aboveground Facilities	12.8	6.3	5.4	4.6	0.0	0.0	0.0	0.0	11.6	2.9	0.5	0.0	<0.1	<0.1	30.3	13.9
Pittsylvania, VA	12.7	6.3	5.1	4.4	0.0	0.0	0.0	0.0	1.3	1.0	0.0	0.0	<0.1	<0.1	19.1	11.7
<u>Lambert Compressor Station & Interconnect/ MLV 1</u>	12.7	6.3	5.1	4.4	0.0	0.0	0.0	0.0	1.3	1.0	0.0	0.0	<0.1	<0.1	19.0	11.7
<u>MLV 2</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>MLV 3</u>	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Rockingham, NC	0.1	0.0	0.3	0.2	<0.1	0.0	0.0	0.0	9.0	1.3	0.5	0.0	0.0	0.0	9.9	1.5
<u>LN 3600 Interconnect</u>	<0.1	0.0	0.3	0.2	<0.1	0.0	0.0	0.0	4.4	0.6	<0.1	0.0	0.0	0.0	4.7	0.7
<u>T-15 Dan River Interconnect/ MLV 4</u>	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.8	0.5	0.0	0.0	0.0	5.2	0.8
<u>MLV 5</u>	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1

REVISED Table 3.4-1																
Vegetation Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline																
Facility County, State	Agricultural Land <u>g/</u>		Upland Forest / Woodland <u>b/</u>						Open Upland <u>c/</u>		Wetlands <u>d/</u>				Total Vegetation Acreage <u>e/</u>	
			Deciduous		Evergreen		Mixed		Upland Herbaceous / Scrub-shrub		Herbaceous / Scrub Shrub Wetland		Forested Wetland			
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <u>f/</u>	Operational <u>g/</u>
Alamance, NC	<0.1	<0.1	<0.1	<0.1	0.0	0.0	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.0	1.4	0.6
<u>T-21 Haw River Interconnect/ MLV 8</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.0	1.4	0.6
<u>MLV 6</u>	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
<u>MLV 7</u>	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Contractor Yards	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	216.1	0.0	0.0	0.0	0.0	0.0	219.6	0.0
Pittsylvania, VA	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	85.6	0.0	0.0	0.0	0.0	0.0	88.6	0.0
Rockingham, NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	12.4	0.0
Caswell, NC	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	96.0	0.0	<0.1	0.0	0.0	0.0	96.3	0.0
Alamance, NC	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	22.1	0.0	0.0	0.0	0.0	0.0	22.3	0.0
Temporary and Permanent Access Roads <u>h/</u>	9.8	0.7	7.8	0.3	2.4	<0.1	2.4	0.1	55.5	4.0	0.2	0.0	0.1	<0.1	78.2	5.1
Pittsylvania, VA	4.1	0.7	2.6	0.2	1.5	<0.1	1.2	0.1	20.3	1.0	0.1	0.0	0.1	0.0	29.8	2.0
Rockingham, NC	4.0	<0.1	2.3	<0.1	0.3	0.0	0.8	0.0	26.3	2.9	<0.1	<0.1	<0.1	<0.1	33.7	3.0
Alamance, NC	1.7	<0.1	3.0	0.1	0.7	0.0	0.4	<0.1	8.9	0.2	<0.1	0.0	0.0	0.0	14.7	0.2

REVISED Table 3.4-1

Vegetation Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline

Facility County, State	Agricultural Land <u>a/</u>		Upland Forest / Woodland <u>b/</u>						Open Upland <u>c/</u>		Wetlands <u>d/</u>				Total Vegetation Acreage <u>e/</u>		
			Deciduous		Evergreen		Mixed		Upland Herbaceous / Scrub-shrub		Herbaceous / Scrub Shrub Wetland		Forested Wetland				
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <u>f/</u>	Operational <u>g/</u>	
Guilford, NC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	0.0
Vegetation Acres Total	196.2	67.5	415.0	165.6	88.3	32.1	99.7	39.5	612.5	128.8	14.7	1.4	12.3	4.6	1,438.8	439.6	

Source: Project aerial photography April 2018.

Note: Pig launchers and receivers will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities. Mainline valves (MLVs) 1, 4, and 8 will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreage calculations for MLVs 1, 4, and 8 are included with those facilities.

a/ Cultivated land (e.g., tobacco, soybeans, hay, corn).

b/ Upland forest and wooded lands, including those being managed for forest products (i.e., silviculture).

c/ Utility rights-of-way, grasslands, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

d/ Palustrine emergent, palustrine scrub-shrub and palustrine forested wetlands as identified in Resource Report 2. Includes data from field delineation where access is available and NWI where survey access not available.

e/ Sums of addends may not equal totals due to rounding.

f/ Construction acres includes the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by operation of the Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points are not included in this acreage. Acreage includes a 3-foot path between the HDD entry and exit workspace areas to allow for placement of the HDD guide wire

g/ Includes only the operation footprint of the Project facilities, the 50-foot-wide permanent pipeline right-of-way in uplands, except in wetland areas where the operation width has been reduced to 10 feet in emergent wetlands, scrub shrub wetlands, and within 25 feet of waterbodies; and 30 feet in forested wetlands. The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and within railroad rights-of-way are not included in this acreage.

h/ Includes the 50-foot-wide permanent right-of-way and temporary workspace areas.

i/ Includes ATWS areas for both the H-605 and H-650 pipelines. ATWS areas to be used for construction of aboveground facilities are included in the acreage calculations for the applicable aboveground facilities.

LIST OF TABLES

Table 6-G-1 Potential Areas of Steep Slopes Crossed by the MVP Southgate Project	2
Table 6-G-2 Potential Areas of Side Slopes Crossed by the MVP Southgate Project H-650.....	8

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Lateral (H-605 Pipeline)	30 to 50	0.12 RR	0.13 RR	25
Southgate Mainline (H-650 Pipeline)	30 to 50	3.94 RR	3.94 RR	26
Southgate Mainline (H-650 Pipeline)	30 to 50	4.12	4.12	27
Southgate Mainline (H-650 Pipeline)	30 to 50	4.84	4.85	25
Southgate Mainline (H-650 Pipeline)	50 to 66	5.11	5.12	21
Southgate Mainline (H-650 Pipeline)	50 to 66	5.24	5.25	28
Southgate Mainline (H-650 Pipeline)	30 to 50	5.25	5.25	28
Southgate Mainline (H-650 Pipeline)	30 to 50	5.65	5.66	24
Southgate Mainline (H-650 Pipeline)	50 to 66	6.99	6.99	29
Southgate Mainline (H-650 Pipeline)	30 to 50	7.60	7.61	25
Southgate Mainline (H-650 Pipeline)	30 to 50	7.98	7.99	75
Southgate Mainline (H-650 Pipeline)	30 to 50	8.58	8.58	29
Southgate Mainline (H-650 Pipeline)	50 to 66	8.58	8.59	29
Southgate Mainline (H-650 Pipeline)	30 to 50	8.59	8.59	34
Southgate Mainline (H-650 Pipeline)	66 to 80	9.95	9.95	30
Southgate Mainline (H-650 Pipeline)	50 to 66	9.95	9.96	24
Southgate Mainline (H-650 Pipeline)	30 to 50	9.96	9.96	18
Southgate Mainline (H-650 Pipeline)	30 to 50	10.08	10.09	44
Southgate Mainline (H-650 Pipeline)	30 to 50	10.29	10.30	25
Southgate Mainline (H-650 Pipeline)	30 to 50	11.04	11.06	76
Southgate Mainline (H-650 Pipeline)	50 to 66	11.83	11.84	24
Southgate Mainline (H-650 Pipeline)	30 to 50	12.78	12.79	52
Southgate Mainline (H-650 Pipeline)	66 to 80	13.46	13.47	35
Southgate Mainline (H-650 Pipeline)	30 to 50	13.47	13.48	33
Southgate Mainline (H-650 Pipeline)	30 to 50	17.27	17.28	51
Southgate Mainline (H-650 Pipeline)	50 to 66	17.29	17.30	31
Southgate Mainline (H-650 Pipeline)	30 to 50	17.30	17.31	49
Southgate Mainline (H-650 Pipeline)	30 to 50	17.76	17.76	26
Southgate Mainline (H-650 Pipeline)	30 to 50	17.92	17.93	50
Southgate Mainline (H-650 Pipeline)	30 to 50	18.01	18.02	94
Southgate Mainline (H-650 Pipeline)	30 to 50	20.39	20.41	118
Southgate Mainline (H-650 Pipeline)	30 to 50	20.63	20.64	72
Southgate Mainline (H-650 Pipeline)	30 to 50	21.52	21.54	73
Southgate Mainline (H-650 Pipeline)	30 to 50	21.54	21.55	42
Southgate Mainline (H-650 Pipeline)	30 to 50	22.00	22.01	27
Southgate Mainline (H-650 Pipeline)	30 to 50	22.35	22.36	32
Southgate Mainline (H-650 Pipeline)	30 to 50	22.81	22.83	133
Southgate Mainline (H-650 Pipeline)	30 to 50	22.84	22.85	39
Southgate Mainline (H-650 Pipeline)	30 to 50	23.23	23.24	72
Southgate Mainline (H-650 Pipeline)	30 to 50	23.30	23.30	36
Southgate Mainline (H-650 Pipeline)	30 to 50	24.37	24.37	31
Southgate Mainline (H-650 Pipeline)	30 to 50	24.78	24.79	77

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	30 to 50	24.99	25.00	56
Southgate Mainline (H-650 Pipeline)	30 to 50	25.16	25.17	45
Southgate Mainline (H-650 Pipeline)	30 to 50	26.19	26.20	21
Southgate Mainline (H-650 Pipeline)	30 to 50	27.49	27.50	22
Southgate Mainline (H-650 Pipeline)	66 to 80	27.52	27.52	16
Southgate Mainline (H-650 Pipeline)	30 to 50	27.52	27.52	10
Southgate Mainline (H-650 Pipeline)	30 to 50	28.82	28.85	142
Southgate Mainline (H-650 Pipeline)	30 to 50	28.95	28.96	63
Southgate Mainline (H-650 Pipeline)	30 to 50	29.28 RR	29.28 RR	39
Southgate Mainline (H-650 Pipeline)	30 to 50	29.34 RR	29.36 RR	124
Southgate Mainline (H-650 Pipeline)	30 to 50	29.41 RR	29.43 RR	133
Southgate Mainline (H-650 Pipeline)	30 to 50	29.52 RR	29.53 RR	23
Southgate Mainline (H-650 Pipeline)	50 to 66	29.53 RR	29.53 RR	9
Southgate Mainline (H-650 Pipeline)	50 to 66	30.05	30.06	31
Southgate Mainline (H-650 Pipeline)	30 to 50	31.06	31.06	22
Southgate Mainline (H-650 Pipeline)	30 to 50	31.06	31.07	36
Southgate Mainline (H-650 Pipeline)	30 to 50	31.09	31.12	139
Southgate Mainline (H-650 Pipeline)	30 to 50	31.28	31.29	68
Southgate Mainline (H-650 Pipeline)	30 to 50	31.30	31.31	57
Southgate Mainline (H-650 Pipeline)	30 to 50	31.31	31.32	31
Southgate Mainline (H-650 Pipeline)	30 to 50	31.67	31.68	97
Southgate Mainline (H-650 Pipeline)	30 to 50	31.70	31.70	34
Southgate Mainline (H-650 Pipeline)	30 to 50	31.72	31.73	66
Southgate Mainline (H-650 Pipeline)	30 to 50	31.86	31.87	51
Southgate Mainline (H-650 Pipeline)	30 to 50	31.87	31.88	40
Southgate Mainline (H-650 Pipeline)	66 to 80	31.88	31.89	54
Southgate Mainline (H-650 Pipeline)	30 to 50	31.89	31.89	10
Southgate Mainline (H-650 Pipeline)	66 to 80	31.93	31.93	29
Southgate Mainline (H-650 Pipeline)	50 to 66	31.93	31.94	32
Southgate Mainline (H-650 Pipeline)	50 to 66	32.02	32.03	28
Southgate Mainline (H-650 Pipeline)	30 to 50	32.04	32.04	40
Southgate Mainline (H-650 Pipeline)	30 to 50	32.27	32.27	31
Southgate Mainline (H-650 Pipeline)	30 to 50	32.46	32.47	60
Southgate Mainline (H-650 Pipeline)	30 to 50	32.47	32.48	26
Southgate Mainline (H-650 Pipeline)	30 to 50	32.50	32.52	80
Southgate Mainline (H-650 Pipeline)	30 to 50	32.55	32.56	40
Southgate Mainline (H-650 Pipeline)	50 to 66	32.56	32.57	20
Southgate Mainline (H-650 Pipeline)	30 to 50	32.57	32.57	36
Southgate Mainline (H-650 Pipeline)	30 to 50	32.59	32.60	92
Southgate Mainline (H-650 Pipeline)	30 to 50	32.66	32.67	26
Southgate Mainline (H-650 Pipeline)	30 to 50	32.75	32.76	25
Southgate Mainline (H-650 Pipeline)	30 to 50	33.12	33.13	40
Southgate Mainline (H-650 Pipeline)	66 to 80	33.13	33.14	75

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	30 to 50	33.14	33.15	21
Southgate Mainline (H-650 Pipeline)	30 to 50	33.16	33.17	34
Southgate Mainline (H-650 Pipeline)	30 to 50	33.25	33.26	23
Southgate Mainline (H-650 Pipeline)	30 to 50	33.27	33.28	30
Southgate Mainline (H-650 Pipeline)	30 to 50	33.30	33.32	64
Southgate Mainline (H-650 Pipeline)	30 to 50	33.33	33.34	89
Southgate Mainline (H-650 Pipeline)	30 to 50	33.38	33.39	47
Southgate Mainline (H-650 Pipeline)	30 to 50	33.68	33.69	56
Southgate Mainline (H-650 Pipeline)	30 to 50	33.70	33.70	41
Southgate Mainline (H-650 Pipeline)	50 to 66	33.73	33.73	23
Southgate Mainline (H-650 Pipeline)	50 to 66	33.74	33.75	47
Southgate Mainline (H-650 Pipeline)	30 to 50	33.75	33.77	103
Southgate Mainline (H-650 Pipeline)	30 to 50	33.79	33.80	28
Southgate Mainline (H-650 Pipeline)	30 to 50	33.81	33.82	42
Southgate Mainline (H-650 Pipeline)	30 to 50	33.82	33.83	47
Southgate Mainline (H-650 Pipeline)	30 to 50	33.88	33.89	52
Southgate Mainline (H-650 Pipeline)	30 to 50	33.92	33.94	94
Southgate Mainline (H-650 Pipeline)	30 to 50	33.99	34.00	23
Southgate Mainline (H-650 Pipeline)	30 to 50	34.15	34.16	23
Southgate Mainline (H-650 Pipeline)	50 to 66	34.21 RR	34.21 RR	4
Southgate Mainline (H-650 Pipeline)	> 80+	34.21 RR	34.22 RR	8
Southgate Mainline (H-650 Pipeline)	50 to 66	34.22 RR	34.22 RR	4
Southgate Mainline (H-650 Pipeline)	30 to 50	34.22 RR	34.23 RR	60
Southgate Mainline (H-650 Pipeline)	30 to 50	34.29	34.30	42
Southgate Mainline (H-650 Pipeline)	50 to 66	34.30	34.31	42
Southgate Mainline (H-650 Pipeline)	30 to 50	34.51	34.52	21
Southgate Mainline (H-650 Pipeline)	30 to 50	34.52	34.53	50
Southgate Mainline (H-650 Pipeline)	30 to 50	34.55	34.56	20
Southgate Mainline (H-650 Pipeline)	30 to 50	34.59	34.60	27
Southgate Mainline (H-650 Pipeline)	30 to 50	34.85	34.86	52
Southgate Mainline (H-650 Pipeline)	30 to 50	35.07	35.08	21
Southgate Mainline (H-650 Pipeline)	30 to 50	35.14	35.14	31
Southgate Mainline (H-650 Pipeline)	30 to 50	35.36	35.36	24
Southgate Mainline (H-650 Pipeline)	30 to 50	35.57	35.57	20
Southgate Mainline (H-650 Pipeline)	30 to 50	35.92	35.93	25
Southgate Mainline (H-650 Pipeline)	66 to 80	35.98	35.99	54
Southgate Mainline (H-650 Pipeline)	30 to 50	37.01	37.02	21
Southgate Mainline (H-650 Pipeline)	30 to 50	37.03	37.05	94
Southgate Mainline (H-650 Pipeline)	30 to 50	37.16	37.16	22
Southgate Mainline (H-650 Pipeline)	30 to 50	37.18	37.19	22
Southgate Mainline (H-650 Pipeline)	30 to 50	37.27	37.28	43
Southgate Mainline (H-650 Pipeline)	30 to 50	37.29	37.29	22
Southgate Mainline (H-650 Pipeline)	30 to 50	37.30	37.30	29

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	30 to 50	37.35	37.36	38
Southgate Mainline (H-650 Pipeline)	30 to 50	37.58	37.59	24
Southgate Mainline (H-650 Pipeline)	30 to 50	37.72	37.72	31
Southgate Mainline (H-650 Pipeline)	30 to 50	38.24	38.25	23
Southgate Mainline (H-650 Pipeline)	66 to 80	38.54	38.55	76
Southgate Mainline (H-650 Pipeline)	30 to 50	38.60	38.61	28
Southgate Mainline (H-650 Pipeline)	30 to 50	38.76	38.76	35
Southgate Mainline (H-650 Pipeline)	30 to 50	38.78	38.80	93
Southgate Mainline (H-650 Pipeline)	30 to 50	39.03	39.04	39
Southgate Mainline (H-650 Pipeline)	30 to 50	39.05	39.06	45
Southgate Mainline (H-650 Pipeline)	30 to 50	39.06	39.07	24
Southgate Mainline (H-650 Pipeline)	30 to 50	39.10	39.10	28
Southgate Mainline (H-650 Pipeline)	50 to 66	39.67	39.68	26
Southgate Mainline (H-650 Pipeline)	50 to 66	39.69	39.70	27
Southgate Mainline (H-650 Pipeline)	30 to 50	40.54	40.55	44
Southgate Mainline (H-650 Pipeline)	30 to 50	40.56	40.56	36
Southgate Mainline (H-650 Pipeline)	66 to 80	40.57	40.57	24
Southgate Mainline (H-650 Pipeline)	30 to 50	40.64	40.64	25
Southgate Mainline (H-650 Pipeline)	30 to 50	40.74	40.74	23
Southgate Mainline (H-650 Pipeline)	30 to 50	40.75	40.75	41
Southgate Mainline (H-650 Pipeline)	30 to 50	40.88	40.89	40
Southgate Mainline (H-650 Pipeline)	30 to 50	41.11	41.11	39
Southgate Mainline (H-650 Pipeline)	30 to 50	41.56	41.57	23
Southgate Mainline (H-650 Pipeline)	30 to 50	41.57	41.58	25
Southgate Mainline (H-650 Pipeline)	50 to 66	41.67	41.67	20
Southgate Mainline (H-650 Pipeline)	30 to 50	41.67	41.68	32
Southgate Mainline (H-650 Pipeline)	30 to 50	42.25	42.26	44
Southgate Mainline (H-650 Pipeline)	30 to 50	43.69	43.69	28
Southgate Mainline (H-650 Pipeline)	30 to 50	43.70	43.71	31
Southgate Mainline (H-650 Pipeline)	30 to 50	43.81	43.82	23
Southgate Mainline (H-650 Pipeline)	30 to 50	43.93	43.93	36
Southgate Mainline (H-650 Pipeline)	50 to 66	43.98	43.99	53
Southgate Mainline (H-650 Pipeline)	30 to 50	44.02	44.03	32
Southgate Mainline (H-650 Pipeline)	50 to 66	44.03	44.03	24
Southgate Mainline (H-650 Pipeline)	30 to 50	44.03	44.03	9
Southgate Mainline (H-650 Pipeline)	50 to 66	44.06	44.06	20
Southgate Mainline (H-650 Pipeline)	30 to 50	44.14	44.14	26
Southgate Mainline (H-650 Pipeline)	30 to 50	44.15	44.19	169
Southgate Mainline (H-650 Pipeline)	30 to 50	44.56	44.57	22
Southgate Mainline (H-650 Pipeline)	30 to 50	45.72	45.73	45
Southgate Mainline (H-650 Pipeline)	30 to 50	45.83	45.85	134
Southgate Mainline (H-650 Pipeline)	30 to 50	46.48	46.49	37
Southgate Mainline (H-650 Pipeline)	50 to 66	46.50	46.50	39

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	30 to 50	46.53	46.54	29
Southgate Mainline (H-650 Pipeline)	30 to 50	46.89	46.91	78
Southgate Mainline (H-650 Pipeline)	50 to 66	47.01	47.02	26
Southgate Mainline (H-650 Pipeline)	30 to 50	47.35	47.36	27
Southgate Mainline (H-650 Pipeline)	30 to 50	47.37	47.39	142
Southgate Mainline (H-650 Pipeline)	30 to 50	47.42	47.44	125
Southgate Mainline (H-650 Pipeline)	50 to 66	47.44	47.45	39
Southgate Mainline (H-650 Pipeline)	30 to 50	47.45	47.46	36
Southgate Mainline (H-650 Pipeline)	30 to 50	47.46	47.47	50
Southgate Mainline (H-650 Pipeline)	30 to 50	47.54	47.56	107
Southgate Mainline (H-650 Pipeline)	30 to 50	47.57	47.57	31
Southgate Mainline (H-650 Pipeline)	30 to 50	47.58	47.59	83
Southgate Mainline (H-650 Pipeline)	30 to 50	47.60	47.61	55
Southgate Mainline (H-650 Pipeline)	30 to 50	47.61	47.62	26
Southgate Mainline (H-650 Pipeline)	30 to 50	47.65	47.66	33
Southgate Mainline (H-650 Pipeline)	30 to 50	47.66	47.66	23
Southgate Mainline (H-650 Pipeline)	30 to 50	47.67	47.67	23
Southgate Mainline (H-650 Pipeline)	30 to 50	47.67	47.68	26
Southgate Mainline (H-650 Pipeline)	30 to 50	47.76	47.77	58
Southgate Mainline (H-650 Pipeline)	30 to 50	47.78	47.79	55
Southgate Mainline (H-650 Pipeline)	30 to 50	51.50	51.50	28
Southgate Mainline (H-650 Pipeline)	30 to 50	58.91	58.91	31
Southgate Mainline (H-650 Pipeline)	30 to 50	63.58	63.58	40
Southgate Mainline (H-650 Pipeline)	30 to 50	63.65	63.65	24
Southgate Mainline (H-650 Pipeline)	30 to 50	64.03	64.04	56
Southgate Mainline (H-650 Pipeline)	30 to 50	64.47	64.48	20
Southgate Mainline (H-650 Pipeline)	30 to 50	68.74	68.74	20
Southgate Mainline (H-650 Pipeline)	30 to 50	68.79	68.80	20
Southgate Mainline (H-650 Pipeline)	30 to 50	69.10	69.11	60
Southgate Mainline (H-650 Pipeline)	30 to 50	69.37	69.38	23
Southgate Mainline (H-650 Pipeline)	30 to 50	69.39	69.40	30
Southgate Mainline (H-650 Pipeline)	30 to 50	69.62	69.62	22
Southgate Mainline (H-650 Pipeline)	30 to 50	69.76	69.77	22
Southgate Mainline (H-650 Pipeline)	50 to 66	69.80	69.80	20
Southgate Mainline (H-650 Pipeline)	30 to 50	69.89	69.89	20
Southgate Mainline (H-650 Pipeline)	30 to 50	69.91	69.92	24
Southgate Mainline (H-650 Pipeline)	30 to 50	70.02	70.03	21
Southgate Mainline (H-650 Pipeline)	30 to 50	70.50	70.51	23
Southgate Mainline (H-650 Pipeline)	30 to 50	70.61	70.62	33
Southgate Mainline (H-650 Pipeline)	50 to 66	70.75	70.76	47
Southgate Mainline (H-650 Pipeline)	30 to 50	70.76	70.77	21
Southgate Mainline (H-650 Pipeline)	30 to 50	71.13	71.13	20
Southgate Mainline (H-650 Pipeline)	30 to 50	71.19	71.20	28

Table 6-G-1				
Potential Areas of Steep Slopes Crossed by the MVP Southgate Project				
Route	Steep Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	30 to 50	71.21	71.22	78
Southgate Mainline (H-650 Pipeline)	30 to 50	71.25	71.26	54
Southgate Mainline (H-650 Pipeline)	30 to 50	71.31	71.32	28
Southgate Mainline (H-650 Pipeline)	30 to 50	71.49	71.49	33
Southgate Mainline (H-650 Pipeline)	30 to 50	71.62	71.63	37
Southgate Mainline (H-650 Pipeline)	30 to 50	71.82	71.83	70
Southgate Mainline (H-650 Pipeline)	30 to 50	71.90	71.92	103
Southgate Mainline (H-650 Pipeline)	30 to 50	72.19	72.20	24
Southgate Mainline (H-650 Pipeline)	30 to 50	72.71	72.72	30
Southgate Mainline (H-650 Pipeline)	50 to 66	72.72	72.72	40
Southgate Mainline (H-650 Pipeline)	30 to 50	72.72	72.73	25
Southgate Mainline (H-650 Pipeline)	30 to 50	72.91	72.91	20
Southgate Mainline (H-650 Pipeline)	50 to 66	72.94	72.94	20
Southgate Mainline (H-650 Pipeline)	30 to 50	72.94	72.94	15

Methodology:

- Steep Slope percentages are grouped as follows:
 30-50%
 50-66%
 66-80%
 80%+
- Only crossings that are longer than 20 feet are considered. Some locations may seem smaller but they are still considered if they are a continuation of another slope group.
- For crossings that have multiple variations of slope group within small lengths, an average slope group is assigned.
- The length of slope crossed might be slightly shorter than actual mile post lengths because of small stretches of data that are not in slope groups.

Notes: Results based on desktop analysis. Data to be verified in field.

This table is consistent with the table included in Resource Report 6 of the November 2018 filing to include a 30% slope minimum.

Table 6-G-2				
Potential Areas of Side Slopes Crossed by the MVP Southgate Project H-650				
Route	Side Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	18 to 25	3.82 RR	3.83 RR	56
Southgate Mainline (H-650 Pipeline)	14 to 18	3.90 RR	3.91 RR	14
Southgate Mainline (H-650 Pipeline)	18 to 25	3.91 RR	3.92 RR	86
Southgate Mainline (H-650 Pipeline)	25+	3.92 RR	3.94 RR	111
Southgate Mainline (H-650 Pipeline)	14 to 18	8.63	8.71	298
Southgate Mainline (H-650 Pipeline)	14 to 18	9.00	9.02	70
Southgate Mainline (H-650 Pipeline)	14 to 18	9.97	10.03	283
Southgate Mainline (H-650 Pipeline)	14 to 18	15.51	15.58	244
Southgate Mainline (H-650 Pipeline)	18 to 25	16.01	16.02	40
Southgate Mainline (H-650 Pipeline)	14 to 18	16.55	16.58	98
Southgate Mainline (H-650 Pipeline)	14 to 18	16.59	16.60	43
Southgate Mainline (H-650 Pipeline)	18 to 25	17.77	17.81	168
Southgate Mainline (H-650 Pipeline)	18 to 25	17.98	18.01	157
Southgate Mainline (H-650 Pipeline)	18 to 25	18.04	18.05	52
Southgate Mainline (H-650 Pipeline)	14 to 18	19.49	19.50	62
Southgate Mainline (H-650 Pipeline)	18 to 25	19.54	19.60	233
Southgate Mainline (H-650 Pipeline)	14 to 18	19.63	19.64	40
Southgate Mainline (H-650 Pipeline)	18 to 25	21.58	21.60	87
Southgate Mainline (H-650 Pipeline)	18 to 25	21.74	21.78	155
Southgate Mainline (H-650 Pipeline)	14 to 18	22.00	22.04	134
Southgate Mainline (H-650 Pipeline)	14 to 18	22.36	22.38	87
Southgate Mainline (H-650 Pipeline)	18 to 25	22.65	22.74	406
Southgate Mainline (H-650 Pipeline)	18 to 25	23.16	23.17	60
Southgate Mainline (H-650 Pipeline)	18 to 25	23.27	23.31	179
Southgate Mainline (H-650 Pipeline)	18 to 25	25.15	25.22	216
Southgate Mainline (H-650 Pipeline)	18 to 25	28.56	28.58	67
Southgate Mainline (H-650 Pipeline)	14 to 18	28.71	28.74	70
Southgate Mainline (H-650 Pipeline)	14 to 18	29.01	29.06	177
Southgate Mainline (H-650 Pipeline)	25+	29.10	29.14	100
Southgate Mainline (H-650 Pipeline)	25+	29.36	29.43	89
Southgate Mainline (H-650 Pipeline)	18 to 25	31.34	31.37	86
Southgate Mainline (H-650 Pipeline)	18 to 25	31.67	31.69	56
Southgate Mainline (H-650 Pipeline)	18 to 25	31.88	31.95	236
Southgate Mainline (H-650 Pipeline)	25+	32.18	32.20	46
Southgate Mainline (H-650 Pipeline)	18 to 25	32.55	32.59	75
Southgate Mainline (H-650 Pipeline)	14 to 18	32.78	32.89	355
Southgate Mainline (H-650 Pipeline)	18 to 25	33.28	33.30	89
Southgate Mainline (H-650 Pipeline)	18 to 25	33.35	33.41	217
Southgate Mainline (H-650 Pipeline)	14 to 18	33.45	33.47	47
Southgate Mainline (H-650 Pipeline)	18 to 25	33.64	33.67	146
Southgate Mainline (H-650 Pipeline)	18 to 25	33.70	33.73	104

Table 6-G-2				
Potential Areas of Side Slopes Crossed by the MVP Southgate Project H-650				
Route	Side Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	18 to 25	33.88	33.92	110
Southgate Mainline (H-650 Pipeline)	18 to 25	33.95	34.01	280
Southgate Mainline (H-650 Pipeline)	18 to 25	34.33	34.35	93
Southgate Mainline (H-650 Pipeline)	18 to 25	34.56	34.60	171
Southgate Mainline (H-650 Pipeline)	18 to 25	35.03	35.11	283
Southgate Mainline (H-650 Pipeline)	14 to 18	35.21	35.26	160
Southgate Mainline (H-650 Pipeline)	18 to 25	35.30	35.34	190
Southgate Mainline (H-650 Pipeline)	14 to 18	35.52	35.53	48
Southgate Mainline (H-650 Pipeline)	18 to 25	35.55	35.56	56
Southgate Mainline (H-650 Pipeline)	18 to 25	35.93	35.95	57
Southgate Mainline (H-650 Pipeline)	14 to 18	36.18	36.22	85
Southgate Mainline (H-650 Pipeline)	18 to 25	36.67	36.74	252
Southgate Mainline (H-650 Pipeline)	18 to 25	36.90	36.93	135
Southgate Mainline (H-650 Pipeline)	14 to 18	36.96	36.98	93
Southgate Mainline (H-650 Pipeline)	14 to 18	37.05	37.09	158
Southgate Mainline (H-650 Pipeline)	14 to 18	37.21	37.22	40
Southgate Mainline (H-650 Pipeline)	18 to 25	37.53	37.55	74
Southgate Mainline (H-650 Pipeline)	14 to 18	37.63	37.66	122
Southgate Mainline (H-650 Pipeline)	14 to 18	37.78	37.81	122
Southgate Mainline (H-650 Pipeline)	14 to 18	37.84	37.86	74
Southgate Mainline (H-650 Pipeline)	14 to 18	37.90	37.92	77
Southgate Mainline (H-650 Pipeline)	14 to 18	38.02	38.05	117
Southgate Mainline (H-650 Pipeline)	18 to 25	39.05	39.09	136
Southgate Mainline (H-650 Pipeline)	14 to 18	39.37	39.45	291
Southgate Mainline (H-650 Pipeline)	14 to 18	39.48	39.49	71
Southgate Mainline (H-650 Pipeline)	14 to 18	40.64	40.66	63
Southgate Mainline (H-650 Pipeline)	18 to 25	41.42	41.50	423
Southgate Mainline (H-650 Pipeline)	18 to 25	41.58	41.59	78
Southgate Mainline (H-650 Pipeline)	18 to 25	41.69	41.77	384
Southgate Mainline (H-650 Pipeline)	18 to 25	41.97	41.99	85
Southgate Mainline (H-650 Pipeline)	18 to 25	42.13	42.16	99
Southgate Mainline (H-650 Pipeline)	18 to 25	42.35	42.42	309
Southgate Mainline (H-650 Pipeline)	14 to 18	42.46	42.48	113
Southgate Mainline (H-650 Pipeline)	18 to 25	42.84	42.85	41
Southgate Mainline (H-650 Pipeline)	18 to 25	43.80	43.82	48
Southgate Mainline (H-650 Pipeline)	25+	43.86	43.88	78
Southgate Mainline (H-650 Pipeline)	18 to 25	43.99	44.02	102
Southgate Mainline (H-650 Pipeline)	18 to 25	44.07	44.10	132
Southgate Mainline (H-650 Pipeline)	14 to 18	45.06	45.09	108
Southgate Mainline (H-650 Pipeline)	14 to 18	45.86	45.91	221
Southgate Mainline (H-650 Pipeline)	14 to 18	45.95	45.98	85
Southgate Mainline (H-650 Pipeline)	25+	47.47	47.50	131
Southgate Mainline (H-650 Pipeline)	14 to 18	47.99	48.02	97

Table 6-G-2				
Potential Areas of Side Slopes Crossed by the MVP Southgate Project H-650				
Route	Side Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
Southgate Mainline (H-650 Pipeline)	18 to 25	49.64	49.68	173
Southgate Mainline (H-650 Pipeline)	25+	49.73	49.81	415
Southgate Mainline (H-650 Pipeline)	14 to 18	50.73	50.74	40
Southgate Mainline (H-650 Pipeline)	18 to 25	51.45	51.53	326
Southgate Mainline (H-650 Pipeline)	18 to 25	52.19	52.24	213
Southgate Mainline (H-650 Pipeline)	14 to 18	54.36	54.38	64
Southgate Mainline (H-650 Pipeline)	18 to 25	54.47	54.49	75
Southgate Mainline (H-650 Pipeline)	25+	54.51	54.54	131
Southgate Mainline (H-650 Pipeline)	14 to 18	59.23	59.26	135
Southgate Mainline (H-650 Pipeline)	14 to 18	62.41	62.42	59
Southgate Mainline (H-650 Pipeline)	18 to 25	63.20	63.27	220
Southgate Mainline (H-650 Pipeline)	18 to 25	63.50	63.52	130
Southgate Mainline (H-650 Pipeline)	14 to 18	65.10 RR	65.12 RR	93
Southgate Mainline (H-650 Pipeline)	18 to 25	65.12 RR	65.12 RR	31
Southgate Mainline (H-650 Pipeline)	14 to 18	65.12 RR	65.13 RR	41
Southgate Mainline (H-650 Pipeline)	14 to 18	65.18 RR	65.19 RR	58
Southgate Mainline (H-650 Pipeline)	14 to 18	67.15	67.16	50
Southgate Mainline (H-650 Pipeline)	18 to 25	68.28	68.31	149
Southgate Mainline (H-650 Pipeline)	14 to 18	68.47	68.48	41
Southgate Mainline (H-650 Pipeline)	14 to 18	68.48	68.49	48
Southgate Mainline (H-650 Pipeline)	14 to 18	68.55	68.56	51
Southgate Mainline (H-650 Pipeline)	14 to 18	68.67	68.68	44
Southgate Mainline (H-650 Pipeline)	18 to 25	69.08	69.11	124
Southgate Mainline (H-650 Pipeline)	18 to 25	69.24	69.25	48
Southgate Mainline (H-650 Pipeline)	18 to 25	69.33	69.45	445
Southgate Mainline (H-650 Pipeline)	18 to 25	69.54	69.63	388
Southgate Mainline (H-650 Pipeline)	14 to 18	70.58	70.59	47
Southgate Mainline (H-650 Pipeline)	18 to 25	70.60	70.63	96
Southgate Mainline (H-650 Pipeline)	18 to 25	71.09	71.27	616
Southgate Mainline (H-650 Pipeline)	14 to 18	71.78	71.80	78
Southgate Mainline (H-650 Pipeline)	18 to 25	71.85	71.88	144
Southgate Mainline (H-650 Pipeline)	18 to 25	72.16	72.21	180
Southgate Mainline (H-650 Pipeline)	18 to 25	72.73	72.76	160
Southgate Mainline (H-650 Pipeline)	14 to 18	72.85	72.88	147

Methodology

- Side Slope percentages are grouped as follows:
 14-18%
 18-25%
 25%+
- Only crossings that are longer than 40 feet are considered. Some locations may seem smaller but they are still considered if they are a continuation of another slope group.
- For crossings that have multiple variations of slope group within small lengths, an average slope group is assigned.
- The length of slope crossed might be slightly shorter than actual mile post lengths because of small stretches of data that are not in slope groups.

Table 6-G-2				
Potential Areas of Side Slopes Crossed by the MVP Southgate Project H-650				
Route	Side Slope Group	Milepost Begin	Milepost End	Length of slope crossed (feet)
<p><u>Notes:</u> Results based on desktop analysis. Data to be verified in field.</p> <p>This table is consistent with the table included in Resource Report 6 of the November 2018 filing to include a 30% slope minimum.</p>				

LIST OF TABLES

REVISED Table 7.2-1	Summary of Soil Characteristics and Limitations for the MVP Southgate Project.....	2
REVISED Table 7.2-2	Soil Types Crossed by the MVP Southgate Project	5
REVISED Table 7.3-1	Prime Farmland Affected by the MVP Southgate Project.....	37

REVISED Table 7.2-1								
Summary of Soil Characteristics and Limitations for the MVP Southgate Project								
Facility / County, State	Area of Project Workspace within Designated Soil Classification / Limitation (Acres)							
	Prime Farmland or Farmland of Statewide Importance <u>a</u> /	Compaction Prone <u>b</u> /	Hydric Soils <u>c</u> /	Highly Water Erodible <u>d</u> /	Highly Wind Erodible <u>e</u> /	Shallow Depth to Bedrock <u>f</u> /	Low Revegetation Potential <u>g</u> /	Stony / Rocky <u>h</u> /
H-605 Pipeline								
Pittsylvania, Virginia	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H-650 Pipeline								
Pittsylvania, Virginia	354.6	2.6	2.6	9.3	0.0	19.6	19.6	19.6
Rockingham, North Carolina	258.6	2.1	2.6	16.8	0.0	61.2	0.0	0.0
Alamance, North Carolina	267.0	9.2	0.0	0.0	0.0	8.7	0.0	0.0
Cathodic Protection Groundbeds								
Pittsylvania, Virginia	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rockingham, North Carolina	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alamance, North Carolina	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aboveground Facilities								
Pittsylvania, Virginia								
Lambert Compressor Station / Interconnect / MLV 1 (MP 0.0)	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REVISED Table 7.2-1								
Summary of Soil Characteristics and Limitations for the MVP Southgate Project								
Facility / County, State	Area of Project Workspace within Designated Soil Classification / Limitation (Acres)							
	Prime Farmland or Farmland of Statewide Importance <u>a/</u>	Compaction Prone <u>b/</u>	Hydric Soils <u>c/</u>	Highly Water Erodible <u>d/</u>	Highly Wind Erodible <u>e/</u>	Shallow Depth to Bedrock <u>f/</u>	Low Revegetation Potential <u>g/</u>	Stony / Rocky <u>h/</u>
MLV 2 and 3 (MPs 7.4 and 18.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractor Yards	98.9	0.0	0.0	0.0	0.0	0.0	4.2	0.0
Access Roads	132.7	0.0	0.0	0.3	0.0	0.7	0.6	0.7
Rockingham, North Carolina								
LN 3600 Interconnect (MP 28.2)	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T-15 Dan River Interconnect / MLV 4 (MP 30.4)	5.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
MLV 5 (MP 42.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractor Yards	0.0	11.9	11.9	7.8	0.0	11.9	0.0	19.7
Access Roads	30.3	0.0	0.3	0.8	0.0	5.2	0.0	<0.1
Alamance County, North Carolina								
MLVs 6 and 7 (MPs 55.1 and 68.7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T-21 Haw River Interconnect / MLV 8 (MP 73.1)	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractor Yards	22.3	0.0	0.0	0.0	0.0	10.4	0.0	0.0
Access Roads	18.1	0.0	0.4	0.0	0.0	0.2	0.3	0.0
Guilford County, North Carolina								

REVISED Table 7.2-1								
Summary of Soil Characteristics and Limitations for the MVP Southgate Project								
Facility / County, State	Area of Project Workspace within Designated Soil Classification / Limitation (Acres)							
	Prime Farmland or Farmland of Statewide Importance <u>a/</u>	Compaction Prone <u>b/</u>	Hydric Soils <u>c/</u>	Highly Water Erodible <u>d/</u>	Highly Wind Erodible <u>e/</u>	Shallow Depth to Bedrock <u>f/</u>	Low Revegetation Potential <u>g/</u>	Stony / Rocky <u>h/</u>
Access Roads	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Caswell County, North Carolina								
Contractor Yards	75.5	0.0	0.0	0.0	0.0	35.3	0.0	0.0
Total Area within Soil Designation	1,201.3	17.2	26.6	34.8	0.0	153.1	24.6	40.0
Percent of Project Area <u>i/</u>	79	1	2	2	0	10.1	2	3
<p>Note: Pig launchers and receivers will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities. Mainline Valves (MLVs) 1, 4, and 8 will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for these MLVs are included with those facilities.</p> <p><u>a/</u> Prime farmland and Farmland of Statewide Importance includes soils mapped and designated as prime farmland and farmland of statewide importance by the NRCS (SSURGO reference column "farmIndcl"). Prime Farmland if drained and / or irrigated and / or reclaimed of excess salts and sodium is not included in this acreage. No areas of Farmland of local importance or unique farmland are affected by the Project.</p> <p><u>b/</u> Soils categorized as compaction prone include soils with clay loam or finer texture and a drainage class of poor, somewhat poor, and very poor.</p> <p><u>c/</u> Hydric soils include soils with a USDA NRCS hydric classification – presence of predominantly hydric (67% to 99%) and hydric (100%).</p> <p><u>d/</u> Highly water erodible soils include soils with a K factor that is greater than 0.4.</p> <p><u>e/</u> Highly wind erodible soils include those in wind erodibility groups 1 or 2.</p> <p><u>f/</u> Shallow bedrock soils included soils that have a depth to bedrock of less than 5 feet (60 inches).</p> <p><u>g/</u> Soils with low revegetation potential include soils with an average low rating based on factors including but not limited to drainage class of excessively drained or very poorly drained, K Factor greater than 0.40, and slope greater than 25 percent (see Table 7.2-2 in Appendix 7-A).</p> <p><u>h/</u> Stony/Rocky soils include those with a cobbly, stony, bouldery, shaly, channery, very gravelly, or extremely gravelly modifier to the textural class of the surface layer and / or that have a surface layer that contains greater than 5 percent by weight rock fragments larger than 3 inches.</p> <p><u>i/</u> Totals do not equal 100 percent as not all soils are classified with limitations and certain soils are classified as having multiple limitations. Percent of Project Area based on a total Project area of 1,513.9 acres.</p>								

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
H-605 Pipeline													
Pittsylvania County, Virginia													
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	0.00	0.08	422	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
9B	Creedmoor fine sandy loam, 2 to 7 percent slopes	0.08	0.10	53	Yes	3	0.2	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	0.10	0.17	370	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	0.17	0.47	1,584	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
H-650 Pipeline ^{i/}													
Pittsylvania County, Virginia													
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	0.0 RR	0.13	792	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	0.13	0.30	950	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	0.30	0.40	475	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
9C	Creedmoor fine sandy loam, 7 to 15 percent slopes	0.40	0.45	264	Yes	3	0.2	Predominantly Non-Hydric	Low	>60	No	No	Moderately well drained
22B	Mattaponi sandy loam, 2 to 7 percent slopes	0.45	0.53	422	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Moderately well drained
9C	Creedmoor fine sandy loam, 7 to 15 percent slopes	0.53	0.61	422	Yes	3	0.2	Predominantly Non-Hydric	Low	>60	No	No	Moderately well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	0.61	0.63	106	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	0.63	0.77	739	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
9B	Creedmoor fine sandy loam, 2 to 7 percent slopes	0.77	0.89	634	Yes	3	0.2	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	0.89	0.93	211	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
9B	Creedmoor fine sandy loam, 2 to 7 percent slopes	0.93	1.06	686	Yes	3	0.2	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
9C	Creedmoor fine sandy loam, 7 to 15 percent slopes	1.06	1.15	475	Yes	3	0.2	Predominantly Non-Hydric	Low	>60	No	No	Moderately well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	1.15	1.25 RR	634	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	1.25 RR	1.35 RR	317	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
7A	Chenneby loam, 0 to 2 percent slopes, occasionally flooded	1.35 RR	1.86	2,798	Yes	5	0.44	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
41A	Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded	1.86	2.16	1,584	No	6	0.41	Predominantly Hydric	High	>60	No	Yes	Poorly drained
7A	Chenneby loam, 0 to 2 percent slopes, occasionally flooded	2.16	2.19	158	Yes	5	0.44	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	2.19	2.28	475	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	2.28	2.95	3,538	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	2.95	3.16	1,056	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	3.16	3.18	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	3.18	3.29	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	3.29	3.41	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	3.41	3.64	1,162	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	3.64	3.89 RR	1,320	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	3.89 RR	4.15	1,426	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	4.15	4.31	845	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	4.31	4.44	686	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	4.44	4.81	1,954	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	4.81	4.83	53	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	4.83	5.22	2,059	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
1C	Appling sandy loam, 7 to 15 percent slopes	5.22	5.47	1,320	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
1B	Appling sandy loam, 2 to 7 percent slopes	5.47	5.64	898	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
1C	Appling sandy loam, 7 to 15 percent slopes	5.64	5.70	317	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	5.70	6.03	1,742	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.03	6.08	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
1B	Appling sandy loam, 2 to 7 percent slopes	6.08	6.13	264	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.13	6.25	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
39	Udorthents, loamy	6.25	6.32	370	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.32	6.57	1,373	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	6.57	6.59	106	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.59	6.74	792	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	6.74	6.86	634	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.86	6.95	475	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	6.95	6.99	211	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	6.99	7.09	528	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	7.09	7.25	845	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	7.25	7.29	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	7.29	7.33	211	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	7.33	7.38	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	7.38	7.50	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	7.50	7.55	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21E	Madison fine sandy loam, 25 to 45 percent slopes	7.55	7.61	264	No	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	7.61	7.71	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	7.71	7.78	370	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	7.78	7.84	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	7.84	7.97	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	7.97	8.02	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	8.02	8.12	528	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	8.12	8.20	475	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	8.20	8.33	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	8.33	8.46	739	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	8.46	8.50	211	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	8.50	8.53	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	8.53	8.58	317	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
21E	Madison fine sandy loam, 25 to 45 percent slopes	8.58	8.65	370	No	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	8.65	8.76	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	8.76	8.84	422	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	8.84	8.87	158	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	8.87	8.92	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	8.92	9.04	634	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	9.04	9.08	211	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	9.08	9.12	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	9.12	9.31	1,003	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	9.31	9.37	317	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	9.37	9.41	211	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	9.41	9.47	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	9.47	9.52	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	9.52	9.61	422	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	9.61	9.76	792	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
11B3	Cullen clay loam, 2 to 7 percent slopes, severely eroded	9.76	9.83	370	No	6	0.27	Non-Hydric	High	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	9.83	9.89	317	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
11C3	Cullen clay loam, 7 to 15 percent slopes, severely eroded	9.89	9.91	106	No	6	0.27	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	9.91	10.02	581	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	10.02	10.05	158	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2

Soil Types Crossed by the MVP Southgate Project

Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
21D	Madison fine sandy loam, 15 to 25 percent slopes	10.05	10.12	370	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	10.12	10.27	739	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	10.27	10.32	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	10.32	10.72	2,112	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	10.72	10.93	1,109	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	10.93	11.26	1,690	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	11.26	11.43	950	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	11.43	11.54	581	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	11.54	11.66	581	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	11.66	11.80	739	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	11.80	11.86	370	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	11.86	11.96	528	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	11.96	12.03	370	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	12.03	12.12	475	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	12.12	12.34	1,162	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	12.34	12.37	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	12.37	12.49	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	12.49	12.75	1,373	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	12.75	12.80	264	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	12.80	12.86	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	12.86	13.05	1,056	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
17B	Hiwassee loam, 2 to 7 percent slopes	13.05	13.21	792	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
18C3	Hiwassee clay loam, 7 to 15 percent slopes, severely eroded	13.21	13.42 RR	1,109	No	6	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	13.42 RR	13.47 RR	264	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	13.47 RR	13.50	211	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	13.50	13.61	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	13.61	13.67	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	13.67	13.80	686	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	13.80	13.91	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	13.91	13.93	106	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	13.93	14.05	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	14.05	14.15	528	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	14.15	14.28	686	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	14.28	14.32	211	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	14.32	14.35	158	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
11C3	Cullen clay loam, 7 to 15 percent slopes, severely eroded	14.35	14.44	475	No	6	0.27	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	14.44	14.57	634	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	14.57	14.62	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
11B3	Cullen clay loam, 2 to 7 percent slopes, severely eroded	14.62	14.66	211	No	6	0.27	Non-Hydric	High	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	14.66	14.69	158	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	14.69	14.72	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
9C	Creedmoor fine sandy loam, 7 to 15 percent slopes	14.72	14.78	317	Yes	3	0.2	Predominantly Non-Hydric	Low	>60	No	No	Moderately well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	14.78	14.94	845	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	14.94	15.45	2,693	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	15.45	15.48	158	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	15.48	15.87	2,059	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	15.87	15.95	370	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	15.95	16.02	370	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	16.02	16.06	211	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	16.06	16.22	845	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	16.22	16.48	1,373	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	16.48	16.97	2,587	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	16.97	17.24	1,426	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	17.24	17.32	370	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	17.32	17.39	422	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	17.39	17.64 RR	1,690	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
W	Water	17.64 RR	17.67 RR	106	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	17.67 RR	17.81 RR	211	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	17.81 RR	17.85 RR	422	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	17.85 RR	17.89 RR	1,690	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	17.89 RR	17.94 RR	2,112	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	17.94 RR	18.01	845	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
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Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	18.01	18.40	2,112	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	18.40	18.45	211	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	18.45	18.82	2,006	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	18.82	18.88	317	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	18.88	18.99	581	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	18.99	19.05	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	19.05	19.12	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	19.12	19.22	528	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	19.22	19.30	422	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	19.30	19.35	264	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	19.35	19.59	1,267	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	19.59	19.64	317	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	19.64	19.68	158	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	19.68	19.77	475	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	19.77	19.89	634	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	19.89	19.99	475	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	19.99	20.01	158	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	20.01	20.04	158	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.04	20.09	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	20.09	20.18	528	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.18	20.32	739	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	20.32	20.41	422	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.41	20.46	264	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	20.46	20.52	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.52	20.57	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	20.57	20.66	422	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.66	20.71	317	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	20.71	20.75	211	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	20.75	21.00	1,320	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	21.00	21.05	264	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	21.05	21.15	528	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained

REVISED Table 7.2-2													
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Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	21.15	21.28	686	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	21.28	21.34	317	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	21.34	21.48	739	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	21.48	21.56	422	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
29C	Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony	21.56	21.72	845	No	5	0.27	Non-Hydric	Low	18.1	Yes	No	Excessively drained
29D	Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony	21.72	21.76	211	No	5	0.28	Non-Hydric	Low	18.1	Yes	No	Excessively drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	21.76	22.02	1,373	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	22.02	22.07	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	22.07	22.15	422	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	22.15	22.20	264	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
28C	Pinkston cobbly sandy loam, 7 to 15 percent slopes	22.20	22.25	264	No	5	0.3	Non-Hydric	Low	18.1	Yes	No	Excessively drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	22.25	22.28	158	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	22.28	22.32	158	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	22.32	22.33	106	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	22.33	22.46	634	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	22.46	22.53	370	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
29C	Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony	22.53	22.65	634	No	5	0.27	Non-Hydric	Low	18.1	Yes	No	Excessively drained
29D	Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony	22.65	22.71	317	No	5	0.28	Non-Hydric	Low	18.1	Yes	No	Excessively drained
29C	Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony	22.71	22.77	317	No	5	0.27	Non-Hydric	Low	18.1	Yes	No	Excessively drained
29E	Pinkston-Mayodan complex, 35 to 50 percent slopes, very stony	22.77	22.90	686	No	5	0.28	Non-Hydric	Low	18.1	Yes	No	Excessively drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	22.90	22.96	317	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
34B	Sheva fine sandy loam, 2 to 7 percent slopes	22.96	23.10	739	No	3	0.35	Non-Hydric	Moderate	29.1	Yes	No	Moderately well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	23.10	23.18	422	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	23.18	23.26	475	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	23.26	23.31	264	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	23.31	23.64	1,742	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	23.64	23.74	581	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	23.74	23.83	475	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	23.83	23.89	317	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	23.89	24.01	634	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	24.01	24.30	1,584	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained

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Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
29C	Pinkston-Mayodan complex, 7 to 15 percent slopes, very stony	24.30	24.39	475	No	5	0.27	Non-Hydric	Low	18.1	Yes	No	Excessively drained
17B	Hiwassee loam, 2 to 7 percent slopes	24.39	24.59	1,003	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
34B	Sheva fine sandy loam, 2 to 7 percent slopes	24.59	24.82	1,214	No	3	0.35	Non-Hydric	Moderate	29.1	Yes	No	Moderately well drained
18C3	Hiwassee clay loam, 7 to 15 percent slopes, severely eroded	24.82	24.83	53	No	6	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
17B	Hiwassee loam, 2 to 7 percent slopes	24.83	24.91	475	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
18C3	Hiwassee clay loam, 7 to 15 percent slopes, severely eroded	24.91	24.94	158	No	6	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
28C	Pinkston cobbly sandy loam, 7 to 15 percent slopes	24.94	25.00	317	No	5	0.3	Non-Hydric	Low	18.1	Yes	No	Excessively drained
17B	Hiwassee loam, 2 to 7 percent slopes	25.00	25.08	370	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	25.08	25.26	950	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
17B	Hiwassee loam, 2 to 7 percent slopes	25.26	25.46	1,056	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
28C	Pinkston cobbly sandy loam, 7 to 15 percent slopes	25.46	25.68	1,162	No	5	0.3	Non-Hydric	Low	18.1	Yes	No	Excessively drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	25.68	25.77	475	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	25.77	25.82	317	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	25.82	26.04	1,162	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	26.04	26.08	211	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
Rockingham County, North Carolina													
CmB	Clover sandy loam, 2 to 8 percent slopes	26.08	26.43	1,848	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	26.43	26.61 RR	950	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmB	Clover sandy loam, 2 to 8 percent slopes	26.61 RR	26.66 RR	211	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	26.66 RR	26.76 RR	528	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Clover sandy clay loam, 2 to 8 percent slopes, moderately eroded	26.76 RR	26.84	422	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
CnE2	Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded	26.84	26.97 RR	634	No	5	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	26.97 RR	27.30	1,742	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
DaA	Dan River loam, 0 to 2 percent slopes, frequently flooded	27.30	27.66	1,901	No	5	0.31	Predominantly Non-Hydric	High	>60	No	No	Well drained
WhB	Wickham sandy loam, mesic, 1 to 4 percent slopes, rarely flooded	27.66	27.92 RR	1,373	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	27.92 RR	28.14 RR	1,214	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CmB	Clover sandy loam, 2 to 8 percent slopes	28.14 RR	28.37 RR	1,162	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	28.37 RR	28.43 RR	317	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CmB	Clover sandy loam, 2 to 8 percent slopes	28.43 RR	28.55 RR	581	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	28.55 RR	28.77	1,214	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmE	Clover sandy loam, 15 to 25 percent slopes	28.77	28.87	475	No	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CmD	Clover sandy loam, 8 to 15 percent slopes	28.87	28.96	475	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmE	Clover sandy loam, 15 to 25 percent slopes	28.96	29.02	317	No	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	29.02	29.08	317	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmE	Clover sandy loam, 15 to 25 percent slopes	29.08	29.18	528	No	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	29.18	29.25	317	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CnE2	Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded	29.25	29.51	1,531	No	5	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	29.51	29.84	1,742	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
DaA	Dan River loam, 0 to 2 percent slopes, frequently flooded	29.84	30.05	1,109	No	5	0.31	Predominantly Non-Hydric	High	>60	No	No	Well drained
W	Water	30.05	30.10	211	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
DaA	Dan River loam, 0 to 2 percent slopes, frequently flooded	30.10	30.21	581	No	5	0.31	Predominantly Non-Hydric	High	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	30.21	30.33	634	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	30.33	30.61	1,478	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	30.61	30.68	370	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	30.68	30.81	686	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	30.81	30.86	264	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CmD	Clover sandy loam, 8 to 15 percent slopes	30.86	30.89	106	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	30.89	30.97	422	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	30.97	31.03	317	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	31.03	31.11	422	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	31.11	31.14	158	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	31.14	31.18	158	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	31.18	31.23	264	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	31.23	31.33	528	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	31.33	31.53	1,056	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	31.53	31.58	264	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	31.58	31.61	158	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	31.61	31.65	211	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	31.65	31.66	106	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	31.66	31.72	317	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	31.72	31.81	422	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	31.81	32.14	1,742	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	32.14	32.23	475	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	32.23	32.30	370	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	32.30	32.33	158	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	32.33	32.44	581	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	32.44	32.48	158	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	32.48	32.50	106	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	32.50	32.56	317	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	32.56	32.61	264	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
DaA	Dan River loam, 0 to 2 percent slopes, frequently flooded	32.61	32.72	528	No	5	0.31	Predominantly Non-Hydric	High	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	32.72	32.75	158	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	32.75	32.83	422	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	32.83	32.92	475	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	32.92	32.98	370	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
HbA	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration	32.98	33.01	106	No	5	0.21	Predominantly Hydric	High	>60	No	No	Poorly drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	33.01	33.08	370	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HbA	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration	33.08	33.11	158	No	5	0.21	Predominantly Hydric	High	>60	No	No	Poorly drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	33.11	33.14	158	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	33.14	33.32	950	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	33.32	33.54	1,162	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
JkB	Jackland fine sandy loam, 2 to 8 percent slopes	33.54	33.59	264	Yes	3	0.3	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	33.59	33.74	792	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
DeD	Devotion fine sandy loam, 6 to 15 percent slopes	33.74	33.79	264	No	3	0.27	Non-Hydric	Moderate	25.2	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	33.79	33.83	211	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
DeD	Devotion fine sandy loam, 6 to 15 percent slopes	33.83	33.89	317	No	3	0.27	Non-Hydric	Moderate	25.2	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	33.89	33.94	264	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	33.94	33.96	158	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	33.96	33.99	158	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	33.99	34.15	845	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	34.15	34.21 RR	317	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	34.21 RR	34.32	686	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	34.32	34.34	106	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained

