	LRQDropTerminalPairs	LRQ Drop Terminal Pairs		= AvgRESDropsperLRQterminal * PairsPerHousingUnit + AvgBUSDropsPerLRQTerminal * PairsPerBusinessLocation	
	TotalLRQAerialDropTerminalCost	Total LRQ Aerial Drop Terminal Cost		= IF (LRQDropTerminalPairs = 0, 0, LRQTerminals * PercentDropsAerial * VLOOKUP (LRQDropTerminalPairs, AerTermCostTable, DensityColumnPointer))	
V	TotalLRQBuriedDropTerminalCost	Total LRQ Buried Drop Terminal Cost		= IF (LRQDropTerminalPairs = 0, 0, LRQTerminals * (1 - PercentDropsAerial) * VLOOKUP (LRQDropTerminalPairs, BURTermCostTable, DensityColumnPointer))	
X	TotalLRQNIDCost	Total LRQ NID Cost		= IF (NumberLRQResDrops = 0, 0, NumberLRQResDrops * CostperResNID) + IF (LRQBusinesslocations = 0, 0, LRQBusinesslocations * CostperBusNID)	
Y	LRQAerialDropCost	LRQ Aerial Drop Cost		= LRQDropLength * (NumberLRQResDrops + LRQBusinesslocations) * PercentDropsAerial * VLOOKUP (1, AerDropCost, DensityColumnPointer)	
Z	LRQBuriedDropCost	LRQ Buried Drop Cost		= LRQDropLength * (NumberLRQResDrops + LRQBusinesslocations) * (1 - PercentDropsAerial) * VLOOKUP (1, BurDropCost, DensityColumnPointer)	
AA	TotalGridAerialDropTerminalCost	Total Grid Aerial Drop Terminal Cost		= TotalULQAerialDropTerminalCost + TotalLLQAerialDropTerminalCost + TotalURQAerialDropTerminalCost + TotalLRQAerialDropTerminalCost	
BB	TotalGridBuriedDropTerminalCost	Total Grid Buried Drop Terminal Cost		= TotalULQBuriedDropTerminalCost + TotalLLQBuriedDropTerminalCost + TotalURQBuriedDropTerminalCost + TotalLRQBuriedDropTerminalCost	
BC	TotalGridNIDCost	Total Grid NID Cost		= TotalULQNIDCost + TotalLLQNIDCost + TotalURQNIDCost + TotalLRQNIDCost	
BD	TotalGridSingleAerialDropCost	Total Grid Single Aerial Drop Cost		= ULQAerialDropCost + LLQAerialDropCost + URQAerialDropCost + LRQAerialDropCost	
BE	TotalGridSingleBuriedDropCost	Total Grid Single Buried Drop Cost		= ULQBuriedDropCost + LLQBuriedDropCost + URQBuriedDropCost + LRQBuriedDropCost	
BF	WeightedGridMultiHUDropLength	Weighted Grid Multi-HU Drop Length		= IF (OR (TotalHousingUnitLocations = 0, PercentGt2MultiFamilyLots = 0) , 0, (ULQHousingUnitslocations * ULQDropLength + LLQHousingUnitlocations * LLQDropLength + URQHousingUnitlocations * URQDropLength + LRQHousingUnitlocations * LRQDropLength) / TotalHousingUnitLocations)	
BG	CableSizeLargeBusLocations	Cable Size Large Business Locations		= IF (OR (SmallBusCheck = 1, BusinessLocations = 0) , 0, INDEX (DistrCableSize, MATCH (TotalBusinessLines / BusinessLocations, DistrCableSize, - 1) , 1))	
BH	AerialDropCostLargeBus	Aerial Drop Cable Cost Large Business Locations		= IF (CableSizeLargeBusLocations = 0, 0, BusinessLocations * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSizeLargeBusLocations, AERCopper24Table, DensityColumnPointer, FALSE))	
BI	BuriedDropCostLargeBus	Buried Drop Cable Cost Large Business Locations		= IF (CableSizeLargeBusLocations = 0, 0, BusinessLocations * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSizeLargeBusLocations, BURCopper24Table, DensityColumnPointer, FALSE))	
BJ	CostPerTerminalLargeBus	Cost Per Terminal Large At Large Business Locations		= IF (CableSizeLargeBusLocations = 0, 0, VLOOKUP (CableSizeLargeBusLocations, IndoorSAICostTable, DensityColumnPointer))	
BK	CableSize3to4HUdwellings	Cable Size 3-4 HU Dwellings		= MAX (25, INDEX (DistrCableSize, MATCH (VLOOKUP ("3 - 4", HousingUnitsperDwelling, DensityColumnPointer, FALSE) * PairsPerHousingUnit, DistrCableSize, - 1) , 1))	
BL	AerialDropCableCost3to4HUDwellings	Aerial Drop Cable Cost 3-4 HU Dwellings		= _3to4Buildings * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSize3to4HUdwellings, AERCopper24Table, DensityColumnPointer, FALSE)	

BM	BuriedDropCable Cost3to4HUDwellings	Buried Drop Cable Cost 3-4 HU Dwellings		= _3to4Buildings * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSize3to4HUdwellings, BURCopper24Table, DensityColumnPointer, FALSE)	
BN	CostperTerminal3to4HUdwellings	Cost Per Terminal 3-4 HU Dwellings		= IF (CableSize3to4HUdwellings = 0, 0, VLOOKUP (CableSize3to4HUdwellings, IndoorSAICostTable, DensityColumnPointer))	
BO	CableSize5to9HUdwellings	Cable Size 5-9 HU Dwellings		= MAX (25, INDEX (DistrCableSize, MATCH (VLOOKUP ("5 - 9", HousingUnitsperDwelling, DensityColumnPointer, FALSE) * PairsPerHousingUnit, DistrCableSize, - 1) , 1))	
BP	AerialDropCableCost5to9HUDwellings	Aerial Drop Cable Cost 5-9 HU Dwellings		= _5to9Buildings * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSize5to9HUdwellings, AERCopper24Table, DensityColumnPointer, FALSE)	
BQ	BuriedDropCable Cost5to9HUDwellings	Buried Drop Cable Cost 5-9 HU Dwellings		= _5to9Buildings * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSize5to9HUdwellings, BURCopper24Table, DensityColumnPointer, FALSE)	
BR	CostperTerminal5to9HUdwellings	Cost Per Terminal 5-9 HU Dwellings		= IF (CableSize5to9HUdwellings = 0, 0, VLOOKUP (CableSize5to9HUdwellings, IndoorSAICostTable, DensityColumnPointer))	
BS	CableSize10to19HUdwellings	Cable Size 10-19 HU Dwellings		= MAX (25, INDEX (DistrCableSize, MATCH (VLOOKUP ("10 - 19", HousingUnitsperDwelling, DensityColumnPointer, FALSE) * PairsPerHousingUnit, DistrCableSize, - 1) , 1))	
BT	AerialDropCableCost10to19HUDwellings	Aerial Drop Cable Cost 10-19 HU Dwellings		= _10to19Buildings * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSize10to19HUdwellings, AERCopper24Table, DensityColumnPointer, FALSE)	
BU	BuriedDropCable Cost10to19HUDwellings	Buried Drop Cable Cost 10-19 HU Dwellings		= _10to19Buildings * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSize10to19HUdwellings, BURCopper24Table, DensityColumnPointer, FALSE)	
BV	CostperTerminal10to19HUdwellings	Cost Per Terminal 10-19 HU Dwellings		= IF (CableSize10to19HUdwellings = 0, 0, VLOOKUP (CableSize10to19HUdwellings, IndoorSAICostTable, DensityColumnPointer))	
BW	CableSize20to49HUdwellings	Cable Size 20-49 HU Dwellings		= MAX (50, INDEX (DistrCableSize, MATCH (VLOOKUP ("20 - 49", HousingUnitsperDwelling, DensityColumnPointer, FALSE) * PairsPerHousingUnit, DistrCableSize, - 1) , 1))	
BX	AerialDropCableCost20to49HUDwellings	Aerial Drop Cable Cost 20-49 HU Dwellings		= _20to49Buildings * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSize20to49HUdwellings, AERCopper24Table, DensityColumnPointer, FALSE)	
BY	BuriedDropCable Cost20to49HUDwellings	Buried Drop Cable Cost 20-49 HU Dwellings		= _20to49Buildings * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSize20to49HUdwellings, BURCopper24Table, DensityColumnPointer, FALSE)	
BZ	CostperTerminal20to49HUdwellings	Cost Per Terminal 20-49 HU Dwellings		= IF (CableSize20to49HUdwellings = 0, 0, VLOOKUP (CableSize20to49HUdwellings, IndoorSAICostTable, DensityColumnPointer))	
CA	CableSizeOver50HUdwellings	Cable Size >50 HU Dwellings		= MAX (100, INDEX (DistrCableSize, MATCH (VLOOKUP (" > 50", HousingUnitsperDwelling, DensityColumnPointer, FALSE) * PairsPerHousingUnit, DistrCableSize, - 1) , 1))	
CB	AerialDropCableCostOver50HUDwellings	Aerial Drop Cable Cost >50 HU Dwellings		= over50Buildings * PercentDropsAerial * WeightedGridMultiHUDropLength * VLOOKUP (CableSizeOver50HUdwellings, AERCopper24Table, DensityColumnPointer, FALSE)	
CC	BuriedDropCable CostOver50HUDwellings	Buried Drop Cable Cost >50 HU Dwellings		= over50Buildings * (1 - PercentDropsAerial) * WeightedGridMultiHUDropLength * VLOOKUP (CableSizeOver50HUdwellings, BURCopper24Table, DensityColumnPointer, FALSE)	
CD	CostperTerminalOver50HUdwellings	Cost Per Terminal >50 HU Dwellings		= IF (CableSizeOver50HUdwellings = 0, 0, VLOOKUP (CableSizeOver50HUdwellings, IndoorSAICostTable, DensityColumnPointer))	
CE	MultiHUAerialDropCable	Multi-HU Aerial Drop Cable		= AerialDropCableCost3to4HUDwellings + AerialDropCableCost5to9HUDwellings + AerialDropCableCost10to19HUDwellings + AerialDropCableCost20to49HUDwellings + AerialDropCableCostOver50HUDwellings + AerialDropCostLargeBus	

