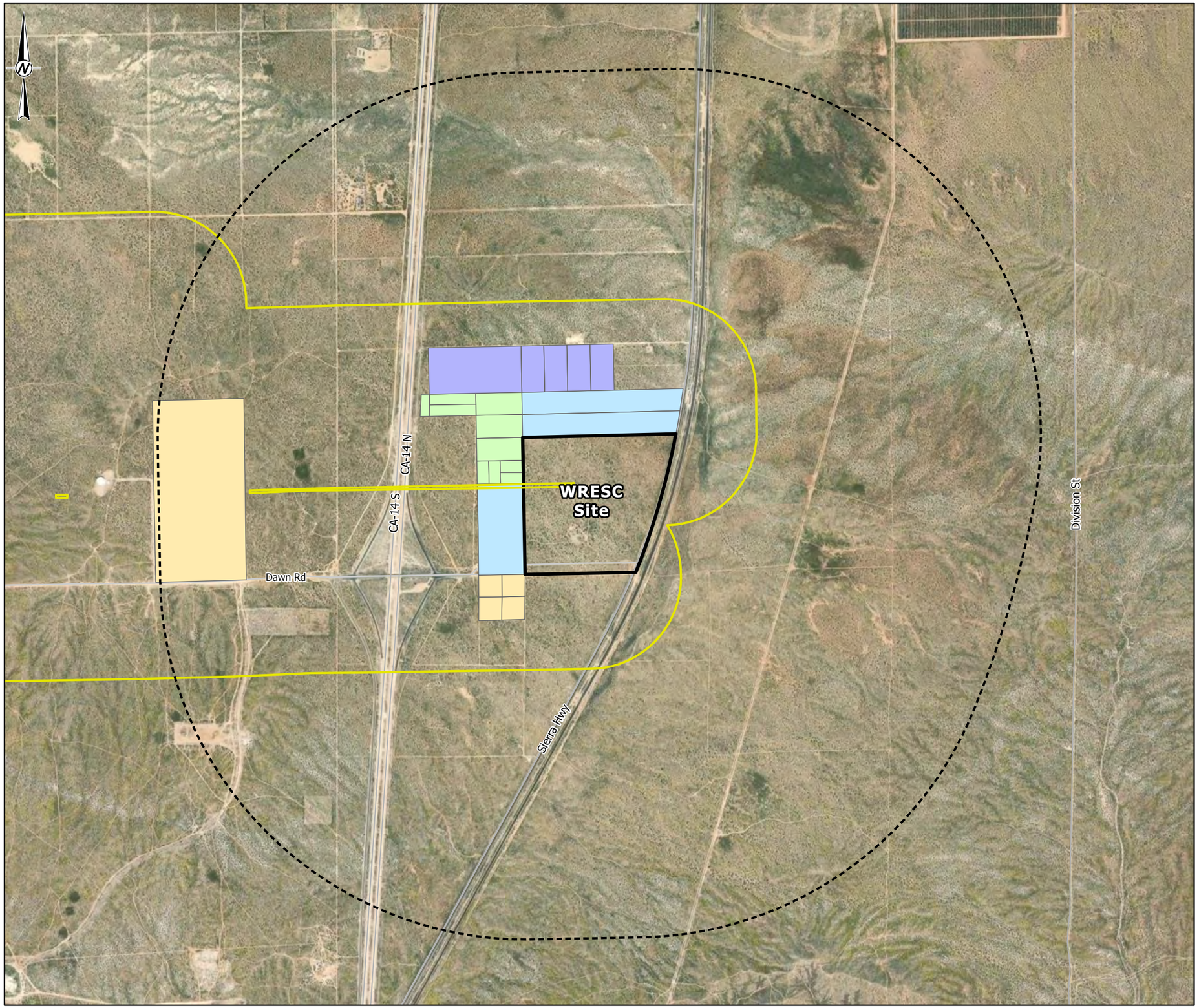
DOCKETED	
Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	254807
Document Title:	Willow Rock Energy Storage Center SAFC Volume II- Appendix 56A-510A
Description:	N/A
Filer:	Amanda Cooey
Organization:	Ellison Schneider Harris & Donlan LLP
Submitter Role:	Applicant Representative
Submission Date:	3/1/2024 5:05:15 PM
Docketed Date:	3/4/2024

APPENDIX 5.6A

Land Use Figures



LEGEND

- WRESC SITE
- LAYDOWN (NO LONG-TERM USE)
- LAYDOWN/PARKING (NO LONG-TERM USE)
- LAYDOWN/PARKING OR ARCHITECTURAL BERM
- ARCHITECTURAL BERM OR NO USE
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

1:17,000

0 500 1,000 2,000 Feet

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021. ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS, MAXAR

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
SITE VICINITY

CONSULTANT

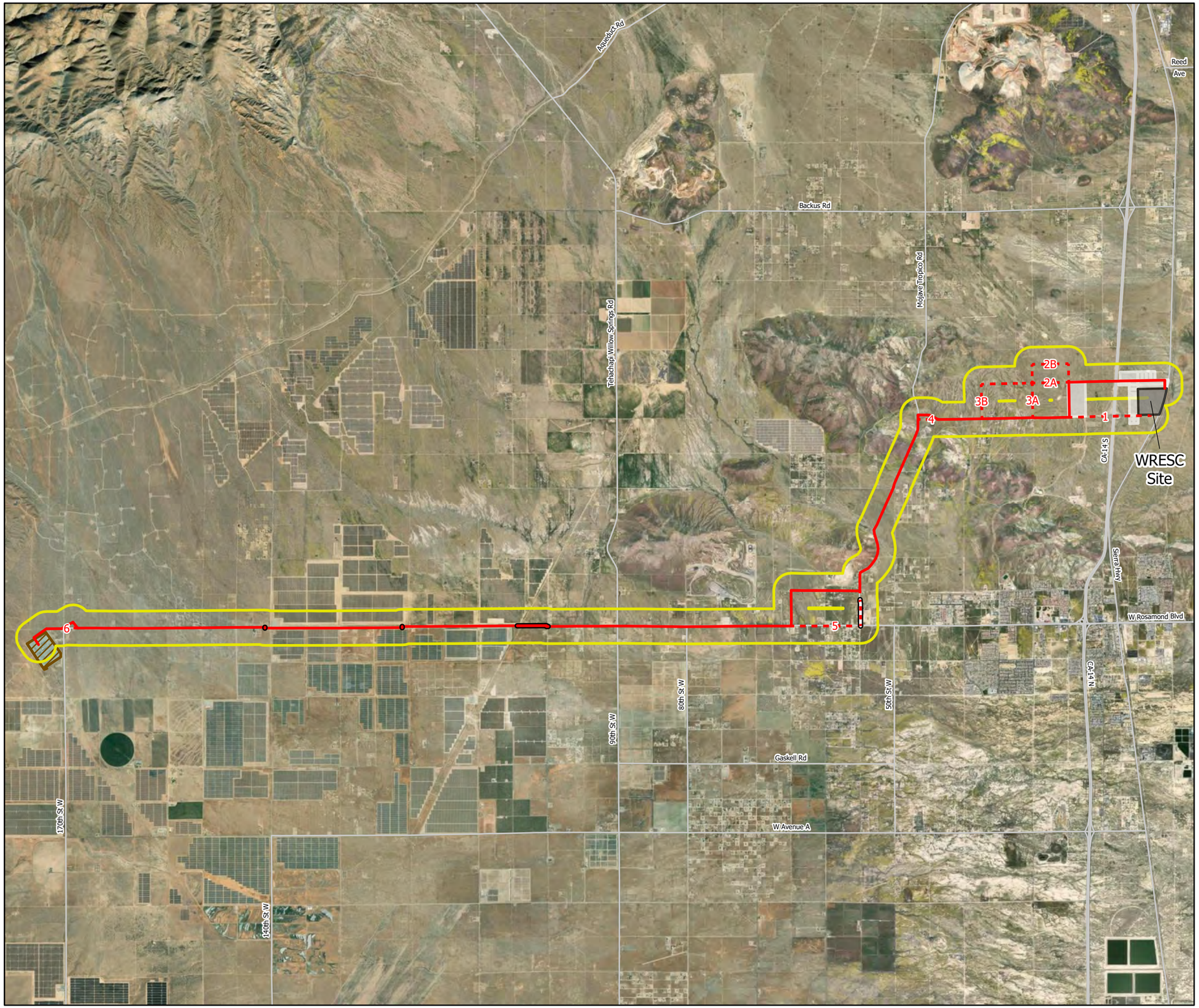
YYYY-MM-DD	2024-02-12
DESIGNED	MK
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

PATH: G:\Hydrostor\Arnal\09_PROJECTS\31406639.000_HydrostorArnalLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MKD\FIGURES\Land_Use_Rev0\31406639-003_01_001_F5.6A-1_Rev0_SiteVicinity.aprx PRINTED ON: AT 5:36:19 PM



LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- SCE WHIRLWIND SUBSTATION

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

1:90,000

0 3,750 7,500 15,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY -EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, FAO, USGS, EPA, NPS

