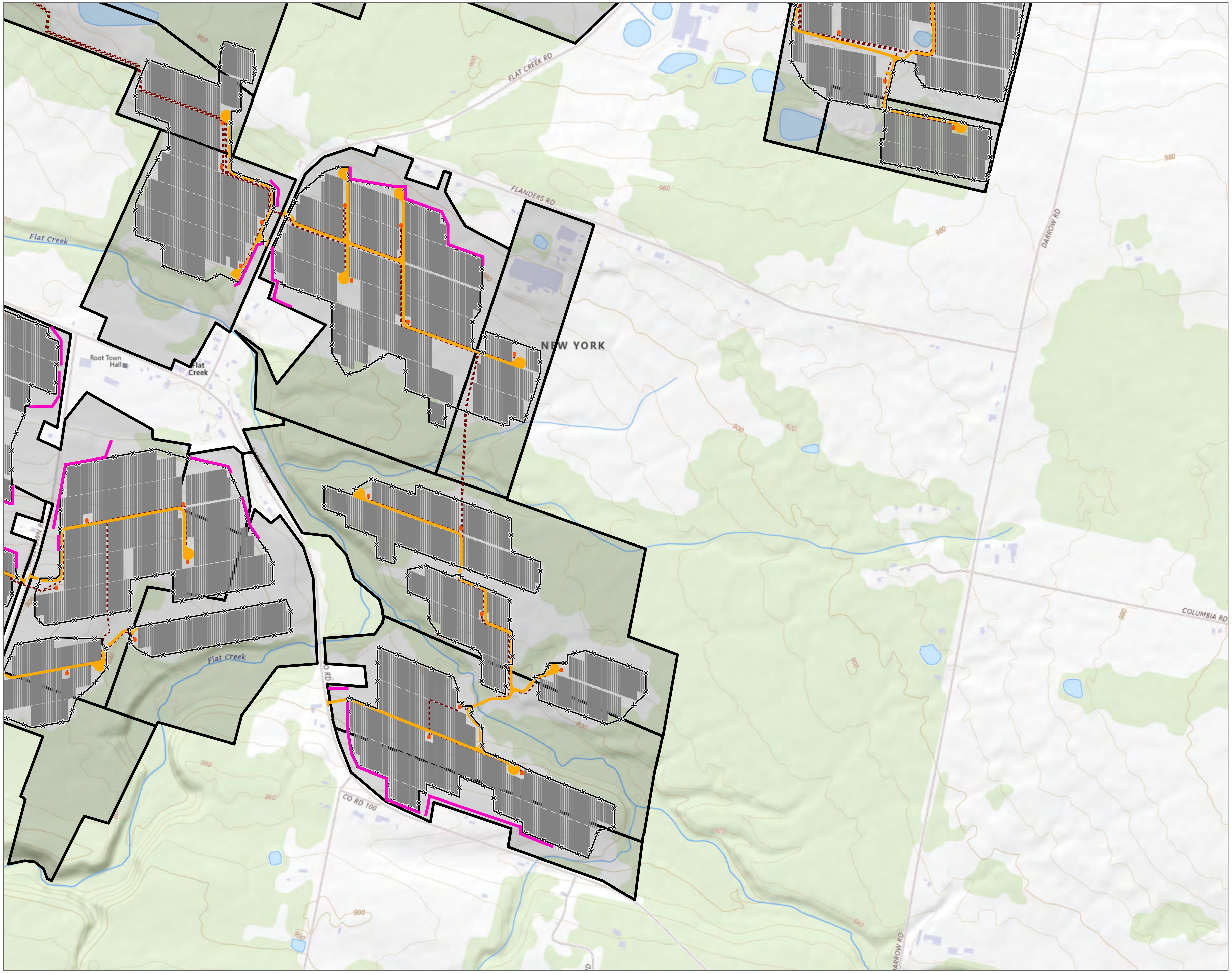


LEGEND

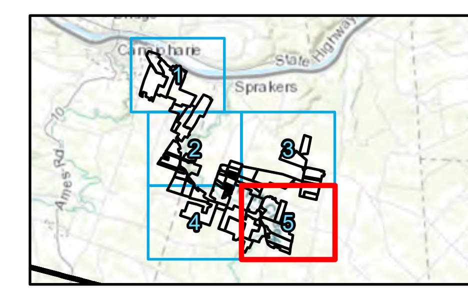
- PROPOSED COLLECTION ALIGNMENT
- PROPOSED FENCE LINE
- PROPOSED ACCESS ROAD
- PROPOSED PV ARRAY
- PROPOSED INVERTER
- FACILTY SITE
- TOWN BOUNDARY

VEGETATIVE BUFFERS

- TYPE 1

NOTES:
1. THIS FIGURE IS DESIGNED TO BE VIEWED OR PRINTED IN COLOR AT 11X17.

BASE MAP: USGS NATIONAL MAP ONLINE SERVICE LAYER.
DATA SOURCES: TRC, NYSGIS, SUNEAST.



N

1:12,000
1" = 1,000'

0 1,000 2,000 US FEET

PROJECT:	FLAT CREEK SOLAR TOWNS OF CANAJOHARIE AND ROOT MONTGOMERY COUNTY, NY
TITLE:	MAP OF THE PROPOSED LANDSCAPE PLAN
DRAWN BY: R. BARBER	PROJ. NO.: 427281.2022.0000
CHECKED BY: G. CORYELL	SHEET 5 OF 5
APPROVED BY: S. KRANES	
DATE: AUGUST 2024	

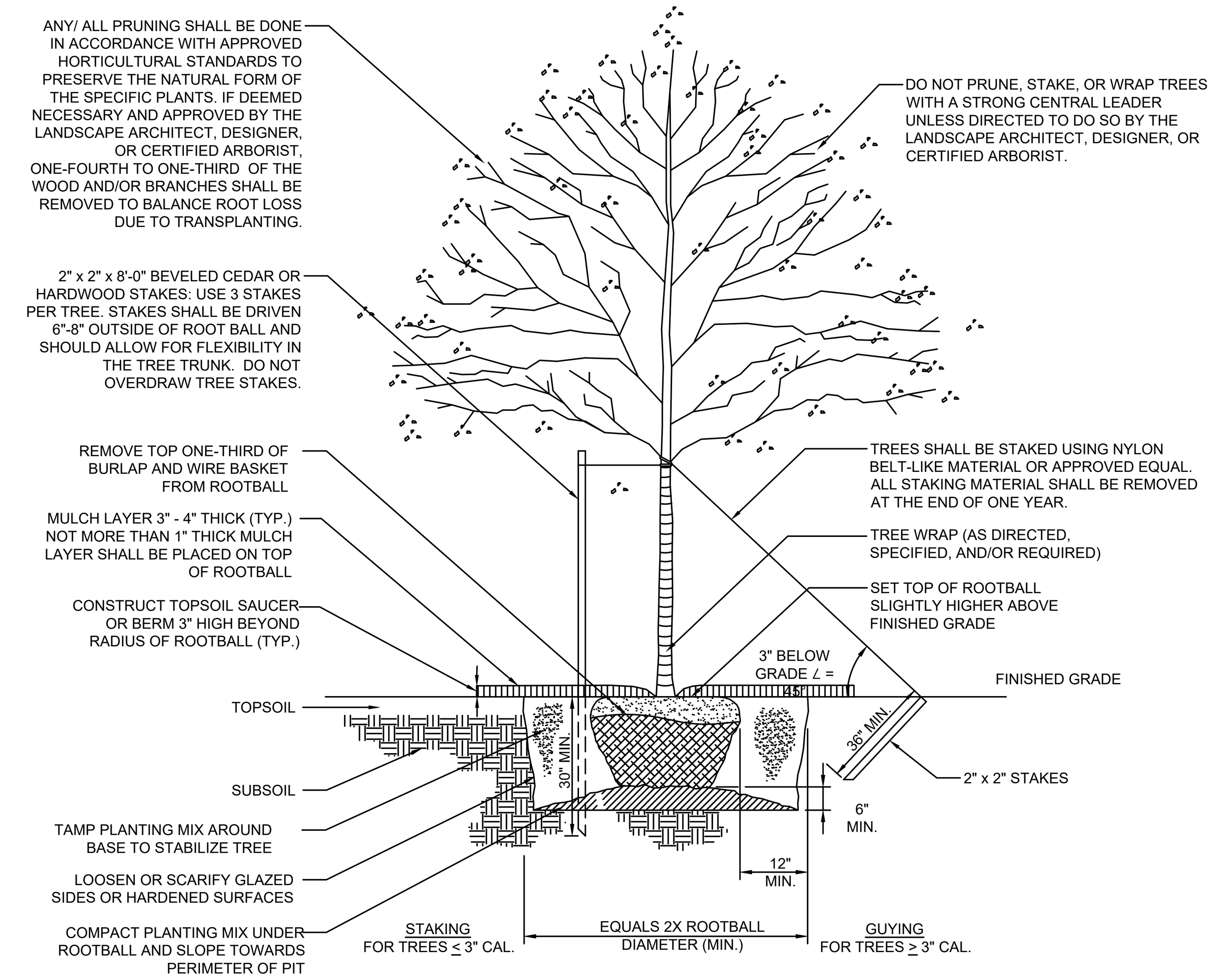
TRC 15 GREENFIELD PKWY., STE. 102
LIVERPOOL, NY 13088

GENERAL LANDSCAPE AND SEEDING NOTES

1. THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING INFORMATION ONLY. PLEASE REFER TO THE SITE LAYOUT PLAN, GRADING PLAN AND/OR UTILITIES PLAN FOR ALL OTHER INFORMATION.
2. THE CONTRACTOR SHALL MONITOR AND GUARANTEE THAT ALL PLANTS, TREES, AND SHRUBS SHALL BE HEALTHY AND FREE OF DISEASE FOR A PERIOD OF (1) ONE YEAR AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE GUARANTEE REQUIREMENTS INCLUDING MAINTENANCE. MAINTENANCE RESPONSIBILITIES INCLUDE INVASIVE SPECIES MONITORING, REMOVAL, AND SUPPLEMENTATION. MONITORING OF THE PROJECT SITE SHALL OCCUR IN THE SPRING AND THE FALL TO DETERMINE THE PRESENCE OF INVASIVE SPECIES. SHOULD ANY INVASIVE SPECIES BE IDENTIFIED WITHIN THE PROJECT SITE, THE INVASIVE SPECIES SHALL BE REMOVED ACCORDING TO METHODS MOST LIKELY TO BE EFFECTIVE IN CONTROLLING THAT SPECIES AND SUPPLEMENTING ITS REPLACEMENT WITH APPROPRIATE VEGETATION AND SEED MIX IDENTIFIED (AND APPROVED) ON THIS PLAN AND/OR AN APPROVED EQUAL. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE.
3. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEEDING MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF (2) TWO YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.
4. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS THE LOCATION OF ROCK OUTCROPS. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.
5. ALL SHRUB MASSING AREAS SHALL BE MULCHED TO A DEPTH OF 2" WITH SHREDDED HARDWOOD BARK MULCH.
6. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLAN(S) FOR PLANTING DETAILS.
7. COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE AND WATER LINES. UTILITY LOCATIONS ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.
8. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. PAVEMENT, COMPACTED SUBGRADE, AND BLASTED ROCK SHALL BE REMOVED TO A DEPTH OF 2' OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.

PLANTING SOIL MIXTURE:
2 PARTS PEAT MOSS
5 PARTS TOPSOIL
MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL.
USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS.
FERTILIZER/LIME APPLY AS RECOMMENDED BY SOIL ANALYSIS

- TREES, AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.
- ALL PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCIA) ANSI A300 (PART 1) - 2017 PRUNING STANDARDS. PRUNING STANDARDS SHALL RECOGNIZE BUT, ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUIT, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE, PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC, LINES OF SIGHT, INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REJUVENATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC, LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWN(S) FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; PROVIDE ACCESS TO SITES, BUILDINGS, OR OTHER STRUCTURES; AND/OR COMPLY WITH REGULATIONS.
- TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. CONTRACTOR SHALL SUBMIT TOPSOIL TO A CERTIFIED TESTING LABORATORY TO DETERMINE PH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. THE CONTRACTOR SHALL SUBMIT THE TEST RESULTS FROM REGIONAL EXTENSION OFFICE OF USDA TO THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR GOOD PLANT GROWTH AND PROPER SOIL ACIDITY RECOMMENDED FROM THE TOPSOIL TEST.
- NO PHOSPHOROUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
- IF SOIL TESTS INDICATE A PHOSPHOROUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHOROUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
- ALL SLOPES GREATER THAN 3:1 RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.
- ALL WILDFLOWERS AND GRASSES SOWED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFLOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.

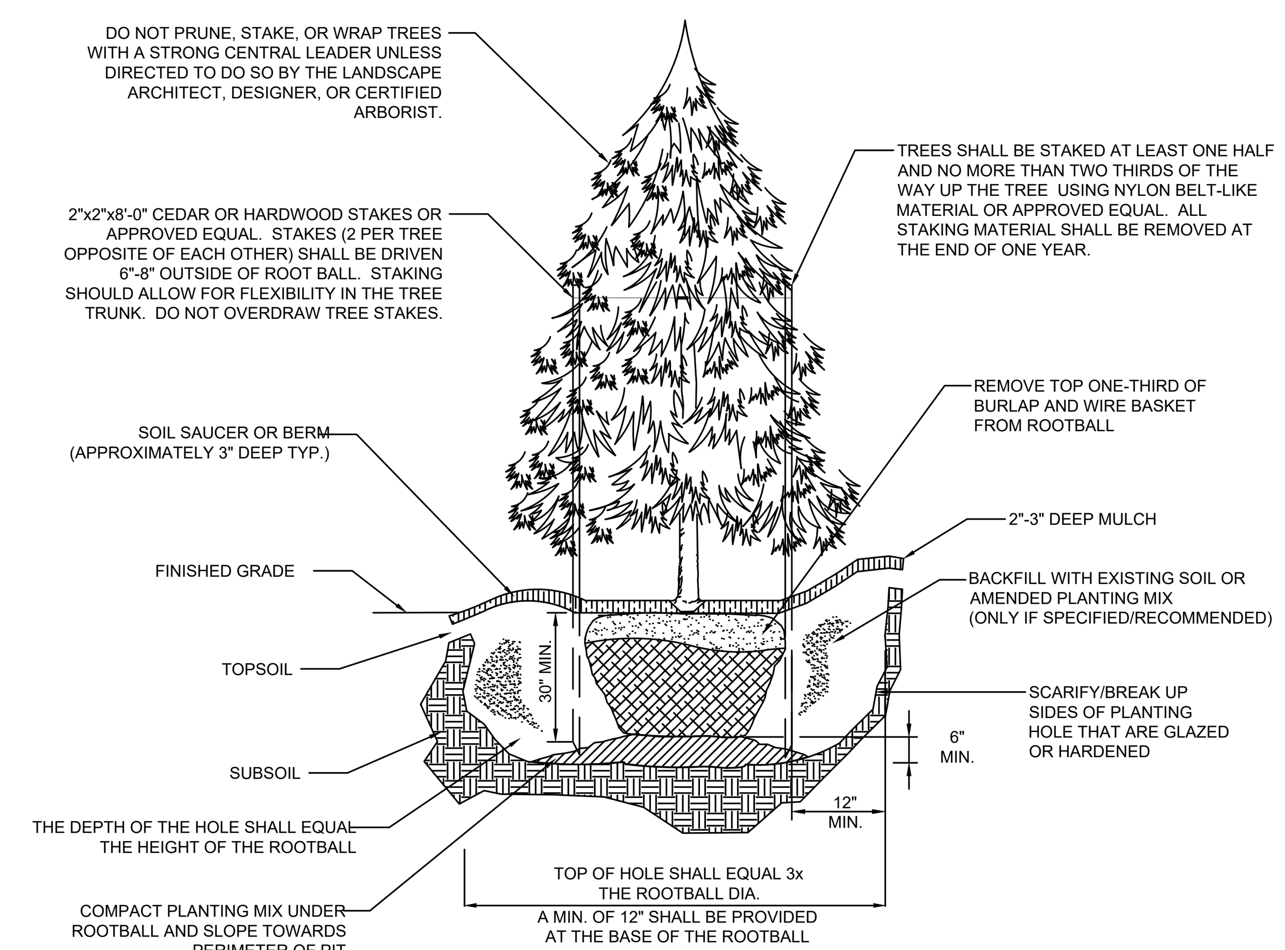


NATIVE/DECIDUOUS TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY.
- NEVER CUT THE PRIMARY LEADER.
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE.



EVERGREEN TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY.
- NEVER CUT THE PRIMARY LEADER.
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE.

LEGEND - OVERALL PLANTING TOTALS

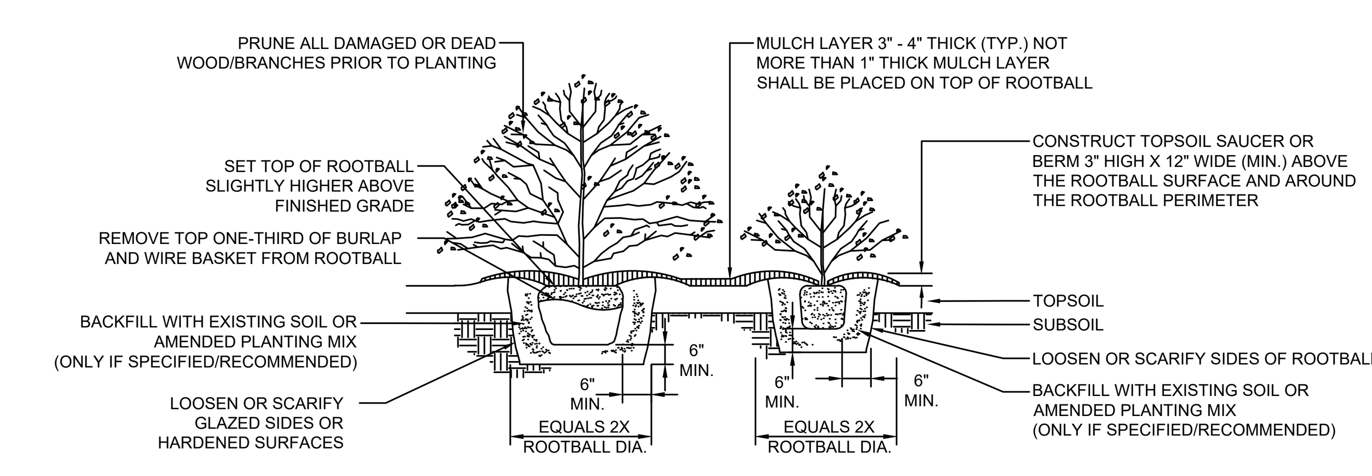
LANDSCAPE PLANTING SCHEDULE — VISUAL MITIGATION PLANTING TEMPLATE TYPES A & B

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	253	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	166	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	494	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	771	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	736	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	414	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	153	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	249	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	555	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	190	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	405	24"-30" HT.	#3/5 CONT.	8'-10' HT.



SHRUB PLANTING DETAIL

N.T.S.

NOTE:

- IN AREAS WITH MASS PLANTINGS, CONTINUOUS EXCAVATION AND MULCHING PRACTICES SHALL BE IMPLEMENTED WHENEVER POSSIBLE
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS.

PRELIMINARY
NOT FOR CONSTRUCTION

TRC
249 Western Avenue
Augusta, ME 04330

CORDELIO POWER
SUITE 1805 - 55 FIFTH AVE
NEW YORK, NY 10003
PROJECT NO: 435979

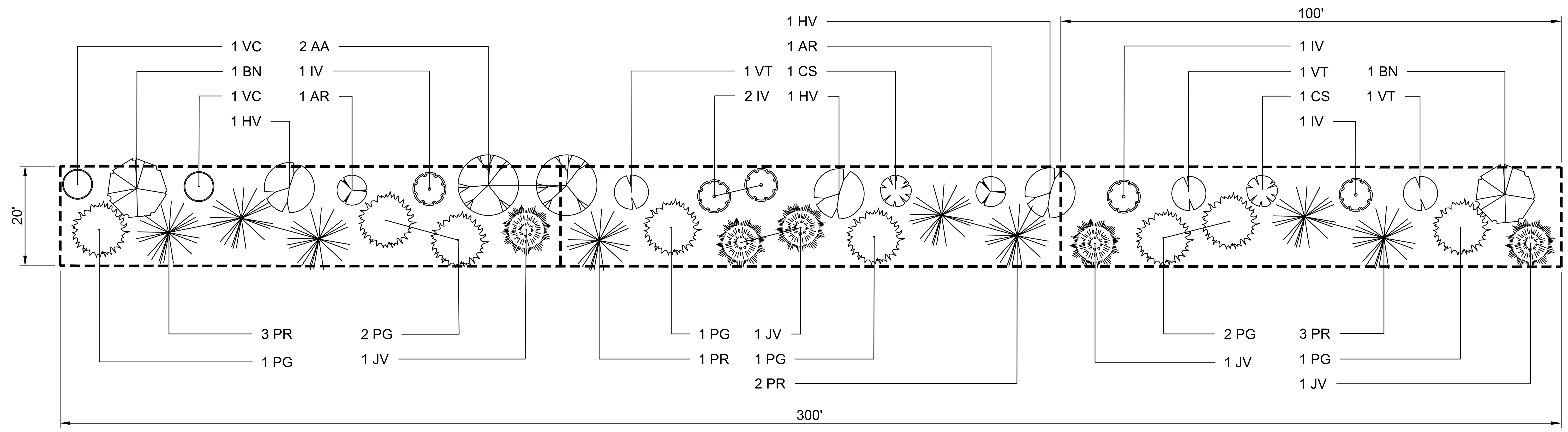
REV	DESCRIPTION	DATE	DES	CHK	APP
-	-	-	-	-	-
-	-	-	-	-	-
B	ISSUED FOR CLIENT REVIEW	6/07/2024	TRC	-	-
A	ISSUED FOR PHASE 2 CLIENT REVIEW	04/12/2024	AL	-	-

TRC — DESIGNED
AL — DRAWN
MR — CHECKED
- — APPROVED
- — REVIEW 1
- — REVIEW 2
01/11/2024 — DATE
1"=100' — SCALE

FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
LANDSCAPE PLAN

ROOT/CANAJOHARIE — NEW YORK

L-201-61 — REV. B



LEGEND

VISUAL MITIGATION PLANTING TEMPLATE A
LANDSCAPE PLANTING SCHEDULE (TYPICAL VISUAL BUFFER/SCREENING EFFORT)

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	2	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	2	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	5	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	8	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	8	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	2	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	2	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	3	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	5	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	2	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	3	24"-30" HT.	#3/5 CONT.	8'-10' HT.

VISUAL MITIGATION PLANTING TEMPLATE - TYPE A
N.T.S.

LEGEND - VM1

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 445 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	3	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	3	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	7	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	12	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	12	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	3	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	2	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	4	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	6	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	4	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	4	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM2

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 220 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	2	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	1	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	4	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	6	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	2	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	1	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	3	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	4	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	2	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	1	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM3

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 420 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	3	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	3	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	6	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	11	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	12	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	3	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	2	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	4	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	4	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	4	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	4	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM4

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 690 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	5	6' HT. MIN. CLUMP	B&B	15'-20' HT.
BN	BETULA NIGRA 'HERITAGE' RIVER BIRCH	5	6' HT. MIN. CLUMP	B&B	25'-30' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	10	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	19	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	19	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	5	24"-30" HT.	#3/5 CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	4	24"-30" HT.	#3/5 CONT.	7'-9' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	7	3'-4' HT.	B&B	15'-25' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	11	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	6	24"-30" HT.	#3/5 CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	6	24"-30" HT.	#3/5 CONT.	8'-10' HT.

