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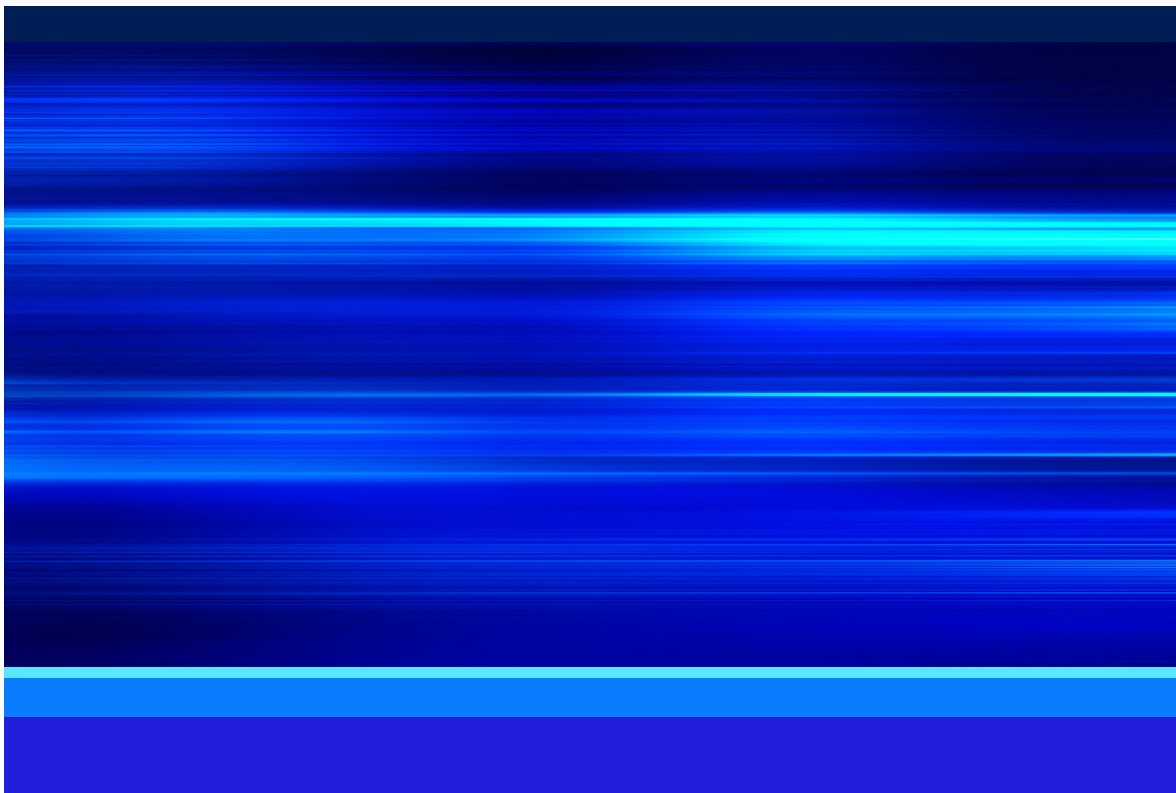
Revised General Arrangement Refinement

Submitted to
California Energy Commission

Prepared by
Black Rock Geothermal LLC

With assistance from
Jacobs

Black Rock Geothermal Project
(23-AFC-03)
November 17 2023



Introduction

Black Rock Geothermal LLC¹ (Applicant) is submitting this project refinement to the California Energy Commission (CEC), which consists of an updated general arrangement drawing for the Black Rock Geothermal Project (BRGP) (23-AFC-03) Application for Certification (AFC).

The updated general arrangement drawing include shifting equipment around the project site to reduce material or construction costs. Equipment designs, physical parameters (height, width, lengths) and throughputs have not changed, with the exception of the cooling tower, which has increased from seven cells to nine cells. In addition, some well pads have been slightly altered in size and orientation but remain in the same proximate locations.

New or revised figures from the BRGP AFC will have "R" following the original number, indicating revision 1.

¹ An indirect, wholly owned subsidiary of BHE Renewables, LLC ("BHER")

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Acronyms and Abbreviations

| | |
|-------|---|
| AFC | Application for Certification |
| ANSI | American National Standards Institute |
| ARMR | Archaeological Resource Management Report |
| BHER | BHE Renewables |
| CEC | California Energy Commission |
| CCR | California Code of Regulations |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| CNEL | Community Noise Equivalent Level |
| CPUC | California Public Utilities Commission |
| DA | Data Adequacy |
| EMF | Electric and Magnetic Fields |
| ENGP | Elmore North Geothermal Project |
| ESA | Environmental Site Assessment |
| FAA | Federal Aviation Administration |
| IEEE | Institute of Electrical and Electronics Engineers |
| LORS | laws, ordinances, regulations, and standards |
| NESC | National Electrical Safety Code |
| NFPA | National Fire Protection Association |
| NAHC | Native American Heritage Commission |
| NPCA | Notice of Proposed Construction or Alteration |
| PRC | Public Resource Code |
| TLS&N | Transmission Line Safety and Nuisance |
| USACE | US Army Corps of Engineers |
| USFWS | US Fish and Wildlife Service |

1. Project Description Refinements

The Applicant has identified refinements to the orientation, placement, number, and type of specific pieces of equipment on the BRGP site. The production or re-injection of geothermal fluid and the throughput of process equipment remain as proposed in the AFC.

The project description refinements are as follows:

- **Reduced Number of Emergency Diesel Generators:** The number of generators have been decreased from 4 to 3 due to updated operational electrical load information. The generators have been relocated nearer to the medium voltage bus to optimize the design and reduce quantities.
- **Stormwater Retention Basin – Relocated** to be more central to the project site.
- **Change to Storage of Hydrochloric acid (HCL):** Increase the amount of hydrochloric acid (HCL) storage from 1,250 gallons of <37% HCL to one 300-gallon tank of dilute HCL (2.5%) and one 10,000-gallon tank of concentrated HCL (<37%). HCL scrubbing system included on concentrated HCL (<37%) tank.
- **Addition of a 10,300 gallon tank of liquid lime (42-47% Calcium Hydroxide),** used for pH adjustment of the filtrate from Horizontal Belt Filter.
- **Horizontal Belt Filter - Relocated** the belt filter and optimized the truck hauling path to allow for a pull through parking (safer operation) , which also reduces pipe rack and piping lengths.
- **Combination of administration and warehouse buildings-** The administration and control buildings were relocated to allow for stronger security control while allowing for public access and parking outside of the facility's fence line.
- **Power Distribution Centers - Optimized** power distribution centers locations to support updated electrical load locations.
- **Cooling Tower - The cooling tower cells increased** in number from seven to nine, while still fitting within the original cooling tower footprint.
- **Primary/Secondary Clarifiers - The clarifiers arrangements** were optimized to reduce concrete, pipe rack, piping, and electrical quantities.
- **High Pressure (HP) Separators, Standard Pressure (SP) and Low Pressure (LP) Crystallizers - Optimized** the centerlines (locations) of the HP separators to align with the crystallizers, which also reduced pipe rack quantities.
- **Gas Removal System - The gas removal system** was relocated to below the steam turbine, which optimizes the space below the steam turbine.
- **Thickener - The thickener** was relocated closer to the geothermal fluid handling process to reduce pipeline lengths and construction costs.
- **Evapotranspiration Bed - The evapotranspiration bed location** was relocated closer to the control building.
- **Chemical Storage - Chemical storage locations** were optimized for safe loading/unloading and pull through driving/delivery routes.

Based on these changes, the Applicant is submitting the following updated AFC figures by section.

2. Executive Summary

The following revised BRGP Executive Summary figures are being submitted.