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
SITE VICINITY MAP - WITH ROUTE OPTIONS

CONSULTANT

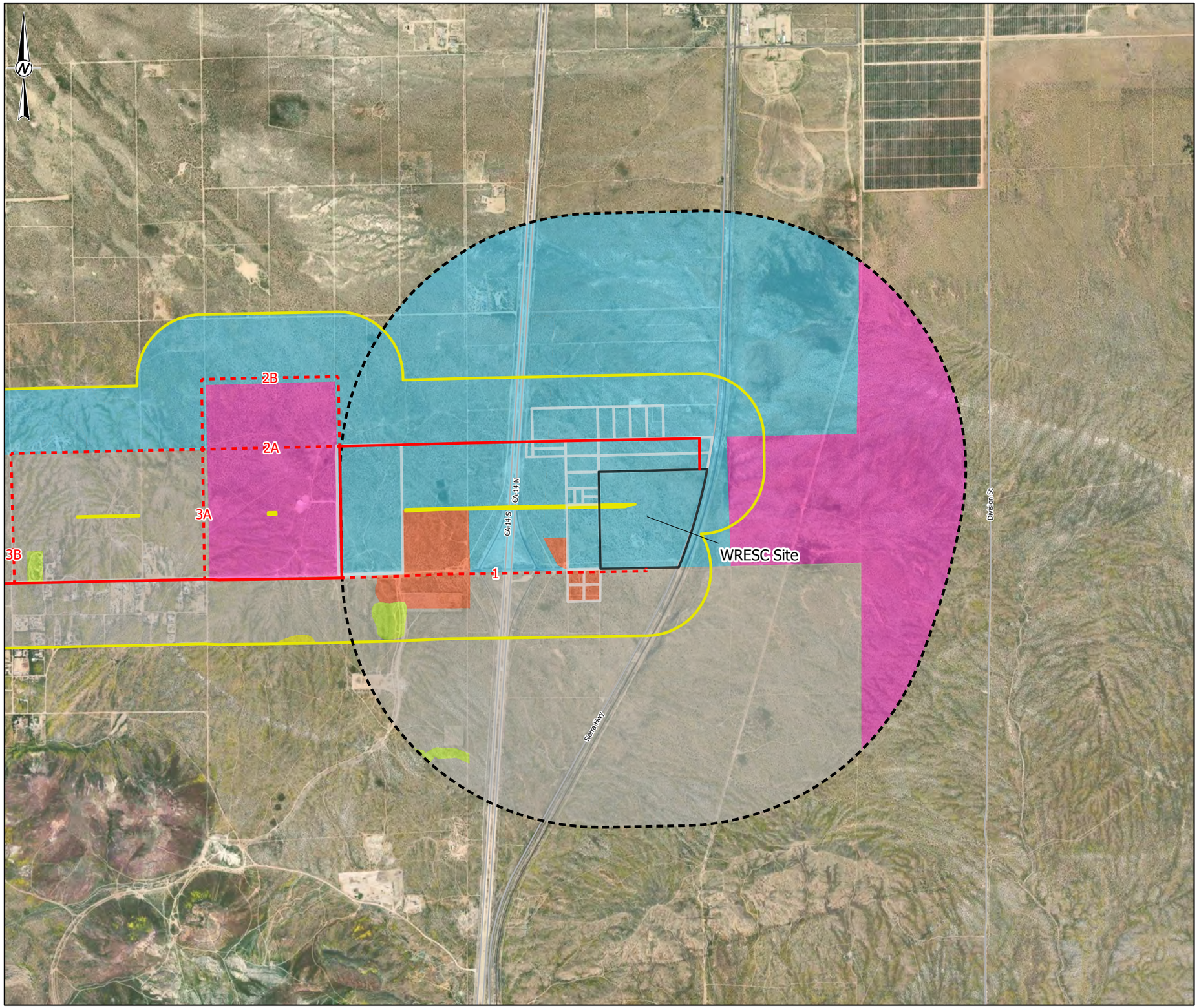
YYYY-MM-DD	2024-02-21
DESIGNED	MK
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-2

PATH: G:\Hydrostor\Arnal\09_PROJECTS\31406639.000_HydrostorArnalLandUse\HY04_LU_LBR_LandUse\02_PRODUCTION\MKD\FIGURES\Land_Use_Rev0\31406639-003_01_002_F5.6A-2_Rev0_RouteAndAllRoute.aprx PRINTED ON: AT: 9:07:43 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0



LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

LAND USE

- COMMERICAL
- EDUCATIONAL FACILITIES/PUBLIC OR PRIVATE RECREATION AREAS
- PUBLIC OR PRIVATE RECREATION AREAS
- RESOURCE MANAGEMENT (MIN. 20 ACRE PARCEL SIZE)
- STATE OR FEDERAL LAND
- OTHER

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 1 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-3-1

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.003_Hydrostor\Ansell\Land\Land\HY04.LU.LBR_Land\Land\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev03\31406639-003_01_003_F5.6A-3_Rev0_Land\Use.aprx PRINTED ON: AT: 9:11:07 AM

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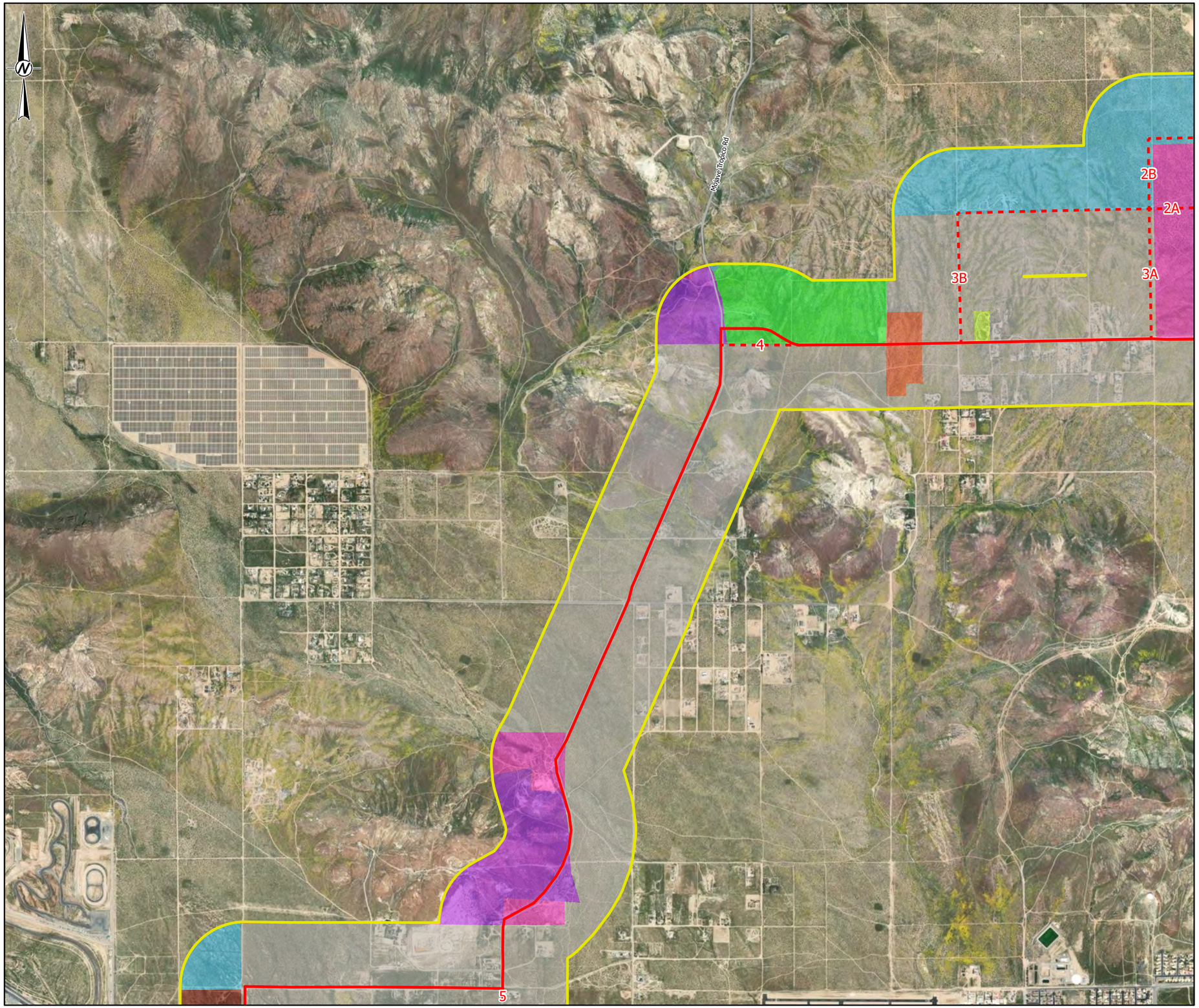
25mm
0