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Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	34.34	34.45	581	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	34.45	34.53	370	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	34.53	34.77	1,267	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	34.77	34.84	370	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	34.84	34.94	475	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	34.94	35.00	317	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	35.00	35.03	158	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	35.03	35.10	422	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	35.10	35.23	686	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	35.23	35.31	422	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	35.31	35.38	370	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	35.38	35.46	422	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	35.46	35.58	634	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	35.58	35.73	792	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	35.73	35.77	158	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	35.77	35.80	158	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	35.80	35.91	634	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	35.91	36.08	845	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	36.08	36.21	739	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	36.21	36.25	158	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	36.25	36.68	2,323	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	36.68	36.79	581	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	36.79	36.86	370	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	36.86	37.06	1,056	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	37.06	37.11	264	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	37.11	37.19	422	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	37.19	37.21	106	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	37.21	37.32	581	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	37.32	37.34	106	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	37.34	37.39	264	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	37.39	37.55	845	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained

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Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
PpE2	Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded	37.55	37.60	264	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
Ud	Udorthents, loamy	37.60	37.67	422	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
PpE2	Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded	37.67	37.72	264	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	37.72	37.77	264	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	37.77	37.98	1,162	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CfB	Clifford sandy loam, 2 to 8 percent slopes	37.98	38.03	211	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	38.03	38.14	634	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	38.14	38.22	422	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
PpE2	Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded	38.22	38.37	792	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	38.37	38.50	634	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	38.50	38.55	264	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
PpB2	Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded	38.55	38.57	106	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	38.57	38.59	106	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	38.59	38.78	1,003	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	38.78	38.84	317	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	38.84	38.86	106	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	38.86	38.94	370	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	38.94	38.99	264	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	38.99	39.02	211	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	39.02	39.07	211	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	39.07	39.14	370	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	39.14	39.17	211	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	39.17	39.25	422	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
DeD	Devotion fine sandy loam, 6 to 15 percent slopes	39.25	39.37	634	No	3	0.27	Non-Hydric	Moderate	25.2	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	39.37	39.46	475	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	39.46	39.65	1,056	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	39.65	39.84	950	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
ChC	Clifford-Urban land complex, 2 to 10 percent slopes	39.84	39.93	475	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
Ur	Urban land	39.93	40.13	1,109	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
CaD	Casville sandy loam, 8 to 15 percent slopes	40.13	40.13	1,003	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	40.13	40.27 RR	<1	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
SmC	Siloam sandy loam, 4 to 10 percent slopes	40.27 RR	40.49 RR	528	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	40.49 RR	40.51 RR	158	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	40.51 RR	40.51	370	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	40.51	40.52	<1	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	40.52	40.54	106	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	40.54	40.62	475	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	40.62	40.71	475	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	40.71	40.72	53	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	40.72	40.83	634	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	40.83	41.11	1,478	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
HbA	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration	41.11	41.18	370	No	5	0.21	Predominantly Hydric	High	>60	No	No	Poorly drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	41.18	41.26	422	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	41.26	41.32	317	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	41.32	41.41	475	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	41.41	41.45	264	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	41.45	41.52	370	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	41.52	41.83	1,584	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	41.83	42.08	1,373	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	42.08	42.11	158	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	42.11	42.16	317	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	42.16	42.21	211	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	42.21	42.31	528	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	42.31	42.45	739	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	42.45	42.50	264	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	42.50	42.63	739	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
PpB2	Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded	42.63	42.70	370	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
PpD2	Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded	42.70	42.82	634	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
PpB2	Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded	42.82	42.85	158	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
PpD2	Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded	42.85	42.87	106	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
PoE	Poplar Forest sandy loam, 15 to 35 percent slopes	42.87	42.88	53	No	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	42.88	42.93	264	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
PpD2	Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded	42.93	43.04	528	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
PoE	Poplar Forest sandy loam, 15 to 35 percent slopes	43.04	43.13	528	No	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
PpB2	Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded	43.13	43.17	211	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
PpD2	Poplar Forest sandy clay loam, 8 to 15 percent slopes, moderately eroded	43.17	43.21	211	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	43.21	43.29	370	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	43.29	43.36	370	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	43.36	43.46	528	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	43.46	43.51	264	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	43.51	43.60	475	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	43.60	43.64	211	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	43.64	43.67	158	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	43.67	43.75	422	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	43.75	43.79	211	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	43.79	43.87	422	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	43.87	43.92	317	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	43.92	43.97	211	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	43.97	44.06	528	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	44.06	44.09	158	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	44.09	44.15	317	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	44.15	44.21	317	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	44.21	44.45	1,267	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	44.45	44.51	317	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	44.51	44.58	422	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	44.58	44.64	317	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	44.64	44.76	634	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	44.76	45.34	3,062	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
DcB	Davie sandy loam, 2 to 8 percent slopes	45.34	45.41	370	Yes	3	0.28	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
JkD	Jackland fine sandy loam, 8 to 15 percent slopes	45.41	45.47	317	No	3	0.3	Non-Hydric	Moderate	>60	No	Yes	Somewhat poorly drained
DcB	Davie sandy loam, 2 to 8 percent slopes	45.47	45.55	422	Yes	3	0.28	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
JkD	Jackland fine sandy loam, 8 to 15 percent slopes	45.55	45.57	106	No	3	0.3	Non-Hydric	Moderate	>60	No	Yes	Somewhat poorly drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	45.57	45.72	792	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
SmC	Siloam sandy loam, 4 to 10 percent slopes	45.72	45.76	211	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	45.76	45.86	528	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	45.86	45.93	370	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	45.93	45.96	158	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
OkB2	Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded	45.96	46.98 RR	<1	Yes	6	0.29	Non-Hydric	High	>60	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	45.98 RR	46.00 RR	1,478	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	46.00 RR	46.10 RR	158	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	46.10 RR	46.16 RR	158	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	46.16 RR	46.25 RR	845	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	46.25 RR	46.30 RR	317	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	46.30 RR	46.33	845	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	46.33	46.36	317	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	46.36	46.52	845	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
OkB2	Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded	46.52	46.63	581	Yes	6	0.29	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	46.63	46.67	211	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	46.67	46.80	739	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	46.80	46.83	158	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	46.83	46.88	264	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	46.88	46.93	211	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
HbA	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded, long duration	46.93	47.01	422	No	5	0.21	Predominantly Hydric	High	>60	No	No	Poorly drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	47.01	47.08	370	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	47.08	47.33	1,267	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	47.33	47.48	792	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	47.48	47.51	158	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	47.51	47.58	370	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	47.58	47.63	264	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	47.63	47.73	528	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	47.73	47.75	106	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	47.75	47.79	211	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	47.79	47.90	581	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	47.90	47.96	317	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance <i>a/</i>	WEG <i>b/</i>	K Factor <i>c/</i>	Hydric Rating <i>d/</i>	Revegetation Potential <i>e/</i>	Depth to Bedrock (inches) <i>f/</i>	Stony/Rocky (g)	Compaction Prone <i>h/</i>	Drainage Class
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	47.96	48.02	264	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	48.02	48.02	53	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	48.02	48.02	<1	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	48.02	48.04	53	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	48.04	48.55	2,746	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
HaB	Halifax sandy loam, 2 to 8 percent slopes	48.55	48.61	264	Yes	3	0.22	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	48.61	48.66	264	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HaB	Halifax sandy loam, 2 to 8 percent slopes	48.66	48.68	106	Yes	3	0.22	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
CaB	Casville sandy loam, 2 to 8 percent slopes	48.68	49.24	2,957	Yes	3	0.26	Non-Hydric	High	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	49.24	49.30	317	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	49.30	49.67	2,006	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	49.67	49.84 RR	792	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 8 percent slopes	49.84 RR	49.94 RR	581	Yes	3	0.22	Non-Hydric	Moderate	>60	No	No	Moderately well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	49.94 RR	50.06 RR	475	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 8 percent slopes	50.06 RR	50.17 RR	634	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	50.17 RR	50.23 RR	422	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 8 percent slopes	50.23 RR	50.44 RR	1,109	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	50.44 RR	50.52 RR	422	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 8 percent slopes	50.52 RR	50.69 RR	792	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	50.69 RR	50.76 RR	475	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CeA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	50.76 RR	50.81 RR	211	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	50.81 RR	50.98 RR	950	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	50.98 RR	51.18 RR	1,109	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
MkB2	Mecklenburg sandy clay loam, 2 to 8 percent slopes, moderately eroded	51.18 RR	51.25 RR	317	Yes	6	0.29	Non-Hydric	High	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	51.25 RR	51.3 RR	264	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
MkB2	Mecklenburg sandy clay loam, 2 to 8 percent slopes, moderately eroded	51.3 RR	51.32 RR	211	Yes	6	0.29	Non-Hydric	High	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	51.32 RR	51.44 RR	581	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	51.44 RR	51.98	2,904	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	51.98	52.12	739	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 8 percent slopes	52.12	52.16	211	Yes	3	0.22	Non-Hydric	Moderate	>60	No	No	Moderately well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	52.16	52.17	<1	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	52.17	52.36 RR	1,056	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	52.36 RR	52.42 RR	317	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	52.42 RR	52.48 RR	158	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	52.48 RR	52.51	317	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	52.51	52.56	264	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	52.56	52.59	158	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	52.59	52.59	<1	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	52.59	52.63	211	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
Alamance County, North Carolina													
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	52.63	52.68	264	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	52.68	52.74	317	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	52.74	52.77	158	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	52.77	52.83	317	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	52.83	53.07	1,267	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	53.07	53.09	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	53.09	53.18	475	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
EnC	Enon sandy loam, 6 to 10 percent slopes	53.18	53.21	158	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	53.21	53.31	475	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	53.31	53.34	211	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	53.34	53.51	898	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	53.51	53.53	106	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	53.53	53.60	317	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	53.60	53.63	158	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	53.63	53.64	53	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	53.64	53.68	211	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
FgC	Frogsboro sandy loam, 6 to 10 percent slopes	53.68	53.72	158	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	53.72	53.74	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	53.74	53.77	106	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	53.77	53.80	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	53.80	53.89	422	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	53.89	53.90	53	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	53.90	53.92	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	53.92	53.94	158	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	53.94	53.96	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	53.96	53.99	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
FgC	Frogsboro sandy loam, 6 to 10 percent slopes	53.99	54.05	317	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.05	54.07	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	54.07	54.14	370	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.14	54.15	<1	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.15	54.16	53	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	54.16	54.18	158	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.18	54.21	158	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.21	54.24	158	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.24	54.28	211	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.28	54.30	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	54.30	54.33	158	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.33	54.41	370	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.41	54.45	264	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EsD	Enon loam, 10 to 15 percent slopes, very stony	54.45	54.47	106	No	5	0.26	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	54.47	54.51	211	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
EsD	Enon loam, 10 to 15 percent slopes, very stony	54.51	54.53	106	No	5	0.26	Non-Hydric	Moderate	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.53	54.59	317	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	54.59	54.62	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
EsD	Enon loam, 10 to 15 percent slopes, very stony	54.62	54.65	106	No	5	0.26	Non-Hydric	Moderate	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.65	54.66	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	54.66	54.79	686	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	54.79	54.85	317	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	54.85	54.88	158	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	54.88	54.90	106	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
VaC	Vance sandy loam, 6 to 10 percent slopes	54.90	54.93	158	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	54.93	54.97	211	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
CcC	Cecil sandy loam, 6 to 10 percent slopes	54.97	54.99	106	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	54.99	55.20	1,109	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	55.20	55.21	106	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	55.21	55.26	264	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	55.26	55.38	634	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 6 percent slopes	55.38	55.41	158	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	55.41	55.51	528	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	55.51	55.56	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	55.56	55.60	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	55.60	55.80	1,003	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 6 percent slopes	55.80	55.80	<1	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaE	Pacolet sandy loam, 15 to 45 percent slopes	55.80	55.82	106	No	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
LoE	Louisburg coarse sandy loam, 15 to 45 percent slopes	55.82	55.85	158	No	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	55.85	55.91	317	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	55.91	56.28	2,006	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	56.28	56.32	211	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	56.32	56.41	475	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	56.41	56.44	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
VaC	Vance sandy loam, 6 to 10 percent slopes	56.44	56.54	528	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	56.54	56.65	581	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	56.65	56.67	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	56.67	56.81	739	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	56.81	57.04	1,214	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	57.04	57.05	53	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	57.05	57.12	370	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	57.12	57.15	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	57.15	57.19	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	57.19	57.26	370	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	57.26	57.33	422	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	57.33	57.44	581	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	57.44	57.56	634	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	57.56	57.85	1,584	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance <i>a/</i>	WEG <i>b/</i>	K Factor <i>c/</i>	Hydric Rating <i>d/</i>	Revegetation Potential <i>e/</i>	Depth to Bedrock (inches) <i>f/</i>	Stony/Rocky (g)	Compaction Prone <i>h/</i>	Drainage Class
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	57.85	57.88	106	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	57.88	57.91	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	57.91	58.00	475	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.00	58.00	<1	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	58.00	58.03	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.03	58.04	53	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	58.04	58.08	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.08	58.11	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	58.11	58.16	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.16	58.27	634	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	58.27	58.28	53	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.28	58.47	1,056	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	58.47	58.51	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	58.51	58.59	422	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	58.59	58.64	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	58.64	58.69	211	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
EnD	Enon sandy loam, 10 to 15 percent slopes	58.69	58.71	106	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	58.71	58.85	739	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	58.85	59.00	792	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	59.00	59.08	422	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	59.08	59.14	317	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	59.14	59.18	158	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	59.18	59.28	528	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	59.28	59.30	158	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	59.30	59.32	106	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	59.32	59.50	950	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	59.50	59.60	528	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	59.60	59.63	158	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	59.63	59.65	106	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	59.63	59.63	<1	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	59.65	59.68	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
HeB	Helena sandy loam, 2 to 6 percent slopes	59.68	59.81	686	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	59.81	60.05	1,267	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	60.05	60.22	898	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	60.22	60.67	2,429	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	60.67	60.68	<1	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	60.68	60.72	211	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	60.72	60.80	475	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	60.80	60.83	106	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	60.83	60.91	422	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	60.91	60.95	211	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	60.95	61.01	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	61.01	61.08	370	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	61.08	61.10	106	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	61.10	61.15	264	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
IrB	Iredell loam, 2 to 6 percent slopes	61.15	61.31	845	Yes	3	0.31	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	61.31	61.36	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	61.36	61.67	1,584	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	61.67	61.76	475	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	61.76	61.83	370	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	61.83	61.90	422	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	61.90	61.93	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	61.93	61.95	106	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
IrB	Iredell loam, 2 to 6 percent slopes	61.95	61.99	211	Yes	3	0.31	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	61.99	62.13	792	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	62.13	62.30	898	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	62.30	62.40	528	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	62.40	62.44	211	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	62.44	62.47	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	62.47	62.58	528	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	62.58	62.63	317	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	62.63	62.69	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
VaB	Vance sandy loam, 2 to 6 percent slopes	62.69	62.72	158	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	62.72	62.96	1,267	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	62.96	63.05	475	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	63.05	63.13	422	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	63.13	63.14	53	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
LoE	Louisburg coarse sandy loam, 15 to 45 percent slopes	63.14	63.21	370	No	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	63.21	63.35	686	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	63.35	63.45	581	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	63.45	63.46	53	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	63.46	63.51	264	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	63.51	63.55	211	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	63.55	63.59	211	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
W	Water	63.59	63.64	264	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
EnD	Enon sandy loam, 10 to 15 percent slopes	63.64	63.69	264	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	63.69	63.73	264	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	63.73	63.78	211	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	63.78	63.85	370	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	63.85	63.85	<1	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	63.85	63.85	53	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	63.85	63.90	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	63.90	63.98	422	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	63.98	64.02	264	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	64.02	64.06	158	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	64.06	64.11	264	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	64.11	64.32	1,109	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	64.32	64.40	370	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	64.40	64.42	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	64.42	64.52	581	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	64.52	64.58	317	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	64.58	64.67	475	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	64.67	64.70	158	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	64.70	64.92RR	1,162	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	64.92RR	64.93RR	53	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	64.93RR	65.0RR	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	65.0RR	65.06RR	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.06RR	65.07RR	106	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	65.07RR	65.09RR	106	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	65.09RR	65.13RR	211	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	65.13RR	65.23RR	528	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	65.23RR	65.27RR	211	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	65.27RR	65.37RR	528	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	65.37RR	65.44RR	370	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	65.44RR	65.48RR	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.48RR	65.53RR	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	65.53RR	65.52	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.52	65.53	53	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	65.53	65.58	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.58	65.64	317	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	65.64	65.64	<1	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.64	65.68	211	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
IrB	Iredell loam, 2 to 6 percent slopes	65.68	65.82	739	Yes	3	0.31	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	65.82	65.86	158	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	65.86	66.23	1,954	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	66.23	66.27	264	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	66.27	66.39	634	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	66.39	66.43	211	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	66.43	66.57	686	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	66.57	66.62	264	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	66.62	66.68	264	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	66.68	66.70	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	66.70	66.71 RR	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	66.71 RR	66.72 RR	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
EnD	Enon sandy loam, 10 to 15 percent slopes	66.72 RR	66.79 RR	370	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
HeB	Helena sandy loam, 2 to 6 percent slopes	66.79 RR	66.94 RR	686	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	66.94 RR	67.20 RR	792	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	67.20 RR	67.39 RR	53	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	67.39 RR	67.45 RR	106	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	67.45 RR	67.46 RR	53	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	67.46 RR	67.47 RR	211	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	67.47 RR	67.50 RR	317	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
VaB	Vance sandy loam, 2 to 6 percent slopes	67.50 RR	67.58 RR	264	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaC	Vance sandy loam, 6 to 10 percent slopes	67.58 RR	67.59 RR	106	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 6 percent slopes	67.59 RR	67.61 RR	475	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	67.61 RR	67.50	158	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 6 percent slopes	67.50	67.54	211	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	67.54	67.59	264	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	67.59	67.62	106	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	67.62	67.64	106	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	67.64	67.71	370	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	67.71	67.73	106	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	67.73	67.78	264	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	67.78	67.84	317	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	67.84	67.88	158	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 10 to 15 percent slopes	67.88	67.90	158	Yes	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
PaE	Pacolet sandy loam, 15 to 45 percent slopes	67.90	67.93	158	No	3	0.33	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	67.93	67.97	211	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	67.97	68.06	475	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.06	68.08	106	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	68.08	68.14	317	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.14	68.19	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	68.19	68.24	264	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.24	68.30	317	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	68.30	68.33	158	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained

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Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
EnD	Enon sandy loam, 10 to 15 percent slopes	68.33	68.37	264	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	68.37	68.39	53	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.39	68.43	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	68.43	68.48	211	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	68.48	68.60	634	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	68.60	68.63	158	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CuC2	Cullen-Urban land complex, 6 to 10 percent slopes, moderately eroded	68.63	68.64	53	No	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	68.64	68.72	422	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.72	68.83	581	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	68.83	68.86	158	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	68.86	68.87	106	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	68.87	68.91	211	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	68.91	68.96	264	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
Ud	Udorthents, loamy 0 to 25 percent slopes	68.96	69.03	370	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	69.03	69.14	581	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	69.14	69.17	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	69.17	69.22	211	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	69.22	69.50	1,531	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	69.50	69.62	581	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
Ur	Urban land	69.62	69.74	634	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
EnD	Enon sandy loam, 10 to 15 percent slopes	69.74	69.85	581	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	69.85	69.86	106	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
W	Water	69.86	69.90	158	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	69.90	69.94	211	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	69.94	69.99	264	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	69.99	70.04	264	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	70.04	70.08	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.08	70.11	211	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	70.11	70.17	264	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	70.17	70.17	53	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.17	70.25	370	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
EnD	Enon sandy loam, 10 to 15 percent slopes	70.25	70.25	<1	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	70.25	70.27	106	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.27	70.30	158	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.30	70.32	106	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	70.32	70.37	264	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	70.37	70.38	53	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.38	70.42	264	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.42	70.43	53	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	70.43	70.50	317	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.50	70.51	106	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.51	70.55	211	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.55	70.64	475	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.64	70.72	422	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	70.72	70.75	158	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.75	70.77	158	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.77	70.79	106	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	70.79	70.84	264	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	70.84	70.86	106	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	70.86	70.98	686	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	70.98	71.04	317	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	71.04	71.29	1,267	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	71.29	71.36	370	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
Ur	Urban land	71.36	71.46	528	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	71.46	71.73	1,478	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	71.73	71.77	211	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	71.77	71.93	845	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	71.93	72.00	370	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	72.00	72.07	370	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	72.07	72.09	106	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	72.09	72.12	158	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	72.12	72.24	686	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
EnD	Enon sandy loam, 10 to 15 percent slopes	72.24	72.28	158	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	72.28	72.30	158	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	72.30	72.34	211	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	72.34	72.41	370	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	72.41	72.44	211	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	72.44	72.57	686	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	72.57	72.60	211	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	72.60	72.67	370	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	72.67	72.67	<1	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	72.67	72.69	106	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	72.69	72.88 RR	739	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	72.88 RR	72.93 RR	581	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	73.01	73.05	475	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	73.05	73.16 RR	581	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	73.16 RR	73.17 RR	53	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
Aboveground Facilities													
Pittsylvania County, Virginia													
<i>Lambert Compressor Station / Interconnect / Mainline valve 1 (MP 0.0RR)</i>													
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
<i>Mainline valves 2 and 3 MP 7.4 and 18.3</i>													
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	NA	NA	NA	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
Contractor Yards													
1B	Appling sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
9B	Creedmoor fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.2	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
16B	Helena sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
16C	Helena sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
22B	Mattaponi sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Moderately well drained
22C	Mattaponi sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Low	>60	No	No	Moderately well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance a/	WEG b/	K Factor c/	Hydric Rating d/	Revegetation Potential e/	Depth to Bedrock (inches) f/	Stony/Rocky (g)	Compaction Prone h/	Drainage Class
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
26D	Fairview fine sandy loam, 15 to 25 percent slopes	NA	NA	NA	Yes	3	0.22	Non-Hydric	Moderate	>60	No	No	Well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	NA	NA	NA	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	NA	NA	NA	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	NA	NA	NA	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
Access Roads													
1B	Appling sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
1C	Appling sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
3B	Bolling fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.29	Non-Hydric	Moderate	>60	No	No	Moderately well drained
4B	Clifford sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
4C	Cecil sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
5B3	Cecil sandy clay loam, 2 to 7 percent slopes, severely eroded	NA	NA	NA	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
5C3	Cecil sandy clay loam, 7 to 15 percent slopes, severely eroded	NA	NA	NA	Yes	5	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
7A	Chenneby loam, 0 to 2 percent slopes, occasionally flooded	NA	NA	NA	Yes	5	0.44	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
8A	Chenneby-Toccoa complex, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	5	0.38	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
9B	Creedmoor fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.2	Predominantly Non-Hydric	Moderate	>60	No	No	Moderately well drained
11B3	Cullen clay loam, 2 to 7 percent slopes, severely eroded	NA	NA	NA	No	6	0.27	Non-Hydric	High	>60	No	No	Well drained
17B	Hiwassee loam, 2 to 7 percent slopes	NA	NA	NA	Yes	6	0.21	Non-Hydric	High	>60	No	No	Well drained
18C3	Hiwassee clay loam, 7 to 15 percent slopes, severely eroded	NA	NA	NA	No	6	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
21D	Madison fine sandy loam, 15 to 25 percent slopes	NA	NA	NA	Yes	3	0.37	Non-Hydric	Moderate	>60	No	No	Well drained
22C	Mattaponi sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Low	>60	No	No	Moderately well drained
23B	Mayodan fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
23C	Mayodan fine sandy loam, 7 to 15 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
23D	Mayodan fine sandy loam, 15 to 25 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
29D	Pinkston-Mayodan complex, 15 to 35 percent slopes, very stony	NA	NA	NA	No	5	0.28	Non-Hydric	Low	18.1	Yes	No	Excessively drained
29E	Pinkston-Mayodan complex, 35 to 50 percent slopes, very stony	NA	NA	NA	No	5	0.28	Non-Hydric	Low	18.1	Yes	No	Excessively drained
34B	Sheva fine sandy loam, 2 to 7 percent slopes	NA	NA	NA	No	3	0.35	Non-Hydric	Moderate	29.1	Yes	No	Moderately well drained
39	Udorthents, loamy	NA	NA	NA	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
Rockingham County, North Carolina													
LN 3600 Interconnect (MP 28.2)													

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance <i>a/</i>	WEG <i>b/</i>	K Factor <i>c/</i>	Hydric Rating <i>d/</i>	Revegetation Potential <i>e/</i>	Depth to Bedrock (inches) <i>f/</i>	Stony/Rocky (g)	Compaction Prone <i>h/</i>	Drainage Class
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	NA	NA	NA	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CmB	Clover sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
<i>T-15 Dan River Interconnect / Mainline Valve 4 (MP 30.4)</i>													
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	NA	NA	NA	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
<i>Mainline valve 5 (MP 42.2)</i>													
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	NA	NA	NA	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
<i>Contractor Yards</i>													
ChC	Clifford-Urban land complex, 2 to 10 percent slopes	NA	NA	NA	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
LeB	Leaksville silt loam, 0 to 4 percent slopes	NA	NA	NA	No	6	0.37	Hydric	High	24.0	Yes	Yes	Poorly drained
SpB	Spray loam, 0 to 5 percent slopes	NA	NA	NA	No	6	0.43	Non-Hydric	High	>60	Yes	No	Well drained
Ud	Udorthents, loamy	NA	NA	NA	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
<i>Access Roads</i>													
BaB	Banister loam, 0 to 4 percent slopes, rarely flooded	NA	NA	NA	Yes	5	0.26	Non-Hydric	Moderate	>60	No	No	Moderately well drained
CaB	Casville sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.26	Non-Hydric	High	>60	No	No	Well drained
CcB	Cecil sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
CdB2	Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.25	Non-Hydric	High	>60	No	No	Well drained
CsA	Codorus loam, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	6	0.41	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CeA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained
CfB	Clifford sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
CgB2	Clifford sandy clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.21	Non-Hydric	High	>60	No	No	Well drained
ChC	Clifford-Urban land complex, 2 to 10 percent slopes	NA	NA	NA	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmB	Clover sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmD	Clover sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CmE	Clover sandy loam, 15 to 25 percent slopes	NA	NA	NA	No	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnE2	Clover sandy clay loam, 15 to 25 percent slopes, moderately eroded	NA	NA	NA	No	5	0.21	Non-Hydric	Moderate	>60	No	No	Well drained
DaA	Dan River loam, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	5	0.31	Predominantly Non-Hydric	High	>60	No	No	Well drained
FpE	Fairview-Poplar Forest complex, 15 to 25 percent slopes	NA	NA	NA	No	3	0.21	Non-Hydric	Moderate	>60	No	No	Well drained

REVISED Table 7.2-2													
Soil Types Crossed by the MVP Southgate Project													
Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
FrD2	Fairview-Poplar Forest complex, 8 to 15 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
FrE2	Fairview-Poplar Forest complex, 15 to 25 percent slopes, moderately eroded	NA	NA	NA	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
HwD	Hiwassee loam, 8 to 15 percent slopes	NA	NA	NA	Yes	6	0.18	Non-Hydric	Moderate	>60	No	No	Well drained
IrD	Iredell fine sandy loam, 8 to 15 percent slopes	NA	NA	NA	No	3	0.3	Non-Hydric	Moderate	>60	No	Yes	Somewhat poorly drained
JkB	Jackland fine sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.3	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
NaB	Nathalie sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.18	Non-Hydric	Moderate	>60	No	No	Well drained
OkB2	Oak Level sandy clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.29	Non-Hydric	High	>60	No	No	Well drained
PaD	Pacolet sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.19	Non-Hydric	Moderate	>60	No	No	Well drained
PcD2	Pacolet sandy clay loam, 8 to 15 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.29	Non-Hydric	Moderate	>60	No	No	Well drained
PpB2	Poplar Forest sandy clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.3	Non-Hydric	High	>60	No	No	Well drained
PpE2	Poplar Forest sandy clay loam, 15 to 25 percent slopes, moderately eroded	NA	NA	NA	No	5	0.31	Non-Hydric	Moderate	>60	No	No	Well drained
RnB	Rhodhiss sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.25	Non-Hydric	High	>60	No	No	Well drained
RnD	Rhodhiss sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
RnE	Rhodhiss sandy loam, 15 to 30 percent slopes	NA	NA	NA	No	3	0.25	Non-Hydric	Moderate	>60	No	No	Well drained
SpB	Spray loam, 0 to 5 percent slopes	NA	NA	NA	No	6	0.43	Non-Hydric	High	>60	Yes	No	Well drained
SmC	Siloam sandy loam, 4 to 10 percent slopes	NA	NA	NA	No	3	0.22	Non-Hydric	High	15.0	No	No	Well drained
SmF	Siloam sandy loam, 10 to 45 percent slopes	NA	NA	NA	No	3	0.22	Non-Hydric	Moderate	15.0	No	No	Well drained
Ud	Udorthents, loamy	NA	NA	NA	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
W	Water	NA	NA	NA	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
WhB	Wickham sandy loam, mesic, 1 to 4 percent slopes, rarely flooded	NA	NA	NA	Yes	3	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
Alamance County, North Carolina													
<i>Mainline valves 6 and 7 (MP 55.1 and 68.7)</i>													
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
<i>T-21 Haw River Interconnect / Mainline valve 8 (MP 73.2RR)</i>													
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
Access Roads													
CcB	Cecil sandy loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.22	Non-Hydric	High	>60	No	No	Well drained
CeB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded	NA	NA	NA	No	5	0.26	Predominantly Non-Hydric	High	>60	No	No	Somewhat poorly drained

REVISED Table 7.2-2

Soil Types Crossed by the MVP Southgate Project

Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky (g)	Compaction Prone ^{h/}	Drainage Class
CnB2	Cullen clay loam, 2 to 6 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnC2	Cullen clay loam, 6 to 10 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	High	>60	No	No	Well drained
CnD2	Cullen clay loam, 10 to 15 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
CnE2	Cullen clay loam, 15 to 45 percent slopes, moderately eroded	NA	NA	NA	No	6	0.23	Non-Hydric	Moderate	>60	No	No	Well drained
EnB	Enon sandy loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnC	Enon sandy loam, 6 to 10 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	High	>60	No	No	Well drained
EnD	Enon sandy loam, 10 to 15 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
EoB2	Enon clay loam, 2 to 6 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.28	Non-Hydric	High	>60	No	No	Well drained
EsD	Enon loam, 10 to 15 percent slopes, very stony	NA	NA	NA	No	5	0.26	Non-Hydric	Moderate	>60	No	No	Well drained
FgB	Frogsboro sandy loam, 2 to 6 percent slopes	NA	NA	NA	No	3	0.26	Non-Hydric	High	>60	No	Yes	Somewhat poorly drained
HeB	Helena sandy loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
HeC	Helena sandy loam, 6 to 10 percent slopes	NA	NA	NA	Yes	3	0.27	Non-Hydric	Moderate	>60	No	No	Moderately well drained
IrB	Iredell loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.31	Non-Hydric	Moderate	>60	No	No	Moderately well drained
LoD	Louisburg coarse sandy loam, 10 to 15 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
RvA	Riverview loam, 0 to 2 percent slopes, occasionally flooded	NA	NA	NA	Yes	5	0.39	Non-Hydric	High	>60	No	No	Well drained
RxE	Rowan-Poindexter complex, 15 to 45 percent slopes	NA	NA	NA	No	3	0.35	Non-Hydric	Moderate	29.9	No	No	Well drained
Ud	Udorthents, loamy 0 to 25 percent slopes	NA	NA	NA	No	5	0.2	Non-Hydric	Moderate	>60	No	No	Well drained
Ur	Urban land	NA	NA	NA	No	Unknown	Unknown	Non-Hydric	High	>60	Unknown	Unknown	Unknown
VaB	Vance sandy loam, 2 to 6 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	High	>60	No	No	Well drained
VaD	Vance sandy loam, 10 to 15 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	Moderate	>60	No	No	Well drained
W	Water	NA	NA	NA	No	Unknown	Unknown	Non-Hydric	Unknown	>60	Unknown	Unknown	Unknown
Guilford County, North Carolina													
<i>Access Roads</i>													
CeC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	NA	NA	NA	Yes	5	0.28	Non-Hydric	High	>60	No	No	Well drained
Caswell County, North Carolina													
<i>Contractor Yards</i>													
CaB	Casville sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	High	>60	No	No	Well drained
CaC	Casville sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.23	Non-Hydric	Moderate	Unknown	No	No	Well drained
FaB	Fairview sandy loam, 2 to 8 percent slopes	NA	NA	NA	Yes	3	0.20	Non-Hydric	Moderate	Unknown	No	No	Well drained
FbB2	Fairview sandy clay loam, 2 to 8 percent slopes	NA	NA	NA	Yes	5	0.23	Non-Hydric	High	Unknown	No	No	Well drained

REVISED Table 7.2-2

Soil Types Crossed by the MVP Southgate Project

Map Unit Symbol	Map Unit Name	Milepost Start	Milepost End	Crossing Length (feet)	Prime Farmland or Farmland of Statewide Importance ^{a/}	WEG ^{b/}	K Factor ^{c/}	Hydric Rating ^{d/}	Revegetation Potential ^{e/}	Depth to Bedrock (inches) ^{f/}	Stony/Rocky ^{g/}	Compaction Prone ^{h/}	Drainage Class
HaC	Halifax sandy loam, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.24	Non-Hydric	Moderate	Unknown	No	No	Moderately well drained
ReC	Rasalo-Enott complex, 8 to 15 percent slopes	NA	NA	NA	Yes	3	0.28	Non-Hydric	Moderate	>60	No	No	Well drained
SkE	Spriggs-Mocksville complex, 25 to 45 percent slopes	NA	NA	NA	No	3	0.30	Non-Hydric	Moderate	>60	No	No	Well drained
TmB2	Tomlin clay loam, 2 to 8 percent slopes, moderately eroded	NA	NA	NA	Yes	6	0.30	Non-Hydric	High	Unknown	No	No	Well drained

Notes:

NA = Not Applicable

a/: Prime farmland and Farmland of Statewide Importance includes soils mapped and designated as prime farmland and farmland of statewide importance by the NRCS (SSURGO reference column "farmland"). Prime Farmland if drained and / or irrigated and / or reclaimed of excess salts and sodium is not included in this acreage. No areas of Farmland of local importance or unique farmland are affected by the Project.

b/: WEGs (Wind Erodibility Groups) obtained from the NRCS Soil Data Mart. WEGs range from 1 to 8, with 1 being the highest potential for wind erosion, and 8 the lowest. Highly wind erodible soils include those in wind erodibility groups 1 or 2 (SSURGO reference column "weg").

c/: Water erosion potential was determined by averaging the K factor values of horizons of each soil type. Based on the average K factor, each soil type was grouped into a water erosion class of "Low", "Moderate", and "High". Highly water erodible soils include those with a K factor greater than 0.4.

d/: "Urban Land" and "Udorthents" map units do not have a NRCS designated hydric soil status. These map units were considered to be non-hydric soils. Hydric Type is determined with Hydric Classification - Presence ("hydclprs") where if hydclprs of 0% is categorized as "Non-hydric". Values between 1% - 33% are categorized as "Predominantly Non-hydric", 34% - 66% as "Partially Hydric", 67% - 99% as "Predominantly Hydric", and 100% is categorized as "Hydric".

e/: Revegetation Potential is determined by three parameters: drainage class, K factor, and slope, each parameter assigned a value of 1, 2, or 3, then averaged. Drainage classes of excessively drained and very poorly drained are designated low (1), somewhat excessively drained and poorly drained are designated moderate (2), and well drained, moderately well drained, and somewhat poorly drained are designated high (3). Low K factor (3), Moderate (2), and High (1). Slopes of 25% or more are low (1), 8%-25% are moderate (2), and slopes of less than 8% are high (3). The average of these three scores is then taken to determine the overall low, moderate, or high revegetation potential. 1.0-1.7 = Low, 1.8-2.3 = Moderate, 2.4-3.0 = High.

f/: Depth to bedrock is not defined by the NRCS for the "Pavement and Buildings" map unit. In these cases, a depth to bedrock of >60" was assigned, which is consistent with NRCS designations for other natural and fill soils in the Project area. Shallow bedrock soils include those that have lithic or paralithic bedrock within 60 inches or less of the soil surface (SSURGO and STATGO2 reference column "rescind" and "resdept_r").

g/: Stony/Rocky soils include those with a cobbly, stony, bouldery, shaly, channery, very gravelly, or extremely gravelly modifier to the textural class of the surface layer and / or that have a surface layer that contains greater than 5 percent by weight rock fragments larger than 3 inches.

h/: Compaction prone was determined by texture and drainage class. Compaction prone soils are those with clay loam or finer texture, and somewhat poor, poor, and very poor drainage class (SSURGO reference column "texcl" and "drainagecl").

i/: Mileposts represent soil types crossed by the pipeline alignment only. A summary of limitations associated with all soil types affected by the Project workspace areas is included in Table 7.2-1.

REVISED Table 7.3-1								
Prime Farmland Affected by the MVP Southgate Project								
Facility, County, State	Area of Project Workspace within Prime Farmland Areas (Acres) <u>a/</u>							
	Mapped Prime Farmland <u>b/</u>		Prime Farmland currently in agricultural use <u>c/</u>		Mapped Farmland of Statewide Importance <u>d/</u>		Farmland of Statewide Importance currently in agricultural use <u>e/</u>	
	Construction <u>f/</u>	Operation <u>g/</u>	Construction	Operation	Construction	Operation	Construction	Operation
H-605 Pipeline								
Pittsylvania, Virginia	6.3	2.3	1.0	0.6	1.4	0.5	0.0	0.0
H-650 Pipeline								
Pittsylvania, Virginia	86.9	33.4	14.7	5.2	257.7	101.0	51.3	20.5
Rockingham, North Carolina	157.2	56.1	46.8	14.2	101.4	39.0	1.2	0.4
Alamance, North Carolina	134.4	51.2	33.2	11.7	132.6	49.7	12.4	4.1
Cathodic Protection Groundbeds								
Pittsylvania, Virginia	1.5	1.5	0.0	0.0	2.0	2.0	0.0	0.0
Rockingham, North Carolina	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0
Alamance, North Carolina	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Aboveground Facilities								
Pittsylvania, Virginia								
Lambert Compressor Station / Interconnect / MLV 1 (MP 0.0)	15.7	8.8	12.2	6.1	3.3	2.9	0.5	0.2
MLVs 2 and 3 (MPs 7.4 and 18.3)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0	0.0
Contractor Yards	55.3	0.0	0.0	0.0	43.5	0.0	0.0	0.0
Access Roads	13.6	2.4	1.4	0.7	20.2	0.5	2.7	0.1
Rockingham, North Carolina								
LN 3600 Interconnect (MP 28.2)	4.5	0.7	<0.1	0.0	0.2	<0.1	0.0	0.0
T-15 Dan River Interconnect / MLV 4 (MP 30.4)	5.1	0.8	<0.1	0.0	0.0	0.0	0.0	0.0
MLV 5 (MP 42.2)	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0
Contractor Yards	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Access Roads	21.7	1.9	2.9	<0.1	8.6	1.0	0.5	0.0

REVISED Table 7.3-1								
Prime Farmland Affected by the MVP Southgate Project								
Facility, County, State	Area of Project Workspace within Prime Farmland Areas (Acres) <u>a/</u>							
	Mapped Prime Farmland <u>b/</u>		Prime Farmland currently in agricultural use <u>c/</u>		Mapped Farmland of Statewide Importance <u>d/</u>		Farmland of Statewide Importance currently in agricultural use <u>e/</u>	
	Construction <u>f/</u>	Operation <u>g/</u>	Construction	Operation	Construction	Operation	Construction	Operation
Alamance County, North Carolina								
T-21 Haw River Interconnect (MP 73.1) / MLV 8	0.0	0.0	0.0	0.0	1.4	0.6	0.0	0.0
MLVs 6 and 7 (MPs 55.1 and 68.7)	<0.0	<0.1	<0.1	<0.1	0.1	0.1	0.0	0.0
Contractor Yards	7.6	0.0	0.0	0.0	14.7	0.0	0.0	0.0
Access Roads	8.9	0.2	<0.1	<0.1	9.3	0.1	1.1	0.0
Guilford County, North Carolina								
Access Roads	0.0	0.0	4.2	0.0	0.1	0.0	0.0	0.0
Caswell County, North Carolina								
Contractor Yards	43.8	0.0	0.0	0.0	31.6	0.0	0.0	0.0
Project Total <u>h/</u>	563.2	160.1	112.9	38.6	638.1	197.3	69.7	25.3
<p>Note: Pig launchers and receivers will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities. Mainline Valves ("MLVs") 1, 4, and 8 will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for these MLVs are included with those facilities.</p> <p>a/ No areas of Farmland of local importance or unique farmland are affected by the Project.</p> <p>b/ Prime farmland includes soils mapped and designated as prime farmland by the NRCS. Prime Farmland if drained and / or irrigated and / or reclaimed of excess salts and sodium is not included in this acreage (SSURGO reference column "farmlands").</p> <p>c/ Agricultural land (i.e., cultivated land identified in Resource Report 8) within areas identified as Prime Farmland. Numbers represent actual land in agricultural use.</p> <p>d/ Farmland of Statewide Importance includes soils mapped and designated as farmland of statewide importance by the NRCS (SSURGO reference column "farmland"). Farmland of statewide importance are mapped by SSURGO and determined by the appropriate State agencies which may include areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods.</p> <p>e/ Agricultural land (i.e., cultivated land identified in Resource Report 8) within areas identified as Farmland of Statewide Importance. Numbers represent actual land in agricultural use.</p> <p>f/ Construction acres includes the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by operation of the Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and railroad rights-of-way are not included in this acreage. Acreage includes a five-foot path between the HDD entry and exit workspace areas to allow for placement of the HDD guide wire.</p> <p>g/ Includes only the operation footprint of the Project facilities and the 50-foot-wide permanent pipeline right-of-way.</p> <p>h/ Sums may not equal addends due to rounding. Addends consist of six-decimal digits.</p>								

LIST OF TABLES

REVISED Table 8.2-1	Land Uses Crossed by the Southgate Project Pipeline	2
REVISED Table 8.2-2	Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline i/	3
REVISED Table 8-D	Structures within 50 Feet of the Southgate Project	7

REVISED Table 8.2-1																		
Land Uses Crossed by the Southgate Project Pipeline																		
Facility	County, State	Upland Forest / Woodland ^{a/}		Upland Open Land ^{b/}		Agricultural ^{c/}		Commercial / Industrial ^{d/}		Wetland ^{e/}		Silviculture ^{f/}		Residential ^{g/}		Open Water ^{h/}		Total ^{i/}
		Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
H-605 Pipeline	Pittsylvania, VA	0.3	60	0.1	16	0.1	23	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.5
H-650 Pipeline	Pittsylvania, VA	12.1	46	7.8	30	4.3	16	0.2	1	1.2	5	0.1	0	0.2	1	0.1	1	26.2
	Rockingham, NC	16.2	61	5.6	21	3.1	11	0.5	2	0.8	3	0.2	1	0.1	0	0.2	1	26.7
	Alamance, NC	10.8	52	5.8	28	2.8	13	0.3	1	0.4	2	0.3	1	0.3	1	0.1	1	20.8
TOTAL		39.4	53	19.3	26	10.2	14	1.0	1	2.5	3	0.7	1	0.6	1	0.5	1	74.1

Source: Project aerial photography April 2018

^{a/} Upland forest not being used for specific commercial purposes.

^{b/} Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

^{c/} Cultivated land (e.g., tobacco, soybeans, hay, corn).

^{d/} Manufacturing or industrial plants, paved areas, landfills, mines, quarries, electric power or natural gas utility facilities; developed areas, roads, railroads and railroad yards, and commercial or retail facilities.

^{e/} Palustrine forested, Palustrine scrub-shrub, and Palustrine emergent wetlands as identified in Resource Report 2.

^{f/} Wooded lands being managed for forest products (i.e., pine plantations).

^{g/} Existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban and suburban residential, multi-family residences, ethnic villages, residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment.

^{h/} Field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed.

^{i/} Sum of addends may not equal the totals due to rounding. Addends consist of 6-decimal digits. Mileposts along the H-650 pipeline incorporate station equations to maintain mileposting as route variations are incorporated. The total crossing miles of the H-650 pipeline is therefore longer than the end milepost (MP 73.17 RR).

REVISED Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline *i/*

Facility County, State	Upland Forest / Woodland <i>a/</i>		Upland Open Land <i>b/</i>		Agricultural Land <i>c/</i>		Commercial / Industrial <i>d/</i>		Wetland <i>e/</i>		Silviculture <i>f/</i>		Residential <i>g/</i>		Open Water <i>h/</i>		Total <i>i/</i>	
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <i>j/</i>	Operational <i>k/</i>
H-605 Pipeline Right-of-Way <i>l/</i>	3.4	1.7	0.7	0.4	1.0	0.6	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	<0.1	0.0	5.2	2.7
Pittsylvania, VA	3.4	1.7	0.7	0.4	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	5.2	2.7
Additional Temporary Workspace <i>m/</i>	2.4	0.0	0.1	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
Pittsylvania, VA	2.4	0.0	0.1	0.0	<0.1	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
H-650 Pipeline Right-of-Way <i>l/</i>	437.1	226.1	239.3	118.0	118.7	59.8	11.3	5.8	23.7	6.0	8.2	3.9	7.5	3.4	3.4	0.0	849.2	423.0
Pittsylvania, VA	137.0	68.6	96.8	48.7	51.7	25.9	2.6	1.3	11.6	2.7	1.5	0.7	2.8	1.2	1.3	0.0	305.3	149.2
Rockingham, NC	181.5	94.8	72.9	34.5	32.5	17.0	5.1	2.7	7.9	1.9	2.8	1.4	0.8	0.3	1.6	0.0	305.1	152.6
Alamance, NC	118.6	62.7	69.6	34.8	34.5	16.9	3.7	1.7	4.1	1.3	3.9	1.8	3.9	1.9	0.5	0.0	238.9	121.2
Additional Temporary Workspace <i>m/</i>	127.4	0.0	85.6	0.0	53.9	0.0	0.7	0.0	2.6	0.0	2.3	0.0	2.4	0.0	0.0	0.0	274.8	0.0
Pittsylvania, VA	42.5	0.0	30.8	0.0	15.4	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.0	0.0	0.0	89.9	0.0
Rockingham, NC	54.7	0.0	25.3	0.0	24.7	0.0	0.2	0.0	1.5	0.0	0.0	0.0	0.7	0.0	0.0	0.0	107.1	0.0
Alamance, NC	30.2	0.0	29.5	0.0	13.7	0.0	0.5	0.0	0.8	0.0	1.8	0.0	1.2	0.0	0.0	0.0	77.8	0.0
Cathodic Protection Groundbeds <i>n/</i>	0.5	0.5	3.5	3.5	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.1
Pittsylvania, VA	0.5	0.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5
Rockingham, NC	0.0	0.0	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1

REVISED Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline *i/*

Facility County, State	Upland Forest / Woodland <i>a/</i>		Upland Open Land <i>b/</i>		Agricultural Land <i>c/</i>		Commercial / Industrial <i>d/</i>		Wetland <i>e/</i>		Silviculture <i>f/</i>		Residential <i>g/</i>		Open Water <i>h/</i>		Total <i>i/</i>	
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <i>j/</i>	Operational <i>k/</i>
Alamance, NC	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Permanent Aboveground Facilities	5.4	4.6	11.6	2.9	12.8	6.3	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.4	13.9
Pittsylvania, VA	5.1	4.4	1.3	1.0	12.7	6.3	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	19.1	11.8
<i>Lambert Compressor Station & Interconnect / MLV 1</i>	5.1	4.4	1.3	1.0	12.7	6.3	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	19.0	11.7
<i>MLV 2</i>	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
<i>MLV 3</i>	0.0	0.0	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Rockingham, NC	0.3	0.2	9.0	1.3	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	1.5
<i>LN 3600 Interconnect</i>	0.3	0.2	4.4	0.6	0.0	0.0	0.0	0.0	<0.1	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	4.7	0.7
<i>T-15 Dan River Interconnect / MLV 4</i>	0.0	0.0	4.6	0.8	0.1	0.0	<0.1	<0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.8
<i>MLV 5</i>	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Alamance, NC	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.6
<i>T-21 Haw River Interconnect / MLV 8</i>	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.6
<i>MLV 6</i>	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1

REVISED Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline *i/*

Facility County, State	Upland Forest / Woodland <i>a/</i>		Upland Open Land <i>b/</i>		Agricultural Land <i>c/</i>		Commercial / Industrial <i>d/</i>		Wetland <i>e/</i>		Silviculture <i>f/</i>		Residential <i>g/</i>		Open Water <i>h/</i>		Total <i>i/</i>	
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <i>j/</i>	Operational <i>k/</i>
<i>MLV 7</i>	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Contractor Yards	3.5	0.0	216.1	0.0	0.0	0.0	29.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	248.7	0.0
Pittsylvania, VA	3.0	0.0	85.6	0.0	0.0	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.9	0.0
Rockingham, NC	0.0	0.0	12.4	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	0.0
Caswell, NC	0.3	0.0	96.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.3	0.0
Alamance, NC	0.2	0.0	22.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.3	0.0
Temporary and Permanent Access Roads <i>h/</i>	12.1	0.3	55.5	4.0	9.8	0.7	11.4	0.8	0.2	<0.1	0.6	0.0	9.3	0.3	0.0	0.0	99.0	6.3
Pittsylvania, VA	5.2	0.2	20.3	1.0	4.1	0.7	4.0	0.6	0.2	0.0	0.0	0.0	2.8	0.3	0.0	0.0	36.6	2.9
Rockingham, NC	3.4	<0.1	26.3	2.9	4.0	<0.1	2.3	0.1	<0.1	<0.1	0.0	0.0	5.0	0.0	0.0	0.0	41.1	3.1
Alamance, NC	3.5	0.1	8.9	0.2	1.7	<0.1	5.0	0.1	<0.1	0.0	0.6	0.0	1.5	0.0	0.0	0.0	21.2	0.3
Guilford, NC	0.0	0.0	<0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Project Total	591.9	233.3	612.5	128.8	196.2	67.5	52.5	6.6	27.1	6.0	11.1	3.9	19.2	3.8	3.4	0.6	1,513.9	450.0

Source: Project aerial photography April 2018.

REVISED Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline i/

Facility County, State	Upland Forest / Woodland <u>a/</u>		Upland Open Land <u>b/</u>		Agricultural Land <u>c/</u>		Commercial / Industrial <u>d/</u>		Wetland <u>e/</u>		Silviculture <u>f/</u>		Residential <u>g/</u>		Open Water <u>h/</u>		Total <u>i/</u>	
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction <u>j/</u>	Operational <u>k/</u>

Note: Pig launchers and receivers will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities. Mainline valves (MLVs) 1, 4, and 8 will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreage calculations for MLVs 1, 4, and 8 are included with those facilities.

a/ Upland forest not being used for specific commercial purposes.

b/ Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

c/ Cultivated land (e.g., tobacco, soybeans, hay, corn).

d/ Manufacturing or industrial plants, paved areas, landfills, mines, quarries, electric power or natural gas utility facilities; developed areas, roads, railroads and railroad yards, and commercial or retail facilities.

e/ Palustrine forested, Palustrine scrub-shrub, and Palustrine emergent wetlands as identified in Resource Report 2.

f/ Wooded lands being managed for forest products (i.e., pine plantations).

g/ Existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban and suburban residential, multi-family residences, ethnic villages, residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment.

h/ Field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed.

i/ Sums may not equal the total of addends due to rounding. Addends consist of 6-decimal digits.

j/ Construction acres includes the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by operation of the Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points are not included in this acreage. Acreage includes a three-foot path between the HDD entry and exit workspace areas to allow for placement of the HDD guide wire.

k/ Includes only the operation footprint of the Project facilities, the 50-foot-wide permanent pipeline right-of-way in uplands, except in wetland areas where the operation width has been reduced to 10 feet in emergent wetlands, scrub shrub wetlands, and within 25 feet of waterbodies; and 30 feet in forested wetlands. The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and within railroad rights-of-way are not included in this acreage.

l/ Includes the 50-foot-wide permanent right-of-way and temporary workspace areas.

l/ includes ATWS areas for the pipeline facilities. ATWS areas to be used for construction of aboveground facilities are included in the acreage calculations for the applicable aboveground facilities.

