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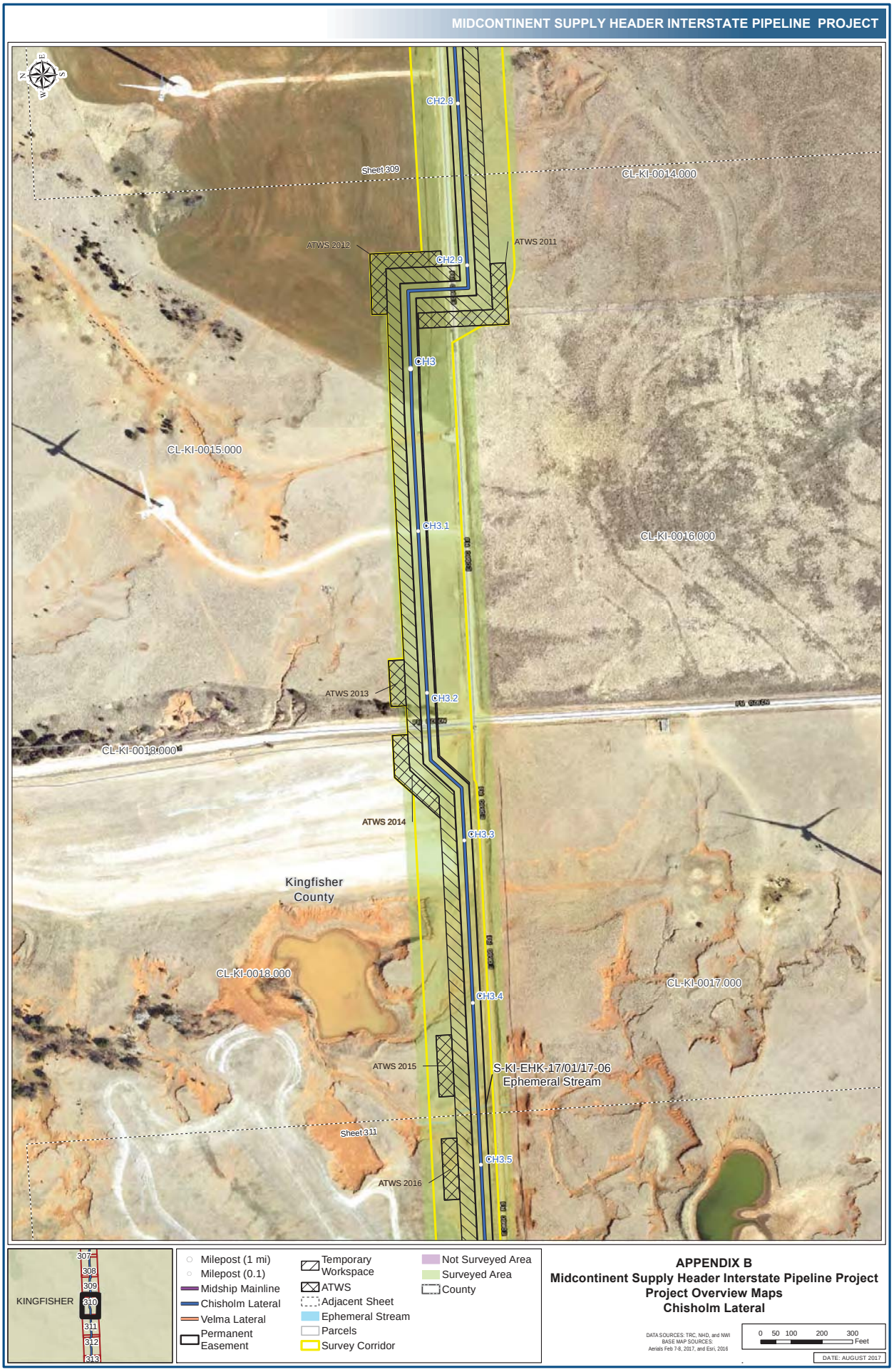
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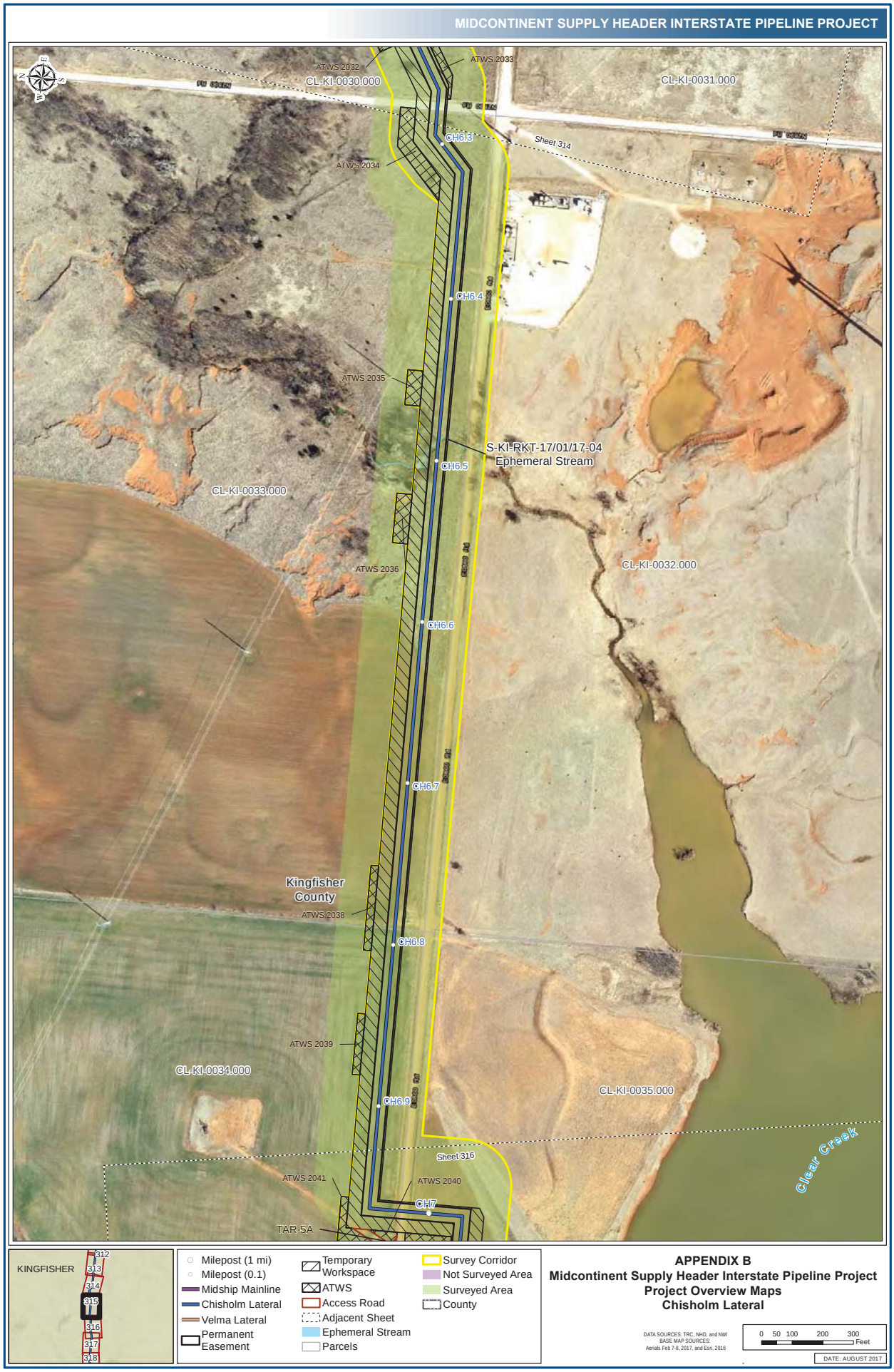
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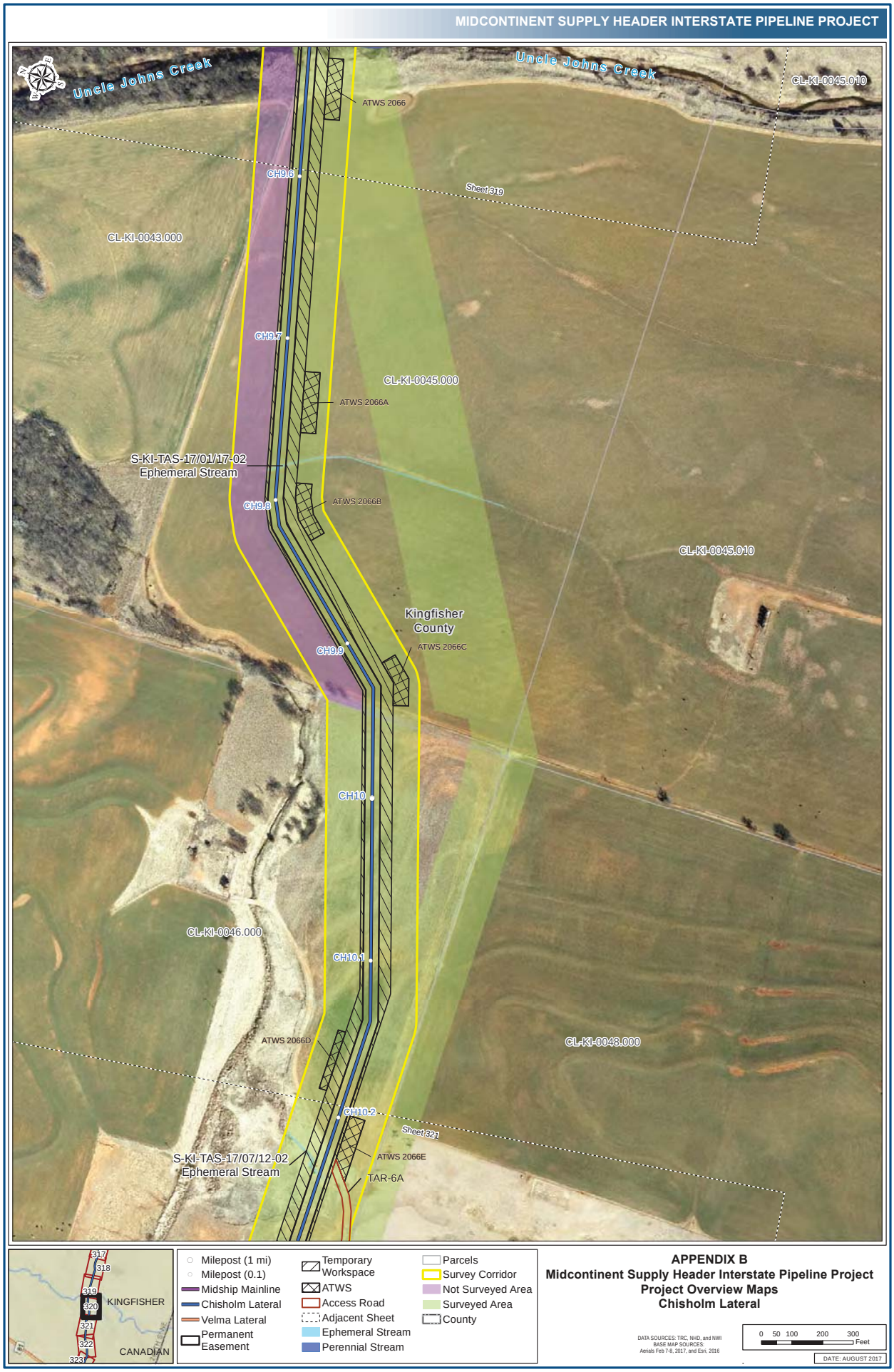
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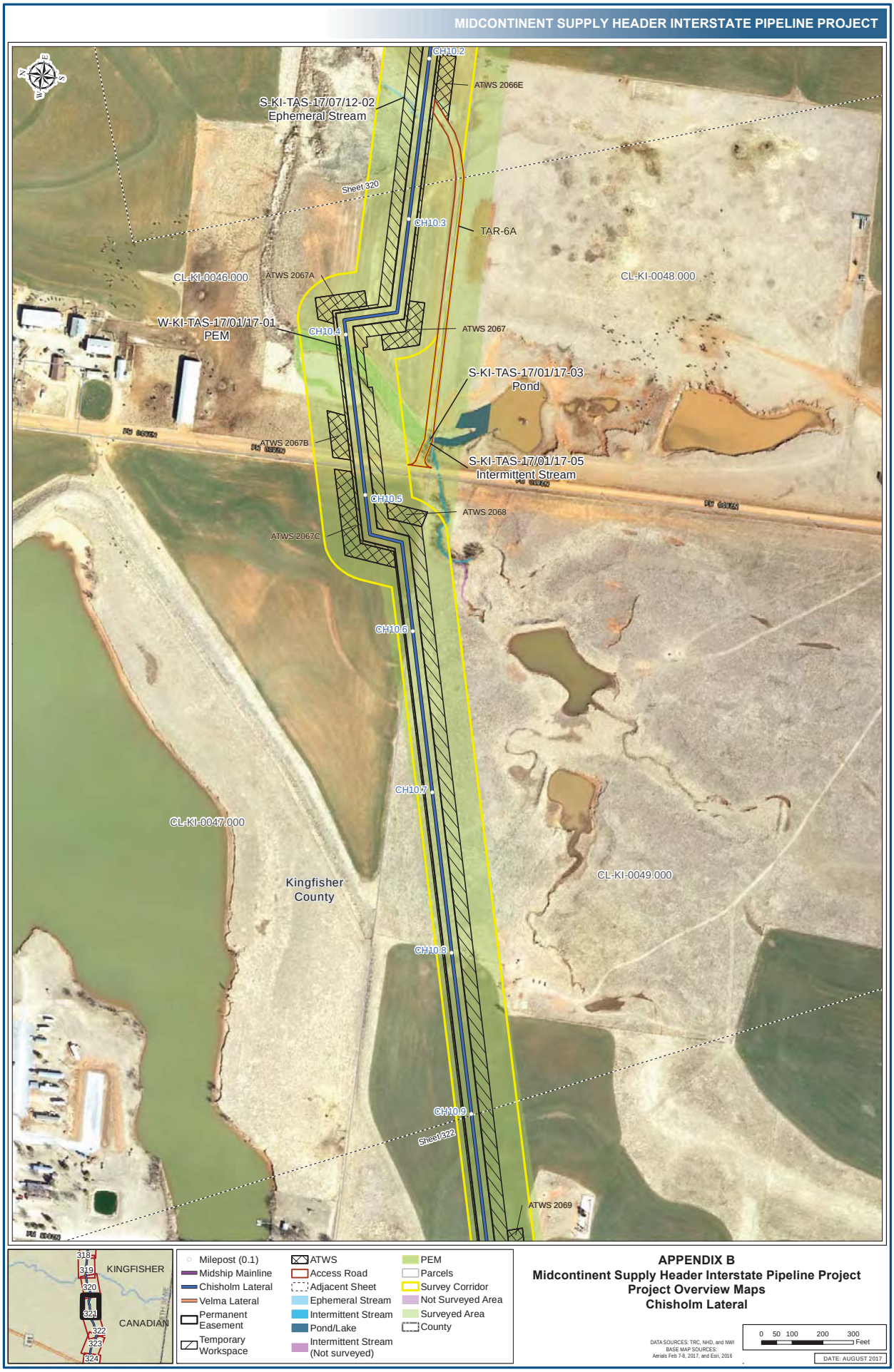
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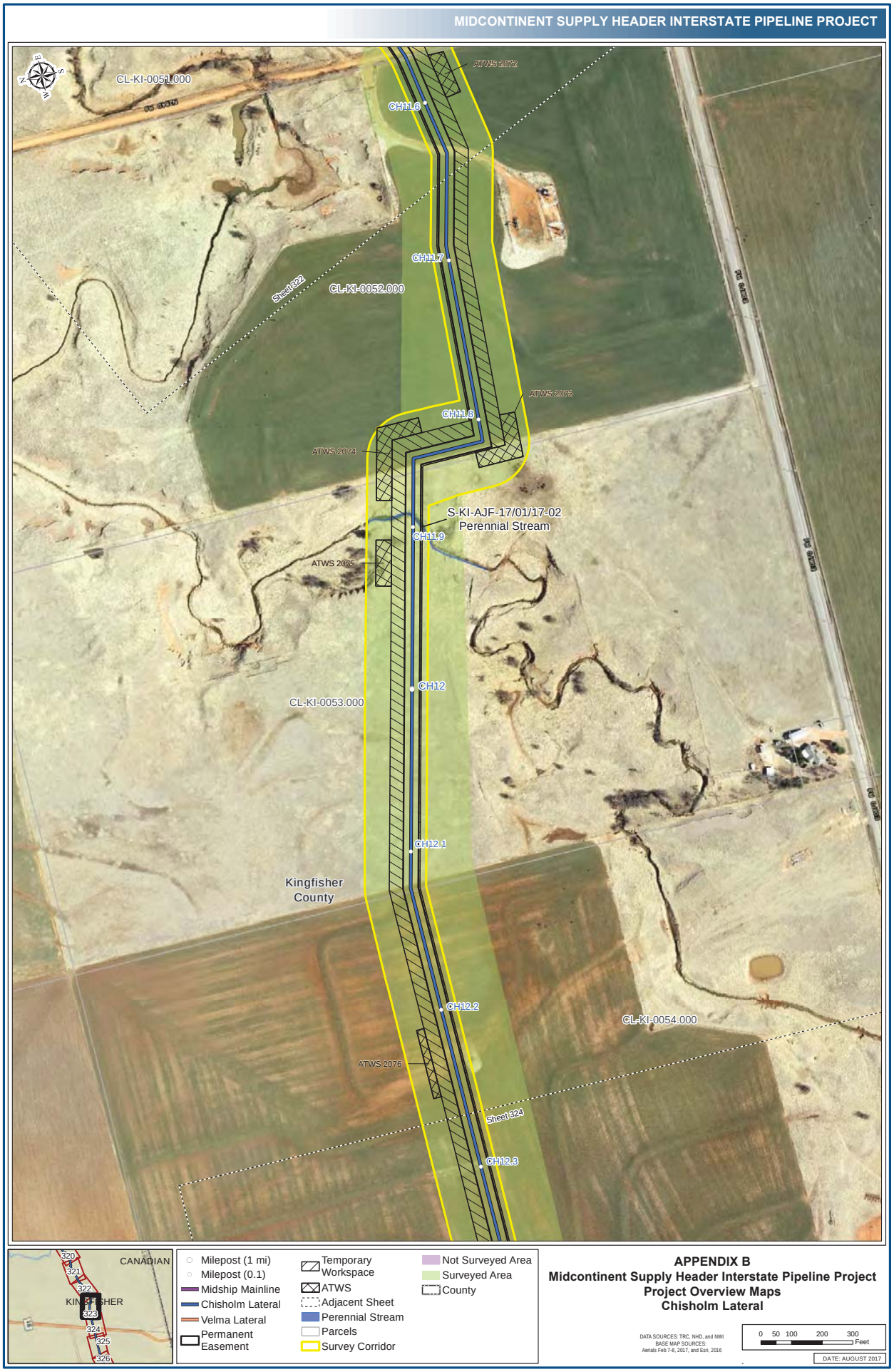
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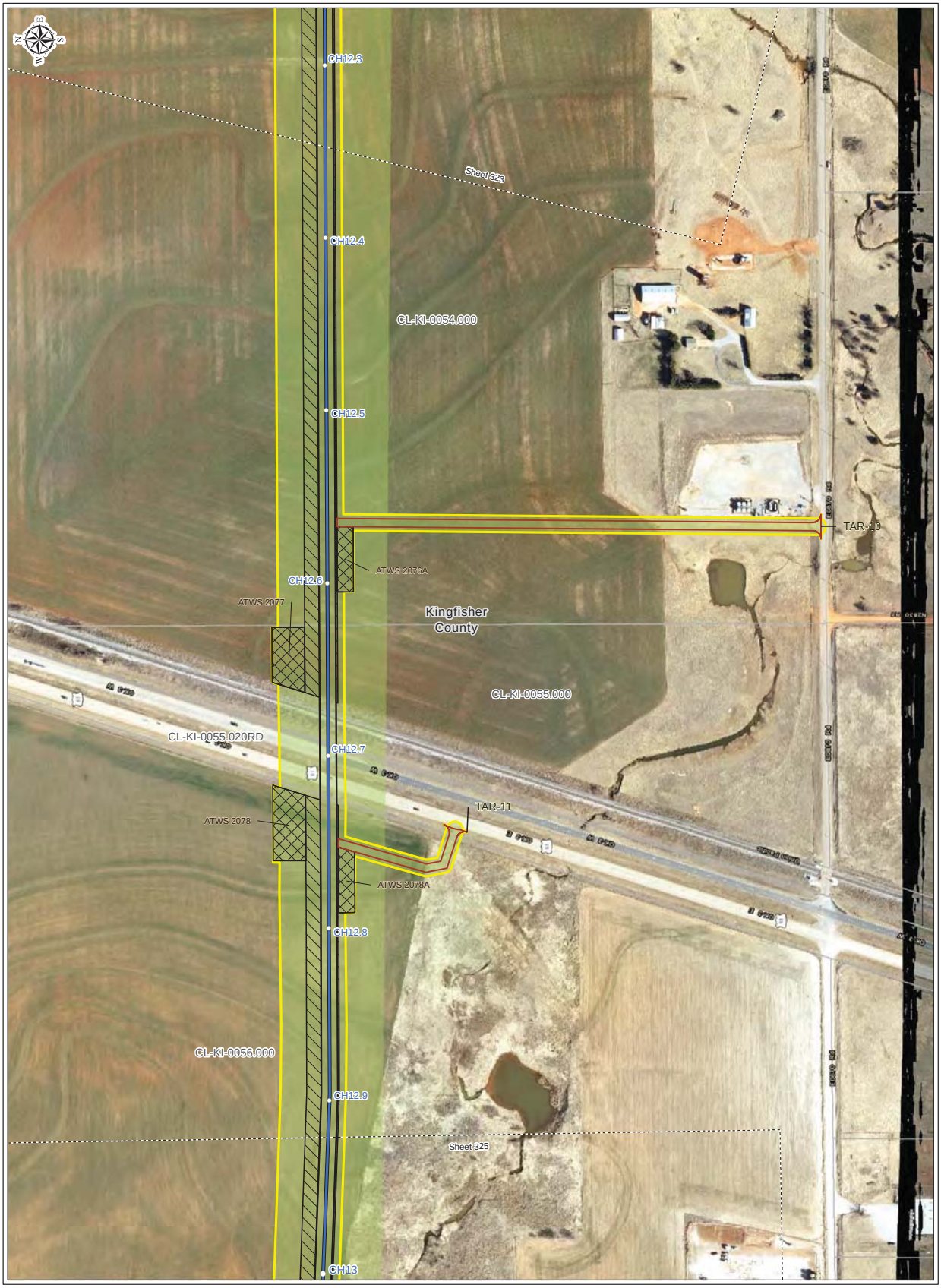
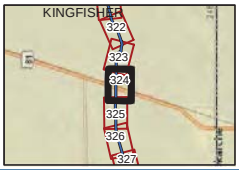
MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT





- Milepost (1 mi)
- Milepost (0.1)
- Midship Mainline
- Chisholm Lateral
- Velma Lateral
- Permanent Easement
- Temporary Workspace
- ATWS
- Access Road
- Adjacent Sheet
- Parcels
- Survey Corridor
- Not Surveyed Area
- Surveyed Area
- County

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Chisholm Lateral

DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016

0 50 100 200 300 Feet

DATE: AUGUST 2017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CH13.3
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Milepost (0.1)
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Surveyed Area
County
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DATA SOURCES: TRC, NHD, and NWI
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Aerials Feb 7-8, 2017, and Esri, 2016
0 50 100 200 300
Feet
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Milepost (1 mi)
Milepost (0.1)
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Temporary Workspace
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Survey Corridor
Not Surveyed Area
Surveyed Area
County
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Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
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Aerials Feb 7-8, 2017, and Esri, 2016
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Feet
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CL-KI-0061.000
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Milepost (1 mi)
Milepost (0.1)
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KINGFISHER
CANADIAN
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329
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332
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
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Ephemeral Stream
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Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
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Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
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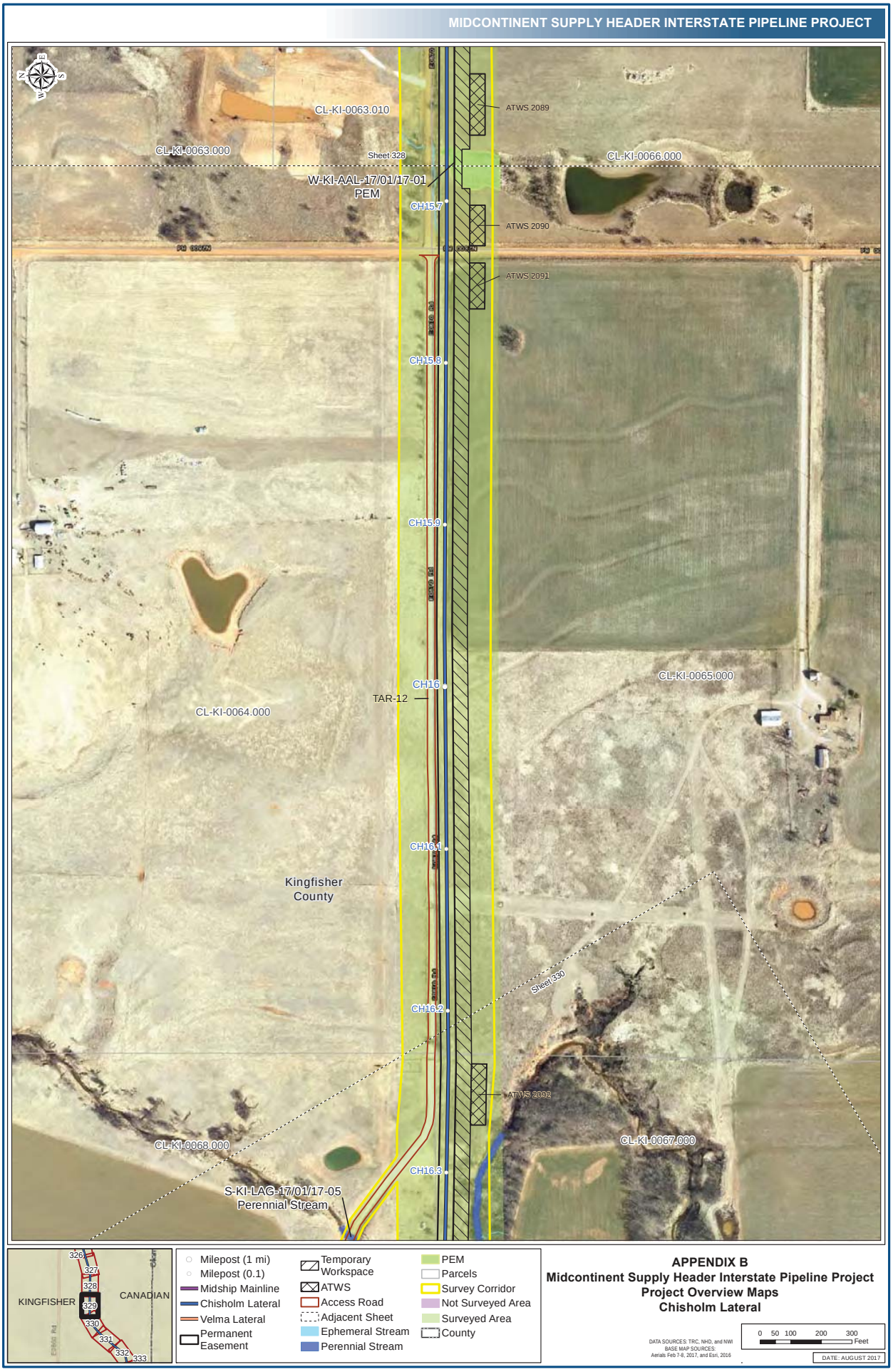
Feet
DATE: AUGUST 2017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CL-KI-0063.010
CL-KI-0063.000
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W-KI-AAL-17/01/17-01
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CL-KI-0064.000
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CANADIAN
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Milepost (1 mi)
Milepost (0.1)
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Temporary Workspace
ATWS
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Perennial Stream
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Parcels
Survey Corridor
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Project Overview Maps
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DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
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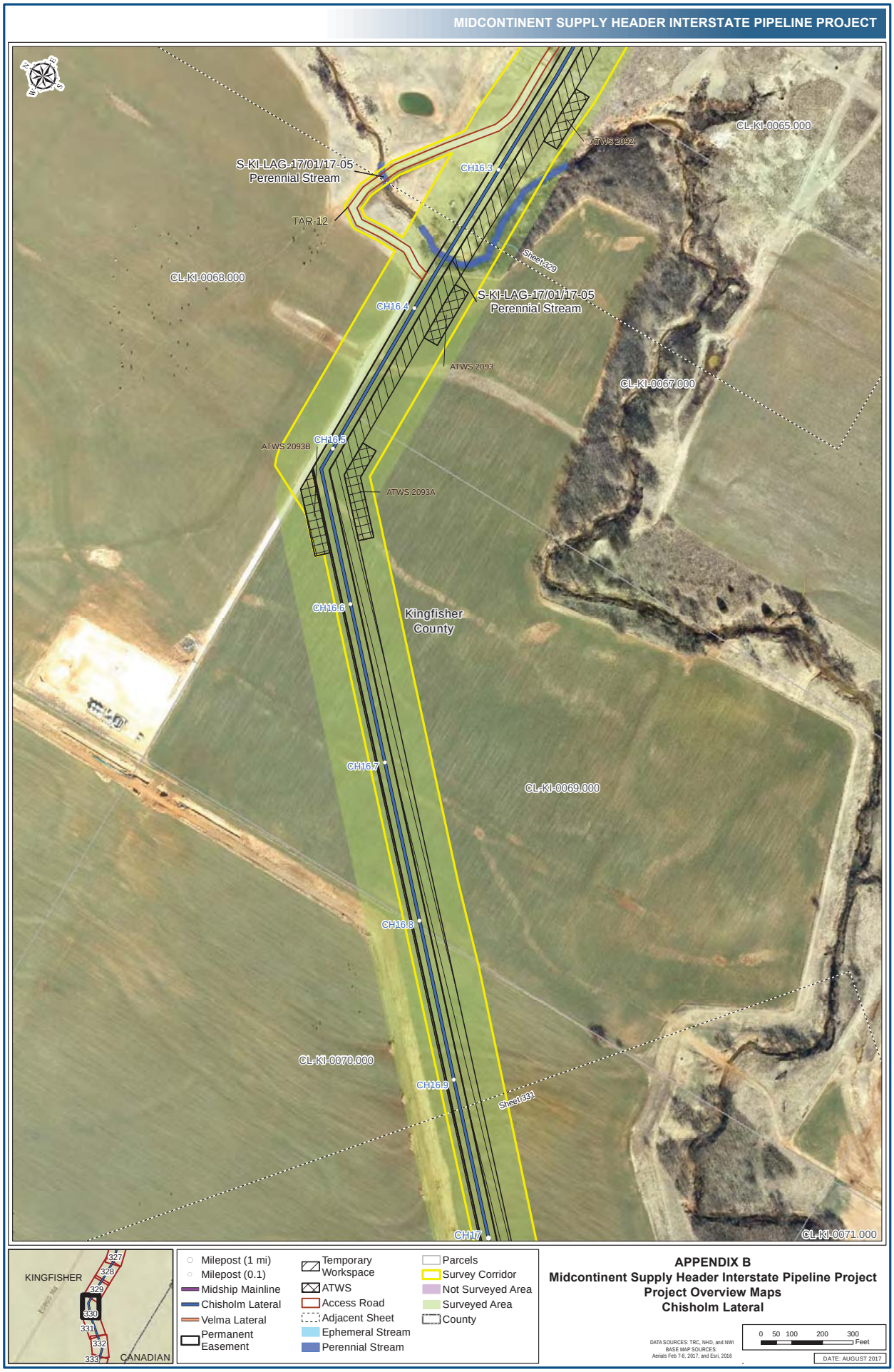
DATE: AUGUST 2017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CL-KI-0065.000
ATWS 2092
S-KI-LAG-17/01/17-05
Perennial Stream
CH16.3
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CL-KI-0068.000
CH16.4
S-KI-LAG-17/01/17-05
Perennial Stream
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CL-KI-0067.000
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CH16.7
CL-KI-0069.000
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CL-KI-0071.000
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Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Access Road
Adjacent Sheet
Ephemeral Stream
Perennial Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
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Midcontinent Supply Header Interstate Pipeline Project
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DATA SOURCES: TRC, NHD, and NWI
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Aerials Feb 7-8, 2017, and Esri, 2016
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CANADIAN
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
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CL-KI-0074.000
Kingfisher County
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ATWS 2099
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KINGFISHER
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Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
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Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
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CH18.8
Kingfisher
County
ATWS 2101
CH18.9
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KINGFISHER
CANADIAN
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331
332
333
334
335
12
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Ephemeral Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
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Feet
DATE: AUGUST 2017


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Sheet 333
CH19.1
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CL-KI-0079.000
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Kingfisher
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CL-KI-0078.000
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CH19.7
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CANADIAN
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333
334
335
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12
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Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Ephemeral Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
0 50 100 200 300
Feet
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
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Kingfisher County
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CL-KI-0081.000
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ATWS 2110A
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N2760 Rd
CH20.4
PAR1.1
KI-0001.000
CH20.48
CL-KI-0083.000
ATWS 1001
Okarche and MarkWest Meter Station
0
KINGFISHER
CANADIAN
333
334
335
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Milepost (0.1)
Launcher/Receiver
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Access Road
Meter Station
Adjacent Sheet
Ephemeral Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Chisholm Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
0 50 100 200 300
Feet
DATE: OCTOBER 2017

VELMA LATERAL


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
ATWS 3000
VE0
VL-ST-0002.000
VL-ST-0001.000
ATWS 3001
ATWS 3002
VE0.1
PAR-69A
AS-ST-WCR-17/04/11-01
Intermittent Stream
Velma
Meter
Station
S-ST-WCR-17/04/11-01
Intermittent Stream
ATWS 3002A
VE0.2
PAR-69
VL-ST-0002.030
ATWS 3003
Stephens
County
VE0.3
Old State Hwy 7
ATWS 3004
VL-ST-0003.000
ATWS 3005
VE0.4
N2930 Rd
VE0.5
ATWS 3005A
ATWS 3006
VL-ST-0004.000
VE0.6
Steel337
Velma
Old State Hwy 7
Flat St
ATWS 3007
VE0.7
S-ST-WCR-17/04/11-03
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STEPHENS
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Milepost (0.1)
Launcher/Receiver
Midship Mainline
Chisholm Lateral
Velma Lateral
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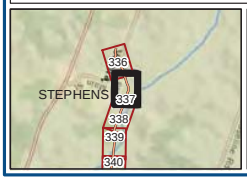
Intermittent Stream
Pond/Lake
Intermittent Stream
(Not surveyed)
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
Municipality
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT



- Milepost (1 mi)
- Milepost (0.1)
- Midship Mainline
- Chisholm Lateral
- Velma Lateral
- Permanent Easement
- Temporary Workspace
- ATWS
- Adjacent Sheet
- Intermittent Stream
- Perennial Stream
- Pond/Lake
- Parcels
- Survey Corridor
- Not Surveyed Area
- Surveyed Area
- County

DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral

0 50 100 200 300 Feet

DATE: AUGUST 2017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ATWS 3013
VE1.8
ATWS 3014
VE1.9
ATWS 3015
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Milepost (1 mi)
Milepost (0.1)
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Velma Lateral
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Perennial Stream
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DATA SOURCES: TRC, NHD, and NWI
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VE2.1
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VL-ST-0006.000
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S-ST-WCR-17/04/11-05
Perennial Stream
Stephens
County
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VE2.3
ATWS 3017
VL-ST-0008.000
VE2.4
VL-ST-0008.000
VE2.5
ATWS 3018
S-ST-RKT-17/04/12-02
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VE2.6
VL-ST-0009.000
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Milepost (0.1)
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DATA SOURCES: TRC, NHD, and NWI
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MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
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Wildhorse Creek
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VE2.8
ATWS 3021
VE2.9
ATWS 3021A
VE3
VL-ST-0009.000
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VE3.2
ATWS 3022
VE3.3
S-ST-RKT-17/04/11-31
Pond
Sheet 341
S-ST-RKT-17/04/11-33
Ephemeral Stream
ATWS 3023
VE3.4
STEPHENS
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343
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Ephemeral Stream
Pond/Lake
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-9, 2017, and Esri, 2016
APPENDIX B
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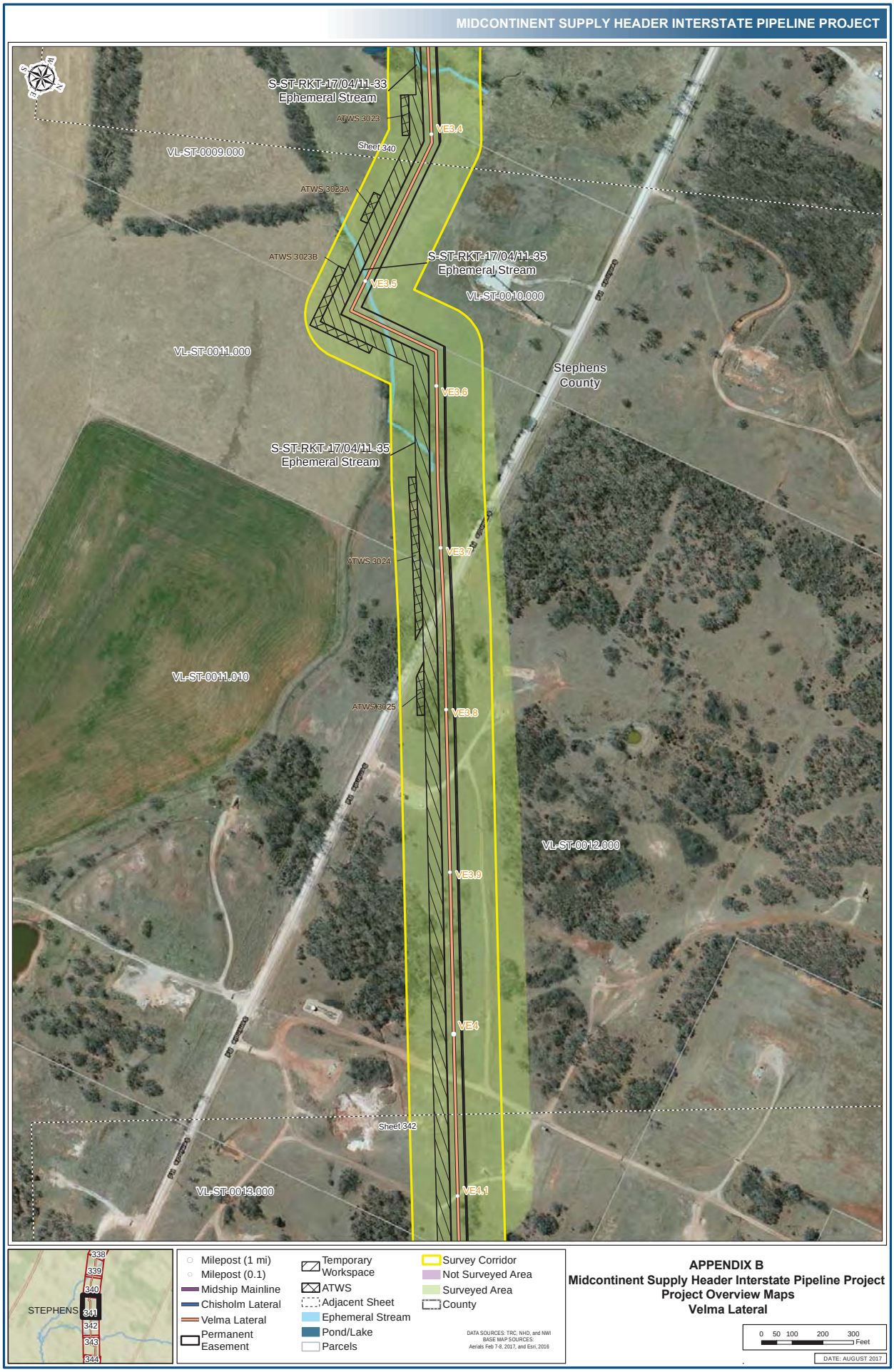
Velma Lateral
0 50 100 200 300
Feet
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
S-ST-RKT-17/04/11-33
Ephemeral Stream
ATWS 3023
VE3.4
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VL-ST-0009.000
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VL-ST-0010.000
VL-ST-0011.000
Stephens
County
VE3.6
S-ST-RKT-17/04/11-35
Ephemeral Stream
VE3.7
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VE3.9
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Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Ephemeral Stream
Pond/Lake
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
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Velma Lateral
0 50 100 200 300
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MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
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VE4.3
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VL-ST-0014.010
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W-ST-RKT-17/04/11-23 PEM
VL-ST-0014.000
S-ST-RKT-17/04/11-21 Perennial Stream
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VE4.6
Black Bear Creek
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STEPHENS
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Milepost (0.1)
Midship Mainline
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Velma Lateral
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Temporary Workspace
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Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
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Midcontinent Supply Header Interstate Pipeline Project
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MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
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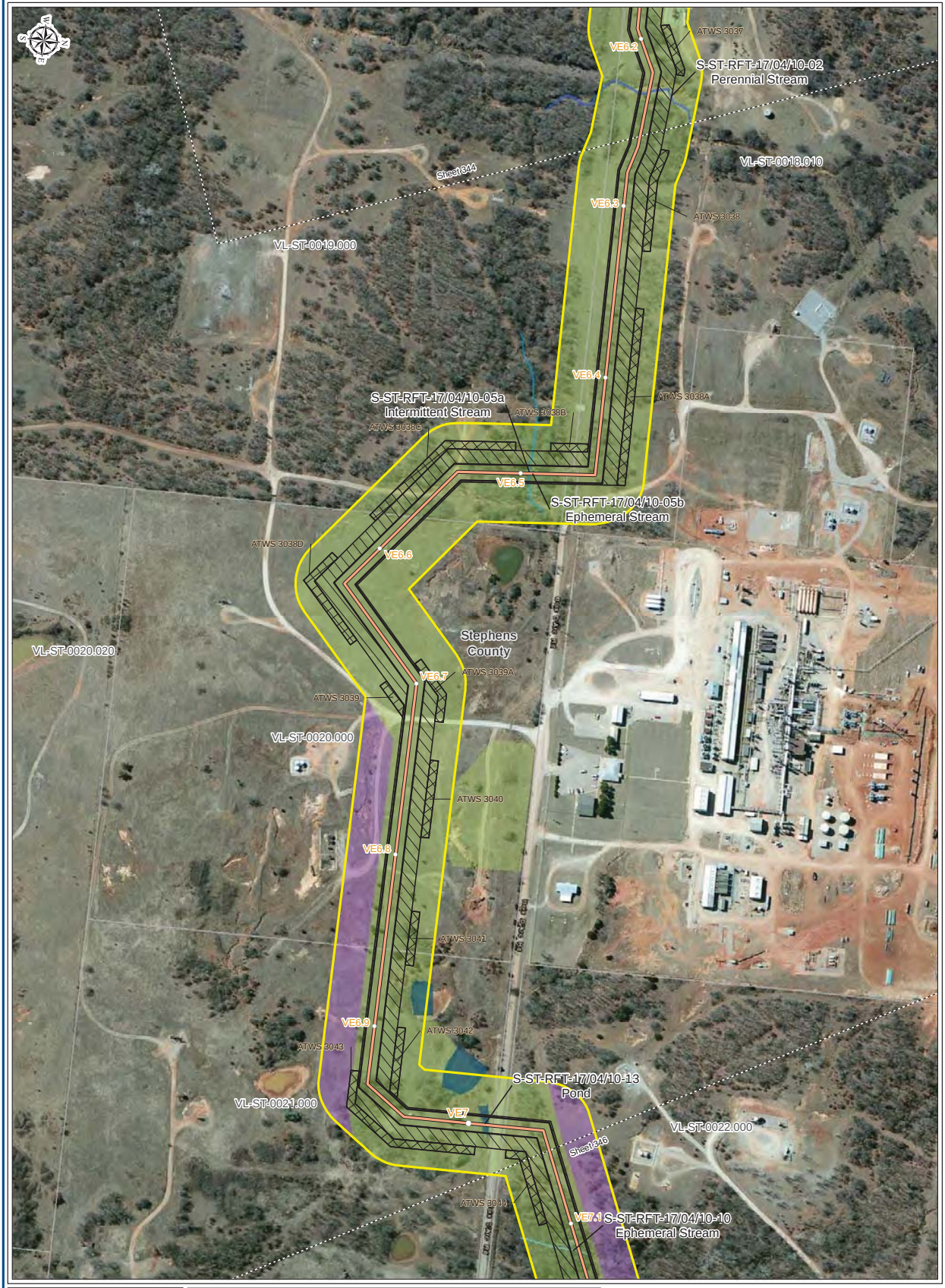
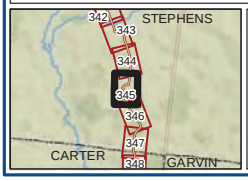
ATWS 3030
Sheet 342
Alma Rd
VE4.8
S-ST-RKT-17/04/11-14
Perennial Stream
ATWS 3031
Black Bear Creek
VE4.9
Stephens
County
ATWS 3031A
VL-ST-0016.000
TAR-68A
VE5
VE5.1
ATWS 3032
ATWS 3033
VE5.2
VL-ST-0017.000
TAR-68A
VE5.3
VE5.4
ATWS 3034
Sheet 344
VE5.5
ATWS 3034A
340
341
342
343
344
345
346
STEPHENS
CARTER
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Perennial Stream
Pond (Not surveyed)
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
ATWS 3034A
VE5.5
Sheet343
TAR-68A
VE5.6
ATWS 3034B
VL-ST-0017.000
VE5.7
VE5.8
ATWS 3035
Stephens County
VE5.9
N3030 Rd
ATWS 3035B
ATWS 3035A
VE6
ATWS 3035C
ATWS 3036
VL-ST-0019.000
VE6.1
VL-ST-0018.010
Sheet345
VE6.2
ATWS 3037
S-ST-RFT-17/04/10-02
Perennial Stream
STEPHENS
341
342
343
344
345
346
347
CARTER
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Perennial Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT





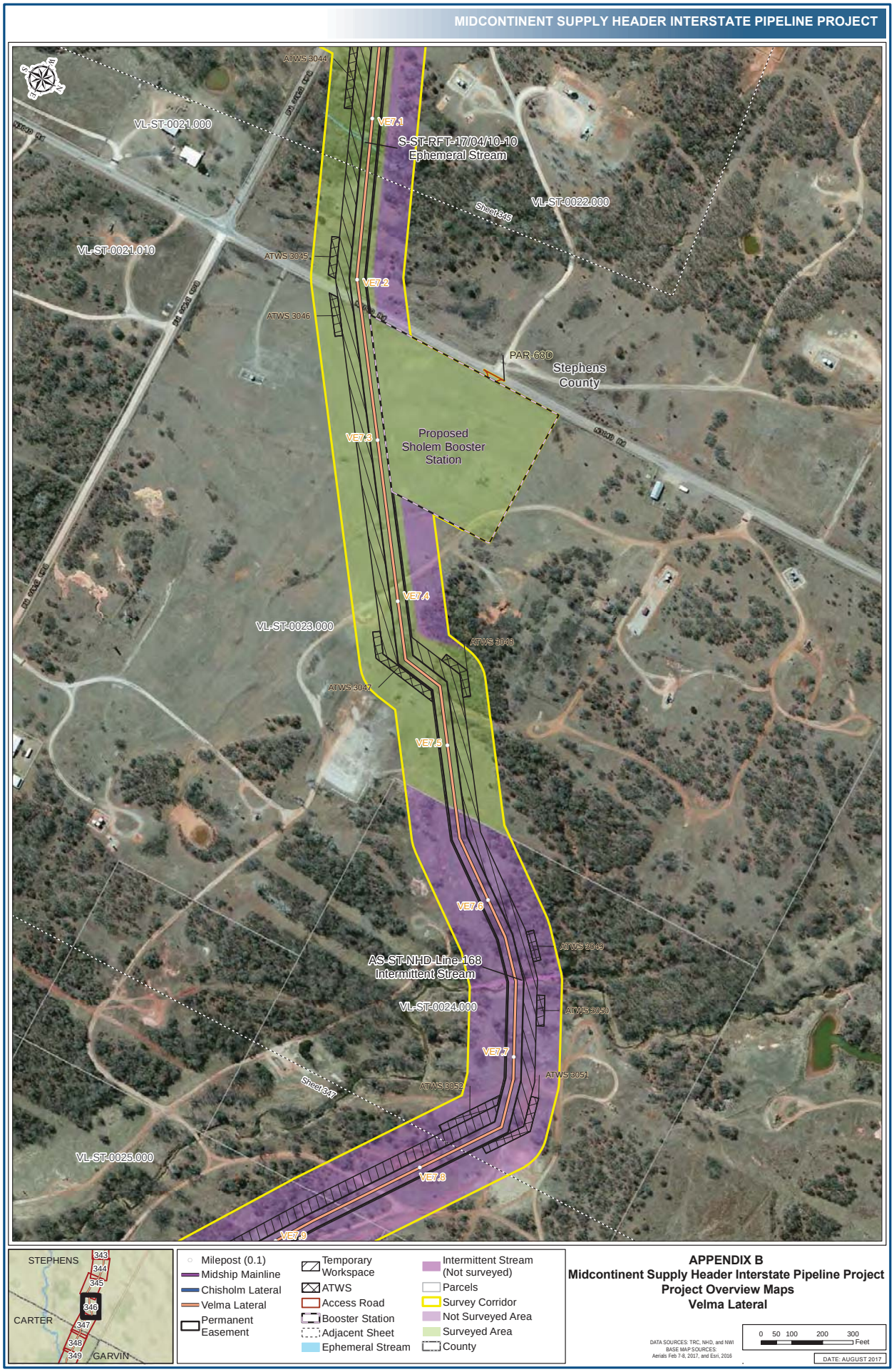
- Milepost (1 mi)
- Milepost (0.1)
- Midship Mainline
- Chisholm Lateral
- Velma Lateral
- Permanent Easement
- Temporary Workspace
- ATWS
- Adjacent Sheet
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- Pond/Lake
- Parcels
- Survey Corridor
- Not Surveyed Area
- Surveyed Area
- County

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral

DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016

0 50 100 200 300 Feet

DATE: AUGUST 2017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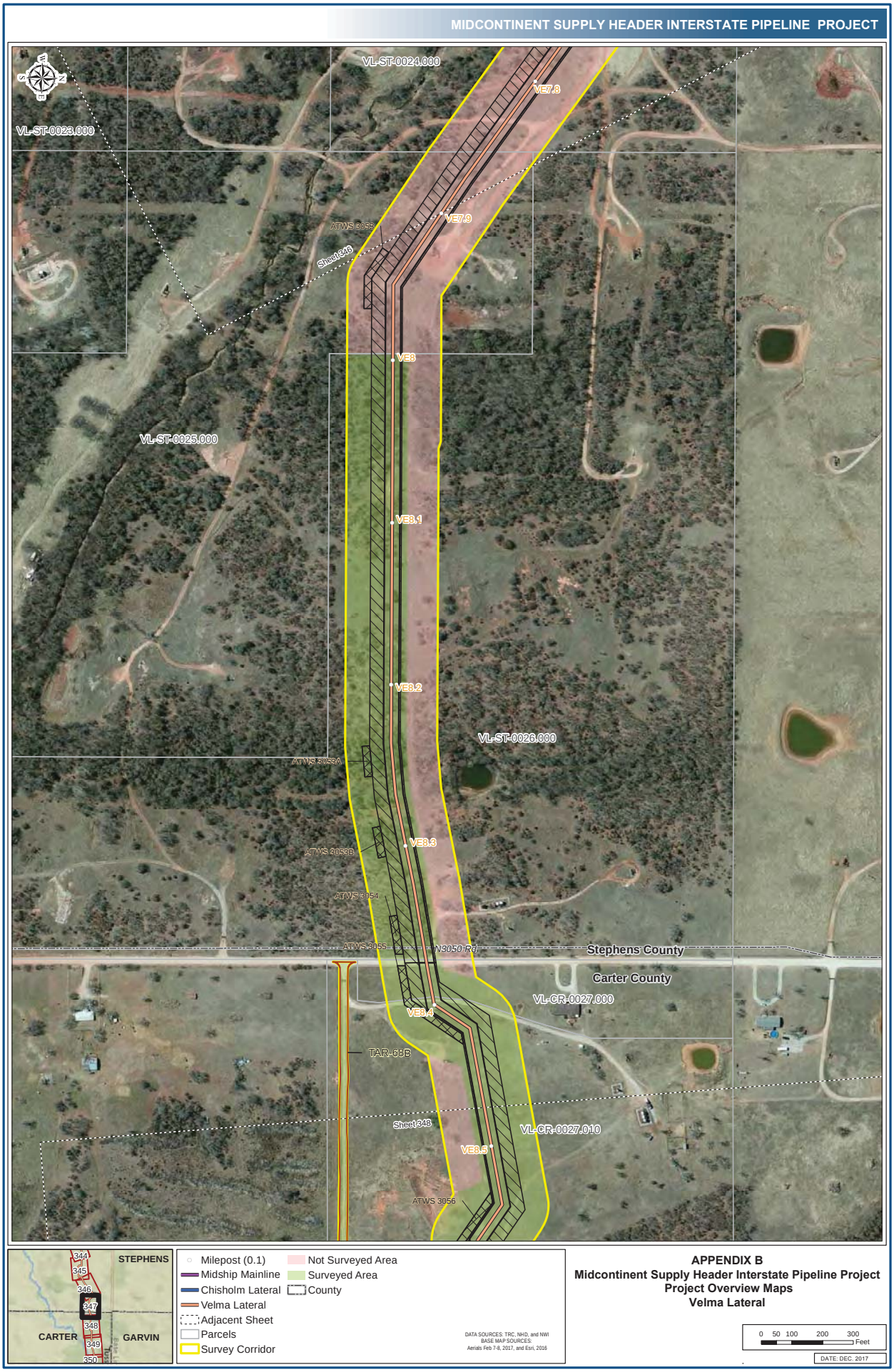
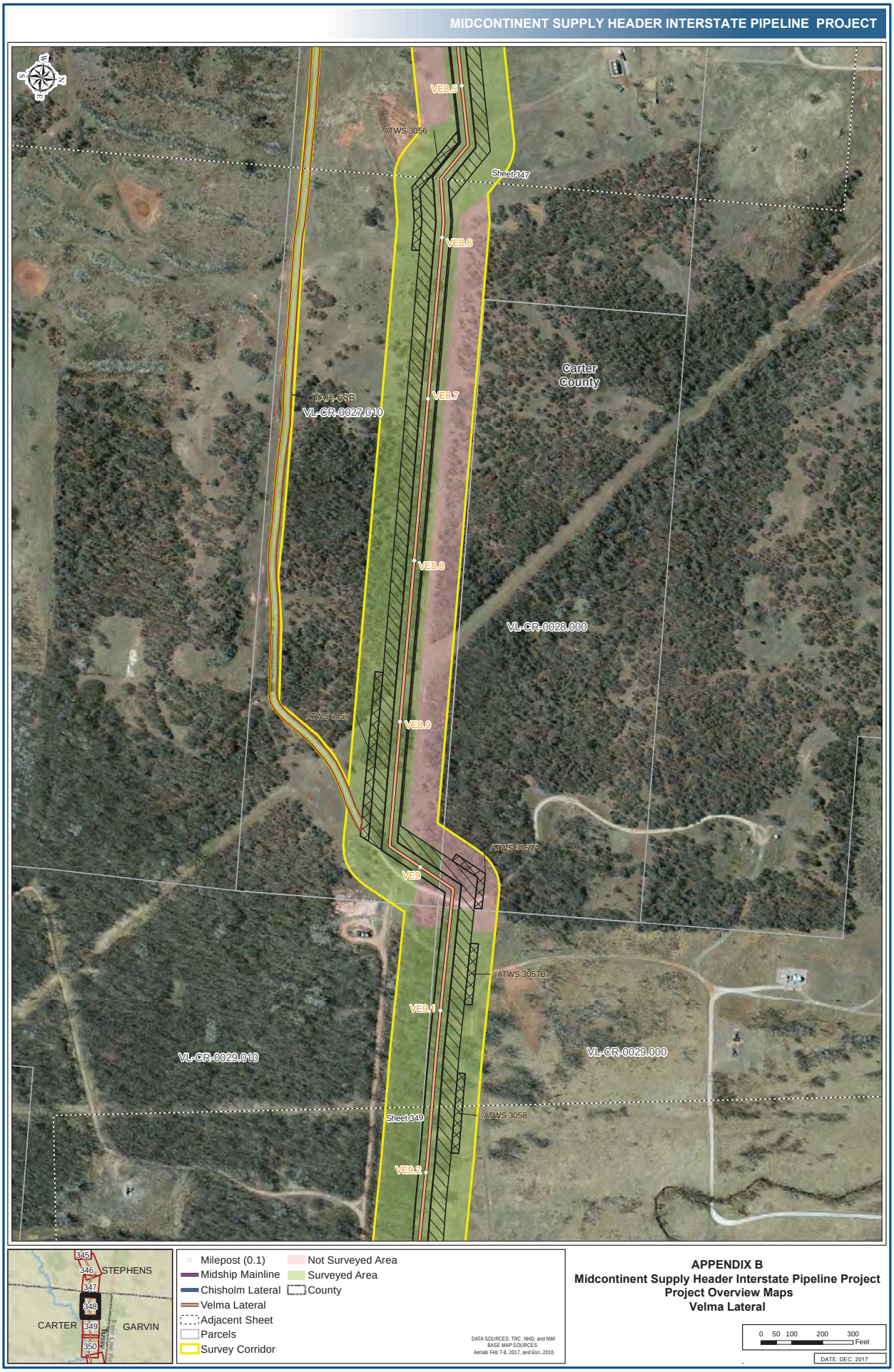
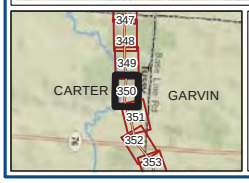
ATWS 3044
VL-ST-0021.000
VE7.1
S-ST-RFT-17/04/10-10
Ephemeral Stream
VL-ST-0022.000
Sheet 345
VL-ST-0021.010
ATWS 3045
VE7.2
ATWS 3046
PAR-68D
Stephens
County
Proposed
Sholem Booster
Station
VE7.3
VE7.4
VL-ST-0023.000
ATWS 3048
ATWS 3047
VE7.5
VE7.6
ATWS 3049
AS-ST-NHD-Line-168
Intermittent Stream
VL-ST-0024.000
ATWS 3050
VE7.7
ATWS 3051
Sheet 347
ATWS 3052
VL-ST-0025.000
VE7.8
VE7.9
STEPHENS
343
344
345
346
347
348
349
CARTER
GARVIN
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Access Road
Booster Station
Adjacent Sheet
Ephemeral Stream
Intermittent Stream (Not surveyed)
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
0 50 100 200 300
Feet
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VL-ST-0024.000
VE7.8
VL-ST-0023.000
VE7.9
ATWS 3053
Sheet 346
VE8
VL-ST-0025.000
VE8.1
VE8.2
VL-ST-0026.000
ATWS 3053A
VE8.3
ATWS 3053B
ATWS 3054
ATWS 3055
N3050 Rd
Stephens County
Carter County
VL-CR-0027.000
VE8.4
TAR-68B
Sheet 348
VL-CR-0027.010
VE8.5
ATWS 3056
STEPHENS
CARTER
GARVIN
344
345
346
347
348
349
350
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VE8.5
ATWS 3056
Sheet 347
VE8.6
Carter County
TAR-03B
VL-CR-0027.010
VE8.7
VE8.8
VL-CR-0028.000
ATWS 3057
VE8.9
ATWS 3057A
VE9
ATWS 3057B
VE9.1
VL-CR-0029.010
VL-CR-0029.000
Sheet 349
ATWS 3058
VE9.2
345
346
347
348
349
350
STEPHENS
CARTER
GARVIN
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
ATWS 3058
VE9.2
Sheet 348
VL-CR-0029.010
VE9.3
VL-CR-0029.000
Carter County
S-CR-RFT-17/04/11-03
Perennial Stream
VE9.4
ATWS 3059
VL-CR-0030.000
W-CR-RFT-17/04/11-01
PFO
VE9.5
ATWS 3061
ATWS 3062
VE9.6
VL-CR-0031.000
ATWS 3063
VE9.7
AS-CR -NHD-Line-969
Perennial Stream
TAR-15E
ATWS 3063A
VE9.8
Sheet 350
Wildhorse Creek
VE9.9
STEPHENS
CARTER
GARVIN
346
347
348
349
350
351
352
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Perennial Stream
Perennial Stream (Not surveyed)
PFO
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT



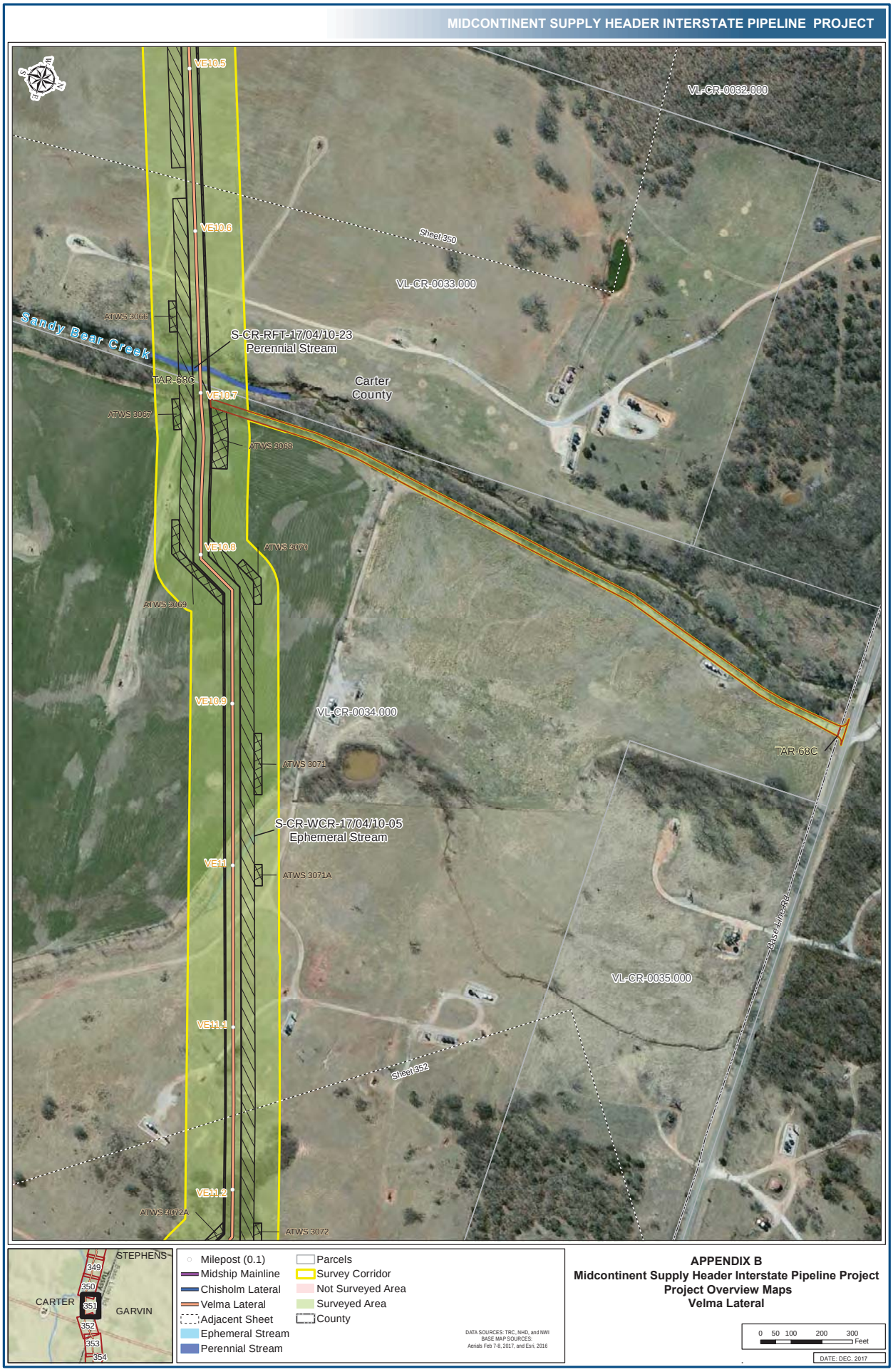
- Milepost (1 mi)
- Milepost (0.1)
- Midship Mainline
- Chisholm Lateral
- Velma Lateral
- Permanent Easement
- Temporary Workspace
- Adjacent Sheet
- Parcels
- Survey Corridor
- Not Surveyed Area
- Surveyed Area
- County

DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral

0 50 100 200 300 Feet

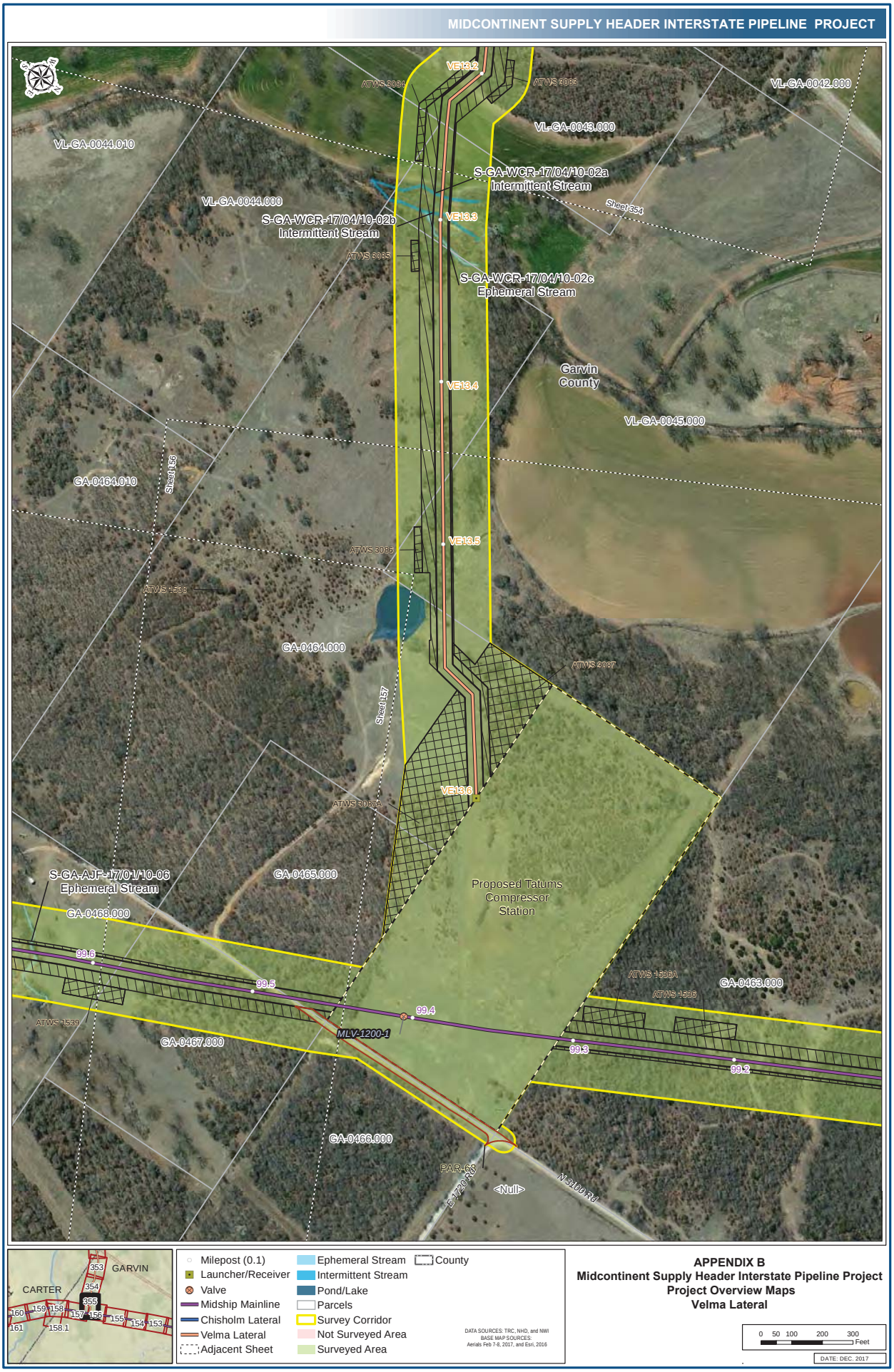
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VE10.5
VE10.6
VE10.7
VE10.8
VE10.9
VE11
VE11.1
VE11.2
VL-CR-0032.000
VL-CR-0033.000
VL-CR-0034.000
VL-CR-0035.000
Sheet 350
Sheet 352
Sandy Bear Creek
S-CR-RFT-17/04/10-23
Perennial Stream
S-CR-WCR-17/04/10-05
Ephemeral Stream
Carter
County
TAR-68C
Base Line Rd
ATWS 3066
ATWS 3067
ATWS 3068
ATWS 3069
ATWS 3070
ATWS 3071
ATWS 3071A
ATWS 3072
ATWS 3072A
STEPHENS
CARTER
GARVIN
349
350
351
352
353
354
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Ephemeral Stream
Perennial Stream
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VE11.2
ATWS 3072
ATWS 3072A
Sheet 351
VL-CR-0034.000
VE11.3
ATWS 3073
ATWS 3074
VE11.4
VL-CR-0035.000
S-CR-WCR-17/04/10-04
Pond
S-CR-WCR-17/04/10-03
Intermittent Stream
VE11.5
ATWS 3075
ATWS 3076
Carter County
Garvin County
VE11.6
VL-CR-0036.000
VE11.7
ATWS 3077
ATWS 3077
ATWS 3078
VE11.8
VL-GA-0037.000
Sheet 353
VE11.9
STEPHENS
CARTER
GARVIN
350
351
352
353
354
160
158
156
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Intermittent Stream
Pond/Lake
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: AUGUST 2017

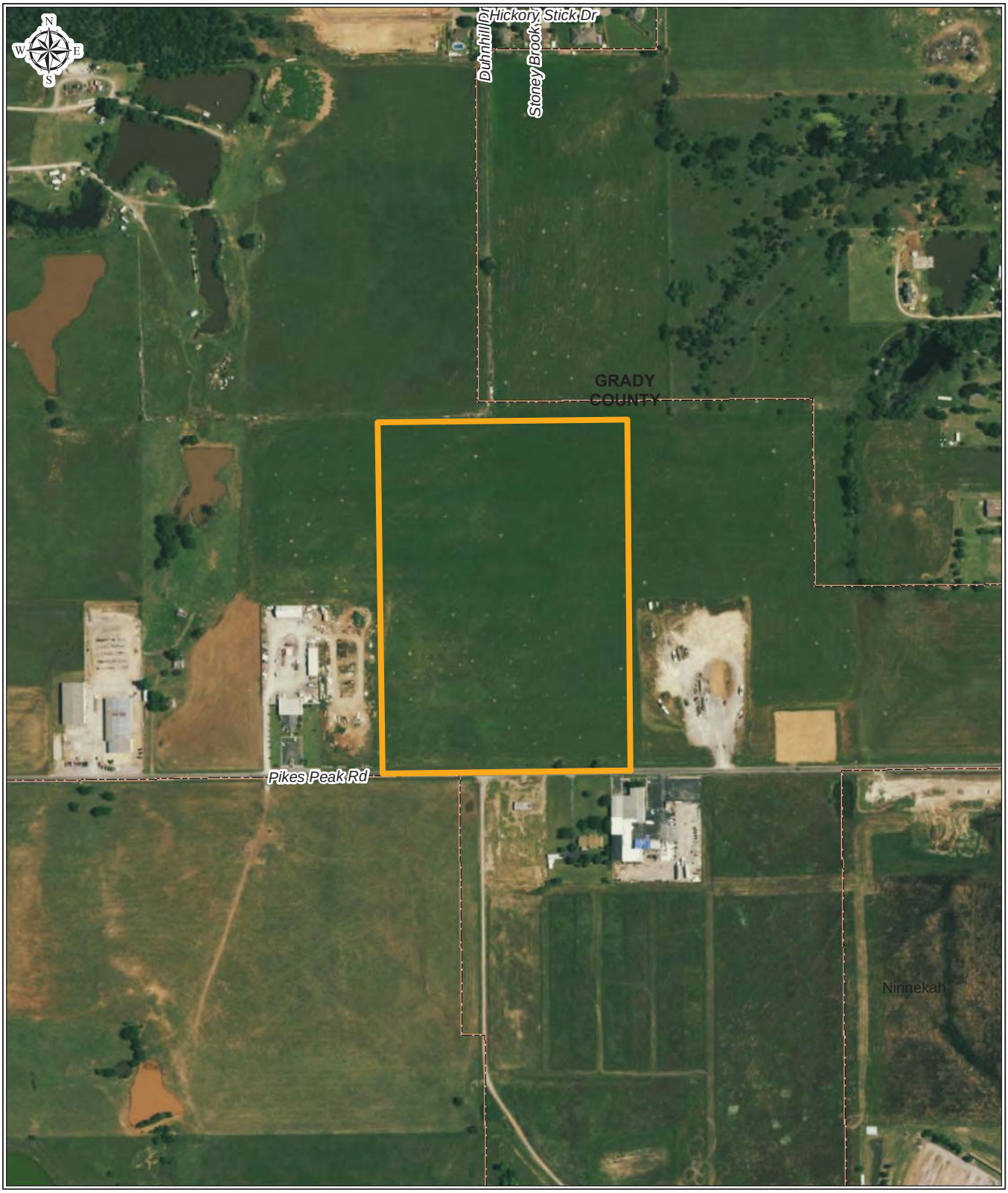

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VE11.9
Sheet 352
ATWS 3078A
VE12
VL-GA-0037.000
Carter County
Garvin County
VE12.1
VE12.2
VL-GA-0038.000
VE12.3
ATWS 3079B
VE12.4
VL-GA-0039.000
VE12.5
Sheet 354
CARTER
GARVIN
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VL-GA-0039.000
Sheet 353
VE12.6
ATWS 3079
ATWS 3080
VE12.7
ATWS 3081
VL-GA-0040.000
ATWS 3082
ATWS 3082A
VE12.8
S-GA-WCR-17/04/10-01
Ephemeral Stream
Garvin
County
VE12.9
VE13
VE13.1
ATWS 3083
VE13.2
Sheet 355
ATWS 3084
GA-0463.010
GA-0463.010
CARTER
GARVIN
352
353
354
355
156
158
159
160
155
154
153
Milepost (1 mi)
Milepost (0.1)
Midship Mainline
Chisholm Lateral
Velma Lateral
Permanent Easement
Temporary Workspace
ATWS
Adjacent Sheet
Ephemeral Stream
Pond (Not surveyed)
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: AUGUST 2017


MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT
VE13.2
VE13.3
VE13.4
VE13.5
VE13.6
ATWS 3084
ATWS 3085
ATWS 3086
ATWS 3087
ATWS 3087A
ATWS 1538
ATWS 1538A
ATWS 1539
VL-GA-0042.000
VL-GA-0043.000
VL-GA-0044.010
VL-GA-0044.000
VL-GA-0045.000
S-GA-WCR-17/04/10-02a
Intermittent Stream
S-GA-WCR-17/04/10-02b
Intermittent Stream
S-GA-WCR-17/04/10-02c
Ephemeral Stream
S-GA-AJF-17/01/10-06
Ephemeral Stream
Garvin
County
Sheet 154
Sheet 156
Sheet 157
GA-0464.010
GA-0464.000
GA-0465.000
GA-0466.000
GA-0467.000
GA-0468.000
GA-0463.000
Proposed Tatums
Compressor
Station
99.6
99.5
99.4
99.3
99.2
MLV-1200-1
PAR-68
E-1220 Rd
N-3100 Rd
<Null>
CARTER
GARVIN
Milepost (0.1)
Launcher/Receiver
Valve
Midship Mainline
Chisholm Lateral
Velma Lateral
Adjacent Sheet
Ephemeral Stream
Intermittent Stream
Pond/Lake
Parcels
Survey Corridor
Not Surveyed Area
Surveyed Area
County
DATA SOURCES: TRC, NHD, and NWI
BASE MAP SOURCES:
Aerials Feb 7-8, 2017, and Esri, 2016
APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Velma Lateral
0 50 100 200 300
Feet
DATE: DEC. 2017

CONTRACTOR YARDS

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT



LEGEND

- Proposed Contractor Yard
- County
- Municipality

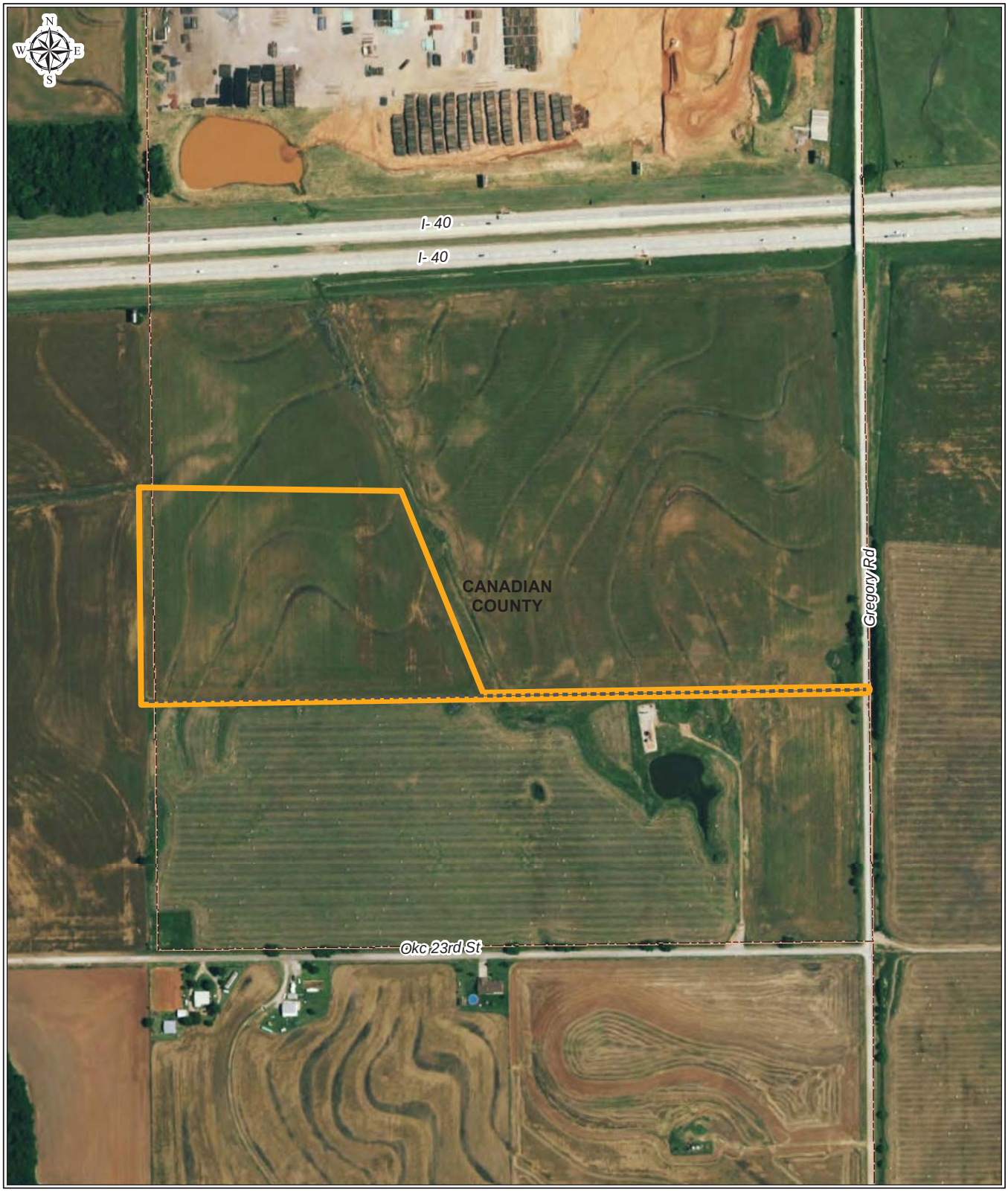
DATA SOURCE: OK Maps
BASE MAP: ESRI

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Chickasha Contractor Yard

0 100 200 400 Feet

DATE: 9/29/2017

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT



LEGEND

- Access Road
- Proposed Contractor Yard
- County
- Municipality

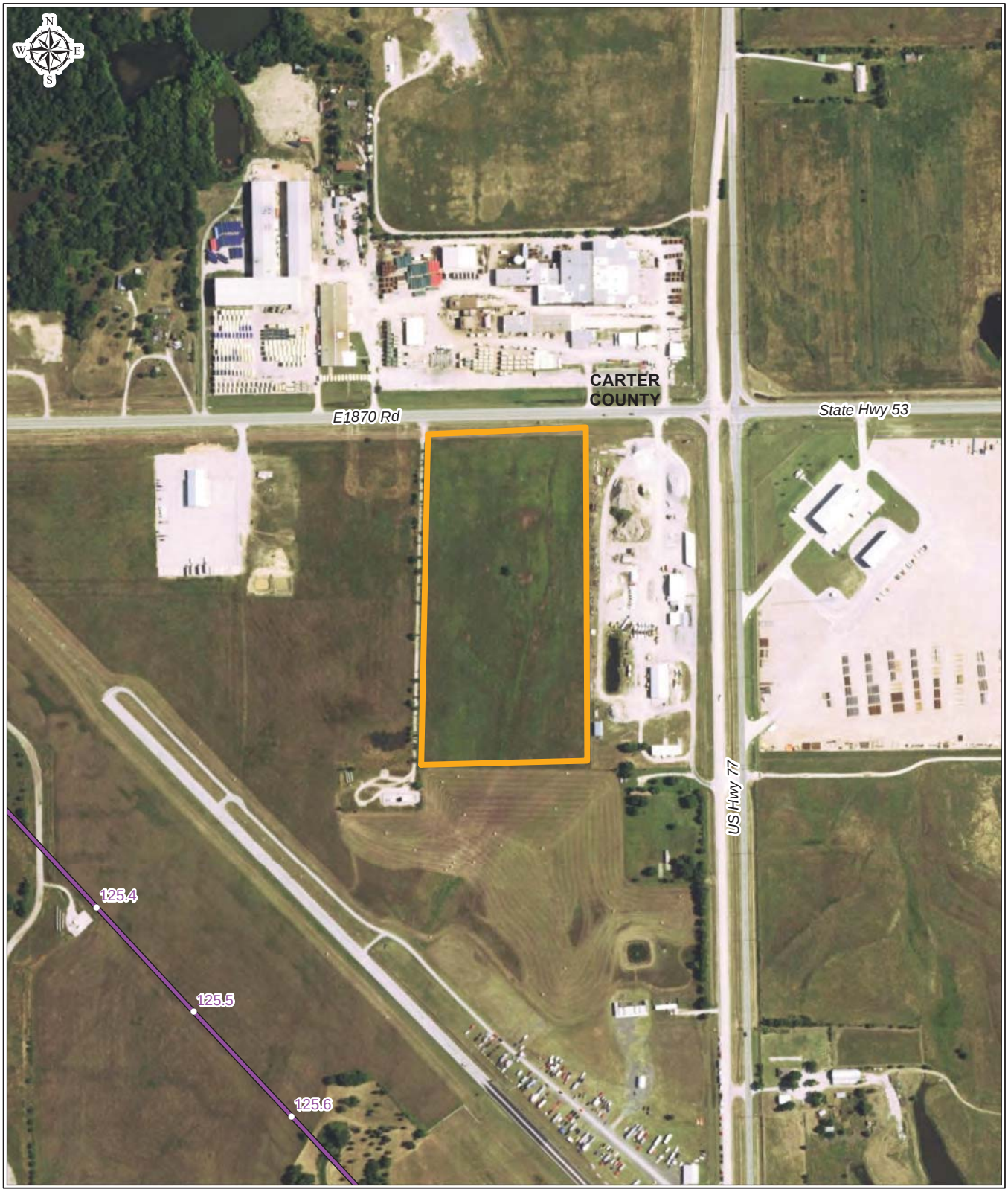
DATA SOURCE: OK Maps
BASE MAP: ESRI

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Yukon Contractor Yard

0 100 200 400 Feet

DATE: 9/29/2017

MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT



LEGEND

- Milepost (0.1)
- Midship Mainline
- Proposed Contractor Yard
- County
- Municipality

DATA SOURCE: OK Maps
BASE MAP: ESRI

APPENDIX B
Midcontinent Supply Header Interstate Pipeline Project
Project Overview Maps
Ardmore Contractor Yard

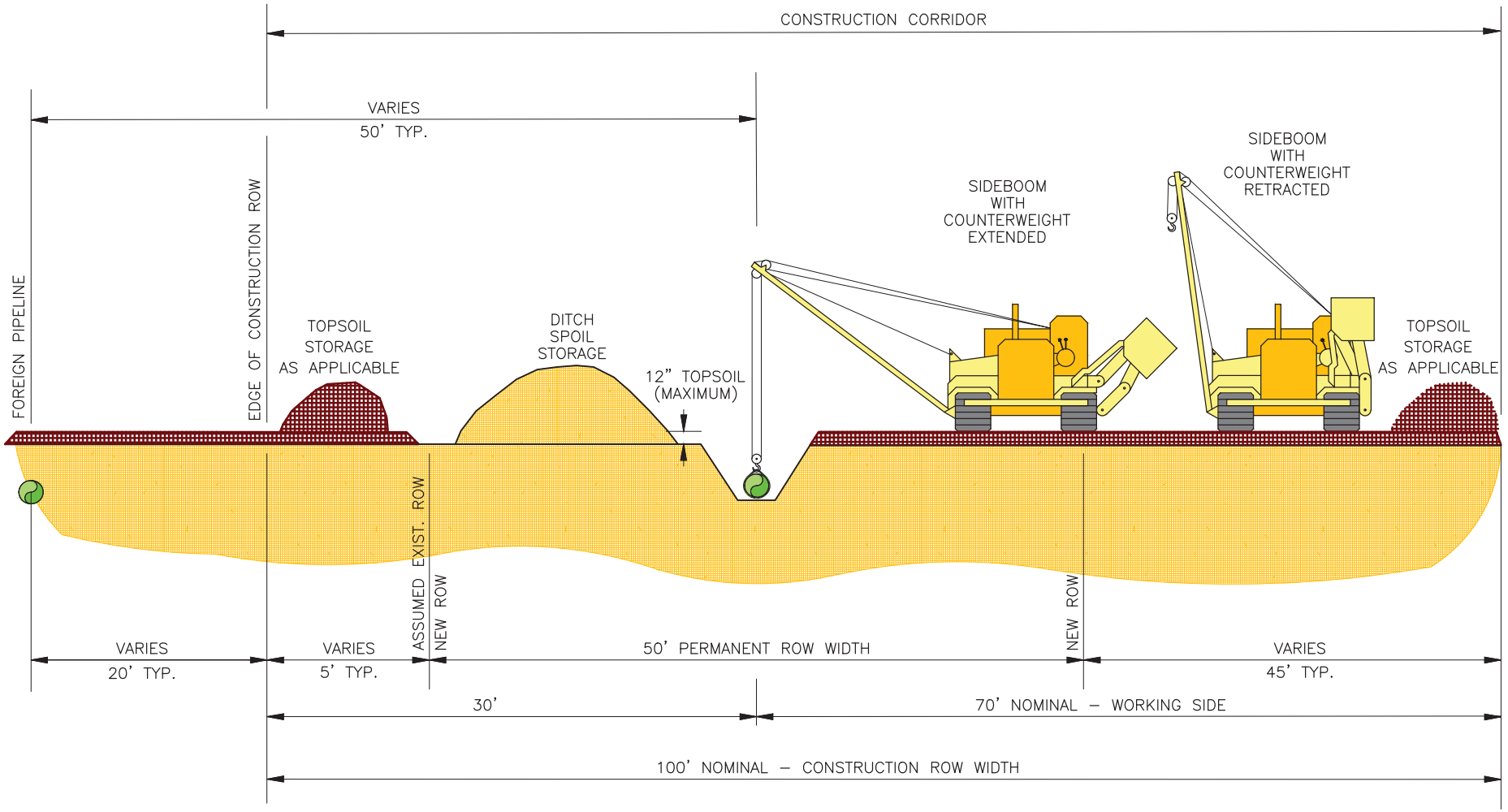
0 100 200 400 Feet

DATE: 9/29/2017

20180209-3013 FERC PDF (Unofficial) 02/09/2018

TYPICAL CONSTRUCTION DRAWINGS

20180209-3013 FERC PDF (Unofficial) 02/09/2018

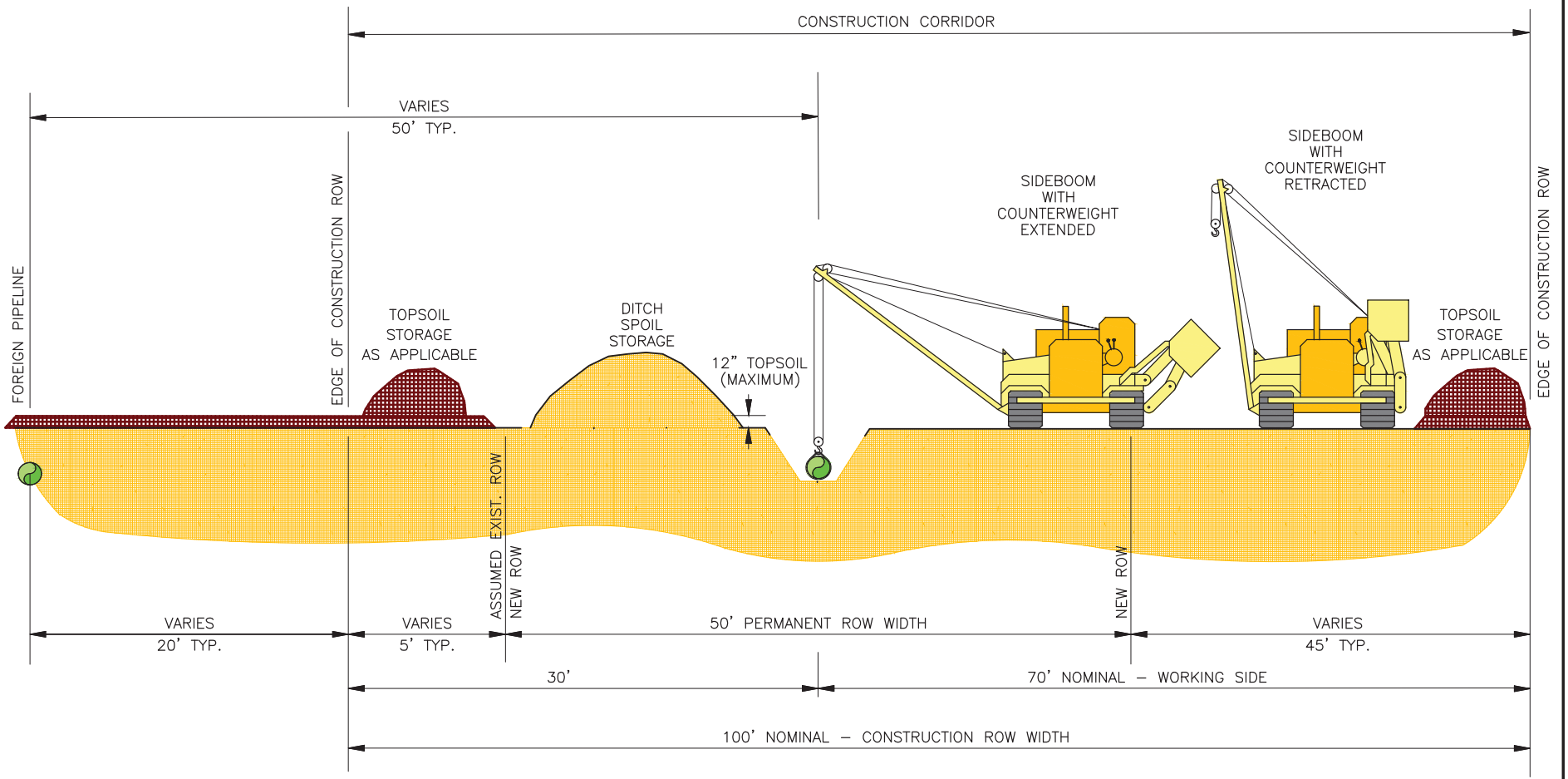


NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

TYPICAL MAINLINE CONSTRUCTION
RIGHT–OF–WAY (ROW)
CROSS SECTION
UPLANDS PARALLEL TO EXISTING PIPE
LIMITED TOPSOIL STRIPPING

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/29/16	SVM	PAD	NEW	265931	TYPICAL 1	1 OF 11

20180209-3013 FERC PDF (Unofficial) 02/09/2018



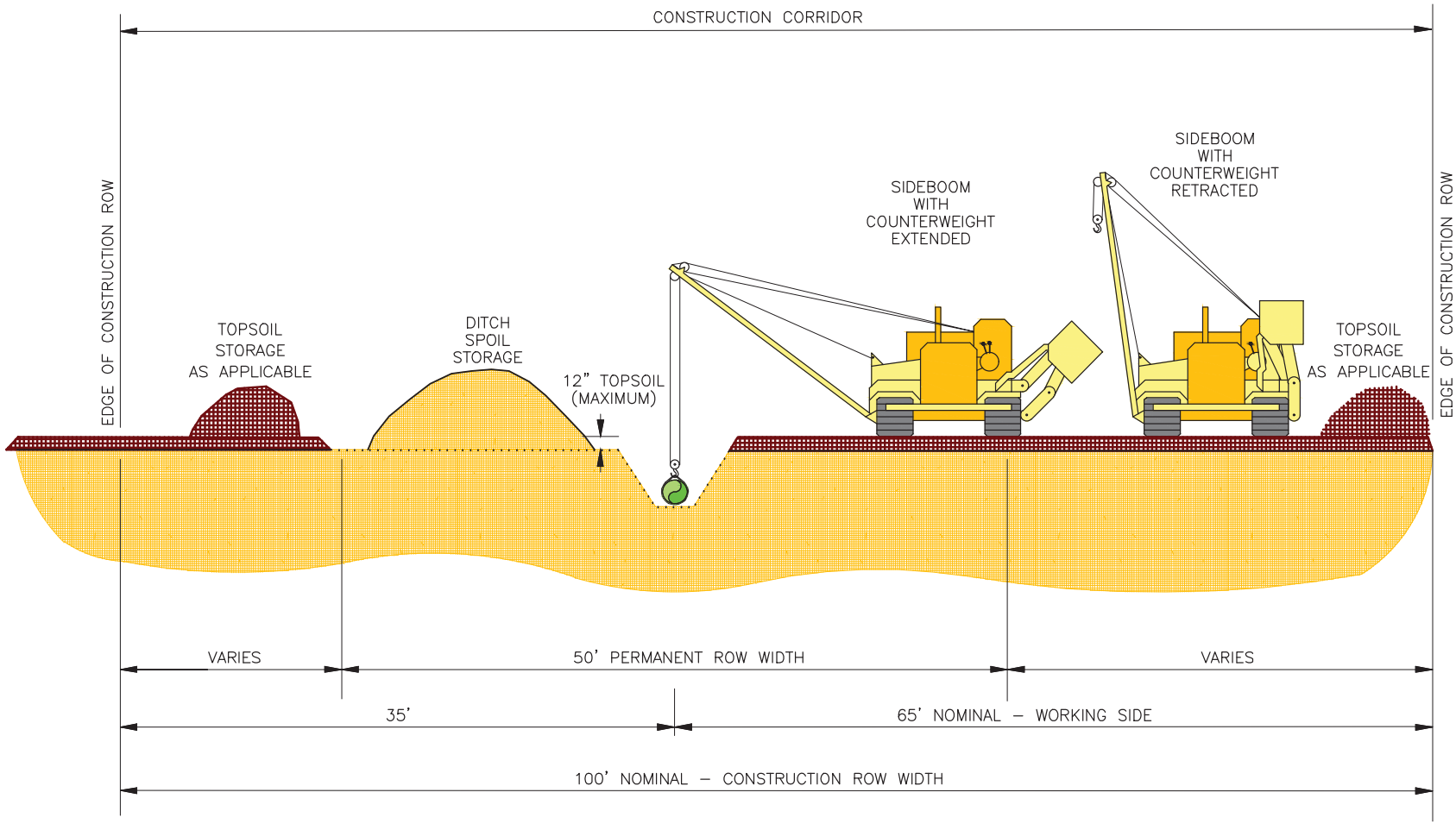
NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

TYPICAL MAINLINE CONSTRUCTION
RIGHT–OF–WAY (ROW)
CROSS SECTION
UPLANDS PARALLEL TO EXISTING PIPELINE
FULL WIDTH TOPSOIL STRIPPING

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/29/16	SVM	PAD	NEW	265931	TYPICAL 2	2 OF 11

20180209-3013 FERC PDF (Unofficial) 02/09/2018

WEI STANDARDS Landscape A-size (11x8.5)



NO.	REVISION	DATE	APPR.

TYPICAL MAINLINE CONSTRUCTION
RIGHT-OF-WAY (ROW)
CROSS SECTION
UPLANDS LIMITED TOPSOIL
STRIPPING

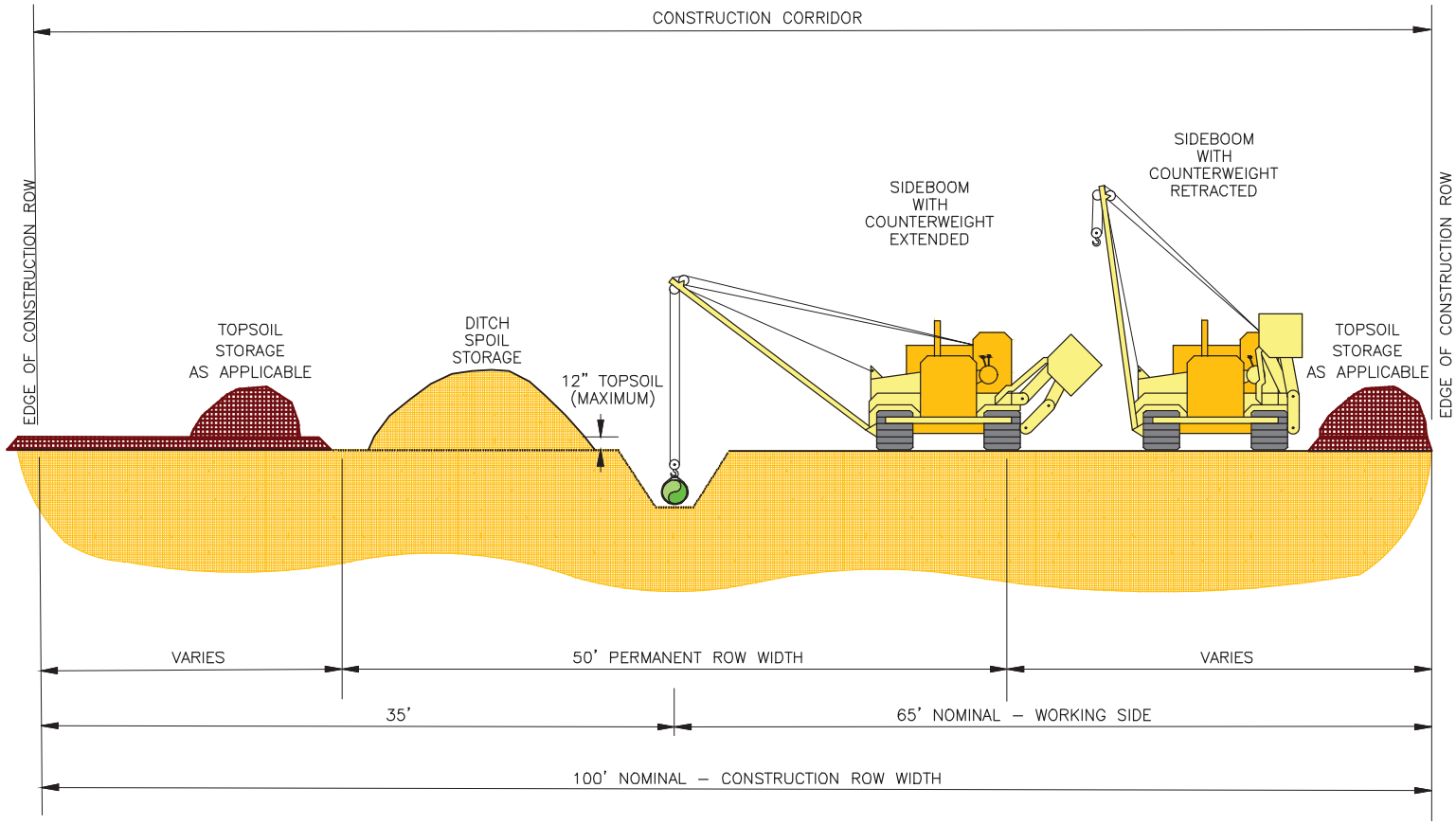
SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/29/16	SVM	PAD		265931	TYPICAL 3	3 OF 11

29-Nov-2016 : 3:24 PM

svanmeter : TYPICAL3.dwg

20180209-3013 FERC PDF (Unofficial) 02/09/2018

WEI STANDARDS Landscape A-size (11x8.5)



NO.	REVISION	DATE	APPR.

TYPICAL MAINLINE CONSTRUCTION
RIGHT-OF-WAY (ROW)
CROSS SECTION
UPLANDS FULL WIDTH TOPSOIL STRIPPING

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/30'16	SVM	PAD		265931	TYPICAL 4	4 OF 11

29-Nov-2016 : 3:31 PM
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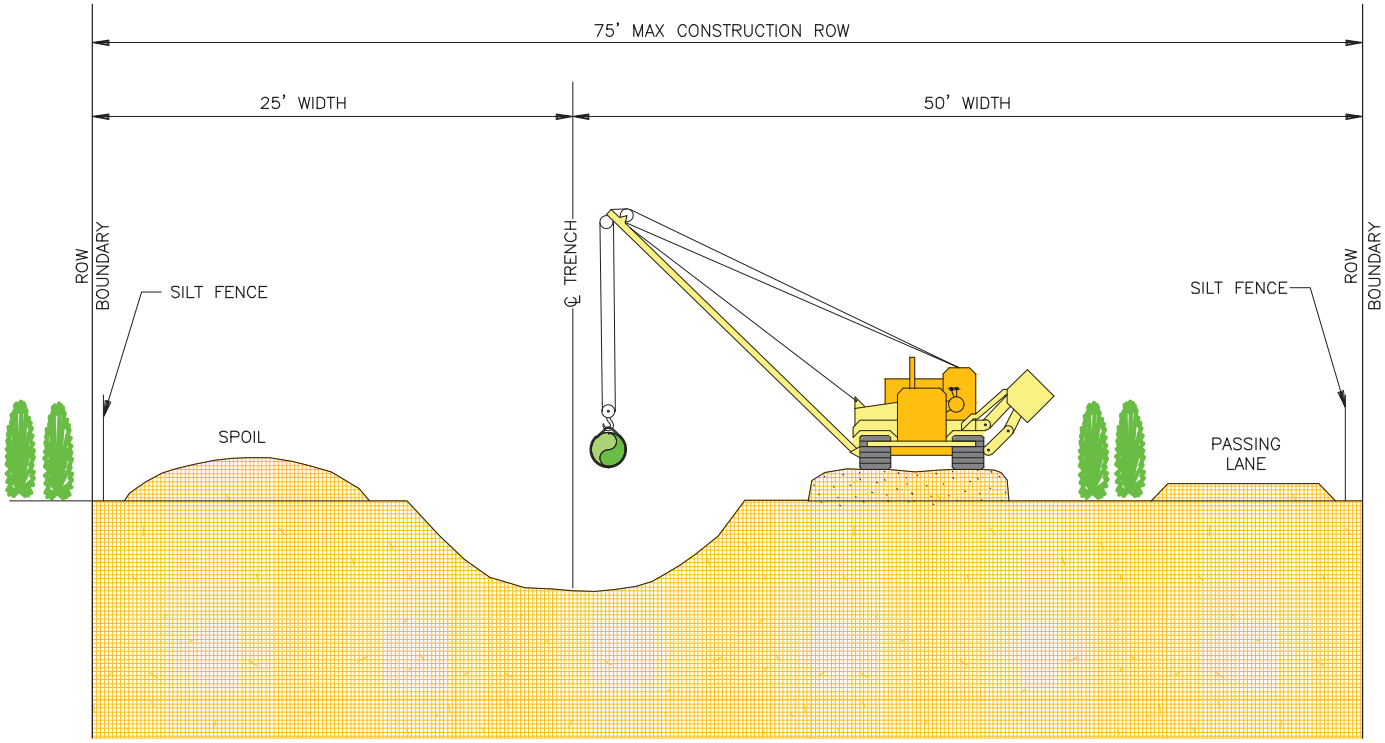
20180209-3013 FERC PDF (Unofficial) 02/09/2018

WEI STANDARDS Landscape A-size (11x8.5)



CROSS SECTION

NO.	REVISION	DATE	APPR.

TYPICAL
'WET' SATURATED OR FLOODED
WETLAND CROSSING

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/30'16	SVM	PAD		265931	TYPICAL 5	5 OF 11

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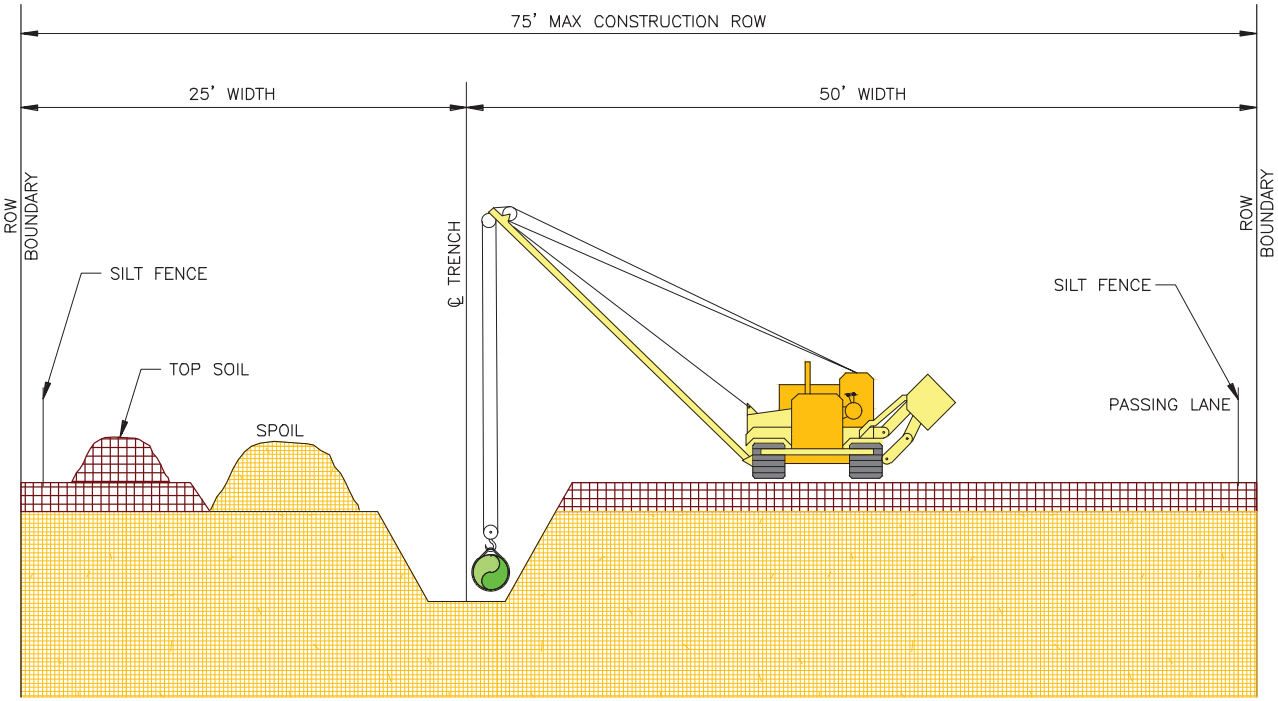
WEI STANDARDS Landscape A-size (11x8.5)



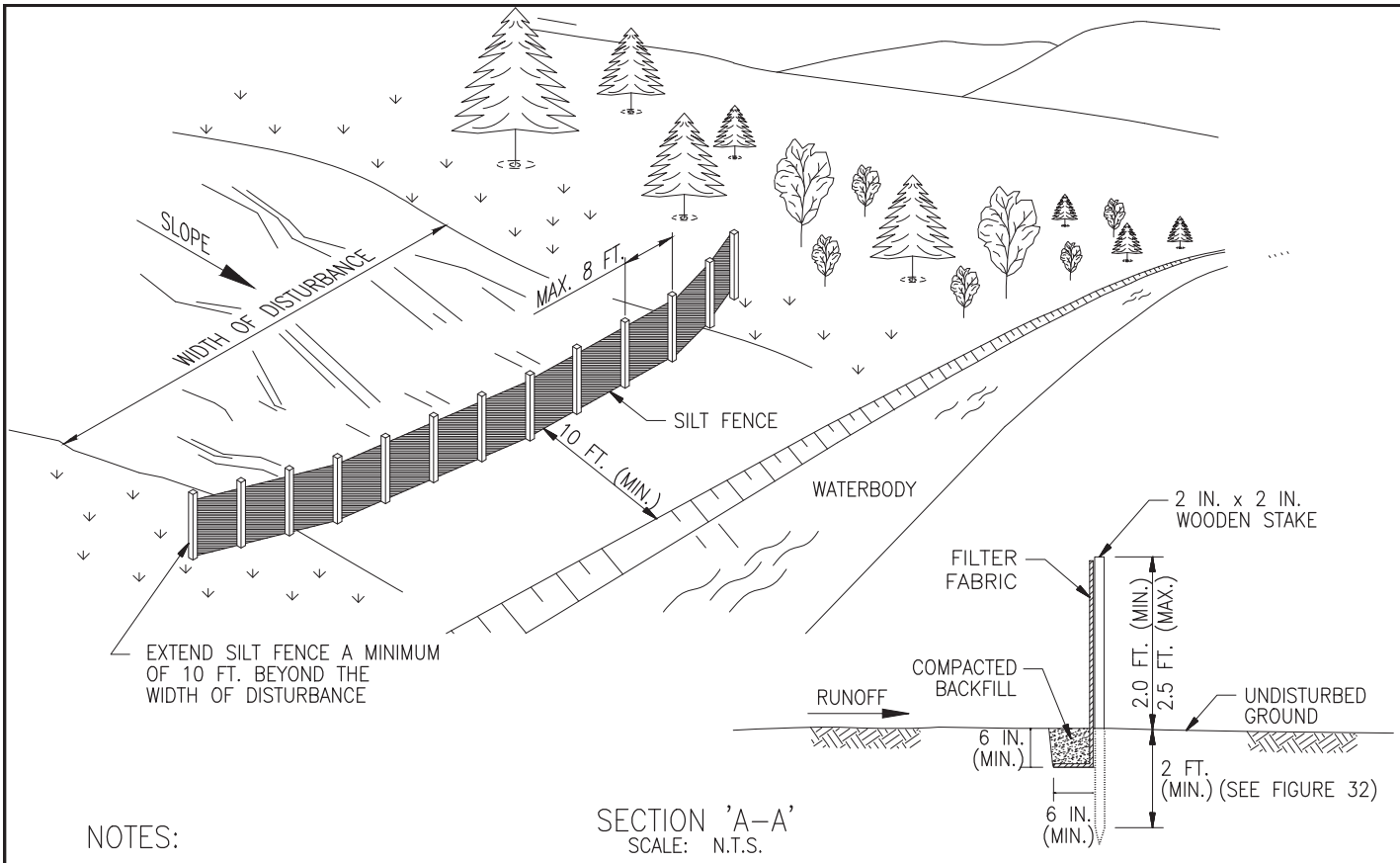
CROSS SECTION

NO.	REVISION	DATE	APPR.

TYPICAL
'DRY' WETLAND CROSSING

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	11/30'16	SVM	PAD		265931	TYPICAL 6	6 OF 11

29-Nov-2016 : 3:31 PM
svanmeter : TYPICAL4.dwg



SECTION 'A–A'
SCALE: N.T.S.

NOTES:

1. SILT FENCES ARE TO BE USED IN AREAS WHERE SHEET FLOW OR RELATIVELY SMALL VOLUMES OF WATER CAN BE EXPECTED TO OCCUR. FOR LARGER VOLUMES SUCH AS WITHIN A DEFINED CHANNEL, A CHECK DAM WILL BE REQUIRED. SILT FENCES WILL BE CONSTRUCTED AT THE EDGE OF THE ROW:
   - AT THE OUTFALL OF AN INTERCEPTOR DIKE IF NATURAL VEGETATION IS INSUFFICIENT TO FILTER THE SILT FROM THE RUN–OFF WATER.
   - AT THE BASE OF SLOPES ADJACENT TO ROADWAYS AND STREAMS WHEN THE NATIVE VEGETATION COVER HAS BEEN DISTURBED.
   - WHEN THE DISTANCE (IN AREAS OF GOOD VEGETATION COVER) OF THE ROW TO A BODY OF WATER IS EQUAL TO OR LESS THAN THE FOLLOWING SCHEDULE.

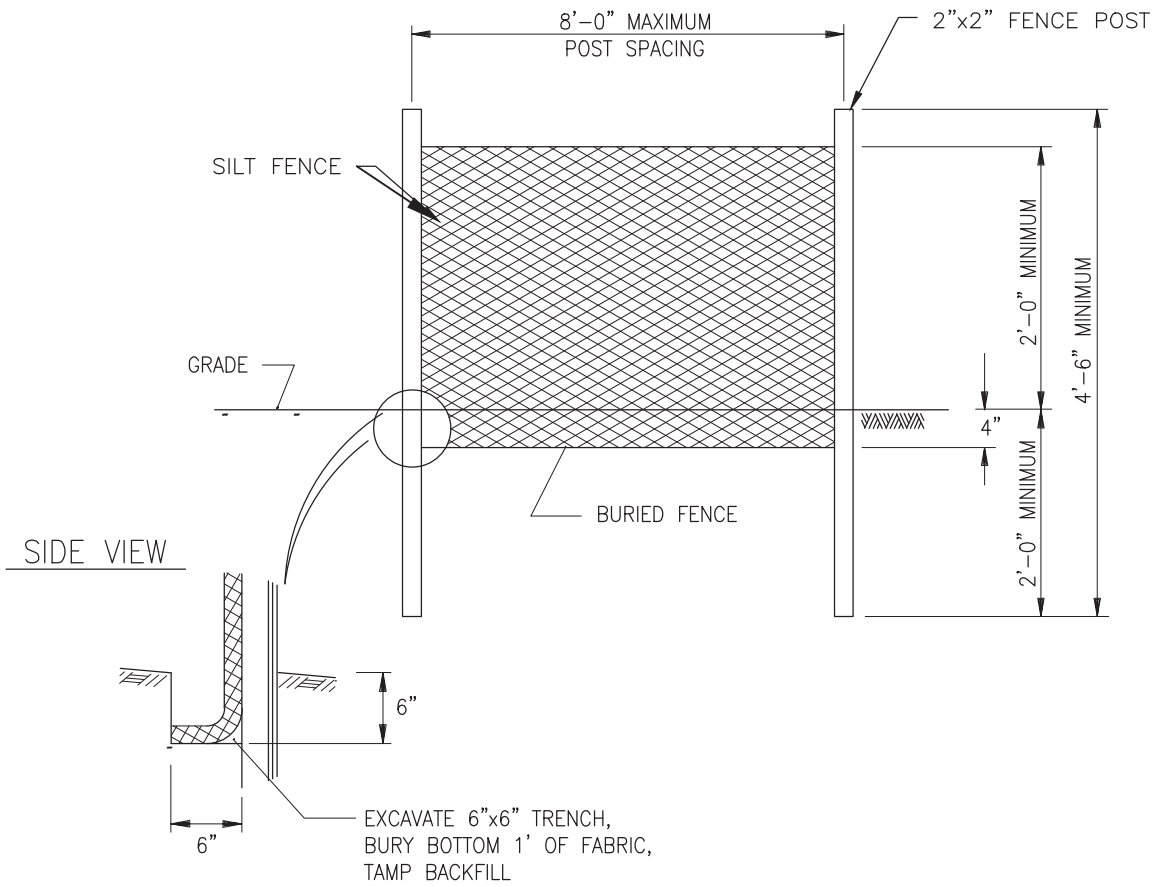
PERCENT SLOPE	DISTANCE
0 – 5%	25 FEET
5 – 15%	50 FEET
15 – 30%	75 FEET
OVER 30%	100 FEET

2. STAKES ARE TO BE PLACED EVERY EIGHT (8) FT. OR CLOSER AS CONDITIONS REQUIRE.
3. ATTACH FILTER FABRIC AT EACH POST AT A MINIMUM OF THREE (3) LOCATIONS
4. THE FILTER FABRIC (MIN. OF 1 FT.) IS TO BE ANCHORED IN A 6 INCH x 6 INCH TRENCH WITH WELL COMPACTED BACKFILL OVER THE FABRIC TO PREVENT UNDERMINING.
5. TO ELIMINATE POSSIBLE END FLOW, BOTH ENDS OF THE SILT FENCE SHALL BE TURNED AND EXTENDED UPSLOPE.
6. SILT FENCES ARE TO BE CHECKED AND MAINTAINED ON A REGULAR BASIS AND AFTER EACH RAIN EVENT. REMOVE ANY BUILD–UP OF SEDIMENT WHEN THE HEIGHT OF SEDIMENT EXCEEDS APPROXIMATELY 20% OF THE HEIGHT OF THE BARRIER.
7. MATERIAL SHOULD BE WOVEN GEOTEXTILE FABRIC SUCH AS EXXON GTF 180, MIRAFI 600X, OR AN APPROVED EQUIVALENT. SECONDARY REINFORCEMENT, SUCH AS A CONSTRUCTION BARRIER FENCE OR WIRE MESH CAN ALSO BE USED BEHIND THE FILTER FABRIC.
8. WHERE ANCHORING CONDITIONS FOR THE SILT FENCE ARE POOR, PLACE ANCHORED STRAW BALES ON DOWNSTREAM SIDE OF THE SILT FENCE.

NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

TYPICAL SILT FENCE BARRIER

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	04/17/17	AWF	SSL	NEW	265931	TYPICAL 7	7 OF 11



NOTES:

1. SILT FENCES ARE CONSTRUCTED FROM SYNTHETIC MESH MATERIAL DESIGNED TO RETAIN SILT WHILE ALLOWING WATER TO PASS THROUGH.

2. SILT FENCES WILL BE CONSTRUCTED AT THE EDGE OF THE ROW:

   - AT THE OUTFALL OF AN INTERCEPTOR DIKE IF NATURAL VEGETATION IS INSUFFICIENT TO FILTER THE SILT FROM THE RUN–OFF WATER.
   - AT THE BASE OF SLOPES ADJACENT TO ROADWAYS AND STREAMS WHEN THE NATIVE VEGETATION COVER HAS BEEN DISTURBED.
   - WHEN THE DISTANCE (IN AREAS OF GOOD VEGETATION COVER) OF THE ROW TO A BODY OF WATER IS EQUAL TO OR LESS THAN THE FOLLOWING SCHEDULE.

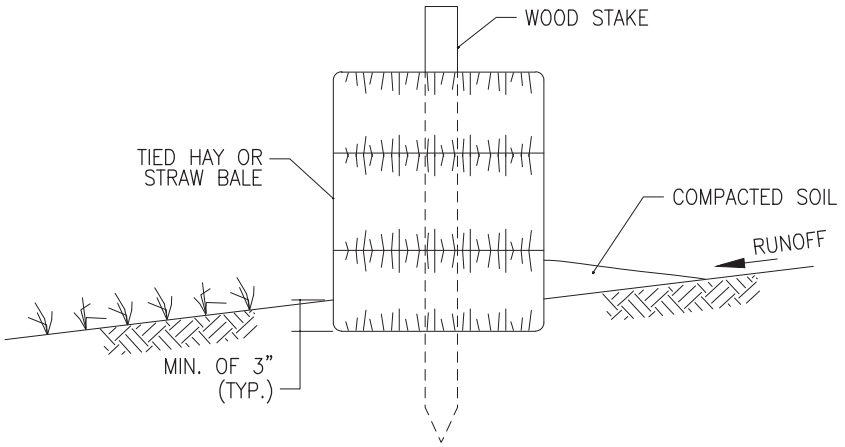
PERCENT SLOPE	DISTANCE
0 – 5%	25 FEET
5 – 15%	50 FEET
15 – 30%	75 FEET
OVER 30%	100 FEET

   - WHEN THE DISTANCE (IN AREAS OF POOR VEGETATION COVER) OF THE ROW TO A BODY OF WATER IS WITHIN 150 FEET AND THE AREA SLOPES TOWARD THE WATER.

NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

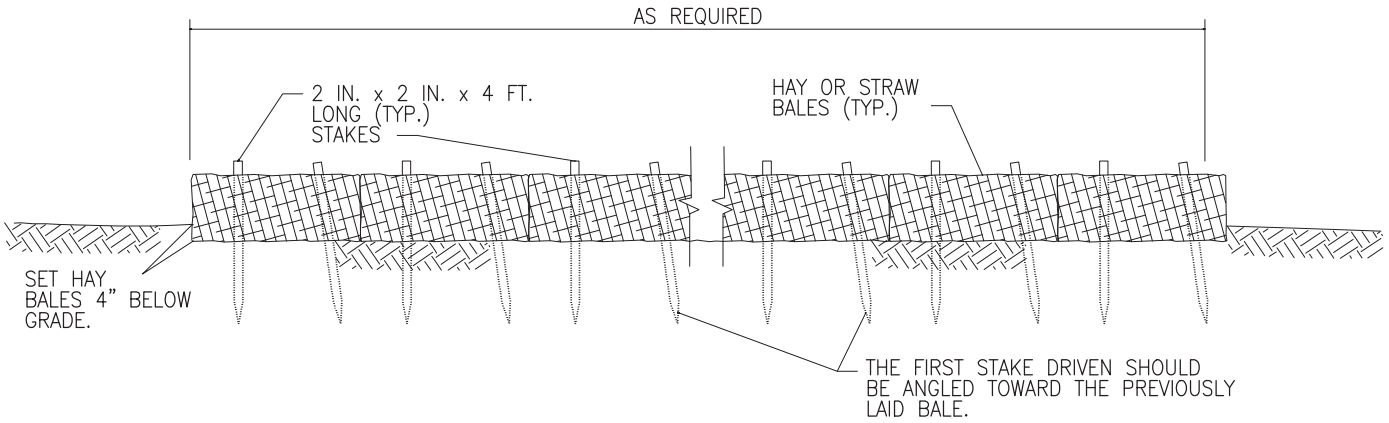
TYPICAL PIPELINE STANDARD EROSION CONTROL SILT FENCE

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	04/17/17	AWF	SSL	NEW	265931	TYPICAL 8	8 OF 11



SECTION

SCALE: N.T.S.



NOTES:

1. TO ELIMINATE POSSIBLE END FLOW, BOTH ENDS OF THE STRAW BALE BARRIER SHOULD BE TURNED AND EXTENDED UPSLOPE. IMBED BALES IN EARTH APPROXIMATELY FOUR (4) INCHES.

2. EACH BALE SHOULD BE SECURED BY AT LEAST TWO (2) STAKES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. ANY GAPS CAN BE FILLED IN BY WEDGING LOOSE STRAW BETWEEN THE BALES. STAKES SHOULD BE DRIVEN A MINIMUM OF 18 INCHES INTO THE GROUND.

3. COMPACT EXCAVATED SOIL AS NECESSARY AGAINST THE UPHILL SIDE OF THE BARRIER TO PREVENT WATER TUNNELLING UNDER THE BALES.

4. STRAW BALE BARRIERS REQUIRE CONTINUAL MAINTENANCE TO REMOVE COLLECTED SEDIMENT AND REPLACE DAMAGED BALES. PAY CLOSE ATTENTION TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.

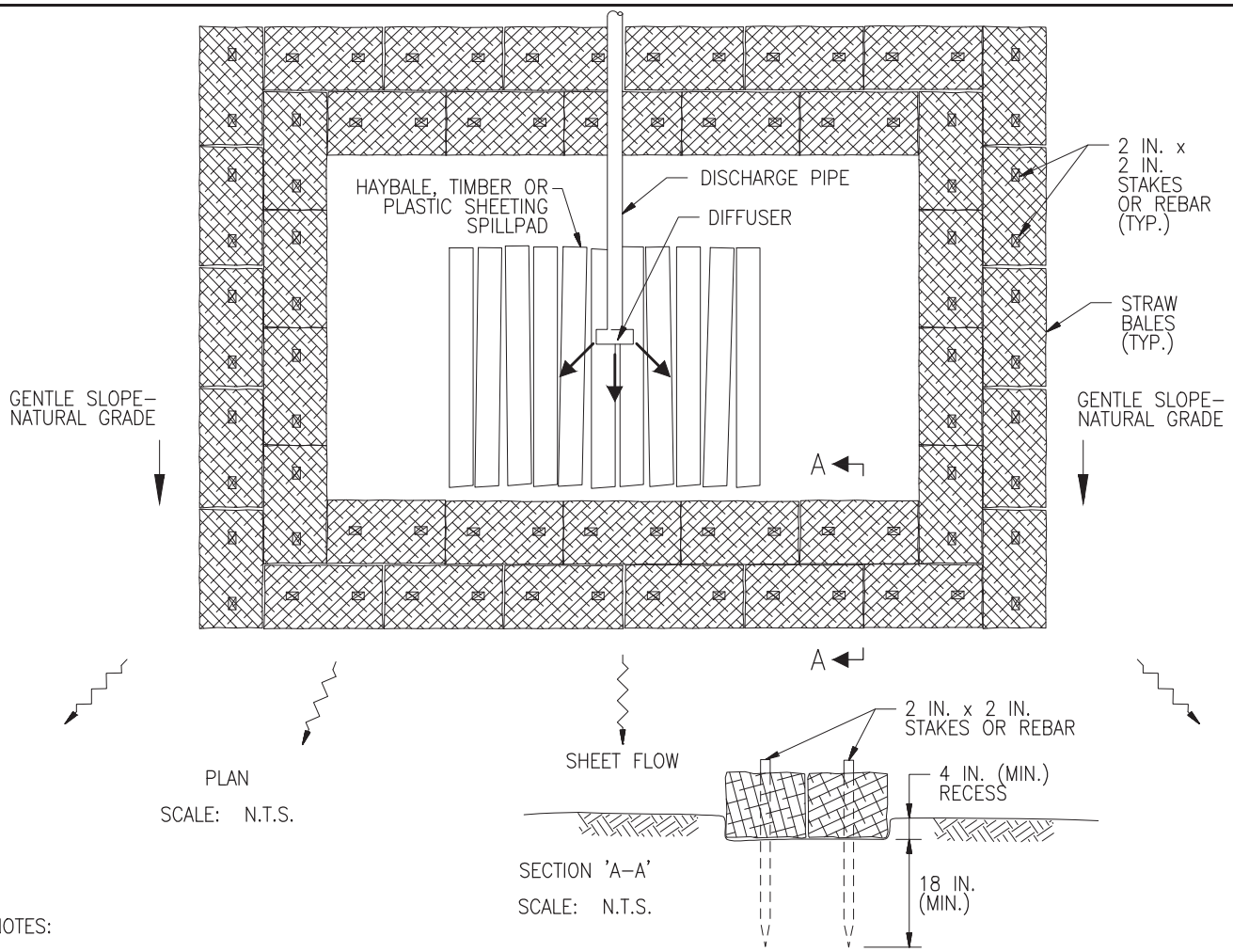
5. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

6. UTILIZE STRAW BALE BARRIERS ONLY IN LIEU OF A SILT FENCE WHERE FREQUENT ACCESS IS REQUIRED OR WHEN DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

TYPICAL
STRAW BALE BARRIER

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	04/17/17	AWF	SSL	NEW	265931	TYPICAL 9	9 OF 11



NOTES:

1. INSTALL A STRAW BALE DEWATERING STRUCTURE WHEREVER IT IS NECESSARY AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATERBODIES OR WETLANDS. ALL DEWATERING ACTIVITIES SHALL BE IN ACCORDANCE WITH ENVIRONMENTAL SPECIFICATION AND RELEVANT PERMITS.

2. DISCHARGE SITE SHOULD BE WELL VEGETATED AND LOCATED AT LEAST 50 FEET FROM ANY WATERCOURSE. THE TOPOGRAPHY OF THE SITE SHOULD BE SUCH THAT WATER WILL FLOW INTO THE DEWATERING STRUCTURE AND AWAY FROM ANY WORK AREAS. THE AREA DOWNSLOPE FROM THE WATERING SITE MUST BE REASONABLY FLAT OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.

3. DIRECT THE PUMPED WATER ONTO A STABLE SPILL PAD CONSTRUCTED OF ROCKFILL, WEIGHTED TIMBERS, OR A WOVEN GEOTEXTILE STAKED TO THE GROUND SURFACE, SUCH AS MIRAFI 600X, TERRAFIX 400W, OR A COMPANY APPROVED EQUIVALENT. BEYOND THE SPILL PAD FORCE THE DISCHARGE WATER INTO SHEET FLOW USING STRAW BALES AND THE NATURAL TOPOGRAPHY.

4. DISCHARGE RATES SHOULD BE SUCH THAT THE CAPACITY OF THE STRUCTURE WILL NOT BE EXCEEDED.

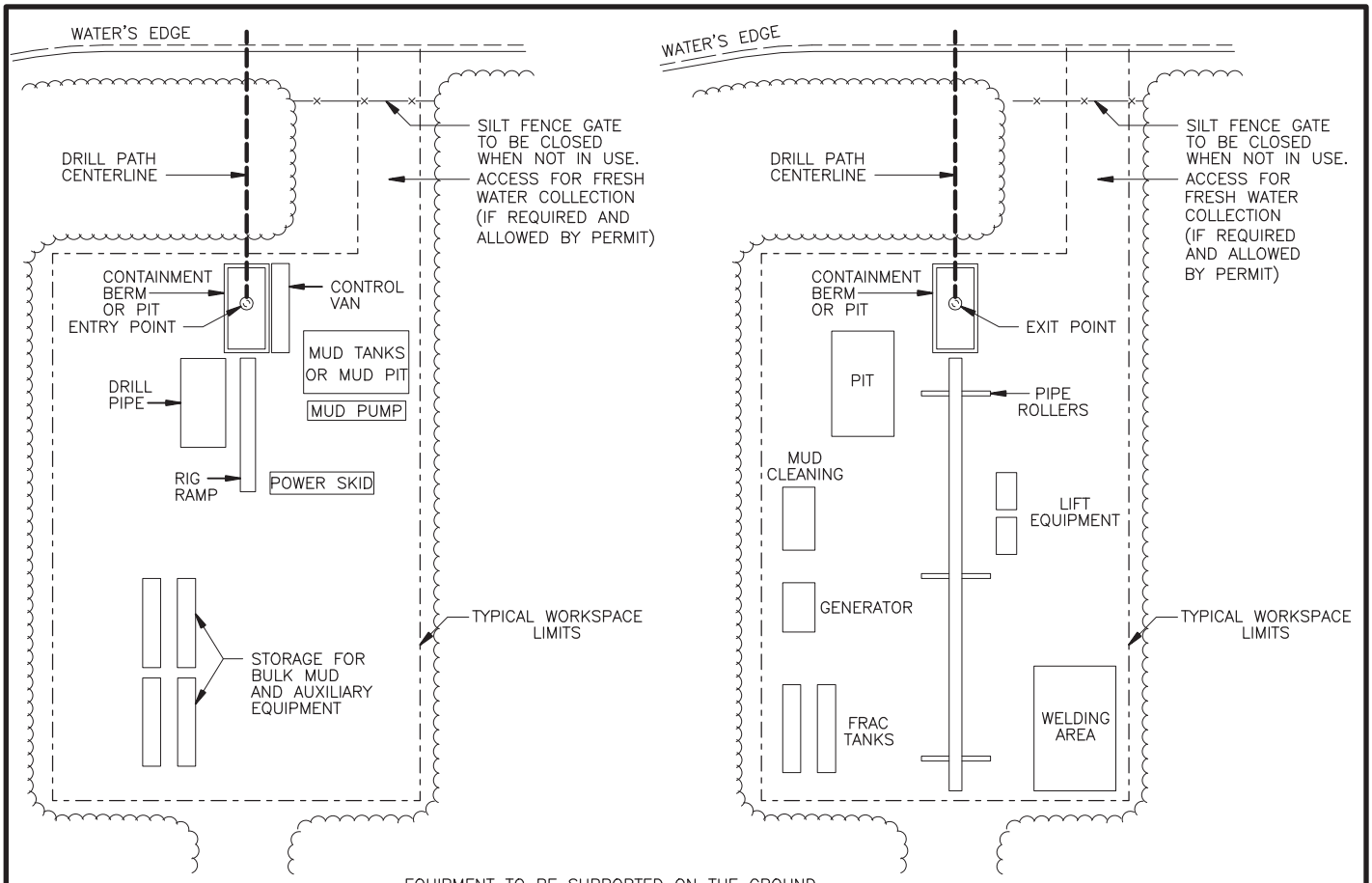
5. DISCHARGE WATER SHALL BE FORCED INTO SHEET FLOW IMMEDIATELY BEYOND THE SPILL PAD USING A COMBINATION OF STRAW BALES AND THE NATURAL TOPOGRAPHY. RECESS STRAW BALES A MIN. OF FOUR (4) INCHES. DRIVE TWO (2) STAKES OR REBAR INTO EACH BALE TO ANCHOR THEM IN PLACE.

6. MANUFACTURED FILTER BAGS ARE A SUITABLE ALTERNATIVE TO STRAW BALE STRUCTURES FOR TRENCH DEWATERING. FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER. DISPOSE OF FULL FILTER BAGS AT AN APPROVED OFF–SITE FACILITY.

NO.	REVISION	DATE	APPR.
A	ISSUED FOR PERMIT	05/15/17	NEW

TYPICAL STRAW BALE DEWATERING STRUCTURE

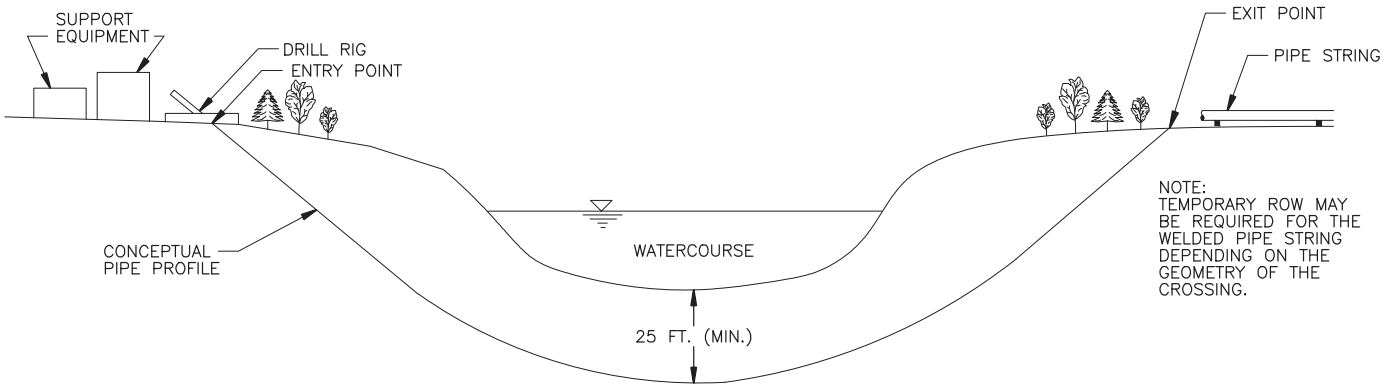
SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	04/17/17	AWF	SSL	NEW	265931	TYPICAL 10	10 OF 11



EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.

SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED.

THE EQUIPMENT SHOWN MAY NOT BE REQUIRED FOR SOME HDD'S OR MAY BE ARRANGED DIFFERENTLY.



FOR ACTUAL WORKSPACE DIMENSIONS REFER TO SITE-SPECIFIC DRAWINGS

PROFILE

NO.	REVISION	DATE	APPR.

TYPICAL HORIZONTAL DIRECTIONAL DRILL (HDD SITE PLAN AND PROFILE)

SCALE	DATE	DRAWN	CHECKED	APPROVED	TRC PROJ. NO.	DRAWING NUMBER	SHEET
NTS	04/17/17	AWF	SSL		265931	TYPICAL 11	11 OF 11

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APPENDIX C

SUMMARY OF EXISTING RIGHTS-OF-WAY COLLOCATED WITH THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT PIPELINES

APPENDIX C

Summary of Existing Rights-of-Way Collocated with the Midcontinent Supply Header Interstate Pipeline Project Pipelines [a]

Pipeline Route/ Collocated Utility	Utility Type	Begin Milepost	End Milepost	Direction to Existing Right-of-Way [b]	Paralleled Length (miles)
Mainline					
EnLink	Pipeline	9.6	9.8	East	0.1
Canadian County (N27300)	Road	9.8	10.7	East	1.0
ONEOK	Pipeline	10.7	11.1	East	0.4
ONEOK	Pipeline	11.4	11.6	North	0.2
Enogex	Pipeline	11.6	12.3	West	0.7
EnLink	Pipeline	12.3	12.8	West	0.4
EnLink	Pipeline	12.8	13.3	Northeast	0.6
Plains	Pipeline	13.3	13.6	Northeast	0.2
Enable Midstream	Pipeline	13.8	13.9	Southwest	0.1
Unknown	Overhead Utility	16.0	16.3	West	0.3
Enable Midstream	Pipeline	16.3	17.2	West	0.9
ONEOK	Pipeline	17.2	17.3	North	0.1
ONEOK	Pipeline	17.3	17.5	South	0.2
EnLink	Pipeline	18.7	19.2	East	0.5
Unknown	Overhead Utility	19.3	19.4	South	0.1
Devon	Pipeline	19.6	19.7	South	0.1
DCP	Pipeline	29.1	29.2	East	0.1
DCP	Pipeline	31.7	31.7	West	0.1
Grady County (N28800)	Road	45.4	45.9	East	0.5
Enable Midstream	Pipeline	50.0	50.2	Southwest	0.2
Velocity	Pipeline	71.9	72.2	South	0.3
Enable Midstream	Pipeline	72.2	72.7	East	0.5
Velocity	Pipeline	72.7	73.5	West	0.8
Enable Midstream	Pipeline	73.5	73.8	West	0.3
Velocity	Pipeline	74.6	75.0	West	0.4
Velocity	Pipeline	75.2	75.5	East	0.3
UK	Powerline	76.3	76.4	North	0.1
OGE	Pipeline	77.8	78.4	South	0.6
Targa	Pipeline	79.2	79.3	West	0.1
DCP	Pipeline	80.2	80.3	East	0.1
Targa	Pipeline	80.3	80.3	North	0.1
Mobil	Pipeline	81.0	82.1	East	1.0
Velocity	Pipeline	83.8	83.9	West	0.1
Enogex	Pipeline	83.9	84.4	Northeast	0.4
DCP	Pipeline	84.8	84.9	Northeast	0.1
Enable Midstream	Pipeline	84.9	85.5	Northeast	0.6
Unknown	Powerline	86.3	86.4	East	0.1
Newfield	Pipeline	86.9	87.2	East	0.4
Newfield	Pipeline	87.2	87.6	West	0.4
DCP	Pipeline	89.4	89.5	East	0.1
Enable Midstream	Pipeline	89.5	89.7	Northeast	0.2
Unknown	Pipeline	94.9	94.9	West	0.1
Unknown	Pipeline	95.2	95.3	East	0.1
Citation	Pipeline	103.1	103.5	Southwest	0.4
Citation	Pipeline	103.5	103.7	Northeast	0.2
Bluenight	Pipeline	108.0	109.8	West	1.8

APPENDIX C (cont'd)

Summary of Existing Rights-of-Way Collocated with the Midcontinent Supply Header Interstate Pipeline Project Pipelines [a]

Pipeline Route/ Collocated Utility	Utility Type	Begin Milepost	End Milepost	Direction to Existing Right-of-Way [b]	Paralleled Length (miles)
Kinder Morgan	Pipeline	109.8	111.8	Southwest	2.0
Kinder Morgan	Pipeline	112.2	115.0	Southwest	2.8
Kinder Morgan	Pipeline	115.0	115.3	Northeast	0.3
Atlas Energy	Pipeline	116.7	116.8	North	0.1
Kinder Morgan	Pipeline	118.1	122.9	Southwest	4.8
Kinder Morgan	Pipeline	122.9	123.4	Northeast	0.5
Kinder Morgan	Pipeline	123.9	124.8	North	0.8
Kinder Morgan	Pipeline	124.8	126.1	Southwest	1.3
Kinder Morgan	Pipeline	126.1	126.2	North	0.1
Kinder Morgan	Pipeline	126.2	129.3	South	3.0
Kinder Morgan	Pipeline	129.3	129.6	North	0.3
Kinder Morgan	Pipeline	129.6	134	South	4.0
Kinder Morgan	Pipeline	134.0	134.2	North	0.2
Kinder Morgan	Pipeline	134.2	134.7	South	0.5
Kinder Morgan	Pipeline	134.7	135.1	North	0.4
Unknown	Overhead power	135.1	136.2	North	1.2
Kinder Morgan	Pipeline	136.7	138.2	South	1.5
Kinder Morgan	Pipeline	138.2	140.1	Northwest	1.9
Kinder Morgan	Pipeline	140.1	141.4	South	1.3
Kinder Morgan	Pipeline	141.4	141.5	North	0.1
Kinder Morgan	Pipeline	141.5	142.4	South	0.9
Kinder Morgan	Pipeline	142.4	143.3	North	0.9
XTO	Pipeline	143.3	145.2	South	1.9
Unknown	Powerline	145.2	145.5	South	0.3
Unknown	Pipeline	145.5	145.7	South	0.2
XTO	Pipeline	145.7	146.0	North	0.4
Targa	Pipeline	146.0	146.3	North	0.3
Targa	Pipeline	146.3	146.5	South	0.2
Targa	Pipeline	146.6	146.8	West	0.2
Targa	Pipeline	146.8	148.0	North	1.2
Kinder Morgan	Pipeline	148.2	149.0	East	0.8
Kinder Morgan	Pipeline	149.0	149.9	North	0.9
Kinder Morgan	Pipeline	149.9	151.1	South	0.2
Kinder Morgan	Pipeline	151.4	154.2	South	2.8
Kinder Morgan	Pipeline	154.4	155.0	South	0.4
Kinder Morgan	Pipeline	155.0	155.2	East	0.2
Kinder Morgan	Pipeline	155.2	156.2	South	1.0
Kinder Morgan	Pipeline	156.2	156.8	North	0.6
Kinder Morgan	Pipeline	156.8	165.6	South	8.8
Kinder Morgan	Pipeline	166.1	170.7	South	4.6
Kinder Morgan	Pipeline	170.7	170.8	North	0.1
Kinder Morgan	Pipeline	170.8	171.8	South	1.0
Kinder Morgan	Pipeline	172.1	173.5	South	1.4
Kinder Morgan	Pipeline	173.7	174.6	North	0.9
Kinder Morgan	Pipeline	174.6	176.2	South	1.6
Kinder Morgan	Pipeline	176.7	177.2	South	0.5
Kinder Morgan	Pipeline	177.6	178.1	South	0.5

APPENDIX C (cont'd)

Summary of Existing Rights-of-Way Collocated with the Midcontinent Supply Header Interstate Pipeline Project Pipelines [a]

Pipeline Route/ Collocated Utility	Utility Type	Begin Milepost	End Milepost	Direction to Existing Right-of-Way [b]	Paralleled Length (miles)
Kinder Morgan	Pipeline	178.1	179.1	North	0.9
Kinder Morgan	Pipeline	179.1	179.5	South	0.4
Kinder Morgan	Pipeline	179.8	181.0	South	1.2
Kinder Morgan	Pipeline	181.0	181.6	North	0.6
Kinder Morgan	Pipeline	181.6	185.1	South	3.6
Kinder Morgan	Pipeline	185.4	190.5	South	5.2
Kinder Morgan	Pipeline	190.5	191.0	North	0.5
Kinder Morgan	Pipeline	191.0	192.5	South	1.5
Kinder Morgan	Pipeline	192.5	192.6	North	0.2
Kinder Morgan	Pipeline	192.6	192.8	South	0.2
Kinder Morgan	Pipeline	193.3	199.0	South	5.8
Bryan County (N39400)	Road	199.0	199.6	East	0.6
			Subtotal		**99.0**
Chisholm Lateral					
ONEOK	Pipeline	CH0.0	CH0.1	West	0.1
ONEOK	Pipeline	CH0.1	CH0.9	North	0.8
Kingfisher County (E08600)	Road	CH1.4	CH2.1	North	0.7
Kingfisher County (E08600)	Road	CH2.2	CH2.9	North	0.7
Plains	Pipeline	CH2.9	CH3.3	South	0.4
Kingfisher County (E08600)	Road	CH3.3	CH4.2	South	0.9
Plains	Pipeline	CH4.2	CH5.9	South	1.8
EnLink	Pipeline	CH6.3	CH7.0	South	0.8
EnLink	Pipeline	CH7.0	CH7.4	North	0.4
EnLink	Pipeline	CH8.4	CH8.6	North	0.2
DCP	Pipeline	CH9.4	CH10.2	North	0.8
DCP	Pipeline	CH10.2	CH10.4	South	0.2
Enable Midstream	Pipeline	CH10.4	CH10.6	South	0.2
Enable Midstream	Pipeline	CH10.6	CH11.9	North	1.3
Enable Midstream	Pipeline	CH11.9	CH14.7	South	2.8
Kingfisher County (E0870)	Road	CH14.7	CH16.3	North	1.5
Enable Midstream	Pipeline	CH16.5	CH18.1	Northwest	1.6
DCP	Pipeline	CH18.1	CH20.4	North	2.3
			Subtotal		**17.5**
Velma Lateral					
Atlas Energy	Pipeline	VE0.0	VE0.2	North	0.2
Southern Star	Pipeline	VE0.2	VE0.6	East	0.3
Southern Star	Pipeline	VE0.6	VE2.4	North	1.8
Sunoco	Pipeline	VE2.9	VE3.4	North	0.5
Sunoco	Pipeline	VE3.6	VE5.0	North	1.4
DCP	Pipeline	VE5.0	VE5.2	West	0.2
DCP	Pipeline	VE5.2	VE6.0	North	0.8
County Utility	Powerline/Cable/Pipeline	VE6.0	VE6.1	North	0.1
County Utility/Southern Star	Powerline/Cable/Pipeline	VE6.1	VE6.5	South	0.4
DCP	Pipeline	VE6.5	VE6.6	East	0.2
Enable	Pipeline	VE6.9	VE7.0	West	0.1
County Utility/Enable	Powerline/Cable/Pipeline	VE7.0	VE7.0	East	0.1
Southern Star	Pipeline	VE7.0	VE7.4	North	0.4

APPENDIX C (cont'd)

Summary of Existing Rights-of-Way Collocated with the Midcontinent Supply Header Interstate Pipeline Project Pipelines [a]

Pipeline Route/ Collocated Utility	Utility Type	Begin Milepost	End Milepost	Direction to Existing Right-of-Way [b]	Paralleled Length (miles)
Southern Star	Pipeline	VE7.4	VE7.7	South	0.3
Southern Star	Pipeline	VE7.7	VE8.4	North	0.7
Southern Star	Pipeline	VE8.4	VE8.6	South	0.1
Southern Star	Pipeline	VE8.6	VE9.0	North	0.4
Southern Star	Pipeline	VE9.4	VE10.8	North	1.3
Williams	Pipeline	VE10.8	VE11.2	South	0.4
Williams	Pipeline	VE11.2	VE12.8	North	1.6
Williams	Pipeline	VE12.8	VE13.2	South	0.4
Williams	Pipeline	VE13.2	VE13.6	North	0.4
			Subtotal		**12.1**
PROJECT TOTAL					**128.7**

[a] Totals may not match the sum of addends due to rounding.

[b] The MIDSHIP Project right-of-way would abut existing rights-of-way to the maximum extent practicable.