- Figure 1-3 Architectural Rendering
- Figure 1-4 Project Location

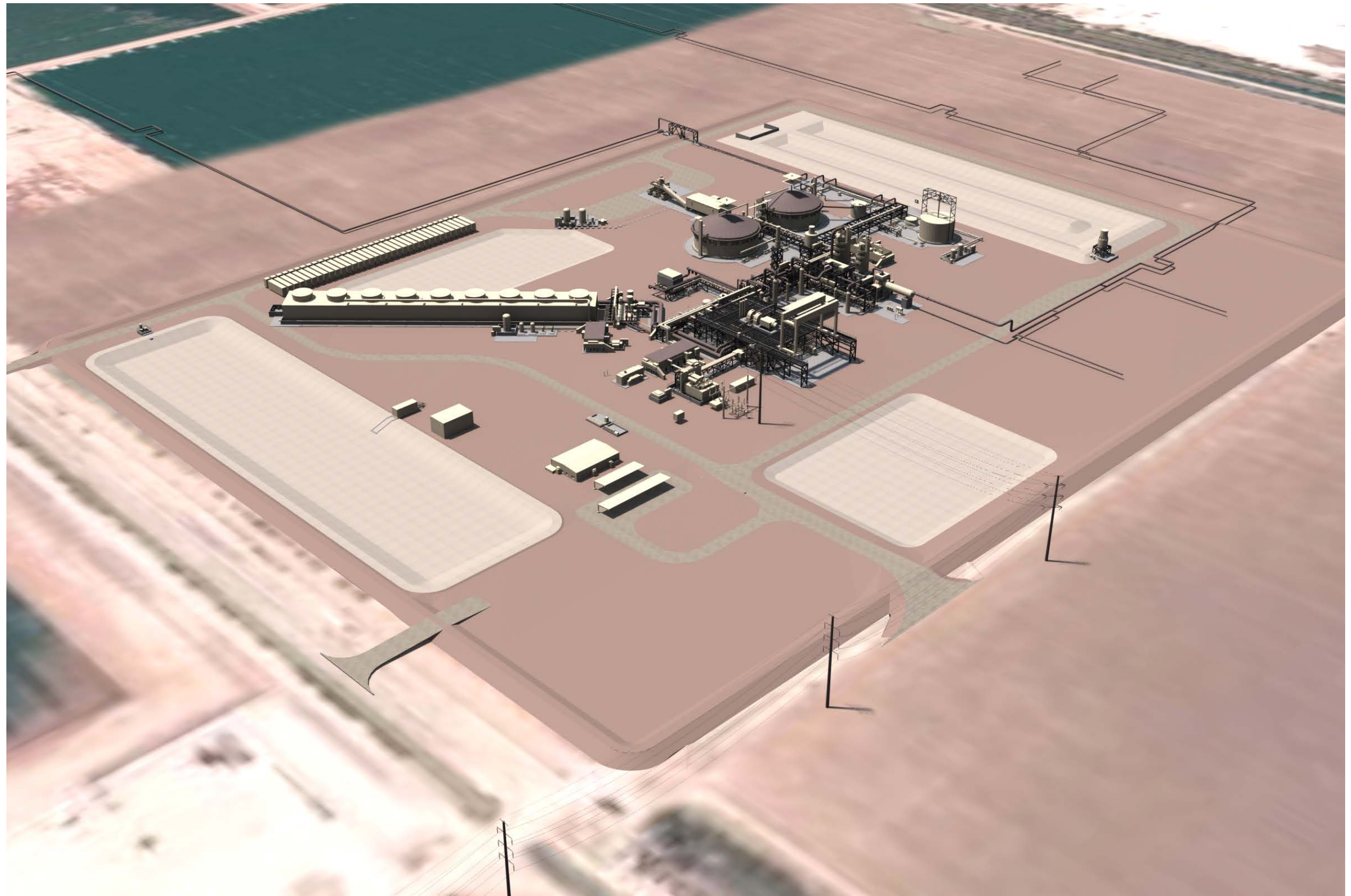


Figure 1-3R
Architectural Rendering,
Black Rock Geothermal Project
Imperial County, California

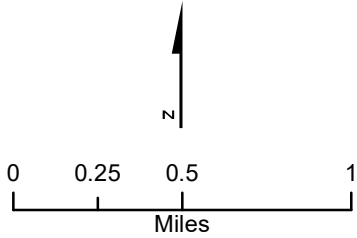
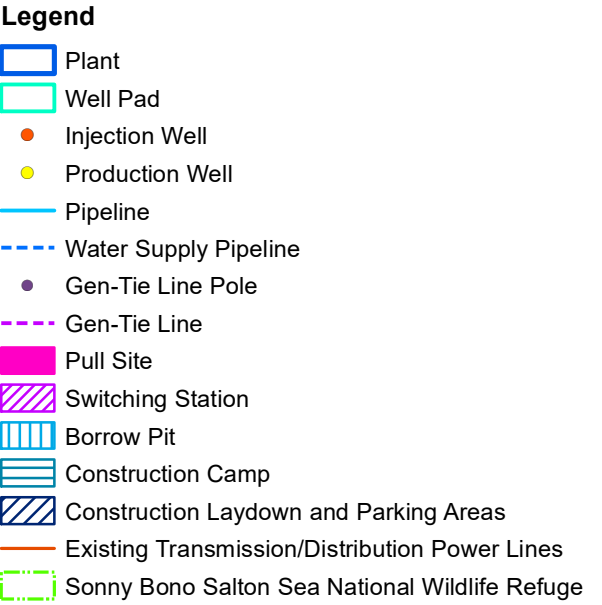
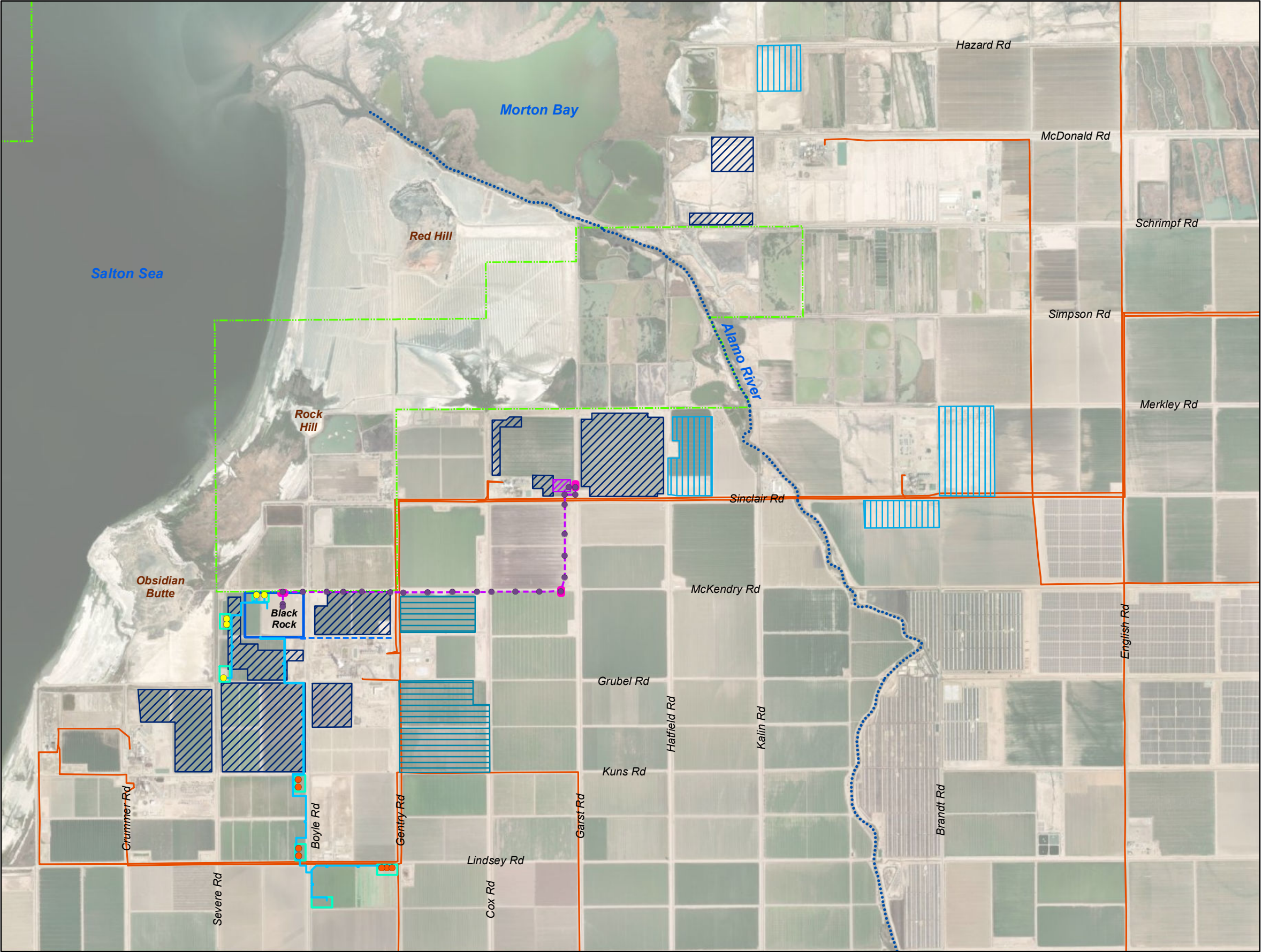
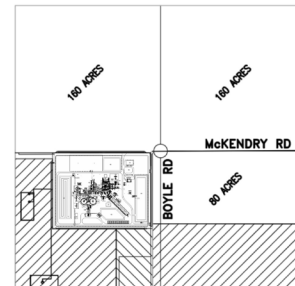
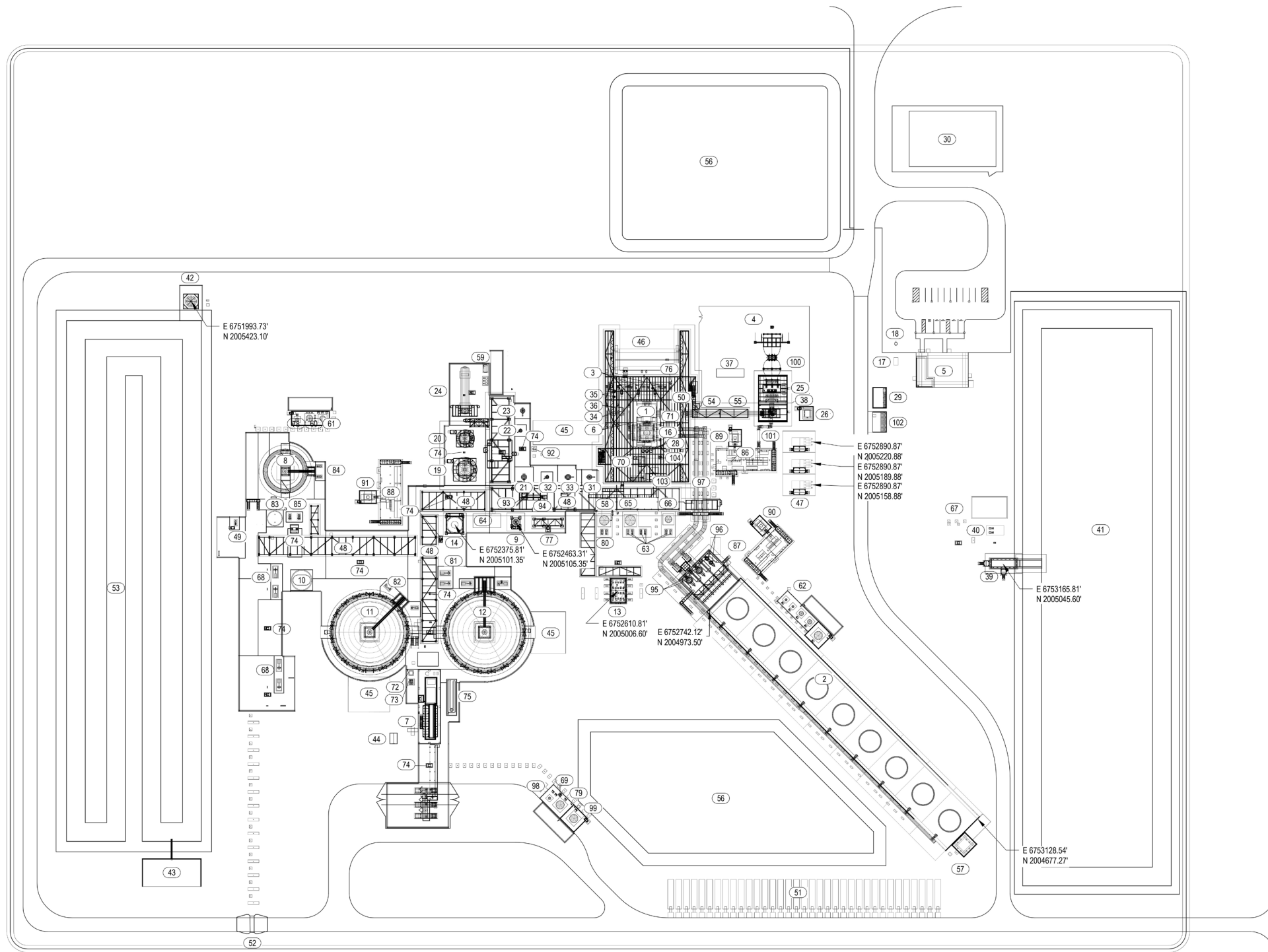


Figure 1-4R
Project Location
Black Rock Geothermal Project
Imperial County, California

3. Project Description

The following revised BRGP Project Description figures are being submitted.