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Virginia								
Pittsylvania	2.3	Shed	No	East	7	1,720	N/A	Protect
Pittsylvania	2.3	Shed	No	East	0	1,821	N/A	Protect
Pittsylvania	2.3	Shed	No	East	4	1,871	N/A	Protect
Pittsylvania	2.3	Shed	No	East	19	1,967	N/A	Protect
Pittsylvania	2.3	Shed	No	East	0	2,012	N/A	Protect
Pittsylvania	4.5	1- Story House	Yes	East	4	735	RSS-H650-024	Use existing driveway (TA-PI-007) to pass by residences. Post both enter and exit caution/slow signage to alert contractors. Proposed Barricade Fence 100 linear feet from corner of house.
Pittsylvania	4.5	Garage	No	East	0	663	RSS-H650-024	Protect
Pittsylvania	4.5	Garage	No	East	0	748	RSS-H650-024	Protect
Pittsylvania	4.5	Farm Stalls	No	East	10	880	N/A	Protect
Pittsylvania	4.5	Barn	No	East	0	930	RSS-H650-024	Protect
Pittsylvania	4.5	Well Pump House	No	East	17	921	N/A	Protect
Pittsylvania	5.1	House	Yes	East	48	2,886	N/A	Protect
Pittsylvania	6.5	Office	Yes	West	30	1,283	N/A	Protect
Pittsylvania	9.0	Barn	No	West	10	1,445	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Pittsylvania	9.0	Barn	No	West	13	1,482	N/A	Protect
Pittsylvania	9.0	Tobacco Shed	No	West	5	1,642	N/A	Protect
Pittsylvania	10.3	2-Story House	Yes	East	34	59	RSS-H650-016	Protect – Proposed barricade fence.
Pittsylvania	10.3	Porch	Yes	East	22	46	RSS-H650-016	Protect – Proposed barricade fence.
Pittsylvania	10.3	Garage	No	East	29	54	RSS-H650-016	Protect
Pittsylvania	10.3	Shed	No	East	0	10	RSS-H650-016	To be removed
Pittsylvania	10.6	Shed	No	East	49	110	N/A	Protect
Pittsylvania	10.7	House - 2 story	Yes	East	28	88	N/A	Protect
Pittsylvania	10.8	Mailbox stone column	No	West	0	14	N/A	Remove
Pittsylvania	10.8	Stone entry wall	No	West	0	0	N/A	Remove
Pittsylvania	10.8	Stone entry wall	No	East	0	14	N/A	Remove
Pittsylvania	13.1	Shed	No	East	11	205	N/A	Protect
Pittsylvania	13.4	House - 1 story	Yes	West	51	91	N/A	Protect
Pittsylvania	13.7	Old Cabin	No	West	0	40	N/A	Remove
Pittsylvania	23	Shed	No	East	23	1757	N/A	Protect
Pittsylvania	14.9	House	Yes	East	46	152	N/A	Protect
Pittsylvania	15.9	Garage	No	East	5	55	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Pittsylvania	16.0	Shed	No	East	0	164	N/A	Protect
Pittsylvania	16.3	Mobile home - single wide	Yes	East	28	86	N/A	Protect
Pittsylvania	16.7	1-Story House	Yes	West	28	282	RSS-H650-029	Use existing driveway (TA-PI-041) to pass by residences. Post both enter and exit caution/slow signage to alert contractors.
Pittsylvania	17.2	Barn	No	East	0	1,718	N/A	Protect
Pittsylvania	17.2	House	Yes	East	31	1,857	N/A	Stay within access road TA-PI-043 limits.
Pittsylvania	17.5	Shed	No	West	29	413	N/A	Protect
Pittsylvania	18.4	Tobacco Shed	No	West	5	29	N/A	Protect
Pittsylvania	18.4	Tobacco Shed	No	West	10	34	N/A	Protect
Pittsylvania	19.1	Garage	No	East	46	108	N/A	Protect
Pittsylvania	19.6	Shed	No	West	34	93	N/A	Protect
Pittsylvania	19.9	Business - auto sales	No	West	35	288	N/A	Protect
Pittsylvania	20.2	Garage	No	East	18	35	N/A	Protect
Pittsylvania	20.2	Mobile home	Yes	East	26	81	RSS-H650-004	Install safety fence at limit of workspace extending 100 feet from house.
Pittsylvania	20.3	Car awning	No	East	5	44	RSS-H650-005	Proposed barricade fence. Protect
Pittsylvania	20.3	Mobile home	Yes	East	26	61	RSS-H650-005	The workspace has been adjusted in this location. Proposed barricade fence. Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Pittsylvania	22.0	2-Story House	Yes	East	45	133	N/A	Protect
Pittsylvania	22.2	House - 1 story, fallen down	No	East	0	79	RSS-H650-041	Protect if possible or Remove
North Carolina								
Rockingham	28.1	Shed	No	West	33	3,678	N/A	Protect
Rockingham	29.2	Shed	No	East	23	1,217	N/A	Protect
Rockingham	29.2	Shed	No	East	26	1,185	N/A	Protect
Rockingham	29.6	Mobile home	Yes	West	43	1,680	N/A	Protect
Rockingham	30.0	Barn	No	West	0	1,397	RSS-H650-030	Protect
Rockingham	30.0	House	Yes	West	30	1,422	RSS-H650-030	Stay within access road TA-RO-080 limits.
Rockingham	30.5	House - 1 story, abandoned	No	North	3	43	RSS-H650-031	Protect
Rockingham	30.5	House - 1 story	Yes	South	29	122	N/A	Protect
Rockingham	30.7	House - 1 Story	Yes	East	40	100	N/A	Protect
Rockingham	31.7	House - 1 story	Yes	North	46	86	N/A	Protect
Rockingham	32.4	Shed	No	East	4	1,467	N/A	Protect
Rockingham	32.5	1-Story House	Yes	East	20	1,430	RSS-H650-025	Stay within limits of access road TA-RO-085. Proposed barricade fence 100 linear feet from corner of house.
Rockingham	34.1	Garage	No	East	38	500	N/A	Protect
Rockingham	35.4	Shed - abandoned	No	North	0	232	N/A	Protect if possible or remove
Rockingham	35.4	Mobile home	Yes	North	32	512	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Rockingham	36.4	Abandoned cabin	No	North	52	112	N/A	Protect
Rockingham	36.4	Abandoned cabin	No	North	37	97	N/A	Protect
Rockingham	36.5	Abandoned cabin	No	North	32	91	N/A	Protect
Rockingham	36.5	Abandoned cabin	No	North	30	90	N/A	Protect
Rockingham	36.5	Abandoned cabin	No	North	30	93	N/A	Protect
Rockingham	36.7	Barn	No	South	25	64	N/A	Protect
Rockingham	37.1	House - 1 story, abandoned	No	East	0	48	RSS-H650-032	Protect if possible or remove.
Rockingham	37.1	House - 1 story	Yes	East	45	48	1,360	Protect
Rockingham	40.3	Shed	No	East	9	35	N/A	Protect
Rockingham	40.3	House - 1 story	Yes	East	26	65	RSS-H650-034	The workspace has been adjusted in this location. Proposed barricade fence. Protect
Rockingham	40.9	House	Yes	West	50	1,304	N/A	Protect
Rockingham	41.8	Barn	No	North	25	804	N/A	Protect
Rockingham	42.4	Shed	No	West	9	47	N/A	Protect
Rockingham	43.1	Garage	No	East	5	46	N/A	Protect
Rockingham	43.1	House – 1 Story	No	West	11	114	RSS-H650-039	Protect
Rockingham	43.9	Shed, abandoned	No	South	2	886	N/A	Protect
Rockingham	44.1	Shed	No	East	5	1,328	N/A	Protect
Rockingham	44.1	Shed	No	East	0	1,615	RSS-H650-026	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Rockingham	44.1	1- Story House	Yes	East	3	1,612	RSS-H650-026	Stay within limits of access road TA-RO-122. Proposed barricade fence.
Rockingham	45.0	House - 2 story, abandoned	No	West	26	110	N/A	Protect
Rockingham	46.1	Storage building	No	North	24	718	N/A	Protect
Rockingham	46.1	Mobile home	Yes	North	32	925	N/A	Protect
Rockingham	46.1	1-Story House	Yes	South	16	1,675	RSS-H650-027	Stay within limits of access road TA-RO-127. Proposed barricade fence.
Rockingham	46.1	Mobile home	Yes	South	38	1,675	N/A	Stay within limits of access road TA-RO-127.
Rockingham	49.1	House - 2 story, log cabin, abandoned	No	Crosses	0	0	RSS-H650-001	To be removed
Rockingham	49.2	Dilapidated shack	No	West	0	3	RSS-H650-002	To be removed
Rockingham	49.2	Smoke House	No	East	0	10	RSS-H650-002	To be removed
Rockingham	49.3	Chicken coop	No	Crosses	0	0	RSS-H650-002	To be removed
Rockingham	49.3	Shed	No	East	0	31	RSS-H650-002	To be removed
Rockingham	49.3	House - 2 story, abandoned	No	East	11	59	RSS-H650-002	The workspace has been adjusted in this location Protect
Rockingham	49.3	Shed	No	East	0	62	N/A	Relocate if possible, or remove.
Rockingham	49.8	Car awning	No	South	44	635	N/A	Protect
Rockingham	52.6	Tractor awning	No	North	21	153	N/A	Protect
Alamance	52.9	1-Story House	Yes	East	32	125	N/A	Protect
Alamance	53.0	Barn, abandoned	No	East	7	154	N/A	Protect
Alamance	53.0	Barn, abandoned	No	East	20	155	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Alamance	53.0	Shed	No	East	0	33	N/A	Relocate if possible, or remove.
Alamance	53.0	Falling down wood building	No	East	0	57	N/A	Remove
Alamance	54.7	Barn	No	West	5	1,976	N/A	Protect
Alamance	54.7	Barn	No	West	15	2,071	N/A	Protect
Alamance	54.7	Barn	No	West	0	2,058	N/A	Protect
Alamance	54.7	Barn	No	West	0	2,210	N/A	Protect
Alamance	54.7	House	No	West	28	2,215	N/A	Protect
Alamance	54.7	House, 1-Story	Yes	West	29 <u>b/</u>	2,100	RSS-H650-040	Protect
Alamance	56.8	Shed	No	West	10	219	N/A	Protect
Alamance	57.3	Shed	No	East	17	73	N/A	Protect
Alamance	57.3	Garage	No	East	15	106	N/A	Protect
Alamance	57.8	Barn, abandoned	No	East	6	120	N/A	Protect
Alamance	57.8	Mobile home	Yes	North	26	83	RSS-H650-008	The workspace has been adjusted in this location. Proposed barricade fence. Protect
Alamance	58.6	Old Cabin	No	South	0	84	RSS-H650-042	Protect if possible, likely to be removed
Alamance	58.6	Old Cabin	No	South	0	14	RSS-H650-042	Protect if possible, likely to be removed
Alamance	59.1	1-Story House	Yes	South	43	115	N/A	Protect
Alamance	59.1	Shed	No	South	0	91	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Alamance	59.2	1-Story House	Yes	South	44	84	N/A	Protect
Alamance	62.4	Shed	No	North	0	334	N/A	Protect
Alamance	62.7	1-Story House	No	North	6	515	RSS-H650-037	Protect
Alamance	62.5	Barn	No	North	9	62	N/A	Protect
Alamance	67.0	Barn	No	West	4	63	N/A	Protect
Alamance	67.3	1-Story House	Yes	West	12	795	RSS-H650-028	Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house.
Alamance	67.3	1-Story House	Yes	West	18	1,013	RSS-H650-028	Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house.
Alamance	67.3	1-Story House	Yes	West	8	921	RSS-H650-028	Stay within limits of access road TA-AL-180. Proposed barricade fence 100 linear feet from corner of house.
Alamance	67.3	Barn	Yes	West	15	708	RSS-H650-028	Protect
Alamance	67.3	Barn	Yes	West	2	600	RSS-H650-028	Protect
Alamance	67.9	Barn	No	East	6	1,146	N/A	Protect
Alamance	68.2	1-Story House	No	South	10	857	RSS-H650-038	Protect
Alamance	68.2	House	No	South	28	1203	N/A	Protect
Alamance	68.2	House	Yes	North	43	1055	N/A	Protect
Alamance	68.2	Mobile home	No	South	28	1143	N/A	Protect
Alamance	68.2	Car port	No	North	34	655	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Alamance	68.6	Barn	No	North	0	76	N/A	Protect
Alamance	69.1	2-Story House	Yes	East	26	88	RSS-H650-009	Install safety fence at limit of workspace extending 100 feet from house. Protect
Alamance	69.3	Shed	No	North	7	66	N/A	Protect
Alamance	69.4	Chicken / rabbit coop	No	North	0	0	N/A	Remove or Relocate
Alamance	69.3	Shed	No	North	0	4	N/A	Remove or Relocate
Alamance	69.4	Shed in concrete	No	North	28	87	N/A	Protect
Alamance	69.5	Shed	No	East	48	117	N/A	Protect
Alamance	69.5	Shed	No	North	43	103	N/A	Protect
Alamance	69.5	Warehouse	No	South	32	335	N/A	Protect
Alamance	69.6	1-Story House	Yes	West	6	31	RSS-H650-017	Install safety fence at limit of workspace extending 100 feet from road right-of-way and extending 100 feet from the house to the north.
Alamance	69.6	Portable Building	No	East	38	100	N/A	Protect
Alamance	69.6	Business - textiles	No	East	17	36	N/A	Protect
Alamance	69.7	2-Story House	Yes	East	8	33	RSS-H650-018	Install safety fence at limit of workspace from road right-of-way and extending 100 from the house to the south.
Alamance	69.7	Fire House	No	West	4	44	RSS-H650-018	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Alamance	69.7	Garage	No	East	31	91	N/A	Protect
Alamance	69.7	Business	No	West	0	38	N/A	Protect
Alamance	69.7	Pavilion	No	West	0	0	N/A	Remove
Alamance	69.8	Garage	No	West	6	100	N/A	Protect
Alamance	69.8	Shed	No	West	0	27	N/A	Remove or Relocate
Alamance	69.8	Shed	No	East	0	0	N/A	Remove or Relocate
Alamance	69.8	Shed	No	East	0	0	N/A	Remove or Relocate
Alamance	69.8	Barn	No	West	10	100	N/A	Protect
Alamance	69.8	1-Story House	Yes	West	26	56	RSS-H650-006	Exclude house from ATWS by installing safety fence around the house, leaving the front (street side) of the house open for occupant access. Protect
Alamance	70.0	Pump House	No	East	44	154	N/A	Protect
Alamance	70.7	Shed, fallen down	No	West	35	76	N/A	Protect
Alamance	71.4	Green House	No	East	48	107	N/A	Protect
Alamance	71.4	Green House	No	East	38	100	N/A	Protect
Alamance	72.2	Shed	No	East	42	174	N/A	Protect
Alamance	72.7	Garage	No	East	32	97	N/A	Protect

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number <u>a/</u>	Mountain Valley Proposed Action <u>a/</u>
Alamance	72.8	Shed	No	East	16	64	N/A	Protect
Alamance	72.8	Garage	No	West	48	56	RSS-H650-015	N/A
Alamance	72.8	Garage	No	East	0	0	RSS-H650-015	To be removed
Alamance	72.8	Camper	No	East	0	0	RSS-H650-015	To be removed
Alamance	72.9	Garage	No	East	39	99	N/A	Protect
Alamance	72.9	Mobile home	Yes	N/A	0	37	RSS-H650-036	Protect
Alamance	72.9	1-Story House - Abandoned	No	N/A	0	0	RSS-H650-036	To be removed
Rockingham	CY-05	House - 1 story	Yes	West	0	15,620	RSS-H650-003	Install safety fence around the house at a 1-foot off-set from the property line and 15-foot offset from the house.
Rockingham	CY-05	Fuel bays	No	West	0	15,418	N/A	N/A
Rockingham	CY-05	Truck stop	No	West	0	15,368	N/A	N/A
Rockingham	CY-05	Garage bays	No	West	0	15,325	N/A	N/A
Rockingham	CY-05	Warehouse	No	West	0	14,825	N/A	N/A
Rockingham	CY-05	Garage	No	West	0	14,725	N/A	N/A
Rockingham	CY-08	Garage	No	West	50	14,189	N/A	N/A
Guilford	CY-09	Commercial	No	West	20	54,620	N/A	N/A
Pittsylvania	CY-03	Warehouse	No	East	0	58,418	N/A	N/A

REVISED Table 8-D								
Structures within 50 Feet of the Southgate Project								
State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Centerline of easement (feet)	Residential Construction Plan Number ^{a/}	Mountain Valley Proposed Action ^{a/}
Pittsylvania	CY-01	House - 1 story	No	North	0	1,511	RSS-H650-033	Install safety fence around the house at a 1-foot off-set from the property line.
Pittsylvania	CY-01	Garage	No	North	0	1,586	RSS-H650-033	Install safety fence around the house at a 1-foot off-set from the property line.
Pittsylvania	CY-19	House - 2 story	Yes	West	0	10188	RSS-H650-043	The limit of disturbance for the contractor yard will be trimmed to allow 26 feet between the limit of the yard and the residence
Pittsylvania	CY-22	House - 1 story Fallen down	No	West	0	11527	RSS-H650-044	The limit of disturbance for the contractor yard will be trimmed to allow 26 feet between the limit of the yard and the residence

^{a/} See Appendix 8-C. N/A = Not Applicable.
^{b/} Pending civil survey, approximate distance based on aerial photography.



MVP Southgate Project

Docket No. CP19-14-000

Attachment 2-1

Landslide Mitigation Plan

June 2019



LANDSLIDE MITIGATION REPORT
Mountain Valley Pipeline, LLC
MVP Southgate - H-605 and H-650 Pipelines
Revision: 1 6/21/2019

TABLE OF CONTENTS

- 1.0 EXECUTIVE SUMMARY
- 2.0 DESKTOP ANALYSIS
- 3.0 PROPOSED MITIGATION CONTROLS
 - 3.1 Surface and Subsurface Drainage Controls
 - 3.2 Stabilization Controls
 - 3.3 Additional Measures
 - 3.4 Construction Considerations

APPENDICIES

- APPENDIX A: SITE SPECIFIC MITIGATION CONTROLS
- APPENDIX B: SLIDE MITIGATION DETAILS

1.0 EXECUTIVE SUMMARY

This report addresses potential post-construction landslide hazards for the pipeline listed below. The pipeline route was analyzed to determine if mitigation controls installed during construction are necessary to avoid potential landslide issues following construction. Potential landslide sites were identified by a desktop analysis that considered previous landslide activity, slope steepness, and sidehill construction. MVP Design Engineering has determined that the areas that are listed in Appendix A require additional controls to maintain slope stability. A summary of the required mitigation controls can be found in **Section 4.0**. These controls may be edited or removed based on changing construction practices through the design of the pipeline and/or field conditions at the time of construction. A plan depicting the extents of the controls for each site can be found in **Appendix A**, and details for the controls are provided in **Appendix B**.

Name of system: Mountain Valley Pipeline, LLC

Name of pipeline: MVP Southgate - H-605 and H-650 Pipelines

Length of pipeline: 73.55 miles

2.0 DESKTOP ANALYSIS

A desktop analysis was performed for the entire length of the pipeline route to identify areas most susceptible to landslide issues. The analysis considered three critical factors:

- Previous landslide activity: LIDAR and field verification were used to determine if there is evidence of movement on slopes crossed by the project.
- Steepness of slope: Portions of the pipeline which traverse slopes with an angle of inclination of 18 degrees or greater are considered to be in a steep slope area. A slope of 18 degrees is marginally stable with a typical low strength in-situ soil and is therefore used as the threshold for this analysis. Slopes were measured using LIDAR flown for the project. The steepness of the slope is measured without regard for the orientation of the pipeline (i.e., perpendicular to the contour lines even if the pipeline is sidehill).
- Sidehill construction: If the orientation of a segment of the pipeline is parallel or near parallel to the contour lines of a slope, then the segment is considered an area of sidehill construction.

3.0 PROPOSED MITIGATION CONTROLS

The following section provides a description of proposed mitigation controls. One or a combination of controls may be utilized and shall be based on the actual field conditions encountered. The comments column in Appendix A provides suggested controls based on the desktop analysis.

3.1 Surface and Subsurface Drainage Controls

- **Trench Breaker Daylight Drain (MVP-SG-35):** The trench breaker daylight drains will prevent saturation of the trench backfill by pulling groundwater moving along the trench to the surface. A 4" perforated pipe bedded in free-draining AASHTO #57 stone and wrapped in permeable geotextile filter fabric will be placed against the upslope face of a trench breaker (perpendicular to the pipeline) at the bottom of the trench underneath the pipeline. The perforated pipe will turn 90 degrees at the low point of the trench and daylight into a riprap apron to dissipate the flow of water.
- **Cutoff Drain (MVP-SG-36A/B and MVP-SG-37):** For sidehill construction, the cutoff drain works by catching or "cutting off" groundwater as it enters the ROW. The sidehill cutoff drains is a subsurface drain constructed of a 6" perforated pipe bedded in AASHTO #57 stone and wrapped in geotextile filter fabric. The drain is placed upslope of and parallel to the pipe for the specified length before turning downslope and daylighting near the edge of the ROW into riprap to dissipate the flow of water. For downhill construction, the cutoff drain is intended to cut off groundwater flowing along the ROW at specified location. The downhill cutoff drain will be identical to the sidehill cutoff drain, except that it will be oriented perpendicular to the pipelines. In both cases, the drain pipe will be solid and surrounded by typical trench backfill for the portion crossing the pipeline trench in order to prevent the migration of water from the drain pipe into the trench.
- **Transverse Trench Drain (MVP-SG-38A/B):** These drains are to be installed within the trench at specified intervals and/or at low points of sidehill construction. They are constructed by digging a small ditch extending from the pipeline trench to the edge of the ROW. The ditch will be lined with geotextile filter fabric and a 4" perforated pipe will be laid in the ditch and surrounded with AASHTO #57 stone. The remainder of the ditch will be filled with the same type of stone, to the top of the ditch, and then covered with backfill as required for grading purposes. The drain should form a 10 ft tee within the trench against the back (uphill side) of the trench. Where this drain crosses the pipeline trench, stone backfill in the drain will only extend to just below the bottom of the pipe, after which typical trench backfill will be used.
- **Rock Lined Swale (MVP-SG-39):** A small surface drainage ditch will be constructed to efficiently convey water across the pipeline ROW and into a wooded area off the ROW and prevent surface water from seeping into the ground and causing saturation of the ROW. The drainage ditch will be lined with geotextile filter fabric overlain by 6" to 12" rock (which can be sourced from excavated spoils).
- **Riprap Natural Drains (MVP-SG-40):** Where natural drains intersect the pipeline ROW, the drain shall be restored to its original dimensions and drainage path. The drain shall be lined with geotextile filter fabric overlain by 6" to 12" rock (which can be sourced from excavated spoils).
- **Riprap Slope Breakers (MVP-SG-41):** Slope breakers (water bars) that may experience more constant or higher peak flows may be lined with riprap to ensure their long term integrity. Slope breakers receiving riprap treatment will be lined with 3" to 6" rock (which can be sourced from excavated spoils).

- **Trench Breaker Pass-through Drain (MVP-SG-43A/B):** The pass-through trench breaker drain is intended to prevent the buildup of water behind trench breakers which could saturate the slope and cause a slide. These pass-through drains will be installed on the same slopes as the trench breaker daylight drains and will provide a way for groundwater to reach the daylight drains and ultimately be pulled to the surface. The trench breaker pass-through drains will allow water to pass through the trench breaker using two 2" PVC pipes which will be placed near the bottom of the trench breaker.
- **Brow Ditch (MVP-SG-46):** The brow ditch is a rock lined ditch intended to catch surface water runoff and divert it around a protected area of the ROW. These are typically installed in sidehill sections oriented parallel to the pipeline at the uphill edge of the ROW to catch the water flowing from upslope of the ROW. The brow ditch will eventually turn and cross the ROW to safely carry the water to an exit point at the downhill edge of the ROW.
- **Other (Site-Specific) Drainage Controls:** Depending on the site, this may consist of either grading the area to drain surface water runoff a certain direction or relocation of existing drainage controls (e.g., culverts). Design Engineering will come up with site-specific details for these items if required.

3.2 Stabilization Controls

- **Geogrid Reinforcement (MVP-SG-42A/B/C):** In areas where the existing grade of the slope is too steep to maintain long-term stability, layers of geogrid reinforcement may be placed during backfill operations to provide additional strength to the slope.
- **Highwall Revetment (MVP-SG-44A/B):** For near vertical slopes requiring additional trench stabilization measures sakrete highwall revetment may be used. The revetment is essentially acting as a concrete retaining wall, and therefore a footing in the form of a toe key and rebar will be utilized to help stabilize the wall. The trench may be filled with sandbags or crushed rock. Design Engineering shall determine or approve all materials used. Weephole drains should be installed at specified intervals to relieve water pressure from behind the revetment.
- **Steep Slope Revetment (MVP-SG-45):** For steep slopes requiring additional trench stabilization measures, sakrete trench breakers with a sakrete or riprap revetment may be used. The trench may be filled with sandbags or crushed rock, or in some cases native material. Design Engineering shall determine or approve all materials used and the spacing of the sakrete trench breakers. All sakrete breakers shall have drains installed.
- **Other (Site-Specific) Stabilization:** Depending on the site, this may involve regrading the slope to a more stable angle or installing some sort of engineered retaining structure (soil nails, soldier pile wall, gabions, etc.). Design Engineering will come up with site-specific details for these items if required.

3.3 Additional Measures

In addition to these site-specific controls, the following practices should be applied to the entire length of the pipeline:

- **Compact Slope Breakers:** All slope breakers (water bars) shall be compacted as specified in the ESCP drawings. Compaction can be achieved via bucket tamping with a hoe. This will help ensure that water bars maintain their intended drainage and are not deformed by freeze-thaw cycles.
- **Track-In Workspaces:** All workspaces on a hillside that have had fill temporarily placed during construction and then removed for backfill operations shall be tracked in. For sidehill construction areas, special attention shall be paid to the area where the cut and fill portions of the slope meet, as this is the most likely area for cracks to form. If this area is not tracked in, water can seep into the crack and may eventually destabilize the hillside.

Note that the information contained in this report is based upon the results of the desktop analysis and field-reported areas of concern received to date. **If additional areas of concern are encountered during construction, the author of this report should be contacted for guidance.**

3.4 Construction Considerations

Design Engineering recommends that the contractor submit to MVP a description of the construction means and methods for the areas identified in this report. The purpose of this is to allow MVP to determine if temporary construction conditions could lead to a slide.

APPENDIX A: SITE SPECIFIC MITIGATION CONTROLS Additions or changes to the Landslide Mitigation Report are are highlighted in yellow

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Milepost	Mitigation Controls (Appendix B)	Comments
H-650	SS-01		X		Stream	87.00	5.1	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H650	SS-02		X		Stream	9.00	7.99	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 26 degrees (49%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil.
H-650	SS-03		X		Wetland	0.00	8.69	MVP-SG-35	This segment is a steep planar segment with an average slope of 25 degrees (47%) with localized segments of 28 degrees (53%). Daylight drains will be used behind sakrete trench breakers to provide additional stability to the slope. The drains will prevent accumulation of water behind the breakers. In the event that the trench breakers are within the stream buffer, sakrete will not be used.
H-650	SS-04		X	X	Wetland	10.00	9.97	MVP-SG-35	This segment is located on a steep area with an average slope of 30 degrees (58%) and previous landslide activity. Sakrete trench breakers with daylight drains will be utilized to stabilize the trench and previous landslide activity. In the event that the trench breakers are within the stream buffer, sakrete will not be used.
H-650	SS-05		X		Wetland	10.00	10.09	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a short 22 degree (40%) slope with well established vegetation and no evidence of movement. Where trench breakers are specified, trench breaker pass through drains and daylight drains will be utilized.
H-650	SS-06		X		Stream	57.00	12.79	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-07		X		Wetland	0.00	13.48	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 26 degrees (49%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil.
H-650	SS-08		X		Stream	0.00	17.30	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a steep area with a stream at the very base of the hill. The hill has no evidence of movement. Trench breaker pass through and daylight drains will be used to keep the trench stable
H-650	SS-01RR		X		Wetland	12.00	17.7RR	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 26 degrees (49%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil.
H-650	SH-02RR	X			Stream	78.00	17.75RR	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Stationing	Mitigation Controls (Appendix B)	Comments
H-650	SS-03RR		X		Stream	5.00	17.81 RR	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-09		X		Wetland	27.00	18.03	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a 20 degree (36%) slope with well established vegetation and no evidence of movement. Where trench breakers are specified, trench breaker pass through drains and daylight drains will be utilized.
H-650	SH-10	X			Stream	1500.00	22.70	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 10 degree (17.6%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-11		X		Stream	792.00	22.85	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-12		X		Stream	160.00	23.27	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (34%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-13		X		Stream	29.00	28.80	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a planar segment with no evidence of slope movement. Trench breaker daylight and pass through drains will be utilized in this area.
H-650	SS-14		X		Stream	334.00	29.40	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-15		X		Stream	0.00	31.08	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	Planar segment that is steep going down into a creek. No evidence of movement. Alternating trench breaker pass through and daylight drains will be utilized in this area
H-650	SS-16		X		Stream	5.00	31.10	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-17		X		Stream	14.50	31.10	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-18		X		Stream	5.00	31.30	MVP-SG-35	This segment is planar and has no evidence of movement. Trench breaker daylight drains will be used at every breaker to keep the trench dry and stable. Sakrete may be used if shallow bedrock is encountered, but will not be used within the stream buffer.
H-650	SS-19		X		Stream	20.00	31.30	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar and extends from SS-18 on the other side of the stream bank. The area is well vegetated and there is no evidence of movement. This 23 degree (42%) slope will utilize alternating trench breaker daylight drains and pass through drains.

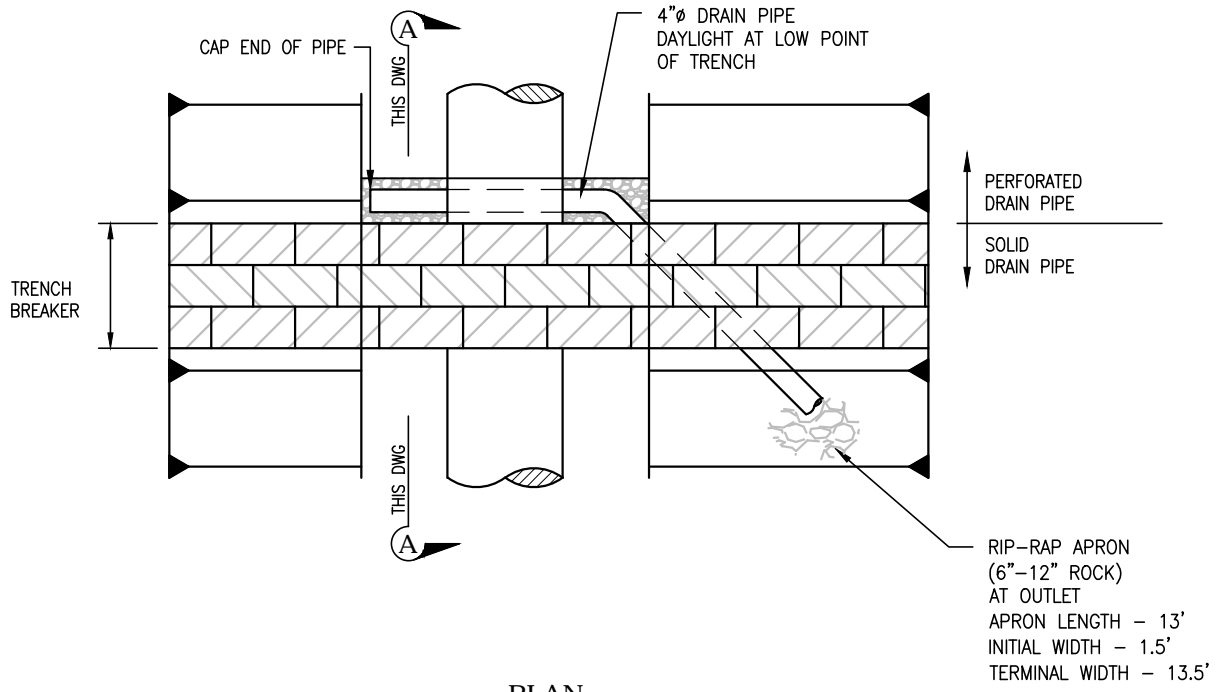
Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Stationing	Mitigation Controls (Appendix B)	Comments
H-650	SH-20	X			Stream	175.00	31.70	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-21		X		Stream	68.20	32.50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 19 degrees (34%). The area is well vegetated and has no evidence of movement. Daylight and pass through drains will be utilized on this segment.
H-650	SS-22		X		Wetland	39.00	32.60	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 20 degrees (36%). There is no evidence of movement and the area is well vegetated. Pass through and daylight drains will be utilized in this segment.
H-650	SS-23	X			Stream	290.60	32.80	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-24		X		Wetland	18.50	33.15	MVP-SG-45, MVP-SG-35	This segment is on a a very steep slope, with an average measurement of 31 degrees (%). While there is no evidence of movement currently, a riprap revetment will be utilized in this section with sakrete trench breakers to provide stability.
H-650	SS-25		X		Stream	50.00	33.35	MVP-SG-45, MVP-SG-35	This segment is on a very steep slope, with an average measurement of 31 degrees, with localized segments on as much as 37 degrees slope. This segment is near a stream and to preserve future slope stability, a riprap revetment with sakrete breakers should be used with daylight drains behind each trench breaker.
H-650	SH-26	X			Wetland	234.00	33.35	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 12 degree (21%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SH-27	X			Wetland	212.00	33.68	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-28		X		Wetland	0.00	33.69	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 18 degrees (32%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-29		X		Wetland	5.00	33.70	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 23 degrees (42%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-30		X		Stream	16.70	33.75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep planar segment with an average slope of 25 degrees (47%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil.
H-650	SS-31		X		Stream	600.00	33.82	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SH-32	X			Stream	291.00	33.90	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 12 degree (21%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope	Approx. Stationing	Mitigation Controls (Appendix B)	Comments
H-650	SS-33		X		Stream	16.00	34.20	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-34		X		Stream	83.00	34.50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-35		X		Stream	45.00	34.50	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SH-36	X			Stream	122.00	35.05	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-37		X		Stream	0.00	36.00	MVP-SG-35	This segment has an average slope of 27 degrees (%) and doesn't have any evidence of movement. Trench breaker daylight drains will be used behind every breaker. If bedrock is encountered at shallow depths, sakrete may be used in lieu of sandbag breakers, however it will not be used within the stream buffer.
H-650	SS-38		X		Wetland	10.00	38.55	MVP-SG-45, MVP-SG-35	This planar segment has an average slope of 37 degrees. While the area is well vegetated, there is evidence of landslide activity. To stabilize the area, a riprap revetment using R4 riprap should be used in conjunction with sakrete trenchbreakers.
H-650	SS-39		X		Wetland	16.00	38.80	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 23 degrees (42%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SH-40	X			Stream	56.00	39.08	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SS-32		X		Stream	0.00	40.58	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-41		X		Stream	0.00	40.58	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (34%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-42		X		Stream	34.00	40.75	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 22 degrees (40%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-43		X		Wetland	0.00	41.10	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SS-44		X		Stream	45.00	41.69	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-45		X		Stream	16.00	42.25	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 19 degrees (34%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SH-46	X			Home	150.00	42.37	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (17.6%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.

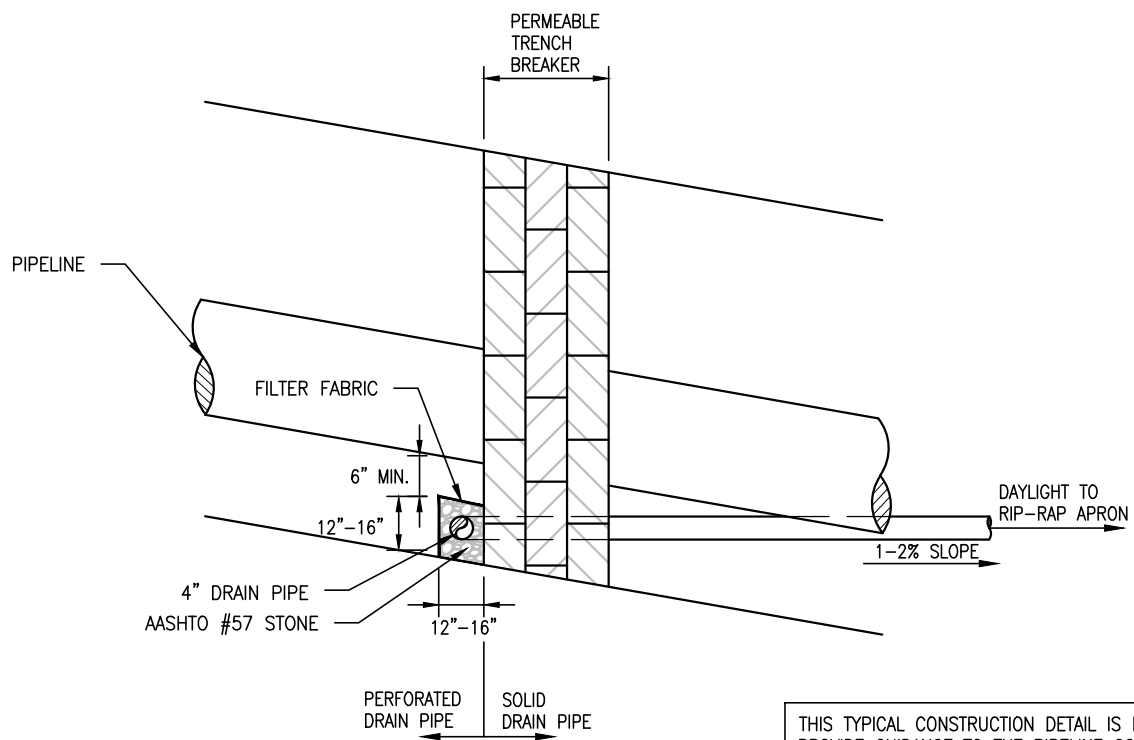
Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Stationing	Mitigation Controls (Appendix B)	Comments
H-650	SH-47	X			Stream	148.00	44.10	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 12 degree (21%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-48		X		Stream	81.00	44.15	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-49		X		Stream	72.80	45.70	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SS-50		X		Stream	89.00	45.89	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 28 degrees (51%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil. If bedrock is shallow, sakrete breakers may be used.
H-650	SS-51		X		Wetland	0.00	47.03	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This is a planar segment with no evidence of movement. Alternating trench breaker pass-through drains and daylight drains will be utilized to keep the trench dry
H-650	SS-52		X		Stream	45.00	47.40	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is located on a slope with an average inclination of 18 degrees (32%). Trench breaker pass through and daylight drains will be utilized in this location.
H-650	SH-53	X			Stream	183.00	47.45	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (21%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-54		X		Stream	10.00	47.60	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This pipeline segment is a steep segment with an average slope of 21 degrees (38%). A trench breaker daylight drain will be utilized to prevent an accumulation of water behind the trench breaker. If more than one trench breaker is to be installed along this segment, alternating pass through drains and daylight drains will be utilized
H-650	SH-55	X			Home	411.00	49.70	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 10 degree (21%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-56		X		Stream	12.90	64.05	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 19 degrees (34%). The area is well vegetated and has no evidence of movement. Daylight and pass through drains will be utilized on this segment.
H-650	SH-57	X			Stream	87.90	69.40	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 13 degree (23%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.
H-650	SH-58	X			Stream	360.00	70.60	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 11 degree (19.4%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-59		X		Stream	122.00	70.75	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 29 degrees (49%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil. If bedrock is shallow, sakrete breakers may be used.
H-650	SH-60	X			River	186.00	71.20	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on a 15 degree (27%) slope with no movement present. Transverse trench drains should be utilized in the low portions of this sidehill segment to convey any accumulated water out of the trench.
H-650	SS-61		X		Stream	20.00	71.80	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 20 degrees (36%). The area is well vegetated and has no evidence of movement. Daylight and pass through drains will be utilized on this segment.
H-650	SS-62		X		River	326.00	71.90	MVP-SG-35, MVP-SG-43A, MVP-SG-43B	This segment is planar with an average slope of 21 degrees (38%). The area is well vegetated and has no evidence of movement. Daylight and pass through drains will be utilized on this segment.

Line Name	Site ID	Sidehill	Steep Slope	Previous Landslide	Downslope Resource	Distance From Downslope Resource (ft.)	Approx. Stationing	Mitigation Controls (Appendix B)	Comments
H-650	SS-63		X		River	52.40	72.70	MVP-SG-35	This pipeline segment is a steep planar segment with an average slope of 30 degrees (47%). Trees are well established, with no visible signs of slope movement. Trench breaker daylight drains will be installed in the pipeline trench to prevent an accumulation of water behind the trench breakers which could saturate the local soil. If bedrock is shallow, sakrete breakers may be used.
H-650	SH-04RR	X			Stream	50.00	72.85RR	MVP-SG-38A, MVP-38B, MVP-SG-36A	This segment is sidehill on an 11 degree (19.4%) slope. A transverse trench drain will extend through the trench and sidehill cutoff drains will be utilized where seeps occur.

APPENDIX B
SLIDE MITIGATION DETAILS



PLAN
SCALE: NOT TO SCALE



SECTION A-A
SCALE: NOT TO SCALE

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Plotted by: Stanley on: August 14, 2018 - 12:39 PM

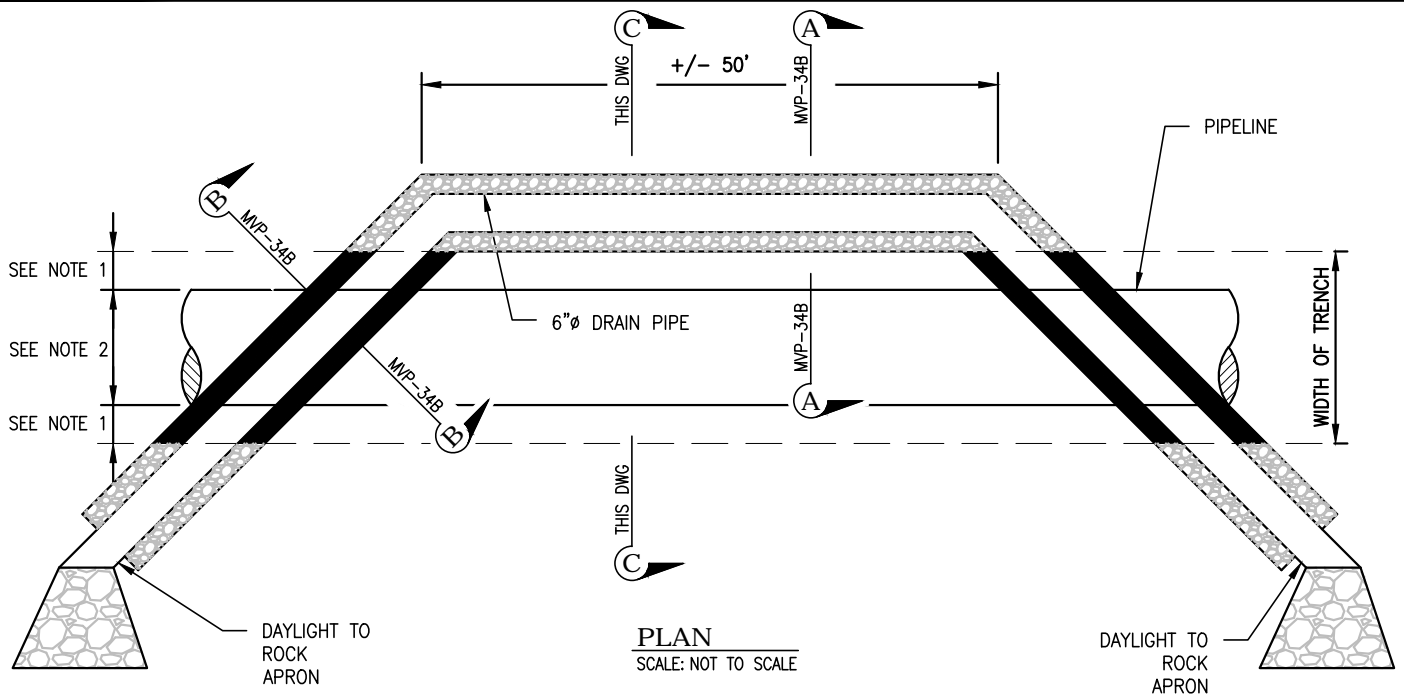
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JOB NO.			
PROJECT ID:			
H-650-TYP			



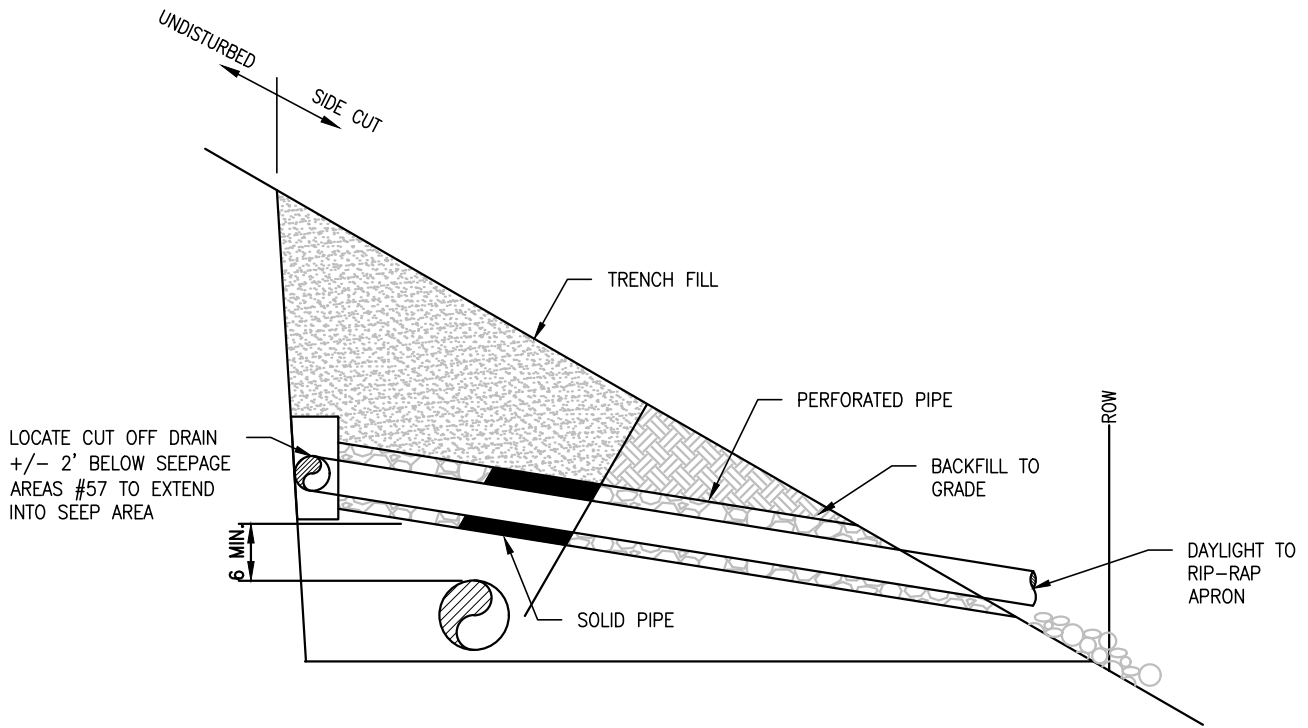
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER DAYLIGHT DRAIN

DRAWING NO.	REV.
MVP-SG-35	P1



PLAN
SCALE: NOT TO SCALE



SECTION C-C
SCALE: NOT TO SCALE

NOTES:

1. PERFORATED PIPE SURROUNDED BY #57 STONE.
2. SOLID PIPE (IN TRENCH) SURROUNDED BY TRENCH BACKFILL.

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Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

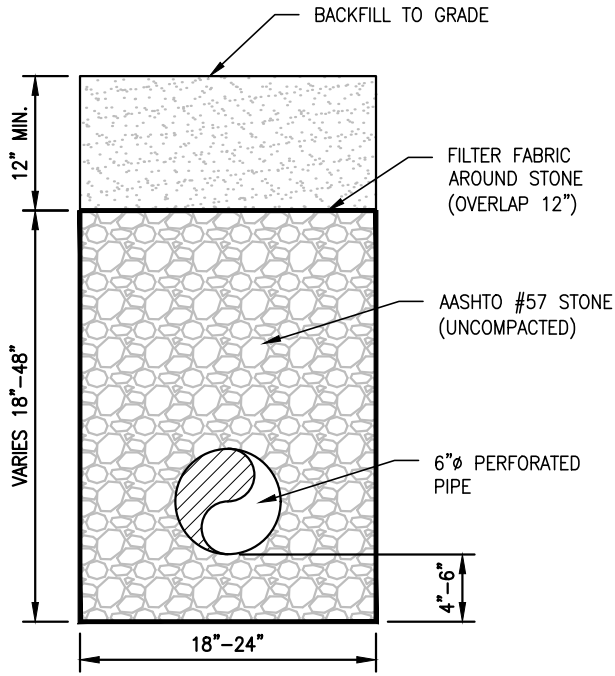
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JOB NO.			
PROJECT ID:			
H-650-TYP			



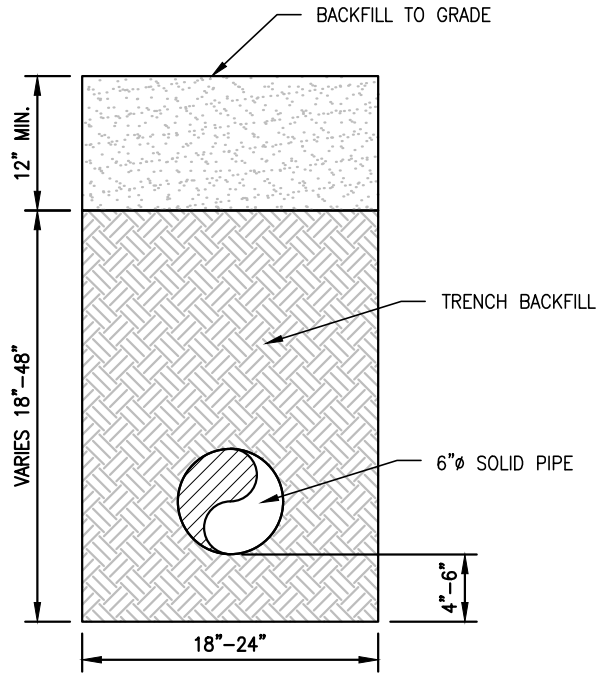
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-SIDEHILL

DRAWING NO.	REV.
MVP-SG-36A	P1



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP-34A



SECTION B-B
SCALE: NOT TO SCALE
FROM MVP-34A

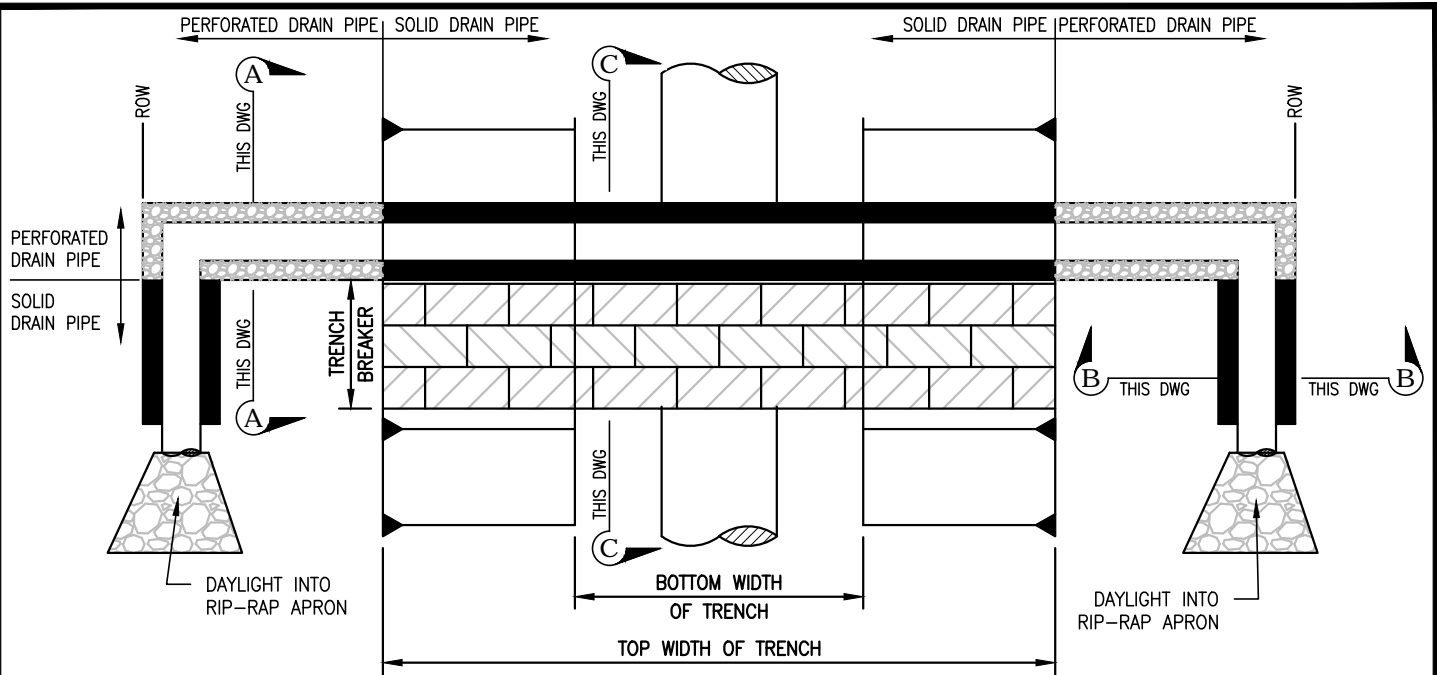
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JOB NO.			
PROJECT ID:			
H-650-TYP			

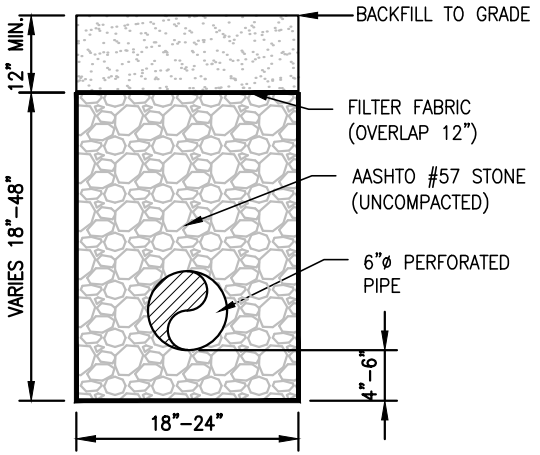


TYPICAL CONSTRUCTION DETAIL		
CUTOFF DRAIN-SIDEHILL		
DRAWING NO.	MVP-SG-36B	REV.
		P1

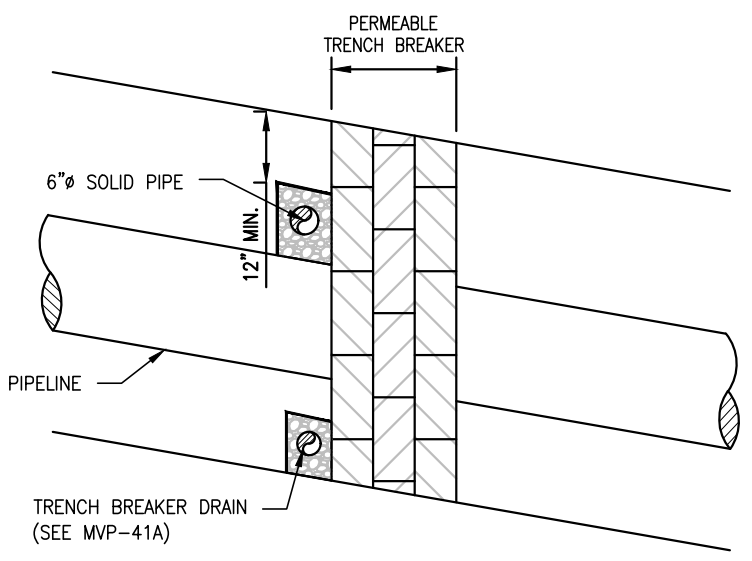


PLAN
SCALE: NOT TO SCALE

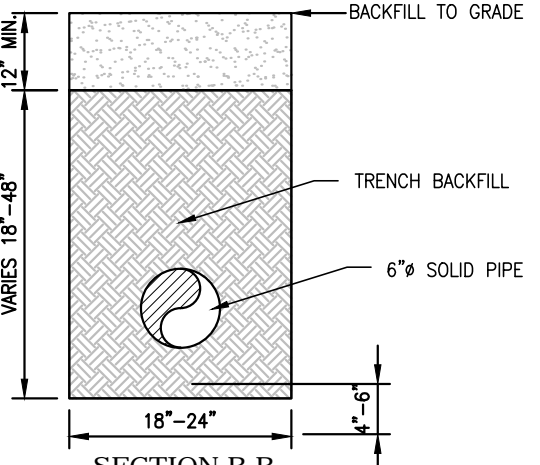
NOTES:
1. EACH CUTOFF DRAIN SHALL UTILIZE A TRENCH BREAKER DRAIN (SEE DETAIL 1) TO DRAIN THE TRENCH.