LEGEND

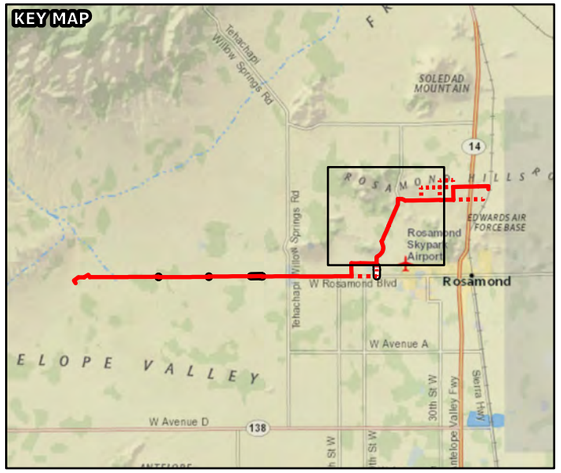
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

LAND USE

- INDUSTRIAL
- COMMERICAL
- PUBLIC OR PRIVATE RECREATION AREAS
- EXTENSIVE AGRICULTURE
- RESOURCE MANAGEMENT (MIN. 20 ACRE PARCEL SIZE)
- MINERAL AND PETROLEUM (MIN. 5 ACRE PARCEL SIZE)
- STATE OR FEDERAL LAND
- OTHER



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 2 OF 6

CONSULTANT

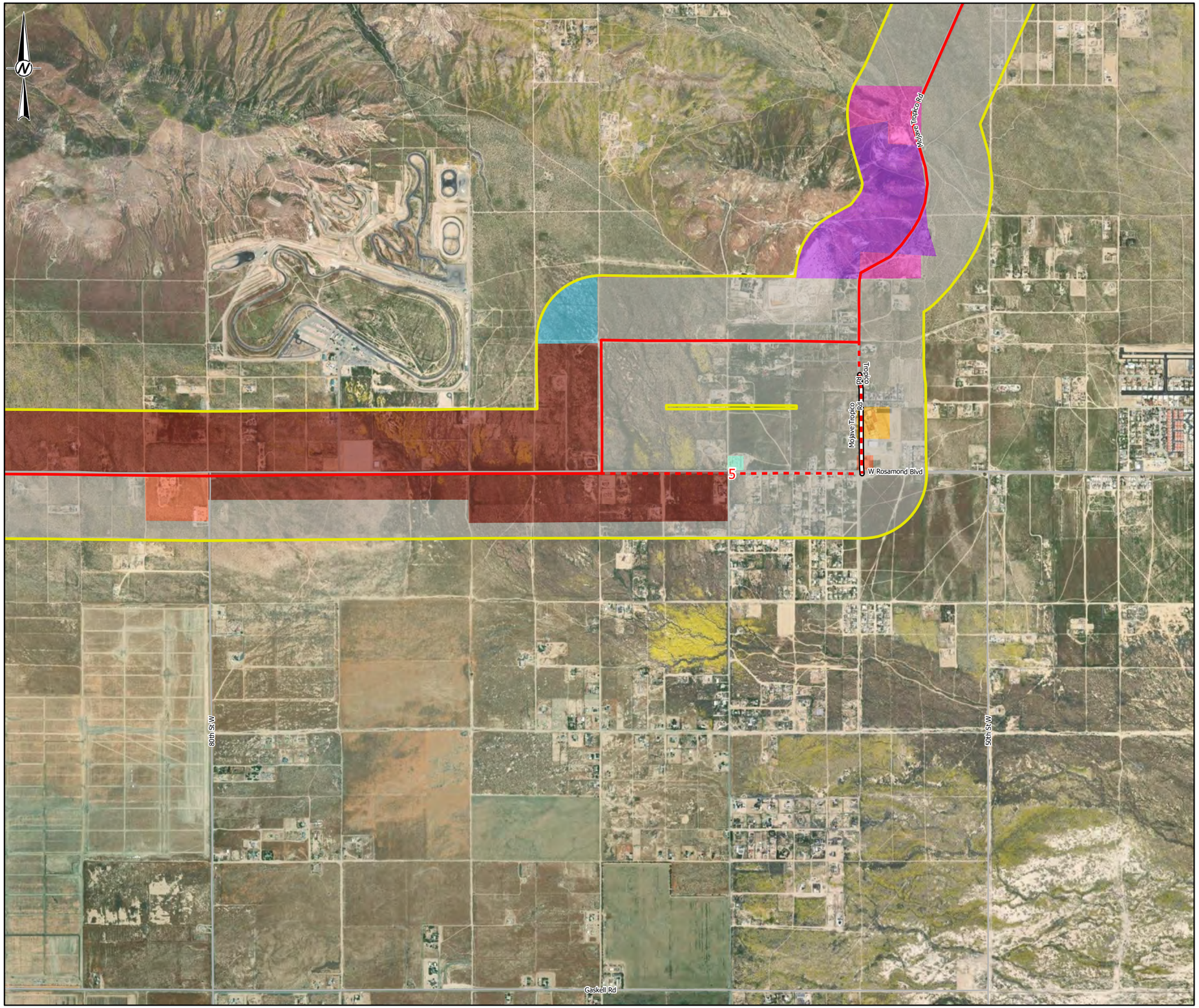
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-3-2

PATH: G:\Hydrostor\Arsenal\99_PROJECTS\31406639.000_HydrostorArsenalLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_003_F5.6A-3_Rev0_LandUse.aprx PRINTED ON: AT: 9:11:12 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0



LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

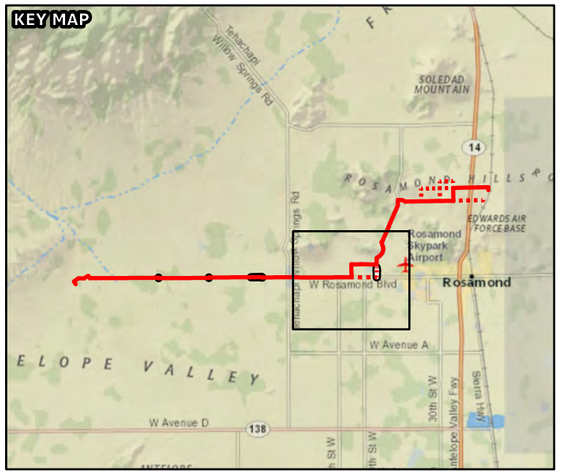
PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

LAND USE

- INDUSTRIAL
- COMMERICAL
- EDUCATIONAL FACILITIES
- OTHER FACILITIES
- RESOURCE MANAGEMENT (MIN. 20 ACRE PARCEL SIZE)
- MINERAL AND PETROLEUM (MIN. 5 ACRE PARCEL SIZE)
- STATE OR FEDERAL LAND
- OTHER

KEY MAP



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 3 OF 6

CONSULTANT

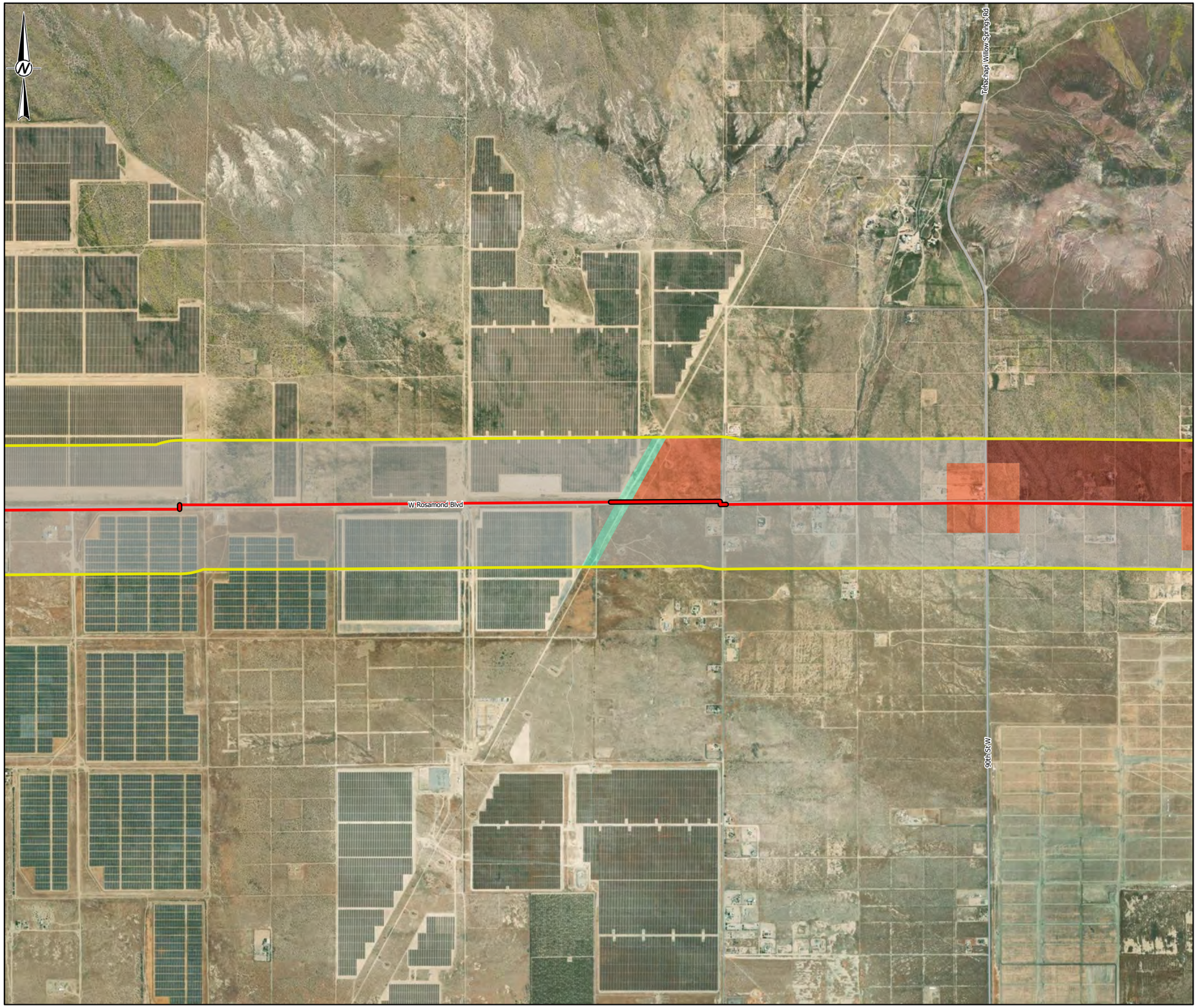
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-3-3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\Ansel\LandUse\HY04 LU LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_003_F5.6A-3_Rev0_LandUse.aprx PRINTED ON: AT: 9:11:18 AM