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APPENDIX D

ADDITIONAL TEMPORARY WORKSPACE ASSOCIATED WITH CONSTRUCTION OF THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT

APPENDIX D

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
MAINLINE						
Kingfisher						
1001	0.0	216 x 650	0.9	Agriculture, open land	Meter station construction	No
1002	0.2	25 x 200	0.1	Open land	Spoils for significant point of inflection (PI)	No
1003	0.3	25 x 250	0.1	Agriculture	Pipeline crossing	No
1004	0.4	50 x 225	0.3	Agriculture	Road crossing	No
Canadian						
1006	0.5	50 x 150	0.2	Agriculture, open land	Road crossing	No
1007	1.6	50 x 375	0.4	Agriculture, open land	Road crossing	No
1007A	1.6	50 x 156	0.1	Agriculture	Road crossing and staging area for parking/equipment	No
1008	1.6	50 x 170	0.2	Agriculture	Road crossing	No
1009	1.8	25 x 200	0.1	Agriculture	Pipeline crossing	No
1009A	2.1	120 x 221	0.3	Open land	Spoils for significant PI	No
1009B	2.3	99 x 224	0.3	Open land	Spoils for significant PI	No
1010	2.7	60 x 233	0.3	Open land	Road crossing and pipeline crossing	No
1011	2.8	62 x 198	0.2	Agriculture, open land	Road crossing	No
1012	3.8	56 x 205	0.2	Agriculture, open land	Road crossing	No
1013	3.8	61 x 169	0.2	Open land	Road crossing	No
1014	4.4	25 x 200	0.1	Open land	Pipeline crossing	No
1015	4.8	50 x 150	0.2	Open land	Road crossing	No
1016	4.9	50 x 150	0.2	Developed land, open land	Road crossing	No
1017	5.0	25 x 200	0.1	Open land	Pipeline crossing	No
1018	5.9	50 x 150	0.2	Open land	Road crossing	No
1019	5.9	58 x 174	0.2	Agriculture	Road crossing	No
1020	6.0	115 x 279	0.3	Open land	Road crossing	No
1021	6.0	130 x 291	0.4	Agriculture	Road crossing	No
1022	6.7	50 x 200	0.2	Open land	Stream crossing	No
1023	6.7	50 x 200	0.2	Open land	Stream crossing	No
1024	6.9	25 x 200	0.1	Open land	Pipeline crossing	No
1025	6.9	57 x 319	0.4	Developed land, open land	Road crossing	No
1026	7.0	79 x 223	0.2	Developed land, open land	Pipeline crossing	No
1027	7.0	68 x 362	0.4	Developed land, open land	Pipeline crossing	No
1029	7.3	25 x 200	0.1	Open land	Stream crossing	No
1030	7.4	25 x 200	0.1	Agriculture	Pipeline crossing	No
1031	7.5	50 x 200	0.2	Open land	Horizontal directional drill (HDD) – North Canadian River	No
1031A	7.5	50 x 200	0.2	Forest, open land	HDD – North Canadian River	No
1032	7.8	50 x 200	0.2	Agriculture	HDD – North Canadian River	No
1032A	7.8	50 x 200	0.2	Agriculture	HDD – North Canadian River	No
1033	8.0	50 x 150	0.2	Agriculture, open land	Road crossing	No
1034	8.1	50 x 150	0.2	Agriculture	Road crossing	No
1034A	8.8	92 x 223	0.3	Agriculture	Spoils for significant PI	No
1035	9.2	89 x 223	0.3	Residential	Road crossing	No
1036	9.2	50 x 150	0.2	Agriculture	Road crossing	No
1037	9.3	75 x 150	0.2	Agriculture	Railroad/highway crossing	No
1038	9.3	75 x 171	0.3	Open land	Road crossing	No
1038A	9.4	101 x 224	0.3	Open land	Spoils for significant PI	No
1039	9.5	50 x 200	0.2	Open land	Stream crossing	No
1040	9.5	50 x 150	0.2	Open land	Stream crossing	No
1041	9.7	115 x 346	0.4	Open land	Road crossing and pipeline crossing	No
1042	9.7	32 x 327	0.2	Agriculture, open land	Pipeline crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1043	10.2	50 x 157	0.2	Agriculture, open land	Road crossing and pipeline crossing	No
1044	10.3	50 x 150	0.2	Agriculture, open land	Road crossing	No
1045	10.5	25 x 200	0.1	Developed land	Pipeline crossing	No
1046	10.7	25 x 200	0.1	Developed land, open land	Pipeline crossing, meter station construction	No
1045A	10.7	25 x 115	0.1	Developed land	Meter station construction	No
1047	11.1	50 x 260	0.3	Agriculture	Road crossing and pipeline crossing	No
1047A	11.2	50 x 150	0.2	Agriculture, open land	Road crossing	No
1047B	11.3	50 x 200	0.2	Agriculture	Spoils for significant PI	No
1048	11.4	50 x 150	0.2	Agriculture, open land	Road crossing and pipeline crossing	No
1048A	11.4	50 x 150	0.2	Agriculture	Road crossing	No
1049	11.5	50 x 200	0.2	Agriculture	Road crossing and pipeline crossing	No
1051	11.6	93 x 230	0.3	Agriculture	Pipeline crossing	No
1052	11.7	28 x 199	0.1	Agriculture	Pipeline crossing	No
1053	12.2	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1054	12.3	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1055	12.3	32 x 198	0.1	Agriculture	Pipeline crossing	No
1056	12.5	50 x 403	0.5	Agriculture, open land	Pipeline crossing	No
1058	12.5	50 x 150	0.2	Agriculture, open land	Road crossing and pipeline crossing	No
1059	12.8	81 x 220	0.3	Agriculture	Pipeline crossing	No
1060	12.8	25 x 220	0.1	Agriculture	Pipeline crossing	No
1061	12.9	50 x 200	0.2	Agriculture	Stream crossing	No
1062	12.9	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1063	13.2	93 x 284	0.3	Agriculture, open land	Stream crossing	No
1064	13.3	99 x 352	0.4	Open land	Stream crossing	No
1065	13.5	78 x 191	0.2	Agriculture	Road crossing	No
1066	13.7	134 x 229	0.3	Agriculture	Road crossing	No
1067	13.7	108 x 271	0.3	Agriculture, open land	Road crossing	No
1068	13.7	60 x 188	0.1	Agriculture, open land	Road crossing and pipeline crossing	No
1069	13.9	98 x 337	0.4	Agriculture, open land	Road crossing and pipeline crossing	No
1070	14.0	50 x 150	0.2	Agriculture, open land	Road crossing	No
1072	14.1	74 x 218	0.2	Agriculture	Pipeline crossing	No
1072A	14.3	85 x 222	0.3	Agriculture	Spoils for significant PI	No
1073	14.6	111 x 412	0.5	Open land	Pipeline crossing	No
1074	14.9	50 x 200	0.2	Developed land	Stream crossing	No
1075	15.0	50 x 200	0.2	Developed land	Stream crossing	No
1076	15.1	50 x 150	0.2	Developed land, open land	Road crossing	No
1077	15.2	50 x 100	0.1	Developed land, open land	Road crossing	No
1078	15.3	50 x 200	0.2	Developed land	Pipeline crossing	No
1080	15.4	50 x 200	0.2	Agriculture, developed land	Stream crossing	No
1081	15.5	50 x 200	0.2	Agriculture	Wetland crossing	No
1083	15.8	50 x 122	0.1	Agriculture	HDD – Interstate 40 (Historic Route 66)/Trib. to North Canadian River	No
1083A	15.8	38 x 200	0.2	Agriculture, open land	HDD – Interstate 40 (Historic Route 66)/Trib. to North Canadian River	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1083B	15.8	100 x 100	0.2	Agriculture, open land, open water	Water access for hydrostatic testing	AS-CN-NWI-PUBHh-336
1083C	15.8	50 x 52	0.1	Agriculture	Road crossing	No
1084	16.0	35 x 250	0.2	Agriculture, open land	Stream crossing	No
1085	16.1	35 x 265	0.2	Open land	Stream crossing	No
1087	16.2	50 x 150	0.2	Agriculture, forest, open land	Road crossing	No
1088	16.3	25 x 310	0.2	Agriculture	Pipeline crossing	No
1088A	16.3	50 x 365	0.4	Agriculture	Pipeline crossing and spoils for significant PI	No
1088B	16.7	50 x 200	0.2	Open land	Spoils for significant PI	No
1089	16.8	50 x 200	0.2	Forest, open land	Stream crossing	No
1090	16.9	50 x 200	0.2	Agriculture, forest, open land	Stream crossing	No
1091	17.1	50 x 430	0.5	Agriculture	Pipeline crossing	No
1092	17.2	35 x 200	0.2	Agriculture, forest, open land	Wetland crossing	No
1093	17.3	50 x 250	0.3	Agriculture, forest, open land	Pipeline crossing/wetland crossing	No
1093A	17.4	50 x 200	0.2	Agriculture, forest, open land	Road and environmental feature crossing	No
1095	17.7	51 x 1129	1.2	Agriculture, developed land, open land	Road crossing	No
1097	17.7	593 x 1109	15.0	Agriculture, developed land	Compressor station	No
1097A	17.8	95 x 223	0.3	Agriculture	Spoils for significant PI	No
1098	18.2	50 x 200	0.2	Open land	Wetland crossing/stream crossing	No
1099	18.3	50 x 200	0.2	Agriculture, forest	Wetland crossing/stream crossing	No
1100	18.4	25 x 200	0.1	Agriculture	Pipeline crossing	No
1102	19.2	145 x 264	0.4	Agriculture	Road crossing and pipeline crossing	No
1103	19.3	50 x 125	0.1	Open land	Road crossing/wetland crossing	No
1104	19.3	64 x 212	0.2	Forest, open land	Wetland crossing/stream crossing	No
1105	19.6	25 x 200	0.1	Agriculture	Pipeline crossing	No
1106	19.9	50 x 200	0.2	Open land	Stream crossing	No
1108	20.0	93 x 379	0.4	Developed land, open land	Road crossing/stream crossing	No
1110	20.0	51 x 150	0.2	Open land	Road crossing	No
1111	20.7	99 x 224	0.3	Agriculture, open land	Road crossing	No
1112	20.8	91 x 227	0.3	Agriculture, open land	Temporary soil storage	No
1114	21.3	50 x 200	0.2	Agriculture	Road crossing and pipeline crossing	No
1116	21.4	50 x 350	0.4	Agriculture, open land	Pipeline crossing	No
1117	21.7	25 x 200	0.1	Agriculture	Pipeline crossing	No
1118	22.5	104 x 601	0.7	Open land	Road crossing and pipeline crossing	No
1119	22.5	50 x 162	0.2	Agriculture, open land	Road crossing	No
1120	22.7	109 x 224	0.3	Agriculture	Road crossing	No
1121	22.8	140 x 258	0.3	Agriculture, open land	Road crossing and pipeline crossing	No
1122	23.1	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1123	23.1	68 x 215	0.2	Forest, open land	Stream crossing	No
1124	23.2	25 x 220	0.1	Open land	Pipeline crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1125	23.8	58 x 248	0.3	Agriculture, open land	Road crossing and pipeline crossing	No
1126	23.9	61 x 184	0.2	Agriculture	Road crossing	No
1127	24.1	25 x 200	0.1	Agriculture	Pipeline crossing	No
1128	24.2	50 x 205	0.2	Agriculture, open land	Road crossing	No
1129	24.3	50 x 150	0.1	Agriculture	Road crossing	No
1131	24.6	50 x 200	0.2	Open land	Stream crossing	No
1131A	24.7	35 x 200	0.2	Agriculture, forest, open land	Environmental feature crossing	No
1131B	25.1	50 x 150	0.2	Agriculture, open land	Road crossing	No
1133	25.2	51 x 183	0.2	Agriculture	Road crossing	No
1134	25.5	35 x 200	0.2	Agriculture, forest	Stream crossing	No
1135	25.6	35 x 200	0.2	Forest, open land	Stream crossing	No
1137	26.1	81 x 283	0.3	Agriculture, forest	Road crossing	No
1138	26.1	92 x 256	0.3	Agriculture, open land	Road crossing	No
1139	26.3	50 x 150	0.2	Agriculture, open land	Road crossing and pipeline crossing	No
1140	26.3	50 x 161	0.2	Agriculture	Road crossing	No
1141	26.4	25 x 200	0.1	Agriculture	Pipeline crossing	No
1142	27.3	58 x 147	0.2	Agriculture, open land	Road crossing	No
1144	27.3	50 x 151	0.2	Agriculture	Road crossing	No
1144A	27.6	35 x 200	0.2	Agriculture	Stream crossing	No
1144B	27.7	35 x 200	0.2	Agriculture, open land	Stream crossing	No
1145	27.8	25 x 200	0.1	Agriculture	Pipeline crossing	No
1146	28.0	50 x 200	0.2	Agriculture	HDD – Canadian River	No
1146A	28.0	50 x 200	0.2	Agriculture, forest	HDD – Canadian River	No
1041	9.7	115 x 346	0.4	Open land	Road crossing and pipeline crossing	No
1042	9.7	32 x 327	0.2	Agriculture, open land	Pipeline crossing	No
1043	10.2	50 x 157	0.2	Agriculture, open land	Road crossing and pipeline crossing	No
1044	10.3	50 x 150	0.2	Agriculture, open land	Road crossing	No
1045	10.5	25 x 200	0.1	Developed land	Pipeline crossing	No
1146	28.0	50 x 200	0.2	Agriculture	HDD – Canadian River	No
1146A	28.0	50 x 200	0.2	Agriculture, forest	HDD – Canadian River	No
Grady						
1147	28.7	50 x 200	0.2	Agriculture	HDD – Canadian River	No
1147A	28.8	35 x 200	0.2	Agriculture, open land	HDD – Canadian River	No
1147B	28.8	35 x 200	0.2	Agriculture, open land	HDD – Canadian River	No
1147C	28.7	50 x 200	0.2	Agriculture, open land	HDD – Canadian River	No
1148	29.2	25 x 200	0.1	Agriculture	Pipeline crossing	No
1149	29.3	50 x 150	0.2	Agriculture	Road crossing	No
1150	29.3	50 x 171	0.2	Agriculture, open land	Road crossing	No
1153	29.6	25 x 200	0.1	Agriculture	Pipeline crossing	No
1154	29.8	27 x 205	0.1	Agriculture	Pipeline crossing	No
1155	30.0	65 x 226	0.3	Agriculture, forest	Stream crossing	No
1156	30.1	137 x 465	0.6	Agriculture, forest	Stream crossing	No
1158	30.4	50 x 150	0.2	Agriculture, open land	Road crossing	No
1159	30.5	50 x 182	0.2	Agriculture, open land	Road crossing	No
1160	30.6	50 x 220	0.2	Agriculture, open land	Road crossing	No
1161	30.6	50 x 150	0.1	Agriculture, open land	Road crossing	No
1162	30.7	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1163	30.8	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1164	30.9	25 x 200	0.1	Agriculture	Pipeline crossing	No
1165	31.0	50 x 201	0.2	Agriculture	Stream crossing/road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1166	31.1	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1168	31.7	91 x 179	0.2	Agriculture	Road crossing and pipeline crossing	No
1169	31.7	50 x 150	0.2	Agriculture, open land	Road crossing	No
1171	32.0	25 x 200	0.1	Agriculture	Pipeline crossing	No
1172	32.1	35 x 200	0.2	Agriculture, open land	Stream crossing	No
1173	32.2	35 x 275	0.2	Open land	Pipeline crossing/stream crossing	No
1173A	32.5	50 x 268	0.3	Agriculture, developed land	Road crossing	No
1174	33.4	50 x 184	0.2	Agriculture, open land	Road crossing	No
1175	33.4	50 x 185	0.2	Agriculture, open land	Road crossing	No
1176	34.5	50 x 145	0.2	Agriculture	Stream crossing	No
1175A	34.5	111 x 223	0.3	Agriculture	Spoils for significant PI	No
1177	34.6	50 x 150	0.2	Open land	Stream crossing	No
1176A	34.6	50 x 249	0.3	Agriculture, open land	Spoils for significant PI and parking/equipment, stream crossing	S-GR-WCR-16/12/10-06
1178	34.7	50 x 200	0.2	Agriculture, open land	Wetland crossing	No
1178A	34.7	87 x 257	0.3	Agriculture, open land	Spoils for significant PI	No
1179	34.8	96 x 318	0.4	Agriculture	Stream crossing	No
1181	35.2	67 x 178	0.2	Agriculture, open land	Road crossing	No
1180	35.3	58 x 145	0.2	Open land	Road crossing	No
1182	35.3	50 x 400	0.5	Open land, residential	Road crossing	No
1184	35.4	50 x 200	0.2	Agriculture	Stream crossing	No
1185	35.6	25 x 285	0.2	Agriculture	Pipeline crossing	No
1186	36.0	25 x 200	0.1	Agriculture	Pipeline crossing	No
1187	36.4	164 x 226	0.9	Agriculture, developed land, open land	Stream crossing	No
1189	36.4	50 x 200	0.2	Agriculture	Road crossing	No
1190	36.5	47 x 209	0.2	Agriculture	Road crossing	No
1190A	36.5	100 x 150	0.3	Agriculture, open land	Road crossing	No
1191	36.7	65 x 200	0.3	Agriculture	HDD – Oklahoma Kansas and Texas Railroad	No
1191A	36.7	35 x 200	0.2	Agriculture	HDD – Oklahoma Kansas and Texas Railroad	No
1192	37.0	65 x 200	0.3	Open land	HDD – Oklahoma Kansas and Texas Railroad	No
1192A	37.0	35 x 200	0.2	Open land	HDD – Oklahoma Kansas and Texas Railroad	No
1192B	37.1	75 x 1744	2.8	Open land	Spoils for significant PI	No
1192C	37.3	50 x 205	0.2	Developed land, open land	Staging area for parking/equipment	No
1193	37.4	25 x 200	0.1	Agriculture	Pipeline crossing	No
1194	37.8	50 x 173	0.2	Open land	Road crossing	No
1195	37.8	50 x 150	0.2	Open land	Road crossing	No
1197	38.2	91 x 179	0.2	Open land	Road crossing	No
1198	38.2	92 x 187	0.2	Agriculture, open land	Road crossing	No
1199	38.8	25 x 200	0.1	Agriculture	Pipeline crossing	No
1200	38.9	88 x 222	0.3	Agriculture, open land	Road crossing	No
1201	38.9	50 x 150	0.2	Agriculture	Road crossing	No
1201A	39.1	50 x 227	0.2	Open land	Staging area for parking/equipment	No
1202	39.3	50 x 143	0.2	Open land	Stream crossing	No
1203	39.4	52 x 74	0.1	Forest, open land	Stream crossing	No
1204	40.0	50 x 150	0.2	Agriculture, open land	Road crossing	No
1205	40.0	50 x 173	0.2	Agriculture	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1206	40.7	50 x 254	0.2	Open land	Road crossing	No
1207	40.8	50 x 257	0.2	Agriculture, open land	Road crossing	No
1208	41.1	50 x 200	0.2	Open land	Stream crossing	No
1209	41.1	74 x 219	0.2	Forest	Stream crossing	No
1210	42.2	50 x 150	0.2	Open land	Road crossing	No
1211	42.2	77 x 129	0.1	Open land	Road crossing/stream crossing	No
1212	42.3	51 x 144	0.2	Agriculture, forest	Stream crossing	No
1213	43.7	50 x 200	0.2	Open land	Stream crossing	No
1214	43.7	51 x 117	0.1	Forest, open land	Stream crossing	No
1215	43.7	50 x 151	0.2	Open land	Stream crossing	No
1216	44.0	50 x 170	0.2	Open land	Road crossing	No
1217	44.1	50 x 150	0.2	Open land	Road crossing	No
1217A	44.5	50 x 290	0.3	Open land	Road crossing	No
1218	44.9	100 x 152	0.4	Agriculture, open land	Road crossing	No
1219	45.0	100 x 150	0.3	Agriculture	Road crossing	No
1220	45.4	63 x 147	0.2	Agriculture, open land	Road crossing	No
1222	45.4	50 x 150	0.2	Open land	Road crossing	No
1223	45.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1224	45.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1225	45.9	137 x 214	0.3	Forest, open land	Road crossing	No
1226	45.9	116 x 283	0.3	Forest, open land	Road crossing	No
1229	46.4	50 x 101	0.1	Forest, open land	Stream crossing	No
1230	46.5	50 x 228	0.3	Forest, open land	Road crossing/stream crossing	No
1231	46.5	50 x 150	0.2	Agriculture, forest	Road crossing	No
1232	46.7	92 x 223	0.3	Agriculture	Temporary soil storage	No
1234	47.6	50 x 315	0.3	Agriculture	Pipeline crossing	No
1236	47.6	50 x 174	0.2	Open land	Road crossing	No
1237	48.7	55 x 155	0.2	Agriculture, open land	Road crossing	No
1238	48.7	54 x 201	0.2	Agriculture	Road crossing	No
1240	48.8	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1241	48.8	50 x 200	0.2	Open land	Stream crossing	No
1242	49.1	100 x 150	0.3	Open land	Road crossing	No
1243	49.2	50 x 312	0.3	Developed land, open land	Road crossing	No
1244	49.3	88 x 222	0.3	Agriculture	Road crossing	No
1243A	49.3	50 x 136	0.1	Agriculture, open land	Road crossing	No
1244A	49.9	91 x 223	0.3	Agriculture	Spoils for significant PI	No
1245	50.0	50 x 221	0.2	Agriculture	Road crossing	No
1246	50.0	50 x 150	0.1	Agriculture, developed land	Road crossing	No
1247	50.1	50 x 200	0.2	Agriculture, open land	Pipeline crossing	No
1248	50.4	103 x 413	0.3	Agriculture, forest	Pipeline crossing/stream crossing	No
1249	50.4	78 x 222	0.3	Forest, open land	Stream crossing	No
1249A	50.5	50 x 200	0.2	Forest, open land	Environmental feature crossing and spoils for significant PI	No
1250	50.8	50 x 200	0.2	Forest, open land	Stream crossing	No
1251	50.9	50 x 200	0.2	Open land	Stream crossing	No
1252	51.1	52 x 208	0.2	Forest, open land	Stream crossing	No
1253	51.2	50 x 200	0.2	Open land	Stream crossing	No
1254	51.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1255	51.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1255A	52.1	50 x 200	0.2	Open land	Environmental feature crossing	No
1255B	52.1	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1256	52.2	50 x 150	0.2	Open land	Road crossing	No
1257	52.3	41 x 113	0.1	Developed land, open land	Road crossing	No
1256A	52.3	50 x 175	0.2	Developed land, open land	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1258	52.7	35 x 200	0.2	Developed land, open land	Stream crossing	No
1259	52.7	37 x 200	0.2	Agriculture, forest	Stream crossing	No
1260	53.3	50 x 121	0.1	Open land	Road crossing	No
1259A	53.3	50 x 200	0.2	Forest, open land	Stream crossing	No
1261	53.4	50 x 168	0.2	Open land	Road crossing and pipeline crossing	No
1261A	53.6	73 x 217	0.2	Open land	Spoils for significant PI	No
1261B	53.7	50 x 214	0.2	Open land	Staging area for parking/equipment	No
1261C	53.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1261D	53.9	50 x 200	0.2	Open land	Environmental feature crossing	No
1262	54.4	52 x 202	0.2	Agriculture, forest	Stream crossing	No
1263	54.5	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1264	54.6	50 x 150	0.2	Agriculture	Road crossing	No
1265	54.6	57 x 164	0.2	Agriculture, forest	Road crossing	No
1266	55.4	31 x 203	0.1	Open land	Pipeline crossing	No
1267	55.4	25 x 200	0.1	Open land	Pipeline crossing	No
1268	55.6	100 x 200	0.4	Open land	Road crossing	No
1270	55.7	108 x 210	0.5	Open land, residential	Road crossing	No
1270A	56.0	50 x 135	0.2	Forest, open land	Stream crossing	No
1270B	56.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1271	56.5	50 x 189	0.2	Open land	Wetland crossing	No
1273	56.8	50 x 174	0.2	Open land	Pipeline crossing/stream crossing	No
1274	56.8	65 x 215	0.2	Forest, open land	Stream crossing	No
1271A	56.8	96 x 369	0.3	Forest, open land	Spoils for significant PI	No
1274A	56.9	50 x 150	0.2	Open land	Road crossing	No
1274B	56.9	50 x 166	0.2	Open land	Road crossing	No
1275	57.0	50 x 200	0.2	Forest, open land	Stream crossing	No
1276	57.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1278	57.4	113 x 204	0.2	Open land	Road crossing	No
1279	57.4	89 x 226	0.3	Open land	Road crossing	No
1280	57.5	50 x 200	0.2	Forest, open land	Stream crossing	No
1281	57.6	50 x 200	0.2	Forest, open land	Stream crossing	No
1282	57.7	50 x 200	0.2	Open land	Stream crossing	No
1283	58.1	35 x 200	0.2	Forest, open land	Stream crossing	No
1284	58.2	35 x 279	0.2	Open land	Stream crossing	No
1285	58.2	41 x 204	0.2	Open land	Stream crossing	No
1286	58.3	35 x 200	0.2	Open land	Stream crossing	No
1287	58.4	35 x 130	0.1	Open land	Stream crossing	No
1288	59.0	60 x 214	0.2	Open land	Road crossing	No
1289	59.0	50 x 106	0.1	Open land	Road crossing/stream crossing	No
1290	59.1	50 x 200	0.2	Open land	Stream crossing	No
1290A	59.1	50 x 292	0.3	Open land	Staging area for parking/equipment	No
1291	59.6	113 x 329	0.4	Forest, open land	Stream crossing	No
1292	59.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1293	59.8	50 x 150	0.2	Open land	Road crossing	No
1294	59.9	50 x 200	0.2	Open land	Road crossing	No
1294A	59.9	50 x 150	0.2	Open land	Spoils for significant PI	No
1295	60.2	50 x 150	0.2	Open land	Road crossing	No
1296	60.2	50 x 220	0.3	Open land	Road crossing	No
1297	60.2	50 x 150	0.2	Forest, open land	Road crossing	No
1297A	60.4	50 x 200	0.2	Open land	Spoils for significant PI	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1297B	60.5	100 x 100	0.2	Open land	Water access for hydrostatic testing	AS-GR-NHD-WB-335
1298	60.8	50 x 150	0.2	Open land	Stream crossing	No
1299	60.9	50 x 116	0.1	Agriculture, open land	Stream crossing	No
1298A	60.9	50 x 200	0.2	Agriculture	Spoils for significant PI	No
1299A	60.9	50 x 200	0.2	Agriculture, open land	Environmental feature crossing	No
1300	61.0	50 x 375	0.4	Developed land, open land	Stream crossing	No
1299B	61.0	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1301	61.1	50 x 200	0.2	Open land	Stream crossing	No
1302	61.3	25 x 200	0.1	Open land	Pipeline crossing	No
1303	61.5	50 x 150	0.2	Open land	Road crossing	No
1304	61.6	50 x 150	0.2	Forest, open land	Road crossing	No
1305	61.9	35 x 200	0.2	Forest, open land	Stream crossing	No
1306	61.9	35 x 200	0.2	Forest	Stream crossing	No
1307	62.4	25 x 200	0.1	Developed land, open land	Pipeline crossing	No
1308	62.5	50 x 150	0.2	Developed land, open land	Road crossing	No
1309	62.6	50 x 163	0.2	Open land	Road crossing	No
1309A	62.7	60 x 199	0.2	Open land	Environmental feature crossing	No
1309B	62.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1310	63.3	50 x 200	0.2	Developed land, forest, open land	Stream crossing	No
1311	63.4	50 x 444	0.4	Developed land, forest, open land	Stream crossing	No
1313	63.6	76 x 135	0.1	Developed land, open land	Road crossing	No
1314	63.6	50 x 150	0.2	Open land	Road crossing	No
1315	63.8	50 x 200	0.2	Open land	Stream crossing	No
1316	63.9	50 x 200	0.2	Open land	Stream crossing	No
1316A	64.4	50 x 150	0.2	Open land	Environmental feature crossing	No
1316B	64.5	50 x 150	0.2	Open land	Environmental feature crossing	No
1317	64.6	50 x 150	0.2	Forest, open land	Road crossing	No
1318	64.6	50 x 150	0.2	Forest, open land	Road crossing	No
1319	64.8	75 x 200	0.3	Open land	HDD – Washita River	No
1319A	64.8	30 x 200	0.1	Open land	HDD – Washita River	No
1320	65.1	75 x 200	0.3	Agriculture	HDD – Washita River	No
1320A	65.2	90 x 421	0.4	Agriculture	HDD – Washita River	No
1320B	65.9	50 x 200	0.2	Agriculture	Staging area for parking/equipment	No
1323	66.1	50 x 150	0.2	Agriculture, open land	Road crossing	No
1324	66.2	50 x 192	0.2	Agriculture	Road crossing and pipeline crossing	No
1327	66.5	50 x 204	0.2	Agriculture	Temporary soil storage	No
1327A	66.9	50 x 200	0.2	Agriculture, forest	Environmental feature crossing	No
1330	67.0	64 x 198	0.2	Open land	Stream crossing	No
1330A	67.0	50 x 213	0.2	Open land	Staging area for parking/equipment	No
1331	67.3	101 x 186	0.4	Open land	Road crossing	No
1332	67.3	100 x 183	0.4	Open land	Road crossing	No
1333	67.4	31 x 204	0.1	Open land	Pipeline crossing	No
1334	67.9	25 x 200	0.1	Forest, open land	Pipeline crossing	No
1335	68.0	25 x 200	0.1	Forest, open land	Pipeline crossing	No
1335A	68.2	50 x 200	0.2	Open land	Stream crossing	No
1335B	68.2	50 x 200	0.2	Open land	Stream crossing	No
1336	68.4	50 x 200	0.2	Open land	Stream crossing	No
1337	68.5	84 x 223	0.3	Open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1338	68.5	25 x 200	0.1	Developed land, open land	Pipeline crossing	No
1339	68.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1340	68.8	50 x 141	0.2	Forest, open land	Stream crossing	No
1341	68.8	25 x 200	0.1	Open land	Pipeline crossing	No
1341A	68.9	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1342	69.1	96 x 236	0.3	Open land	Temporary soil storage	No
1342A	69.2	80 x 184	0.2	Developed land, open land	Road crossing	No
1343	69.3	107 x 353	0.4	Forest, open land	Pipeline crossing/stream crossing	No
1344	69.4	50 x 195	0.2	Forest, open land	Stream crossing	No
1345	69.4	25 x 200	0.1	Open land	Pipeline crossing	No
1343A	69.4	77 x 174	0.2	Forest, open land	Pipeline crossing/stream crossing	No
1346	69.8	50 x 228	0.3	Open land	Road crossing and pipeline crossing	No
1347	69.9	50 x 200	0.2	Agriculture	Road crossing and pipeline crossing	No
1349	71.0	35 x 107	0.1	Agriculture	Stream crossing	No
1350	71.1	60 x 200	0.3	Agriculture, developed land, open land	Stream crossing	No
1351	71.9	126 x 145	0.3	Agriculture, forest	Stream crossing	No
1350A	71.9	50 x 222	0.3	Agriculture	Pipeline crossing and spoils for significant PI	No
1352	72.0	50 x 196	0.2	Forest, open land	Pipeline crossing/stream crossing	No
1353	72.2	111 x 253	0.3	Developed land, open land	Road crossing and pipeline crossing	No
1352A	72.2	117 x 222	0.3	Open land	Spoils for significant PI	No
1353A	72.7	110 x 334	0.4	Forest, open land	Pipeline crossing and spoils for significant PI	No
1353B	72.7	50 x 265	0.3	Open land	Pipeline crossing/stream crossing	No
1356	73.3	51 x 160	0.2	Developed land, open land	Road crossing	No
1358	73.4	50 x 200	0.2	Forest, open land	Stream crossing	No
1359	73.5	25 x 200	0.1	Forest, open land	Pipeline crossing	No
1360	73.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1361	73.8	50 x 200	0.2	Forest	Stream crossing	No
1361A	73.9	50 x 200	0.2	Open land	Spoils for significant PI	No
1361B	73.9	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1362	74.0	25 x 100	0.1	Developed land, open land	Road crossing	No
1363	74.0	58 x 215	0.3	Open land	Road crossing and pipeline crossing	No
1363A	74.1	91 x 222	0.3	Forest, open land	Spoils for significant PI	No
1363B	74.3	50 x 285	0.3	Developed land, forest, open land	Road crossing	No
1363C	74.3	50 x 200	0.2	Developed land, open land	Staging area for parking/equipment	No
1365	74.5	25 x 255	0.2	Open land	Pipeline crossing	No
1366	74.6	50 x 252	0.3	Forest, open land	Pipeline crossing	No
1367	74.8	50 x 200	0.2	Forest	Stream crossing	No
1368	74.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1369	75.1	25 x 200	0.1	Open land	Pipeline crossing	No
1371	75.2	50 x 200	0.2	Open land	Stream crossing	No
1371A	75.2	25 x 137	0.1	Open land	Pipeline crossing and spoils for significant PI	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1373	75.3	50 x 197	0.2	Forest, open land	Stream crossing	No
1371B	75.3	50 x 200	0.2	Open land	Spoils for significant PI	No
1374	75.4	50 x 223	0.3	Forest	Stream crossing	No
1374A	75.5	25 x 241	0.1	Forest	Spoils for significant PI	No
1375A	75.7	25 x 200	0.1	Forest	Pipeline crossing	No
1376	75.8	25 x 200	0.1	Forest, open land	Pipeline crossing	No
1377	76.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1378	76.2	50 x 200	0.2	Forest, open land	Stream crossing	No
1379	76.3	50 x 201	0.2	Open land	Stream crossing	No
1379A	76.3	72 x 199	0.2	Open land	Road crossing	No
1381	76.5	25 x 206	0.1	Open land	Pipeline crossing	No
1381A	76.8	50 x 549	0.6	Developed land, open land	Staging area for parking/equipment	No
1382	77.2	35 x 200	0.2	Forest, open land	Stream crossing	No
1383	77.3	50 x 140	0.2	Open land	Pipeline crossing/road crossing/stream crossing	No
1383A	77.8	119 x 186	0.3	Agriculture	Environmental feature crossing and spoils for significant PI	No
1387	77.9	50 x 187	0.2	Developed land, open land	Pipeline crossing	No
1389	78.2	25 x 200	0.1	Forest, open land	Pipeline crossing	No
Garvin						
1389A	78.4	33 x 191	0.1	Open land	Pipeline crossing and spoils for significant PI	No
1389B	78.4	100 x 224	0.3	Open land	Spoils for significant PI	No
1390	78.6	50 x 200	0.2	Open land	Stream crossing	No
1391	78.6	50 x 200	0.2	Open land	Stream crossing	No
1391A	78.7	50 x 200	0.2	Open land	Stream crossing	No
1391B	78.7	25 x 442	0.3	Open land	Staging area for parking/equipment	No
1391C	78.8	167 x 285	0.2	Open land	Staging area for parking/equipment	No
1391D	78.8	50 x 200	0.2	Open land	Stream crossing	No
1391E	79.0	50 x 226	0.3	Open land	Staging area for parking/equipment	No
1392	79.2	50 x 200	0.2	Open land	Pipeline crossing/stream crossing	No
1393	79.3	50 x 200	0.2	Open land	Stream crossing	No
1394	79.5	25 x 217	0.1	Open land	Pipeline crossing	No
1394A	79.7	50 x 200	0.2	Forest	Environmental feature crossing	No
1396	79.8	50 x 200	0.2	Forest, open land	Stream crossing	No
1398	80.0	50 x 200	0.2	Forest, open land	Stream crossing	No
1396A	80.0	97 x 224	0.3	Forest, open land	Spoils for significant PI	No
1398A	80.1	117 x 397	0.3	Open land	Spoils for significant PI	No
1398B	80.2	85 x 235	0.3	Developed land, open land	Road crossing	No
1398C	80.3	141 x 212	0.3	Forest, open land	Pipeline crossing and spoils for significant PI	No
1398D	80.3	50 x 150	0.2	Open land	Pipeline crossing and spoils for significant PI	No
1400	80.4	78 x 178	0.2	Open land	Road crossing and pipeline crossing	No
1401	80.4	25 x 200	0.1	Open land	Pipeline crossing	No
1400A	80.4	50 x 153	0.2	Open land	Road crossing and spoils for significant PI	No
1401A	80.6	50 x 194	0.2	Developed land, open land	Staging area for parking/equipment	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1401B	80.9	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1401C	81.0	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1402	81.1	60 x 105	0.1	Open land	Road crossing and pipeline crossing	No
1403	81.1	70 x 187	0.2	Open land	Road crossing	No
1402A	81.1	37 x 64	0.0	Open land	Pipeline crossing and parking/equipment	No
1404	81.2	50 x 100	0.1	Open land	Stream crossing	No
1405	81.3	50 x 100	0.1	Open land	Stream crossing	No
1406	81.3	50 x 100	0.1	Forest, open land	Stream crossing	No
1407	81.5	50 x 200	0.2	Forest, open land	Stream crossing	No
1408	81.6	50 x 200	0.2	Forest, open land	Stream crossing	No
1411	82.1	113 x 320	0.3	Open land	Pipeline crossing	No
1412	82.2	115 x 363	0.4	Open land	Pipeline crossing	No
1413	82.4	50 x 153	0.2	Open land	Road crossing and pipeline crossing	No
1414	82.4	50 x 165	0.2	Open land	Road crossing and pipeline crossing	No
1415	82.5	25 x 150	0.1	Open land	Pipeline crossing	No
1418	82.8	120 x 425	0.5	Forest, open land	Pipeline crossing	No
1419	82.9	50 x 196	0.2	Developed land, forest, open land	Road crossing	No
1420	83.0	50 x 150	0.2	Open land	Road crossing and pipeline crossing	No
1420A	83.1	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1420B	83.7	96 x 223	0.3	Agriculture, developed land, open land	Road crossing and spoils for significant PI	No
1421	83.8	50 x 200	0.2	Forest, open land	Stream crossing	No
1422	83.9	50 x 380	0.4	Open land	Stream crossing	No
1422A	84.0	50 x 200	0.2	Developed land, open land	Spoils for significant PI	No
1424	84.1	50 x 296	0.3	Open land	Pipeline crossing/stream crossing	No
1425	84.1	51 x 200	0.2	Open land	Pipeline crossing/stream crossing	No
1426	84.5	50 x 171	0.2	Developed land, open land	Road crossing	No
1427	84.5	50 x 243	0.3	Developed land, open land	Road crossing and pipeline crossing	No
1428	84.5	50 x 256	0.3	Agriculture, open land	Road crossing and pipeline crossing	No
1429	84.8	53 x 435	0.4	Open land	Pipeline crossing	No
1431	84.9	50 x 200	0.2	Open land	Stream crossing	No
1432	85.0	26 x 200	0.1	Open land	Pipeline crossing	No
1435	85.1	50 x 195	0.2	Open land	Road crossing	No
Stephens						
1436	85.2	50 x 235	0.2	Open land	Road crossing	No
1437	85.5	93 x 492	0.4	Developed land, forest, open land	Pipeline crossing	No
1437A	85.6	50 x 204	0.2	Forest, open land	Pipeline crossing and parking/equipment	No
1438	85.7	100 x 150	0.3	Forest, open land	Stream crossing	No
1440	85.7	73 x 207	0.2	Open land	Road crossing	No
1441	85.7	65 x 146	0.2	Open land	Road crossing	No
1442	85.8	85 x 209	0.2	Open land	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1443	85.9	50 x 257	0.3	Developed land, open land	Stream crossing	No
1443A	86.1	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1443B	86.2	50 x 200	0.2	Open land	Environmental feature crossing	No
1445	86.3	25 x 205	0.1	Forest, open land	Pipeline crossing	No
1445A	86.3	50 x 200	0.2	Open land	Road crossing	No
1446	86.6	25 x 376	0.2	Open land	Pipeline crossing	No
1448	86.7	35 x 150	0.1	Developed land, open land	Road crossing	No
1449	86.8	53 x 377	0.5	Agriculture, forest	Road crossing	No
1451	86.9	50 x 200	0.2	Agriculture	Stream crossing	No
1452	87.0	50 x 200	0.2	Agriculture	Stream crossing	No
1453	87.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1454	87.1	50 x 200	0.2	Open land	Stream crossing	No
1453A	87.1	50 x 190	0.2	Developed land, forest, open land	Pipeline crossing/stream crossing	No
1455	87.2	50 x 200	0.2	Forest	Stream crossing	No
1455A	87.2	50 x 200	0.2	Forest	Spoils for significant PI	No
1456	87.3	25 x 200	0.1	Open land	Pipeline crossing	No
1457	87.7	38 x 198	0.1	Open land	Pipeline crossing	No
1458	87.9	50 x 260	0.3	Developed land, open land	Pipeline crossing	No
1459	88.1	25 x 200	0.1	Open land	Temporary soil storage	No
1460	88.2	25 x 200	0.1	Developed land, open land	Pipeline crossing	No
1461	88.4	25 x 262	0.2	Developed land, open land	Pipeline crossing	No
1462	88.5	50 x 215	0.3	Open land	Road crossing and pipeline crossing	No
1464	88.5	50 x 198	0.2	Open land	Road crossing	No
1466	88.8	50 x 200	0.2	Open land	Stream crossing	No
1466A	88.8	100 x 100	0.2	Developed land, open land	Water access for hydrostatic testing	AS-ST-NHD-WB-334
1467	88.9	50 x 200	0.2	Open land	Stream crossing	No
1468	89.1	50 x 200	0.2	Open land	Stream crossing	No
1469	89.2	50 x 200	0.2	Forest, open land	Stream crossing	No
1470	89.4	50 x 200	0.2	Open land	Pipeline crossing	No
1470A	89.4	50 x 200	0.2	Open land	Spoils for significant PI	No
1471	89.6	50 x 200	0.2	Forest, open land	Pipeline crossing/stream crossing	No
1471A	89.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1472	89.7	50 x 200	0.2	Forest, open land	Pipeline crossing/stream crossing	No
Garvin						
1472A	89.7	50 x 205	0.2	Developed land, open land	Staging area for parking/equipment	No
1473	89.8	50 x 200	0.2	Forest, open land	Stream crossing	No
1472B	89.8	92 x 223	0.3	Open land	Spoils for significant PI	No
1474	89.9	87 x 299	0.4	Forest, open land	Stream crossing	No
1475	90.1	139 x 232	0.5	Open land	Road crossing	No
1476	90.1	121 x 232	0.5	Open land	Road crossing	No
1475A	90.1	50 x 149	0.1	Open land	Stream crossing	No
1478	90.3	25 x 200	0.1	Open land	Pipeline crossing	No
1479	90.4	35 x 200	0.2	Forest, open land	Stream crossing	No
1480	90.4	35 x 200	0.2	Forest, open land	Stream crossing	No
1481	90.6	50 x 170	0.2	Open land	Road crossing and pipeline crossing	No
1482	90.7	50 x 167	0.2	Open land	Road crossing	No
1483	90.9	35 x 200	0.2	Forest, open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1484	90.9	35 x 200	0.2	Forest	Stream crossing	No
1484A	91.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1485	91.2	50 x 388	0.4	Open land	Stream crossing	No
1486	91.3	35 x 200	0.2	Open land	Stream crossing	No
1487	91.5	25 x 200	0.1	Open land	Pipeline crossing	No
1487A	91.8	50 x 200	0.2	Open land	Stream crossing	No
1487B	91.9	50 x 200	0.2	Open land	Stream crossing	No
1488	92.3	35 x 160	0.1	Forest, open land	Stream crossing	No
1489	92.4	50 x 275	0.3	Open land	Stream crossing	No
1490	92.4	50 x 100	0.1	Open land	Stream crossing	No
1489A	92.4	100 x 100	0.2	Open land	Water access for hydrostatic testing	AS-GA-NHD-WB-333
1491	92.5	50 x 100	0.1	Open land	Stream crossing	No
1491A	92.6	50 x 154	0.2	Forest	Staging area for parking/equipment	No
1492	92.8	50 x 200	0.2	Forest	Stream crossing	No
1493	92.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1494	93.0	50 x 200	0.2	Open land	Pipeline crossing	No
1493A	93.0	51 x 200	0.2	Open land	Road crossing	No
1495	93.1	50 x 200	0.2	Open land	Stream crossing	No
1496	93.2	50 x 200	0.2	Open land	Stream crossing	No
1497	93.5	50 x 150	0.1	Developed land, open land	Road crossing	No
1498	93.6	50 x 161	0.2	Developed land, open land	Road crossing	No
1499	93.6	50 x 150	0.1	Open land	Road crossing	No
1500	93.7	50 x 200	0.2	Open land	Stream crossing	No
1501	93.7	50 x 200	0.2	Open land	Stream crossing	No
1502	94.2	25 x 200	0.1	Open land	Pipeline crossing	No
1503	94.5	50 x 200	0.2	Open land	Pipeline crossing	No
1503A	94.7	50 x 260	0.3	Open land	Spoils for significant PI	No
1508	94.8	50 x 723	0.8	Forest, open land	Stream crossing	No
1510	94.9	35 x 200	0.2	Open land	Pipeline crossing/stream crossing	No
1511	95.0	35 x 200	0.2	Open land	Stream crossing	No
1511A	95.0	50 x 105	0.1	Developed land, open land	Road crossing	No
1511B	95.0	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1512	95.2	50 x 100	0.1	Open land	Stream crossing	No
1513	95.3	50 x 200	0.2	Open land	Stream crossing	No
1515	95.4	50 x 322	0.3	Open land	Pipeline crossing/stream crossing	No
1516	95.5	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1516A	95.7	50 x 210	0.2	Open land	Staging area for parking/equipment	No
1517	95.8	25 x 200	0.1	Agriculture, open land	Pipeline crossing	No
1518	95.9	67 x 194	0.2	Agriculture, developed land	Stream crossing	No
1518A	95.9	77 x 208	0.2	Agriculture	Environmental feature crossing	No
1518B	95.9	58 x 115	0.1	Open land	Pipeline crossing/stream crossing	No
1519	96.0	50 x 173	0.2	Open land	Pipeline crossing/stream crossing/road crossing	No
1520	96.0	50 x 186	0.2	Developed land, open land	Road crossing	No
1520A	96.2	50 x 213	0.2	Forest, open land	Staging area for parking/equipment	No
1521	96.3	50 x 200	0.2	Forest	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1522	96.4	60 x 216	0.2	Forest	Stream crossing	No
1523	96.5	50 x 200	0.2	Forest	Stream crossing	No
1523A	96.5	40 x 373	0.3	Forest	Environmental feature crossing	No
1524	96.6	58 x 356	0.4	Forest	Stream crossing	No
1526	96.7	57 x 177	0.2	Forest, open land	Stream crossing	No
1526B	96.7	25 x 111	0.1	Open land	Pipeline crossing	No
1526A	97.1	50 x 150	0.2	Developed land, forest, open land	Road crossing	No
1526C	97.1	50 x 175	0.2	Open land	Road crossing	No
1528	97.2	50 x 200	0.2	Open land	Temporary soil storage	No
1528A	97.4	51 x 200	0.2	Open land	Stream crossing	No
1529	97.5	50 x 356	0.4	Forest, open land	Stream crossing	No
1530	97.6	50 x 200	0.2	Forest	Stream crossing	No
1531	97.7	25 x 250	0.1	Forest, open land	Pipeline crossing	No
1532	98.0	25 x 200	0.1	Open land	Pipeline crossing	No
1532A	98.2	50 x 150	0.2	Developed land, open land	Road crossing	No
1532B	98.2	53 x 172	0.2	Open land	Road crossing	No
1533	98.6	50 x 200	0.2	Forest	Stream crossing	No
1535	98.7	58 x 208	0.2	Forest	Stream crossing	No
1535A	99.0	50 x 200	0.2	Forest, open land	Stream crossing	No
1535B	99.0	50 x 200	0.2	Forest	Stream crossing	No
1536	99.2	50 x 200	0.2	Forest	Pipeline crossing	No
1536A	99.3	50 x 200	0.2	Forest	Pipeline crossing	No
1539	99.6	50 x 199	0.2	Open land	Stream crossing	No
1540	99.7	50 x 200	0.2	Open land	Pipeline crossing/stream crossing	No
1540A	100.1	50 x 200	0.2	Forest	Stream crossing	No
1540B	100.2	50 x 200	0.2	Forest, open land	Stream crossing	No
1541	100.4	100 x 150	0.3	Open land	Sandy bear creek	No
Carter						
1542	100.6	50 x 150	0.1	Open land	Sandy bear creek	No
1542A	100.6	69 x 277	0.3	Open land	HDD – Wildhorse Creek	No
1543	101.1	35 x 200	0.2	Agriculture, open land	Pipeline crossing	No
1543A	101.3	50 x 201	0.2	Agriculture, open land	Road crossing	No
1543B	101.4	50 x 151	0.2	Open land	Road crossing	No
1543C	101.8	50 x 197	0.2	Forest	Road crossing	No
1543D	101.8	52 x 151	0.2	Forest, open land	Road crossing	No
1544	102.0	50 x 160	0.2	Forest, open land	Road crossing	No
1543E	102.0	50 x 255	0.3	Forest, open land	Staging area for parking/equipment	No
1545	102.1	50 x 150	0.2	Forest	Road crossing	No
1545A	102.4	50 x 314	0.3	Open land	Staging area for parking/equipment	No
1545B	102.6	58 x 424	0.5	Open land	Pipeline crossing	No
1546	102.7	50 x 200	0.2	Forest	Pipeline crossing/stream crossing	No
1548	102.9	50 x 200	0.2	Forest	Stream crossing	No
1549	103.0	50 x 122	0.1	Forest, open land	Stream crossing/road crossing	No
1550	103.0	62 x 154	0.2	Forest, open land	Road crossing	No
1551	103.1	33 x 190	0.1	Open land	Pipeline crossing	No
1552	103.2	50 x 150	0.1	Forest, open land	Pipeline crossing	No
1553	103.3	53 x 202	0.2	Forest	Road crossing	No
1554	103.5	87 x 372	0.4	Open land	Road crossing	No
1554A	103.5	92 x 223	0.3	Forest, open land	Spoils for significant PI	No
1555	103.6	50 x 150	0.2	Forest, open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1556	103.6	50 x 150	0.2	Forest, open land	Stream crossing	No
1557	103.7	86 x 352	0.4	Open land	Pipeline crossing	No
1558	103.8	25 x 225	0.1	Forest, open land	Pipeline crossing	No
1558A	104.1	35 x 200	0.2	Open land	Stream crossing	No
1558B	104.2	40 x 200	0.2	Open land	Staging area for parking/equipment	No
1558C	104.2	35 x 200	0.2	Open land	Stream crossing	No
1559	104.3	35 x 171	0.1	Open land	Road crossing	No
1560	104.3	29 x 151	0.1	Open land	Road crossing	No
1561	104.6	71 x 216	0.2	Open land	Road crossing	No
1562	105.0	111 x 296	0.3	Open land	Road crossing	No
1563	105.1	82 x 224	0.2	Open land	Road crossing	No
1564	105.5	50 x 184	0.2	Open land	Road crossing	No
1565	105.5	50 x 150	0.2	Open land	Road crossing	No
1565A	105.7	50 x 283	0.3	Open land	Staging area for parking/equipment	No
1565B	105.8	35 x 150	0.1	Open land	Environmental feature crossing	No
1565C	105.8	35 x 150	0.1	Open land	Environmental feature crossing	No
1566	106.1	25 x 200	0.1	Agriculture, open land	Pipeline crossing	No
1566A	106.2	50 x 274	0.3	Open land	Staging area for parking/equipment	No
1567	106.7	25 x 156	0.1	Forest, open land	Road crossing	No
1568	106.7	29 x 154	0.1	Open land	Road crossing	No
1568A	106.8	50 x 164	0.2	Open land	Environmental feature crossing	No
1569	107.2	25 x 216	0.1	Open land	Pipeline crossing	No
1569A	107.5	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1570	107.6	57 x 223	0.2	Forest, open land	Road crossing	No
1571	107.7	91 x 219	0.2	Open land	Road crossing	No
1572	107.7	25 x 200	0.1	Open land	Pipeline crossing	No
1573	108.0	88 x 294	0.2	Open land	Pipeline crossing	No
1574	108.4	50 x 200	0.2	Open land	Stream crossing	No
1575	108.5	64 x 217	0.2	Open land	Stream crossing	No
1575A	108.7	50 x 200	0.2	Open land	Stream crossing	No
1575B	108.7	50 x 200	0.2	Open land	Stream crossing	No
1575C	108.8	50 x 200	0.2	Forest	Stream crossing	No
1575D	108.9	50 x 200	0.2	Open land	Stream crossing	No
1576	109.0	50 x 200	0.2	Forest, open land	Stream crossing	No
1577	109.0	52 x 200	0.2	Forest	Stream crossing	No
1577A	109.2	50 x 200	0.2	Open land	Environmental feature crossing	No
1578	109.3	50 x 200	0.2	Open land	Stream crossing	No
1578A	109.6	52 x 161	0.2	Forest, open land	Environmental feature crossing	No
1578B	109.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1578C	109.8	81 x 188	0.2	Open land	Spoils for significant PI	No
1578D	109.9	50 x 200	0.2	Open land	Environmental feature crossing	No
1578E	110.0	50 x 150	0.1	Open land	Environmental feature crossing	No
1578F	110.0	35 x 150	0.1	Open land	Environmental feature crossing	No
1578G	110.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1578H	110.9	50 x 175	0.2	Open land	Road crossing	No
5000T	110.9	94 x 174	0.2	Open land, open water	Staging area for parking/equipment	S-CR-RKT-17/06/28-02
1578J	111.3	50 x 150	0.2	Forest	Environmental feature crossing	No
1578K	111.4	50 x 150	0.2	Forest, open land	Environmental feature crossing	No
1578L	111.8	67 x 226	0.2	Forest, open land	Pipeline crossing/stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1578M	111.8	60 x 243	0.2	Forest, open land	Pipeline crossing/stream crossing	No
1578N	111.8	50 x 150	0.2	Open land	Environmental feature crossing	No
1578O	112.1	50 x 150	0.2	Open land	Environmental feature crossing	No
1578P	112.1	50 x 150	0.2	Agriculture	Environmental feature crossing	No
1579	112.2	104 x 224	0.3	Agriculture	Pipeline crossing	No
1580	112.8	50 x 200	0.2	Open land	Stream crossing	No
1581	112.8	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1581A	113.0	50 x 200	0.2	Agriculture, open land	Stream crossing	No
1581B	113.1	62 x 336	0.4	Open land	Environmental feature crossing	No
1581C	113.2	51 x 200	0.2	Open land	Environmental feature crossing	No
1581D	113.2	50 x 200	0.2	Open land	Road crossing	No
1581E	113.3	50 x 200	0.2	Open land	Environmental feature crossing	No
1581F	113.4	50 x 200	0.2	Open land	Environmental feature crossing	No
1581G	113.5	50 x 200	0.2	Open land	Environmental feature crossing	No
1581H	113.6	50 x 200	0.2	Open land	Stream crossing	No
1581J	113.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1581K	113.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1581L	113.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1581M	114.1	50 x 150	0.2	Agriculture, forest	Environmental feature crossing	S-CR-RKT-17/01/16-98
1582	114.2	50 x 150	0.2	Forest, open land	Stream crossing	No
1582A	114.5	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1582B	114.6	50 x 200	0.2	Open land	Environmental feature crossing	No
1583	115.0	97 x 224	0.3	Open land	Wetland crossing	No
1584	115.0	103 x 359	0.4	Open land	Stream crossing	No
1585	115.3	82 x 187	0.2	Open land	Pipeline crossing	No
1586	115.8	50 x 150	0.2	Forest, open land	Stream crossing	No
1587	115.8	50 x 150	0.2	Forest, open land	Stream crossing	No
1587A	116.1	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1587B	116.1	50 x 200	0.2	Open land	Environmental feature crossing	No
1588	116.3	50 x 200	0.2	Agriculture	Wetland crossing	No
1589	116.4	50 x 200	0.2	Open land	Wetland crossing	No
1589A	116.5	25 x 150	0.1	Open land	Environmental feature crossing	No
1590	116.7	25 x 189	0.1	Open land	Pipeline crossing	No
1590A	116.7	95 x 223	0.3	Open land	Spoils for significant PI	No
1590B	116.9	50 x 200	0.2	Open land	Environmental feature crossing	No
1591	117.0	50 x 200	0.2	Open land	Road crossing	No
1592	117.1	64 x 197	0.2	Open land	Road crossing/stream crossing	No
1592A	117.3	50 x 184	0.2	Open land	Environmental feature crossing and spoils for significant PI	No
1592B	117.3	50 x 200	0.2	Agriculture, open land	Environmental feature crossing	No
1593	117.7	25 x 150	0.1	Open land	Wetland crossing	No
1594	117.7	25 x 150	0.1	Open land	Wetland crossing	No
1596	118.2	50 x 200	0.2	Open land	Road crossing	No
1597	118.3	50 x 200	0.2	Open land	Pipeline crossing	No
1598	118.5	70 x 150	0.2	Open land	Road crossing	No
1599	118.6	90 x 308	0.6	Open land	Road crossing and pipeline crossing	No
1599A	118.7	50 x 200	0.2	Open land	Environmental feature crossing	No
1599B	118.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1601	119.2	50 x 156	0.2	Developed land, residential	Road crossing	No
1601A	119.4	25 x 100	0.1	Open land	Environmental feature crossing	No
1601B	119.4	50 x 150	0.2	Open land	Road crossing	No
1601C	119.4	50 x 150	0.2	Open land	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1601D	119.7	50 x 150	0.2	Open land	Road crossing	No
1601E	119.7	50 x 156	0.2	Open land	Road crossing	No
1601F	119.8	35 x 200	0.2	Forest, open land	Environmental feature crossing	No
1601G	119.9	35 x 200	0.2	Open land	Environmental feature crossing	No
1602	120.1	100 x 200	0.5	Open land	HDD – Henry House Creek	No
1603	120.4	100 x 200	0.5	Open land	HDD – Henry House Creek	No
1604	121.2	50 x 150	0.2	Open land	Road crossing	No
1605	121.2	50 x 164	0.2	Open land	Road crossing	No
1606	121.3	25 x 200	0.1	Open land	Pipeline crossing	No
1607	121.4	92 x 222	0.3	Forest, open land	Stream crossing	No
1608	121.4	92 x 223	0.3	Open land	Stream crossing	No
1609	121.5	92 x 223	0.3	Open land	Stream crossing	No
1610	121.7	50 x 200	0.2	Forest	Stream crossing	No
1611	121.8	52 x 200	0.2	Open land	Stream crossing	No
1612	122.0	57 x 151	0.2	Open land	Stream crossing	No
1613	122.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1614	122.3	64 x 197	0.2	Open land	Road crossing	No
1615	122.3	59 x 454	0.4	Open land	Road crossing	No
1616	122.4	50 x 309	0.3	Open land	Road crossing	No
1616A	122.5	54 x 203	0.2	Open land	Environmental feature crossing	No
1616B	122.6	50 x 238	0.3	Open land	Staging area for parking/equipment	No
1616C	122.9	88 x 520	0.5	Agriculture, open land	Pipeline crossing and spoils for significant PI	No
1616D	122.9	71 x 216	0.2	Agriculture, open land	Spoils for significant PI	No
1616E	122.9	50 x 200	0.2	Agriculture, open land	Environmental feature crossing	No
1616F	123.0	50 x 200	0.2	Open land	Environmental feature crossing	No
1616G	123.2	50 x 116	0.1	Forest, open land	Environmental feature crossing	No
1616H	123.3	50 x 215	0.2	Forest	Environmental feature crossing	No
1616J	123.4	50 x 117	0.1	Forest, open land	Stream crossing	No
1616K	123.4	50 x 150	0.2	Forest, open land	Environmental feature crossing	No
1616L	123.5	68 x 196	0.2	Forest, open land	Spoils for significant PI	No
1616M	123.9	65 x 197	0.2	Open land	Spoils for significant PI	No
1617	124.2	50 x 204	0.2	Open land	Stream crossing	No
1618	124.3	50 x 200	0.2	Open land	Stream crossing	No
1618A	124.4	50 x 200	0.2	Open land	Environmental feature crossing and spoils for significant PI	No
1619	124.5	77 x 337	0.5	Forest, open land	Road crossing	No
1620	124.6	80 x 150	0.3	Forest, open land	Road crossing and pipeline crossing	No
1620A	124.7	80 x 186	0.2	Open land	Spoils for significant PI	No
1620B	124.8	104 x 362	0.4	Forest, open land, open water	Pipeline crossing/stream crossing	S-CR-LAG-17/01/05-02, S-JO-LAG-17/06/29-01
1620C	124.8	91 x 224	0.3	Forest, open land, open water	Environmental feature crossing and spoils for significant PI	S-JO-LAG-17/06/29-01
1621	124.9	50 x 200	0.2	Forest, open water	Pipeline crossing	S-CR-LAG-17/01/05-02b, S-CR-LAG-17/01/05-02
1622	124.9	100 x 174	0.4	Developed land, forest, open land	Road crossing and pipeline crossing	No
1623	125.0	186 x 154	0.7	Developed land, open land	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1624	125.1	126 x 250	0.7	Developed land, open land	Road crossing and pipeline crossing	No
1625	125.3	50 x 178	0.2	Open land	Pipeline crossing	No
1625A	125.4	50 x 206	0.2	Agriculture	Road crossing	No
1625B	125.6	50 x 200	0.2	Agriculture, open land	Environmental feature crossing	No
1625C	125.7	50 x 200	0.2	Open land	Environmental feature crossing	No
1626	126.0	117 x 154	0.4	Open land	Road crossing	No
1627	126.1	135 x 151	0.5	Developed land, open land	Road crossing	No
1628	126.1	121 x 417	0.5	Open land	Wetland crossing	No
1627A	126.1	153 x 261	0.4	Developed land, open land	Staging area for parking/equipment	S-CR-LAG-17/01/05-89
1629	126.2	104 x 387	0.5	Open land	Wetland crossing	No
1630	126.5	50 x 200	0.2	Forest, open land	Wetland crossing	No
1631	126.6	50 x 200	0.2	Open land	Wetland crossing	No
1632	126.6	50 x 200	0.2	Forest, open land	Stream crossing	No
1633	126.7	50 x 200	0.2	Forest, open land	Stream crossing	No
1634	126.9	50 x 150	0.2	Forest, open land	Wetland crossing	No
1635	127.0	51 x 150	0.2	Agriculture, forest	Stream crossing	No
1634A	127.0	50 x 137	0.2	Forest	Environmental feature crossing	No
1636	127.4	92 x 223	0.3	Agriculture	Stream crossing	No
1637	127.5	59 x 210	0.2	Agriculture	Stream crossing	No
1638	127.8	50 x 150	0.2	Agriculture, open land	Stream crossing	No
1639	127.9	57 x 152	0.2	Agriculture	Stream crossing	No
1640	128.1	50 x 155	0.2	Agriculture	Road crossing	No
1641	128.1	50 x 68	0.1	Open land	Road crossing	No
1642	128.6	51 x 151	0.2	Open land	Road crossing	No
1642A	128.6	50 x 150	0.2	Open land	Road crossing	No
1642B	128.8	50 x 150	0.2	Forest	Environmental feature crossing	No
1642C	128.9	50 x 151	0.2	Forest	Environmental feature crossing	No
1642D	129.0	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1642E	129.1	50 x 200	0.2	Forest	Environmental feature crossing	No
1642F	129.2	50 x 300	0.3	Forest	Environmental feature crossing	No
1643	129.3	111 x 223	0.3	Forest, open land	Pipeline crossing	No
1644	129.3	135 x 303	0.4	Forest, open land	Pipeline crossing	No
1645	129.4	36 x 226	0.1	Forest, open land	Pipeline crossing	No
1646	129.4	31 x 204	0.1	Forest, open land	Pipeline crossing	No
1647	129.6	74 x 422	0.4	Forest, open land	Pipeline crossing	No
1648	129.7	50 x 200	0.2	Forest, open land	Pipeline crossing	No
1648A	129.7	50 x 188	0.2	Open land	Environmental feature crossing	No
1648B	129.8	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1649	130.0	51 x 200	0.2	Open land	Stream crossing	No
1650	130.1	50 x 96	0.1	Open land	Wetland crossing/stream crossing	No
1651	130.1	50 x 200	0.2	Open land	Wetland crossing	No
1652	130.2	50 x 144	0.2	Forest, open land	Wetland crossing/pipeline crossing/road crossing	No
1653	130.2	64 x 312	0.3	Open land	Road crossing/stream crossing	No
1654	131.1	50 x 200	0.2	Forest, open land	Stream crossing	No
1654A	131.1	50 x 150	0.2	Open land	Environmental feature crossing	No
1655	131.2	51 x 255	0.3	Open land	Road crossing	No
1656	131.3	50 x 156	0.2	Open land	Road crossing	No
1656A	131.4	87 x 216	0.3	Forest, open land	Stream crossing	No
1657	131.6	77 x 156	0.3	Open land	Railroad crossing	No
1656B	131.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1658	131.7	77 x 313	0.5	Open land	Railroad crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1658B	131.8	64 x 189	0.2	Forest, open land	Environmental feature crossing and spoils for significant PI	No
1658C	131.9	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1659	132.0	92 x 361	0.6	Forest, open land	Road crossing	No
1660	132.0	94 x 197	0.4	Open land	Road crossing	No
1660A	132.4	68 x 207	0.2	Forest, open land	Road crossing	No
1661	132.5	26 x 338	0.2	Forest, open land	Pipeline crossing	No
1661A	132.6	51 x 200	0.2	Forest	Environmental feature crossing	No
1661B	132.7	50 x 498	0.6	Forest, open land	Environmental feature crossing	No
1661C	132.8	52 x 272	0.3	Forest	Environmental feature crossing	No
1661D	132.8	50 x 150	0.2	Forest	Environmental feature crossing	No
1661E	133.1	50 x 200	0.2	Open land	Environmental feature crossing	No
1661F	133.2	50 x 200	0.2	Open land	Environmental feature crossing	No
1662	133.4	26 x 307	0.2	Open land	Pipeline crossing	No
1662A	133.6	25 x 94	0.1	Open land	Road crossing	No
1662B	133.6	50 x 259	0.3	Forest, open land	Road crossing	No
1662C	133.9	50 x 200	0.2	Forest	Stream crossing	No
1662D	133.9	50 x 200	0.2	Forest	Stream crossing	No
1663	134.0	40 x 239	0.2	Forest, open land	Stream crossing	No
1663A	134.0	114 x 391	0.4	Forest, open land	Pipeline crossing and spoils for significant PI	No
1664	134.2	97 x 353	0.3	Forest, open land	Stream crossing	No
1663B	134.2	114 x 391	0.4	Forest, open land	Pipeline crossing and spoils for significant PI	No
1664A	134.7	50 x 200	0.2	Open land	Spoils for significant PI	No
1664B	134.7	50 x 222	0.2	Agriculture, open land	Road crossing	No
1664C	134.8	25 x 200	0.1	Agriculture	Pipeline crossing	No
1664D	135.1	40 x 418	0.3	Agriculture	Spoils for significant PI	No
1664E	135.1	100 x 367	0.4	Agriculture, open land	Spoils for significant PI	No
1665	135.7	50 x 200	0.2	Open land	HDD – Washita River	No
1665A	136.0	50 x 196	0.2	Open land	Road crossing	No
1666	136.1	100 x 200	0.5	Agriculture	HDD – Washita River	No
1665B	136.1	123 x 147	0.4	Agriculture, developed land	Pipeline crossing	No
1667	136.3	50 x 200	0.2	Open land	Stream crossing	No
1667A	136.4	50 x 200	0.2	Open land	Environmental feature crossing	No
1668	136.5	100 x 151	0.3	Open land	Road crossing	No
1667B	136.5	100 x 257	0.6	Forest, open land	Stream crossing	No
1669	136.8	25 x 429	0.3	Forest, open land	Stream crossing	No
1670	136.9	50 x 305	0.2	Forest, open land	Stream crossing	No
1671	137.1	50 x 200	0.2	Forest, open land	Pipeline crossing	No
1671A	137.2	50 x 137	0.2	Forest	Environmental feature crossing	No
1671B	138.2	109 x 398	0.5	Forest, open land	Pipeline crossing and spoils for significant PI	No
1671C	138.2	40 x 267	0.2	Open land	Pipeline crossing and spoils for significant PI	No
1671D	138.6	50 x 241	0.3	Developed land, open land	Staging area for parking/equipment	No
1672	138.7	25 x 200	0.1	Open land	Pipeline crossing	No
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1673	139.4	50 x 200	0.2	Forest, open land	Pipeline crossing	No
1673A	139.5	50 x 200	0.2	Forest	Environmental feature crossing	No
1674	140.0	50 x 150	0.2	Open land	Pipeline crossing	No
1675	140.1	109 x 430	0.5	Open land	Pipeline crossing	No
1675A	140.1	40 x 176	0.1	Open land	Pipeline crossing and spoils for significant PI	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1675B	140.2	50 x 200	0.2	Open land	Environmental feature crossing	No
1675C	140.3	50 x 200	0.2	Open land	Environmental feature crossing	No
1676	140.4	50 x 252	0.3	Open land	Pipeline crossing	No
1676A	140.6	50 x 200	0.2	Developed land, forest, open land	Road crossing	No
1676B	140.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1676C	140.9	50 x 200	0.2	Open land	Stream crossing	No
1676D	141.0	50 x 350	0.4	Open land	Stream crossing	No
1676E	141.1	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1676F	141.2	50 x 200	0.2	Forest	Environmental feature crossing	No
1676G	141.3	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1676H	141.3	50 x 200	0.2	Forest	Environmental feature crossing	No
1677	141.4	50 x 200	0.2	Forest, open land	Stream crossing	No
1677A	141.5	57 x 198	0.2	Forest, open land	Stream crossing within long segment of palustrine forested (PFO) wetland	W-JO-EHK-17/01/21-04a, W-JO-EHK-17/01/21-04b
1677B	141.8	50 x 200	0.2	Forest	Stream crossing within long segment of PFO wetland	W-JO-EHK-17/01/21-04b, S-JO-RKT-17/01/21-01
1677C	141.9	50 x 200	0.2	Forest	Environmental feature crossing	W-JO-RKT-17/02/02-02
1678	142.3	50 x 200	0.2	Forest, open land	Wetland crossing	No
1679	142.4	83 x 221	0.3	Forest	Pipeline crossing	No
1679A	143.0	50 x 200	0.2	Forest	Stream crossing	No
1679B	143.1	50 x 200	0.2	Open land	Stream crossing	No
1679C	143.2	50 x 200	0.2	Open land	Spoils for significant PI	No
1679D	143.4	50 x 336	0.4	Open land	Spoils for significant PI	No
1679E	143.5	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1679F	143.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1680	144.1	14 x 732	0.2	Forest, open land	Stream crossing	No
1680A	144.1	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1681	144.4	14 x 692	0.2	Developed land, forest	Stream crossing	No
1680B	144.4	38 x 30	0.0	Forest, open land	Equipment access from access road to temporary workspace	No
1680C	144.6	47 x 30	0.0	Developed land, open land	Equipment access from access road to temporary workspace	No
1680D	144.8	42 x 200	0.2	Developed land, open land	Staging area for parking/equipment	No
1681A	144.9	29 x 340	0.2	Developed land, forest, open land	Stream crossing	No
1680E	145.0	27 x 30	0.0	Developed land, forest, open land	Equipment access from access road to temporary workspace	S-JO-EHK-17/02/02-05
1681B	145.0	33 x 300	0.2	Developed land, forest	Stream crossing	No
1681C	145.2	41 x 244	0.2	Developed land, forest, open land	Spoils for significant PI	No
1681D	145.2	50 x 200	0.2	Open land	Spoils for significant PI	No
1681E	145.2	50 x 300	0.3	Forest	Environmental feature crossing	No
1681F	145.4	50 x 300	0.3	Forest	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1682	145.6	50 x 200	0.2	Forest, open land	Pipeline crossing	No
1682A	145.7	50 x 200	0.2	Developed land, open land	Road crossing and spoils for significant PI	No
1683	145.9	50 x 200	0.2	Forest	Stream crossing	No
1684	146.0	50 x 200	0.2	Forest	Stream crossing	No
1685	146.3	139 x 426	0.5	Developed land, forest, open land	Pipeline crossing	No
1685A	146.4	90 x 223	0.3	Developed land, forest, open land	Stream crossing	No
1685B	146.5	57 x 200	0.2	Forest	Stream crossing	No
1686	146.6	87 x 226	0.3	Forest	Pipeline crossing	No
1685C	146.6	40 x 233	0.2	Developed land, forest, open land	Pipeline crossing and spoils for significant PI	No
1686A	146.8	99 x 1663	0.2	Forest	Spoils for significant PI	No
1686B	147.6	50 x 228	0.3	Open land	Staging area for parking/equipment	No
1687	148.0	85 x 156	0.2	Forest, open land	Pipeline crossing	No
1687A	148.0	98 x 376	0.3	Forest, open land	Pipeline crossing/stream crossing	No
1687B	148.2	50 x 200	0.2	Forest	Environmental feature crossing	No
1687C	148.3	73 x 219	0.3	Forest	Environmental feature crossing and spoils for significant PI	No
1687D	148.4	50 x 200	0.2	Forest	Road crossing	No
1687E	148.5	50 x 200	0.2	Forest, open land	Stream crossing	No
1687F	148.5	50 x 200	0.2	Forest, open land	Stream crossing	No
1687G	148.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1687H	148.7	50 x 200	0.2	Forest	Environmental feature crossing	No
1687J	148.8	50 x 200	0.2	Forest	Stream crossing	No
1687K	148.9	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1688	149.0	50 x 184	0.2	Open land	Pipeline crossing	No
1688A	149.1	52 x 202	0.2	Open land	Environmental feature crossing	No
1688B	149.2	50 x 206	0.2	Open land	Staging area for parking/equipment	No
1688C	149.3	50 x 103	0.1	Open land	Environmental feature crossing	No
1689	149.5	100 x 164	0.4	Agriculture, forest, open land	Pipeline crossing	No
1690	149.6	100 x 165	0.4	Open land	Road crossing	No
1691	149.9	50 x 283	0.3	Open land	Road crossing	No
1692	149.9	40 x 238	0.2	Developed land, forest, open land	Pipeline crossing	No
1693	149.9	92 x 223	0.3	Forest, open land	Road crossing	No
1694	150.1	51 x 201	0.2	Forest	Road crossing	No
1695	150.1	51 x 219	0.2	Open land	Road crossing	No
1696	150.3	50 x 200	0.2	Forest	Stream crossing	No
1697	150.3	62 x 210	0.2	Open land	Stream crossing	No
1698	150.6	61 x 212	0.2	Forest, open land	Wetland crossing	No
1699	150.7	50 x 200	0.2	Forest, open land	Wetland crossing	No
1699A	151.1	57 x 1245	0.8	Developed land, forest, open land, open water, residential	Spoils for significant PI	S-JO-LAG-17/01/10-06
1699B	151.2	64 x 212	0.2	Open land	Spoils for significant PI	No
1699C	151.3	32 x 875	0.4	Forest, open land	Environmental feature crossing	No
1699D	151.5	131 x 200	0.6	Developed land, forest	HDD – Rock Creek	No
1701	152.1	131 x 200	0.6	Forest, open land	Road crossing and pipeline crossing	No
1702	152.6	50 x 200	0.2	Open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1703	152.6	61 x 210	0.2	Forest, open land	Stream crossing	No
1704	152.8	50 x 200	0.2	Forest	Road crossing	No
1705	152.8	50 x 200	0.2	Forest, open land	Road crossing and pipeline crossing	No
1706	153.1	51 x 200	0.2	Forest	Road crossing	No
1707	153.3	86 x 310	0.4	Open land	Road crossing	No
1708	153.6	136 x 1040	2.7	Forest, open land, open water	Stream crossing	S-JO-AJF-17/01/11-02, S-JO-LAG-17/01/11-01
1709	153.9	100 x 200	0.5	Open land	Stream crossing	No
1710	154.4	150 x 355	0.5	Forest, open land	False row required for pull-back string for pennington HDD	No
1710A	154.3	40 x 264	0.2	Residential	HDD – Rock Creek	No
1711	154.4	50 x 205	0.2	Forest, residential	Stream crossing	No
1712	154.5	50 x 200	0.2	Forest	Stream crossing	No
1713	154.7	50 x 95	0.1	Forest	Stream crossing	No
1714	154.8	51 x 201	0.2	Forest	Stream crossing	No
1715	154.9	92 x 223	0.3	Open land	Stream crossing	No
1716	155.2	50 x 200	0.2	Forest, residential	Road crossing	No
1717	155.2	50 x 372	0.4	Forest, residential	Road crossing and pipeline crossing	No
1718	155.4	50 x 233	0.3	Developed land, residential	Road crossing	No
1719	155.5	70 x 384	0.6	Forest, open land	Road crossing	No
1719A	155.9	50 x 200	0.2	Forest	Environmental feature crossing and spoils for significant PI	No
1719B	156.0	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1719C	156.2	50 x 200	0.3	Open land	Spoils for significant PI	No
1719D	156.3	50 x 370	0.4	Open land	Pipeline crossing and spoils for significant PI	No
1719F	156.3	20 x 82	0.0	Open land	Spoils for significant PI	No
1719E	156.5	25 x 248	0.1	Open land	Spoils for significant PI	No
1720	156.6	50 x 200	0.2	Forest, open land	Road crossing	No
1721	156.6	50 x 222	0.3	Forest	Road crossing	No
1722	156.8	50 x 412	0.5	Forest	Stream crossing	No
1723	156.9	50 x 200	0.2	Forest	Stream crossing	No
1724	157.6	54 x 200	0.2	Forest	Wetland crossing	No
1725	157.7	51 x 200	0.2	Forest	Wetland crossing/stream crossing	No
1725A	157.8	65 x 425	0.5	Forest, open water	Environmental feature crossing	S-JO-EHK-17/01/13-10a, S-JO-EHK-17/01/13-10b, S-JO-EHK-17/01/13-10d
1725B	157.9	51 x 200	0.2	Forest	Environmental feature crossing	No
1726	158.3	50 x 200	0.2	Forest	Wetland crossing	No
1727	158.4	50 x 200	0.2	Forest	Stream crossing	No
1728	158.7	50 x 200	0.2	Forest, open land	Wetland crossing	No
1729	158.7	50 x 200	0.2	Forest	Wetland crossing	No
1730	158.8	52 x 229	0.2	Forest	Road crossing	No
1731	158.9	50 x 200	0.2	Agriculture	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1732	159.0	51 x 203	0.2	Agriculture, open land	Road crossing	No
1733	159.0	106 x 189	0.4	Forest, open land	Road crossing/stream crossing	No
1733A	159.2	38 x 208	0.2	Forest, open land	Stream crossing	No
1733B	159.4	50 x 155	0.2	Forest, open land	Stream crossing	No
1733C	159.5	50 x 200	0.2	Forest, open land	Stream crossing	No
1733D	159.9	35 x 113	0.1	Open land	Stream crossing	No
1733E	160.0	35 x 199	0.2	Forest, open land	Environmental feature crossing	No
1733F	161.2	50 x 200	0.2	Forest	Environmental feature crossing	No
1733G	161.2	50 x 200	0.2	Forest	Environmental feature crossing	No
1734	161.4	50 x 200	0.2	Forest, open land	Stream crossing	No
1735	161.6	50 x 200	0.2	Open land	Stream crossing	No
1736	161.7	25 x 130	0.1	Open land	Wetland crossing	No
1737	161.9	50 x 200	0.2	Agriculture, open land	Wetland crossing	No
1737A	161.9	50 x 200	0.2	Agriculture	Staging area for parking/equipment	No
1738	162.0	51 x 445	0.5	Agriculture, developed land	Wetland crossing	No
1739	162.1	50 x 200	0.2	Open land	Road crossing	No
1740	162.2	50 x 200	0.2	Forest, open land	Stream crossing	No
1741	162.3	50 x 200	0.2	Open land	Stream crossing	No
1741A	162.9	61 x 217	0.2	Open land	Environmental feature crossing and spoils for significant PI	No
1741B	163.0	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1741C	163.2	50 x 200	0.2	Forest	Environmental feature crossing	No
1741D	163.3	50 x 200	0.2	Forest	Environmental feature crossing	No
1742	163.4	50 x 200	0.2	Open land	Road crossing	No
1743	163.4	50 x 225	0.2	Agriculture, forest	Road crossing	No
1743A	163.5	64 x 231	0.3	Agriculture	Spoils for significant PI	No
1743B	163.6	50 x 200	0.2	Agriculture	Road crossing	No
1744	163.9	50 x 200	0.2	Agriculture, forest	Road crossing	No
1745	164.0	56 x 198	0.2	Forest, open land	Road crossing	No
1746	164.2	50 x 200	0.2	Open land	Stream crossing	No
1747	164.3	50 x 200	0.2	Open land	Stream crossing	No
1747A	164.7	50 x 200	0.2	Open land	Environmental feature crossing	No
1747B	164.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1748	164.9	86 x 313	0.3	Open land	Road crossing	No
1749	164.9	50 x 242	0.3	Agriculture	Road crossing	No
1750	165.1	50 x 200	0.2	Agriculture	Road crossing	No
1751	165.1	52 x 211	0.2	Open land	Road crossing	No
1752	166.4	63 x 212	0.2	Open land	Road crossing	No
1753	166.5	51 x 217	0.2	Open land	Road crossing	No
1753A	166.9	35 x 200	0.2	Open land	Stream crossing	No
1754	167.1	50 x 179	0.2	Open land	Road crossing	No
1755	167.2	51 x 150	0.2	Open land	Road crossing	No
1756	167.4	54 x 152	0.2	Open land	Road crossing	No
1757	167.4	50 x 155	0.2	Open land	Road crossing	No
1759	168.6	26 x 524	0.3	Forest, open land	Pipeline crossing	No
1760	168.7	25 x 337	0.2	Open land	Pipeline crossing	No
1761	169.5	50 x 200	0.2	Forest	Stream crossing	No
1762	169.5	50 x 200	0.2	Open land	Stream crossing	No
1763	169.6	50 x 138	0.2	Forest, open land	Road crossing	No
1764	169.6	50 x 147	0.2	Forest	Road crossing	No
1765	169.8	51 x 151	0.2	Forest	Stream crossing	No
1766	169.9	53 x 267	0.3	Forest	Stream crossing	No
1767	170.0	50 x 200	0.2	Forest	Stream crossing	No
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APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1767A	170.4	50 x 200	0.2	Open land	Environmental feature crossing	No
1768	170.5	50 x 200	0.2	Open land	Stream crossing	No
1769	170.7	75 x 151	0.2	Open land	Stream crossing	No
1769A	170.7	63 x 148	0.2	Open land, open water	Environmental feature crossing and spoils for significant PI	S-BR-LAG-17/01/14-09
1770	170.8	64 x 209	0.2	Agriculture, open land	Stream crossing/road crossing	No
1769B	170.8	92 x 223	0.3	Agriculture	Spoils for significant PI	No
1771	170.9	50 x 170	0.2	Agriculture	Road crossing	No
1772	171.6	79 x 183	0.3	Forest, open land	Road crossing	No
1773	171.6	96 x 232	0.4	Open land	Road crossing	No
1774	171.7	58 x 203	0.2	Open land	Stream crossing	No
1775	171.8	50 x 200	0.2	Forest	Stream crossing	No
1776	171.9	50 x 80	0.1	Forest	Stream crossing	No
1776A	171.9	50 x 123	0.1	Forest	Stream crossing	No
1777	172.0	75 x 368	0.4	Forest, open land	Road crossing	No
1778	172.1	68 x 178	0.2	Forest, open land	Road crossing	No
1779	172.1	50 x 205	0.2	Forest, open land	Stream crossing	No
1779A	172.7	50 x 200	0.2	Open land	Environmental feature crossing	No
1779B	172.8	54 x 194	0.2	Open land	Environmental feature crossing	No
1779C	172.9	50 x 221	0.3	Open land	Environmental feature crossing	No
1779D	172.9	50 x 221	0.3	Open land	Environmental feature crossing	No
1779E	173.0	50 x 221	0.3	Forest, open land	Environmental feature crossing	No
1780	173.1	50 x 215	0.2	Forest, open land	Road crossing	No
1781	173.1	50 x 150	0.2	Open land	Road crossing	No
1781A	173.2	35 x 200	0.2	Open land	Environmental feature crossing	No
1781B	173.2	35 x 200	0.2	Open land	Environmental feature crossing	No
1781C	173.4	50 x 200	0.2	Open land	Staging area for parking/equipment	No
1782	173.6	50 x 200	0.2	Agriculture	Stream crossing	No
1783	173.6	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1783A	173.7	50 x 423	0.5	Agriculture, forest, open land	Pipeline crossing and spoils for significant PI	No
1784	173.8	113 x 593	0.9	Forest, open land	Wetland crossing	No
1785	174.2	100 x 200	0.5	Forest	Stream crossing	No
1785A	174.3	187 x 1176	2.5	Forest, open land	HDD pullback area	No
1785B	174.6	125 x 209	0.4	Forest, open land	Environmental feature crossing and spoils for significant PI	S-BR-TAS-17/01/16-02
1785C	174.6	93 x 312	0.3	Open land	Environmental feature crossing and spoils for significant PI	No
1785D	174.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1785E	174.9	51 x 200	0.2	Open land	Environmental feature crossing	No
1786	175.1	70 x 155	0.2	Open land	Road crossing	No
1787	175.2	68 x 237	0.3	Open land	Road crossing	No
1788	175.5	51 x 203	0.2	Open land	Road crossing	No
1789	175.5	50 x 184	0.2	Open land	Road crossing	No
1790	175.8	50 x 200	0.2	Open land	Road crossing	No
1790A	175.9	50 x 200	0.2	Forest, open land	Environmental feature crossing	S-BR-AAL-17/01/14-02
1791	176.1	50 x 200	0.2	Open land	Stream crossing	No
1791A	176.2	61 x 199	0.2	Open land	Environmental feature crossing	S-BR-AAL-17/01/14-02
1791B	176.3	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1791C	177.5	25 x 100	0.1	Open land	Environmental feature crossing	No
1791D	177.5	25 x 100	0.1	Open land	Environmental feature crossing	No
1792	177.7	50 x 200	0.2	Open land	Waterbody crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1793	177.8	50 x 200	0.2	Open land	Waterbody crossing	No
1794	178.1	50 x 529	0.6	Open land	Road crossing	No
1795	178.1	117 x 221	0.3	Open land	Road crossing	No
1795A	178.1	15 x 132	0.0	Open land	Pipeline crossing and spoils for significant PI	No
1796	178.4	51 x 162	0.2	Open land	Road crossing	No
1797	178.5	50 x 351	0.4	Open land	Road crossing	No
1798	178.6	50 x 200	0.2	Open land	Pipeline crossing	No
1799	178.7	27 x 155	0.1	Open land	Pipeline crossing	No
1799A	179.0	50 x 347	0.3	Open land	Pipeline crossing and parking/equipment	No
1799B	179.3	50 x 200	0.2	Open land	Environmental feature crossing	No
1800	179.4	100 x 359	0.6	Open land	Road crossing	No
1801	179.5	103 x 227	0.5	Open land	Road crossing	No
1801A	179.8	54 x 109	0.1	Open land	Spoils for significant PI	No
1801B	179.9	50 x 200	0.2	Open land	Environmental feature crossing	No
1801C	180.1	50 x 200	0.2	Open land	Environmental feature crossing	No
1801D	180.2	50 x 200	0.2	Open land	Environmental feature crossing	No
1802	180.7	86 x 361	0.4	Open land	Railroad crossing	No
1803	180.8	85 x 216	0.4	Forest, open land	Railroad crossing	No
1803A	180.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1804	181.0	92 x 223	0.3	Open land	Pipeline crossing	No
1803B	181.0	93 x 223	0.3	Forest, open land	Stream crossing	No
1804A	181.5	92 x 223	0.3	Open land, residential	Spoils for significant PI	No
1805	181.6	95 x 510	0.6	Forest, open land	Road crossing	No
1804B	181.6	50 x 200	0.2	Residential	Road crossing	No
1805A	181.7	50 x 195	0.2	Open land	Environmental feature crossing	No
1806	181.9	50 x 200	0.2	Forest, open land	Road crossing	No
1807	182.0	50 x 168	0.2	Open land	Road crossing	No
1808	182.5	49 x 200	0.2	Forest, open land	Stream crossing	No
1809	182.6	49 x 200	0.2	Forest, open land	Stream crossing	No
1810	182.7	50 x 153	0.2	Open land	Road crossing	No
1811	182.8	60 x 376	0.4	Open land	Road crossing	No
1811A	182.9	50 x 200	0.2	Open land	Environmental feature crossing	No
1811B	183.3	50 x 200	0.2	Open land	Environmental feature crossing	No
1811C	183.4	51 x 200	0.2	Forest, open land	Environmental feature crossing	No
1812	184.0	50 x 186	0.2	Open land	Road crossing	No
1813	184.0	50 x 352	0.4	Open land	Road crossing	No
1813A	184.1	51 x 200	0.2	Open land	Stream crossing	No
1814	184.5	50 x 150	0.2	Open land	Road crossing	No
1815	184.5	50 x 76	0.1	Open land	Road crossing	No
1815A	184.6	50 x 150	0.2	Open land	Environmental feature crossing	No
1815B	185.0	50 x 200	0.2	Agriculture	Environmental feature crossing	No
1815C	185.5	25 x 200	0.1	Forest, open land	Stream crossing	No
1815D	185.6	25 x 200	0.1	Open land	Stream crossing	No
1816	186.0	50 x 200	0.2	Agriculture, forest	Stream crossing	No
1817	186.2	50 x 200	0.2	Open land	Stream crossing	S-BR-TAS-17/01/12-97b
1817A	186.7	50 x 200	0.2	Open land	Environmental feature crossing	No
1817B	186.8	50 x 200	0.2	Open land	Environmental feature crossing	No
1818	187.0	25 x 100	0.1	Open land	Wetland crossing/stream crossing	No
1819	187.0	25 x 100	0.1	Open land	Wetland crossing/stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1820	187.6	49 x 148	0.2	Open land	Road crossing	No
1821	187.7	51 x 179	0.2	Forest, open land	Road crossing	No
1822	188.0	50 x 200	0.2	Forest, open land	Road crossing	No
1823	188.0	82 x 331	0.4	Forest, open land	Road crossing	No
1824	188.3	50 x 162	0.2	Open land	Road crossing	No
1825	188.3	50 x 174	0.2	Forest, open land	Road crossing	No
1826	188.9	50 x 150	0.2	Forest	Road crossing	No
1827	188.9	50 x 177	0.2	Open land	Road crossing	No
1828	189.0	50 x 187	0.2	Forest, open land	Road crossing	No
1829	189.0	58 x 182	0.2	Open land	Road crossing	No
1830	190.0	102 x 182	0.4	Open land	Road crossing	No
1831	190.1	91 x 403	0.4	Open land	Road crossing	No
1831A	190.2	25 x 171	0.1	Residential	Stream crossing	No
1831B	190.5	50 x 200	0.2	Open land	Spoils for significant PI	No
1831C	190.8	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1831D	190.9	110 x 447	0.5	Forest, open land	Spoils for significant PI	No
1831E	191.0	91 x 341	0.3	Open land	Pipeline crossing and spoils for significant PI	No
1831F	191.2	25 x 125	0.1	Open land	Stream crossing	No
1832	191.4	50 x 187	0.2	Forest, open land	Road crossing	No
1833	191.4	55 x 155	0.1	Developed land, open land	Road crossing	No
1834	191.5	50 x 200	0.2	Open land	Stream crossing	No
1835	191.6	50 x 200	0.2	Forest, open land	Stream crossing	No
1836	191.8	50 x 200	0.2	Open land	Stream crossing	No
1837	191.9	50 x 200	0.2	Forest, open land	Stream crossing	No
1837A	192.3	59 x 206	0.2	Forest, open land	Stream crossing	No
1837B	192.4	69 x 468	0.5	Forest	Environmental feature crossing and spoils for significant PI	No
1837C	192.5	50 x 185	0.2	Agriculture, forest	Pipeline crossing/stream crossing	No
1837D	192.5	50 x 200	0.2	Forest	Environmental feature crossing	No
1837E	192.6	92 x 223	0.3	Forest	Spoils for significant PI	No
1837F	192.6	133 x 414	0.6	Agriculture, forest	Pipeline crossing/stream crossing	No
1838	193.5	50 x 150	0.2	Open land	Road crossing	No
1839	193.5	50 x 150	0.2	Agriculture, open land	Road crossing	No
1839A	193.8	50 x 200	0.2	Agriculture	Spoils for significant PI	No
1840	194.0	75 x 150	0.3	Agriculture	Railroad crossing/road crossing	No
1841	194.1	73 x 227	0.3	Agriculture, forest	Railroad crossing/road crossing	No
1842	194.2	50 x 150	0.2	Agriculture	Road crossing	No
1843	194.2	51 x 310	0.3	Agriculture	Road crossing	No
1844	194.4	50 x 200	0.2	Forest, open land	Wetland crossing	No
1845	194.6	50 x 200	0.2	Open land	Wetland crossing	No
1845A	194.6	50 x 200	0.2	Forest, open land	Environmental feature crossing	No
1845B	194.9	50 x 212	0.2	Open land	Staging area for parking/equipment	No
1846	195.4	83 x 309	0.4	Forest, open land	Stream crossing	No
1847	195.5	103 x 224	0.3	Forest, open land	Stream crossing	No
1847A	195.6	50 x 150	0.2	Forest, open land	Road crossing	No
1847B	195.7	50 x 150	0.2	Forest	Road crossing	No
1847C	195.9	50 x 200	0.2	Open land	Temporary soil storage	No
1847D	195.9	104 x 364	0.4	Open land	Spoils for significant PI	No
1847E	196.3	50 x 200	0.2	Forest	Environmental feature crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
1847F	196.4	50 x 106	0.1	Developed land, open land	Road crossing	No
1847G	196.5	50 x 150	0.2	Forest, open land	Temporary spoils	No
1848	197.0	50 x 150	0.2	Open land	Road crossing	No
1849	197.1	25 x 214	0.1	Forest, open land	Road crossing	No
1849A	197.5	50 x 200	0.2	Forest, open land	Temporary soil storage	No
1850	198.0	83 x 151	0.3	Agriculture	Road crossing	No
1851	198.1	84 x 150	0.3	Forest, open land	Road crossing	No
1851B	198.3	39 x 926	0.7	Open land	Compressor station	No
1851A	198.5	505 x 1379	7.4	Forest, open land	Compressor station	No
1851C	198.5	363 x 379	2.9	Forest, open land	Compressor station	No
1851D	198.6	50 x 200	0.2	Open land	Environmental feature crossing	No
1851E	198.7	50 x 200	0.2	Agriculture, forest, open land	Environmental feature crossing	No
1851F	199.0	50 x 200	0.2	Agriculture	Pipeline crossing and spoils for significant PI	No
1854	199.1	50 x 150	0.2	Agriculture, developed land	Road crossing	No
1855	199.1	50 x 150	0.2	Open land	Road crossing	No
1856	199.2	50 x 200	0.2	Forest, open land	Wetland crossing	No
1857	199.3	50 x 200	0.2	Forest, open land	Wetland crossing	No
1858	199.6	50 x 620	0.7	Open land	Pipeline crossing	No
Subtotal			**309.9**			
CHISHOLM LATERAL						
Kingfisher						
2000A	CH0.0	50 x 305	0.4	Agriculture	Meter station construction	No
2000	CH0.1	50 x 150	0.2	Agriculture, open land	Road crossing	No
2001	CH0.2	50 x 354	0.4	Agriculture	Road crossing and pipeline crossing	No
2002	CH0.2	50 x 150	0.2	Open land	Road crossing and pipeline crossing	No
2003	CH0.3	25 x 200	0.1	Open land	Pipeline crossing	No
2004	CH1.2	50 x 150	0.2	Open land	Road crossing	No
2005	CH1.2	50 x 285	0.3	Open land	Pipeline crossing/road crossing/stream crossing	No
2006	CH1.3	50 x 150	0.2	Open land	Stream crossing	No
2006A	CH1.8	50 x 150	0.2	Agriculture, developed land	Road crossing	No
2007	CH2.1	104 x 328	0.4	Agriculture, open land	Road crossing	No
2008	CH2.2	122 x 419	0.5	Agriculture, open land	Road crossing	No
2009	CH2.4	25 x 200	0.1	Agriculture	Pipeline crossing	No
2010	CH2.6	82 x 198	0.2	Agriculture	Pipeline crossing	No
2010A	CH2.7	78 x 208	0.2	Agriculture	Spoils for significant PI	No
2011	CH2.9	197 x 354	0.5	Agriculture	Temporary soil storage	No
2012	CH2.9	184 x 305	0.4	Agriculture, open land	Temporary soil storage	No
2013	CH3.2	50 x 150	0.2	Open land	Road crossing	No
2014	CH3.3	100 x 31-0	0.3	Open land	Road crossing and pipeline crossing	No
2015	CH3.4	50 x 200	0.2	Open land	Stream crossing	No
2016	CH3.5	50 x 200	0.2	Open land	Stream crossing	No
2017	CH3.9	50 x 200	0.2	Agriculture	Stream crossing	No
2018	CH3.9	50 x 200	0.2	Agriculture	Pipeline crossing/stream crossing	No
2019	CH4.1	50 x 200	0.2	Agriculture	Stream crossing	No
2020	CH4.2	57 x 218	0.2	Agriculture	Stream crossing	No
2021	CH4.3	50 x 200	0.2	Agriculture	Stream crossing	No
2022	CH4.4	50 x 200	0.2	Agriculture	Stream crossing	No
2023	CH5.0	50 x 150	0.2	Agriculture	Temporary soil storage	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
2024	CH5.1	50 x 150	0.2	Agriculture	Temporary soil storage	No
2025	CH5.2	50 x 150	0.2	Agriculture, open land	Road crossing	No
2026	CH5.2	50 x 150	0.2	Agriculture, open land	Road crossing	No
2027	CH5.7	25 x 200	0.1	Agriculture, open land	Pipeline crossing	No
2028	CH5.9	50 x 200	0.2	Agriculture, open land	Stream crossing	No
2029	CH5.9	100 x 244	0.3	Agriculture, developed land	Stream crossing	No
2030	CH6.0	50 x 331	0.4	Agriculture, open land	Pipeline crossing	No
2031	CH6.1	50 x 244	0.3	Agriculture, open land	Stream crossing	No
2032	CH6.2	50 x 200	0.2	Forest, open land	Stream crossing	No
2033	CH6.3	25 x 195	0.1	Open land	Road crossing	No
2034	CH6.3	50 x 257	0.3	Developed land, open land	Road crossing	No
2035	CH6.5	50 x 115	0.1	Forest, open land	Stream crossing	No
2036	CH6.5	50 x 162	0.2	Open land	Stream crossing	No
2038	CH6.8	25 x 277	0.2	Agriculture, open land	Pipeline crossing	No
2039	CH6.9	25 x 200	0.1	Agriculture	Pipeline crossing	No
2042A	CH6.9	100 x 100	0.2	Agriculture	Water access for hydrostatic testing	AS-KI-NHD-WB-337
2040	CH7.0	34 x 94	0.1	Agriculture, developed land, open land	Temporary soil storage	No
2041	CH7.0	25 x 275	0.2	Agriculture, developed land, open land	Road crossing and pipeline crossing	No
2042	CH7.0	50 x 150	0.2	Agriculture, open land	Road crossing	No
2044	CH7.3	50 x 91	0.1	Agriculture, open land	Road crossing	No
2045	CH7.4	50 x 150	0.2	Agriculture, open land	Road crossing	No
2046	CH7.6	50 x 200	0.2	Agriculture, open land	Stream crossing	No
2048	CH7.7	50 x 230	0.2	Open land	Temporary soil storage	No
2049	CH7.7	25 x 200	0.1	Open land	Pipeline crossing	No
2050	CH7.8	50 x 200	0.2	Open land	Stream crossing	No
2051	CH7.9	53 x 200	0.2	Agriculture, open land	Stream crossing	No
2052	CH8.1	35 x 200	0.2	Agriculture, forest	Stream crossing	No
2053	CH8.2	36 x 202	0.2	Agriculture, open land	Stream crossing	No
2054	CH8.4	50 x 150	0.2	Agriculture	Road crossing and pipeline crossing	No
2056	CH8.4	50 x 150	0.2	Open land	Road crossing and pipeline crossing	No
2059	CH8.6	50 x 150	0.2	Agriculture, open land	Wetland crossing	No
2059A	CH8.7	75 x 218	0.2	Agriculture	Spoils for significant PI	No
2062	CH9.4	50 x 303	0.4	Agriculture	Road crossing	No
2063	CH9.4	50 x 149	0.2	Agriculture	Road crossing	No
2065	CH9.5	50 x 200	0.2	Agriculture, open land, residential	Stream crossing	No
2066	CH9.5	50 x 200	0.2	Agriculture, open land	Stream crossing	No
2066A	CH9.7	50 x 200	0.2	Agriculture	Environmental feature crossing	No
2066B	CH9.8	50 x 200	0.2	Agriculture	Environmental feature crossing and spoils for significant PI	No
2066C	CH9.9	50 x 150	0.2	Agriculture	Spoils for significant PI	No
2066D	CH10.2	25 x 200	0.1	Agriculture	Pipeline crossing	No
2066E	CH10.2	50 x 150	0.2	Agriculture, open land	Pipeline crossing/stream crossing	No
2067	CH10.4	117 x 204	0.3	Agriculture	Stream crossing	No
2067A	CH10.4	93 x 164	0.2	Agriculture	Pipeline crossing and spoils for significant PI	No
2068	CH10.5	50 x 139	0.1	Agriculture, open land	Stream crossing	No
2067B	CH10.5	55 x 169	0.2	Developed land, open land	Road crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
2067C	CH10.5	146 x 377	0.5	Agriculture	Pipeline crossing and spoils for significant PI	No
2069	CH11.0	50 x 194	0.2	Agriculture, developed land, open land	Road crossing	No
2070	CH11.0	50 x 150	0.2	Agriculture	Road crossing	No
2071	CH11.6	50 x 169	0.2	Agriculture, open land	Road crossing	No
2072	CH11.6	50 x 150	0.2	Agriculture	Road crossing	No
2073	CH11.8	137 x 214	0.3	Agriculture, open land	Pipeline crossing	No
2074	CH11.9	140 x 301	0.4	Agriculture, open land	Stream crossing	No
2075	CH11.9	50 x 150	0.2	Open land	Stream crossing	No
2076	CH12.2	25 x 229	0.1	Agriculture	Pipeline crossing	No
2077	CH12.6	100 x 200	0.4	Agriculture	Railroad crossing/road crossing	No
2076A	CH12.6	50 x 200	0.2	Agriculture	Pipeline crossing	No
2078	CH12.7	100 x 231	0.5	Agriculture, open land	Pipeline crossing/railroad crossing/road crossing	No
2078A	CH12.8	50 x 200	0.2	Agriculture	Pipeline crossing	No
2078B	CH13.3	50 x 150	0.2	Agriculture, open land	Environmental feature crossing	No
2078C	CH13.4	50 x 150	0.2	Open land	Environmental feature crossing	No
2079	CH13.6	50 x 150	0.2	Agriculture, open land	Road crossing	No
2080	CH13.7	50 x 151	0.2	Agriculture, open land	Road crossing	No
2081	CH14.2	25 x 200	0.1	Agriculture	Pipeline crossing	No
2082	CH14.6	50 x 182	0.2	Open land	Road crossing	No
2081A	CH14.6	50 x 150	0.2	Open land	Environmental feature crossing	No
2083	CH14.7	143 x 352	0.4	Open land	Road crossing and pipeline crossing	No
2085	CH14.8	50 x 150	0.2	Agriculture, open land	Road crossing	No
2086	CH15.1	25 x 140	0.1	Agriculture	Pipeline crossing	No
2086A	CH15.1	25 x 43	0.0	Agriculture	Temporary soil storage	No
2087	CH15.2	50 x 150	0.2	Agriculture, open land	Stream crossing	No
2088	CH15.3	50 x 150	0.2	Open land	Stream crossing	No
2089	CH15.6	50 x 200	0.2	Open land	Wetland crossing/road crossing	No
2090	CH15.7	50 x 132	0.2	Developed land, open land	Wetland crossing	No
2091	CH15.8	50 x 150	0.2	Agriculture	Road crossing	No
2092	CH16.3	50 x 200	0.2	Open land	Stream crossing	No
2093	CH16.4	50 x 200	0.2	Agriculture	Stream crossing	No
2093A	CH16.5	101 x 318	0.4	Agriculture	Spoils for significant PI	No
2093B	CH16.5	50 x 277	0.3	Agriculture	Spoils for significant PI	No
2094	CH17.1	25 x 200	0.1	Agriculture	Pipeline crossing	No
2095	CH17.3	25 x 200	0.1	Agriculture	Pipeline crossing	No
2096	CH17.8	50 x 150	0.2	Agriculture, open land	Road crossing	No
2097	CH17.9	50 x 190	0.2	Agriculture	Road crossing	No
2098	CH18.1	97 x 391	0.4	Agriculture	Pipeline crossing	No
2099	CH18.2	50 x 164	0.2	Open land	Road crossing	No
2100	CH18.3	50 x 150	0.2	Open land	Road crossing	No
2100A	CH18.5	35 x 200	0.2	Agriculture	Stream crossing	No
2100B	CH18.6	35 x 200	0.2	Open land	Stream crossing	No
2101	CH18.9	35 x 150	0.1	Agriculture	Temporary soil storage	No
2103	CH19.2	50 x 200	0.2	Open land	Stream crossing	No
2104	CH19.3	50 x 309	0.4	Open land	Road crossing and pipeline crossing	No
2105	CH19.3	50 x 151	0.2	Open land	Road crossing	No
2105A	CH19.8	78 x 219	0.2	Agriculture, open land	Spoils for significant PI	No
2108	CH19.9	50 x 217	0.2	Agriculture, open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
2109	CH19.9	50 x 200	0.2	Open land	Stream crossing	No
2110	CH20.3	86 x 271	0.3	Agriculture	Pipeline crossing	No
2110A	CH20.4	28 x 140	0.1	Agriculture	Road crossing and pipeline crossing	No
Subtotal			**26.5**			
VELMA LATERAL						
Stephens						
3000	VE0.0	25 x 196	0.1	Developed land, open land	Temporary soil storage	No
3001	VE0.1	25 x 287	0.6	Open land	Temporary soil storage	No
3002	VE0.2	25 x 410	0.2	Forest, open land, open water	Stream crossing	No
3002A	VE0.2	25 x 165	0.1	Forest, open land	Environmental feature crossing and spoils for significant PI	No
3003	VE0.3	25 x 111	0.1	Forest, open land	Stream crossing	No
3004	VE0.3	25 x 138	0.1	Forest, open land	Road crossing	No
3005	VE0.4	25 x 180	0.1	Developed land, forest, open land	Road crossing	No
3005A	VE0.5	25 x 833	0.5	Developed land, open land	Pipeline crossing	No
3006	VE0.6	25 x 504	0.3	Developed land, open land	Pipeline crossing/stream crossing	No
3007	VE0.7	25 x 251	0.1	Open land	Pipeline crossing	No
3008	VE0.8	25 x 100	0.1	Agriculture	Pipeline crossing/stream crossing	No
3009	VE0.9	25 x 100	0.1	Agriculture	Stream crossing	No
3010	VE1.0	25 x 100	0.1	Open land	Stream crossing	No
3011	VE1.5	26 x 125	0.1	Open land	Road crossing	No
3012	VE1.5	25 x 100	0.1	Open land	Road crossing	No
3013	VE1.8	26 x 201	0.1	Open land	Pipeline crossing	No
3014	VE1.9	25 x 100	0.1	Open land	Stream crossing	No
3015	VE2.0	25 x 100	0.1	Forest, open land	Stream crossing	No
3015A	VE2.1	39 x 157	0.1	Forest	Spoils for significant PI	No
3016	VE2.2	25 x 100	0.1	Forest	Stream crossing	No
3017	VE2.3	25 x 100	0.1	Forest, open land	Stream crossing	No
3018	VE2.5	25 x 100	0.1	Open land	Stream crossing	S-ST-RKT-17/04/12-02
3019	VE2.6	25 x 200	0.1	Agriculture, open land	Stream crossing	No
3020	VE2.7	25 x 200	0.1	Open land	Pipeline crossing	No
3021	VE2.8	25 x 200	0.1	Agriculture	Pipeline crossing	No
3021A	VE2.9	25 x 301	0.2	Agriculture	Pipeline crossing	No
3022	VE3.3	25 x 100	0.1	Agriculture, open land	Stream crossing	No
3023	VE3.4	25 x 131	0.1	Open land	Stream crossing	No
3023A	VE3.5	25 x 100	0.1	Open land	Environmental feature crossing	No
3023B	VE3.5	169 x 302	0.2	Open land	Environmental feature crossing	No
3024	VE3.7	26 x 531	0.3	Forest, open land	Road crossing	No
3025	VE3.8	25 x 175	0.1	Forest, open land	Road crossing	No
3027	VE4.3	25 x 177	0.1	Developed land, open land	Pipeline crossing	No
3028	VE4.4	25 x 403	0.2	Developed land, forest, open land	Pipeline crossing	No
3029	VE4.5	25 x 159	0.1	Developed land, open land	Pipeline crossing	No
3029A	VE4.6	25 x 220	0.1	Agriculture, developed land	Pipeline crossing	No
3029B	VE4.7	25 x 196	0.1	Agriculture	Road crossing and pipeline crossing	No
3029C	VE4.7	25 x 125	0.1	Agriculture	Road crossing	No
3030	VE4.8	25 x 102	0.1	Agriculture, forest	Stream crossing	No
3031	VE4.9	25 x 100	0.1	Open land	Stream crossing	No