CF	MultiHUBuriedDropCable	Multi-HU Buried Drop Cable		= BuriedDropCableCost3to4HUDwellings + BuriedDropCableCost5to9HUDwellings + BuriedDropCableCost10to19HUDwellings + BuriedDropCableCost20to49HUDwellings + BuriedDropCableCostOver50HUDwellings + BuriedDropCostLargeBus	
CG	TotalMultiHUBuriedDropCableDistance	Total Multi-HU Buried Drop Cable Distance		= (_3to4Buildings + _5to9Buildings + _10to19Buildings + _20to49Buildings + over50Buildings + BusinessLocations * (1 - SmallBusCheck)) * WeightedGridMultiHUDropLength	
CH	PlacementCostMHUBuriedDropCable	Placement Cost MHU Buried Drop Cable		= IF (TotalMultiHUBuriedDropCableDistance < 1, 0, TotalMultiHUBuriedDropCableDistance * VLOOKUP (Density, CHOOSE (CopperDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4))	
CI	MultiHUAerialBuildingTerminalCost	Multi-HU Aerial Building Terminal Cost		= (_3to4Buildings * CostperTerminal3to4HUdwellings + _5to9Buildings * CostperTerminal5to9HUdwellings + _10to19Buildings * CostperTerminal10to19HUdwellings + _20to49Buildings * CostperTerminal20to49HUdwellings + over50Buildings * CostperTerminalOver50HUdwellings + BusinessLocations * CostPerTerminalLargeBus) * PercentDropsAerial	
CJ	MultiHUBuriedBuildingTerminalCost	Multi-HU Buried Building Terminal Cost		= (_3to4Buildings * CostperTerminal3to4HUdwellings + _5to9Buildings * CostperTerminal5to9HUdwellings + _10to19Buildings * CostperTerminal10to19HUdwellings + _20to49Buildings * CostperTerminal20to49HUdwellings + over50Buildings * CostperTerminalOver50HUdwellings + BusinessLocations * CostPerTerminalLargeBus) * (1 - PercentDropsAerial)	
CK	SubtotalAerialCableRelatedcosts	Subtotal Aerial Cable Related costs		= TotalGridAerialDropTerminalCost + TotalGridSingleAerialDropCost + MultiHUAerialDropCable + MultiHUAerialBuildingTerminalCost	
CL	SubtotalBuriedCableRelatedcosts	Subtotal Buried Cable Related costs		= TotalGridBuriedDropTerminalCost + TotalGridSingleBuriedDropCost + MultiHUBuriedDropCable + MultiHUBuriedBuildingTerminalCost + PlacementCostMHUBuriedDropCable	
CM	TotalAerialCableDistributionCost	Total Aerial Cable Distribution Cost		= SubtotalAerialCableDistributionCost + SubtotalAerialCablerelatedcosts	
CN	TotalBuriedCable DistributionCost	Total Buried Cable Distribution Cost		= SubtotalBuriedCableDistributionCost + TotalBuriedDistributionStructureCost + SubtotalBuriedCablerelatedcosts	
CO		Total UG Cable Distribution Cost		= TotalUGCableDistributionCost	
CP		Total Pole Distribution Cost		= TotalPoleDistributionCost	
CQ		Total Conduit Distribution Cost		= TotalDistributionConduitCost	
CR	TotalNIDCostAllocatedAerial	Total NID Cost Allocated Aerial		= TotalGridNIDCost * PercentDropsAerial	
CS	TotalNIDCostAllocatedBuried	Total NID Cost Allocated Buried		= TotalGridNIDCost * (1 - PercentDropsAerial)	
CT	TotalDistribution Cost	Total Distribution Cost		= TotalAerialCableDistributionCost + TotalBuriedCableDistributionCost + TotalUGCableDistributionCost + TotalPoleDistributionCost + TotalDistributionConduitCost + TotalGridNIDCost	
CU	AverageDistributionDistance	Average Distribution Distance		= 0.75 * AVERAGE (ULQBackboneandBranchCableLength, LLQBackboneBranchCableLength, URQBackboneBranchCableLength, LRQBackboneBranchCableLength) + AVERAGE (ULQDropLength, LLQDropLength, URQDropLength, LRQDropLength)	

et: Subfeeder Part2

	Range Name	Column Name	Column Comment	Formula	Formula Comment
	TerrainAdjustedPt2Distance	Terrain Adjusted Pt2 Distance		= SubfeederPart2Distance * SoilSlopeFactor	
	MaxSizePt2FiberCables	# Max Size Pt2 Fiber Cables		= TRUNC (IF (NumberFibersPerGrid > MaxFiberSize, NumberFibersPerGrid / MaxFiberSize, 0))	
	Pt2LastFiberCableSize	Last Pt2 Fiber Cable Size		= IF (NumberFibersPerGrid > 0, INDEX (FiberCableSize, MATCH ((NumberFibersPerGrid - (MaxFiberSize * MaxSizePt2FiberCables)) , FiberCableSize, - 1) , 1) , 0)	
	Pt2CopperSize	Pt2 Size (If Copper)		= CHOOSE (GridPlantIndex, INDEX (FeederCableSize, MATCH (NetCopperPairs / FeederFill, FeederCableSize, - 1) , 1) , 0, 0)	
	Pt2AerialCopperDistance	Pt2 Aerial Copper Distance		= IF (Pt2CopperSize = 0, 0, IF (GridPlantType = "Cable", VLOOKUP (Density, CHOOSE (CopperDepthCondition, CopperHardMixTable, CopperSoftMixTable, CopperNormMixTable) , 4) , 0) * TerrainAdjustedPt2Distance)	
	SubfeederPt2AerialCopperMaterial	Subfeeder Pt2 Aerial Copper Material $		= IF (Pt2CopperSize = 0, 0, Pt2AerialCopperDistance * WaterCostMultiplier * CopperCostRatio * VLOOKUP (Pt2CopperSize, IF (CopperGauge = 26, AERCopper26Table, AERCopper24Table) , DensityColumnPointer, FALSE))	
G	Pt2AerialFiberDistance	Pt2 Aerial Fiber Distance		= IF (Pt2LastFiberCableSize = 0, 0, TerrainAdjustedPt2Distance * CHOOSE (GridPlantIndex, 0, 1, 1) * VLOOKUP (Density, CHOOSE (FiberDepthCondition, FbrLoopHardMixTable, FbrLoopSoftMixTable, FbrLoopNormMixTable) , 4))	
H	SubfeederPt2AerialFiberMaterial	Subfeeder Pt2 Aerial Fiber Material $		= IF (OR (Pt2AerialFiberDistance = 0, Pt2LastFiberCableSize = 0) , 0, Pt2AerialFiberDistance * (VLOOKUP (Pt2LastFiberCableSize, FiberAerialCostTable, DensityColumnPointer, FALSE) + (B3 * VLOOKUP (MaxFiberSize, FiberAerialCostTable, DensityColumnPointer)))) * FiberCostRatio	
I	Pt2BuriedCopperDistance	Pt2 Buried Copper Distance		= IF (Pt2CopperSize = 0, 0, TerrainAdjustedPt2Distance * CHOOSE (GridPlantIndex, 1, 0, 0) * VLOOKUP (Density, CHOOSE (CopperDepthCondition, CopperHardMixTable, CopperSoftMixTable, CopperNormMixTable) , 3))	
J	SubfeederPt2BuriedCopperMaterial	Subfeeder Pt2 Buried Copper Material $		= IF (Pt2CopperSize = 0, 0, Pt2BuriedCopperDistance * WaterCostMultiplier * CopperCostRatio * VLOOKUP (Pt2CopperSize, IF (CopperGauge = 26, BURCopper26Table, BURCopper24Table) , DensityColumnPointer, FALSE))	
K	Pt2BuriedFiberDistance	Pt2 Buried Fiber Distance		= IF (Pt2LastFiberCableSize = 0, 0, TerrainAdjustedPt2Distance * CHOOSE (GridPlantIndex, 0, 1, 1) * VLOOKUP (Density, CHOOSE (FiberDepthCondition, FbrLoopHardMixTable, FbrLoopSoftMixTable, FbrLoopNormMixTable) , 3))	
L	SubfeederPt2BuriedFiberMaterial	Subfeeder Pt2 Buried Fiber Material $		= IF (OR (Pt2BuriedFiberDistance = 0, Pt2LastFiberCableSize = 0) , 0, Pt2BuriedFiberDistance * (VLOOKUP (Pt2LastFiberCableSize, FiberBuriedCostTable, DensityColumnPointer, FALSE) + (MaxSizePt2FiberCables * VLOOKUP (MaxFiberSize, FiberBuriedCostTable, DensityColumnPointer)))) * FiberCostRatio	
M	Pt2UGCopperDistance	Pt2 Underground Copper Distance		= IF (Pt2CopperSize = 0, 0, TerrainAdjustedPt2Distance * CHOOSE (GridPlantIndex, 1, 0, 0) * VLOOKUP (Density, CHOOSE (CopperDepthCondition, CopperHardMixTable, CopperSoftMixTable, CopperNormMixTable) , 2))	
N	SubfeederPt2UGCopperMaterial	Subfeeder Pt2 UG Copper Material $		= IF (Pt2CopperSize = 0, 0, Pt2UGCopperDistance * WaterCostMultiplier * CopperCostRatio * VLOOKUP (Pt2CopperSize, IF (CopperGauge = 26, UGCopper26Table, UGCopper24Table) , DensityColumnPointer, FALSE))	
O	Pt2UGFiberDistance	Pt2 Underground Fiber Distance		= IF (Pt2LastFiberCableSize = 0, 0, TerrainAdjustedPt2Distance * CHOOSE (GridPlantIndex, 0, 1, 1) * VLOOKUP (Density, CHOOSE (FiberDepthCondition, FbrLoopHardMixTable, FbrLoopSoftMixTable, FbrLoopNormMixTable) , 2))	
P	SubfeederPt2UGFiberMaterial	Subfeeder Pt2 UG Fiber Material $		= IF (OR (Pt2UGFiberDistance = 0, Pt2LastFiberCableSize = 0) , 0, Pt2UGFiberDistance * (VLOOKUP (Pt2LastFiberCableSize, FiberUGCostTable, DensityColumnPointer, FALSE) + (MaxSizePt2FiberCables * VLOOKUP (MaxFiberSize, FiberUGCostTable, DensityColumnPointer)))) * FiberCostRatio	
Q	TotalPt2CopperMaterial	Total Pt2 Copper Material $		= SubfeederPt2AerialCopperMaterial + SubfeederPt2BuriedCopperMaterial + SubfeederPt2UGCopperMaterial	

	TotalPt2FiberMaterial	Total Pt2 Fiber Material $		= SubfeederPt2AerialFiberMaterial + SubfeederPt2BuriedFiberMaterial + SubfeederPt2UGFiberMaterial	
	NumberSubFdrPt2Manholes	Number Subfeeder Pt2 Manholes		= IF (MAX (Pt2UGCopperDistance, Pt2UGFiberDistance) < 1, 0, MAX (Pt2UGCopperDistance, Pt2UGFiberDistance) / VLOOKUP (Density, FeederSpacingTable, 2))	
	NumberSubFdrPt2Ducts	Number Subfeeder Pt2 Ducts		= IF (Pt2UGFiberDistance + Pt2UGCopperDistance = 0, 0, MaxSizePt2FiberCables + 2)	
	Pt2StandardManholeCost	Pt2 Standard Manhole Cost		= IF (OR (NumberSubFdrPt2Manholes = 0, NumberSubFdrPt2Ducts > 9) , 0, VLOOKUP (NumberSubFdrPt2Ducts, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer))	
	Pt2ExpandedManholeCost	Pt2 Expanded Manhole Cost		= IF (OR (NumberSubFdrPt2Manholes = 0, NumberSubFdrPt2Ducts < = 9) , 0, VLOOKUP (9, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer) + TRUNC (NumberSubFdrPt2Ducts / 9) * VLOOKUP (99, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer))	
W	SubfeederPt2AerialStructure	Subfeeder Pt2 Aerial Structure $		= IF ((Pt2AerialCopperDistance + Pt2AerialFiberDistance) < 1, 0, ((Pt2AerialCopperDistance + Pt2AerialFiberDistance) / VLOOKUP (Density, FeederSpacingTable, 3)) * WaterCostMultiplier * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 6))	
X	SubfeederPt2buriedcopperStructure	Subfeeder Pt2 Buried Copper Structure $		= IF (Pt2BuriedCopperDistance < 1, 0, WaterCostMultiplier * Pt2BuriedCopperDistance * VLOOKUP (Density, CHOOSE (CopperDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4))	
Y	SubfeederPt2BuriedFiberStructure	Subfeeder Pt2 Buried Fiber Structure $		= IF (Pt2BuriedFiberDistance < 1, 0, WaterCostMultiplier * Pt2BuriedFiberDistance * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4))	
Z	SubfeederPt2UGStructure	Subfeeder Pt2 Underground Structure $		= IF ((Pt2UGCopperDistance + Pt2UGFiberDistance) < 1, 0, WaterCostMultiplier * (Pt2UGCopperDistance + Pt2UGFiberDistance) * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 2) + NumberSubFdrPt2Ducts * VLOOKUP (0, ConduitDensityTable, DensityColumnPointer)) + NumberSubFdrPt2Manholes * IF (NumberSubFdrPt2Ducts > 9, Pt2ExpandedManholeCost, Pt2StandardManholeCost)	
AA	TotalPt2Structure	Total Pt2 Structure $		= SubfeederPt2AerialStructure + SubfeederPt2BuriedCopperStructure + SubfeederPt2BuriedFiberStructure + SubfeederPt2UGStructure	
AB	TotalSubfeederPart2	Total Subfeeder Part 2 $		= TotalPt2CopperMaterial + TotalPt2FiberMaterial + TotalPt2Structure	

