APPENDIX E

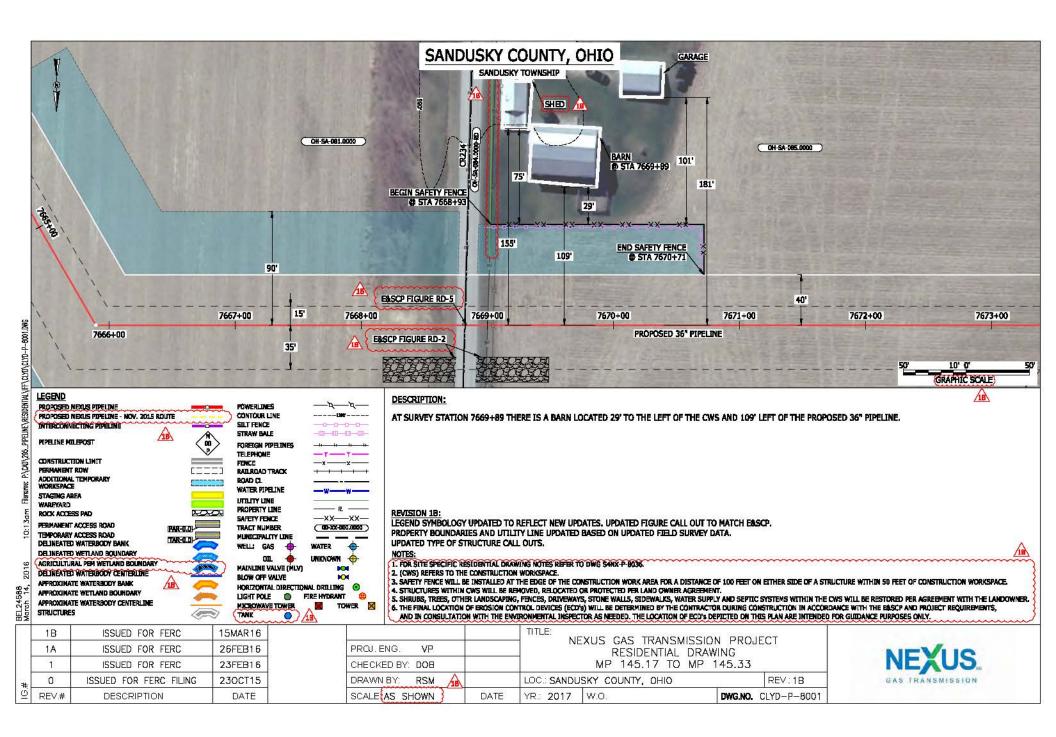
CONSTRUCTION, RESTORATION, AND MITIGATION PLANS

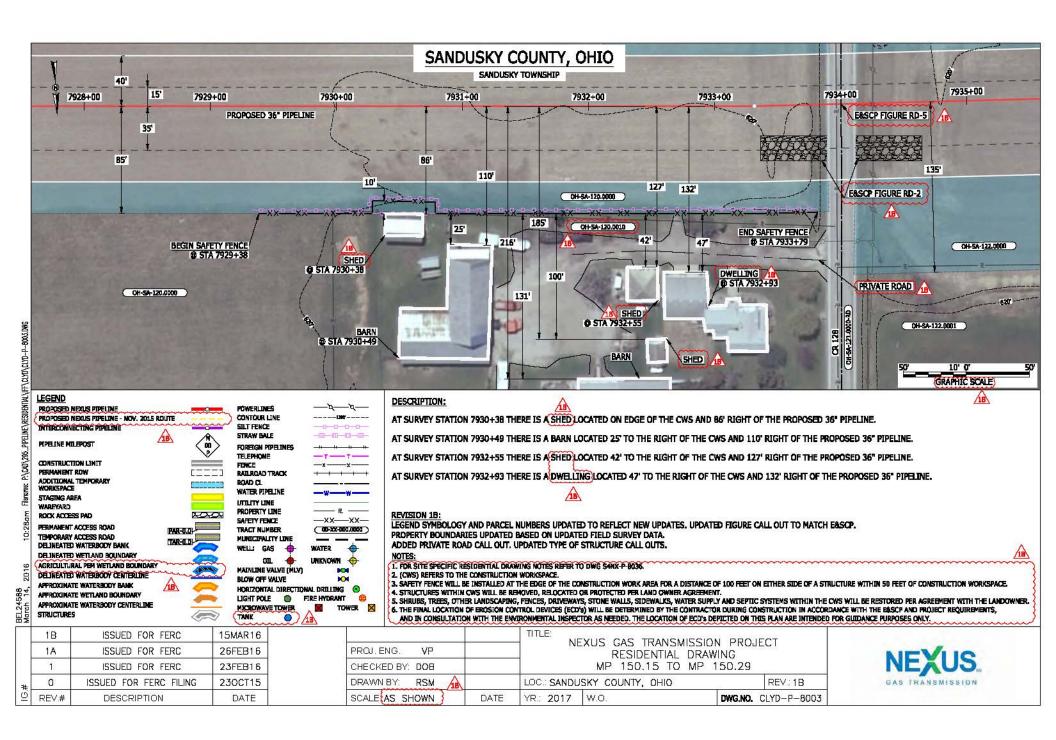
- E-1: NGT PROJECT BLASTING PLAN (in Part 1 of 2)
- E-2: TEAL PROJECT BLASTING PLAN (in Part 1 of 2)
- E-3: NGT PROJECT DRAIN TILE MITIGATION PLAN (in Part 1 of 2)
- E-4: HDD DESIGN REPORT AND HDD MONITORING AND
 - INADVERTENT RETURN CONTINGENCY PLAN (in Part 1 of 2)
- E-5: NGT RESIDENTIAL CONSTRUCTION PLANS (in Part 2 of 2)

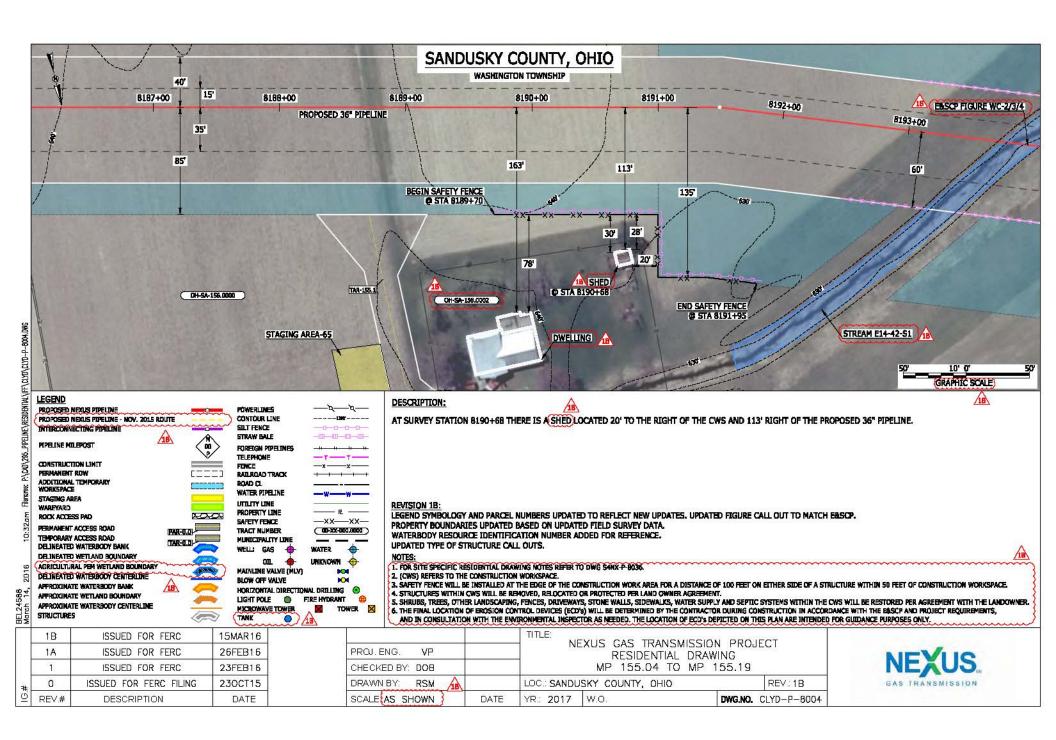
(PART 2 OF 2)