- Figure 2-1 General Arrangement
- Figure 2-4a Elevation View Looking North
- Figure 2-4b Elevation View Looking South
- Figure 2-4c Elevation View Looking East and West
- Figure 2-6b Post-Construction Drainage
- Figure 2-7a Depth of Excavation
- Figure 2-7b Depth of Excavation
- Figure 2-7c Depth of Excavation
- Figure 2-7d Depth of Excavation
- Figure DA4.0-1a Production Wells
- Figure DA4.0-1b Injection Wells



- LEGEND:
1. STEAM TURBINE
 2. COOLING TOWER
 3. VACUUM PUMP SKIDS A/B/C
 4. SUBSTATION
 5. CONTROL / MAINTENANCE BUILDING
 6. EJECTORS A/B/C
 7. HORIZONTAL BELT FILTER
 8. THICKENER
 9. SCRUBBER / DEMISTER DRAIN AFT
 10. PROCESS BRINE HEAD TANK
 11. SECONDARY CLARIFIER
 12. PRIMARY CLARIFIER
 13. ROCK MUFFLER
 14. PROCESS AFT
 15. NOT USED
 16. CONDENSER
 17. CONTROL / MAINTENANCE BUILDING SEPTIC TANK
 18. CONTROL / MAINTENANCE BUILDING SANITARY LIFT STATION
 19. LP CRYSTALLIZER
 20. SP CRYSTALLIZER
 21. LP SCRUBBER
 22. SP SCRUBBER
 23. HP SCRUBBER
 24. HP SEPARATOR
 25. GENERATOR STEP-UP TRANSFORMER
 26. ALTERNATE FEED TRANSFORMER
 27. NOT USED
 28. CONDENSATE PUMPS
 29. USED OIL STORAGE AREA
 30. EVAPOTRANSPIRATION (E-T) BED
 31. HP DEMISTER
 32. SP DEMISTER
 33. LP DEMISTER
 34. INSTRUMENT / SERVICE AIR COMPRESSOR
 35. INSTRUMENT / SERVICE AIR RECEIVERS
 36. AIR COMPRESSOR CHILLER UNIT
 37. SUBSTATION CONTROL ENCLOSURE
 38. UNIT AUXILIARY TRANSFORMER
 39. FIRE WATER PUMP ENCLOSURE
 40. SERVICE WATER PUMPS
 41. FRESH WATER POND
 42. WARM-UP AFT
 43. HYDRO BLAST PAD
 44. COOLING HUT
 45. CRANE ACCESS
 46. GANTRY CRANE
 47. DIESEL GENERATOR
 48. PIPE RACK
 49. EMERGENCY BRINE POND PUMPS
 50. VT-SURGE CUBICLE
 51. TRAILER PARKING
 52. CULVERT
 53. BRINE POND
 54. GENERATOR CIRCUIT BREAKER
 55. ISOLATED PHASE BUS DUCT
 56. STORM WATER RETENTION BASIN
 57. OX BOX
 58. BLOWDOWN STORAGE TANK
 59. ANTI-FOAM STORAGE AND DOSING SYSTEM
 60. NORMS STORAGE AND DOSING SYSTEM
 61. FLOCCULANT STORAGE AND DOSING SYSTEM
 62. COOLING TOWER CHEMICAL FEED SYSTEM
 63. HP/SP/LP CONDENSATE STORAGE PUMPS
 64. DILUTION WATER PUMPS (FUTURE)
 65. SP/LP CONDENSATE STORAGE TANK
 66. HP CONDENSATE STORAGE TANK
 67. POTABLE WATER SYSTEM
 68. BRINE INJECTION / BOOSTER PUMPS
 69. ACID FUME SCRUBBER
 70. STG LUBE OIL MODULE
 71. NEUTRAL GROUND ENCLOSURE
 72. SERVICE WATER HOLDING TANK
 73. SERVICE WATER BOOSTER PUMP A/B
 74. AREA SUMP / PUMP
 75. HORIZONTAL BELT FILTER COOLER
 76. SEAL WATER COOLER
 77. SCRUBBER AND DEMISTER DRAINS SETTLING TANK
 78. ANTI-SCALANT REAGENT
 79. HYDROCHLORIC ACID DOSING
 80. CONDENSATE INJECTION WELL PUMPS
 81. PRIMARY CLARIFIER SEED RECYCLE/TRANSFER PUMPS
 82. SECONDARY CLARIFIER SEED RECYCLE/TRANSFER PUMPS
 83. AERATED BRINE STORAGE TANK
 84. THICKENER SEED RECYCLE/TRANSFER PUMPS
 85. AERATED BRINE BOOSTER / INJECTION PUMPS
 86. MEDIUM VOLTAGE ELECTRICAL ENCLOSURE
 87. COOLING TOWER ELECTRICAL ENCLOSURE
 88. BRINE INJECTION ELECTRICAL ENCLOSURE
 89. MEDIUM VOLTAGE ELECTRICAL ENCLOSURE SUS TRANSFORMERS
 90. COOLING TOWER ELECTRICAL ENCLOSURE SUS TRANSFORMERS
 91. BRINE INJECTION ELECTRICAL ENCLOSURE SUS TRANSFORMERS
 92. VESSEL DRAIN AFT
 93. SCRUBBER DRAIN PUMP
 94. DEMISTER DRAIN PUMP
 95. COOLING WATER PUMPS
 96. AUXILIARY COOLING WATER PUMPS
 97. CIRCULATING WATER PIPING
 98. 2.5% HCl TANK AND PUMPS
 99. LIQUID LIME STORAGE TANK AND PUMPS
 100. 230KV BREAKER
 101. NON-SEGREGATED PHASE BUS DUCT
 102. NEW OIL STORAGE AREA
 103. LUBE OIL COOLER
 104. OIL PURIFIER

Figure 2-1R
General Arrangement,
Black Rock Geothermal Project
Imperial County, California

LEGEND:

- | | | | | |
|-----------------------------|--------------|---------------------------------|---|------------------------------------|
| 1. NOT USED | 21. NOT USED | 43. HYDRO BLAST PAD | 65. NOT USED | 87. NOT USED |
| 2. COOLING TOWER | 22. NOT USED | 44. COOLING HUT | 66. NOT USED | 88. NOT USED |
| 3. NOT USED | 23. NOT USED | 45. NOT USED | 67. NOT USED | 89. NOT USED |
| 4. NOT USED | 24. NOT USED | 46. NOT USED | 68. BRINE INJECTION / BOOSTER PUMPS A/B/C | 90. NOT USED |
| 5. NOT USED | 25. NOT USED | 47. NOT USED | 69. NOT USED | 91. NOT USED |
| 6. NOT USED | 26. NOT USED | 48. PIPE RACK | 70. NOT USED | 92. NOT USED |
| 7. HORIZONTAL BELT FILTER | 27. NOT USED | 49. NOT USED | 71. NOT USED | 93. NOT USED |
| 8. NOT USED | 28. NOT USED | 50. NOT USED | 72. SERVICE WATER HOLDING TANK | 94. NOT USED |
| 9. NOT USED | 29. NOT USED | 51. TRAILER PARKING | 73. NOT USED | 95. CIRCULATING WATER PUMPS A/B |
| 10. PROCESS BRINE HEAD TANK | 30. NOT USED | 52. NOT USED | 74. AREA SUMP / PUMP | 96. NOT USED |
| 11. SECONDARY CLARIFIER | 31. NOT USED | 53. BRINE POND | 75. NOT USED | 97. CIRCULATING WATER PIPING |
| 12. PRIMARY CLARIFIER | 32. NOT USED | 54. NOT USED | 76. NOT USED | 98. 2.5% HCL DOSING |
| 13. ROCK MUFFLER | 33. NOT USED | 55. NOT USED | 77. NOT USED | 99. LIQUID LIME STORAGE AND DOSING |
| 14. NOT USED | 34. NOT USED | 56. STORM WATER RETENTION BASIN | 78. NOT USED | 100. NOT USED |
| 15. NOT USED | 35. NOT USED | 57. OX BOX | 79. CONCENTRATED HCL STORAGE | 101. NOT USED |
| 16. NOT USED | 36. NOT USED | 58. NOT USED | 80. PRIMARY CLARIFIER SEED | 102. NOT USED |
| 17. NOT USED | 37. NOT USED | 59. NOT USED | RECYCLE/TRANSFER PUMPS | 103. NOT USED |
| 18. NOT USED | 38. NOT USED | 60. NOT USED | 82. NOT USED | 104. NOT USED |
| 19. NOT USED | 39. NOT USED | 61. NOT USED | 83. NOT USED | |
| 20. NOT USED | 40. NOT USED | 62. NOT USED | 84. NOT USED | |
| | 41. NOT USED | 63. NOT USED | 85. NOT USED | |
| | 42. NOT USED | 64. NOT USED | 86. NOT USED | |