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
3031A	VE4.9	50 x 201	0.2	Open land	Pipeline crossing and parking/equipment	No
3032	VE5	25 x 586	0.3	Developed land, forest, open land	Pipeline crossing	No
3033	VE5.2	25 x 209	0.1	Forest, open land	Spoils for significant PI	No
3034	VE5.4	25 x 200	0.1	Open land	Pipeline crossing	No
3034A	VE5.5	25 x 200	0.1	Open land	Pipeline crossing	No
3034B	VE5.7	25 x 200	0.1	Forest, open land	Pipeline crossing	No
3035	VE5.8	25 x 200	0.1	Open land	Pipeline crossing	No
3035A	VE5.9	25 x 475	0.3	Open land	Pipeline crossing	No
3035B	VE6.0	25 x 278	0.2	Open land	Road crossing	No
3035C	VE6.0	25 x 93	0.1	Forest, open land	Road crossing	No
3036	VE6.1	25 x 356	0.2	Forest, open land	Pipeline crossing	No
3037	VE6.2	25 x 157	0.1	Forest, open land	Pipeline crossing	No
3038	VE6.3	25 x 318	0.2	Forest, open land	Pipeline crossing	No
3038A	VE6.4	25 x 545	0.3	Forest, open land	Pipeline crossing	No
3038B	VE6.5	25 x 116	0.1	Forest, open land	Pipeline crossing	No
3038C	VE6.5	124 x 499	0.3	Developed land, forest, open land	Pipeline crossing	No
3038D	VE6.6	117 x 288	0.2	Open land	Pipeline crossing	No
3039	VE6.7	25 x 118	0.1	Open land	Pipeline crossing	No
3039A	VE6.7	61 x 205	0.1	Developed land, open land	Pipeline crossing	No
3040	VE6.8	25 x 237	0.1	Developed land, open land	Pipeline crossing	No
3041	VE6.8	25 x 165	0.1	Open land	Pipeline crossing	No
3042	VE6.9	25 x 214	0.1	Open land	Pipeline crossing	No
3043	VE7.0	141 x 457	0.3	Open land	Road crossing and pipeline crossing	No
3044	VE7.1	64 x 256	0.2	Open land	Road crossing and pipeline crossing	No
3045	VE7.2	25 x 135	0.1	Open land	Road crossing	No
3046	VE7.2	25 x 143	0.1	Open land	Road crossing	No
3047	VE7.4	68 x 299	0.2	Open land	Pipeline crossing and spoils for significant PI	No
3048	VE7.4	56 x 158	0.1	Forest, open land	Spoils for significant PI	No
3049	VE7.6	25 x 100	0.1	Forest	Stream crossing	No
3050	VE7.7	25 x 100	0.1	Open land	Stream crossing	No
3051	VE7.7	25 x 250	0.1	Developed land, open land	Temporary soil storage	No
3052	VE7.8	25 x 200	0.1	Forest, open land	Temporary soil storage	No
3053	VE7.9	25 x 200	0.1	Forest, open land	Temporary soil storage	No
3053A	VE8.2	25 x 100	0.1	Forest	Temporary soil storage	No
3053B	VE8.3	25 x 100	0.1	Forest	Temporary soil storage	No
3054	VE8.4	25 x 129	0.1	Developed land, forest	Road crossing	No
Carter						
3055	VE8.4	25 x 310	0.2	Developed land, open land	Road crossing	No
3056	VE8.6	25 x 399	0.2	Open land	Pipeline crossing and spoils for significant PI	No
3057	VE8.9	25 x 552	0.3	Developed land, forest, open land	Pipeline crossing	No
3057A	VE9.0	825 x 200	0.1	Developed land, forest, open land	Pipeline crossing	No
3057B	VE9.1	25 x 200	0.1	Forest, open land	Pipeline crossing	No
3058	VE9.2	25 x 260	0.2	Forest, open land	Wetland crossing	No
3059	VE9.4	25 x 100	0.1	Forest, open land	Temporary soil storage	No
3061	VE9.5	25 x 430	0.3	Forest	Road crossing and intervening wetland	W-CR-RFT-17/04/11-01

APPENDIX D (cont'd)

Additional Temporary Workspace (ATWS) Associated with Construction of the Midcontinent Supply Header Interstate Pipeline Project

Project Facility/ County/ ATWS ID	Mile-post	Dimensions (feet) [a]	Area (acres)[a]	Land Use	Justification for ATWS	Within 50 Feet of Wetland or Waterbody [b]
3062	VE9.5	25 x 130	0.1	Open land	Road crossing and intervening wetland	W-CR-RFT-17/04/11-01
3063	VE9.7	25 x 239	0.1	Open land	Pipeline crossing	No
3063A	VE9.8	75 x 100	0.2	Forest, open land, open water	Water access for hydrostatic testing	AS-CR - NHD-Line-969
3066	VE10.7	25 x 100	0.1	Forest, open land	Stream crossing	No
3067	VE10.7	25 x 100	0.1	Agriculture, developed land	Stream crossing	No
3068	VE10.7	50 x 200	0.2	Agriculture, developed land	Pipeline crossing and parking/equipment	No
3069	VE10.8	25 x 301	0.2	Agriculture	Spoils for significant PI	No
3070	VE10.8	25 x 150	0.1	Agriculture	Spoils for significant PI	No
3071	VE11.0	25 x 200	0.1	Agriculture	Temporary soil storage	No
3071A	VE11.1	25 x 69	0.0	Developed land, open land	Stream crossing	No
3074	VE11.4	117 x 163	0.3	Developed land, open land	Stream crossing	No
3073	VE11.5	25 x 200	0.1	Open land	Pipeline crossing	No
3075	VE11.5	25 x 92	0.1	Forest, open land	Road crossing and pipeline crossing	No
3076	VE11.5	100 x 250	0.5	Forest, open land	Road crossing	No
3077	VE11.8	25 x 152	0.1	Forest	Road crossing	No
Garvin						
3078	VE11.8	25 x 150	0.1	Agriculture	Road crossing	No
3078A	VE12.0	41 x 156	0.1	Agriculture	Spoils for significant PI	No
3078B	VE12.4	37 x 156	0.1	Forest	Spoils for significant PI	No
3079	VE12.6	25 x 100	0.1	Forest	Temporary soil storage	No
3080	VE12.7	25 x 73	0.0	Forest, open land	Road crossing	No
3081	VE12.7	25 x 309	0.2	Forest	Road crossing and pipeline crossing	No
3082	VE12.8	25 x 150	0.1	Forest, open land	Spoils for significant PI	No
3081A	VE12.8	25 x 238	0.1	Forest, open land	Pipeline crossing/stream crossing	No
3083	VE13.2	25 x 150	0.1	Agriculture, forest, open land	Spoils for significant PI	No
3084	VE13.2	25 x 381	0.2	Agriculture	Stream crossing	No
3085	VE13.3	25 x 100	0.1	Forest, open land	Stream crossing	No
3086	VE13.5	25 x 130	0.1	Forest	Environmental feature crossing	Np
3087	VE13.6	347 x 359	1.2	Open land	Compressor station	No
3087A	VE13.6	224 x 831	2.4	Forest, open land	Compressor station	No
Subtotal			18.6			
TOTAL			**354.9**			

[a] New ATWS and changes in ATWS dimensions are due to additional review of constructability requirements.

[b] Wetland and/or waterbody ID provided for ATWS located within 50 feet.

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APPENDIX E

TEMPORARY AND PERMANENT ACCESS ROADS ASSOCIATED WITH THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT

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APPENDIX E

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
MAINLINE										
Canadian										
TAR-15A	15.8	1,054	0.6	New	Agriculture	Temp.	0	25	D, F	3
Grady										
TAR-15	31.1	1,117	0.7	Existing	Gravel oil and gas lease road	Temp.	15	25	A, D, F	1, 2, 3
		375	0.2	New	Agriculture		0	25		
TAR-16	32.5	2,830	1.3	Existing	Gravel wind farm lease road	Temp.	15	20	E, F, H	1
TAR-17	34.6	2,441	1.4	Existing	Unimproved two-track/field road	Temp.	15	25	A, D, F, H	1, 2
TAR-18	36.5	37	<0.1	Existing	Unimproved two-track/field road	Temp.	15	27	D, F	2
TAR-20	37.3	3,502	2.0	Existing	Gravel wind farm lease road	Temp.	25	25	C, D, F	1
TAR-21	39.1	1,229	0.8	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	2
TAR-22	44.4	2,099	1.2	Existing	Gravel	Temp.	20	25	D, F	1
TAR-23	49.1	1,456	0.9	Existing	Unimproved two-track/field road	Temp.	15	28	A, B, D, F	1, 2
TAR-23A	52.3	141	0.1	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2, 3
TAR-30	59.1	618	0.4	Existing	Unimproved two-track/field road	Temp.	15	25	A, D, F	1, 2
TAR-15B	60.5	316	0.2	New	Open land	Temp.	0	25	D, F	3
TAR-30A	63.6	200	0.1	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2, 3
TAR-34	65.6	1,349	0.8	Existing	Gravel oil and gas lease road	Temp.	20	25	D, F	1
		256	0.2	New	Open land	Temp.	0	25	D, F	1, 2
TAR-35	66.5	3,346	1.9	Existing	Gravel oil and gas lease road	Temp.	15	25	A, E, F	1
		64	<0.1	New	Open land	Temp.	0	25	D, F	1, 2
TAR-36	66.5	1,360	0.8	Existing	Gravel to unimproved two-track	Temp.	15	25	A, F	1, 2
TAR-39A	68.9	5,257	3.0	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1
TAR-41	71.1	1,054	0.6	Existing	Unimproved two-track/field road	Temp.	15	25	A, D, F	1, 2
TAR-43	74.3	3,780	2.2	Existing	Gravel oil and gas lease road	Temp.	15	25	B, E, F	1
TAR-45A	76.3	6,962	4.0	Existing	Gravel oil and gas lease road to unimproved two-track	Temp.	15	25	A, E, F, H	1, 2
TAR-45C	76.7	2,380	1.4	Existing	Gravel oil and gas lease road	Temp.	15	25	A, E, F, H	1
TAR-45D	76.8	489	0.2	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1
TAR-46	77.9	3,229	1.9	Existing	Gravel oil and gas lease road	Temp.	15	25	A, E, F, H	1

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APPENDIX E (cont'd)

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
Garvin										
TAR-46A	79.0	563	0.3	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-48	80.2	714	0.3	Existing	Gravel oil and gas lease road	Temp.	15	25	A, D, F	1
TAR-49	81.1	2,824	1.6	Existing	Gravel	Temp.	15	25	D, F	1
TAR-51	83.1	586	0.4	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-53	84.5	1,990	1.2	Existing	Gravel oil and gas lease road	Temp.	20	25	A, D, F	1
Stephens										
TAR-54	85.5	997	0.7	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-55	85.9	4,520	2.6	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-56	87.0	1,443	0.8	Existing	Unimproved two-track to grass field	Temp.	15	25	D, F	1, 2
TAR-57	88.0	914	0.6	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-58	88.5	114	0.1	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1
TAR-15C	88.8	260	0.2	New	Open land	Temp.	0	25	D, F	3
Garvin										
TAR-59	89.7	2,426	1.4	Existing	Unimproved two-track	Temp.	15	25	A, D, F	1, 2
		420	0.3	New	Grass field		0	25		
TAR-15D	92.4	711	0.4	New	Open land	Temp.	0	25	D, F	3
TAR-60	92.6	2,655	1.5	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-61	94.5	649	0.4	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-64	95.0	726	0.4	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-65	95.7	2,168	1.3	Existing	Gravel oil and gas lease road	Temp.	20	25	A, E, F	1
TAR-66	96.0	1,774	1.0	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
		167	0.1	New	Open land		0	25	D, F	1, 2
TAR-67	97.2	464	0.3	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1
TAR-69	100.4	3,098	1.8	Existing	Unimproved two-track/field road	Temp.	15	25	A, E, F	1, 2
Carter										
TAR-70	101.9	1,413	0.8	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
TAR-71B	102.1	482	0.3	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
TAR-71A	102.5	2,453	1.4	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-72	103.2	357	0.2	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-73	103.4	323	0.2	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-74	104.1	691	0.4	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2

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APPENDIX E (cont'd)

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
TAR-75	105.6	601	0.4	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-76	106.2	2,107	1.2	Existing	Gravel to unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-77	110.9	7,438	4.3	Existing	Gravel to unimproved two-track/field road	Temp.	15	25	E, F, H	1
TAR-77A	110.9	688	0.4	Existing	Gravel to unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-80	122.6	349	0.2	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-81	124.0	3,155	1.8	Existing	Gravel oil and gas lease road	Temp.	15	25	A, E, F, H	1
TAR-82	125.0	72	0.1	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
TAR-83	125.1	679	0.4	Existing	Gravel oil and gas lease road	Temp.	20	25	D, F	1, 2
TAR-84	125.9	475	0.3	Existing	Gravel oil and gas lease road	Temp.	20	25	B, E, F	1, 2
TAR-85	126.1	447	0.3	Existing	Gravel oil and gas lease road	Temp.	20	25	B, E, F	1, 2
TAR-86	126.4	1,398	0.8	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-88	132.4	1,134	0.7	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1, 2
TAR-89	134.8	2,943	1.8	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1, 2
TAR-90	136.0	5,355	3.1	Existing	Gravel oil and gas lease road	Temp.	15	25	A, E, F, H	1
TAR-91	138.7	4,422	2.6	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1
Johnston										
TAR-92	140.0	2,405	1.4	Existing	Gravel oil and gas lease road	Temp.	15	25	E, F, H	1
TAR-92D	143.8	6,181	3.6	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1
TAR-92C	144.2	7,939	4.5	Existing	Unimproved two-track/field road	Temp.	15	25	B, D, F	1,2
TAR-92A	144.8	10,002	5.8	Existing	Gravel utility access road	Temp.	15	25	D, F	1
TAR-92B	147.6	3,945	2.3	Existing	Gravel utility access road	Temp.	20	25	D, F	1, 2
TAR-95	149.2	1,235	0.7	Existing	Unimproved two-track/field road	Temp.	15	25	B, E, F, H	1
TAR-96	154.0	1,982	1.2	Existing	Unimproved two-track/field road	Temp.	15	25	A, E, F, H	1
TAR-97	158.7	1,119	0.6	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
TAR-98	161.9	677	0.4	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
Bryan										
TAR-100	173.4	2,026	1.2	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-101	179.0	861	0.5	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-102	194.9	412	0.2	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
Sub-Total		156,287	90.2							

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APPENDIX E (cont'd)

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
CHISHOLM LATERAL										
Kingfisher										
TAR-2	CH1.8	64	<0.1	Existing	Gravel oil and gas lease road	Temp.	30	No change	F	1
TAR-4A	CH5.9	131	0.1	New	Gravel wind turbine access road	Temp.	20	25	D, F	1
TAR-5A	CH7.0	136	0.1	Existing	Unimproved two-track/field road	Temp.	20	25	D, F	1
TAR-5B	CH7.1	545	0.3	New	Agriculture	Temp.	0	25	B, D, F	3
TAR-6	CH7.7	1,866	1.1	Existing	Unimproved two-track/field road	Temp.	15	25	A, D, F	1, 2
TAR-6A	CH10.2	1,204	0.7	Existing	Unimproved two-track/field road	Temp.	15	25	D, F	1, 2
TAR-10	CH12.6	1,481	0.9	New	Grass field	Temp.	0	25	C, D, F	1, 2, 3
TAR-11	CH12.8	449	0.3	New	Open land	Temp.	0	25	B, D, F	3
TAR-12	CH16.0	3,765	2.2	Existing	Unimproved two-track/oil and gas lease road	Temp.	15	25	A, E, F	1, 2
Sub-Total		9,641	5.6							
VELMA LATERAL										
Stephens										
TAR-68A	VE5.4	5,522	3.2	Existing	Gravel oil and gas lease road	Temp.	15	25	D, F	1, 2
Carter										
TAR-68B	VE9.0	3,189	1.8	Existing	Unimproved two-track/oil and gas lease road	Temp.	15	25	D, F	1, 2
TAR-15E	VE9.7	942	0.5	New	Open land	Temp.	0	25	B, D, F	3
Carter/Garvin										
TAR-68C	VE10.7	2,357	1.4	Existing	Gravel oil and gas lease road	Temp.	20	25	D, F	1, 2
Sub-Total		12,010	6.9							
FACILITIES										
BENNINGTON COMPRESSOR STATION										
Bryan										
PAR-68C	198.5	12	<0.1	New	Open land	Perm.	0	25	G	1, 4
BENNINGTON METER STATION										
Bryan										
PAR-68B	199.6	12	<0.1	New	Open land	Perm.	0	25	G	1, 4

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APPENDIX E (cont'd)

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
CALUMET COMPRESSOR STATION										
Canadian										
PAR-14	17.5	21	<0.1	New	Open land	Perm.	0	20	G	1, 4
PAR-15	17.5	12	<0.1	New	Open land	Perm.	0	20	G	1, 4
CANA METER STATION										
Canadian										
PAR-2A	CA0.0	558	0.3	Existing	Existing gas facility road	Perm.	15	20	G	1, 4
CANADIAN VALLEY METER STATION										
Canadian										
PAR-2	10.7	68	<0.1	New	Open land	Perm.	0	20	G	1, 4
CHISHOLM METER STATION										
Kingfisher										
PAR-1	CH0.0	70	<0.1	New	Open land	Perm.	0	20	G	1, 4
GRADY METER STATION										
Garvin										
PAR-47	79.1	4,307	2.5	Existing	Gravel oil and gas lease road	Perm.	15	25	E, F, G, H	1
		894	0.5	New	Open land	Perm.	0	25	E, F, G, H	1
NGPL-801 METER STATION										
Carter										
PAR-68A	119.2	8	<0.1	New	Open land	Perm.	0	25	G	1, 4
OKARCHE AND MARKWEST METER STATION										
Kingfisher										
PAR-1.1	0.0	15	<0.1	New	Agriculture	Perm.	0	25	G	4
SHOLEM BOOSTER STATION										
Stephens										
PAR-68D	VE7.3	16	<0.1	New	Open land	Perm.	0	25	G	1, 4
TATUMS COMPRESSOR STATION										
Garvin										
PAR-68	99.5	780	0.5	Existing	Unimproved two-track/field road	Perm.	15	25	G	1, 4

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APPENDIX E (cont'd)

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
VELMA METER STATION										
Stephens										
PAR-69	VE0.1	730	0.3	Existing	Gravel oil and gas lease road	Perm.	15	15	G	1, 4
PAR-69A	VE0.1	99	<0.1	Existing	Gravel oil and gas lease road	Perm.	15	15	G	1, 4
MLV-1100-4										
Grady										
PAR-44	75.4	2,909	1.7	Existing	Gravel oil and gas lease road	Perm.	15	25	E, F, G	1
PAR-44A	75.4	130	0.1	New	Utility corridor	Perm.	0	15	G	1, 4
MLV-1010-2										
Kingfisher										
PAR-6A	CH9.4	152	0.1	New	Agriculture	Perm.	0	20	E, F, G	4
MLV-1100-2										
Grady										
PAR-17A	36.4	251	0.1	New	Agriculture	Perm.	0	20	E, F, G	4
MLV-1100-3										
Grady										
PAR-26A	55.6	117	0.1	New	Open land	Perm.	0	20	E, F, G	4
MLV-1200-3										
Carter										
PAR-90A	136.5	152	0.1	New	Open land	Perm.	0	20	E, F, G	4
MLV-1200-4										
Johnston										
PAR-96A	156.3	1,734	0.8	Existing	Unimproved two-track/field road	Perm.	15	20	E, F, G	1, 4
MLV-1200-5										
Bryan										
PAR-100A	175.4	153	0.1	New	Open land	Perm.	0	20	E, F, G	4
MLV-1200-6										
Bryan										
PAR-101A	193.5	169	0.1	New	Open land	Perm.	0	20	E, F, G	4
MLV-1100-5										
Stephens										
PAR-55A	86.7	288	0.4	Existing	Private gravel road	Perm.	25	25	E, F, G	1
Sub-Total		13,657	7.3							

Temporary and Permanent Access Roads Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/ Road ID	Milepost	Length (feet)	Acres	New or Existing	Existing Road Type	Perm./ Temp.	Approx. Existing Width (feet)	Construction Width (feet)	Reason for Use [a]	Proposed Improve-ments [b]
CONTRACTOR YARD:										
YUKON CONTRACTOR YARD										
Canadian										
TAR-13A	about 15 miles east of MP17	2,666	1.85	New	Agriculture	Temp.		30	E, F	3
TOTAL		**194,261**	**112.2**							

[a] Reason for Use:

- A To access pipeline right of way where stream crossings have not been established.
- B To access pipeline right of way where access to the pipeline at road crossings is not possible.
- C To access pipeline right of way where access to the pipeline at railroad crossings is not possible.
- D Temporary access by heavy equipment and stringing trucks until access along the pipeline right of way is established.
- E Access by heavy equipment for duration of the project.
- F Inspector and trade light weight vehicle access (e.g., cars, pickups, welding rigs, HDD mud trucks).
- G Permanent access (AR-1.1 to Okarche and Mark West Meter Station; PAR-14 and -15 to Calumet Compressor Station; PAR-44 to permanent ROW; AR-47 to Grady Meter Station; PAR-68, 68A, 68C, 68D to Compressor Stations).
- H Intermediate access to long right-of-way sections.

[b] Proposed Improvements:

- 1 Dress existing road surfaces with gravel if required.
- 2 Install construction mats if required.
- 3 Grade and gravel new temporary roads and/or use construction mats. Restore after construction.
- 4 Grade and gravel new permanent roads, install culverts where required.

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APPENDIX F

HORIZONTAL DIRECTIONAL DRILL PROCEDURES AND MUD MONITORING PLAN

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Midship Pipeline Company, LLC

Midship Project

Resource Report 2 – Water Resources

Horizontal Directional Drill Procedures and Mud Monitoring Plan

(Revised)

Docket No. CP17-458-000

September 2017

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1.0 INTRODUCTION

Midship Pipeline Company, LLC ("Company") is filing an Application with the Federal Energy Regulatory Commission ("FERC") for a Certificate of Public Convenience and Necessity authorizing it to construct, own and operate the proposed Midship Project ("Project"). The following Horizontal Directional Drill ("HDD") Procedures and Mud Monitoring Plan ("Plan") has been prepared by the Cheniere Pipeline Company, LLC ("Company") as part of the Company's Application for a Certificate of Public Convenience and Necessity.

The purpose of this Plan is to outline HDD implementation procedures and monitoring and control methods in the event of an unanticipated release of drilling mud during construction. This Plan will also establish the minimum requirements that a Contractor must meet for the Project. The HDD Contractor(s) awarded the Project will be required to prepare a written plan addressing how they will meet and comply with the minimum requirements of this Plan. The Company and its authorized representatives will review the Contractor's plan to ensure that it meets these requirements. Site specific HDD Crossing Plans proposed for the Project are included in Appendix 1C of Resource Report 1.

The term 'Contractor' will be used interchangeable herein to refer to either the Prime Pipeline Construction Contractor or their HDD Subcontractor. The Prime Contractor will ultimately be responsible for their HDD Subcontractor.

2.0 DESCRIPTION OF HDD METHODS

HDD is a trenchless construction method, which is accomplished in three phases using a specialized horizontal drilling rig with ancillary tools and equipment. HDD is a pipeline construction method that avoids or minimizes impact to the ground surface by drilling a hole and pulling the pipeline through it rather than digging a trench. HDD requires the drilling of a small diameter hole, or pilot hole, along a pre-determined design path that originates and terminates on the surface. The pilot hole is then enlarged sufficiently to accommodate the pipeline to be installed. The pipeline may or may not be installed concurrently with the hole enlargement, depending upon the final diameter of the enlarged hole and the soil conditions encountered.

The Contractor will provide the necessary labor, tools, materials and equipment to successfully complete the installation of directionally drilled piping as specified for this Project, within the guidelines set forth herein, and to the alignment, grades and specifications shown on the design drawings.

The Contractor will be responsible for the final constructed product, and for furnishing the qualified labor and supervision, and the equipment and supplies necessary for this method of construction.

HDD techniques are used to create or direct a borehole along a pre-determined path to a specified target location. This involves the use of mechanical and hydraulic deviation equipment to change the boring course and uses instrumentation to monitor the location and orientation of the boring head assembly along the pre-determined course.

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Equipment, provided by the Contractor, will include drill bits, mechanical cutters, and/or mud motors along with several small diameter fluid jets to assist in fracturing the rock and soil formations, cooling the drill bits, and displacing the cuttings back to the surface as drill advances towards the target.

Steering will be accomplished by the installation of an offset section of drill stem or "bent sub" that causes the cutterhead to turn eccentrically about its centerline when it is rotating. When steering adjustments are required, the cutterhead-offset section is rotated toward the desired direction of travel and the drill stem is advanced forward without rotation.

3.0 PROTECTION OF UNDERGROUND FACILITIES

The Contractor will undertake the following steps prior to commencing drilling operations:

- Contractor will contact the appropriate federal, state, county and local agencies as directed by permits at least five (5) working days prior to commencing each HDD drilling operation.
- Contractor will contact the local "One-Call" center (or 811) a minimum of two (2) working days before commencing each HDD drilling operation to have all utilities in the area located and marked.
- When requested by the Company, Project Inspectors, or owner of a foreign utility, the Contractor will expose the foreign utility if the HDD will cross within 10 feet of the foreign utility. The foreign utility must be exposed or affirmatively located in situations where the HDD is running parallel and within 10 feet of a foreign utility.

4.0 INSTRUMENTATION

The Contractor will at all times provide and maintain instrumentation which will accurately locate the pilot hole alignment and depth, measure the drill string axial and torsional loads, and measure down hole drilling fluid pressures. The Contractor will also monitor mud volumes to determine if mud loss is occurring.

The Contractor will supply in their plan for review and approval the instruments and methods that will be used to provide this information.

The Company, its representative, and the Permitting Agency's representatives will have access to these instruments and their readings at all times. A log of all recorded readings will be maintained, and will become a part of the As-Built record information supplied to the client within 30 days of Project completion.

5.0 PRE-CONSTRUCTION

The Company and its representatives will utilize a qualified and experienced Geotechnical Contractor to complete a series of soil borings including rock cores for each HDD location to define as reasonably as possible the geological substrata of the area to be crossed in order to complete the design of the crossing.

The Geotechnical Contractor will be expected to utilize the information obtained from the soil borings and the United State Army Corps of Engineers ("USACE") publication "Guidelines Installation of

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Utilities Beneath Corps of Engineers Levees Using Horizontal Directional Drilling" for establishing downhole allowable mud drilling pressures for all HDD's (Formation Pressure Limiting Factor).

The purpose of this publication is to establish drilling mud pressure limits based on soil types and depths under USACE-regulated flood control levees to reduce the chance of inadvertent mud returns to the surface in close proximity to the levees. While this Project will not be crossing any flood control levees, it can serve the same purpose for all HDD's to lessen the likelihood of inadvertent mud returns at the surface for any HDD.

The Company or its assigned engineering representative will use any available Geotechnical Reports and their HDD experience to design each HDD to include the following:

- Name of the feature being crossed
- Type of sampling equipment used for investigation
- Plan and profile alignment sheets showing the location, and subsurface conditions of the proposed HDD crossing
- General classification of soils along path of the proposed HDD using American Association of State Highway and Transportation Officials ("AASHTO") classification descriptions
- Soil densities as determined by blow counts or laboratory analysis
- Tables providing Formation Limiting Pressures for drilling mud for each soil boring
- Elevation(s) of the HDD centerline
- Location of underground utilities and structures (if found during design survey or otherwise provided to designer) which will include the following, if known:
    - Name of utility owner
    - Depth of cover
    - Size or diameter
    - Proximity to HDD
    - Other information provided
- Various general construction related notes
    - For example, the Contractor will confer with utility owners after the "One Call" contacts have been made to verify the information or changes related to known or any unknown utilities. The Contractor will work with the Company or its' engineering representative to alter HDD design if necessary to avoid foreign utilities if changes are required.
    - For example, the Contractor will pothole or excavate, under the direction of the foreign utility owners, any utility that is close enough in location and/or depth that may be impacted by the drilling operations.

6.0 JOB CONDITIONS

If necessary, the Contractor will prepare temporary all weather vehicle access to the HDD Entry and Exit sites. They will also provide a level, hard standing work area for equipment ingress and egress and for the drilling operation area. The work area prepared may generally include the following items based on location.

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6.1 ENTRY (RIG SIDE)

- A rectangular area will be prepared approximately 200 feet long by approximately 150 feet wide. Actual size will be based on each location.
- Access will be by approved access roads and/or along the pipeline working right-of-way.
- The ground conditions around the HDD work area may utilize wooden construction or similar mats if necessary.
- A small drill pit will be excavated around the drill hole to temporarily contain the drilling mud and cutting returns until it is pumped to the mud cleaning equipment (see additional equipment below).

6.2 DEAD MAN

The Dead Man (an anchor for the drill rig) comes with the rig. It is usually about 1 foot deep x 22 feet long x 5 feet wide and is the primary anchorage device for the operation. The excavation for the Dead Man must be accurate and the top of the Dead Man must be flush with the ground. If additional anchorage is needed, the mud tanks can be connected to the rear of the rig or anchor piles will be driven to provide adequate stability. The anchorage must be rigid and must not pivot.

6.3 EXIT (PIPE SIDE)

- The exit side setup will be similar in size and setup as the entry side except that this side will normally not have a drilling rig.
- This is the side where the pipeline will be welded up into long sections to be pulled in after the hole has been drilled and reamed to proper size. Equipment may include the following: welding equipment, pipe side booms, cranes, pipe rollers and supports, and other pipe handling equipment.

6.4 ADDITIONAL EQUIPMENT

Additional equipment supplied by the Contractor that may be used at either side of the drill include:

- Excavators
- 6-inch vacuum assist pumps
- Vacuum truck fitted with booster pumps
- Dewatering pumps
- Mud cleaning system
- Rollers to support pull string
- Pipe cradles
- Drill string trailers
- Other trucks and support equipment

7.0 SAFETY REQUIREMENTS

The Contractor will perform the work in a manner to maximize safety and reduce exposure to personnel and the general public from equipment and potentially hazardous conditions, in accordance with

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applicable safety standards. The Contractor will provide the Company a written safety plan, and will conduct daily tailgate safety meetings with all personnel on the site.

Perform the directional drilling construction operations in a manner that will minimize the movement of the ground; prevent subsidence of the surface, structures and utilities above; or in the vicinity of the directional drilling operations, and to protect the integrity of the carrier pipe as it is installed.

8.0 PROJECT PERSONNEL

The Contractor will maintain qualified and experienced HDD personnel to observe conditions that might threaten the stability of the HDD path or cause inadvertent mud returns or mud loss. Project personnel generally will include, but may not be limited to, the following:

- Construction Foreman
- Drilling Engineer
- Tracking Engineer
- Mud Engineer
- Rig Operator
- Equipment Operator
- Inspectors
- Laborers

9.0 HOURS OF OPERATION

Generally, HDD operating hours are expected to be during daylight hours, working 10 to 12 hours per day on a 6-day work schedule. When the pipe string is being pulled in, operating hours are normally continuous around the clock until the pipe is completely pulled in.

Where continuous hours of operations are required, the Company will work with homeowners in the vicinity of the drilling operations who may be disturbed by the work to come up with a workable situation to alleviate the landowner’s concerns.

10.0 EXECUTION OF THE HDD

10.1 HDD GUIDANCE

Traditionally a Magnetic Guidance System (“MGS”) will be setup and operated by drilling personnel experienced with the system. The system uses parallel wires and other electronic transmission and receiving equipment that can accurately detect the depth and location of the drilling head as it progresses along the proposed drill path. As the drilling progresses, the Contractor can adjust the direction of the drill path based on the information received from the MGS. The direction is adjusted by orienting the bent sub in the direction that the adjustment is needed. Directional readings are made and corrected with each addition of a new length of drill pipe, which is generally about 30 feet long; however, directional reading may be made more often.

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The layout of the Tru-Tracker wires, or control wires, requires a "line of sight" during the initial survey and layout of the drill. The distance between the Tru-Tracker wires (which are laid on the surface) should be approximately the same distance in width as the depth of the drill at any particular point. For example, if the depth of the HDD is 60 feet deep, the wires should be spaced about 60 feet apart. Tru-Tracker wires should be equidistant from the drilling centerline when viewed along the alignment (plan view). The Tru-Tracker wires do not have to be continuous (i.e., when a river has to be crossed).

The drilling accuracy is directly related to the layout of the Tru-Tracker wires, and experience of the Contractor to read the location of the drill. Depending on the HDD location and depth, the Contractor may need to use other tracking methods such as gyroscopic equipment. As part of the plan, the Contractor will identify the method of tracking they expect to use for approval.

10.2 DIRECTIONAL DRILLING OPERATION

A complete Directional Drilling Rig may consist of the following major components provided by the Contractor:

- Rigs with sufficient capacity for HDD installations will be used. Pull force capacities often range up to 1,000,000 pounds of capacity with over 80,000 ft.-lbs. of torque, as required
- Rig power unit
- Generator
- Water pumps
- Mud tanks, mixing, cleaning and circulation equipment (type and size to be verified by the Contractor)
- Mud pumps
- Drill pipe and racks
- Control cabin
- Tru-Tracker guidance system components (or other approved tracking equipment)
- MGS probe and interface
- Computer, printer, and software
- DC power source current control box and tracking wire
- Miscellaneous tools
- Various sizes of fly cutters, drill bits, mud motors, and barrel reamers
- Dry bentonite bags for preparing drilling mud
- Communication equipment

The drill unit is placed at the entry hole, and aligned with the direction of the drill path. The drill unit is then elevated at the rear so that the entry angle conforms to the proposed drill profile. The rig is then anchored in position and the pilot hole operation begins.