SECTION A-A
SCALE: NOT TO SCALE



SECTION C-C
SCALE: NOT TO SCALE



SECTION B-B
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

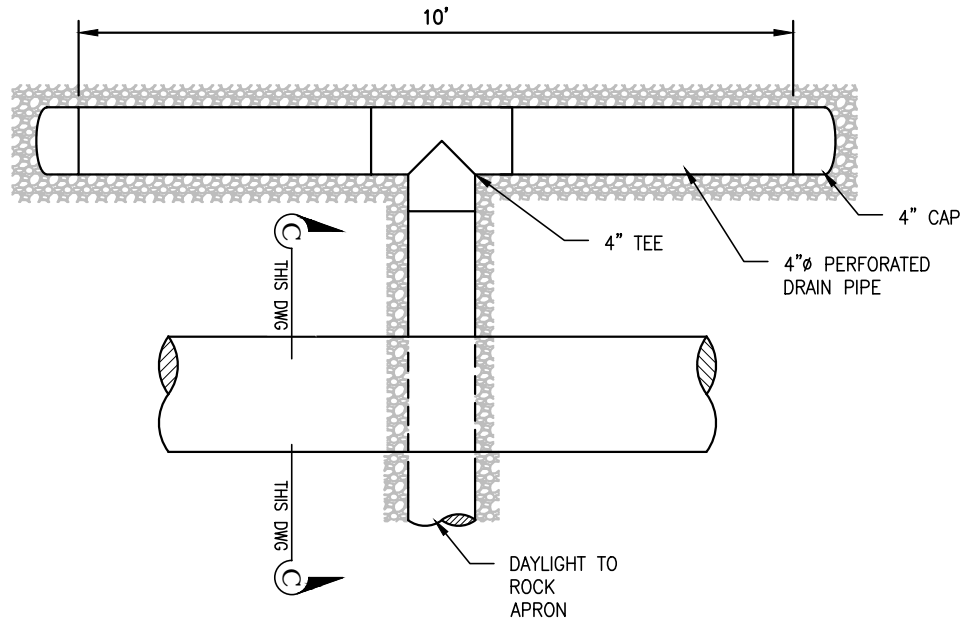
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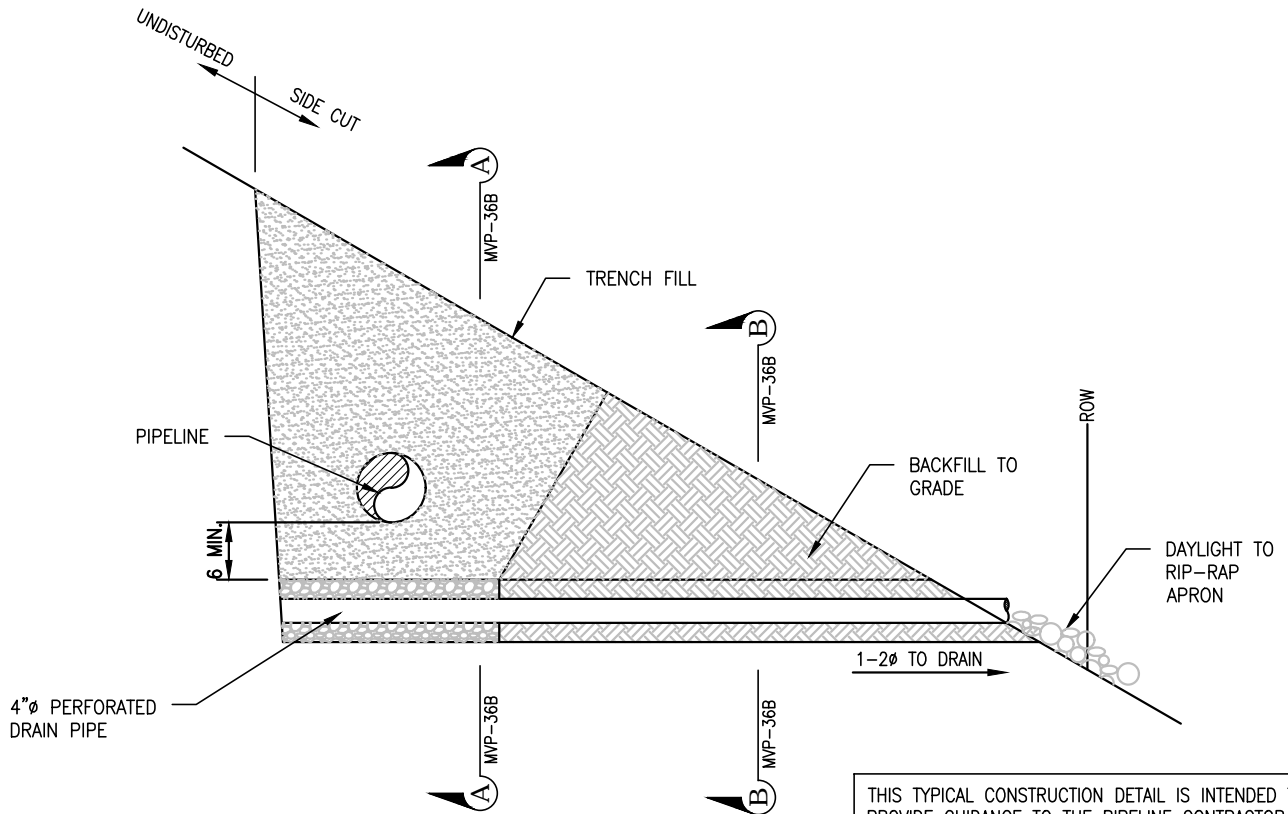
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-PLANAR

DRAWING NO.	REV.
MVP-SG-37	P1



PLAN
SCALE: NOT TO SCALE



C-C
SCALE: NOT TO SCALE

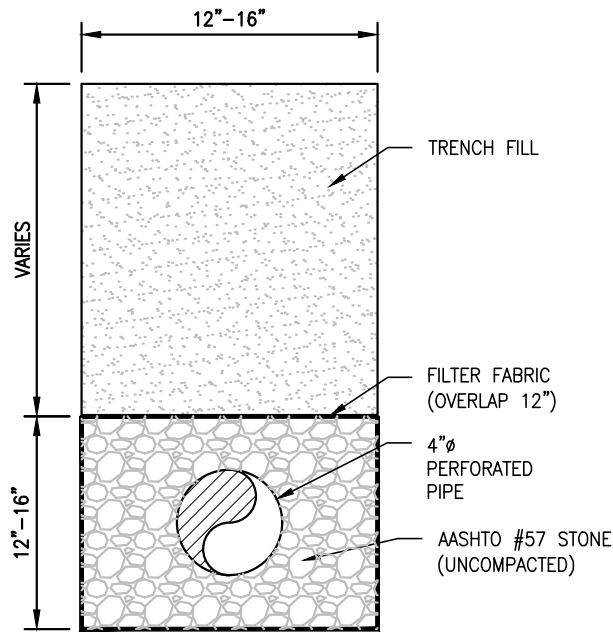
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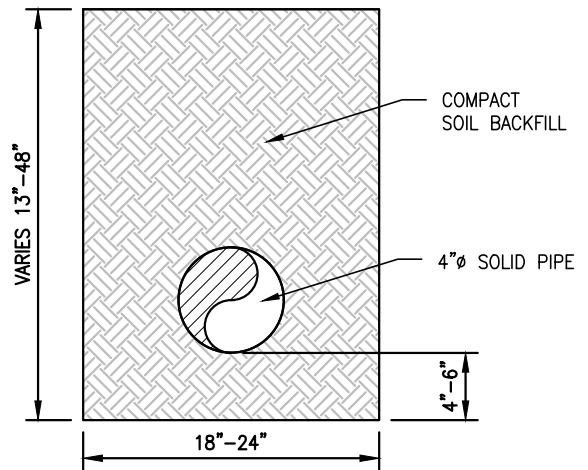
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SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL	
TRANSVERSE TRENCH DRAIN	
DRAWING NO.	REV.
MVP-SG-38A	P1



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP-36A



SECTION B-B
SCALE: NOT TO SCALE
FROM MVP-36A

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

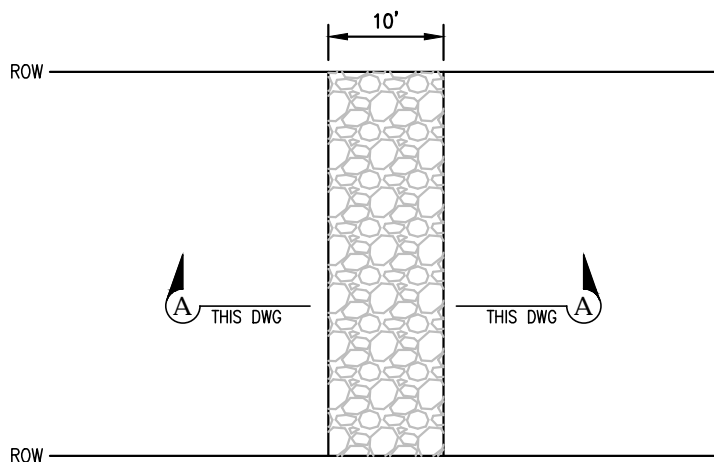
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SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			



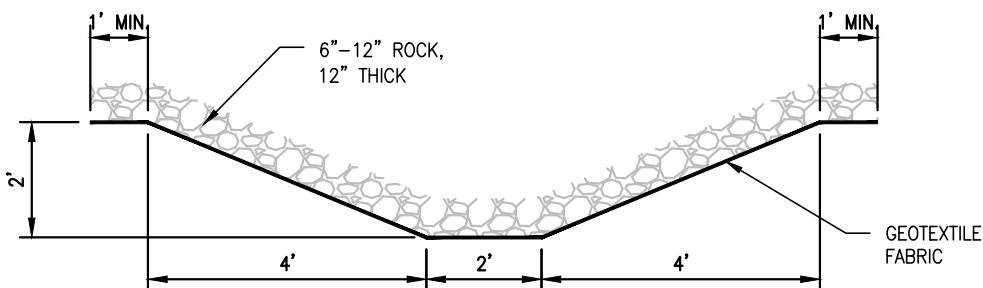
TYPICAL CONSTRUCTION DETAIL

TRANSVERSE TRENCH DRAIN

DRAWING NO.	REV.
MVP-38B	P1



PLAN
SCALE: NOT TO SCALE



SECTION A-A
SCALE: NOT TO SCALE

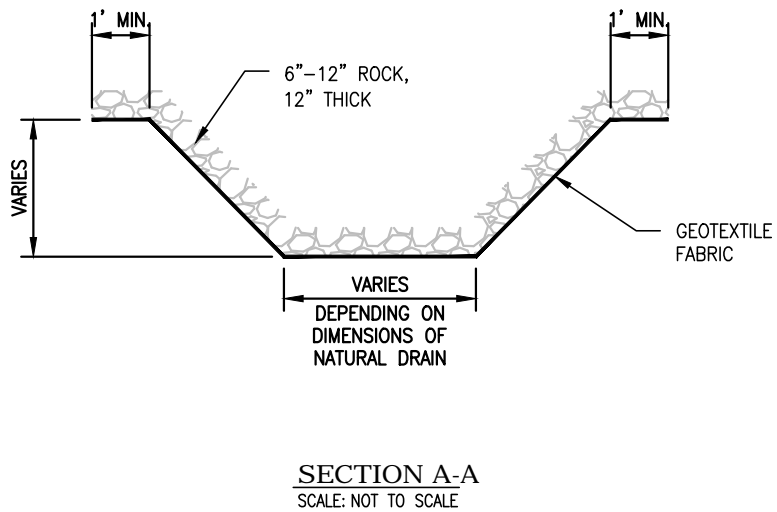
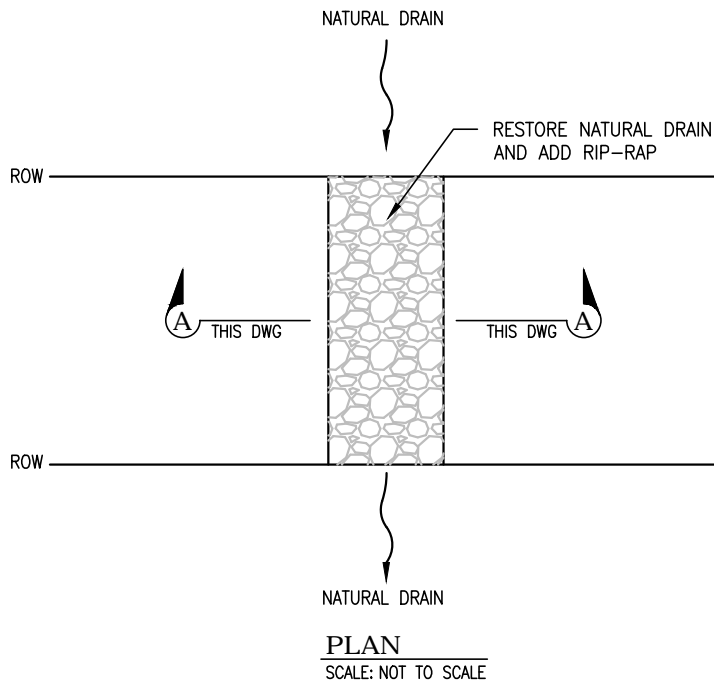
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Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

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SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL		
ROCK LINED SWALE		
DRAWING NO.	MVP-SG-39	REV.
		P1



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

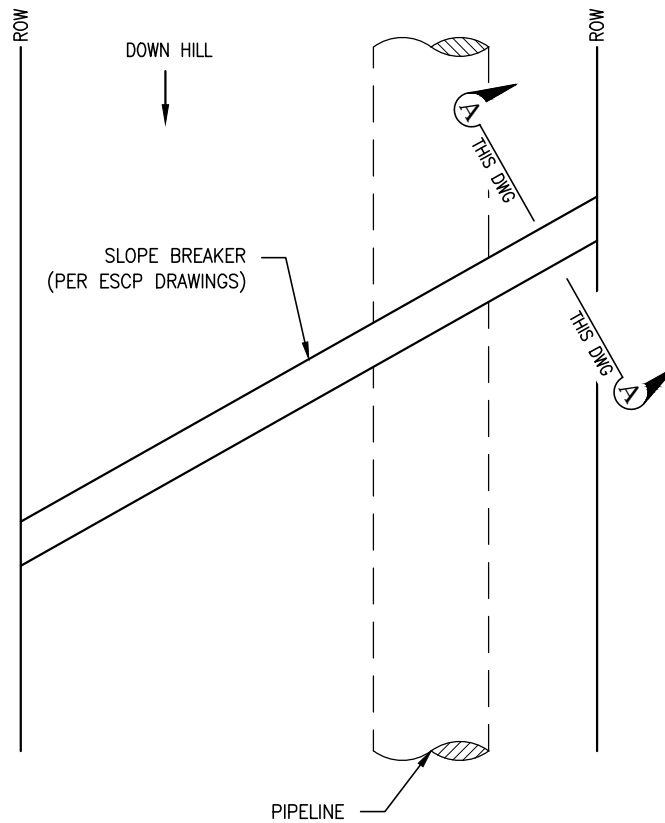
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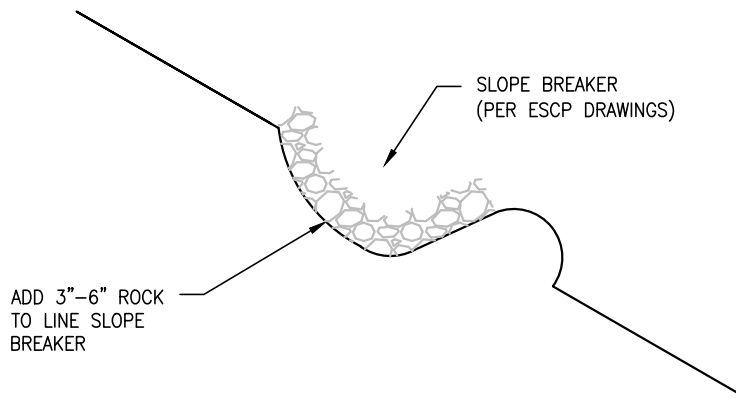


TYPICAL CONSTRUCTION DETAIL

RIP-RAP NATURAL DRAIN		
DRAWING NO.	MVP-SG-40	REV.
		P1



PLAN
SCALE: NOT TO SCALE



SECTION A-A
SCALE: NOT TO SCALE

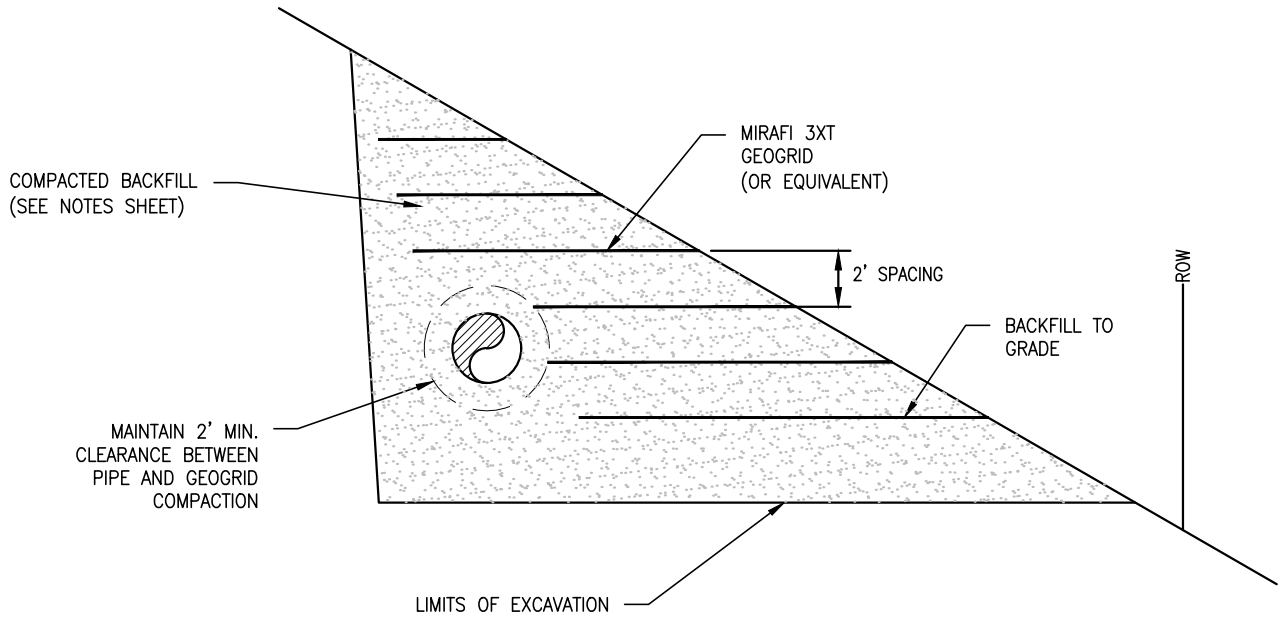
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

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SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL		
RIP-RAP SLOPE BREAKERS		
DRAWING NO.	MVP-SG-41	REV.
		P1



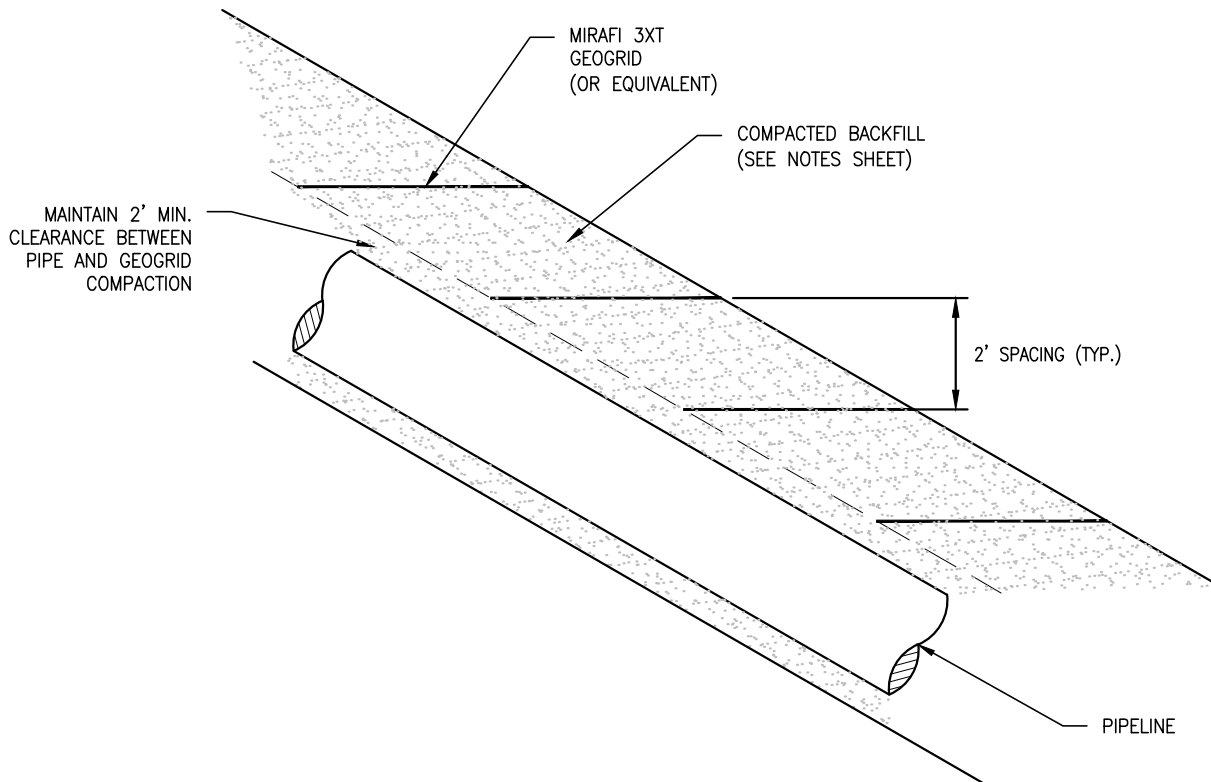
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 3
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL		
GEOGRID-SIDEHILL		
DRAWING NO.	MVP-SG-42A	REV.
		P1



SECTION VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:58 PM

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 3
JOB NO.			
PROJECT ID:			
H-650-TYP			



SLIDE MITIGATION DETAIL	
GEOGRID-PLANAR	
DRAWING NO.	REV.
MVP-SG-42B	P1

COMPACTION NOTES

- 1) ALL ROCKS LARGER THAN 6 INCHES IN SIZE, AND MORE THAN 10 PERCENT BY VOLUME SHOULD BE REMOVED AND PROPERLY DISPOSED FROM THE BACKFILL MATERIAL.
- 2) THE SUBGRADE AT THE BASE OF THE EXCAVATION SHOULD BE PROOFROLLED WITH A PNEUMATIC TIERED ROLLER OR VEHICLE.
- 3) THE EXCAVATED AREA SHALL BE BACKFILLED WITH THE CLEANED EXCAVATED SOIL MATERIAL AND COMPACTED IN PLACE.
- 4) BACKFILL OPERATIONS SHALL BE PERFORMED WHEN SOIL IS SUITABLE FOR COMPACTION (I.E., NOT IMMEDIATELY FOLLOWING A LARGE RAIN, SNOW, OR ICE EVENT). FROZEN FILL SHALL NOT BE USED.
- 5) THE BACKFILL SHALL BE PLACED IN COMPACTED LIFTS NO GREATER THAN 12 INCHES.
- 6) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN COMPACTION ACTIVITY AND THE GAS PIPELINE.

GRAVEL DRAIN NOTES

- 1) GEOTEXTILE FABRIC SHALL BE TENCATE MIRAFI 140N OR APPROVED EQUIVALENT.
- 2) THE GEOTEXTILE FABRIC SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
- 3) DO NOT OPERATE CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOTEXTILE FABRIC.
- 4) DRAINAGE AGGREGATE SHALL MEET THE REQUIREMENTS OF AASHTO NO. 57 STONE.
- 5) DRAINAGE AGGREGATE SHALL NOT BE COMPACTED.

GEOGRID NOTES

- 1) GEOGRID REINFORCEMENT SHALL BE TENCATE MIRAFI 3XT OR APPROVED EQUIVALENT.
- 2) THE GEOGRID MATERIAL SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
- 3) GEOGRID SHALL BE PLACED HORIZONTALLY ON THE BACKFILL WITH THE PRINCIPAL STRENGTH DIRECTION PERPENDICULAR TO THE FACE OF THE SLOPE. ADJACENT PIECES OF PRIMARY GEOGRID SHALL NOT OVERLAP BUT ARE TO BE BUTTED SIDE TO SIDE.
- 4) REMOVE ALL SLACK IN THE GEOGRID MATERIAL AND ANCHOR AS NECESSARY WITH PINS, OR BAGS TO PREVENT SLACK FROM DEVELOPMENT DURING FILL PLACEMENT AND COMPACTION.
- 5) FILL IS TO BE PLACED AND SPREAD DIRECTLY ON THE GEOGRID MATERIAL WITH RUBBER TIERED EQUIPMENT ONLY. SPEEDS ARE TO BE KEPT SLOW WITH AS FEW STOPS AND TURNS AS PRACTICAL.
- 6) DO NOT OPERATE TRACKED EQUIPMENT DIRECTLY ON THE GEOGRID MATERIAL.
- 7) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN GEOGRID MATERIAL AND THE GAS PIPELINE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

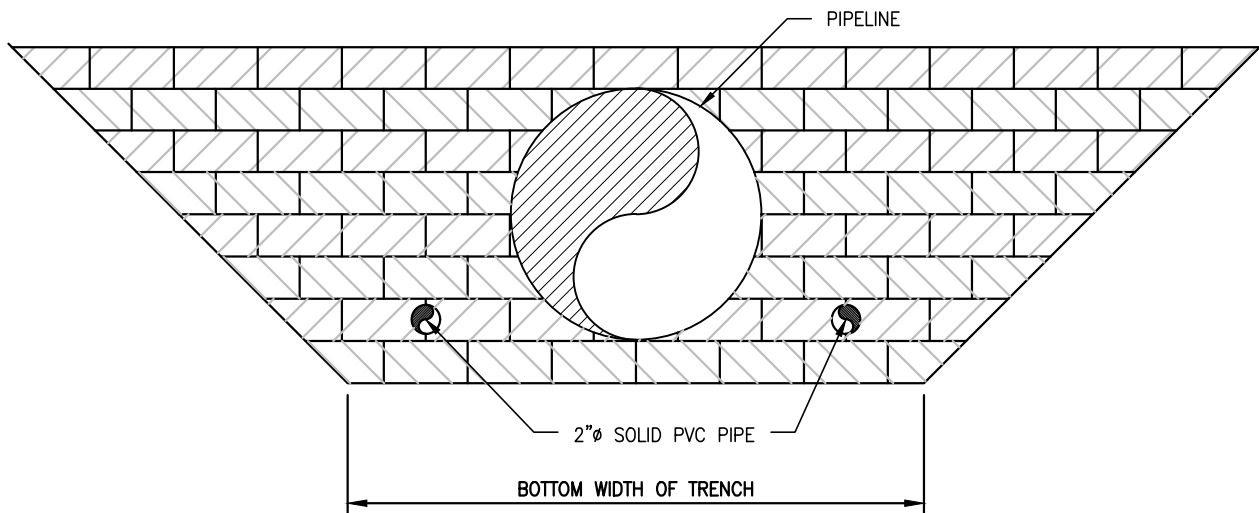
Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	3 OF 3
JOB NO.			
PROJECT ID:			
H-650-TYP			

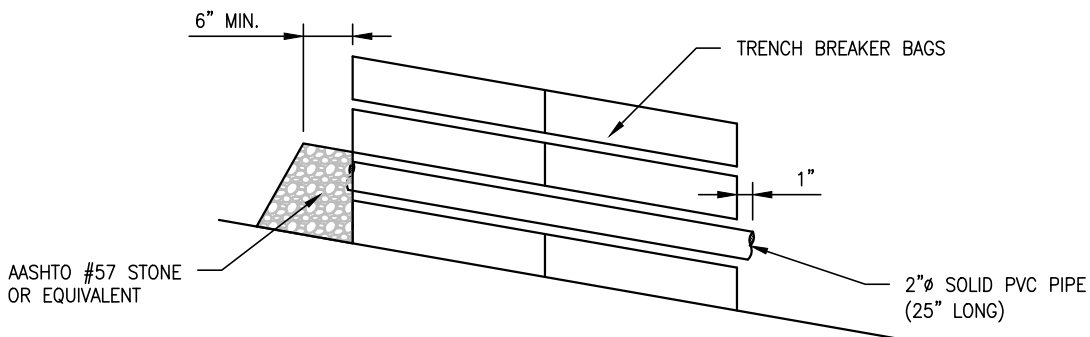


TYPICAL CONSTRUCTION DETAIL

GEOGRID NOTES	
DRAWING NO.	REV.
MVP-SG-42C	P1



FRONT VIEW
SCALE: NOT TO SCALE



SECTION VIEW
SCALE: NOT TO SCALE

NOTES:

1. PLACE PVC DRAIN PIPE ON FIRST LAYER OF TRENCH BREAKER BAGS.
2. PLACE PVC DRAIN PIPE EQUADISTANT FROM THE OUTSIDE EDGE OF THE 30" GAS PIPE AND THE BOTTOM LIMITS OF THE TRENCH.
3. EXTEND PVC PIPE THROUGH ENTIRE TRENCH BREAKER AND EXTEND APPROX. 1" PAST END OF BREAKER.
4. AASHTO#57 STONE SHALL BE PLACED TO A MINIMUM 6" THICKNESS UPSLOPE OF THE DRAIN PIPE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

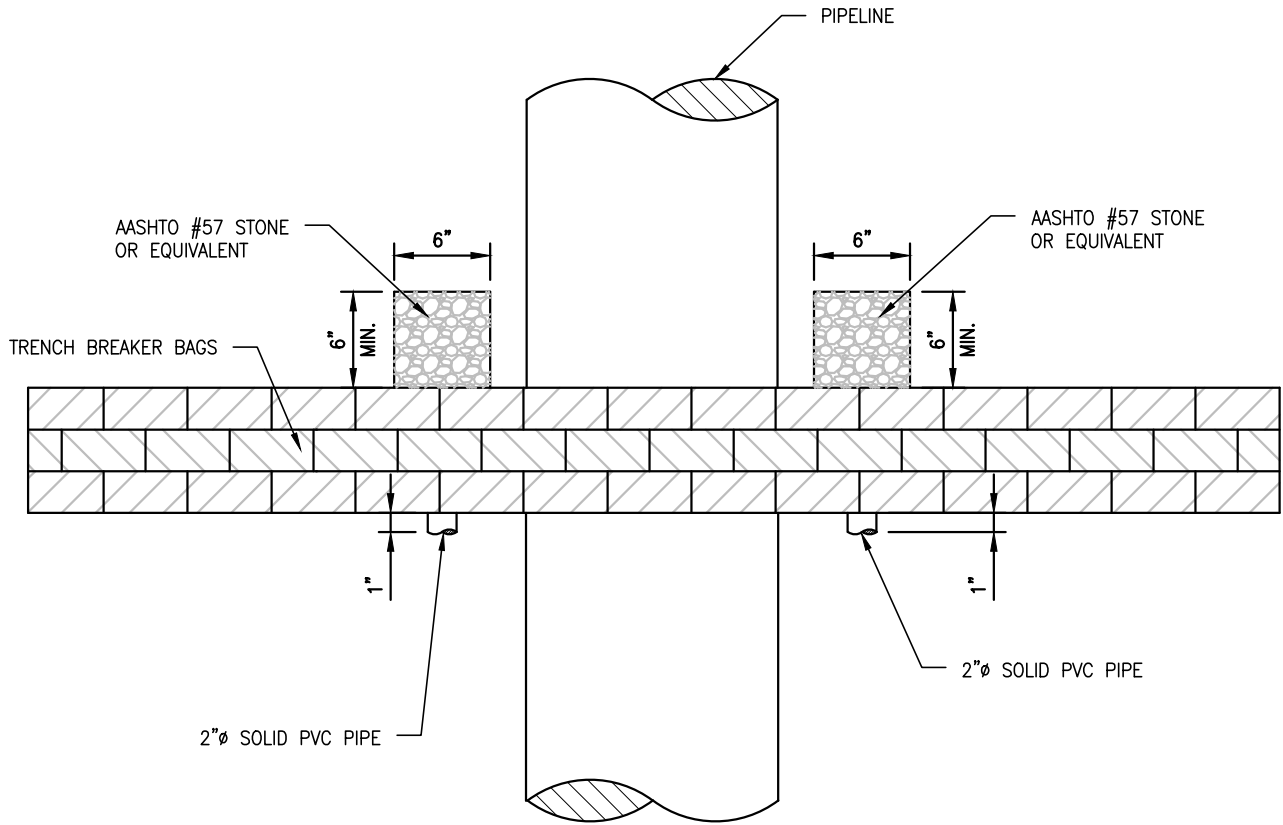
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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-SG-43A	P1



PLAN VIEW
SCALE: NOT TO SCALE

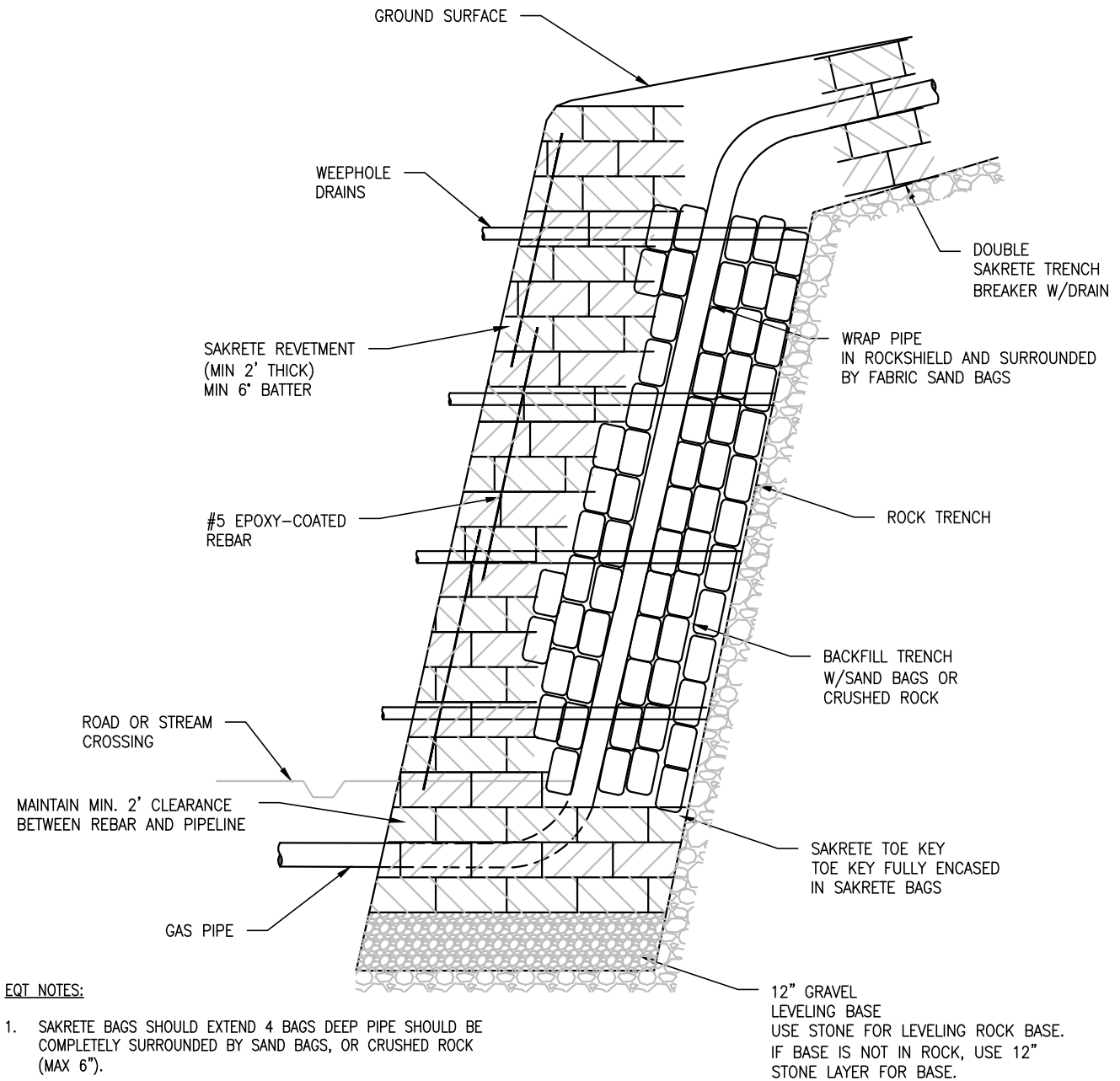
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Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL		
TRENCH BREAKER PASS-THROUGH DRAIN		
DRAWING NO.	MVP-SG-43B	REV.
		P1



EQT NOTES:

1. SAKRETE BAGS SHOULD EXTEND 4 BAGS DEEP PIPE SHOULD BE COMPLETELY SURROUNDED BY SAND BAGS, OR CRUSHED ROCK (MAX 6").
2. SAKRETE BAGS SHOULD BE STAGGERED IN A MASONRY FASHION. THE FACE OF THE WELL SHALL BE INCLINED 6"-10" FROM VERTICAL.
3. #5 REBAR SHOULD BE DRIVEN THROUGH THE SAKRETE BAGS (SEE DETAIL 1).
4. 2"Ø PVC WEEPHOLE DRAINS SHALL BE INSTALLED EVERY 15 FT.

SIDE VIEW
SCALE: NOT TO SCALE

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Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

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SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

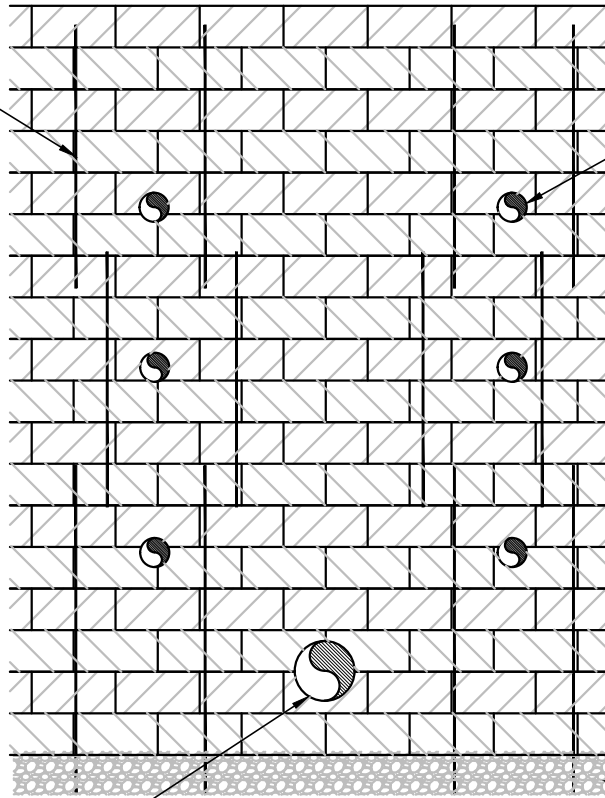


TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION HIGHWALL REVETMENT SIDE VIEW	
DRAWING NO.	REV.
MVP-SG-44A	P1

#5 EPOXY-COATED REBAR DRIVEN INTO PLACE. OVERLAP REBAR MIN. 3 BAGS. SPACE REBAR 12" HORIZONTALLY.

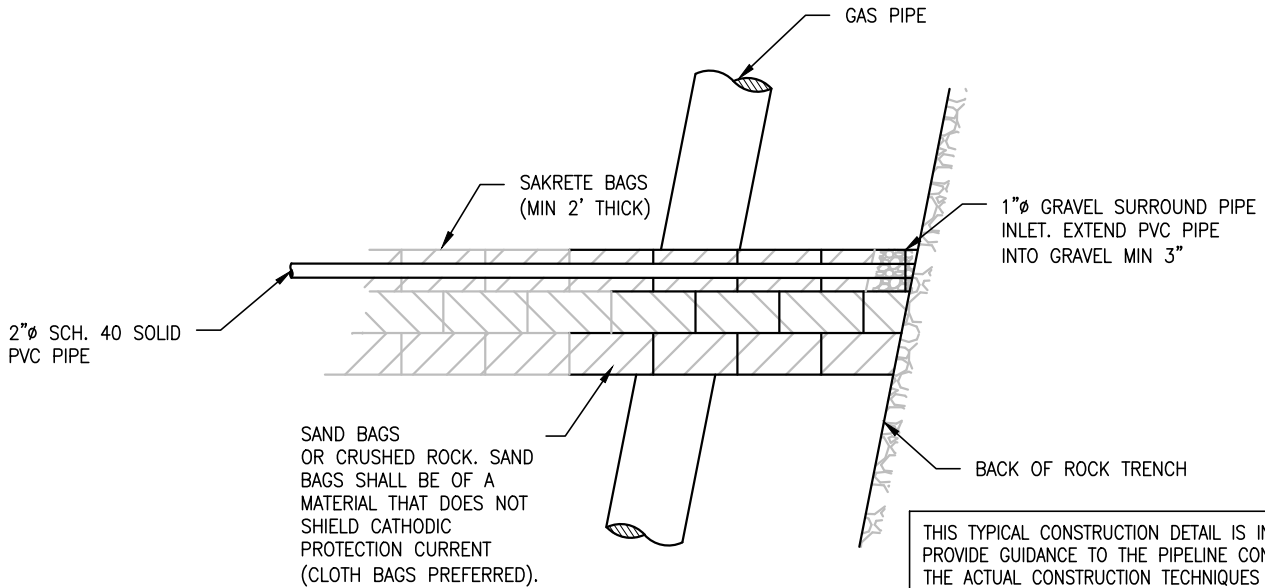
2"Ø PVC WEEPHOLE DRAINS (SEE DETAIL #2)



GAS PIPE (SPACE REBAR TO MAINTAIN MIN. 2' CLEARANCE FROM PIPELINE)

12" STONE LEVELING BASE

FRONT VIEW
SCALE: NOT TO SCALE



2"Ø SCH. 40 SOLID PVC PIPE

SAKRETE BAGS (MIN 2' THICK)

GAS PIPE

1"Ø GRAVEL SURROUND PIPE INLET. EXTEND PVC PIPE INTO GRAVEL MIN 3"

SAND BAGS OR CRUSHED ROCK. SAND BAGS SHALL BE OF A MATERIAL THAT DOES NOT SHIELD CATHODIC PROTECTION CURRENT (CLOTH BAGS PREFERRED).

BACK OF ROCK TRENCH

DRAIN DETAIL
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

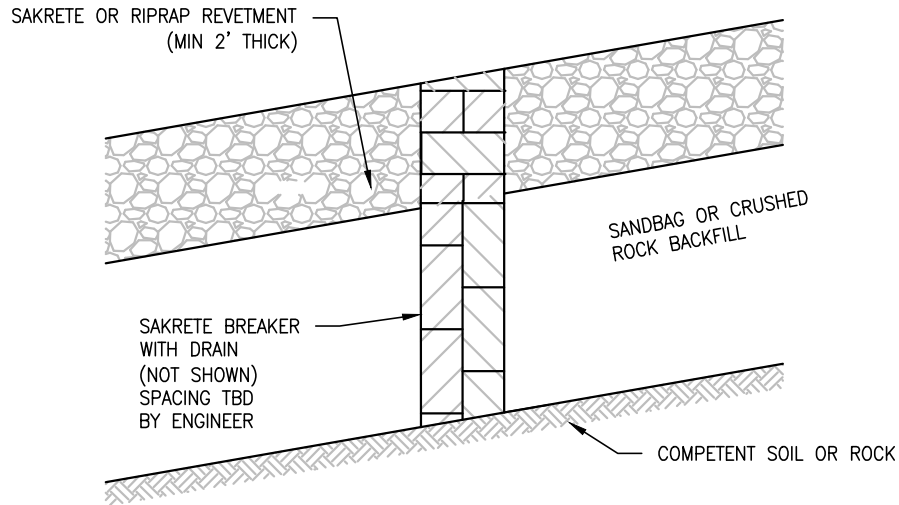
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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
FRONT VIEW AND DRAIN DETAIL

DRAWING NO.	REV.
MVP-SG-44B	P1



SIDE VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

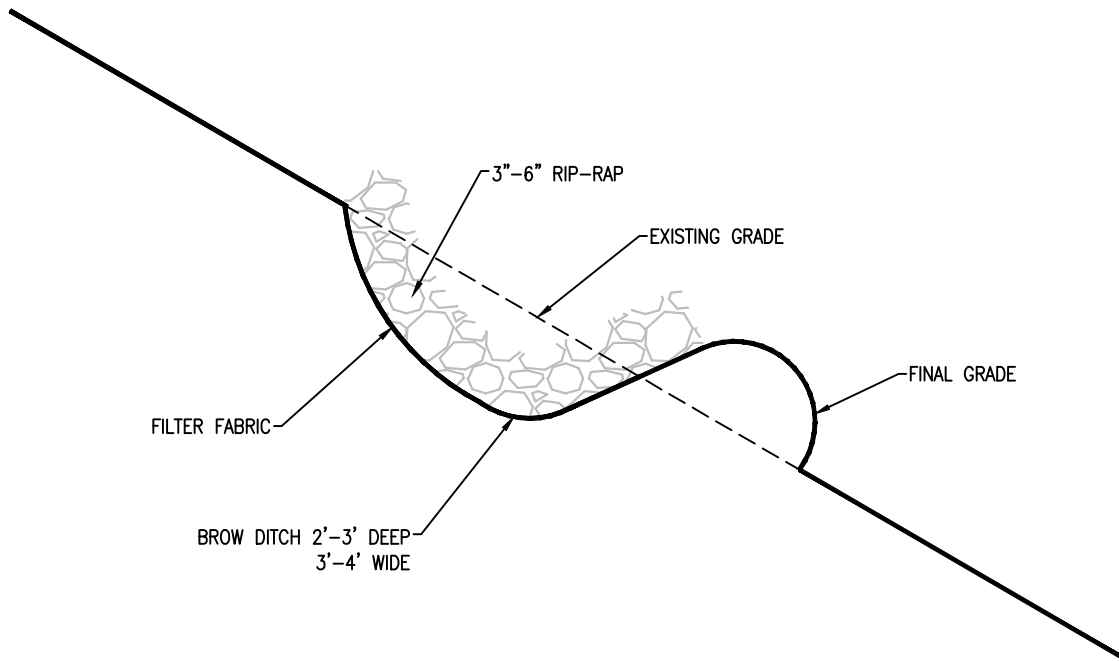
Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL

STEEP SLOPE REVETMENT		
DRAWING NO.	MVP-SG-45	REV.
		P1



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			



TYPICAL CONSTRUCTION DETAIL

BROW DITCH DETAIL

DRAWING NO.
MVP-SG-46

REV.
P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM



MVP Southgate Project

Docket No. CP19-14-000

Attachment 2-1

KMZ Files

(Provided Under Separate Cover)

June 2019



MVP Southgate Project

Docket No. CP19-14-000

Attachment 5-1

Cumulative Impacts

June 2019

REVISED Table 1.10-2															
Projects with Potential Cumulative Impacts															
Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC12)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Energy Projects															
Reidsville Energy Center NCUC EMP-92, Sub 0	Total Project: 20 acres (forest land)	Not Applicable (N/A) ^{d/}	N/A	N/A	N/A	NTE Energy is developing and plans to construct, own and operate the Reidsville Energy Center, an approximately 500 MW natural gas electric generating facility in Rockingham County, North Carolina.	Rockingham, NC	N/A	N/A	81.150 Northern Piedmont	12 miles	West	Construction to start Summer 2019, pending financing Projected commercial operation date is October 1, 2021, with expected final completion date of January 1, 2022	Air Quality (Operation), Socioeconomics	FERC, State and Local (NCDEQ Air Permit receive, USACE Nationwide Permit received, NCDEQ Section 401 WQC received)
Virginia Southside Expansion FERC Docket CP13-30 b/	Total Project Acres: (Construction / Operation) 1,454 / 119 Wetland acres: (Construction / operation): PEM 24.9 / 0.3; PSS 3.3 / 0.0; PFO 23.3 / 4.5 Upland Forest acres (Construction / Operation): 482 / 89	37 acres	17.1 acres Construction / 14.1 acres operation (including CS 166 and pipeline right-of-way within one-mile of the Southgate Project)	18 acres (Cherrystone Creek – Banister River) 63.2 acres (Stinking River – Banister River)	18 acres (Cherrystone Creek) 58 acres (Shockoe Creek – Banister River)	100 miles of new 24-inch diameter pipeline extending from the Transco mainline in Pittsylvania County, Va., and into Halifax, Charlotte, Mecklenburg, and terminating in Brunswick County, Va. Also construction of a 21,800 horsepower compressor station in Pittsylvania County, VA.	Pittsylvania County, VA	Cherrystone Creek-Banister River, Stinking River-Banister River	Cherrystone Creek Shockoe Creek-Banister River	81.143 Central Virginia	0 miles (PA-PI-001A)	North (CS 166)	In-service September 2015	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	FERC, State and Local
Virginia Southside Expansion II Project FERC Docket CP15-118	Total Project Acres: (Construction / Operation) 180.1 / 29.3 Wetland acres: (Construction / Operation): 0.9 / 0.6 –mostly through conversion of PFO and PSS to PEM Upland Forest acres (Construction / Operation) 30.0 / 12.4	29.2 acres	Station 166- 29.2 acres Construction / 0.0 acres operation (no additional impacts for operation from VA Southside Expansion Project)	27.4 acres (Cherrystone Creek – Banister River) 1.8 acre (Stinking River – Banister River)	27.4 acres (Cherrystone Creek) 1.8 acre (Shockoe Creek – Banister River)	Approximately 4.19 miles of 24-inch-diameter lateral pipeline connecting the existing Brunswick Lateral to the planned Virginia Electric and Power Company (VEPCO) Greenville Power Station; one new meter and regulator station; additional compression at two existing compressor stations; and modifications at 19 existing facilities.	Brunswick, Greenville, Prince William and Pittsylvania Counties, Virginia; Polk County, North Carolina; and Spartanburg and Cherokee Counties South Carolina	Cherrystone Creek-Banister River, Stinking River-Banister River	Cherrystone Creek Shockoe Creek-Banister River	81.143 Central Virginia	0 miles (PA-PI-001A)	North (CS 166)	In-service December 2017	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	FERC, State and Local

REVISED Table 1.10-2
Projects with Potential Cumulative Impacts

Project	Acres Affected a/, b/, c/	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) a/, b/, c/	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) a/, b/, c/	HUC 10 Acres (in Shared HUC 10) a/, b/, c/	HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Transco Southeastern Trail FERC Docket CP18-186 c/	Total Project acres (construction / operation): 466 / 42.6 Station 165 only: 82.1 acres construction / 10.0 acres operation Upland Forest Acres (construction / operation): 66.6 / 12.5 Wetland acres (construction / Operation): PEM 1.0 / 0.2, PFO 1.0 / 0.4	82.1 acres	Station 165: 63.4 acres for construction / 10.0 acres for operation	19.2 acres (Cherrystone Creek – Banister River) 62.9 acres (Stinking River – Banister River)	19.2 acres (Cherrystone Creek) 62.9 acres (Shockoe Creek – Banister River)	Transco Southeastern Trail expansion project will consist of 7.7 miles of 42-in. pipeline looping facilities in Virginia, horsepower additions at existing compressor stations in Virginia, and piping and valve modifications on other existing facilities in South Carolina, Georgia, and Louisiana to allow for bidirectional flow. Compressor Station 165 upgrade in Chatham, VA within Pittsylvania County, VA.	Various; Pittsylvania County, VA	Cherrystone Creek-Banister River Stinking River – Banister River	Cherrystone Creek Shockoe Creek – Banister River	81.143 Central Virginia	0 miles (PA-PI- 001A and PA- PI-001C)	Northeast (CS 165)	FERC Application Filed April 2018; Construction to start August 2019; Transco anticipates in- service in November 2020	Soils and Geology, Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	FERC, State and Local
Mountain Valley Pipeline FERC Docket CP16-10	Total Project acres (construction / operation): 6,363.4 / 2,117.8 Wetland acres (construction / operation): PEM 2.39 / 0.8; PSS 2.5 / 2.5; PFO 4.6 / 4.6 Upland forest acres (construction / operation): 4,453.1 / 1,596.9	79.33 Acres	49.8 acres construction / 8.7 acres operation	182.3 acres (Cherrystone Creek – Banister River) 49.3 acres (Stinking River – Banister River)	182.3 acres (Cherrystone Creek) 15.5 acres (Shockoe Creek – Banister River)	Natural gas pipeline system that spans approximately 303 miles from northwestern West Virginia to southern Virginia	Various; ends at Pittsylvania, VA	Cherrystone Creek-Banister River (2 perennial stream crossings and 1 intermittent stream crossing in common with the Project) Stinking River- Banister River	Cherrystone Creek (2 perennial stream crossings, and one intermittent stream crossing in common with the Project) Shockoe Creek- Banister River	81.143 Central Virginia	0 miles	Overlaps	Under Construction; 2019 In-Service Date anticipated fourth quarter 2019	Soils and Geology, Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	FERC, State and Local
Solar Projects															
Sigora Solar NCUC SP 15803	N/A (no ground disturbance)	N/A	N/A	N/A (no ground disturbance)	N/A (no ground disturbance)	7.44 kW residential rooftop installation – 2144 Waterview Drive, Graham, NC 27253	Alamance, NC	Back Creek – Haw River	Boyd's Creek Haw River	81.150 Northern Piedmont	1.5 miles	Southeast	Application filed 2019	No impact anticipated, no ground disturbance proposed	State and Local

**REVISED Table 1.10-2
Projects with Potential Cumulative Impacts**

Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Sigora Solar at 1900 Kimrey Road NCUC SP 16880	N/A (no ground disturbance)	N/A	N/A	N/A (no ground disturbance)	N/A (no ground disturbance)	7.6 kilowatt (AC) residential rooftop installation – Kimrey Road Solar – 1900 Kimrey Road, Haw River, NC	Alamance, NC	Back Creek – Haw River	Lower Back Creek	81.150 Northern Piedmont	1.5 miles	East	In Development; Application filed 2016. Pending intent to construct approval	No impact anticipated, no ground disturbance proposed	State and Local
Kimrey Road Solar NCUC SP 8494	Not Available	N/A	N/A	Not Available	Not Available	1.99 MW (AC) Solar photovoltaic system installed on the ground. – 1800 Kimrey Road, Haw River, NC	Alamance, NC	Back Creek – Haw River	Lower Back Creek	81.150 Northern Piedmont	1.5 miles	East	The projected in-service date was March 2018. Project has not been constructed as of June 2019; no facility footprint provided in application. Application filed, registered, and amended in 2016	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Southwick Solar Farm, LLC NCUC SP 7968	Total Project: 26 acres (Agricultural Land)	N/A	N/A	N/A	N/A	4,000 MW (AC) Solar photovoltaic electric generation facility - Southwick Solar Farm – 3110 Boywood Road, Graham, NC	Alamance, NC	N/A	N/A	81.150 Northern Piedmont	2.5 miles	South	Application filed 2017; pending planning site review	Air Quality (Operation), Socioeconomics	Federal, State and Local
Woodgriff Solar Farm NCUC SP 7992	Total Project: 38 acres Upland Forest: 10 acres	N/A	N/A	38 acres	38 acres	4,000 MW (AC) Solar photovoltaic electric generation facility - Woodgriff Solar Farm, 221 Southern High School Road, Graham NC	Alamance, NC	Big Alamance Creek	Lower Little Alamance Creek	81.150 Northern Piedmont	3.2 miles	Southwest	Intent to construct permit expires June, 2019	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Cypress Creek Renewables Solar Farm - Williamsburg Solar, LLC NCUC SP 11809	Total Project: 341 acres Upland Forest: 229 acres	341	248 acres (construction and operation)	341 acres	147 acres (Giles Creek Haw River) 182 acres (Town of Altamahaw – Haw River)	Cypress Creek Renewables Williamsburg Solar, LLC 174,000 MW 600 acre solar farm. Adjacent to Project at MP 50	Rockingham, NC	Headwaters Haw River	Giles Creek Haw River Town of Altamahaw-Haw River	81.150 Northern Piedmont	0 miles	East/West	Permitted; Construction to begin in 2019	Soils and Geology, Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	Federal, State and Local

REVISED Table 1.10-2
Projects with Potential Cumulative Impacts

Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Husky Solar Farm - Husky Solar, LLC NCUC SP 2848	Total Project: 29 acres (Commercial / Industrial Land)	29 acres	24 acres (construction and operation)	29 acres	29 acres	Husky Solar Farm, a 7.02 megawatt DC solar photovoltaic facility located on both sides of North Carolina Highway 87 adjacent to Project at MP 49	Rockingham, NC	Headwaters Haw River	Giles Creek-Haw River	81.150 Northern Piedmont	0 miles	North/South	In operation; Permitted prior to 2015	Soils and Geology, Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics	Federal, State and Local
Gallant Solar Farm NCUC SP 10241	Total Project: 276 acres Upland Forest: 35 acres	N/A	N/A	276 acres	N/A	45,000 MW (AC) PV array – Koger Road and Meadow Branch Road, Reidsville, NC	Rockingham, NC	Headwaters Haw River	N/A	81.150 Northern Piedmont	10 miles	West	The projected in-service date is 6/1/2019 Annual Certification issued 4/2/2019	Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Washington Solar NCUC SP 6053	Total Project: 30 acres Upland Forest: 10 acres	N/A	N/A	30 acres	N/A	5.0 MW (AC) PV array - South side of US Route 158 in Reidsville, NC	Rockingham, NC	Headwaters Haw River	N/A	81.150 Northern Piedmont	13 miles	West	The projected in-service date was December 2016 – no constructed facility visible on aerials – timeframe unknown. Annual Certification issued 4/1/2016, 3/17/2017, 3/23/2018, and 3/21/2019	Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Old Road Solar NCUC SP 6991	Total Project: 18 acres Upland Forest: 8.5 acres	N/A	N/A	18 acres	N/A	4.99 MW (AC) system - Off Mt. Herman Church Road	Rockingham, NC	Cascade Creek – Dan River	N/A	81.150 Northern Piedmont	8 miles	East	The projected in-service date was October 15, 2016 – no constructed facility visible on aerials – timeframe unknown. Annual Certification issued 3/16/2018	Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local

REVISED Table 1.10-2
Projects with Potential Cumulative Impacts

Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Green Level-Charles Drew Solar Energy Farm NCUC SP 13214	Total Project: 5 acres Upland Forest	5 acres	2.5 acres (construction and operation)	5 acres	5 acres	5 MW PV array – 1248 Yanceyville Road, Green Level, NC	Alamance, NC	Back Creek – Haw River	Boyds Creek – Haw River	81.150 Northern Piedmont	0.9 mile	East	The projected in-service date was March 30, 2019 Application filed 8/24/2018	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics, Environmental Justice	Federal, State and Local
Osceola Solar Project NCUC SP 7976	Total Project: 70 acres Upland Forest: 16 acres	N/A	N/A	70 acres	70 acres	4.9 MW (AC) System – 3935 Osceola Road, Elon, NC	Alamance, NC	Headwaters Haw River	Town of Altamahaw – Haw River	81.150 Northern Piedmont	1.8 mile	West	The projected in-service date was September 1, 2017 – no constructed facility visible on aerials – timeframe unknown. Annual Certification issued 3/30/2017, 3/16/2018, and 4/1/2019	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Bakatsias Solar Farm NCUC SP 7457	Total Project: 24 acres Upland Forest: 8.4 acres	24 acres	5.5 acres (construction and operation)	24 acres	24 acres	4.9 MW (AC) System – 150 Kronbergs Ct. Haw River, NC	Alamance, NC	Back Creek – Haw River	Lower Back Creek	81.150 Northern Piedmont	0.4 mile	East	Constructed; Amended Certificate issued 11/6/2017	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics, Environmental Justice	Federal, State and Local

REVISED Table 1.10-2

Projects with Potential Cumulative Impacts

Project	Acres Affected a/, b/, c/	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) a/, b/, c/	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) a/, b/, c/	HUC 10 Acres (in Shared HUC 10) a/, b/, c/	HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Norris Solar Farm NCUC SP 7785	Total Project: 24 acres Upland Forest: 21.5 acres	N/A	N/A	24 acres	24 acres	5.0 MW (AC) solar PV system – 1865 US 70 Highway, Mebane, NC	Alamance, NC	Back Creek – Haw River	Lower Back Creek	81.150 Northern Piedmont	1.9 mile	East	The projected in-service date was 12/31/2017- no constructed facility visible on aerials – timeframe unknown. Annual Certification issued 4/13/2017 and 1/9/2018	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	Federal, State and Local
Necal Solar Farm NCUC SP 8039	Total Project: 42 acres Upland Forest (pine plantation)	N/A	N/A	42 acres	N/A	5.0 MW (AC) Solar PV System – South of NC Highway 49, Pleasant Grove, NC	Alamance, NC	Back Creek – Haw River	Quaker Creek – Quaker Creek Reservoir	81.150 Northern Piedmont	5.3 miles	Northeast	The projected in-service date was August 2017 - no constructed facility visible on aerials – timeframe unknown. Annual Certification issued 5/30/2018	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Waters, Air Quality (Operation), Socioeconomics	Federal, State and Local
Transportation Projects															
Route 58 over Route 311	Total Project: 8 acres (commercial / industrial land)	N/A	N/A	8 acres	8 acres	About 3.3 million in upgrades to the intersection of Berry Hill Road and U.S. 58 West of Danville to accommodate traffic for the nearby Berry Hill Road industrial Park	Pittsylvania County, VA	Wolf Island Creek-Dan River	Lower Sandy River	81.143 Central Virginia	2 miles	East	In Design	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
Berry Hill Road	Not Available	N/A	N/A	Not Available	Not Available	Reconstruction of Berry Hill Road in order to accommodate more traffic- 23.7 million.	Pittsylvania County, VA	Wolf Island Creek-Dan River Cascade Creek-Dan River	Trotters Creek - Dan River	81.143 Central Virginia	2 miles	East	Planning	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
Stony Mill Road (Route 869 / Tunstall High Road (Route 869)	Total Project: 0.4 acres (commercial / industrial land)	0.4 acre	0.0 acre	0.4 acres	0.4 acres	The construction of a single lane roundabout at the intersection of Stony Mill Road and Tunstall High Road- 2.2 million	Pittsylvania County, VA	Wolf Island Creek-Dan River	Lower Sandy River	81.143 Central Virginia	0.5 mile	East	Planning	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local

REVISED Table 1.10-2 Projects with Potential Cumulative Impacts															
Project	Acres Affected a/, b/, c/	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) a/, b/, c/	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) a/, b/, c/	HUC 10 Acres (in Shared HUC 10) a/, b/, c/	HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Mount Cross Road (Route 844)	Total Project: 3.3 acres (commercial / industrial land)	N/A	N/A	3.3 acres	1.6 acres (Lower Sandy River) 1.7 acres (Sandy Creek [West] – Dan River)	A two-phase plan to widen Mount Cross Road to the city limits, making the road a five- lane section with a two-way center turn lane with a new park and ride lot and sidewalk -17 million	Pittsylvania County, VA	Wolf Island Creek-Dan River	Lower Sandy River Sandy Creek (West) – Dan River	81.143 Central Virginia	5 miles	East	Planning	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
Climax Road	Not Available	N/A	N/A	Not Available	Not Available	Widening Climax Road to a minimum of 20 feet to accommodate traffic- 1.3 million	Pittsylvania County, VA	Cherrystone Creek – Banister River	Cherrystone Creek	81.143 Central Virginia	12 miles	Northwest	Planning	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
U. S. Route 29 South over Norfolk Southern Railroad	Total Project: 0.4 acres (commercial / industrial land)	N/A	N/A	0.4 acre	N/A	Replacement of the structurally deficient bridge on U.S. Route 29 South over Norfolk Southern Railroad with approaches on this Principal Rural Arterial roadway in Pittsylvania County	Pittsylvania County, VA	Stinking River- Banister River	N/A	81.143 Central Virginia	10 miles	East	Complete 2017	Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local
Future I-73	Total Project: 183.0 acre (commercial / industrial land)	N/A	N/A	N/A	N/A	Construction of a 9.4-mile, four-lane interstate from Joseph M. Bryan Boulevard/Airport Parkway interchange to U.S. 220 near the Haw River	Guilford, NC	N/A	N/A	81.150 Northern Piedmont	25 miles	West	Complete October 2017	Air Quality (Operation), Socioeconomics	State and Local
Greensboro Urban Loop	Total Project: 30 acres Upland Forest: Approx. 10 acres	N/A	N/A	N/A	N/A	Completion of the Greensboro Urban Loop to help relieve I-40 congestion at I-85 Business and U.S. routes 29, 70, 220 and 421. Four projects to complete the remaining 15 miles of the 44- mile loop around the city.	Guilford, NC	N/A	N/A	81.150 Northern Piedmont	10 miles	West	Under Construction; Anticipated Completion December 2020	Air Quality (Operation), Socioeconomics	State and Local
Macy Grove Road Improvements	Total Project: 10 acres Upland Forest: Approx. 2.5 acres	N/A	N/A	N/A	N/A	Proposed improvements and an extension to Macy Grove Road in Forsyth and Guilford counties	Forsyth/Guilfor d, NC	N/A	N/A	81.150 Northern Piedmont	32 miles	West	In Development	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
NC 119 Relocation	Total Project: 12 acres Upland Forest: Approx. 4 acres	N/A	N/A	12	N/A	Proposed relocation of a portion of N.C. 119 in Mebane – from I-85 to existing the N.C. 119 near Mrs. White Lane	Alamance, NC	Back Creek- Haw River	N/A	81.150 Northern Piedmont	5 miles	East	In Development	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
N.C. 62 Widening - Ramada Road to U.S. 70	Total Project: 9 acres (commercial / industrial land)	N/A	N/A	9	N/A	Proposed widening an approximately 1-mile stretch of N.C. 62 to improve traffic flow and safety	Alamance, NC	Big Alamance Creek	N/A	81.150 Northern Piedmont	4 miles	West	In Development	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local

REVISED Table 1.10-2															
Projects with Potential Cumulative Impacts															
Project	Acres Affected a/, b/, c/	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) a/, b/, c/	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) a/, b/, c/	HUC 10 Acres (in Shared HUC 10) a/, b/, c/	HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
U.S. 158 (Reidsville Road) Improvements	Total Project: 71 acres (commercial / industrial land)	N/A	N/A	11	N/A	Proposed 18.8-mile widening of U.S. 158 from U.S. 421/Business 40 in Winston-Salem to U.S. 220 in Guilford County	Guilford, NC	Headwaters Haw River	N/A	81.150 Northern Piedmont	18 miles	West	In Development	No resources expected to be cumulatively affected given the unknown construction timeframe	State and Local
Commercial, Industrial, Residential Projects															
Berry Hill Industrial Park	Total Project: 133 acres Open Field	N/A	N/A	133 acres	133 acres	A 3,500 acres mega-park owned by Danville and Pittsylvania Counties through the Regional Industrial Facilities Act. Phase I activities began in March 2017 and include approximately 133 acres of site preparation. Schedule for additional phases is unknown.	Pittsylvania County, VA	Cascade Creek – Dan River	Trotters Creek – Dan River	81.143 Central Virginia	1.3 miles	East	In Development	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local
Panaceutics Research and Development Facility	Total Project: 112 acres (commercial / industrial)	N/A	N/A	112 acres	N/A	Panaceutics, a manufacturer of personalized medicine and nutrition solutions, will invest \$5.8 million to establish a research and development and high-tech manufacturing facility in the Ringgold East Industrial Park in Pittsylvania County, Virginia.	Pittsylvania, VA	Hogans Creek-Dan River	N/A	81.143 Central Virginia	10 miles	East	Under Construction	Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local
Carter Ridge	Total Project: 30 acres Upland Forest: 3.5 acres	N/A	N/A	30 acres	30 acres	Carter Ridge new construction homes, Carter Ridge Drive, Reidsville, NC	Rockingham, NC	Headwaters Haw River	Little Troublesome Creek	81.150 Northern Piedmont	5 miles	West	Under Construction; land associated with the development appears cleared since 2005 on Google Earth imagery; all house lots currently constructed except for two.	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomic	State and Local
LGI Homes-Bedford Hills	Total Project: 95 acres Upland Forest: 25 acres	N/A	N/A	95 acres	95 acres	New construction housing development single family homes near 111 Pillow Ln., Burlington, NC	Alamance, NC	Back Creek-Haw River	Lower Back Creek	81.150 Northern Piedmont	1.5 miles	East	Under Construction; land associate with the development appears cleared since 2016/2017 on Google Earth imagery; approximately half of the house lots currently constructed.	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local

**REVISED Table 1.10-2
Projects with Potential Cumulative Impacts**

Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
Forest Creek	Total Project: 40 acres Upland Forest: 5 acres	N/A	N/A	40 acres	40 acres	New construction housing development 5 new homes in development	Alamance, NC	Back Creek-Haw River	Travis Creek – Haw River	81.150 Northern Piedmont	3.5 miles	Southwest	Under Construction; majority of land associated with the development appears cleared since 2006 on Google Earth imagery; five house lots left under construction	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local
Brassfield Meadows	Total Project: 5 acres Upland Forest: 5 acres	N/A	N/A	5 acres	5 acres	New construction housing development; 18 units	Alamance, NC	Back Creek – Haw River	Boyds Creek – Haw River	81.150 Northern Piedmont	1.7 miles	South	Under Construction; land associated with development appears cleared in 2017/2018 on Google Earth Imagery; all units to be constructed	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Air Quality (Operation), Socioeconomics	State and Local
Granite Mill Project	Total Project: 6 acres (commercial / Industrial land)	6 acres	0 acre	6 acres	6 acres	Redevelopment of an abandoned mill including 176 apartments and 15,000 square feet of commercial space located at 122 East Main Street, Haw River, NC	Alamance, NC	Back Creek – Haw River	Boyds Creek – Haw River	81.150 Northern Piedmont	0 (TA-AL-187)	West	Completion of the residential units on north side of Main Street along the river anticipated in December 2019. Mixed use portions on the south side of Main Street is scheduled to start construction in late 2020/early 2021, with completion anticipated for the end of 2022.	Soils and Geology, Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (Construction and Operation), Noise (Construction and Operation), Socioeconomics, Environmental Justice	State and Local
Mineral Extraction Operations															
Kiln Plant	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available	The site is identified by the USGS as a plant including a rotary kiln and with a commodity type of bloating materials (i.e., for lightweight aggregate concrete products).	Rockingham, NC	Cascade Creek – Dan River	Cascade Creek	81.150 Northern Piedmont	0.2 mile	West	Project has not been constructed as of June 2019.	No resources expected to be cumulatively affected given the absence of any visible development at the identified location.	State and Local

REVISED Table 1.10-2
Projects with Potential Cumulative Impacts

Project	Acres Affected <i>a/, b/, c/</i>	Approximate Total Acres within the geographic scope for Land Use (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	NRCS Mapped Prime Farmland Acres Affected (Within 1 mile of the Southgate Project) <i>a/, b/, c/</i>	HUC 10 Acres (in Shared HUC 10) <i>a/, b/, c/</i>	HUC 12 Acres (in Shared HUC 12) <i>a/, b/, c/</i>	Description	County/ State	Shared Watershed (5 th Level/ HUC10)	Shared Watershed (Level/HUC1 2)	Shared Air Quality Control Region	Approximate Distance from Project	Direction	Status	Cumulative Resources potentially within the Geographic Scope	Potential Permits
East Alamance Quarry	Total Project: 240 acres Commercial / Industrial Land	240 acres	17 acres (construction and operation)	240 acres	240 acres	Ongoing quarry operation. Products include crushed stone, gravel, and sand.	Alamance, NC	Back Creek – Haw River	Boyd's Creek – Haw River	81.150 Northern Piedmont	0.1 mile	East	Ongoing operation	Groundwater Resources, Wetlands, Vegetation, Wildlife, Surface Water Resources, Cultural Resources, Land Use, Recreation, Visual Resources, Air Quality (construction and operation), Noise (construction), Socioeconomics, Environmental Justice	State and Local

a/ All acres affected identified in this table are estimated based on information available from various sources including the FERC eLibrary, the North Carolina Utilities Commission Website, the Virginia and North Carolina Department of Transportation websites, County websites, Bing aeriels, and Google Earth imagery. Estimated acres affected are not based on final engineered project designs, as that level of detail is not available for all other projects. With the exception of the Virginia Southside Expansion project, the Transco Southeastern Trail project, and the MVP Pipeline project, acres affected by construction and operation are assumed to be the same.

b/ The Project used the topographic mapping available in the Virginia Southside Expansion Project Environmental Assessment (Accession Number 20130614-4004) Appendix A Topographic Maps of pipeline Route and Facilities Map 1 of 28 to estimate shared HUC 10, HUC 12, and Prime Farmland acres within 1-mile. The one mile of pipeline right-of-way was multiplied by the construction width of 85 feet provided in Figure 3 (Typical Right-of-Way Cross-Section Collocated) in the Environmental Assessment to estimate construction pipeline acres. The one mile of pipeline right-of-way was multiplied by the operation width of 25 feet provided in the Environmental Assessment to estimate operation pipeline acres.

c/ The Project used the aerial photography Mapping available in the Transco Southeastern Trail Project Certificate Application (Accession Number 20180411-5132) to estimate shared HUC 10 and HUC 12 and Prime Farmland acres within 1-mile.

d/ Not Applicable (N/A) – Information is not applicable to category or impacts within category do not occur.