:et: SubFeeder

	Range Name	Column Name	Column Comment	Formula	Formula Comment
	SubfeederNumber *	Subfeeder Number		= LEFT (FDICode, 5)	
	SubfeederSegment Number	Subfeeder Segment Number		= IF (SubfeederNumber = PrevSubfeederNumber, PrevSubFeederSequenceNumber + 1, 1)	
		Segment Type 1		= SegmentType1	
	SubfeederSegment Type2	Subfeeder Segment Type 2		= IF (NextSubfeederSegmentNumber = 1, "None", IF (SegmentType1 = NextSegmentType1, NextSubfeederSegmentType2, NextSegmentType1))	
	SubfeederCableTestColumn	Copper Cable Runs through Subfeeder		= IF (OR (SegmentType1 = "Cable", SubfeederSegmentType2 = "Cable") , CLLIQuad, "None")	
	SubfeederFiberTestColumn	Fiber Cable Runs Through Subfeeder		= IF (OR (SegmentType1 = "Fiber", SubfeederSegmentType2 = "Fiber") , CLLIQuad, "None")	
G	PrevPrimarySubSegmentDistance	Segment SubFeeder Distance		= IF (SubfeederSegmentNumber = 1, PrimarySubfeederDistance, PrimarySubfeederDistance - PrevPrimarySubfeederDistance)	
H	SlopeAdjSubfeederDistance	Slope Adjusted Subfeeder Distance		= SegmentSubFeederdistance * SoilSlopeFactor	
I		Grid Plant Type		= GridPlantType	
J		Number Of Fibers From This Grid		= NumberFibersPerGrid	
K	CumulativeDLCSLinesperSubfeeder *	Cumulative DLC-S Lines Per Subfeeder		= CHOOSE (GridPlantIndex, 0, IF (OR (NextSubfeederSegmentNumber = 1, IsLastCLLIRecord) , TotalLinesServedInGrid / ElectronicFill, IF (AND (IsSameAsNextSubfeeder, IsSamePlantType) , (TotalLinesServedInGrid / ElectronicFill) + NextCumulativeDLCSLinesperSubfeeder, TotalLinesServedInGrid / ElectronicFill)) , 0)	
L	TotalDLCSLinesinSubFeeder	Total DLC-S Lines In Subfeeder		= IF (SubfeederSegmentNumber = 1, CumulativeDLCSLinesperSubfeeder, PrevTotalDLCSLinesinSubFeeder)	
M	NumberSubfeederFibers*	Number Subfeeder Fibers This segment		= IF (IsSameAsNextSubfeeder, IF (AND (CumulativeDLCSLinesperSubfeeder > 0, CumulativeDLCSLinesperSubfeeder < 240, NumberFibersPerGrid = 4, NextNumberSubfeederFibers = 4) , 4, NumberFibersPerGrid + NextNumberSubfeederFibers) , NumberFibersPerGrid)	
N	IsDLCSFiberShared	DLC-S System in Subfeeder		= IF (OR (NextSubfeederSegmentNumber = 1, LastDataRow) , IF (GridPlantType = "DLC - S", "Yes", "No") , IF (GridPlantType = "DLC - S", "Yes", NextIsDLCSFiberShared))	
O	NumberDLCSSystemsServedinandbeyond	Number DLC-S Systems Served in Grid and beyond on Same SubFeeder		= IF (OR (NextSubfeederSegmentNumber = 1, IsLastCLLIRecord) , IF (GridPlantType = "DLC - S", 1, 0) , IF (GridPlantType = "DLC - S", NextNumberDLCSSytemsServedinandbeyond + 1, NextNumberDLCSSytemsServedinandbeyond))	
P	NumberDLCSSystemsinSubFeeder	Number DLC-S Systems Served in SubFeeder		= IF (SubfeederSegmentNumber = 1, NumberDLCSSytemsServedinandbeyond, prevNumberDLCSSystemsinSubFeeder)	
Q	NumberDLCLFibersinandBeyond	Number of DLC-L Fibers in grid and Beyond on Same Subfeeder		= IF (OR (NextSubfeederSegmentNumber = 1, IsLastCLLIRecord) , IF (GridPlantType = "DLC - L", NumberFibersPerGrid, 0) , IF (GridPlantType = "DLC - L", NextNumberDLCLFibersinandBeyond + NumberFibersPerGrid, NextNumberDLCLFibersinandBeyond))	

	NumberDLCSFibersinandBeyond	Number of DLC-S Fibers in grid and Beyond on Same Subfeeder		= NumberSubfeederFibers - NumberDLCLFibersinandBeyond	
	NumberDLCSFibersInSubfeeder	Number DLC-S Fibers in Subfeeder		= IF (SubfeederSegmentNumber = 1, NumberDLCSFibersinandBeyond, PrevNumberDLCSFibersinSubfeeder)	
	SubfeederFiberSize	Subfeeder Fiber Size		= IF (OR (PrimarySubfeederDistance = 0, SubfeederFiberTestColumn = "None") , 0, INDEX (FiberCableSize, MATCH (NumberSubfeederFibers, FiberCableSize, - 1) , 1))	
	SubfeederCopperPairsthisGrid	Subfeeder Copper Pairs This Grid		= CHOOSE (GridPlantIndex, NetCopperPairs / FeederFill, 0, 0)	
	CumulativeCopperSubfeederPairs*	Cumulative Copper Subfeeder Pairs		= IF (IsSameAsNextSubfeeder, SubfeederCopperPairsthisGrid + NextCumulativeCopperSubfeederPairs, SubfeederCopperPairsthisGrid)	
	SubfeederMaxCopperCables	Number Of Max Size Subfeeder Copper Cables		= TRUNC (IF (CumulativeCopperSubfeederPairs > MaxFeederSize, CumulativeCopperSubfeederPairs / MaxFeederSize, 0))	
	SubfeederCopperCableSize	Subfeeder Copper Cable Size		= IF (CumulativeCopperSubfeederPairs = 0, 0, INDEX (FeederCableSize, MATCH (CumulativeCopperSubfeederPairs - (MaxFeederSize * SubfeederMaxCopperCables) , FeederCableSize, - 1) , 1))	
Y	SubfeederUGDistance	Subfeeder Underground Distance		= IF (SubfeederFiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 2) , VLOOKUP (Density, FbrLoopNormMixTable, 2)) * SlopeAdjSubfeederDistance * SoilSlopeFactor	
Z	SubfeederBURDistance	Subfeeder Buried Distance		= IF (SubfeederFiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 3) , VLOOKUP (Density, FbrLoopNormMixTable, 3)) * SlopeAdjSubfeederDistance * SoilSlopeFactor	
AA	SubfeederAERDistance	Subfeeder Aerial Distance		= IF (SubfeederFiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 4) , VLOOKUP (Density, FbrLoopNormMixTable, 4)) * SlopeAdjSubfeederDistance * SoilSlopeFactor	
AB	SubfeederUGCopperCable	Subfeeder Underground Copper Cable $		= IF (OR (SubfeederCableTestColumn = "None", SubfeederUGDistance = 0, SubfeederCopperCableSize = 0) , 0, SubfeederUGDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize, IF (CopperGauge = 26, UGCopper26Table, UGCopper24Table) , DensityColumnPointer, FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, UGCopper26Table, UGCopper24Table) , DensityColumnPointer, FALSE)))	
AC	SubfeederBuriedCopperCable	Subfeeder Buried Copper Cable $		= IF (OR (SubfeederBURDistance = 0, SubfeederCableTestColumn = "None", SubfeederCopperCableSize = 0) , 0, SubfeederBURDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize, IF (CopperGauge = 26, BURCopper26Table, BURCopper24Table) , DensityColumnPointer, FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, BURCopper26Table, BURCopper24Table) , DensityColumnPointer, FALSE)))	
AD	SubfeederAerialCopperCable	Subfeeder Aerial Copper Cable $		= IF (OR (SubfeederAERDistance = 0, SubfeederCableTestColumn = "None", SubfeederCopperCableSize = 0) , 0, SubfeederAERDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize, IF (CopperGauge = 26, AERCopper26Table, AERCopper24Table) , DensityColumnPointer, FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, AERCopper26Table, AERCopper24Table) , DensityColumnPointer, FALSE)))	
AE	CopperSubfeederTotalMaterial	Copper Subfeeder Total Material $		= SubfeederUGCopperCable + SubfeederBuriedCopperCable + SubfeederAerialCopperCable	
AF	UGFiberSubfeederMaterial	Underground Fiber Subfeeder Material $		= IF (OR (SubfeederFiberTestColumn = "None", SubfeederUGDistance = 0) , 0, SubfeederUGDistance * (VLOOKUP (SubfeederFiberSize, FiberUGCostTable, DensityColumnPointer, FALSE) * FiberCostRatio))	
AG	BuriedFiberSubfeederMaterial	Buried Fiber Subfeeder Material $		= IF (OR (SubfeederFiberTestColumn = "None", SubfeederBURDistance = 0) , 0, SubfeederBURDistance * (VLOOKUP (SubfeederFiberSize, FiberBuriedCostTable, DensityColumnPointer, FALSE) * FiberCostRatio))	

AH	AerialFiberSubfeederMaterial	Aerial Fiber Subfeeder Material $		= IF (OR (SubfeederFiberTestColumn = "None", SubfeederAERDistance = 0) , 0, SubfeederAERDistance * (VLOOKUP (SubfeederFiberSize, FiberAerialCostTable, DensityColumnPointer, FALSE) * FiberCostRatio))	
AI	FiberSubfeederTotalMaterial	Fiber Subfeeder Total Material $		= UGFiberSubfeederMaterial + BuriedFiberSubfeederMaterial + AerialFiberSubfeederMaterial	
AJ	CopperSubfeederStructureRatio	Copper Subfeeder Structure Ratio		= IF (CopperSubfeederTotalMaterial = 0, 0, IF (SubfeederMaxCopperCables > 0, Over4200, IF (AND (CopperSubfeederTotalMaterial > 0, FiberSubfeederTotalMaterial > 0) , VLOOKUP (SubfeederCopperCableSize, StructureAllocationTable, 2) , 1)))	
AK	FiberSubfeederStructureRatio	Fiber Subfeeder Structure Ratio		= 1 - CopperSubfeederStructureRatio	
AL	NumberSubfeederDucts	Number Subfeeder Ducts		= IF ((SubfeederUGCopperCable + UGFiberSubfeederMaterial) < 1, 0, 1 + IF (SubfeederUGCopperCable > 0, SubfeederMaxCopperCables + 1, 0) + IF (UGFiberSubfeederMaterial > 0, 1, 0))	
AM	NumberSubfeederManholes	Number Subfeeder Manholes		= IF (NumberSubfeederDucts < 1, 0, CEILING (SubfeederUGDistance / VLOOKUP (Density, FeederSpacingTable, 2) , 1))	
AN	SubfeederStandardManholeCost	Subfeeder Standard Manhole Cost		= IF (OR (NumberSubfeederManholes = 0, NumberSubfeederDucts > 9) , 0, VLOOKUP (NumberSubfeederDucts, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer))	
AO	SubfeederExpandedManholeCost	Subfeeder Expanded Manhole Cost		= IF (OR (NumberSubfeederManholes = 0, NumberSubfeederDucts < = 9) , 0, VLOOKUP (9, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer) + TRUNC (NumberSubfeederDucts / 9) * VLOOKUP (99, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer))	
AP	NumberSubfeederPoles	Number Subfeeder Poles		= IF (SubfeederAERDistance < 1, 0, CEILING (SubfeederAERDistance / VLOOKUP (Density, FeederSpacingTable, 3) , 1) + IF (SubfeederSegmentNumber = 1, 1, 0))	
AQ	CopperSubfeederUGStructure	Copper Subfeeder Underground Structure $		= IF (SubfeederUGDistance = 0, 0, CopperSubfeederStructureRatio * WaterCostMultiplier * (IF (NumberSubfeederDucts < = 9, SubfeederStandardManholeCost, SubfeederExpandedManholeCost) * NumberSubfeederManholes + SubfeederUGDistance * (NumberSubfeederDucts * VLOOKUP (0, ConduitDensityTable, DensityColumnPointer) + VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 2))))	
AR	CopperSubfeederBuriedStructure	Copper Subfeeder Buried Structure $		= IF (SubfeederBURDistance = 0, 0, CopperSubfeederStructureRatio * WaterCostMultiplier * SubfeederBURDistance * IF (SubfeederBURDistance = 0, VLOOKUP (Density, CHOOSE (CopperDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4) , VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4)))	
AS	CopperSubfeederAerialStructure	Copper Subfeeder Aerial Structure $		= IF (NumberSubfeederPoles = 0, 0, CopperSubfeederStructureRatio * WaterCostMultiplier * NumberSubfeederPoles * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 6))	
AT	CopperSubfeederTotalStructure	Copper Subfeeder Total Structure $		= CopperSubfeederAerialStructure + CopperSubfeederBuriedStructure + CopperSubfeederUGStructure	
AU	FiberSubfeederUGStructure	Fiber Subfeeder Underground Structure $		= IF (SubfeederUGDistance = 0, 0, FiberSubfeederStructureRatio * WaterCostMultiplier * (IF (NumberSubfeederDucts < = 9, SubfeederStandardManholeCost, SubfeederExpandedManholeCost) * NumberSubfeederManholes + SubfeederUGDistance * (NumberSubfeederDucts * VLOOKUP (0, ConduitDensityTable, DensityColumnPointer) + VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 2))))	
AV	BuriedFiberSubfeederStructure	Buried Fiber Subfeeder Structure $		= IF (SubfeederBURDistance = 0, 0, FiberSubfeederStructureRatio * WaterCostMultiplier * SubfeederBURDistance * IF (SubfeederBURDistance = 0, VLOOKUP (Density, CHOOSE (CopperDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4) , VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4)))	
AW	AerialFiberSubfeederStructure	Aerial Fiber Subfeeder Structure $		= IF (NumberSubfeederPoles = 0, 0, FiberSubfeederStructureRatio * WaterCostMultiplier * NumberSubfeederPoles * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 6))	
AX	FiberSubfeederTotalStructure	Fiber Subfeeder Total Structure $		= FiberSubfeederUGStructure + BuriedFiberSubfeederStructure + AerialFiberSubfeederStructure	

