

Project: C2430003

Structure: **00. GENERAL**

Remarks: THE DIRECTION NORTH ON THE DRAWINGS IS TO THE UPPER LEFT SIDE OF THE PLAN SHEETS. REFERENCES ON THE DRAWINGS AND THESE STAKING SHEETS TO N, S, E, AND W ARE "PAGE" REFERENCES FOR THE DRAWINGS: NORTH (PAGE UP), SOUTH (PAGE DOWN), EAST (PAGE RIGHT), AND WEST (PAGE LEFT).

IN THESE STAKING SHEETS AND ON THE DRAWINGS, PROJECT SPECIFIC ASSEMBLIES AND CHUGACH STANDARD ASSEMBLIES ARE CALLED OUT. MOST CHUGACH STANDARD ASSEMBLIES HAVE AN "S" AS THE FIRST LETTER OF THEIR NAME. REFERENCE DETAILS SHOWN ON THE DRAWINGS FOR PROJECT SPECIFIC ASSEMBLIES, AND MOST RECENT CHUGACH CONSTRUCTION STANDARDS FOR CHUGACH ASSEMBLIES.

THE ASSOCIATED DISTRIBUTION PROJECT WILL INSTALL ALL POLES AND ANCHORS.

NO MATERIALS ARE PROPOSED TO BE PROVIDED TO THE CONTRACTOR BY CHUGACH FOR THIS PROJECT.

CONTRACTOR SHALL SUPPLY ALL MATERIALS.

SUBMITTALS ARE REQUIRED FOR ALL MATERIALS TO BE INCORPORATED IN THE PROJECT.

ALL MATERIALS SHALL MEET OEM SPECIFICATIONS AND REQUIREMENTS.

FO-OH: FIBER OPTIC AERIAL CABLE SHALL BE: AFL #AC0489C521CL0, 48 COUNT, SINGLE-MODE DNA-33072 AFL-ADSS. NO SUBSTITUTIONS.

FO-UG: FIBER OPTIC UNDERGROUND CABLE SHALL BE: FIBER OPTIC UNDERGROUND CABLE SHALL BE: CORNING #048EA-T4E01A20, ADSS LOOSE TUBE, GEL FILLED, DUAL JACKET, 48 COUNT, SINGLE-MODE (OS2). NO SUBSTITUTIONS.

WINTER: THE WINTER UNIT IS A LOT UNIT AND INCLUDES ALL ADDITIONAL EFFORTS FOR CONDTRUCTION IN WINTER CONDITIONS. IT INCLUDES BUT IS NOT LIMITED TO: THAWING, SNOW REMOVAL/PLOWING, WEATHER DELAYS ACCOMODATION, DECREASED WORK EFFICIENCY.

SAG FO-OH PER SAG CHARTS PROVIDED.

INSTALL FO-OH ON SAME SIDE OF POLES AS THE NEUTRAL, WHERE THE NEUTRAL IS FRAMED TANGENT OR AT A SMALL ANGLE.

SPLICING CONDUIT IS PROHIBITED FOR DIRECTIONALLY DRILLED INSTALLATION. SPLICING OF CONDUIT IS TO BE AVOIDED. IF REQUIRED, IT SHALL BE BY THE BUTT-FUSION WELDING METHOD.

PROVIDE PULL LINES (MULE TAPE) IN ALL SPARE DUCTS.

PLUG OR SEAL ALL CONDUIT/DUCTS. SEE DETAILS FOR REQUIREMENTS.

FIBER OPTIC CIRCUITS ARE TO BE INSTALLED CONTINUOUS WITHOUT SPLICES FROM END-TO-END:
BETWEEN STRUCTURE 22-6 AND POLE 3110
AND
BETWEEN POLE 3110 AND ENCLOSURE BCC-MODULE(W).
AND
BETWEEN ENCLOSURE BBC-MODULE(N) AND POLE 3904.
AND
BETWEEN POLE 3904 AND POLE 5111
AND
BETWEEN POLE 5111 AND STRUCTURE 22-8.