REVISED Table 1.10-2a									
Projects with Potential Cumulative Impacts – HUC 12									
Project	Acres Affected a/, b/, c/	Shared Watershed (Level/HUC12)	Total HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Acreage of upland forest cleared within the Shared HUC-12 Watershed where the Southgate Project affects forest d/	Acreage of PFO wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PSS wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PEM wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Description	County/ State
Energy Projects									
Reidsville Energy Center NCUC EMP-92, Sub 0	Total Project: 20 acres (forest land)	Not Applicable (N/A) ^{e/}	N/A	N/A	N/A	N/A	N/A	NTE Energy is developing and plans to construct, own and operate the Reidsville Energy Center, an approximately 500 MW natural gas electric generating facility in Rockingham County, North Carolina.	Rockingham, NC
Virginia Southside Expansion FERC Docket CP13-30 b/	Total Project Acres: (Construction / Operation) 1,454 / 119 Wetland acres: (Construction / operation): PEM 24.9 / 0.3; PSS 3.3 / 0.0; PFO 23.3 / 4.5 Upland Forest acres (Construction / Operation): 482 / 89	Cherrystone Creek Shockoe Creek- Banister River	18 acres (Cherrystone Creek) 58 acres (Shockoe Creek – Banister River)	20	0	0	0	100 miles of new 24-inch diameter pipeline extending from the Transco mainline in Pittsylvania County, Va., and into Halifax, Charlotte, Mecklenburg, and terminating in Brunswick County, Va. Also construction of a 21,800 horsepower compressor station in Pittsylvania County, VA.	Pittsylvania County, VA
Virginia Southside Expansion II Project FERC Docket CP15-118	Total Project Acres: (Construction / Operation) 180.1 / 29.3 Wetland acres: (Construction / Operation): 0.9 / 0.6 –mostly through conversion of PFO and PSS to PEM Upland Forest acres (Construction / Operation) 30.0 / 12.4	Cherrystone Creek Shockoe Creek- Banister River	27.4 acres (Cherrystone Creek) 1.8 acre (Shockoe Creek – Banister River)	0.6	0	0	0	Approximately 4.19 miles of 24-inch-diameter lateral pipeline connecting the existing Brunswick Lateral to the planned Virginia Electric and Power Company (VEPCO) Greenville Power Station; one new meter and regulator station; additional compression at two existing compressor stations; and modifications at 19 existing facilities.	Brunswick, Greenville, Prince William and Pittsylvania Counties, Virginia; Polk County, North Carolina; and Spartanburg and Cherokee Counties South Carolina
Transco Southeastern Trail FERC Docket CP18-186 c/	Total Project acres (construction / operation): 466 / 42.6 Station 165 only: 82.1 acres construction / 10.0 acres operation Upland Forest Acres (construction / operation): 66.6 / 12.5 Wetland acres (construction / Operation): PEM 1.0 / 0.2, PFO 1.0 / 0.4	Cherrystone Creek Shockoe Creek – Banister River	19.2 acres (Cherrystone Creek) 62.9 acres (Shockoe Creek – Banister River)	7	0	0	0	Transco Southeastern Trail expansion project will consist of 7.7 miles of 42-in. pipeline looping facilities in Virginia, horsepower additions at existing compressor stations in Virginia, and piping and valve modifications on other existing facilities in South Carolina, Georgia, and Louisiana to allow for bidirectional flow. Compressor Station 165 upgrade in Chatham, VA within Pittsylvania County, VA.	Various; Pittsylvania County, VA

REVISED Table 1.10-2a									
Projects with Potential Cumulative Impacts – HUC 12									
Project	Acres Affected a/, b/, c/	Shared Watershed (Level/HUC12)	Total HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Acreage of upland forest cleared within the Shared HUC-12 Watershed where the Southgate Project affects forest d/	Acreage of PFO wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PSS wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PEM wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Description	County/ State
Mountain Valley Pipeline FERC Docket CP16-10	Total Project acres (construction / operation): 6,363.4 / 2,117.8 Wetland acres (construction / operation): PEM 23.9 / 0.8; PSS 2.5 / 2.5; PFO 4.6 / 4.6 Upland forest acres (construction / operation): 4,453.1 / 1,596.9	Cherrystone Creek (2 perennial stream crossings, and one intermittent stream crossing in common with the Project) Shockoe Creek-Banister River	182.3 acres (Cherrystone Creek) 15.5 acres (Shockoe Creek – Banister River)	88.7	0.7 (NWI)	0.0 (NWI)	0.1 (NWI)	Natural gas pipeline system that spans approximately 303 miles from northwestern West Virginia to southern Virginia	Various; ends at Pittsylvania, VA
Solar Projects									
Sigora Solar NCUC SP 15803	N/A (no ground disturbance)	Boyd's Creek Haw River	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	7.44 kW residential rooftop installation – 2144 Waterview Drive, Graham, NC 27253	Alamance, NC
Sigora Solar at 1900 Kimrey Road NCUC SP 16880	N/A (no ground disturbance)	Lower Back Creek	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	N/A (no ground disturbance)	7.6 kilowatt (AC) residential rooftop installation – Kimrey Road Solar – 1900 Kimrey Road, Haw River, NC	Alamance, NC
Kimrey Road Solar NCUC SP 8494	Not Available	Lower Back Creek	Not Available	Not Available	Not Available	Not Available	Not Available	1.99 MW (AC) Solar photovoltaic system installed on the ground. – 1800 Kimrey Road, Haw River, NC	Alamance, NC
Southwick Solar Farm, LLC NCUC SP 7968	Total Project: 26 acres (Agricultural Land)	N/A	N/A	N/A	N/A	N/A	N/A	4,000 MW (AC) Solar photovoltaic electric generation facility - Southwick Solar Farm – 3110 Boywood Road, Graham, NC	Alamance, NC
Woodgriff Solar Farm NCUC SP 7992	Total Project: 38 acres Upland Forest: 10 acres	Lower Little Alamance Creek	38 acres	10	0	0	0	4,000 MW (AC) Solar photovoltaic electric generation facility - Woodgriff Solar Farm, 221 Southern High School Road, Graham NC	Alamance, NC
Cypress Creek Renewables Solar Farm - Williamsburg Solar, LLC NCUC SP 11809	Total Project: 341 acres Upland Forest: 229 acres	Giles Creek Haw River Town of Altamahaw-Haw River	147 acres (Giles Creek Haw River) 182 acres (Town of Altamahaw – Haw River)	229 acres	0	0	0	Cypress Creek Renewables Williamsburg Solar, LLC 174,000 MW 600-acre solar farm. Adjacent to Project at MP 50	Rockingham, NC
Husky Solar Farm - Husky Solar, LLC NCUC SP 2848	Total Project: 29 acres (Commercial / Industrial Land)	Giles Creek-Haw River	29 acres	0	0	0	0	Husky Solar Farm, a 7.02-megawatt DC solar photovoltaic facility located on both sides of North Carolina Highway 87 adjacent to Project at MP 49	Rockingham, NC
Gallant Solar Farm NCUC SP 10241	Total Project: 276 acres Upland Forest: 35 acres	N/A	N/A	N/A	N/A	N/A	N/A	45,000 MW (AC) PV array – Koger Road and Meadow Branch Road, Reidsville, NC	Rockingham, NC

REVISED Table 1.10-2a									
Projects with Potential Cumulative Impacts – HUC 12									
Project	Acres Affected a/, b/, c/	Shared Watershed (Level/HUC12)	Total HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Acreage of upland forest cleared within the Shared HUC-12 Watershed where the Southgate Project affects forest d/	Acreage of PFO wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PSS wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PEM wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Description	County/ State
Washington Solar NCUC SP 6053	Total Project: 30 acres Upland Forest: 10 acres	N/A	N/A	N/A	N/A	N/A	N/A	5.0 MW (AC) PV array - South side of US Route 158 in Reidsville, NC	Rockingham, NC
Old Road Solar NCUC SP 6991	Total Project: 18 acres Upland Forest: 8.5 acres	N/A	N/A	N/A	N/A	N/A	N/A	4.99 MW (AC) system - Off Mt. Herman Church Road	Rockingham, NC
Green Level-Charles Drew Solar Energy Farm NCUC SP 13214	Total Project: 5 acres Upland Forest	Boyd's Creek – Haw River	5 acres	5 acres	0	0	0	5 MW PV array – 1248 Yanceyville Road, Green Level, NC	Alamance, NC
Osceola Solar Project NCUC SP 7976	Total Project: 70 acres Upland Forest: 16 acres	Town of Altamahaw – Haw River	70 acres	16	0	0	0	4.9 MW (AC) System – 3935 Osceola Road, Elon, NC	Alamance, NC
Bakatsias Solar Farm NCUC SP 7457	Total Project: 24 acres Upland Forest: 8.4 acres	Lower Back Creek	24 acres	8.4	0	0	0	4.9 MW (AC) System – 150 Kronbergs Ct. Haw River, NC	Alamance, NC
Norris Solar Farm NCUC SP 7785	Total Project: 24 acres Upland Forest: 21.5 acres	Lower Back Creek	24 acres	21.5	0	0	0	5.0 MW (AC) solar PV system – 1865 US 70 Highway, Mebane, NC	Alamance, NC
Necal Solar Farm NCUC SP 8039	Total Project: 42 acres Upland Forest (pine plantation)	Quaker Creek – Quaker Creek Reservoir	N/A	N/A	N/A	N/A	N/A	5.0 MW (AC) Solar PV System – South of NC Highway 49, Pleasant Grove, NC	Alamance, NC
Transportation Projects									
Route 58 over Route 311	Total Project: 8 acres (commercial / industrial land)	Lower Sandy River	8 acres	0	0	0	0	About 3.3 million in upgrades to the intersection of Berry Hill Road and U.S. 58 West of Danville to accommodate traffic for the nearby Berry Hill Road industrial Park	Pittsylvania County, VA
Berry Hill Road	Not Available	Trotters Creek - Dan River	Not Available	Not Available	Not Available	Not Available	Not Available	Reconstruction of Berry Hill Road in order to accommodate more traffic- 23.7 million.	Pittsylvania County, VA
Stony Mill Road (Route 869 / Tunstall High Road (Route 869))	Total Project: 0.4 acres (commercial / industrial land)	Lower Sandy River	0.4 acres	0	0	0	0	The construction of a single lane roundabout at the intersection of Stony Mill Road and Tunstall High Road- 2.2 million	Pittsylvania County, VA

REVISED Table 1.10-2a									
Projects with Potential Cumulative Impacts – HUC 12									
Project	Acres Affected a/, b/, c/	Shared Watershed (Level/HUC12)	Total HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Acreage of upland forest cleared within the Shared HUC-12 Watershed where the Southgate Project affects forest d/	Acreage of PFO wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PSS wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PEM wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Description	County/ State
Mount Cross Road (Route 844)	Total Project: 3.3 acres (commercial / industrial land)	Lower Sandy River Sandy Creek (West) – Dan River	1.6 acres (Lower Sandy River) 1.7 acres (Sandy Creek [West] – Dan River)	0	0	0	0	A two-phase plan to widen Mount Cross Road to the city limits, making the road a five-lane section with a two-way center turn lane with a new park and ride lot and sidewalk - 17 million	Pittsylvania County, VA
Climax Road	Not Available	Cherrystone Creek	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Data Not Available	Widening Climax Road to a minimum of 20 feet to accommodate traffic- 1.3 million	Pittsylvania County, VA
U. S. Route 29 South over Norfolk Southern Railroad	Total Project: 0.4 acres (commercial / industrial land)	N/A	N/A	N/A	N/A	N/A	N/A	Replacement of the structurally deficient bridge on U.S. Route 29 South over Norfolk Southern Railroad with approaches on this Principal Rural Arterial roadway in Pittsylvania County	Pittsylvania County, VA
Future I-73	Total Project: 183.0 acre (commercial / industrial land)	N/A	N/A	N/A	N/A	N/A	N/A	Construction of a 9.4-mile, four-lane interstate from Joseph M. Bryan Boulevard/Airport Parkway interchange to U.S. 220 near the Haw River	Guilford, NC
Greensboro Urban Loop	Total Project: 30 acres Upland Forest: Approx. 10 acres	N/A	N/A	N/A	N/A	N/A	N/A	Completion of the Greensboro Urban Loop to help relieve I-40 congestion at I-85 Business and U.S. routes 29, 70, 220 and 421. Four projects to complete the remaining 15 miles of the 44-mile loop around the city.	Guilford, NC
Macy Grove Road Improvements	Total Project: 10 acres Upland Forest: Approx. 2.5 acres	N/A	N/A	N/A	N/A	N/A	N/A	Proposed improvements and an extension to Macy Grove Road in Forsyth and Guilford counties	Forsyth/Guilford, NC
NC 119 Relocation	Total Project: 12 acres Upland Forest: Approx. 4 acres	N/A	N/A	N/A	N/A	N/A	N/A	Proposed relocation of a portion of N.C. 119 in Mebane – from I-85 to existing the N.C. 119 near Mrs. White Lane	Alamance, NC
N.C. 62 Widening - Ramada Road to U.S. 70	Total Project: 9 acres (commercial / industrial land)	N/A	N/A	N/A	N/A	N/A	N/A	Proposed widening an approximately 1-mile stretch of N.C. 62 to improve traffic flow and safety	Alamance, NC
U.S. 158 (Reidsville Road) Improvements	Total Project: 71 acres (commercial / industrial land)	N/A	N/A	N/A	N/A	N/A	N/A	Proposed 18.8-mile widening of U.S. 158 from U.S. 421/Business 40 in Winston-Salem to U.S. 220 in Guilford County	Guilford, NC
Commercial, Industrial, Residential Projects									
Berry Hill Industrial Park	Total Project: 133 acres Open Field	Trotters Creek – Dan River	133 acres	0	0	0	0	A 3,500 acres mega-park owned by Danville and Pittsylvania Counties through the Regional Industrial Facilities Act. Phase I activities began in March 2017 and include approximately 133 acres of site preparation. Schedule for additional phases is unknown.	Pittsylvania County, VA
Panaceutics Research and Development Facility	Total Project: 112 acres (commercial / industrial)	N/A	N/A	N/A	N/A	N/A	N/A	Panaceutics, a manufacturer of personalized medicine and nutrition solutions, will invest \$5.8 million to establish a research and development and high-tech manufacturing facility in the Ringgold East Industrial Park in Pittsylvania County, Virginia.	Pittsylvania, VA
Carter Ridge	Total Project: 30 acres Upland Forest: 3.5 acres	Little Troublesome Creek	30 acres	3.5	0	0	0	Carter Ridge new construction homes, Carter Ridge Drive, Reidsville, NC	Rockingham, NC
LGI Homes- Bedford Hills	Total Project: 95 acres Upland Forest: 25 acres	Lower Back Creek	95 acres	25	0	0	0	New construction housing development single family homes near 111 Pillow Ln., Burlington, NC	Alamance, NC
Forest Creek	Total Project: 40 acres Upland Forest: 5 acres	Travis Creek – Haw River	40 acres	5	0	0	0	New construction housing development 5 new homes in development	Alamance, NC

REVISED Table 1.10-2a									
Projects with Potential Cumulative Impacts – HUC 12									
Project	Acres Affected a/, b/, c/	Shared Watershed (Level/HUC12)	Total HUC 12 Acres (in Shared HUC 12) a/, b/, c/	Acreage of upland forest cleared within the Shared HUC-12 Watershed where the Southgate Project affects forest d/	Acreage of PFO wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PSS wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Acreage of PEM wetland affected within the Shared HUC-12 where the Southgate Project affects wetlands d/	Description	County/ State
Brassfield Meadows	Total Project: 5 acres Upland Forest: 5 acres	Boyd's Creek – Haw River	5 acres	5	0	0	0	New construction housing development; 18 units	Alamance, NC
Granite Mill Project	Total Project: 6 acres (commercial / Industrial land)	Boyd's Creek – Haw River	6 acres	0	0	0	0	Redevelopment of an abandoned mill including 176 apartments and 15,000 square feet of commercial space located at 122 East Main Street, Haw River, NC	Alamance, NC
Mineral Extraction Operations									
Kiln Plant	Not Available	Cascade Creek	Not Available	Not Available	Not Available	Not Available	Not Available	The site is identified by the USGS as a plant including a rotary kiln and with a commodity type of bloating materials (i.e., for lightweight aggregate concrete products).	Rockingham, NC
East Alamance Quarry	Total Project: 240 acres Commercial / Industrial Land	Boyd's Creek – Haw River	240 acres	0	0	0	0	Ongoing quarry operation. Products include crushed stone, gravel, and sand.	Alamance, NC
<p>a/ All acres affected identified in this table are estimated based on information available from various sources including the FERC eLibrary, the North Carolina Utilities Commission Website, the Virginia and North Carolina Department of Transportation websites, County websites, Bing aeriels, and Google Earth imagery. Estimated acres affected are not based on final engineered project designs, as that level of detail is not available for all other projects. With the exception of the Virginia Southside Expansion project, the Transco Southeastern Trail project, and the MVP Pipeline project, acres affected by construction and operation are assumed to be the same.</p> <p>b/ The Project used the topographic mapping available in the Virginia Southside Expansion Project Environmental Assessment (Accession Number 20130614-4004) Appendix A Topographic Maps of pipeline Route and Facilities Map 1 of 28 to estimate shared HUC 12</p> <p>c/ The Project used the aerial photography Mapping available in the Transco Southeastern Trail Project Certificate Application (Accession Number 20180411-5132) to estimate shared HUC 12 watersheds</p> <p>d/ Acreage of impacts/ wetlands affected are based on topographic mapping available and National Wetlands Inventory (NWI) layers available from the United States Fish and Wildlife Service (last modified on February 27, 2018). Available at https://www.fws.gov/wetlands/Data/Google-Earth.html. Impacts of pipeline right-of-way were estimated based on a construction width of 85 feet</p> <p>e/ Not Applicable (N/A) – Information is not applicable to category or impacts within category do not occur.</p>									



MVP Southgate Project

Docket No. CP19-14-000

Attachment 12-1

Mountain Valley Pipeline, LLC MVP Southgate Project, Wetland and Waterbody Construction and Mitigation Procedures

June 2019



MOUNTAIN VALLEY PIPELINE, LLC

MVP SOUTHGATE PROJECT

**WETLAND AND WATERBODY CONSTRUCTION AND
MITIGATION PROCEDURES**

**WETLAND AND WATERBODY CONSTRUCTION AND
MITIGATION PROCEDURES**

TABLE OF CONTENTS

I.	<u>APPLICABILITY</u>	1
II.	<u>PRECONSTRUCTION FILING</u>	2
III.	<u>ENVIRONMENTAL INSPECTORS</u>	3
IV.	<u>PRECONSTRUCTION PLANNING</u>	3
V.	<u>WATERBODY CROSSINGS</u>	5
	A. NOTIFICATION PROCEDURES AND PERMITS	5
	B. INSTALLATION	5
	1. Time Window for Construction.....	5
	2. Extra Work Areas	5
	3. General Crossing Procedures.....	6
	4. Spoil Pile Placement and Control	7
	5. Equipment Bridges.....	7
	6. Dry-Ditch Crossing Methods.....	8
	7. Crossings of Minor Waterbodies.....	9
	8. Crossings of Intermediate Waterbodies	10
	9. Crossings of Major Waterbodies.....	10
	10. Temporary Erosion and Sediment Control.....	10
	11. Trench Dewatering	11
	C. RESTORATION	11
	D. POST-CONSTRUCTION MAINTENANCE.....	12
VI.	<u>WETLAND CROSSINGS</u>	13
	A. GENERAL	13
	B. INSTALLATION	14
	1. Extra Work Areas and Access Roads	14
	2. Crossing Procedures.....	15
	3. Temporary Sediment Control.....	16
	4. Trench Dewatering	17
	C. RESTORATION	17
	D. POST-CONSTRUCTION MAINTENANCE AND REPORTING	18
VII.	<u>HYDROSTATIC TESTING</u>	19
	A. NOTIFICATION PROCEDURES AND PERMITS	19
	B. GENERAL	19
	C. INTAKE SOURCE AND RATE	19
	D. DISCHARGE LOCATION, METHOD, AND RATE.....	20
APPENDIX A	Resource Report 1 - Revised Appendix 2-F - ATWS Within 50 feet of Wetland or Waterbody	

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)

I. APPLICABILITY

- A. The intent of these Procedures is to assist Mountain Valley Pipeline, LLC (the Project) by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. The Project shall specify in their applications for a new FERC authorization, and in prior notice and advance notice filings, any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. The Project shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, the Project can request further changes as variances to the measures in these Procedures (or the applicant's approved procedures). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the Project's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;
2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or
3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Project-related impacts on non-wetland areas are addressed in the Project's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. DEFINITIONS

1. “Waterbody” includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:
 - a. “minor waterbody” includes all waterbodies less than or equal to 10 feet wide at the water’s edge at the time of crossing;
 - b. “intermediate waterbody” includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water’s edge at the time of crossing; and
 - c. “major waterbody” includes all waterbodies greater than 100 feet wide at the water’s edge at the time of crossing.
2. “Wetland” includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

II. PRECONSTRUCTION FILING

- A. The following information must be filed with the Secretary of the FERC (Secretary) prior to the beginning of construction, for the review and written approval by the Director:
 1. site-specific justifications for extra work areas that would be closer than 50 feet from a waterbody or wetland; and
 2. site-specific justifications for the use of a construction right-of-way greater than 75-feet-wide in wetlands.
- B. The following information must be filed with the Secretary prior to the beginning of construction. These filing requirements do not apply to projects constructed under the automatic authorization provisions in the FERC’s regulations:
 1. Spill Prevention and Response Procedures specified in section IV.A;
 2. a schedule identifying when trenching or blasting will occur within each waterbody greater than 10 feet wide, within any designated coldwater fishery, and within any waterbody identified as habitat for federally-listed threatened or endangered species. The Project will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice;

3. plans for horizontal directional drills (HDD) under wetlands or waterbodies, specified in section V.B.6.d;
4. site-specific plans for major waterbody crossings, described in section V.B.9;
5. a wetland delineation report as described in section VI.A.1, if applicable; and
6. the hydrostatic testing information specified in section VII.B.3.

III. ENVIRONMENTAL INSPECTORS

- A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.
- B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

IV. PRECONSTRUCTION PLANNING

- A. The Project shall develop project-specific Spill Prevention and Response Procedures that meet applicable requirements of state and federal agencies. A copy must be filed with the Secretary prior to construction and made available in the field on each construction spread. This filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.
 1. It shall be the responsibility of the Project and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The Project and its contractors must, at a minimum, ensure that:
 - a. all employees handling fuels and other hazardous materials are properly trained;
 - b. all equipment is in good operating order and inspected on a regular basis;
 - c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;
 - d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the

Project and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

- e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas;
 - f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the Project and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;
 - g. pumps operating within 100 feet of a waterbody or wetland boundary utilize appropriate secondary containment systems to prevent spills; and
 - h. bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils have appropriate secondary containment systems to prevent spills.
2. The Project and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the Project and its contractors must:
- a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills and unanticipated discoveries of contamination;
 - b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;
 - c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

- d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

B. AGENCY COORDINATION

The Project must coordinate with the appropriate local, state, and federal agencies as outlined in these Procedures and in the FERC's Orders.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.
2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.
3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.
4. Notify appropriate federal and state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in applicable permits.

B. INSTALLATION

1. Time Window for Construction

The Project consulted with the Virginia Department of Game and Inland Fisheries (VDGIF) regarding time of year restrictions (TOYRs) for waterbodies crossed by the Project in Virginia. Based on the results of consultation and the results of aquatic surveys (provided to VDGIF in May 2019), no in-stream work restrictions from VDGIF's "Time of Year Restrictions and Other Guidance Document" (July 5, 2018) are applicable to the Project.

The Project consulted with the North Carolina Wildlife Resources Commission (NCWRC) regarding TOYRs for waterbodies crossing by the Project in North Carolina. Based on the proposed stream crossing methods and anticipated Best Management Practices, the NCWRC is not imposing any TOYRs at any waterbody crossings.

Therefore, the Project anticipates that permitted in-stream activities can occur at any time of year within the waterbodies crossed by the Project per VDGIF and NCWRC approvals.

2. Extra Work Areas

- a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.
- b. The Project shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the conditions that will not permit a 50-foot setback and measures to ensure the waterbody is adequately protected. Please refer to Appendix A.
- c. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

- a. Comply with the COE, or its delegated agency, permit terms and conditions.
- b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.
- c. Where pipelines parallel a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way, except where maintaining this offset will result in greater environmental impact.
- d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.
- e. Maintain adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.
- f. Waterbody buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.
- g. Crossing of waterbodies when they are dry or frozen and not flowing may proceed using standard upland construction techniques in accordance with the Plan, provided that the Environmental Inspector verifies that water is unlikely to flow between initial disturbance and

final stabilization of the feature. In the event of perceptible flow, the Project must comply with all applicable Procedure requirements for “waterbodies” as defined in section I.B.1.

4. Spoil Pile Placement and Control

- a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water’s edge or in additional extra work areas as described in section V.B.2.
- b. Use sediment barriers to prevent the flow of spoil or silt-laden water into any waterbody.

5. Equipment Bridges

- a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.
- b. Construct and maintain equipment bridges to allow unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:
 - (1) equipment pads and culvert(s);
 - (2) equipment pads or railroad car bridges without culverts;
 - (3) clean rock fill and culvert(s); and
 - (4) flexi-float or portable bridges.

Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

- c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.
- d. Design and maintain equipment bridges to prevent soil from entering the waterbody.
- e. Remove temporary equipment bridges as soon as practicable after permanent seeding.
- f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove temporary equipment bridges as soon as practicable after final cleanup.

- g. Obtain any necessary approval from the COE, or the appropriate state agency for permanent bridges.

6. Dry-Ditch Crossing Methods

- a. Unless approved otherwise by the appropriate federal or state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally-designated as critical habitat.

- b. Dam and Pump

- (1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.
- (2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:
 - (i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
 - (ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
 - (iii) screen pump intakes to minimize entrainment of fish;
 - (iv) prevent streambed scour at pump discharge; and
 - (v) continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

- c. Flume Crossing

The flume crossing method requires implementation of the following steps:

- (1) install flume pipe after blasting (if necessary), but before any trenching;
- (2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required to achieve an effective seal);

- (3) properly align flume pipe(s) to prevent bank erosion and streambed scour;
- (4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and
- (5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

For each waterbody or wetland that would be crossed using the HDD method, file with the Secretary for the review and written approval by the Director, a plan that includes:

- (1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;
- (2) justification that disturbed areas are limited to the minimum needed to construct the crossing;
- (3) identification of any aboveground disturbance or clearing between the HDD entry and exit workspaces during construction;
- (4) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and
- (5) a contingency plan for crossing the waterbody or wetland in the event the HDD is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

The requirement to file HDD plans does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours.

Streambanks and unconsolidated streambeds may require additional restoration after this period;

- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification or protected status (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;
- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

9. Crossings of Major Waterbodies

Before construction, the Project shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan must be developed in consultation with the appropriate state and federal agencies and shall include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues. The requirement to file major waterbody crossing plans does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the waterbody or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

- a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;
- b. where waterbodies are adjacent to the construction right-of-way and the right-of-way slopes toward the waterbody, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the waterbody; and
- c. use temporary trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.
2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.
3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.
4. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament

mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

5. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.
6. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.
7. Revegetate disturbed riparian areas with native species of conservation grasses, herbaceous species, or other native vegetation similar in composition and density to adjacent undisturbed lands.
8. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan.

In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

9. Sections V.C.3 through V.C.7 above also apply to those perennial or intermittent streams not flowing at the time of construction.

D. POST-CONSTRUCTION MAINTENANCE

1. Limit routine vegetation mowing or clearing adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in riparian areas that are between HDD entry and exit points.
2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.
3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of riparian areas.

VI. WETLAND CROSSINGS

A. GENERAL

1. The Project shall conduct a wetland delineation using the current federal methodology and file a wetland delineation report with the Secretary before construction. The requirement to file a wetland delineation report does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

This report shall identify:

- a. by milepost all wetlands that would be affected;
- b. the National Wetlands Inventory (NWI) classification for each wetland;
- c. the crossing length of each wetland in feet; and
- d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.
3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the Project is encouraged to identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.
4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V and VI in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V and VI cannot be met, the Project must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:
 - a. spoil control;
 - b. equipment bridges;
 - c. restoration of waterbody banks and wetland hydrology;
 - d. timing of the waterbody crossing;
 - e. method of crossing; and
 - f. size and location of all extra work areas.
6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

B. INSTALLATION

1. Extra Work Areas and Access Roads
 - a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.
 - b. The Project shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from wetland boundaries, except where adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the site-specific conditions that will not permit a 50-foot setback and measures to ensure the wetland is adequately protected.
 - c. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall

use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

- d. The only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.

2. Crossing Procedures

- a. Comply with COE, or its delegated agency, permit terms and conditions.
- b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.
- c. Use “push-pull” or “float” techniques to place the pipe in the trench where water and other site conditions allow.
- d. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering in.
- e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.
- f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal.

The Project can burn woody debris in wetlands, if approved by the COE and in accordance with state and local regulations, ensuring that all remaining woody debris is removed for disposal.

- g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.
- h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are

saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

- i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.
- j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.
- k. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c, maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

- a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.
- b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the wetland.
- c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any wetland. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology.
2. Restore pre-construction wetland contours to maintain the original wetland hydrology.
3. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.
4. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate federal or state agency.
5. Consult with the appropriate federal or state agencies to develop a project-specific wetland restoration plan. The restoration plan shall include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of invasive species and noxious weeds (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.
6. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).
7. Ensure that all disturbed areas successfully revegetate with native wetland plant species.
8. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.4 of the Plan.

D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. Do not conduct routine vegetation mowing or clearing over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points.
2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.
3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of wetland areas.
4. Monitor and record the success of wetland revegetation annually until wetland revegetation is successful.
5. Wetland revegetation shall be considered successful if all of the following criteria are satisfied:
 - a. the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation);
 - b. vegetation is at least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction;
 - c. if natural rather than active revegetation was used, the plant species composition is consistent with early successional wetland plant communities in the affected ecoregion; and
 - d. invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction.
6. Within 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in section VI.D.5, above. The requirement to file wetland restoration reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advance notice provisions in the FERC's regulations.

For any wetland where revegetation is not successful at the end of 3 years after construction, develop and implement (in consultation with a

professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.

VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.
2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.
3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.
2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address secondary containment and refueling of these pumps in the project's Spill Prevention and Response Procedures.
3. The Project shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

C. INTAKE SOURCE AND RATE

1. Screen the intake hose to minimize the potential for entrainment of fish.
2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.
3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.
4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.
2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.

APPENDIX A -

Resource Report 1 - Revised Appendix 2-F - ATWS Within 50 feet of Wetland or Waterbody

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
Virginia, Pittsylvania County							
1001C	0.4		X	AS-APP-6001	20	ATWS situated in this location to provide support of Lambert construction.	Y
1020	1.3 RR	X		W-F18-5	38	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	Y
1030	4.0		X	S-F18-67	43	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	N
1052	5.2	X		W-D18-1	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1088B	9.8	X		W-F18-58	47	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland crossing and point of intersect.	N
1113	13.4	X		W-E18-28	19	ATWS situated in this location to support conventional bore and associated equipment.	Y
1136C	17.7 RR		X	S-A19-295	1	ATWS situated in this location for storage of material, pumps, mats, pipe for wetland and stream crossing.	Y
			X	S-E18-44	49		
		X		W-A19-296	0		
1169	22.0	X		W-A18-204	33	ATWS situated in this location to support conventional bore and associated equipment.	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1178	23.0	X		W-A19-318	24	ATWS situated in this location to support staging and storage of materials and timber mats for foreign pipeline crossing, multiple stream/wetland crossings with row width restrictions	Y
North Carolina, Rockingham County							
1213	27.0 RR	X		W-A18-44	0	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1213A	27.0 RR	X		W-A18-44	6	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1213D	27.3	X		W-A18-44	0	ATWS in this location to be used for support during stream crossing	Y
1222	27.6	X		W-A19-274	0	ATWS in this location to be used for support during stream crossing.	Y
1224A	28.1 RR	X		W-A18-39	0	This ATWS is in an agriculture field and will be used for pipeline crossing.	N
1244	29.9	X		W-A18-18	0	ATWS situated in this location to support HDD and associated equipment.	Y
1244A	29.9	X		W-A18-18	2	ATWS situated in this location to support HDD and associated equipment	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1251A	30.3	X		AW-B18-34	16	Staging of mats / equipment needed to perform foreign line crossings, then used for as needed for parking, materials, pipe, and equipment to support Dan River HDD, and also to support connection point between spreads.	N
				AW-B18-36	8		
1249	30.4	X	X	S-B18-38	0	ATWS situated in this location to support HDD and associated equipment	Y
				W-B18-34	35	ATWS situated in this location to support HDD and associated equipment	Y
				AW-B18-36 / W-B18-36	0	ATWS situated in this location to support HDD and associated equipment// hydrostatic testing equipment.	Y
1250	30.5	X		W-B18-34	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1251	30.4	X		W-B18-36	0	ATWS situated in this location to support HDD and associated equipment.	Y
1253D	30.9		X	S-B19-153	49	ATWS in this location to be used for support during stream crossing.	N
1368	41.5		X	S-B18-44	15	ATWS situated in this location to support conventional bore and associated equipment.	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1369	41.6		X	AS-B18-44	45	ATWS situated in this location to support conventional bore and associated equipment.	Y
1446A	48.5	X		W-B18-139	29	ATWS in agricultural field to support wetland crossing and associated equipment.	N
1426A	46.7		X	S-A19-291	38	ATWS for vehicle passage along access road	Y
1426B	46.7		X	S-A19-291	9	ATWS for vehicle passage along access road	Y
North Carolina, Alamance County							
1511	55.5	X		W-B18-61	24	This ATWS is inside an agriculture field and will be used to support crews at PI.	N
1588G	65.3 RR	X	X	S-A19-324	37	ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing.	N
				W-A19-323	0		
1588K	65.5	X		W-B19-168	0	This ATWS is inside an agriculture field and will be used to support crews at PI.	N
1588Y1	67.1 RR		X	AS-APP-1568	17	ATWS for staging / storage of material, pumps, mats, pipe, boring equipment for road crossing.	N
1653B	69.7		X	S-B19-147	34	This ATWS to be used as support for crews working in the congested area	Y

REVISED Appendix 2-F							
ATWS Within 50 feet of Wetland or Waterbody							
ATWS ID	Milepost	Within 50 feet of a Wetland	Within 50 feet of a Waterbody	Feature ID	Distance from Resource Area (feet) a/	Justification	Variance Required (Y/N)
1653C	69.8		X	S-B19-147	37	This ATWS to be used as support for crews working in the congested area	Y
1653D	69.8	X	X	AS-B19-174	17	ATWS situated in this location for staging / storage of material, pumps, mats, pipe, boring equipment to support railroad crossing and stream crossing.	Y
				S-B19-174	0		
				W-B19-173	0		
1692A	73.0 RR	X		W-A18-111	0	ATWS situated in this location to support conventional bore and associated equipment.	Y
1692	73.1RR	X	X	AS-B18-58 / SB18-58	43	This ATWS to be used as a support for crews performing multiple pipeline crossings in this area	Y
				S-B19-150	0	ATWS situated in this location to support conventional bore and associated equipment / hydrostatic test support equipment.	Y
				W-B19-151	0	This ATWS to be used as a support for crews performing multiple pipeline crossings in this area.	Y
Note: Mileposts with an "RR" indicate locations where a re-route was incorporated into the pipeline alignment. a/ Distance from resource area of 0 feet indicate the wetland or waterbody is located within the ATWS.							



MVP Southgate Project

Docket No. CP19-14-000

Attachment 13-1

VDGIF and NCWRC Correspondence

June 2019

Stephanie Frazier

From: Ernst Aschenbach <ernie.aschenbach@dgif.virginia.gov>
Sent: Monday, March 11, 2019 2:02 PM
To: Stahl, Megan D.; alex.miller@nexteraenergy.com; Stephanie Frazier; troy_andersen@fws.gov; rr ProjectReview (DGIF)
Subject: ESSLog 39178; RE: MVP Southgate TOYR
Importance: High

The information you provided below appears to be correct. One clarification. The Time of Year Restrictions (TOYRs) you cited are followed by the customary statement, "...of any given year," to cover situations where a project continues more than one year.

We support coordinating with the USFWS regarding federally listed species. Thanks.



Ernie Aschenbach

Environmental Services Biologist

P 804.367.2733

Email: Ernie.Aschenbach@dgif.virginia.gov

Virginia Department of Game & Inland Fisheries

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From: Stahl, Megan D. <MStahl@equitransmidstream.com>
Sent: Monday, March 11, 2019 10:43 AM
To: Ernst Aschenbach <ernie.aschenbach@dgif.virginia.gov>; rr ProjectReview (DGIF) <projectreview@dgif.virginia.gov>
Cc: alex.miller@nexteraenergy.com; Stephanie Frazier <SFrazier@envsi.com>
Subject: MVP Southgate TOYR

Good morning Ernie,

We are continuing to develop the plans for the MVP Southgate Pipeline Project and would appreciate VDGIF's guidance on time of year restrictions (TOYRs) associated with fishes and mussels in the Virginia portion of the Project. The MVP Southgate Pipeline Project crosses Dan River basin including the Banister and Sandy river watersheds in Pittsylvania County. Can you please confirm that the following TOYRs from VDGIF's [Time of Year Restrictions and Other Guidance Document \(July 5 2018\)](#) are applicable to the project?

Trout Streams

At this time, neither native trout streams nor stockable trout waters are crossed by the Project in Virginia and so time of year restrictions do not apply to any proposed MVP Southgate stream crossings. If plans change and MVP Southgate will cross stockable trout streams, the Project will contact the Aquatic Regional Area Manager for guidance.

Fishes

Our search of the WERMs database did not identify any streams potentially supporting populations of Roanoke logperch in Virginia. During our July 6, 2018 teleconference, VDGIF and USFWS indicated that federal and state listed fishes were not likely to occur in waters crossed by the Project in Virginia and that surveys for fishes would not be requested. MVP Southgate plans to minimize instream effects to aquatic life by completing fish removals in perennial streams where instream substrates will be exposed (e.g., dewatered). Roanoke logperch TOYRs do not apply to any proposed MVP Southgate stream crossings.

Mussels

VDGIF and VDCR indicated that rare mussels are thought to occur in the Banister and Sandy rivers. Mussel surveys are planned in these two waterbodies for spring 2019; if live Atlantic pigtoe, James spiny mussel, green floater, or yellow lamp mussel are encountered then the Project will implement the applicable TOYRs listed below for those affected waters. The mussel survey study plan was recently accepted by VDGIF (February 27, 2019) and is still under review by USFWS.

- Short-term brooders - Atlantic pigtoe (*Fusconaia masoni*) and James spiny mussel (*Parvaspina collina*) – May 15 – July 31
- Long-term brooders - Green floater (*Lasmigona subviridis*) and Yellow lamp mussel (*Lampsilis cariosa*) – April 15 – June 15 and August 15 - September 30

Please confirm you agree with the determinations of these TOYRs.

Thank you,
Megan

Megan Stahl
Manager Environmental
2200 Energy Drive
Canonsburg, PA 15317
T 412-553-7783
C 412-737-2587

mstahl@equitransmidstream.com

****Please note my new email address***



John Spaeth

From: Stancil, Vann F <vann.stancil@ncwildlife.org>
Sent: Monday, November 19, 2018 6:36 AM
To: John Spaeth
Cc: Stahl, Megan D.; Stephanie Frazier; Taina Pankiewicz; Daniel Judy; Casey Swecker
Subject: RE: [External] RE: MVP Southgate - NC Aquatic Species TOYRs

Hey John, sorry it's taken a while to get back to you on this. I've asked our biologists that work in these areas about TOYRs and we agree that considering the proposed crossing methods and anticipated BMPS, we will not be asking for any TOYRs for in-water work.

Thanks,
Vann

From: John Spaeth <jspaeth@envsi.com>
Sent: Monday, November 12, 2018 3:25 PM
To: Stancil, Vann F <vann.stancil@ncwildlife.org>
Cc: Stahl, Megan D. <MStahl@eqt.com>; Stephanie Frazier <SFrazier@envsi.com>; Taina Pankiewicz <TPankiewicz@envsi.com>; Daniel Judy <djudy@envsi.com>; Casey Swecker <CSwecker@envsi.com>
Subject: [External] RE: MVP Southgate - NC Aquatic Species TOYRs

CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to [Report Spam](#).

Vann,
I wanted to check in to see if you had a chance to review the email regarding the TOYRs in NC streams. Any guidance you can provide is greatly appreciated.

Thanks,
-John

From: John Spaeth
Sent: Friday, November 02, 2018 4:48 PM
To: 'vann.stancil@ncwildlife.org'
Cc: 'Stahl, Megan D.'; Stephanie Frazier; Taina Pankiewicz; Daniel Judy; Casey Swecker
Subject: MVP Southgate - NC Aquatic Species TOYRs

Vann,
Can you please inform me if North Carolina has time of year restrictions (TOYR) identifying when construction/disturbance activities are prohibited in rivers/streams? I am not aware of any for North Carolina but wanted to check with you to see if you could direct me to such guidance.
Hope you are well.
Thanks,
-John

|

John Spaeth



Project Manager / Aquatic Scientist

Environmental Solutions & Innovations, Inc.
4525 Este Avenue | Cincinnati, OH 45232 | USA
direct: 513.591.4329 **cell:** 513.377.0443
office: 513.451.1777 **fax:** 513.451.3321
jspaeth@envsi.com | www.envsi.com

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.



MVP Southgate Project

Docket No. CP19-14-000

Attachment 17-1

Virginia SHPO Correspondence

CUI//PRIV - DO NOT RELEASE
(Provided Under Separate Cover)

June 2019



MVP Southgate Project

Docket No. CP19-14-000

Attachment 18-1

North Carolina SHPO Correspondence

CUI//PRIV - DO NOT RELEASE
(Provided Under Separate Cover)

June 2019



MVP Southgate Project

Docket No. CP19-14-000

Attachment 23-1

Residential Site-specific Drawings Table 23-1

June 2019



MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
RESIDENTIAL DRAWINGS

DRAWING NO.	DRAWING TITLE	REV.
RES-COV	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE RESIDENTIAL DRAWINGS	P4
RES-NOTES	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE RESIDENTIAL NOTES	P
RES-NOTES (CONT.)	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE RESIDENTIAL NOTES	P
RES-NOTES SITE SPECIFIC	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE RESIDENTIAL NOTES	P2
RSS-H650-001	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P2
RSS-H650-002	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P3
RSS-H650-003	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P3
RSS-H650-004	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P3
RSS-H650-005	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P3
RSS-H650-006	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P2
RSS-H650-008	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P3
RSS-H650-009	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P2
RSS-H650-015	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P3
RSS-H650-016	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P1
RSS-H650-017	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P2
RSS-H650-018	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P2
RSS-H650-024	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P1
RSS-H650-025	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-026	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-027	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-028	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-029	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P
RSS-H650-030	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-031	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-032	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-033	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P
RSS-H650-034	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-035	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-036	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P
RSS-H650-037	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P
RSS-H650-038	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P
RSS-H650-039	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P
RSS-H650-040	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P
RSS-H650-041	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P
RSS-H650-042	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P
RSS-H650-043	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P
RSS-H650-044	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P

DRAWN	TRC	DATE	10/30/2018
CHECKED	SJO	DATE	10/30/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			



RESIDENTIAL DETAIL COVER

MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
RESIDENTIAL DRAWINGS

DRAWING NO.	REV.
RES-COVER	P4

**ISSUED FOR FERC
SUPPLEMENTAL FILING**
06/21/19



MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
 ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
 RESIDENTIAL DRAWING NOTES

GENERAL NOTES:

SAFETY FENCE, IN CONJUNCTION WITH ANY PROPOSED EROSION AND SEDIMENTATION CONTROL DEVICES, WILL BE INSTALLED AT THE EDGE OF THE LIMIT OF DISTURBANCE (LOD) FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR COMMERCIAL ESTABLISHMENT. FENCING WILL BE MAINTAINED THROUGHOUT ACTIVE CONSTRUCTION IN THE AREA. WHERE NECESSARY, HARD BARRIERS SUCH AS JERSEY BARRIERS WILL BE INSTALLED TO PROVIDE A SOLID, PROTECTIVE BARRIER.

STRUCTURES WITHIN LOD WILL BE REMOVED, RELOCATED, OR PROTECTED PER LAND OWNER AGREEMENT.

PROPERTY LINES DEPICTED ON THIS PLAN ARE BASED ON GIS TAX MAP DATA AND/OR FIELD LOCATED PROPERTY EVIDENCE. THEY SHOULD NOT BE RELIED ON AS AN ACCURATE DEPICTION OF THE ACTUAL PROPERTY LINE LOCATIONS. THEY MAY NOT REPRESENT THE RESULTS OF A BOUNDARY SURVEY.

AREAS OF PERMANENT EASEMENT WILL BE PERMANENTLY MAINTAINED PER USDOT PHMSA REQUIREMENTS. TEMPORARY WORKSPACES WOULD BE ALLOWED TO REVERT BACK TO PRE-EXISTING USES. OTHER MINOR ITEMS WILL BE ADDRESSED THROUGH LANDOWNER STIPULATIONS SPECIFIC TO THE PROPERTY.

CONSTRUCTION CREWS WILL UTILIZE DUST CONTROLS MEASURES AS NEEDED, INCLUDING WETTING AND BRUSHING OF ROADS.

WORK HOURS WILL BE LIMITED TO 7 AM TO 7 PM OR SUNSET (WHICHEVER IS LATER) UNLESS OTHER ARRANGEMENTS HAVE BEEN AGREED UPON WITH LANDOWNER.

CONSTRUCTION METHODS:

THE STOVE PIPE METHOD IS A LESS EFFICIENT ALTERNATIVE TO THE MAINLINE METHOD OF CONSTRUCTION. IT IS TYPICALLY USED WHEN THE PIPELINE IS TO BE INSTALLED IN VERY CLOSE PROXIMITY TO AN EXISTING STRUCTURE OR WHEN AN OPEN DITCH WOULD ADVERSELY IMPACT A COMMERCIAL/RESIDENTIAL ESTABLISHMENT. THE TECHNIQUE INVOLVES INSTALLING PIPE ONE JOINT AT A TIME WHEREBY THE WELDING, X-RAY AND COATING ACTIVITIES ARE ALL PERFORMED IN THE OPEN TRENCH. AT THE END OF EACH DAY THE NEWLY INSTALLED PIPE IS BACKFILLED OR THE OPEN TRENCH IS COVERED WITH STEEL PLATES OR TIMBER MATS.

THE DRAG SECTION CONSTRUCTION METHOD, WHILE LESS EFFICIENT THAN MAINLINE METHODS, IS NORMALLY PREFERRED OVER THE STOVE PIPE ALTERNATIVE. THIS TECHNIQUE INVOLVES THE TRENCHING, INSTALLATION AND BACKFILL OF A PREFABRICATED LENGTH OF PIPE CONTAINING SEVERAL SEGMENTS ALL IN ONE DAY. AT THE END OF EACH DAY THE NEWLY INSTALLED PIPE IS BACKFILLED AND/OR COVERED WITH STEEL PLATES OR TIMBER MATS.

MAINLINE CONSTRUCTION IS THE MOST EFFICIENT CONSTRUCTION METHOD. THIS METHOD IS SIMILAR TO STOVE PIPE AND DRAG SECTION INSTALLATION, BUT ON A LARGER SCALE. ALL STEPS OF THE CONSTRUCTION PROCESS (CLEARING, GRADING, TRENCHING, STRINGING & BENDING, WELDING & COATING, LOWERING & BACKFILL) OCCUR OVER LARGE STRETCHES OF RIGHT-OF-WAY TO MAXIMIZE EFFICIENCY OF THE CONSTRUCTION SPREADS. MAINLINE CONSTRUCTION IS TYPICALLY UTILIZED WHERE LARGE STRETCHES OF PIPELINE ROW ARE UNINTERRUPTED. THIS METHOD MAY BE USED NEAR STRUCTURES WHERE OFFSET FROM WORKSPACES IS LARGE ENOUGH TO FACILITATE SAFE AND PRACTICAL IMPLEMENTATION

DRAWN	TRC	DATE	05/01/2019
CHECKED	SSL	DATE	05/01/2019
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			



RESIDENTIAL NOTES	
MOUNTAIN VALLEY PIPELINE SOUTHGATE PROJECT PROPOSED H-650 PIPELINE RESIDENTIAL DRAWING NOTES	
DRAWING NO.	REV.
RES-NOTES	P

**ISSUED FOR FERC
 SUPPLEMENTAL FILING**
 05/20/19



MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
 ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
 RESIDENTIAL DRAWING NOTES

CLEANUP AND REVEGETATION PLANS

SUBSOIL AND TOPSOIL (UP TO 12 INCHES) IN RESIDENTIAL AREAS WILL BE SEGREGATED AND RETURNED TO PRE-CONSTRUCTION GRADE AS SHOWN ON DRAWINGS.

IF SOILS ARE REQUIRED TO BE IMPORTED (E.G. IF TOP SOILING IS NOT PRACTICAL), THEY WILL BE CERTIFIED AS FREE OF NOXIOUS WEEDS AND SOIL PESTS. UNLESS OTHERWISE APPROVED BY THE LANDOWNER. IF TREES ARE NEEDED TO BE REMOVED FROM THE LANDSCAPE FOR CONSTRUCTION, THEY WILL BE REPLACED WITH THE SAME SPECIES OR SIMILAR BASED ON LANDOWNER REQUESTS.

RESTORE ALL TURF, ORNAMENTAL SHRUBS, AND SPECIALIZED LANDSCAPING IN ACCORDANCE WITH THE LANDOWNER'S REQUEST, OR COMPENSATE THE LANDOWNER. RESTORATION WORK MUST BE PERFORMED BY PERSONNEL FAMILIAR WITH LOCAL HORTICULTURAL AND TURF ESTABLISHMENT PRACTICES.

ALL DISTURBED RESIDENTIAL UPLAND AREAS WILL BE MULCHED BEFORE SEEDING IF FINAL GRADING AND INSTALLATION OF PERMANENT EROSION CONTROL MEASURES WILL NOT BE INSTALLED WITHIN 10 DAYS OF COMPLETION.

ALL LAWN AREAS AND IMPACTED LANDSCAPING WILL BE RESTORED FOLLOWING CLEAN-UP OPERATIONS AS SOON AS REASONABLY POSSIBLE, OR AS SPECIFIED IN THE LANDOWNER AGREEMENT. IF SEASONAL OR OTHER WEATHER CONDITIONS PREVENT COMPLIANCE WITH THESE TIME FRAMES, TEMPORARY EROSION CONTROLS (SEDIMENT BARRIERS AND MULCH) WILL BE MAINTAINED UNTIL CONDITIONS ALLOW COMPLETION OF RESTORATION.

IF CRUSHED STONE ACCESS PADS ARE USED IN RESIDENTIAL AREAS THEY WILL BE INSTALLED ON TOP OF SYNTHETIC FABRIC TO FACILITATE EASY REMOVAL.

EXCESS ROCK FROM THE TOP 12 INCHES OF SOIL IN RESIDENTIAL AREAS WILL BE REMOVED UNLESS OTHER ARRANGEMENTS WITH LANDOWNER HAVE BEEN AGREED UPON.

TOPSOIL AND SUBSOIL COMPACTION WILL MEET PRECONSTRUCTION CONDITIONS AND WHERE NECESSARY, SOIL COMPACTION MITIGATION MAY BE REQUIRED TO MITIGATE FOR SEVERELY COMPACTED RESIDENTIAL AREAS.