PRELIMINARY
NOT FOR CONSTRUCTION

TRC
249 Western Avenue
Augusta, ME 04330

CORDELIO POWER
SUITE 1805 - 55 FIFTH AVE
NEW YORK, NY 10003
PROJECT NO: 435979

REV	DESCRIPTION	DATE	DES	CHK	APP
-	-	-	-	-	-
-	-	-	-	-	-
B	ISSUED FOR CLIENT REVIEW	6/07/2024	TRC	-	-
A	ISSUED FOR PHASE 2 CLIENT REVIEW	04/12/2024	AL	-	-

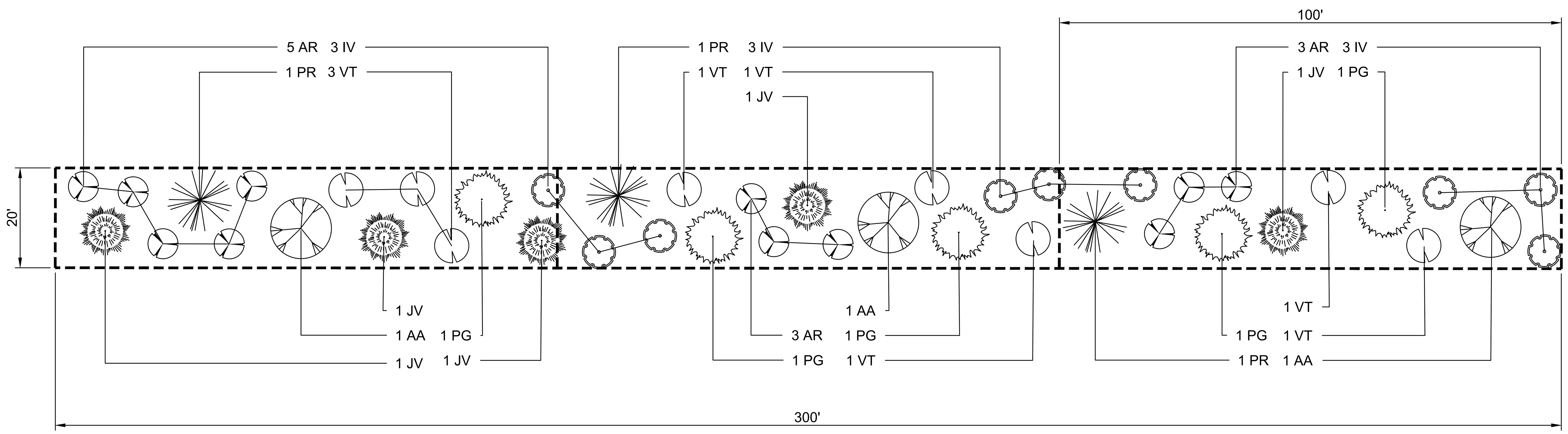
TRC DESIGNED
AL DRAWN
MR CHECKED
- APPROVED
- REVIEW 1
- REVIEW 2

FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
LANDSCAPE PLAN

ROOT/CANAJOHARIE NEW YORK

01/11/2024 DATE
1"=100' SCALE

L-201-62
REV. B



LEGEND

VISUAL MITIGATION PLANTING TEMPLATE B
LANDSCAPE PLANTING SCHEDULE (TYPICAL VISUAL BUFFER/SCREENING EFFORT)

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	3	6' HT. MIN. CLUMP	B&B	15'-20' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	5	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	3	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	11	24"-30" HT.	#3/5 CONT.	7'-10' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	9	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	8	24"-30" HT.	#3/5 CONT.	8'-10' HT.

VISUAL MITIGATION PLANTING TEMPLATE - TYPE B

N.T.S.

LEGEND - VM7

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 755 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	7	6' HT. MIN. CLUMP	B&B	15'-20' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	14	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	12	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	8	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	27	24"-30" HT.	#3/5 CONT.	7'-10' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	21	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	20	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM8

PLANTING TEMPLATE TYPE B
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 495 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	5	6' HT. MIN. CLUMP	B&B	15'-20' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	9	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	8	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	5	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	15	24"-30" HT.	#3/5 CONT.	7'-10' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	13	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	14	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM9

PLANTING TEMPLATE TYPE B
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 385 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	4	6' HT. MIN. CLUMP	B&B	15'-20' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	7	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	6	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	4	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	16	24"-30" HT.	#3/5 CONT.	7'-10' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	12	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	11	24"-30" HT.	#3/5 CONT.	8'-10' HT.

LEGEND - VM11

PLANTING TEMPLATE TYPE B
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 875 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	8	6' HT. MIN. CLUMP	B&B	15'-20' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	15	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	15	5'-6' HT.	B&B	40'-60' HT.
PR	PICEA RUBENS RED SPRUCE	9	5'-6' HT.	B&B	50'-70' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	33	24"-30" HT.	#3/5 CONT.	7'-10' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	24	24"-30" HT.	#3/5 CONT.	8'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	24	24"-30" HT.	#3/5 CONT.	8'-10' HT.

PRELIMINARY
NOT FOR CONSTRUCTION

249 Western Avenue
Augusta, ME 04330

SUITE 1805 - 55 FIFTH AVE
NEW YORK, NY 10003

PROJECT NO: 435979

REV	DESCRIPTION	DATE	DES	CHK	APP
-	-	-	-	-	-
-	-	-	-	-	-
B	ISSUED FOR CLIENT REVIEW	6/07/2024	TRC	-	-
A	ISSUED FOR PHASE 2 CLIENT REVIEW	04/12/2024	AL	-	-

TRC DESIGNED
AL DRAWN
MR CHECKED
- APPROVED
- REVIEW 1
- REVIEW 2

FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
LANDSCAPE PLAN

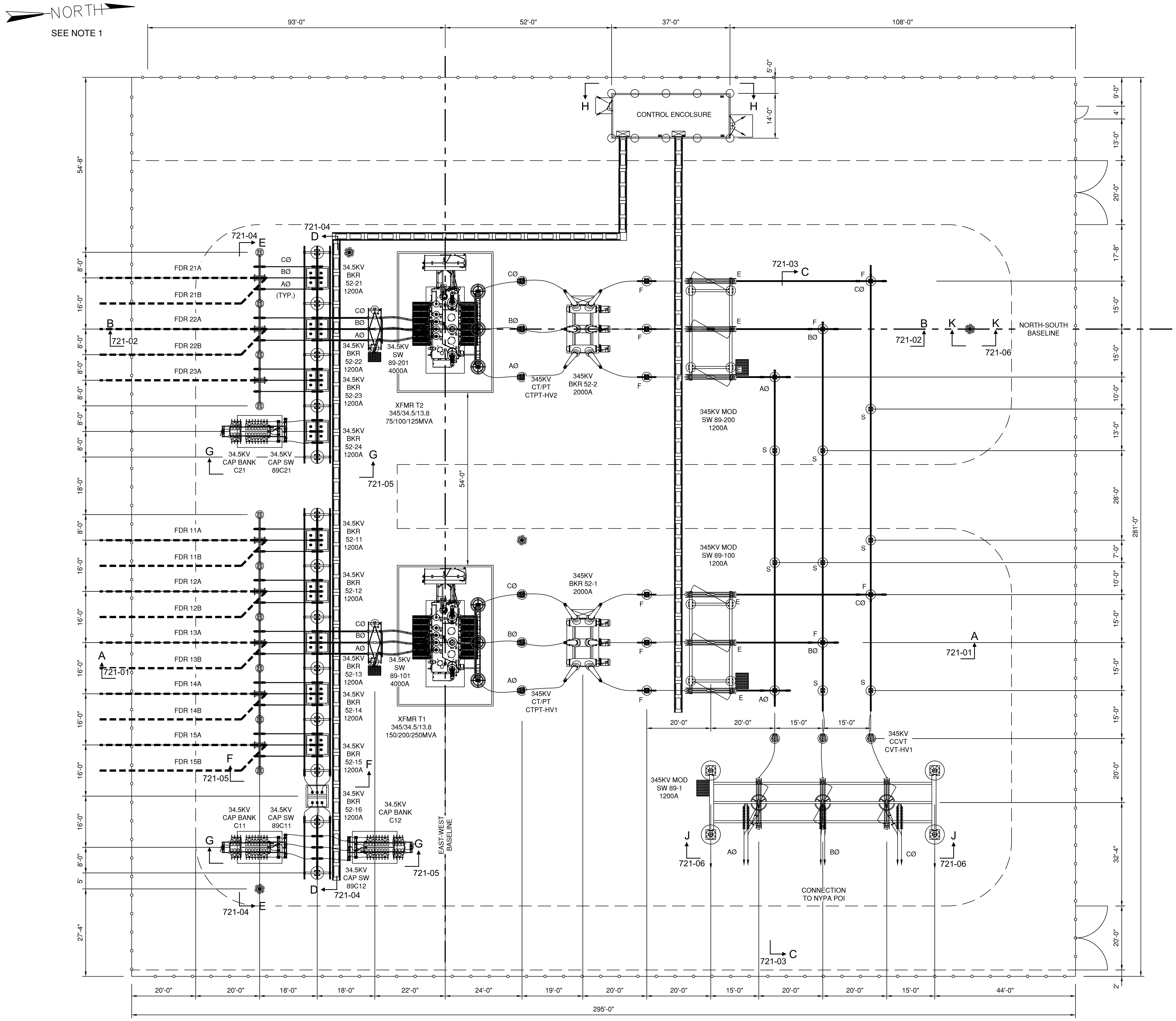
ROOT/CANAJOHARIE NEW YORK

01/11/2024 DATE
1"=100' SCALE

L-201-67

REV. B

PLAN 7B - PLAN AND PROFILES; LIGHTING PLAN



NOTES:

1. SEE 760 SITE PLAN FOR INDICATION OF TRUE NORTH.

LEGEND:

F FIXED FITTING

S SLIP FITTING

E EXPANSION FITTING

A 721-0 INDICATES SECTION VIEW "A-A" DRAWING ON WHICH SECTION APPEARS

DRIVEABLE TRENCH

PEDESTRIAN TRENCH

FENCE

STATION LIGHT

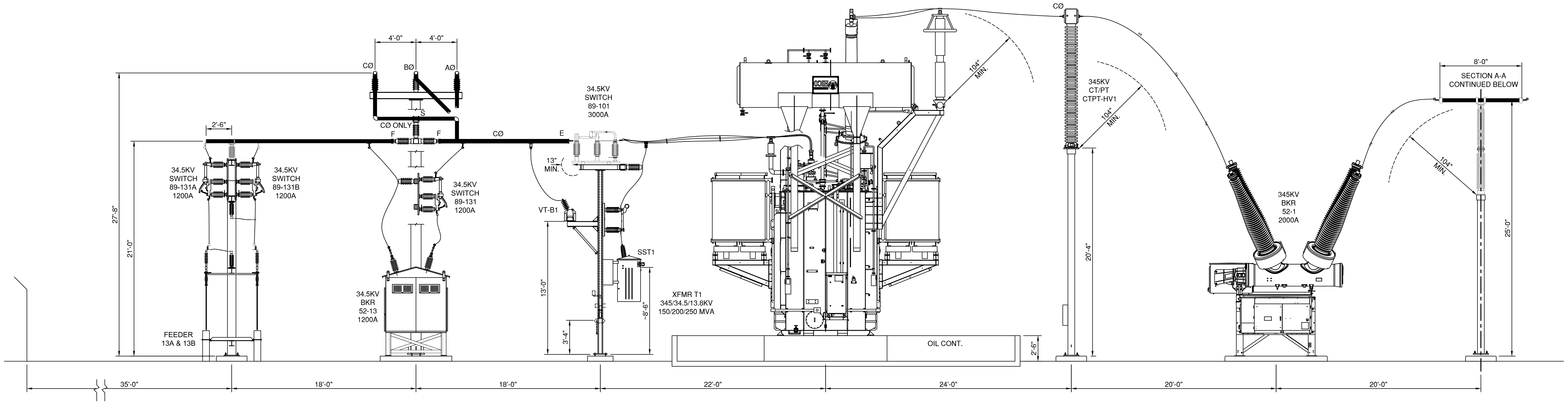
REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/19/2024	CAP BANK ADDITION	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

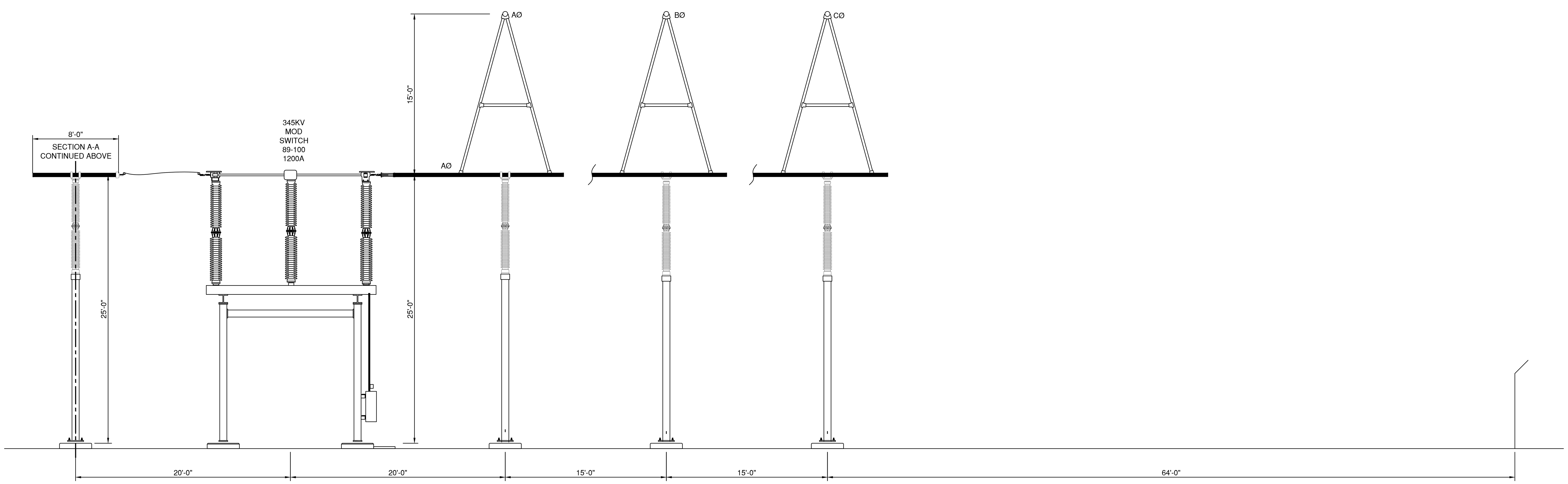
REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
STATION GENERAL ARRANGEMENT
COLLECTOR SUBSTATION

PROJ. NO.: CP-FLCK
DWG. NO: FLCK-720
SH: 1 REV: C
SCALE: 1/16" = 1'-0"



SECTION A-A



SECTION A-A

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/17/2024	CAP BANK ADDITION	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

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SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
COLLECTOR SUBSTATION

PROJ. NO.: CP-FLCK	
DWG. NO: FLCK-721	
SH: 1	REV: C
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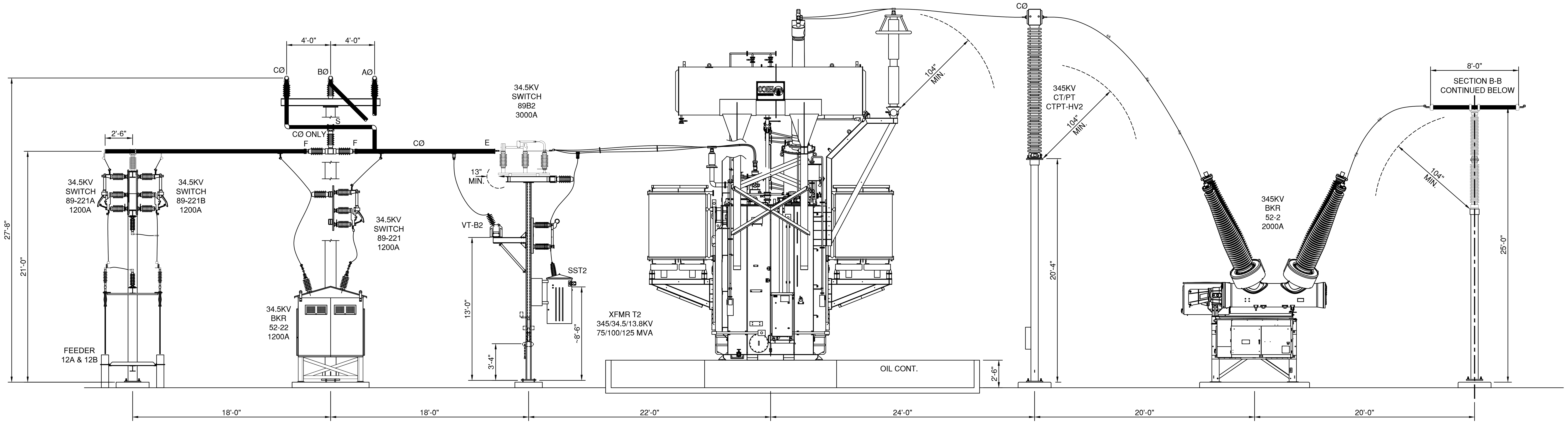

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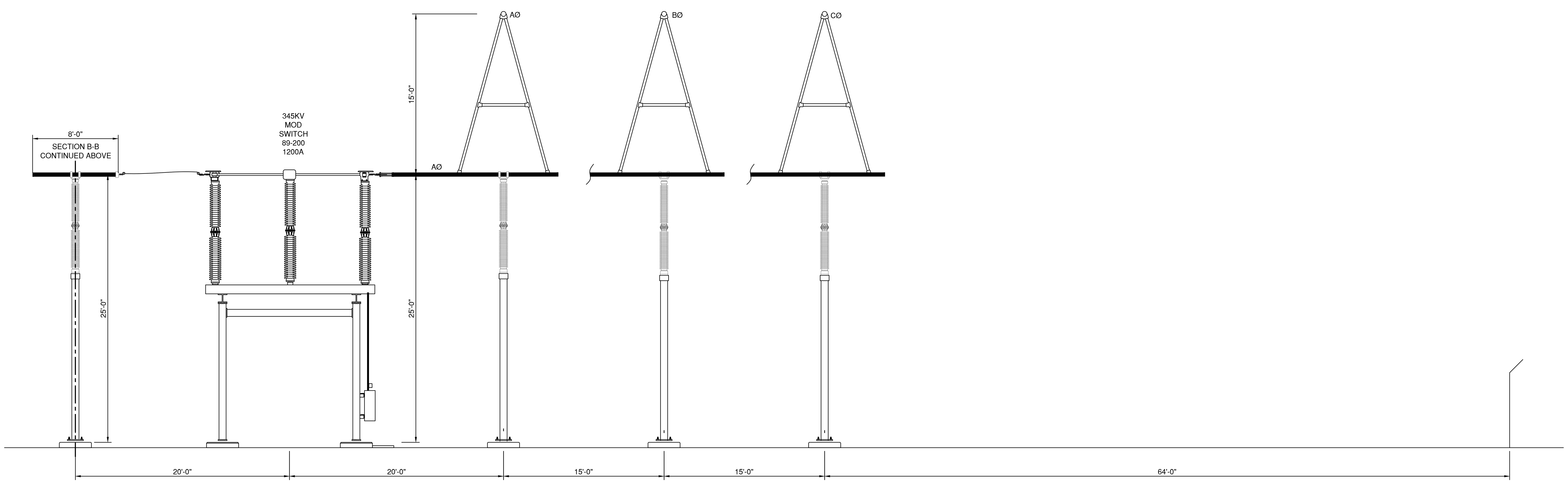

SECTION B-B

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

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REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/17/2024	CAP BANK ADDITION	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

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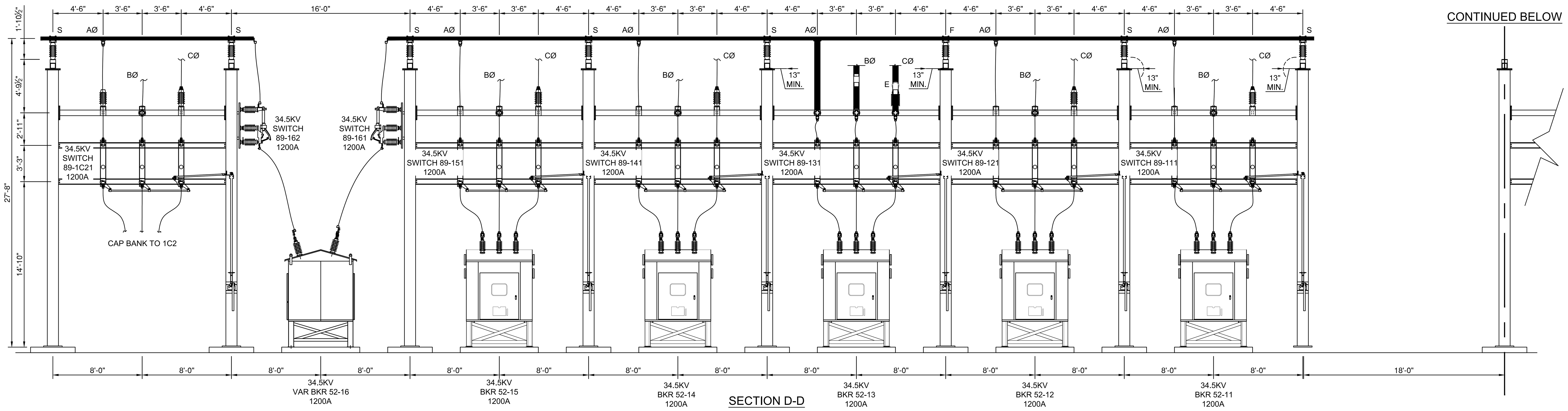
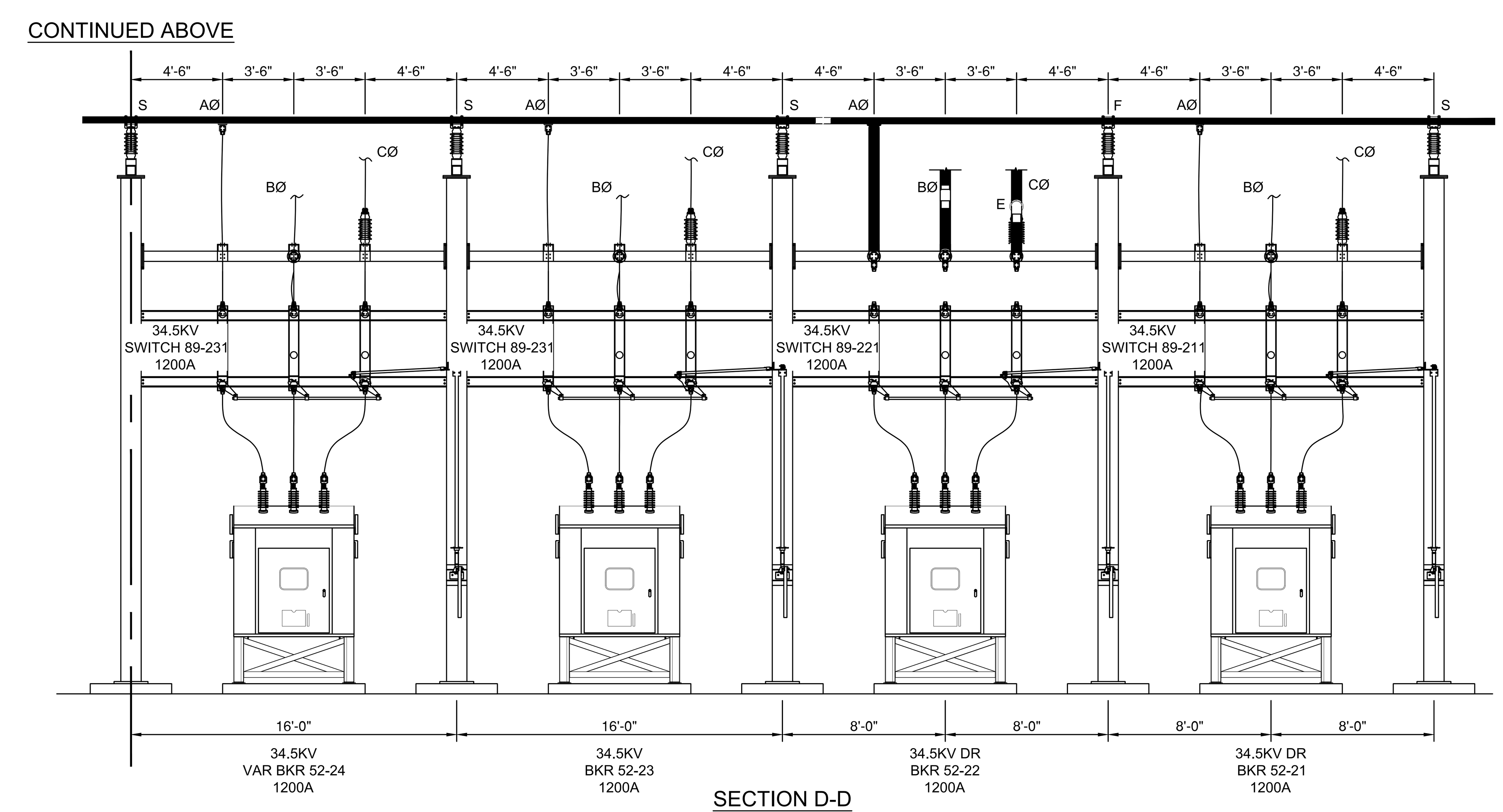
SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
COLLECTOR SUBSTATION