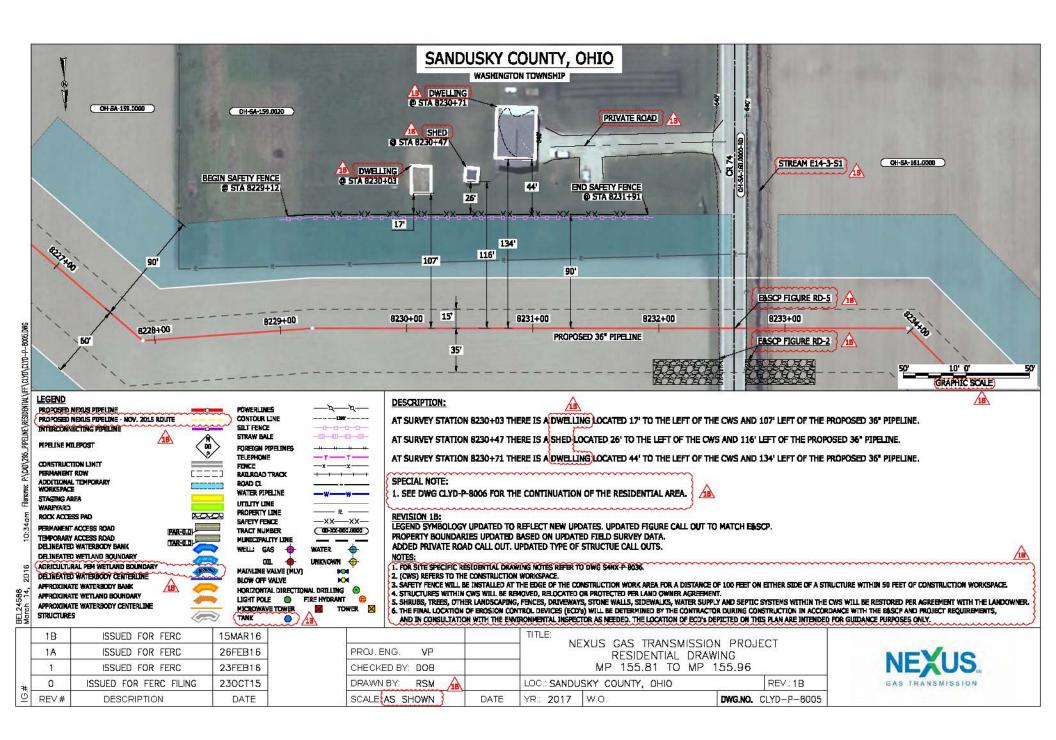
APPENDIX E-5

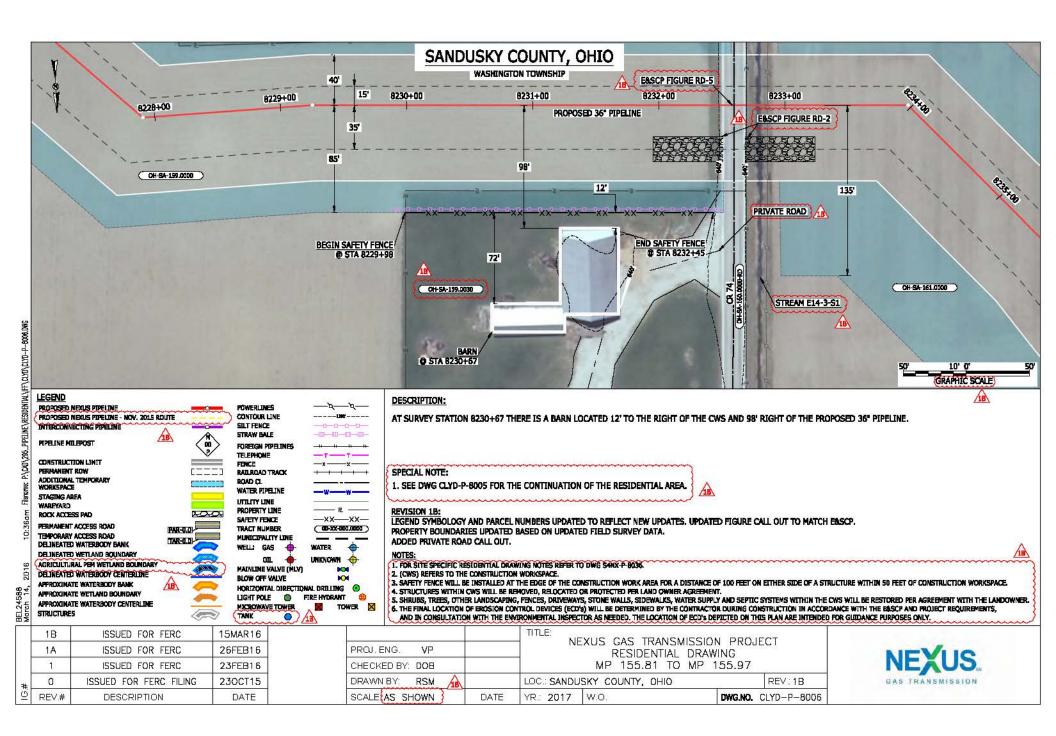
NGT RESIDENTIAL CONSTRUCTION PLAN

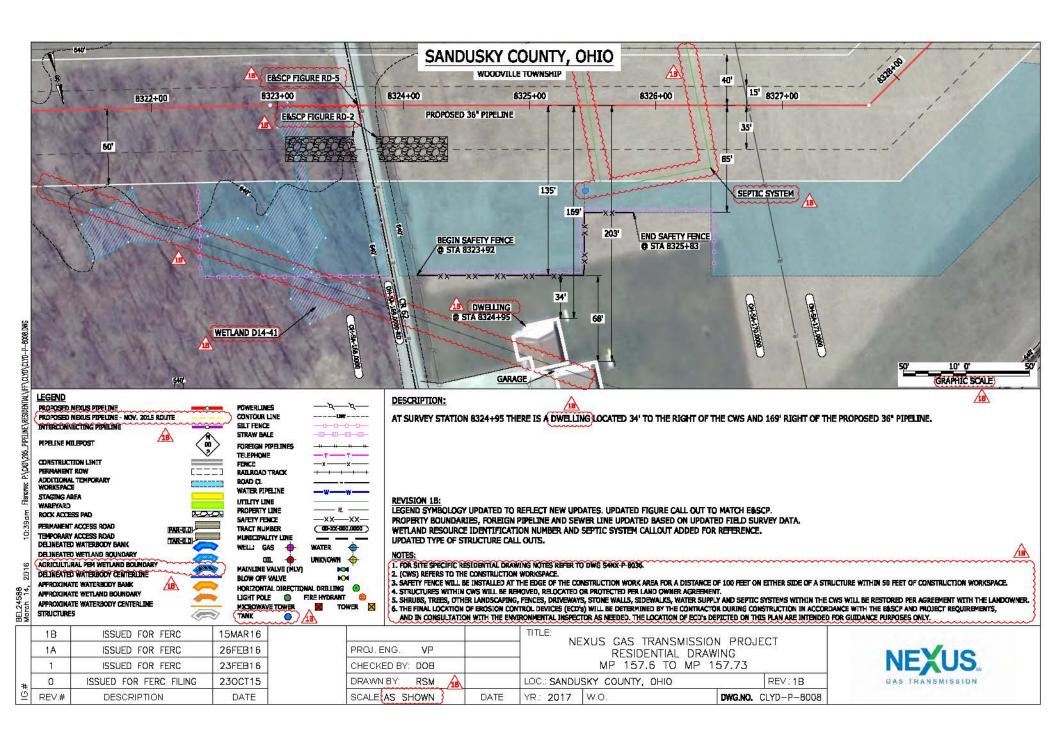


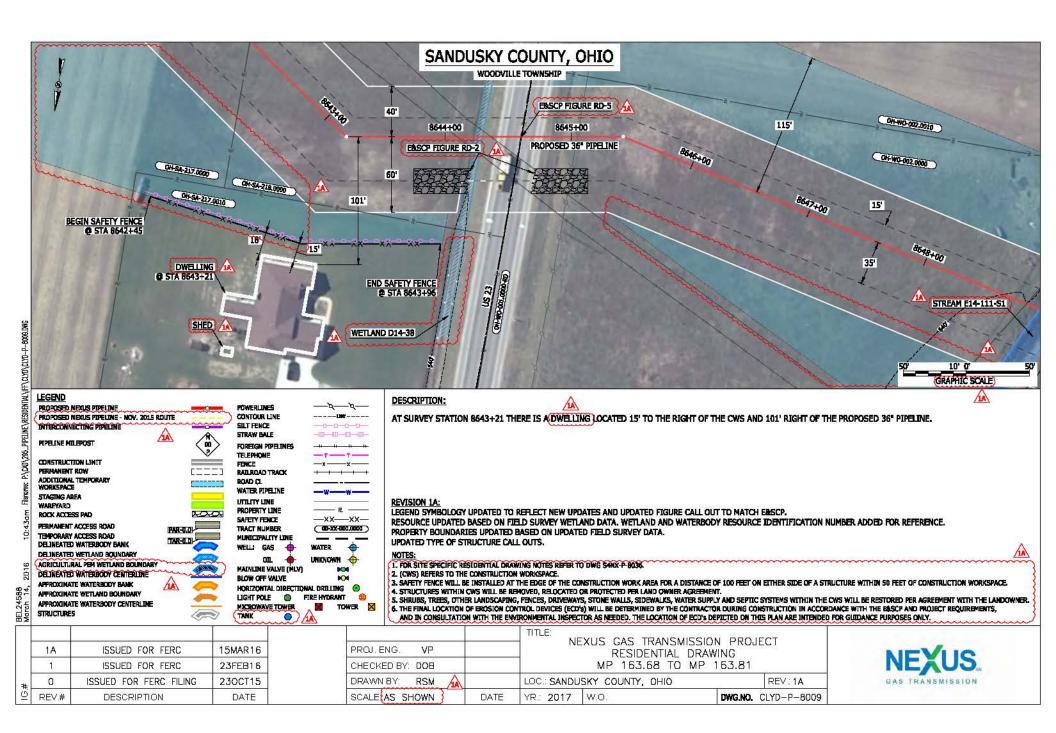


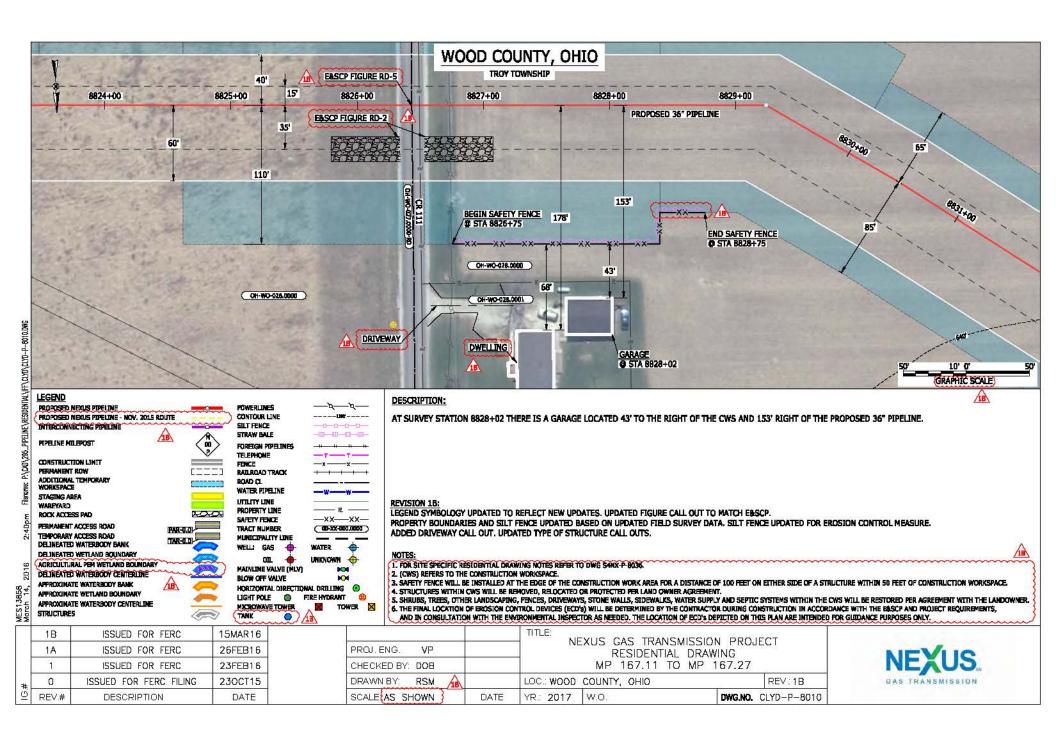


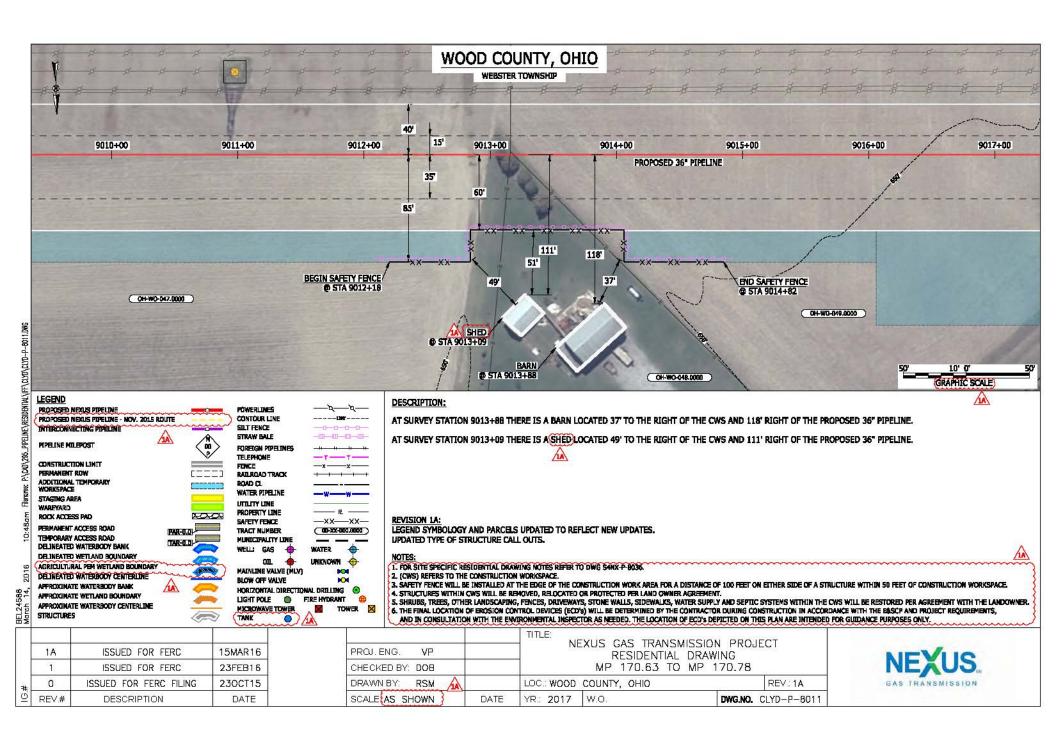


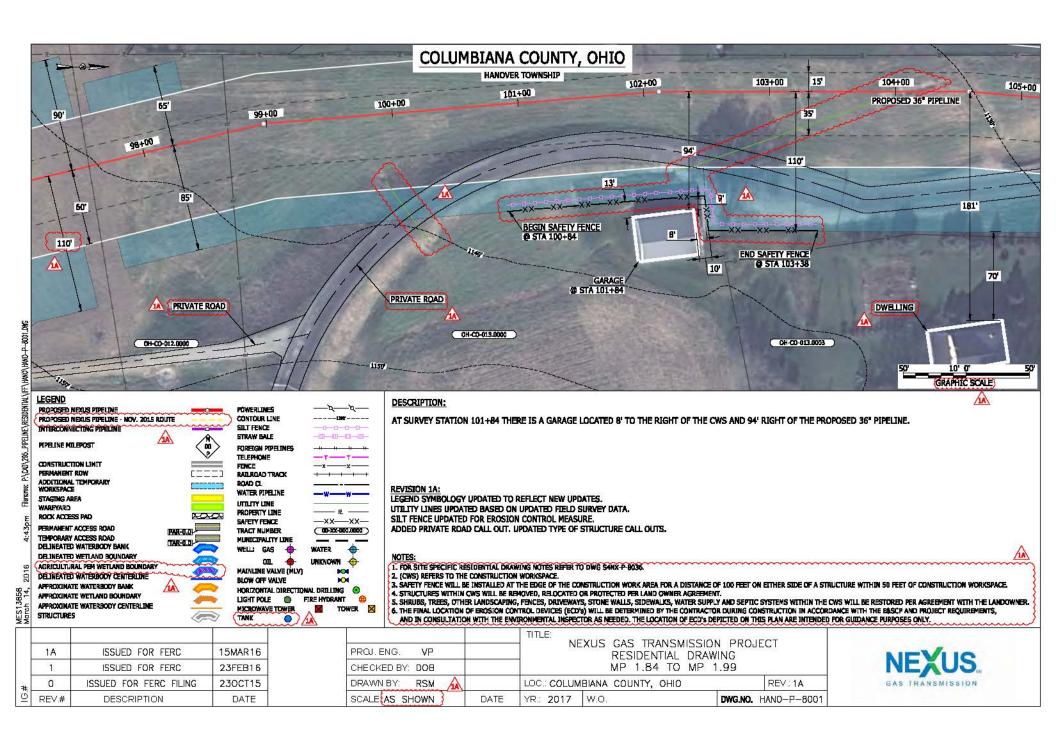


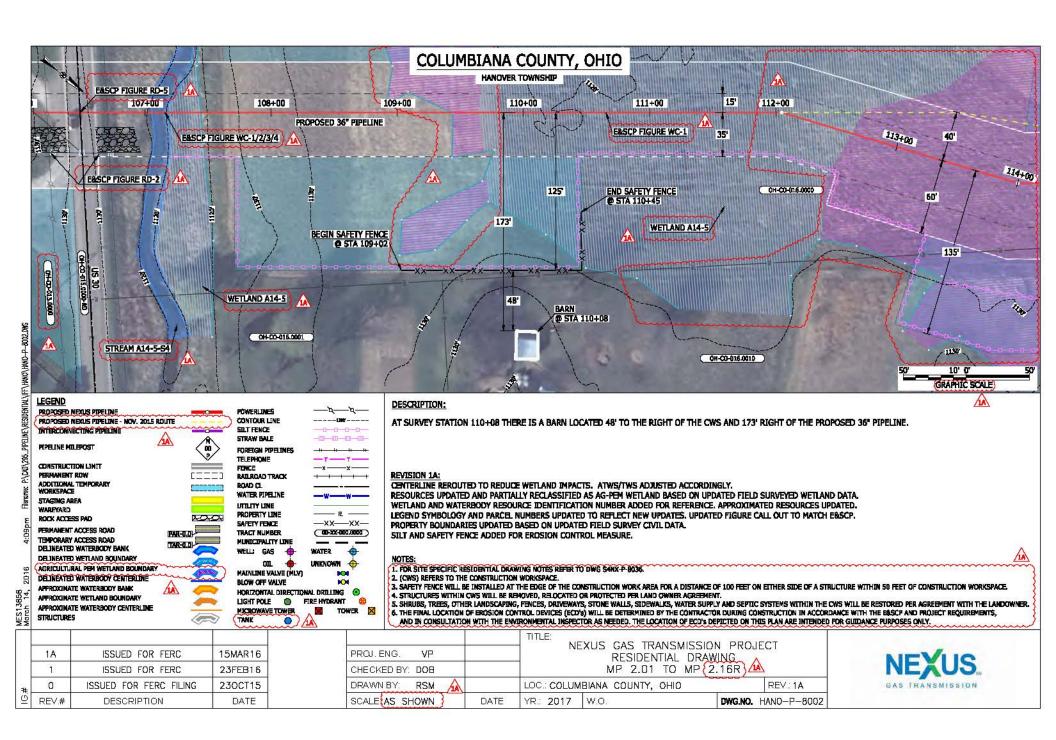


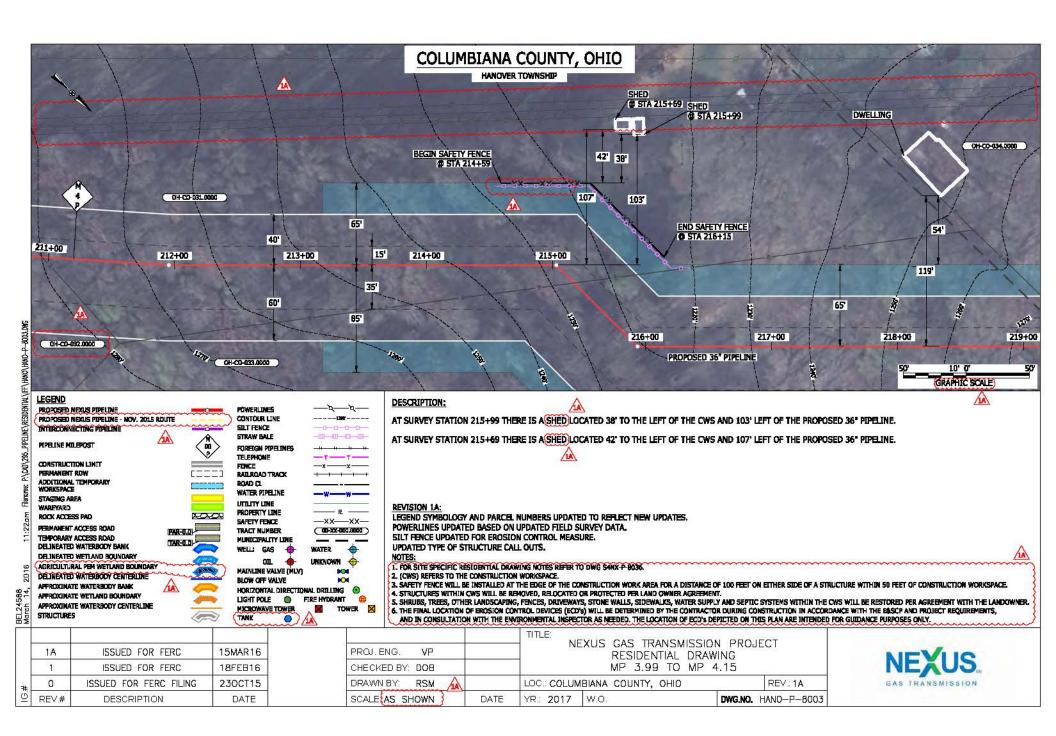


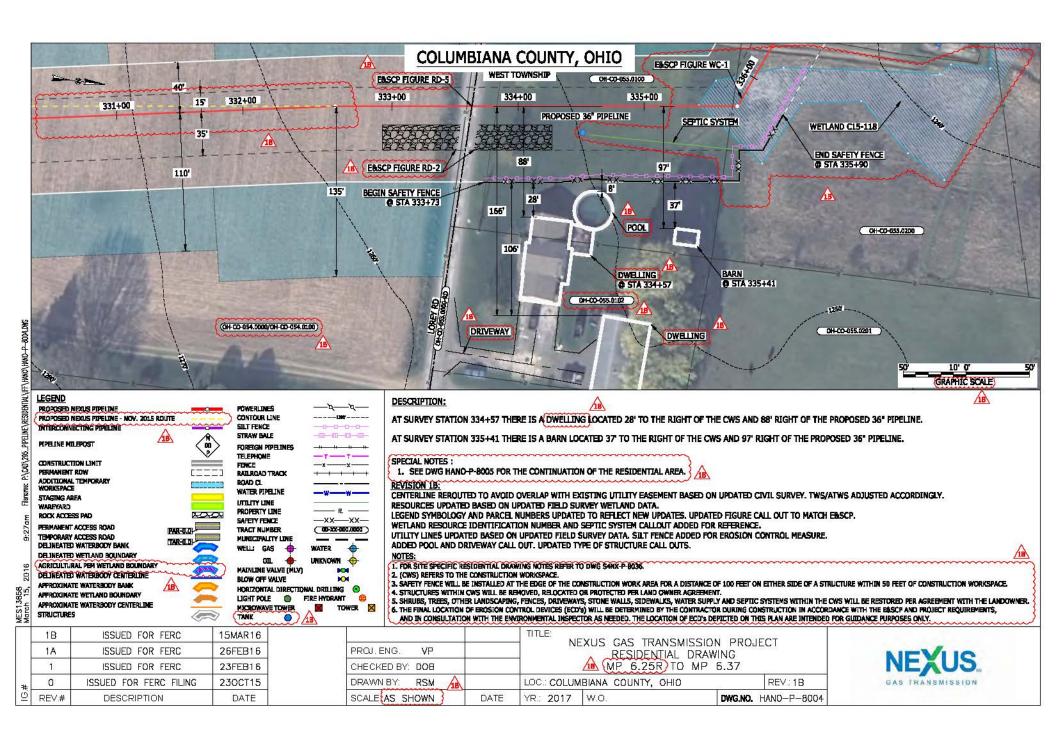


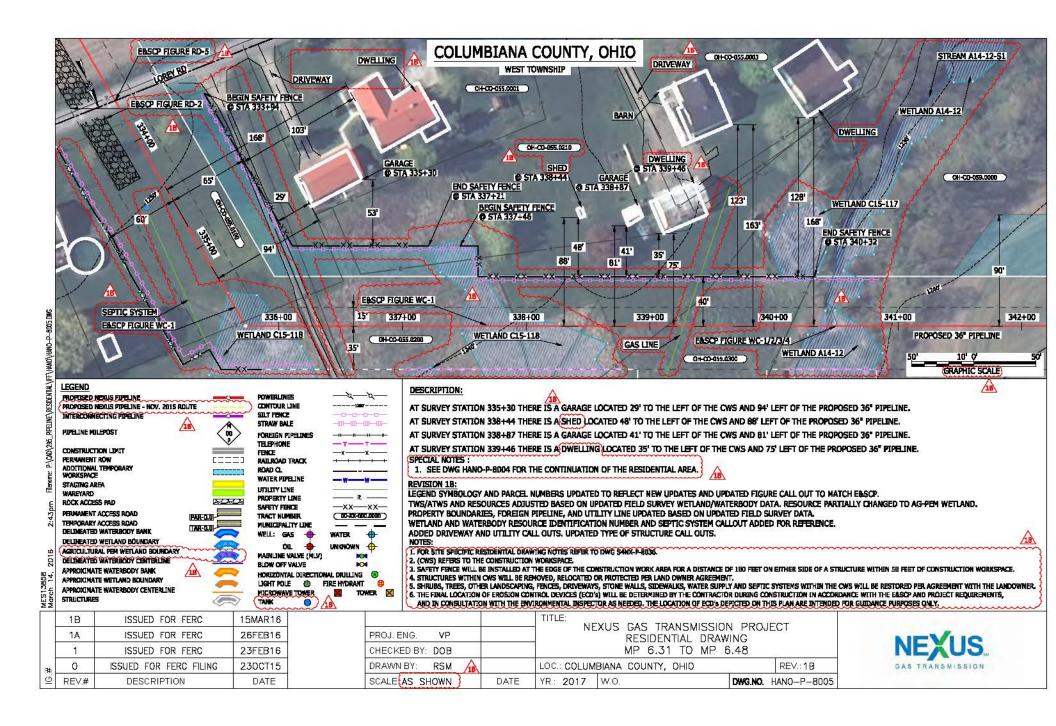


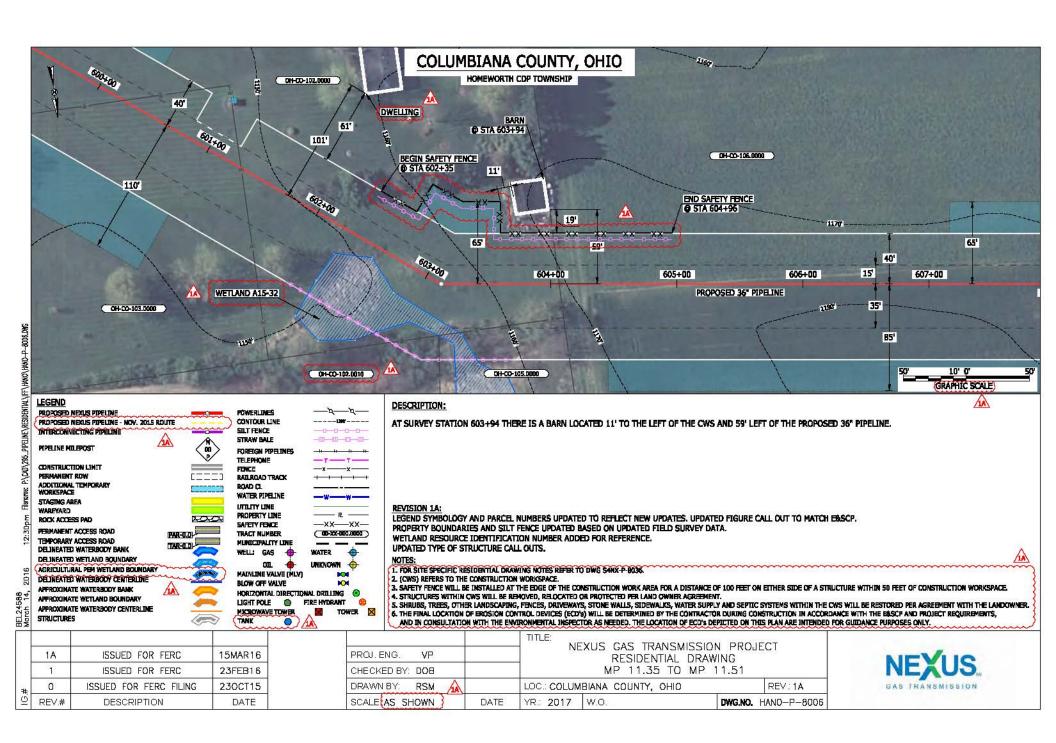


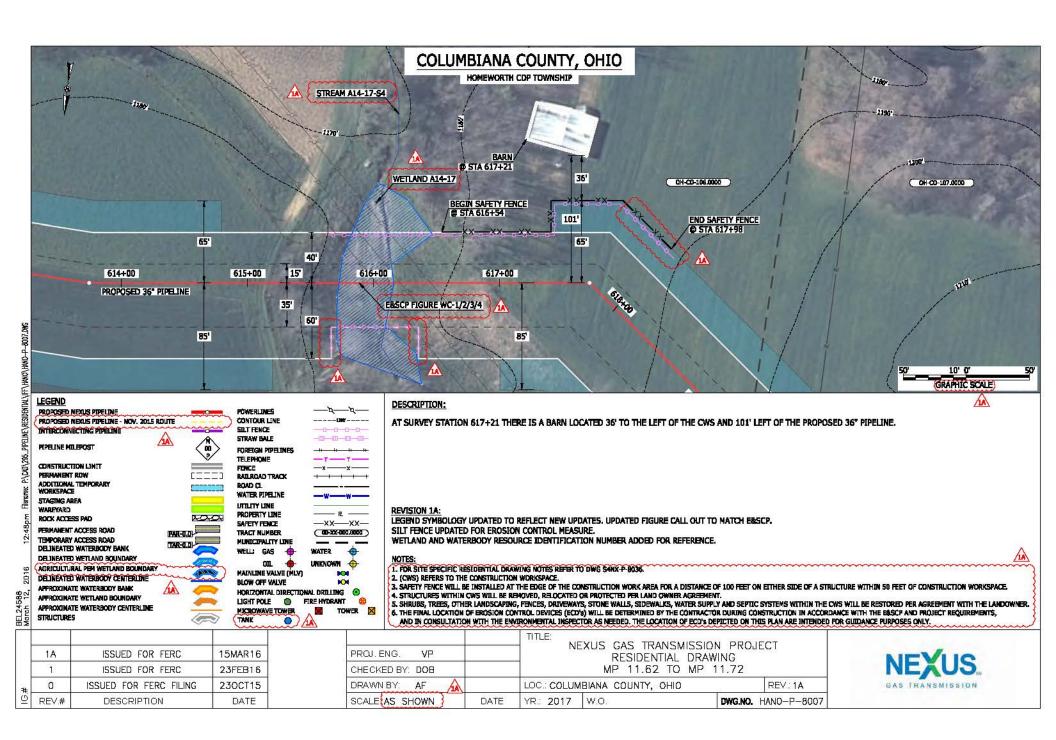


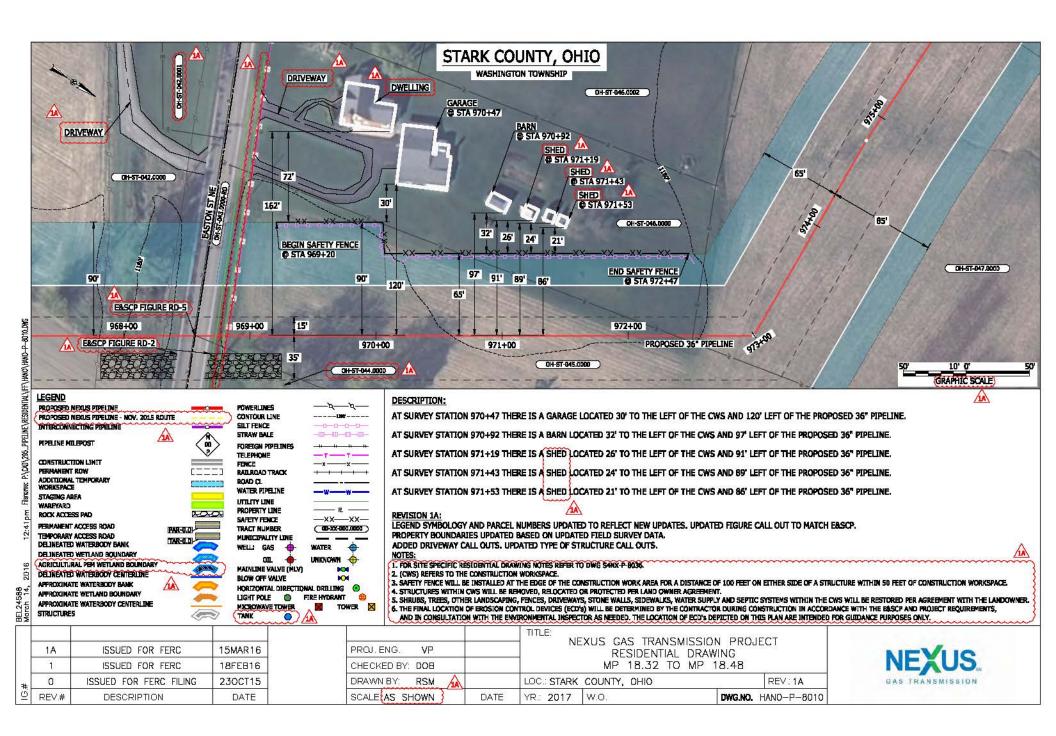


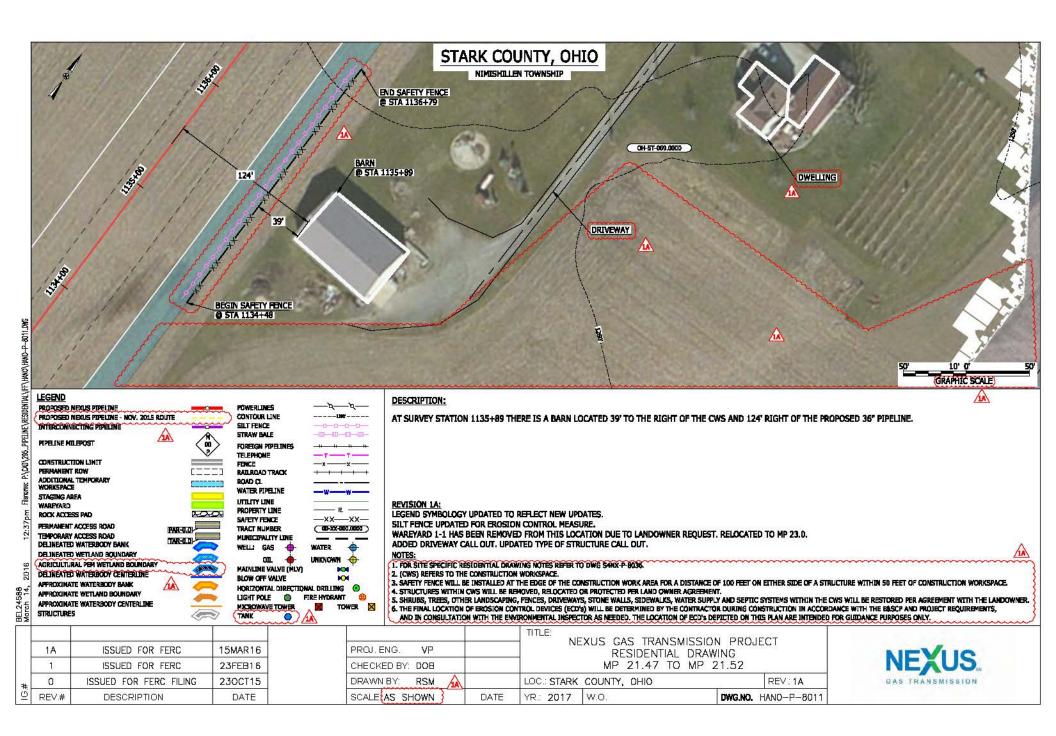


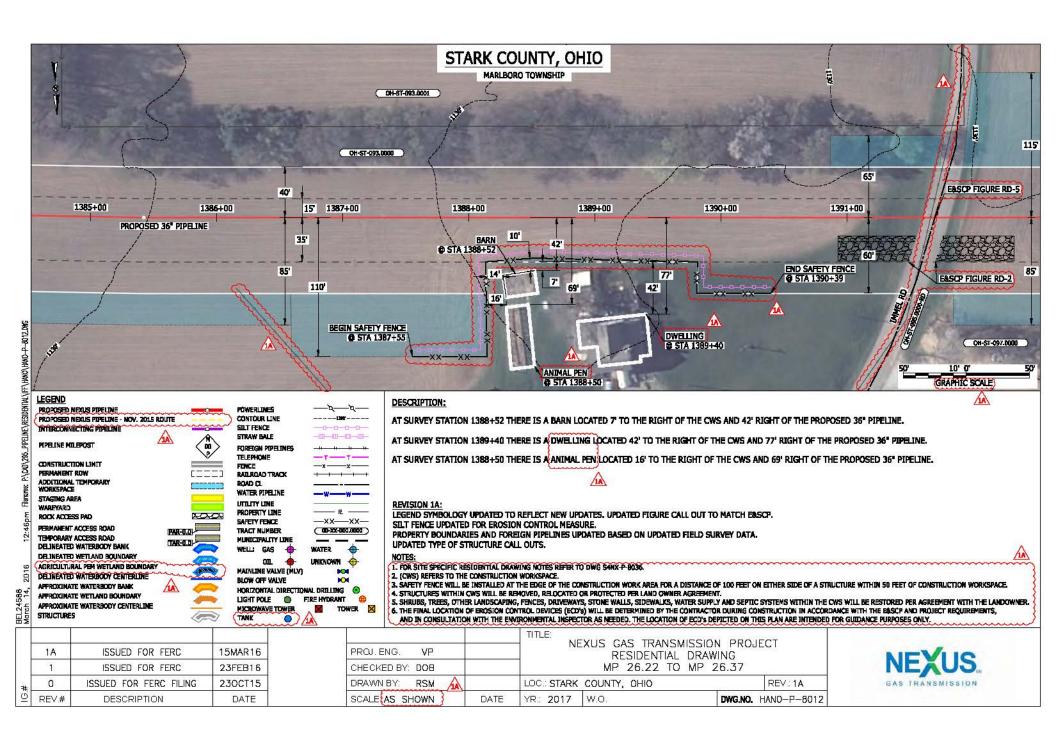


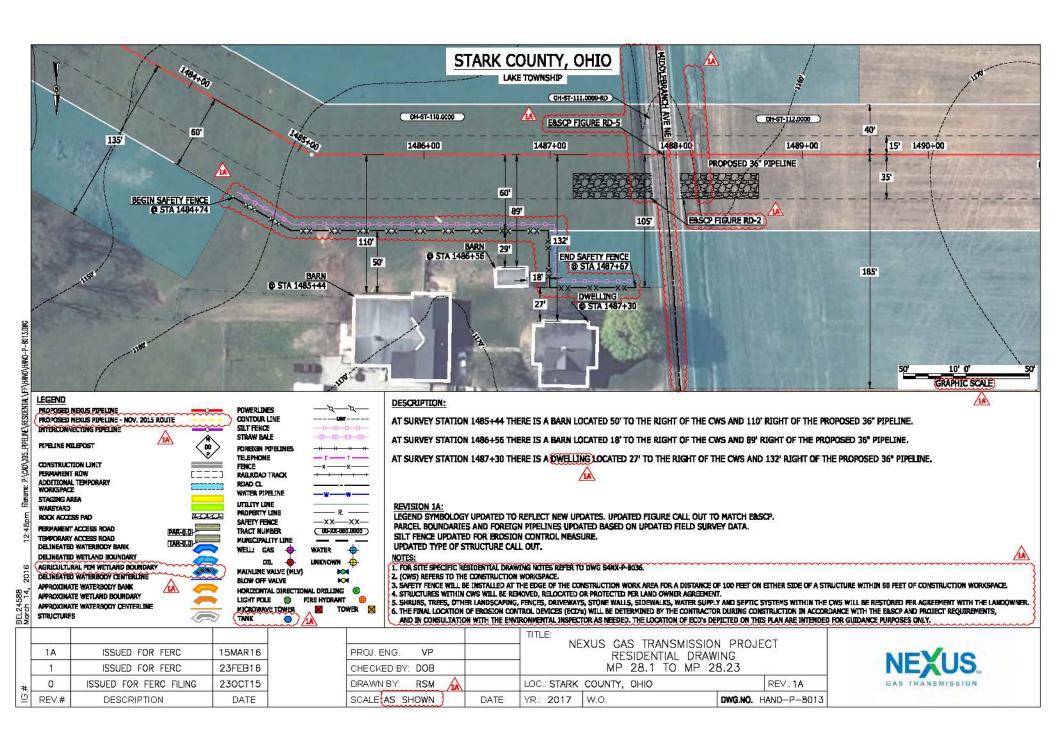


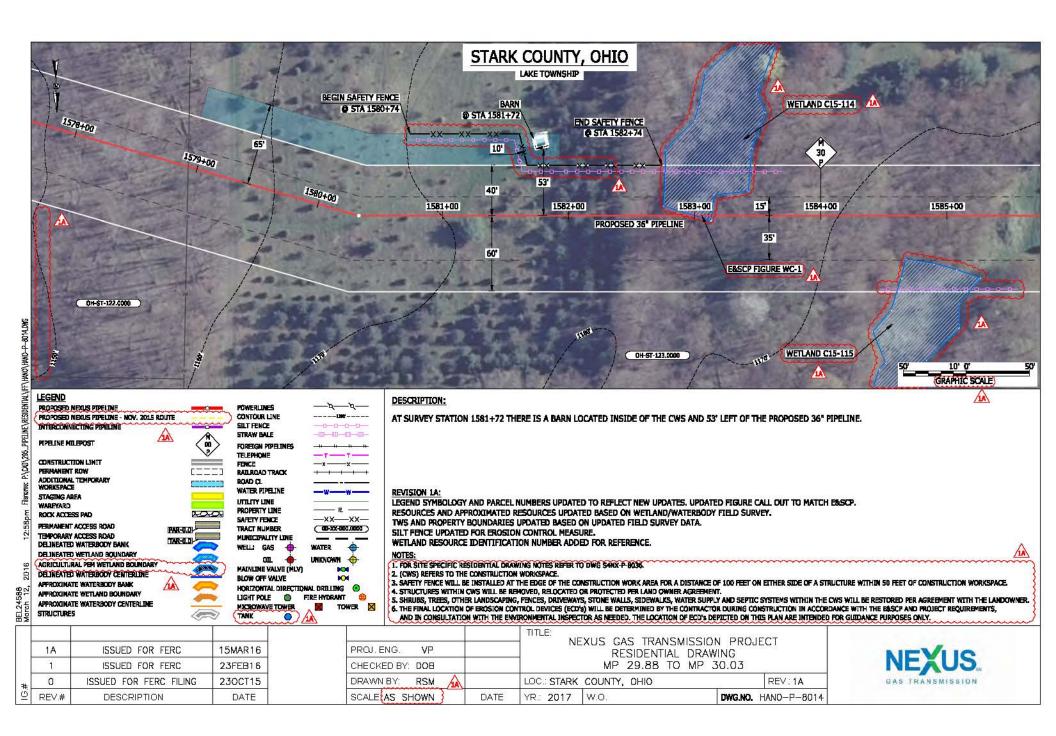


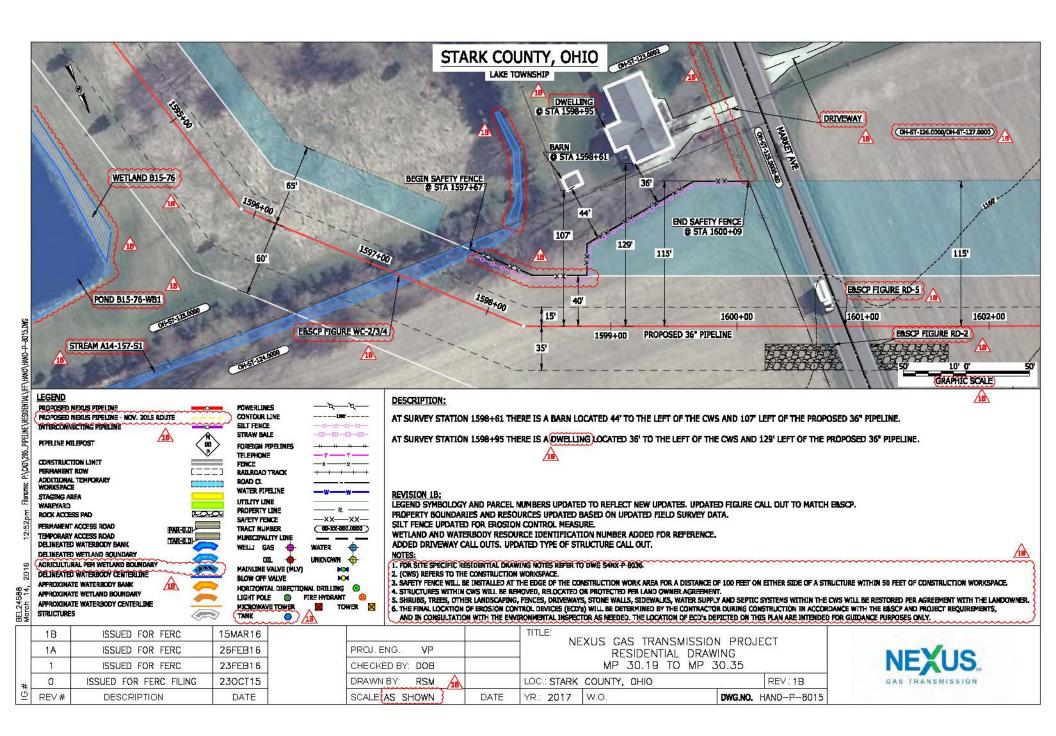


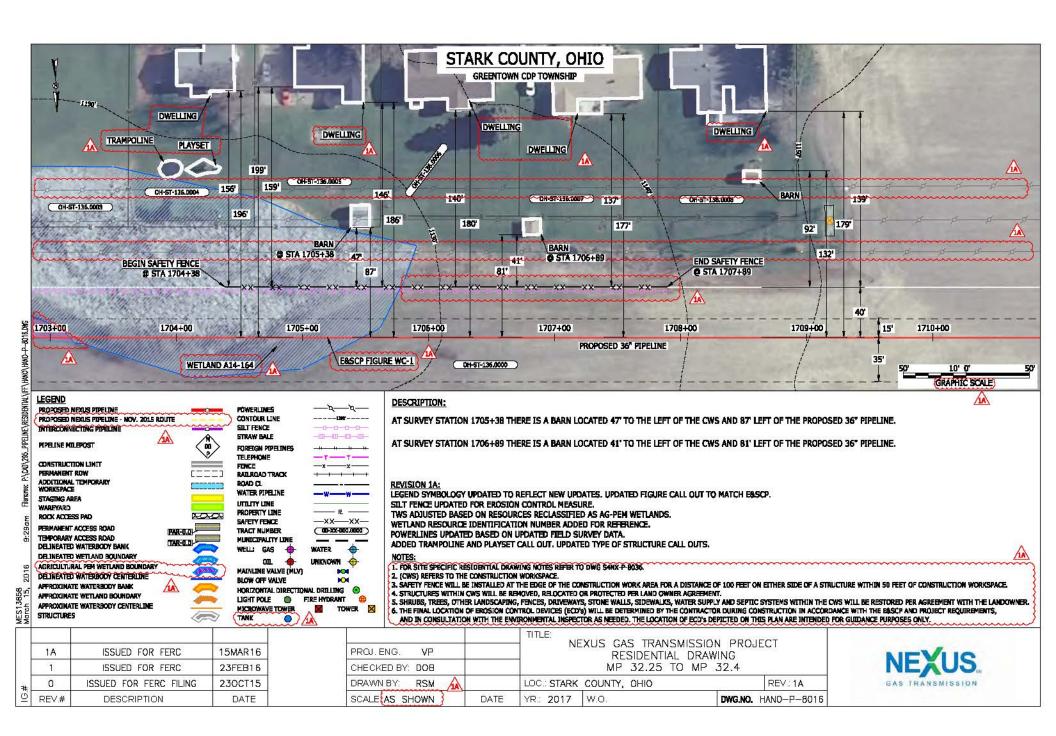


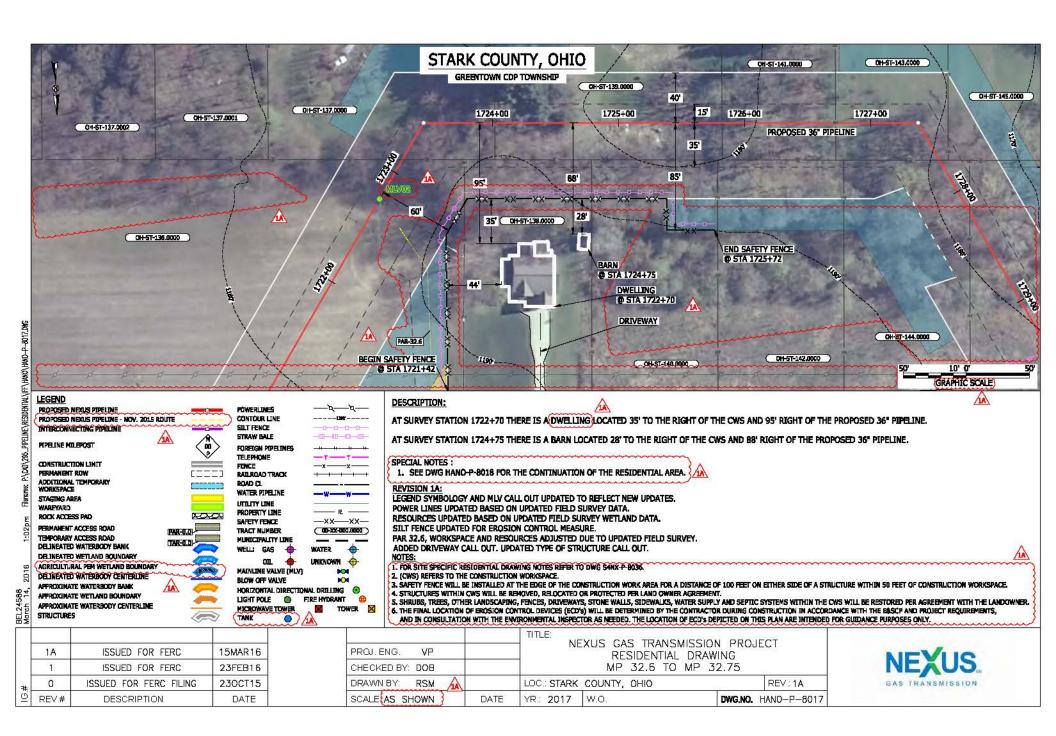


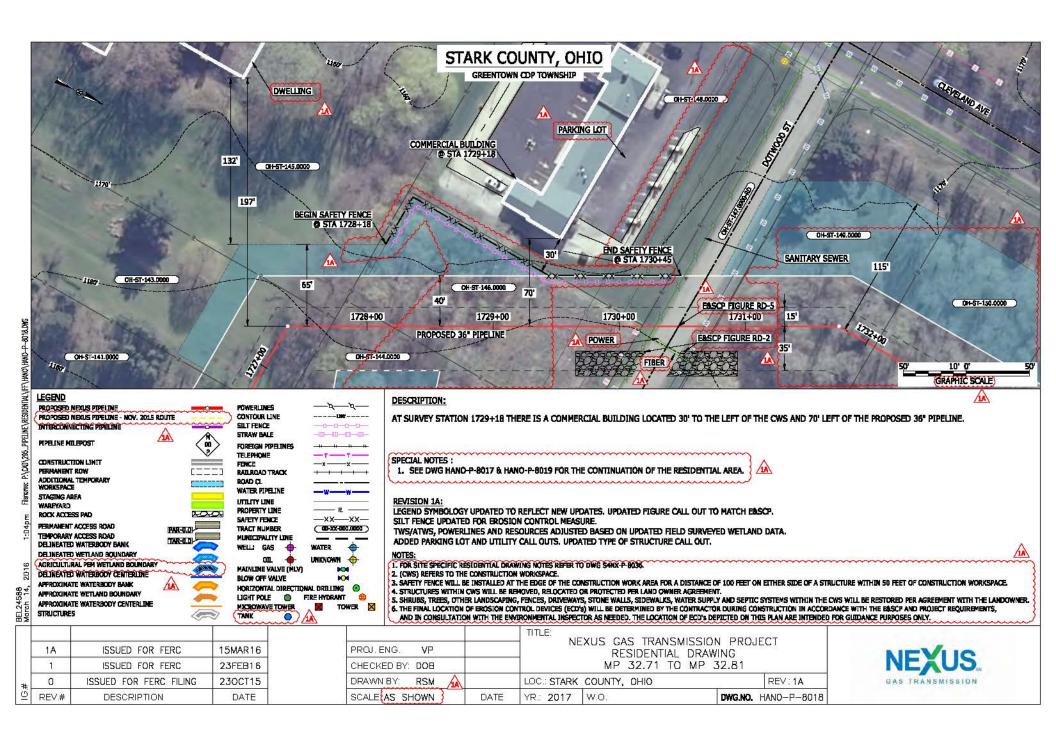


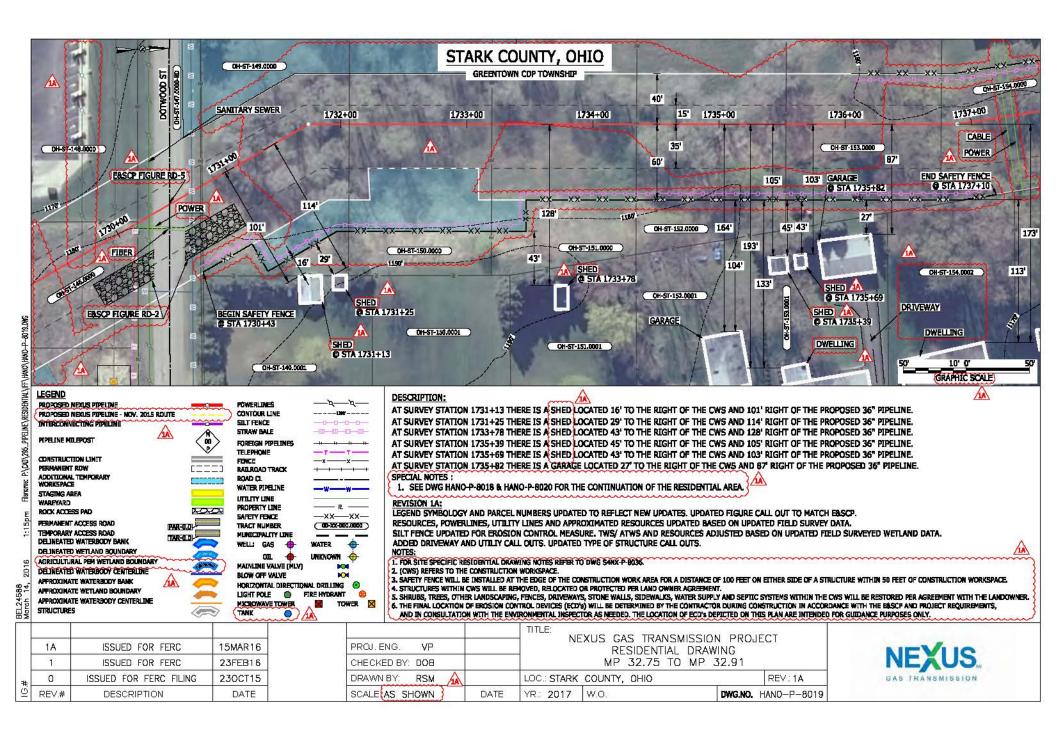


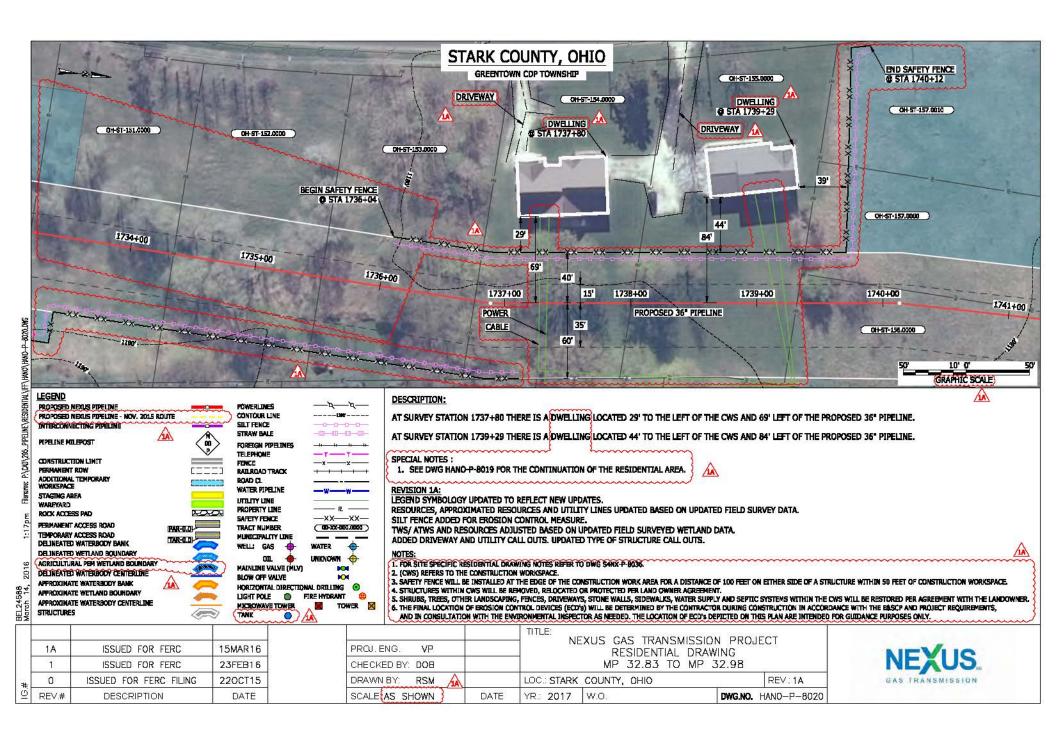


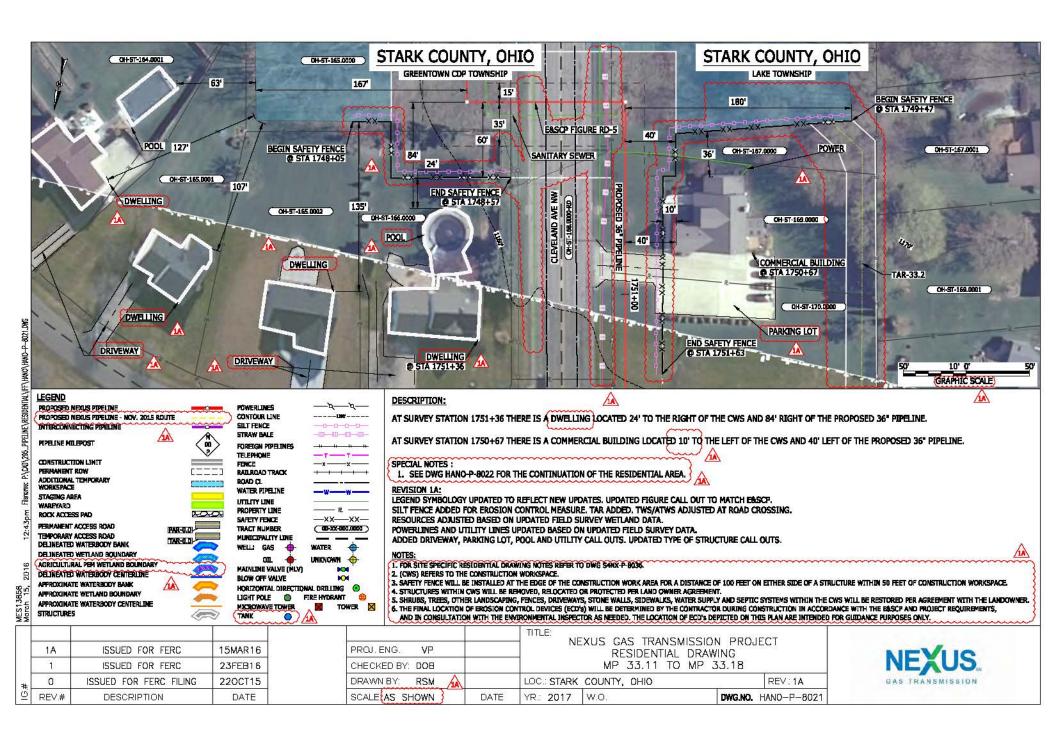


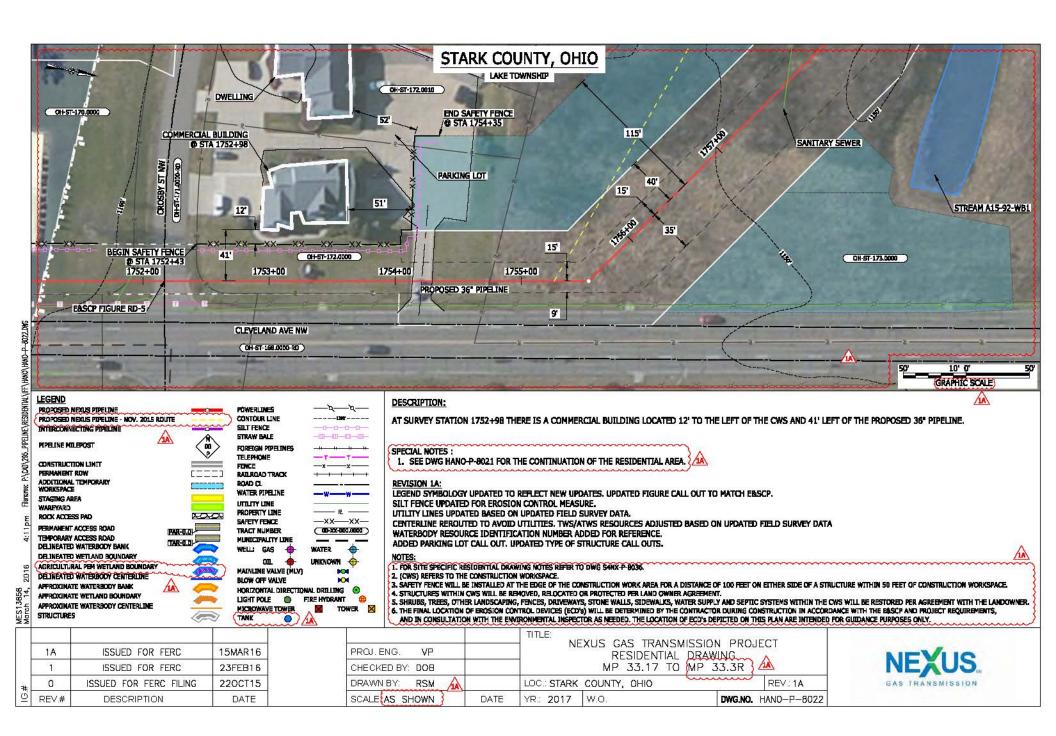


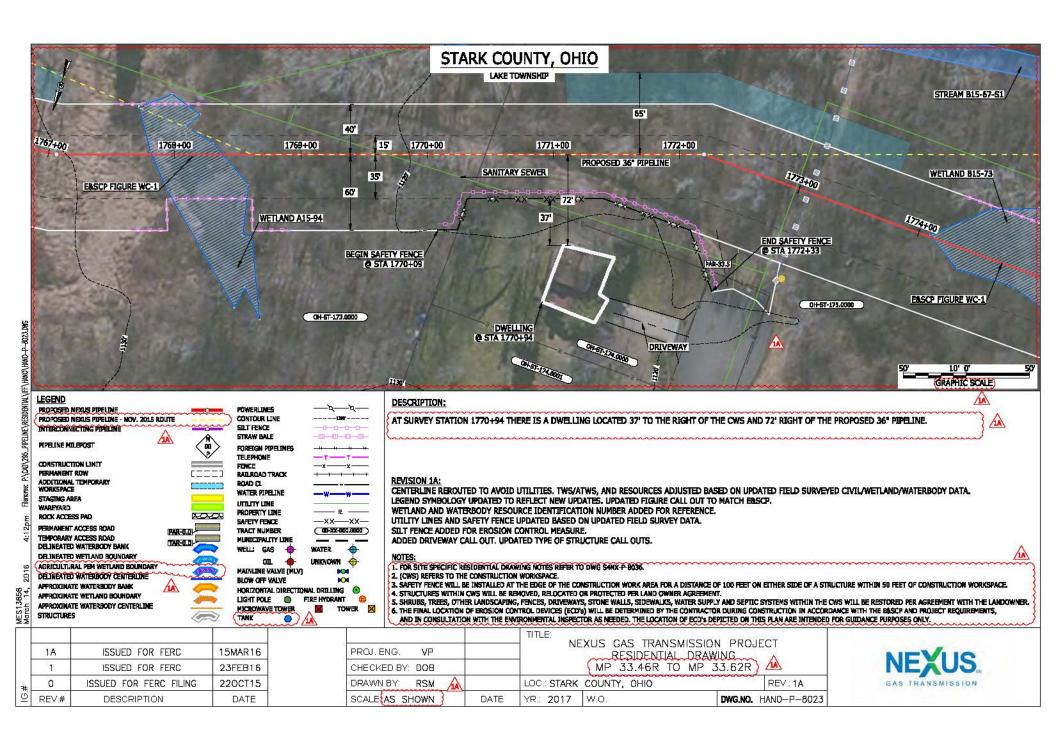


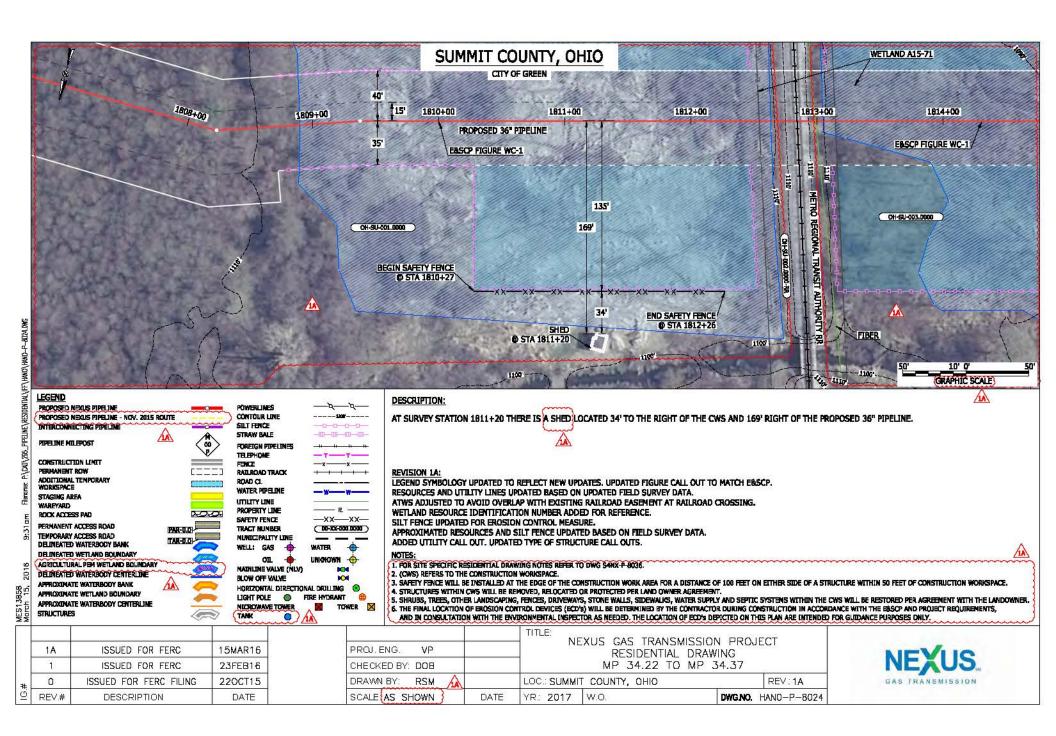


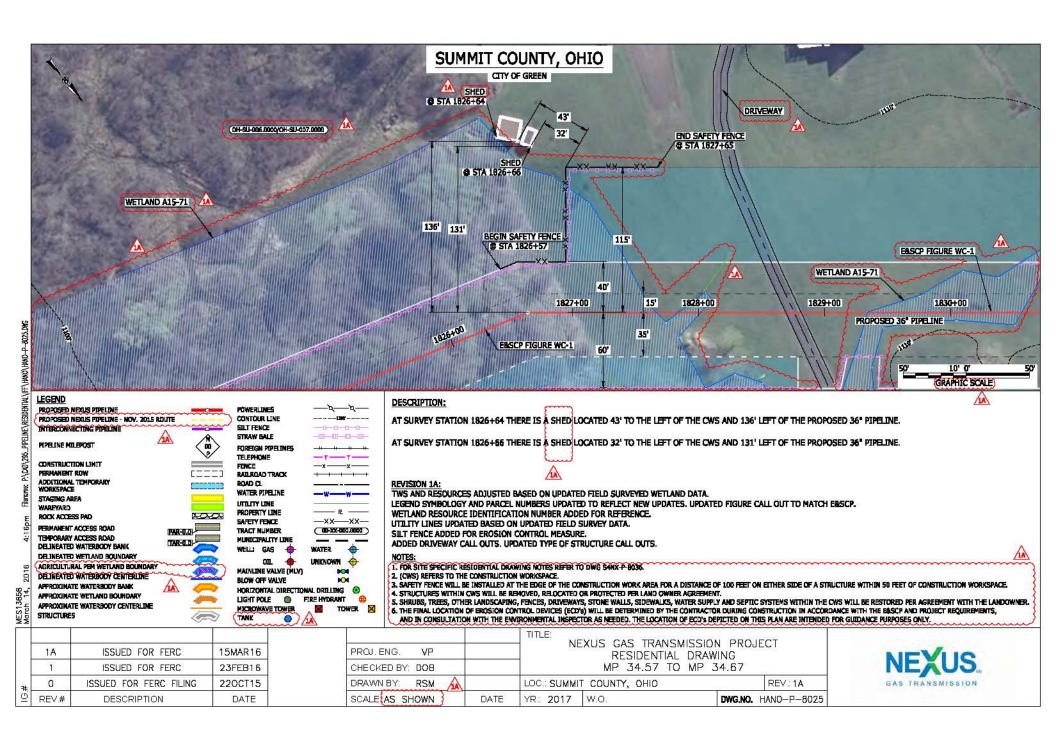