FIBER SPLICING UNITS ARE CALLED OUT AT THESE LOCATIONS: FO-SPLICE.

THE COMPLETED FIBER OPTIC INSTALLATION SHALL BE TESTED END-TO-END BETWEEN GIRDWOOD SUBSTATION AND INDIAN SUBSTATION. TESTING SHALL INCLUDE OTDR AND LIGHT LEVEL TESTS. PERFORMANCE REQUIREMENTS SHALL BE TO INDUSTRY STANDARDS. IF THE THE TEST RESULTS ARE UNSATISFACTORY, THE CONTRACTOR SHALL MAKE REPAIRS, AND RETEST UNTIL ALL THE FIBERS IN THE CIRCUIT PASS BOTH TESTS. THESE REQUIRED TESTS SRE INCLUDED IN THE UNIT: FO-TEST. IT IS A LUMP SUM UNIT FOR THE ENTIRE PROJECT.

CONTRACTOR SHALL THOROUGHLY REVIEW THE SCOPE OF WORK AND INTENT OF PROJECT AND REQUEST CLARIFICATION PRIOR TO BIDDING TO DETERMINE AND QUANTIFY ALL ADDITIONAL WORK EFFORTS AND REQUIRED MATERIALS FOR PROVISIONING THE REQUIRED FACILITIES TO PROVIDE A COMPLETE AND EFFICACIOUS FIBER OPTIC SYSTEM.

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UN-UNITIZED WORK: MOST WORK EFFORTS INCLUDED IN THESE STAKING IS UNITIZED (PROVIDED WITH AN ASSOCIATED ASSEMBLY UNIT).

HOWEVER, SOME WORK EFFORTS REQUIRED AND IDENTIFIED IN THE REMARKS COLUMN OR ON THE DRAWINGS DO NOT HAVE AN ASSOCIATED ASSEMBLY UNIT.
REVIEW THE STAKING SHEETS FOR THESE EFFORTS AND ANY MATERIALS THESE EFFORTS MAY REQUIRE.

INCLUDE THE COST OF THESES WORK EFFORTS AND MATERIAL COSTS IN OTHER ASSEMBLY UNITS LISTED ON THE BID UNIT TAB.
NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR THESE WORK EFFORTS AND MATERIALS.

THE SPAN LENGTHS SHOWN ON THE DRAWINGS ARE HORIZONTAL DISTANCES.

THE QUANTITIES SHOWN ON THE BID TAB FOR ASSEMBLY UNITS THAT ARE MEASURED ON A PER FOOT BASIS ARE THE SUMMATION OF THESE HORIZONTAL LENGTHS, AND DO NOT INCLUDE ADDITONAL REQUIRED MATERIALS FOR: SAGS, JUMPERING, RISERS, TRENCH ELEVATION CHANGES, DIRECTIONAL DRILLING, CONDUIT TAILS, COILS, RISERS, ETC.
NOTE: WHERE FIBER STORAGE IS SPECIFIED, A SEPARATE CALL-OUT FOR ITS PROVISION IS CALLED OUT.

INCLUDE THE COST OF THESE ADDITIONAL REQUIRED MATERIALS AND ASSOCIATED WORK EFFORTS IN THE PER FOOT PRICING OF THESE ASSEMBLY UNITS.
EXAMPLES OF ASSEMBLY UNITS WHERE THIS APPLIES ARE: FO-OH, FO-UG, HDPE2-ORNG, HDPE2-RED, DDRLL-3-2, ETC.

ADDITIONAL PAYMENT FOR THESE GREATER QUANTITIES OF MATERIALS AND ASSOCIATED LABOR WILL NOT BE PROVIDED.

CLEARING: REQUIRED AERIAL CLEARING FOR CIRCUIT RE-ALIGNMENTS AND FOR ANCHOR INSTALLATIONS ARE TO BE PROVIDED UNDER THE ASSOCIATED DISTRIBUTION WORK ORDER.