PROJ. NO.: CP-FLCK
DWG. NO: FLCK-721
SH: 2
REV: C
SCALE: 1/16" = 1'-0"



SECTION D-D



SECTION D-D

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/19/2024	CAP BANK ADDITION	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

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SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
COLLECTOR SUBSTATION

PROJ. NO.:	CP-FLCK
DWG. NO:	FLCK-721
SH: 4	REV: C
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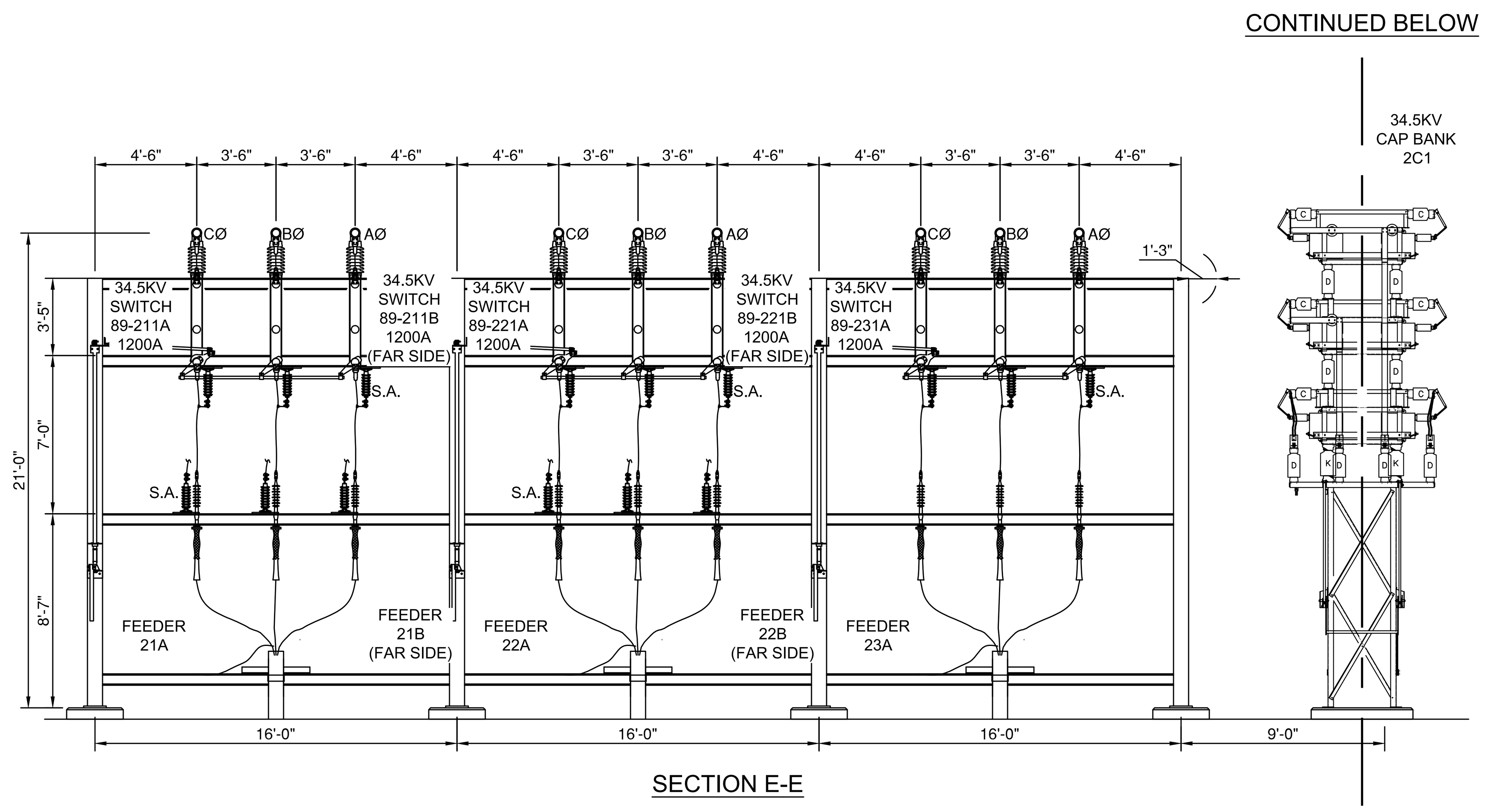
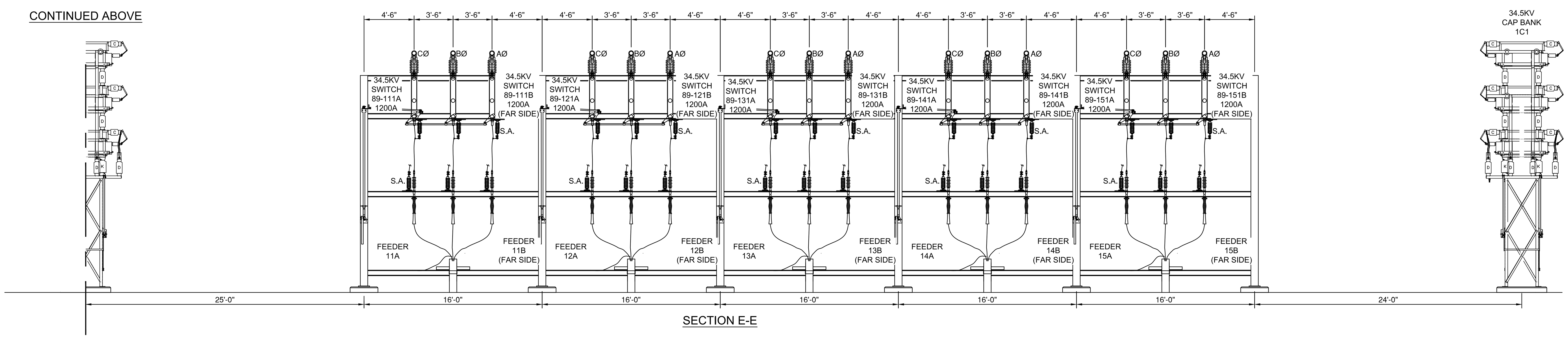
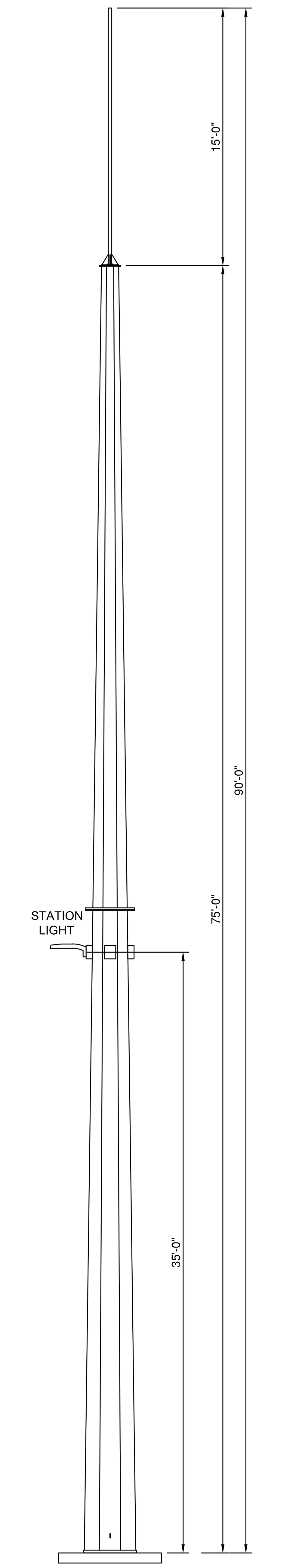


SECTION E-E



SECTION E-E



LEGEND:

F FIXED FITTING

S SLIP FITTING

E EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/19/2024	CAP BANK ADDITION - CONTENT MOVED TO SH 6	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

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SUNEAST FLAT CREEK SOLAR - 200MWAC

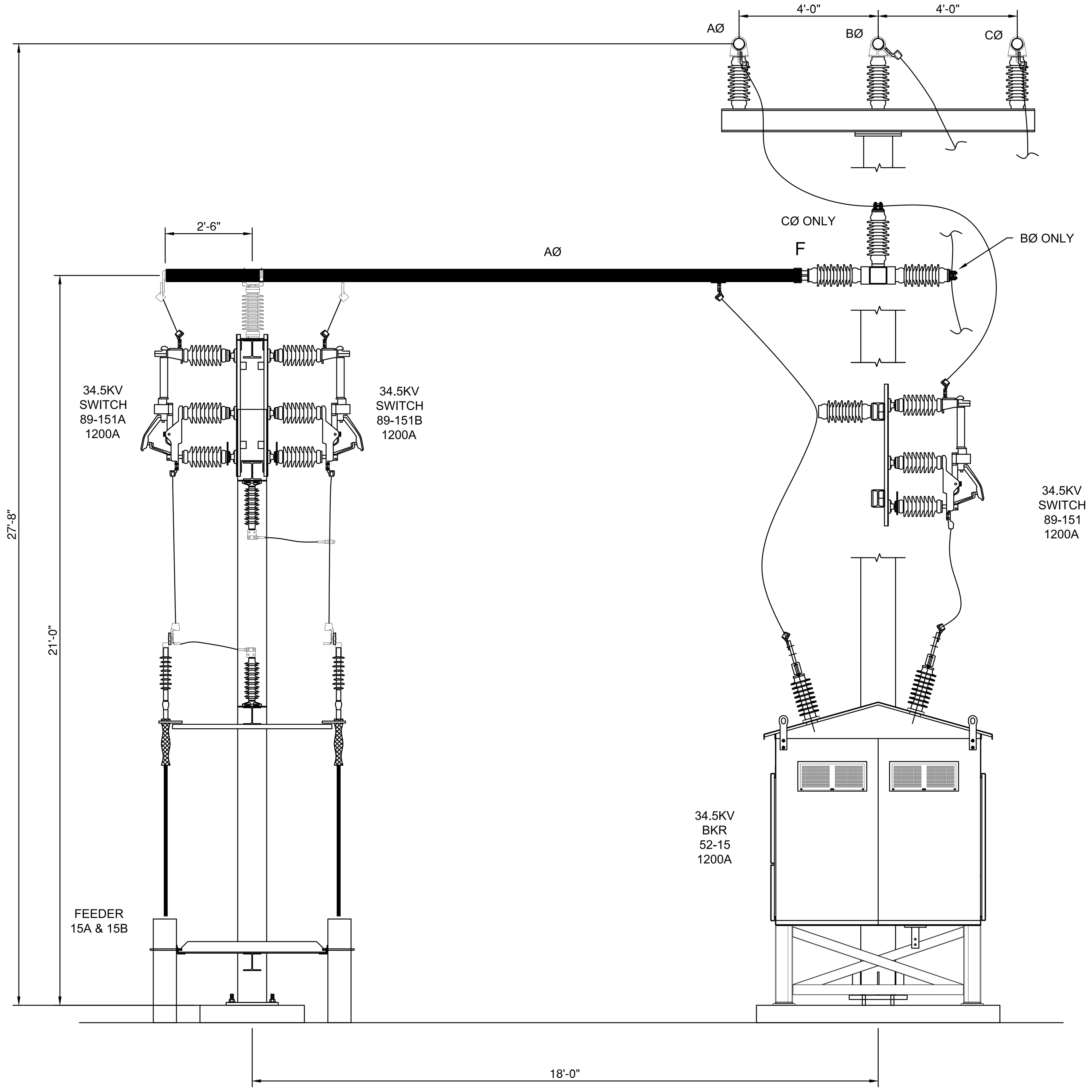
SUNEAST DEVELOPMENT, LLC

RAPPA RD, ROOT, NY 12166

ELEVATION DETAILS

COLLECTOR SUBSTATION

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721
SH: 5	REV: C
SCALE:	1/16" = 1'-0"



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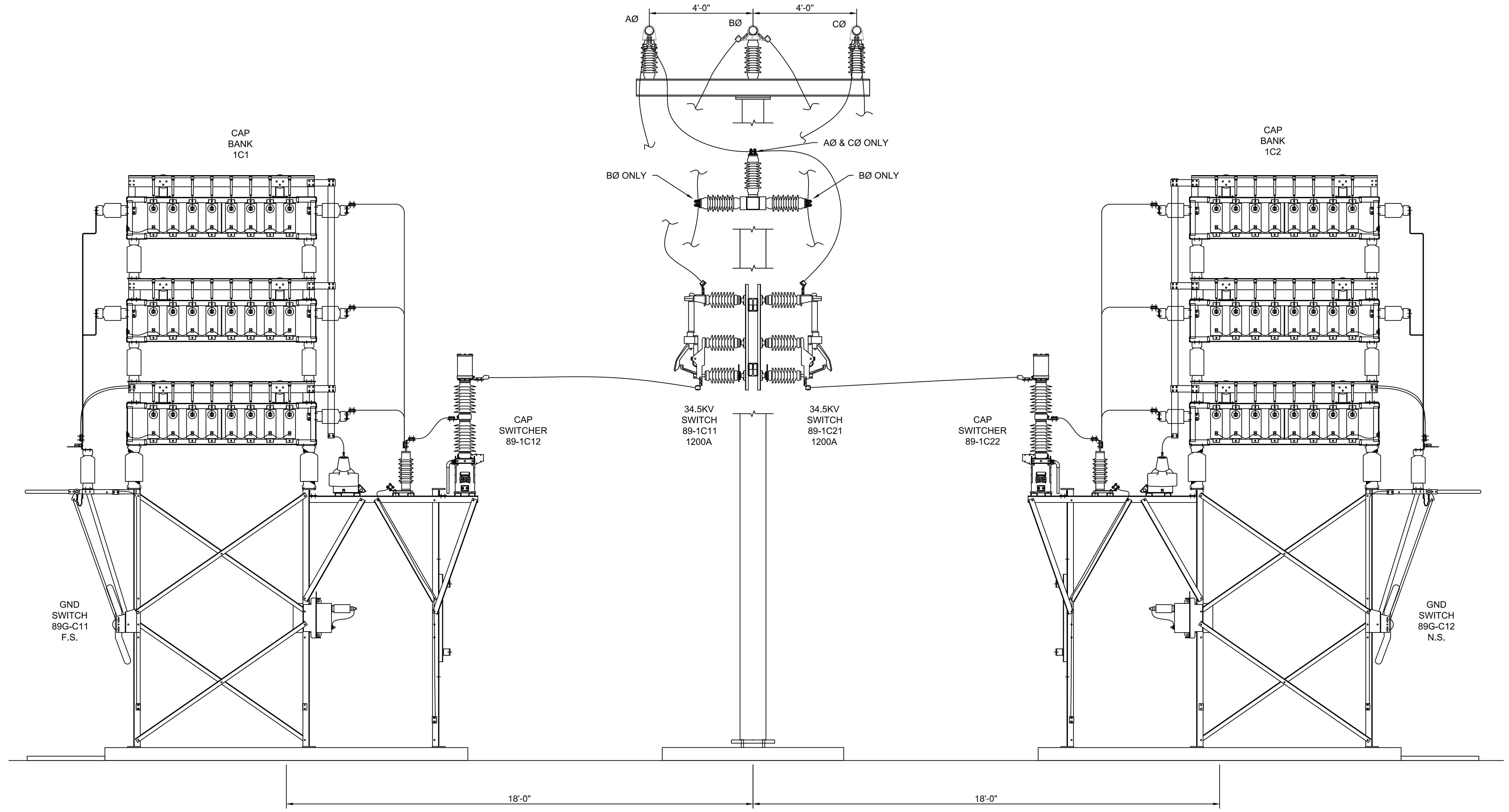
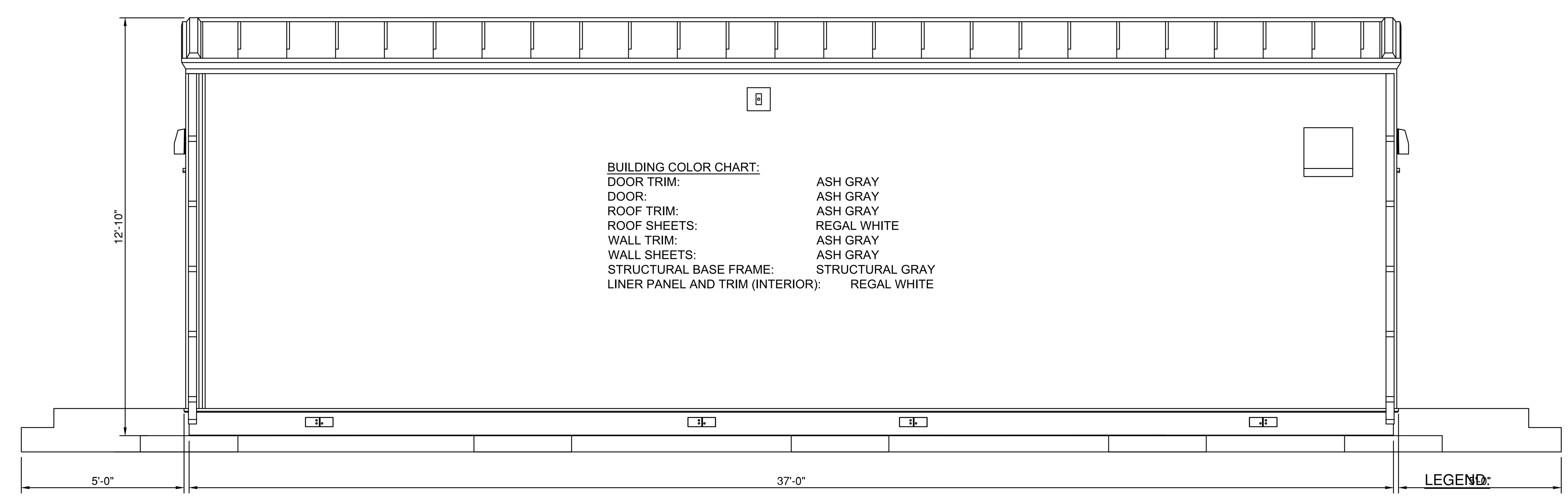


SECTION G-G



SECTION H-H

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
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B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

REYNOLDS ARCHITECTURE ENGINEERING
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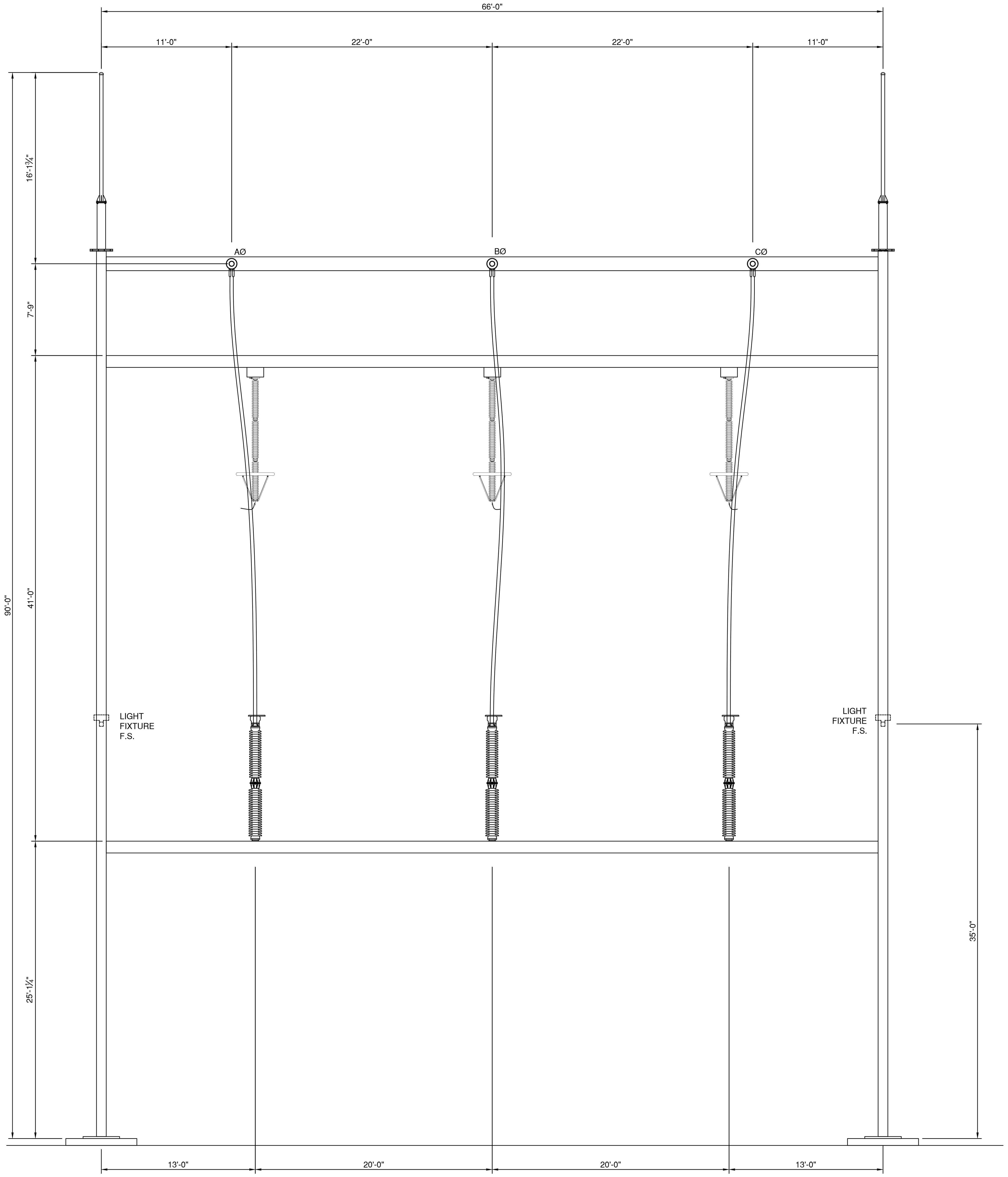
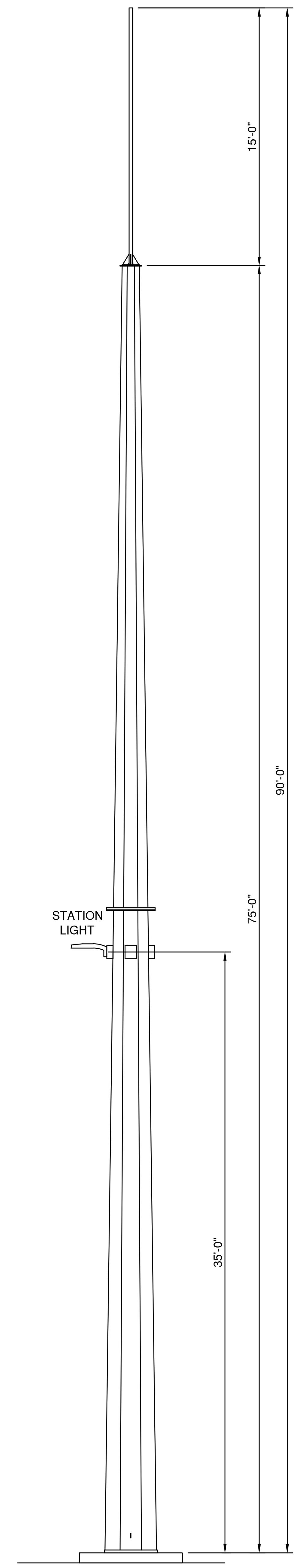
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
COLLECTOR SUBSTATION

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721
SH: 6	REV: B
SCALE:	1/16" = 1'-0"



SECTION J-J



SECTION K-K
TYPICAL SHIELDING MAST
(SEE 731 FOR LIGHT LOCATIONS)

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
A	04/19/2024	CAP BANK ADDITION - CONTENT MOVED FROM SH 6	TB	SR	SR

P.E. STAMP

REYNOLDS
ARCHITECTURE
ENGINEERING
40 TAMARACK LANE
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(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
COLLECTOR SUBSTATION

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721
SH: 7	REV: A
SCALE:	1/16" = 1'-0"