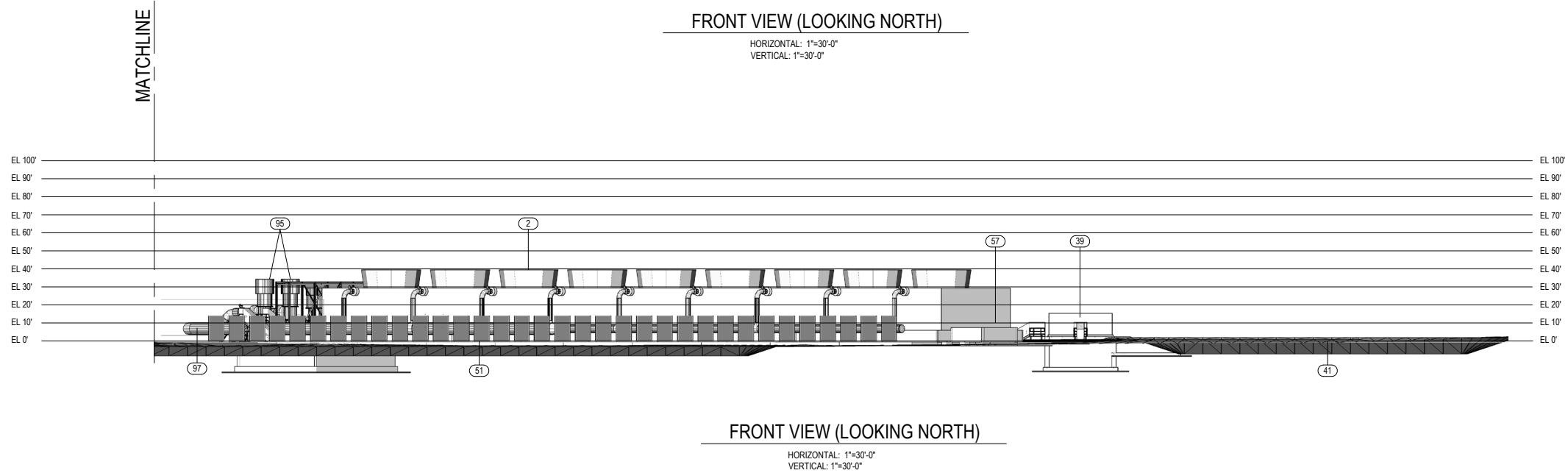
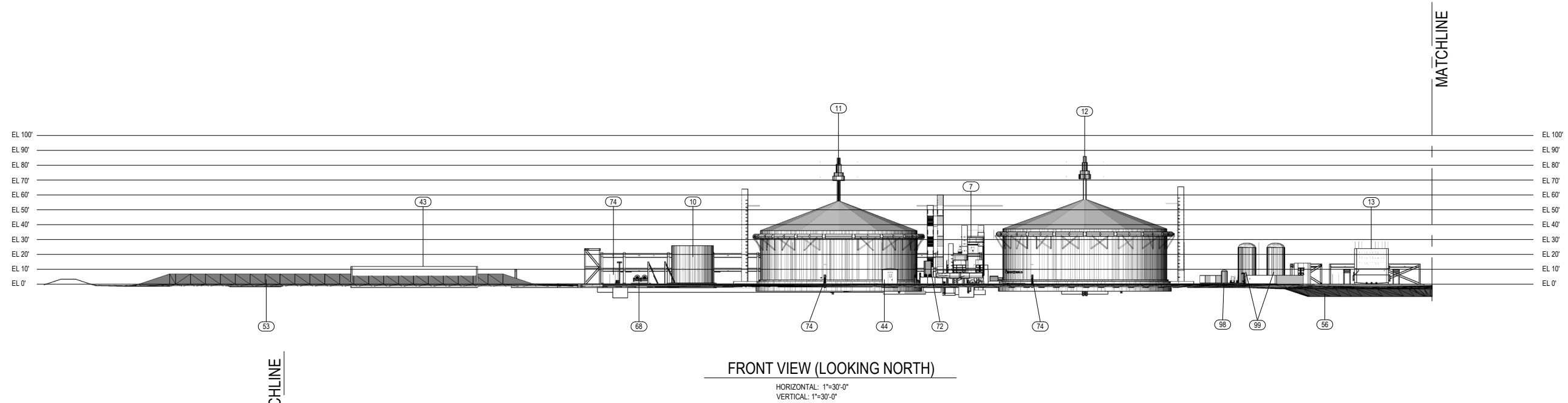
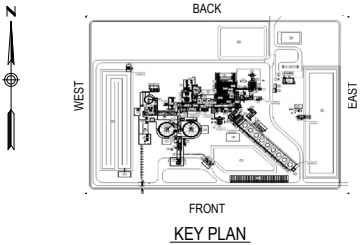


Figure 2-4aR
Elevation View Looking North,
Black Rock Geothermal Project
Imperial County, California

LEGEND:

1. STEAM TURBINE

2. NOT USED

3. VACUUM PUMP SKIDS A/B/C

4. SUBSTATION

5. CONTROL / MAINTENANCE BUILDING

6. EJECTORS A/B/C

7. NOT USED

8. THICKENER

9. SCRUBBER / DEMISTER DRAIN AFT

10. NOT USED

11. NOT USED

12. NOT USED

13. NOT USED

14. PROCESS AFT

15. NOT USED

16. NOT USED

17. CONTROL / MAINTENANCE BUILDING SEPTIC TANK

18. CONTROL / MAINTENANCE BUILDING SEPTIC TANK

19. LP CRYSTALLIZER

20. SP CRYSTALLIZER

21. LP SCRUBBER

22. SP SCRUBBER
23. HP SCRUBBER

24. HP SEPARATOR

25. NOT USED

26. ALTERNATE FEED TRANSFORMER

27. NOT USED

28. NOT USED

29. USED OIL STORAGE AREA

30. NOT USED

31. HP DEMISTER

32. SP DEMISTER

33. LP DEMISTER

34. NOT USED

35. INSTRUMENT / SERVICE AIR RECEIVERS

36. NOT USED

37. SUBSTATION CONTROL ENCLOSURE

38. NOT USED

39. NOT USED

40. NOT USED

41. FRESH WATER POND

42. WARM-UP AFT

43. NOT USED

44. NOT USED

45. NOT USED

46. GANTRY CRANE
47. NOT USED

48. PIPE RACK

49. EMERGENCY BRINE POND PUMPS

50. NOT USED

51. NOT USED

52. NOT USED

53. BRINE POND

54. NOT USED

55. NOT USED

56. NOT USED

57. NOT USED

58. NOT USED

59. ANTI-FOAM STORAGE AND DOSING SYSTEM

60. NORMS STORAGE AND DOSING SYSTEM

61. FLOCCULANT STORAGE AND DOSING SYSTEM

62. NOT USED

63. NOT USED

64. NOT USED

65. NOT USED

66. NOT USED

67. POTABLE WATER SYSTEM

68. NOT USED

69. NOT USED

70. NOT USED
71. NOT USED

72. NOT USED

73. NOT USED

74. NOT USED

75. NOT USED

76. SEAL WATER COOLER

77. NOT USED

78. ANTI-SCALANT REAGENT

79. NOT USED

80. NOT USED

82. NOT USED

83. NOT USED

84. NOT USED

85. NOT USED

86. NOT USED

87. NOT USED

88. BRINE INJECTION ELECTRICAL ENCLOSURE

89. NOT USED

90. NOT USED

91. BRINE INJECTION ELECTRICAL ENCLOSURE SUS TRANSFORMERS

92. VESSEL DRAIN AFT

93. NOT USED

94. NOT USED
95. NOT USED

96. NOT USED

97. NOT USED

98. NOT USED

99. NOT USED

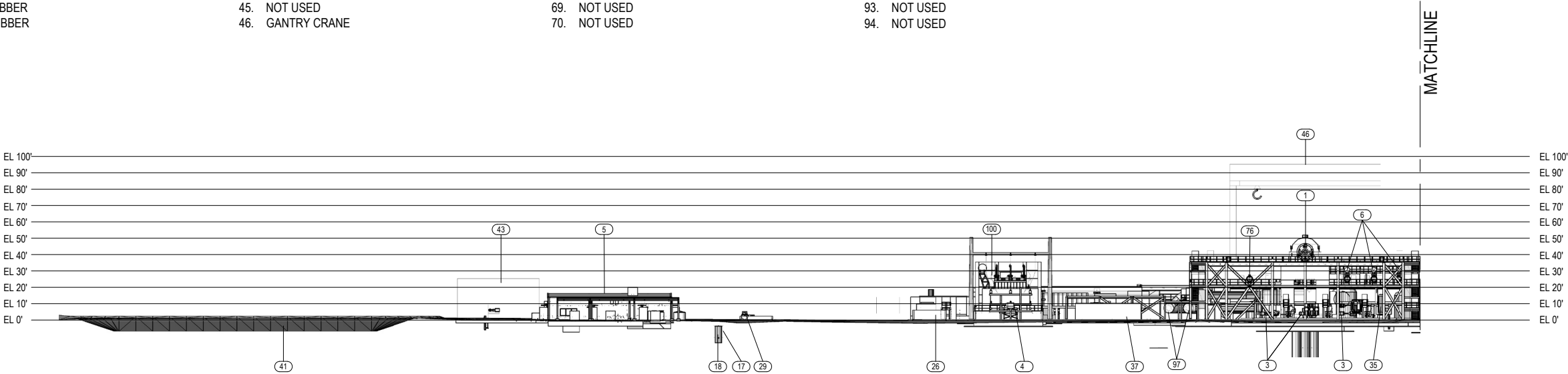
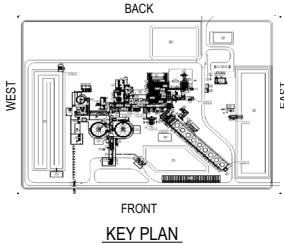
100. 230KV BREAKER