AY	TotalCopperSubfeeder	Total Copper Subfeeder $		= CopperSubfeederTotalMaterial + CopperSubfeederTotalStructure	
AZ	TotalCopperSubfederCostPerPair	Total Copper Subfeeder Cost Per Pair		= IF (CumulativeCopperSubfeederPairs = 0, 0, TotalCopperSubfeeder / CumulativeCopperSubfeederPairs)	
BA	CumulativeCopperSubfeederCostperPair*	Cumulative Copper Subfeeder Cost Per Pair		= IF (SegmentType1 = "Fiber", 0, IF (IsFirstSubfeederSegment, TotalCopperSubfeederCostPerPair, TotalCopperSubfeederCostPerPair + PrevCumulativeCopperSubfeederCostperPair))	
BB	TotalFiberSubfeeder	Total Fiber Subfeeder $		= FiberSubfeederTotalMaterial + FiberSubfeederTotalStructure	
BC	TotalFiberSubfederCostPerPair	Total Fiber Subfeeder Cost Per Fiber		= IF (NumberSubfeederFibers = 0, 0, TotalFiberSubfeeder / NumberSubfeederFibers)	
BD	CumulativeFiberSubfeederCostperFiber*	Cumulative Fiber Subfeeder Cost Per Fiber		= IF (IsFirstSubfeederSegment, TotalFiberSubfeederCostPerPair, TotalFiberSubfeederCostPerPair + PrevCumulativeFiberSubfeederCostperFiber)	
BE	CumSubFdrUGCopperCostperLine	Cumulative Sub Feeder Underground Copper Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, SubfeederUGCopperCable / CumulativeCopperSubfeederPairs, SubfeederUGCopperCable / CumulativeCopperSubfeederPairs + PrevCumSubFdrUGCopperCostperLine))	
BF	CumSubFdrBurCopperCostperLine	Cumulative Sub Feeder Buried Copper Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, SubfeederBuriedCopperCable / CumulativeCopperSubfeederPairs, SubfeederBuriedCopperCable / CumulativeCopperSubfeederPairs + PrevCumSubFdrBURCopperCostperLine))	
BG	CumSubFdrAERCopperCostperLine	Cumulative Sub Feeder Aerial Copper Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, SubfeederAerialCopperCable / CumulativeCopperSubfeederPairs, SubfeederAerialCopperCable / CumulativeCopperSubfeederPairs + PrevCumSubFdrAERCopperCostperLine))	
BH	CumSubFdrUGCopperStructureCostperLine	Cumulative Sub Feeder Underground Copper Strucutre Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, CopperSubfeederUGStructure / CumulativeCopperSubfeederPairs, CopperSubfeederUGStructure / CumulativeCopperSubfeederPairs + PrevCumSubFdrUGCopperStructureCostperLine))	
BI	CumSubFdrBurCopperStructureCostperLine	Cumulative Sub Feeder Buried Copper Structure Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, CopperSubfeederBuriedStructure / CumulativeCopperSubfeederPairs, CopperSubfeederBuriedStructure / CumulativeCopperSubfeederPairs + PrevCumSubFdrBURCopperStructureCostperLine))	
BJ	CumSubFdrAerCopperStructureCostperLine	Cumulative Sub Feeder Aerial Copper Structure Cost per Line		= IF (CumulativeCopperSubfeederPairs = 0, 0, IF (IsFirstSubfeederSegment, CopperSubfeederAerialStructure / CumulativeCopperSubfeederPairs, CopperSubfeederAerialStructure / CumulativeCopperSubfeederPairs + PrevCumSubFdrAERCopperStructureCostperLine))	
BK	CumSubFdrUGFiberCostperFiber	Cumulative Sub Feeder Underground Fiber Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, UGFiberSubfeederMaterial / NumberSubfeederFibers, UGFiberSubfeederMaterial / NumberSubfeederFibers + PrevCumSubFdrUGFiberCostperFiber))	
BL	CumSubFdrBurFiberCostperFiber	Cumulative Sub Feeder Buried Fiber Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, BuriedFiberSubfeederMaterial / NumberSubfeederFibers, BuriedFiberSubfeederMaterial / NumberSubfeederFibers + PrevCumSubFdrBURFiberCostperFiber))	

BM	CumSubFdrAERFiberCostperFiber	Cumulative Sub Feeder Aerial Fiber Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, AerialFiberSubfeederMaterial / NumberSubfeederFibers, AerialFiberSubfeederMaterial / NumberSubfeederFibers + PrevCumSubFdrAERFiberCostperFiber))	
BN	CumSubFdrUGFiberStructureCostperFiber	Cumulative Sub Feeder Underground Fiber Strucutre Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, FiberSubfeederUGStructure / NumberSubfeederFibers, FiberSubfeederUGStructure / NumberSubfeederFibers + PrevCumSubFdrUGFiberStrucutreCostperFiber))	
BO	CumSubFdrBurFiberStructureCostperFiber	Cumulative Sub Feeder Buried Fiber Structure Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, BuriedFiberSubfeederStructure / NumberSubfeederFibers, BuriedFiberSubfeederStructure / NumberSubfeederFibers + PrevCumSubFdrBURFiberStrucutreCostperFiber))	
BP	CumSubFdrAerFiberStructureCostperFiber	Cumulative Sub Feeder Aerial Fiber Structure Cost per Fiber		= IF (NumberSubfeederFibers = 0, 0, IF (IsFirstSubfeederSegment, AerialFiberSubfeederStructure / NumberSubfeederFibers, AerialFiberSubfeederStructure / NumberSubfeederFibers + PrevCumSubFdrAERFiberStrucutreCostperFiber))	
BQ	CumDLCSSubFdrUGFiberCostperLine	Cumulative DLC-S Sub Feeder Underground Fiber Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (UGFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (UGFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrUGFiberCostperLine))	
BR	CumDLCSSubFdrBurFiberCostperLine	Cumulative DLC-S Sub Feeder Buried Fiber Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (BuriedFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (BuriedFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrBURFiberCostperLine))	
BS	CumDLCSSubFdrAERFiberCostperLine	Cumulative DLC-S Sub Feeder Aerial Fiber Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (AerialFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (AerialFiberSubfeederMaterial / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrAERFiberCostperLine))	
BT	CumDLCSSubFdrUGFiberStructureCostperLine	Cumulative DLC-S Sub Feeder Underground Fiber Strucutre Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (FiberSubfeederUGStructure / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (FiberSubfeederUGStructure / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrUGFiberStructureCostperLine))	
BU	CumDLCSSubFdrBurFiberStructureCostperLine	Cumulative DLC-S Sub Feeder Buried Fiber Structure Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (BuriedFiberSubfeederStructure / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (BuriedFiberSubfeederStructure / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrBURFiberStrucutreCostperLine))	
BV	CumDLCSSubFdrAerFiberStructureCostperLine	Cumulative DLC-S Sub Feeder Aerial Fiber Structure Cost per Line		= IF (CumulativeDLCSLinesperSubfeeder = 0, 0, IF (IsFirstSubfeederSegment, IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (AerialFiberSubfeederStructure / CumulativeDLCSLinesperSubfeeder)) , IF (IsDLCSFiberShared = "No", 0, (NumberDLCSFibersinandBeyond / NumberSubfeederFibers) * (AerialFiberSubfeederStructure / CumulativeDLCSLinesperSubfeeder)) + PrevCumDLCSSubFdrAERFiberStrucutreCostperLine))	
BW	IsFirstSubfeederSegement	First Subfeeder Segment		= SubfeederSegmentNumber = 1	
BX	IsLastCLLIRecord	Last CLLI Record		= IsLastCLLIRecord	

BY	IsSameAsNextQuadrant	Same As Next Quadrant		= IsSameAsNextCLLIQuad	
BZ	IsSameAsNextSubfeeder	Same As Next Subfeeder		= (SubfeederNumber = NextSubfeederNumber)	

Sheet: Main Feeder

Col	Range Name	Column Name	Column Comment	Formula	Formula Comment
A		Quadrant Number		= CLLIQuad	
B		Main Feeder Branch Number		= MainFeederBranch	
C		Feeder Sequence Number	Data Source: Grid Demographics	= MainFeederSequenceNumber	
D		Feeder Segment Sequence Number		= FeederSegmentSequenceNumber	
E	MainFdrSegment Distance	Main Feeder Segment Distance		= IF (IsFirstSegmentInBranch, MainFeederDistance, IF (IsSameAsPrevFeederBranch, MainFeederDistance - PrevMainFeederDistance, MainFeederDistance - 10000))	
F		Segment Type 1		= SegmentType1	
G		Segment Type 2		= SegmentType2	
H	CableTestColumn	Copper Cable Runs through Grid		= IF (OR (SegmentType1 = "Cable", SegmentType2 = "Cable") , CLLIQuad, "None")	
I	CableBranchTestColumn	Same Branch And Cable		= IF (SegmentType1 = "Cable", IF (MainFeederBranch = "0", "", IF (MainFeederBranch = "1", CLLIQuad&"2", CLLIQuad&"1")) , "")	
J	FiberTestColumn	Fiber Cable Runs Through Grid		= IF (OR (SegmentType1 = "Fiber", SegmentType2 = "Fiber") , CLLIQuad, "None")	
K	FiberBranchTestColumn	Same Branch And Fiber		= IF (QuadrantContainFiber, IF (MainFeederBranch = "0", "", IF (MainFeederBranch = "1", CLLIQuad&"2", CLLIQuad&"1")) , "")	
L	WorkingPrsfromSubfeeders	Working Pairs from Subfeeders		= IF (IsFirstSubfeederSegment, IF (PrimarySubfeederDistance = 0, NetCopperPairs, CumulativeCopperSubfeederPairs * FeederFill) , 0)	
M	MainFdrCopperWrkgLines	Main Feeder Copper Working Lines		= SUMIF (OFFSET (CableTestColumn, 0, 0, LastDataRow, 1) , CLLIQuad, OFFSET ($L3, 0, 0, LastDataRow, 1)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, LastDataRow, 1) , CLLISegment, OFFSET ($L3, 0, 0, LastDataRow, 1))	
N	WorkingFibersfromSubfeeders	Working Fibers From Subfeeders		= IF (IsFirstSubfeederSegment, IF (PrimarySubfeederDistance = 0, NumberFibersPerGrid, NumberSubfeederFibers) , 0)	
O	MainFdrWrkgfibers	Main Feeder Working fibers		= SUMIF (OFFSET (FiberTestColumn, 0, 0, LastDataRow, 1) , CLLIQuad, OFFSET ($N3, 0, 0, LastDataRow, 1)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, LastDataRow, 1) , CLLISegment, OFFSET ($N3, 0, 0, LastDataRow, 1))	
P	MainFdrFibersNeeded	Main Feeder Fibers Needed		= MainFdrWrkgFibers / FeederFill	
Q	CopperMainFdrPrsNeeded	Copper Main Feeder Pairs Needed		= MainFdrCopperWrkgLines / FeederFill	
R	NumberMaxSizeMainFdrCopperCables	Number of Max Size Main Feeder Copper Cables		= TRUNC (IF (CopperMainFdrPrsNeeded > MaxFeederSize, CopperMainFdrPrsNeeded / MaxFeederSize, 0))	
S	ResidualCopperMainFdrSize	Residual Copper Main Feeder Size		= IF (CopperMainFdrPrsNeeded > 0, INDEX (FeederCableSize, MATCH (CopperMainFdrPrsNeeded - (MaxFeederSize * NumberMaxSizeMainFdrCopperCables) , FeederCableSize, - 1) , 1) , 0)	
T	CopperMainFdrStructureRatio	Copper Main Feeder Structure %		= IF (CopperMainFdrPrsNeeded < 1, 0, IF (NumberMaxSizeMainFdrCopperCables > 0, Over4200, IF (MainFdrFibersNeeded > 0, VLOOKUP (ResidualCopperMainFdrSize, StructureAllocationTable, 2) , 1)))	