PROPRIETARY INFORMATION

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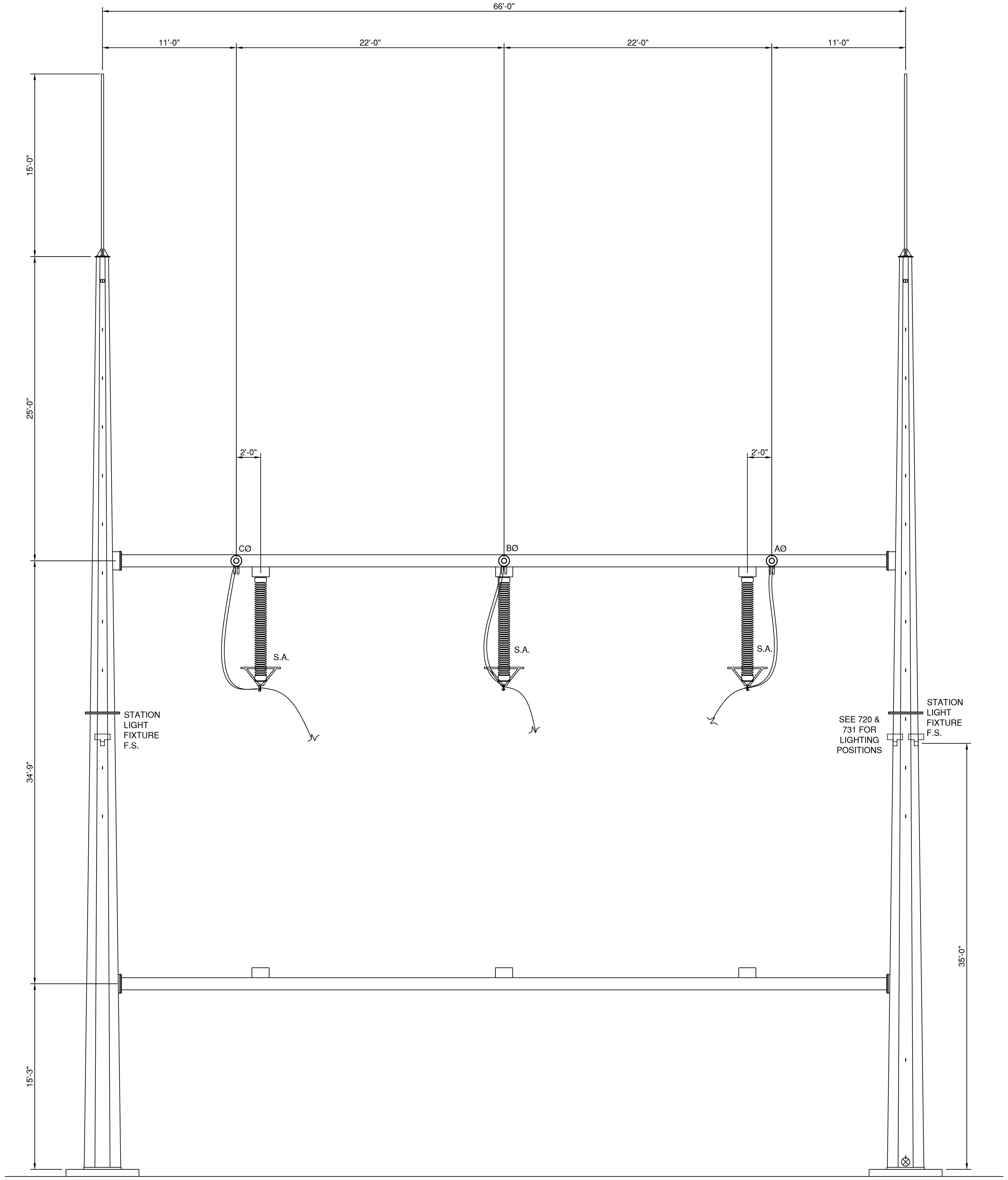
REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/19/2024	ILLUMINATION UPDATE	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

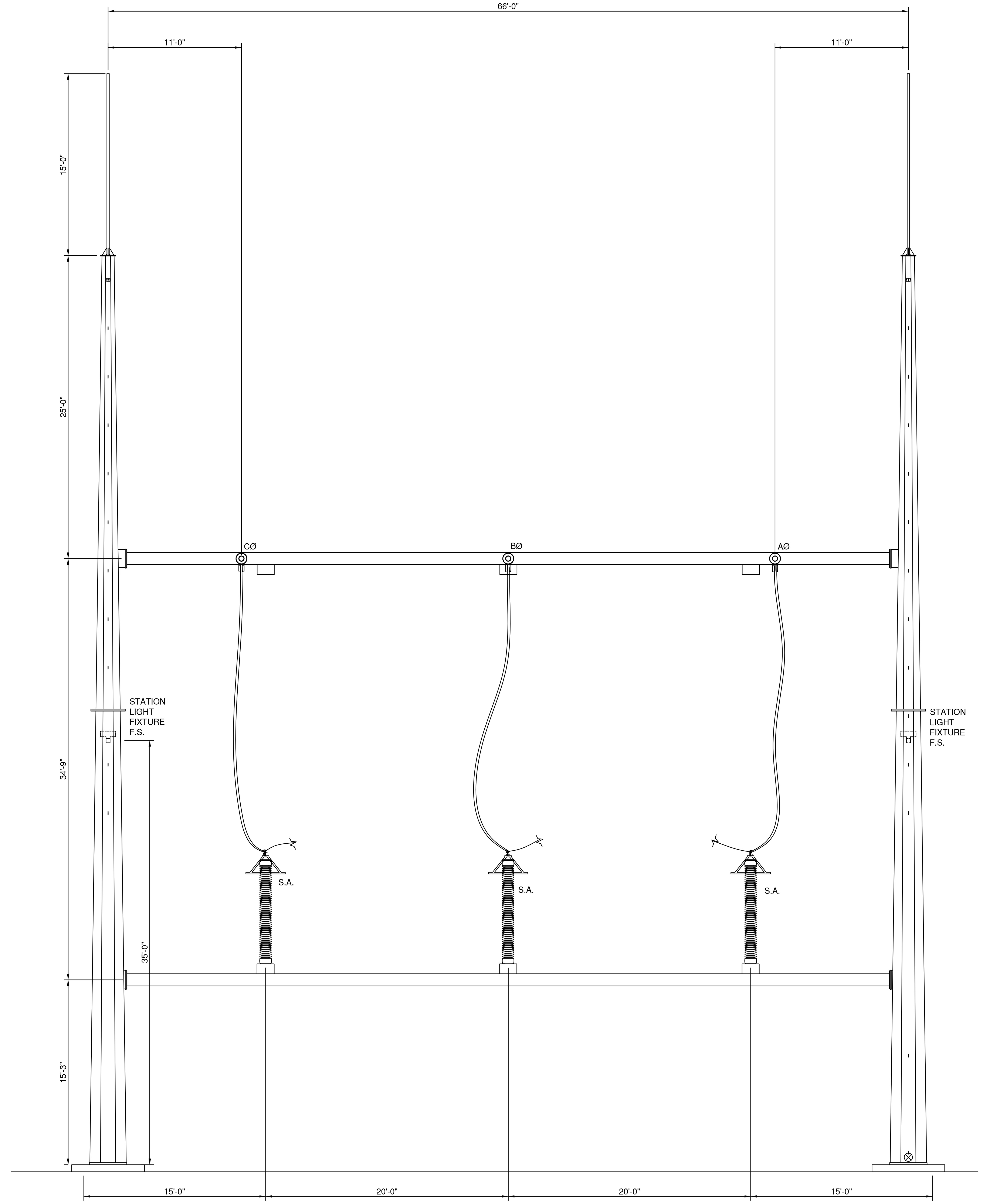
REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
STATION GENERAL ARRAGEMENT
NYPA POI

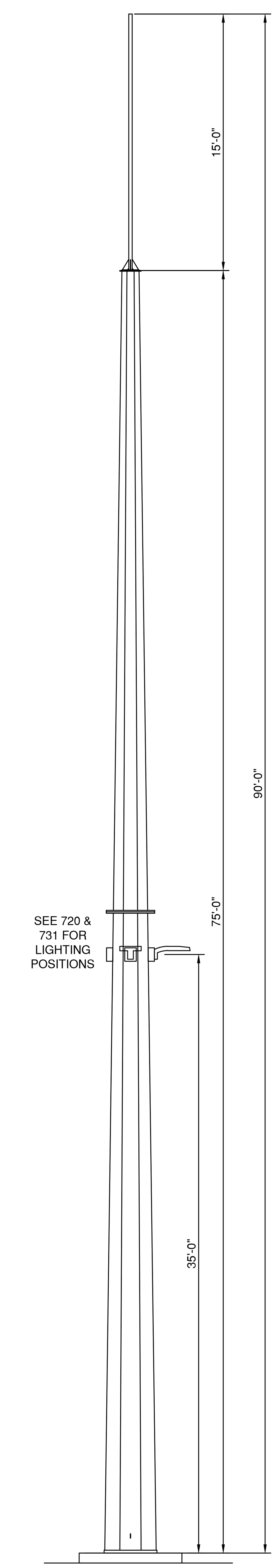
PROJ. NO.: CP-FLCK
DWG. NO.: FLCK-720P
SH: 1
REV: C
SCALE: 1" = 20'-0"



SECTION D-D
(1 & 2)



SECTION E-E



SECTION F-F
TYP MAST

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
C	04/19/2024	ILLUMINATION UPDATE	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721P
SH: 5	REV: C
SCALE:	1" = 20'-0"

SECTION A-A

LEGEND:

F FIXED FITTING

S SLIP FITTING

E EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC

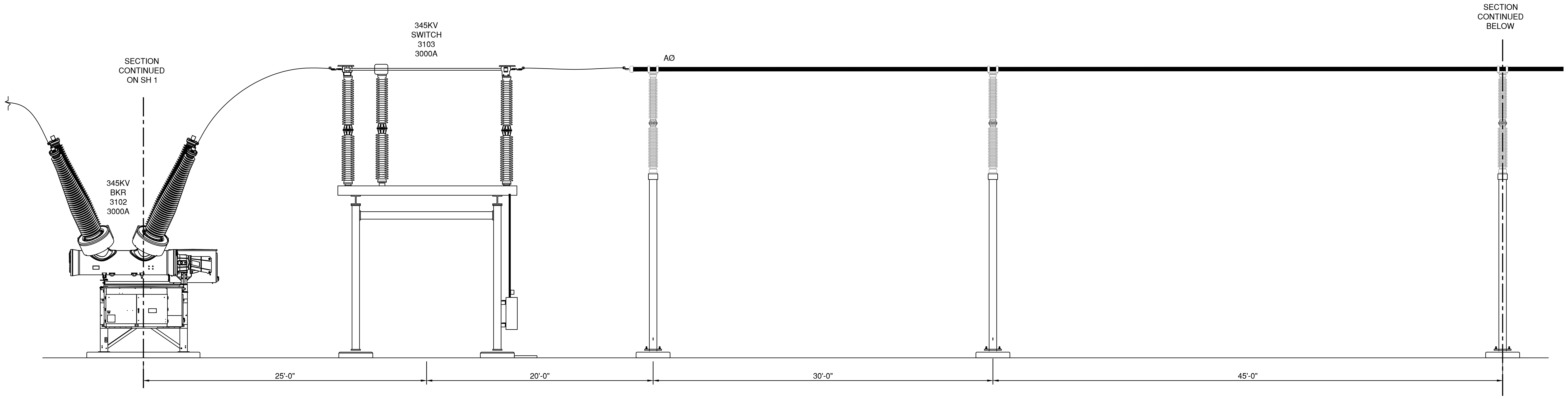
SUNEAST DEVELOPMENT, LLC

RAPPA RD, ROOT, NY 12166

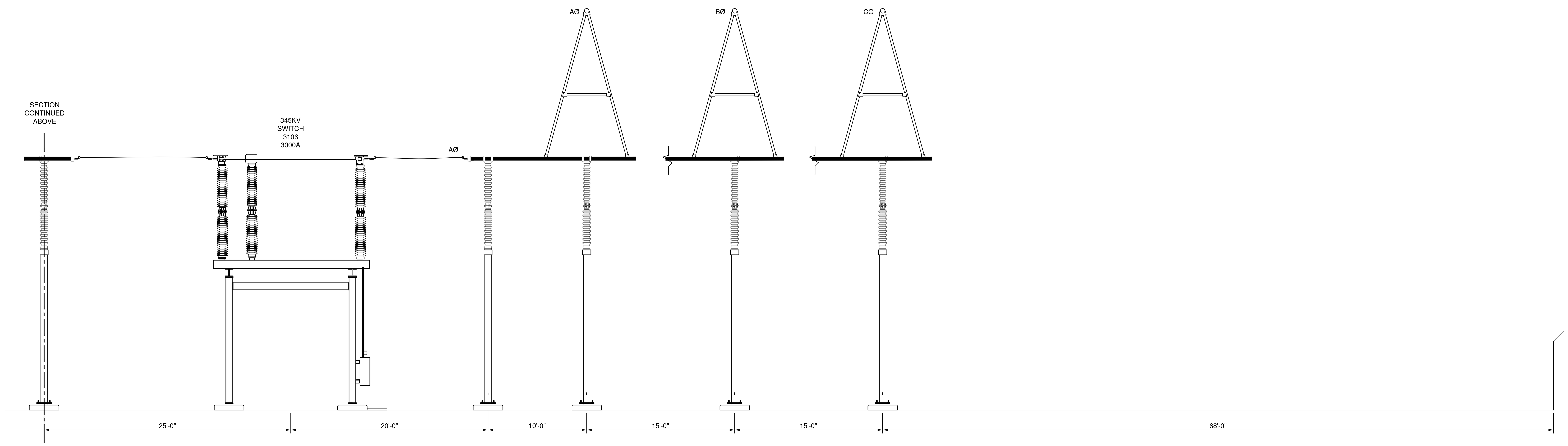
ELEVATION DETAILS

NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO:	FLCK-721P
SH: 1	REV: B
SCALE:	1" = 20'-0"



SECTION A-A



SECTION A-A

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

P.E. STAMP

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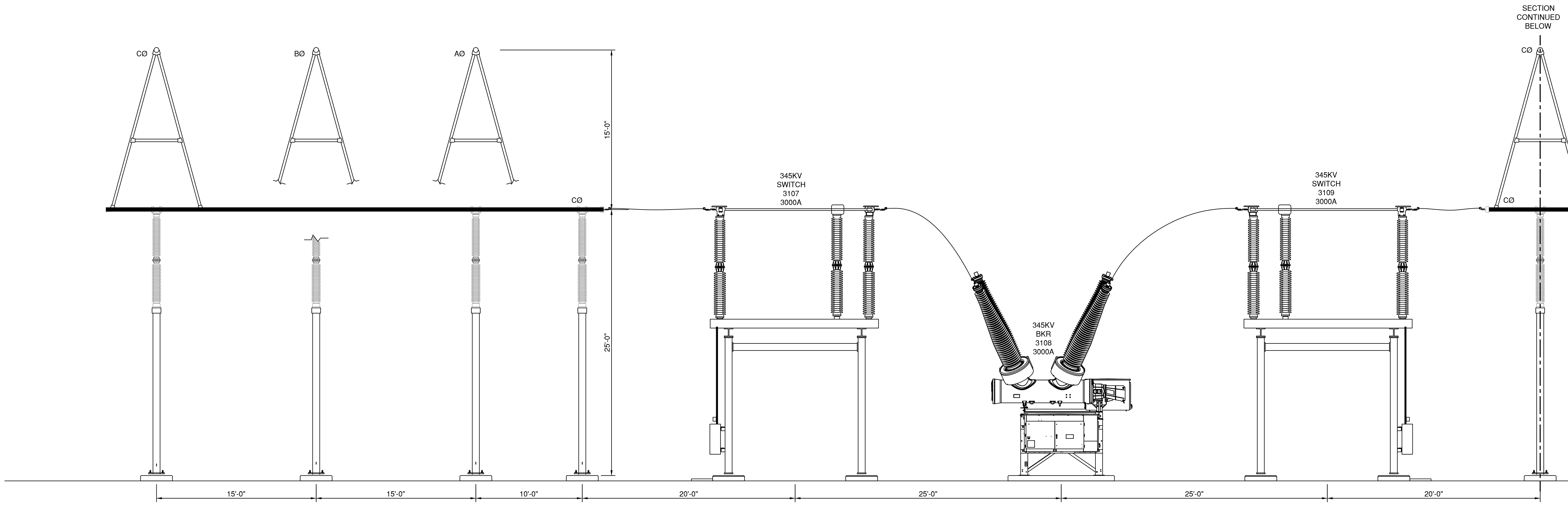
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.: CP-FLCK	
DWG. NO.: FLCK-721P	
SH: 2	REV.: B
SCALE: 1" = 20'-0"	



SECTION B-B

SECTION B-B

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

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REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721P
SH: 3	REV: B
SCALE:	1" = 20'-0"

SECTION C-C

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

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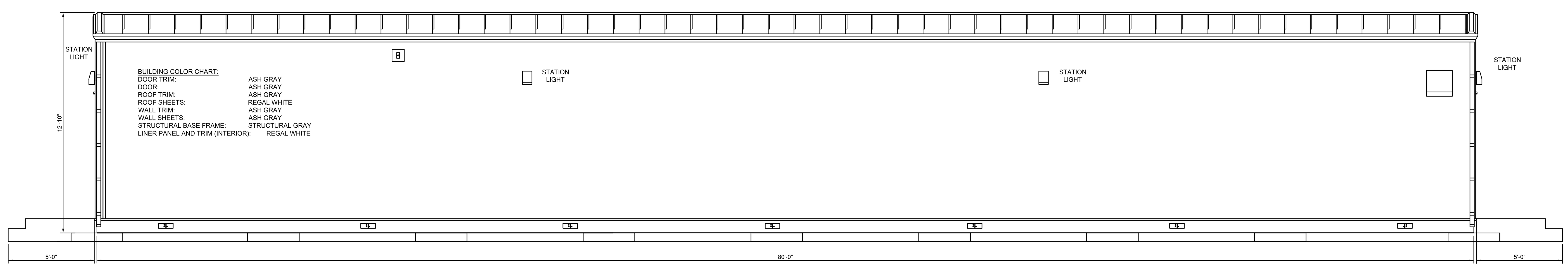
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721P
SH: 4	REV: B
SCALE:	1" = 20'-0"



SECTION H-H

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

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REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-721P
SH: 7	REV: B
SCALE:	1" = 20'-0"

NORTH

0

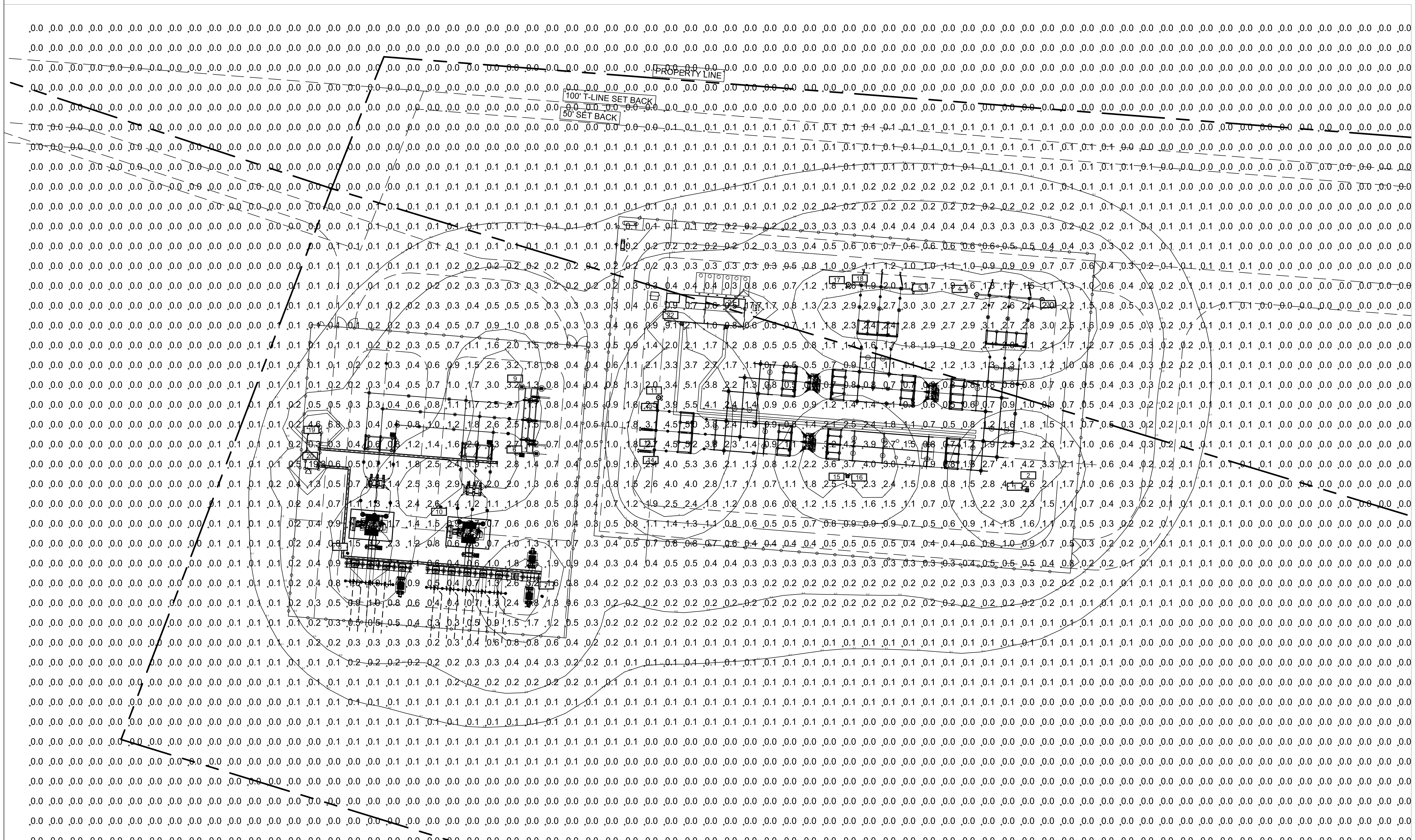
270 — 90

180

ORIENTATION ANGLE REFERENCE

LUMINAIRE SCHEDULE						
LABEL	QTY	CATALOG NUMBER	DESCRIPTION	LAMP	LUMENS	WATTAGE
AREA LIGHT	13	IVAT4-130LSF730U	TYPE IV, 130 LUMENS, SLIPFITTER MOUNTING, 3000K COLOR TEMP., 0-10V DIMMING	LED	13,237	117,311
CONTROL ENCLOSURE LIGHT	4	SLIMFC37 (FULL CUT-OFF HOOD)	CAST BROWN PAINTED METAL HOUSING, EXTRUDED 2-PIECE DIFFUSE METAL HEAT SINK, 1 WHITE CIRCUIT BOARD WITH 16 LEDS, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, CLEAR FLAT PRISMATIC GLASS LENS IN CAST BROWN PAINTED METAL LENS FRAME WITH INTEGRAL VISOR. LENS PRISMS DOWN.	LED	4512	37

LUMINAIRE LOCATIONS				
LIGHT #	LABEL	MTG. HEIGHT	ORIENTATION	TILT ANGLE
1	AREA LIGHT	35'-0"	276	0
2	AREA LIGHT	35'-0"	0	0
3	AREA LIGHT	35'-0"	180	0
4	AREA LIGHT	35'-0"	180	0
5	AREA LIGHT	35'-0"	180	0
6	AREA LIGHT	31'-0"	270	0
7	AREA LIGHT	31'-0"	288	0
8	AREA LIGHT	31'-0"	94	0
9	AREA LIGHT	31'-0"	273	0
10	AREA LIGHT	31'-0"	328	0
11	AREA LIGHT	35'-0"	66	0
12	AREA LIGHT	35'-0"	132	0
13	AREA LIGHT	35'-0"	56	0
14	AREA LIGHT	35'-0"	125	0
15	AREA LIGHT	35'-0"	321	0
16	AREA LIGHT	35'-0"	49	0
17	AREA LIGHT	35'-0"	255	0
18	AREA LIGHT	35'-0"	135	35
19	CONTROL ENCLOSURE LIGHT	9'-0"	0	35
20	CONTROL ENCLOSURE LIGHT	9'-0"	180	35
21	CONTROL ENCLOSURE LIGHT	9'-0"	90	35
22	CONTROL ENCLOSURE LIGHT	9'-0"	180	35



STATION YARD LIGHTS SHALL BE NORMALLY OFF, AND TURNED ON MANUALLY ONLY AS NECESSARY FOR INTERMITTENT OPERATIONS, MAINTENANCE, OR EMERGENCY SITUATIONS.