OTHER RESTORATION DETAILS, INCLUDING REVEGETATION REQUIREMENTS RELATED TO LAWNS, MAY BE SPECIFIC TO LANDOWNER STIPULATIONS.

CONDUCT FOLLOW-UP INSPECTIONS OF ALL DISTURBED AREAS, AS NECESSARY, TO DETERMINE THE SUCCESS OF REVEGETATION AND ADDRESS LANDOWNER CONCERNS. AT A MINIMUM, CONDUCT INSPECTIONS AFTER THE FIRST AND SECOND GROWING SEASONS.

LANDOWNER COMPLAINT RESOLUTION PROCESS

IN THE EVENT OF AN ISSUE, LANDOWNERS ARE DIRECTED TO CONTACT THEIR LOCAL MVP SOUTHGATE LAND REPRESENTATIVE. LANDOWNERS CAN ALSO REACH PROJECT PERSONNEL BY CALLING 1-833-MV-SOUTH OR EMAILING MAIL@MVPSOUTHGATE.COM

AFTER WORKING WITH THE SOUTHGATE PROJECT REPRESENTATIVE AND APPROPRIATE RIGHT-OF-WAY AGENT, IF THE LANDOWNER IS STILL NOT COMPLETELY SATISFIED WITH THE RESOLUTION, THE INDIVIDUAL SHOULD CONTACT THE COMMISSION'S LANDOWNER HELPLINE AT (877) 337-2237, OR BY EMAIL, LANDOWNERHELP@FERC.GOV.

DRAWN	TRC	DATE	05/08/2019
CHECKED		DATE	
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			



RESIDENTIAL NOTES

MOUNTAIN VALLEY PIPELINE
 SOUTHGATE PROJECT
 PROPOSED H-650 PIPELINE
 RESIDENTIAL DRAWING NOTES

DRAWING NO.

RES-NOTES CONT.

REV.

P

**ISSUED FOR FERC
 SUPPLEMENTAL FILING**

05/20/19



MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
 ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
 RESIDENTIAL DRAWING NOTES

Residential Plan Drawing	Anticipated Construction Method	Approximate Construction Duration	Additional Measures	Restoration Plans
RSS-H650-001	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-002	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-003	NA - Yard	400 Days	Install hard barriers	See General Restoration Notes
RSS-H650-004	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-005	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-006	Stove Pipe	35 Days	None identified at this time.	See General Restoration Notes
RSS-H650-008	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-009	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-015	Mainline / Drag	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-016	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-017	Stove Pipe	50 Days	Install hard barriers	See General Restoration Notes
RSS-H650-018	Stove Pipe	75 Days	None identified at this time.	See General Restoration Notes
RSS-H650-024	NA - Access Road	200 Days	Install hard barriers	See General Restoration Notes
RSS-H650-025	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-026	NA - Access Road	200 Days	Install hard barriers	See General Restoration Notes
RSS-H650-027	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes

RSS-H650-028	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-029	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-030	NA - Access Road	200 Days	Install hard barriers	See General Restoration Notes
RSS-H650-031	Mainline	25 Days	None identified at this time.	See General Restoration Notes
RSS-H650-032	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-033	NA - Yard	400 Days	Install hard barriers	See General Restoration Notes
RSS-H650-034	Mainline	35 Days	None identified at this time.	See General Restoration Notes
RSS-H650-035	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-036	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-037	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-038	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-039	Mainline / Road Bore	25 Days	None identified at this time.	See General Restoration Notes
RSS-H650-040	NA - Access Road	200 Days	None identified at this time.	See General Restoration Notes
RSS-H650-041	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-042	Mainline	15 Days	None identified at this time.	See General Restoration Notes
RSS-H650-043	NA - Yard	400 Days	None identified at this time.	See General Restoration Notes
RSS-H650-044	NA - Yard	400 Days	None identified at this time.	See General Restoration Notes

NOTE:

CONSTRUCTION METHOD AND DURATION MAY CHANGE DUE TO LANDOWNER REQUESTS, FIELDS CONDITIONS, AND OTHER CONSIDERATIONS.

DRAWN	TRC	DATE	05/08/2019
CHECKED	SSL	DATE	05/09/2019
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			



RESIDENTIAL NOTES

MOUNTAIN VALLEY PIPELINE
 SOUTHGATE PROJECT
 PROPOSED H-650 PIPELINE
 RESIDENTIAL DRAWING NOTES

DRAWING NO.	REV.
RES-NOTES SITE SPECIFIC	P2

**ISSUED FOR FERC
 SUPPLEMENTAL FILING**
 06/21/19



C/L MP 49.10

PROPERTY OWNER
NC-RO-162.000

2-STORY HOUSE
(ABANDONED LOG CABIN
TO BE REMOVED)

PROPERTY OWNER
NC-RO-163.000

HIGHWAY 87

H-650 PIPELINE

PROPERTY OWNER
NC-RO-164.000

**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

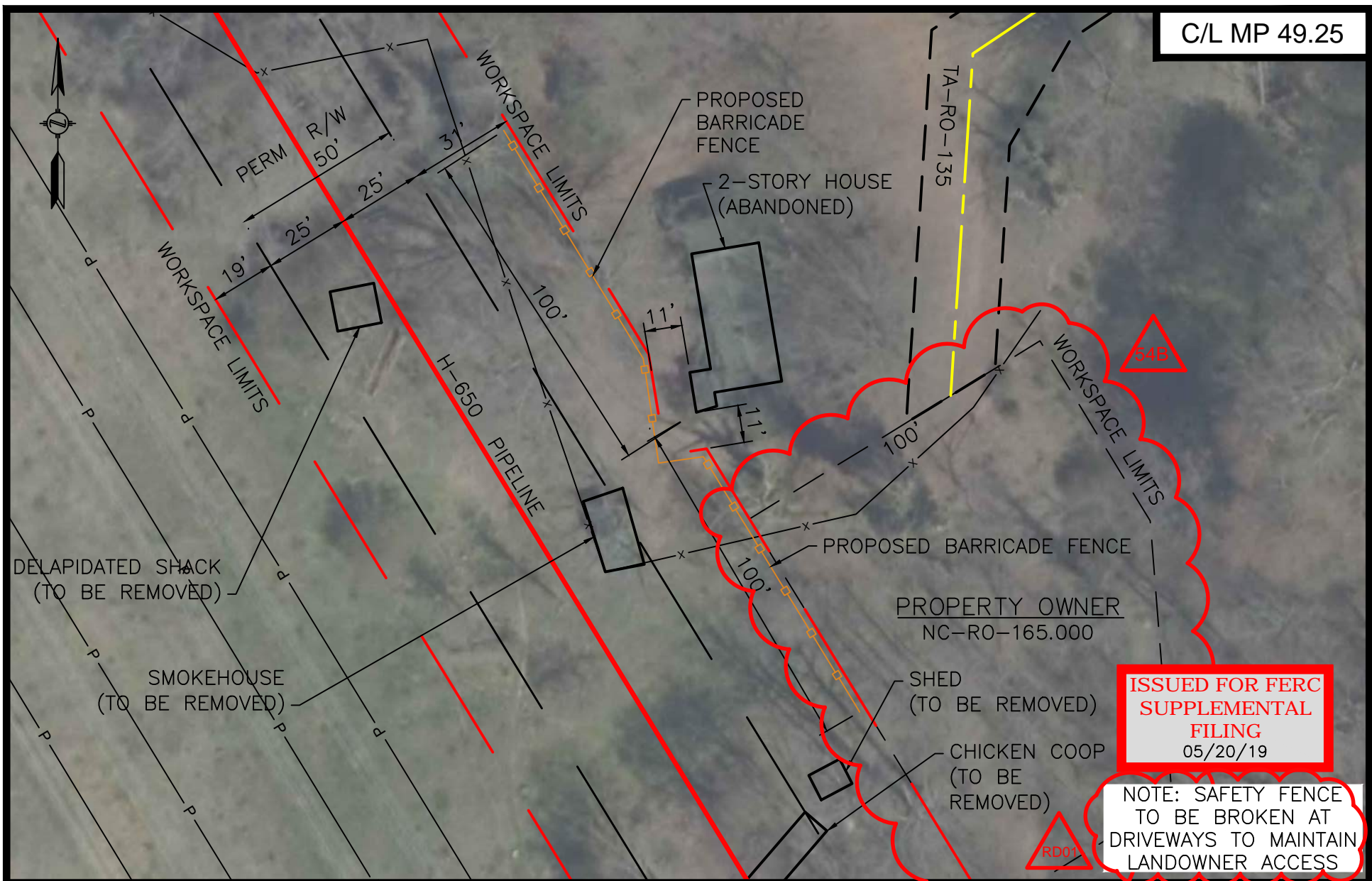


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: TBH	10/05/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.:	
RSS-H650-001	
SCALE: 1" = 40'	REV. P2
DATE OF PLOT: 6/17/2019 12:30 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

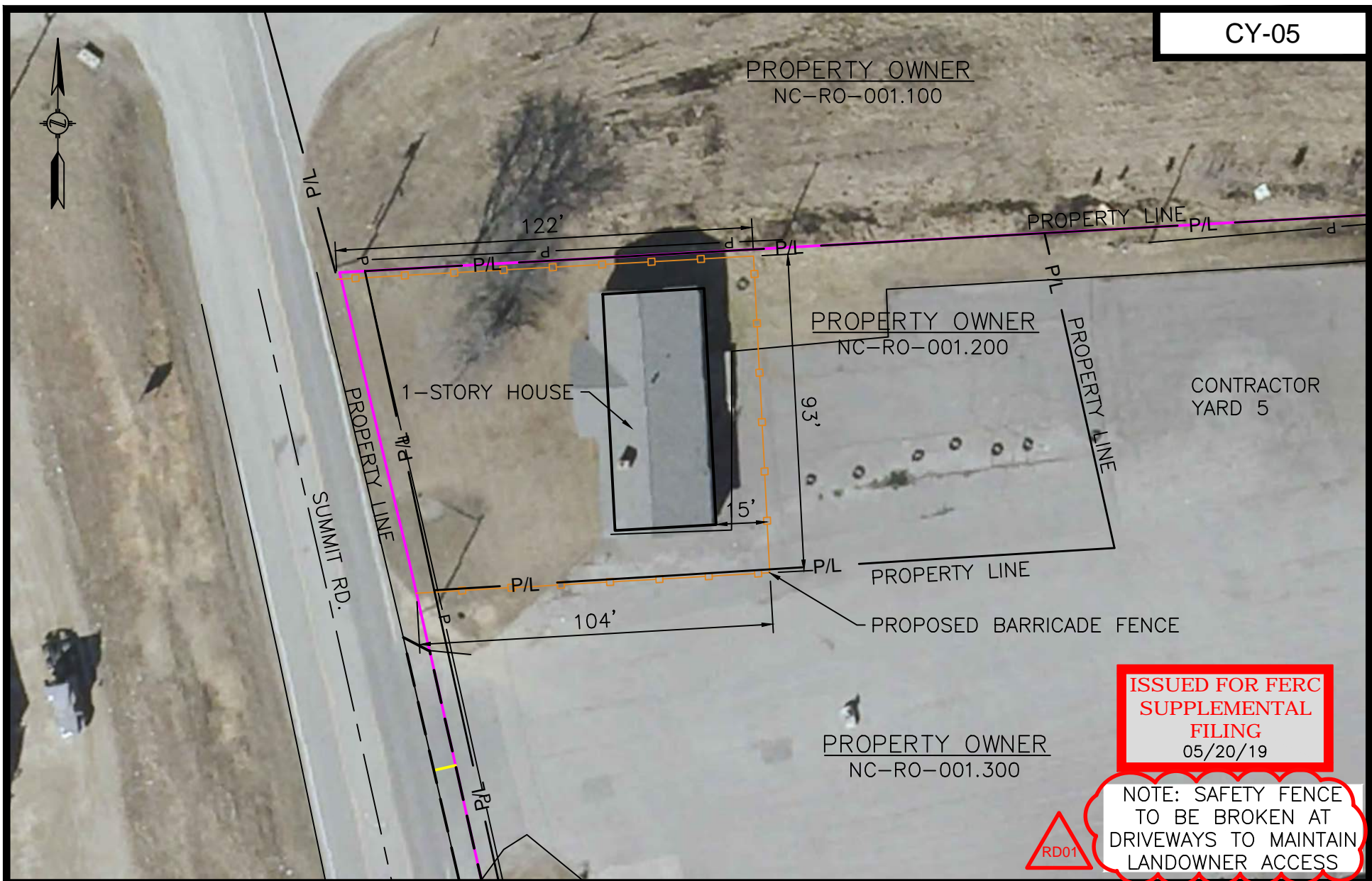
**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

DRAWN BY: TBH	10/05/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-002	
SCALE: 1" = 40'	REV. P3
DATE OF PLOT: 6/17/2019 12:30 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

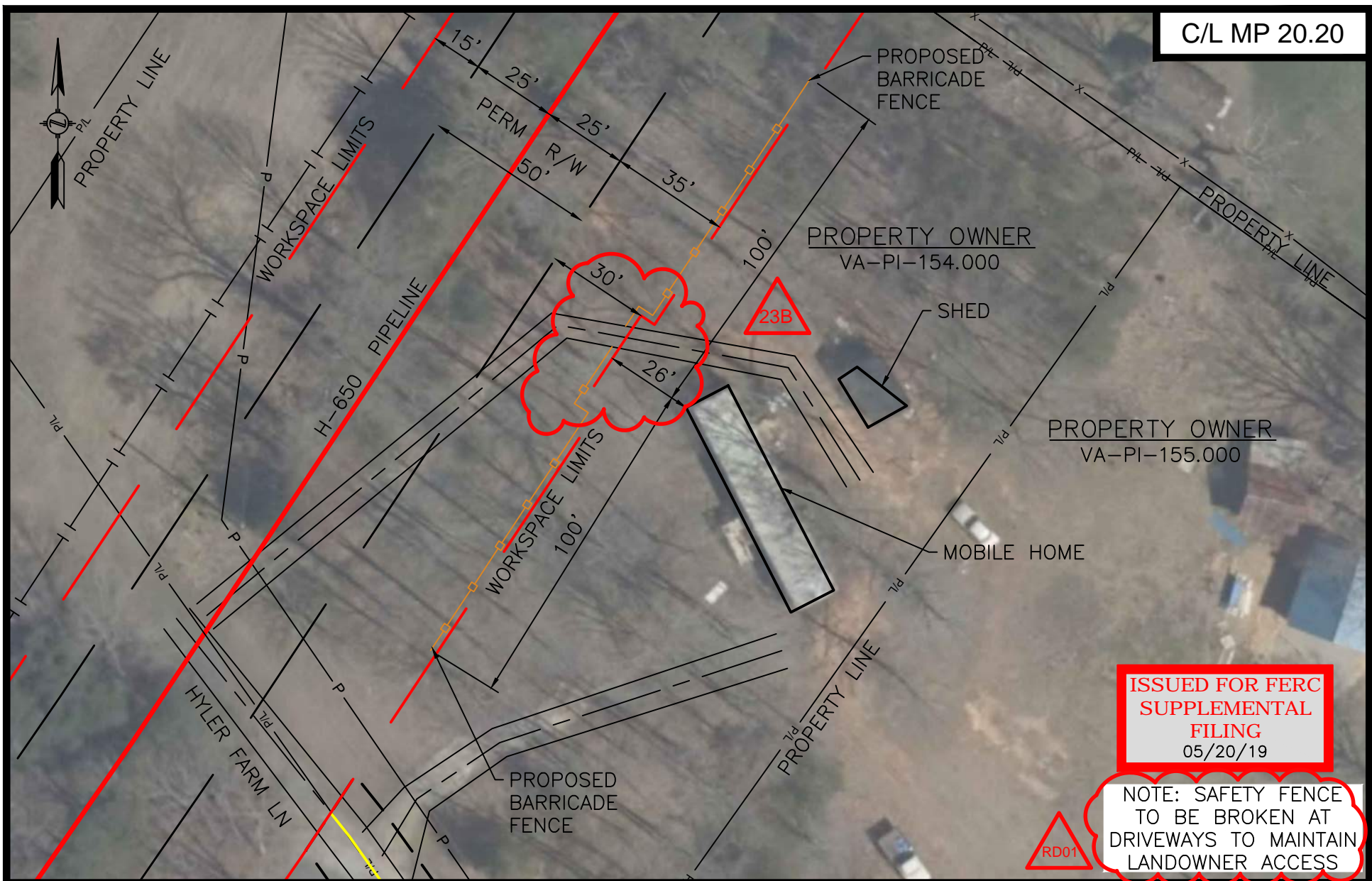


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: TBH	10/08/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-003	
SCALE: 1" = 40'	REV. P3
DATE OF PLOT: 6/17/2019 12:30 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

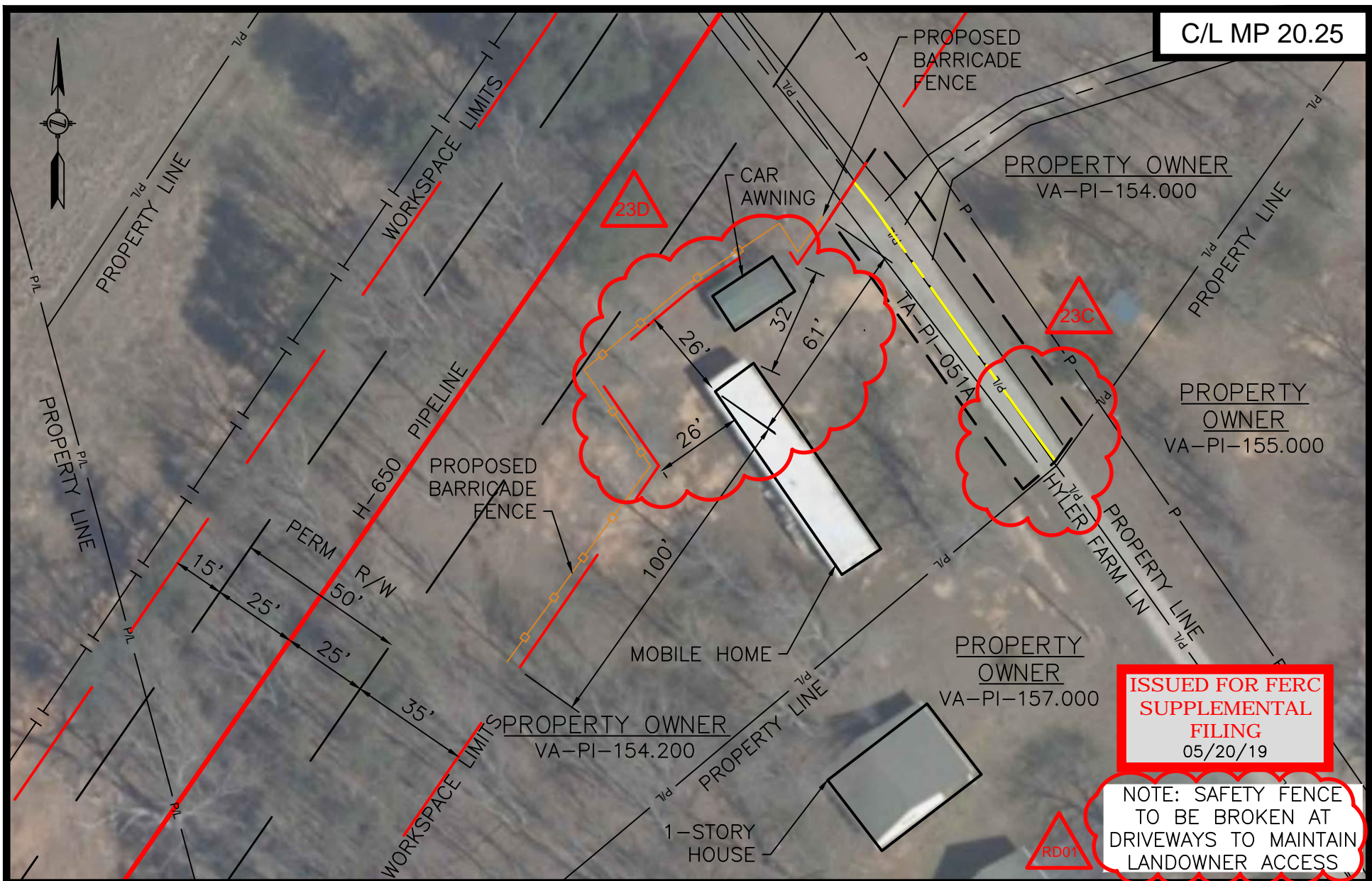


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA**

DRAWN BY: TBH	10/08/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-004	
SCALE: 1" = 40'	REV. P3
DATE OF PLOT: 6/17/2019 12:31 PM	

C/L MP 20.25



ISSUED FOR FERC SUPPLEMENTAL FILING
05/20/19

NOTE: SAFETY FENCE TO BE BROKEN AT DRIVEWAYS TO MAINTAIN LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA**

SHEET 1 OF 1

DRAWN BY: TBH	10/09/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.:	
RSS-H650-005	
SCALE: 1" = 40'	REV. P3
DATE OF PLOT: 6/17/2019 12:31 PM	

C/L MP 69.80



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: TBH	10/17/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-006	
SCALE: 1" = 40'	REV. P2
DATE OF PLOT: 6/17/2019 12:31 PM	

C/L MP 57.80



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: TBH	10/10/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-008	
SCALE: 1" = 40'	REV. P3
DATE OF PLOT: 6/17/2019 12:31 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

DRAWN BY: TBH	10/10/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-009	
SCALE: 1" = 40'	REV. P2
DATE OF PLOT: 6/17/2019 12:32 PM	

C/L MP 72.80

PROPERTY OWNER
NC-AL-203.000

PROPERTY OWNER
NC-AL-202.000



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



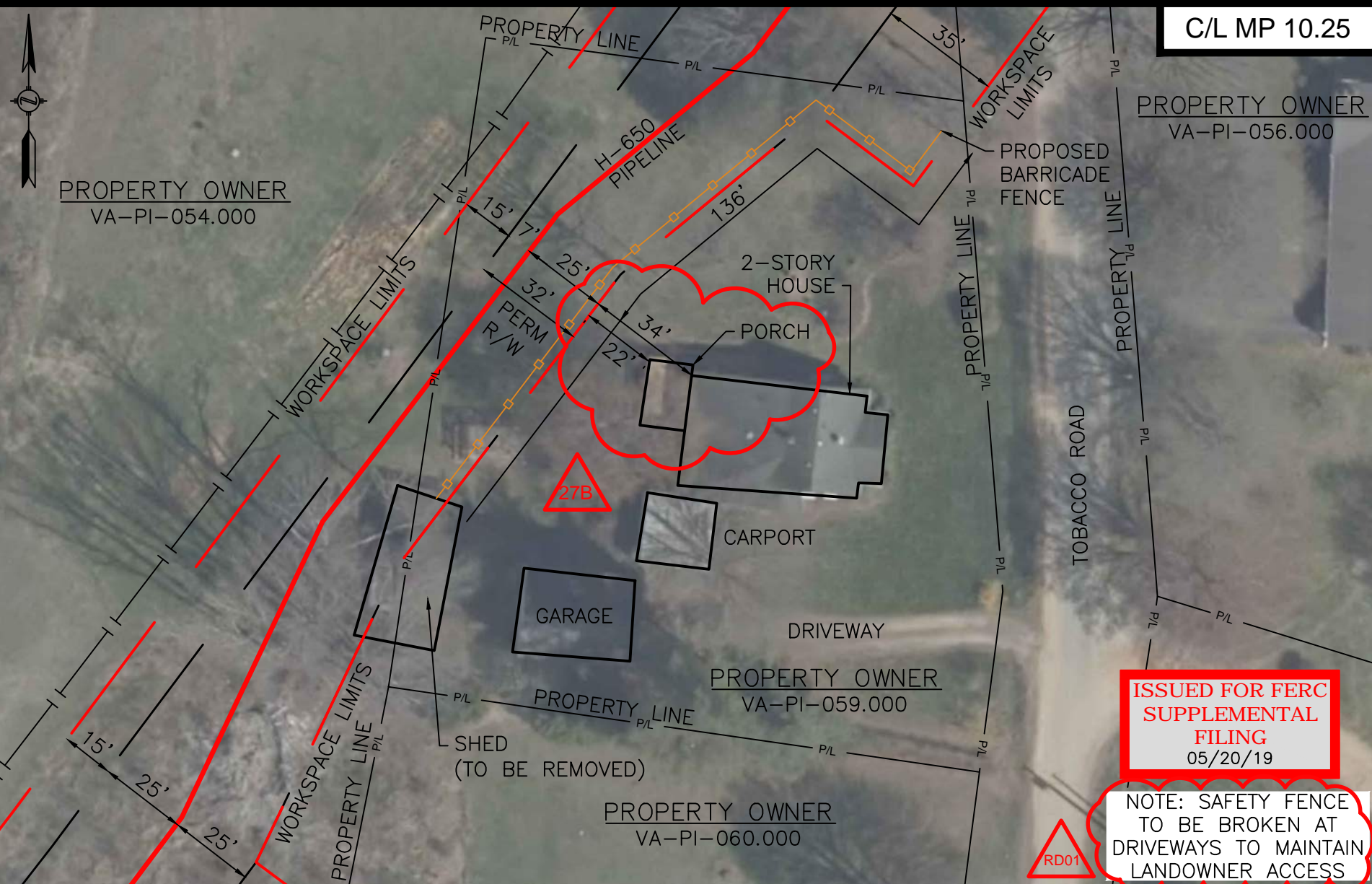
CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/22/18
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:	RSS-H650-015	
SCALE:	1" = 40'	REV. P3
DATE OF PLOT:	6/17/2019 12:32 PM	

C/L MP 10.25



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



FIRM REGISTRATION NO.:
VA 0407006097



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA**

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/22/18
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-016		
SCALE: 1" = 40'	REV. P1	
DATE OF PLOT: 6/17/2019 12:32 PM		

C/L MP 69.60



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

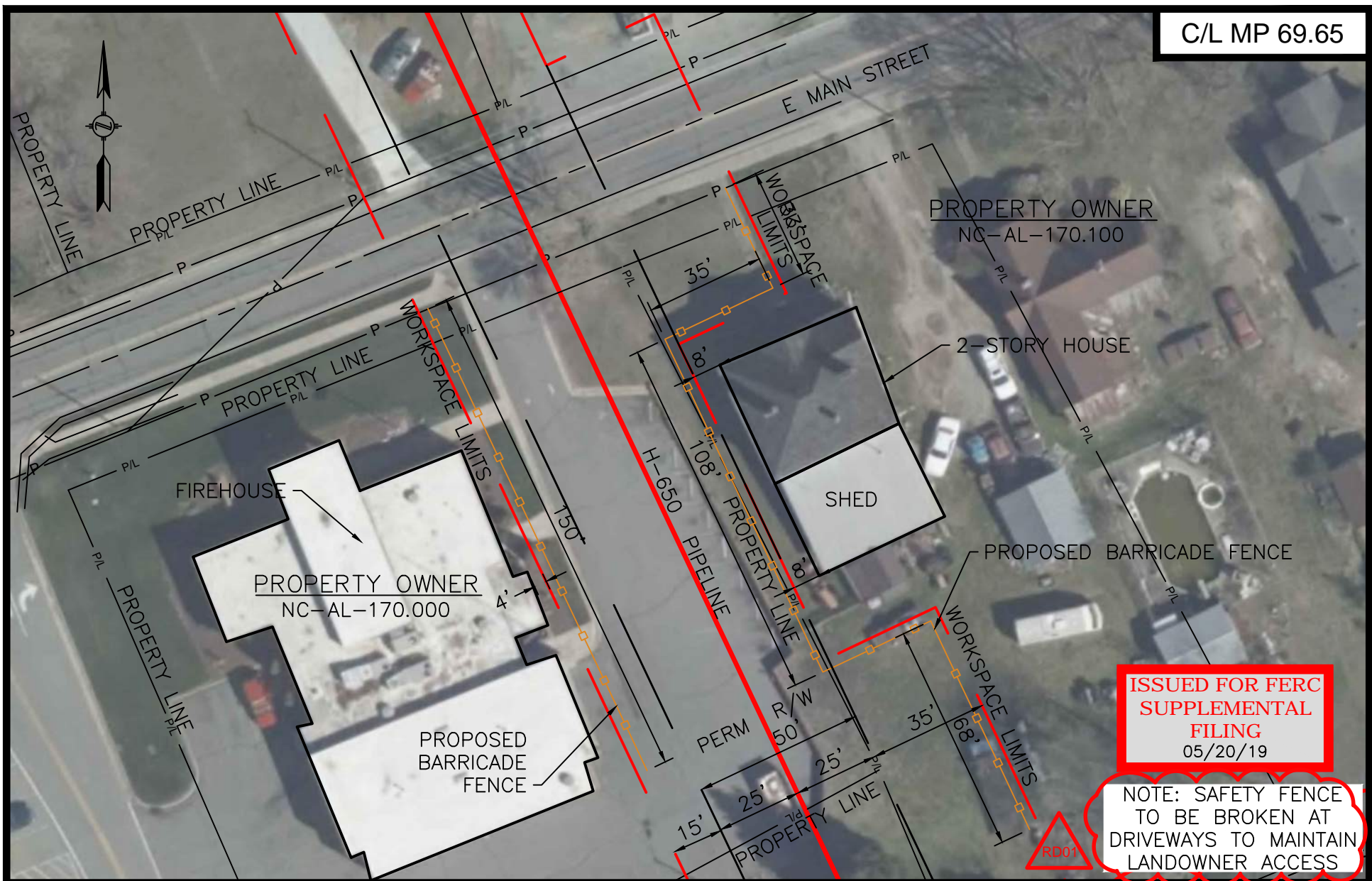


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: TBH	10/17/18
DRAFTING CK: SJO	10/22/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-017	
SCALE: 1" = 40'	REV. P2
DATE OF PLOT: 6/17/2019 12:32 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

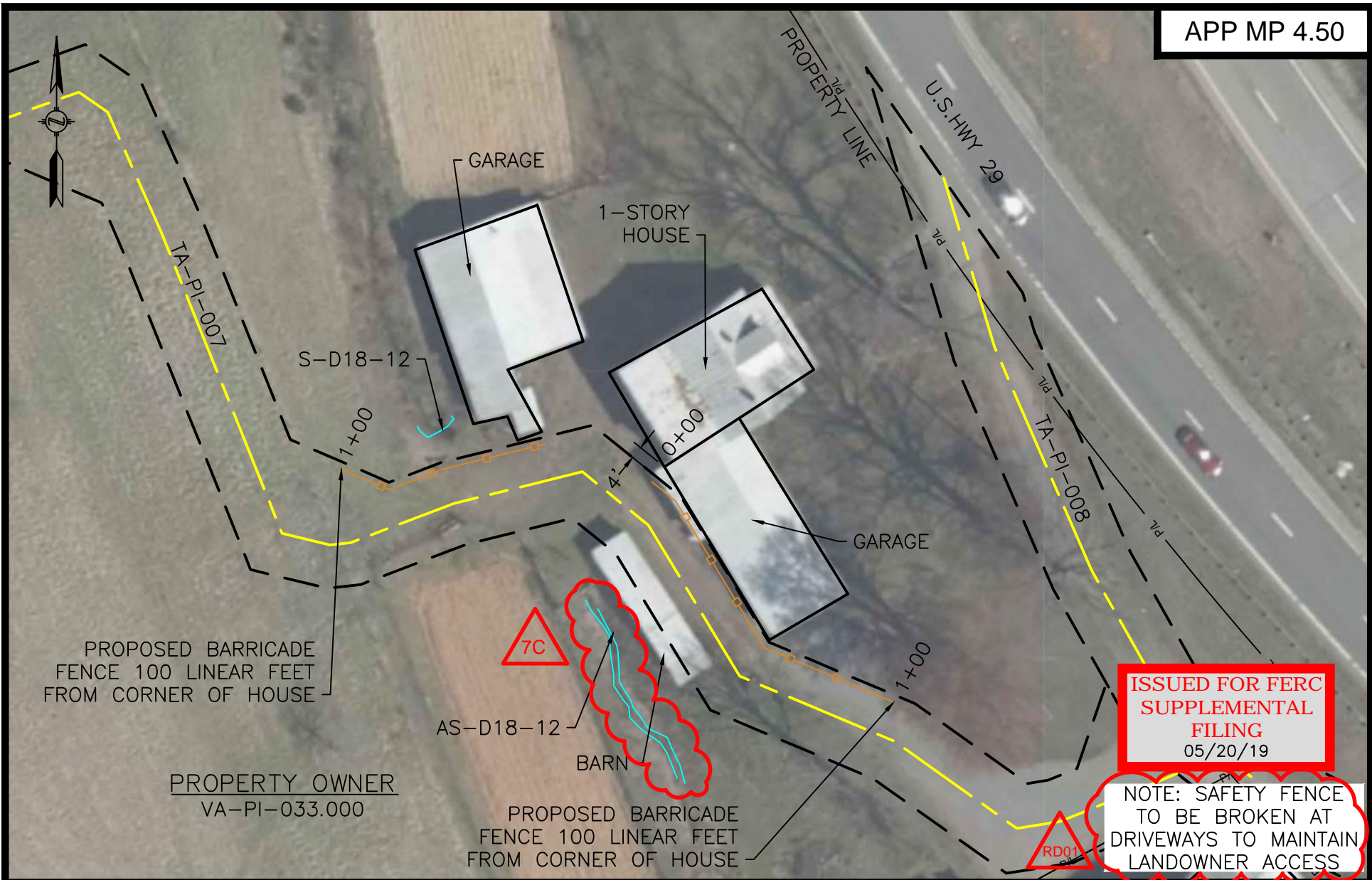
**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

DRAWN BY: TBH	10/17/18
DRAFTING CK: SJO	10/22/18
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-018	
SCALE: 1" = 40'	REV. P2
DATE OF PLOT: 6/17/2019 12:33 PM	



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
 PROPOSED H-650 PIPELINE
 PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY:	SJS	03/19/19
DRAFTING CK:	DEM	03/20/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-024		
SCALE: 1" = 40'	REV. P1	
DATE OF PLOT: 6/17/2019 12:33 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

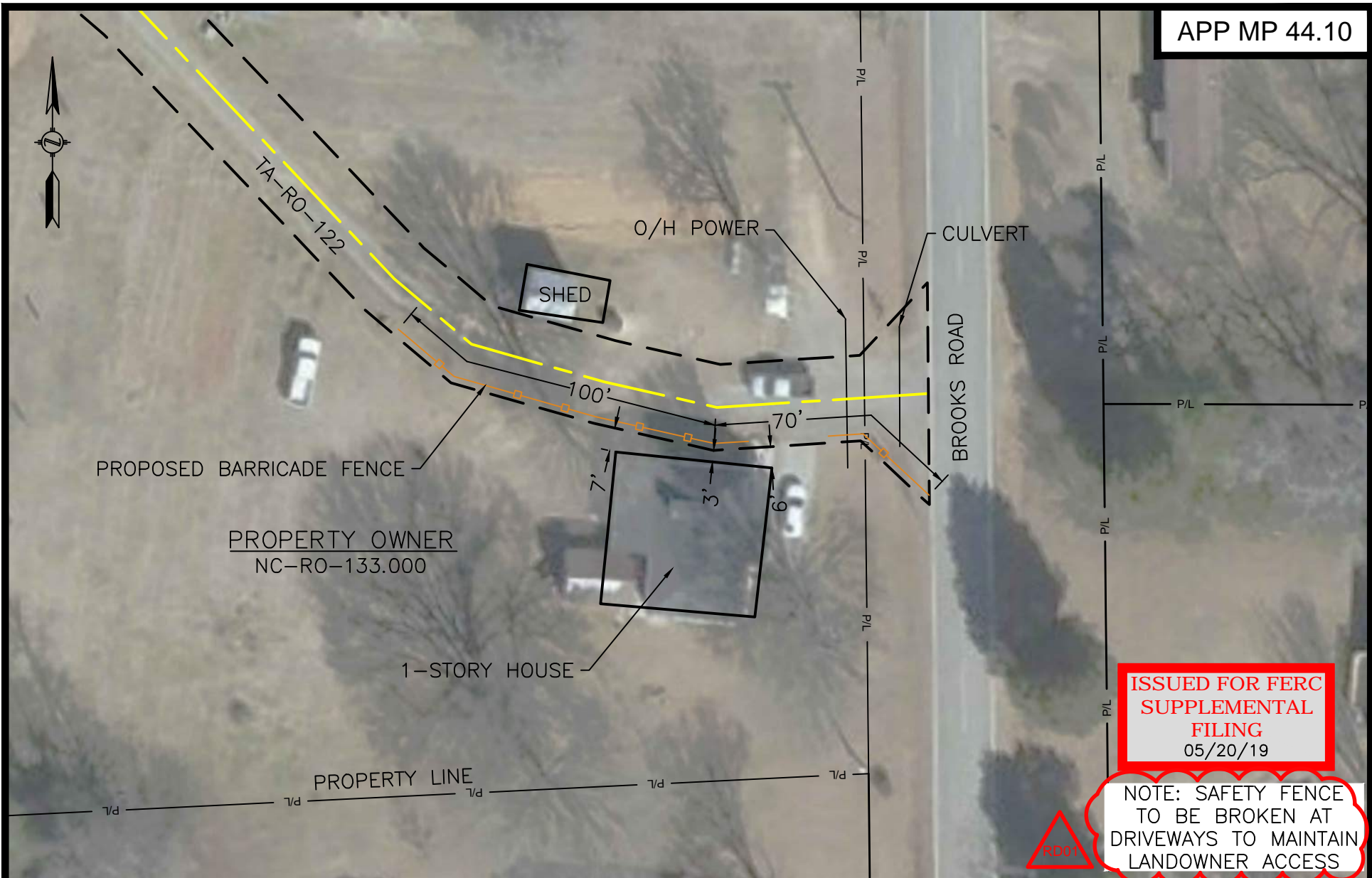


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY:	SJS	03/19/19
DRAFTING CK:	DEM	03/20/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-025		
SCALE: 1" = 40'	REV. P1	
DATE OF PLOT: 6/17/2019 12:33 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

DRAWN BY: SJS	03/19/19
DRAFTING CK: DEM	03/20/19
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-026	
SCALE: 1" = 40'	REV. P1
DATE OF PLOT: 6/17/2019 12:34 PM	



PROPERTY OWNER
NC-RO-143.200

PROPERTY OWNER
NC-RO-143.100

1-STORY HOUSE

PROPOSED
BARRICADE
FENCE

PROPERTY LINE
P/L

PROPERTY LINE
P/L

PROPERTY LINE
P/L

TA-RO-127

PROPERTY OWNER
NC-RO-143.000

ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19

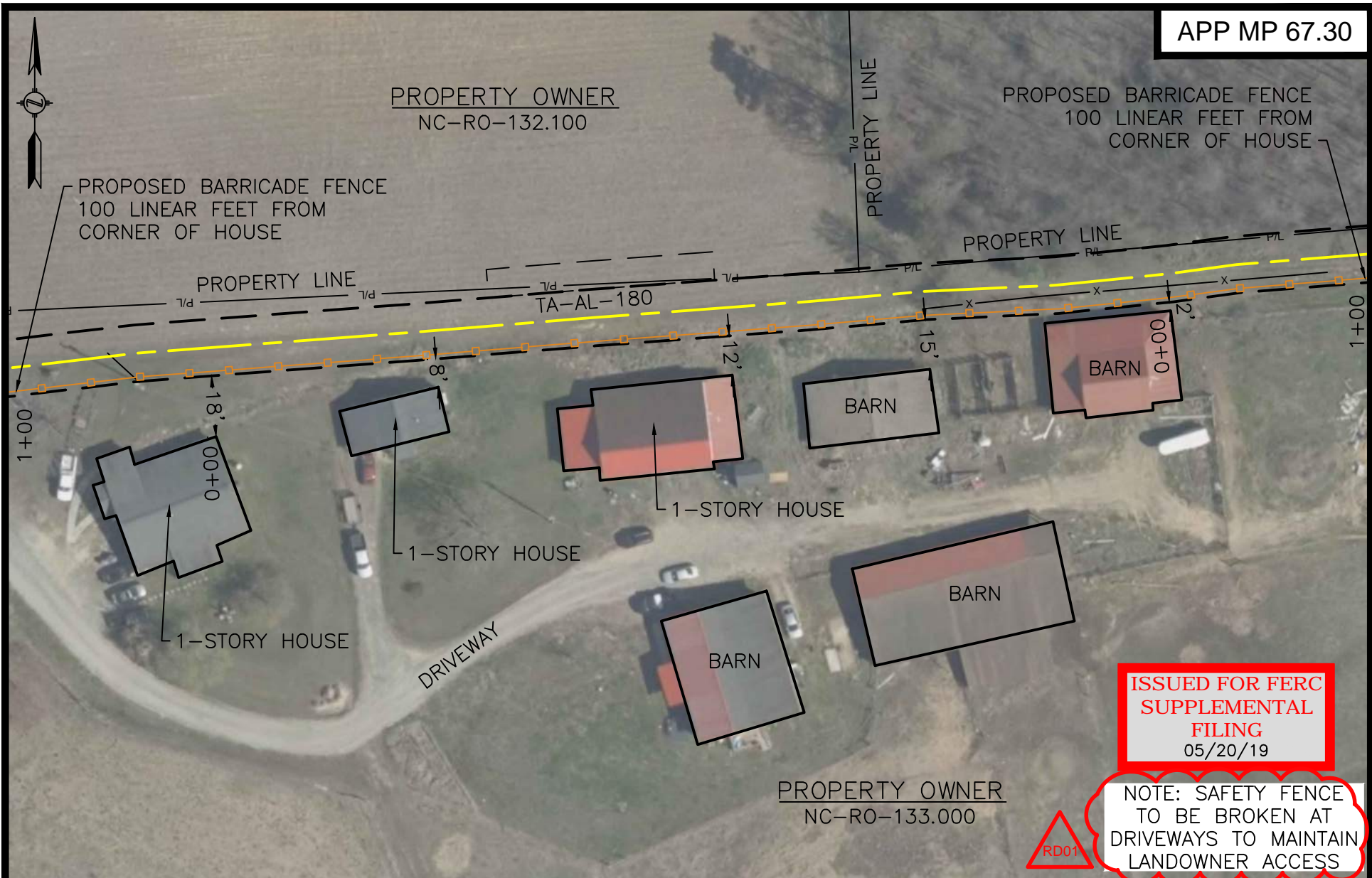
NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

DRAWN BY:	SJS	03/19/19
DRAFTING CK:	DEM	03/20/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:	RSS-H650-027	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT:	6/17/2019 12:34 PM	



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

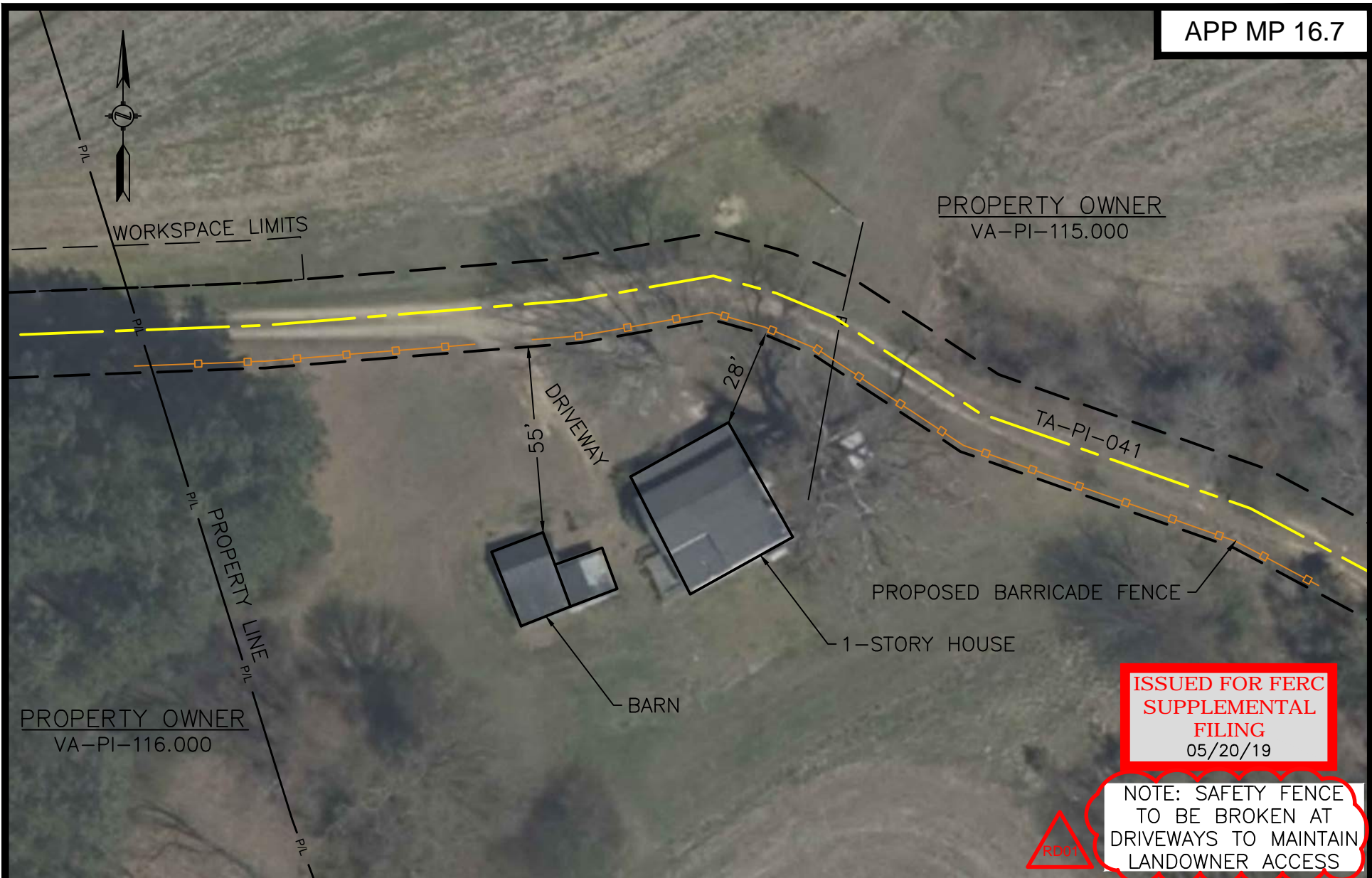
**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	DEM	03/20/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-028		
SCALE: 1" = 40'	REV. P1	
DATE OF PLOT: 6/17/2019 12:34 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA**

DRAWN BY:	KMB	05/02/19
DRAFTING CK:	SSL	05/03/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-029		
SCALE: 1" = 40'		REV. P
DATE OF PLOT: 6/17/2019 12:35 PM		



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	KMB	05/02/19
DRAFTING CK:	SSL	05/03/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-030		
SCALE: 1" = 40'		REV. P
DATE OF PLOT: 6/17/2019 12:35 PM		

C/L MP 30.5



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
 PROPOSED H-650 PIPELINE
 ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY: KMB	05/03/19
DRAFTING CK: SSL	05/07/19
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-031	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 12:35 PM	

C/L MP 37.1



**ISSUED FOR FERC
SUPPLEMENTAL
FILING**
05/20/19

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

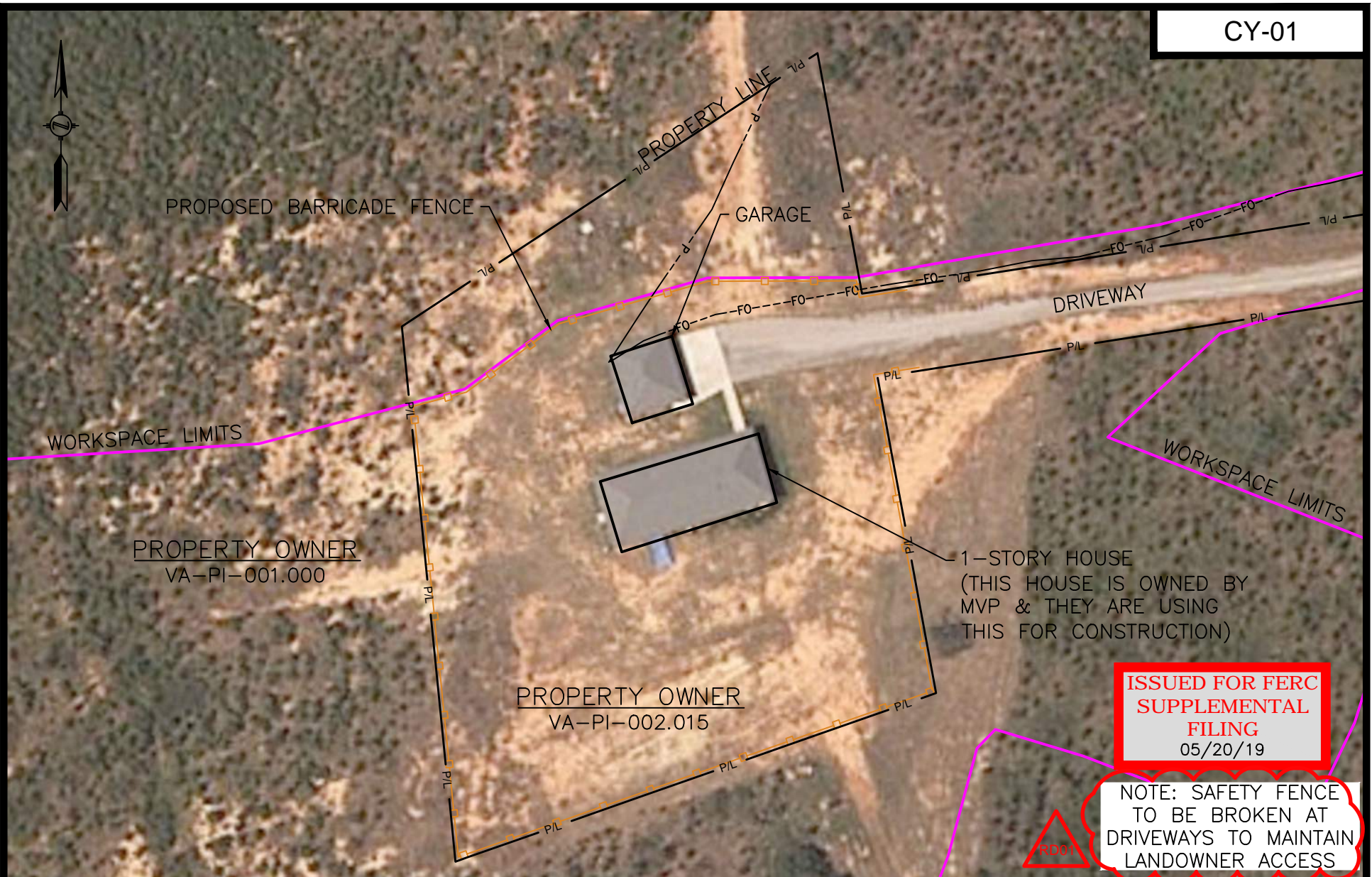


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY:	KMB	05/06/19
DRAFTING CK:	SSL	05/07/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-032		
SCALE: 1" = 40'		REV. P
DATE OF PLOT: 6/17/2019 12:35 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA**

DRAWN BY: KMB	05/06/19
DRAFTING CK: SSL	05/07/19
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-033	
SCALE: 1" = 80'	REV. P
DATE OF PLOT: 6/17/2019 12:36 PM	

C/L MP 40.30

PROPERTY OWNER
NC-RO-103.000

PROPERTY OWNER
NC-RO-104.000

PROPERTY OWNER
NC-RO-102.000



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**



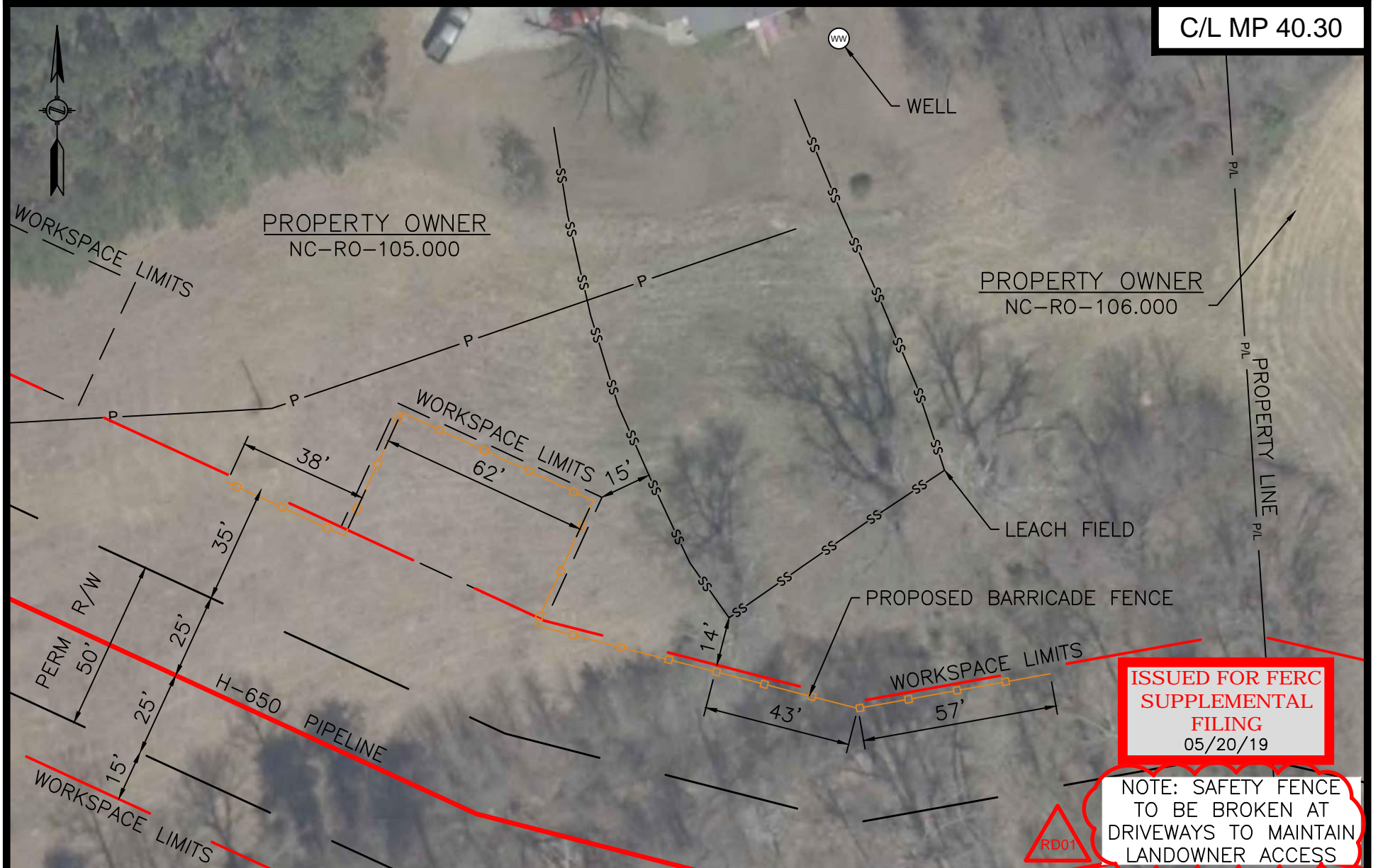
CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY:	KMB	05/09/19
DRAFTING CK:	SSL	05/09/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:	RSS-H650-034	
SCALE:	1" = 40'	REV. P
DATE OF PLOT:	6/17/2019 12:36 PM	

C/L MP 40.30



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

**NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS**

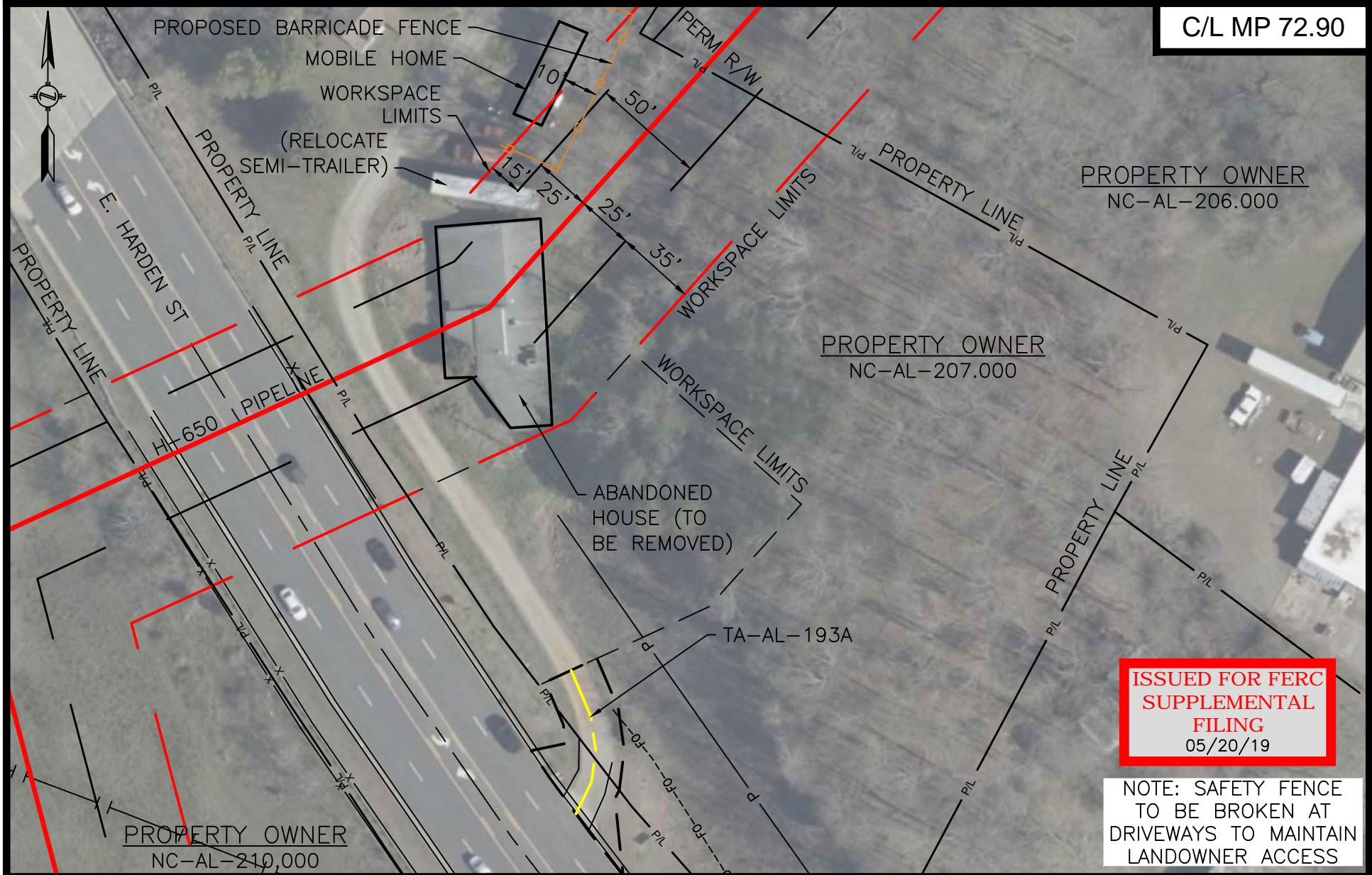


CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY:	KMB	05/09/19
DRAFTING CK:	SSL	05/09/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-035		
SCALE: 1" = 40'	REV. P	
DATE OF PLOT: 6/17/2019 12:36 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