LEGEND

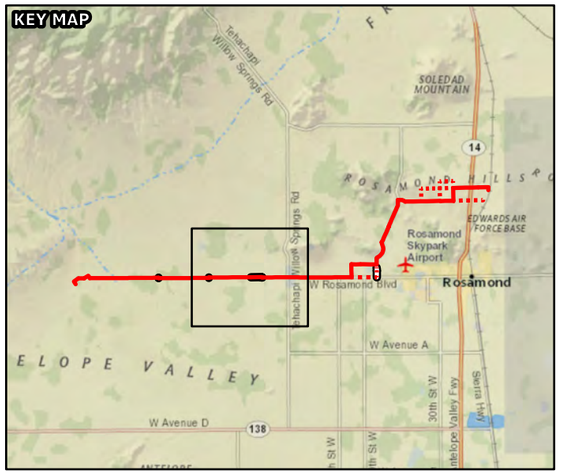
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND

LAND USE

- INDUSTRIAL
- COMMERICAL
- OTHER FACILITIES
- OTHER



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 4 OF 6

CONSULTANT

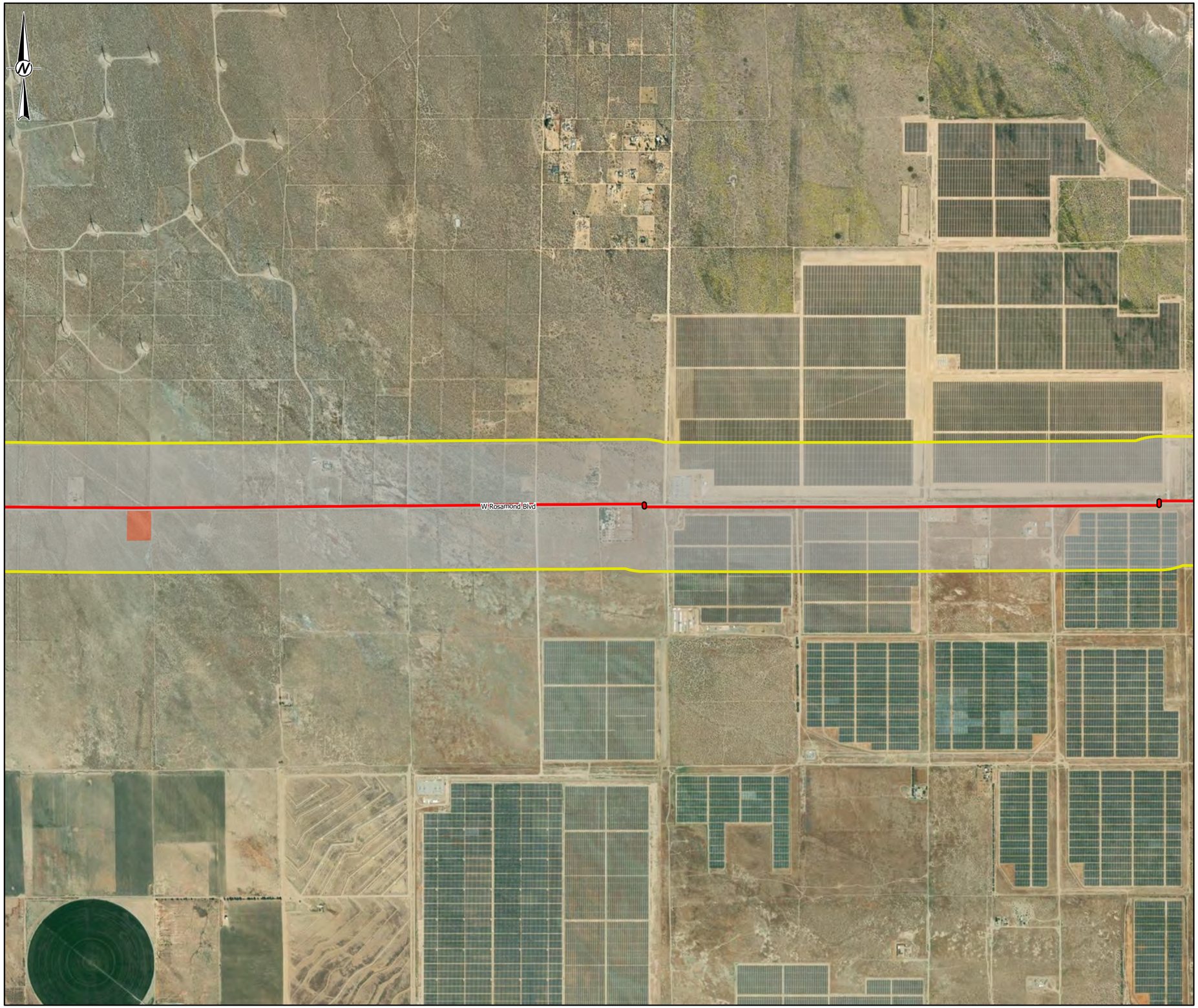
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-3-4

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_HydrostorAnselLandUse\HYG4_LU_LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_003_F5.6A-3_Rev0_LandUse.aprx PRINTED ON: AT: 9:11:24 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0



LEGEND

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

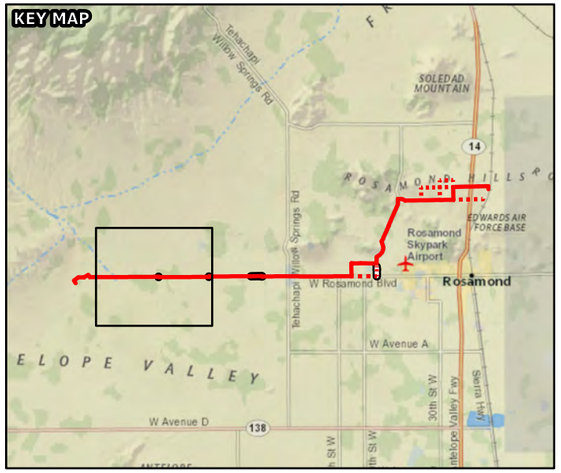
PREFERRED ROUTE - ABOVEGROUND

PREFERRED ROUTE - UNDERGROUND

LAND USE

COMMERICAL

OTHER



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 5 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-3-5

PATH: G:\Hydrostor\Arnel\09_PROJECTS\31406639.000_HydrostorArnelLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_003_F5.6A-3_Rev0_Landuse.aprx PRINTED ON: AT: 9:11:30 AM