CLEARING AND GRUBBING (SR1-16) ARE REQUIRED FOR SECTIONS OF THE UNDERGROUND FIBER OPTIC INSTALLATION.
QUANTITES REQUIRED ARE SHOWN ON THESE STAKING SHEETS AND ARE SUMMED IN THE BID UNIT TAB.

IN GENERAL, PROVIDE THE MINIMUM CLEARING REQUIRED TO FACILITATE THE INSTALLATION OF THE SPECIFIED FACILITIES.

LOCATIONS WHERE CLEARING IS NOT PERMITTED ARE IDENTIFIED ON THE DRAWINGS.

IT IS IMPERATIVE, THAT TO THE GREATEST EXTENT POSSIBLE, THE CLEARING WITHIN THE STATE DOT SEWARD HIGHWAY ROW IS NOT VISIBLE FROM THE HIGHWAY.

NO WORK ACTIVITIES ARE PERMITTED ON BLM LOT 2 (SOUTH SIDE OF HIGHWAY, SHEET ES202). CONTRACTOR SHALL HAVE PROPERTY LINES OF THIS LOT STAKED PRIOR TO CLEARING AND CONSTRUCTION: FROM 50' WEST OF HANDHOLE 2806 TO THE NORTHEAST CORNER OF THE LOT; AND A FURTHER 35' SOUTH ALONG THE LOT'S EASTERN PROPERTY LINE.

SURL: LANDSCAPING. THE CONTRACTOR SHALL ENDEAVOR TO PROTECT THE EXISTING CONDITIONS WITHIN THE PROJECT SITE. THE SURL UNIT IS FOR RETURNING THE DISTURBED AREAS OF CONSTRUCTION TO NOMINALLY SAME CONDITIONS AS FOUND.

TRAFFIC CONTROL: PROVIDE, GET APPROVAL FOR, AND IMPLEMENT A TRAFFIC CONTROL PLAN.

STORM WATER POLLUTION PREVENTION PLAN - BEST PRACTICES (SWPPP): PROVIDE AND IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN, UTILIZING BEST PRACTICES. GET APPROVAL FOR PLAN, FROM AUTHORITY HAVING JURISDICTION, IF REQUIRED.

SURVEY: AFTER AWARD, THE CONTRACTOR WILL BE PROVIDED WITH A BASE DRAWING IN AUTOCAD, VERSION 18, FOR THEIR USE. CONTRACTOR SHALL HIRE A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF ALASKA TO PROVIDE ALL REQUIRED SURVEY EFFORTS FOR THE PROJECT. THE CONTRACTOR'S SURVEYOR SHALL PROVIDE STAKING FOR: WORK BOUNDARIES, CLEARING, POLES, ANCHORS, EQUIPMENT, CENTERLINE OF TRENCH, ETC. FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR'S SURVEYOR SHALL PROVIDE STAMPED ASBUILT DRAWINGS FOR THE PROJECT AFTER CONSTRUCTION AND AN AUTOCAD DRAWING IN VERSION 18 OF THE SAME.

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Structure: 01. GENERAL						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-TEST	Provide		1	FO-TEST (FIBER OPTIC TESTING)		
SURL	Provide		1	LANDSCAPING (LOT)		
TRAFFIC CONTROL	Provide		1	TRAFFIC CONTROL (LOT)		
				STORM WATER POLLUTION PREVENTION		
SWPPP-BP	Provide		1	PLAN- BEST PRACTICES		
SURVEY	Provide		1	SURVEY		
Remarks: SEE GENERAL NOTES.						