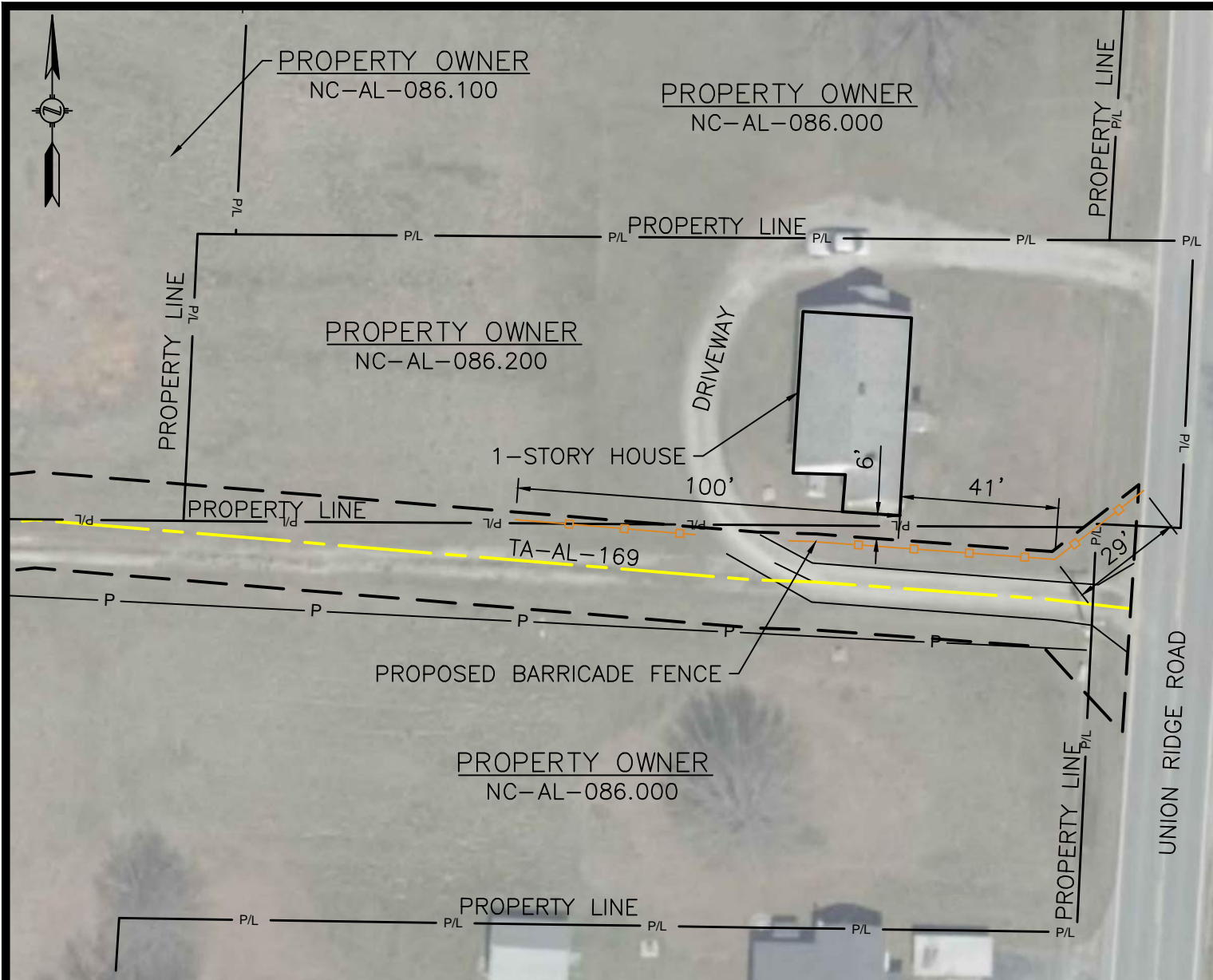
NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

DRAWN BY:	KMB	05/15/19
DRAFTING CK:	SSL	05/15/19
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-036		
SCALE: 1" = 60'		REV. P
DATE OF PLOT: 6/17/2019 12:36 PM		



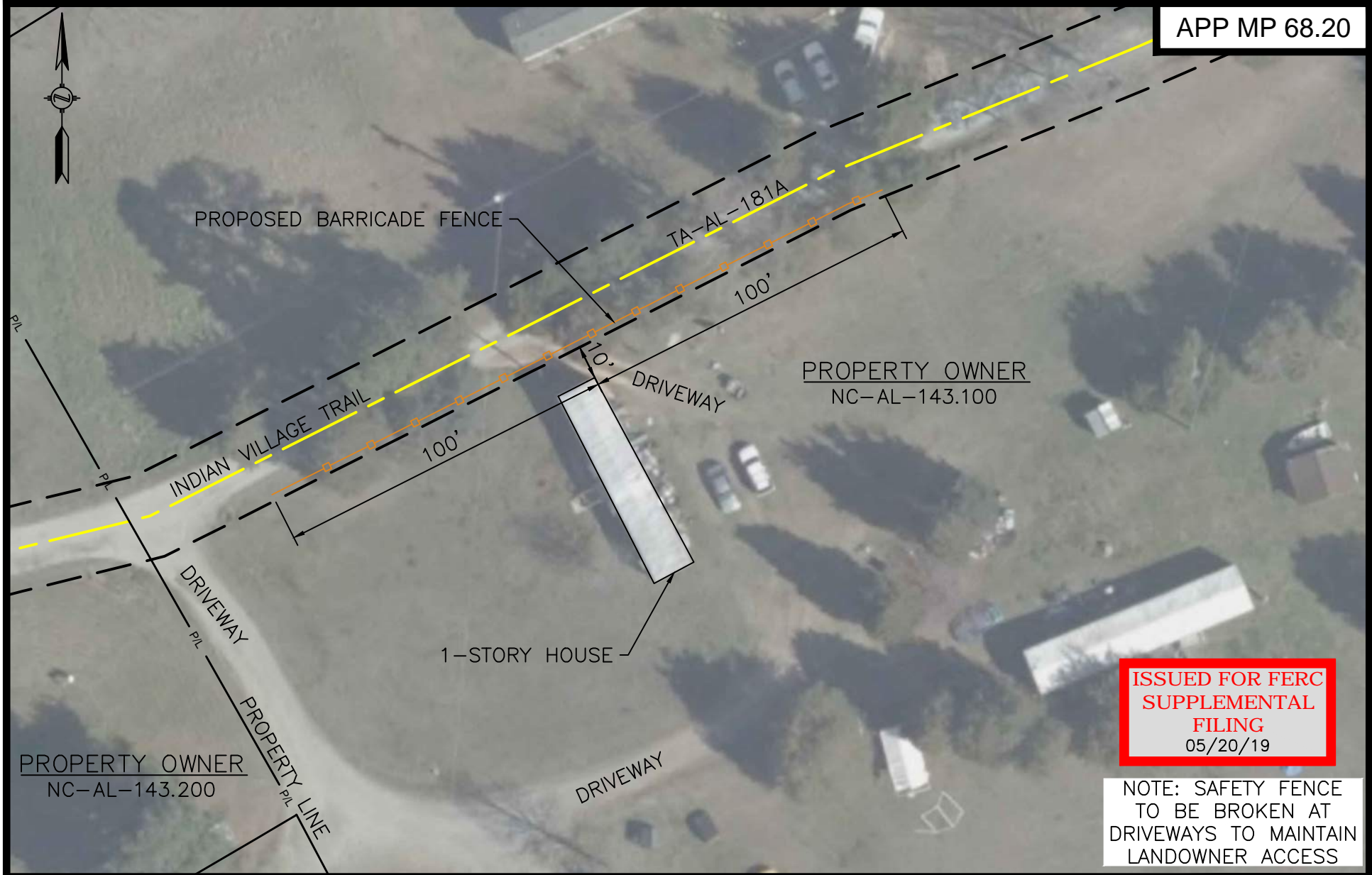
**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC
MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

DRAWN BY: KMB	05/15/19
DRAFTING CK:	
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-037	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 12:37 PM	



ISSUED FOR FERC
 SUPPLEMENTAL
 FILING
 05/20/19

NOTE: SAFETY FENCE
 TO BE BROKEN AT
 DRIVEWAYS TO MAINTAIN
 LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

DRAWN BY: KMB	05/15/19
DRAFTING CK:	
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.:	
RSS-H650-038	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 12:37 PM	

C/L MP 43.10

PROPERTY OWNER
NC-RO-118.000

1-STORY HOUSE

PROPERTY OWNER
NC-RO-117.250

H-650 PIPELINE

**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA**

SHEET 1 OF 1

DRAWN BY: KMB	05/15/19
DRAFTING CK: SSL	05/15/19
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-039	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 12:37 PM	



PROPOSED BARRICADE FENCE

TA-AL-155

DRIVEWAY

100'

100'

29'

GILLIAM CHURCH ROAD

1-STORY HOUSE

PROPERTY OWNER
NC-AL-008.100

**ISSUED FOR FERC
SUPPLEMENTAL
FILING
05/20/19**

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

DRAWN BY: CCH	05/17/19
DRAFTING CK: SSL	05/17/19
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-040	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 1:22 PM	



PROPERTY OWNER
VA-PI-171.000

HOUSE - 1 STORY, FALLEN DOWN

PROPOSED BARRICADE FENCE

**ISSUED FOR FERC
SUPPLEMENTAL
FILING**
06/21/19

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY:	CCH	06/13/19
DRAFTING CK:		
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:	RSS-H650-041	
SCALE: 1" = 40'	REV. P	
DATE OF PLOT: 6/17/2019 2:08 PM		



**ISSUED FOR FERC
SUPPLEMENTAL
FILING**
06/21/19

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

**MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA**

DRAWN BY: CCH	06/13/19
DRAFTING CK:	
ENVIRONMENTAL CK:	
ENGINEERING CK:	
DETAIL SHEET:	
DRAWING NO.: RSS-H650-042	
SCALE: 1" = 40'	REV. P
DATE OF PLOT: 6/17/2019 2:08 PM	



PROPERTY OWNER
VA-PI-207.CY19

HOUSE - 2 STORY



CONTRACTOR YARD 19

DRIVEWAY

**ISSUED FOR FERC
SUPPLEMENTAL
FILING**
06/21/19

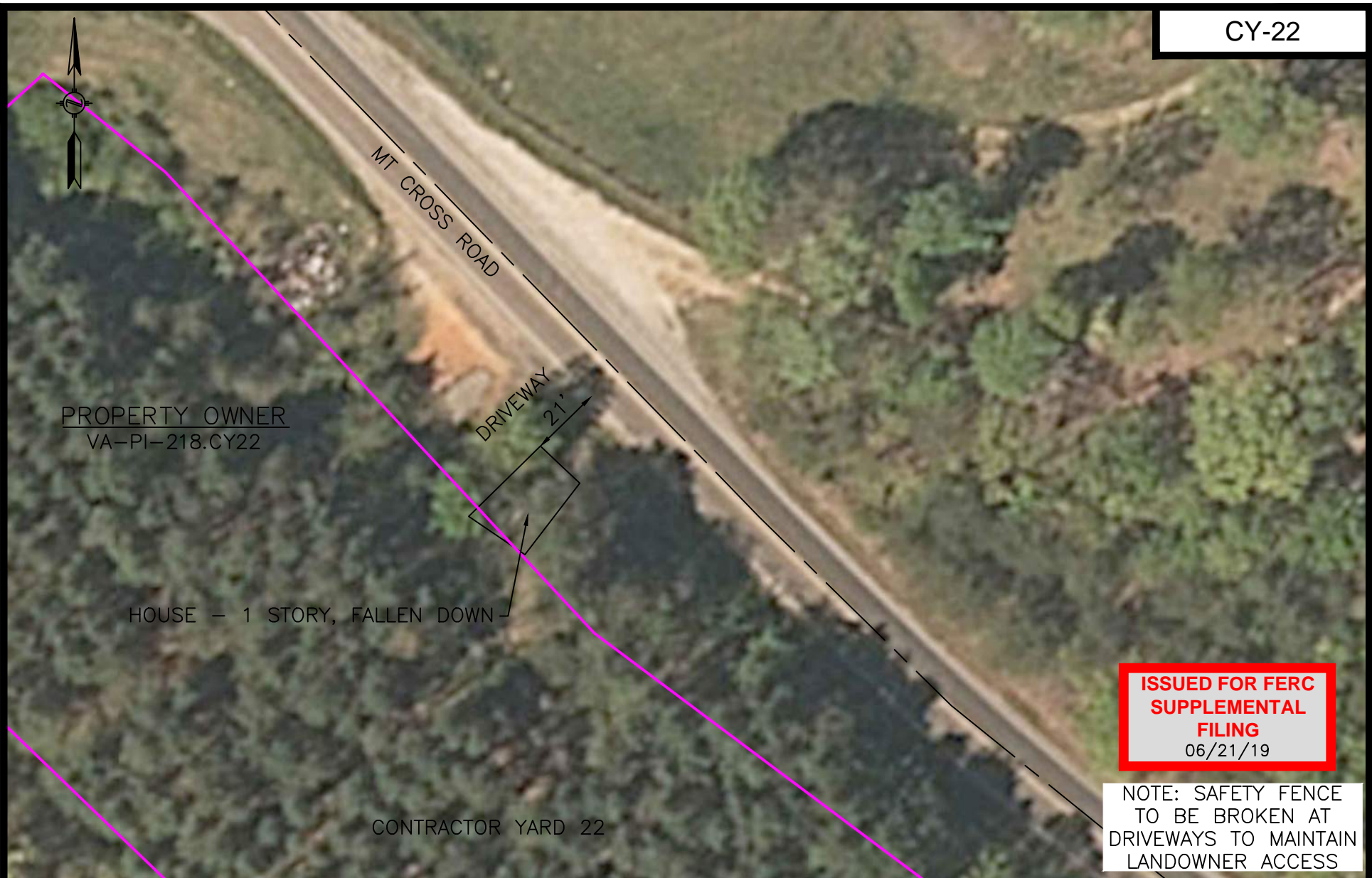
NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY:	CCH	06/13/19
DRAFTING CK:		
ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:	RSS-H650-043	
SCALE: 1" = 40'	REV. P	
DATE OF PLOT: 6/17/2019 2:08 PM		



PROPERTY OWNER
VA-PI-218.CY22

HOUSE - 1 STORY, FALLEN DOWN

CONTRACTOR YARD 22

**ISSUED FOR FERC
SUPPLEMENTAL
FILING**
06/21/19

NOTE: SAFETY FENCE
TO BE BROKEN AT
DRIVEWAYS TO MAINTAIN
LANDOWNER ACCESS



CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

DRAWN BY:	CCH	06/13/19
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ENVIRONMENTAL CK:		
ENGINEERING CK:		
DETAIL SHEET:		
DRAWING NO.:		
RSS-H650-044		
SCALE: 1" = 40'		REV. P
DATE OF PLOT: 6/17/2019 2:08 PM		

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-001	49.10	NC-RO-162.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Negotiating	Negotiating
RSS-H650-002	49.25	NC-RO-165.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Negotiating
RSS-H650-003	CY-05	NC-RO-001.200.CY05 NC-RO-001.300.CY05 NC-RO-001.400.CY05	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	NC-RO-001.200.CY05 is not and will not be an occupied residence. Available for CY office space as offered by the Landowner. Landowner has stated they have no intention of allowing residential occupation Negotiations yet to commence.
RSS-H650-004	20.20	VA-PI-154.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-005	20.25	VA-PI-154.200	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-006	69.80	NC-AL-179.000 NC-AL-180.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-008	57.80	NC-AL-043.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-009	69.10	NC-AL-150.000 NC-AL-151.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-015	72.80	NC-AL-203.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-016	10.25	VA-PI-059.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-017	69.60	NC-AL-169.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Stove pipe construction is a potential alternative	Not Applicable	Negotiating
RSS-H650-018	69.65	NC-AL-170.100	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Stove pipe construction is a potential alternative	Not Applicable	Pending

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-024	4.50	VA-PI-033.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Acquired - No specific Agreement regarding structure.
RSS-H650-025	32.50	NC-RO-038.060	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-026	44.10	NC-RO-133.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Acquired - No specific Agreement regarding structure.
RSS-H650-027	46.10	NC-RO-143.100	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-028	67.30	NC-AL-133.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Agreement pending execution
RSS-H650-029	16.7	VA-PI-115.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-030	30	NC-RO-011.100	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-031	30.5	NC-RO-019.000 NC-RO-022.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Negotiating

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-032	37.1	NC-RO-069.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Acquired - No specific Agreement regarding structure.	Acquired - No specific Agreement regarding structure.
RSS-H650-033	CY-01	VA-PI-002.015	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Mountain Valley owns parcel and structure.
RSS-H650-034	40.3	NC-RO-104.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-035	40.3	NC-RO-105.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-036	72.9	NC-AL-207.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Removal of structure is currently being discussed as part of negotiation	Agreement pending execution
RSS-H650-037	62.7	NC-AL-086.200	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Negotiating
RSS-H650-038	68.2	NC-AL-143.100	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Negotiating
RSS-H650-039	43.1	NC-RO-118.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Negotiating

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-040	54.7	NC-AL-008.100	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Not Applicable	Not Applicable
RSS-H650-041	22.2	VA-PI-171.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Acquired	Acquired
RSS-H650-042	58.6	NC-AL-051.000	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	Acquired - All wood from the old tobacco barns will be saved and stacked along/adjacent to the easement area of the landowners use.	Acquired - All wood from the old tobacco barns will be saved and stacked along/adjacent to the easement area of the landowners use.
RSS-H650-043	CY-19	VA-PI-207	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	The contractor yard will be trimmed to 26 feet away from residence	Not Applicable

Table 23-1						
Drawing No.	Milepost	Tract No(s)	Noise and vibration mitigation (See EIR# 23b)	Other construction techniques (See EIR# 23c)	Landowner negotiation status for residences to be removed (See EIR# 23d)	Landowner negotiation status for residences within 15 feet of construction workspace areas (See EIR# 24)
RSS-H650-044	CY-22	VA-PI-218	Minimize work duration by proactive construction planning and execution. Only utilize construction equipment necessary to complete the work scope. Limit work hours to daylight hours.	Not Applicable	The contractor yard will be trimmed to 26 feet away from residence	Not Applicable



MVP Southgate Project

Docket No. CP19-14-000

Attachment 27-1

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route

June 2019

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-002.000	MVP-VRA3-115-1251	FERC	0	---	---	Trim additional temporary workspace ("ATWS") 1001E to canopy line.
VA-PI-002.000	MVP-VRA3-115-1253	FERC	0	---	---	Trim ATWS 1001E to canopy line.
VA-PI-002.000	MVP-VRA3-115-1254	FERC	0	---	---	Trim ATWS 1001E to canopy line.
VA-PI-008.000, VA-PI-008.300, VA-PI-009.000	MVP-VRA3-116-1258	Constructability	1.2	---	---	Delete TA-PI-003.
VA-PI-009.000	MVP-VRA3-093-1825	Cultural	1.2	---	---	Change access road TA-PI-003 to tie back into the limit of disturbance ("LOD").
VA-PI-009.000	MVP-VRA3-093-1823	Cultural	1.2	---	---	Delete ATWS 1019.
VA-PI-009.000	MVP-VRR3-080-1320 a/	Cultural	1.2	1.4	0.2	Adjust route to avoid sensitive resource
VA-PI-009.000	MVP-VRA3-122-1122	Constructability	1.2	---	---	Delete ATWS 1018 because TA-PI-003 was deleted.
VA-PI-009.000	MVP-VRA3-093-1829	Cultural	1.3	---	---	Change ATWS 1020 to wrap around the new route.
VA-PI-009.000	MVP-VRA3-093-1827	Cultural	1.3	---	---	Extend ATWS 1017 so that the access road change will have area for turnaround.
VA-PI-010.000	MVP-VRR3-116-1300	Constructability	1.6	---	---	Widen out point of intersection ("PI") for access road TA-PI-004.
VA-PI-012.000	MVP-VRR3-098-1552	Environmental	2.2	---	---	Adjust TA-PI-005 to avoid wetland
VA-PI-012.000	MVP-VRR3-116-1303	Constructability	2.3	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-005.
VA-PI-012.000	MVP-VRR3-116-1304	Constructability	2.3	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-PI-005.
VA-PI-012.000	MVP-VRR3-116-1306	Constructability	2.3	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-005.
VA-PI-012.000	MVP-VRA3-121-1111	Constructability	2.3	---	---	Widen TA-PI-005 for safe vehicle transportation.
VA-PI-012.000, VA-PI-014.000	MVP-VRA3-058-1114	Landowner Request	2.7	---	---	Remove TA-PI-005 from impacting tract VA-PI-014.000.
VA-PI-023.000	MVP-VRR3-117-2202	Constructability	3.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-006.
VA-PI-022.000, VA-PI-023.000	MVP-VRA3-116-1309	Constructability	3.6	---	---	Delete TA-PI-006A.
VA-PI-022.000, VA-PI-023.000	MVP-VRA3-115-1255	FERC	3.6	---	---	Move ATWS 1035 north into field and out of trees. Give the canopy line a 3-foot buffer.
VA-PI-032.000	MVP-VRA3-116-1343	Constructability	4.8	---	---	Delete ATWS 1048.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx. Begin MP	Approx. End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-032.000	MVP-VRA3-116-1347	Constructability	4.8	---	---	Delete TA-PI-009.
VA-PI-034.000, VA-PI-034.100	MVP-VRR3-119-1614	Constructability	5.1	---	---	Add ATWS 25 feet x 100 feet for pull off.
VA-PI-034.100	MVP-VRR3-116-1559	Constructability	5.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-011.
VA-PI-034.100	MVP-VRR3-116-1601	Constructability	5.1	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the north of TA-PI-011.
VA-PI-034.100, VA-PI-034.200	MVP-VRA3-058-1226	Landowner Request	5.2	---	---	Remove TA-PI-011 from impacting tract VA-PI-034.200.
VA-PI-036.000	MVP-VRR3-116-1604	Constructability	5.6	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-PI-015.
VA-PI-035.100, VA-PI-037.000	MVP-VRR3-116-1654	Constructability	5.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-016.
VA-PI-036.000	MVP-VRA3-043-1340	Environmental	6	---	---	Edit ATWS 1057 to be 100 foot x 200 foot rectangle.
VA-PI-036.000	MVP-VRA3-067-0940	Constructability	6.2	---	---	Move ATWS 1059 north to avoid groundwater testing well.
VA-PI-036.000, VA-PI-037.000	MVP-VRA3-043-1345	Environmental	6.25	---	---	Edit ATWS 1060 to be 100 foot x 200 foot rectangle.
VA-PI-039.000	MVP-VRR3-116-1642	Constructability	6.85	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-018.
VA-PI-038.000	MVP-VRR3-116-1611	Constructability	6.85	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of TA-PI-018.
VA-PI-040.000	MVP-VRA3-116-1613	Constructability	7	---	---	Move ATWS 1066 south to avoid slope.
VA-PI-041.000	MVP-VRA3-098-1408	Engineering	7.2	---	---	Add Groundbed 1, Option 2 back in. Please call this "Groundbed 1, Alternate 2".
VA-PI-040.000.RC, VA-PI-041.000	MVP-VRA3-052-1712	Engineering	7.2	---	---	Add gravel pull off.
VA-PI-041.000	MVP-VRA3-058-1418	Engineering	7.2	---	---	Groundbed 1, Option 2 no longer viable.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-042.000	MVP-VRA3-037-1107	Engineering	7.4	---	---	Change PA-PI-018B to MLV 2 to be 12 feet wide and centered on the centerline of easement.
VA-PI-042.000	MVP-VRA3-042-1140	Constructability	7.4	---	---	Trim temporary workspace ("TWS") to stay 5 feet off of the existing facility fence.
VA-PI-045.001, VA-PI-045.000.RC	MVP-VRA3-059-1430	Engineering	8.1	---	---	Add gravel pad near the rectifier location for the operations pickup trucks.
VA-PI-045.001, VA-PI-045.000.RC	MVP-VRR3-059-1434	Engineering	8.1	---	---	Rename this "Groundbed 1, Alternate 4".
VA-PI-047.000	MVP-VRA3-116-1644	Constructability	8.2	---	---	Delete TA-PI-021.
VA-PI-048.000	MVP-VRR3-116-1739	Constructability	8.5	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-022.
VA-PI-048.000	MVP-VRR3-116-1740	Constructability	8.5	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of TA-PI-022.
VA-PI-051.000	MVP-VRR3-117-2204	Constructability	8.95	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-023.
VA-PI-051.000	MVP-VRR3-117-2205	Constructability	8.95	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-023.
VA-PI-052.000	MVP-VRA3-116-1741	Constructability	9.1	---	---	Delete TA-PI-024.
VA-PI-053.000, VA-PI-052.000.RC	MVP-VRA3-059-1451	Engineering	9.35	---	---	Add gravel pad near the rectifier location for the operations pickup trucks
VA-PI-053.000	MVP-VRR3-059-1457	Engineering	9.35	---	---	Rename this "Groundbed 1, Alternate 3".
VA-PI-053.000	MVP-VRR3-116-1744	Constructability	9.6	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the west of TA-PI-025.
VA-PI-053.000	MVP-VRA3-098-1555	Environmental	9.8	---	---	Trim TWS to avoid wetland.
VA-PI-054.000, VA-PI-055.000, VA-PI-057.000	MVP-VRA3-087-1719	Landowner Request	10.2	---	---	Remove TWS from tract VA-PI-057.000 completely.
VA-PI-072.000, VA-PI-073.000, VA-PI-065.000	MVP-VRA3-058-1404	Landowner Request	10.65	---	---	Remove TWS from tract VA-PI-072.000, give the property line a 1-foot buffer.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-065.000.RC, VA-PI-065.000	MVP-VRA3-344-1609	Constructability	10.7	---	---	Add temporary driveway for landowner access.
VA-PI-075.000	MVP-VRA3-098-1410	Engineering	10.8	---	---	Add Ground bed 1, Option 1 back in. Rename this "Groundbed 1, Alternate 1".
<u>VA-PI-065.000.RC</u>	MVP-VRA3-064-0832	Engineering	10.8	---	---	Add gravel pull off back.
VA-PI-075.000	MVP-VRR3-116-1755	Constructability	11.05	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-027.
VA-PI-075.000	MVP-VRA3-093-1830	Constructability	11.1	---	---	Extend ATWS 1096 to property line. Give property line a 1 foot buffer.
VA-PI-082.000	MVP-VRA3-044-1119	Constructability	12.4	---	---	Delete PA-PI-029 because it leads to an old location of an MLV.
VA-PI-088.000, VA-PI-089.000, VA-PI-090.000	MVP-VRA3-052-1552 a/	Constructability	13.4	13.5	0.1	Adjust line to stay on VA-PI-089.000 and not impact VA-PI-088.000 at all, give the property line a 1-foot buffer.
VA-PI-090.000, VA-PI-091.000, VA-PI-090.100	MVP-VRA3-116-1756	Constructability	13.65	---	---	Delete TA-PI-034.
VA-PI-092.200	MVP-VRR3-116-1758	Constructability	14.15	---	---	Add ATWS 12.5 feet x 200 feet for pull off on the west of TA-PI-035.
VA-PI-092.200, VA-PI-092.300	MVP-VRA3-064-0909	Constructability	14.15	---	---	Move TA-PI-035 over to avoid VA-PI-092.300. Give the property line a 1-foot buffer.
VA-PI-094.000	MVP-VRA3-122-0938	FERC	14.7	---	---	Trim ATWS 1118A to tree canopy line.
VA-PI-095.000, VA-PI-096.000	MVP-VRR3-112-1330	Environmental	14.75	---	---	Move ATWS 1118B to the west side of LOD because of wetland.
VA-PI-099.000, VA-PI-099.100	MVP-VRA3-114-1546	Landowner Request	14.9	---	---	MP 14.90 Delete TA-PI-036.
VA-PI-100.000	MVP-VRA3-114-1548	Landowner Request	14.9	---	---	Move ATWS 1120 to the east side of LOD per landowner request (Pollok).
VA-PI-099.000	MVP-VRR3-114-1549	Landowner Request	15.1	---	---	Adjust TA-PI-037 up the hill per landowner request (Pollok).
VA-PI-099.000	MVP-VRA3-114-1551	Landowner Request	15.1	---	---	Move ATWS 1120A up the hill away from the pond per landowner request (Pollok).
VA-PI-099.000, VA-PI-101.000	MVP-VRA3-114-1552 a/	Landowner Request	15.4	15.5	0.1	Adjust the route to avoid sediment catch area per landowner request (Pollok).
VA-PI-102.000, VA-PI-102.100	MVP-VRA3-116-1759	Constructability	15.8	---	---	Delete TA-PI-038.
VA-PI-114.000, VA-PI-115.000	MVP-VRA3-052-1554	Constructability	16.45	---	---	Trim ATWS 1131 to not impact VA-PI-114.000 at all, give the property line a 1-foot buffer.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-115.000, VA-PI-116.000	MVP-VRR3-116-1801	Constructability	16.7	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the north of TA-PI-041. Stay inside of survey corridor.
VA-PI-115.000	MVP-VRA3-116-1802	Constructability	16.7	---	---	Delete TA-PI-042.
VA-PI-115.100	MVP-VRR3-119-1616	Constructability	17.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-043.
VA-PI-118.000	MVP-VRR3-119-1615	Constructability	17.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-043.
VA-PI-118.000	MVP-VRA3-058-1426	Environmental	17.3	---	---	Move ATWS 1137 south w est to avoid clearing trees.
VA-PI-094.000	MVP-VRR3-112-1329	Environmental	17.7	---	---	Move ATWS 1118A to the w est side of LOD because of w etland.
VA-PI-121.000, VA-PI-118.000	MVP-VRR3-282-1108 a/	Cultural	17.7	18.2	0.5	Adjust the centerline to avoid sensitive resource area.
VA-PI-121.000	MVP-VRR3-116-1804	Constructability	18	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-PI-046.
VA-PI-124.000	MVP-VRA3-037-1108	Engineering	18.25	---	---	Change PA-PI-046A to MLV 3 to be 12 feet w ide and centered on centerline of easement.
VA-PI-125.000, VA-PI-128.000	MVP-VRA3-116-1805	Constructability	18.65	---	---	Delete TA-PI-048.
VA-PI-140.000	MVP-VRR3-116-1806	Constructability	19.5	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the w est of TA-PI-049.
VA-PI-152.000	MVP-VRR3-059-1503	Engineering	20	---	---	Groundbed 2, ALt2 seem to have pow er nearby.
VA-PI-151.000.RC	MVP-VRA3-059-1500	Engineering	20	---	---	Add gravel pad near the rectifier location for the operations pickup trucks.
VA-PI-154.000, VA-PI-154.200, VA-PI-156.000.RC, VA-PI-155.000, VA-PI-157.000	MVP-VRR3-117-2206	Constructability	20.2	---	---	Extend TA-PI-051A to the property line. Give the property line a 1-foot buffer. Stay on VA-PI-154.000, VA-PI-154.200.
VA-PI-154.000	MVP-VRA3-123-1458	Constructability	20.2	---	---	Trim TWS to stay 26 feet aw ay from the residence.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
VA-PI-154.200	MVP-VRA3-126-1538	Landowner Request	20.25	---	---	Cut back some additional TWS to avoid car port not shown on IL but visible in custom imagery and shot in by civil under MDS points. Give the carport a 5 foot buffer.
VA-PI-154.200	MVP-VRA3-127-1943	Constructability	20.25	---	---	Trim TWS to be 26 feet away from residence.
VA-PI-160.000	MVP-VRR3-117-2112	Constructability	20.5	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep all on north east side and move the pull off north 100 feet.
VA-PI-160.000	MVP-VRR3-117-2110	Constructability	20.5	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the west of TA-PI-052.
VA-PI-162.000.RC, VA-PI-163.000	MVP-VRR3-344-1427	Constructability	21.1	---	---	Extend PA-PI-053 to the public road.
VA-PI-165.000, VA-PI-165.100	MVP-VRA3-117-2115	Constructability	21.6	---	---	Remove TA-PI-055.
VA-PI-165.000	MVP-VRA3-120-1437	Constructability	21.6	---	---	Remove ATWS 1168 because TA-PI-055 has been removed.
VA-PI-169.000	MVP-VRA3-098-1557	Environmental	22	---	---	Trim TWS to keep the 75 feet neck down.
VA-PI-174.000	MVP-VRR3-119-1620	Constructability	23	---	---	Add ATWS 25 feet x 100' for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-061.
VA-PI-172.000	MVP-VRR3-119-1618	Constructability	23	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-061.
VA-PI-172.000	MVP-VRR3-119-1619	Constructability	23	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-061.
VA-PI-178.100	MVP-VRR3-117-2118	Constructability	24	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-PI-063.
VA-PI-178.000	MVP-VRA3-117-2124	Constructability	24.6	---	---	Remove TA-PI-064.
VA-PI-180.000	MVP-VRR3-117-2126	Constructability	24.8	---	---	Widen TA-PI-066 for safe vehicle transportation.
VA-PI-180.000, NC-RO-001.000	MVP-VRA3-117-2129	Constructability	26	---	---	Remove TA-PI-068.
NC-RO-001.000	MVP-VRA3-116-1458	Constructability	26.2	---	---	Remove TA-RO-070.
NC-RO-004.000	MVP-VRA3-042-1142 a/	Constructability	26.6	26.8	0.2	Adjust centerline to where the TWS is approximately 8 feet from the existing facility fence post.
NC-RO-004.000	MVP-VRA3-116-1503	Constructability	26.7	---	---	Remove TA-RO-071.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-004.000	MVP-VRA3-059-1604	Constructability	26.7	---	---	Change ATWS 1209A froman ATWS to a turning flare of TA-RO-071.
NC-RO-004.000	MVP-VRA3-059-1607	Constructability	26.7	---	---	Change ATWS 1211A froman ATWS to a turning flare of TA-RO-071.
NC-RO-005.000, NC-RO-004.000	MVP-VRR3-063-1316 a/	Constructability	26.9	27.1	0.2	Adjust the centerline south because of Williams pipeline crosses in this same area, change the non-w orking side to the north for the crossing. Changes per field meeting w ith Williams Transco personnel.
NC-RO-005.000	MVP-VRA3-115-1257	Environmental	27	---	---	Combine ATWS 1213 and 1213F to be 1 ATWS.
NC-RO-005.000	MVP-VRA3-063-1333	Constructability	27	---	---	Move ATWS 1213A to Pl.
NC-RO-005.000	MVP-VRA3-063-1334	Constructability	27	---	---	Extend TA-RO-072A to ATWS 1213A.
NC-RO-005.000	MVP-VRA3-063-1519	Constructability	27	---	---	Change the non-w orking side to be on the north side of permanent ROW w hen crossing existing pipelines.
NC-RO-005.000	MVP-VRA3-063-1337	Constructability	27	---	---	Change the w orking side to be on the south side of permanent ROW w hen crossing existing pipelines.
NC-RO-005.000	MVP-VRA3-063-1335	Constructability	27	---	---	Change TA-RO-073 to end at ATWS 1213. Delete ATWS 1213B.
NC-RO-005.000	MVP-VRA3-063-1331	Constructability	27	---	---	Move ATWS 1213 dow n to Pl make the dimensions to be 200 feet x 100 feet.
NC-RO-005.000	MVP-VRA3-063-1330	Constructability	27	---	---	Add ATWS for road crossing 100 feet w ide.
NC-RO-005.000	MVP-VRR3-116-1518	Constructability	27	---	---	Reroute TA-RO-072A.
NC-RO-005.000	MVP-VRA3-116-1606	Constructability	27.05	---	---	Extension of TA-RO-072B to cover private road from TWS to ATWS 1213F due to removal of TA-RO-073.
NC-RO-005.000	MVP-VRA3-122-0939	FERC	27.1	---	---	Delete ATWS 1213C.
NC-RO-005.000	MVP-VRA3-115-1300	FERC	27.1	---	---	Trim ATWS 1213A to avoid the w etland. Give the w etland a 5-foot buffer because this ATWS is needed for crossing the existing pipelines.
NC-RO-005.000	MVP-VRA3-115-1258	FERC	27.1	---	---	Extend ATWS 1213A because of w etland.
NC-RO-005.000	MVP-VRA3-116-1520	Constructability	27.15	---	---	Remove ATWS 1213B.
NC-RO-005.000	MVP-VRA3-116-1554	Constructability	27.15	---	---	Remove TA-RO-073.
NC-RO-005.000	MVP-VRA3-122-0940	FERC	27.25	---	---	Reduce ATWS 1213D to 150 feet long from 280 feet long.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx. Begin MP	Approx. End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-005.000; NC-RO-006.000	MVP-VRA3-116-1612	Constructability	27.4	---	---	Remove TA-RO-073A.
NC-RO-006.000	MVP-VRA3-032-1359	Cultural	27.4	---	---	Increase for more working area for stream crossing.
NC-RO-006.000, NC-RO-007.000	MVP-VRA3-087-1708 a/	Constructability	27.7	28.7	1	MP 27.40 to 28.30 - Adjust the route so that the TWS is at the edge of Williams Transco's ROW. MP 28.30 to 28.70 - Adjust the route so that the perm. ROW is butting up to the edge of their ROW. Offset the centerline of the closest pipe by 10 feet to the TWS. Making the centerline of MVPSG to centerline of their pipe 50 feet. Changes per field meeting with Williams Transco personnel.
NC-RO-006.000	MVP-VRR3-116-1615	Constructability	27.8	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of TA-RO-075.
NC-RO-006.000	MVP-VRR3-116-1619	Constructability	28.2	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of PA-RO-000.
NC-RO-006.000	MVP-VRR3-116-1617	Constructability	28.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of PA-RO-000.
NC-RO-006.000	MVP-VRR3-116-1622	Constructability	28.6	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-076.
NC-RO-007.000	MVP-VRR3-116-2214	Constructability	29.1	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-RO-078.
NC-RO-007.000, NC-RO-007.200, NC-RO-009.000, NC-RO-010.000	MVP-VRA3-067-1000	Landowner Request	29.6	---	---	Adjust TA-RO-079A to avoid tracts RO-007.200, 009.000, 010.000. Maintain road on NC-RO-007.000 only.
NC-RO-007.000; NC-RO-007.200	MVP-VRR3-116-2217	Constructability	29.65	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-079A.
NC-RO-007.000	MVP-VRA3-045-1240	Constructability	29.85	---	---	Add ATWS 25 feet wide for pull back sections and boring operations
NC-RO-011.000; NC-RO-011.100	MVP-VRR3-116-2224	Constructability	29.9	---	---	Widen PI in TA-RO-080 for safe vehicle transportation.
NC-RO-011.000; NC-RO-011.100	MVP-VRR3-116-2227	Constructability	29.9	---	---	Widen PI in TA-RO-080 for safe vehicle transportation.
NC-RO-011.000	MVP-VRA3-087-0936	Environmental	29.9	---	---	Trim ATWS 1247 to stay out of environmental buffer

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-011.000	MVP-VRA3-059-1608	Constructability	29.9	---	---	Change ATWS 1247A froman ATWS to a turning flare of TA-RO-080
NC-RO-011.000	MVP-VRR3-116-2220	Constructability	29.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-080.
NC-RO-011.000	MVP-VRR3-116-2222	Constructability	29.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-080.
NC-RO-011.000	MVP-VRA3-130-1421	FERC	30	---	---	Change TWS for HDD from5 feet to 3 feet per FERC request.
NC-RO-013.000, NC-RO-014.000, NC-RO-015.000, NC-RO-016.000	MVP-VRA3-130-1423	FERC	30.2	---	---	Change TWS for HDD from5 feet to 3 feet per FERC request.
NC-RO-014.000, NC-RO-015.000	MVP-VRR3-088-1117	Constructability	30.4	---	---	Add ATWS for hydro test w ater storage.
NC-RO-015.000	MVP-VRR3-088-1120	Constructability	30.4	---	---	Add temporary access road for hydrotest.
NC-RO-022.000	MVP-VRA3-025-0829	Environmental	30.9	---	---	Add ATWS because of streamneck downs
NC-RO-033.000	MVP-VRA3-116-2229	Constructability	31.65	---	---	Remove TA-RO-084.
NC-RO-038.100	MVP-VRR3-116-2233	Constructability	32.4	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-RO-085.
NC-RO-038.000	MVP-VRR3-116-2231	Constructability	32.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-085.
NC-RO-038.000	MVP-VRR3-119-1652	Constructability	32.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-085.
NC-RO-038.000	MVP-VRA3-116-2234	Constructability	32.5	---	---	Remove TA-RO-086
NC-RO-040.000	MVP-VRR3-116-2236	Constructability	32.8	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the west of TA-PI-087.
NC-RO-039.000	MVP-VRR3-116-2237	Constructability	32.8	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the north of TA-RO-087.
NC-RO-044.000	MVP-VRR3-116-2242	Constructability	33.6	---	---	Widen PI on TA-RO-088 for safe vehicle transportation.
NC-RO-044.000	MVP-VRR3-116-2239	Constructability	33.6	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-088.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-044.000	MVP-VRR3-116-2240	Constructability	33.6	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-088.
NC-RO-046.000, NC-RO-047.000	MVP-VRA3-063-1223	Landowner Request	34.1	---	---	Remove TWS from this tract. Re-position onto NC-RO-047.000 if the area must be kept. Give the property line a 1-foot buffer
NC-RO-046.000, NC-RO-047.000	MVP-VRA3-353-1601	Constructability	34.1	---	---	Add space for turning to TA-RO-089 for turning flare
NC-RO-047.300	MVP-VRR3-116-2244	Constructability	34.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-089.
NC-RO-053.000	MVP-VRR3-119-1018	Constructability	34.7	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-091.
NC-RO-059.000	MVP-VRR3-119-1020	Constructability	35.45	---	---	Add ATWS 12.5 feet x 200 feet for pull off on the south of TA-RO-092.
NC-RO-059.000; NC-RO-058.000	MVP-VRA3-119-1023	Constructability	35.65	---	---	Remove TA-RO-093
NC-RO-059.000	MVP-VRA3-340-1149	Constructability	35.65	---	---	Add flare to TA-RO-093
NC-RO-058.000; NC-RO-059.000	MVP-VRR3-119-1026	Constructability	35.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-094.
NC-RO-061.000; NC-RO-061.000.RC	MVP-VRA3-119-1028	Constructability	36.2	---	---	Remove TA-RO-095.
NC-RO-067.000; NC-RO-068.000	MVP-VRA3-119-1030	Constructability	36.75	---	---	Remove TA-RO-099.
NC-RO-069.000	MVP-VRA3-080-1335	Landowner Request	37	---	---	Landowner request adjustment to access road to avoid recently planted trees.
NC-RO-069.000	MVP-VRR3-119-1032	Constructability	37.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-100. Stay inside of survey corridor.
NC-RO-077.000	MVP-VRR3-119-1037	Constructability	37.6	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-102.
NC-RO-080.000	MVP-VRA3-058-1427	Constructability	37.8	---	---	Trim ATWS 1324A to be 25 feet away from existing pipelines.
NC-RO-080.000	MVP-VRA3-058-1429	Constructability	37.81	---	---	Trim ATWS 1326 to be 25 feet away from existing pipelines.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-080.000, NC-RO-082.000, NC-RO-083.000	MVP-VRA3-058-1431	Constructability	37.9	---	---	Trim TWS to be 10 feet off set from existing pipeline.
NC-RO-085.000	MVP-VRR3-119-1040	Constructability	38.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-103.
NC-RO-085.000	MVP-VRR3-119-1038	Constructability	38.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-103.
NC-RO-087.000, NC-RO-088.000	MVP-VRA3-049-1100	Constructability	38.2	---	---	Add ATWS 100 feet wide for crossing of foreign pipelines.
NC-RO-087.000, NC-RO-088.000	MVP-VRA3-049-1102	Constructability	38.2	---	---	Move ATWS 1330 to the east side.
NC-RO-089.000	MVP-VRA3-119-1041	Constructability	38.55	---	---	Remove TA-RO-104.
NC-RO-090.000	MVP-VRA3-119-1043	Constructability	38.8	---	---	Add Rock Construction Entrance ("RCE") from Crutchfield Road to ATWS 1336 abutting TWS. RCE entrance to be across from TA-RO-106.
NC-RO-091.000	MVP-VRA3-119-1046	Constructability	38.9	---	---	Shorten TA-RO-106 to meet western edge of ATWS 1338 and ATWS 1339.
NC-RO-094.000, NC-RO-094.100	MVP-VRA3-119-1653	Constructability	39.4	---	---	Trim TA-RO-107 to stop at TA-RO-108.
NC-RO-094.200, NC-RO-094.300	MVP-VRA3-353-1605	Constructability	39.4	---	---	Add space for turning to TA-RO-107.
NC-RO-100.100, NC-RO-097.000.RR	MVP-VRA3-058-1409	Landowner Request	39.7	---	---	Remove PA-RO-109 from impacting tract NC-RO-100.100.
NC-RO-100.000, NC-RO-097.000.RR, NC-RO-100.100	MVP-VRA3-085-0834	Engineering	39.7	---	---	Change PA-RO-109 to a temporary access road, TA-RO-109.
NC-RO-100.100,	MVP-VRR3-119-0934	Constructability	39.7	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-109.
NC-RO-102.000	MVP-VRA3-121-1112	Constructability	40.3	---	---	Make the access road 50-foot-wide with a 75-foot flare.
NC-RO-102.000, NC-RO-104.000	MVP-VRA3-121-1113	Landowner Request	40.3	---	---	Trim TWS off NC-RO-104.000. Give the property a 1-foot buffer for the TWS.
NC-RO-101.000, NC-RO-103.000, NC-RO-104.000, NC-RO-102.000	MVP-VRR3-098-0836 a/	Landowner Request	40.3	40.5	0.2	Reroute to avoid impacts to Ore property onto willing landowner.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-102.000	MVP-VRA3-127-1945	Landowner Request	40.3	---	---	Trim TWS to be 26 feet away from residence.
NC-RO-105.000	MVP-VRA3-120-1230	Landowner Request	40.35	---	---	Add ATWS but stay inside of survey corridor for Ore Reroute.
NC-RO-105.000	MVP-VRA3-120-1232	Landowner Request	40.35	---	---	Add ATWS but stay inside of survey corridor for Ore Reroute.
NC-RO-105.000	MVP-VRA3-120-1234	Landowner Request	40.4	---	---	Add ATWS but stay inside of survey corridor for Ore Reroute.
NC-RO-105.000	MVP-VRA3-120-1233	Landowner Request	40.4	---	---	Add ATWS but stay inside of survey corridor for Ore Reroute.
NC-RO-105.000	MVP-VRA3-120-1229 a/	Landowner Request	40.4	40.5	0.1	Adjust route to avoid landowner leech field (Strader).
NC-RO-105.000	MVP-VRA3-058-1433	Constructability	40.4	---	---	Trim TWS only to be 25 feet away from power pole.
NC-RO-105.000, NC-RO-105.100	MVP-VRA3-085-0947	Engineering	40.9	---	---	Removed part of TA-RO-111. Give the property line of NC-RO-108.000 a 120-foot buffer. Chicken Farm Road is a public road to approximately the west property line of NC-RO-108.000 at this point it becomes private.
NC-RO-108.000	MVP-VRA3-353-1607	Constructability	40.9	---	---	Add space for turning to TA-RO-111 for turning flare.
NC-RO-108.000	MVP-VRA3-353-1606	Constructability	40.9	---	---	Add space for turning to TA-RO-111 for turning flare.
NC-RO-108.000	MVP-VRR3-119-0936	Constructability	40.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-111.
NC-RO-109.000	MVP-VRR3-119-0937	Constructability	40.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-111.
NC-RO-109.000	MVP-VRR3-119-0938	Constructability	40.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep it all on the north side of TA-RO-111.
NC-RO-111.000	MVP-VRR3-119-0940	Constructability	41.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of PA-RO-112.
NC-RO-111.000	MVP-VRR3-119-0939	Constructability	41.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-112.
NC-RO-112.000, NC-RO-112.100	MVP-VRR3-080-1327	Landowner Request	41.7	---	---	Landowner request that we adjust the Access road to better fit his desires on the property.
NC-RO-112.000	MVP-VRA3-100-1700	Engineering	41.8	---	---	Delete Groundbed 3, Alternate 1