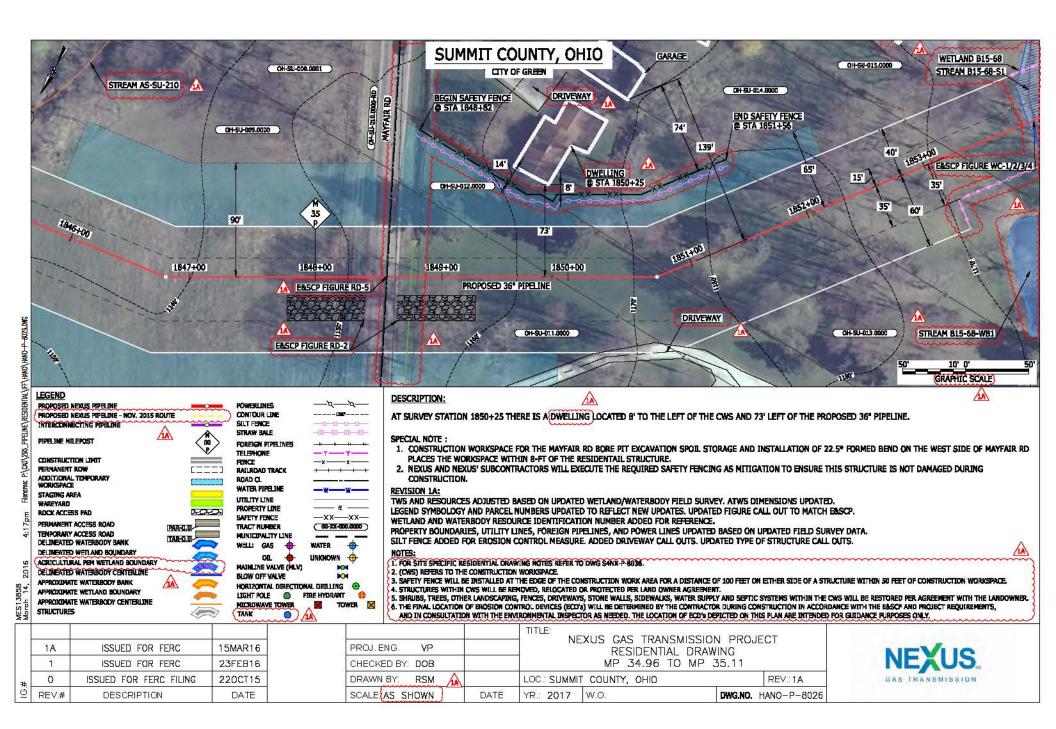


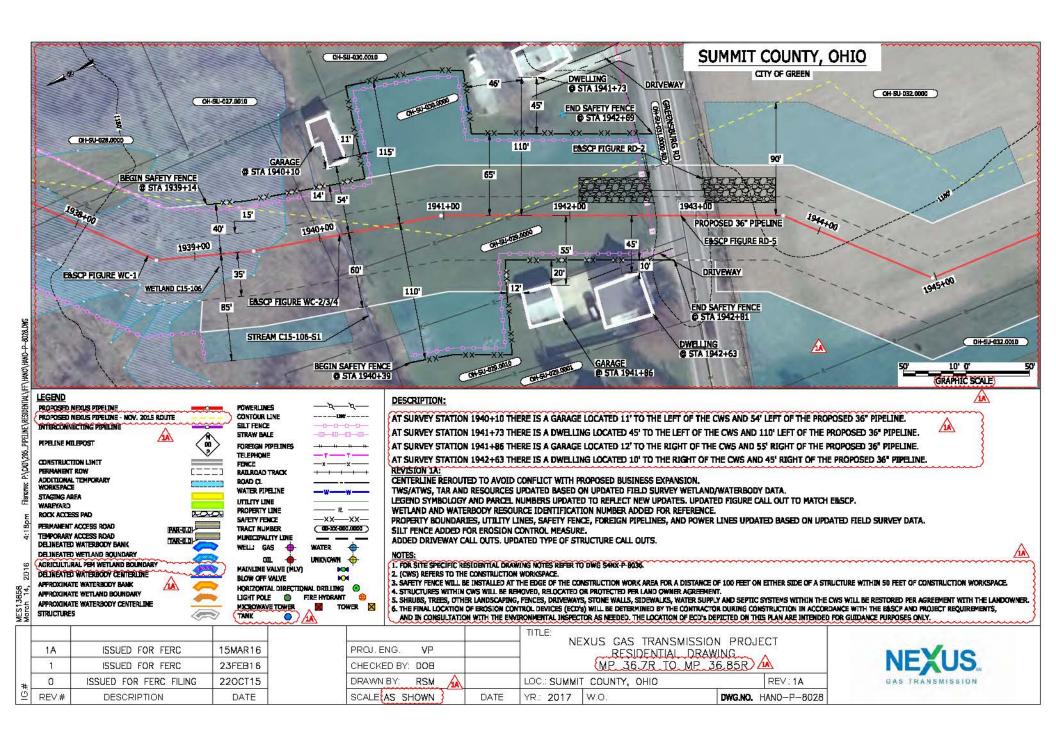


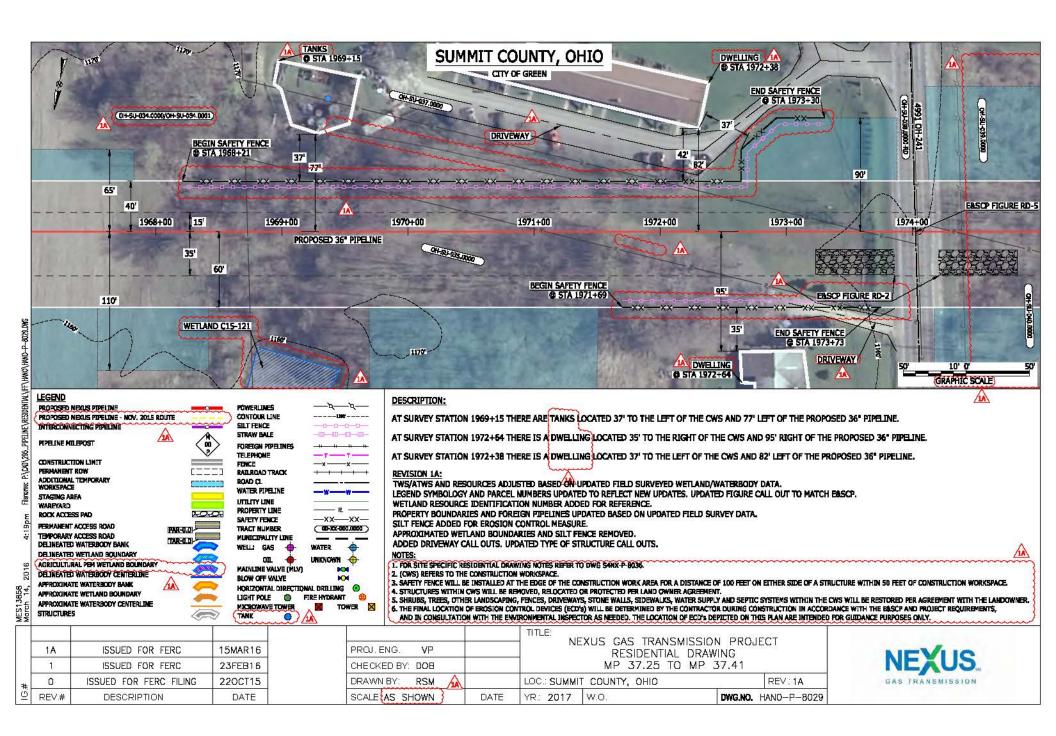


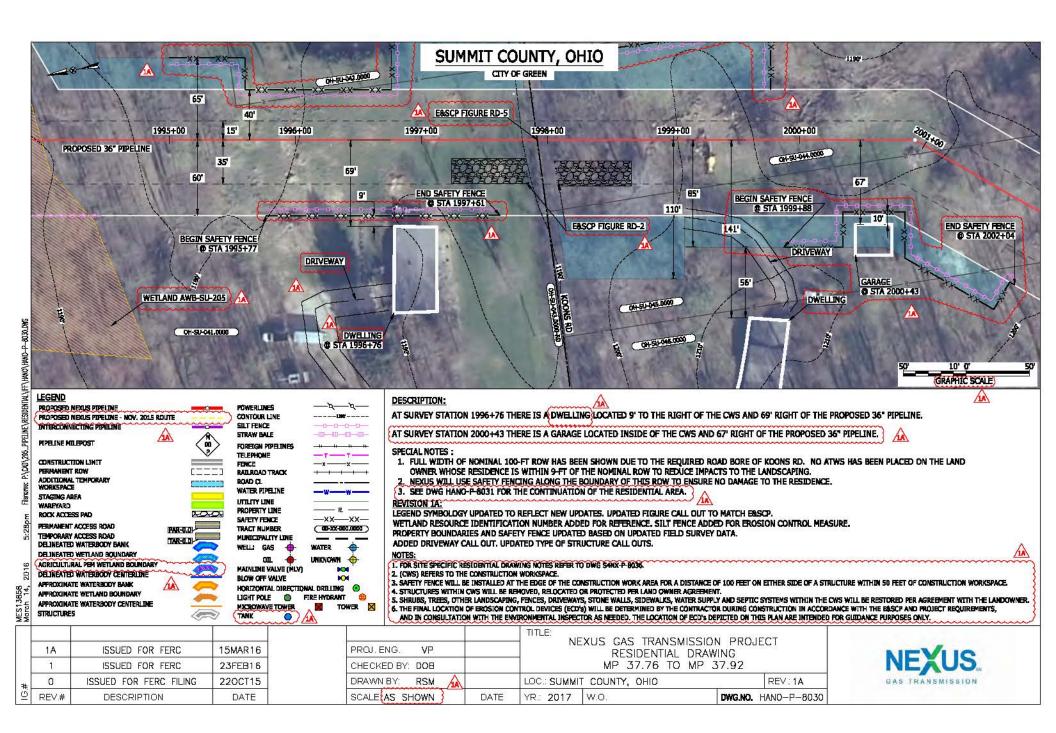


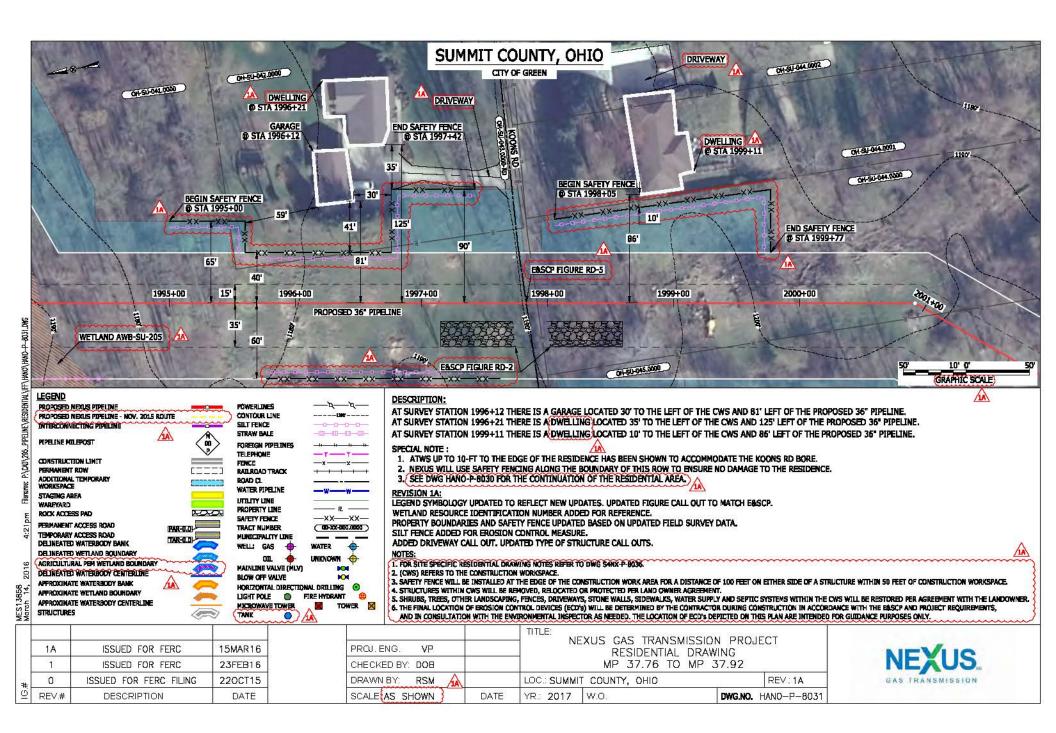


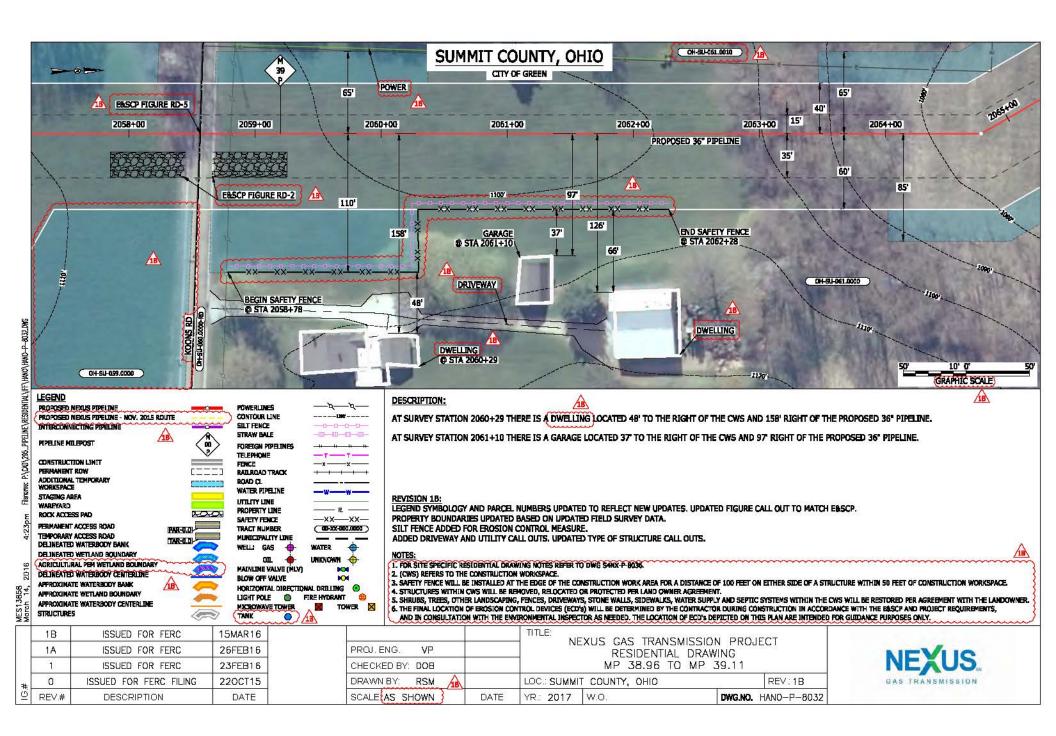


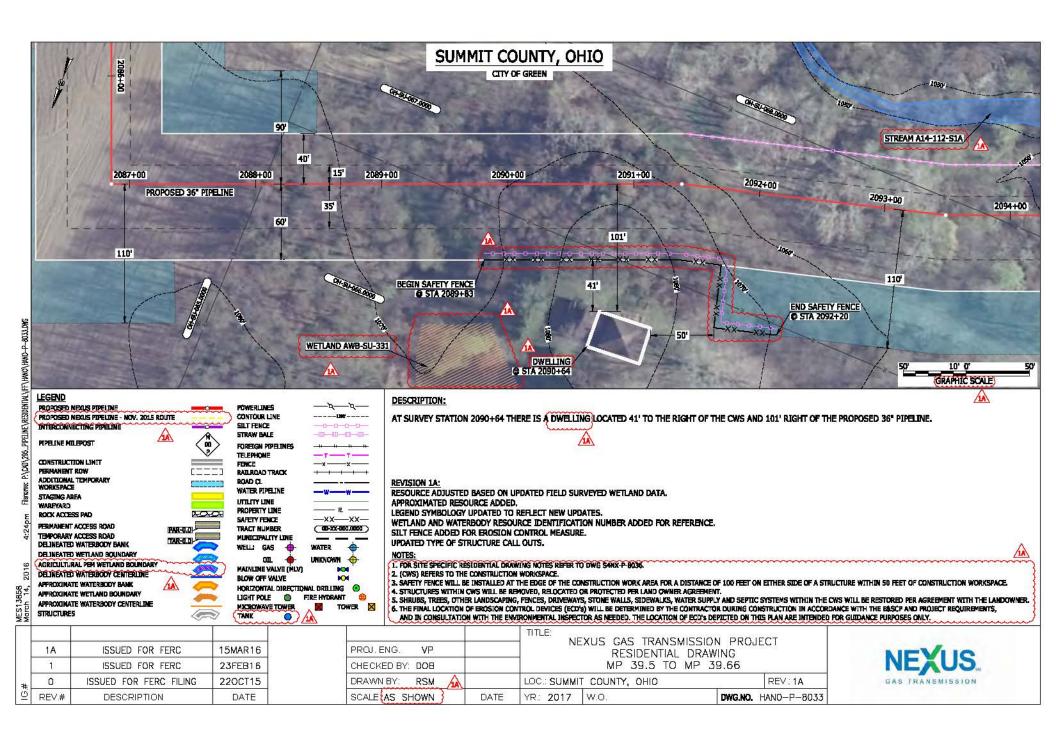


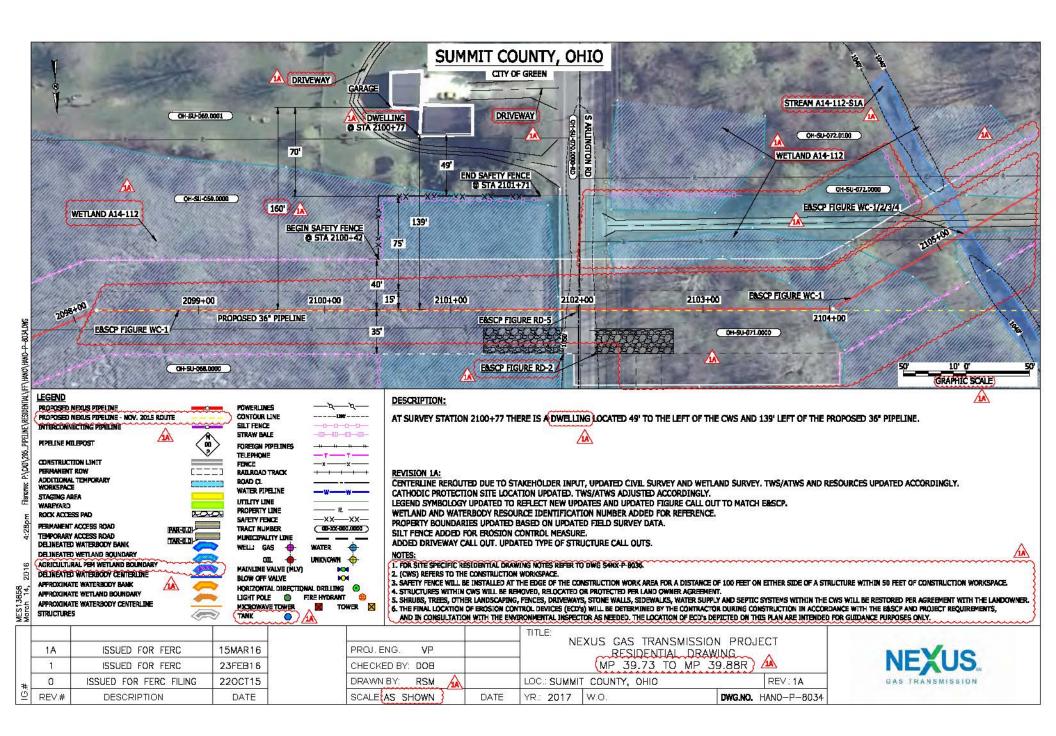


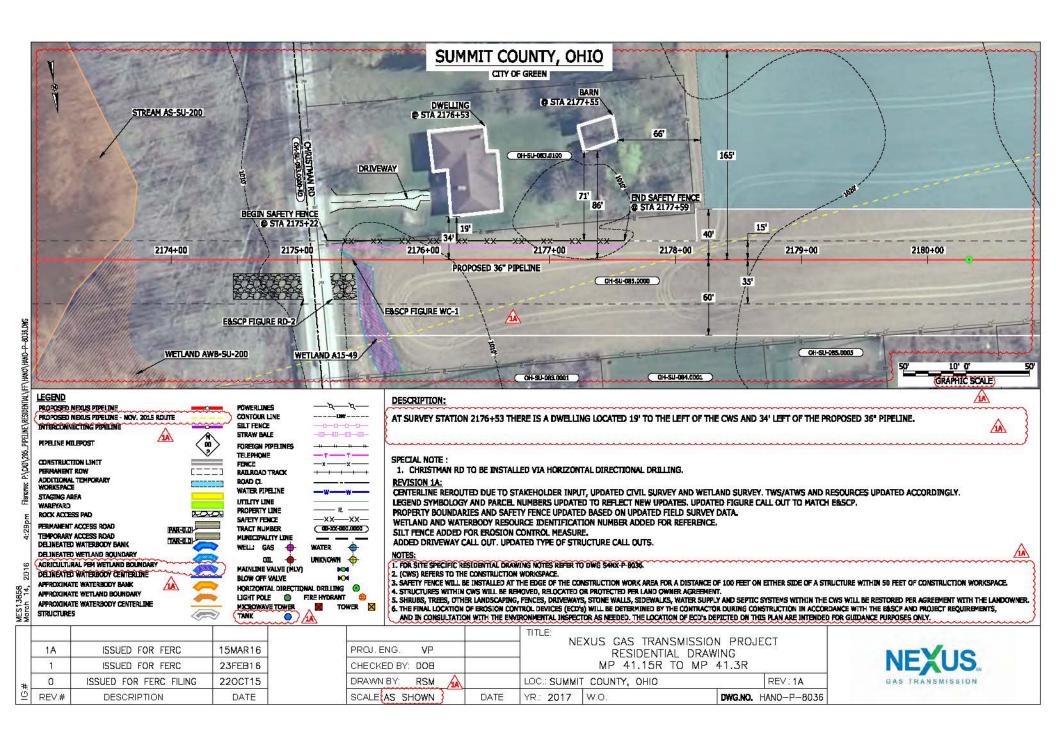


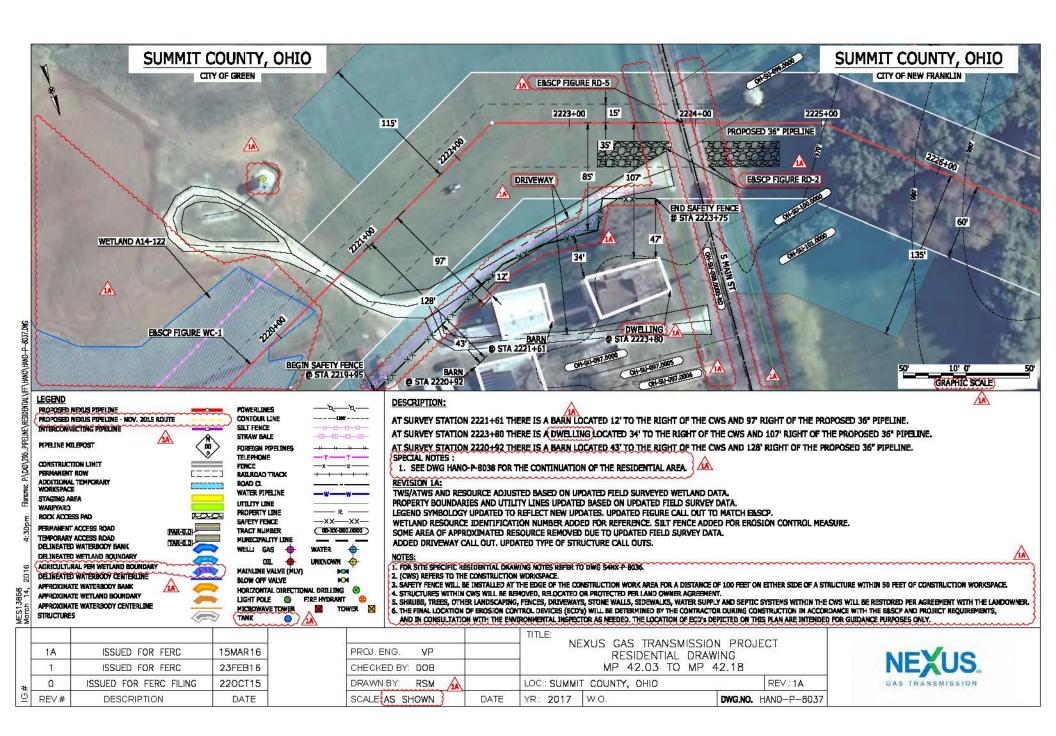


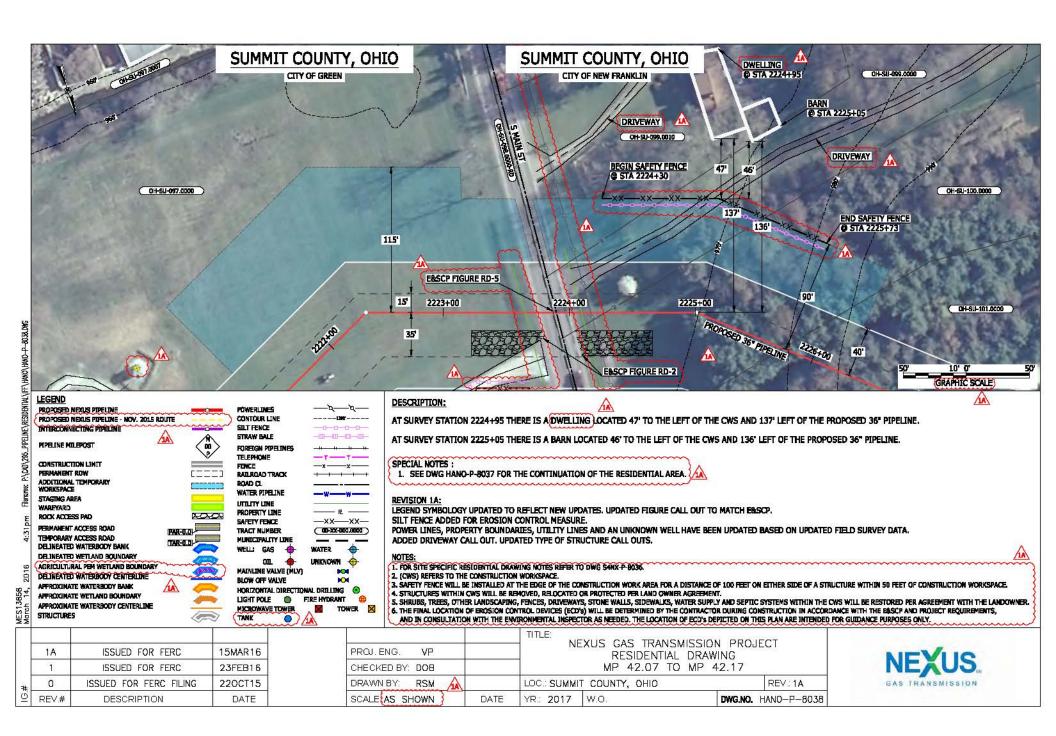


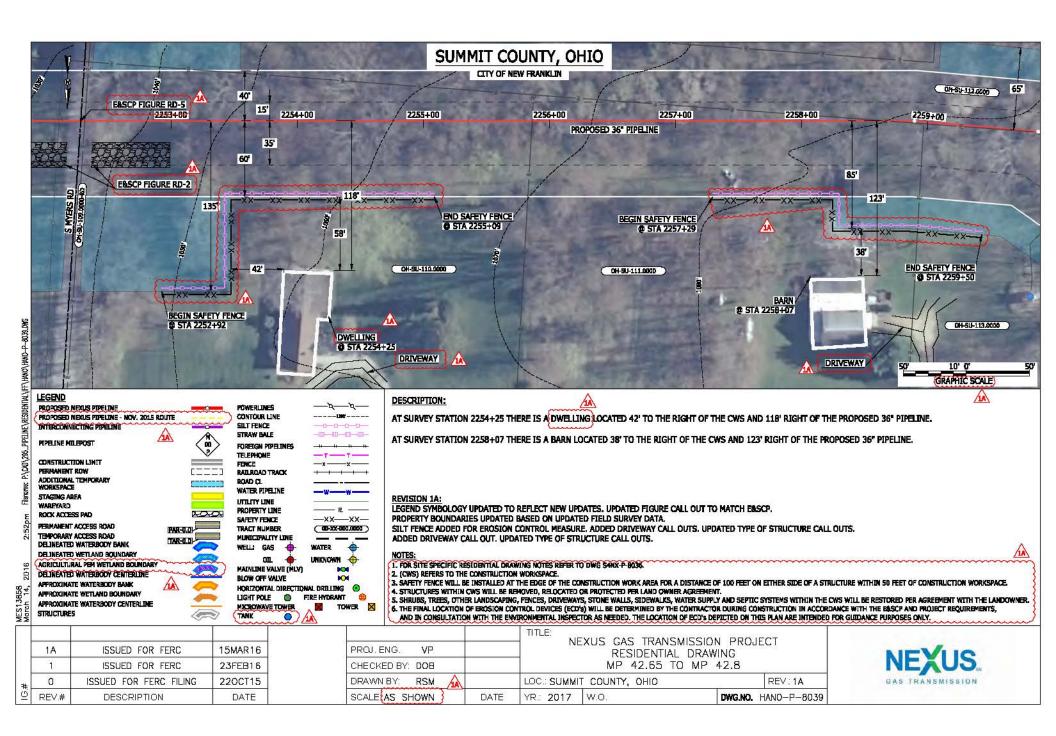


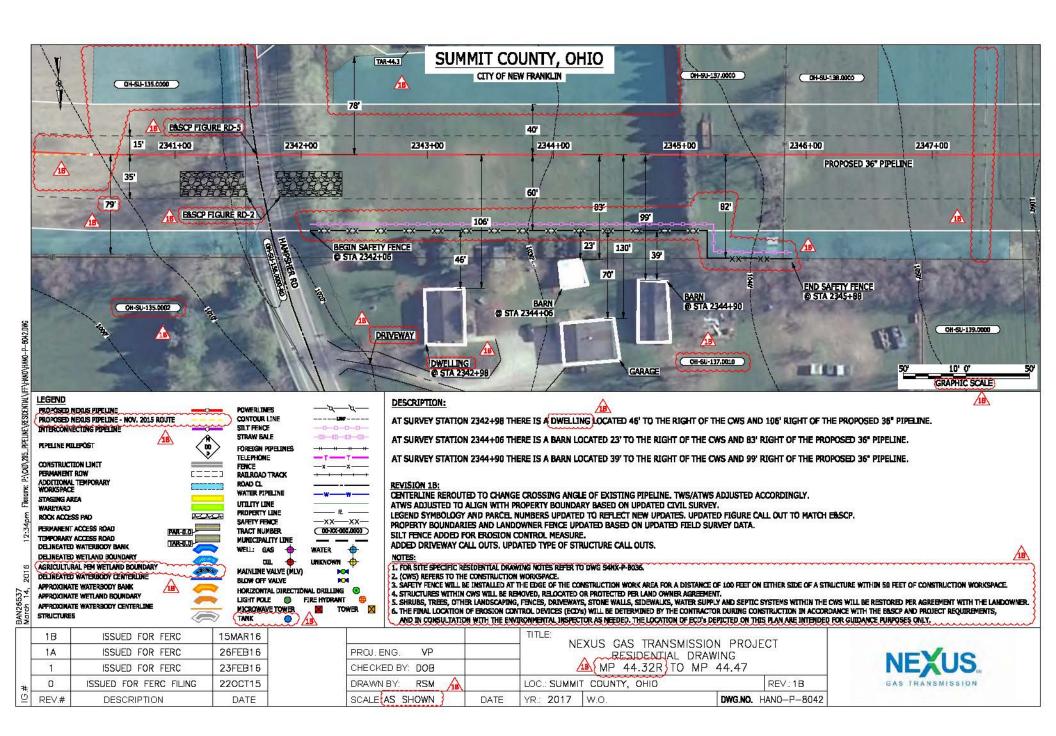


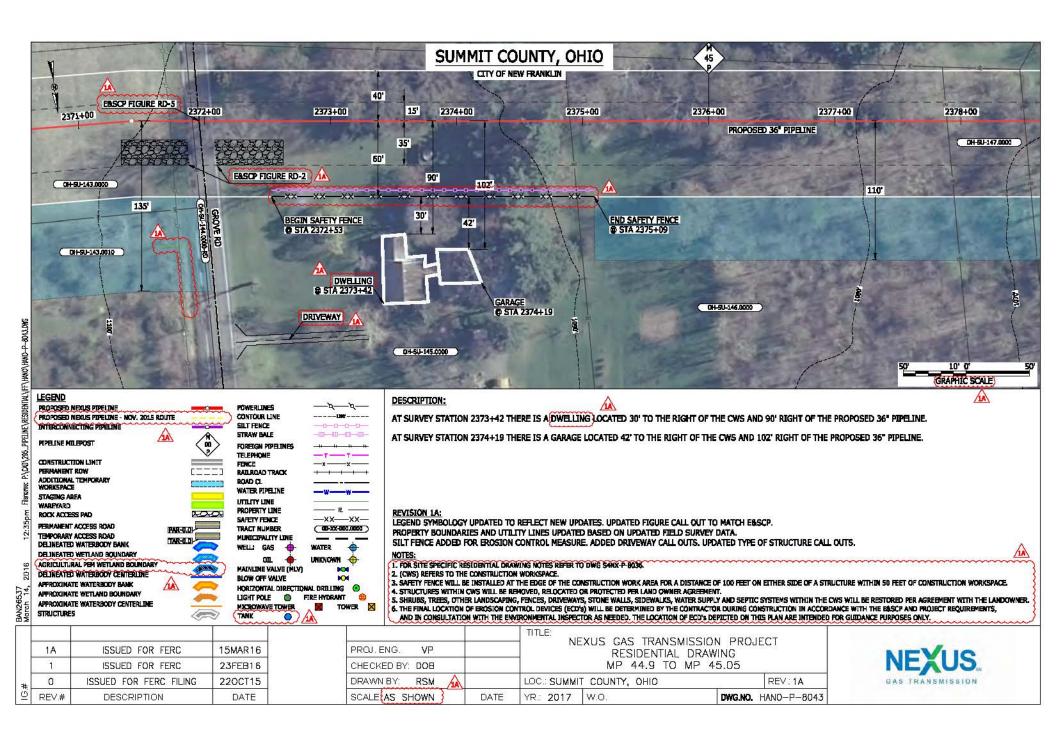


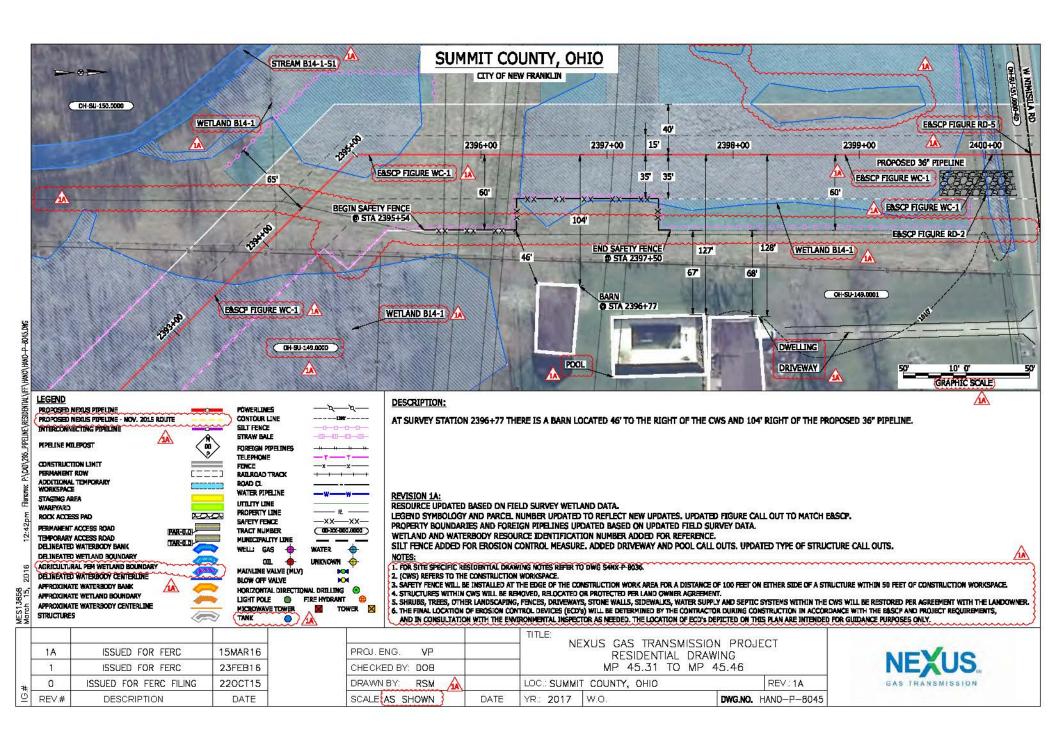


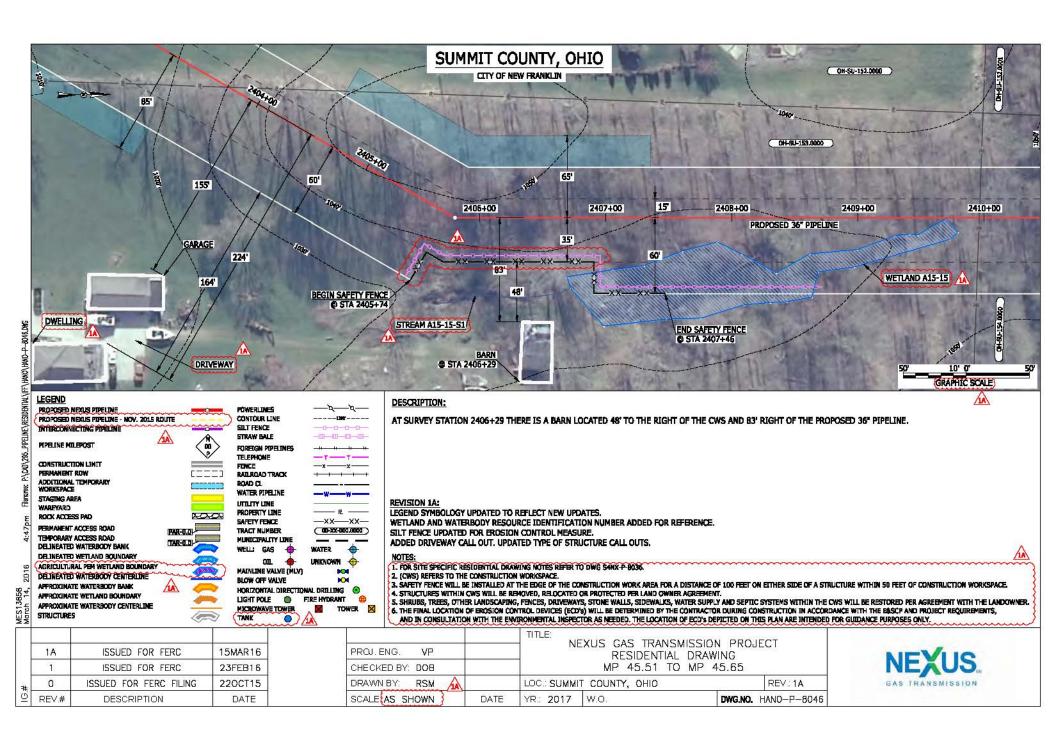


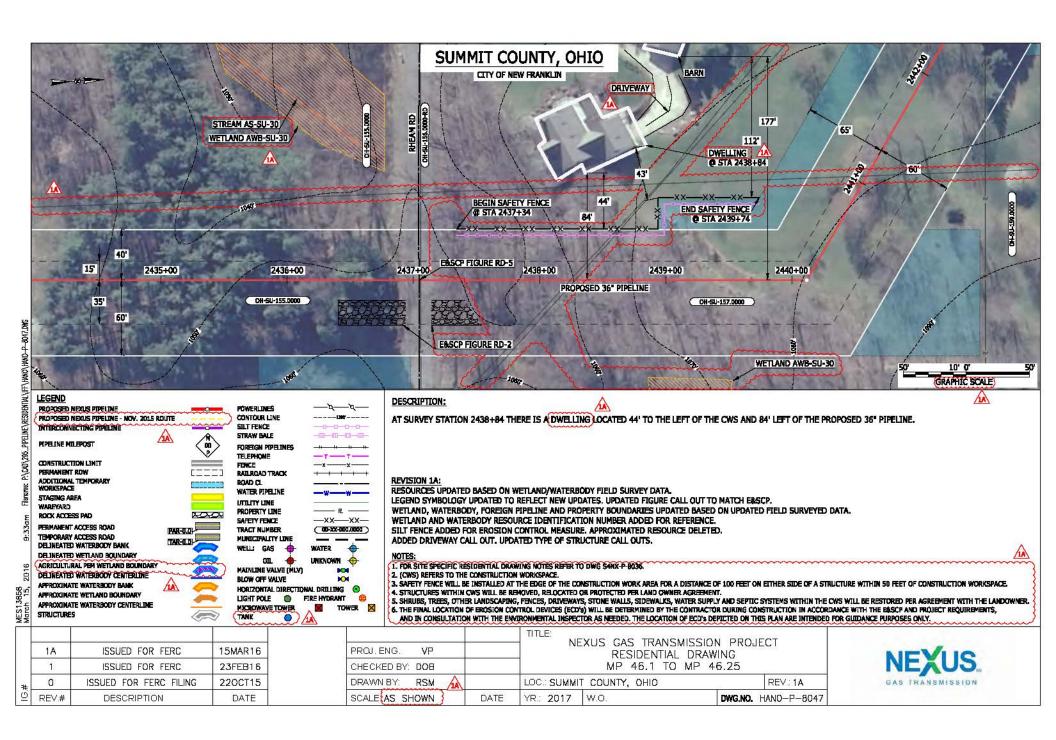


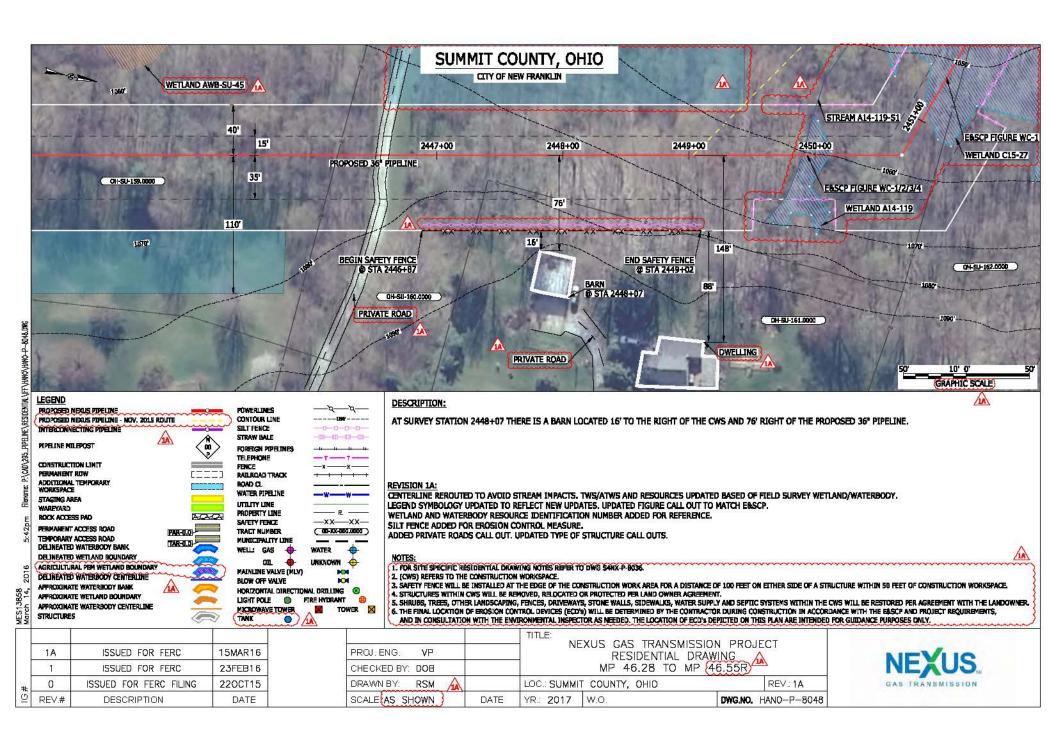


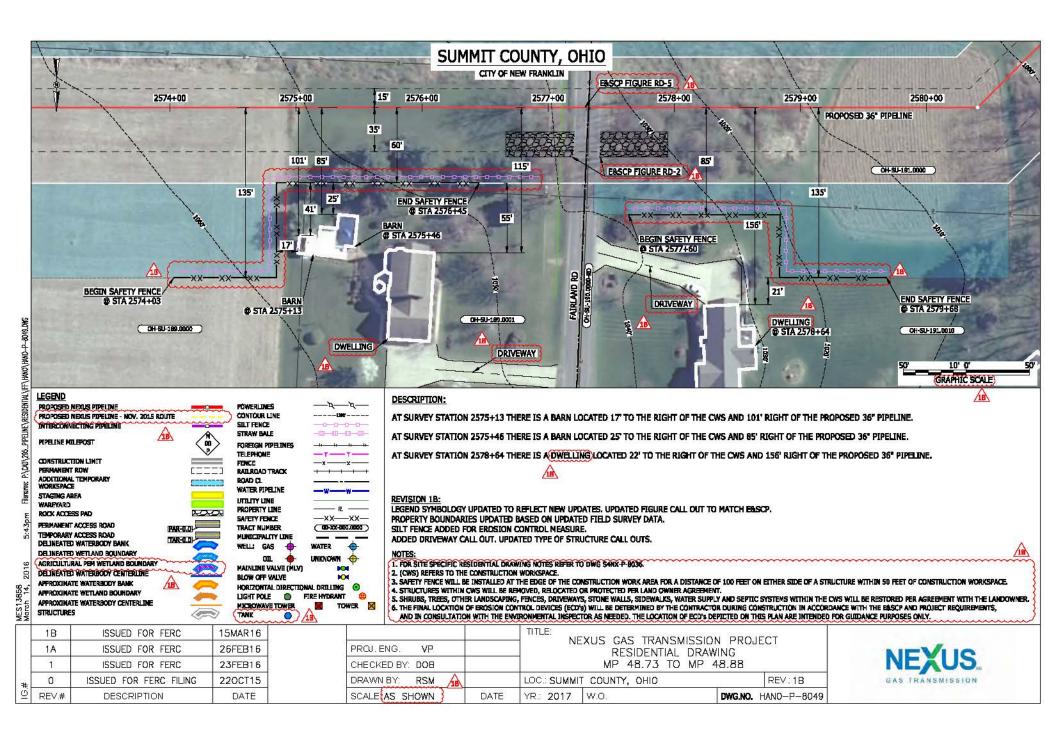


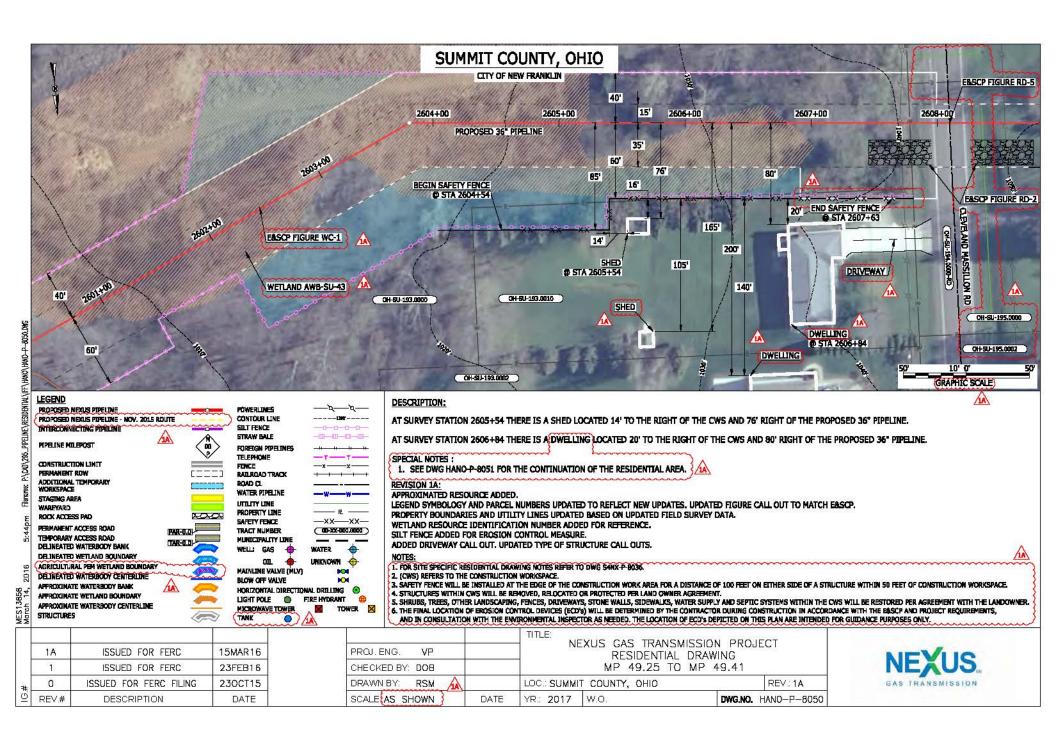


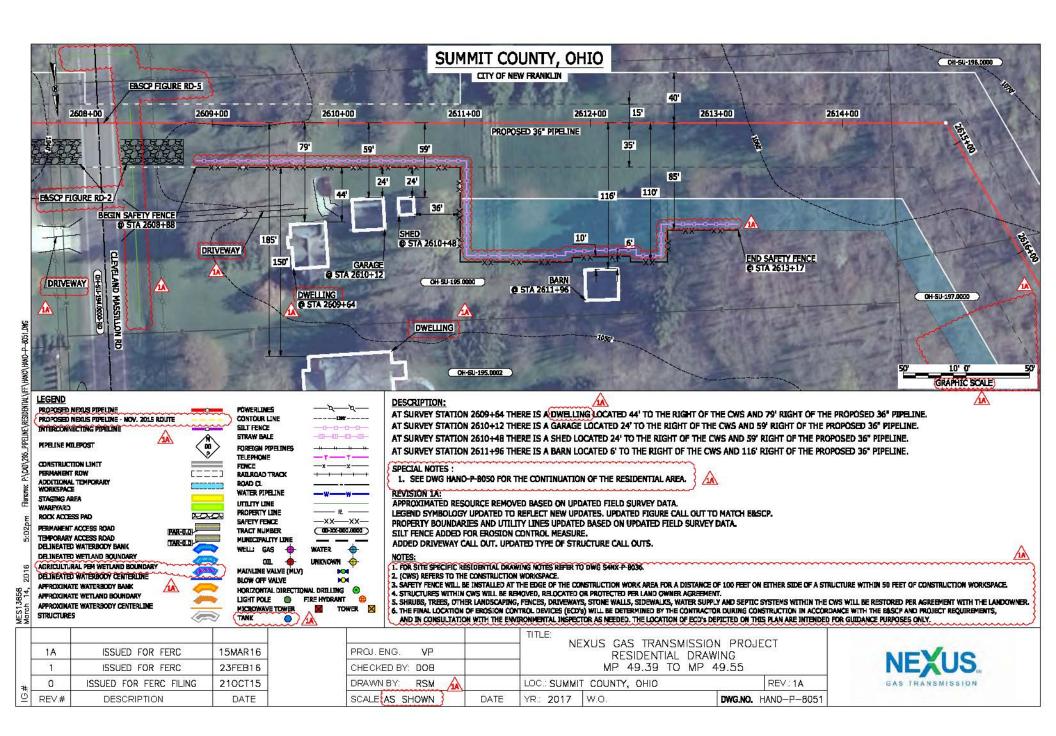


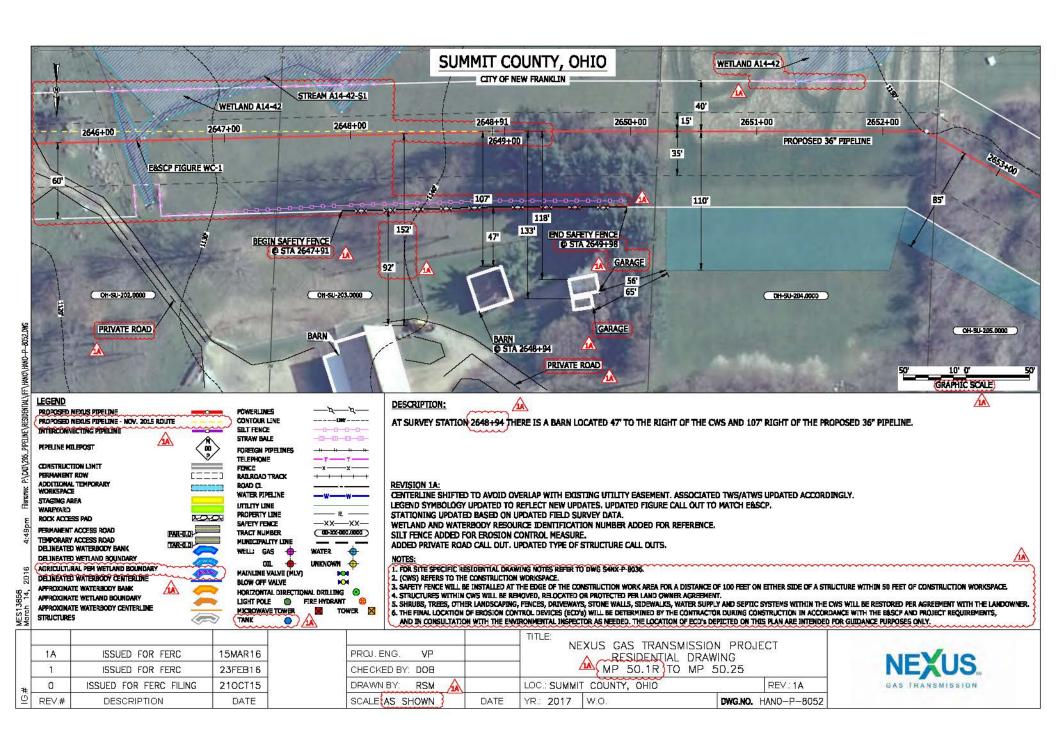


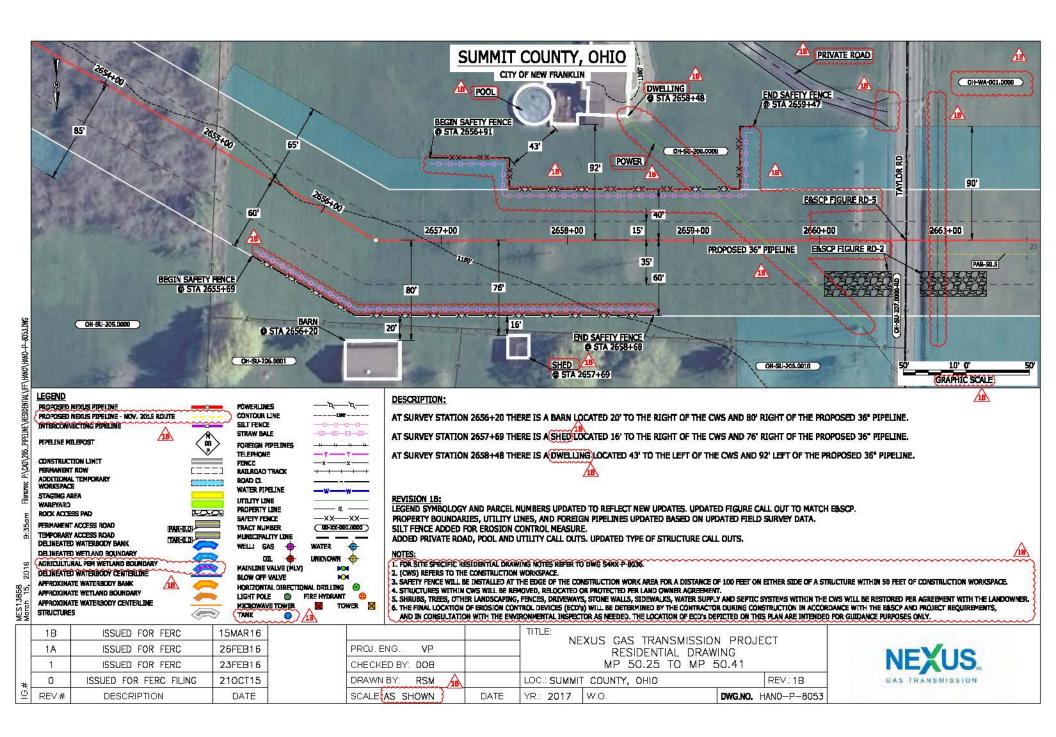


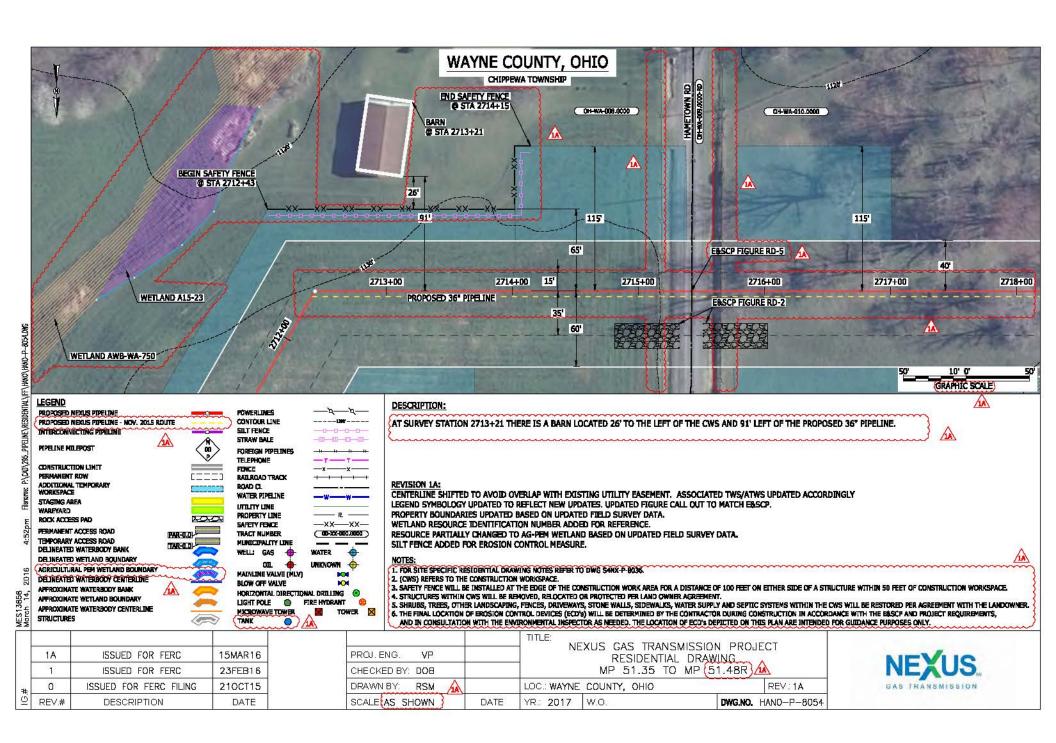


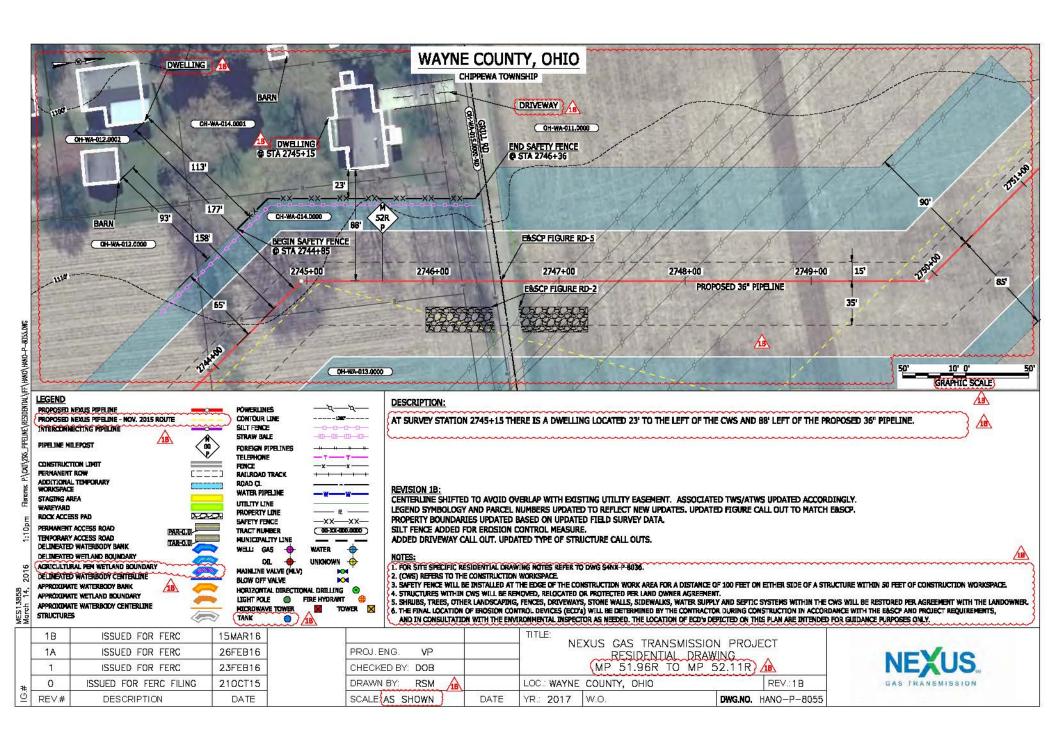


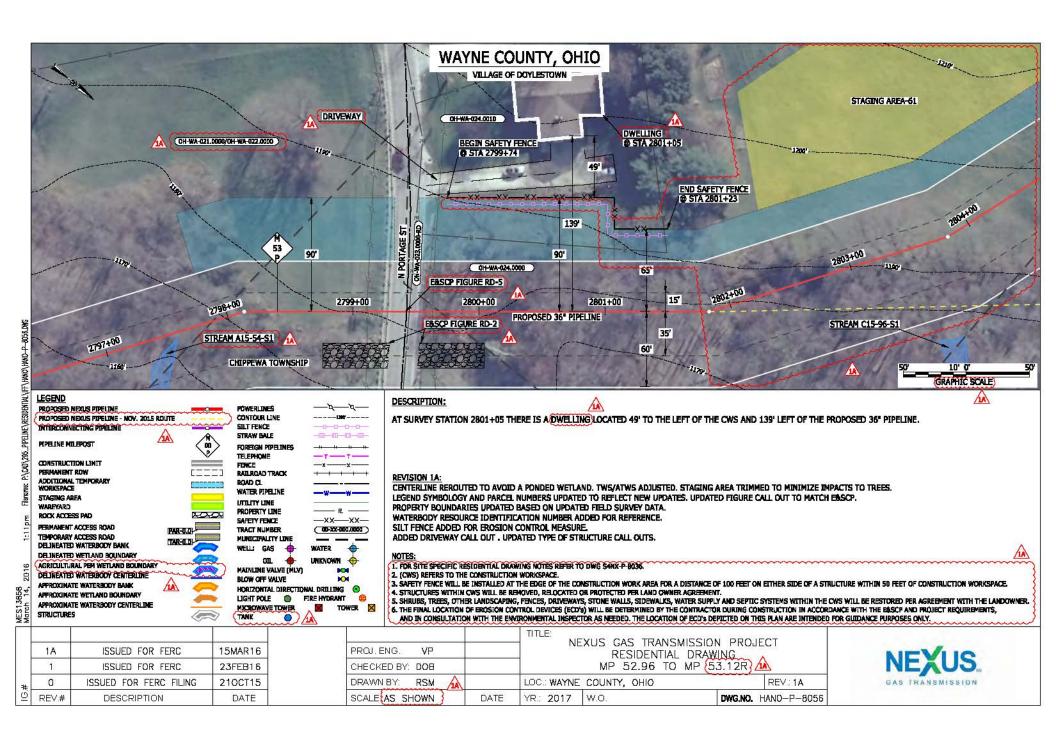


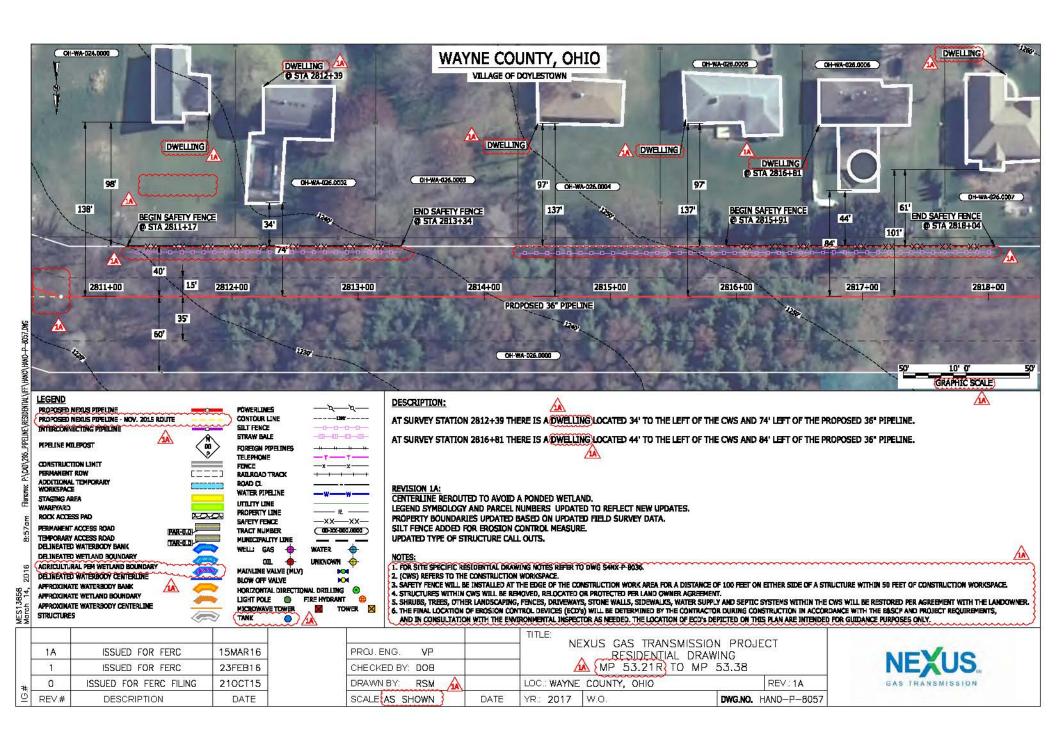


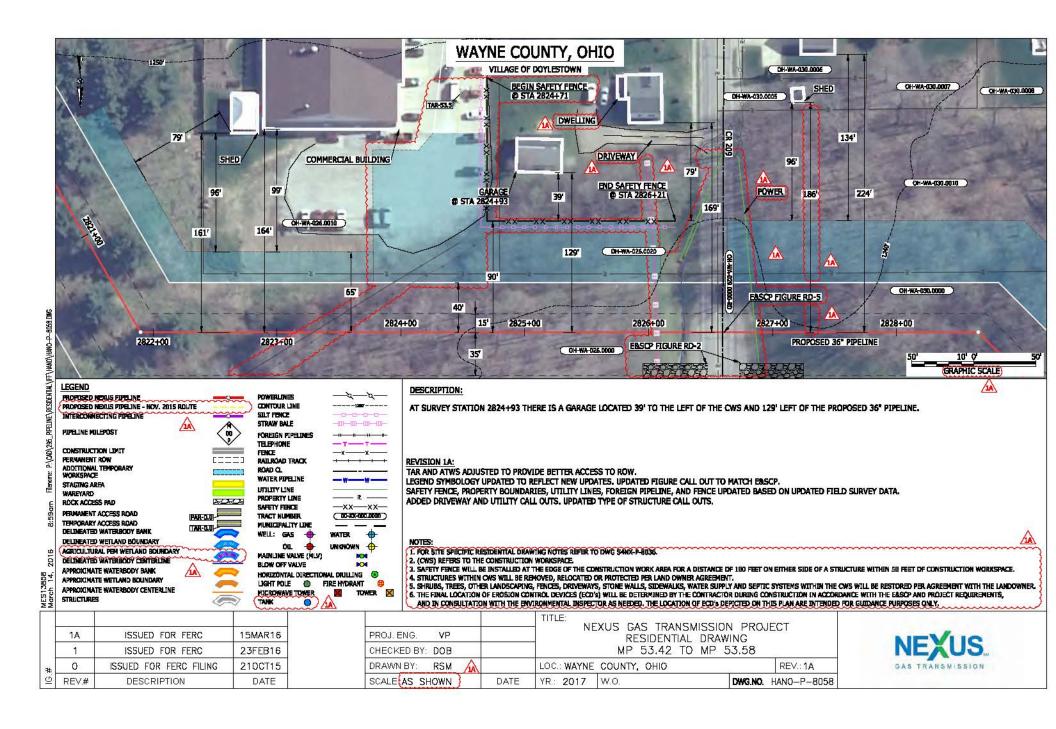


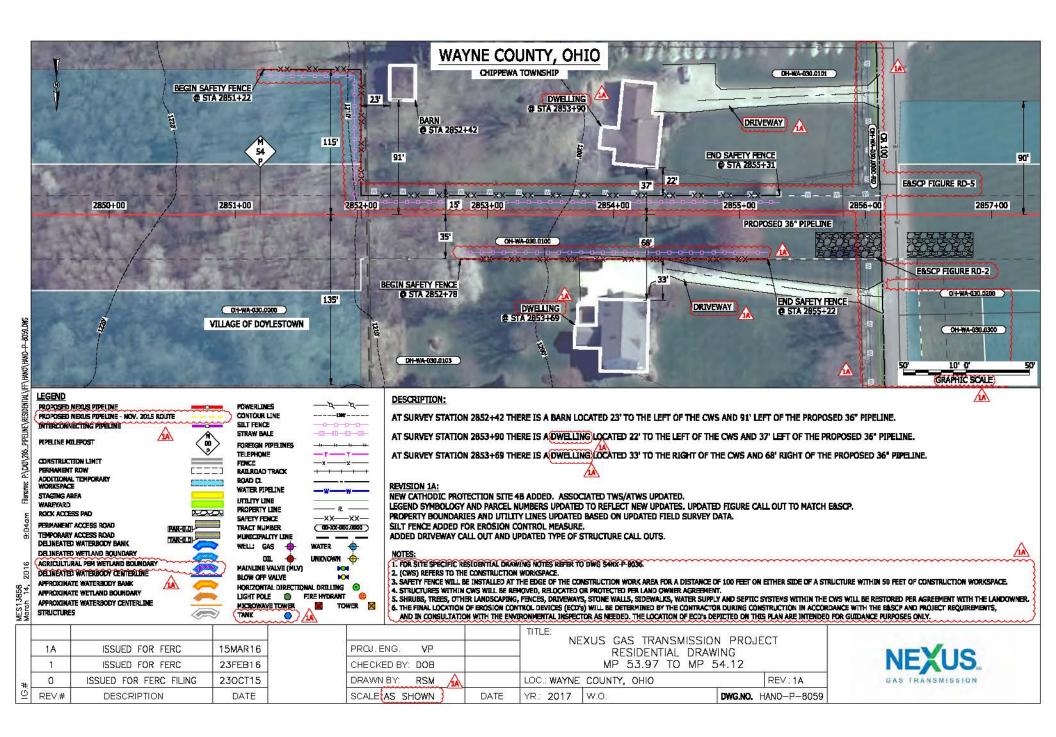