ILLUMINATION NOTE:

THE ILLUMINATION LEVELS WITHIN THE SUBSTATION WERE ANALYZED TO MEET THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE (NESC) THE DESIGN WAS ANALYZED AND CONFIRMED TO MEET THE REQUIREMENTS DEFINED IN THE NESC. THE SWITCHES, WHICH WERE CALCULATED WITH INTERREFLECTIONS AND AT THE SWITCH HEIGHT, HAD A MINIMUM ILLUMINATION VALUE OF 2.1 FOOTCANDLES COMPARED TO THE REQUIREMENT OF 2.0 FOOTCANDLES.

NOT FOR CONSTRUCTION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
D	07/19/2024	ISSUED FOR 94C PERMITTING	TB	SR	SR
C	04/19/2024	CAP BANK ADDITION - ILLUMINATION UPDATE	TB	SR	SR
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

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DRAWING CREATED BY SCOTT REYNOLDS, P.E., NEW YORK STATE

REYNOLDS ARCHITECTURE ENGINEERING
40 TAMARACK LANE
NYSKAYUNA, NY 12309
(518) 225-9473

FLAT CREEK SOLAR - 200MWAC

CORDELIO POWER

RAPPA RD, ROOT, NY 12166

STATION ILLUMINATION PLAN

NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO:	FLCK-731
SH: 1	REV: D
SCALE:	1" = 50'-0"

IVAT4-130LPA730ZU

RAB

Project:	Type:
Prepared By:	Date:

Low profile, low glare. Edge-lit technology unlike any other.

Color: Bronze Weight: 18.6 lbs

Driver Info

Type	Constant Current
120V	1.00A
208V	0.58A
240V	0.50A
277V	0.43A
Input Watts	117.3W

LED Info

Watts	117W
Color Temp	3000K (Warm)
Color Accuracy	80 CRI
L70 Lifespan	100,000 Hours
Lumens	13,232 lm
Efficacy	112.8 lm/W

Technical Specifications

Compliance

UL Listed:
Suitable for wet locations

IESNA LM-79 & LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

Title 24 Compliant:
An IVELOT edge-lit area light can be used with a motion sensor or photocell control option to comply with 2016 Title 24 Part 6 Section 130.2 (a,b,v)

IP Rating:
Ingress protection rating of IP66 for dust and water

DLC Listed:
This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: S-EPBGIT

Electrical

Driver:
Class 2, 50/60Hz, 120-277V, 4kV standard, 10kV optional

Dimming Driver:
Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:
3.48% at 120V, 5.48% at 277V

Power Factor:
99.9% at 120V, 97% at 277V

Performance

Lifespan:
100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations at 25°C

Wattage Equivalency:
Equivalent to 450W Pulse Start Metal Halide

LED Characteristics

LEDs:
Long-life, high-efficacy, surface-mount LEDs

Color Stability:
LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:
RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Construction

Cold Weather Starting:
The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:
Suitable for use in up to 40°C (104°F)

Housing:
Precision die-cast aluminum

IES Classification:
The Type IV distribution is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a semicircular distribution with essentially the same candlepower at lateral angles from 90° to 270°.

Mounting:
Universal pole adapter

Lens:
Diffused Polymethyl Methacrylate (PMMA)

Technical Specifications (continued)

Effective Projected Area:
EPA = 0.61

Finish:
Formulated for high durability and long-lasting color

Green Technology:
Mercury and UV free. RoHS-compliant components.

Optical

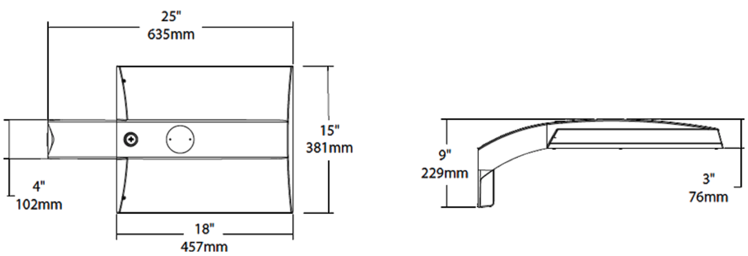
BUG Rating:
B3 U0 G3

Other

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

0-10V Dimming, standard

100,000-Hour LED lifespan

4.0 LM-79 Measurement and Test Results

4.3 THD and PF Test

Model No.	IVAT4-130L730U	Sample ID.	V1
Temperature (°C)	25.3	Humidity (%RH)	56.0

Test Method
The samples were tested according to the ANSI C82.77:2002. The total harmonic distortion shall be measured to the 40th order. The ambient temperature condition was maintained at 25º C ± 1º C. The sample measurements were made using a digital power meter and power supply. The sample was operated at rated voltage and was stabilized before measurement. The total harmonic distortion were calculated.

Test Results

Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
119.99	60	0.994	119.1	0.999	3.48%
277.01	60	0.429	115.4	0.970	5.48%

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2017/12/28	2018/12/27
DLF108	Auxiliary Lamp	2017/12/28	2018/12/27
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2017/12/28	2018/12/27
DLF116	AC Power Source	2017/12/28	2018/12/27
DLF113	Power Meter	2017/12/28	2018/12/27
DLF112	Temperature Recorder	2017/12/28	2018/12/27
DLF114	Temperature & Humidity Datalogger	2017/12/28	2018/12/27
DLF101	Goniophotometer	2017/12/28	2018/12/27
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2017/12/28	2018/12/27
DLF104	AC Power Source	2017/12/28	2018/12/27
DLF507	DC Power Source	2017/12/28	2018/12/27
DLF102	Power Meter	2017/12/28	2018/12/27
DLF111	Temperature & Humidity Datalogger	2017/12/28	2018/12/27
DLF119	Power Meter	2017/12/28	2018/12/27
DLF031	Temperature data logger	2017/12/28	2018/12/27
DLF022	Digital power meter	2017/12/28	2018/12/27
DLF003	Temperature & Humidity Datalogger	2017/12/28	2018/12/27

*************** End of Test Report******************

SLIMFC37

37, 57 and 62 Watt SLIM Wall packs are designed to cover the footprint of most traditional wall packs. They are suitable for mounting heights from 20' to 30', and replace HID Wattages from 200W MH to 320W MH. These ultra-high efficiency fixtures are available in cutoff or full cutoff models.

Color: Bronze   Weight: 8.5 lbs

Project:	**Type:**
Prepared By:	**Date:**

Driver Info

Type	Constant Current
120V	0.34A
208V	0.20A
240V	0.17A
277V	0.15A
Input Watts	32.4W

LED Info

Watts	37W
Color Temp	5000K (Cool)
Color Accuracy	74 CRI
L70 Lifespan	100,000 Hours
Lumens	4,512 lm
Efficacy	139.3

Technical Specifications

Compliance

UL Listed:
Suitable for Wet Locations. Wall Mount Only.

IP Rating:
Ingress protection rating of IP66 for dust and water

IESNA LM-79 & LM-80 Testing:
RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Trade Agreements Act Compliant:
This product is a product of Cambodia and a "designated country" end product that complies with the Trade Agreements Act

Construction

Footprint:
Designed to replace RAB HID WP1 wall packs, both in size and footprint template, so upgrading to LED is easy and seamless

Cold Weather Starting:
The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:
Suitable for use in up to 40°C (104°F)

Housing:
Precision die-cast aluminum housing and door frame

Mounting:
Die-cast back box with four (4) conduit entry points and knockout pattern for junction box or direct wall mounting. Hinged housing and bubble level for easy installation.

Full Cutoff:
Allows for conformance to the IDA's fully shielding requirement, emitting no light above 90 degrees.

Recommended Mounting Height:
Up to 20 ft

Lens:
Microprismatic diffusion glass lens reduces glare and has smooth and even light distribution

Reflector:
Specular thermoplastic

Gaskets:
The unique design of the tight-lock gasket ensures no water or environmental elements will ever get inside the SLIM

Finish:
Formulated for high durability and long-lasting color

Green Technology:
Mercury and UV free. RoHS-compliant components.

LED Characteristics

LED:
Long-life, high-efficiency, micro-power, surface mount LEDs; binned and mixed for uniform light output and color

Color Stability:
LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Color Consistency:
7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Electrical

Driver:
Constant Current, Class 2, 120-277V, 50-60Hz, 120V: 0.34A, 208V: 0.17A, 240V: 0.17A, 277V: 0.15A

Dimming Driver:
Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:
2.84% at 120V, 4.91% at 277V

Technical Specifications (continued)

Power Factor:
99.7% at 120V, 94% at 277V

Performance

Lifespan:
100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Other

Accessories:
Available accessories include polyshield and wire guard. Click here to see all accessories.

Patents:
The design of the SLIM™ is protected by patents pending in US, Canada, China, Taiwan and Mexico

HID Replacement Range:
Replaces 200W Metal Halide

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

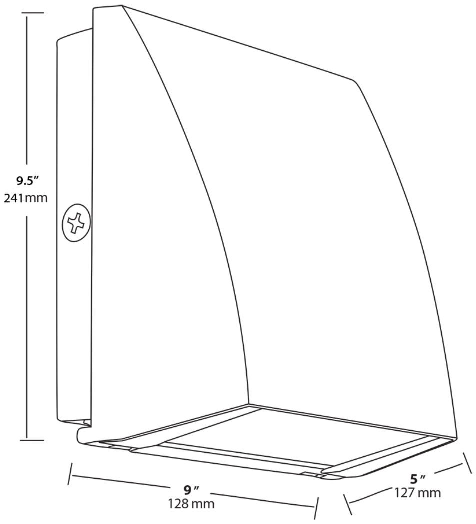
Optical

BUG Rating:
B1 U0 G0

SLIMFC37

RAB

Dimensions



Features

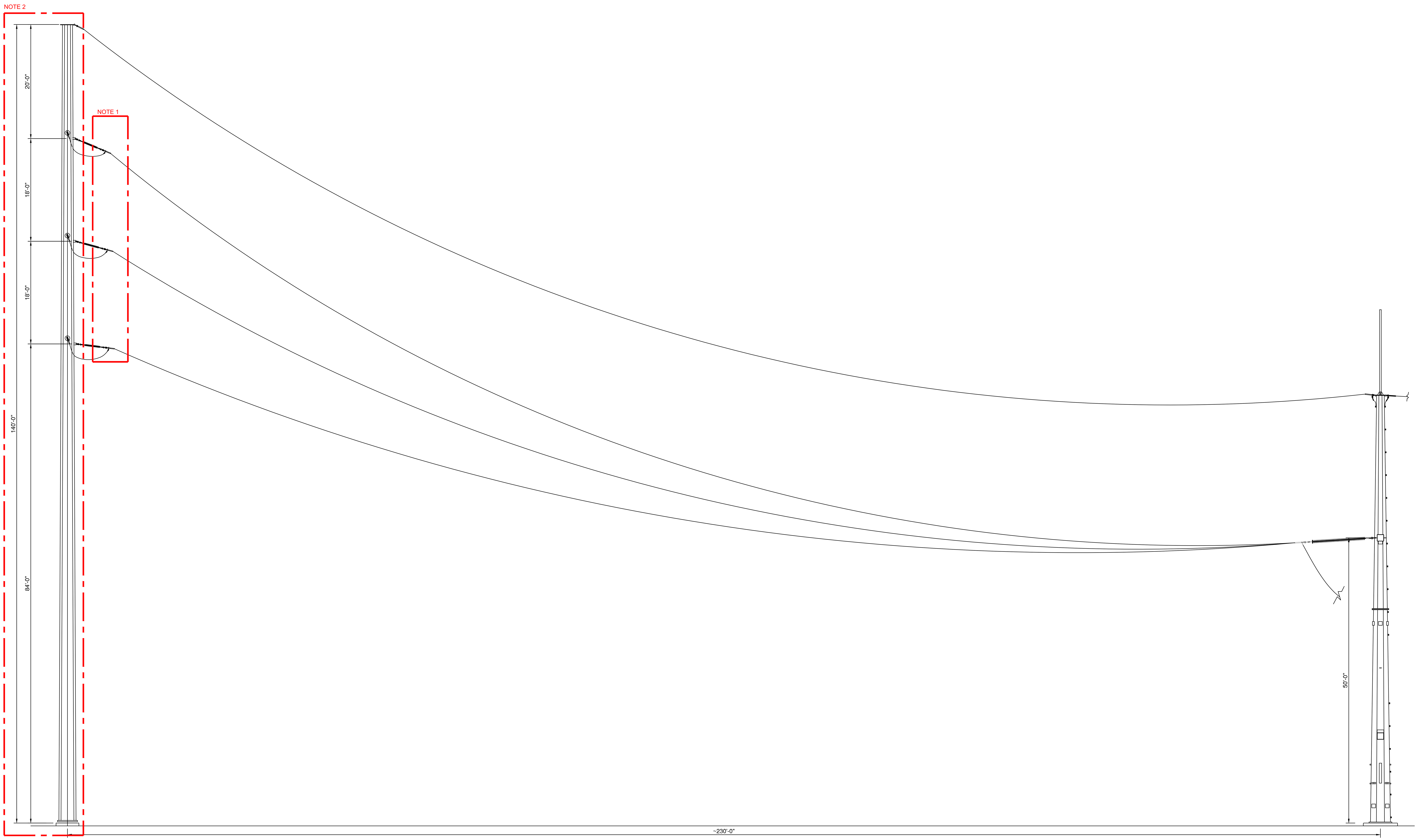
- Covers footprint of most traditional wall packs
- Easy installation with hinged access, bubble level and multiple conduit entries
- Tight-lock gasket keeps elements out
- 100,000-hour LED lifespan
- 5-Year, No-Compromise Warranty

Ordering Matrix

Family	Cutoff	Wattage	Color Temp	Finish	Driver Options	Options
SLIM	FC	37				
	Blank = Cutoff (10 degrees)	**37** = 37W	**Blank** = 5000K Cool	**Blank** = Bronze	**Blank** = Standard (120-277V)	**Blank** = No Option
	FC = Full Cutoff (0 degrees)	**57** = 57W	**N** = 4000K Neutral	**W** = White	**/BL** = Bi-Level	**/PC** = 120V Button Photocell
		62 = 62W	**Y** = 3000K Warm		**/D10** = Dimmable	**/PC2** = 277V Button Photocell
					/480 = 480V	**/PCS** = 120V Swivel Photocell
						/PCS2 = 277V Swivel Photocell
						/LC = Lightcloud® Controller

Need help? Tech help line: **(888) 722-1000** Email: **sales@rablighting.com** Website: **www.rablighting.com**

 Note: Specifications are subject to change at any time without notice



SECTION G-G
(TYPICAL TURNING POLE
CONNECTION 2X)

NOTES:

1. PHASING ROTATION DETERMINED BY NYPA
2. TURNING POLE DEISGN BY NYPA CURRENT REPRESENTATION IS SUBJECT TO CHANGE BY NYPA DEPENDENT ON THE HEIGHTS OF THE NEW 345KV LINE FROM EDIC TO PRINCETOWN

LEGEND:

F	FIXED FITTING
S	SLIP FITTING
E	EXPANSION FITTING

NOT FOR CONSTRUCTION

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REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
B	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
A	03/07/2024	ISSUED FOR PERMIT	TB	SR	SR

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(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
ELEVATION DETAILS
NYPA POI

PROJ. NO.:	CP-FLCK
DWG. NO:	FLCK-721P
SH: 6	REV: B
SCALE:	1" = 20'-0"

NOT FOR CONSTRUCTION

PROPRIETARY INFORMATION

REV.:	DATE:	DESCRIPTION OF REVISION:	DRAWN:	CHECKED:	APPRV'D:
F	04/19/2024	CAP BANK ADDITION	TB	SR	SR
E	03/25/2024	UPDATED PER CLIENT REVIEW	TB	SR	SR
D	03/07/2204	ISSUED FOR PERMIT	TB	SR	SR
C	02/15/2024	RELOCATED STATIONS PER CUSTOMER COMMENTS	TB	SR	SR
B	01/23/2024	RELOCATED STATIONS PER CUSTOMER COMMENTS	TB	SR	SR
A	01/12/2024	ISSUED FOR LAND PROCUREMENT	TB	SR	SR

P.E. STAMP

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NYSKAYUNA, NY 12309
(518) 225-9473

SUNEAST FLAT CREEK SOLAR - 200MWAC
SUNEAST DEVELOPMENT, LLC
RAPPA RD, ROOT, NY 12166
STATION SITE PLAN
UTILITY POI & COLLECTOR SUBSTATION

PROJ. NO.:	CP-FLCK
DWG. NO.:	FLCK-760
SH:	2
REV.:	F
SCALE:	1" = 100'-0"

PLAN 7C - GLINT AND GLARE ANALYSIS

Glint and Glare Analysis Report

Flat Creek Solar Project

August 2024

Prepared For:

Flat Creek Solar NY LLC
c/o Cordelio Power LP
Suite 1805 - 55 Fifth Ave
New York, NY 10003

Prepared By:

TRC
999 Fourier Dr., Suite 101
Madison, Wisconsin 53717

Table of Contents

Tables

Figures

Attachments

1.0 Introduction

Flat Creek Solar NY LLC is proposing to construct and operate the Flat Creek Solar Project (Facility). The Facility includes development of a 300-megawatt (MW) alternating current (AC) ground-mounted photovoltaic solar generation facility covering a total area of approximately 1,100 acres. The Facility is located south of US Interstate 90 to approximately County Highway 92/County Highway 93, and east of County Highway 94 (Old Sharon Road) to Darrow Road within Montgomery County, New York. The array areas will be secured via security fences that will be installed in proximity to the final panel array locations.

1.1 Permitting and Regulatory Requirements

1.1.1 Article VIII Submittal Requirements

This report was developed to support Exhibit 8 Visual Impacts of the Article VIII (formerly Section 94-c) application for the Facility. As required by Section 1100-2.9(d)(7), the Visual Impacts Minimization and Mitigation Plan (VIMMP) shall include a glare analysis using Sandia National Laboratories Solar Glare Hazard Analysis Tool (SGHAT) methodology or equivalent. The glare analysis assesses the glare potential from the Facility at nearby non-participating residences, airports, and public roadways.

1.1.2 Federal Aviation Administration Policy

In May 2021, the Federal Aviation Administration (FAA) issued a policy in 86 Federal Register 25801 for the development of solar projects on federally-obligated airports (FAA 2021a). The policy is typically adopted by the industry for solar projects off airport property but within proximity of airports.

Within this policy, the FAA identified project criteria where the policy requirements do not apply. These include:

1. Solar energy systems on airports that do not have an air traffic control tower (ATCT);
2. Airports that are not federally obligated; or
3. Solar energy systems not located on airport property.

This Facility is located over 5 miles from an airport based on the FAA's Circle Search for Airports Tool (FAA 2024). Because the Facility is located off-site and a significant distance from the airport property, evaluation is not necessary according to the FAA guidance.

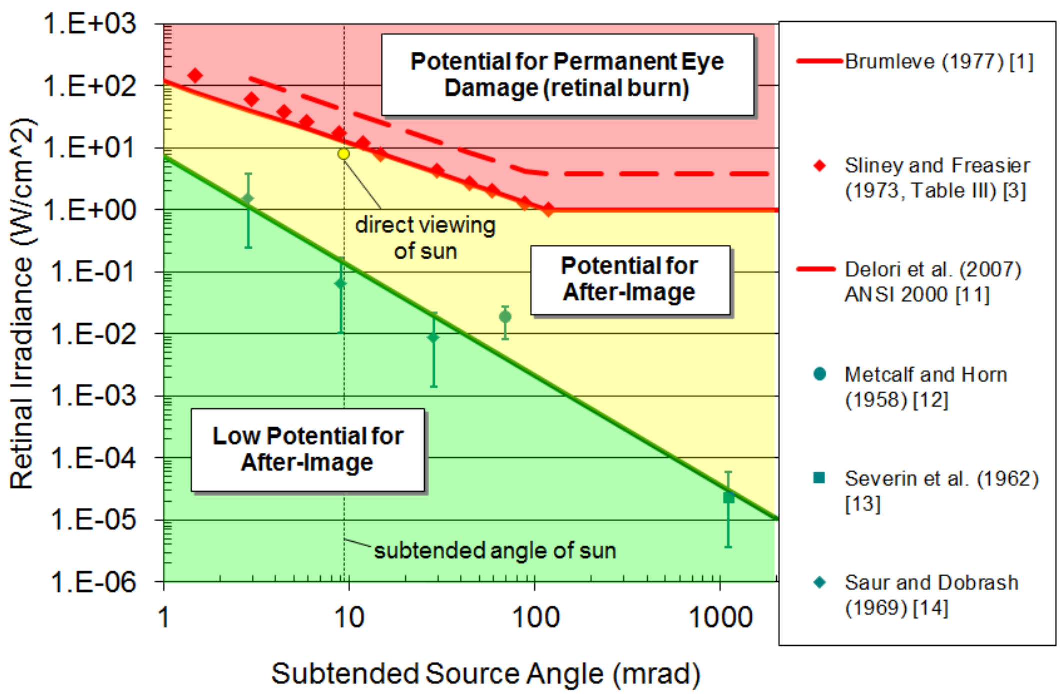
2.0 Approach/Methods

2.1 Glare Hazard Analysis Tool

To conduct the glint and glare analysis, TRC used methods developed by Sandia National Laboratories and described in the SGHAT User's Manual (Ho and Sims 2016). The SGHAT-compliant software used in this analysis is under license to TRC by ForgeSolar. Glare is defined as a continuous source of bright light, whereas glint is defined as a momentary flash of bright light. Both are common in the natural environment.

The SGHAT analyzes the potential for glare over the entire calendar year from when the sun rises above the horizon until the sun sets below the horizon. The magnitude of glint and glare depends on several factors such as the sun's position, the location of the observer, and characteristics of the solar PV array including location, orientation, tilt, and optical properties of the modules used. Glare visibility from an observer's location was analyzed once array characteristics were determined. Ocular hazard potential was estimated based on the retinal irradiance and subtended angle (size/distance) of the predicted glare (Ho et al, 2011). Potential ocular hazards range from temporary after-image to retinal burn depending on the retinal irradiance and subtended angle, as shown in **Figure 2-1**. The SGHAT classifies solar glare into three categories, denoted as "green," "yellow," or "red" glare.

- Green glare is the mildest of the classifications and has low potential to cause after-image and no potential to cause retinal burn.
- Yellow glare is a moderate level of glare and has some potential for temporary after-image and no potential to cause retinal burn.
- Red glare is a serious and significant form of glare with potential to cause retinal burn and/or permanent eye damage. Flat-plate photovoltaic systems, such as the ones proposed, do not produce the retinal irradiance levels necessary to result in permanent retinal damage.



Source Ho et al, 2011

Figure 2-1. Potential Glare Impacts

In general, modern solar modules are designed to absorb the sun's energy to produce electricity. Solar modules are constructed from high transmission, low iron glass and are typically covered with anti-reflective coatings. Solar modules produce specular reflections, as the sun is reflecting off the generally smooth surface of the solar module. This reflection bounces off the solar module at specific angles, dependent on the sun's position and module angle, and can be observed as glint or glare by an observer that intersects the reflective angle. Modern solar modules, on average, reflect approximately 10 percent of total irradiance but can be as low as 1 to 2 percent with anti-reflective coatings and depending on the sun's incident angle (Ho and Sims, 2013).

Studies have been conducted comparing the intensity of glare and reflectance from solar modules with respect to common surfaces and materials (**Figure 2-2**). These studies have shown that reflections from solar modules (with anti-reflective coatings) are considerably lower than reflections from steel and common glass and tend to be similar to reflections from smooth water (**Figure 2-3**). The reflectively of solar modules compared to common materials is shown in **Figures 2-2** and **2-3**.

