

## Feature Characterization Matrix - Segment A

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	27.58	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	2586.50	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	1.93	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	12.83	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	3.13	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	9.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	16.89	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	1.91	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	27.58	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	24.33	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	1.18	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	4.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	17.13	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	69.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	1590.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	18.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	271.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	27.60	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	0.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	15.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	12,650.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	340.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	0.72	ACRES	Pivvot

## Feature Characterization Matrix - Segment B

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	10.08	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	1.25	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	35.57	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric	246.82	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	97.82	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	8864.80	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	25.41	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	31.66	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	30.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	171.67	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	1481.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	11.16	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	46.90	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	10.38	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	2.63	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	7.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	34.53	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	63.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	608.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	289.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	45.73	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	60.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	9.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	5615.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	240.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	4.57	ACRES	Pivvot

## Feature Characterization Matrix - Segment C

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	75.81	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	4.04	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	23,532.60	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	811.42	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	11,951.80	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.00	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	2.00	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	15.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	1,055.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	206.26	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	79.85	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.00	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	7.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	2.40	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	28.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	9.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	0.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	168.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	79.85	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	79.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	23.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	7,870.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	78.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	4.85	ACRES	Pivvot

## Feature Characterization Matrix - Segment D

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	7.62	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	4,725.70	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	2.84	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	2.29	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	6.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	1.65	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	7.62	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	3.01	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.44	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	1.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	4.92	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	18.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	382.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	4.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	68.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	7.52	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	6.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	7.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	2745.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	47.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	2.49	ACRES	Pivvot

## Feature Characterization Matrix - Segment E

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	30.50	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	117.28	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	3,030.80	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	11.24	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	1.92	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	7.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	3,782.30	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	101.09	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	22.40	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	10.41	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.02	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	4.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	3.91	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	17.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	353.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	3.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	170.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	30.51	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	56.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	3.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	1,640.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	53.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	1.24	ACRES	Pivvot

## Feature Characterization Matrix - Segment F

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	137.50	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	15.28	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	18,909.30	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	7.31	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	7,073.30	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	12.19	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	953.90	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	6.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	78.49	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	444,687.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	23.53	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	0.00	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	4.34	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	9.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	1,056.43	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	48.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	46.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	6.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	212.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	152.78	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	440.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	17.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	7,945.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	144.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	98.18	ACRES	Pivvot

## Feature Characterization Matrix - Segment G

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	27.94	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	1.50	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	10.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	74.31	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	685.30	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.47	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	3.70	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	6.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	149.86	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	2344.90	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	49.84	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	10.59	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	22.82	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.04	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	198.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	4.91	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	4.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	189.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	172.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	39.46	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	52.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	2.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	410.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	50.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	14.04	ACRES	Pivvot

## Feature Characterization Matrix - Segment H

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	92.07	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	9,781.20	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.00	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	1059.26	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	2,779.60	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	5.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	0.00	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	0.00	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.00	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	7.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	1,066.32	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	7.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	3.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	115.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	92.08	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	355.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	3.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	1,560.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	39.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	16.14	ACRES	Pivvot



## Feature Characterization Matrix - Segment I

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	8.80	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	2.50	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	20.59	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	2228.50	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	4674.10	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.25	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	91.62	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	9.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	381.73	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	21.21	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	31.89	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	1.86	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	5.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	16.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	36.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	6.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	116.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	31.91	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	52.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	10.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	4555.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	43.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	1.64	ACRES	Pivvot

## Feature Characterization Matrix - Segment J

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	4.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	56.29	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	3,459	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	14.45	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	11,074.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	17.19	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	33.75	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	13.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	39.53	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	15.25	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	44.20	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	16.99	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.39	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	9.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	41.90	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	220.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	2,120.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	11.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	386.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	60.28	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	39.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	36.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	16,540.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	200.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	5.57	ACRES	Pivvot

## Feature Characterization Matrix - Segment K

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	35.03	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	1.10	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	19.26	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	162.25	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	13,217.80	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	6.43	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	307.12	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	39.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	538.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	41.67	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	42.90	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	11.27	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	112.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	648.55	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	58.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	199.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	1.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	234.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	55.41	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	103.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	13.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	8,650.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	492.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	5.12	ACRES	Pivvot

## Feature Characterization Matrix - Segment L

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	10.44	FEET	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	FEET	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	FEET	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	584	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	106.07	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	0.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.00	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	9.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	15.93	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	82.96	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	4.87	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.00	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	1.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	4.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	3.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	0.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	21.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	10.44	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	7.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	2.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	2,300.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	7.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	0.53	ACRES	Pivvot