101. NOT USED

102. NOT USED

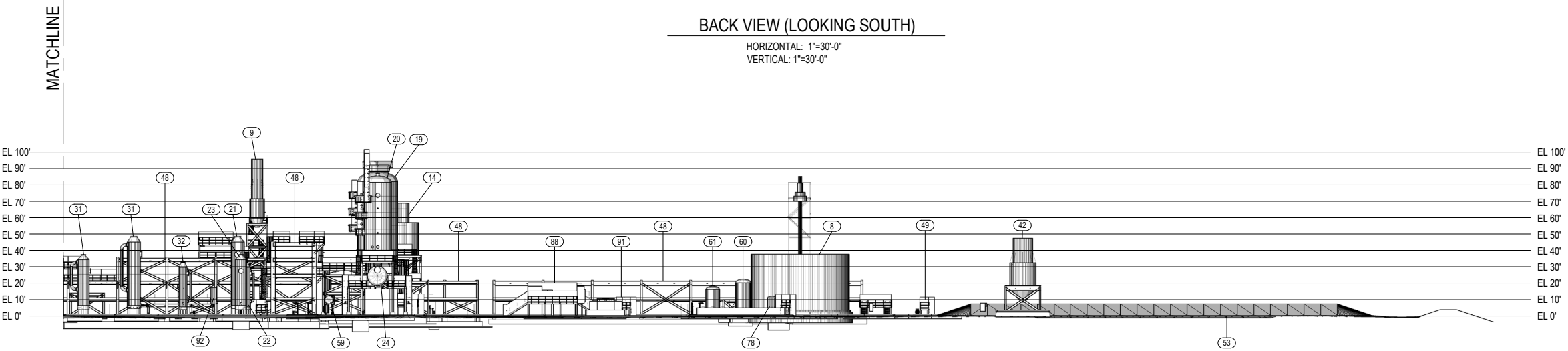
103. NOT USED

104. NOT USED



BACK VIEW (LOOKING SOUTH)

HORIZONTAL: 1"=30'-0"
VERTICAL: 1"=30'-0"



BACK VIEW (LOOKING SOUTH)

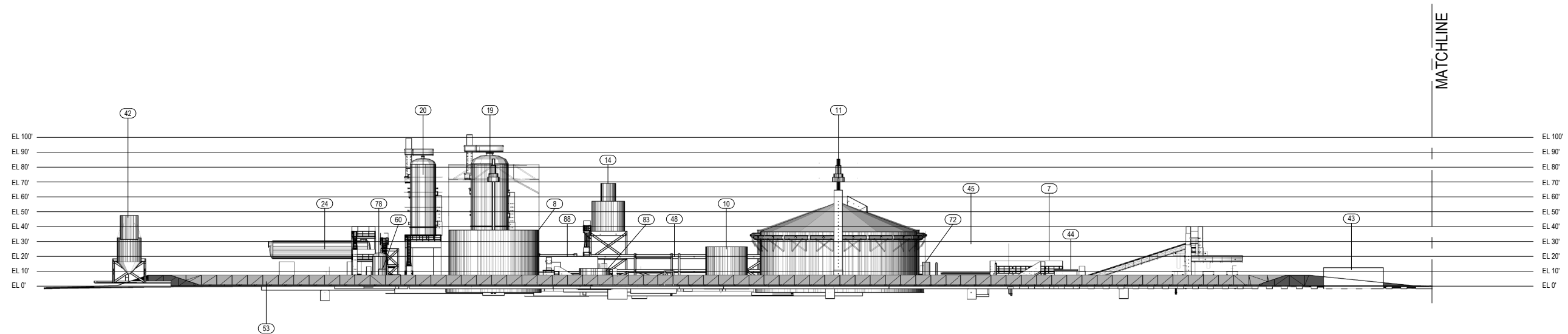
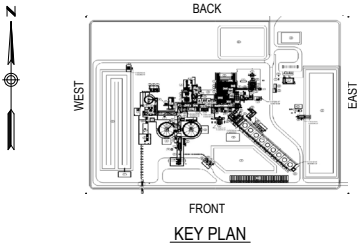
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VERTICAL: 1"=30'-0"



Figure 2-4bR
Elevation View Looking South,
Black Rock Geothermal Project
Imperial County, California

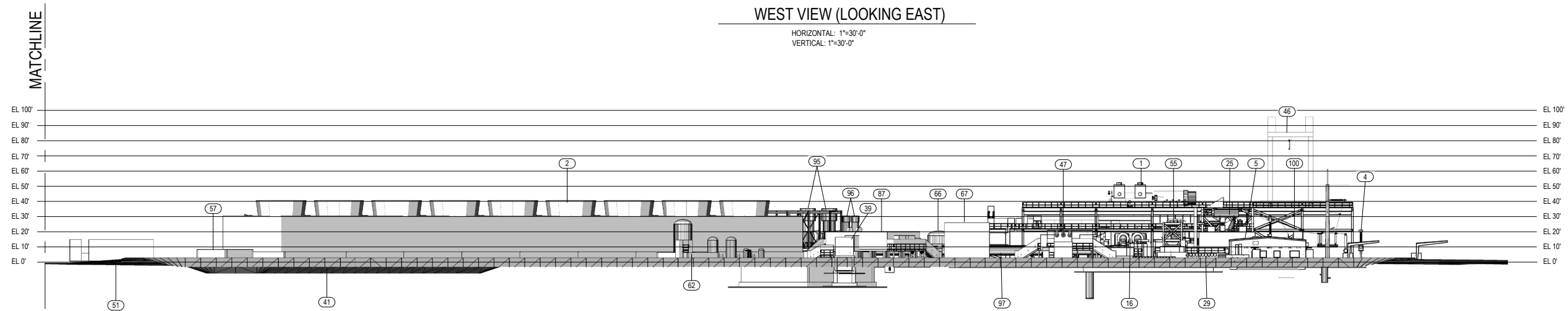
LEGEND:

- | | | | | |
|-----------------------------------|-----------------------------------|--|---|------------------------------------|
| 1. STEAM TURBINE | 21. NOT USED | 43. HYDRO BLAST PAD | 65. NOT USED | 89. NOT USED |
| 2. COOLING TOWER | 22. NOT USED | 44. COOLING HUT | 66. HP CONDENSATE STORAGE TANK | 90. NOT USED |
| 3. NOT USED | 23. NOT USED | 45. CRANE ACCESS | 67. POTABLE WATER SYSTEM | 91. NOT USED |
| 4. SUBSTATION | 24. HP SEPARATOR | 46. GANTRY CRANE | 68. BRINE INJECTION / BOOSTER PUMPS A/B/C | 92. NOT USED |
| 5. CONTROL / MAINTENANCE BUILDING | 25. GENERATOR STEP-UP TRANSFORMER | 47. DIESEL GENERATOR | 69. NOT USED | 93. NOT USED |
| 6. NOT USED | 26. NOT USED | 48. PIPE RACK | 70. NOT USED | 94. NOT USED |
| 7. HORIZONTAL BELT FILTER | 27. NOT USED | 49. NOT USED | 71. NOT USED | 95. CIRCULATING WATER PUMPS A/B |
| 8. NOT USED | 28. NOT USED | 50. NOT USED | 72. SERVICE WATER HOLDING TANK | 96. AUXILIARY COOLING WATER PUMPS |
| 9. NOT USED | 29. USED OIL STORAGE AREA | 51. TRAILER PARKING | 73. NOT USED | 97. CIRCULATING WATER PIPING |
| 10. PROCESS BRINE HEAD TANK | 30. NOT USED | 52. NOT USED | 74. NOT USED | 98. 2.5% HCL DOSING |
| 11. SECONDARY CLARIFIER | 31. NOT USED | 53. BRINE POND | 75. NOT USED | 99. LIQUID LIME STORAGE AND DOSING |
| 12. PRIMARY CLARIFIER | 32. NOT USED | 54. NOT USED | 76. NOT USED | 100. 230kV BREAKER |
| 13. NOT USED | 33. NOT USED | 55. ISOLATED PHASE BUS DUCT | 77. NOT USED | 101. NOT USED |
| 14. PROCESS AFT | 34. NOT USED | 56. STORM WATER RETENTION BASIN | 78. ANTI-SCALANT REAGENT | 102. NOT USED |
| 15. NOT USED | 35. NOT USED | 57. OX BOX | 79. NOT USED | 103. NOT USED |
| 16. CONDENSER | 36. NOT USED | 58. NOT USED | 82. NOT USED | 104. NOT USED |
| 17. NOT USED | 37. NOT USED | 59. NOT USED | 83. AERATED BRINE STORAGE TANK | |
| 18. NOT USED | 38. NOT USED | 60. NORMS STORAGE AND DOSING SYSTEM | 84. NOT USED | |
| 19. LP CRYSTALLIZER | 39. FIRE WATER PUMP ENCLOSURE | 61. NOT USED | 85. NOT USED | |
| 20. SP CRYSTALLIZER | 40. NOT USED | 62. COOLING TOWER CHEMICAL FEED SYSTEM | 86. NOT USED | |
| | 41. FRESH WATER POND | 63. NOT USED | 87. COOLING TOWER ELECTRICAL ENCLOSURE | |
| | 42. WARM-UP AFT | 64. NOT USED | 88. BRINE INJECTION ELECTRICAL ENCLOSURE | |



WEST VIEW (LOOKING EAST)

HORIZONTAL: 1"=30'-0"
VERTICAL: 1"=30'-0"