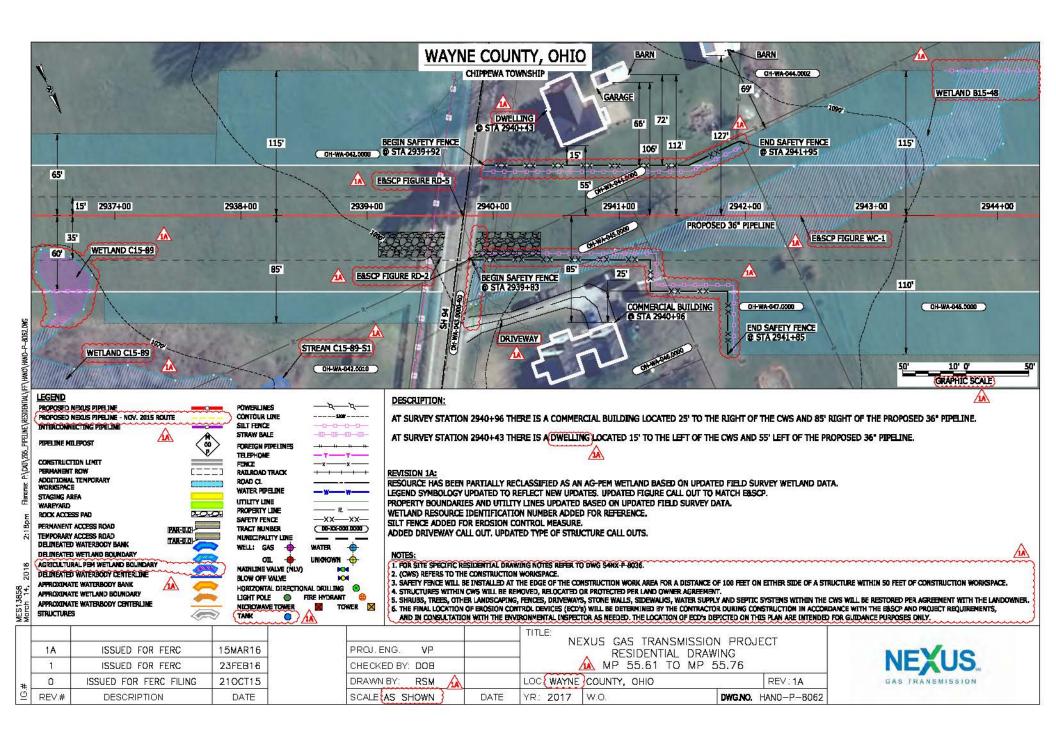


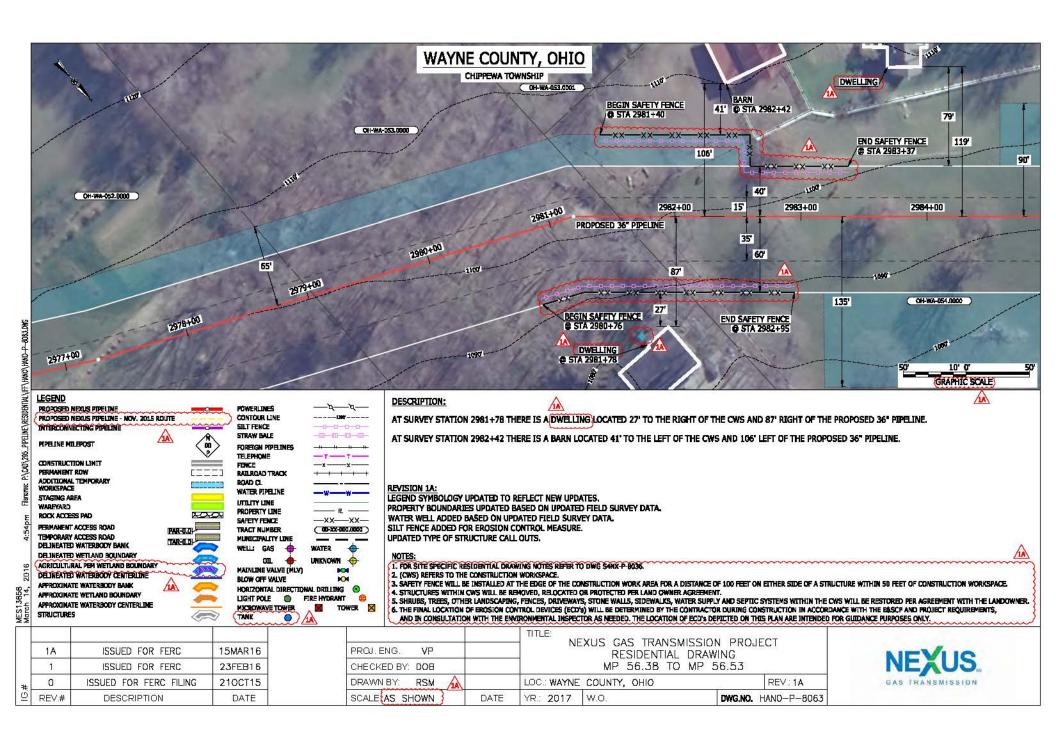


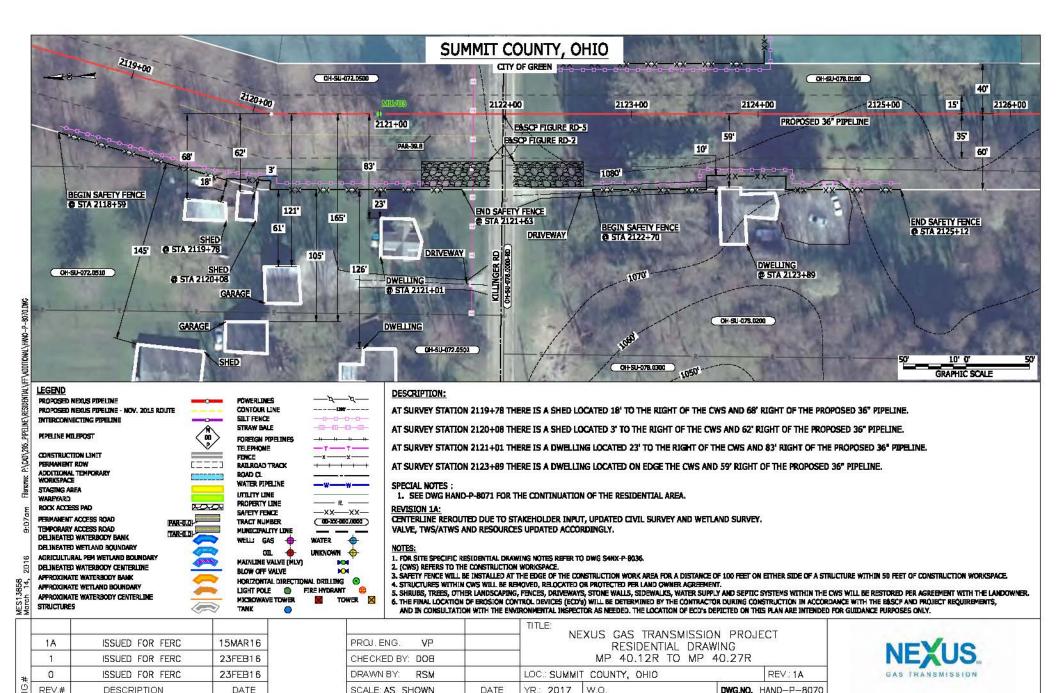












YR.: 2017

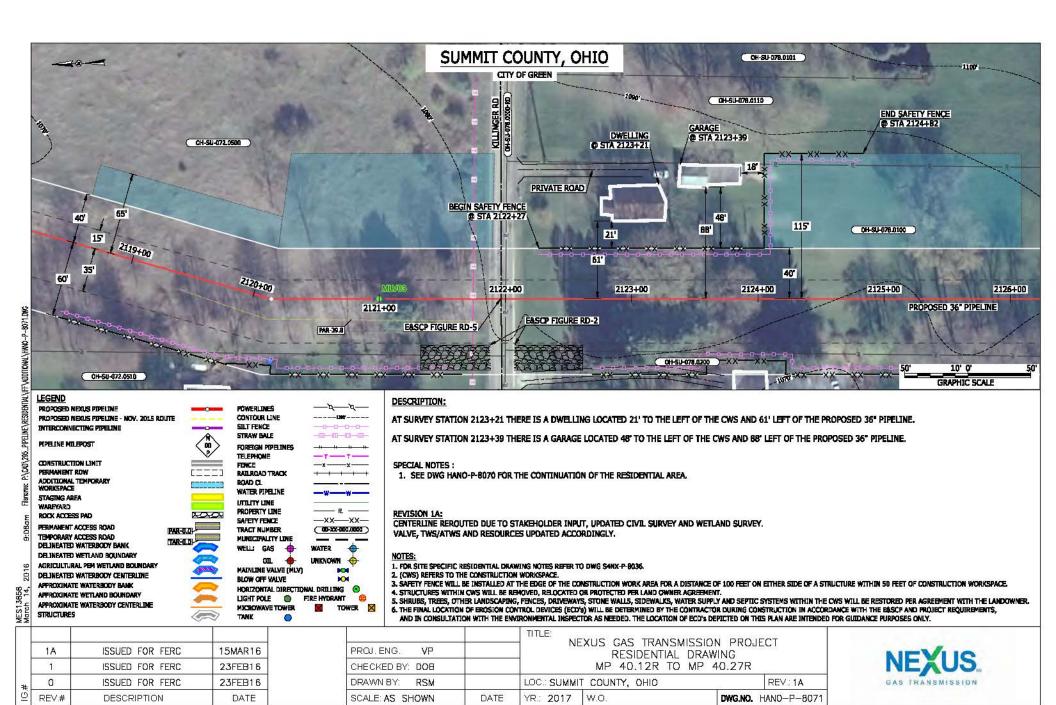
DWG.NO. HANO-P-8070

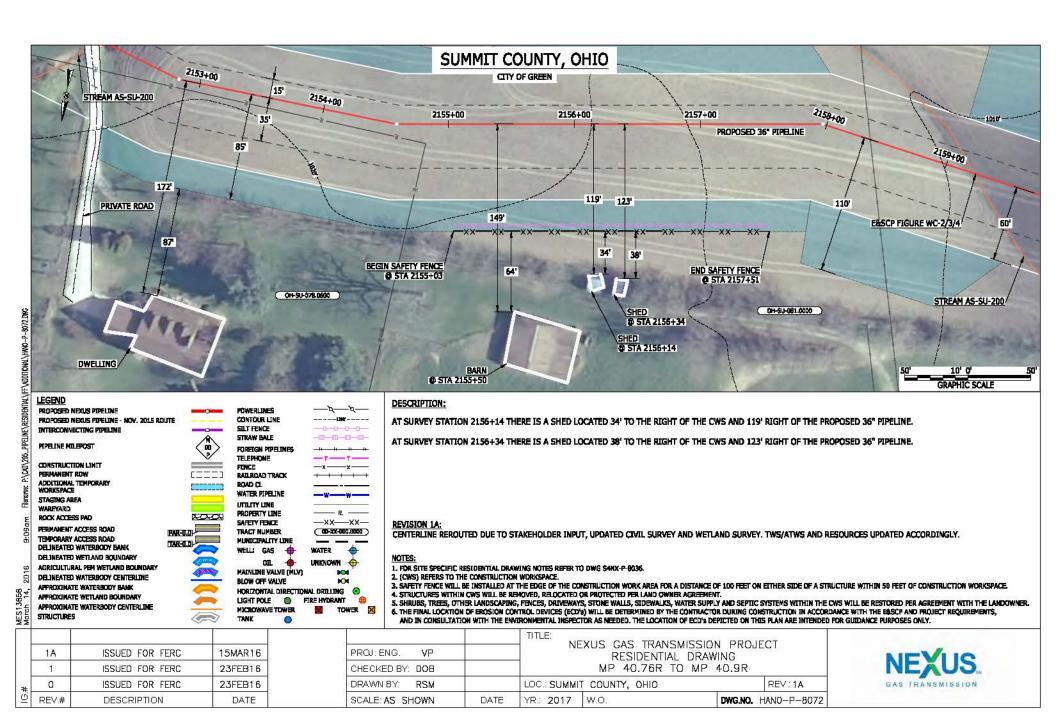
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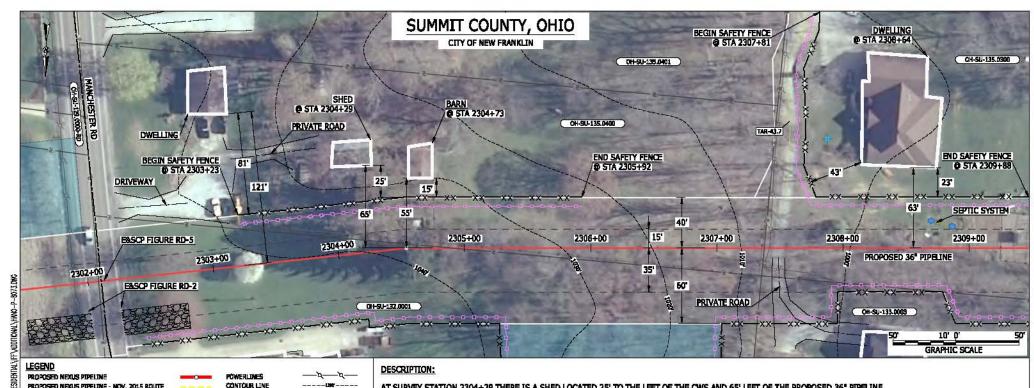
SCALE: AS SHOWN

DESCRIPTION

DATE







AT SURVEY STATION 2304+29 THERE IS A SHED LOCATED 25' TO THE LEFT OF THE CWS AND 65' LEFT OF THE PROPOSED 36" PEPELINE.

AT SURVEY STATION 2304+73 THERE IS A BARN LOCATED 15' TO THE LEFT OF THE CWS AND 55' LEFT OF THE PROPOSED 36" PIPELINE.

AT SURVEY STATION 2308+64 THERE IS A DWELLING LOCATED 23' TO THE LEFT OF THE CWS AND 63' LEFT OF THE PROPOSED 36" PIPELINE.

SPECIAL NOTES :

1. SEE DWG HANO-P-8074 FOR THE CONTINUATION OF THE RESIDENTIAL AREA.

REVISION 1B:

CENTERLINE REPOUTED TO AVOID STRUCTURES AND WORKSPACE CONSTRAINTS.

TWS/ATWS AND RESOURCES UPDATED BASED ON UPDATED FIELD SURVEY WETLAND/WATERBODY DATA.

NOTES:

_xx__xx_

(OD-XX-000.00001)

TOWER X

WATER

HORIZONTAL DIRECTIONAL DRILLING (8)

UNKNOWN

FIRE HYDRANT

PROPOSED NEXUS PIPELINE - NOV. 2015 ROUTE

SILT FENCE STRAW BALE

FENCE

BOAD CI

2/2/2

PAR-0.0

FOREIGN PIPELINES TELEPHONE

RAILROAD TRACK

WATER PIPELINE

UTILITY LINE