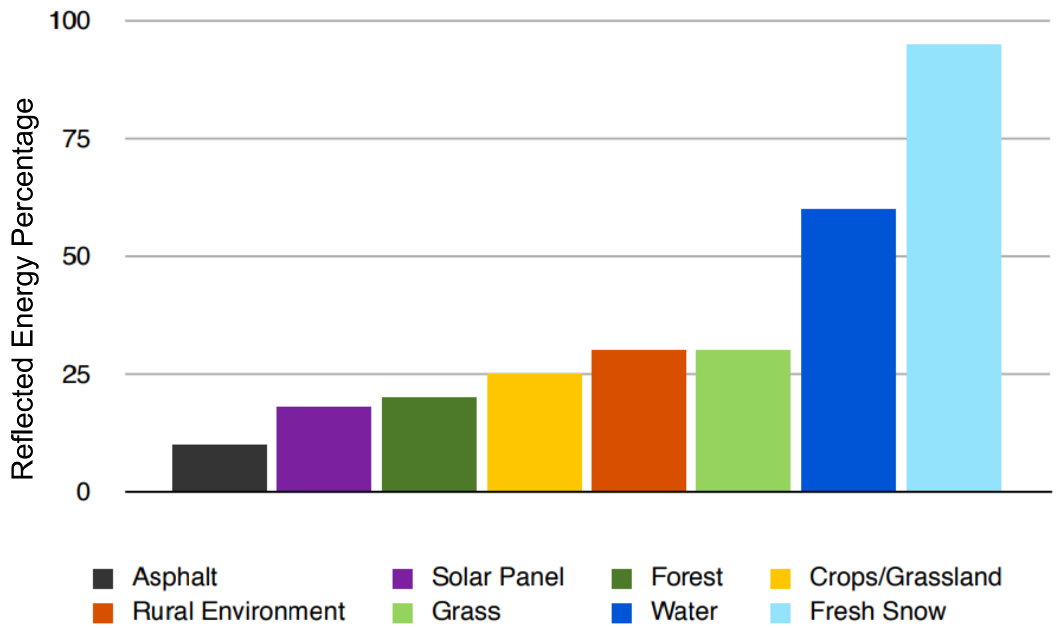


Figure 2-2. Comparative Reflective Analysis (Capital Source Farm, 2010)

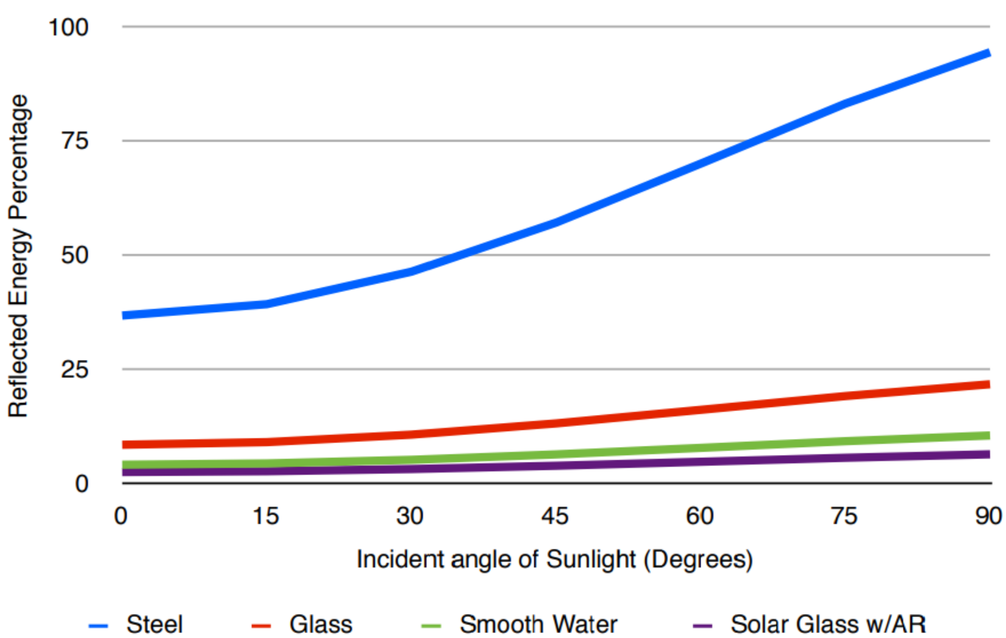


Figure 2-3. Analysis of Typical Material Reflectance (Capital Source Farm, 2010)

ForgeSolar suite of tools provides a quantified assessment of:

- when and where glare may occur throughout the year from solar installations, and
- the potential effects on the human eye when glare does occur.

However, the application of this tool in determining the occurrence, duration, and intensity of glare ensures a conservative analysis since it is based on a clear, sunny skies all year round, does not consider obstacles/obstructions (trees, buildings, hills), does not account for atmospheric conditions that scatter or reduce incoming solar radiation or cloud cover. Accordingly, SGHAT outputs represent the worst-case scenario.

Assumptions of the SGHAT are as follows. Additional assumptions noted by ForgeSolar are provided in **Attachment 1**.

- The SGHAT does not rigorously represent the detailed geometry of a solar panel array; detailed features such as gaps between modules, variable heights of the PV array, and support structures may impact actual glare results. This can be evident in non-planar footprints (such as multiple sides of a hill) in which the system would smooth the footprint to place the vertex elevations on a single planar surface.
- The glare spot is constrained by the PV array footprint size. Partitioning large arrays into smaller sections may reduce the maximum potential subtended angle (glare spot), potentially impacting results if actual glare spots are larger than the sub-array size.
- The variable direct normal irradiance (DNI) feature scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This DNI is indicative for the amount of solar radiation received on a surface normal to the sun within a 60-minute period. This variable profile provides a lower DNI in the mornings and evenings and a maximum (1,000 watts per square meter [W/m^2] as recommended by ForgeSolar) at solar noon. The scaling uses a clear-day irradiance profile all year round. However, the actual DNI on any given day can be reduced by many factors, such as atmospheric conditions like overcast skies or atmospheric attenuation from humidity and particulates (Ho and Sims 2013). Therefore, modeling results are more conservative than what may be anticipated on a specific day.
- The modeling does not automatically consider obstacles (either natural or artificial, existing, or proposed) between the observation points and panel arrays. To view glare, there must be a clear line of site from the panels to the receptor location. Therefore, obstructions such as trees, hills, buildings, etc., may limit instances of glare.

- The ocular (visual) hazard, as shown in **Figure 2-1**, predicted by the tool is also dependent on several environmental, optical, and human factors, which can be uncertain. This may minimize the true ocular (visual) impact for an individual.

In general, default values given by the SGHAT in this analysis reflect the worst-case scenario. As such, the actual glare created by the Facility is likely to be less than that predicted by the model.

The following additional assumptions have been used for the analysis:

- Time zone for the Facility was set at UTC-5 (Eastern Standard Time).
- Subtended angle of the sun of 9.3 milliradian, as recommended by the SGHAT. This is the average angle of the sun as viewed from earth as it moves throughout the course of the day.
- The time interval for the analysis was set to run at 1-minute increments.

Inputs, outputs, and other assumptions used in the analysis are documented in the solar glare hazard analysis reports (**Attachment 1**).

2.2 Facility Specifications

2.2.1 Array Area Specifications

The Facility was spilt into 59 separate array areas to be modeled for glare. Due to the number of separate array areas, and the overall size of the Facility and the area in which it covers, the array areas were grouped into the following six "modeling areas":

- Group A: Array 1 through 11
- Group B: Array 12 through 17
- Group C: Array 18 through 23
- Group D: Array 24 through 38
- Group E: Array 39 through 48
- Group F: Array 49 through 59

The array areas are proposed to be mounted on a single-axis tracking system with axes that are positioned in a north-south orientation (180°), and an east-west tilt angle ranging from 60° to -60°. The resting angle, which is defined as the angle at which backtracking of the panels starts and ends at the beginning and end of the day respectively (i.e., the shallowest angle outside the range of rotation), was modeled starting at 10° and adjusted to 15° at Arrays 38 and 39 to further minimize potential glare.

Single-axis tracking systems are programmed for the panels to remain perpendicular to the sun's location as the sun moves across the sky throughout the day via solar data from ephemeris tables, which predict the sun's path across the sky. The tracking system begins when the sun's location is perpendicular with the maximum tracking angle of the system and continues until the sun enters a range where the panel can no longer remain perpendicular with the sun. When the sun is outside the tracking range of the system (when the panels no longer can remain perpendicular with the sun), the trackers remain at their resting angle until the sun sets below the horizon.

The Facility will utilize backtracking at the site to reduce the impacts from shading during the morning and evening hours of the day. ForgeSolar utilizes four methods to model backtracking which include "shade-slope," "shade," "interval," and "instant." A "shade-slope" method was utilized in this model. "Shade-slope" is a slope aware method design to accommodate the modules placed on arbitrarily oriented slopes and reduce shading. For the backtracking analysis, a ground coverage ratio of 39.7 percent was used.

The panels are proposed to be mounted to the single axis tracking system at a typical height above ground surface, approximate midpoint of the panel, of 6.92 feet. This allows for a maximum top of panel height of 10 feet above ground level. Panels are proposed to have a smooth-textured surface and have anti-reflective coating on the panel surface. Ground elevations reported in the ForgeSolar program were updated to reflect available topographic data within the array areas.

Figures 2-4 through 2-9 depict the locations of each array area.

2.2.2 Visual Obstructions

Landscaping is proposed to be installed in several locations throughout the Facility Site as shown on the Landscaping Plan (Appendix 5-2). In addition, several locations within the Facility Site contain existing vegetation which will assist in mitigating visual impacts of the Facility components . Proposed landscaping and existing vegetation serve dual purpose: (1) general screening of the solar arrays and (2) provides visual obstructions that assist in minimizing glare that may be potentially perceived at a receptor.

As noted in **Section 2.1**, natural or man-made obstructions are not automatically included in the ForgeSolar model; however, simplistic obstruction modeling can be included into the analysis manually. In ForgeSolar, obstruction modeling is treated as an opaque parallelogram which would block incoming sunlight or emanating glare reflections if they intersect the obstruction face. This obstruction modeling was included in areas where potential glare impacts may occur to show potential mitigating impact of the existing and proposed vegetation. The approximate locations of the modeled obstructions are shown on **Figures 2-7** and **2-8**.

Proposed landscaping vegetation was modeled at a height of 5 to 10 feet above ground surface. Existing vegetation was modeled at varying heights across the Facility from 20 to 40 feet tall. On **Figures 2-7** and **2-8**, areas of proposed landscaping that were included in the model are shown in blue and existing landscaping included in the model are shown in green.

These modeled obstructions do not account for all obstructions potentially seen within the Facility, only the array areas identified in **Figures 2-7** and **2-8** are included in the model. The presented visual obstruction modeling herein estimates the potential effects of proposed landscaping and existing vegetation, however, it should be noted that visibility through modeled vegetation may occur, as vegetation is not always an opaque wall all year round.

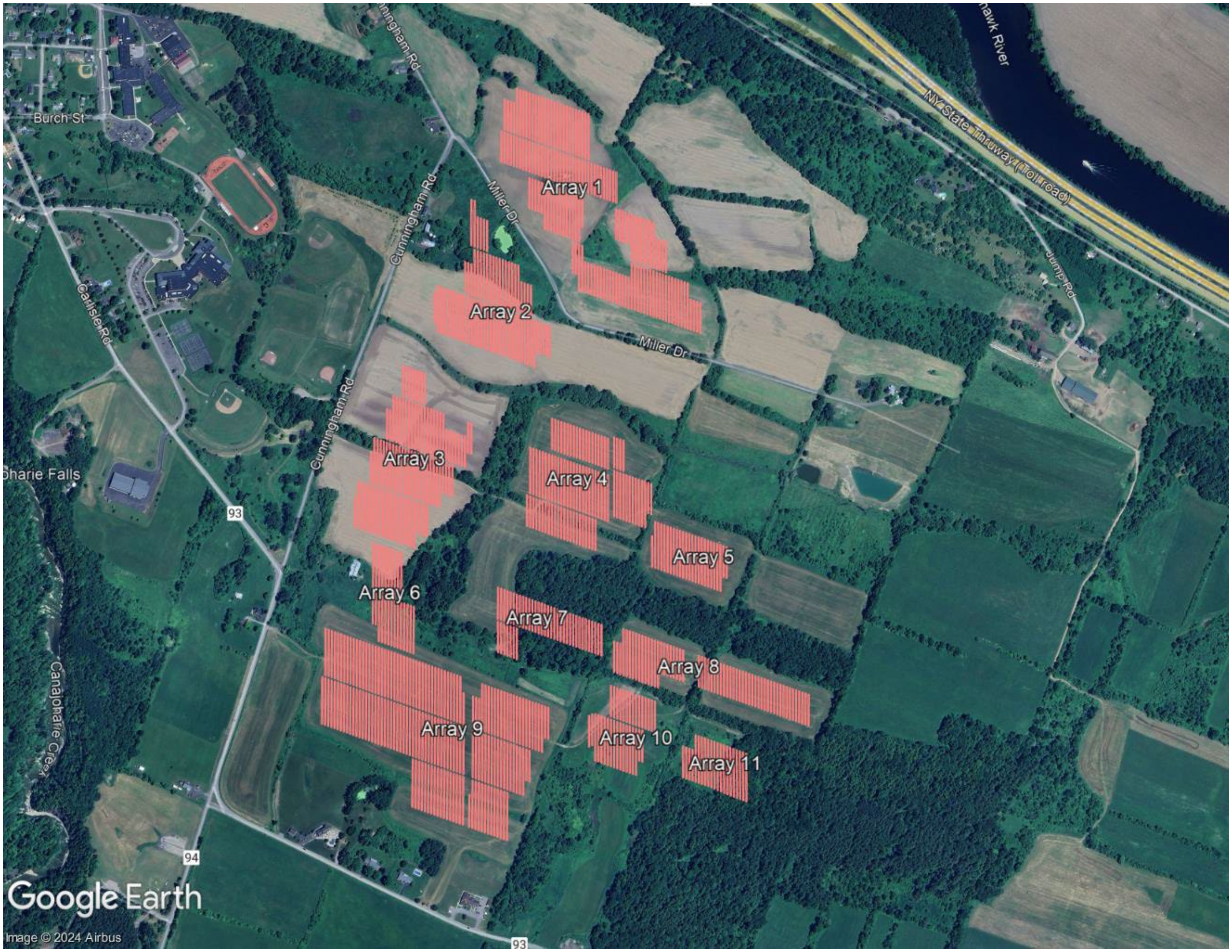


Figure 2-4. Preliminary Array Locations and Labels (Group A)

Figure 2-5. Preliminary Array Locations and Labels (Group B)

Figure 2-6. Preliminary Array Locations and Labels (Group C)

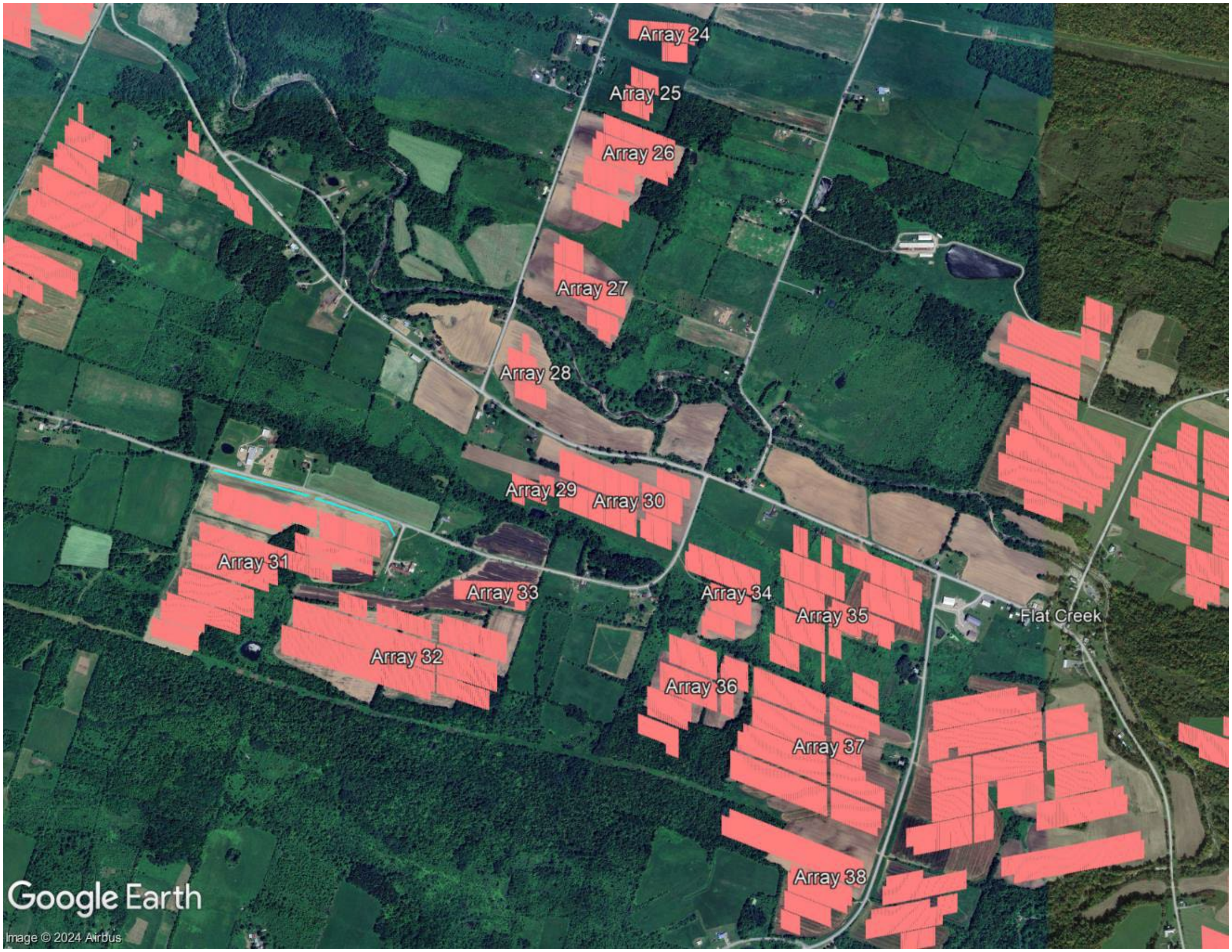


Figure 2-7. Preliminary Array Locations and Labels (Group D)

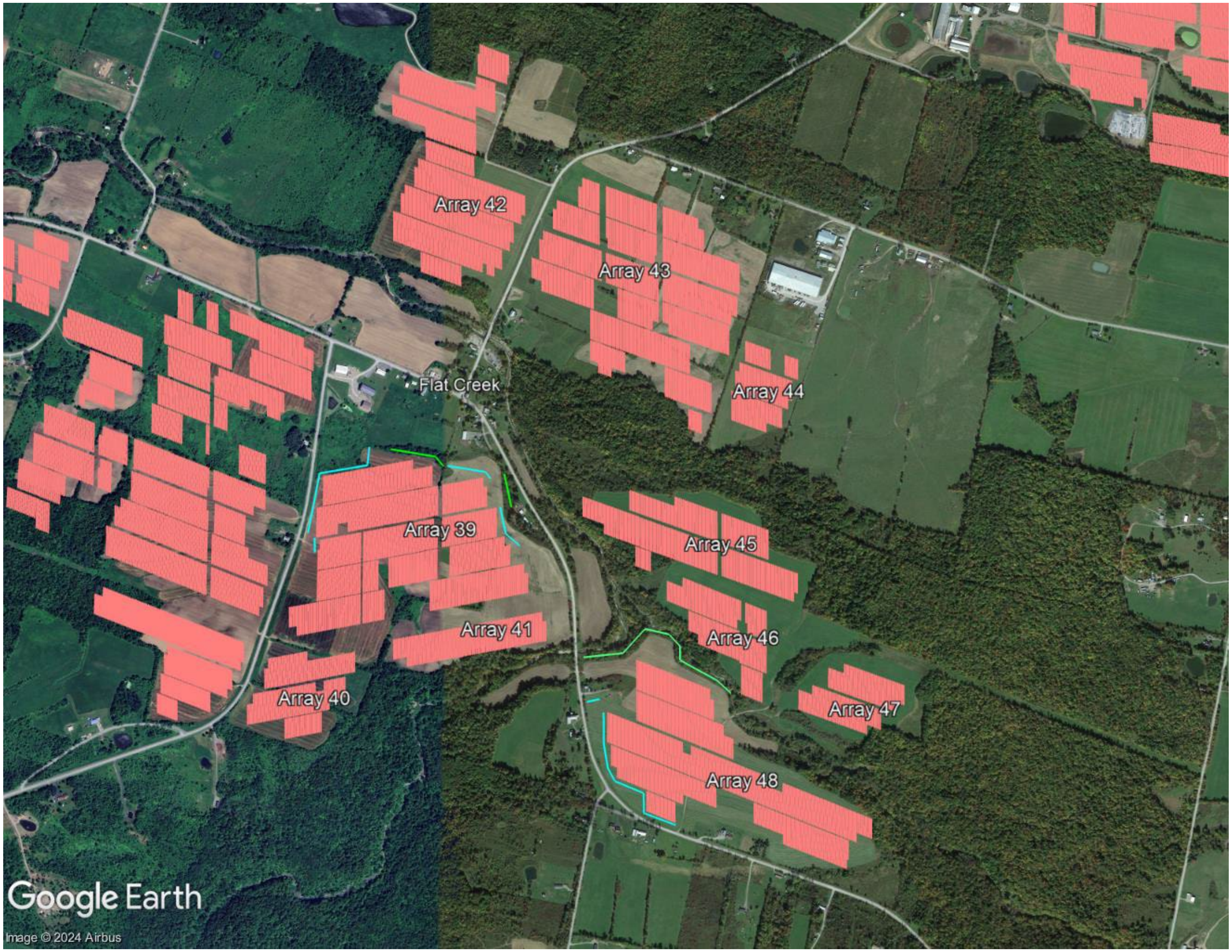


Figure 2-8. Preliminary Array Locations and Labels (Group E)

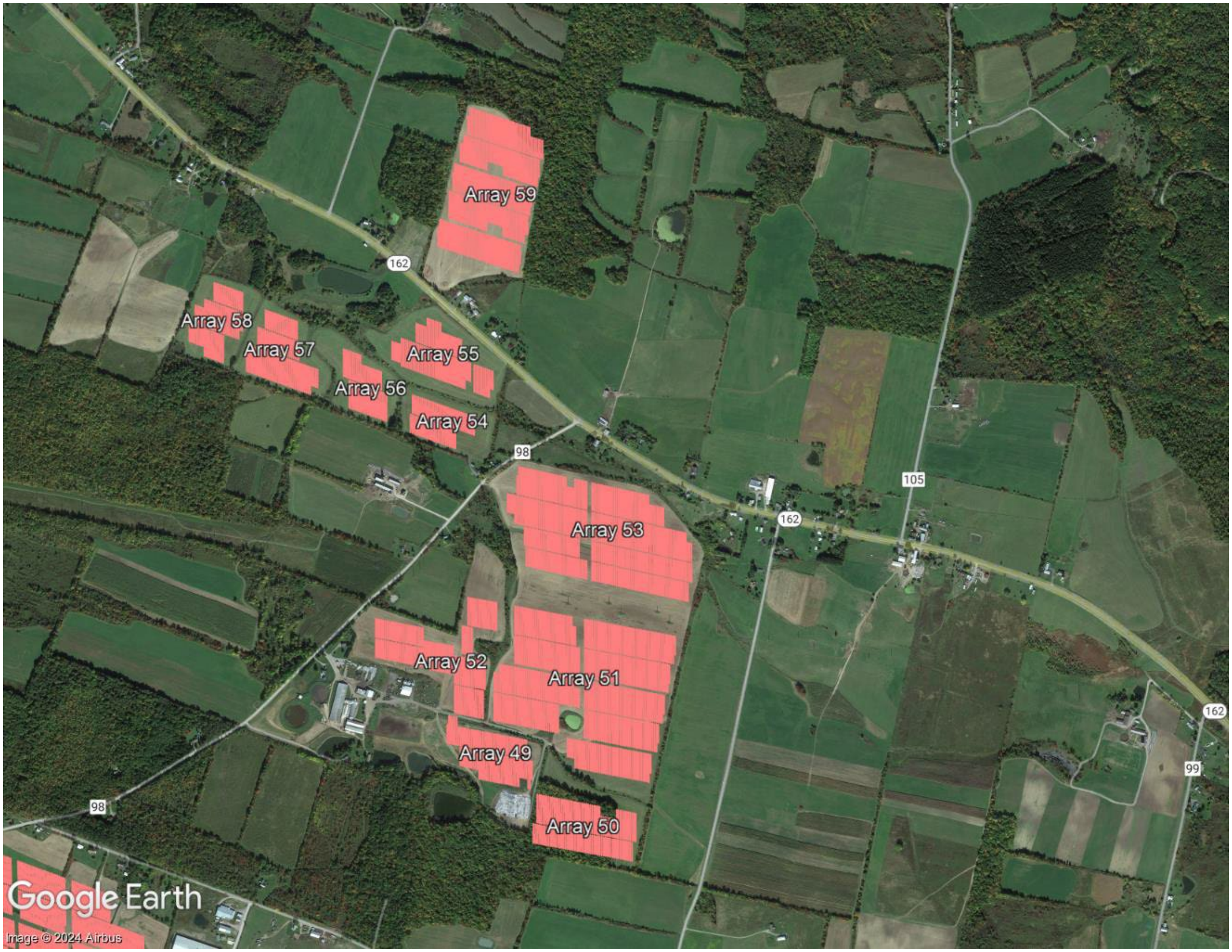


Figure 2-9. Preliminary Array Locations and Labels (Group F)

2.3 Observer Parameters

2.3.1 Residential Locations

There are no consistent standards or guidance for determining the study area when assessing solar glare. Town solar ordinances may require that glare at adjacent or neighboring residences be evaluated; however, adjacent and neighboring are generally not defined. Title 16, Chapter 18, Section 1100-2.9(d)(7) of the New York Code, Rules, and Regulations, indicates that glare exposure to non-participating residence, airport, or public roadways will be avoided and minimized. For the Town of Root and Town of Canajoharie, which the Facility is in, neighboring/adjacent buildings properties and roadways are noted in their ordinances.