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
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NC-RO-112.000, NC-RO-112.100	MVP-VRA3-128-1037	Engineering	41.8	---	---	Change PA-RO-113A to a temporary access road
NC-RO-112.000	MVP-VRR3-119-0944	Constructability	41.8	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of PA-RO-113A. Move this pull of east to the property line, give the property line a 1-foot buffer
NC-RO-112.000	MVP-VRR3-119-0943	Constructability	41.8	---	---	Add ATWS 25 feet x 100 feet for pull off. Flip the pull off to north side of PA-RO-113A.
NC-RO-112.200	MVP-VRA3-037-1110	Engineering	42.2	---	---	Change PA-RO-114A to MLV 5 to be 12 feet wide and centered on centerline of easement.
NC-RO-117.000, NC-RO-117.100	MVP-VRR3-119-0945	Constructability	42.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-115.
NC-RO-118.000	MVP-VRA3-087-0938	Landowner Request	43.1	---	---	Extend ATWS 1384 for boring operations.
NC-RO-117.250	MVP-VRA3-087-1014	Landowner Request	43.1	---	---	Trim TWS to avoid car port and water well. Give the car port and water well a 5 foot buffer.
NC-RO-122.000, NC-RO-122.100	MVP-VRA3-119-1241	Constructability	43.15	---	---	Add RCE.
NC-RO-117.000.RC, NC-RO-118.000, NC-RO-117.250	MVP-VRA3-119-1239	Constructability	43.15	---	---	Add RCE.
NC-RO-117.000.RC, NC-RO-117.250	MVP-VRA3-087-1721	Landowner Request	43.15	---	---	Trim TWS to avoid car port, water well and driveway. Give the car port and water well a 5-foot buffer.
NC-RO-121.000, NC-RO-122.000, NC-RO-117.000.RC	MVP-VRA3-119-1243	Constructability	43.2	---	---	Remove TA-RO-115A.
NC-RO-122.000, NC-RO-122.100, NC-RO-124.000.RC	MVP-VRA3-119-1247	Constructability	43.4	---	---	Add RCE.
NC-RO-122.000, NC-RO-122.100, NC-RO-124.000.RC	MVP-VRA3-119-1249	Constructability	43.4	---	---	Remove TA-RO-117.
NC-RO-122.000, NC-RO-122.100, NC-RO-124.000.RC	MVP-VRA3-119-1251	Constructability	43.4	---	---	Remove TA-RO-118.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-122.000, NC-RO-122.100, NC-RO-124.000.RC	MVP-VRA3-119-1245	Constructability	43.4	---	---	Add RCE.
NC-RO-133.000	MVP-VRR3-119-1305	Constructability	43.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-119.
NC-RO-133.000	MVP-VRR3-119-1259	Constructability	43.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-119.
NC-RO-133.000	MVP-VRR3-119-1306	Constructability	44.1	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the south of TA-RO-122.
NC-RO-138.000	MVP-VRA3-119-1700	Constructability	44.8	---	---	Remove TA-RO-124
NC-RO-138.000	MVP-VRA3-107-0918	Engineering	44.9	---	---	Delete PA-RO-124A
NC-RO-138.000	MVP-VRA3-107-0917	Engineering	44.9	---	---	Delete Groundbed 3 on the north side of the road. The new Groundbed 3 will be on the south side of the road
NC-RO-139.000	MVP-VRA3-077-1416	Engineering	44.9	---	---	Deep Anode Bed 3 Location: approximate groundbed will be within 30 foot by 30-foot gravel pad at a location where drilling rig does not interfere with overhead power lines.
NC-RO-139.000	MVP-VRA3-077-1419	Engineering	44.9	---	---	Gravel pull off.
NC-RO-139.000	MVP-VRR3-119-1308	Constructability	45.3	---	---	Add ATWS 25' x 100' for pull off. Split the pull off to 12.5' on both sides of TA-RO-126.
NC-RO-140.000	MVP-VRA3-107-0841	Landowner Request	45.5	---	---	ATWS 1415 is on a steep sloped landowner requested ATWS be moved to the indicated location.
NC-RO-142.000, NC-RO-143.000	MVP-VRR3-080-1329 a/	Landowner Request	46	46.3	0.3	Landowner request that route adjustment to be as close to the existing corridor as possible.
NC-RO-143.400	MVP-VRA3-340-1319	Constructability	46.1	---	---	Add flare to TA-RO-127 at public road.
NC-RO-143.400	MVP-VRR3-119-1309	Constructability	46.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep all of pull off on the west side of TA-RO-127.
NC-RO-143.000	MVP-VRR3-119-1310	Constructability	46.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-127.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-148.505, NC-RO-148.515	MVP-VRR3-119-1311	Constructability	46.75	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-129. Move east to stay out of environmental buffer.
NC-RO-149.100	MVP-VRR3-119-1313	Constructability	47.3	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the east of TA-RO-130.
NC-RO-149.100	MVP-VRR3-119-1312	Constructability	47.3	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-130.
NC-RO-157.000, NC-RO-157.000.RC	MVP-VRA3-119-1316	Constructability	48.2	---	---	Add RCE.
NC-RO-156.000, NC-RO-157.000	MVP-VRA3-119-1314	Constructability	48.2	---	---	Remove TA-RO-131.
NC-RO-157.000.RC, NC-RO-160.000	MVP-VRA3-119-1317	Constructability	48.4	---	---	Add RCE.
NC-RO-159.000, NC-RO-160.000	MVP-VRA3-119-1321	Constructability	48.5	---	---	Remove TA-RO-133. Access via RCE.
NC-RO-160.000	MVP-VRA3-106-1504	Landowner Request	48.5	---	---	Add ATWS because the access road is being changed.
NC-RO-160.000, NC-RO-162.000	MVP-VRA3-106-1505	Landowner Request	48.5	---	---	Delete ATWS 1447 because the access road is being changed.
NC-RO-159.000, NC-RO-160.000	MVP-VRR3-063-1229	Landowner Request	48.5	---	---	Landowner request change in access road to line shown. Can go west to the ROW or back East to the existing road.
NC-RO-162.000, NC-RO-163.000	MVP-VRA3-052-1304	Landowner Request	49.1	---	---	Trim ATWS 1451 to avoid NC-RO-163.000, give a 1-foot buffer to the property line
NC-RO-164.000, NC-RO-165.000	MVP-VRA3-058-1436	Constructability	49.15	---	---	Trim TWS and ATWS to be 25 feet away from power pole.
NC-RO-165.000	MVP-VRR3-119-1319	Constructability	49.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-135.
NC-RO-165.000	MVP-VRA3-025-0858	Environmental	49.3	---	---	Trim ATWS to be outside of environmental buffer.
NC-RO-168.000.RC	MVP-VRA3-119-1323	Constructability	49.5	---	---	Add RCE.
NC-RO-168.000.RC	MVP-VRA3-119-1324	Constructability	49.5	---	---	Add RCE.
NC-RO-167.000, NC-RO-168.000, NC-RO-168.000.RC	MVP-VRA3-119-1325	Constructability	49.5	---	---	Remove TA-RO-136.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-RO-169.000	MVP-VRA3-058-1607	Constructability	49.55	---	---	Trim ATWS 1457 at tree line to stay outside of power line ROW.
NC-RO-170.000, NC-RO-171.000, NC-RO-172.000, NC-RO-173.000, NC-RO-174.000, NC-RO-175.000, NC-RO-177.000, NC-RO-178.000, NC-RO-179.000, NC-RO-180.000, NC-RO-181.000	MVP-VRA3-087-1019 a/	Constructability	49.7	51.6	1.9	Adjust the route to be outside of Duke right-of-way ("ROW").
NC-RO-170.000	MVP-VRA3-340-1452	Constructability	49.8	---	---	Add flare TA-RO-138 at public road
NC-RO-170.000	MVP-VRR3-119-1327	Constructability	49.8	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-138.
NC-RO-174.200, NC-RO-174.400	MVP-VRR3-119-1328	Constructability	50.3	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-139.
NC-RO-174.000	MVP-VRR3-119-1329	Constructability	50.3	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-RO-139.
NC-RO-179.000	MVP-VRA3-025-0903	Environmental	50.7	---	---	Trim TWS and move ATWS to be outside of environmental buffer.
NC-RO-179.000	MVP-VRA3-025-0901	Environmental	50.7	---	---	Move ATWS outside of environmental buffer.
NC-AL-010.000	MVP-VRA3-037-1111	Engineering	51.05	---	---	Change PA-AL-155A to MLV 6 to be 12 feet wide and centered on centerline of easement.
NC-RO-183.000	MVP-VRA3-353-1614	Constructability	51.7	---	---	Add space for turning to TA-RO-142 for turning flare.
NC-GU-001.000, NC-RO-181.000, NC-RO-186.000	MVP-VRR3-058-1608 a/	Constructability	52.3	52.5	0.2	Adjust centerline to cross the transmission power lines between the towers.
NC-AL-000.060, NC-AL-000.060.RC, NC-AL-000.065	MVP-VRA3-118-2045	Constructability	53.3	---	---	Move RCE closer to Row and add to both sides of workspace.
NC-AL-000.060, NC-AL-000.060.RC, NC-AL-000.065	MVP-VRA3-118-2043	Constructability	53.3	---	---	Add RCE to both sides of workspace.
NC-AL-000.065	MVP-VRA3-071-0825	Constructability	53.35	---	---	Add TWS.
NC-AL-001.000, NC-AL-000.065	MVP-VRA3-118-2047	Constructability	53.5	---	---	Remove TA-AL-152.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-AL-003.000	MVP-VRR3-119-2055	Constructability	53.8	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-153.
NC-AL-006.000, NC-AL-006.100	MVP-VRR3-118-2049	Constructability	54.25	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the w est of TA-AL-154. Stay inside of survey corridor. Move north 40 feet.
NC-AL-006.000, NC-AL-006.100	MVP-VRR3-063-1231	Landowner Request	54.3	---	---	Landowner has requested that TA-AL-154 be changed to the show n route and the remainder of the road be deleted.
NC-AL-006.000, NC-AL-006.100, NC-AL-008.100	MVP-VRR3-067-1007	Landowner Request	54.7	---	---	Landowner offers this route as an alternate to TA-AL-154/155. New road to be completely on AL-008.100. This new road and VRR3-063-1231 will replace TA-AL-154/155.
NC-AL-008.100	MVP-VRR3-118-2050	Constructability	54.7	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep all of pull off on the w est side of TA-AL-155.
NC-AL-009.000, NC-AL-009.000.RC	MVP-VRA3-118-2051	Constructability	55.05	---	---	Add access road. RCE w ill be needed on both side of road.
NC-AL-018.000	MVP-VRA3-118-2053	Constructability	55.6	---	---	Widen TA-AL-157.
NC-AL-027.000, NC-AL-028.000	MVP-VRA3-118-2054	Constructability	56.3	---	---	Remove TA-AL-159.
NC-AL-033.000	MVP-VRA3-011-1011	Constructability	56.9	---	---	Add area TA-AL-159A for turning flare.
NC-AL-033.000	MVP-VRR3-118-2056	Constructability	56.9	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-159A. Move south east 125 feet to avoid tree clearing on the east side.
NC-AL-042.000, NC-AL-043.000	MVP-VRA3-073-1106	Environmental	57.5	---	---	Move ATWS 1533 out of environmental buffer.
NC-AL-043.000.RC	MVP-VRA3-340-1544	Constructability	57.7	---	---	Add flare to TA-AL-161 at public road.
NC-AL-043.000, NC-AL-044.000	MVP-VRR3-118-2057	Constructability	57.75	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the w est of TA-AL-161.
NC-AL-043.000, NC-AL-044.000	MVP-VRA3-127-1948	Constructability	57.8	---	---	Trim ATWS 1536 to be 26 feet aw ay from residence.
NC-AL-046.000	MVP-VRR3-118-2058	Constructability	58.1	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-162.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-AL-046.000	MVP-VRR3-118-2059	Constructability	58.1	---	---	Adjust TA-AL-162 over if possible.
NC-AL-050.100	MVP-VRA3-340-1611	Constructability	58.4	---	---	Add flare to TA-AL-163 at public road.
NC-AL-050.100	MVP-VRR3-118-2101	Constructability	58.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep all of the pull off on the east side TA-AL-163.
NC-AL-052.000	MVP-VRA3-340-1612	Constructability	58.6	---	---	Add flare to PA-AL-164 at public road.
NC-AL-052.000, NC-AL-052.100	MVP-VRA3-118-2102	Constructability	58.8	---	---	Remove PA-AL-164.
NC-AL-052.000	MVP-VRA3-059-0949	Constructability	58.8	---	---	Change PA-AL-164 to a temporary access road.
NC-AL-066.000, NC-AL-066.000.RC, NC-AL-067.000	MVP-VRA3-118-2104	Constructability	60	---	---	Add RCE.
NC-AL-066.000, NC-AL-066.000.RC, NC-AL-067.000	MVP-VRA3-118-2106	Constructability	60	---	---	Add RCE.
NC-AL-066.000, NC-AL-067.000	MVP-VRA3-118-2107	Constructability	60	---	---	Remove TA-AL-165.
NC-AL-068.000.RC, NC-AL-069.000	MVP-VRA3-118-2110	Constructability	60.25	---	---	Add RCE.
NC-AL-067.001, NC-AL-068.000, NC-AL-068.000.RC	MVP-VRA3-118-2109	Constructability	60.25	---	---	Add RCE.
NC-AL-070.000, NC-AL-071.000, NC-AL-072.000, NC-AL-074.000	MVP-VRA3-052-1605	Constructability	60.4	---	---	Trim TWS to avoid tract NC-AL-071.000 and NC-AL-072.000, give the property line a 1-foot buffer.
NC-AL-076.100, NC-AL-076.600	MVP-VRR3-052-1608	Constructability	61.15	---	---	Adjust TA-AL-167 to avoid NC-AL-076.600, give the property line a 1-foot buffer and wait for property boundary to be set.
NC-AL-076.100	MVP-VRR3-118-2112	Constructability	61.15	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the west of TA-AL-167.
NC-AL-081.000	MVP-VRR3-118-2113	Constructability	61.15	---	---	Add ATWS 12.5 feet x 200 feet for pull off on the west of TA-AL-168.
NC-AL-081.000	MVP-VRA3-118-2115	Constructability	61.55	---	---	Widen TA-AL-168 PI.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-AL-086.000	MVP-VRR3-118-2116	Constructability	62.4	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-169. Move west 80 feet to avoid tree clearing, and structure. When moving pull off please do not impact power pole.
NC-AL-088.000	MVP-VRA3-049-1326	Constructability	62.8	---	---	Trim ATWS 1575 to stay off of NC-AL-088.000. Give the property a 1-foot buffer
NC-AL-098.000	MVP-VRR3-289-0846	Landowner Request	63.25	---	---	Relocate access road TA-AL-171 to avoid landowner's house
NC-AL-101.000, NC-AL-102.000	MVP-VRA3-088-1634	Landowner Request	63.4	---	---	Relocate access road TA-AL-171 to MP 63.25 that will be on NC-AL-098.000 so it does not go past landowner's house
NC-AL-093.000, NC-AL-096.000, NC-AL-097.000, NC-AL-102.000	MVP-VRA3-130-1426	FERC	63.5	---	---	Change TWS for horizontal directional drill ("HDD") from 5 feet to 3 feet per FERC request.
NC-AL-104.000	MVP-VRA3-130-1428	FERC	63.7	---	---	Change TWS for HDD from 5 feet to 3 feet per FERC request.
NC-AL-103.000	MVP-VRA3-112-1332	Environmental	64	---	---	Trim TWS to be outside of environmental buffer.
NC-AL-106.000	MVP-VRA3-112-1333	Environmental	64.05	---	---	Trim TWS to be outside of environmental buffer.
MVF-NC-AL-007.000	MVP-VRA3-100-1701	Engineering	64.8	---	---	Delete Groundbed 4, Alternate 1.
MVF-NC-AL-005.000.RC, MVF-NC-AL-007.000	MVP-VRA3-118-2117	Constructability	64.8	---	---	Add RCE
MVF-NC-AL-005.000.RC, MVF-NC-AL-007.000	MVP-VRA3-118-2119	Constructability	64.8	---	---	Add RCE
NC-AL-120.000	MVP-VRA3-025-0909	Environmental	65.65	---	---	Trim TWS to be outside of environmental buffer.
FA3-AL-008.000, FA3-AL-009.000	MVP-VRA3-029-0944	Environmental	66.6	---	---	Trim TWS to make a 75 feet neck down.
FA3-AL-010.200, FA3-AL-010.300, FA3-AL-010.000, FA3-AL-010.100	MVP-VRA3-114-1235	Constructability	66.7	---	---	Delete TA-AL-179A.
FA3-AL-010.300	MVP-VRA3-353-1618	Constructability	66.7	---	---	Add space for turning to TA-AL-179A for turning flare.
FA3-AL-010.300	MVP-VRA3-353-1617	Constructability	66.7	---	---	Add space for turning to TA-AL-179A for turning flare.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
FA3-AL-010.200	MVP-VRA3-340-1624	Constructability	66.7	---	---	Add flare to TA-AL-179A at public road.
NC-AL-131.000, NC-AL-132.000	MVP-VRR3-114-1238	Constructability	67	---	---	Add temporary access road.
NC-AL-127.000, NC-AL-128.000, NC-AL-129.000, NC-AL-132.000, NC-AL-133.000, NC-AL-134.000, NC-AL-135.000, NC-AL-136.000, NC-AL-137.000	MVP-VRR3-108-1000 a/	Constructability	67	67.9	0.9	Reroute to reduce impacts to East Alamance Quarry, Martin Marietta Materials Inc.
NC-AL-132.100	MVP-VRR3-118-2122	Constructability	67.3	---	---	Add ATWS 12.5 feet x 100 feet for pull off on the north of TA-AL-180.
NC-AL-135.000	MVP-VRA3-087-1015	Environmental	67.6	---	---	Trim ATWS 1619A to stay out of environmental buffer.
NC-AL-135.000, NC-AL-136.000	MVP-VRA3-052-1611	Constructability	67.6	---	---	Trim ATWS 1619 to avoid NC-AL-136.000, give the property line a 1-foot buffer and wait for the property boundary to be set.
NC-AL-139.000	MVP-VRA3-340-1632	Constructability	68	---	---	Add flare to TA-AL-181 at public road.
NC-AL-136.000, NC-AL-137.000	MVP-VRR3-118-2123	Constructability	68	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep pull off all north of TA-AL-181.
NC-AL-142.000, NC-AL-143.000	MVP-VRA3-114-1146	Engineering	68.2	---	---	Delete MLV 7 it will be moved to south of Haw River Hopedale Road .
NC-AL-142.000, NC-AL-143.000	MVP-VRA3-100-1702	Engineering	68.2	---	---	Delete Groundbed 4, Alternate 2.
NC-AL-143.400	MVP-VRA3-340-1634	Constructability	68.2	---	---	Add flare to PA-AL-181A at public road.
NC-AL-143.300	MVP-VRR3-118-2125	Constructability	68.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-181A.
NC-AL-143.000	MVP-VRR3-118-2126	Constructability	68.2	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-181A.
NC-AL-143.000, NC-AL-143.100, NC-AL-143.200, NC-AL-143.300, NC-AL-143.400	MVP-VRA3-050-0915	Constructability	68.25	---	---	Change PA-AL-181A to a temporary access road, keep the width of the AR 25 feet.
NC-AL-148.000	MVP-VRA3-114-1148	Engineering	68.7	---	---	Move mainline valve ("MLV") 7 to south of Haw River Hopedale Road.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-AL-144.000.RC, NC-AL-148.000	MVP-VRA3-114-1150	Engineering	68.7	---	---	Add permanent access road, 12 feet wide and centered on the centerline of easement
NC-AL-149.000	MVP-VRR3-118-2127	Constructability	68.95	---	---	Add ATWS 25 feet x 100 feet for pull off. Keep pull off all south of TA-AL-185.
NC-AL-150.000	MVP-VRA3-123-1504	Constructability	69.1	---	---	Trim ATWS 1649 to stay 26 feet away from the residence.
NC-AL-154.000	MVP-VRA3-067-1626	Landowner Request	69.3	---	---	Extend ATWS 1651.
NC-AL-154.000, NC-AL-164.000	MVP-VRA3-067-1524	Cultural	69.3	---	---	Trim ATWS 1651 to stay off of NC-AL-165.000.AR. Give the property line a 1-foot buffer.
NC-AL-162.000, NC-AL-165.000, NC-AL-161.000	MVP-VRA3-067-1525	Cultural	69.4	---	---	Trim ATWS 1652 to stay off of NC-AL-165.000.AR. Give the property line a 1-foot buffer.
NC-AL-163.000, NC-AL-163.100	MVP-VRA3-052-1612	Constructability	69.45	---	---	Trim TWS to avoid NC-AL-163.100, give the property line a 1-foot buffer.
NC-AL-166.000, NC-AL-167.000	MVP-VRR3-118-2131	Constructability	69.5	---	---	Adjust TA-AL-187.
NC-AL-166.000, NC-AL-167.000	MVP-VRA3-067-1527	Cultural	69.5	---	---	Trim ATWS 1653 to stay off of NC-AL-167.000. Give the property line a 1 foot buffer.
<u>NC-AL-166.000.RC</u>	MVP-VRA3-340-1637	Constructability	69.5	---	---	Add flare to TA-AL-187 at public road.
NC-AL-165.000	MVP-VRR3-118-2129	Constructability	69.5	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-187.
NC-AL-165.000	MVP-VRR3-118-2128	Constructability	69.5	---	---	Add ATWS 25 feet x 100 feet for pull off. Split the pull off to 12.5 feet on both sides of TA-AL-187.
NC-AL-170.300, NC-AL-179.000, NC-AL-180.000, NC-AL-181.000	MVP-VRA3-011-0846	Environmental	69.7	---	---	Trim ATWS to stay outside of the environmental buffer and neck down the TWS to 75 feet
NC-AL-181.000	MVP-VRA3-011-0844	Environmental	69.7	---	---	Extend ATWS for additional construction workspace.
NC-AL-182.000, NC-AL-183.000, NC-AL-184.000	MVP-VRA3-116-1645	Constructability	69.8	---	---	Add access road.
NC-AL-179.000, NC-AL-180.000, NC-AL-181.000	MVP-VRA3-127-1950	Constructability	69.8	---	---	Trim ATWS 1653C and TWS to be 26 feet away from residence.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-AL-191.300, NC-AL-191.100	MVP-VRA3-067-1014	Landowner Request	71	---	---	Delete access road TA-AL-188 this has been determined to be a public road. Give the property line a 10-foot buffer.
NC-AL-192.000	MVP-VRA3-353-1620	Constructability	71.5	---	---	Add space for turning to TA-AL-190 for turning flare.
NC-AL-192.000	MVP-VRA3-340-1642	Constructability	71.55	---	---	Add flare to TA-AL-190 at public road.
NC-AL-199.000	MVP-VRA3-340-1645	Constructability	72.4	---	---	Add flare to TA-AL-193 at public road.
NC-AL-203.000, NC-AL-204.000	MVP-VRA3-087-1809 a/	Landowner Request	72.7	72.8	0.1	Landowner requested that pipeline be moved as far away from home as possible.
NC-AL-203.000	MVP-VRA3-087-1815	Landowner Request	72.8	---	---	Trim TWS to avoid NC-AL-202.000.ABU. Give the property line a 1-foot buffer.
NC-AL-203.000	MVP-VRA3-087-1814	Landowner Request	72.8	---	---	Trim TWS to avoid NC-AL-202.000.ABU. Give the property line a 1 foot buffer.
NC-AL-203.000	MVP-VRA3-087-1811	Landowner Request	72.8	---	---	Add ATWS to compensate for the loss of TWS on the east side.
NC-AL-203.000, NC-AL-204.000	MVP-VRA3-086-1034	Constructability	72.8	---	---	Add TWS back in because the delineated stream S-A 18- 118 does not cross the LOD.
NC-AL-204.000, NC-AL-205.000, NC-AL-206.000, NC-AL-207.000, NC-AL-210.000	MVP-VRR3-100-1449 a/	Constructability	72.9	73.1	0.2	Adjust centerline to the west of pipeline route. Previous alignment would be unable to cross road and existing foreign line that resides within shoulder of major road. New alignment allows space to safely cross road and then foreign line.
NC-AL-206.000, NC-AL-208.000, FA5-AL-025.000, NC-AL-210.000	MVP-VRA3-065-1637	Constructability	72.9	---	---	Extend survey corridor because of reroutes.
NC-AL-207.000, NC-AL-208.000	MVP-VRA3-052-1614	Constructability	72.9	---	---	Trim ATWS 1691 to avoid NC-AL-208.000, give the property line a 1-foot buffer and wait for property boundary to be set.
NC-AL-210.000	MVP-VRA3-045-1242	Environmental	73.1	---	---	Trim ATWS to be outside of the environmental buffer.
VA-PI-001.000, VA-PI-002.015	MVP-VRA3-119-1516	Constructability	CY-01	---	---	Trim Contractor Yard ("CY")-01 to MDS points canopy line and the tree line.
VA-PI-142.200	MVP-VRA3-112-1225	Environmental	CY-03	---	---	Trim CY-03 to be outside of environmental buffer.
VA-PI-142.200	MVP-VRA3-112-1227	Environmental	CY-03	---	---	Trim CY-03 to be outside of environmental buffer
NC-RO-014.600	MVP-VRA3-122-1615	Constructability	CY-04	---	---	Delete CY-04 due to proximity to church and zoning issues.
NC-RO-014.200.CY06	MVP-VRA3-354-1613	Landowner Request	CY-06	---	---	Remove CY-06 from project footprint.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route						
Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
NC-GU-001.200	MVP-VRA3-122-1636	Constructability	CY-09	---	---	Delete CY-09. A small green field tract, not close to project.
VA-PI-207	MVP-VRR3-353-1417	Constructability	CY-19	---	---	Add CY-19 optional storage/contractor yard.
VA-PI-207	MVP-VRA3-112-1228	Environmental	CY-19	---	---	Trim CY-19 to be outside of environmental buffer
VA-PI-207.CY19	MVP-VRA3-031-1537	Landowner Request	CY-19	---	---	Trim CY-19 to be inside VA-PI-207.CY19 only. Trim the edges to leave 10-foot gap from the tax map shape and the start of CY
VA-PI-218, VA-PI-220	MVP-VRR3-353-1421	Constructability	CY-22	---	---	Add CY-22 optional storage/contractor yard.
VA-PI-218.CY22	MVP-VRA3-031-1619	Landowner Request	CY-22	---	---	Trim CY-22 to be inside VA-PI-218.CY22 only. Trim the edges to leave 10-foot gap from the tax map shape and the start of CY
Caswell, North Carolina	MVP-VRR3-353-1425	Constructability	CY-25	---	---	Add CY-25 optional storage/contractor yard.
NC-CA-001.000	MVP-VRA3-112-1300	Environmental	CY-25	---	---	Trim CY-25 to be outside of environmental buffer. This will split the contractor yard into two parts.
NC-CA-001.000	MVP-VRA3-112-1301	Environmental	CY-25	---	---	Trim CY-25 to be outside of environmental buffer.
NC-CA-001.000	MVP-VRA3-112-1234	Environmental	CY-25	---	---	Trim CY-25 to be outside of environmental buffer.
NC-CA-001.000	MVP-VRA3-112-1303	Environmental	CY-25	---	---	Trim CY-25 to be outside of environmental buffer.
NC-CA-001.000	MVP-VRA3-112-1232	Environmental	CY-25	---	---	Trim CY-25 to be outside of environmental buffer.
NC-AL-226, NC-AL-227	MVP-VRR3-353-1426	Constructability	CY-26	---	---	Add CY-26 optional storage/contractor yard.
NC-AL-226, NC-AL-227	MVP-VRA3-112-1345	Environmental	CY-26	---	---	Trim CY-26 to be outside of environmental buffer. This will split the contractor yard into two parts.
NC-AL-226.CY26, NC-AL-227.CY26	MVP-VRA3-031-1622	Landowner Request	CY-26	---	---	Trim CY-26 to be inside NC-AL-226.CY26 & NC-AL-227.CY26 only. Trim the edges to leave 10-foot gap from the tax map shape and the start of CY.

Table of Changes to the MVP Southgate Project Workspaces and the Pipeline Route

Tract ID	Modification No.	Reason for Change	Approx . Begin MP	Approx . End MP	Length (miles)	Workspaces and Pipeline Route Description / Justification
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a/ See Proposed Route Modifications Figures.

Note: Those highlighted in yellow within the table represented specific changes incorporated based on a landowner request.



MVP Southgate Project

Docket No. CP19-14-000

Attachment 28-1

Revised Resource Report 10 Comparison Tables

June 2019

LIST OF TABLES

REVISED Table 10.5-1	Comparison of the Current Route (May 2019) and Route Alternative 1.....	2
REVISED Table 10.5-2	Comparison of the Current Route (May 2019) and Route Alternative 2.....	4
REVISED Table 10.5-3	Comparison of the Current Route (May 2019) and Route Alternative 3.....	6
REVISED Table 10.5-4	Comparison of the Current Route (May 2019) and FERC Alternative 1	8
REVISED Table 10.5-5	Comparison of the Current Route (May 2019) and FERC Alternative 2	9
REVISED Table 10.5-6	Comparison of the Current Route (May 2019) and FERC Alternative 3	10
REVISED Table 10.5-7	Comparison of the Current Route (May 2019) and FERC Alternative 4	11
REVISED Table 10.5-8	Comparison of the Current Route (May 2019) and FERC Alternative 5	12
REVISED Table 10.5-9	Comparison of the Current Route (May 2019) and FERC Alternative 6	13
REVISED Table 10.5-10	Comparison of the Original Route and Mystic Valley Reroute (Current Route (May 2019)	14
REVISED Table 10.6-1	Comparison of the Current Route (May 2019) and Robert Pollok-Hill View Farms Variation	16
REVISED Table 10.6-2	Comparison of the Current Route (May 2019) and MP 40.0 to MP 41.4 Variation	17
REVISED Table 10.6-3	Comparison of the Original Route and MP 69.5 to MP 69.7 Variation (Current Route May 2019)	18
NEW Table 136-1	Comparison of the Current Route (May 2019) and Whitehead Variation (MP 3.65 to MP 5.1).....	19
New Table 38-1a	Comparison of the Current Route (May 2019) and Shambley Variation 1 (MP 59.0 – 59.58).....	20
New Table 38-1b	Comparison of the Current Route (May 2019) and Shambley Variation 2 (MP 59.40 to MP 59.77).....	21
NEW Table 138a-1	Comparison of the Current Route (May 2019) and Bombardier Variation (MP 59.0 to MP 59.4).....	22
NEW Table 138b-1	Comparison of the Current Route (May 2019) and Moore Variation (MP 33.1 to MP 33.9).....	23
NEW Table 138f-1	Comparison of the Current Route (May 2019) and Nicholson Variation (MP 3.65 to MP 4.0).....	24
NEW Table 138g-1	Comparison of the Current Route (May 2019) and Madrin Variation (MP 58.1 to MP 58.9).....	25
Table 1	Comparison of the Current Route (May 2019) and Martin Marietta Variation 1 (MP 66.96 – 67.12).....	26
Table 2	Comparison of the Current Route (May 2019) and Martin Marietta Variation 2 (MP 66.7 – 67.5).....	27
Table 3	Comparison of the Current Route (May 2019) and Town of Haw River Variation (MP 69.52 – 69.95).....	28

REVISED Table 10.5-1			
Comparison of the Current Route (May 2019) and Route Alternative 1			
Feature	Current Route (May 2019)	Route Alternative 1	Difference
General			
Total length (miles) <u>a/</u>	29.9	30.1	+0.2
Length adjacent to existing ROW (miles)	14.5	4.6	-9.9
Land affected during construction (acres) <u>a/</u>	363.1	365	+1.9
Land affected during operation (acres) <u>a/</u>	181.6	182.4	+0.8
Land Use			
Populated areas within ½ mile (number)	0	0	0
National Forest System lands crossed (miles)	0	0	0
National Forest Wilderness crossed (miles)	0	0	0
State lands crossed (forests, parks, wildlife management areas) (miles)	0	0	0
Scenic Trail crossings (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Designated Natural and Scenic Rivers, Nationwide Rivers Inventory, significant fisheries, ponds/lakes (number)	1	0	-1
NRHP designated or eligible historic districts crossed (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	1	0	-1
Landowner parcels crossed (number)	149	154	+5
Residences within 50 feet of construction work space (number)	6	11	+5
Number of residences within 25 and 50 feet of the edge of the construction ROW	1 / 4	0 / 11	-1 / +7
Environmental Justice Areas (miles)	21.6	10.1	-11.5
Resources			
Agricultural Land crossed (miles) <u>c/</u>	10.5	9.5	-1
Open Land crossed (miles)	14.8	13.2	-1.6
Residential Land (miles)	0.1	0.4	+0.3
Commercial/Industrial Land (miles)	0.5	0.3	-0.2
Forest Areas (miles)	14.6	17.3	+2.7
Forested Land affected during construction (acres)	177.5	178.3	+0.8
Forested Land affected during operation (acres)	88.4	104.6	+16.2
Total Wetlands (NWI) crossed (feet)	1240	726	-514
PEM NWI wetlands affected by construction (acres) <u>b/</u>	0.2	0	-0.2
PEM NWI wetlands affected by operation (acres) <u>a/</u>	0.1	0	-0.1
PSS NWI wetlands affected by construction (acres) <u>b/</u>	0.7	0.6	-0.1
PSS NWI wetlands affected by operation (acres) <u>a/</u>	0.5	0.4	-0.1
PFO NWI wetlands crossed (feet)	755	391	-364
PFO NWI wetlands affected by construction (acres) <u>b/</u>	1.3	0.8	-0.5
PFO NWI wetlands affected by operation (acres) <u>a/</u>	0.9	0.5	-0.4
Perennial waterbody crossings (number)	16	14	-2

REVISED Table 10.5-1			
Comparison of the Current Route (May 2019) and Route Alternative 1			
Feature	Current Route (May 2019)	Route Alternative 1	Difference
Crossings of major waterbodies (>100 feet) (number)	0	0	0
Presence of critical habitat or federally endangered or threatened species (Yes/No). Number of species.	No/0	No/0	0
Shallow bedrock crossed (miles)	4.0	3.8	-0.2
Karst area crossed (miles)	0	0	0
<p>a/ Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. Includes a 5.4-mile long lateral from Alternative 1 to an interconnect with PSNC Energy, east of Eden, North Carolina.</p> <p>b/ Assuming 75-foot-wide construction ROW.</p> <p>c/ Includes pasture/hay and cultivated crops.</p> <p>Populated Areas = census designated places, consolidated cities, and incorporated places. ROW = right-of-way. NWI = National Wetland Inventory. NRHP = National Register of Historic Places. PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.</p> <p><u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page VA Parcel Boundaries and Standard Fields - https://www.arcgis.com/home/item.html?id=f1dcca1f42e40cbbba791feae2e23690 NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ USDA - https://data.fs.usda.gov/geodata/edw/datasets.php NRHP - National Register of Historic Places - https://www.nps.gov/nr/research/data_downloads.htm ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-2			
Comparison of the Current Route (May 2019) and Route Alternative 2			
Feature	Current Route (May 2019)	Route Alternative 2	Difference
General			
Total length (miles) <u>a/</u>	42.5	43.3	+0.8
Length adjacent to existing ROW (miles)	19.8	14.6	-5.2
Land affected during construction (acres) <u>a/</u>	515.3	525.8	+10.5
Land affected during operation (acres) <u>a/</u>	257.7	262.8	+5.1
Land Use			
Populated areas within ½ mile (number)	0	0	0
National Forest System lands crossed (miles)	0	0	0
National Forest Wilderness crossed (miles)	0	0	0
State lands crossed (forests, parks, wildlife management areas) (miles)	0	0	0
Scenic Trail crossings (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Designated Natural and Scenic Rivers, Nationwide Rivers Inventory, significant fisheries, ponds/lakes (number)	2	0	-2
NRHP designated or eligible historic districts crossed (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	1	0	-1
Landowner parcels crossed (number)	220	191	-29
Residences within 50 feet of construction work space (number)	8	13	±5
Number of residences within 25 and 50 feet of the edge of the construction ROW	1 / 6	2 / 11	+1 / +5
Environmental Justice Areas (miles)	21.6	3.7	-17.9
Resources			
Agricultural Land crossed (miles) <u>c/</u>	16.7	13.8	-2.9
Open Land crossed (miles)	21.7	21.5	-0.2
Residential Land (miles)	0.3	0.3	0
Commercial/Industrial Land (miles)	0.6	0.3	-0.3
Forest Areas (miles)	19.9	22.7	+2.8
Forested Land affected during construction (acres)	242	274.6	+32.6
Forested Land affected during operation (acres)	120.8	137.3	+16.5
Total Wetlands (NWI) crossed (feet)	1,972	3,047	+1,075
PEM NWI wetlands affected by construction (acres) <u>b/</u>	0.8	0	-0.8
PEM NWI wetlands affected by operation (acres) <u>a/</u>	0.6	0	-0.6
PSS NWI wetlands affected by construction (acres) <u>b/</u>	0.7	0.5	-0.2
PSS NWI wetlands affected by operation (acres) <u>a/</u>	0.5	0.4	-0.1
PFO NWI wetlands crossed (feet)	790	2,763	+1,973
PFO NWI wetlands affected by construction (acres) <u>b/</u>	1.4	4.9	+3.5
PFO NWI wetlands affected by operation (acres) <u>a/</u>	0.9	3.3	+2.4
Perennial waterbody crossings (number)	18	19	+1
Crossings of major waterbodies (>100 feet) (number)	1	0	-1

REVISED Table 10.5-2			
Comparison of the Current Route (May 2019) and Route Alternative 2			
Feature	Current Route (May 2019)	Route Alternative 2	Difference
Presence of critical habitat or federally endangered or threatened species (Yes/No). Number of species.	No / 0	No / 0	0
Shallow bedrock crossed (miles)	4.0	4.3	+0.3
Karst area crossed (miles)	0	0	0
<p>a/ Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. Includes an 8.8-mile long lateral from Alternative 2 to an interconnect with PSNC Energy, east of Eden, North Carolina.</p> <p>b/ Assuming 75-foot-wide construction ROW.</p> <p>c/ Includes pasture/hay and cultivated crops.</p> <p>Populated Areas = census designated places, consolidated cities, and incorporated places.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory. NRHP = National Register of Historic Places.</p> <p>PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>VA Parcel Boundaries and Standard Fields - https://www.arcgis.com/home/item.html?id=f1dcca1f42e40cbba791feae2e23690</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>USDA - https://data.fs.usda.gov/geodata/edw/datasets.php</p> <p>NRHP - National Register of Historic Places - https://www.nps.gov/nr/research/data_downloads.htm</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-3			
Comparison of the Current Route (May 2019) and Route Alternative 3			
Feature	Current Route (May 2019)	Route Alternative 3	Difference
General			
Total length (miles) <u>a/</u>	60.2	63.4	+3.2
Length adjacent to existing ROW (miles)	26.7	25.4	-1.3
Land affected during construction (acres) <u>a/</u>	729.6	769.1	+39.5
Land affected during operation (acres) <u>a/</u>	364.8	384.5	+19.7
Land Use			
Populated areas within ½ mile (number)	0	1	+1
National Forest System lands crossed (miles)	0	0	0
National Forest Wilderness crossed (miles)	0	0	0
State lands crossed (forests, parks, wildlife management areas) (miles)	0	0	0
Scenic Trail crossings (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Designated Natural and Scenic Rivers, Nationwide Rivers Inventory, significant fisheries, ponds/lakes (number)	2	0	-2
NRHP designated or eligible historic districts crossed (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	2	0	-2
Landowner parcels crossed (number)	308	369	+61
Residences within 50 feet of construction work space (number)	47	24	+7
Number of residences within 25 and 50 feet of the edge of the construction ROW	4 / 12	2 / 23	-2 / 11
Environmental Justice Areas (miles)	21.6	19.1	-2.5
Resources			
Agricultural Land crossed (miles) <u>c/</u>	25	15.2	-9.8
Open Land crossed (miles)	31.9	27.3	-4.6
Residential Land (miles)	0.5	1.0	+0.5
Commercial/Industrial Land (miles)	0.8	0.6	-0.2
Forest Areas (miles)	26.3	38.5	+12.2
Forested Land affected during construction (acres)	320.4	464.6	+144.2
Forested Land affected during operation (acres)	159.7	232.6	+72.9
Total Wetlands (NWI) crossed (feet)	2,196	3,159	+963
PEM NWI wetlands affected by construction (acres) <u>b/</u>	1.1	0.6	-0.5
PEM NWI wetlands affected by operation (acres) <u>a/</u>	0.8	0.4	-0.4
PSS NWI wetlands affected by construction (acres) <u>b/</u>	0.7	2.1	+1.4
Total PSS NWI wetlands affected by operation (acres) <u>a/</u>	0.5	1.2	+0.7
PFO NWI wetlands crossed (feet)	790	1,614	+824
PFO NWI wetlands affected by construction (acres) <u>b/</u>	1.4	2.8	+1.4
PFO NWI wetlands affected by operation (acres) <u>a/</u>	0.9	1.9	+1.0
Perennial waterbody crossings (number)	28	31	+3
Crossings of major waterbodies (>100 feet) (number)	1	0	-1

REVISED Table 10.5-3			
Comparison of the Current Route (May 2019) and Route Alternative 3			
Feature	Current Route (May 2019)	Route Alternative 3	Difference
Presence of critical habitat or federally endangered or threatened species (Yes/No). Number of species.	No / 0	No / 0	0
Shallow bedrock crossed (miles)	4.8	10.4	+5.6
Karst area crossed (miles)	2.0	0.6	-1.4
<p>a/ Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. Includes a 16.6-mile long lateral from Alternative 3 to an interconnect with PSNC Energy, east of Eden, North Carolina.</p> <p>b/ Assuming 75-foot-wide construction ROW.</p> <p>c/ Includes pasture/hay and cultivated crops.</p> <p>Populated Areas = census designated places, consolidated cities, and incorporated places.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory. NRHP = National Register of Historic Places</p> <p>PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>VA Parcel Boundaries and Standard Fields - https://www.arcgis.com/home/item.html?id=f1dcca1f42e40cbbba791feae2e23690</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>USDA - https://data.fs.usda.gov/geodata/edw/datasets.php</p> <p>NRHP - National Register of Historic Places - https://www.nps.gov/nr/research/data_downloads.htm</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-4			
Comparison of the Current Route (May 2019) and FERC Alternative 1			
Feature	Current Route (May 2019)	FERC Alternative 1	Difference
Total length (miles)	9.3	8.7	-0.6
Construction right-of-way (acres) <u>a/</u>	113.1	105.7	-7.4
Permanent right-of-way (acres) <u>a/</u>	56.5	52.8	-3.7
Total number of parcels crossed	84	53	-31
Number of residences within 25 and 50 feet of the edge of the construction ROW	5 / 5	1 / 1	-4 / -4
Residential Land (miles)	0.1	0.1	0
Commercial/Industrial Land (miles)	0.2	0.1	-0.1
Unlisted/Potential Eligible Historic Properties (number)	1	0	-1
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	1	0
Number of waterbodies crossed	18	23	+5
Number of NWI wetlands crossed	1	9	+8
Total NWI wetland crossing length (feet)	25	3,990	+3,965
NWI wetlands within construction ROW (acres) <u>b/</u>	0.2	6.8	+6.6
Agricultural Land within construction ROW (acres) <u>c/</u>	28.6	19.5	-9.1
Forest Areas (miles)	5.6	5.3	-0.3
Forested Land affected during construction (acres)	67.5	65	-2.5
Forested Land affected during operation (acres)	33.8	32.4	-1.4
Length adjacent to existing ROW (miles)	0.25	5.95	+5.7
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-5			
Comparison of the Current Route (May 2019) and FERC Alternative 2			
Feature	Current Route (May 2019)	FERC Alternative 2	Difference
Total length (miles)	3.9	4.0	+0.1
Construction right-of-way (acres) <u>a/</u>	47	48.9	+1.9
Permanent right-of-way (acres) <u>a/</u>	23.5	24.4	+0.9
Total number of parcels crossed	43	30	-13
Number of residences within 25 and 50 feet of the edge of the construction ROW	5 / 5	0 / 0	-5 / -5
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0.1	0.1	0
Unlisted/Potential Eligible Historic Properties (number)	1	0	-1
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	1	0
Number of waterbodies crossed	8	12	+4
Number of NWI wetlands crossed	0	9	+9
Total NWI wetland crossing length (feet)	0	4,163	+4,163
NWI wetlands within construction ROW (acres) <u>b/</u>	0.1	6.9	+6.8
Agricultural Land within construction ROW (acres) <u>c/</u>	6.4	6.9	+0.5
Forest Areas (miles)	2.6	2.1	-0.5
Forested Land affected during construction (acres)	31.7	26.2	-5.5
Forested Land affected during operation (acres)	15.8	13	-2.8
Length adjacent to existing ROW (miles)	0.2	3.6	+3.4
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-6			
Comparison of the Current Route (May 2019) and FERC Alternative 3			
Feature	Current Route (May 2019)	FERC Alternative 3	Difference
Total length (miles)	2.2	1.5	-0.7
Construction right-of-way (acres) <i>a/</i>	26.4	18.9	-7.5
Permanent right-of-way (acres) <i>a/</i>	13.2	9.4	-3.8
Total number of parcels crossed	17	15	-2
Number of residences within 25 and 50 feet of the edge of the construction ROW	0 / 0	0 / 0	0 / 0
Residential Land (miles)	0	0.1	+0.1
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	3	3	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <i>b/</i>	0	0	0
Agricultural Land within construction ROW (acres) <i>c/</i>	12.4	9.5	-2.9
Forest Areas (miles)	0.8	1	+0.2
Forested Land affected during construction (acres)	10.4	12.1	+1.7
Forested Land affected during operation (acres)	5.1	6	+0.9
Length adjacent to existing ROW (miles)	0	0	0
<p><i>a/</i> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <i>b/</i> Assuming 75-foot-wide construction ROW. <i>c/</i> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory Information Sources: GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-7			
Comparison of the Current Route (May 2019) and FERC Alternative 4			
Feature	Current Route (May 2019)	FERC Alternative 4	Difference
Total length (miles)	5.2	9.4	+4.2
Construction right-of-way (acres) <u>a/</u>	63.02	114	+51
Permanent right-of-way (acres) <u>a/</u>	31.5	57.0	+25.5
Total number of parcels crossed	55	56	1
Number of residences within 25 and 50 feet of the edge of the construction ROW	3 / 3	0 / 0	-3 / -3
Residential Land (miles)	0	0.1	+0.1
Commercial/Industrial Land (miles)	0.1	0.3	+0.2
Unlisted/Potential Eligible Historic Properties (number)	1	0	-1
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	1	0
Number of waterbodies crossed	12	14	+2
Number of NWI wetlands crossed	1	5	+4
Total NWI wetland crossing length (feet)	25	321	+296
NWI wetlands within construction ROW (acres) <u>b/</u>	0.2	0.7	+0.5
Agricultural Land within construction ROW (acres) <u>c/</u>	11.5	36.2	+24.7
Forest Areas (miles)	3.3	5.3	+2
Forested Land affected during construction (acres)	39.5	64.6	+25.1
Forested Land affected during operation (acres)	19.8	32.2	+12.4
Length adjacent to existing ROW (miles)	0.2	2.0	+1.8
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-8			
Comparison of the Current Route (May 2019) and FERC Alternative 5			
Feature	Current Route (May 2019)	FERC Alternative 5	Difference
Total length (miles)	1.4	2.2	+0.8
Construction right-of-way (acres) <u>a/</u>	17.2	26.3	+9.1
Permanent right-of-way (acres) <u>a/</u>	8.6	13.1	+4.5
Total number of parcels crossed	15	19	+4
Number of residences within 25 and 50 feet of the edge of the construction ROW	2 / 2	0 / 0	-2/ -2
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	3	3	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	2.9	11.5	+8.6
Forest Areas (miles)	0.9	1	+0.1
Forested Land affected during construction (acres)	10.6	11.9	+1.3
Forested Land affected during operation (acres)	5.3	5.9	+0.6
Length adjacent to existing ROW (miles)	0.1	0	-0.1
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-9			
Comparison of the Current Route (May 2019) and FERC Alternative 6			
Feature	Current Route (May 2019)	FERC Alternative 6	Difference
Total length (miles)	3.7	4.4	+0.7
Construction right-of-way (acres) <u>a/</u>	45.6	53.3	+7.7
Permanent right-of-way (acres) <u>a/</u>	22.7	26.6	+3.9
Total number of parcels crossed	21	28	+7
Number of residences within 25 and 50 feet of the edge of the construction ROW	0 / 0	1 / 1	+1 / +1
Residential Land (miles)	0.2	0	+0.2
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	5	10	+5
Number of NWI wetlands crossed	1	2	+1
Total NWI wetland crossing length (feet)	35	131	+96
NWI wetlands within construction ROW (acres) <u>b/</u>	0.1	0.3	+0.2
Agricultural Land within construction ROW (acres) <u>c/</u>	21.7	17.8	-3.9
Forest Areas (miles)	1.7	2.9	+1.2
Forested Land affected during construction (acres)	21.2	34.3	+13.1
Forested Land affected during operation (acres)	10.6	17.4	+6.8
Length adjacent to existing ROW (miles)	0.9	2.5	+1.6
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.5-10			
Comparison of the Original Route and Mystic Valley Reroute (Current Route (May 2019))			
Feature	Original Route	Mystic Valley Reroute (Current Route May 2019)	Difference
General			
Total length (miles) <u>a/</u>	2.6	3.3	+0.7
Length adjacent to existing ROW (miles)	0	0	0
Land affected during construction (acres) <u>a/</u>	31.4	39.9	+8.5
Land affected during operation (acres) <u>a/</u>	15.7	19.9	+4.2
Land Use			
Populated areas within ½ mile (number)	0	0	0
National Forest System lands crossed (miles)	0	0	0
National Forest Wilderness crossed (miles)	0	0	0
State lands crossed (forests, parks, wildlife management areas) (miles)	0	0	0
Scenic Trail crossings (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Designated Natural and Scenic Rivers, Nationwide Rivers Inventory, significant fisheries, ponds/lakes (number)	0	0	0
NRHP designated or eligible historic districts crossed (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	1	+1
Landowner parcels crossed (number)	25	23	-2
Residences within 50 feet of construction work space (number)	0	0	0
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Environmental Justice Areas (miles)	1.1	1.1	0
Resources			
Agricultural Land crossed (miles) <u>c/</u>	1.3	1.6	+0.3
Open Land crossed (miles)	1.9	1.7	+0.2
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Forest Areas (miles)	1	1.3	+0.3
Forested Land affected during construction (acres)	12	15.9	+3.9
Forested Land affected during operation (acres)	6	7.9	+1.9
Total Wetlands (NWI) crossed (feet)	0	0	0
PEM NWI wetlands affected by construction (acres) <u>b/</u>	0	0	0
PEM NWI wetlands affected by operation (acres) <u>a/</u>	0	0	0
PSS NWI wetlands affected by construction (acres) <u>b/</u>	0	0	0

REVISED Table 10.5-10			
Comparison of the Original Route and Mystic Valley Reroute (Current Route (May 2019))			
Feature	Original Route	Mystic Valley Reroute (Current Route May 2019)	Difference
PSS NWI wetlands affected by operation (acres) <u>a/</u>	0	0	0
PFO NWI wetlands crossed (feet)	0	0	0
PFO NWI wetlands affected by construction (acres) <u>b/</u>	0	0	0
PFO NWI wetlands affected by operation (acres) <u>a/</u>	0	0	0
Perennial waterbody crossings (number)	0	0	0
Crossings of major waterbodies (>100 feet) (number)	0	0	0
Presence of critical habitat or federally endangered or threatened species (Yes/No). Number of species.	No / 0	No / 0	0
Shallow bedrock crossed (miles)	0	0	0
Karst area crossed (miles)	0	0	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW.</p> <p><u>b/</u> Assuming 75-foot-wide construction ROW.</p> <p><u>c/</u> Includes pasture/hay and cultivated crops.</p> <p>Populated Areas = census designated places, consolidated cities, and incorporated places.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory. NRHP = National Register of Historic Places.</p> <p>PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>VA Parcel Boundaries and Standard Fields - https://www.arcgis.com/home/item.html?id=f1dcca1f42e40cbba791feae2e23690</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>USDA - https://data.fs.usda.gov/geodata/edw/datasets.php</p> <p>NRHP - National Register of Historic Places - https://www.nps.gov/nr/research/data_downloads.htm</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.6-1			
Comparison of the Current Route (May 2019) and Robert Pollok-Hill View Farms Variation			
Feature	Current Route (May 2019)	Robert Pollok-Hill View Farms Variation	Difference
Total length (miles)	1.0	1.0	0
Construction right-of-way (acres) <u>a/</u>	12.3	12.3	0
Total length within Robert Pollok-Hill View Farms Property (miles)	0.5	0.3	-0.2
Construction right-of-way within Robert Pollok-Hill View Farms Property (acres) <u>a/</u>	5.4	3.7	-1.7
Permanent right-of-way (acres) <u>a/</u>	6.1	6.1	0
Total number of parcels crossed	5	6	-1
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	0	0	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	8.9	9.1	+0.2
Forest Areas (miles)	0.2	0.2	0
Forested Land affected during construction (acres)	2.8	2.3	-0.5
Forested Land affected during operation (acres)	1.4	1.2	-0.2
Length adjacent to existing ROW (miles)	0	1	+1
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.6-2			
Comparison of the Current Route (May 2019) and MP 40.0 to MP 41.4 Variation			
Feature	Current Route (May 2019)	MP 40.0 to MP 41.4 Variation	Difference
Total length (miles)	1.5	1.6	+0.1
Construction right-of-way (acres) <u>a/</u>	18.1	19.8	+1.7
Permanent right-of-way (acres) <u>a/</u>	9	9.9	+0.9
Total number of parcels crossed	10	8	-2
Number of residences within 25 and 50 feet of the edge of the construction ROW	1/1	0/0	-1/-1
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	3	3	0
Number of NWI wetlands crossed	1	1	0
Total NWI wetland crossing length (feet)	243	303	+60
NWI wetlands within construction ROW (acres) <u>b/</u>	0.4	0.5	+0.1
Agricultural Land within construction ROW (acres) <u>c/</u>	1.2	2.2	+1
Forest Areas (miles)	0.9	1.1	+0.2
Forested Land affected during construction (acres)	11.3	12.9	+1.6
Forested Land affected during operation (acres)	5.6	6.4	+0.8
Length adjacent to existing ROW (miles)	0.5	0.2	-0.3
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory Information Sources: GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

REVISED Table 10.6-3			
Comparison of the Original Route and MP 69.5 to MP 69.7 Variation (Current Route May 2019)			
Feature	Original Route	MP 69.5 to MP 69.69 Variation (Current Route May 2019)	Difference
Total length (miles)	0.5	0.4	+0.1
Construction right-of-way (acres) <u>a/</u>	6.5	5.4	+1.1
Permanent right-of-way (acres) <u>a/</u>	3.2	2.6	+0.6
Total number of parcels crossed	11	9	-2
Number of residences within 25 and 50 feet of the edge of the construction ROW	2/3	3/3	+1/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0.1	0.1	0
Unlisted/Potential Eligible Historic Properties (number)	1	1	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	1	0
Number of waterbodies crossed	1	1	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	0	0	0
Forest Areas (miles)	0.1	0.1	0
Forested Land affected during construction (acres)	2	1.8	-0.2
Forested Land affected during operation (acres)	1	0.8	-0.2
Length adjacent to existing ROW (miles)	0	0	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory Information Sources: GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

NEW Table 136-1			
Comparison of the Current Route (May 2019) and Whitehead Variation (MP 3.65 to MP 5.1)			
Feature	Current Route (May 2019)	Whitehead Variation	Difference
Total length (miles)	1.5	1.8	+0.3
Construction right-of-way (acres) <u>a/</u>	18.1	21.5	+3.4
Permanent right-of-way (acres) <u>a/</u>	9	10.7	+1.7
Total number of parcels crossed	10	11	+1
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	0	-1
Number of waterbodies crossed	2	1	-1
Number of NWI wetlands crossed	1	1	0
Total NWI wetland crossing length (feet)	200	315	+115
NWI wetlands within construction ROW (acres) <u>b/</u>	0.3	0.5	+0.2
Agricultural Land within construction ROW (acres) <u>c/</u>	2.6	5.9	+3.3
Forest Areas (miles)	0.3	0.6	+0.3
Forested Land affected during construction (acres)	4.8	7.5	+2.7
Forested Land affected during operation (acres)	2.2	3.7	+1.5
Length adjacent to existing ROW (miles)	0.6	0	-0.6
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

New Table 38-1a			
Comparison of the Current Route (May 2019) and Shambley Variation 1 (MP 59.0 – 59.58)			
Feature	Current Route (May 2019)	Shambley Variation 1 (MP 59.0 – 59.58)	Difference
Total length (miles)	0.58	0.56	-0.02
Construction right-of-way (acres) <i>a/</i>	7.2	7.0	-0.2
Permanent right-of-way (acres) <i>a/</i>	3.6	3.5	-0.1
Total number of parcels crossed	7	6	-1
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0.03	+0.03
Commercial/Industrial land (miles)	0.01	0.01	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of potable water wells within 150 feet of pipeline	Data not available ^{d/}	Data not available	-
Number of septic systems within 150 feet of pipeline	Data not available	Data not available	-
Number of waterbodies crossed	1	1	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <i>b/</i>	0	0	0
Agricultural land within construction ROW (acres) <i>c/</i>	1.3	2.0	+0.7
Forest Areas (miles)	0.4	0.2	-0.2
Forested land affected during construction (acres)	4.5	3.1	-1.4
Forested land affected during operation (acres)	2.3	1.5	-0.8
Length adjacent to existing ROW (miles)	0	0	0
<p><i>a/</i> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <i>b/</i> Assuming 75-foot-wide construction ROW. <i>c/</i> Includes pasture/hay and cultivated crops. <i>d/</i> Field surveys have not been completed as of June 2019 due to lack of survey access. Mountain Valley anticipates completion of field surveys in third quarter 2019. ROW = right-of-way. NWI = National Wetland Inventory Information Sources: GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

New Table 38-1b			
Comparison of the Current Route (May 2019) and Shambley Variation 2 (MP 59.40 to MP 59.77)			
Feature	Current Route (May 2019)	Shambley Variation 2 (MP 59.40 to MP 59.77)	Difference
Total length (miles)	0.38	0.42	+0.04
Construction right-of-way (acres) <u>a/</u>	4.8	5.2	+0.4
Permanent right-of-way (acres) <u>a/</u>	2.4	2.6	+0.2
Total number of parcels crossed	5	7	+2
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0.1	+0.1
Commercial/Industrial land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of potable water wells within 150 feet of pipeline	Data not available ^{d/}	Data not available	-
Number of septic systems within 150 feet of pipeline	Data not available	Data not available	-
Number of waterbodies crossed	1	1	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural land within construction ROW (acres) <u>c/</u>	2.8	2.4	-0.4
Forest Areas (miles)	0.2	0.2	0
Forested land affected during construction (acres)	2.1	3.1	+1
Forested land affected during operation (acres)	1.0	1.5	+0.5
Length parallel or adjacent to existing ROW (miles)	0.2	0	-0.2
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW.</p> <p><u>b/</u> Assuming 75-foot-wide construction ROW.</p> <p><u>c/</u> Includes pasture/hay and cultivated crops.</p> <p><u>d/</u> Field surveys have not been completed as of June 2019 due to lack of survey access. Mountain Valley anticipates completion of field surveys in third quarter 2019.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

NEW Table 138a-1			
Comparison of the Current Route (May 2019) and Bombardier Variation (MP 59.0 to MP 59.4)			
Feature	Current Route (May 2019)	Bombardier Variation	Difference
Total length (miles)	0.4	0.5	+0.1
Construction right-of-way (acres) <u>a/</u>	5.2	5.7	+0.5
Permanent right-of-way (acres) <u>a/</u>	2.6	2.8	+0.2
Total number of parcels crossed	5	5	0
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0.2	0.2	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	0	0	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	1.9	2.1	+0.2
Forest Areas (miles)	0.3	0.2	-0.1
Forested Land affected during construction (acres)	3.3	2.8	-0.5
Forested Land affected during operation (acres)	1.6	1.3	-0.3
Length adjacent to existing ROW (miles)	0	0	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

NEW Table 138b-1			
Comparison of the Current Route (May 2019) and Moore Variation (MP 33.1 to MP 33.9)			
Feature	Current Route (May 2019)	Moore Variation	Difference
Total length (miles)	0.8	0.9	+0.1
Construction right-of-way (acres) <u>a/</u>	10.4	11.4	+1
Permanent right-of-way (acres) <u>a/</u>	5.2	5.7	+0.5
Total number of parcels crossed	4	7	+3
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	2	2	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	0	1.2	+1.2
Forest Areas (miles)	0.3	0.7	+0.4
Forested Land affected during construction (acres)	3.8	8.4	+4.6
Forested Land affected during operation (acres)	1.8	4.2	+2.4
Length adjacent to existing ROW (miles)	0.7	0	-0.7
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

NEW Table 138f-1			
Comparison of the Current Route (May 2019) and Nicholson Variation (MP 3.65 to MP 4.0)			
Feature	Current Route (May 2019)	Nicholson Variation	Difference
Total length (miles)	0.4	0.7	+0.3
Construction right-of-way (acres) <u>a/</u>	4.7	8.9	+4.2
Permanent right-of-way (acres) <u>a/</u>	2.3	4.4	+2.1
Total number of parcels crossed	3	3	0
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	0	0	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural Land within construction ROW (acres) <u>c/</u>	2.3	4.4	+2.1
Forest Areas (miles)	0	0	0
Forested Land affected during construction (acres)	0.1	0	-0.1
Forested Land affected during operation (acres)	0.2	0	-0.2
Length adjacent to existing ROW (miles)	0	0	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

NEW Table 138g-1			
Comparison of the Current Route (May 2019) and Madrin Variation (MP 58.1 to MP 58.9)			
Feature	Current Route (May 2019)	Madrin Variation	Difference
Total length (miles)	0.8	1.2	+0.4
Construction right-of-way (acres) <u>a/</u>	9.9	14.7	+4.8
Permanent right-of-way (acres) <u>a/</u>	4.9	7.3	+2.4
Total number of parcels crossed	5	7	+2
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial Land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	1	1	0
Number of NWI wetlands crossed	1	2	+1
Total NWI wetland crossing length (feet)	34	46	+12
NWI wetlands within construction ROW (acres) <u>b/</u>	0.1	0.1	0
Agricultural Land within construction ROW (acres) <u>c/</u>	4.2	4.3	+0.1
Forest Areas (miles)	0.5	0.8	+0.3
Forested Land affected during construction (acres)	5.6	9.7	+4.1
Forested Land affected during operation (acres)	2.8	4.9	+2.1
Length adjacent to existing ROW (miles)	0.1	0.2	+0.1
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW. <u>b/</u> Assuming 75-foot-wide construction ROW. <u>c/</u> Includes pasture/hay and cultivated crops. ROW = right-of-way. NWI = National Wetland Inventory <u>Information Sources:</u> GIS – Analysis based on Geodatabase layers and shapefiles. NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/ USGS – U.S. Geological Survey - http://www.usgs.gov/ NHD – National Hydrography Dataset - http://nhd.usgs.gov/ ESRI - GIS Mapping - http://www.esri.com/</p>			

Table 1			
Comparison of the Current Route (May 2019) and Martin Marietta Variation 1 (MP 66.96 – 67.12)			
Feature	Current Route (May 2019)	Martin Marietta Variation 1 (MP 66.96 – 67.12)	Difference
Total length (miles)	0.2	0.2	0
Construction right-of-way (acres) <u>a/</u>	2.3	2.3	0
Permanent right-of-way (acres) <u>a/</u>	1.1	1.1	0
Total number of parcels crossed	2	2	0
Maximum Distance from Center of Easement to Quarry Property line (feet)	89	191	+102
Minimum Distance from Center of Easement to Quarry Property line (feet)	0	45	+45
Construction ROW impacting Quarry Property (acres)	0.5	0	-0.5
Permanent ROW impacting Quarry Property (acres)	0.3	0	-0.3
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/1	0/+1
Residential Land (miles)	0	0	0
Commercial/Industrial land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	0	0	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural land within construction ROW (acres) <u>c/</u>	0	2.0	+2.0
Forest Areas (miles)	0.0	0.1	+0.1
Forested land affected during construction (acres)	0	0.9	+0.9
Forested land affected during operation (acres)	0	0.4	+0.4
Length adjacent to existing ROW (miles)	0	0	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW.</p> <p><u>b/</u> Assuming 75-foot-wide construction ROW.</p> <p><u>c/</u> Includes pasture/hay and cultivated crops.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

Table 2			
Comparison of the Current Route (May 2019) and Martin Marietta Variation 2 (MP 66.7 – 67.5)			
Feature	Current Route (May 2019)	Martin Marietta Variation 2 (MP 66.7 – 67.5)	Difference
Total length (miles)	0.9	0.9	0
Construction right-of-way (acres) <u>a/</u>	11.4	11.0	-0.4
Permanent right-of-way (acres) <u>a/</u>	5.7	5.5	-0.2
Total number of parcels crossed	8	5	-3
Maximum Distance from Center of Easement to Quarry Property line (feet)	0	0	0
Minimum Distance from Center of Easement to Quarry Property line (feet)	89	0	-89
Construction ROW impacting Quarry Property (acres)	0.8	7.9	+7.1
Permanent ROW impacting Quarry Property (acres)	0.3	4.4	+4.1
Number of residences within 25 and 50 feet of the edge of the construction ROW	0/0	0/0	0/0
Residential Land (miles)	0	0	0
Commercial/Industrial land (miles)	0	0	0
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	0	0	0
Number of waterbodies crossed	2	2	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural land within construction ROW (acres) <u>c/</u>	2.3	2	-0.3
Forest Areas (miles)	0.4	0.5	+0.1
Forested land affected during construction (acres)	5.1	5.9	+0.8
Forested land affected during operation (acres)	2.5	2.9	+0.4
Length adjacent to existing ROW (miles)	0.5	0.5	0
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW.</p> <p><u>b/</u> Assuming 75-foot-wide construction ROW.</p> <p><u>c/</u> Includes pasture/hay and cultivated crops.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			

Table 3			
Comparison of the Current Route (May 2019) and Town of Haw River Variation (MP 69.52 – 69.95)			
Feature	Current Route (May 2019)	Town of Haw River Variation (MP 69.52 – 69.95)	Difference
Total length (miles)	0.4	0.5	+0.1
Construction right-of-way (acres) <u>a/</u>	5.3	6.4	+1.1
Permanent right-of-way (acres) <u>a/</u>	2.6	3.1	+0.5
Total number of parcels crossed	11	8	-3
Number of residences within 25 and 50 feet of the edge of the construction ROW	3/3	2/3	-1/0
Residential Land (miles)	0	0.03	+0.03
Commercial/Industrial land (miles)	0.2	0.3	+0.1
Unlisted/Potential Eligible Historic Properties (number)	0	0	0
National Trails, Recreation Trails, and Other Recreational Areas (number)	1	1	0
Number of waterbodies crossed	1	1	0
Number of NWI wetlands crossed	0	0	0
Total NWI wetland crossing length (feet)	0	0	0
NWI wetlands within construction ROW (acres) <u>b/</u>	0	0	0
Agricultural land within construction ROW (acres) <u>c/</u>	0	0	0
Forest Areas (miles)	0.1	0.1	0
Forested land affected during construction (acres)	2.0	1.8	-0.2
Forested land affected during operation (acres)	1	0.9	-0.1
Length adjacent to existing ROW (miles)	0	0.3	+0.3
<p><u>a/</u> Assuming 100-foot-wide construction ROW and 50-foot-wide permanent ROW.</p> <p><u>b/</u> Assuming 75-foot-wide construction ROW.</p> <p><u>c/</u> Includes pasture/hay and cultivated crops.</p> <p>ROW = right-of-way. NWI = National Wetland Inventory</p> <p><u>Information Sources:</u></p> <p>GIS – Analysis based on Geodatabase layers and shapefiles.</p> <p>NC Parcel Boundaries and Standard Fields - http://data.nconemap.gov/geoportal/catalog/search/resource/details.page</p> <p>NLCD – 2016 National Land Cover Dataset - https://www.mrlc.gov/data/nlcd-2016-land-cover-conus</p> <p>NWI – National Wetlands Inventory - http://www.fws.gov/wetlands/</p> <p>USGS – U.S. Geological Survey - http://www.usgs.gov/</p> <p>NHD – National Hydrography Dataset - http://nhd.usgs.gov/</p> <p>ESRI - GIS Mapping - http://www.esri.com/</p>			



MVP Southgate Project

Docket No. CP19-14-000

Attachment 31-1

Martin Marietta Correspondence

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(Provided Under Separate Cover)

June 2019