PROPERTY LINE

SAFETY FEW F

TRACT NUMBER

WELL: GAS

MUNICIPALITY LINE

OIL.

MAINLINE VALVE (MLV)

BLOW OFF VALVE

LIGHT POLE

MIXTROWAVE TOWER

INTERCONNECTING PIPELINE

PEPELINE MILEPOST

CONSTRUCTION LIMIT

ADDITIONAL TEMPORARY

PERMANENT ACCESS ROAD

TEMPORARY ACCESS ROAD

DELINEATED WATERBODY BANK

DELINEATED WETLAND BOUNDARY

APPROXIMATE WATERBODY BANK

APPROXIMATE WETLAND BOUNDARY

AGRICULTURAL PEM WETLAND BOUNDARY

DELINEATED WATERBODY CENTERLINE

APPROXIMATE WATERBODY CENTERLINE

PERMANENT ROW

ROCK ACCESS PAD

STAGING AREA

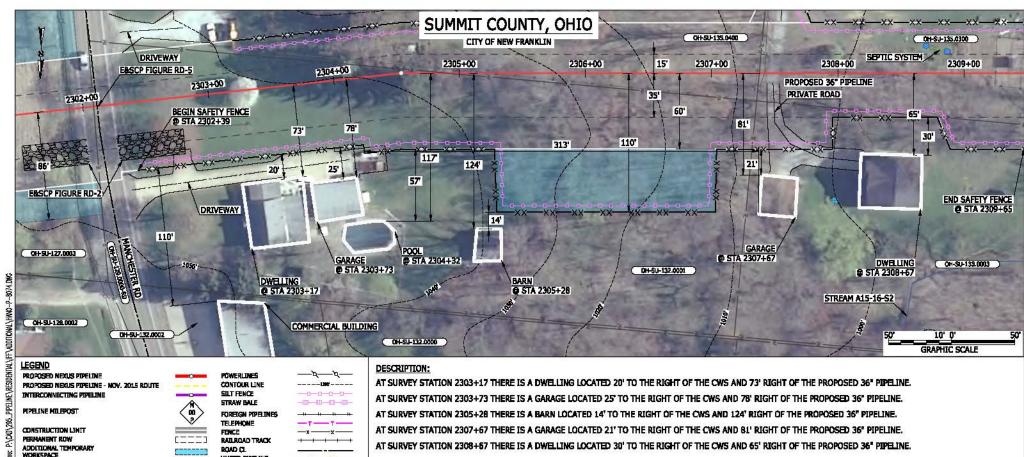
WARFYARD

STRUCTURES

- 1. FOR SITE SPECIFIC RESIDENTIAL DRAWING NOTES REFER TO DWG S4NX-P-8036.
- 2. (CWS) REFERS TO THE CONSTRUCTION WORKSPACE.
- 3. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF A STRUCTURE WITHIN 50 FEET OF CONSTRUCTION WORKSPACE.
- 4. STRUCTURES WITHIN CWS WILL BE REMOVED, RELOCATED OR PROTECTED PER LAND OWNER AGREEMENT.
- 5, SHRUBS, TREES, OTHER LANDSCAPING, FENCES, DRIVEWAYS, STONE WALLS, SIDEWALKS, WATER SUPPLY AND SEPTIC SYSTEMS WITHIN THE CWS WILL BE RESTORED PER AGREEMENT WITH THE LANDOWNER. 6. THE FINAL LOCATION OF BROSION CONTROL DEVICES (ECD's) WILL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION IN ACCORDANCE WITH THE EASOF AND PROJECT REQUIREMENTS,