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25mm
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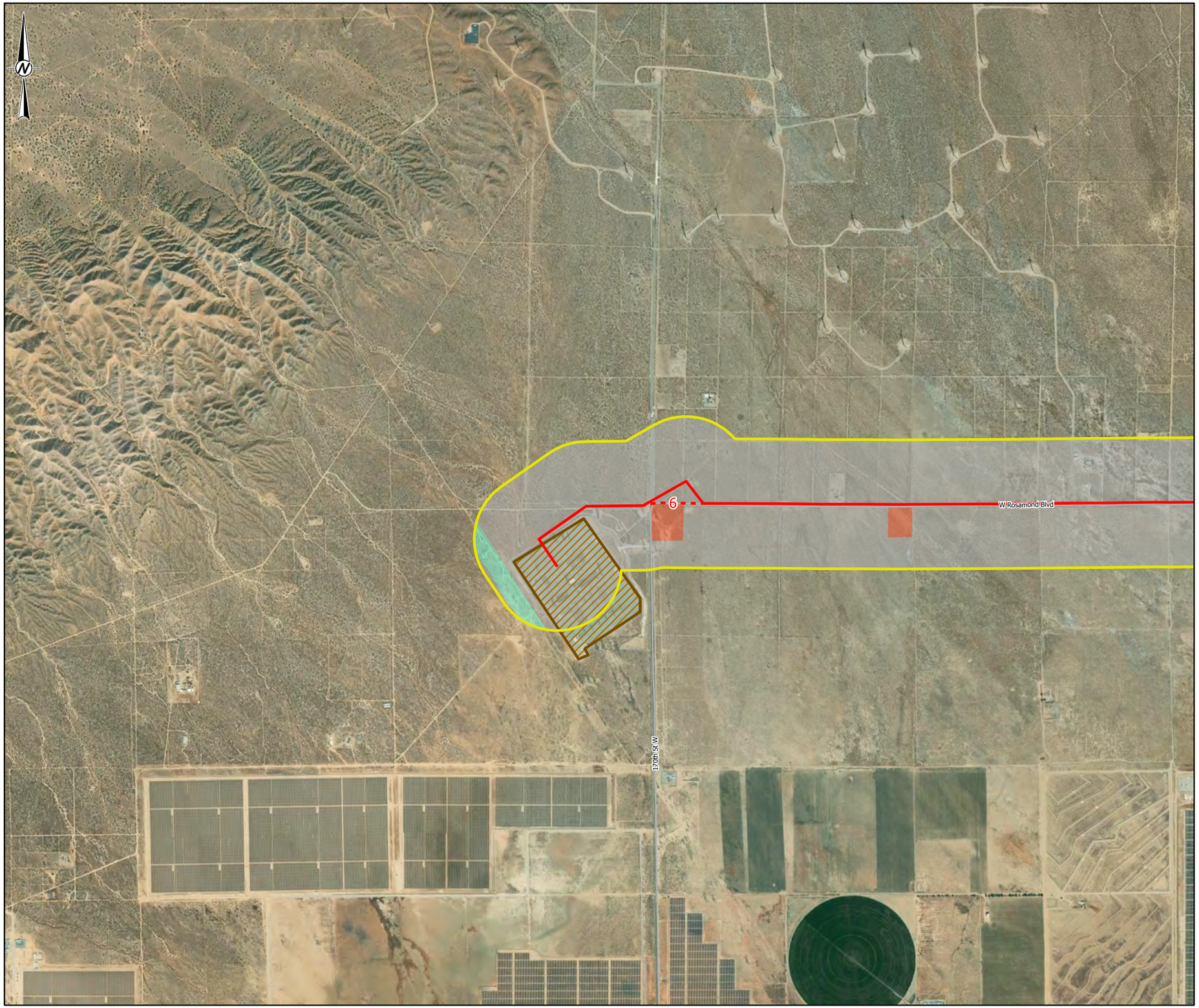


LEGEND

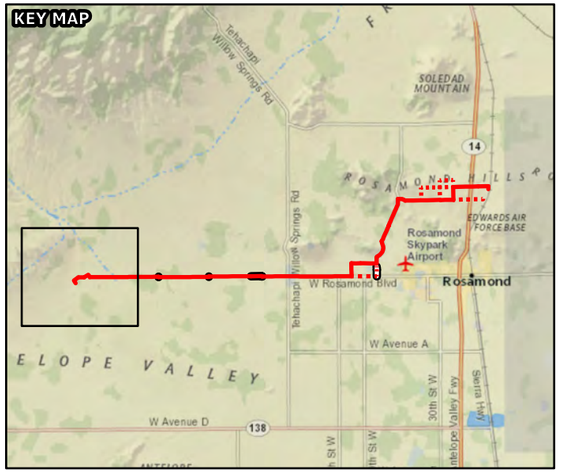
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- SCE WHIRLWIND SUBSTATION

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

LAND USE

- COMMERICAL
- OTHER FACILITIES
- OTHER



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. LAND USE DATA - KERN COUNTY, 2023. DESIGNATIONS SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

EXISTING LAND USE MAP - WITH ROUTE OPTIONS
MAP 6 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-3-6

PATH: G:\Hydrostor\Arsenl\99_PROJECTS\31406639.000_HydrostorAnselLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_003_F5.6A-3_Rev0_LandUse.aprx PRINTED ON: AT: 9:11:35 AM

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25mm
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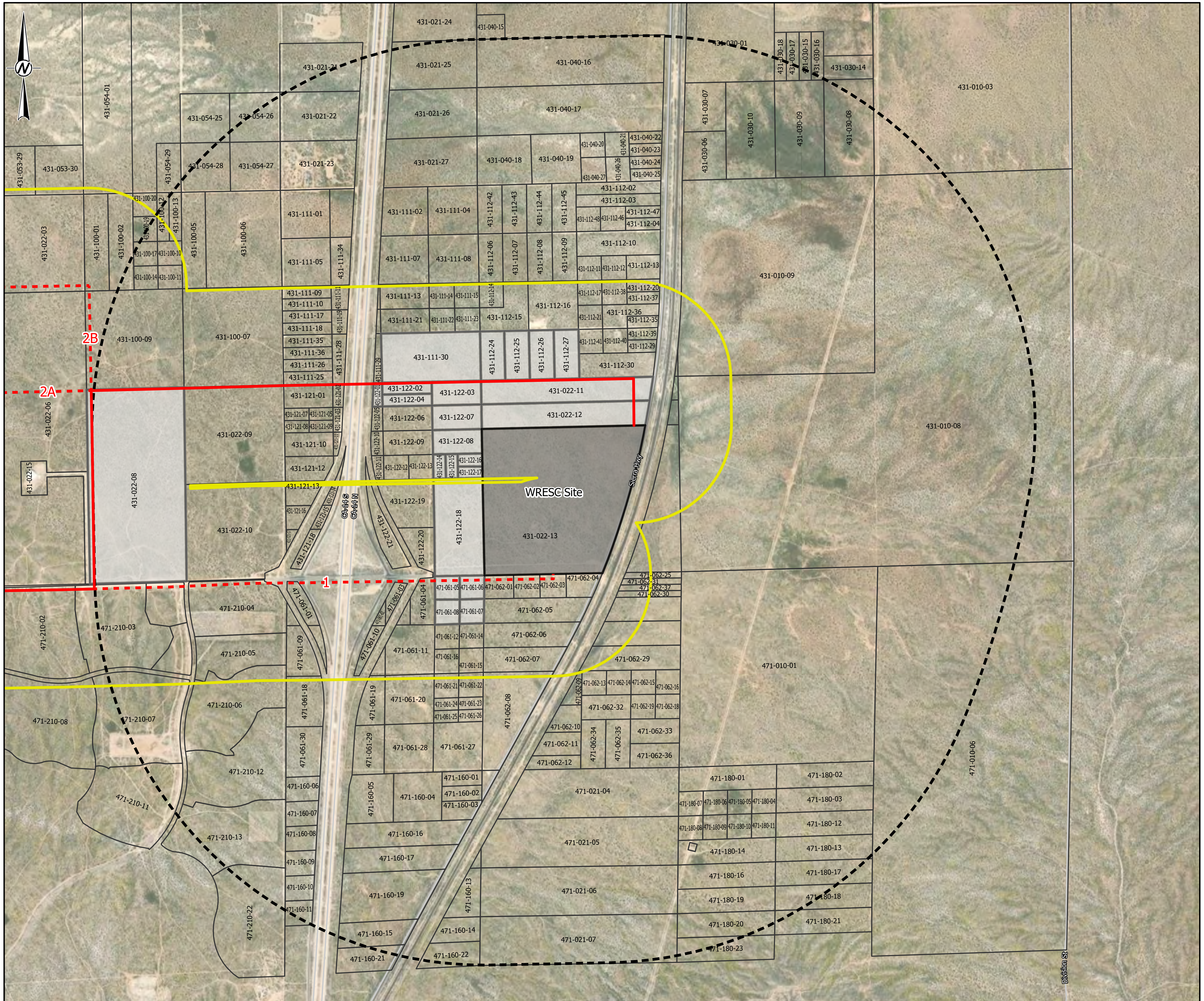