10.2.1 PILOT HOLE

The pilot hole operation is executed by using the selected cutting tool, the bent sub steering tool, and the pressurized injection of the bentonite slurry. The drilling is carried out continuously in intervals of 30

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feet, equivalent to one length of drill pipe. The alignment and depth is checked and corrected, and then a new length of drill pipe is added, drilled forward and alignment checked until the end of the drill is reached. The downhole drilling mud pressure will also be monitored and controlled to stay within the limits recommended by the Geotechnical Report.

10.2.2 MAGNETIC GUIDANCE SYSTEM

A MGS probe and interface will be used to provide a continuous and accurate determination of the location of the drill head during the pilot operation. The MGS will be capable of tracking at all depths up to approximately one hundred feet in any soil condition, including hard rock. The MGS will enable the Driller to guide the drill head by providing immediate information on the tool face, azimuth (horizontal direction), and inclination (vertical direction).

The MGS are generally accurate to +/- 2 percent of the vertical depth of the borehole at each position that readings are taken at depths up to one hundred feet. Ferrous materials will not influence or affect the MGS readings or accuracy.

The actual tracking method used will be identified by the Contractor. The equipment selected will be able to provide the same tracking information for depths involved.

The Contractor will utilize the downhole pressure tool to monitor any pressures that could cause a potential inadvertent return.

10.2.3 REAMING

Once the drill bits exit at the prescribed location, the downhole assembly (drill bit, steering tool, etc.) is detached and a series of reamers are installed and pullback along the pilot hole until the hole size is larger enough to pull the pipe in. Typically for a 36-inch-diameter pipeline, there will be a 24-inch diameter for the first reaming pass, followed by a 36-inch and 48-inch diameter second and third reaming pass. The Contractor will then run a 36-inch barrel through the hole to ensure a clean bore hole.

During the reaming process, bentonite slurry is pumped under high pressure through the drill string to the reamer. The Contractor will also run the downhole mud pressure monitoring tool on each of the reaming passes to ensure that the pressure is within the limits specified by the Geotechnical Report.

Reaming operations will be conducted at the discretion of the Contractor to ensure that the hole is sufficient to accommodate the pull section.

Reaming operation diameters are typically limited to 1.5 times the service pipe diameter; however, to avoid damage to the line pipe during installation due to design factors (i.e., soil conditions, project length and/or alignment, soil strata, etc.) the Contractor reserves the right to exceed the 1.5 factor.

When the reaming operation of the hole is completed, a “swab” or “barrel reamer” is pulled through the hole. Drilling mud is pumped through the drill string to the reamer as it is pulled along the drill path. This ensures the hole is prepared for the carrier pipe pullback.

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Once the Drill Superintendent is satisfied that the hole is clear of obstructions, and conditioned, and is ready for the pullback operation to begin, the pulling head which has been attached to the pipe to be pulled in, is then connected to the drill string by a swivel, and the pulling operations is started. The swivel prevents the carrier pipe from rotating in the hole during the pullback.

10.3 TESTING, INSPECTION, STRESS LOADS, BUOYANCEY, AND POST PULLBACK

10.3.1 TESTING AND INSPECTION

Prior to pulling the pipe in, the pipeline will be welded into long pipe strings. All welds will be visually inspected and non-destructively tested. The weld joints will then be coated with a corrosion protective coating and an additional abrasive resistant coatings to protect the coating from abrasions as the pipe is pulled in. Prior to pullback, the pipe strings will be hydrostatically tested to a pressure of 95 to 100 percent of the pipe's specific minimum yield strength ("SMYS") for a period of not less than 4 hours. The entire length of the pipeline coating will also be inspected to locate any defects in the coating. Repairs will be made, as necessary.

10.3.2 BUOYANCY

To reduce friction at the crown of the drilled hole due to the pipe rubbing along the top of the drill hole and the positive buoyancy of the carrier pipe in the bentonite slurry, the Contractor may use a PVC or HDPE pipe inserted in the carrier pipe to inject water into the pipe to counteract the positive buoyancy of the pipe.

The inserted pipe allows the equalization of air pressure on either side of the injected water column in the carrier pipe.

10.3.3 PULLING LOADS

The design of the HDD will ensure that the maximum allowable axial tensile load imposed on the pull section will be less than or equal to 90 percent of the pipe specified minimum yield strength. The Contractor will be required to ensure that this tensile load limit is not exceeded.

10.3.4 TORSIONAL STRESS

A swivel will be used to connect the pull section to the reaming assembly to minimize or eliminate torsional stress imposed on the carrier pipe section.

10.3.5 PULL SECTION SUPPORT

The pull section will be supported on pipe rollers that are spaced appropriately to adequately support the pipe during the pullback so that it moves freely and the pipe is not damaged, kinked, or wrinkled.

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10.3.6 POST PULLBACK

After the pipeline is installed, the pipeline will be hydrostatically tested for a period of no less than 8 hours at a pressure not less than what is required by the Class location where the pipeline is installed and not more than 100 percent of the pipe's SMYS. The Company may require the test pressure to be greater then what is required by code. Note that the post pullback pressure test may be delayed to instead be included as part of the hydrotest when the testing for that pipeline segment occurs.

10.4 DRILLING FLUIDS

10.4.1 COMPOSITION

Drilling fluids will be a non-toxic mixture of bentonite, polymers, and any other additives to help with the drilling procedures. The viscosity may be varied to best fit the soil conditions encountered as recommended by the Contractor.

The Contractor will maintain mud pressures and flow rates during drilling operation to prevent fracturing the sub grade material around and/or above the bore.

The Contractor will maintain their drilling operations to ensure their activities are conducted in a manner to provide a stable borehole and prevent the discharge of drilling fluids to waterbodies or to the land surface due to exceeding anticipated mud pressure limits specified by the Geotechnical Report.

The Contractor will utilize the downhole pressure tool to monitor the mud pressures on the pilot and the reaming process to reduce the chance of any inadvertent returns. The Contractor will also monitor mud volumes used to detect if mud loss is occurring. The Contractor will patrol the HDD path and adjacent areas for any inadvertent returns that may occur, and communicate this to the drilling Superintendent.

The "Formation Pressure Limiting Pressures" for each HDD, based on depth and soil composition, will be established with a safety factor of 1.5 of the pressures calculated by the Geotechnical Contractor and provided in the tables generated in the Geotechnical Report.

10.4.2 WATER

Unless the Company has obtained permits to allow for the uptake of water from local waterbodies, the Contractor will supply water from a water hydrant or other approved water source. Non-potable water may need to be tested and/or treated prior to use in a hydrostatic test.

10.4.3 RE-CIRCULATION

Recycled drilling fluid systems will incorporate linear motion shakers to adequately remove solids from the drilling fluids, before they are recycled in the drilling process. The Contractor may provide other h drilling fluid handling equipment, as it deems necessary to properly manage the drilling fluids and to minimize drilling related wastes.

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The Contractor will provide vacuum truck(s) and/or Frac tanks that have sufficient capacity to collect and transfer drilling fluids from the exit pit to the drilling fluid system, located at the drill entry, or to a disposal site.

10.4.4 DISPOSAL

Disposal of excess drilling fluids will be conducted in compliance with all environmental regulations, right-of-way, workspace agreements and permit requirements. Drilling fluid disposal procedures, including identification of disposal sites, will be submitted to the Company for approval prior to commencing work.

Used drilling muds may be managed several ways: (1) it may be recycled for use at subsequent drill sites, (2) it may be beneficially used onsite for soil amendments, in accordance with any applicable state regulations, (3) it may be provided to a third party to be beneficially reused as fill or a soil amendment to agricultural fields, or (4) it may be disposed of at a commercial disposal site authorized for management of such wastes. Consideration has been given to beneficial use of drilling muds, where practical, to minimize the negative impacts associated with disposal of a potentially useful material. An inadvertent release plan for HDD crossings will be provided prior to construction.

11.0 MONITORING FOR AND CONTROLLING INADVERTENT RETURNS

The Contractor will employ best efforts to maintain full annular circulation of drilling fluids in order to reduce the chance of inadvertent return of mud to the surface in locations other than at the entry and exit holes of the HDD.

Control of drilling fluid returns at locations other than the entry and exit points will use the following methods:

- The Contractor will monitor the pressure tool to keep mud pressures at or below the formation limiting pressure specified for each drill site to reduce the chance of inadvertent returns.
- The Contractor will patrol the right-of-way and adjacent areas, observing the drill path of the HDD, especially at the current location of the drill head during the pilot hole and for each reamer pass.
- If inadvertent surface returns of drillings fluids occur, they will be immediately contained with hand placed barriers (i.e., hay bales, sandbags, silt fences, etc.) and collected using pumps, as practical, provided by the Contractor.
- If the amount of surface return is not great enough to allow practical collection, the affected area will be diluted with fresh water and the fluid will be allowed to dry and dissipate naturally.
- If the amount of surface return exceeds that which can be contained with hand placed barriers, small collection sumps (less than 10 cubic yards) may be used.
- If the amount of the surface return exceeds that which can be contained and collected using small sumps, drilling operations will be suspended until surface return volumes can be brought under control.

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- Unsuccessful drill holes will be abandoned and sealed. Grout will be pumped into the hole to completely seal and fill it, except for the top 5 feet where compacted soil will be placed in the hole. The area will be graded to its original contour
- Drilling operations may also be suspended if at any time the Environmental Inspector or Regulatory Agency's monitor determines that the inadvertent returns are endangering environmentally sensitive areas until the Contractor can bring the mud release under control.
- The Environmental Inspector will immediately notify Company personnel in the event of any inadvertent return and make any required regulatory notifications.

To measure the downhole mud injection volume flow rate, the Contractor can use an inline flow meter to calculate the flow rate in gallons per minute ("gpm"). Another method is to calculate by pump size, diameter, and stroke, timed in revolutions per minute.

Calculation of mud returns can be done three different ways:

- Measure the volume of the excavated receiving pits or mud tanks.
- Calculate by tanker volume.
- The Contractor can measure the intake volume of the first receiving tank on the cleaning unit.

Comparison of the injection flow rate and return flow rate can be used to determine mud loss to the formations and/or possible inadvertent returns.

To find the percentage of solids in returns, the Contractor can use a mud balance scale to weigh the mud.

12.0 CONTAINMENT, RESPONSE, AND NOTIFICATION PLAN

12.1 ON-SITE OBSERVATION DURING CONSTRUCTION

During the entire construction process, the Contractor will continuously patrol the pipeline route and adjacent areas for inadvertent returns or other problems. The following will apply:

- On-site observation of the crossing area will be conducted during active drilling with mud circulation.
- Construction personnel will be briefed on what to watch for and will be made aware of the importance of timely detection and response to any release of drilling mud.
- Construction personnel will have appropriate, communication equipment (e.g., radio, cell phones) available at all times during installation of the directionally drilled crossing.
- The Drill Superintendent will have the authority to order installation of containment structures, if needed, and to require additional response measures if deemed appropriate.
- The Environmental Inspector and/or Regulatory Agency's monitor will have the authority to suspend drilling operations until Contractor has brought the release under control and/or require the Contractor to take other actions to minimize and cleanup the release.

13.0 RESPONSE TO INADVERTENT RETURNS

In the event an inadvertent drilling mud return is observed during the crossing, the return will be assessed to determine the amount of drilling mud being released and potential for the release to reach waterbodies or wetlands. Generally, releases will be handled as follows depending on location; however, site specific

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actions may be different if directed by the Environmental Inspector and/or by a Regulatory Agency's monitor.

13.1 UPLAND AREAS

Evaluate the release to determine if containment structures are warranted and can effectively contain the release. Deploy appropriate containment measures to contain and recover drilling mud as feasible.

Remove excess mud at a rate sufficient to prevent an uncontrolled spreading of drilling fluid beyond the containment area. Suspend drilling if the mud release cannot be controlled until appropriate containment is in place.

13.2 WETLAND AREAS

In the event of a mud release in a wetland area, the Contractor will immediately notify the Company's Environmental Inspector who will make notification to appropriate environmental regulatory agencies.

The Contractor will initiate immediate suspension of drilling until appropriate evaluation and containment measures are completed.

13.3 IN-STREAM

In the event of a mud release in an in-stream area, the Contractor will document the release, and implement installation of containment as needed to prevent solids propagation. The Contractor will initiate immediate suspension of drilling operation if the released volume is determined to pose a threat to human health and safety.

In the event of a mud release in a stream, the Contractor will immediately notify the Company's Environmental Inspector who will make notification to appropriate environmental regulatory agencies.

13.4 CONTAINMENT

Containment, response and clean-up equipment will be made available at the HDD crossing location to assure a timely response. Equipment supplied by the Contractor may include:

- Hay bales
- Push brooms
- Silt fence
- Pumps
- Plastic sheeting
- Mud storage tanks
- Shovels
- Vacuum truck
- Squeegees
- Light plant/generator

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13.5 CLEAN-UP BY THE CONTRACTOR

Clean-up measures will be developed following mud release on land or in wetland areas. The following measures are to be considered as appropriate:

- Drilling mud will be cleaned up by hand using hand shovels, buckets and soft-bristled brooms as possible without causing extensive ancillary damage to existing vegetation. Fresh water washes are also to be employed if deemed beneficial and feasible.
- Containment structures will be pumped out and the ground surface scraped to bare soil; without causing ancillary damage to existing vegetation.
- Material will be collected in containers or roll off boxes for temporary storage prior to removal from the site.
- Potential for secondary impact from the clean-up process is to be regularly evaluated and clean-up activities terminated if physical damage to the site is deemed to exceed the benefits of removal activities.
- In general, no clean-up measures will be initiated for in-stream releases. If site-specific conditions are such that containment and clean-up may be feasible and beneficial, fresh water washes or other low-impact steps may be employed without undue disturbance to the stream banks and bed.

Final clean-up of the drill site will return the area as close as practical to pre-drill conditions. Additional clean-up requirements may be stipulated by permit or ROW agreement.

14.0 ALTERNATIVE HDD SITE SELECTION

In the event an HDD cannot be completed at the proposed location, an alternate crossing location will be analyzed. The site conditions of the proposed alternate HDD locations will take into account, including geotechnical conditions, topography, condition of riparian area, water quality, potential threatened and endangered species, within and downstream of the bore area. Appropriate approvals from necessary regulatory agencies will be obtained. Any proposed alternate HDD location will be submitted to FERC with the analysis of the proposed site.

15.0 SITE SPECIFIC DISCUSSION

Site-specific construction diagrams and a typical HDD drawing can be found in Appendix 1C and Appendix 1E of Resource Report 1, respectively.

15.1 NORTH CANADIAN RIVER

At the North Canadian River HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the river. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the river as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install

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containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at the North Canadian River includes areas under active cultivation, pasture, and strips of trees in uplands near the river banks. All of these areas will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.2 INTERSTATE 40 (I-40)

At the I-40 HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the I-40 ROW on both sides of I-40, respectively, except for a neck-down to a 10-foot width in the palustrine forested wetland north of 1-40 on the entry side. Guide wires for the HDD will be installed in this space on both sides. The space also will be needed on both sides of the road as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at the I-40 crossing includes areas under active cultivation, pasture, and a strip of trees in uplands and a wetland adjacent to the north side of the I-40 ROW. All of these areas will be allowed to return to their previous conditions after the HDD has been completed, although the permanent ROW between the entry and exit points outside of the wetland may be maintained according to FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*, and the path through the wetland may be maintained according to FERC's *Wetland and Waterbody Construction and Mitigation Procedures*. No false ROW will be required for this HDD.

15.3 CANADIAN RIVER

At the Canadian River HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the river for the installation of HDD guide wires, except within the area designated as critical habitat for the Arkansas River shiner. Within the critical habitat, the Company plans to use only hand clearing to create the equivalent of a foot path for the wires. If further evaluation of this site suggests that hand clearing in the critical habitat will not be feasible for a successful HDD, Midship will consult with the USFWS to determine the best method for protecting the Arkansas River shiner and its critical habitat, while still accomplishing the HDD.

No water will be withdrawn from the Canadian River, but in addition to allowing installation of the HDD guide wires, the cleared space, to the extent allowed, also will be needed on both sides of the river as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

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The space between the HDD entry and exit points at the Canadian River includes mostly thinly forested areas in uplands adjacent to the river, but also small areas under active cultivation or developed for pasture (specifically at the entry and exit points). All of these areas will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.4 OKLAHOMA KANSAS TEXAS RAILROAD (OKT RR)

At the OKT RR HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the railroad ROW on both sides of the railroad, respectively. This space is needed to install guide wires and to allow rubber-tired vehicles access for construction purposes.

The space between the HDD entry and exit points at the railroad crossing includes areas under active cultivation and developed for pasture. All of these areas will be allowed to return to their previous conditions after the HDD has been completed, although the permanent ROW between the entry and exit points may be maintained according to FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*. No false ROW will be required for this HDD.

15.5 WASHITA RIVER #1

At the Washita River #1 HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the river. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the river as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at the Washita River includes areas under active cultivation, pasture, and forest in uplands along the southern river bank. All of these areas will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.6 WILDHORSE CREEK

At the Wildhorse Creek HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the creek. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the creek as a contingency for controlling and

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remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at Wildhorse Creek includes areas under active cultivation and pasture, with a few trees in uplands along fence lines and in patches along the creek bank. All of these areas will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.7 HENRY HOUSE CREEK

At the Henry House Creek HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the creek. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the creek as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at Henry House Creek includes open land, with a few scattered trees in uplands adjacent to the proposed area to be cleared along the west bank of the creek. The cleared areas on both sides of the creek will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.8 WASHITA RIVER #2

At the Washita River #2 HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the creek. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the creek as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

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The space between the HDD entry and exit points at the Washita River includes cultivated land and pasture, with a strip of trees in uplands on the east bank of the river. The cleared areas on both sides of the river will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation. No false ROW will be required for this HDD.

15.9 PENNINGTON CREEK

At the Pennington Creek HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the creek. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the creek as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at Pennington Creek includes open land on the west side of the creek, with a few scattered trees in uplands. False ROW will be required for this HDD on the west side of the creek, and it will span an intermittent stream. Trees in uplands in this area will need to be cleared, including a thicker stand of trees adjacent to the intermittent stream. The east side of the creek is mostly open with scattered trees nearer the creek that likely can be avoided. Denser stands of trees in uplands occur farther to the east where the drill equipment will be staged.

The cleared areas on both sides of the creek will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation.

15.10 BLUE RIVER

At the Blue River HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points on both sides of the Blue River, except for neck-downs to a 10-foot width in the palustrine forested wetlands on either side of the river. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. Guide wires for the HDD will be installed in this space on both sides. The space also will be needed on both sides of the river as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at the Blue River crossing includes upland forest, forested wetlands, and open land. False ROW will be needed on the east side of the crossing in open land,

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although the cutting of one or two trees might be required at the far eastern end. All of these areas will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation.

15.11 ROCK CREEK

At the Rock Creek HDD, the Company plans to clear the 50-foot permanent ROW between the entry and exit points and the water's edge on both sides of the creek. Guide wires for the HDD will be installed in this space on both sides. In addition, on the drill side, this space will be needed for access to the water to set pumps and run hoses for mud make-up water for the HDD and hydrostatic test water for the HDD pipe section. The space also will be needed on both sides of the creek as a contingency for controlling and remediating inadvertent drilling mud returns, which, if such an event occurs, will require an immediate response and enough space to maneuver response vehicles and equipment and install containment tanks and remediation materials (Sections 13.3, 13.4, and 13.5). Only rubber-tired vehicles will be used in this area for these functions.

The space between the HDD entry and exit points at Rock Creek includes upland forest and open land. Additional temporary workspace will be required to the west of the HDD exit. This area is generally in open land, but several trees may need to be cut. The cleared areas on both sides of the river will be allowed to return to their previous conditions after the HDD has been completed. It is not anticipated that any routine vegetation maintenance will be required in riparian areas between the entry and exit points as part of the pipeline operation.

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APPENDIX G

ROAD AND RAILROAD CROSSINGS ASSOCIATED WITH THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT

APPENDIX G

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
MAINLINE				
Canadian				
Dirt road	0.2	Dirt	Lease	Open cut
248th Street NW	0.5	Asphalt	Local/county	Conventional bore
234th Street NW	1.6	Gravel	Local/county	Open cut
220th Street NW	2.8	Gravel	Local/county	Open cut
206th Street NW	3.8	Gravel	Local/county	Open cut
Road	4.3	Gravel	Lease	Open cut
192nd Street NW	4.8	Gravel	Local/county	Open cut
Edmond Road NW	5.9	Asphalt	Local/county	Conventional bore
N Calumet Road	6.0	Asphalt	Local/county	Conventional bore
164th Street NW	6.9	Gravel	Local/county	Open cut
150th Street NW	8.1	Gravel	Local/county	Open cut
Memorial Road	9.2	Gravel	Local/county	Open cut
AT&L Railroad	9.3	Railroad	Federal	Conventional bore
U.S. Highway 270	9.3	Asphalt	Federal	Conventional bore
N Red Rock Road	9.6	Gravel	Local/county	Open cut
122nd Street NW	10.2	Asphalt	Local/county	Conventional bore
Road	10.6	Gravel	Farm road	Open cut
N Red Rock Road	11.2	Gravel	Local/county	Open cut
Darlington Road NW	11.4	Gravel	Local/county	Open cut
Britton Road NW	12.5	Gravel	Local/county	Open cut
U.S. Highway 270	13.7	Asphalt	State / federal	Conventional bore
Jones Road NW	13.9	Gravel	Local/county	Open cut
State Highway 66	15.1	Concrete	Local/county	Conventional bore
I-40/U.S. Highway 270 (WBL)	15.7	Asphalt	Federal	HDD
I-40/U.S. Highway 270 (EBL)	15.7	Asphalt	Federal	HDD
Elm Street W	16.1	Gravel	Local/county	Open cut
27th Street SW (Smith Road W)	17.5	Gravel	Local/county	Open cut
S Courtney Road	19.3	Gravel	Local/county	Open cut
Reuter Road W	20.0	Gravel	Local/county	Open cut
S. Heaston Road	20.7	Asphalt	Local/county	Conventional bore
Reno Road W	21.3	Asphalt	Local/county	Conventional bore
15th Street SW	22.5	Gravel	Local/county	Open cut
S Fort Reno Road	22.7	Gravel	Local/county	Open cut
29th Street SW	23.9	Gravel	Local/county	Open cut
S Brandley Road	24.2	Gravel	Local/county	Open cut
44th Street SW	25.1	Gravel	Local/county	Open cut
S Chiles Road	26.1	Gravel	Local/county	Open cut
59th Street SW	26.3	Gravel	Local/county	Open cut
SW 74th Street	27.3	Gravel	Local/county	Open cut
Grady				
County Road 1140	29.3	Gravel	Local/county	Open cut
County Road 1150	30.5	Gravel	Local/county	Open cut
N 2800 Road	30.6	Gravel	Local/county	Open cut
State Highway 37/152	31.7	Asphalt	State	Conventional bore
Road	32.5	Gravel	Farm road	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
E 1175 Road (W Gin Road)	33.4	Asphalt	Local/county	Conventional bore
Clayton Road	35.3	Asphalt	Local/county	Conventional bore
U.S. Highway 81	36.4	Asphalt	Federal	Conventional bore
E 1200 Road (Leona Road B Scott Road)	36.5	Gravel	Local/county	Open cut
Road (two-track)	36.8	Gravel	Farm road	Open cut
Oklahoma Kansas & Texas Railroad	36.9	Railroad	Private	HDD
Private Turbine Road	37.3	Gravel	Lease	Open cut
County Road 1210 (Kiowa Road)	37.8	Gravel	Local/county	Open cut
County Road 2840	38.2	Gravel	Local/county	Open cut
E 1220 Road (Harold Road)	38.9	Caliche	Local/county	Open cut
Road	39.1	Dirt	Lease	Open cut
Sooner Road	40.0	Caliche	Local/county	Open cut
County Street 2850	40.7	Gravel	Local/county	Open cut
E 1250 Road (Dutton Road)	42.2	Asphalt	Local/county	Conventional bore
County Street 2870	44.0	Caliche	Local/county	Open cut
Road	44.5	Gravel	Farm road	Open cut
Burlington Northern Railroad	45.0	Railroad	State	Conventional bore
State Highway 92	45.0	Asphalt	State	Conventional bore
E 1270 Road	45.4	Asphalt	Local/county	Conventional bore
N 2880 Road	45.9	Asphalt	Local/county	Conventional bore
E 1280 Road	46.5	Asphalt	Local/county	Conventional bore
E 1290 Road	47.6	Dirt	Local/county	Open cut
E 1300 Road	48.7	Asphalt	Local/county	Conventional bore
Road	49.1	Dirt	Farm road	Open cut
I-44 (He Bailey Turnpike)(WBL)	49.1	Concrete	State / federal	Conventional bore
I-44 (He Bailey Turnpike)(EBL)	49.1	Concrete	State / federal	Conventional bore
N 2895 Road	49.2	Asphalt	Local/county	Conventional bore
E 1310 Road (Birchfield Lane)	50.0	Dirt	Local/county	Open cut
E 1330 Road	52.3	Asphalt	Local/county	Conventional bore
E 1340 Road	53.4	Dirt	Local/county	Open cut
Road	53.7	Dirt	Farm road	Open cut
U.S. Highway 62/277 (State Highway 9)	54.6	Asphalt	State / federal	Conventional bore
State Highway 39	55.6	Asphalt	State	Conventional bore
Road	56.8	Gravel	Farm road	Open cut
Hereford Road	57.4	Asphalt	Local/county	Conventional bore
Road	57.8	Dirt	Farm road	Open cut
E 1390 Road (Cardinal Lane)	59.0	Caliche	Local/county	Open cut
Road	59.1	Grass	Farm road	Open cut
Alex Highway (County Street 2940)	59.9	Asphalt	Local/county	Conventional bore
Laflin Creek Road	60.2	Asphalt	Local/county	Conventional bore
E 1410 Road (Hawkins Road)	61.6	Caliche	Local/county	Open cut
Cox Road	62.6	Gravel	Local/county	Open cut
Road	63.3	Grass	Lease	Open cut
Road	63.4	Grass	Lease	Open cut
Road	63.5	Grass	Lease	Open cut
Black Road	63.6	Asphalt	Local/county	Conventional bore
E 1440 Road (River Road)	64.6	Asphalt	Local/county	Conventional bore

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
Road	65.9	Dirt	Farm road	Open cut
Old Bradley Highway	66.2	Asphalt	Local/county	Conventional bore
Road	66.6	Gravel	Lease	Open cut
Road	66.7	Gravel	Lease	Open cut
State Highway 19	67.3	Asphalt	State	Conventional bore
Road (Rock)	68.3	Gravel	Lease	Open cut
Road (Rock)	68.5	Gravel	Lease	Open cut
Road	68.9	Dirt	Lease	Open cut
Road	69.1	Gravel	Lease	Open cut
Road	69.5	Dirt	Lease	Open cut
Road (Rock)	69.6	Gravel	Lease	Open cut
Road (Rock)	69.7	Gravel	Lease	Open cut
Road (Rock)	69.7	Gravel	Lease	Open cut
Road (Rock)	69.8	Gravel	Lease	Open cut
Road (Rock)	70.2	Gravel	Lease	Open cut
Road	70.6	Grass	Farm road	Open cut
Road	71.1	Dirt	Farm road	Open cut
Road	71.7	Dirt	Farm road	Open cut
E 1510 Road	72.2	Gravel	Local/county	Open cut
E 1520 Road	73.3	Asphalt	Local/county	Conventional bore
Road	73.4	Dirt	Farm road	Open cut
N 2970 Road	74.0	Caliche	Local/county	Open cut
Road	74.3	Gravel	Farm road	Open cut
Road	75.4	Caliche	Lease	Open cut
Road	76.0	Grass	Farm road	Open cut
Road	76.3	Grass	Farm road	Open cut
Road	76.5	Grass	Farm road	Open cut
Road	76.7	Gravel	Lease	Open cut
Road	76.8	Gravel	Lease	Open cut
E 1550 Road	77.3	Asphalt	Local/county	Conventional bore
Road	77.9	Gravel	Lease	Open cut
Garvin				
Road	79.0	Gravel	Lease	Open cut
Road	80.2	Gravel	Lease	Open cut
N 3000 Road	80.3	Gravel	Local/county	Open cut
Road	80.6	Gravel	Farm road	Open cut
Road	81.1	Gravel	Farm road	Open cut
E 1578 Road	81.1	Gravel	Local/county	Open cut
E 1590 Road	82.4	Asphalt	Local/county	Conventional bore
N 3010 Road	82.9	Gravel	Local/county	Open cut
Road	83.0	Gravel	Farm road	Open cut
Road	83.1	Gravel	Lease	Open cut
Road	83.7	Gravel	Farm road	Open cut
Road	84.5	Gravel	Lease	Open cut
Road	84.8	Grass	Farm road	Open cut
Stephens				
E 1610 Road (County Line Road)	85.2	Gravel	Local/county	Open cut
Road	85.5	Gravel	Lease	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
State Highway 76	85.7	Asphalt	State	Conventional bore
Road	85.9	Gravel	Lease	Open cut
Road	85.9	Gravel	Lease	Open cut
Road	86.7	Gravel	Lease	Open cut
Goad Road/Ball Park Road	86.7	Gravel	Local/county	Open cut
Road	87.1	Dirt	Farm road	Open cut
Road	88.0	Gravel	Farm road	Open cut
Old Highway 76 (N 3040 Road)	88.5	Gravel	Local/county	Open cut
Road	88.5	Gravel	Farm road	Open cut
Garvin				
State Highway 76/29	90.1	Asphalt	State	Conventional bore
E 1650 Road	90.7	Gravel	Local/county	Open cut
Road	92.6	Grass	Farm road	Open cut
Road	92.6	Grass	Farm road	Open cut
Road	92.9	Grass	Farm road	Open cut
Road	93.0	Grass	Farm road	Open cut
Road	93.1	Grass	Farm road	Open cut
E 1670 Road	93.6	Asphalt	Local/county	Conventional bore
State Highway 76	94.6	Asphalt	State	Conventional bore
Road	94.7	Gravel	Lease	Open cut
Road	95.0	Gravel	Lease	Open cut
Road	95.7	Gravel	Lease	Open cut
Road	95.9	Gravel	Farm road	Open cut
E 1690 Road	96.0	Asphalt	Local/county	Conventional bore
Road	96.2	Grass	Farm road	Open cut
Road	96.4	Grass	Farm road	Open cut
E 1700 Road	97.1	Gravel	Local/county	Open cut
Road	97.2	Grass	Farm road	Open cut
E 1710 Road	98.2	Asphalt	Local/county	Conventional bore
Road	99.5	Gravel	Farm road	Open cut
Road	99.5	Grass	Farm road	Open cut
Road	99.7	Grass	Lease	Open cut
Road	99.8	Grass	Farm road	Open cut
Road	100.0	Grass	Farm road	Open cut
Carter				
Road	100.7	Grass	Farm road	Open cut
N 3110 Road (Range Road)	101.4	Gravel	Local/county	Open cut
Westmont Road	101.8	Gravel	Local/county	Open cut
Redwood Road	101.9	Gravel	Lease	Open cut
State Highway 7	102.1	Asphalt	State	Conventional bore
Road	102.3	Gravel	Farm road	Open cut
Road	102.4	Gravel	Farm road	Open cut
E 1750 Road (Quinton Road)	103.0	Asphalt	Local/county	Conventional bore
Road	103.1	Gravel	Lease	Open cut
Road	103.2	Grass	Farm road	Open cut
N 3120 Road (Quinton Road)	103.3	Asphalt	Local/county	Conventional bore
Road	103.4	Gravel	Lease	Open cut
Road	103.4	Gravel	Lease	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
Road	103.7	Gravel	Lease	Open cut
Road	103.8	Gravel	Lease	Open cut
Cargo Road	104.3	Gravel	Local/county	Open cut
Deacon Road	105.0	Gravel	Local/county	Open cut
Van Kirt Road	105.5	Asphalt	Local/county	Conventional bore
Road	105.7	Asphalt	Farm road	Open cut
Road	106.2	Gravel	Farm road	Open cut
Poolville Road	106.7	Asphalt	Local/county	Conventional bore
Sierra Hill Road	107.6	Gravel	Local/county	Open cut
Road	110.2	Gravel	Farm road	Open cut
Road	110.9	Gravel	Farm road	Open cut
Road	111.9	Gravel	Farm road	Open cut
Road	112.3	Gravel	Lease	Open cut
Road	113.2	Asphalt	Lease	Open cut
Road	113.6	Gravel	Lease	Open cut
Road	113.7	Gravel	Farm road	Open cut
Road	114.4	Gravel	Farm road	Open cut
Woodford Road	117.1	Asphalt	Local/county	Conventional bore
Eagle Heights Road	118.1	Gravel	Local/county	Open cut
State Highway 53	118.5	Gravel	State	Conventional bore
Peach Tree Road	119.2	Asphalt	Local/county	Conventional bore
Deese Road	121.2	Asphalt	Local/county	Conventional bore
Horse Apple Road	122.3	Asphalt	Local/county	Conventional bore
Hereford Road	122.3	Asphalt	Local/county	Conventional bore
Road	124.1	Gravel	Lease	Open cut
Road	124.1	Gravel	Farm road	Open cut
Road	124.2	Gravel	Farm road	Open cut
Road	124.2	Gravel	Farm road	Open cut
I-35/State Highway 53 (SBL)	124.5	Concrete	State	Conventional bore
I-35/State Highway 53 (NBL)	124.5	Concrete	State	Conventional bore
State Highway 53	125.0	Asphalt	State	Conventional bore
Road	125.1	Gravel	Lease	Open cut
Road	125.9	Gravel	Lease	Open cut
U.S. Highway 77 (SBL)	126.0	Asphalt	Federal	Conventional bore
U.S. Highway 77 (NBL)	126.0	Asphalt	Federal	Conventional bore
Private Refinery Road	128.1	Asphalt	Local/county	Conventional bore
Road	128.5	Grass	Farm road	Open cut
Road	128.6	Asphalt	Farm road	Open cut
Happy Trails Road	130.2	Asphalt	Local/county	Conventional bore
Robin Road	131.3	Asphalt	Local/county	Conventional bore
Burlington Northern Santa Fe Railroad	131.7	Railroad	Private	Conventional bore
Gene Autry Road	132.0	Asphalt	Local/county	Conventional bore
Road	132.4	Gravel	Lease	Open cut
Aldine Road	133.6	Asphalt	Local/county	Conventional bore
Road	134.8	Caliche	Lease	Open cut
Road	136.0	Gravel	Lease	Open cut
U.S. Highway 177	136.5	Asphalt	Federal	Conventional bore

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
Road	138.6	Gravel	Lease	Open cut
Johnston				
Daube Ranch Road	140.0	Gravel	Lease	Open cut
Road	140.7	Gravel	Lease	Open cut
Road	140.7	Gravel	Lease	Open cut
Road	141.1	Gravel	Lease	Open cut
Road	142.6	Gravel	Lease	Open cut
Road	142.6	Caliche	Lease	Open cut
Road	142.7	Gravel	Lease	Open cut
Norton Road	143.8	Caliche	Lease	Open cut
Road	145.6	Gravel	Lease	Open cut
Road	145.7	Gravel	Lease	Open cut
Road	147.6	Gravel	Farm road	Open cut
Road	148.4	Gravel	Lease	Open cut
St. Louis And San Francisco Railroad	149.5	Railroad	Private	Conventional bore
State Highway 12	149.5	Asphalt	State	Conventional bore
Road	149.9	Gravel	Farm road	Open cut
Pine Creek Road	150.1	Gravel	Farm road	Open cut
S McSwain Lane	151.1	Grass	Farm road	Open cut
Rock Creek Road	151.5	Gravel	Local/county	HDD
Rock Creek Loop	152.0	Gravel	Local/county	HDD
Red Creek Loop	152.1	Gravel	Local/county	HDD
S Bullet Prairie Road	152.6	Gravel	Local/county	Open cut
Rural Golf Course Lane	154.3	Gravel	Local/county	HDD
W Golf Course Road	155.0	Asphalt	Local/county	Conventional bore
U.S. Highway 337/State Highway 99 (N Kemp Avenue)	155.4	Asphalt	Federal	Conventional bore
S Red Oak Road	156.6	Gravel	Local/county	Open cut
Blue River Road	158.9	Asphalt	Local/county	Conventional bore
State Highway 78	159.0	Asphalt	State	Conventional bore
Bois D'Arc Lane	163.4	Asphalt	Local/county	Conventional bore
Bee Emit Road	163.9	Gravel	Local/county	Open cut
Short Lane	164.9	Gravel	Local/county	Open cut
Decker Road	165.1	Gravel	Local/county	Open cut
State Highway 78	166.5	Asphalt	State	Conventional bore
Stallings Road	167.1	Gravel	Local/county	Open cut
Blackburn Road	167.4	Gravel	Local/county	Open cut
Horse Creek Road	169.6	Gravel	Local/county	Open cut
Bryan				
N 3690 Road	170.9	Gravel	Local/county	Open cut
State Highway 22	171.6	Asphalt	State	Conventional bore
N 3700 Road (Albert Pike Road)	172.0	Gravel	Local/county	Open cut
Ft McCulloch Road	173.1	Gravel	Local/county	Open cut
Road	173.4	Gravel	Farm road	Open cut
State Highway 48	175.1	Asphalt	State	Conventional bore
E 1990 Road (Nails Crossing Road)	175.5	Gravel	Local/county	Open cut
E 2000 Road (Miller Road)	178.1	Gravel	Local/county	Open cut
N 3760 Road (Hat Powell Road)	178.5	Gravel	Local/county	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
U.S. Highway 69/75 (SBL)	179.4	Asphalt	Federal	Conventional bore
U.S. Highway 69/75 (NBL)	179.5	Concrete	Federal	Conventional bore
Road	180.3	Grass	Farm road	Open cut
Old Highway 69 (Caddo Highway)	180.8	Asphalt	Federal	Conventional bore
Union Pacific Railroad	180.8	Railroad	Federal	Conventional bore
Caddo Hills Road	181.6	Caliche	Local/county	Open cut
Blue Stem Road	181.9	Gravel	Local/county	Open cut
N 3800 Road (Windswept Trail)	182.7	Gravel	Local/county	Open cut
Road	183.2	Dirt	Farm road	Open cut
Road	183.6	Dirt	Farm road	Open cut
E 2020 Road (Pritchard Road)	184.0	Gravel	Local/county	Open cut
Robinson Road	184.5	Asphalt	Local/county	Conventional bore
Morris Hill Lane	185.1	Gravel	Farm road	Open cut
Double Springs Road	187.7	Dirt	Local/county	Open cut
Driftwood Road	188.0	Dirt	Local/county	Open cut
Diamond Rock Road	188.3	Gravel	Local/county	Open cut
Mesquite Lane	188.9	Gravel	Local/county	Open cut
Terrel Road	189.0	Gravel	Local/county	Open cut
State Highway 22	190.0	Asphalt	State	Conventional bore
Slide Up Road	191.4	Asphalt	Local/county	Conventional bore
Road	192.5	Grass	Farm road	Open cut
Banty Road	193.5	Gravel	Local/county	Open cut
U.S. Highway 70	194.0	Concrete	Federal	Conventional bore
Burlington Northern Railroad	194.0	Railroad	Federal	Conventional bore
Labor Road	194.2	Gravel	Local/county	Open cut
N 3920 Road (Sulpher Springs Road)	197.0	Asphalt	Local/county	Conventional bore
Road	197.7	Gravel	Farm road	Open cut
State Highway 70E	198.0	Asphalt	State	Conventional bore
E 2090 Road (Pipeline Road)	199.1	Gravel	Local/county	Open cut
N 3940 Road (Blue Bird Trail)	199.6	Gravel	Local/county	Open cut
CHISHOLM LATERAL				
Kingfisher				
E 0860 Road	CH0.1	Gravel	Local/county	Open cut
N 2950 Road	CH0.2	Gravel	Local/county	Open cut
Dirt Road	CH0.5	Dirt	Lease	Open cut
N 2940 Road	CH1.2	Asphalt	Local/county	Conventional bore
N 2940 Road	CH1.2	Asphalt	Local/county	Conventional bore
Gravel Road	CH1.8	Gravel	Lease	Open cut
N 2930 Road	CH2.2	Gravel	Local/county	Open cut
E 0860 Road	CH2.9	Dirt	Local/county	Open cut
Dirt Road	CH3.0	Dirt	Lease	Open cut
Gravel Road	CH3.1	Gravel	Lease	Open cut
N 2920 Road	CH3.2	Dirt	Local/county	Open cut
Dirt Road	CH3.7	Dirt	Lease	Open cut
Dirt Road	CH3.9	Dirt	Lease	Open cut
Dirt Road	CH5.1	Dirt	Lease	Open cut
N 2900 Road	CH5.2	Gravel	Local/county	Open cut
Gravel Road	CH5.9	Gravel	Lease	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
N 2890 Road (Banner Road)	CH6.3	Gravel	Local/county	Open cut
Dirt Road	CH6.4	Dirt	Lease	Open cut
E 0860 Road	CH7.0	Gravel	Local/county	Open cut
N 2880 Road	CH7.4	Gravel	Local/county	Open cut
Dirt Road	CH7.7	Dirt	Lease	Open cut
N 2870 Road	CH8.4	Gravel	Local/county	Open cut
N 2860 Road	CH9.4	Asphalt	Local/county	Conventional bore
Dirt Road	CH10.2	Dirt	Lease	Open cut
N 2850 Road	CH10.5	Dirt	Local/county	Open cut
N 2845 Road	CH11.0	Caliche	Local/county	Open cut
N 2840 Road	CH11.6	Dirt	Local/county	Open cut
Dirt Road	CH11.6	Dirt	Lease	Open cut
Oklahoma Kansas & Texas Railroad	CH12.7	Railroad	State / federal	Conventional bore
U.S. Highway 81/State Highway 3 (NBL)	CH12.7	Concrete	State / federal	Conventional bore
U.S. Highway 81/State Highway 3 (SBL)	CH12.7	Concrete	State / federal	Conventional bore
N 2820 Road	CH13.6	Gravel	Local/county	Open cut
N 2810 Road	CH14.7	Gravel	Local/county	Open cut
E 0870 Road	CH14.7	Dirt	Local/county	Open cut
N 2800 Road	CH15.7	Gravel	Local/county	Open cut
Farm Road	CH17.6	Dirt	Farm road	Open cut
E 0880 Road	CH17.9	Dirt	Local/county	Open cut
N 2780 Road	CH18.3	Asphalt	Local/county	Conventional bore
N 2770 Road	CH19.3	Gravel	Local/county	Open cut
Farm Road	CH19.4	Dirt	Farm road	Open cut
N 2760 Road	CH20.3	Asphalt	Local/county	Conventional bore
VELMA LATERAL				
Stephens				
Gravel Road To Oil Well	VE0.1	Gravel	Leased	Open cut
Old Highway 7 (Cherokee Road)	VE0.4	Asphalt	Local/county	Conventional bore
Gravel Road to Oil Well	VE0.4	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE0.6	Gravel	Leased	Open cut
N 2990 Road	VE1.5	Asphalt	Local/county	Conventional bore
Seminole Road	VE3.7	Gravel	Local/county	Open cut
Gravel Road to Oil Well	VE3.8	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.0	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.1	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.3	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.3	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.3	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.5	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE4.6	Gravel	Leased	Open cut
Alma Road	VE4.7	Gravel	Local/county	Open cut
Gravel Road to Oil Well	VE5.0	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE5.1	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE5.4	Gravel	Leased	Open cut
N 3030 Road	VE6.0	Gravel	Local/county	Open cut
Gravel Road to Oil Well	VE6.7	Gravel	Leased	Open cut

APPENDIX G (cont'd)

Road and Railroad Crossings Associated with the Midcontinent Supply Header Interstate Pipeline Project

Facility/County/Roadway or Railroad Name	Milepost	Type	Jurisdiction	Crossing Method
Gravel Road to Oil Well	VE6.8	Gravel	Leased	Open cut
Cemetery Road (Bois D'Arc Road)	VE7.0	Asphalt	Local/county	Conventional bore
N 3040 Road	VE7.2	Asphalt	Local/county	Conventional bore
Gravel Road to Oil Well	VE7.4	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE7.8	Gravel	Leased	Open cut
Countyline Road	VE8.4	Gravel	Local/county	Open cut
Gravel Road to Oil Well	VE8.4	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE9.0	Gravel	Leased	Open cut
Carter				
Shamrock Road	VE9.5	Asphalt	Local/county	Conventional bore
Gravel Road to Oil Well	VE10.0	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE10.2	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE10.6	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE10.7	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE11.0	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE11.1	Gravel	Leased	Open cut
Gravel Road to Oil Well	VE11.4	Gravel	Leased	Open cut
State Highway 76	VE11.6	Asphalt	State	Conventional bore
Dirt Road	VE11.7	Gravel	Leased	Open cut
Garvin				
E 1730 Road ((Base Line Road)	VE11.7	Gravel	Local/county	Open cut
N 3090 Road	VE12.7	Gravel	Local/county	Open cut
Gravel Road to Oil Well	VE13.0	Gravel	Leased	Open cut

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APPENDIX H

KARST MITIGATION PLAN

20180209-3013 FERC PDF (Unofficial) 02/09/2018

Midship Pipeline Company, LLC

Midship Project

Resource Report 6 – Geological Resources

Karst Mitigation Plan (Revised)

Docket No. CP17-458-000

September 2017

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ACRONYMS AND ABBREVIATIONS

Company	Midship Pipeline Company, LLC
Contractor	Prime Pipeline and/or Facility Contractor and any Subcontractor
Project	Midship Project
ROW	right-of-way

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1.0 INTRODUCTION

Midship Pipeline Company, LLC's ("Company's") proposed Midship Project ("Project") will consist of a new-build pipeline system that will transport gas out of the South Central Oklahoma Oil Province and the Sooner Trend Anadarko Basin Canadian and Kingfisher plays in Oklahoma, to existing natural gas pipelines near Bennington, Oklahoma. Approximately 233.1 miles of pipeline will be constructed, along with three (3) compressor stations, one (1) booster station, and other appurtenant facilities.

This Karst Mitigation Plan outlines the procedures that the Contractor will adhere to if karst terrain is encountered while implementing construction activities along the Project right-of-way ("ROW") and at aboveground facility sites. The Contractor will be required to document the geographic locations of all karst features by milepost and submit a detailed report of the karst features and mitigation measures utilized.

The following definitions apply herein:

- Company – The Company's authorized employees, or authorized representatives including, but not limited to, engineering, environmental representatives, land agents, construction management, and inspection services.
- Contractor – The Prime Pipeline and/or Facility Contractor and any subcontractor. The Prime Contractor is ultimately responsible for the actions of its employed subcontractors.

2.0 OBJECTIVE

This Karst Mitigation Plan is intended to outline procedures that may be implemented to support construction and operation in areas where karst features are encountered during construction. As described in Resource Report 6, Section 6.4.3, avoidance will be the primary measure to mitigate karst features.

3.0 GENERAL REQUIREMENTS

Prior to implementing any karst mitigation measures, the Contractor shall provide the Company with appropriate information documenting the karst feature(s) and the proposed mitigation measures to be conducted. The mitigation measures must be reviewed by an engineer representing the Company. The engineer will analyze the data and will make recommendations and/or forward approval to the Company before mitigation may commence.

Karst mitigation measures shall be performed with a Company Construction Inspector present. Approval does not relieve the Contractor from responsibility or full liability while implementing the mitigation measure.

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4.0 KARST MITIGATION MEASURES

Karst features have not been identified along the pipeline routes or at the compressor station sites during field environmental surveys or desktop analyses (literature review of potential karst formations; aerial photography review of potential karst areas). However, if a buried karst feature is encountered during construction, options will be to 1) move the pipeline route or facility site to avoid the feature or 2) depending on the results of geotechnical evaluations (if necessary), develop an engineering design solution that will allow construction to continue at the original location.

During operations, the pipeline is designed to withstand without damage if a sinkhole forms. Intrinsic span capabilities of the pipeline segments are summarized below. Calculations are provided in Attachment A.

- Mainline, 0.875-inch pipe wall thickness = 100 feet
- Mainline, 0.688-inch pipe wall thickness = 96 feet
- Mainline, 0.476-inch pipe wall thickness = 78 feet
- Chisholm, 0.625-inch pipe wall thickness = 75 feet
- Chisholm, 0.397-inch pipe wall thickness = 68 feet
- Velma, 0.321-inch pipe wall thickness = 52 feet
- Velma, 0.250-inch pipe wall thickness = 42 feet

Potential engineered karst mitigation measures are presented below.

4.1 Measures to Avoid and Minimize Impacts to Karst Features and Caves

In all work areas, the protection of known and potential karst features (including sinkholes, caves, sinking or losing streams, swallow holes, and springs) will be in accordance with the Federal Energy Regulatory Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and its *Wetland and Waterbody Construction and Mitigation Procedures* (2013). Sediment and erosion control methods in these plans will be deployed in such a way as to prevent runoff from entering karst features.

Buffer zones of 300 feet will be established around surficial expressions of any karst features in all work areas. During all construction earthwork activities, these zones will be clearly marked in the field with signs and safety fencing (or similar barrier depending on the feature).

All excavation activities will be completed to minimize alteration of the existing grade and storm water flow to the karst features.

In linear excavations adjacent to karst features, spoils will be placed on the opposite side of the trench from the karst features. In the event of storm water erosion during construction, the soil will flow either flow into the excavation (upslope spoil pile) or away from the trench (downslope soil pile) and not toward the karst features.

Stormwater control measures will include detention, diversion, or containerization to prevent construction influenced stormwater from flowing to the karst feature drainage points (or throats). Drainage points in karst features will not be used for the disposal of water.

Hydrostatic test water from a new pipe will not be discharged directly into the buffer zone of a karst feature. This water will be discharged downgradient of the karst feature. If site conditions prevent a downgradient discharge, the water will be discharged as far from the karst feature buffer zone as is practicable, and the discharged water will be filtered and subjected to sediment and erosion control. Post-construction monitoring will ensure proper re-vegetation and restoration of these areas.

4.2 Sinkhole Mitigation

The Company will conduct awareness training for karst-like features during Supervisor Staff environmental training, including buffer zone requirements for known karst features. The Chief Inspector, Craft Inspectors, Safety Inspector, Lead Environmental Inspector, and Environmental Inspectors will be aware of the potential for unanticipated karst features, including sinkhole formation, during construction and trained to identify the signs of sinkhole formation.

Signs of sinkhole formation and the presence of sinkholes will be immediately and clearly marked and a karst buffer zone established. Evaluation of the area will be conducted by appropriate engineering and construction staff. Avoidance of the area may be possible by a minor route variation or by prohibiting equipment from using the temporary workspace in the immediate area.

Should unknown sinkholes be encountered during construction, the following mitigation measures may be undertaken:

- Route the pipeline away from sinkholes.
- Use a thicker-walled pipe.
- Remediate the sinkhole.

Several options are considered viable for remediation/mitigation of sinkholes and depressions along the Project pipeline facilities and are described in the following sections.

4.2.1 Inverted Filter Approach for Pipeline Excavation Structural Zones

For this option, the sinkhole would be excavated until the throat of the underlying bedrock is encountered. On occasion, the throat may not be fully identified. Geophysical methods might be used to further assess conditions. Once the throat location is identified, a field decision regarding the more suitable repair method would be developed. This approach is anticipated for those cases in which the pipeline traverses directly across the bottom or near the throat of a sinkhole. Geophysical methods that may be used for karst imaging include:

- Electrical resistivity.
- Seismic refraction and reflection.
- Ground penetrating radar.
- Multichannel analysis of surface waves.
- Electromagnetics.
- Gravity survey.

If the inverted filter approach is selected, a non-woven geotextile fabric and large (typically one- to two-foot diameter size) rock would be placed initially to establish a working base and fill the sinkhole bottom and/or throat. Layers of progressively smaller size rock would then be placed at an appropriate elevation to allow placement of well-compacted structural soil fill. After placement of stone is complete, the stone filter backfill would be wrapped with the geotextile and the excavation capped with well-compacted soil fill to achieve proposed subgrade elevation.

4.2.2 Concrete Plug Approach for Pipeline Excavation Structural Zones

This approach would initially consist of excavating and cleaning out the throat or open void to allow placement of a concrete plug, consisting of flowable fill. Depending on the size and shape of the throat opening, it may be prudent to initially place graded stone within the throat area. The concrete plug would be installed such that it is bonded to adjacent bedrock. The thickness of the concrete plug would be based on field observations, but in general, the thickness should be at a minimum of two (2) times the width of the plug. Large rock fill may be incorporated into the flowable fill to reduce the overall volume of flowable fill material.

After curing, the remaining site area will be filled with well-compacted soil, if required to achieve proposed subgrade elevation. This approach is anticipated for those cases in which the pipeline traverses directly across sinkhole voids/openings in non-closed depression areas that typically do not receive normal storm water flow (e.g., along a hillside) or if an unanticipated opening is identified during pipeline excavation.

4.2.3 Large Rock Placement in Cave or Opening

In cases where the pipeline will traverse a large open void or cave feature, stabilizing and filling the large opening would be implemented to minimize disturbance of the underlying cave feature or large open void. Initially, large rock (several feet in diameter) will be securely placed and wedged into the opening or cave feature. Additional angular rock (up to two feet in size) may be placed prior to placement of a nonwoven filter fabric. The remaining depth may be capped with No. 1 stone, suitable graded rock, and soil backfill to achieve proposed subgrade elevation.

4.2.4 General Site Filling Approach

In some cases, pipeline construction will necessitate the backfilling of certain site features (i.e., closed depressions without visible openings/voids at the ground surface and depressions with karst voids or

openings exposed to ground surface) in order to facilitate construction and installation of the pipeline. These closed depressions or karst features typically will be located within the construction right of way of the Project but not within the actual pipeline excavation zone or pipe non-structural zone.

Backfill activity for both situations would consist initially of vegetation removal and placement of a geogrid and non-woven filter fabric across the footprint of the site feature to be backfilled. Large angular rock (up to two feet in diameter) may be placed over the geogrid and geotextile. Placement of a layer of No. 1 size stone over the large angular rock may be utilized (if required) and will be based on field decision at the time of construction.

The goal of this remediation/mitigation approach will be to minimize the overall impact to natural/existing storm water infiltration/recharge rates and flow direction.

4.2.5 Above-Ground Facilities (Compressor, Booster, and Meter Stations)

Measures to assure structural integrity in the facility areas include using support systems similar to other industrial facilities established over karst conditions, such as reinforced grade beams and slabs capable of spanning small drop outs. The heavily reinforced grade beams and slabs can be shimmed/jacked into place after completion of hole in-filling and compaction grouting. Alternatively, facilities can be supported by deep foundations (pits or drilled shafts) that extend into competent rock.

In addition, storm water, which is a common triggering mechanism of sinkhole collapse in areas being developed, will be directed away from buildings and equipment foundations.

4.3 Route Surveillance

As required by 49 Code of Federal Regulations, Part 192.613, the Company will conduct route surveillance during construction and operation of the facilities, and surveillance personnel will be trained to monitor the pipeline ROW for evidence of subsidence, surface cracks, or depressions that could indicate sinkhole formation. Should any of these indicators be identified, the Project geotechnical engineer will be notified and will determine the appropriate method of remediation/mitigation. In extreme instances, the affected pipeline segment will be excavated, repositioned, or replaced to a stress-free state and properly bedded and backfilled to pre-construction contours.

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APPENDIX I

BLASTING PLAN

20180209-3013 FERC PDF (Unofficial) 02/09/2018

Midship Pipeline Company, LLC

Midship Project

Resource Report 6 – Geological Resources

Blasting Plan

Docket No. CP17-__-000

May 2017

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1.0 INTRODUCTION

This Blasting Plan outlines the procedures and safety measures that the Contractor will adhere to while implementing blasting activities along the Midship Pipeline Company, LLC ("Company") Midship Project ("Project") right-of-way ("ROW"). The Contractor will be required to submit a detailed Blasting Specification Plan to the Company that is consistent with the provisions of this Blasting Plan. The Contractor's plan, when approved by the Company, will be incorporated into the Contractor's scope of work.

The following definitions apply herein:

- Company – The Company's authorized employees, or authorized representatives including, but not limited to, engineering, environmental representatives, land agents, construction management, and inspection services.
- Contractor – The Prime Pipeline and/or Facility Contractor and any subcontractor, including the blasting contractor employed by the Prime Contractor. The Prime Contractor is ultimately responsible for the actions of their employed subcontractors.

2.0 OBJECTIVE

This Blasting Plan is intended to identify blasting procedures, including safety, use, storage, and transportation of explosives that are consistent with minimum safety requirements as defined by the most current federal, state, local and other codes. This may include but is not limited to:

- 27 CFR Part 181 - Commerce in Explosives
- 49 CFR Part 177 - Carriage by Public Highway
- 29 CFR 1926 Subpart U - Blasting and Use of Explosives (applicable sections)
- 29 CFR Part 1910.109 – Explosives and Blasting Agents (Occupational Safety and Health Administration
- ATF P5400.7 – Federal Explosive Laws and Regulations
- 18th or later version of the International Society of Explosives Engineers ("ISEE") – Blaster's Handbook
- State and local regulations, such as the Oklahoma Explosives and Blasting Regulation Act of Title 63 (Attachment 1), and the Oklahoma Underground Facilities Damage Prevention Act (Attachment 2)
- Cheniere Standard ES-PPL-7712-CU-0200 – Blasting for Pipelines and Facilities Specification

Additionally, this plan is intended to address environmental aspects of blasting activities, and identify areas of concern along the proposed pipeline segments and related facilities.

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3.0 GENERAL REQUIREMENTS

Blasting operations shall be conducted by or under the direct and constant supervision of personnel legally licensed and certified to perform such activities in the jurisdiction where the blasting occurs. Prior to any blasting activities, the Contractor shall provide the Company with appropriate information documenting the experience, licenses, and permits associated with all blasting personnel.

Blasting-related operations including: obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material; drilling, and ground-motion monitoring shall comply with all applicable federal, state, and local regulations, permit conditions and the construction contract.

Blasting for grade or trench excavation shall be used where deemed necessary by a construction expert after examination of the site, and in other locations only after other reasonable means of excavation have been used and are unsuccessful in achieving the required results. The Company may specify locations (e.g., foreign line crossings, near structures) where consolidated rock shall be removed by approved mechanical equipment such as rock-trenching machines, rock saws, hydraulic rams, or jack hammers in lieu of blasting.