## Feature Characterization Matrix - Segment M

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	43.75	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	7.37	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	4,212.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	404.90	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	12,518.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.74	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	6.90	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	12.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	138.93	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	49.16	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	7.37	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.78	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	4.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	4.49	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	35.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	63.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	1.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	142.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	51.18	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	131.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	5.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	830.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	18.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	9.82	ACRES	Pivvot

## Feature Characterization Matrix - Segment N

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	77.92	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	13,728.90	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	114.17	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	4,798.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	30.14	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	98.19	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	16,381.96	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	23.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	240.46	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	4,307.50	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	49.48	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	0.00	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	11.96	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.55	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	10.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	134.93	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	42.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	1144.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	4.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	355.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	77.95	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	139.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	24.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	10,435.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	155.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	14.83	ACRES	Pivvot

## Feature Characterization Matrix - Segment O

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	52.73	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	5,205.70	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	7649.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.00	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	219.72	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	7.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	183.33	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	7.35	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	0.00	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.00	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	4.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	220.84	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	25.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	55.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	6.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	193.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	52.75	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	97.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	7.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	1,800.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	67.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	31.02	ACRES	Pivvot

## Feature Characterization Matrix - Segment P

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	45.09	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	8.09	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	0.50	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	8483.90	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.42	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	371.20	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	4.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	109.23	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	2.67	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	0.00	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	2.41	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing)	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	5.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	357.06	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	18.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	11.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	3.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	136.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	50.79	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	186.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	8.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	2,040.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	82.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	10.20	ACRES	Pivvot



## Feature Characterization Matrix - Segment Q

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	104.11	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	18.37	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	24,104.20	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	316.14	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	6593.30	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	9.76	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	636.75	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	17201.30	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	12.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	867.10	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	176.30	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	18.37	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.61	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.44	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	9.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	571.31	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	76.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	116.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	136.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	122.51	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	329.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	24.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	10,730.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	171.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	28.80	ACRES	Pivvot

## Feature Characterization Matrix - Segment R

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	81.69	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	164,404.50	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	827.55	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	4199.20	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	1.36	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	73.81	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	17.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	211.01	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	81.69	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.55	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	11.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	35.50	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	37.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	14.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	1.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	190.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	81.68	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	118.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	19.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	6,420.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	18.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	9.62	ACRES	Pivvot

## Feature Characterization Matrix - Segment S

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	9.08	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	21.20	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	6.79	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	2.50	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	0.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	58.68	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	16.23	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	9.08	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	9.63	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing)	0.73	ACRES	Pivvot
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	2.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	3.26	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	13.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	909.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	137.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	9.15	MILES	N/A, BMcD Engineering Assessment
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	862.50	FEET	Pivvot
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	39.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	3.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	4200.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	32.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	1.99	ACRES	Pivvot

## Feature Characterization Matrix - Segment T

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	8.63	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	140.40	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	5.75	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	2.93	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	0.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	21.09	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	0.00	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	8.63	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.10	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing)	0.48	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	2.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	6.32	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	13.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	1070.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	2.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	173.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	8.63	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	0.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	3.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	975.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	29.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	0.00	ACRES	Pivvot

## Feature Characterization Matrix - Segment U

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GISDATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	FEET	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	FEET	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	7.03	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	FEET	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	292.40	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	4.30	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	5.11	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	23.06	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	0.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	1.25	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	7.03	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.03	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	1.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	56.76	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	21.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	140.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	0.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	34.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	7.11	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	3.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	6.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	3100.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	21.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	1.86	ACRES	Pivvot

## Feature Characterization Matrix - Segment V

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	2.90	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	623.90	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	1.14	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	0.03	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	0.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	0.00	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	2.90	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	6.87	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing	0.23	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	1.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	0.02	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	9.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary Workspace	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	95.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	1.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	13.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	2.90	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	6.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	0.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	0.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	33.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	0.00	ACRES	Pivvot

## Feature Characterization Matrix - Segment W

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GISDATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	5.35	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	222.40	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.93	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	0.78	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	0.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	0.00	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	0.66	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	5.35	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	9.32	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.17	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	1.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	1.40	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	14.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	230.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	1.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	46.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	5.23	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	14.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	2.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	1275.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	141.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	0.46	ACRES	Pivvot

## Feature Characterization Matrix - Segment X

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GIS DATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	118.56	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	6.24	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	0.00	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	58.40	MILES	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	4402.80	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	0.00	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	1390.67	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	7.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	112.82	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	1.75	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	6.24	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	0.00	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	0.00	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	7.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	1396.46	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	0.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	8.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	4.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	5.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	67.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	124.77	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	441.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	12.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	5,970.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	141.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	29.93	ACRES	Pivvot