To account for this inconsistency between requirements for the Towns and State, residences located generally within 1,000 feet of an array grouping (see groupings in **Section 2.2**) were included in the model for glare evaluation. Due to the layout of these array groupings and the size of these groupings, this resulted some receptors being evaluated for arrays, that are within the same array group, but located well over 1,000 feet away. In these instances, array groupings and residential receptors were subdivided so that receptors would generally be evaluated against the arrays located closest to the residence.

The occupied residences were identified via aerial imagery and Google “Street View” photos (Google Earth Pro 2021, Bing). The analysis was conducted using ForgeSolar’s Observation Point (OP) tool to model glare visible from single locations. A height of 6 feet was used to represent an observer in the window of a single-story building, and 16 feet was used to represent an observer in the window on the second floor of a two-story building.

A total of 109 unique buildings were identified in proximity to the proposed solar power system, which were split into each of the modeling areas based on their proximity to array groupings.

Tables 2-1 through **2-6** summarize the modeled characteristics of the evaluated OPs and their corresponding labels for each array group. **Figures 2-10** through **2-15** detail the approximate locations of the observation points for each group.

Table 2-1. Observation Points (Group A)

Observation Point Label	Height (ft)
OP1 through OP3	6
OP4/OP5	6/16
OP6	6
OP7/OP18	6/16
OP9	6
OP10/OP11	6/16
OP12/OP13	6/16
OP14 through OP15	6
OP16/OP17	6/16
OP18 through OP19	6

Table 2-2. Observation Points (Group B)

Observation Point Label	Height (ft)
OP1/OP2	6/16
OP3/OP4	6/16
OP5/OP6	6/16
OP7/OP8	6/16

Table 2-3. Observation Points (Group C)

Observation Point Label	Height (ft)
OP1/OP2	6/16
OP3/OP4	6/16
OP5/OP6	6/16
OP7/OP8	6/16
OP9/OP10	6/16
OP11/OP12	6/16
OP13/OP14	6/16
OP15/OP16	6/16
OP17/OP18	6/16
OP19/OP20	6/16
OP21	6
OP22/OP23	6/16
OP24/OP25	6/16
OP26/OP27	6/16

Table 2-4. Observation Points (Group D)

Observation Point Label	Height (ft)
OP1/OP2	6/16
OP3 through OP4	6
OP5/OP6	6/16
OP7	6
OP8/OP9	6/16
OP10 through OP12	6
OP13/OP14	6/16
OP15	6
OP16/OP17	6/16
OP18 through OP19	6
OP20/OP21	6/16
OP22	6
OP23/OP24	6/16
OP25/OP26	6/16
OP27 through OP30	6
OP31/OP32	6/16
OP33	6
OP34/OP35	6/16
OP36	6
OP37/OP38	6/16
OP39/OP40	6/16
OP41/OP42	6/16
OP43/OP44	6/16

Table 2-5. Observation Points (Group E)

Observation Point Label	Height (ft)
OP1	6
OP2/OP3	6/16
OP4 through OP8	6
OP9/OP10	6/16
OP11 through OP12	6
OP13/OP14	6/16
OP15/OP16	6/16
OP17 through OP18	6
OP19/OP20	6/16
OP21/OP22	6/16
OP23/OP24	6/16
OP25/OP26	6/16
OP27	6
OP28/OP29	6/16
OP30 through OP35	6

Table 2-6. Observation Points (Group F)

Observation Point Label	Height (ft)
OP1/OP2	6/16
OP3/OP4	6/16
OP5	6
OP6/OP7	6/16
OP8/OP9	6/16
OP10/OP11	6/16
OP12/OP13	6/16
OP14/OP15	6/16
OP16	6
OP17/OP18	6/16
OP19	6
OP20/OP21	6/16
OP22 through OP24	6
OP25/OP26	6/16
OP27 through OP29	6
OP30/OP31	6/16
OP32/OP33	6/16
OP34	6
OP35/OP36	6/16
OP37 through OP38	6

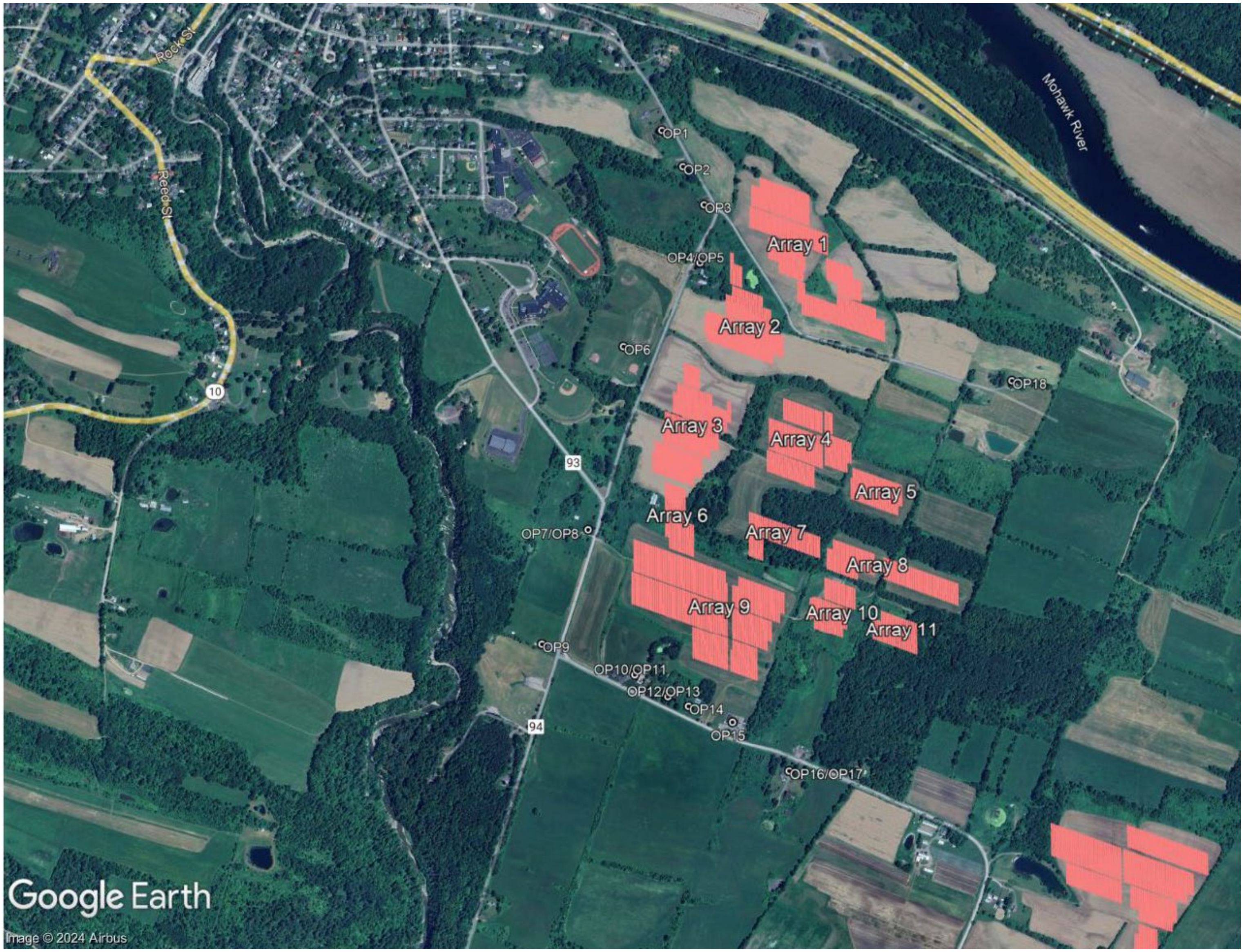


Figure 2-10. Observation Point Locations (Group A)

Figure 2-11. Observation Point Locations (Group B)

Figure 2-12. Observation Point Locations (Group C)

Figure 2-13. Observation Point Locations (Group D)

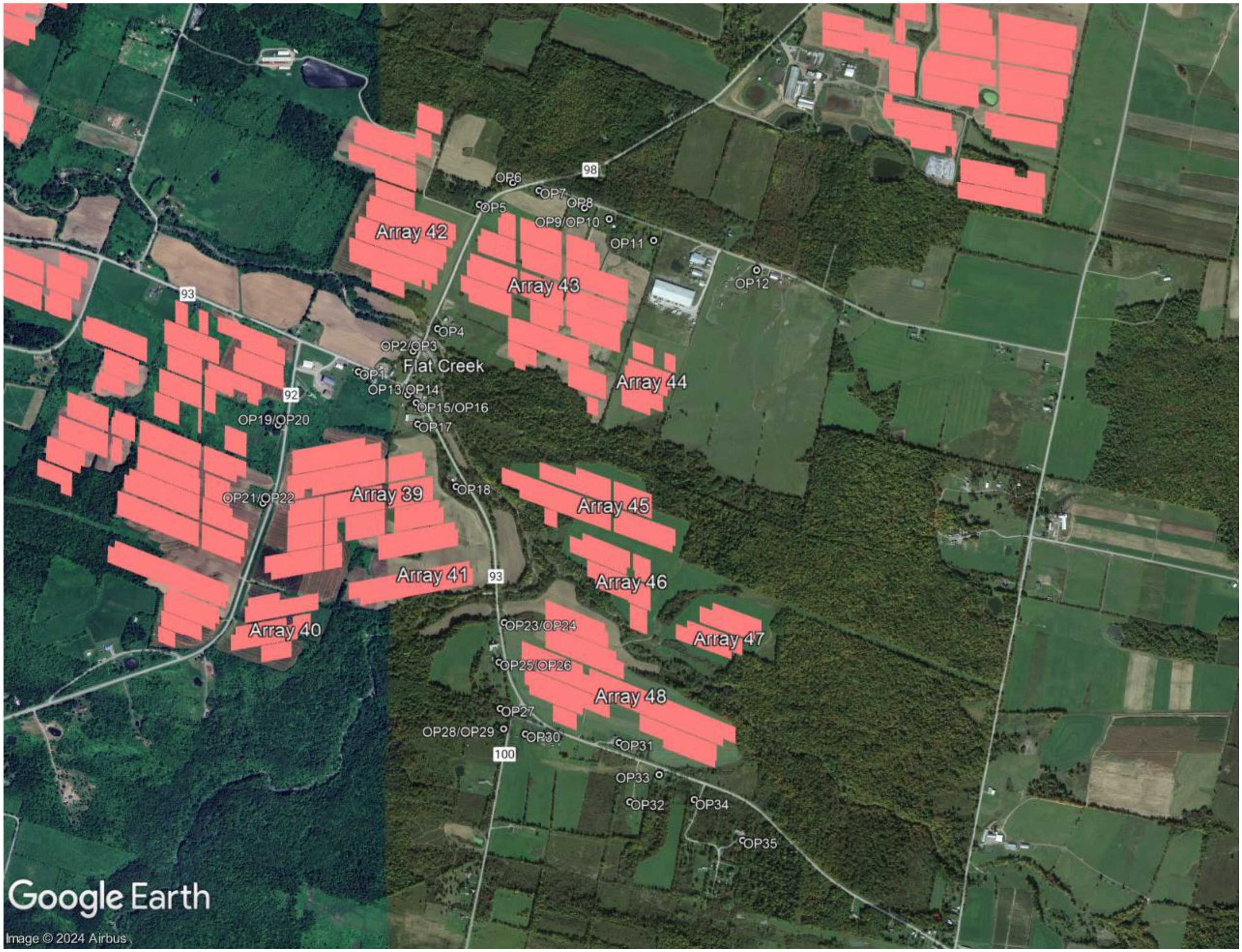


Figure 2-14. Observation Point Locations (Group E)

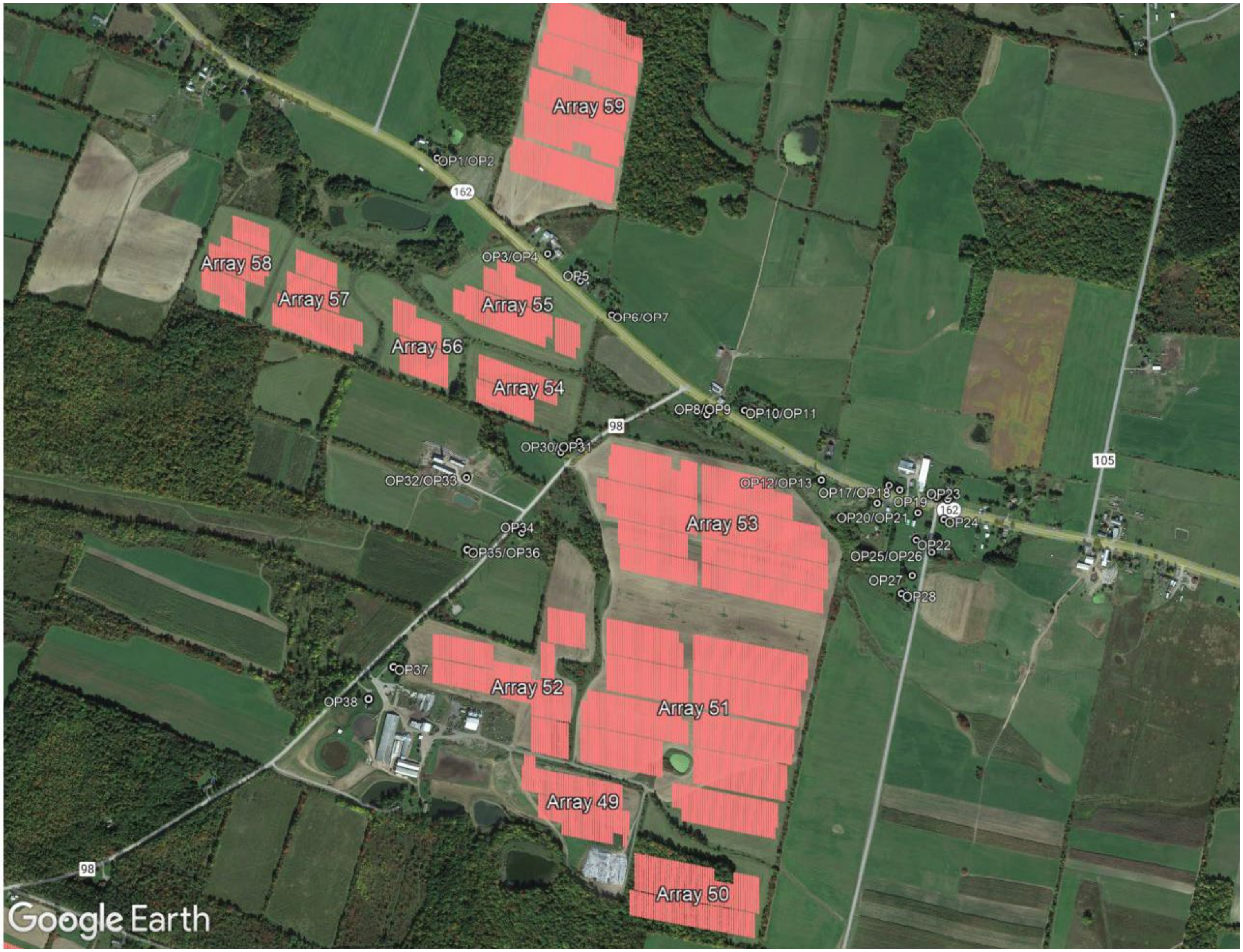


Figure 2-15. Observation Point Locations (Group F)

2.3.2 Route Parameters

The public roadways generally within 1,000 feet of the proposed Facility array areas within an array grouping were included in this analysis. The roadways were identified via aerial imagery and Google Maps. Analysis for the roadways was conducted utilizing the Route Receptor tool in ForgeSolar. The Route Receptor tool provides a multi-line representation that simulates observers traveling along continuous paths such as roads, railways, helicopter paths, and multi-segment flight tracks. Segments of the following roadways were identified in proximity to the Facility:

- Blaine Road
- Canyon Road/Lookout Road
- Carlisle Road
- Conway Road
- Cunningham Road
- Darrow Road
- Flat Creek Road
- Hilltop Road
- Hwy 162
- King Road
- Lincoln Road
- Mahr Road
- Mapletown Road
- Miller Drive
- Moyer Road
- Old Sharon Road
- Rappa Road

Figures 2-16 through 2-21 illustrate the locations of the evaluated routes.

The viewing angle for observers traveling along the roadways was presumed to be a -50 to 50° field of view (total viewing angle of 100°), which represents that the observer can view glare in all directions. The height for observers traveling along the roadway was assumed to be 5 feet for passenger cars.

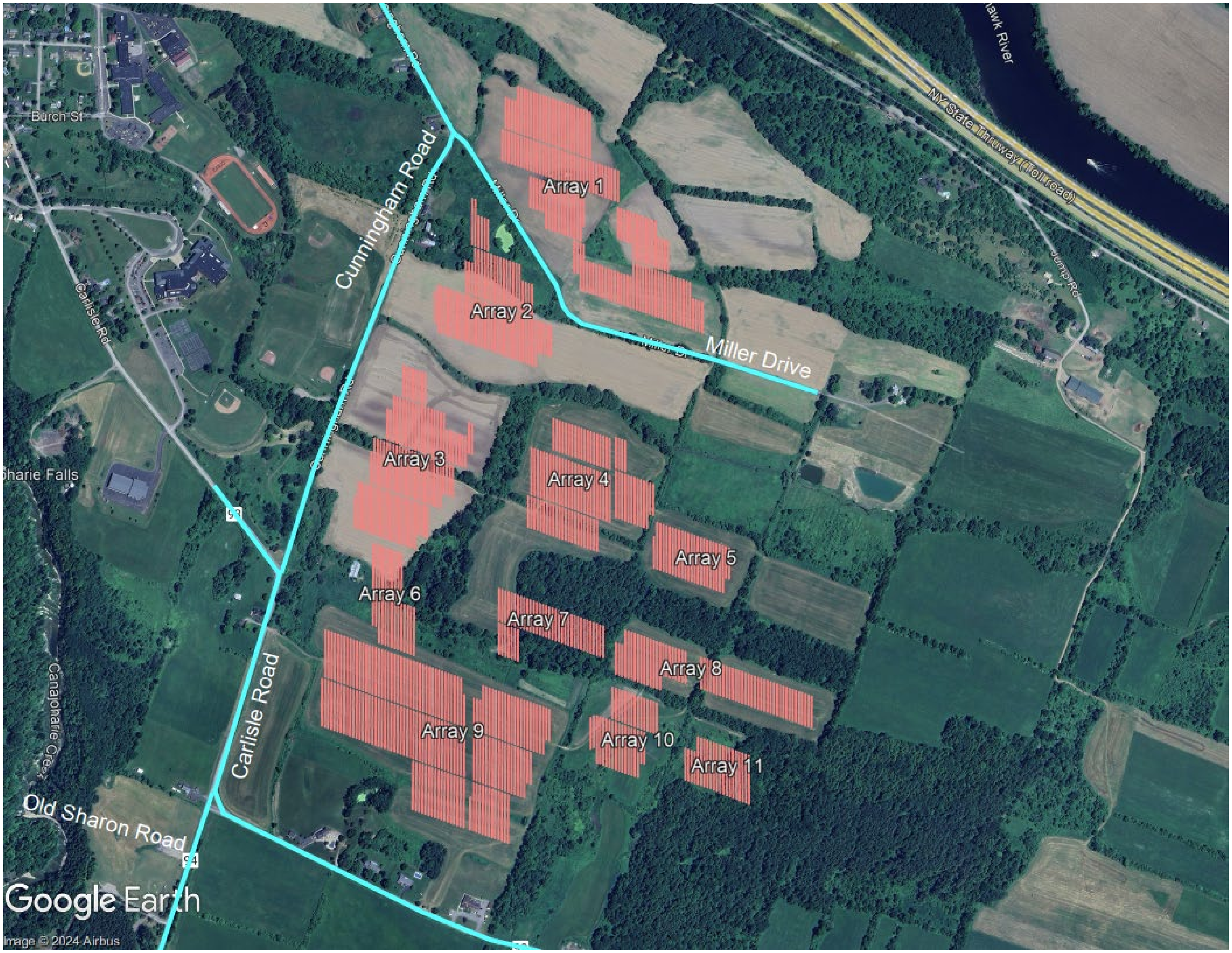


Figure 2-16. Route Receptor Locations (Group A)

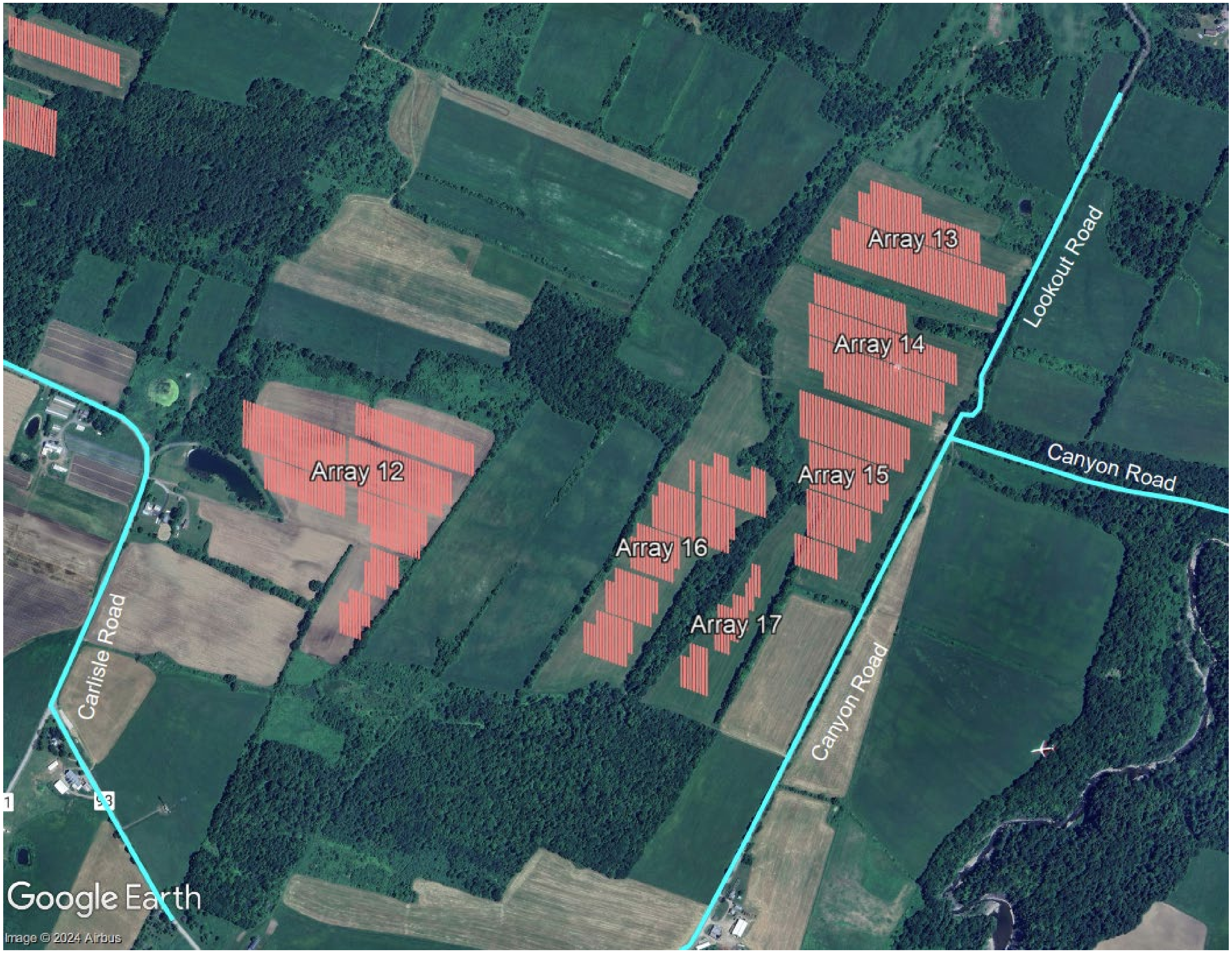


Figure 2-17. Route Receptor Locations (Group B)