U	FiberMainFdrStructureRatio	Fiber Main Feeder Structure %		= 1 - CopperMainFdrStructureRatio	
V	NumberMaxSize MainFdrFiberCables	Number Max Size Main Feeder Fiber Cables		= TRUNC (IF (MainFdrFibersNeeded > MaxFiberSize, MainFdrFibersNeeded / MaxFiberSize, 0))	
W	ResidualFiberMainFdrSize	Residual Fiber Main Feeder Size		= IF (MainFdrFibersNeeded = 0, 0, INDEX (FiberCableSize, MATCH (MainFdrFibersNeeded - (MaxFiberSize * NumberMaxSizeMainFdrFiberCables) , FiberCableSize, - 1) , 1))	
X	MainFdrSegment UGDistance	Main Feeder Underground Distance		= IF (FiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 2) , VLOOKUP (Density, FbrLoopNormMixTable, 2)) * MainFdrSegmentDistance * SoilSlopeFactor	
Y	MainFdrSegment BurDistance	Main Feeder Buried Distance		= IF (FiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 3) , VLOOKUP (Density, FbrLoopNormMixTable, 3)) * MainFdrSegmentDistance * SoilSlopeFactor	
Z	MainFdrSegment AerDistance	Main Feeder Aerial Distance		= IF (FiberTestColumn = "None", VLOOKUP (Density, CopperNormMixTable, 4) , VLOOKUP (Density, FbrLoopNormMixTable, 4)) * MainFdrSegmentDistance * SoilSlopeFactor	
AA	MainFdrSegment UGCopperMaterial	Main Feeder Segment Underground Copper Material $		= IF (OR (CableTestColumn = "None", MainFdrSegmentUGDistance = 0) , 0, MainFdrSegmentUGDistance * (IF (ResidualCopperMainFdrSize = 0, 0, VLOOKUP (ResidualCopperMainFdrSize, IF (CopperGauge = 26, UGCopper26Table, UGCopper24Table) , DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, UGCopper26Table, UGCopper24Table) , DensityColumnPointer, FALSE)))) * CopperCostRatio	
AB	MainFdrSegment BurCopperMaterial	Main Feeder Segment Buried Copper Material $		= IF (OR (CableTestColumn = "None", MainFdrSegmentBurDistance = 0) , 0, MainFdrSegmentBurDistance * (IF (ResidualCopperMainFdrSize = 0, 0, VLOOKUP (ResidualCopperMainFdrSize, IF (CopperGauge = 26, BURCopper26Table, BURCopper24Table) , DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, BURCopper26Table, BURCopper24Table) , DensityColumnPointer, FALSE)))) * CopperCostRatio	
AC	MainFdrSegment AerCopperMaterial	Main Feeder Segment Aerial Copper Material $		= IF (OR (CableTestColumn = "None", MainFdrSegmentAerDistance = 0) , 0, MainFdrSegmentAerDistance * (IF (ResidualCopperMainFdrSize = 0, 0, VLOOKUP (ResidualCopperMainFdrSize, IF (CopperGauge = 26, AERCopper26Table, AERCopper24Table) , DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrCopperCables * VLOOKUP (MaxFeederSize, IF (CopperGauge = 26, AERCopper26Table, AERCopper24Table) , DensityColumnPointer, FALSE)))) * CopperCostRatio	
AD	MainFdrSegment AerCopperMaterial	Total Main Feeder Copper Material $		= MainFdrSegmentUGCopperMaterial + MainFdrSegmentBurCopperMaterial + MainFdrSegmentAerCopperMaterial	
AE	MainFdrSegment UGFiberMaterial	Main Feeder Segment Underground Fiber Material $		= IF (OR (FiberTestColumn = "None", MainFdrSegmentUGDistance = 0) , 0, MainFdrSegmentUGDistance * (IF (ResidualFiberMainFdrSize = 0, 0, VLOOKUP (ResidualFiberMainFdrSize, FiberUGCostTable, DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrFiberCables * VLOOKUP (MaxFiberSize, FiberUGCostTable, DensityColumnPointer)))) * FiberCostRatio	
AF	MainFdrSegment BurFiberMaterial	Main Feeder Segment Buried Fiber Material $		= IF (OR (FiberTestColumn = "None", MainFdrSegmentBurDistance = 0) , 0, MainFdrSegmentBurDistance * (IF (ResidualFiberMainFdrSize = 0, 0, VLOOKUP (ResidualFiberMainFdrSize, FiberBuriedCostTable, DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrFiberCables * VLOOKUP (MaxFiberSize, FiberBuriedCostTable, DensityColumnPointer)))) * FiberCostRatio	
AG	MainFdrSegment AerFiberMaterial	Main Feeder Segment Aerial Fiber Material $		= IF (OR (FiberTestColumn = "None", MainFdrSegmentAerDistance = 0) , 0, MainFdrSegmentAerDistance * (IF (ResidualFiberMainFdrSize = 0, 0, VLOOKUP (ResidualFiberMainFdrSize, FiberAerialCostTable, DensityColumnPointer, FALSE)) + (NumberMaxSizeMainFdrFiberCables * VLOOKUP (MaxFiberSize, FiberAerialCostTable, DensityColumnPointer)))) * FiberCostRatio	
AH	TotalMainFdrFiberMaterial	Total Main Feeder Fiber Material $		= MainFdrSegmentUGFiberMaterial + MainFdrSegmentBurFiberMaterial + MainFdrSegmentAerFiberMaterial	
AI	NumberMainFeederDucts	Number Main Feeder Ducts		= IF (MainFdrSegmentUGDistance < 1, 0, IF (ResidualCopperMainFdrSize > 0, 1, 0) + NumberMaxSizeMainFdrCopperCables + IF (ResidualFiberMainFdrSize > 0, 1, 0) + IF (AirlineDistance = "", 0, 1))	
AJ	NumberMainFdrManholes	Number Main Feeder Manholes		= IF (NumberMainFeederDucts < 1, 0, CEILING (MainFdrSegmentUGDistance / VLOOKUP (Density, FeederSpacingTable, 2) , 1) + IF (AirlineDistance = "", 0, IF (FeederSegmentSequenceNumber = 1, 1, 0)))	

K	MainFeederStandardManholeCost	Main Feeder Standard Manhole Cost		= IF (NumberMainFdrManholes = 0, 0, IF (NumberMainFeederDucts < = 9, VLOOKUP (NumberMainFeederDucts, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer) , 0))	
L	MainFeederExpandedManholeCost	Main Feeder Expanded Manhole Cost		= IF (NumberMainFeederDucts = 0, 0, IF (NumberMainFeederDucts < = 9, 0, VLOOKUP (9, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer)) + TRUNC (NumberMainFeederDucts / 9) * VLOOKUP (99, CHOOSE (FiberDepthCondition, ManholeHardRockTable, ManholeSoftRockTable, ManholeNormalSurfaceTable) , DensityColumnPointer))	
AM	NumberMainFdrPoles	Number Main Feeder Poles		= IF (MainFdrSegmentAerDistance < 1, 0, (CEILING (MainFdrSegmentAerDistance / VLOOKUP (Density, FeederSpacingTable, 3) , 1)) + IF (AirlineDistance = "", 0, IF (FeederSegmentSequenceNumber = 1, 1, 0)))	
AN	MainFeederUGCopperStructure	Main Feeder Underground Copper Structure $		= IF (MainFdrSegmentUGDistance = 0, 0, CopperMainFdrStructureRatio * WaterCostMultiplier * (IF (NumberMainFeederDucts < = 9, MainFeederStandardManholeCost, MainFeederExpandedManholeCost) * NumberMainFdrManholes + MainFdrSegmentUGDistance * (NumberMainFeederDucts * VLOOKUP (0, ConduitDensityTable, DensityColumnPointer) + VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 2))))	
AO	MainFeederBuriedCopperStructure	Main Feeder Buried Copper Structure $		= IF (MainFdrSegmentBurDistance = 0, 0, CopperMainFdrStructureRatio * WaterCostMultiplier * MainFdrSegmentBurDistance * IF (FiberTestColumn = "None", VLOOKUP (Density, CHOOSE (CopperDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4) , VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4)))	
AP	MainFeederAerialCopperStructure	Main Feeder Aerial Copper Structure $		= IF (NumberMainFdrPoles = 0, 0, CopperMainFdrStructureRatio * WaterCostMultiplier * NumberMainFdrPoles * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 6))	
AQ	TotalMainFdrCopperStructure	Total Main Feeder Copper Structure $		= MainFeederUGCopperStructure + MainFeederBuriedCopperStructure + MainFeederAerialCopperStructure	
AR	TotalMainFdrCopperCost	Total Main Feeder Copper Cost		= TotalMainFdrCopperMaterial + TotalMainFdrCopperStructure	
AS	CopperMainFeederCostPerLine	Copper Main Feeder Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, TotalMainFdrCopperCost / CopperMainFdrPrsNeeded)	
AT	CumulativeMainFdrCopperCostperPair	Cumulative Main Feeder Copper Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (CopperMainFeederCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (CopperMainFeederCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
AU	MainFeederUGFiberStructure	Main Feeder Underground Fiber Structure $		= IF (MainFdrSegmentUGDistance = 0, 0, FiberMainFdrStructureRatio * WaterCostMultiplier * (IF (NumberMainFeederDucts < = 9, MainFeederStandardManholeCost, MainFeederExpandedManholeCost) * NumberMainFdrManholes + MainFdrSegmentUGDistance * (NumberMainFeederDucts * VLOOKUP (0, ConduitDensityTable, DensityColumnPointer) + VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 2))))	
AV	MainFeederBuriedFiberStructure	Main Feeder Buried Fiber Structure $		= IF (MainFdrSegmentBurDistance = 0, 0, FiberMainFdrStructureRatio * WaterCostMultiplier * MainFdrSegmentBurDistance * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 4))	
AW	MainFeederAerialFiberStructure	Main Feeder Aerial Fiber Structure $		= IF (NumberMainFdrPoles = 0, 0, FiberMainFdrStructureRatio * WaterCostMultiplier * NumberMainFdrPoles * VLOOKUP (Density, CHOOSE (FiberDepthCondition, HardRockStructure, SoftRockStructure, NormalStructure) , 6))	
AX	TotalMainFdrFiberStructure	Total Main Feeder Fiber Structure $		= MainFeederUGFiberStructure + MainFeederBuriedFiberStructure + MainFeederAerialFiberStructure	
AY	TotalMainFdrFiberCost	Total Main Feeder Fiber Cost		= TotalMainFdrFiberMaterial + TotalMainFdrFiberStructure	