LEGEND

WRESC SITE

OTHER PROJECT PARCEL

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

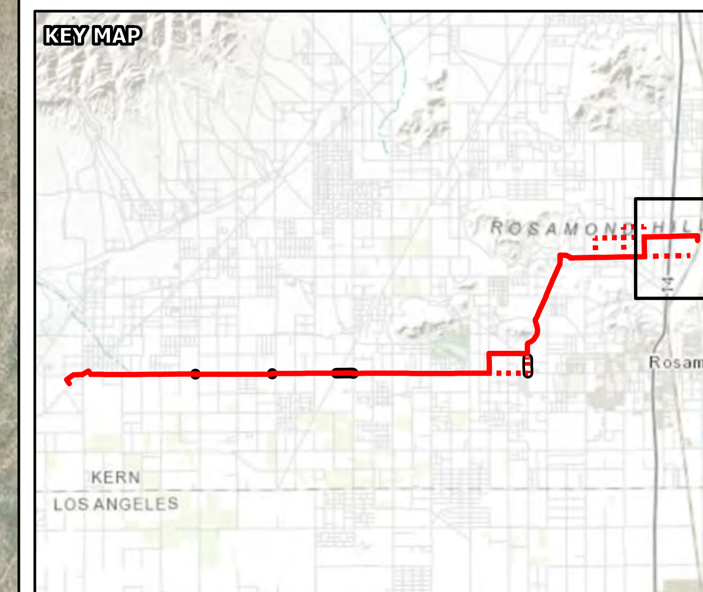
1 MILE BUFFER BUFFER AROUND THE WRESC SITE

OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

PREFERRED ROUTE - ABOVEGROUND

ROUTE OPTIONS 1-6 - ABOVEGROUND



1:16,000

0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

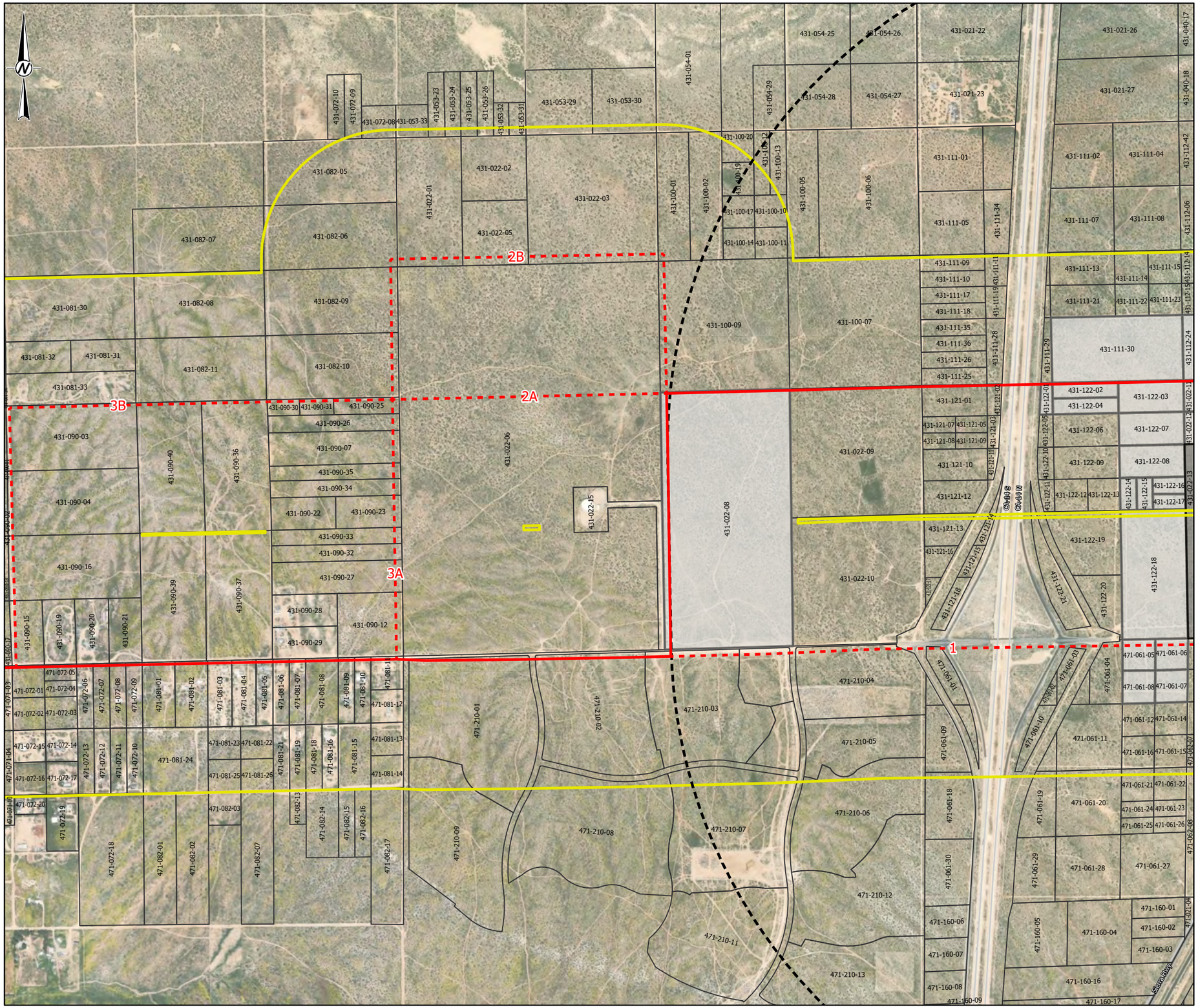
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_HydrostorAnselLandUse\HY.04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:00 PM

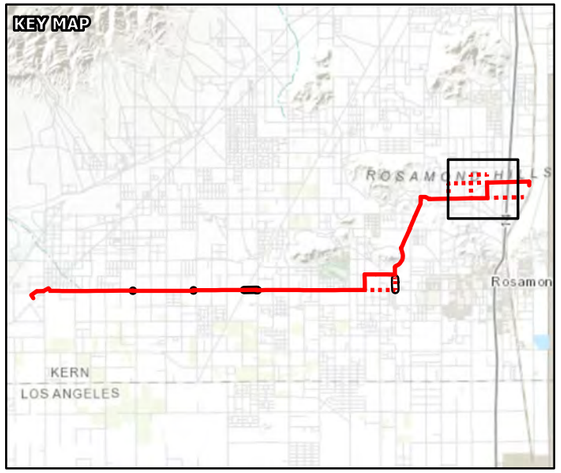


LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



1:12,000

0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-2

PATH: G:\Hydrostor\Ansell\99_PROJECTS\31406639.003_Hydrostor\Ansell_and\Use\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:07 PM

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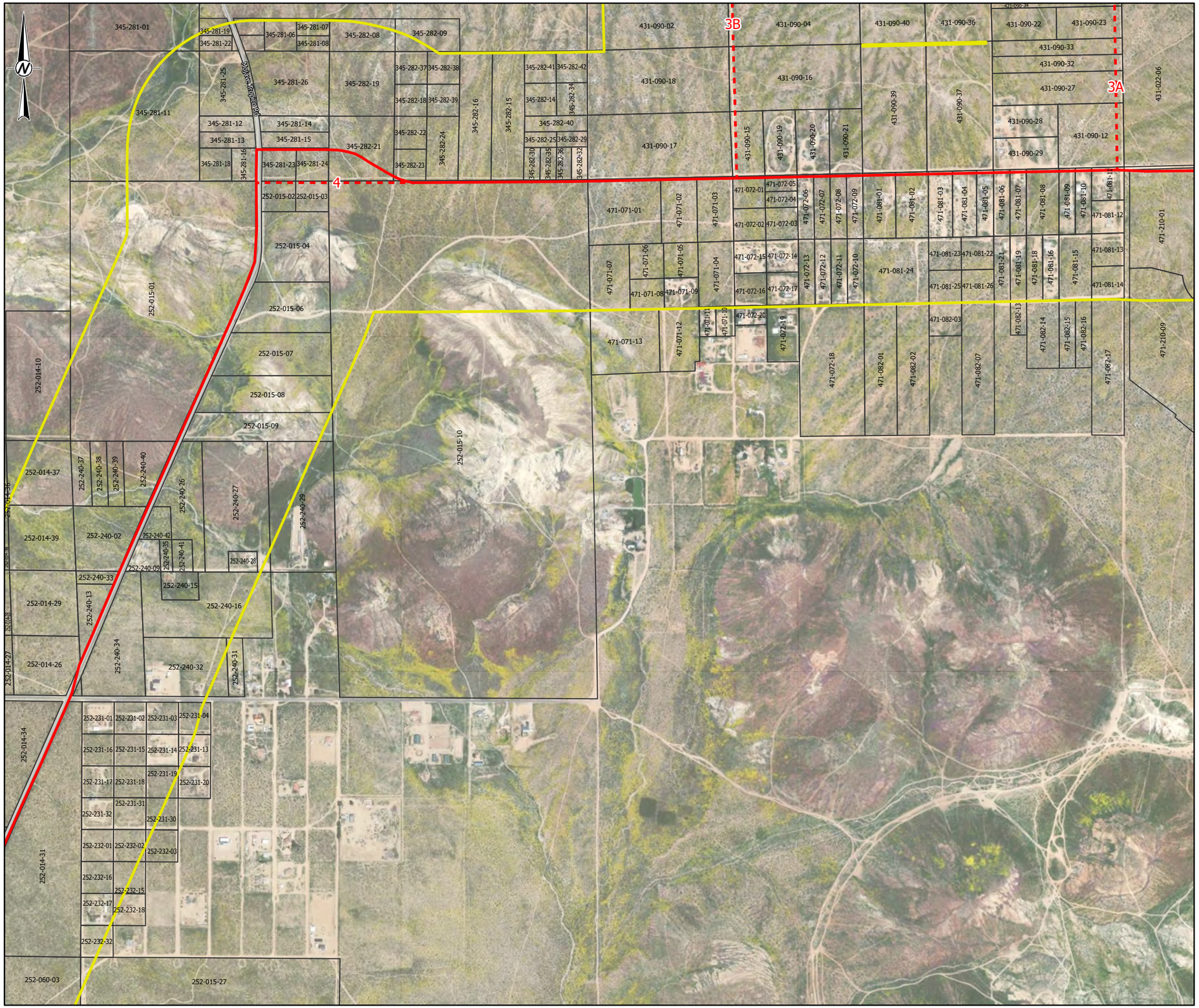
25mm
0