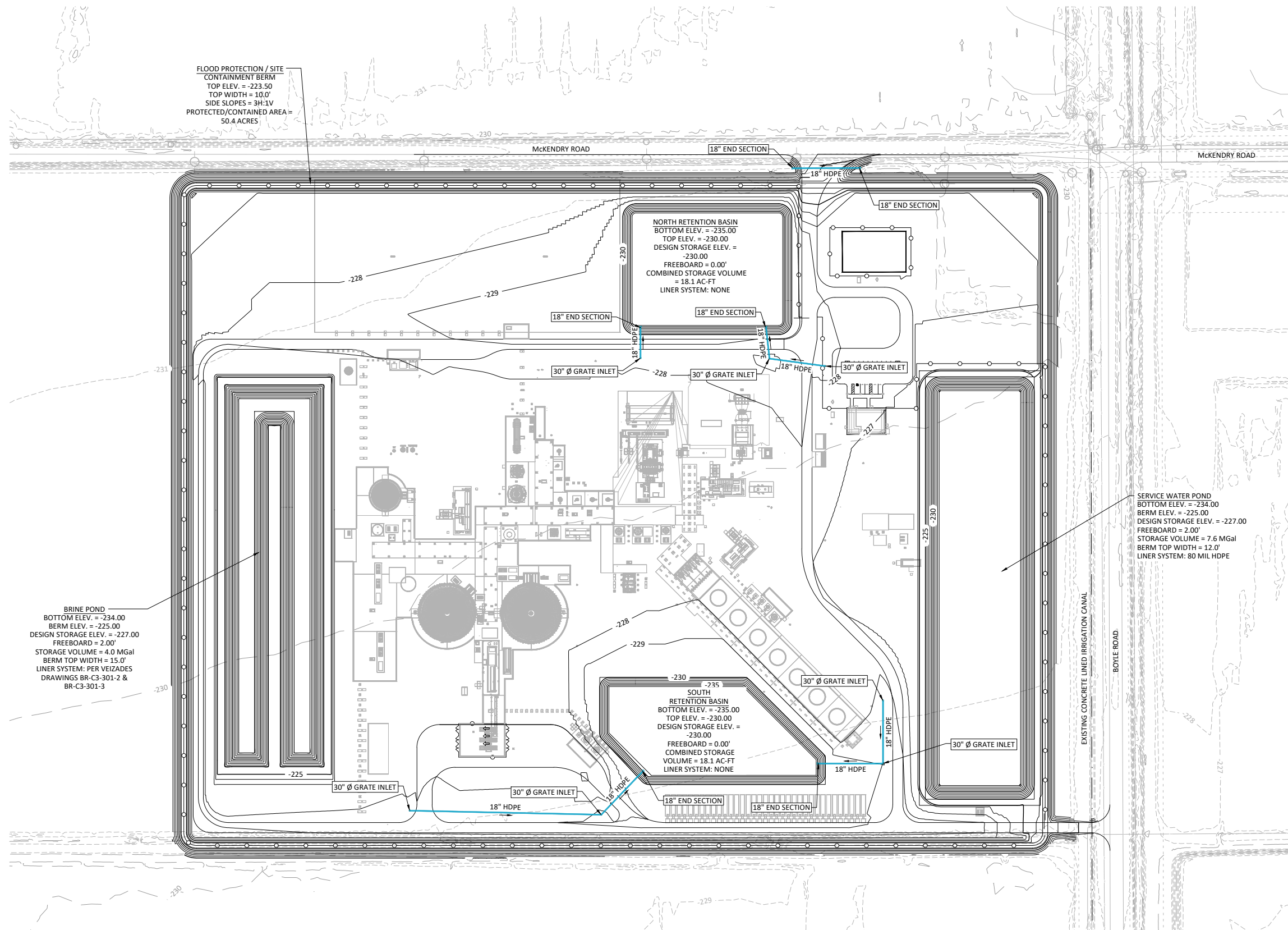


EAST VIEW (LOOKING WEST)

HORIZONTAL: 1"=30'-0"
VERTICAL: 1"=30'-0"

Figure 2-4cR
Elevation View Looking East and West,
Black Rock Geothermal Project
Imperial County, California

30 0 30 60
SCALE IN FEET
SCALE: 1" = 30'-0"



NOTES:

- PRELIMINARY EARTHWORK QUANTITIES:
 CUT = 67,746 CY
 FILL = 128,863 CY
- BALANCE VOLUMES ARE FROM EXISTING GROUND TO FINISHED GRADE.
- TOP OF CONCRETE IS -227.0 UNLESS SPECIFIED ON THE PLANS.
- REFER TO PLOT PLAN (PP-001) FOR EQUIPMENT LAYOUT.
- SEE 20046788BR-CS-001 FOR OVERALL SURFACING PLAN.
- SITE STORM WATER QUANTITIES:

| DESCRIPTION | QTY | UNIT |
|-----------------------------|-------|------|
| 18" HDPE | 1,107 | LF |
| -18" HDPE (<5' DEPTH) | 856 | LF |
| -18" HDPE (5'-15' DEPTH) | 251 | LF |
| 2.5' DIA INLET | 7 | EA |
| -2.5' DIA INLET (<5' DEPTH) | 7 | EA |
| 18" FLARED END SECTION | 6 | EA |

Figure 2-6bR
Post-Construction Drainage,
Black Rock Geothermal Project
 Imperial County, California

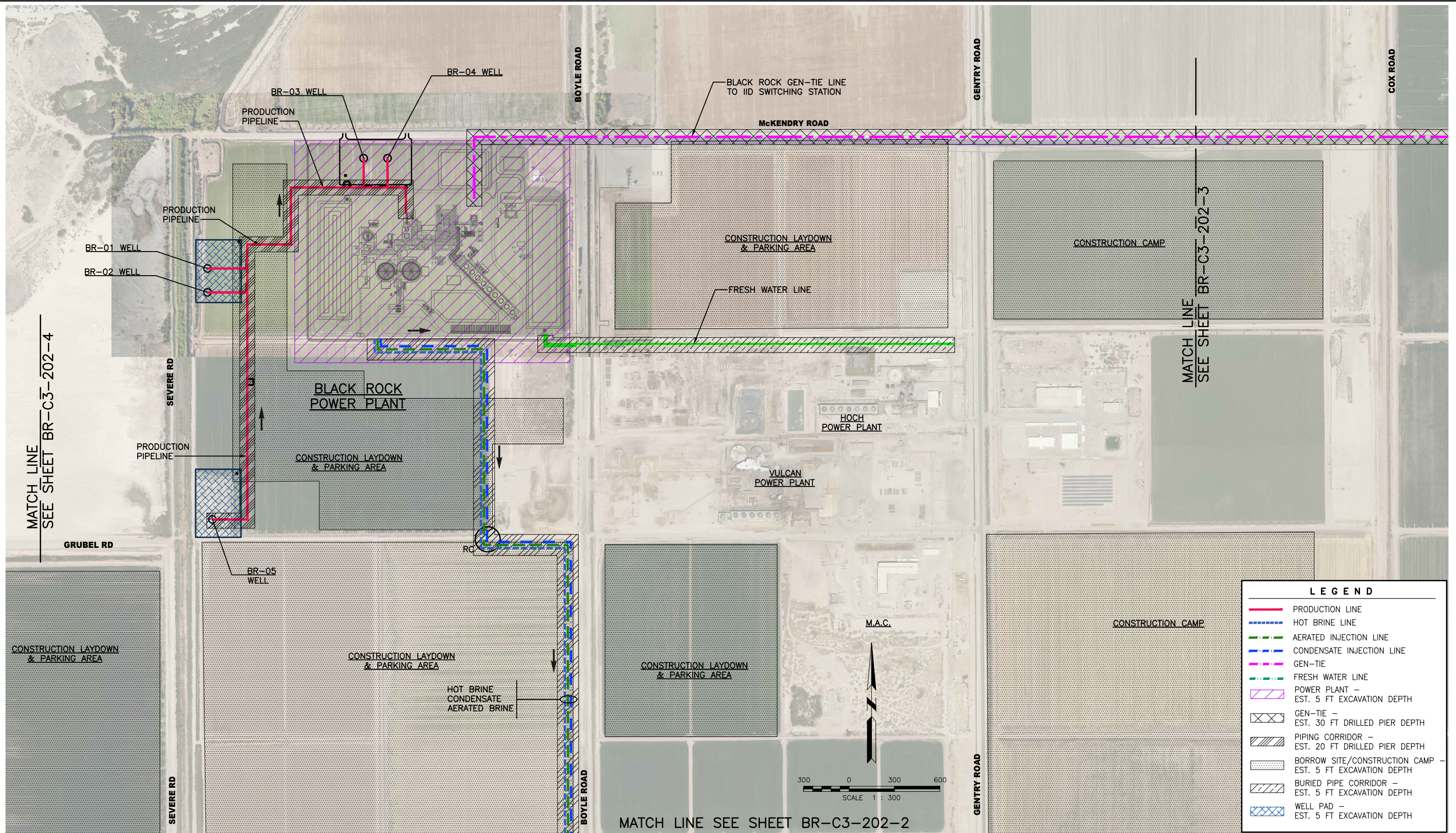


Figure 2-7aR
Depth of Excavation,
Black Rock Geothermal Project
 Imperial County, California



Figure 2-7bR
Depth of Excavation,
Black Rock Geothermal Project
 Imperial County, California