Structure: 02. 22-6						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
85/H5	Existing		2	85/H5 POLE		
FO-OH	Existing		~660	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-OH	Existing		-	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-STORAGE	Existing		~100	FO-STORAGE (FIBER OPTIC STORAGE)		
FO-DL-CLAMP	Existing		8	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
FO-ENCLOSURE	Existing		1	FO-ENCLOSURE		
FO-OH	Provide		100	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-DE-RT	Provide		1	FO-DE (FO DEADEND, REDUCED TENSION)		
FO-DL-CLAMP	Provide		3	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
FO-SPLICE	Provide		24	FO-SPLICE (FIBER OPTIC SPLICE)		
Remarks: INSTALL 100' OF FO-OH ON EXISTING RACK ATTACH FO-DE AT 3' BELOW CROSSARMS BRACES' BOLT.						

Structure: 03. POLE 2332 (173L2 IN FIELD)						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
45/3	Existing		1	45/3 POLE		
F1-4P-TRPL	Existing		1	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
FO-OH	Provide		53	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-DE-RT	Provide		1	FO-DE (FO DEADEND, REDUCED TENSION)		
FO-DE	Provide		1	FO-DE (FIBER OPTIC DEADEND)		
FO-DL-CLAMP	Provide		1	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
E1-5	Provide		1	E1-5 (DOWN GUY)		
Remarks: POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER. ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-OH AT REDUCED TENSION IN SPAN TO STRUCTURE 22-6. ATTACH FO-DE FOR SPAN TO POLE 2028 AT 5' 6" BELOW BELOW SOUTH NEUTRAL (AT 25'-6"). INSTALL FO-DE FOR SPAN TO POLE 22-6 AT 90 DEGREES TO THE LINE ON THE WEST FACE OF POLE, 4" LOWER. ATTACH GUY 4"LOWER.						

Structure: 05. POLE 2028 (173L1 IN FIELD)						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
50/2	Existing		1	50/2 POLE		
F1-4P-TRPL	Existing		1	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
FO-OH	Provide		274	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-ANGL	Provide		1	FO-ANGL (FIBER OPTIC SMALL ANGLE)		
FO-VDMP	Provide		1	FO-VDMP (FO VIBRATION DAMPER)		
E1-5	Provide		1	E1-5 (DOWN GUY)		
Remarks: POLE TO BE REPLACED UNDER DISTRIBUTION WORK ORDER. ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-ANGL AT 6'-6" BELOW NEUTRAL (AT 29'-6"). ATTACH GUY 4" LOWER. INSTALL VIBRATION DAMPER ON SPAN TO 1525.						

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Structure: 18. HANDHOLE 3507						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-UG	Provide		135	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)		
FO-MARKER	Provide		1	FO-MARKER (FIBER OPTIC MARKER)		
HDPE2-ORNG	Provide		135	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		135	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
UR2-48	Provide		135	UR2-48 (TRENCH, 48" EMBEDMENT)		
Remarks: SECOND CALL-OUT OF FO-UG IS FOR STORAGE. PROVIDE SPARE HDPE2-ORNG.						

Structure: 21. HANDHOLE 2806						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-UG	Provide		310	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)		
HDPE2-ORNG	Provide		310	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		310	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-RED	Provide		310	HDPE2-RED (HDPE, 2", RED COLOR)		
DDRILL-3-2	Provide		310	DDRILL-3-2 (DRCTINLLY DRILL (3) 2" DUCTS)		
FO-MARKER	Provide		3	FO-MARKER (FIBER OPTIC MARKER)		
Remarks: DIRECTIONALLY DRILL BETWEEN HANDHOLES FOR (3) 2" HDPE DUCTS. DO NOT CLEAR ANY TREES ON NORTH SIDE OF HIGHWAY IN DOT ROW. ON SOUTH SIDE OF HIGHWAY DO NOT CLEAR ON HIGHWAY SIDE OF BERM. SEE PROFILE DETAIL PROVIDED. SECOND CALL-OUT OF FO-UG IS FOR STORAGE. PROVIDE SPARE HDPE2-ORNG. PROVIDE SPARE HDPE2-RED. INSTALL ADDITIONAL FO-MARKERs AT EDGE OF EXISTING HIGHWAY CLEARING ON NORTH AND SOUTH SIDE, DIRECTLY OVER DIRECTIONALLY DRILLED CONDUIT.						