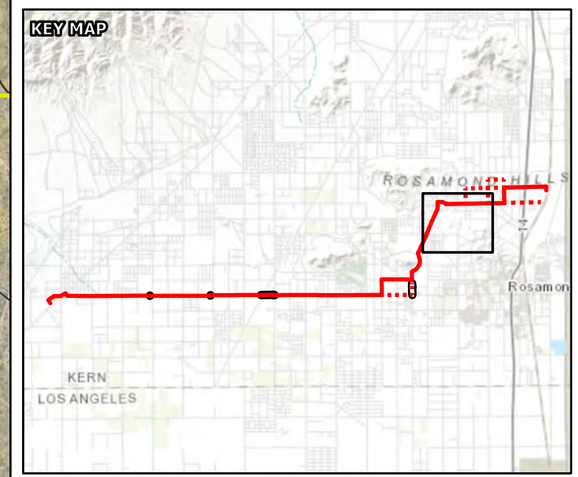


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



1:12,000

0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-3

PATH: G:\Hydrostor\Ariel\99_PROJECTS\31406639.003_Hydrostor\Ariel\Land\Use\HY04.LU.LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:15 PM

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25mm
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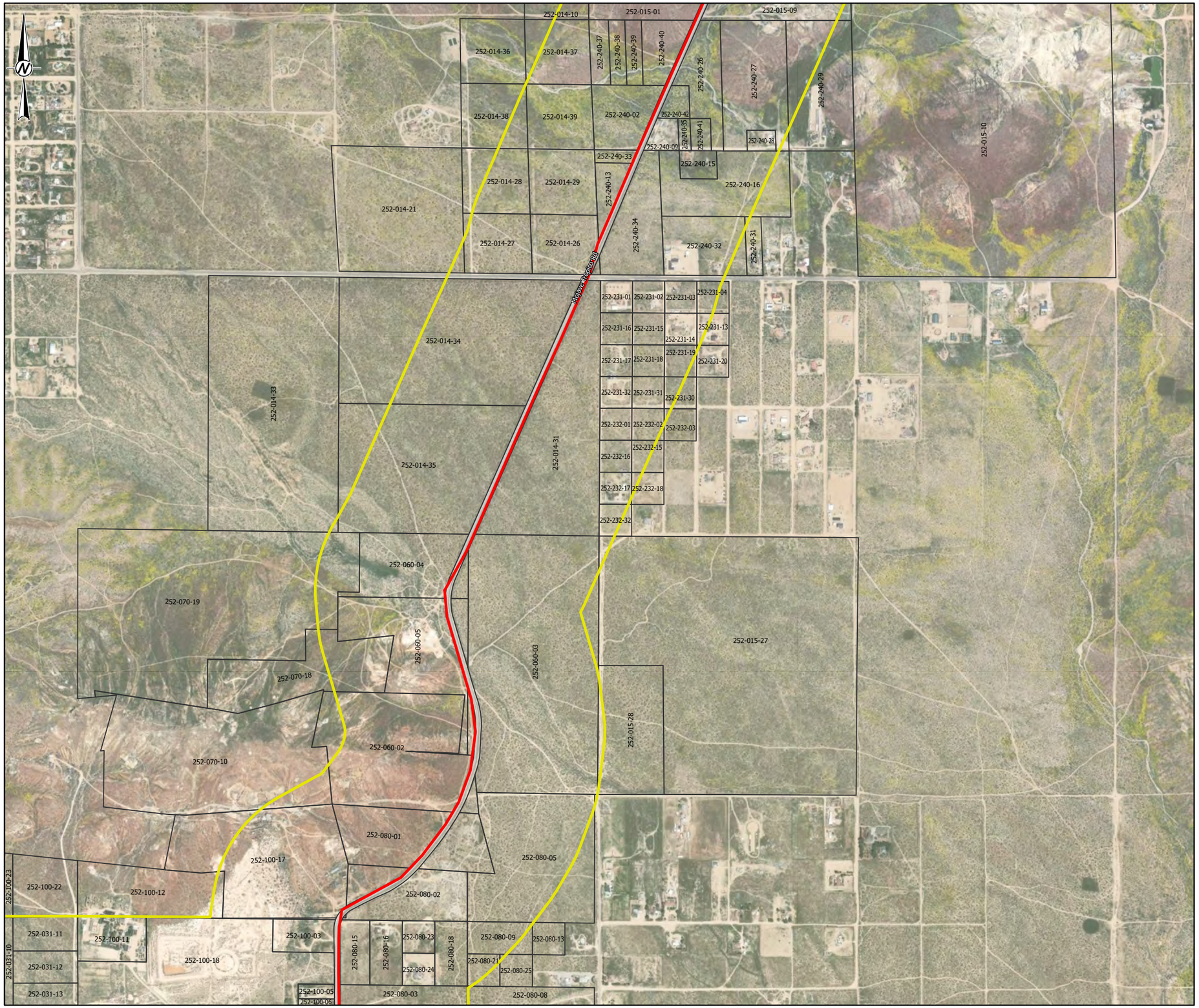


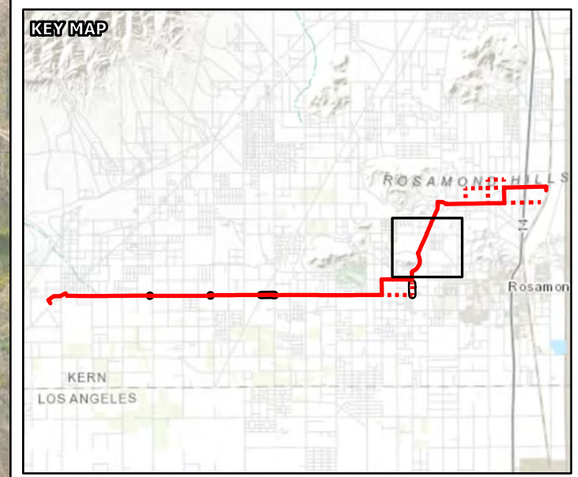
LEGEND

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

PREFERRED ROUTE - ABOVEGROUND



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0 600 1,200 2,400 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-4-4

PATH: G:\Hydrostor\Arsenl\99_PROJECTS\31406639.003_Hydrostor\Area\Land\Use\HY04.LU.LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:22 PM