- AND IN CONSULTATION WITH THE ENVIRONMENTAL INSPECTOR AS NEEDED. THE LOCATION OF ECO'S DEPICTED ON THIS PLAN ARE INTENDED FOR GUIDANCE PURPOSES ONLY.

| #:0 | 0 REV.# | ISSUED FOR FERC | 23FEB16 DATE | DRAWN BY: RSM SCALE: AS SHOWN | DATE | LOC.: SUMM YR.: 2017 | W.O. | DATE NO | REV: 1B HANO-P-8073 |
|-----|------------|-----------------|-----------------|------------------------------------|------|--|------|-----------|------------------------|
| | 1 | ISSUED FOR FERC | R FERC 23FEB16 | CHECKED BY: DOB MP 43.59R TO MP 43 | | | | MP 43.74R | |
| | 1A | ISSUED FOR FERC | 26FEB16 | PROJ. ENG. VP | | RESIDENTIAL DRAWING | | | ILCI |
| | 1B | ISSUED FOR FERC | 15MAR16 | | | TITLE: NEXUS GAS TRANSMISSION PROJECT | | | |





SEE DWG HANO-P-8073 FOR THE CONTINUATION OF THE RESIDENTIAL AREA.

SPECIAL NOTES:

CENTERLINE REPOUTED TO AVOID STRUCTURES AND WORKSPACE CONSTRAINTS.

TWS/ATWS AND RESOURCES UPDATED BASED ON UPDATED FIELD SURVEY WETLAND/WATERBODYDATA.

_xx__xx_

GD-XX-0000.00000

TOWER X

WATER

HORIZONTAL DIRECTIONAL DRILLING (8)

0

UNKNOWN

FIRE HYDRANT

WATER PIPELINE

UTILITY LINE

2/2/3

PROPERTY LINE

SAFETY FEW F

TRACT NUMBER

WELL: GAS

MUNICIPALITY LINE

OIL.

MAINLINE VALVE (MLV)

BLOW OFF VALVE

LIGHT POLE

MIXTROWAVE TOWER