Before blasting, a site-specific Blasting Specification Plan must be submitted by the Contractor to the Company for approval. The site-specific Blasting Specification Plan must be reviewed by an engineer representing the Company. The engineer will analyze the data to determine the combined stress level of each affected existing pipeline within the potential area of impact and will make recommendations and/or forward approval to the Company before blasting may commence.

Special blasting controls will be required if blasting is needed for waterbody crossings. The type of explosive, size of charges, sequence of firing, etc. will be selected to minimize shock wave stresses on aquatic life adjacent to the blasting area. If dry crossings are needed, matting will be used to control fly rock. In addition, where specified, the Contractor will furnish the necessary labor and equipment to employ air bubble curtains to protect nearby aquatic life from blasting shock waves. Air bubble curtains could be specified for both wet and dry crossings, depending on the aquatic life present. For wet crossings the air bubble curtains would be placed upstream and downstream of the blasting area. For dry crossings, the air bubble curtains would be in the dammed-off areas on either side of the pipe ditch.

Drilling and blasting shall be performed with a Company Construction Inspector present. Approval is required to proceed prior to each blast. Approval does not relieve the Contractor from responsibility or full liability.

4.0 PRE-BLASTING REQUIREMENTS

Prior to the initiation of blasting operations, the Contractor shall comply with the following:

- The Contractor will obtain all required federal, state, and local permits relating to the transportation, storage, handling, loading, and detonation of explosives.

- The Contractor shall place all necessary "one calls" a minimum of 48 hours (2 normal working days *M-F non-holiday*) prior to construction where one-call systems are in place.
- The Contractor shall be responsible for the protection of all existing underground facilities.
- Before performing any work on, or accessing the ROW, the Contractor shall verify with the Company that all property owners have been notified of the impending construction and blasting activities.
- The Contractor shall submit to the Company representative their site-specific Blasting Specification Plan for approval prior to execution of any blasting activity.
- All blasting activities will take place during daylight hours.

5.0 SITE-SPECIFIC BLASTING PLANS

For each area determined to require blasting, a site-specific Blasting Specification Plan will be created. The Contractor's Blasting Specification Plan shall include at a minimum the following information:

- Blaster's name, company, copy of license, and statement of qualifications; seismograph company, names, equipment and sensor location
- Site location (milepost and stationing), applicable alignment sheet numbers, and associated rock type and geological structure (solid, layered, or fractured)
- Copies of all required federal, state, and local permits
- Methods and materials including explosive type, product name and size, weight per unit, and density; stemming material; tamping method; blasting sequence; use of non-electrical initiation systems for all blasting operations; magazine type and locations and security for storage of explosives and detonating caps
- Site dimensions including explosive depth, distribution, and maximum charge and weight per delay; hole depth, diameter, pattern, and number of holes per delay
- Dates and hours of conducting blasting, distance and orientation to nearest aboveground and underground structures; schedule identifying when blasting would occur within each waterbody greater than 10 feet wide, or within any wetlands, or designated sensitive waterways
- Blasting procedures for:
    - Storing, handling, transporting, loading, and firing explosives
    - Prevention of misfires, flying rock, fire prevention, noise, and stray current accidental-detonation
    - Signs, flagmen, and warning signals prior to each blast
    - Those locations where the pipeline route:
        - Parallels or crosses an electrical transmission corridor, cable or pipeline
        - Parallels or crosses a highway or road
        - Is within or adjacent to forested areas
        - Approaches within 150 feet of a water well or spring
        - Approaches within 1,000 feet of any residence, building or occupied structure
    - Local notification
    - Pre-blast inspections

- Inspections after each blast
- Disposal of waste blasting material

6.0 MONITORING

During blasting operations, the Contractor will be required to monitor operations in the following manner:

- The Contractor shall provide seismographic equipment to measure the peak particle velocity ("PPV") of all blasts in the vertical, horizontal, and longitudinal directions. Seismic monitoring can only be discontinued if:
  - The blasting schedule and blasting performance consistently produce PPVs that are lower than the maximum allowable limit when measured at an adjacent pipeline; and
  - A Company representative provides written authorization
- The Contractor shall measure the PPV at any adjacent pipelines, at any water wells, potable springs and at any aboveground structures within 150 feet of the blasting
- The Contractor shall complete a Blasting Log Record immediately after each blast and submit a copy to the Company representative

7.0 LIMITS ON PEAK PARTICLE VELOCITY (PPV)

Any proposed blast shall be monitored to ensure that the PPV shall not exceed the specified maximum velocities. Maximum velocities are: 4 inches per second measured adjacent to an underground pipeline or structures and 1.5 inches per second for any aboveground structures including water wells.

For all aboveground facilities within 150 feet of the blasting, the Contractor shall provide additional seismograph equipment to determine the PPV at the aboveground facility. If the measured PPV at an existing pipeline or other structure exceeds the above limits, the Contractor shall stop blasting activities immediately and notify the Company Representative. The Blasting Plan must be modified to reduce the PPV prior to any further blasting.

The frequency caused by the detonation of explosive charge shall not drop below 25 hertz without the review and approval of the designated Company Representative.

The minimum time delay between the detonations of charges shall be 8 milliseconds.

All blasting activity occurring within 300 feet of high pressure pipelines will require seismological surveillance (peak particle velocity and frequency) for every blast, unless otherwise agreed upon following the review of the blasting plan. Pipelines affected by blasting are to be leak surveyed in the affected area following the completion of the blasting operation. The Company will coordinate with and follow all federal, state, and/or local regulatory agency laws regarding PPV limits.

Limits on PPV for surface structures are based on studies which established the limits at which plaster in homes will crack. The primary purpose of the limit is to prevent damage to homes. The Company may increase the limit for other structures such as steel transmission line towers, as appropriate. The

designated Company Blasting Representative may approve higher velocities for given site-specific conditions in advance.

8.0 SAFETY

8.1 PROTECTION OF ABOVEGROUND AND UNDERGROUND STRUCTURES

Where blasting is determined to be required, the Company will identify any municipal water mains proposed for crossing, and will consult the local water authority. Reports of identified crossings will include location by milepost, owner, and status and results of contacts with the water authority.

The Contractor will exercise control to prevent damage to aboveground and underground structures including buildings, pipelines, utilities, springs, and water wells. The Contractor will implement the following procedures:

- If blasting occurs within 150 feet of identified water well or potable springs, water flow performance, and water quality testing will be conducted before blasting. If the water well or spring is damaged, the well or spring will be repaired or otherwise restored or the well owner will be compensated for damages. The Company will provide an alternative potable water supply to the landowner *at the Contractor's expense*, until repairs occur. Locations of known water wells or systems within 150 feet of the construction work area are indicated on the Company's construction alignment sheets.
- If blasting occurs within 150 feet of any aboveground structures, the Contractor and the Company representative will inspect structures before and after blasting. In the unlikely event that damage occurs to the aboveground structure, the owner will be compensated by the Contractor.
- The Contractor shall be responsible for the ultimate resolution of all damage claims resulting from blasting. Such liability is not restricted by the 150-foot inspection requirement cited above.
- Blasting will not be allowed within 15 feet of an existing pipeline, unless specifically authorized by the Company.
- Holes that have contained explosive material shall not be re-drilled. Holes shall not be drilled where danger exists of intersecting another hole containing explosive material.
- Blasting mats or padding shall be used on all shots where necessary to prevent scattering of loose rock outside of the approved construction workspace areas and to prevent damage to nearby structures and overhead utilities.
- Blasting shall not begin until occupants of nearby buildings, residences, places of business, places of public gathering, and farmers/ranchers have been notified by the Contractor sufficiently in advance to protect personnel, property, and livestock. The Contractor shall notify all such parties at least 48 hours (2 normal working days M-F non-holiday) prior to blasting.
    - The Company shall work with ranchers to relocate livestock and other animals to safe areas away from the blast zone to prevent injury to the livestock or to prevent stampeding of the livestock as the result of the blast.

- Blasting in or near environmentally sensitive areas such as streams and wildlife areas may include additional restrictions.
- All blasting shall be subject to the following limitations:
    - Maximum PPV of 4 inches per second for buried pipelines or structures or 1.5 inches per second for any above grade structures including water wells in any of three mutually perpendicular axes, measured at the lesser distance of the nearest facility or the edge of the permanent easement
    - Maximum drill size shall be 2.5 inches unless approved by the Company
    - Maximum quantity of explosive per delay shall be governed by the recorded measurements as influenced by work site conditions
    - Explosive agents and ignition methods shall be approved by the Company. Ammonium Nitrate Fuel Oil and other free flowing explosives and blasting agents are not acceptable and shall not be used
    - Drill holes shall not be left loaded overnight
    - Good stemming material is to be used in all holes
- The drilling pattern shall be set in a manner to achieve smaller rock fragmentation (maximum 1 foot in diameter) to use as much as possible of the blasted rock as backfill material after the pipe has been padded in accordance with the specifications. *The Project specifies that no rock greater than three inches in diameter is to be used in backfill unless approved by the Company*. The Contractor shall submit the proposed drilling pattern to the Company for approval prior to implementation.
- Under pipeline crossings and all other areas where drilling and blasting is required within 15 feet of existing oil and gas facilities (as approved by the Company):
    - Drill holes shall be reduced to a maximum of 2 inches or less in diameter
    - The number of holes shot at one time shall be limited to three unless otherwise approved by the Company
    - Appropriate delay between charges to attain desired fragmentation

8.2 PROTECTION OF PERSONNEL

The Contractor shall include in its procedures all federal, state, county, and local safety requirements for blasting. The Contractor's procedures shall address, as a minimum, the following requirements:

The Contractor shall take sole liability for property damage, injury or fatalities to people and livestock caused by blasting operations.

- Only authorized, qualified, and experienced personnel shall handle explosives.
- No explosive materials shall be located where they may be exposed to flame, excessive heat, sparks, or impact. Smoking, firearms, matches, open flames, and heat and spark-producing devices shall be prohibited in or near explosive magazines or while explosives are being handled, transported, or used.

- A code of blasting signals shall be established, posted in conspicuous places and utilized during blasting operations. Contractor training including those directly involved in the blasting operations and all other persons involved in the project (e.g., the Company and their authorized representatives and other Contractor personnel) shall be conducted on the use and implementation of the code.
- The Contractor shall use every reasonable precaution including, but not limited to, visual and audible warning signals, warning signs, flag person, and barricades to ensure personnel safety.
- Warning signs, with lettering a minimum of four inches in height on a contrasting background, will be erected and maintained at all approaches to the blast area. Contractor personnel may need to be in place at these locations just prior to the blast through the “ALL CLEAR” if there is a high likelihood of people entering the blast area.
- Flaggers will be stationed on all roadways passing within 1,000 feet of the blast area to stop all traffic during blasting operations.
- All personnel not involved in the actual detonation shall stand back at least 1,000 feet and workers involved in the actual detonation shall stand back at least 650 feet from the time the blast signal is given until the "ALL CLEAR" has been sounded.
- No loaded holes shall be left unattended or unprotected at any time including overnight.
- No explosives or blasting agent shall be abandoned.
- In the case of a misfire, the blaster shall provide proper safeguards for personnel until the misfire has been re-blasted or safely removed.
- The exposed areas of the blast will be matted wherever practicable. In cases where such a procedure is not deemed to be feasible, the Contractor will submit an alternative procedure for review by the Company and the site in question must be visited and examined by the designated Company Blasting Representative before any approval is granted.
- The Company may employ two-way radios for communication between vehicles and office facilities. The Contractor shall advise the Company and other pipeline contractors of any need to cease use of such equipment during blasting activities.
- All loading and blasting activity shall cease and personnel in and around the blast area will retreat to a position of safety during the approach and progress of an electrical storm irrespective of the type of explosives or initiation system used. **THIS IS A MAJOR SAFETY PRECAUTION AND WILL ALWAYS BE OBSERVED.** All explosive materials, all electrical initiation systems, and all non-electric initiation systems are susceptible to premature initiation by lightning.
- Previous blast areas must be inspected to verify the absence of misfires. No drilling may commence until such inspection occurs. If a misfire occurs adjacent to a hole to be drilled, the misfire will be cleared by the blaster using whatever techniques are called for by the situation prior to commencement of drilling. If a misfire occurs at some distance from the drilling area, drilling may be stopped while clearing preparations are underway. When the misfire is to be cleared by re-shooting, drilling will be shut down and personnel evacuated to a place of safety prior to detonation.

- All transportation of explosives will be conducted in accordance with applicable federal, state, and local laws and regulations. Vehicles used to transport explosives shall be in proper working condition and equipped with tight wooden or non-sparking metal floor and sides. If explosives are carried in an open-bodied truck, they will be covered with a waterproof and flame-resistant tarpaulin. Wiring will be fully insulated to prevent short-circuiting and at least two fire extinguishers will be carried. The truck will be plainly marked to identify its cargo so that the public may be adequately warned. Metal, flammable, or corrosive substances will not be transported in the same vehicle with explosives. There will be no smoking and unauthorized or unnecessary personnel will not be allowed in the vehicle. Competent, qualified personnel will load and unload explosives into or from the vehicle.
- No sparking metal tools will be used to open kegs or wooden cases of explosives. Metallic slitters will be used to open fiberboard cases, provided the metallic slitter does not come in contact with the metallic fasteners of the case. There will be no smoking, no matches, no open lights, or other fire or flame (including welding) nearby while handling or using explosives. Explosives will not be placed where they are subject to flame, excessive heat, sparks, or impact. Partial cases or packages of explosives will be re-closed after use. No explosives will be carried in the pockets or clothing of personnel. The wires of an electric blasting cap shall not be tampered with in any way. Wires will not be uncoiled. The use of electric blasting caps will not be permitted during dust storms or near any other source of large charges of static electricity. Uncoiling of the wires or use of electric caps will not be permitted near radio-frequency transmitters. The firing circuit will be completely insulated from the ground or other conductors.
- No blast will be fired without a positive signal from the person in charge. This person will have made certain that all surplus explosives are in a safe place; all persons, vehicles, and/or boats are at a safe distance; and adequate warning has been given. Adequate warning of a blast will consist of, but is not limited to, the following:
    - Notification to nearby homeowners and local agencies, if necessary
    - Stop vehicular and/or pedestrian traffic near the blast site
    - Signal given by an air horn, whistle or similar device using standard warning signals
- Only authorized and necessary personnel will be present where explosives are being handled or used.
- Condition of the hole will be checked with a wooden tamping pole prior to loading. Surplus explosives will not be stacked near working areas during loading. Detonating fans will be cut from spool before loading the balance of charge into the hole. No explosives will be forced into a bore hole past an obstruction. Loading will be done by a blaster holding a valid license or by personnel under his direct supervision.
- Should flying rock leave the ROW even after all necessary precautions have been taken, it shall be collected immediately and disposed of at approved disposal sites. This work shall not be left to the cleanup crew.

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8.3 PROTECTION OF THREATENED AND ENDANGERED SPECIES

- The Company will consult with state and federal agencies regarding areas proposed for blasting where sensitive habitats or species are known to occur. Areas identified as containing sensitive habitats or species, as directed by the appropriate agencies, will be staked and flagged. A qualified project biologist will survey the proposed blasting zone identified by the Pipeline Contractor immediately in advance of any drilling or blasting. Areas will be checked before and after blasting for the presence of sensitive species, and disturbance to species and habitats will be resolved in accordance with guidance provided by the appropriate agencies.

8.4 LIGHTNING HAZARD

- A risk of accidental detonation caused by lightning strikes exists at any time the workplace is experiencing an electrical storm and there are loaded holes on site. If this hazard is judged to exist by the Company representative, work shall discontinue at all operations and workers will be moved to secure positions away from the loaded holes. Furthermore, workers shall not return to the work site until the storm has passed and the Company representative has indicated it is clear to return.
- The Company's Contractor shall have on site and use approved lightning detectors capable of measuring the degree of electrical activity as a storm approaches, and the distance to the storm front from the instrument on the ROW such as:
    - SD-2508 manufactured by Electronics Division
    - S.D.I. International, Model 350 manufactured by Thomas Instruments Inc.
    - Skyscan Lighting Detector manufactured by Skyscan Technologies
    - Or approved equivalent

9.0 STORAGE REQUIREMENTS

- All explosives, blasting agents, and initiation devices shall be stored in locked magazines that have been located, constructed, approved, and licensed in accordance with local, state, and federal regulations.
- The storage of explosives, blasting agents and initiation devices is not permitted on the ROW and will only be stored at approved staging areas or construction yards.
- Magazines shall be dry, well-ventilated, reasonably cool (painting of the exterior with a reflective color), bullet and fire resistant, and kept clean.
- Initiation devices shall not be stored in the same box, container, or magazine with other explosives. Explosives, blasting agents or initiation devices shall not be stored in wet or damp areas; near oil, gasoline, cleaning solvents; near sources of heat radiators, steam pipes, stoves, etc. No metal or metal tools shall be stored in the magazine. There shall be no smoking, matches, open lights, or other fire or flame inside or within 50 feet of storage magazines or explosive materials. The loading and unloading of explosive materials into or out of the magazine shall be done in a business-like manner with no loitering, horseplay, or prank playing.

- Magazines shall be kept locked at all times unless explosives are being delivered or removed by authorized personnel. Admittance shall be restricted to the magazine keeper, blasting supervisor, or licensed blaster. Magazine construction shall meet the requirements of Bureau of Alcohol, Tobacco and Fire Arms P5400.7 "Explosives Law and Regulations" and be in accordance with local, state, or federal regulations and the ISEE Blaster's Handbook.
- Accurate and current records shall be kept of the explosive material inventory to ensure that oldest stocks are utilized first, satisfy regulatory requirements and for immediate notification of any loss or theft. Magazine records shall reflect the quantity of explosions removed, the amount returned, and the net quantity used at the blasting site. *Copies of these records are to be supplied at the end of the project or anytime requested by the Company throughout the project.*
- When explosive materials are taken from the storage magazine, they shall be kept in the original containers until used. Small quantities of explosive materials may be placed in day boxes, powder chests or detonator boxes. Any explosive material not used at the blast site shall be returned to the storage magazine and replaced in the original container as soon as possible, but in any case before the end of the workday.
- Magazine locations shall be in accordance with local, state, or federal regulations. Where no regulations apply, magazines shall be located in accordance with the latest edition of the 18th Anniversary Edition of the Blaster's Handbook and ATF P5400-7 Explosives Law and Regulations. Magazines shall be marked in minimum three-inch high letters with the words “DANGER – EXPLOSIVES” prominently displayed on all sides and roof.

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Attachment 1
Oklahoma Explosives and Blasting Regulation Act of Title 63

Source: http://oklegal.onenet.net/oklegal-cgi/get_statute?98/Title.63/63-122.1.html

63-122.1.

The provisions of this part shall be known and may be cited as the "Oklahoma Explosives and Blasting Regulation Act".

63-122.2.

The provisions of this section specify the jurisdictional areas of state agencies relating to the regulation of blasting and explosives. The jurisdictional areas of responsibility specified in this section shall be in addition to those otherwise provided by law and assigned to the specific state agency as follows:

1. Department of Mines. The Department of Mines shall have the following jurisdictional areas relating to the regulation of blasting and explosives:
   a. the use of explosives and blasting activities for surface and nonsurface mining operations pursuant to Title 45 of the Oklahoma Statutes,
   b. except as otherwise provided by this part, the use of explosives and blasting activities for nonmining activities,
   c. except as otherwise provided by this part, the regulation of the use of explosives or of blasting activity not subject to the specific statutory authority of another state agency;
2. State Fire Marshal. The State Fire Marshal shall have regulatory jurisdictional responsibility relating to explosives as follows:
   a. the regulation of the manufacture, sale, transportation for hire or storage of explosives or blasting agents for resale pursuant to Division 2 of the Oklahoma Explosives and Blasting Regulation Act,
   b. the examination of buildings and premises and reporting and orders authorized pursuant to Section 317 of Title 74 of the Oklahoma Statutes;
3. The Department of Public Safety. The Department of Public Safety shall have the regulatory jurisdictional responsibility relating to the transportation of explosives or blasting agents classified as hazardous materials pursuant to the Oklahoma Motor Carrier Safety and Hazardous Materials Transportation Act; and
4. Department of Environmental Quality. The Department of Environmental Quality shall have jurisdictional responsibility relating to the regulation and disposal of explosives or blasting agents classified as solid or hazardous waste pursuant to the Oklahoma Environmental Quality Code.

63-123.1

A. Pursuant to the Oklahoma Explosives and Blasting Regulation Act, except as otherwise provided by this part, the Department of Mines shall be responsible for the administration, regulation and enforcement of all blasting operations or activities, and the storage and use of all blasting agents and explosives by any person, which is not located within the area of a mining operation or site.

B. Except as otherwise provided by this part, it shall be unlawful for any person to store or use any blasting agents or explosives, or conduct, supervise or control a blasting operation in this state without first complying with the provisions of the Oklahoma Explosives and Blasting Regulation Act and rules promulgated by the Oklahoma Mining Commission.

C. Except as otherwise required by this part, by January 1, 1996:

1. Any person performing blasting activity shall be certified as a blaster by the Department of Mines;

2. All blasting operations shall be conducted under the direction of a certified blaster. Blaster certification may be obtained from the Department upon application and proof of competency as determined by rules of the Department; and

3. Before January 1, 1996, all blasting operations and activities shall be conducted by competent, experienced persons who understand the hazards involved.

D. Any blaster certification issued by the Department shall be carried by the blaster or shall be on file at the blasting area during blasting operations.

E. A blaster and at least one other person shall be present at the firing of a blast.

63-123.2.

A. Except as otherwise provided by this part, it is a violation to manufacture, store, or use explosives or blasting agents without first obtaining a permit from the Department of Mines.

B. Permits issued under this division shall not be transferable, and shall be readily available for inspection by representatives of the Department and law enforcement officials.

C. The Department may place such restrictions and limitations on permits as it deems necessary.

D. The Department may issue one-time or limited-time permits or permits for continuous blasting operations.

E. 1. Permits for continuous blasting operations issued under this division shall be valid for the calendar year after the date of issue unless revoked or suspended. Permits for continuous blasting operations may be renewed on each issuance date and a showing of compliance with the Oklahoma Explosives and Blasting Regulation Act and rules promulgated thereto.

2. Permits for one-time or limited-time permits shall be valid only for the time specified in the permit.

F. Any person holding a permit issued under this division shall keep such records as may be required by the Department. Records shall be maintained for not less than two (2) years following the year in which the record is made. All such records shall be open to inspection by the Department or its representatives during normal business hours.

63-123.2A.

A. No person shall purchase blasting agents or explosives in this state without first obtaining a permit pursuant to the Oklahoma Explosives and Blasting Regulation Act or without first obtaining written notification from the Department of Mines that the person is exempt from this permit requirement.

B. Distributors or sellers of blasting agents or explosives shall require presentation of either the permit or exemption notification required in subsection A of this section before the sale or transfer of blasting agents or explosives.

C. The Oklahoma Mining Commission shall promulgate rules to implement this section.

63-123.3.

The Department shall enforce the provisions of this division and for such purposes shall:

1. Issue permits to applicants found by the Department, after inspection and investigation, to be qualified for such permit under the provisions of this division and the rules promulgated by the Department;

2. Deny, suspend, or revoke permits upon a finding of noncompliance or violation of the provisions of this division or of the applicable rules of the Department;

3. Hold hearings upon the application of any person aggrieved by any order of the Department with respect to the denial, suspension, or revocation of any permit; and

4. Inspect, during normal business hours, any building, structure, or premises subject to the provisions of this division, and, upon the discovery of any violation of this division or the applicable rules, issue such orders as are necessary for the safety of workers and the public, and, in the case of imminent hazard or emergency, apply for an injunction in the appropriate district court.

63-123.4.

A. The Department of Mines shall promulgate the necessary rules to implement the provisions of this Division. Rules promulgated by the Department shall include but not be limited to requirements for

blasting plans, use of explosives, public notices, and records.

B. The Department of Mines may establish a schedule of fees to be charged for applications for or issuance of new and renewed certifications and permits required pursuant to this division. The fees shall be subject to the following provisions:

1. The Department shall follow the procedures required by the Administrative Procedures Act for promulgating rules in establishing or amending any such schedule of fees;

2. The Department shall base its schedule of fees upon the reasonable costs of operating the programs specified by this division; and

3. The fees authorized by this section shall not be implemented by emergency rule but shall be adopted by permanent rules, which shall be submitted to the Legislature for review pursuant to Section 308 of Title 75 of the Oklahoma Statutes prior to implementation.

63-123.5.

A. In the enforcement of the Oklahoma Explosives and Blasting Regulation Act pursuant to this division, any person who violates any permit condition or who violates any other provision of the Oklahoma Explosives and Blasting Regulation Act or rules promulgated thereto pursuant to this division may be assessed an administrative penalty by the Department. Such penalty shall not exceed Five Thousand Dollars ($5,000.00) for each violation. Each day of continuing violation may be deemed a separate violation for purposes of penalty assessments. In determining the amount of the penalty, consideration shall be given to the person's history of previous violations regarding explosives and blasting operation; the seriousness of the violation, including any irreparable harm to the environment and any hazard to the health or safety of the public; whether the person was negligent; and the demonstrated good faith of the person charged in attempting to achieve rapid compliance after notification of the violation.

B. An administrative penalty shall be assessed by the Department only after the person charged with a violation described under subsection A of this section has been given an opportunity for a hearing pursuant to Article II of the Administrative Procedures Act. Where such a hearing has been held, the Department shall make findings of fact, and shall issue a written decision as to the occurrence of the violation and the amount of the penalty which is warranted, incorporating, when appropriate, an order therein requiring that the penalty be paid. When appropriate, the Department shall consolidate such hearings with other proceedings under the Oklahoma Explosives and Blasting Regulation Act. Any hearing under this section shall be of record. Where the person charged with such a violation fails to avail himself of the opportunity for a hearing, an administrative penalty shall be assessed by the Department after determining that a violation did occur, and the amount of the penalty which is warranted, and issuing an order requiring that the penalty be paid.

C. Upon the issuance of a notice or order charging that a violation of the Oklahoma Explosives and Blasting Regulation Act has occurred, the Department shall inform the operator within thirty (30) days of the proposed amount of said penalty. The person charged with

the penalty shall then have thirty (30) days to pay the proposed penalty in full or, if the person wishes to contest either the amount of the penalty or the fact of the violation, forward the proposed amount to the Department for placement in an escrow account. If through administrative or judicial review of the proposed penalty, it is determined that no violation occurred, or that the amount of the penalty should be reduced, the Department shall within thirty (30) days remit the appropriate amount to the person.

D. Administrative penalties owed under the Oklahoma Explosives and Blasting Regulation Act may be recovered in a civil action brought by the Attorney General or any district attorney in the district in which the violation occurred at the request of the Department in the appropriate district court. Such action, also, may be brought by the Department.

E. Any person who willfully and knowingly violates a condition of a permit issued pursuant to this division or fails or refuses to comply with any order issued under this division, or any order incorporated in a final decision issued by the Department under this division, shall, upon conviction, be punished by a fine of not more than Ten Thousand Dollars ($10,000.00) or by imprisonment for not more than one (1) year, or both.

F. Whenever a corporate permittee violates a condition of a permit issued pursuant to this division or fails or refuses to comply with any order issued under this division, or any order incorporated in a final decision issued by the Executive Director of the Department of Mines under this division, any director, officer or agent of such corporation who willfully and knowingly authorized, ordered or carried out such violation, failure or refusal shall be subject to the same administrative penalties, fines and imprisonment that may be imposed upon a person under subsections A and E of this section.

G. Whoever knowingly makes any false statement, representation or certification, or knowingly fails to make any statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this division or any order of decision issued by the Department under this division, shall, upon conviction, be punished by a fine of not more than Ten Thousand Dollars ($10,000.00) or by imprisonment for not more than one (1) year, or both.

H. Any person who fails to correct a violation for which a citation has been issued within the period permitted for its correction shall be assessed an administrative penalty of not less than Seven Hundred Fifty Dollars ($750.00) for each day during which such failure or violation continues.

The period permitted for corrections of violations shall not end until:

1. The entry of a final order by the Department after an expedited hearing which ordered the suspension of the abatement requirements of the citation because it was determined that the person will suffer irreparable loss or damage from the application of the abatement requirements; or

2. The entry of an order by a court in any review proceedings initiated by the person in which the court orders the suspension of the abatement requirements.

I. Any person who shall, except as permitted by law, willfully resist, prevent, impede or interfere with the Department or any of the agents or employees thereof in the performance of duties pursuant

to this division shall, upon conviction, be punished by a fine of not more than Five Thousand Dollars ($5,000.00), or by imprisonment for not more than one (1) year, or both.

63-123.6.

The provisions of this part shall be in addition to any other state or federal laws or municipal ordinances regulating explosives, blasting agents or similar devices. Each person shall comply with all applicable state and federal laws and regulations and municipal ordinances for the storage, manufacture, transportation and the use of explosives or blasting agents.

63-123.7.

Any fees, administrative penalties or any other monies obtained by the Department of Mines pursuant to the Oklahoma Explosives and Blasting Regulation Act shall be deposited in the Department of Mines Revolving Fund and shall be expended by the Department of Mines for implementation and enforcement of this part or as otherwise deemed necessary by the Department for complying with its responsibilities and duties according to law.

63-123.8.

A. 1. The provisions of this part shall not apply to:

a. persons engaged in shooting wells or seismographic operations for the purpose of oil or gas production,

b. mining operations regulated by Title 45 of the Oklahoma Statutes, and

c. persons using explosives or blasting agents for noncommercial use on their own land, owned in fee or by contract, for the removal of trees, rocks and dams or for other normal agricultural purposes.

2. Any person exempted from the provisions of the Oklahoma Explosives and Blasting Regulation Act pursuant to this subsection shall be liable for all damages caused by the use of explosives, or blasting agents and blasting operations, which damages shall be recoverable in any court of competent jurisdiction.

B. In addition, the provisions of this part shall not apply to:

1. Any municipalities or counties in this state using any blasting agents, explosives or conducting, supervising or controlling a blasting operation in this state. Any such municipality or county shall comply with rules promulgated by the Oklahoma Mining Commission;

2. The Department of Transportation in the conducting, supervision or controlling of any blasting operation in this state,

provided the Department shall comply with rules promulgated by the Oklahoma Mining Commission;

3. Duly qualified bomb technicians of municipal, county, state, and federal law enforcement agencies for the transportation, storage or disposal of any explosive chemical, compound or device, when such technician is performing responsibilities for the preservation of public peace, safety, or criminal investigation.

Attachment 2
Oklahoma Underground Facilities Damage Prevention Act

§63-142.1. Short title.

This act shall be known and may be cited as the "Oklahoma Underground Facilities Damage Prevention Act".

Laws 1981, c. 94, § 1, eff. Jan. 1, 1982.

§63-142.2. Definitions.

As used in the Oklahoma Underground Facilities Damage Prevention Act:

1) "Certified project" means a project where the public agency responsible for the public project, as part of its procedure, certifies that the project right-of-way is free and clear of underground facilities or wherein the public agency responsible for such project, as part of its procedure, notifies all persons determined by the public agency to have underground facilities located within the construction right-of-way and certifies that all known underground facilities are duly located or noted on the engineering drawings for the project;
2) "Damage" means any impact upon or removal of support from an underground facility as a result of explosion, excavation or demolition which according to the operating practices of the operator of the underground facilities would necessitate the repair thereof;
3) "Demolish" means to wreck, raze, render, move or remove a structure by means of any equipment or explosive;
4) "Demolition" means the act or operation of demolishing a structure;
5) "Excavate" means to dig, compress or remove earth, rock or other materials in or on the ground by use of mechanized equipment or blasting, including, but not necessarily limited to, augering, boring, backfilling, drilling, grading, pile driving, plowing in, pulling in, trenching, tunneling and plowing; provided, however, that neither:
   a) the moving of earth by tools manipulated only by human or animal power, nor
   b) any form of cultivation for agricultural purposes, nor any augering, dozing by noncommercial dozer operators or digging for postholes, farm ponds, land clearing or other normal agricultural purposes, nor
   c) routine maintenance, nor
   d) work by a public agency or its contractors on a preengineered project, nor
   e) work on a certified project, nor
   f) work on a permitted project, nor
   g) the opening of a grave in a cemetery, nor
   h) a solid waste disposal site which is a preengineered project, nor
   i) any individual excavating on his own property and who is not in the excavating business for hire, shall be deemed excavation
6) "Excavation" means the act or operation of excavating;
7) "Excavator" means a person or public agency that intends to excavate or demolish within the State of Oklahoma;
8) "Notification center" means the statewide center currently known as the Oklahoma One-Call System, Inc., which has as one of its purposes to receive notification of

planned excavation and demolition in a specified area from excavators, and to disseminate such notification of planned excavation or demolition to operators who are members and participants;

9) "Operator" shall mean and include any person or public agency owning or operating underground facilities;

10) "Permitted project" means a project where a permit for the work to be performed must be issued by a state or federal agency and, as a prerequisite to receiving such permit, the applicant must locate all underground facilities in the area of the work and in the vicinity of any blasting and notify each owner of such underground facilities;

11) "Person" includes any individual, partnership, corporation, association, cooperative, trust or other entity, including a person engaged as a contractor by a public agency, but not including a public agency;

12) "Preengineered project" means a public project wherein the public agency responsible for such project, as part of its engineering and contract procedures, holds a meeting prior to the commencement of any construction work on such project in which all persons, determined by the public agency to have underground facilities located within the construction area of the project, are invited to attend and given an opportunity to verify or inform the public agency of the location of their underground facilities, if any, within the construction area and where the location of all known underground facilities are duly located or noted on the engineering drawing and specifications for the project;

13) "Public agency" means the state or any board, commission or agency of the state, and any city, town, county, subdivision thereof or other governmental entity;

14) "Routine maintenance" means the grading of roads and barrow or drainage ditches, the removal and replacement of pavement, including excavation relating thereto and the installation and maintenance of drainage and bridge facilities, signs, guardrails, and electrical and communications facilities in or on the public rights-of-way by a public agency; and

15) "Underground facility" means any underground line, cable, facility, system and appurtenances thereto, for producing, storing, conveying, transmitting or distributing communication (including voice, video, or data information), electricity, power, light, heat, refined petroleum products, water (including storm water), steam, sewage and other commodities. Underground facilities shall also mean oil and natural gas pipelines that are subject to the Hazardous Liquid Transportation System Safety Act and natural gas pipelines subject to the jurisdiction of the Oklahoma Corporation Commission Pipeline Safety Department, and any oil and gas pipeline located in a public right-of-way.

Added by Laws 1981, c. 94, § 2, eff. Jan. 1, 1982. Amended by Laws 1995, c. 344, § 27, eff. Nov. 1, 1995; Laws 2002, c. 412, § 1, eff. July 1, 2002; Laws 2003, c. 362, § 1, eff. Nov. 1, 2003; Laws 2004, c. 427, § 1, emerg. eff. June 4, 2004.

§63-142.3. Filing of notice - Participation by municipality in statewide one-call notification center.

All operators of underground facilities shall participate in the statewide one-call notification center and shall have on file with the notification center a notice that such operator has underground facilities, the county or counties where such facilities are located, and the address and telephone number of the person or persons from whom information about such underground facilities may be obtained. A municipality shall participate in the statewide one-call notification center as provided for in this section.

25, § 1, emerg. eff. March 30, 1992; Laws 2003, c. 362, § 2, eff. Nov. 1, 2003, Amended by Laws 2016, HB 1951, c. 151, § 1, eff. November 1, 2016

§63-142.4. Filing fees.

A. As provided for in this section, the notification center shall charge and collect fees from operators filing notices pursuant to Section 142.3 of this title, except for rural water districts which have less than one thousand one hundred meters and municipalities which have a population of less than three thousand (3,000).
B. Upon the initial filing of a notice or statement and annually thereafter, a fee shall be collected in a manner as provided for in Section 142.10 of this title. The fee shall be due and payable on January 1 of each year. Failure to pay such fee on or before February 1 of such year shall result in the filing being void and the notification center shall remove such operator from the list of operators having underground facilities in the county. Such operator may thereafter file again pursuant to this act, but only upon payment to the notification center of the above-specified initial filing fee and an additional late filing fee of Fifty Dollars ($50.00).
C. The notification center shall maintain a current list of all operators on file pursuant to this act and shall make copies of such list available upon payment of the appropriate fees.

Added by Laws 1981, c. 94, § 4, eff. Jan. 1, 1982. Amended by Laws 2003, c. 362, § 3, eff. Nov. 1, 2003..

§63-142.5. Certain excavations, demolitions and explosions prohibited near certain facilities.

No excavator shall demolish a structure, discharge an explosive or commence to excavate in a highway, street, alley or other public ground or way, a private easement, or on or near the location of the facilities of an operator without first complying with the requirements of the Underground Facilities Damage Prevention Act and the Oklahoma Explosives and Blasting Regulation Act.

Added by Laws 1981, c. 94, § 5, eff. Jan. 1, 1982. Amended by Laws 1995, c. 344, § 28, eff. Nov. 1, 1995.

§63-142.6. Notice of proposed demolition, explosion or excavation - Marking or providing location of facilities - Emergencies.

A. Before an excavator shall demolish a structure, discharge any explosive or commence to excavate in a highway, street, alley or other public ground or way, on or near the location of an operator's underground facilities, or a private easement, such excavator shall first notify all operators in the geographic area defined by the notification center who have on file with the notification center a notice pursuant to Section 142.3 of this title to determine whether any operators have underground facilities in or near the proposed area of excavation or demolition. When an excavator has knowledge that an operator does not have underground facilities within the area of the proposed excavation, the excavator need not notify the operator of the proposed excavation. However, an excavator shall be responsible for damage to the underground facilities of an operator if the notification center was not notified. Notice shall be given no more than ten (10) days nor less than forty-eight (48) hours, excluding Saturdays, Sundays and legal holidays, prior to the commencement of the excavation or demolition.

B. Each operator served with notice in accordance with subsection A above either directly or by notice to the notification center shall, within forty-eight (48) hours after receipt of verification from the notification center that the notice has been accepted and acknowledged, excluding Saturdays, Sundays and legal holidays, unless otherwise agreed to between the excavator and operator, locate and mark or otherwise provide the approximate location of the underground facilities of the operator in a manner as to enable the excavator to employ hand-dug test holes to determine the precise location of the underground facilities in advance of excavation. For the purpose of this act, the approximate location of the underground facilities shall be defined as a strip of land two (2) feet on either side of such underground facilities. Whenever an operator is served with notice of an excavation or demolition and determines that the operator does not have underground facilities located within the proposed area of excavation or demolition, the operator shall communicate this information to the excavator originating the notice prior to the commencement of such excavation or demolition.

C. The only exception to subsection A of this section shall be when an emergency exists that endangers life, health or property. Under these conditions, excavation operations may begin immediately, providing reasonable precautions are taken to protect underground facilities. All operators of underground facilities within the area of the emergency must be notified promptly when an emergency requires excavation prior to the location of the underground facilities being marked

D. Every notice given by an excavator to an operator pursuant to this section or to the notification center pursuant to Section 142.3 of this title shall contain at least the following information:

1. The name of the individual serving such notice;
2. The location of the proposed area of excavation or demolition;

3. The name, address and telephone number of the excavator or excavator's company;
4. The excavator's field telephone number, if one is available;
5. The type and the extent of the proposed work;
6. Whether or not the discharging of explosives is anticipated; and
7. The date and time when work is to begin.

E. In marking the approximate location of underground facilities, an operator shall follow the standard color coding described herein:

Operator and Type of Product	Specific Group Identifying Color
Electric Power Distribution and Transmission	Safety Red
Municipal Electric Systems	Safety Red
Gas Distribution and Transmission	High Visibility Safety Yellow
Oil Distribution and Transmission	High Visibility Safety Yellow
Dangerous Materials, Product Lines, Steam Lines	High Visibility Safety Yellow
Telephone and Telegraph Systems	Safety Alert Orange
Police and Fire Communications	Safety Alert Orange
Cable Television	Safety Alert Orange
Water Systems	Safety Precaution Blue
Slurry Systems	Safety Precaution Blue
Sewer Systems	Safety Green

Added by Laws 1981, c. 94, § 6, eff. Jan. 1, 1982. Amended by Laws 2003, c. 362, § 4, eff. Nov. 1, 2003, Amended by Laws 2016, HB 1951, c. 151, § 2, eff. November 1, 2016

§63-142.7. Use of powered or mechanized equipment - Exemptions.

A. Except as provided in subsection B of this section, powered or mechanized equipment shall not be used directly over marked routes of underground facilities until the precise location of the underground facilities has been determined by the excavator, and then only after the facilities have been exposed and properly protected to avoid damage to them. If the precise location of the underground facilities cannot be determined by the excavator, the operator thereof shall be notified by the excavator so that the operator can determine the precise location of the underground facilities prior to continuing excavation or demolition.

B. The only exception to the prohibition of the use of powered or mechanized equipment directly over marked routes of underground facilities shall be for the removal of pavement or masonry, and then only to the depth of such pavement or masonry.

Laws 1981, c. 94, § 7, eff. Jan. 1, 1982.

§63-142.8. Additional notice required.

In addition to the notice required by Section 142.6 of this title, whenever the demolition of a structure is proposed, operators in the geographic area defined by the notification center who have a notice on file with the notification center pursuant to Section 142.3 of this title shall be given at least seven (7) business days' notice of the proposed demolition before the demolition work begins. Such notice shall be initiated by the notification center after the excavator has met local code requirements for a demolition permit. When an operator is served with notice and determines that underground facilities are within the proposed area of demolition and such facilities require additional protection, service removal or termination, the operator shall communicate this information to the excavator and by mutual agreement the operator and excavator shall determine a date to begin the demolition which shall not exceed sixty (60) business days from the original demolition notice. If a public agency determines that the structure endangers the public health or safety, then the public agency may, in the manner provided by law, order the immediate demolition of the structure.

Added by Laws 1981, c. 94, § 8, eff. Jan. 1, 1982. Amended by Laws 2003, c. 362, § 5, eff. Nov. 1, 2003; Laws 2004, c. 427, § 2, emerg. eff. June 4, 2004.

§63-142.9. Damage to underground facilities.

A. When any damage occurs to an underground facility or its protective covering, the operator thereof shall be notified immediately by the excavator who caused the damage.
B. Upon receiving notice of such damage, the operator shall promptly dispatch personnel to the location to effect temporary or permanent repairs.
C. Should damage occur that endangers life, health or property, the excavator responsible for the work shall keep all sources of ignition away from the damaged area and shall take immediate action to protect the public and property and to minimize the hazard until arrival of the operator's personnel or until the appropriate police or fire officials shall have arrived and taken charge of the damaged area.
D. An excavator shall delay any backfilling in the immediate area of the damaged underground facilities until the damage has been repaired, unless the operator authorizes otherwise. The repair of such damage must be performed by the operator or by qualified personnel authorized by the operator.

Laws 1981, c. 94, § 9, eff. Jan. 1, 1982.

§63-142.9a. Damage to underground facilities – Liability - Injunction.

A. Any excavator, except for a public agency who fails to comply with the Oklahoma Underground Facilities Damage Prevention Act and who damages an underground facility owned or operated by a nonprofit rural water corporation organized pursuant to Section 863 of Title 18 of the Oklahoma Statutes or a rural water district organized pursuant to the Rural Water, Sewer, Gas, and Solid Waste

Management Districts Act, shall be liable for the underground damage to and responsible for the repair of such facilities. Any new underground facilities installed on and after September 1, 1992, shall contain materials capable of being detected so that the facilities can be accurately located.

B. Any excavator who damages or cuts an underground facility, as a result of negligently failing to comply with the provisions of the Oklahoma Underground Facilities Damage Prevention Act or as a result of failing to take measures for the protection of an underground facility shall be liable to the operator of the underground facility for the repair of the damaged underground facility.

C. Except for public agencies, any excavator who by willful act or by reckless disregard of the rights of others, repeatedly violates the provisions of the Oklahoma Underground Facilities Damage Prevention Act and repeatedly damages underground facilities, thereby threatening the public health, safety, and welfare, may be enjoined by a court of competent jurisdiction from further excavation.

Added by Laws 1992, c. 369, § 1, eff. Sept. 1, 1992. Amended by Laws 2002, c. 412, § 2, eff. July 1, 2002; Laws 2003, c. 362, § 6, eff. Nov. 1, 2003.

§63-142.10. Statewide notification center.

A. This act recognizes the value of and authorizes the establishment of a statewide notification center.

B. Upon establishment, the notification center shall operate twenty-four (24) hours a day, seven (7) days a week. Notification, as required by Section 142.6 of this title, to operators who are members of or participants in the notification center, shall be given by notifying the notification center by telephone or other acceptable means of communication, the content of such notification to conform to Section 142.6 of this title.

C. All operators who have underground facilities within the defined geographical boundary of the notification center shall be afforded the opportunity to become a member of the notification center on the same terms as the original members. Others may participate as nonmembers on terms and conditions as the members deem appropriate.

D. A suitable record shall be maintained by the notification center to document the receipt of the notices from excavators as required by this act.

Added by Laws 1981, c. 94, § 10, eff. Jan. 1, 1982. Amended by Laws 2003, c. 362, § 7, eff. Nov. 1, 2003.

§63-142.11. Exemptions.

Notwithstanding anything which may be contained in this act to the contrary, public agencies and their contractors engaged in work within the public right-of-way which work is a preengineered project, certified project or routine maintenance shall be exempt from the provisions of this act. Provided, a public agency contractor, prior to

engaging in routine maintenance, shall take reasonable steps to determine the location of underground facilities in or near the proposed area of work. Reasonable steps may include utilization of the statewide one-call notification center procedures as provided for in Section 142.6 of this title.

Added by Laws 1981, c. 94, § 11, eff. Jan. 1, 1982. Amended by Laws 1986, c. 114, § 1, eff. Nov. 1, 1986; Laws 2003, c. 362, § 8, eff. Nov. 1, 2003.

§63-142.12. Election not to participate in statewide one-call notification center – Designation of person authorized to provide information.

Added by Laws 2003, c. 362, § 9, eff. Nov. 1, 2003. Repealed by Laws 2016, HB 1951, c. 151, § 3, eff. November 1, 2016

§63-142.13. Enforcement authority – Corporation Commission.

The Corporation Commission is hereby designated as the agency to enforce the provisions of the Oklahoma Underground Facilities Damage Prevention Act, Section 142.1 et seq. of Title 63 of the Oklahoma Statutes, over excavation or demolition on or near or directly over the location of, and notice of damage to, oil and natural gas physical facilities which are described by the currently effective definition of "pipeline" in 49 CFR Part 192.3 and "pipeline" and "pipeline system" in 49 CFR Part 195.2. Enforcement authority granted in this section shall be concurrent with and shall not be construed to modify or limit any private right of action, including those available pursuant to Section 142.9a of Title 63 of the Oklahoma Statutes. Terms used in this section shall be as defined in the Oklahoma Underground Facilities Damage Prevention Act.

Added by Laws 2014, c. 243, § 1, emerg. eff. May 9, 2014.

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APPENDIX J

WATERBODIES CROSSED BY THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT PIPELINE FACILITIES

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APPENDIX J

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
MAINLINE							
Tributary to North Canadian River	S-CN-WCR-17/01/18-01	6.7	Ephemeral	4.6	Open cut	A, E, G	Warm water
North Canadian River	S-CN-WCR-16/12/08-01	7.7	Perennial	72.2	HDD	A, C, E, G	Warm water
Tributary to Six Mile Creek	S-CN-WCR-16/12/07-01	9.5	Ephemeral	3.6	Open cut	A, E, G	Warm water
Sixmile Creek	S-CN-WCR-17/01/18-02	12.2	Intermittent	10.1	Open cut	A, E, G	Warm water
Tributary to Sixmile Creek	S-CN-WCR-16/12/07-02	12.9	Intermittent	1.0	Open cut	A, E, G	Warm water
Tributary to Sixmile Creek	S-CN-WCR-16/12/07-03	13.3	Intermittent	2.0	Open cut	A, E, G	Warm water
Tributary to North Canadian River	S-CN-LAG-17/01/18-01	15.4	Intermittent	7.4	Open cut	A, E, G	Warm water
Tributary to North Canadian River	S-CN-LAG-17/01/18-02	15.6	Intermittent	4.0	HDD	A, E, G	Warm water
Unnamed Pond	AS-CN-NWI-PUBHh-336	15.8	Pond	NA [e]	NA [e]	A, E, G	Warm water
Tributary to North Canadian River	S-CN-WCR-16/12/07-04	16.0	Ephemeral	5.6	Open cut	A, E, G	Warm water
Tributary to North Canadian River	S-CN-WCR-16/12/08-99	16.9	Ephemeral	2.4	Open cut	A, E, G	Warm water
Tributary to North Canadian River	S-CN-RKT-17/04/13-04a	17.4	Intermittent	21.1	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-TAS-17/01/19-02	18.2	Intermittent	6.7	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-AAL-17/01/18-03	19.3	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-AAL-17/01/18-01	19.9	Intermittent	5.2	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-TAS-17/01/19-01	21.3	Ephemeral	4.3	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-WCR-16/12/08-02	23.1	Ephemeral	3.7	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-TAS-17/01/18-04	24.6	Intermittent	5.1	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-CN-WCR-16/12/09-01	25.5	Intermittent	15.2	Open cut	A, E, G	Warm water
Canadian River	S-GR-RKT-16/12/09-03	28.4	Perennial	151.6	HDD	A, E, G, H	Warm water
Tributary to Canadian River	S-GR-TAS-17/01/19-02	28.8	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-GR-RKT-16/12/10-01	30.0	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-GR-RKT-16/12/10-03	30.8	Perennial	12.1	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-GR-RKT-16/12/10-02	31.1	Ephemeral	3.5	Open cut	A, E, G	Warm water
Tributary to Canadian River	S-GR-EHK-17/01/18-02	32.1	Ephemeral	8.8	Open cut	A, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Buggy Creek	S-GR-WCR-16/12/10-06	34.6	Ephemeral	2.0	Open cut	A, E, G	Warm water
Buggy Creek	S-GR-RFT-16/12/10-01	34.8	Perennial	17.5	Open cut	A, E, G, H	Warm water
Tributary to Buggy Creek	S-GR-WCR-16/12/10-05	35.3	Intermittent	3.3	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GR-WCR-16/12/09-03b	39.4	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Salt Creek	S-GR-WCR-16/12/09-03	39.4	Ephemeral	4.0	Open cut	A, E, G	Warm water
Salt Creek	S-GR-RKT-17/01/18-08	41.1	Perennial	15.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GR-RFT-16/12/09-01	42.2	Perennial	16.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GR-WCR-16/12/09-05	43.7	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to West Bitter Creek	S-GR-WCR-16/12/10-07	45.7	Ephemeral	6.3	Open cut	A, E, G	Warm water
Tributary to West Bitter Creek	S-GR-RFT-16/12/10-06	46.4	Ephemeral	1.2	Open cut	A, E, G	Warm water
West Bitter Creek	S-GR-WCR-16/12/09-01	48.8	Perennial	10.1	Open cut	A, C, E, G	Warm water
Brushy Creek	S-GR-RFT-16/12/12-01	50.4	Perennial	17.0	Open cut	A, E, G	Warm water
Tributary to Brushy Creek	S-GR-RKT-17/07/11-10	50.9	Ephemeral	6.2	Open cut	A, E, G	Warm water
Unnamed Pond	S-GR-RFT-16/12/12-02	50.9	Pond	NA	NA	A, E, G	Warm water
Tributary to Brushy Creek	S-GR-RFT-16/12/12-03	51.1	Ephemeral	2.9	Open cut	A, E, G	Warm water
Tributary to East Bitter Creek	S-GR-RKT-17/01/18-11	51.9	Ephemeral	3.8	Open cut	A, E, G	Warm water
East Bitter Creek	S-GR-EHK-17/01/18-09	52.7	Perennial	8.2	Open cut	A, C, E, G	Warm water
Unknown Tributary.	S-GR-RKT-17/01/18-15	53.3	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-GR-RKT-16/12/10-09	53.8	Ephemeral	NA	NA	A, E, G	Warm water
Spring Creek	S-GR-RKT-16/12/10-10	54.5	Perennial	9.0	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RFT-17/02/08-07	56.8	Perennial	3.8	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RFT-17/02/08-11	57.1	Intermittent	2.0	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RKT-16/12/12-12	57.6	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RKT-16/12/12-11	57.6	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RKT-16/12/12-09	58.1	Ephemeral	4.5	Open cut	A, E, G	Warm water
Tributary to West Winter Creek	S-GR-RKT-16/12/12-10	58.2	Intermittent	3.4	Open cut	A, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to West Winter Creek	S-GR-RKT-16/12/12-07	58.3	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/12-04	59.0	Intermittent	3.2	Open cut	A, E, G	Warm water
Winter Creek	S-GR-RKT-16/12/12-02	59.7	Perennial	8.9	Open cut	A, C, E, G	Warm water
Winter Creek Site 9 Reservoir	AS-GR-NHD-WB-335	60.5	Pond	NA [e]	NA [e]	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/12-13	60.8	Intermittent	5.3	Open cut	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/13-04	61.0	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/13-02	61.1	Intermittent	4.0	Open cut	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/13-01a	61.1	Ephemeral	2.2	Open cut	A, E, G	Warm water
Tributary to Winter Creek	S-GR-RKT-16/12/13-01b	61.1	Ephemeral	2.0	Open cut	A, E, G	Warm water
Unknown Tributary.	S-GR-RKT-16/12/13-14	61.9	Ephemeral	7.0	Open cut	A, E, G	Warm water
Tributary to Laflin Creek	S-GR-TAS-17/01/19-01b	63.4	Ephemeral	4.4	Open cut	A, E, G	Warm water
Tributary to Laflin Creek	S-GR-TAS-17/01/19-01a	63.4	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Washita River	S-GR-RKT-16/12/13-16	63.8	Ephemeral	2.0	Open cut	A, E, G	Warm water
Washita River	S-GR-RKT-16/12/13-19	64.9	Perennial	246.8	HDD	A, C, E, G	Warm water
Roaring Creek	S-GR-EHK-17/01/19-07	66.9	Perennial	21.1	Open cut	A, C, E, G	Warm water
Tributary to Slough Creek	S-GR-WCR-16/12/14-02	68.7	Intermittent	5.6	Open cut	A, E, G	Warm water
Slough Creek	S-GR-WCR-16/12/14-01	69.3	Perennial	3.0	Open cut	A, E, G	Warm water
Tributary to Sandy Creek	S-GR-RFT-16/12/13-04	71.1	Ephemeral	2.0	Open cut	A, E, G	Warm water
Sandy Creek	S-GR-EHK-17/01/19-09	71.9	Perennial	9.6	Open cut	A, E, G	Warm water
Tributary to Washita River	S-GR-RKT-17/01/19-16	73.3	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Washita River	S-GR-WCR-16/12/13-03	73.8	Ephemeral	2.4	Open cut	A, E, G	Warm water
Tributary to Washita River	S-GR-AAL-17/01/19-07a	74.0	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Washita River	S-GR-AAL-17/01/19-07b	74.0	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Larimore Creek	S-GR-WCR-16/12/14-03	74.8	Intermittent	10.2	Open cut	A, E, G	Warm water
Tributary to Larimore Creek	S-GR-RFT-16/12/12-09	75.2	Ephemeral	2.1	Open cut	A, E, G	Warm water
Larimore Creek	S-GR-RFT-16/12/12-06	75.4	Perennial	2.0	Open cut	A, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Larimore Creek	S-GR-RKT-16/12/14-08	76.1	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Larimore Creek	S-GR-TAS-17/07/11-12	76.4	Ephemeral	6.5	Open cut	A, E, G	Warm water
Tributary to Larimore Creek	S-GR-RKT-16/12/15-01	76.4	Intermittent	1.0	Open cut	A, E, G	Warm water
Tributary to Rounds Creek	S-GR-RKT-16/12/15-02	77.3	Intermittent	2.3	Open cut	A, E, G	Warm water
Tributary to Rounds Creek	S-GR-WCR-16/12/15-02	77.8	Intermittent	4.1	Open cut	A, E, G	Warm water
Tributary to Rounds Creek	S-GA-RKT-16/12/15-03	78.6	Intermittent	2.9	Open cut	A, E, G	Warm water
Tributary to Rounds Creek	S-GA-WCR-16/12/15-01	79.2	Intermittent	2.3	Open cut	A, E, G	Warm water
Rounds Creek	S-GA-RKT-17/01/20-03	79.8	Perennial	10.5	Open cut	A, E, G	Warm water
Unnamed Pond	S-GA-RFT-16/12/15-16	81.1	Pond	NA	NA	A, E, G	Warm water
Tributary to Rush Creek	S-GA-RFT-16/12/15-15	81.2	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Rush Creek	S-GA-RFT-16/12/16-07	81.6	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Rush Creek	S-GA-RFT-16/12/16-12	82.1	Ephemeral	1.3	Open cut	A, E, G	Warm water
Rush Creek	S-GA-RFT-16/12/16-10	83.9	Perennial	29.0	Open cut	A, E, G	Warm water
Tributary to Rush Creek	S-GA-RFT-16/12/16-26	84.1	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to Rush Creek	S-GA-RFT-16/12/20-01a	84.8	Intermittent	2.0	Open cut	A, E, G	Warm water
Tributary to Rush Creek	S-ST-RKT-17/07/13-02	85.8	Intermittent	43.1	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-AAL-17/01/19-05	86.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-LAG-17/01/19-04c	87.0	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-LAG-17/01/19-04b	87.0	Ephemeral	NA	NA	A, E, G	Warm water
Unnamed Pond	S-ST-LAG-17/01/19-03	87.0	Pond	NA	NA	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-LAG-17/01/19-04a	87.0	Ephemeral	4.1	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-RFT-16/12/20-17	87.2	Ephemeral	3.4	Open cut	A, E, G	Warm water
Wildhorse Creek Site 90 Reservoir	AS-ST-NHD-WB-334	88.8	Pond	NA [e]	NA [e]	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-RFT-16/12/21-06b	88.8	Intermittent	NA	NA	A, E, G	Warm water
Unnamed Pond	S-ST-RFT-16/12/21-06a	88.8	Pond	24.5	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-RFT-16/12/21-04	89.2	Ephemeral	1.0	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Wildcat Creek	S-ST-RFT-16/12/21-01	89.7	Ephemeral	2.0	Open cut	A, E, G	Warm water
Wildcat Creek	S-GA-RFT-16/12/21-02	89.9	Perennial	20.5	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-GA-RFT-16/12/21-08	90.4	Intermittent	2.2	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-GA-RFT-16/12/21-17	90.9	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Wildcat Creek	S-GA-RFT-16/12/21-15	91.2	Ephemeral	4.0	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-RFT-16/12/21-12	92.3	Ephemeral	1.6	Open cut	A, E, G	Warm water
Wildhorse Creek Site 86 Reservoir	AS-GA-NHD-WB-333	92.4	Pond	NA [e]	NA [e]	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-03	93.1	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-06	93.7	Ephemeral	2.8	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-25	94.9	Ephemeral	3.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-23	95.0	Ephemeral	1.2	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-22	95.2	Ephemeral	5.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-15	95.3	Perennial	6.6	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-13	95.5	Intermittent	4.0	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/05-98	95.9	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/08-04	96.3	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/08-03	96.3	Ephemeral	4.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/08-06	96.5	Ephemeral	3.5	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/08-07	96.6	Ephemeral	3.1	Open cut	A, E, G	Warm water
Tributary to Salt Creek	S-GA-AJF-17/01/10-01	97.5	Ephemeral	5.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-AJF-17/01/10-11	98.6	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-AJF-17/01/10-10	98.6	Ephemeral	2.4	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-AJF-17/01/10-06	99.6	Ephemeral	3.6	Open cut	A, E, G	Warm water
Wildhorse Creek	S-CR-AJF-17/01/10-18	100.5	Perennial	33.4	HDD	A, C, E, G	Warm water
Flat Creek	S-CR-RKT-17/01/11-08	102.7	Perennial	3.0	Open cut	A, E, G	Warm water
Tributary to Flat Creek	S-CR-RKT-17/01/11-06	102.9	Ephemeral	2.1	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Flat Creek	S-CR-EHK-17/01/11-11	103.6	Ephemeral	2.7	Open cut	A, E, G	Warm water
Tributary to Flat Creek	S-CR-RKT-17/01/11-10	104.1	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-LAG-17/06/29-02	104.9	Ephemeral	3.2	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-EHK-17/01/11-23	105.0	Intermittent	4.0	Open cut	A, E, G	Warm water
Tributary to Bear Creek	S-CR-RKT-17/01/11-21	106.6	Ephemeral	1.1	Open cut	A, E, G	Warm water
Bear Creek	S-CR-RKT-17/01/12-06	106.8	Ephemeral	5.2	Open cut	A, E, G	Warm water
Tributary to Bear Creek	S-CR-RKT-17/01/12-02	107.6	Ephemeral	2.2	Open cut	A, E, G	Warm water
Tar Branch	S-CR-AJF-17/01/09-02	108.4	Ephemeral	17.0	Open cut	A, E, G	Warm water
Tributary to Tar Branch	S-CR-EHK-17/01/09-09	109.0	Intermittent	10.0	Open cut	A, E, G	Warm water
Tributary to Tar Branch	S-CR-AJF-17/01/09-10	109.2	Ephemeral	3.4	Open cut	A, E, G	Warm water
Tributary to Tar Branch	S-CR-EHK-17/01/09-11	109.3	Ephemeral	3.3	Open cut	A, E, G	Warm water
Tributary to Tar Branch	S-CR-AJF-17/01/09-11	109.6	Ephemeral	2.7	Open cut	A, E, G	Warm water
Tributary to Tar Branch	S-CR-AJF-17/01/09-09	109.9	Ephemeral	3.1	Open cut	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-AJF-17/01/09-07	110.9	Ephemeral	3.9	Open cut	A, E, G	Warm water
Caddo Creek Site 7 Reservoir	S-CR-RKT-17/06/28-02	111.0	Pond	NA [e]	NA [e]	A, E, G	Warm water
West Spring Creek	S-CR-AJF-17/01/09-04	111.4	Ephemeral	6.1	Open cut	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-AJF-17/01/09-05	111.8	Ephemeral	3.6	Open cut	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-RKT-17/01/16-04	112.1	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-RKT-17/01/16-01	112.8	Intermittent	13.9	Open cut	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-RKT-17/01/16-05	113.0	Ephemeral	3.5	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-06	113.1	Ephemeral	2.2	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-07	113.3	Ephemeral	1.3	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-99	113.4	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-09	113.7	Ephemeral	3.0	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-08	113.8	Ephemeral	1.0	Open cut	A, E, G	Warm water
Spring Creek	S-CR-RKT-17/01/16-98	114.2	Perennial	33.5	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Spring Creek	S-CR-RKT-17/01/16-11	114.2	Ephemeral	8.7	Open cut	A, E, G	Warm water
Tributary to Spring Creek	S-CR-RKT-17/01/16-10	114.6	Ephemeral	3.4	Open cut	A, E, G	Warm water
Tributary Hickory Creek	S-CR-RKT-17/06/29-07	115.1	Intermittent	4.2	Open cut	A, E, G	Warm water
Hickory Creek	S-CR-LAG-17/01/16-04	115.8	Perennial	18.6	Open cut	A, C, E, G	Warm water
Tributary to Hickory Creek	S-CR-LAG-17/01/16-05	115.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Hickory Creek	S-CR-LAG-17/01/16-03	116.1	Intermittent	10.7	Open cut	A, E, G	Warm water
Tributary to Hickory Creek	S-CR-AAL-17/01/16-02	116.4	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Salt Branch	S-CR-AAL-17/01/16-01b	116.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Salt Branch	S-CR-AAL-17/01/16-01a	116.8	Ephemeral	1.5	Open cut	A, E, G	Warm water
Tributary to Salt Branch	S-CR-AJF-17/01/16-01	117.1	Ephemeral	3.4	Open cut	A, E, G	Warm water
Tributary to Salt Branch	S-CR-AJF-17/01/16-02	117.3	Ephemeral	3.3	Open cut	A, E, G	Warm water
Tributary to Salt Branch	S-CR-WCR-17/04/13-02	118.1	Intermittent	6.1	Open cut	A, E, G	Warm water
Tributary to Salt Branch	S-CR-RKT-17/01/12-09	118.2	Ephemeral	1.4	Open cut	A, E, G	Warm water
Tributary to Salt Branch	S-CR-RKT-17/01/12-10	118.8	Ephemeral	1.2	Open cut	A, E, G	Warm water
Tributary to Henry House Creek	S-CR-RKT-17/01/26-04	119.5	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Henry House Creek	S-CR-RKT-17/01/26-05	119.8	Intermittent	5.0	Open cut	A, E, G	Warm water
Henry House Creek	AS-CR-NHD-Line-30	120.2	Intermittent	31.8	HDD	A, E, G	Warm water
Grindstone Creek	S-CR-RKT-17/01/12-13	121.8	Intermittent	12.9	Open cut	A, E, G	Warm water
Tributary to Grindstone Creek	S-CR-RKT-17/01/12-12	122.1	Ephemeral	2.2	Open cut	A, E, G	Warm water
Tributary to Grindstone Creek	S-CR-RKT-17/01/12-17	122.5	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-AJF-17/01/16-06	123.0	Ephemeral	2.4	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-RKT-17/06/28-09	123.2	Intermittent	15.3	Open cut	A, E, G	Warm water
Tributary to Philips Creek	AS-CR-RKT-17/06/28-08	123.4	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Philips Creek	S-CR-RKT-17/06/28-08	123.4	Intermittent	15.3	Open cut	A, E, G	Warm water
Philips Creek	S-CR-AAL-17/01/24-05	124.3	Perennial	10.4	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-WCR-17/04/13-04	124.4	Ephemeral	1.0	Open cut	A, E, G	Warm water