## Feature Characterization Matrix - Segment Y

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	MEASURE	UNIT OF MEASURE	GISDATA LAYER OWNER
ENGINEERING	49 CFR 192 Class Location 1	Length within 49 CFR 192 Class Location 1	0.03	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 2	Length within 49 CFR 192 Class Location 2	0.00	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 3	Length within 49 CFR 192 Class Location 3	46.71	MILES	SCG GIS
ENGINEERING	49 CFR 192 Class Location 4	Length within 49 CFR 192 Class Location 4	1.90	MILES	SCG GIS
ENGINEERING	Adverse Soil Conditions	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	0.00	FEET	Pivvot
SOCIAL	Agricultural/Pasture Land	Agricultural/pasture land use within 50 feet of centerline	0.00	ACRES	Pivvot
ENGINEERING	CL Length with 15% Slope	Length of centerline with slope greater than 15 percent (%)	538.70	FEET	Pivvot
ENVIRONMENTAL	Coastal Zone	Coastal Zone Boundary Area within 50' of CL	0.00	ACRES	Pivvot, BMcD Engineering Assessment
SOCIAL	Commercial Land	Commercial land within 50 feet of centerline	19.44	ACRES	Pivvot
ENVIRONMENTAL	Conservation Areas	Conservation areas within 50 feet of centerline	8.66	ACRES	Pivvot
SOCIAL	Cultural & Tribal Resources	Length of CL within Cultural & Tribal Resource areas	0.00	FEET	Pivvot
ENVIRONMENTAL	Endangered/Sensitive Species Critical Habitat	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	26.00	QTY	Pivvot
ENGINEERING	Fault Areas	Fault Area within 500 feet of centerline	134.36	ACRES	Pivvot
SOCIAL	Federal Facility/Property	Length within Federal Facility/Property	0.00	FEET	Pivvot
ENVIRONMENTAL	Floodplain	100 Year Floodplain Area within 50' of CL	11.84	ACRES	Pivvot
ENGINEERING	HCA	Length within High Consequence Areas (HCA)	48.64	MILES	N/A, BMcD Engineering Assessment
SOCIAL	Industrial Land	Industrial land within 50 feet of the centerline	27.30	ACRES	Pivvot
SOCIAL	Institutional Land	Institutional land (schools, educational facilities, hospitals, churches, daycares,	3.83	ACRES	Pivvot
ENVIRONMENTAL	Landfills & Hazardous Waste Sites	Landfills & Hazardous Waste Sites	0.00	FEET	Pivvot
ENGINEERING	Mainline Valve (MLV)	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	8.00	QTY	N/A, BMcD Engineering Assessment
SOCIAL	Maintained Public & Recreational Areas	Maintained Public and Recreational Areas within 50 feet of centerline	15.19	ACRES	Pivvot
SOCIAL	NRHP historic locations	Number of NRHP historic locations within 100 feet of centerline	1.00	QTY	Pivvot
ENGINEERING	Number of Overhead Utility Crossings	Number of overhead utilities within 25 feet and/or crossing centerline	94.00	QTY	Pivvot
ENGINEERING	Physical Conflict	Physical conflict with known existing structures	0.00	QTY	Pivvot, BMcD Engineering Assessment
ENGINEERING	Pipeline Constructability - Inadequate Temporary	Inadequate Workspace for Pipeline construction	0.00	FEET	N/A, BMcD Engineering Assessment
SOCIAL	Proximity to Buildings	Number of buildings within 100 feet of Centerline	3,101.00	QTY	Pivvot
ENGINEERING	Railroad Crossings	Number of Railroad Crossings	13.00	QTY	Pivvot
ENGINEERING	Road Crossings	Number of road crossings	562.00	QTY	Pivvot
ENGINEERING	Route Length	Total Route Length	48.57	MILES	N/A, BMcD Engineering Assessment
ENVIRONMENTAL	Stream Crossings	Number of streams crossed (Including Headwaters)	4.00	QTY	Pivvot
ENGINEERING	Trenchless Crossings	Number of Trenchless Crossings	27.00	QTY	N/A, BMcD Engineering Assessment
ENGINEERING	Trenchless Crossings length	Total length of Trenchless crossings	11,610.00	FEET	N/A, BMcD Engineering Assessment
ENGINEERING	Underground Foreign Utilities	Number of foreign utility crossings	208.00	QTY	Pivvot
ENVIRONMENTAL	Wetlands	Wetlands crossed within 50 feet of centerline	1.60	ACRES	Pivvot