Z	MainFeederFiberCostPerFiber	Main Feeder Fiber Cost per Fiber		= IF (MainFdrWrkgFibers = 0, 0, TotalMainFdrFiberCost / MainFdrWrkgFibers)	The name associated with this cell is an absolute reference, so that the cumulation formulas wiill work
BA	CumulativeMainFdrFiberCostperFiber	Cumulative Main Feeder Fiber Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederFiberCostPerFiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederFiberCostPerFiber, 0, 0, - FeederSegmentSequenceNumber)))	
BB	MainFeederUGCopperCostPerLine	Main Feeder Underground Copper Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFdrSegmentUGCopperMaterial / CopperMainFdrPrsNeeded)	
BC	MainFeederBURCopperCostPerLine	Main Feeder Buried Copper Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFdrSegmentBurCopperMaterial / CopperMainFdrPrsNeeded)	
BD	MainFeederAERCopperCostPerLine	Main Feeder Aerial Copper Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFdrSegmentAerCopperMaterial / CopperMainFdrPrsNeeded)	
BE	MainFeederUGCopperStructureCostPerLine	Main Feeder Underground Copper Structure Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFeederUGCopperStructure / CopperMainFdrPrsNeeded)	
BF	MainFeederBurCopperStructureCostPerLine	Main Feeder Buried Copper Structure Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFeederBuriedCopperStructure / CopperMainFdrPrsNeeded)	
BG	MainFeederAerCopperStructureCostPerLine	Main Feeder Aerial Copper Structure Cost Per Line		= IF (MainFdrCopperWrkgLines = 0, 0, MainFeederAerialCopperStructure / CopperMainFdrPrsNeeded)	
BH	CumMainFdrUGCopperCostperLine	Cumulative Main Feeder Underground Copper Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederUGCopperCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederUGCopperCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
BI	CumMainFdrBurCopperCostperLine	Cumulative Main Feeder Buried Copper Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederBurCopperCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederBurCopperCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
BJ	CumMainFdrAERCopperCostperLine	Cumulative Main Feeder Aerial Copper Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederAerCopperCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederAerCopperCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	

BK	CumMainFdrUGCopperStructureCostperLine	Cumulative Main Feeder Underground Copper Strucutre Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederUGCopperStructureCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederUGCopperStructureCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
BL	CumMainFdrBurCopperStructureCostperLine	Cumulative Main Feeder Buried Copper Structure Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederBURCopperStructureCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederBURCopperStructureCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
BM	CumMainFdrAerCopperStructureCostperLine	Cumulative Main Feeder Aerial Copper Structure Cost per Line		= IF (CableTestColumn = "None", 0, SUMIF (OFFSET (CableTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederAERCopperStructureCostPerLine, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (CableBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederAERCopperStructureCostPerLine, 0, 0, - FeederSegmentSequenceNumber)))	
BN	MainFeederUGFiberCostPerFiber	Main Feeder Underground Fiber Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFdrSegmentUGFiberMaterial / MainFdrWrkgFibers)	
BO	MainFeederBURFiberCostPerFiber	Main Feeder Buried Fiber Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFdrSegmentBurFiberMaterial / MainFdrWrkgFibers)	
BP	MainFeederAERFiberCostPerFiber	Main Feeder Aerial Fiber Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFdrSegmentAerFiberMaterial / MainFdrWrkgFibers)	
BQ	MainFeederUGFiberStructureCostPerFiber	Main Feeder Underground Fiber Structure Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFeederUGFiberStructure / MainFdrWrkgFibers)	
BR	MainFeederBurFiberStructureCostPerFiber	Main Feeder Buried Fiber Structure Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFeederBuriedFiberStructure / MainFdrWrkgFibers)	
BS	MainFeederAerFiberStructureCostPerFiber	Main Feeder Aerial Fiber Structure Cost Per Fiber		= IF (MainFdrWrkgFibers = 0, 0, MainFeederAerialFiberStructure / MainFdrWrkgFibers)	
BT	CumMainFdrUGFiberCostperFiber	Cumulative Main Feeder Underground Fiber Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederUGFiberCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederUGFiberCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	
BU	CumMainFdrBurFiberCostperFiber	Cumulative Main Feeder Buried Fiber Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederBURFiberCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederBURFiberCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	
BV	CumMainFdrAERFiberCostperFiber	Cumulative Main Feeder Aerial Fiber Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederAERFiberCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederAERFiberCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	

BW	CumMainFdrUGFiberStructureCostperFiber	Cumulative Main Feeder Underground Fiber Strucutre Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederUGFiberStructureCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederUGFiberStructureCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	
BX	CumMainFdrBurFiberStructureCostperFiber	Cumulative Main Feeder Buried Fiber Structure Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederBURFiberStructureCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederBURFiberStructureCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	
BY	CumMainFdrAerFiberStructureCostperFiber	Cumulative Main Feeder Aerial Fiber Structure Cost per Fiber		= IF (FiberTestColumn = "None", 0, SUMIF (OFFSET (FiberTestColumn, 0, 0, - (FeederSegmentSequenceNumber)) , CLLIQuad, OFFSET (MainFeederAERFiberStructureCostPerfiber, 0, 0, - (FeederSegmentSequenceNumber) ,)) - SUMIF (OFFSET (FiberBranchTestColumn, 0, 0, - FeederSegmentSequenceNumber) , CLLISegment, OFFSET (MainFeederAERFiberStructureCostPerfiber, 0, 0, - FeederSegmentSequenceNumber)))	
BZ	IsSameAsPrevFeederBranch	Same As Previous Feeder Branch		= AND (IsSameAsPrevCLLIQuad, MainFeederBranch = prevMainFeederBranch)	
CA	IsSameAsPrevCLLIQuad	Same As Previous CLLI Quad		= (CLLIQuad = PrevCLLIQuad)	
CB	IsSameAsNextCLLIQuad	Same As Next CLLI Quad		= (CLLIQuad = NextCLLIQuad)	
CC	IsLastCLLIRecord	Last Record In CLLI		= OR (CLLI < > NextCLLI, NextCLLIQuad = "", ISBLANK (NextCLLIQuad))	
CD	IsFirstSegmentInBranch	First Segment In Branch		= NOT (IsSameAsPrevCLLIQuad)	
CE	QuadrantContainFiber*	Quadrant Contain Fiber		= IF (SegmentType1 = "Fiber", TRUE, (AND (IsSameAsNextCLLIQuad, NextQuadrantContainFiber = TRUE)))	

Sheet: Electronics&FDI

Col	Range Name	Column Name	Column Comment	Formula	Formula Comment
A	DLCLFiberElectronics	DLC-L On Fiber Electronics $		= IF (TotalLinesServedInGrid = 0, 0, CHOOSE (GridPlantIndex, 0, 0, DLC_LDiscount * (NumberDLCLsatFullCapacity * VLOOKUP (673, DigitalCarrierCost, 2) + NumberDLCLsatFullCapacity * 1344 * (VLOOKUP (673, DigitalCarrierCost, 3) * (1 - PctDLCReqExRange) + RTDLCLPerLineExRange * PctDLCReqExRange) + + VLOOKUP (SwitchedLinesinOverflowDLCLTerminal, DigitalCarrierCost, 2) + SwitchedLinesinOverflowDLCLTerminal * (VLOOKUP (SwitchedLinesinOverflowDLCLTerminal, DigitalCarrierCost, 3) * (1 - PctDLCReqExRange) + RTDLCLPerLineExRange * PctDLCReqExRange))))	
B	GridLinesonDLCL	Grid Lines Served by DLC-L	Grid Lines served by DLC-L	= IF (GridPlantIndex = 3, VoiceGradeLinesEquippedatTerminal, 0)	
C	TotalCLLILineson DLCL	Total CLLI Lines Served by DLC-L	Total CLLI Lines served by DLC-L	= SUMIF (OFFSET (GridDataFirstRow, 0, 0, LastDataRow, 1) , CLLI, OFFSET (FirstGridLinesOnDLCL, 0, 0, LastDataRow, 1))	
D	COTLElectronics	COT-L Electronics $	Central Office DLC-L Terminal Investment	= IF (TotalCLLILinesOnDLCL = 0, 0, CHOOSE (GridPlantIndex, 0, 0, DLC_LDiscount * ((INT (TotalCLLILinesOnDLCL / MaxCOTDLCL) * VLOOKUP (MaxCOTDLCL, DLCCOTInvestment, 2) + VLOOKUP (MAX (MOD (TotalCLLILinesOnDLCL, MaxCOTDLCL) , 673) , DLCCOTInvestment, 2))) / TotalCLLILinesOnDLCL + (COTDLCLPerLine * (1 - PctDLCReqExRange) + COTDLCLPerLineExRange * PctDLCReqExRange)) * GridLinesOnDLCL)	
E	DLCSFiberElectronics	DLC-S On Fiber Electronics $		= IF (TotalLinesServedInGrid = 0, 0, CHOOSE (GridPlantIndex, 0, DLC_SDiscount * (VLOOKUP (VoiceGradeLinesEquippedatTerminal, DigitalCarrierCost, 2) + VoiceGradeLinesEquippedatTerminal * (VLOOKUP (VoiceGradeLinesEquippedatTerminal, DigitalCarrierCost, 3) * (1 - PctDLCReqExRange) + RTDLCSPerLineExRange * PctDLCReqExRange)) , 0))	
F	GridLinesonDLCS	Grid Lines Served by DLC-S	Grid Lines served by DLC-L	= IF (GridPlantIndex = 2, VoiceGradeLinesEquippedatTerminal, 0)	
G	TotalCLLILineson DLCS	Total CLLI Lines Served by DLC-S	Total CLLI Lines served by DLC-L	= SUMIF (OFFSET (GridDataFirstRow, 0, 0, LastDataRow, 1) , CLLI, OFFSET (FirstGridLinesOnDLCS, 0, 0, LastDataRow, 1))	
H	COTSElectronics	COT-S Electronics $	Central Office DLC-L Terminal Investment	= IF (TotalCLLILinesOnDLCS = 0, 0, CHOOSE (GridPlantIndex, 0, DLC_SDiscount * (CEILING ((TotalCLLILinesOnDLCS / MaxCOTDLCS) , 1) * VLOOKUP (MaxCOTDLCS, DLCCOTInvestment, 2) / TotalCLLILinesOnDLCS + (COTDLCSPerLine * (1 - PctDLCReqExRange) + COTDLCSPerLineExRange * PctDLCReqExRange)) , 0) * GridLinesOnDLCS)	
I	CopperDS1Electronics	Copper DS1 Electronics		= CHOOSE (GridPlantIndex, DLC_SDiscount * CEILING (GridLinesProvisionedAsDS1s / 24, 1) * CopperT1, 0, 0)	
J	FiberDS1Electronics	Fiber DS1 Electronics		= DLC_LDiscount * DS3DS1UnitsperTerminalLocation * OpticsCost	
K	TotalElectronics	Total Electronics		= DLCLFiberElectronics + DLCSFiberElectronics + CopperDS1Electronics + FiberDS1Electronics + COTSElectronics + COTLElectronics	
L	MaxSizeFDICost	Max Size FDI Cost		= VLOOKUP (MaxSizeFDI, OutdoorSAICostTable, DensityColumnPointer)	
M	FDISizingFix	Temporary FDI Sizing Fix		= IF (ULQFDITotalPairs + LLQFDITotalPairs + URQFDITotalPairs + LRQFDITotalPairs = 0, 0, IF (ULQFDITotalPairs + LLQFDITotalPairs + URQFDITotalPairs + LRQFDITotalPairs < 600, 1 / (IF (ULQFDITotalPairs > 0, 1, 0) + IF (LLQFDITotalPairs > 0, 1, 0) + IF (URQFDITotalPairs > 0, 1, 0) + IF (LRQFDITotalPairs > 0, 1, 0)) , IF (ULQFDITotalPairs + LLQFDITotalPairs + URQFDITotalPairs + LRQFDITotalPairs < 1200, 2 / MAX (2, (IF (ULQFDITotalPairs > 0, 1, 0) + IF (LLQFDITotalPairs > 0, 1, 0) + IF (URQFDITotalPairs > 0, 1, 0) + IF (LRQFDITotalPairs > 0, 1, 0))) , 1)))	
N	ULQFDITotalPairs	ULQ FDI Total Pairs		= ULQResidualCableSize + ULQMaxSizeConnectingCables * MaxFeederSize + 2 * (ULQMaxSizeBackboneCables * MaxDistrSize + ULQResidualBackboneCableSize)	
O	ULQFDIsatMaxCapacity	ULQ FDIs At Max Capacity		= IF (ULQFDITotalPairs > MaxSizeFDI, TRUNC (ULQFDITotalPairs / MaxSizeFDI, 1) , 0)	