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Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Philips Creek	S-CR-LAG-17/01/05-99	124.6	Intermittent	4.6	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-WCR-17/04/14-02	124.6	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Philips Creek	S-JO-LAG-17/06/29-01	124.8	Intermittent	5.2	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-LAG-17/01/05-02	124.8	Ephemeral	2.8	Open cut	A, E, G	Warm water
Tributary to Philips Creek	S-CR-LAG-17/01/05-02b	124.8	Ephemeral	2.3	Open cut	A, E, G	Warm water
Tributary to Caddo Creek	S-CR-LAG-17/01/05-03	125.6	Intermittent	3.0	Open cut	A, E, G	Warm water
Unnamed Pond	S-CR-LAG-17/01/05-89	126.1	Pond	NA [e]	NA [e]	A, E, G	Warm water
Tributary to Buzzard Creek	S-CR-WCR-17/04/14-03	126.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Buzzard Creek	S-CR-LAG-17/01/08-03	126.7	Intermittent	16.2	Open cut	A, E, G	Warm water
Buzzard Creek	S-CR-LAG-17/01/08-02	126.7	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Buzzard Creek	S-CR-LAG-17/01/08-04	127.0	Intermittent	2.8	Open cut	A, E, G	Warm water
Tributary to Bullhead Creek	S-CR-LAG-17/01/08-06c	127.8	Intermittent	2.1	Open cut	A, E, G	Warm water
Bullhead Creek	S-CR-LAG-17/01/08-06a	127.8	Intermittent	10.9	Open cut	A, E, G	Warm water
Tributary to Bullhead Creek	S-CR-LAG-17/01/08-06b	127.9	Intermittent	NA	NA	A, E, G	Warm water
Deadman Branch	S-CR-AAL-17/01/09-04a	128.8	Intermittent	34.4	Open cut	A, E, G	Warm water
Deadman Branch	S-CR-AAL-17/01/09-04b	128.8	Intermittent	5.1	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-AAL-17/01/09-03a	129.1	Intermittent	12.0	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-AAL-17/01/09-03b	129.1	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-AAL-17/01/09-01b	129.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-AAL-17/01/09-01a	129.3	Intermittent	3.2	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-LAG-17/01/09-01	129.5	Intermittent	3.3	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-LAG-17/01/09-02	129.7	Ephemeral	1.8	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-LAG-17/01/09-03	129.8	Intermittent	2.1	Open cut	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-LAG-17/01/09-05	130.0	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Deadman Branch	S-CR-LAG-17/01/09-04	130.0	Intermittent	4.0	Open cut	A, E, G	Warm water
Unnamed Pond	S-CR-LAG-17/01/09-07	130.3	Pond	NA	NA	A, E, G	Warm water

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Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Big Branch	S-CR-AAL-17/01/09-05	131.1	Intermittent	5.2	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-LAG-17/01/09-08	131.6	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Branch	S-CR-AAL-17/01/09-06	131.6	Intermittent	2.0	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-AAL-17/01/20-01	131.7	Ephemeral	3.1	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-LAG-17/01/20-02	131.9	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Branch	S-CR-LAG-17/01/20-01a	131.9	Intermittent	1.0	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-WCR-17/01/09-01a	132.6	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-WCR-17/01/10-03	132.8	Ephemeral	2.5	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-WCR-17/01/10-01	133.2	Intermittent	9.4	Open cut	A, E, G	Warm water
Tributary to Big Branch	S-CR-WCR-17/01/10-04	133.6	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Branch	S-CR-WCR-17/01/10-06	134.2	Ephemeral	5.3	Open cut	A, E, G	Warm water
Washita River	S-CR-LAG-17/01/10-01	135.9	Perennial	125.7	HDD	A, C, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/10-02	136.4	Intermittent	4.7	Open cut	A, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/10-04	136.8	Perennial	12.8	Open cut	A, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/10-06a	137.2	Intermittent	3.5	Open cut	A, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/10-07	137.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/10-06b	137.2	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Washita River	S-CR-LAG-17/01/10-04	138.3	Ephemeral	1.7	Open cut	A, E, G	Warm water
Tributary to Washita River	S-CR-LAG-17/06/28-01	138.3	Ephemeral	12.9	Open cut	A, E, G	Warm water
Tributary to Oil Creek	S-JO-LAG-17/01/20-04b	139.0	Intermittent	2.2	Open cut	A, E, G	Warm water
Tributary to Oil Creek	S-JO-AAL-17/01/20-08	139.1	Ephemeral	4.0	Open cut	A, E, G	Warm water
Tributary to Oil Creek	S-JO-AAL-17/01/20-09	139.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Oil Creek	S-JO-AAL-17/01/20-06	139.4	Ephemeral	4.1	Open cut	A, E, G	Warm water
Tributary to Washita River	S-JO-AAL-17/01/21-01	140.1	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Washita River	S-JO-LAG-17/01/21-01	140.3	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Washita River	S-JO-LAG-17/01/21-02	140.8	Intermittent	1.0	Open cut	A, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Washita River	S-JO-AAL-17/01/21-02	140.9	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Washita River	S-JO-LAG-17/01/21-03	141.0	Ephemeral	1.2	Open cut	A, E, G	Warm water
Tributary to Oil Creek	S-JO-LAG-17/01/21-04	141.1	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Oil Creek	S-JO-AAL-17/01/21-03	141.1	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Oil Creek	S-JO-LAG-17/01/21-05	141.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Oil Creek	S-JO-AAL-17/01/21-04	141.2	Ephemeral	1.2	Open cut	A, E, G	Warm water
Tributary to Oil Creek	S-JO-LAG-17/01/21-06	141.3	Ephemeral	2.0	Open cut	A, E, G	Warm water
Oil Creek	S-JO-RKT-17/01/21-01	141.9	Perennial	17.5	Open cut	A, C, E, G	Warm water
Sycamore Creek	S-JO-EHK-17/02/02-03	143.1	Ephemeral	11.4	Open cut	A, E, G	Warm water
Tributary to Sycamore Creek	S-JO-RKT-17/02/02-06	143.4	Ephemeral	5.1	Open cut	A, E, G	Warm water
Tributary to Sycamore Creek	S-JO-EHK-17/02/02-04	143.5	Ephemeral	9.0	Open cut	A, E, G	Warm water
Courtney Creek	S-JO-RFT-16/12/17-08	144.2	Perennial	10.0	Open cut	A, E, G	Warm water
Tributary to Mill Creek	S-JO-EHK-17/02/02-05	145.0	Ephemeral	5.3	Open cut	A, E, G	Warm water
Mill Creek	S-JO-EHK-17/02/02-06	146.0	Perennial	10.0	Open cut	A, C, E, G	Warm water
Tributary to Washita River	S-JO-RFT-16/12/17-03	148.2	Ephemeral	5.9	Open cut	A, E, G	Warm water
Tributary to Washita River	S-JO-RFT-17/02/03-05	149.0	Intermittent	5.4	Open cut	A, E, G	Warm water
Tributary to Washita River	S-JO-RFT-17/02/03-04	149.0	Intermittent	9.4	Open cut	A, E, G	Warm water
Unnamed Pond	S-JO-RFT-17/02/03-02	149.2	Pond	148.1	Open cut	A, E, G	Warm water
Sand Creek	S-JO-AAL-17/01/10-08	150.3	Intermittent	11.3	Open cut	A, E, G	Warm water
Tributary to Sand Creek	S-JO-AAL-17/01/10-09	150.3	Intermittent	7.6	Open cut	A, E, G	Warm water
Tributary to Sand Creek	S-JO-LAG-17/01/10-07	150.6	Ephemeral	1.1	Open cut	A, E, G	Warm water
Tributary to Rock Creek	S-JO-LAG-17/01/10-06	151.0	Ephemeral	NA	NA	A, E, G	Warm water
Rock Creek	S-JO-WCR-17/01/10-07a	151.7	Perennial	46.6	HDD	A, E, G	Warm water
Tributary to Rock Creek	S-JO-WCR-17/01/10-07b	151.7	Perennial	NA	HDD [a]	A, E, G	Warm water
Tributary to Rock Creek	S-JO-AAL-17/01/11-01	152.8	Intermittent	3.3	Open cut	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-AJF-17/01/11-04	153.2	Ephemeral	15.7	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Unnamed Pond	S-JO-AJF-17/01/11-03	153.6	Pond	NA	NA	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-LAG-17/01/11-01	153.6	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-AJF-17/01/11-02	153.6	Intermittent	5.0	Open cut	A, E, G	Warm water
Pennington Creek	S-JO-AJF-17/01/11-01	154.1	Perennial	60.6	HDD	A, C, E, G	Cool Water, HQW
Tributary to Pennington Creek	S-JO-TAS-17/01/11-01	154.6	Intermittent	9.6	Open cut	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-TAS-17/01/11-04	154.6	Perennial	20.7	Open cut	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-TAS-17/01/11-05	154.6	Intermittent	4.6	Open cut	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-TAS-17/01/11-02	154.7	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-TAS-17/01/11-03	154.8	Intermittent	10.2	Open cut	A, E, G	Warm water
Tributary to Pennington Creek	S-JO-TAS-17/01/11-10	155.1	Intermittent	9.4	Open cut	A, E, G	Warm water
Tributary to Little Sandy Creek	S-JO-TAS-17/01/11-11	156.0	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Little Sandy Creek	S-JO-AJF-17/01/11-08	156.8	Ephemeral	9.7	Open cut	A, E, G	Warm water
Little Sandy Creek	S-JO-AAL-17/01/24-01	156.9	Perennial	12.2	Open cut	A, E, G	Warm water
Big Sandy Creek	S-JO-AAL-17/01/24-02	157.7	Perennial	20.5	Open cut	A, E, G	Warm water
Tributary to Big Sandy Creek	S-JO-EHK-17/01/13-10a	157.7	Ephemeral	3.8	Open cut	A, E, G	Warm water
Tributary to Big Sandy Creek	S-JO-EHK-17/01/13-10c	157.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Sandy Creek	S-JO-EHK-17/01/13-10d	157.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Sandy Creek	S-JO-EHK-17/01/13-10b	157.8	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Big Sandy Creek	S-JO-EHK-17/01/13-07	158.4	Intermittent	35.2	Open cut	A, E, G	Warm water
Tributary to Lake Texoma	S-JO-EHK-17/01/13-12	159.1	Ephemeral	1.0	Open cut	A, E, G	Warm water
Tributary to Lake Texoma	S-JO-WCR-17/01/13-02	159.1	Intermittent	2.2	Open cut	A, E, G	Warm water
Tributary to Lake Texoma	S-JO-RFT-17/02/06-03	159.9	Perennial	5.1	Open cut	A, E, G	Warm water
Tributary to Lake Texoma	S-JO-RFT-17/02/06-10	161.2	Ephemeral	3.1	Open cut	A, E, G	Warm water
Tributary to Lake Texoma	S-JO-AJF-17/01/13-01	161.7	Intermittent	2.1	Open cut	A, E, G	Warm water
Tributary to Butcher Pen Creek	S-JO-LAG-17/01/14-06	162.2	Ephemeral	NA	NA	A, E, G	Warm water
Unnamed Pond	S-JO-LAG-17/01/14-05	162.2	Pond	21.5	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Butcher Pen Creek	S-JO-LAG-17/01/14-03	162.9	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Butcher Pen Creek	S-JO-LAG-17/01/14-02a	163.0	Intermittent	2.7	Open cut	A, E, G	Warm water
Butcher Pen Creek	S-JO-LAG-17/01/14-01	163.2	Intermittent	11.8	Open cut	A, E, G	Warm water
Tributary to Butcher Pen Creek	S-JO-EHK-17/01/14-03	163.9	Ephemeral	2.8	Open cut	A, E, G	Warm water
Unnamed Pond	S-JO-EHK-17/01/14-04	164.3	Pond	56.1	Open cut	A, E, G	Warm water
Tributary to Rock Creek	S-JO-RKT-17/06/23-01	165.7	Ephemeral	8.4	Open cut	A, E, G	Warm water
Tributary to Blue River	S-JO-WCR-17/01/16-04	167.2	Intermittent	NA	NA	A, E, G	Warm water
Horse Creek	S-JO-EHK-17/01/14-14	169.5	Intermittent	10.7	Open cut	A, E, G	Warm water
Tributary to Horse Creek	S-JO-AJF-17/01/14-01	169.9	Intermittent	28.2	Open cut	A, E, G	Warm water
Tributary to Horse Creek	S-JO-AJF-17/01/14-02	169.9	Ephemeral	4.5	Open cut	A, E, G	Warm water
Tributary to Horse Creek	S-BR-AJF-17/01/14-03	170.4	Intermittent	8.9	Open cut	A, E, G	Warm water
Tributary to Horse Creek	S-BR-LAG-17/01/14-09	170.7	Ephemeral	7.1	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-07	171.8	Intermittent	10.1	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-08a	171.9	Intermittent	20.7	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-WCR-17/01/16-02	172.1	Intermittent	29.8	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-06	172.7	Ephemeral	11.8	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-05a	172.9	Ephemeral	4.6	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-04	173.0	Ephemeral	4.0	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-AAL-17/01/14-04	173.2	Intermittent	4.2	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/14-04	173.6	Ephemeral	13.0	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-RKT-17/06/23-02	173.9	Ephemeral	22.4	HDD	A, E, G	Warm water
Tributary to Blue River	S-BR-LAG-17/06/26-01	173.9	Ephemeral	4.8	HDD	A, E, G	Warm water
Blue River	S-BR-AAL-17/01/14-06	173.9	Perennial	92.2	HDD	A, C, E, G, NRI	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-03	174.0	Ephemeral	16.0	HDD	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-02	174.5	Ephemeral	5.6	Open cut	A, E, G	Warm water
Tributary to Blue River	S-BR-TAS-17/01/16-01	174.8	Intermittent	42.3	Open cut	A, E, G	Warm water

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Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Simon Creek	S-BR-AAL-17/01/14-02	175.9	Ephemeral	38.0	Open cut	A, E, G	Warm water
Simon Creek	AS-BR-NHD-Line-79	176.3	Intermittent	11.2	Open cut	A, E, G	Warm water
Tributary to Johnson Creek	S-BR-AJF-17/06/27-05	177.5	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Johnson Creek	S-BR-TAS-17/01/14-02	177.5	Ephemeral	7.1	Open cut	A, E, G	Warm water
Tributary to Johnson Creek	S-BR-TAS-17/01/13-04	178.0	Ephemeral	4.6	Open cut	A, E, G	Warm water
Johnson Creek	S-BR-TAS-17/01/13-06	178.5	Intermittent	9.0	Open cut	A, E, G	Warm water
Tributary to Johnson Creek	S-BR-TAS-17/01/13-08	178.6	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Thompson Creek	S-BR-TAS-17/01/13-03	179.4	Ephemeral	6.4	Open cut	A, E, G	Warm water
Thompson Creek	S-BR-TAS-17/01/13-05	179.9	Intermittent	4.0	Open cut	A, E, G	Warm water
Harrington Creek	S-BR-TAS-17/01/13-01	180.2	Ephemeral	4.0	Open cut	A, E, G	Warm water
Tributary to Caddo Creek	S-BR-AAL-17/01/26-01	180.9	Intermittent	5.0	Open cut	A, E, G	Warm water
Tributary to Caddo Creek	AS-BR-NHD-Line-20	181.3	Intermittent	5.0	Open cut	A, E, G	Warm water
Caddo Creek	S-BR-TAS-17/01/13-02	182.0	Intermittent	6.7	Open cut	A, E, G	Warm water
Tributary to Caddo Creek	S-BR-TAS-17/01/13-96	182.5	Intermittent	6.0	Open cut	A, E, G	Warm water
Tributary to Caddo Creek	S-BR-TAS-17/01/12-96	183.4	Ephemeral	4.5	Open cut	A, E, G	Warm water
Elm Creek	S-BR-TAS-17/01/11-06	184.1	Intermittent	20.0	Open cut	A, E, G	Warm water
Tributary to Mail Rider Creek	S-BR-TAS-17/01/12-06	186.1	Ephemeral	8.3	Open cut	A, E, G	Warm water
Mail Rider Creek	S-BR-TAS-17/01/12-98	186.1	Perennial	22.8	Open cut	A, E, G	Warm water
Tributary to Mail Rider Creek	AS-BR-NHD-Line-152	186.4	Intermittent	6.1	Open cut	A, E, G	Warm water
Tributary to Mail Rider Creek	S-BR-TAS-17/01/12-04	186.7	Ephemeral	NA	NA	A, E, G	Warm water
Rock Branch	S-BR-TAS-17/01/12-10	188.0	Intermittent	4.7	Open cut	A, E, G	Warm water
Unnamed Pond	S-BR-LAG-17/01/12-03	190.2	Pond	9.7	Open cut	A, E, G	Warm water
Tributary to Bokchito Creek	S-BR-AJF-17/01/12-06	190.8	Ephemeral	5.0	Open cut	A, E, G	Warm water
Bokchito Creek	S-BR-AJF-17/01/12-02	191.5	Perennial	27.7	Open cut	A, E, G	Warm water
Unnamed Pond	S-BR-AJF-17/01/12-11	191.8	Pond	45.1	Open cut	A, E, G	Warm water
Tributary to Bokchito Creek	S-BR-AJF-17/01/12-03	192.3	Ephemeral	7.3	Open cut	A, E, G	Warm water

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Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Bokchito Creek	S-BR-AJF-17/01/12-04	192.4	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Bokchito Creek	S-BR-AJF-17/01/12-05	192.5	Ephemeral	4.0	Open cut	A, E, G	Warm water
Unnamed Pond	S-BR-RKT-17/01/12-01	194.3	Pond	66.1	Open cut	A, E, G	Warm water
Sassafras Creek	AS-BR-NHD-Line-89	194.6	Perennial	22.8	Open cut	A, E, G	Warm water
Sulphur Creek	AS-BR-NHD-Line-195	195.7	Perennial	21.0	Open cut	A, E, G	Warm water
McGee Creek	S-BR-AJF-17/01/12-01	196.4	Intermittent	16.8	Open cut	A, E, G	Warm water
Tributary to Sulphur Creek	S-BR-WCR-17/01/05-04b	197.5	Intermittent	7.1	Open cut	A, E, G	Warm water
Tributary to Sulphur Creek	S-BR-WCR-17/01/05-04a	197.6	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Sulphur Creek	S-BR-WCR-17/01/05-03	198.6	Ephemeral	8.0	Open cut	A, E, G	Warm water
Tributary to Sulphur Creek	S-BR-WCR-17/01/05-02	199.3	Ephemeral	1.0	Open cut	A, E, G	Warm water
MAINLINE – ACCESS ROADS							
Tributary to Buggy Creek	S-GR-WCR-16/12/10-06	34.6	Ephemeral	NA	Existing access road	A, E, G	Warm water
Unnamed Pond	S-GR-RKT-17/01/23-04	44.3	Pond	NA	Existing access road	A, E, G	Warm water
Slough Creek	S-GR-WCR-16/12/14-01	69.4	Perennial	NA	Existing access road	A, E, G	Warm water
Tributary to Wildcat Creek	S-ST-AAL-17/01/19-99	87.0	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-RFT-17/02/17-02	100.4	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to Flat Creek	S-CR-LAG-17/01/25-01	102.2	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to Bear Creek	S-CR-LAG-17/01/25-03	106.2	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-LAG-17/01/25-04	110.4	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to West Spring Creek	S-CR-LAG-17/01/25-05	110.6	Intermittent	NA	Existing access road	A, E, G	Warm water

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Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to West Spring Creek	S-CR-LAG-17/01/25-06	111.0	Ephemeral	NA	Existing access road	A, E, G	Warm water
Tributary to Philips Creek	S-CR-LAG-17/01/24-03	124.0	Intermittent	NA	Existing access road	A, E, G	Warm water
Unnamed Pond	S-CR-RFT-17/02/08-02	134.6	Pond	NA	Existing access road	A, E, G	Warm water
Tributary to Washita River	S-CR-AAL-17/01/25-04	136.4	Ephemeral	NA	Existing access road	A, E, G	Warm water
CHISHOLM LATERAL							
Unnamed Pond	S-KI-FJN-17/07/10-03	CH1.0	Pond	NA	NA	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-EHK-17/01/17-05b	CH1.3	Intermittent	2.0	Open cut	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-EHK-17/01/17-05a	CH1.3	Perennial	6.1	Open cut	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-EHK-17/01/17-06	CH3.5	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-EHK-17/01/17-10	CH3.9	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-RKT-17/01/17-23	CH4.2	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Campbell Creek	S-KI-RKT-17/01/17-22	CH4.3	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-RKT-17/01/17-09	CH5.9	Ephemeral	2.0	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-EHK-17/01/17-01	CH6.2	Intermittent	17.3	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-RKT-17/01/17-04	CH6.5	Ephemeral	2.9	Open cut	A, E, G	Warm water
Uncle John Creek Site 13 Reservoir	AS-KI-NHD-WB-337	CH6.9	Pond	NA [e]	NA [e]	A, E, G	Warm water
Clear Creek	S-KI-WCR-17/01/17-01	CH7.6	Perennial	16.3	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-WCR-17/01/17-02	CH7.9	Ephemeral	16.3	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-WCR-17/01/17-03	CH8.1	Perennial	6.0	Open cut	A, E, G	Warm water
Tributary to Clear Creek	S-KI-RKT-17/07/12-11	CH8.5	Intermittent	NA	NA	A, E, G	Warm water
Uncle Johns Creek	S-KI-TAS-17/01/17-01	CH9.5	Perennial	40.0	Open cut	A, E, G	Warm water
Tributary to Uncle Johns Creek	S-KI-TAS-17/01/17-02	CH9.8	Ephemeral	2.1	Open cut	A, E, G	Warm water
Tributary to Uncle Johns Creek	S-KI-TAS-17/07/12-02	CH10.2	Ephemeral	5.8	Open cut	A, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Uncle Johns Creek	S-KI-AJF-17/01/17-02	CH11.9	Perennial	8.8	Open cut	A, E, G	Warm water
Tributary to Uncle Johns Creek	S-KI-LAG-17/01/17-03	CH13.3	Intermittent	1.0	Open cut	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-AAL-17/01/17-01	CH14.6	Intermittent	7.6	Open cut	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-LAG-17/01/17-04	CH15.2	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-AAL-17/01/17-02	CH15.2	Ephemeral	3.3	Open cut	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-LAG-17/01/17-05	CH16.4	Perennial	20.0	Open cut	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-RKT-17/01/17-29	CH18.5	Ephemeral	NA	NA	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-RKT-17/01/17-33	CH19.2	Ephemeral	2.0	Open cut	A, E, G	Warm water
ACCESS ROADS – CHISHOLM LATERAL							
Unnamed Pond	S-KI-TAS-17/01/17-03	CH10.5	Pond	NA	Existing access road	A, E, G	Warm water
Tributary to Uncle Johns Creek	S-KI-TAS-17/01/17-05	CH10.5	Intermittent	NA	Existing access road	A, E, G	Warm water
Tributary to Winter Camp Creek	S-KI-LAG-17/01/17-05	CH16.4	Perennial	NA	Existing access road	A, E, G	Warm water
Velma Lateral							
Tributary to Wildhorse Creek	AS-ST-NHD-Line-160	VE0.2	Intermittent	7.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-WCR-17/04/11-03	VE0.7	Intermittent	34.5	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-WCR-17/04/11-02	VE1.0	Perennial	7.7	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-WCR-17/04/11-04	VE1.9	Perennial	11.2	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-WCR-17/04/11-05	VE2.2	Perennial	26.1	Open cut	A, C, E, G	Warm water
Wildhorse Creek	S-ST-RKT-17/04/12-02	VE2.5	Perennial	23.8	Open cut	A, E, G	Warm water
Unnamed Pond	S-ST-RKT-17/04/11-31	VE3.3	Pond	24.4	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-RKT-17/04/11-33	VE3.4	Ephemeral	10.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-RKT-17/04/11-35	VE3.5	Ephemeral	31.6	Open cut	A, E, G	Warm water
Tributary to Black Bear Creek	S-ST-RKT-17/04/11-21	VE4.5	Perennial	15.0	Open cut	A, E, G	Warm water
Black Bear Creek	S-ST-RKT-17/04/11-14	VE4.8	Perennial	23.0	Open cut	A, C, E, G	Warm water

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]
Tributary to Wildhorse Creek	S-ST-RFT-17/04/10-02	VE6.2	Perennial	6.4	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-RFT-17/04/10-05b	VE6.5	Ephemeral	14.3	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-RFT-17/04/10-05a	VE6.5	Intermittent	3.0	Open cut	A, E, G	Warm water
Unnamed Pond	S-ST-RFT-17/04/10-13	VE7.0	Pond	17.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-ST-RFT-17/04/10-10	VE7.1	Ephemeral	2.4	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	AS-ST-NHD-Line-168	VE7.7	Intermittent	8.3	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-RFT-17/04/11-03	VE9.4	Perennial	15.1	Open cut	A, E, G	Warm water
Wildhorse Creek	AS-CR -NHD-Line-969	VE9.8	Perennial	NA [e]	NA [e]	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-RFT-17/04/10-23	VE10.7	Perennial	15.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-WCR-17/04/10-05	VE11.0	Ephemeral	1.5	Open cut	A, E, G	Warm water
Unnamed Pond	S-CR-WCR-17/04/10-04	VE11.5	Pond	42.3	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-CR-WCR-17/04/10-03	VE11.5	Intermittent	NA	NA	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-WCR-17/04/10-01	VE12.8	Ephemeral	1.4	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-WCR-17/04/10-02a	VE13.3	Intermittent	6.3	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-WCR-17/04/10-02b	VE13.3	Intermittent	6.0	Open cut	A, E, G	Warm water
Tributary to Wildhorse Creek	S-GA-WCR-17/04/10-02c	VE13.3	Ephemeral	8.6	Open cut	A, E, G	Warm water

Sources: Oklahoma Water Resources Board. 2017. Water Quality Standards, About the Program. Available online at https://www.owrb.ok.gov/quality/standards/standards.php. Accessed August 2017.

National Park Service. 2017. Nationwide Rivers Inventory. Oklahoma Segments. Available online at https://www.nps.gov/ncrc/programs/rtca/nri/states/ok.html. Accessed July 2017.

Oklahoma Water Resources Board. 2017. Surface Water Data. Available online at http://www.owrb.ok.gov/maps/PMG/owrbdata_SW.html. Accessed August 2017.

[a] NA Waterbody is within the proposed construction workspace but would not be crossed by the pipeline segments.

[b] Oklahoma Water Resources Board, Water Quality Standards (2017):

- A Primary Body Contact Recreation
- B Secondary Contact Recreation
- C Public and Private Water Supply
- D Fish and Wildlife Propagation
- E Agriculture
- F Navigation

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APPENDIX J (cont'd)

Waterbodies Crossed by the Midcontinent Supply Header Interstate Pipeline Project Pipeline Facilities

Facility/Waterbody Name	Waterbody ID	Begin Milepost	Flow Type	Crossing Width (feet) [a]	Proposed Crossing Method [a]	Water Quality Classification [b, c]	Fishery Type [d]

G Aesthetics

H Emergency Public and Private Water Supply

[c] NRI Waterbody is included on the Nationwide Rivers Inventory at the proposed crossing location.

[d] Fishery Type as designated by the Oklahoma Water Resources Board, as subcategories under Fish and Wildlife Propagation:

Habitat Limited — Waterbody where water chemistry, and habitat are not adequate to support a Warm Water Aquatic Community.

Warm Water — Waterbody where water quality and habitat are adequate to support intolerant climax fish communities and includes an environment suitable for the full range of warm water benthos.

Cool Water — Waterbody where water quality, water temperature, and habitat are adequate to support cool water climax fish communities and includes an environment suitable for the full range of cool water benthos. Typical species may include smallmouth bass, certain darters, and stoneflies.

Trout Fishery — Waterbody where water quality, water temperature, and habitat are adequate to support a seasonal put and take trout fishery. Typical species may include trout.

Special provisions designated by the OWRB (OWRB, 2017):

HQW High Quality Waters

ORW Outstanding Resource Waters

NLW Nutrient Limited Watersheds

SR Scenic Rivers

SWPA Source Water Protection Areas

SWS Sensitive Water Supplies

[e] ATWS placed adjacent to, but does not cross, the waterbody.

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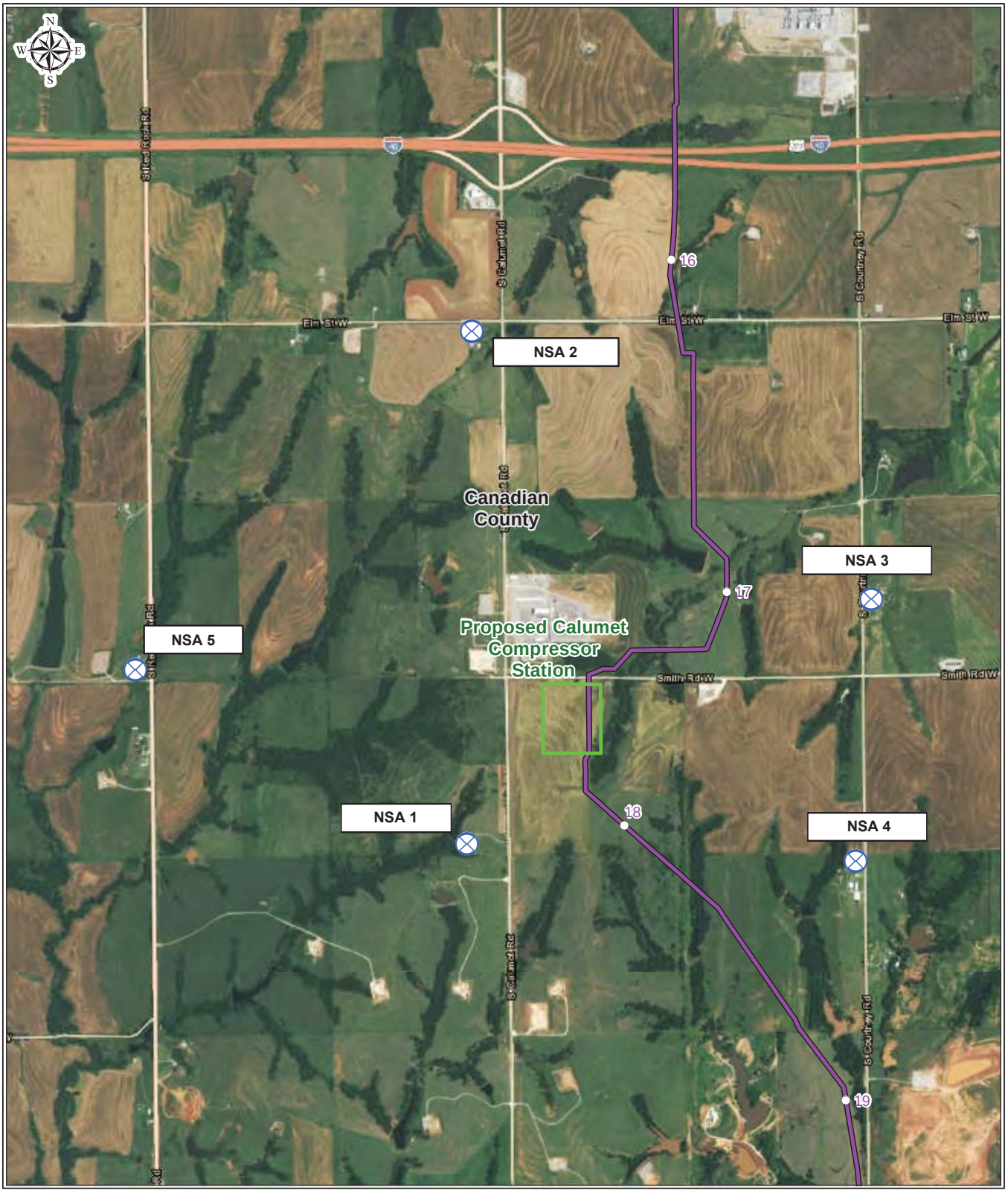
APPENDIX K

NOISE FIGURES

MIDSHIP PROJECT



LEGEND

- Compressor Station
- Noise Sensitive Area (NSA) Location
- Milepost (1 mi)
- Mainline
- Chisholm Lateral
- Velma Lateral
- County

DATA SOURCE: USGS, 2014
OPEN-FILE REPORT 2014–1156
BASE MAP SOURCE: Esri, 2016

0 500 1,000 2,000 Feet

Figure 4.11.2-1
MIDSHIP Project
Calumet Compressor Station – Noise Sensitive Areas
Canadian County, Oklahoma

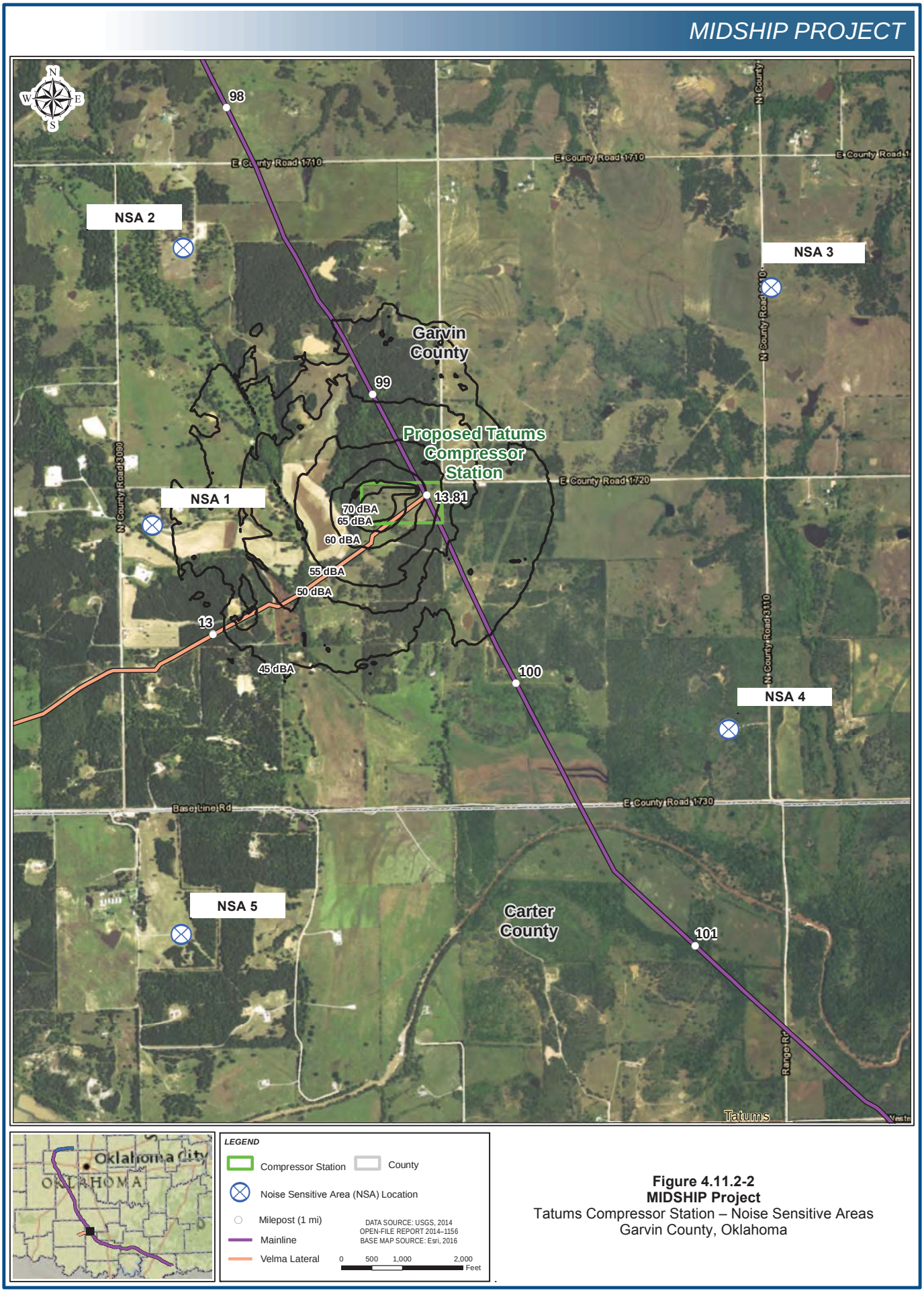


Figure 4.11.2-2
MIDSHIP Project
Tatums Compressor Station – Noise Sensitive Areas
Garvin County, Oklahoma

Figure 4.11.2-3
MIDSHIP Project
Bennington Compressor Station – Noise Sensitive Areas
Bryan County, Oklahoma

Figure 4.11.2-4
MIDSHIP Project
Sholem Booster Station – Noise Sensitive Areas
Stephens County, Oklahoma

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APPENDIX L

PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE PROJECTS WITH POTENTIAL FOR CUMULATIVE IMPACTS WHEN COMBINED WITH THE MIDCONTINENT SUPPLY HEADER INTERSTATE PIPELINE PROJECT

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APPENDIX L

Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
OIL AND NATURAL GAS PRODUCTION						
PRES./FUT.	Jones Energy Inc., oil and gas production [1]	Canadian, Grady, McClain	Land acquired in 2016; well drilling schedule unknown.	Jones Energy has acquired 18,000 net acres from American Energy Partners. Drilling activity would occur in Canadian, Grady, and McClain Counties.	Geology, Soils, Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction and operation), Socioeconomics	Located in the general project area; exact well locations unknown.
OIL AND NATURAL GAS TRANSPORT, PROCESSING AND STORAGE						
PRESENT	Blue Mountain Delivery Line Project [b]	Grady	Construction – Anticipated completion May 2018	Construction and operation of two segments of natural gas pipelines (4.4 miles of 20-inch-diameter pipeline and 5.2 miles of 12-inch-diameter pipeline) as well as a metering and pigging facility in Grady County, Oklahoma	Geology, Soils, Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction and operation), Socioeconomics	Intersects the Mainline at milepost (MP) 42.9. Meter facility about 2.0 mile northeast of Mainline MP 42.9.
PRESENT	Blue Mountain Chisholm Trail Project [c]	Grady, Carter	Construction – Anticipated completion May 2018	Construction and operation of about 4.7 miles of 12-inch-diameter pipeline and a metering facility in Grady County, and installation of a skid-mounted compressor station (totaling about 4,145 horsepower) in Carter County	Geology, Soils, Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction and operation), Socioeconomics	Metering facility located about 2 miles northeast of Mainline MP 43.0. Compressor station is about 3 miles southwest of Mainline MP 103.0.
PRESENT	Chisholm Trail Cryogenic Gas Plant [b, c]	Grady	Construction – Anticipated completion May 2018	Gas processing facility with a total capacity of 250 million standard cubic feet per day.	Geology, Soils, Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction and operation), Socioeconomics	About 3.6 miles northeast of Mainline MP 39.0
PRESENT	Cana & STACK Expansion (CaSE) Project [2]	Kingfisher, Canadian, Grady, Garvin, Stephens, Bryan	Construction	The CaSE Project will utilize existing and expansion facilities, as well as capacity on third-party pipelines, to provide 400,000 dekatherms of new takeaway capacity from the Cana, STACK, and SCOOP plays.	Visual Resources, Air (construction and operation), Noise (construction and operation), Socioeconomics	Receipt point at Okarche/Mark West with delivery at Bennington through existing pipeline systems.

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APPENDIX L (cont'd)

Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
PAST	Plains All American Pipeline, LP [d]	Kingfisher, Canadian, Grady, Carter	Construction observed in 2016. Presumed operational.	Active pipeline construction observed by Midship Pipeline in 2016.	Land Use, Air (operation), Socioeconomics	Intersects Chisholm Lateral at MP CH0.2
PAST	Duncan-Longview Project [3, 4]	Kingfisher, Canadian, Grady, Carter	2016 – Currently operational.	Plains All American Pipeline, LP pipeline construction project. The 226-mile-long, 16-inch-diameter pipeline transporting crude oil from Duncan, Oklahoma to a terminal in Longview, Texas.	Land Use, Air (operation), Socioeconomics	Exact project footprint unknown, but does not appear to intersect the MIDSHIP Project.
PAST	Compressor or Booster Stations [5]	All counties	Prior to 2017 – Currently operational.	Compressor/booster stations associated with area pipelines, operated by a variety of companies. Estimated 5 acres for each site; the following number of stations are located within each county: Kingfisher – 40; Canadian – 22; Grady – 43; Garvin – 23; Stephens – 27; Carter – 24; Johnston – 2; Bryan – 1; Surrounding counties (Atoka, Caddo, Custer, Blaine, McClain) – 110	Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (operation), Noise (operation), Socioeconomics	Located within 50 kilometers of the MIDSHIP Project.
PAST	Wynnewood Refinery [5, 6]	Garvin	Currently operational.	Wynnewood Refining Co. LLC's refinery of gasoline, diesel fuel, military get fuel, solvents, asphalt. Unspecified size. Located at 906 S. Powell Avenue, Wynnewood, Oklahoma.	Air (operation)	About 19.2 miles ENE of Mainline MP 100.0.
PAST	Wynnewood Products Terminal [5, 7]	Murray	Prior to 1995 – Currently operational.	Valero Partners Wynnewood LLC products terminal that transports refined products from the Valero Ardmore Refinery in Carter County, Oklahoma.	Air (operation)	About 18.6 miles NE of MP 101.7.
PAST	Valero Ardmore Refinery [45 8]	Carter	1913 – Currently operational.	The Valero Ardmore Refinery is located on 722 acres and has a total throughput capacity of approximately 90,000 barrels per day. Also has more than 2.4 million barrels of refined product storage.	Air (operation)	About 5.4 miles SW of MP 129.
PAST	Anadarko Plant [5, 9]	Caddo	May 2001 – Currently operational.	WFEC GenCo LLC's 90 megawatt power plant. Unspecified size, located at 701 NE 7th St. Anadarko, Oklahoma.	Air (operation)	About 20.0 miles SW of MP 41.6.

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APPENDIX L (cont'd)

Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
PAST	Atoka Gas Plant [5, 10]	Atoka	About 2007 – Currently operational.	TPL Arkoma Holdings LLC cryogenic processing plant.	Air (operation)	About 19.6 miles NE of MP 174.9.
PAST	Velma Gas Plant [5, 11]	Stephens	1948 – Currently operational.	Atlas Pipeline Midcontinent LLC 100 million cubic feet per day capacity natural gas processing plant.	Air (operation)	About 0.1 mile W of MP VE0.0.
PAST	Maysville Gas Plant [5, 12]	Garvin	1948 – Currently operational.	ONEOK Field Services Company, LLC cryogenic natural gas liquids extraction plant.	Air (operation)	About 12.8 miles NE of MP 80.7.
PAST	Stephens Gas Plant [5, 13]	Stephens	Prior to 1974 – Currently operational.	ONEOK Field Services Company, LLC cryogenic natural gas processing plant.	Air (operation)	About 0.9 mile NW of MP VE0.0.
PAST	Elmore City Gas Plant [5, 14]	Garvin	Prior to 1974 – Currently operational.	OK Gas Processing, Inc. natural gas/liquids processing plant.	Air (operation)	About 3.2 miles NE of MP 97.2.
PAST	Wasson Station Tank Farm [5, 15]	Carter	1993 – Currently operational.	Nustar Logistics LP - Central West Region petroleum storage facility.	Air (operation)	About 9.7 miles S of MP 116.3
PAST	Binger Plant [5, 16]	Caddo	1976 – Currently operational.	Mustang Gas Products, LLC gas processing plant.	Air (operation)	About 17.4 miles SW of MP 22.7.
PAST	Amber Gas Plant [5, 17]	Grady	Prior to 2014 – Currently operational.	Aka Energy Group cryogenic gas processing plant.	Air (operation)	About 3.3 miles NE of MP 47.8.
PAST	E Durant Dehydration Plant [4]	Bryan	Prior to 2017 – Currently operational.	Finley Resources, Inc. gas processing plant.	Air (operation)	About 9.4 miles S of MP 178.3.
PAST	Cana Gas Plant [5, 18]	Canadian	2011 – Currently operational.	EnLink Midstream Services LLC gas processing plant.	Air (operation)	About 0.5 mile E of MP 15.3.
PAST	Calumet Gas Processing Plant [3]	Canadian	1968 – Currently operational.	Enable Products, LLC gas processing plant.	Air (operation)	About 2.2 miles NW of MP 5.9
PAST	Cox City Processing Plant [5, 19]	Grady	Prior to 1992 – Unknown termination.	Enable Products, LLC gas processing plant.	Air (operation)	About 4.9 miles SW of MP 71.6

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Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
PAST	South Canadian Processing Plant [5, 20]	Canadian	2011 – Currently operational.	Enable Products, LLC gas processing plant.	Air (operation) Noise (operation)	About 0.3 mile NW of MP 17.5.
PAST	Tucker Trust Dehydration Plant [5]	Caddo	Prior to 2017 – Unknown termination.	Enable Midstream Partners LP Petroleum processing or storage. Unspecified size. 0.3 miles N of N 2510 & E1110 Road	Air (operation)	About 23.9 miles W of MP 17.8.
PAST	Chitwood Gas Plant [5, 21]	Grady	1948 – Currently operational.	DCP Midstream LP gas processing plant.	Air (operation)	About 5.1 miles W of MP 68.2
PAST	Fox Gas Plant [5, 22]	Carter	1940's – Currently operational.	DCP Midstream LP cryogenic gas processing plant.	Air (operation)	About 8.3 miles SW of MP 109.3.
PAST	Kingfisher Natural Gas Processing Plant [5, 23]	Kingfisher	Prior to 1976 – Currently operational.	DCP Midstream LP Gas processing. Unspecified size.	Air (operation)	About 1.2 miles N of MP CH0.0.
PAST	Mustang Gas Plant [5]	Grady	Prior to 2017 – Currently operational.	DCP Midstream LP petroleum processing/storage facility.	Air (operation)	About 10.2 miles NE of MP 38.9.
PAST	Okarche Plant [3, 24]	Kingfisher	Prior to 1981 – Currently operational.	DCP Midstream LP gas processing facility.	Air (operation) Noise (operation)	Less than 0.1 mile NW of MP CH20.1.
PAST	Sholem Gas Plant [5, 25]	Stephens	Prior to 1982 – Unknown termination.	DCP Midstream LP gas processing facility.	Air (operation) Noise (operation)	About 0.2 mile NE of MP VE6.5.
PAST	Healdton Gas Plant [5, 26]	Carter	Prior to 1970 – Currently operational.	Citation Oil and Gas Corporation LLC gas processing facility.	Air (operation)	About 12.5 miles SW of MP 111.5.
PAST	Binger Nitrogen Gas Plant [5]	Caddo	Prior to 2017 – Currently operational.	Binger OPR LLC petroleum processing /storage facility.	Air (operation)	About 16.2 miles W of MP 29.3.
PRESENT	Visio-Cana 5 Tank Battery [e]	Canadian	2017	Cimarex tank battery (temporary crude oil storage, testing, and measuring device). Identified during discussions with landowner while completing a land purchase agreement review.	Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction), Socioeconomics	Less than 0.1 mile W of MP 9.6.

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Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
ELECTRIC GENERATION AND TRANSMISSION PROJECTS						
FUTURE	Plains and Eastern Clean Line [5, 27]	Blaine, Kingfisher, Logan	Currently in planning stages; construction schedule unknown.	Clean Line Energy Partners' 700-mile direct current transmission that will deliver wind energy from the Oklahoma Panhandle region to utilities and customers in the Mid-South and southeastern United States.	Socioeconomics	Parallels the Chisholm Lateral approximately 22 miles N of the lateral.
PRESENT	Stonewall – Wapanucka 138 kV [3, 28]	Johnston, Coal, Pontotoc	2015 – Currently operational.	American Electric Power Company, Inc.'s new 6.4-mile, 138 kilovolt electric transmission line from Stonewall to Wapanucka, Oklahoma.	Socioeconomics	About 14 miles NE of MP 162.5.
PAST	Darlington Road – Roman Nose [3, 29]	Blaine, Canadian	June 2017 – Currently operational.	Public Service Company of Oklahoma, an AEP Oklahoma Transmission Company, constructed approximately 13 miles of new 138 kilovolt electric transmission line from a substation near Calumet, OK to a interconnect with an Oklahoma Gas & Electric line near Geary, Oklahoma.	Soils, Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Socioeconomics	Collocated with the mainline from MP 9.9 to 10.4 and then extends eastwards.
PAST	Kingfisher Wind Project [30]	Kingfisher, Canadian	March 2016 – Currently operational.	The Kingfisher Wind Project is an 11,000-acre wind farm comprising 149 turbines in Kingfisher and Canadian Counties. Turbines are clustered in Kingfisher County on the northern side of the Kingfisher/ Canadian County line.	Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Noise (operation), Socioeconomics	The Chisholm Lateral intersects the wind farm; turbines located north and south of the lateral (MP CH0.0 to CH6.2) . A second cluster of wind turbines about 3.0 miles south of MPs CH6.2 to CH11.4.
TRANSPORTATION AND COMMERCIAL/RESIDENTIAL DEVELOPMENT PROJECTS						
FUTURE	Kilpatrick Extension [31]	Canadian, Oklahoma	Still in planning stages; construction schedule unknown.	Oklahoma Turnpike Authority's road construction project. The project is an approximately 7-mile extension of the Kilpatrick Turnpike in Oklahoma City that will occur between Interstate-40 and State Highway 152/Airport Road.	Air (operation), Socioeconomics	About 17.9 miles E of MP 27.3.

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APPENDIX L (cont'd)

Past, Present, and Reasonably Foreseeable Future Projects with Potential for Cumulative Impacts when Combined with the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project

Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
PRESENT	State Highway 53 Improvement Project [32]	Carter	Utility relocations planned for 2018; construction scheduled to begin in 2020.	Oklahoma Department of Transportation highway improvement project to improve sight distance and the addition of shoulders along approximately 5.6 miles of State Highway 53. The project will permanently impact approximately 27 acres of land.	Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Land Use, Visual Resources, Air (construction and operation), Noise (construction), Socioeconomics	About 0.2 to 0.5 miles N of MP 119.0 to MP 124.5.
PAST	Commercial Metals Company Steel Mill Project [33, 34]	Bryan	2017 – Currently operational.	Commercial Metals Company constructed a new channel around a steel mill in Durant, Oklahoma, which involved placing permanent fill into an unnamed tributary to Kanola Creek.	Groundwater, Surface Water, Wetlands, Vegetation, Wildlife, Socioeconomics	About 8.8 miles SSW of MP 179.0.

[a] Mileposts on the Chisholm Lateral are differentiated from the Mainline with a "CH" in front of the milepost number. Mileposts on the Velma Lateral are differentiated from the Mainline with a "VE" in front of the milepost number.

[b] Federal Energy Regulatory Commission Docket No. CP18-14-000.

[c] Federal Energy Regulatory Commission Docket No. CP18-17-000.

[d] Construction on this project was observed in the field.

[e] Identified during discussions with landowner while completing a land purchase agreement review.

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Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]

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Status	Project	County	Construction/ Operation Status	Description	Resources Affected	Location Relative to the MIDSHIP Project [a]
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APPENDIX M

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APPENDIX N

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Draft Environmental Impact Statement

Midcontinent Supply Header Interstate Pipeline Project

Docket No.
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