Structure: 22. HANDHOLE 3100						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-UG	Provide		370	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)		
HDPE2-ORNG	Provide		370	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		370	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
UR2-48	Provide		370	UR2-48 (TRENCH, 48" EMBEDMENT)		
SR1-16	Provide		370	SR1-16 (CLEARING AND GRUBBING, 16' W.)		
FO-MARKER	Provide		2	FO-MARKER (FIBER OPTIC MARKER)		
Remarks: REVIEW CLEARING NOTE FOR STAKING PROPERTY LINE(S) OF BLM LOT 2. DO NOT CLEAR OR PERFORM ANY WORK ON BLM LOT 2. CLEAR AND GRUB MINIMUM REQUIRED TO INSTALL SPECIFIED FACILITIES. BEARING TREES IN VICINITY. DO NOT CUT, TRIM, OR IMPACT BEARING TREES. DO NOT MOVE BEARING TREE SIGNAGE. DO NOT TRENCH WITHIN BEARING TREES BRANCH'S DRIP LINES. PROVIDE SPARE HDPE2-ORNG. SECOND CALL-OUT OF FO-UG IS FOR STORAGE. INSTALL ADDITIONAL FO MARKER AT TRENCH ANGLE POINT.						

Design: 1. BIRD POINT FIBER TIE IN
ISSUED FOR CONSTRUCTION - REV 1

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Structure:	23. ENCLOSURE BCC-MODULE(W)				Complete	Qty
Assembly Unit	Activity	#Cond	Qty	Unit Description		
FO ENCLOSURE	Existing		1	FO ENCLOSURE (FIBER OPTIC ENCLOSURE)		
FO-ISP	Existing		100	FO-ISP (FO-ISP FIBER OPTIC CABLE)		
FO-UG	Provide		30	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-SPLICE	Provide		24	FO-SPLICE (FIBER OPTIC SPLICE)		
HDPE2-ORNG	Provide		30	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		30	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
UME290S4	Provide		2	UME290S4 (2" RSC 90 48" RADIUS)		
ENC-RSRS	Provide		1	ENC-RSRS (RISERS TO FO ENCLOSURE)		
UR2-48CR	Provide		30	UR2-48CR (TRENCH, COMPACTION, ASPHLT)		
Remarks:						
FO ENCLOSURE TO BE PROVIDED BY OTHERS.						
REMOVE RECYCLED ASPHALT FROM SITE.						
THOROUGHLY COMPACT TRENCH.						
PROVIDE EQUAL OR THICKER REPLACEMENT RECYCLED ASPHALT.						
THOROUGHLY COMPACT RECYCLED ASPHALT.						
SECOND CALL-OUT OF FO-UG IS FOR STORAGE.						
INSTALL 1ST CONDUIT ELBOW AND RISER 4" OFF MODULE FOUNDATION AND ALIGNED WITH SOUTH SIDE OF FO ENCLOSURE.						
INSTALL 2ND SPARE CONDUIT ELBOW 4" OFF MODULE FOUNDATION AND ALIGNED WITH NORTH SIDE OF FO ENCLOSURE.						

Structure:		24. ENCLOSURE BCC-MODULE(N)				
<u>Assembly Unit</u>	<u>Activity</u>	<u>#Cond</u>	<u>Qty</u>	<u>Unit Description</u>	<u>Complete</u>	<u>Qty</u>
FO ENCLOSURE	Existing		1	FO ENCLOSURE (FIBER OPTIC ENCLOSURE)		
FO-ISP	Existing		100	FO-ISP (FO-ISP FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-SPLICE	Provide		24	FO-SPLICE (FIBER OPTIC SPLICE)		
ENC-RSRS	Provide		1	ENC-RSRS (RISERS TO FO ENCLOSURE)		
UME290S4	Provide		2	UME290S4 (2" RSC 90 48" RADIUS)		