P	ResidualULQFDI Pairs	Residual ULQ FDI Pairs		= ULQFDITotalPairs - (MaxSizeFDI * ULQFDIsatMaxCapacity)	
Q	ULQFDICost	ULQ FDI Cost		= FDISizingFix * IF (ULQFDITotalPairs = 0, 0, VLOOKUP (ResidualULQFDIPairs, OutdoorSAICostTable, DensityColumnPointer) + ULQFDIsatMaxCapacity * MaxSizeFDICost)	
R	LLQFDITotalPairs	LLQ FDI Total Pairs		= LLQResidualCableSize + LLQMaxSizeConnectingCables * MaxFeederSize + 2 * (LLQMaxSizeBackboneCables * MaxDistrSize + LLQResidualBackboneCableSize)	
S	LLQFDIsatMaxCapacity	LLQ FDIs At Max Capacity		= IF (LLQFDITotalPairs > MaxSizeFDI, TRUNC (LLQFDITotalPairs / MaxSizeFDI, 1) , 0)	
T	ResidualLLQFDIPairs	Residual LLQ FDI Pairs		= LLQFDITotalPairs - (MaxSizeFDI * LLQFDIsatMaxCapacity)	
U	LLQFDICost	LLQ FDI Cost		= FDISizingFix * IF (LLQFDITotalPairs = 0, 0, VLOOKUP (ResidualLLQFDIPairs, OutdoorSAICostTable, DensityColumnPointer) + LLQFDIsatMaxCapacity * MaxSizeFDICost)	
V	URQFDITotalPairs	URQ FDI Total Pairs		= URQResidualCableSize + URQMaxSizeConnectingCables * MaxFeederSize + 2 * (URQMaxSizeBackboneCables * MaxDistrSize + URQResidualBackboneCableSize)	
W	URQFDIsatMaxCapacity	URQ FDIs At Max Capacity		= IF (URQFDITotalPairs > MaxSizeFDI, TRUNC (URQFDITotalPairs / MaxSizeFDI, 1) , 0)	
X	ResidualURQFDI Pairs	Residual URQ FDI Pairs		= URQFDITotalPairs - (MaxSizeFDI * URQFDIsatMaxCapacity)	
Y	URQFDICost	URQ FDI Cost		= FDISizingFix * IF (URQFDITotalPairs = 0, 0, VLOOKUP (ResidualURQFDIPairs, OutdoorSAICostTable, DensityColumnPointer) + URQFDIsatMaxCapacity * MaxSizeFDICost)	
Z	LRQFDITotalPairs	LRQ FDI Total Pairs		= LRQResidualCableSize + LRQMaxSizeConnectingCables * MaxFeederSize + 2 * (LRQMaxSizeBackboneCables * MaxDistrSize + LRQResidualBackboneCableSize)	
AA	LRQFDIsatMaxCapacity	LRQ FDIs At Max Capacity		= IF (LRQFDITotalPairs > MaxSizeFDI, TRUNC (LRQFDITotalPairs / MaxSizeFDI, 1) , 0)	
AB	ResidualLRQFDIPairs	Residual LRQ FDI Pairs		= LRQFDITotalPairs - (MaxSizeFDI * LRQFDIsatMaxCapacity)	
AC	LRQFDICost	LRQ FDI Cost		= FDISizingFix * IF (LRQFDITotalPairs = 0, 0, VLOOKUP (ResidualLRQFDIPairs, OutdoorSAICostTable, DensityColumnPointer) + LRQFDIsatMaxCapacity * MaxSizeFDICost)	
AD	FeederDistributionInterfaceCost	Feeder Distribution Interface Cost		= ULQFDICost + LLQFDICost + URQFDICost + LRQFDICost	
AE	AllocationFDItoAerialCopper	Allocation Of FDI To Aerial Copper		= FeederDistributionInterfaceCost * VLOOKUP (Density, CHOOSE (CopperDepthCondition, DistrHardMixTable, DistrSoftMixTable, DistrNormMixTable) , 4)	
AF	AllocationFDItoBuriedCopper	Allocation Of FDI To Buried Copper		= FeederDistributionInterfaceCost * VLOOKUP (Density, CHOOSE (CopperDepthCondition, DistrHardMixTable, DistrSoftMixTable, DistrNormMixTable) , 3)	
AG	AllocationFDItoUGCopper	Allocation Of FDI To UG Copper		= FeederDistributionInterfaceCost * VLOOKUP (Density, CHOOSE (CopperDepthCondition, DistrHardMixTable, DistrSoftMixTable, DistrNormMixTable) , 2)	

Sheet: Main&SubfeederAllocation

Col	Range Name	Column Name	Column Comment	Formula	Formula Comment
A	AllocationAerialCopperCable	Allocation Of Aerial Copper Cable		= (CumMainFdrAerCopperCostperLine + CumSubFdrAERCopperCostperLine) * SubfeederCopperPairsthisGrid	
B	AllocationBuriedCopperCableinclStructure	Allocation Of Buried Copper Cable Incl Structure		= (CumMainFdrBurCopperCostperLine + CumSubFdrBURCopperCostperLine + CumMainFdrBurCopperStructureCostperLine + CumSubFdrBURCopperStrucutreCostperLine) * SubfeederCopperPairsthisGrid	
C	AllocationUGCopperCable	Allocation Of UG Copper Cable		= (CumMainFdrUGCopperCostperLine + CumSubFdrUgCopperCostperLine) * SubfeederCopperPairsthisGrid	
D	AllocationCopperrelatedpoles	Allocation Of Copper Related Poles		= (CumMainFdrAerCopperStructureCostperLine + CumSubFdrAERCopperStructureCostperLine) * SubfeederCopperPairsthisGrid	
E	AllocationCopperRelatedConduit	Allocation Of Copper Related Conduit		= (CumMainFdrUGCopperStructureCostperLine + CumSubFdrUGCopperStrucutreCostperLine) * SubfeederCopperPairsthisGrid	
F	TotCopperFdrAttributoGrid	Total Copper Feeder Plant Attributed to This Grid		= AllocationAerialCopperCable + AllocationBuriedCopperCableinclStructure + AllocationUGCopperCable + AllocationCopperRelatedPoles + AllocationCopperRelatedConduit	
G	AllocationAerialFiberCable	Allocation Of Aerial Fiber Cable		= IF (TotalDLCSLinesinSubFeeder = 0, 0, IF (GridPlantType = "DLC - S", (NumberDLCSFibersinSubfeeder * (TotalLinesServedInGrid / ElectronicFill) / TotalDLCSLinesinSubFeeder) , NumberFibersPerGrid) * (CumMainFdrAERFiberCostperFiber)) + IF (GridPlantType = "DLC - S", (TotalLinesServedInGrid / ElectronicFill) * (CumDLCSSubFdrAERFiberCostperLine) , CumSubFdrAERFiberCostperFiber * NumberFibersPerGrid)	
H	AllocationBuriedFiberCableinclStructure	Allocation Of Buried Fiber Cable Incl Structure		= IF (TotalDLCSLinesinSubFeeder = 0, 0, IF (GridPlantType = "DLC - S", (NumberDLCSFibersinSubfeeder * (TotalLinesServedInGrid / ElectronicFill) / TotalDLCSLinesinSubFeeder) , NumberFibersPerGrid) * (CumMainFdrBURFiberCostperFiber + CumMainFdrBURFiberStructureCostperFiber)) + IF (GridPlantType = "DLC - S", (TotalLinesServedInGrid / ElectronicFill) * (CumDLCSSubFdrBURFiberCostperLine + CumDLCSSubFdrBURFiberStrucutreCostperLine) , (CumSubFdrBURFiberCostperFiber + CumSubFdrBURFiberStrucutreCostperFiber) * NumberFibersPerGrid)	
I	AllocationUGFiberCable	Allocation Of UG Fiber Cable		= IF (TotalDLCSLinesinSubFeeder = 0, 0, IF (GridPlantType = "DLC - S", (NumberDLCSFibersinSubfeeder * (TotalLinesServedInGrid / ElectronicFill) / TotalDLCSLinesinSubFeeder) , NumberFibersPerGrid) * (CumMainFdrUGFiberCostperFiber)) + IF (GridPlantType = "DLC - S", (TotalLinesServedInGrid / ElectronicFill) * (CumDLCSSubFdrUGFiberCostperLine) , CumSubFdrUGFiberCostperFiber * NumberFibersPerGrid)	
J	AllocationFiberrelatedpoles	Allocation Of Fiber Related Poles		= IF (TotalDLCSLinesinSubFeeder = 0, 0, IF (GridPlantType = "DLC - S", (NumberDLCSFibersinSubfeeder * (TotalLinesServedInGrid / ElectronicFill) / TotalDLCSLinesinSubFeeder) , NumberFibersPerGrid) * (CumMainFdrAERFiberStructureCostperFiber)) + IF (GridPlantType = "DLC - S", (TotalLinesServedInGrid / ElectronicFill) * (CumDLCSSubFdrAERFiberStrucutreCostperLine) , CumSubFdrAERFiberStrucutreCostperFiber * NumberFibersPerGrid)	
K	AllocationFiberRelatedConduit	Allocation Of Fiber Related Conduit		= IF (TotalDLCSLinesinSubFeeder = 0, 0, IF (GridPlantType = "DLC - S", (NumberDLCSFibersinSubfeeder * (TotalLinesServedInGrid / ElectronicFill) / TotalDLCSLinesinSubFeeder) , NumberFibersPerGrid) * (CumMainFdrUGFiberStructureCostperFiber)) + IF (GridPlantType = "DLC - S", (TotalLinesServedInGrid / ElectronicFill) * (CumDLCSSubFdrUGFiberStrucutreCostperLine) , CumSubFdrUGFiberStrucutreCostperFiber * NumberFibersPerGrid)	
L	TotFiberFdrAttributoGrid	Total Fiber Feeder Plant Attributable to This Grid		= AllocationAerialFiberCable + AllocationBuriedFiberCableinclStructure + AllocationUGFiberCable + AllocationFiberRelatedPoles + AllocationFiberRelatedConduit	

M	TotalDLCLonFiber	Total DLC-L Electronics $		= DLCLFiberElectronics + COTLElectronics	
N	TotalDLCSonFiber	Total DLC-S Electronics $		= DLCSFiberElectronics + COTSElectronics	
O	SubtotalFeederCost	Subtotal Feeder Cost		= IF (TotalLinesServedInGrid = 0, 0, TotCopperFdrAttribtoGrid + TotFiberFdrAttribtoGrid + TotalDLCLonFiber + TotalDLCSonFiber + CopperDS1Electronics + FiberDS1Electronics)	
P	GrandTotalFeederCost	Grand Total Feeder Cost		= SubtotalFeederCost + TotalSubfeederPart2 + TotalDLCtoFDICableCost + FeederDistributionInterfaceCost	
Q	TotalMainSubfeederPoleCost	Total Main/Subfeeder Pole Cost		= AllocationCopperRelatedPoles + AllocationFiberRelatedPoles	
R	TotalMainSubfeederConduitCost	Total Main/Subfeeder Conduit Cost		= AllocationCopperRelatedConduit + AllocationFiberRelatedConduit	