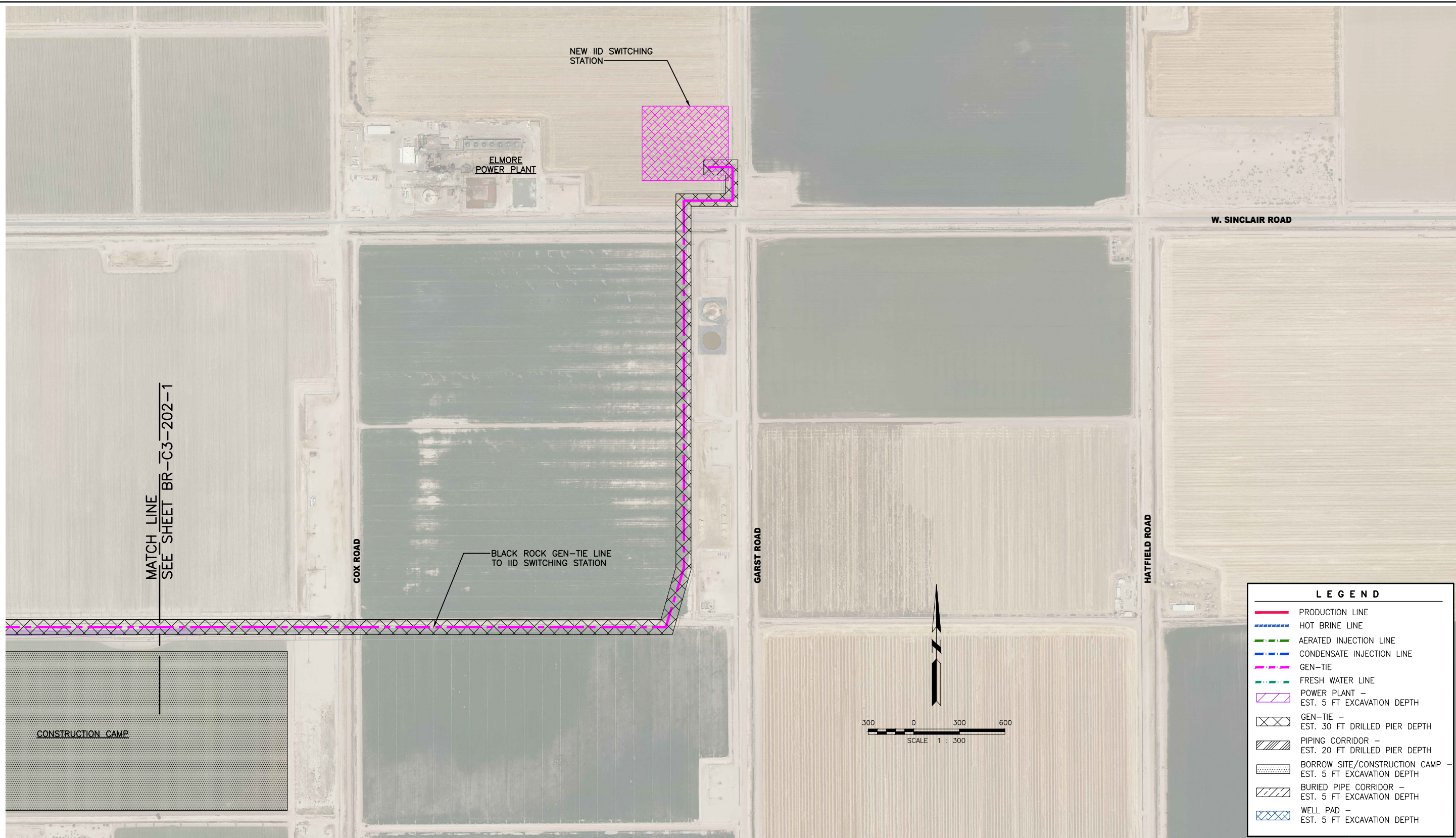


Figure 2-7c
Depth of Excavation,
Black Rock Geothermal Project
 Imperial County, California

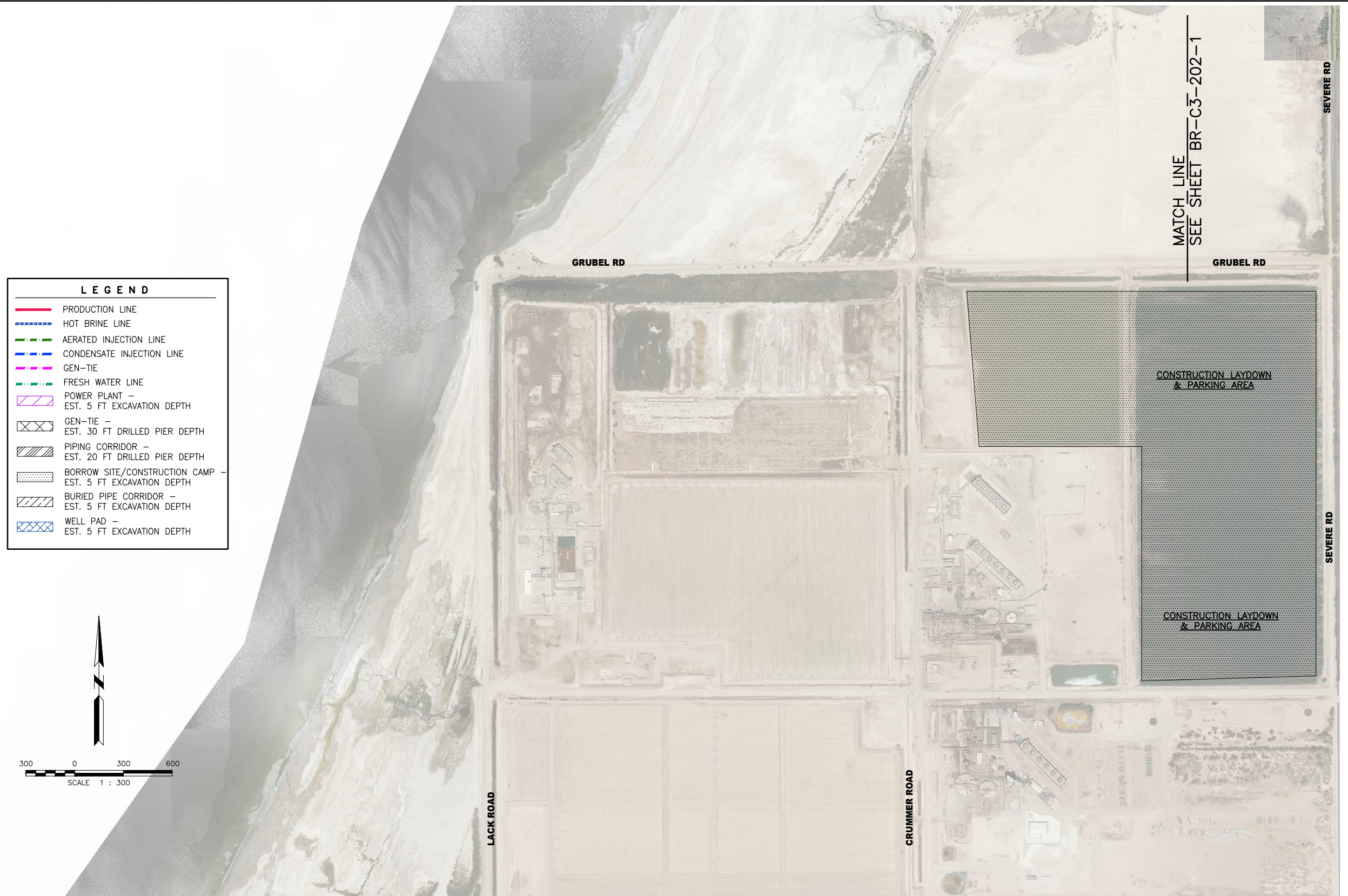
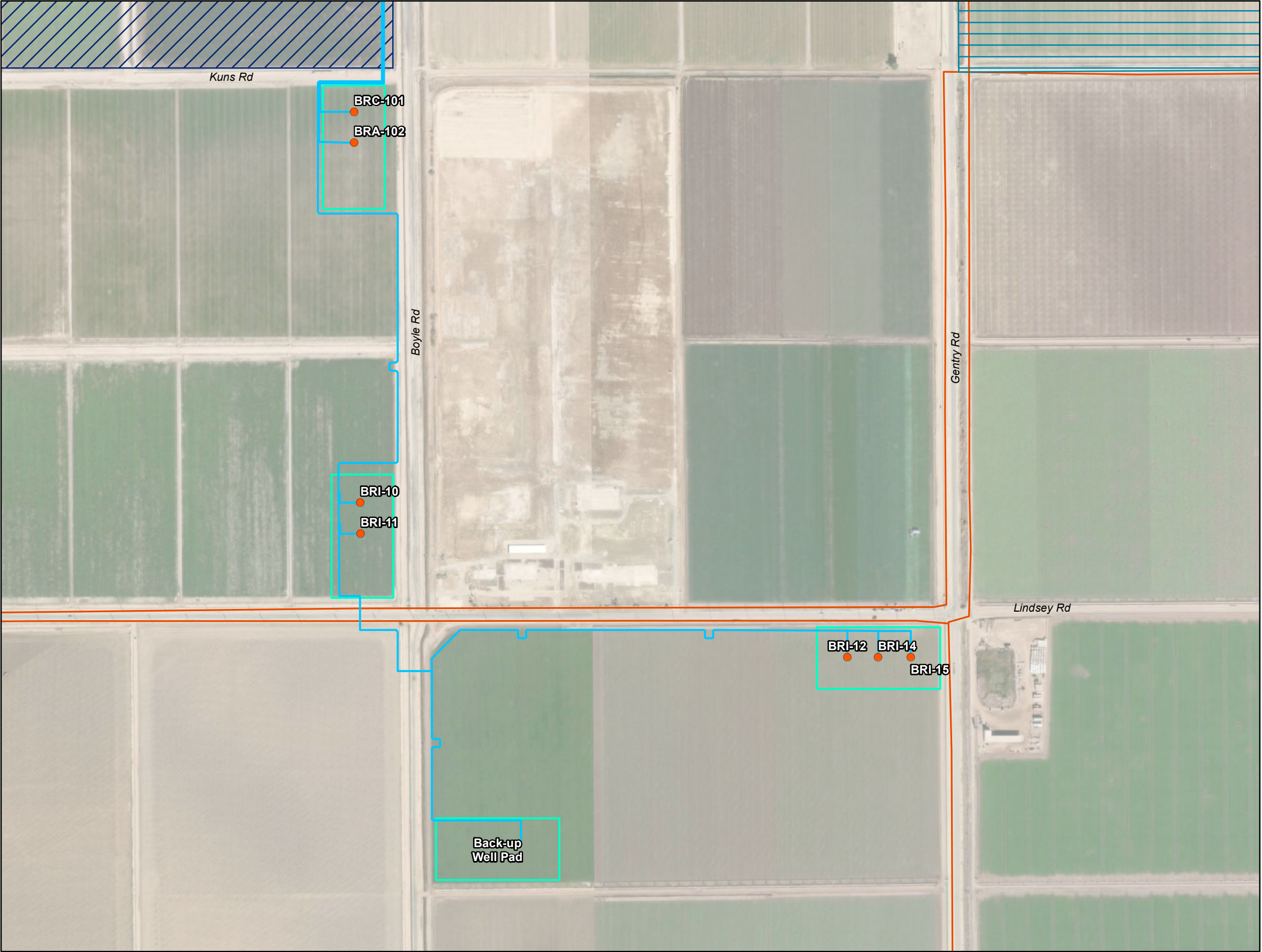