Structure:		25. HANDHOLE 3301					
<u>Assembly Unit</u>	<u>Activity</u>	<u>#Cond</u>	<u>Qty</u>	<u>Unit Description</u>		<u>Complete</u>	<u>Qty</u>
FO-UG	Provide		125	FO-UG (FO-UG FIBER OPTIC CABLE)			
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)			
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)			
FO-MARKER	Provide		1	FO-MARKER (FIBER OPTIC MARKER)			
HDPE2-ORNG	Provide		125	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)			
HDPE2-ORNG	Provide		125	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)			
UR2-48CR	Provide		125	UR2-48CR (TRENCH, COMPACTION, ASPHLT)			
Remarks:							
BEARING TREES IN VICINITY.							
DO NOT CUT, TRIM, OR IMPACT BEARING TREES.							
DO NOT MOVE BEARING TREE SIGNAGE.							
DO NOT TRENCH WITHIN BEARING TREES BRANCH'S DRIP LINES.							
REMOVE RECYCLED ASPHALT FROM SITE.							
THOROUGHLY COMPACT TRENCH.							
PROVIDE EQUAL OR THICKER REPLACEMENT RECYCLED ASPHALT.							
THOROUGHLY COMPACT RECYCLED ASPHALT.							
SECOND CALL-OUT OF FO-UG IS FOR STORAGE.							

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Structure: 26. HANDHOLE 3804						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-UG	Provide		220	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)		
FO-MARKER	Provide		3	FO-MARKER (FIBER OPTIC MARKER)		
HDPE2-ORNG	Provide		220	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		220	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-RED	Provide		220	HDPE2-RED (HDPE, 2", RED COLOR)		
DDRILL-3-2	Provide		220	DDRILL-3-2 (DRCTINLLY DRILL (3) 2" DUCTS)		
Remarks:						
DIRECTIONALLY DRILL BETWEEN HANDHOLES.						
ON SOUTH SIDE OF HIGHWAY DO NOT CLEAR MORE THAN 10' NORTH OF HANDHOLE 3301.						
DO NOT CLEAR ON NORTH SIDE OF HIGHWAY IN DOT ROW.						
SEE PROFILE DETAIL PROVIDED.						
SECOND CALL-OUT OF FO-UG IS FOR STORAGE.						
PROVIDE SPARE HDPE2-ORNG.						
PROVIDE SPARE HDPE2-RED.						
INSTALL ADDITIONAL FO-MARKERs AT EDGE OF EXISTING HIGHWAY CLEARING ON NORTH AND						
SOUTH SIDE, DIRECTLY OVER DIRECTIONALLY DRILLED CONDUIT.						

Structure: 27. HANDHOLE 3805						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
FO-UG	Provide		115	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-UG	Provide		100	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-HH	Provide		1	FO-HH (FIBER OPTIC HANDHOLE)		
FO-MARKER	Provide		1	FO-MARKER (FIBER OPTIC MARKER)		
HDPE2-ORNG	Provide		115	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
HDPE2-ORNG	Provide		115	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
UR2-48	Provide		115	UR2-48 (TRENCH, 48" EMBEDMENT)		
Remarks:						
SECOND CALL-OUT OF FO-UG IS FOR STORAGE.						
PROVIDE SPARE HDPE2-ORNG.						