Sheet: Investment

Col	Range Name	Column Name	Column Comment	Formula	Formula Comment
A	AerialCopperCableInvestment	Aerial Copper Cable Investment $		= AllocationAerialCopperCable + SubfeederPt2AerialCopperMaterial + TotalDLCFDIAerialCableMaterial + AllocationFDITOAerialCopper + TotalAerialCableDistributionCost + TotalNIDCostAllocatedAerial	
B	BuriedCopperCableInvestment	Buried Copper Cable Investment $		= AllocationBuriedCopperCableinclStructure + SubfeederPt2BuriedCopperMaterial + SubfeederPt2BuriedCopperStructure + TotalDLCFDIBuriedCableMaterial + TotalBuriedDLCFDICableStructure + AllocationFDIToBuriedCopper + TotalBuriedCableDistributionCost + TotalNIDCostAllocatedBuried	
C	UndergroundCopperCableInvestment	Underground Copper Cable Investment $		= AllocationUGCopperCable + SubfeederPt2UGCopperMaterial + TotalDLCFDIUGCableMaterial + AllocationFDIToUGCopper + TotalUGCableDistributionCost	
D	PoleInvestmentAssignedCopper	Pole Investment Assigned Copper		= AllocationCopperRelatedPoles + TotalAerialDLCFDICableStructure + IF (GridPlantType = "Cable", SubfeederPt2AerialStructure, 0) + TotalPoleDistributionCost	
E	ConduitInvestmentAssignedCopper	Conduit Investment Assigned Copper		= AllocationCopperRelatedConduit + TotalUGDLCFDICableStructure + IF (GridPlantType = "Cable", SubfeederPt2UGStructure, 0) + TotalDistributionConduitCost	
F	CopperRelatedPlantTotal	Copper Related Plant Total		= AerialCopperCableInvestment + BuriedCopperCableInvestment + UndergroundCopperCableInvestment + PoleInvestmentAssignedCopper + Conduit Investment Assigned Copper	
G	AerialFiberCableInvestment	Aerial Fiber Cable Investment $		= AllocationAerialFiberCable + SubfeederPt2AerialFiberMaterial	
H	BuriedFiberCableInvestment	Buried Fiber Cable Investment $		= AllocationBuriedFiberCableinclStructure + SubfeederPt2BuriedFiberMaterial + SubfeederPt2BuriedFiberStructure	
I	UndergroundFiberCableInvestment	Underground Fiber Cable Investment $		= AllocationUGFiberCable + SubfeederPt2UGFiberMaterial	
J	PoleInvestmentAssignedFiber	Pole Investment Assigned Fiber		= AllocationFiberRelatedPoles + IF (GridPlantType = "Cable", 0, SubfeederPt2AerialStructure)	
K	ConduitInvestmentAssignedFiber	Conduit Investment Assigned Fiber		= AllocationFiberRelatedConduit + IF (GridPlantType = "Cable", 0, SubfeederPt2UGStructure)	
L	TotalFiberRelatedPlant	Total Fiber Related Plant		= AerialFiberCableInvestment + BuriedFiberCableInvestment + UndergroundFiberCableInvestment + PoleInvestmentAssignedFiber + ConduitInvestmentAssignedFiber	

Workbook Differences Version 2.5 to Version 3.0

New Workbook: C:\bcpm30\modules\loop\Loop3c.xls
Old Workbook: C:\bcpm30\modules\loop\Loop_Corrected.xls

Formula Changes

Formula Title	New Formula	Old Formula
ULQ Cable Gauge	IF ((LeftSideCommoncableDistance + ULQConnectingCableDistance + SQRT (ULQArea) * 5280) > 11100,24,26)	IF ((LeftSideCommoncableDistance + ULQConnectingCableDistance + SQRT (ULQArea) * 5280) > 10800,24,26)
LLQ Cable Gauge	IF ((LeftSideCommoncableDistance + LLQConnectingCableDistance + SQRT (LLQArea) * 5280) > 11100,24,26)	IF ((LeftSideCommoncableDistance + LLQConnectingCableDistance + SQRT (LLQArea) * 5280) > 10800,24,26)
URQ Cable Gauge	IF ((RightSideCommoncableDistance + URQConnectingCableDistance + SQRT (URQArea) * 5280) > 11100,24,26)	IF ((RightSideCommoncableDistance + URQConnectingCableDistance + SQRT (URQArea) * 5280) > 10800,24,26)
LRQ Cable Gauge	IF ((RightSideCommoncableDistance + LRQConnectingCableDistance + SQRT (LRQArea) * 5280) > 11100,24,26)	IF ((RightSideCommoncableDistance + LRQConnectingCableDistance + SQRT (LRQArea) * 5280) > 10800,24,26)
Subfeeder Underground Copper Cable $	IF (OR (SubfeederCableTestColumn = "None",SubfeederUGDistance = 0,SubfeederCopperCableSize = 0) ,0,SubfeederUGDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,UGCopper26Table,UGCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,UGCopper26Table,UGCopper24Table) ,DensityColumnPointer,FALSE)))	IF (OR (SubfeederCableTestColumn = "None",SubfeederUGDistance = 0) ,0,SubfeederUGDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,UGCopper26Table,UGCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,UGCopper26Table,UGCopper24Table) ,DensityColumnPointer,FALSE)))

Subfeeder Buried Copper Cable $	IF (OR (SubfeederBURDistance = 0,SubfeederCableTestColumn = "None",SubfeederCopperCableSize = 0) ,0,SubfeederBURDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,BURCopper26Table,BURCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,BURCopper26Table,BURCopper24Table) ,DensityColumnPointer,FALSE)))	IF (OR (SubfeederBURDistance = 0,SubfeederCableTestColumn = "None") ,0,SubfeederBURDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,BURCopper26Table,BURCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,BURCopper26Table,BURCopper24Table) ,DensityColumnPointer,FALSE)))
Subfeeder Aerial Copper Cable $	IF (OR (SubfeederAERDistance = 0,SubfeederCableTestColumn = "None",SubfeederCopperCableSize = 0) ,0,SubfeederAERDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,AERCopper26Table,AERCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,AERCopper26Table,AERCopper24Table) ,DensityColumnPointer,FALSE)))	IF (OR (SubfeederAERDistance = 0,SubfeederCableTestColumn = "None") ,0,SubfeederAERDistance * WaterCostMultiplier * CopperCostRatio * (VLOOKUP (SubfeederCopperCableSize,IF (CopperGauge = 26,AERCopper26Table,AERCopper24Table) ,DensityColumnPointer,FALSE)) + (SubfeederMaxCopperCables * VLOOKUP (MaxFeederSize,IF (CopperGauge = 26,AERCopper26Table,AERCopper24Table) ,DensityColumnPointer,FALSE)))
DLC-L On Fiber Electronics $	IF (TotalLinesServedInGrid = 0,0,CHOOSE (GridPlantIndex,0,0,DLC_LDiscount * (NumberDLCLsatFullCapacity * VLOOKUP (673,DigitalCarrierCost,2) + NumberDLCLsatFullCapacity * 1344 * (VLOOKUP (673,DigitalCarrierCost,3) * (1 - PctDLCReqExRange) + RTDLCLPerLineExRange * PctDLCReqExRange) + + VLOOKUP (SwitchedLinesinOverflowDLCLTerminal,Digital CarrierCost,2) + SwitchedLinesinOverflowDLCLTerminal * (VLOOKUP (SwitchedLinesinOverflowDLCLTerminal,Digital CarrierCost,3) * (1 - PctDLCReqExRange) + RTDLCLPerLineExRange * PctDLCReqExRange))))	IF (TotalLinesServedInGrid = 0,0,CHOOSE (GridPlantIndex,0,0,DLC_LDiscount * (NumberDLCLsatFullCapacity * VLOOKUP (673,DigitalCarrierCost,2) + NumberDLCLsatFullCapacity * 1344 * VLOOKUP (673,DigitalCarrierCost,3) + VLOOKUP (SwitchedLinesinOverflowDLCLTerminal,Digital CarrierCost,2) + SwitchedLinesinOverflowDLCLTerminal * VLOOKUP (SwitchedLinesinOverflowDLCLTerminal,Digital CarrierCost,3))))

COT-L Electronics $	IF (TotalCLLILinesOnDLCL = 0,0,CHOOSE (GridPlantIndex,0,0,DLC_LDiscount * ((INT (TotalCLLILinesOnDLCL / MaxCOTDLCL) * VLOOKUP (MaxCOTDLCL,DLCCOTInvestment,2) + VLOOKUP (MAX (MOD (TotalCLLILinesOnDLCL,MaxCOTDLCL) ,673) ,DLCCOTInvestment,2))) / TotalCLLILinesOnDLCL + (COTDLCLPerLine * (1 - PctDLCReqExRange) + COTDLCLPerLineExRange * PctDLCReqExRange)) * GridLinesOnDLCL)	IF (TotalCLLILinesOnDLCL = 0,0,CHOOSE (GridPlantIndex,0,0,DLC_LDiscount * ((INT (TotalCLLILinesOnDLCL / MaxCOTDLCL) * VLOOKUP (MaxCOTDLCL,DLCCOTInvestment,2) + VLOOKUP (MAX (MOD (TotalCLLILinesOnDLCL,MaxCOTDLCL) ,673) ,DLCCOTInvestment,2))) / TotalCLLILinesOnDLCL + COTDLCLPerLine) * GridLinesOnDLCL)
DLC-S On Fiber Electronics $	IF (TotalLinesServedInGrid = 0,0,CHOOSE (GridPlantIndex,0,DLC_SDiscount * (VLOOKUP (VoiceGradeLinesEquippedatTerminal,DigitalCarrierCost,2) + VoiceGradeLinesEquippedatTerminal * (VLOOKUP (VoiceGradeLinesEquippedatTerminal,DigitalCarrierCost,3) * (1 - PctDLCReqExRange) + RTDLCSPerLineExRange * PctDLCReqExRange)) ,0))	IF (TotalLinesServedInGrid = 0,0,CHOOSE (GridPlantIndex,0,DLC_SDiscount * (VLOOKUP (VoiceGradeLinesEquippedatTerminal,DigitalCarrierCost,2) + VoiceGradeLinesEquippedatTerminal * VLOOKUP (VoiceGradeLinesEquippedatTerminal,DigitalCarrierCost,3)) ,0))
COT-S Electronics $	IF (TotalCLLILinesOnDLCS = 0,0,CHOOSE (GridPlantIndex,0,DLC_SDiscount * (CEILING ((TotalCLLILinesOnDLCS / MaxCOTDLCS) ,1) * VLOOKUP (MaxCOTDLCS,DLCCOTInvestment,2) / TotalCLLILinesOnDLCS + (COTDLCSPerLine * (1 - PctDLCReqExRange) + COTDLCSPerLineExRange * PctDLCReqExRange)) ,0) * GridLinesOnDLCS)	IF (TotalCLLILinesOnDLCS = 0,0,CHOOSE (GridPlantIndex,0,DLC_SDiscount * (CEILING ((TotalCLLILinesOnDLCS / MaxCOTDLCS) ,1) * VLOOKUP (MaxCOTDLCS,DLCCOTInvestment,2) / TotalCLLILinesOnDLCS + COTDLCSPerLine) ,0) * GridLinesOnDLCS)
Capped Loop Cost Per Line	IF (OR (ISBLANK (VLOOKUP (LEFT (CLLI,8) ,FCCLineTable,11,FALSE)) ,ISNA (VLOOKUP (LEFT (CLLI,8) ,FCCLineTable,11,FALSE))) ,MIN (InvLoopCap,ActualLoopCostPerLine) ,MIN (VLOOKUP (LEFT (CLLI,8) ,FCCLineTable,11,FALSE) ,ActualLoopCostPerLine))	IF (ActualLoopCostPerLine > InvestmentLoopCap,InvestmentLoopCap,ActualLoopCostPerLine)