TANK

STAGING AREA

ROCK ACCESS PAD

PERMANENT ACCESS ROAD

TEMPORARY ACCESS ROAD

DELINEATED WATERBODY BANK

DELINEATED WETLAND BOLINDARY

APPROXIMATE WATERBODY BANK

APPROXIMATE WETLAND BOUNDARY

AGRICULTURAL PEM WETLAND BOUNDARY

DELINEATED WATERBODY CENTERLINE

APPROXIMATE WATERBODY CENTERLINE

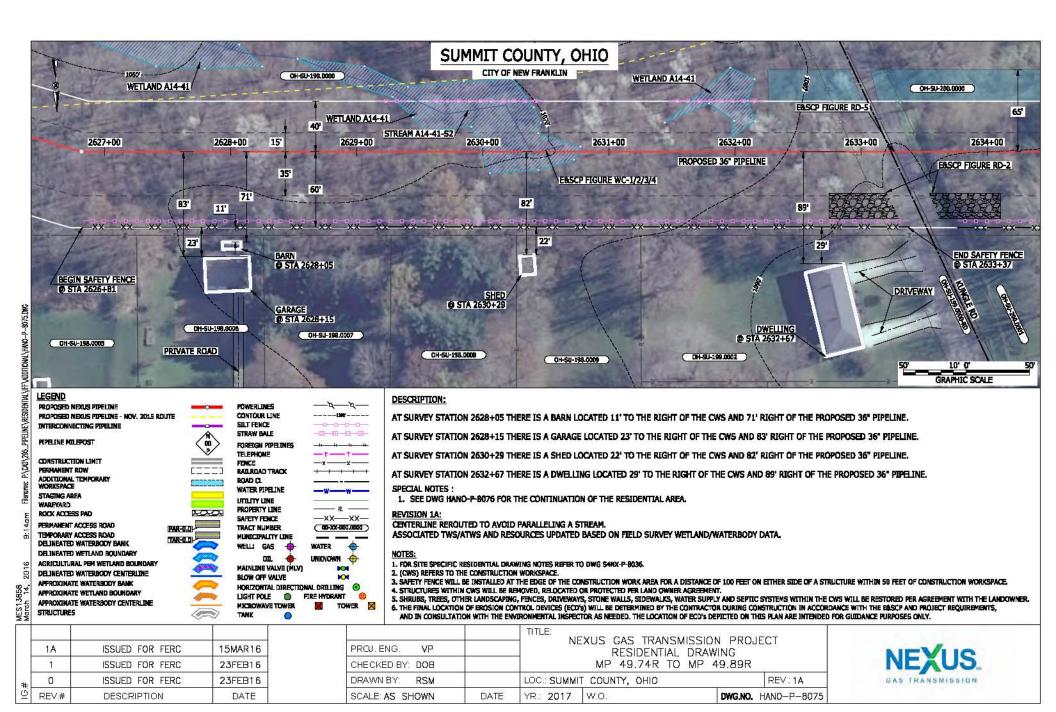
WAREVARD

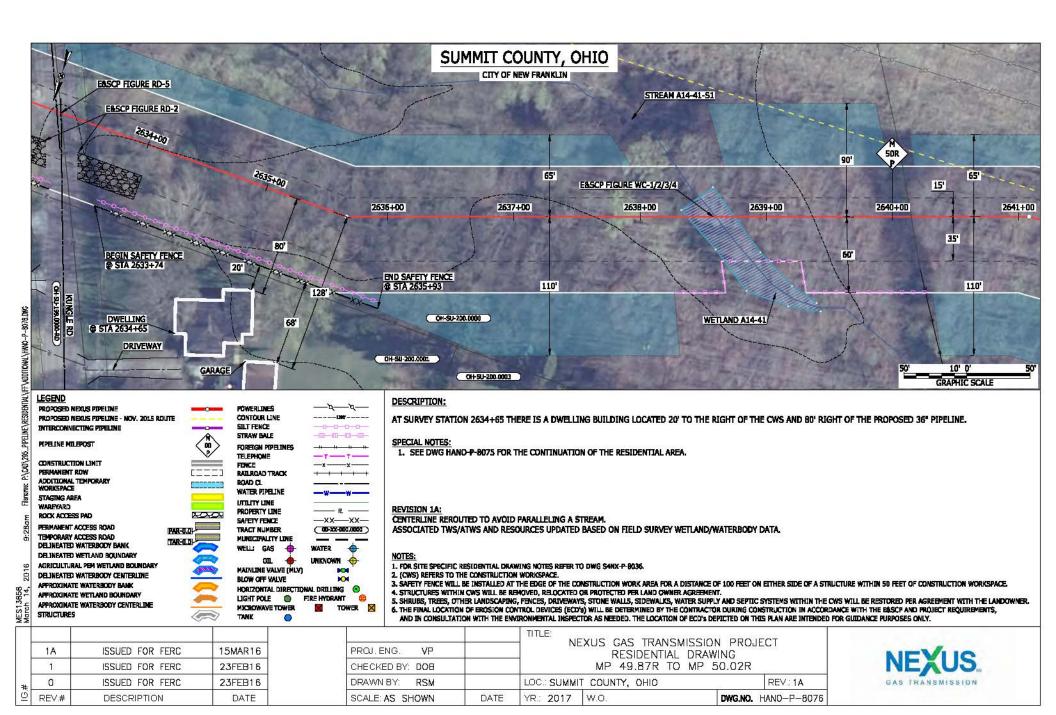
STRUCTURES

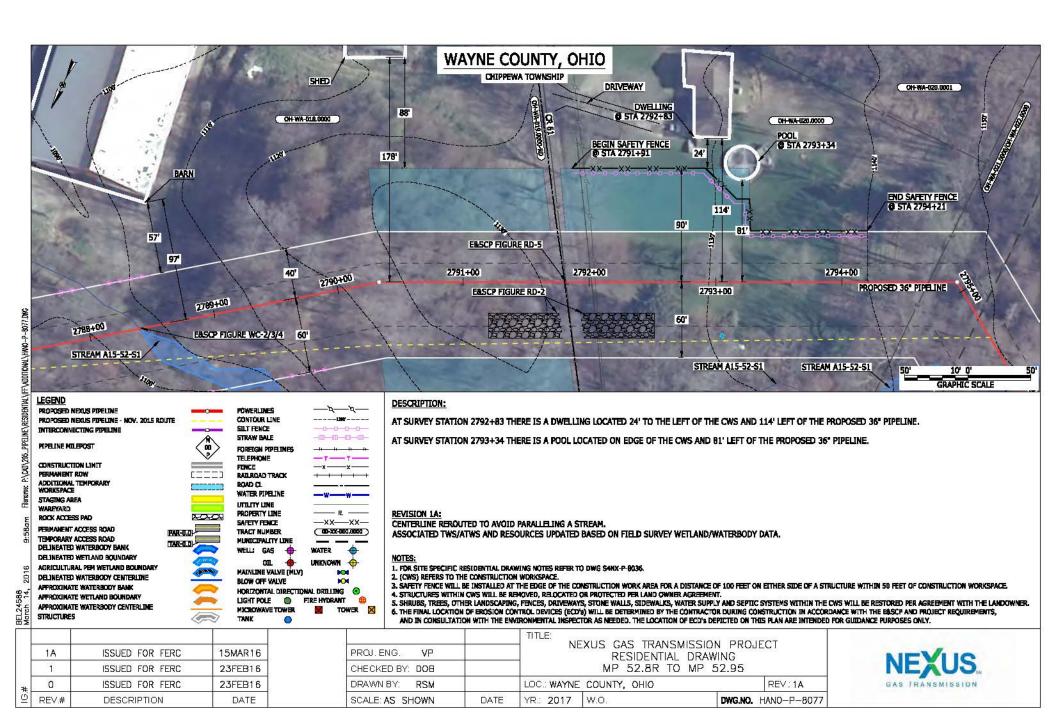
- 1. FOR SITE SPECIFIC RESIDENTIAL DRAWING NOTES REFER TO DWG S4NX-P-8036.
- 2. (CWS) REFERS TO THE CONSTRUCTION WORKSPACE.
- 3. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF A STRUCTURE WITHIN 50 FEET OF CONSTRUCTION WORKSPACE.
- 4. STRUCTURES WITHIN CWS WILL BE REMOVED, RELOCATED OR PROTECTED PER LAND OWNER AGREEMENT.
- 5, SHRUBS, TRES, OTHER LANDSCAPING, FENCES, DRIVEWAYS, STONE WALLS, SIDEWALKS, WATER SUPPLY AND SEPTIC SYSTEMS WITHIN THE CWS WILL BE RESTORED PER AGREEMENT WITH THE LANDOWNER. 6. THE FINAL LOCATION OF EROSION CONTROL DEVICES (ECD's) WILL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION IN ACCORDANCE WITH THE EASCP AND PROJECT REQUIREMENTS. AND IN CONSULTATION WITH THE ENVIRONMENTAL INSPECTOR AS NEEDED. THE LOCATION OF ECD's DEPICTED ON THIS PLAN ARE INTENDED FOR GUIDANCE PURPOSES ONLY.