Structure: 29. POLE 3904						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
45/3	Existing		1	45/3 POLE		
F1-4P-TRPL	Existing		1	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
FO-UG	Provide		15	FO-UG (FO-UG FIBER OPTIC CABLE)		
FO-OH	Provide		100	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-DE	Provide		1	FO-DE (FIBER OPTIC DEADEND)		
FO-VDMP	Provide		1	FO-VDMP (FO VIBRATION DAMPER)		
FO-DL-CLAMP	Provide		4	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
FO-STORAGE	Provide		1	FO-STORAGE (FIBER OPTIC STORAGE)		
				FO-COY/DFNDR (FO SPLICE ENCLOSURE/		
FO-COY/DFNDR	Provide		1	ENCLOSURE DEFENDER)		
FO-SPLICE	Provide		48	FO-SPLICE (FIBER OPTIC SPLICE)		
E1-5	Provide		1	E1-5 (DOWN GUY)		
HDPE2-ORNG	Provide		15	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
FO-UM52	Provide		1	FO-UM52 (RISER, FIBER OPTIC)		
UME290S4	Provide		1	UME290S4 (2" RSC 90 48" RADIUS)		
UR2-48	Provide		15	UR2-48 (TRENCH, 48" EMBEDMENT)		
Remarks:						
POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER.						
INSTALL FO-DE AT 5'-0" BELOW NEUTRAL, 24'-2".						
ATTACH GUY 6" LOWER.						
INSTALL FIBER STORAGE ON SOUTH FACE OF POLE.						
INSTALL FIBER STORAGE WITH TOP COILS AT 18'.						
CONSTRUCT RISER ON SECONDARY RISER's STAND-OFF BRACKETS.						
CONSTRUCT TO 11' (1 STICK OF RGS WITH PVC BELL END).						

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Structure: 31. POLE 4103						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
45/3	45/3	Existing		45/3 POLE		
FO-OH	Provide		165	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-TAN	Provide		1	FO-TAN (FIBER OPTIC TANGENT)		
FO-VDMP	Provide		2	FO-VDMP (FO VIBRATION DAMPER)		
Remarks: POLE TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-TAN AT 5' BELOW NEUTRAL (AT 26').						

Structure: 32. POLE 4401 (178A IN FIELD)						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
40/5	Existing		1	40/5 POLE		
F1-4P-TRPL	Existing		2	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
FO-OH	Provide		155	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-DE	Provide		2	FO-DE (FIBER OPTIC DEADEND)		
FO-VDMP	Provide		1	FO-VDMP (FO VIBRATION DAMPER)		
E1-5	Provide		2	E1-5 (DOWN GUY)		
Remarks: ANCHORS TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-DE FOR SPAN TO POLE 4103 AT 3' BELOW E/W NEUTRAL AT 25'-6". INSTALL FO-DE FOR SPAN TO POLE 4502 AT 8" LOWER AT 24'-10". ATTACH GUYS 4" BELOW THEIR RESPECTIVE FO-DEs. INSTALL FO-VDMP ON SPAN TO POLE 4103.						

Structure: 33. POLE 4502 (L1 IN FIELD)						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
45/3	Existing		1	45/3 POLE		
F1-4P-TRPL	Existing		1	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
FO-OH	Provide		133	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-OH	Provide		100	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-DE	Provide		2	FO-DE (FIBER OPTIC DEADEND)		
FO-DL-CLAMP	Provide		3	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
FO-STORAGE	Provide		1	FO-STORAGE (FIBER OPTIC STORAGE)		
E1-5	Provide		1	E1-5 (DOWN GUY)		
Remarks: ANCHOR AND POLE TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-DEs BACK-TO-BACK AT 5' BELOW NEUTRAL AT 26'-6". ATTACH GUY 4" LOWER. 100' OF FO-OH CALLED OUT IS FOR FO-OH CABLE INSTALLED ON FO STORAGE RACK. INSTALL FO-STORAGE ON EAST FACE OF POLE (ROAD SIDE). INSTALL STORAGE RACK WITH ITS OUTER UPPER COILS AT 19'-0" ABOVE GRADE.						

Structure: 34. POLE 4706 (NO# IN FIELD)						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
40/5	Existing		1	40/5 POLE		
FO-OH	Provide		231	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-TAN	Provide		1	FO-TAN (FIBER OPTIC TANGENT)		
Remarks: INSTALL FO-DE AT 3'-7" BELOW SECONDARY U-GUARD RISER AND 6-3" BELOW NEUTRAL, AT 22'-6".						