Figure 2-7d
Depth of Excavation,
Black Rock Geothermal Project
 Imperial County, California



- Legend**
- Plant
 - Well Pad
 - Production Well
 - Pipeline
 - Water Supply Pipeline
 - Gen-Tie Line Pole
 - Gen-Tie Line
 - Pull Site
 - Construction Laydown and Parking Areas

Figure DA4.0-1aR
Production Wells
Black Rock Geothermal Project
Imperial County, California



- Legend**
- Well Pad
 - Injection Well
 - Pipeline
 - Construction Camp
 - Construction Laydown and Parking Areas
 - Existing Transmission/Distribution Power Lines

Figure DA4.0-1bR
Injection Wells
Black Rock Geothermal Project
Imperial County, California

4. Air Quality

Air quality and public health figures, along with updated Air Quality and Public Health AFC sections, were provided as part of the Applicant responses to Data Request Set #1, which was submitted on November 10, 2023.

5. Hazardous Materials Handling

Amount of concentrated HCl and the use of a dilute HCl tank and liquid lime storage requires an update to AFC Table 5.5-1. An updated Table 5.5-1R below shows the changes (in boldface and underlined) to the project.

Table 5.5-1R. Use and Location of Hazardous Materials

| Chemical ^a | Use | Maximum Quantity Onsite (gallons, lbs, tons) | Annual Quantity (gallons, lbs, tons) | Storage Location (General Arrangement Location Code) | State | Type of Storage |
|---|--|--|--------------------------------------|--|--------|---------------------|
| Chemical Treatment CL41 | Oxidizing Biocide | 1,000 gallons | 3,250 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| ChemTreat CL456 | Biodetergent | 250 gallons | 750 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| ChemTreat CL5428 | Dispersant | 250 gallons | 750 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| ChemTreat CT775 | Corrosion Inhibitor | 250 gallons | 750 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| ChemTreat CL2065 | Nonoxidizing Biocide | 500 gallons | 1,500 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| HASA 12.5% Sodium Hypochlorite Solution | Oxidizing Biocide | 3,000 gallons | 18,000 gallons | Cooling Tower (62) | Liquid | Continuously onsite |
| ChemTreat C2187T | Oxidizing Biocide – H ₂ S Abatement | 2,000 lbs | 75,000 lbs | Cooling Tower (62) | Solid | Continuously onsite |
| ChemTreat C2184G | Oxidizing Biocide – H ₂ S Abatement | 500 lbs | 1,100 lbs | Cooling Tower (62) | Solid | Continuously onsite |
| NALCO GE0901 | Norms Inhibitor | 6,000 gallons | 73,000 gallons | NORMS (60) | Liquid | Continuously onsite |
| NALCO N7471 Antifoam | Antifoaming Agent | 900 gallons | 6,570 gallons | HP Separator Area (59) | Liquid | Continuously onsite |
| NALCO 1720 | Oxygen Scavenger | 500 gallons | 4,500 gallons | Clarifier (61) | Liquid | Continuously onsite |
| GE0912 | Scale Inhibitor | 3,000 gallons | 14,600 gallons | HP Separator (25) | Liquid | Continuously onsite |
| NALCO N9907 | Polymer/Flocculant | 4,000 lbs | 47,450 lbs | Clarifier (61) | Solid | Continuously onsite |
| Battery Electrolyte | UPS and Emergency Shutdown Battery Array | 1,200 gallons | 1,200 gallons | Battery Rooms (37) | Liquid | Continuously onsite |
| Diesel No. 2 | Fuel for Onsite Equipment | 1,000 gallons | 21,000 gallons | Fire Water Pump AST (39) | Liquid | Continuously onsite |

Revised General Arrangement Refinement

| Chemical ^a | Use | Maximum Quantity Onsite (gallons, lbs, tons) | Annual Quantity (gallons, lbs, tons) | Storage Location (General Arrangement Location Code) | State | Type of Storage |
|-----------------------------------|--|--|--------------------------------------|--|---------------------------|----------------------------|
| <u>Hydrochloric Acid <37%</u> | <u>Filter Press Wash</u> | <u>10,000 gallons</u> | <u>420,500 gallons</u> | <u>Filter Press (79)</u> | <u>Liquid</u> | <u>Continuously onsite</u> |
| <u>Hydrochloric Acid <2.5%</u> | <u>Filter Press Wash</u> | <u>300 gallons</u> | <u>5,800,000 gallons</u> | <u>Filter Press (98)</u> | <u>Liquid</u> | <u>Continuously onsite</u> |
| <u>Liquid Lime</u> | <u>Filter Press Wash</u> | <u>10,300 gallons</u> | <u>158,604 gallons</u> | <u>Filter Press (99)</u> | <u>Liquid</u> | <u>Continuously onsite</u> |
| Sulfur Hexafluoride | Circuit Breakers/TET Test | 300 lbs | 300 lbs | Switchyards/Resources Test Unit (4, 54) | Gas | Continuously onsite |
| Anti-Freeze and Coolant | Portable Equipment in Shop | 1,000 gallons | 1,000 gallons | Maintenance Building (6) | Liquid | Continuously onsite |
| Naphtha | Portable Equipment in Shop | 250 gallons | 250 gallons | Maintenance Building (6) | Liquid | Continuously onsite |
| Hydraulic fluid | Portable Equipment in Shop/Shop/Equipment | 2,000 gallons | 2,000 gallons | Maintenance Building/Filter Press (6) | Liquid | Continuously onsite |
| Laboratory reagents | Geothermal Fluids/Filter Cake Laboratory Filter Cake Laboratory Analysis | 5 gallons | 5 gallons | Laboratory/chemical storage cabinets (5) | Liquid and Granular Solid | Continuously onsite |
| Turbine Lubrication Oil | Lubricate Rotating Equipment (e.g., steam turbine bearings, valves) | 12,000 gallons | 12,000 gallons | Lubricating oil reservoirs adjacent to the steam turbine and drum storage in lubricant storage shed/warehouse (63) | Liquid | Continuously onsite |
| Mineral Insulating Oil | Transformers | 22,000 gallons | 15,000 gallons | Transformers and drum storage in lubricant storage shed (38, 44, 6) | Liquid | Continuously onsite |
| Acetylene | Welding Gas | 500 cubic feet | 500 cubic feet | Maintenance building (6) | Gas | Continuously onsite |

Revised General Arrangement Refinement

| Chemical ^a | Use | Maximum Quantity Onsite (gallons, lbs, tons) | Annual Quantity (gallons, lbs, tons) | Storage Location (General Arrangement Location Code) | State | Type of Storage |
|--|------------------------------|---|--|--|-----------------|---------------------|
| Oxygen | Welding Gas | 500 cubic feet | 500 cubic feet | Maintenance building (6) | Gas | Continuously onsite |
| Propane | Torch Gas | 500 cubic feet | 500 cubic feet | Maintenance building (6) | Gas | Continuously onsite |
| Alloy Mix Gas | Welding Gas | 500 cubic feet | 500 cubic feet | Maintenance building (6) | Gas | Continuously onsite |
| Lab Gas (Helium, Argon, Nitrogen, Air) | Laboratory | 500 cubic feet | 500 cubic feet | Laboratory (5) | Gas | Continuously onsite |
| Liquid Argon | Laboratory | 300 gallons | 300 gallons | Laboratory (5) | Liquid | Continuously onsite |
| Cleaning Chemicals | Cleaning | Varies (< 25 gallons of fluids or 100 lbs of solid for each chemical) | Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical) | Control Room (5) | Liquid or Solid | Continuously onsite |
| Paint | Touch-up of Painted Surfaces | Varies (< 25 gallons of fluids or 100 lbs of solid for each chemical) | Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical) | Control Room (5) | Liquid | Continuously onsite |

Notes:

^a Chemical vendor may be subject to change; however, chemical class will remain the same or similar.

AST = aboveground storage tank

H₂S = hydrogen sulfide

HP = high pressure

lbs = pound(s)

UPS = uninterruptible power supply

^a Chemical vendor may be subject to change; however, chemical class will remain the same or similar.

6. Visual Resources

The following revised BRGP Visual Resource figures are submitted.

- Figure 5.13-2b Visual Simulation from Rock Hill (KOP1)
- Figure 5.13-2d Visual Simulation from Red Hill (KOP2)
- Figure 5.13-2f Simulation from Sonny Bono Salton Sea National Wildlife Refuge (KOP3)



Figure 5.13-2bR
Visual Simulation from Rock Hill (KOP1)
Black Rock Geothermal Project
Imperial County, California



Figure 5.13-2dR
Visual Simulation from Red Hill (KOP2)
Black Rock Geothermal Project
Imperial County, California



Figure 5.13-2fR
 Visual Simulation from Sonny Bono Salton Sea
 National Wildlife Refuge (KOP3)
 Black Rock Geothermal Project
 Imperial County, California