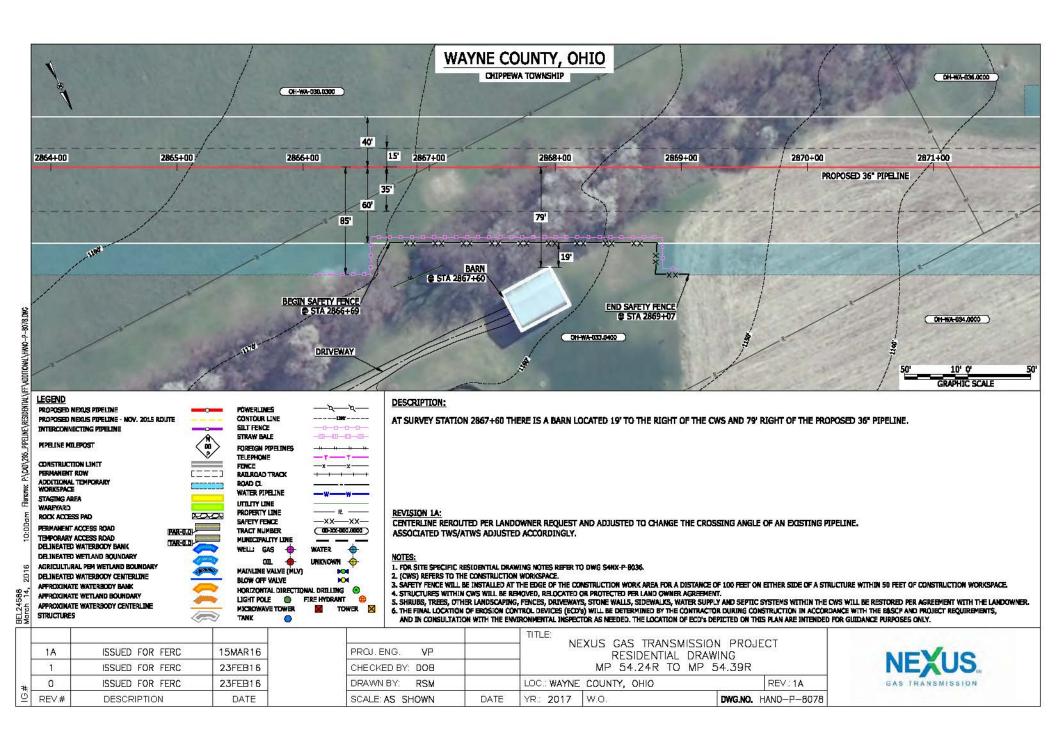
| # | 1B | ISSUED FOR FERC | 15MAR16 | | | TITLE: NEXUS GAS TRANSMISSION PROJECT | | |
|---|-------|-----------------|---------|-----------------|------|--|--|--|
| | 1A | ISSUED FOR FERC | 26FEB16 | PROJ. ENG. VP | | RESIDENTIAL DRAWI | 3 30 000000000000000000000000000000000 | |
| | 1 | ISSUED FOR FERC | 23FEB16 | CHECKED BY: DOB | | MP 43.59R TO MP 4. | 3.74R | |
| | 0 | ISSUED FOR FERC | 23FEB16 | DRAWN BY: RSM | | LOC : SUMMIT COUNTY, OHIO | REV.:1B | |
| ġ | REV.# | DESCRIPTION | DATE | SCALE: AS SHOWN | DATE | YR.: 2017 W.O. | DWG.NO. HANO-P-8074 | |

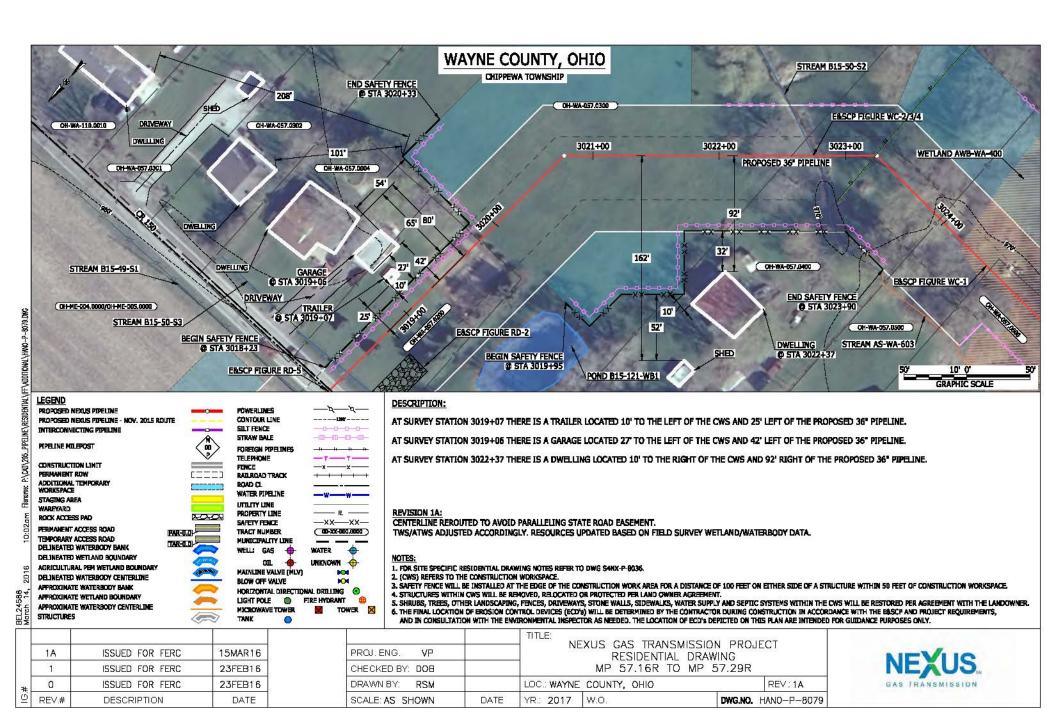


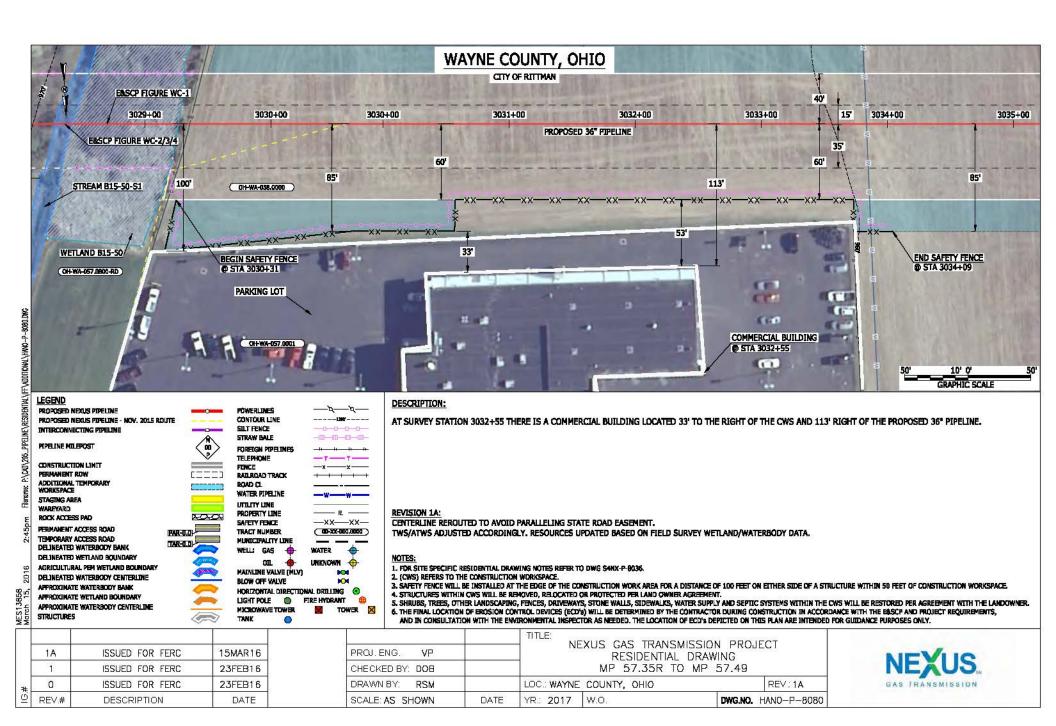


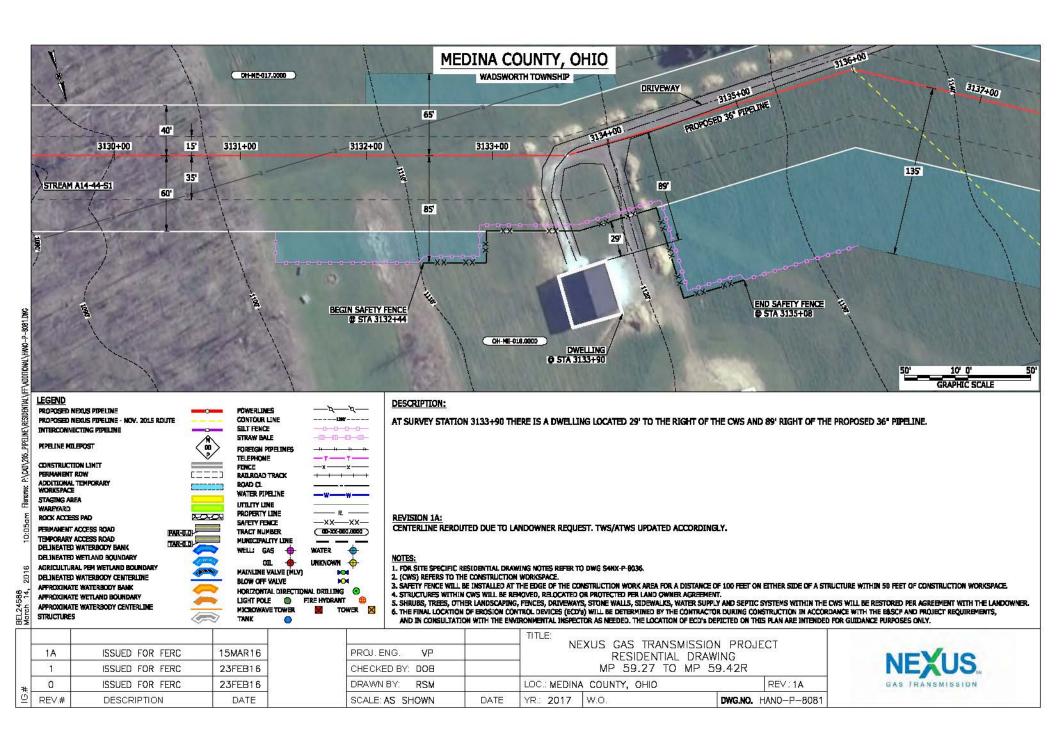


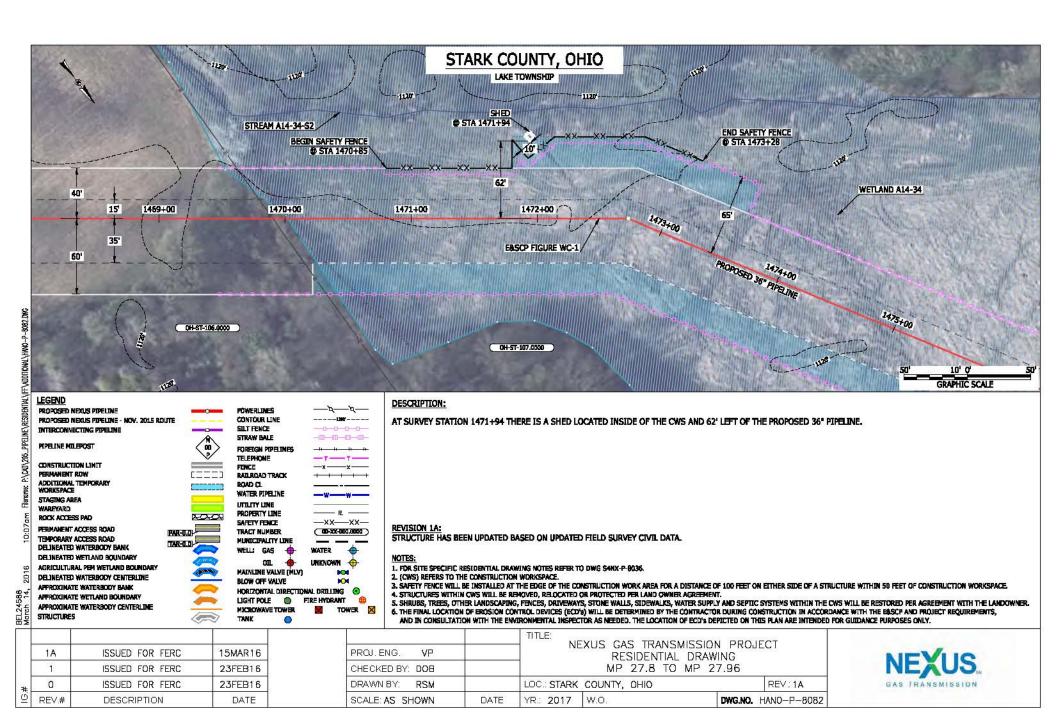












GENERAL

IN GENERAL, THE FOLLOWING MEASURES WILL BE TAKEN ON RESIDENTIAL PROPERTIES:

- LOCAL RESIDENTS WILL BE NOTIFIED OF THE PROPOSED CONSTRUCTION SCHEDULE IN ADVANCE OF CONSTRUCTION ACTIVITIES
- SAFETY FENCE WILL BE INSTALLED ALONG THE EDGE OF THE CONSTRUCTION WORKSPACE (CWS) FOR A MINIMUM OF 100 FEET ON BOTH SIDES OF RESIDENCES. TO MAINTAIN EQUIPMENT, MATERIAL AND SPOIL WITHIN THE CWS.
- PRESERVE ALL MATURE TREES AND LANDSCAPING WHERE PRACTICAL, CONSISTENT WITH CONSTRUCTION SAFETY.
 LINLESS OTHERWISE AGREED WITH THE LANDOWNER.
- COMPLETE INSTALLATION OF WELDED PIPELINE SECTIONS AS QUICKLY AS REASONABLY POSSIBLE, CONSISTENT WITH PRUDENT PIPELINE CONSTRUCTION PRACTICES, TO MINIMIZE CONSTRUCTION TIME AFFECTING RESIDENCES.
- BACKFILL THE TRENCH AS SOON AS THE PIPELINE IS INSTALLED OR PLACE TEMPORARY STEEL PLATES OVER THE TRENCH TO MAINTAIN LAND OWNER ACCESS, AS NECESSARY.
- COMPLETE FINAL CLEANUP (INCLUDING FINAL GRADING) AND INSTALLATION OF PERMANENT EROSION CONTROL
 MEASURES WITHIN 10 DAYS AFTER THE TRENCH IS BACKFILLED, WEATHER CONDITIONS PERMITTING.
- CONFIGURE USE OF CWS TO PROVIDE ACCESS FOR EMERGENCY VEHICLES AND TO RESIDENTIAL DRIVEWAYS, INCLUDING MATERIALS AVAILABLE ON SITE TO PROVIDE TEMPORARY BRIDGING ACROSS THE PIPELINE TRENCH IF MECHES ABOY
- ACCESS TO HOMES WILL BE MAINTAINED DURING CONSTRUCTION EXCEPT FOR THE BRIEF PERIOD ESSENTIAL FOR LAYING THE NEW PIPELINE, IN WHICH CASE HOME OWNERS WILL BE NOTIFIED IN ADVANCE.
- WHERE THE PIPELINE FACILITIES CROSS RESIDENTIAL PROPERTIES, TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE SUBSOIL DURING GRADING WITHIN THE CONSTRUCTION WORKSPACE.
- DISTURBED RESIDENTIAL LAWNS WILL BE RESEEDED WITH A SEED MIXTURE ACCEPTABLE TO LANDOWNER OR COMPARABLE TO THE ADJOINING LAWN.
- FOR EROSION AND SEDIMENTATION TYPICAL FIGURES REFER TO DWG ES-0001 THRU DWG ES-0038.

CONSTRUCTION TECHNIQUES

- EXCAVATION OF THE PIPELINE TRENCH WILL NOT BE INITIATED UNTIL THE PIPE IS READY FOR INSTALLATION IN
 LOCATIONS WHERE THE PIPELINE CENTERLINE IS WITHIN 25 FEET OF A RESIDENCE.
- ONE OF THE FOLLOWING TECHNIQUES SHALL BE UTILIZED FOR A LONGITUDINAL DISTANCE OF 100 FEET EITHER SIDE OF AN OCCUPIED RESIDENTIAL STRUCTURE LOCATED WITHIN 50 FEET OF THE CWS:
 - STOVE-PIPE CONSTRUCTION TECHNIQUE THIS TECHNIQUE IS TYPICALLY USED WHEN THE PIPELINE IS TO
 BE INSTALLED IN VERY CLOSE PROXIMITY TO AN EXISTING STRUCTURE AND AN OPEN TRENCH WOULD HAVE
 AN ADVERSE EFFECT. THE TECHNIQUE INVOLVES INSTALLING ONE JOINT OF PIPE AT A TIME, IN WHICH THE
 WELDING, WELD INSPECTION, AND COATING ACTIVITIES ARE ALL PERFORMED IN THE OPEN TRENCH,
 THEREBY REDUCING THE WIDTH OF THE CONSTRUCTION ROW.
 - DRAG SECTION TECHNIQUE THIS TECHNIQUE IS ANOTHER METHOD THAT REDUCES THE WIDTH OF THE CONSTRUCTION ROW AND IS NORMALLY PREFERRED OVER THE STOVE-PIPE METHOD. THIS TECHNIQUE INVOLVES TRENCHING, INSTALLATION OF A PREFABRICATED LENGTH OF PIPE CONTAINING SEVERAL SEGMENTS. AND BACKFILLING. ALL IN ONE DAY.

WORKSPACE RESTRICTIONS

- EXISTING STRUCTURES INCLUDING BUT NOT LIMITED TO; FENCES, SHEDS, SWING-SETS, TRAMPOLINES, SHRUBBERY,
 TREES, GARDENS, FLOWERBEDS, POOLS WILL BE REMOVED FROM THE CWS. LANDOWNERS WILL BE MADE AWARE OF
 WHAT WILL BE RELOCATED DURING NEGOTIATIONS FOR TEMPORARY WORKSPACE AND DAMAGES.
- STRUCTURES WITHIN THE EXISTING PERMANENT EASEMENT AREA WILL BE ALLOWED TO BE RETURNED TO THE
 EXISTING PERMANENT EASEMENT PROVIDED THEY ARE NOT IN VIOLATION OF NEXUS' EXISTING PERMANENT
 EASEMENT RIGHTS THAT WILL BE MADE AVAILABLE TO LANDOWNERS UNLESS OTHERWISE AGREED WITH THE LAND
 OWNER.
- STRUCTURES OUTSIDE OF THE EXISTING PERMANENT EASEMENT; HOWEVER, WITHIN THE CONSTRUCTION WORKSPACE, WILL BE REPLACED AS CLOSE TO AS PRACTICABLE TO THEIR PREVIOUS LOCATIONS.
- REMOVAL AND REPLACEMENT RESPONSIBILITIES WILL BE ISSUES THAT ARE REGOTIATED WITH EACH LANDOWNER.

ANTICIPATED CONSTRUCTION SCHEDULE

- PIPELINE CONSTRUCTION WORK IS TYPICALLY SCHEDULED TO TAKE ADVANTAGE OF DAYLIGHT HOURS, GENERALLY STARTING AT 7:00 A.M. AND COMPLETING AT 6:00 P.M. (6 DAYS A WEEK).
- AFFECTED LANDOWNERS WILL BE NOTIFIED IMMEDIATELY IF CONSTRUCTION WORK EXTENDS BEYOND THESE WORK
 HOURS.

PUBLIC SAFETY CONSIDERATIONS

- TRAFFIC CONTROL WILL CONSIST OF DEVICES OUTLINED IN STATE AND LOCAL CODES ACCOMPANIED BY LOCAL LAW ENFORCEMENT DETAILS AND QUALIFIED FLAGMEN TO SAFELY COORDINATE TRANSPORT OF PUPELINE CONSTRUCTION PERSONNEL, EQUIPMENT AND MATERIAL CONSTRUCTION ACTIVITIES WILL NOT UNDULY OBSTRUCT OR RESTRICT TAFFIC FLOW ON PUBLICALLY USED ROADS.
- SITE SECURITY WILL BE EVALUATED ON A CASE BY CASE BASIS, EMPLOYING DAILY AND/OR 24 HOUR QUALIFIED SECURITY SERVICES AS REQUIRED. NEXUS WILL STAFF A LANDOWNER HOTLINE TO RECEIVE LANDOWNER CONSTRUCTION CONCERNS. THE TOIL-REFE LANDOWNER HOTLINE IS (844) 589-3655. THE LANDOWNER HOTLINE WILL BE STAFFED MONDAY THROUGH FRIDAY FROM 7 A.M. TO 5 P.M. AND ON SATURDAY FROM 7 A.M. TO 12 P.M. BY NEXUS RIGHT OF WAY PERSONNEL. OUTSIDE OF THESE HOURS, A CALL FORWARDING SYSTEM WILL BE AVAILABLE TO RECEIVE CALLS AND PAGE THE COMPLAINT RESOLUTION COORDINATOR. ALL CALLS WILL BE RETURNED WITHIN 24 HOURS OF RECEIPT.

OTHER CONSIDERATIONS

- FUGITIVE DUST WILL RESULT FROM LAND CLEARING, GRADING, EXCAVATION, CONCRETE WORK, AND VEHICLE TRAFFIC ON PAYED AND UNPAYED ROADS. THE AMOUNT OF DUST GENERATED WILL BE A FUNCTION OF CONSTRUCTION ACTIVITY, SOIL TYPE, SOIL MOISTURE CONTENT, WIND SPEED, PRECIPITATION, VEHICLE TRAFFIC, VEHICLE TYPES, AND ROADWAY CHARACTERISTICS. NEXUS WILL EMPLOY PROVEN CONSTRUCTION RELATED PRACTICES TO CONTROL FUGITIVE DUST SUCH AS APPLICATION OF WATER OR OTHER COMMERCIALLY AVAILABLE DUST CONTROL AGENTS ON UNPAYED AREAS SUBJECT TO FREQUENT VEHICLE TRAFFIC.
- NOISE MITIGATION MEASURES TO BE EMPLOYED DURING CONSTRUCTION INCLUDE USE OF SOUND MUFFLING DEVICES THAT ARE PROVIDED AS STANDARD EQUIPMENT BY THE CONSTRUCTION EQUIPMENT MANUFACTURERS. THE CONTRACTOR WILL KEEP THESE SOUND MUFFLING DEVICES IN GOOD WORKING ORDER DURING CONSTRUCTION.
- THE STORAGE OF HAZARDOUS MATERIALS INCLUDING CHEMICALS, FUELS, AND LUBRICATING OILS AND THE REFLIELING OF CONSTRUCTION EQUIPMENT IS PROHIBITED WITHIN A 100 FEET OF ALL WATERBODIES, WETLANDS OR DESIGNATED MUNICIPAL WATERSHED AREAS IDENTIFIED IN THE RESIDENTIAL DRAWINGS. IF THE 100-FOOT SETBACK CANNOT BE MET, THIS ACTIVITY MAY BE PERFORMED WITHIN THE 100-FOOT SETBACK WITH ENVIRONMENT INSPECTOR APPROVAL, IF DONE IN ACCORDANCE WITH THE SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN/PREPAREDNESS, PREVENTION, AND CONTINGENCY (PPC) PLAN.
- ÀLL BLASTING SHALL BE PERFORMED IN ACCORDANCE WITH NEXUS BLASTING PLAN. NEXUS SHALL CONDUCT PRE-BLAST SURVEYS, WITH LANDOWNER PERMISSION, TO ASSESS THE CONDITIONS OF STRUCTURES, WELLS, SPRINGS, AND UTILITIES WITHIN 150 FEET OF THE PROPOSED CONSTRUCTION RIGHT-OF-WAY. WHERE THIS ENGINEERING ASSESSMENT INDICATES THAT THE RISK TO THE FRAGILE SENSITIVE ELEMENT IS TOO HIGH FOR BLASTING, ALTERNATE HARD-ROCK EXCAVATION METHODS WILL BE USED.



REVISION 1A:

WATER FEATURES IDENTIFIED BY CIVIL SURVEY FIELD CREWS INDICATED BY LIGHT BLUE LINES ON THE RESIDENTIAL DRAWINGS FILED IN NOVEMBER HAVE BEEN REMOVED FROM THE REVISION 1 RESIDENTIAL DRAWINGS TO AVOID CONFUSION WITH JURISDICTIONAL RESOURCES.

| S.r. | 1A | ISSUED FOR FERC | 15MAR16 23FEB16 | PROJ. ENG. VP | | NEXUS GAS TRANSMISSION PROJECT NOTES FOR SITE SPECIFIC RESIDENTIAL DRAWINGS | | (7)(| |
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| # | 0 | ISSUED FOR FERC FILING | 03NOV15 | DRAWN BY: RSM | To an experience of the company of t | | LOC:: N/A REV::1A | | |
| 9 | REV# | DESCRIPTION | DATE | SCALE: NTS | DATE | YR.: 2017 W | 7.O. DWG.NO | . S4NX-P-8036 | |