Figure 2-18. Route Receptor Locations (Group C)

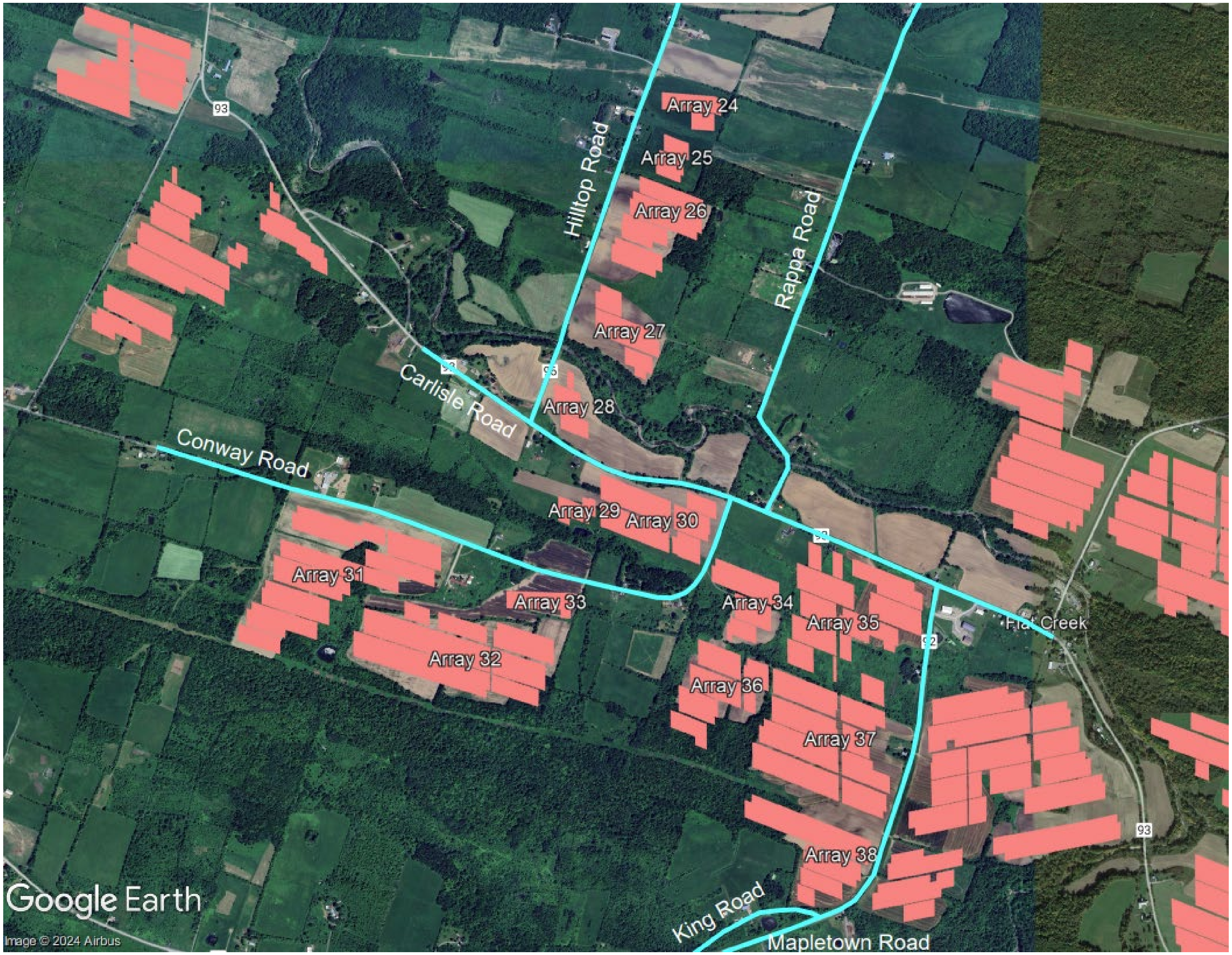


Figure 2-19. Route Receptor Locations (Group D)

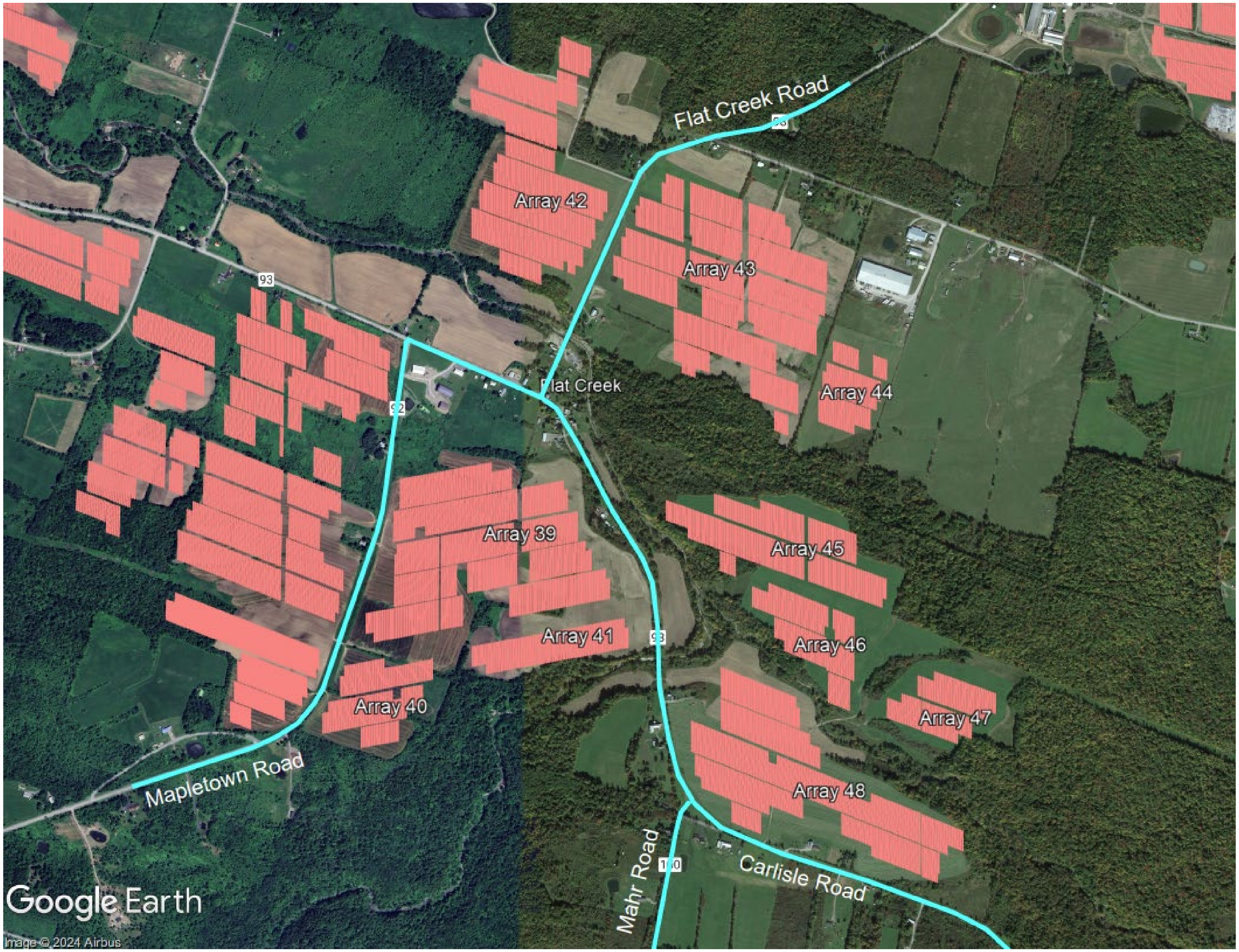


Figure 2-20. Route Receptor Locations (Group E)

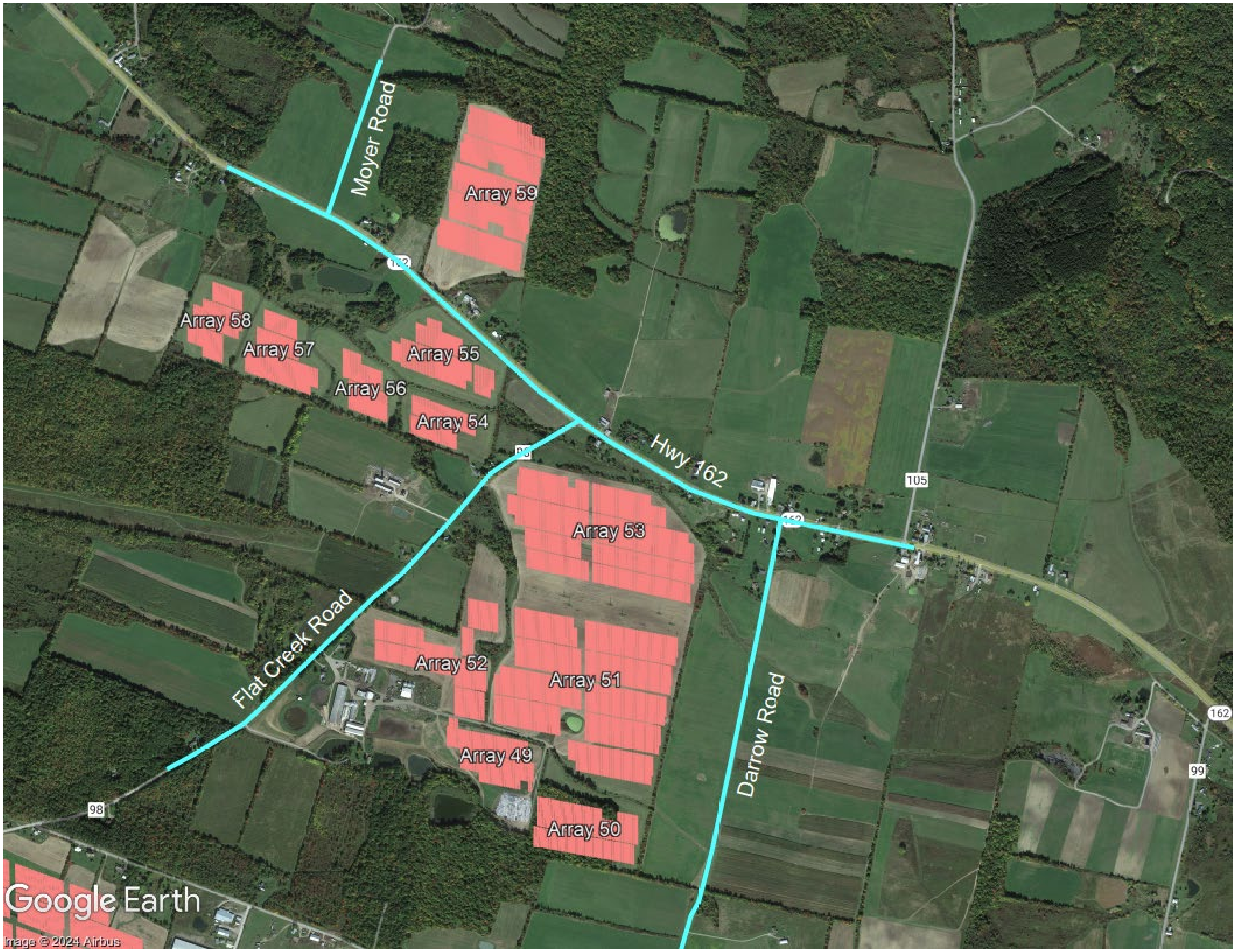


Figure 2-21. Route Receptor Locations (Group F)

3.0 Results

TRC conducted the solar glare hazard analysis using the SGHAT tool, licensed by ForgeSolar, to evaluate potential glare impacts of the proposed Facility on the selected receptors detailed in **Section 2.0**. TRC evaluated the potential solar glare impact of the proposed PV panels using the project specifications detailed in **Section 2.2.1**. In general, single axis tracking systems are more effective in minimizing potential glare from receptors close to the ground (residences and vehicular traffic from nearby roadways). This is because the system is designed for the panel to be perpendicular to the sun as it moves across the sky during the day. Therefore, a majority of unabsorbed light is reflected towards the sun, and not toward a receptor near the ground.

The primary factor in the model for the observation of glare in a single-axis tracking system is the resting angle. This is an angle at which the panels start and stop tracking. Because the panels do not remain perpendicular to the sun at the beginning (around sunrise) or end (around sunset) of the day, this low angle of the sun can cause low angle reflections (glare) toward ground receptors. This is more likely to be visible near ground level (e.g., from residences or roadways) when resting angles are low (0˚ or flat). In addition, the resting angle, the elevation at which the receptor (residential or roadway) is located at may result in glare especially near the middle of the day. Initially the analysis was conducted with no visual obstructions being accounted for in the model.

It should be noted that limitations of the modeling software may impact the results of this analysis. As noted in **Section 2.1**, the model assumes a clear day with limited radiative scattering. However, atmospheric conditions such as humidity, overcast skies, and particulates would reduce the solar irradiance at the Earth (Ho 2013). Due to this site's location in the northeastern United States, where humidity and overcast skies are more likely throughout the year, this assumption can lead to an overestimation of glare occurrence, duration, intensity as irradiance and glare are directly related.

According to the National Oceanic and Atmospheric Administration (NOAA), on average this area of the New York, between Syracuse and Albany has an average annual percent of possible sunshine between 44-50%. The average annual percent of possible sunshine is the total time that sunshine reaches the surface of the Earth expressed as the percentage of the maximum amount possible from sunrise to sunset with clear sky conditions. **Table 3-1** provides a breakdown from each weather station by month. In addition, according to NOAA, based on this area of New York typically experiences between 98-111 partly cloudy days and 185-205 cloudy days over the course of a year. **Table 3-2** provides a breakdown of the mean number of cloudy/partly cloudy days a month from each weather station. This high occurrence of overcast skies is expected to result in lower glare occurrence, duration, and intensity in the real world when compared to the model outputs.

Table 3-1. Average Percent of Possible Sunshine

Month	Average Percent of Possible Sunshine	
	Albany, NY	**Syracuse, NY**
January	46	34
February	52	39
March	51	46
April	55	53
May	53	53
June	55	54
July	62	60
August	58	57
September	54	51
October	46	40
November	33	25
December	36	23
Average:	**50**	**44**

Note: NOAA, 2024

Table 3-2. Mean Number of Days of Cloudiness

Month	Mean Number of Day of Cloudiness					
	Albany, NY			**Syracuse, NY**		
	Clear	**Partly Cloudy**	**Cloudy**	**Clear**	**Partly Cloudy**	**Cloudy**
January	5	8	18	3	7	22
February	6	7	15	3	6	19
March	6	8	17	5	7	19
April	5	8	16	6	7	17
May	5	9	16	6	10	15
June	5	11	13	7	11	12
July	6	13	12	8	12	11
August	7	12	13	7	11	13
September	8	10	12	7	10	13
October	8	9	14	6	8	17
November	4	8	18	2	6	22
December	5	7	19	2	5	24

Note: NOAA, 2024

In addition, the model also does not innately account for natural screening (e.g., existing vegetation, topography, or proposed landscaping) that may limit view of the array area. While

ForgeSolar can model obstructions, they are seen as opaque parallelograms, which may inflate the benefit of the proposed or existing obstruction. Even so, existing and proposed vegetation would limit the visibility of the solar arrays by either blocking it or disrupting the potential view by breaking the view in sections instead of the entire array area being visible and uninterrupted. This provides a reduction in the overall glare seen in the real world, as the panel, and specially the glare spot of the panel area needs to be visible for potential glare to be seen.

The following subsections will summarize the results for modelling groups that specify glare. Detailed results are provided in **Attachment 1**. These results are subject to the limitations/assumption of the model as detailed in **Section 2.1** of this report.

3.1 Group D Results

Estimated results for Array 31 are summarized in **Table 3-3**, the remaining nearby residential properties or roadways did not observe glare. No glare was estimated to be observed from the remaining arrays in this grouping at the nearby residential properties or roadways. Residential properties evaluated are noted in **Table 2-4**. Refer to **Figures 2-13** and **2-19** for residential and roadway receptor locations, respectively.

The results from Array 31 are summarized below.

Table 3-3. Glare Study Results

Receptor	Approx. Distance to Impacting Array (ft)	Green Glare (min/yr)[1]	Yellow Glare (min/yr)[1]	Red Glare (min/yr)[1]
Conway Road[2]	180	983	--	--

Footnotes
[1] Glare has the potential within a 3 month period (November through January).
[2] Approximate distance is to the portion of the roadway with the potential to receive glare.

As shown, green glare has the potential to occur along a portion of Conway Road from Array 31. Glare is may be observed in the early afternoon (between 1:00 - 2:00 pm) from November through January for approximately 20 or fewer minutes per day.

The landscaping proposed along the northern boundary of Array 31 (refer to VP 16 of Attachment 4 of Appendix 8-1 to review a photo-simulation near OP18), which would minimize view of the array area from Conway Road and residential receptors to the north. A targeted viewshed analysis was conducted for Array 31 accounting for the proposed landscaping vegetation. This viewshed showed that the proposed vegetation assisted in screening the roadway and residence to the north with the only potential visibility occurring at the break in the landscaping located at the entrance to Array 31 from Conway Road; however, the discrete location of visibility between the glare model and viewshed study do not appear to completely overlap, which suggests that the estimated glare may not actually be visible from the roadway.

In addition, as noted in **Table 3-1**, November through January historically have the lowest percentages of available sunlight during the year (33-46 percent) due to overcast conditions (approximately 26 cloudy/partly cloudy days per month; see **Table 3-2**). This would continue to lessen the potential impacts from glare.

3.2 Group E Results

The estimated results from Array 39 are summarized in **Table 3-4**. The remaining nearby residential properties or roadways did not observe glare. No glare was estimated to be observed from the remaining arrays in this grouping at the nearby residential properties or roadways. Residential properties evaluated are noted in **Table 2-5**. Refer to **Figures 2-14** and **2-20** for residential and roadway receptor locations, respectively. The results are summarized below.

Table 3-4. Glare Study Results

Receptor	Distance to Impacting Array (ft)	Green Glare (min/yr)	Yellow Glare (min/yr)	Red Glare (min/yr)
OP13(1)	680	122(5)	--	--
OP14(1)	680	552(5)	--	--
OP21(2)	275	1,596(5)	--	--
OP22(2)	275	3,209(5)	--	--
Carlisle Road(2)(4)	300	986(5)	--	--
Mapletown Road(3)(4)	135	8,007	4,695	--

Footnotes:
(1) Glare has the potential to occur between December and January.
(2) Glare has the potential to occur between November and January.
(3) Glare has the potential to occur between October and early March.
(4) Distance is to the portion of the roadway with the potential to receive glare.
(5) No visibility to observer based on a targeted viewshed analysis.

- **Residence OP13/OP14:** The limitations of the SGHAT indicated that green glare has the potential to be visible at both receptors of the two-story residence OP13/OP14 for a maximum in a day of 10 (first floor) to 20 (second floor) minutes from December to January between 10:00 to 11:00 am.

Following the glare study, this location was looked at further through a targeted viewshed analysis to determine the potential visibility of the array area producing glare, as shown in the ForgeSolar graphics in **Attachment 1**. The Applicant evaluated the existence of current vegetation within the viewshed as well as proposed landscaping to determine if the receptors at the residence would have the ability to see the arrays indicating glare in the model.

This targeted viewshed analysis indicated that the array area producing glare is not visible from receptors at Residence OP13/OP14 and, therefore, that the results of the glare study are an overestimation of what would be seen at the residence, as the proposed landscaping and existing vegetation would further mitigate the view of the array area than indicated in the SGHAT model.

- **Residence OP21/OP22:** The limitations of the SGHAT indicated that green glare has the potential to be visible at both receptors of the two-story residence OP21/OP22 for a potential maximum of 60 (first floor) to 95 minutes (second floor) in a day; however, based on the information presented in **Attachment 1** potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January from approximately 12:00 to 2:00 pm.

  As the Applicant evaluated this location further, existing vegetation which is located along the southern and eastern boundary of this residence was identified and reviewed in a targeted viewshed. Accounting for this vegetation would make this portion of the array not fully visible from the residence. This shows a that the existing vegetation is likely to mitigate the potential of glare at this residence.

- **Carlisle Road:** The limitations of the SGHAT indicated that green glare has to potential to occur along a portion of Carlisle Road for a potential maximum of 30 minutes a day; however, based on the information presented in **Attachment 1** potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January between 10:00 and 11:00 am.

  Existing vegetation and proposed vegetation are located along the eastern boundary of the array area between the array and roadway which would assist in minimizing view of this array area from the observer. A targeted viewshed analysis was conducted from the impacting portion of this array (shown in **Attachment 1**) and Carlisle Road. Based on this targeted viewshed, visibility of the impacted array area along the impacted section roadway was not noted. This shows hat the existing vegetation is likely to mitigate the potential of glare along this roadway.

- **Mapletown Road:** The limitations of the SGHAT indicated that green and yellow glare have the potential to occur along a portion of Mapletown Road for a potential maximum of 100 minutes a day; however, based on the information presented in **Attachment 1**, potential daily maximums vary during the estimated glare period. The glare was estimated to occur from October to early March between 11:00 am and 3:00 pm. However, the limitations of the model may be overestimating potential glare from this array.

As noted above, the array is located on variable topography, which would cause variability in heights of panels and simplification of the array's planar footprint in the model, which may impact the glare results. In addition, the typical weather conditions apparent during this period of the year (October to March) would also impact the results in the real world. This is further described below.

In addition to the discussion above, the potential glare occurrences are anticipated to occur from October to early March, which most potential locations occurring during November through January. As detailed in **Table 3-1** and **Table 3-2**, the average available sunshine (clear sky conditions) is between 33-52 percent (using the higher percentage from Albany), with November through January being the lowest with 33-46 percent, meaning sunshine may not be available 54-67 percent of the time during November to January. In addition, the mean (average) number of days of either partly cloudy or cloudy is approximately 26 days for each month (November, December, and January from Albany, NY station). Therefore, any real-life glare impacts may be further reduced.

4.0 Conclusions

The SGHAT tool utilized the design specifications identified above and receptors to quantify potential glint and glare at various receptors as described in **Section 2.3**. The analysis described herein, in conjunction with the targeted viewshed analysis, indicated that the glint or glare identified would not likely impact the nearby residences or along Carlisle Road and potentially Conway Road. Potential glare was estimated to occur along a portion of Mapletown Road.

The results of this analysis are subject to the limitations of both the modeling and viewshed analysis. Due to the following limitations of this study, it is considered a conservative approach for glare, but real-life observances, if any, will be highly reduced.

- The model uses large, continuous array areas; however, the true array areas will be more segmented than the model. Array areas include spacing between rows of panels and for access into the area, this segmentation can impact the modeled glare spot, reducing it as noted in assumptions in **Section 2.1**.
- The analysis assumes clear, sunny days, all year round for the glare generation; however, as noted in **Table 3-1** and **Table 3-2**, during the periods of the year where glare was being estimated to be observed, it is unlikely that this would occur. The high percentage of non-clear sky days would provide an overall reduction of the estimated results as the amount of sunshine is directly related the amount of glare potentially generated.
- As noted in **Section 2.1**, the model does not innately account for visual obstructions. These can include buildings, topography between the receptor and array area, or vegetation (existing or proposed). As noted in **Section 2.2.2**, the Applicant applied existing and proposed vegetation to the model to account for obstructions. SGAHT models obstruction as opaque parallelograms, which may not be consistent with real life instances. However, existing and proposed vegetation would limit visibility of solar arrays through either completely blocking the view or disrupting the view by breaking the view area into sections. These would assist in minimizing or mitigating glare.

As described herein, the results of the model indicate limited potential for glare in a real-world situation as a result of the Facility. In the unlikely occurrence that glint or glare is experienced as a result of the Facility, the Applicant will evaluate further mitigation tools through the use of additional landscaping or operational adjustments.