Structure: 35. POLE 4807						
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
60/2	Existing		1	60/2 POLE		
F1-4P-TRPL	Existing		1	F1-4P-TRPL (PLATE ANCHOR, TRIPLE-EYE)		
SUM1-SM	Existing		1	SUM1-SM (SNOW MARKER)		
FO-OH	Provide		163	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-TAN	Provide		1	FO-TAN (FIBER OPTIC TANGENT)		
Remarks: POLE AND ANCHOR TO BE PROVIDED UNDER DISTRIBUTION WORK ORDER. INSTALL FO-TAN AT 9'-6" BELOW SPAN GUY AT 39'-6".						

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Structure:		39. 22-8				
Assembly Unit	Activity	#Cond	Qty	Unit Description	Complete	Qty
90/H4	Existing		2	90/H4 POLE		
CLVRT-FNDTN	Existing		2	CLVRT-FNDTN (CULVERT FOUNDATION)		
FO-OH	Existing		705	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-OH	Existing		-	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-OH	Existing		100	FO-OH (FO-OH FIBER OPTIC CABLE)		
FO-ENCLOSURE	Existing		1	FO-ENCLOSURE		
FO-DL-CLAMP	Existing		-	FO-DL-CLAMP (FO DOWN LEAD CLAMP)		
FO-STORAGE	Existing		1	FO-STORAGE (FIBER OPTIC STORAGE)		
FO-UG	Provide		30	FO-UG (FO-UG FIBER OPTIC CABLE)		
HDPE2-ORNG	Provide		30	HDPE2-ORNG (HDPE, 2", ORANGE COLOR)		
UME290S4	Provide		1	UME290S4 (2" RSC 90 48" RADIUS)		
OFFSET2	Provide		1	OFFSET2 (2" RGS OFFSET CONDUIT)		
FO-UM52	Provide		1	FO-UM52 (RISER, FIBER OPTIC)		
UR2-48	Provide		20	UR2-48 (TRENCH, 48" EMBEDMENT)		
UR2-48C	Provide		10	UR2-48 (TRENCH, 48" EMBED, COMPACTION)		
UM31A	Provide		5	UM31A (1 YARD, NSF FILL, COMPACTED)		

Remarks: FO-OH STORAGE AND FO-ENCLOSURE ARE TO BE EXISTING.

UM31A: PROVIDE 5 UNITS OF 1 YARD OF NSF FILL TO BACKFILL THE LAST 10' OF TRENCH.
THOROUGHLY COMPACT FILL IN TRENCH TO MAINTAIN STABILITY OF CULVERT FOUNDATION.

INSTALL THE UME290S4 FLUSH TO THE FOUNDATION CULVERT, OR SPACED NOT MORE THAN 1" OFF ITS FACE.

OFFSET2: FIELD BEND AT 2" RIGID GALVANIZED STEEL CONDUIT OFFSET TO TRANSITION FROM CONDUIT ELBOW OUTSIDE OF FOUNDATION CULVERT TO 6" TO 9" OFF THE EAST FACE OF THE POLE FOR THE CONTINUATION OF THE RISER INSTALLATION.
INSTALL RISER ON EAST FACE OF POLE.
CONNECT ITS SPECIFIED 2" RSC SECTION TO THE OFFSET2.

PROVIDE 8'-6" SPACING BETWEEN THE BOTTOM TWO STAND-OFF BRACKETS.
INSTALL THE BOTTOM STAND-OFF BRACKET LOW ON THE OFFSET2.
INSTALL THE SECOND 8'-6" ABOVE THE FIRST ON THE 2" STRAIGHT RGS CONDUIT SECTION.
INSTALL ANOTHER STAND-OFF BRACKET NEAR THE TOP OF THE 2" STRAIGHT RGS SECTION.

EXTEND RISER TO 1' BELOW BOTTOM COILS OF FIBER STORAGE.