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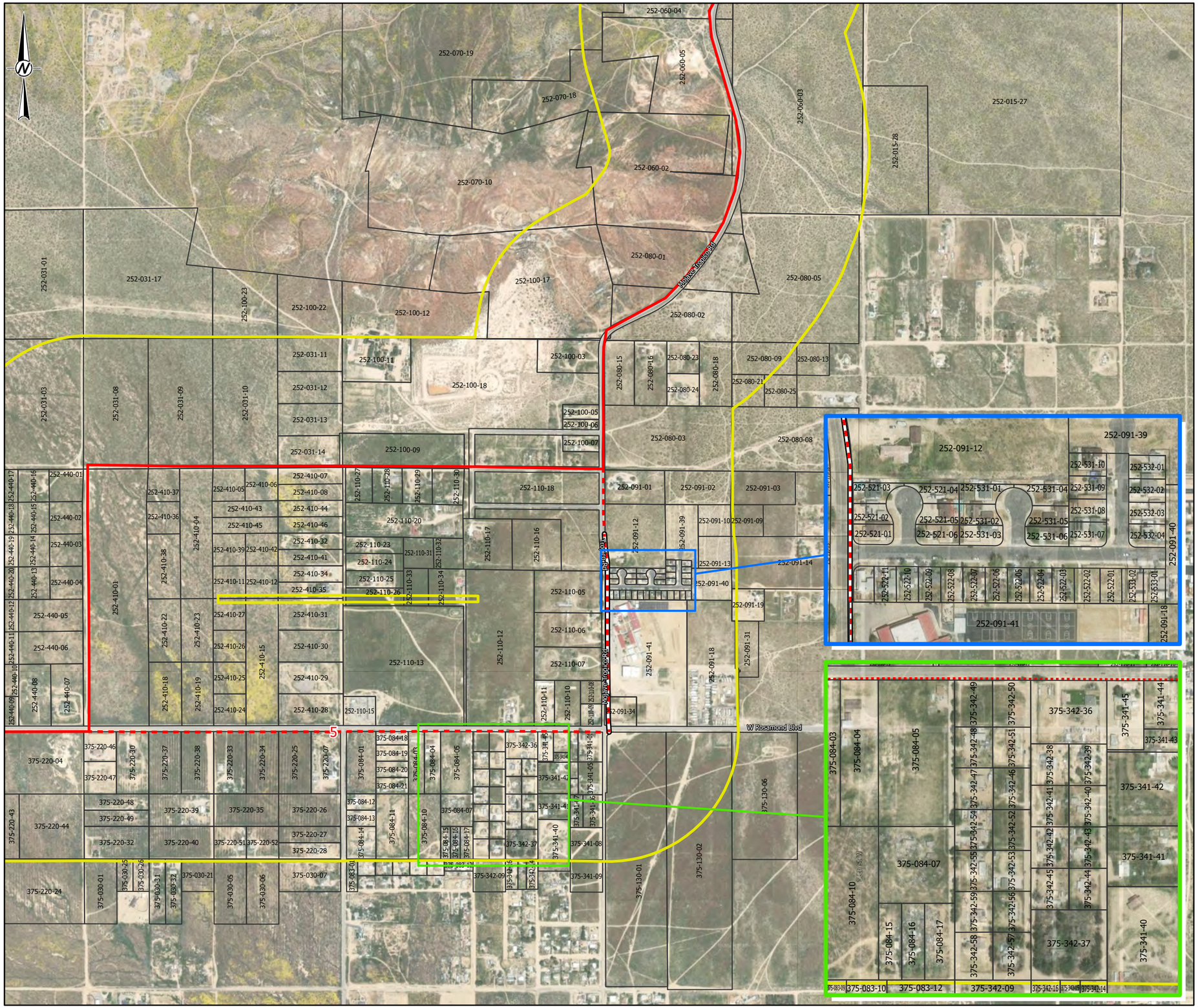
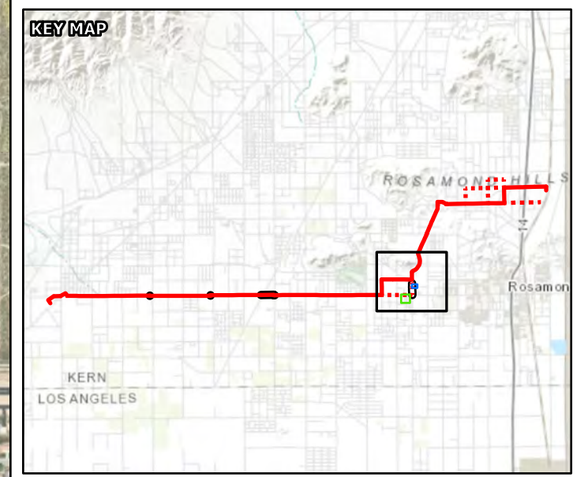


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

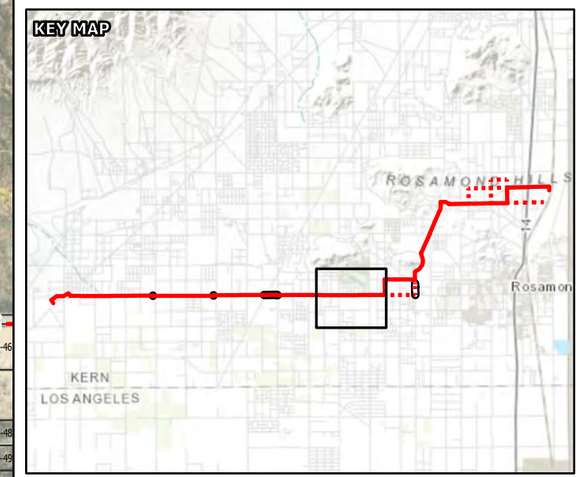
PATH: G:\Hydrostor\Arsenl\99_PROJECTS\31406639.003_Hydrostor\Area\Land\Use\HY04-LU-LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:32:58 PM

LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-6

PATH: G:\Hydrostor\Ariel\99_PROJECTS\31406639.003_Hydrostor\Ariel\Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:37 PM

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25mm
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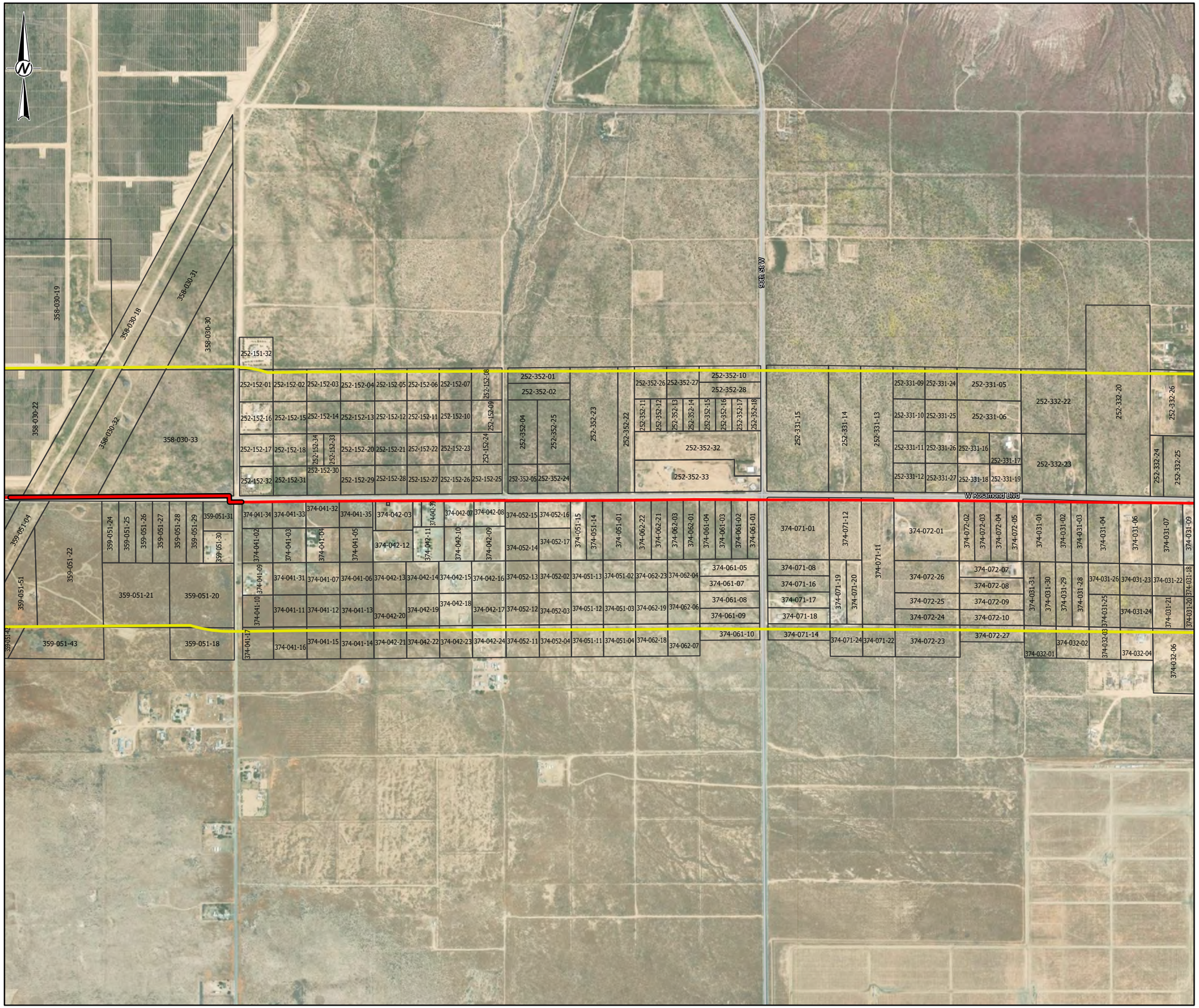
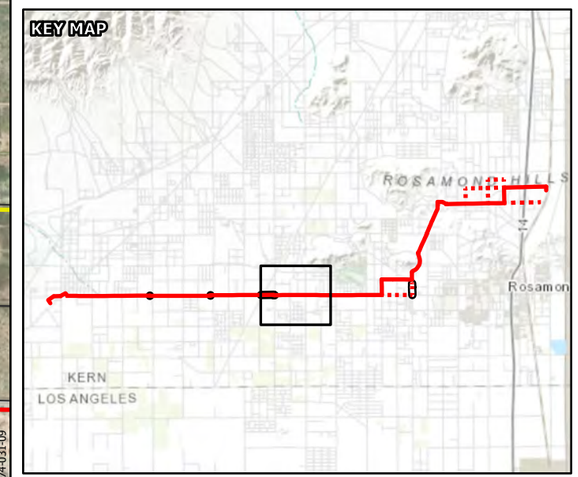


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-7

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.003_Hydrostor\Ansel\Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:44 PM

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25mm
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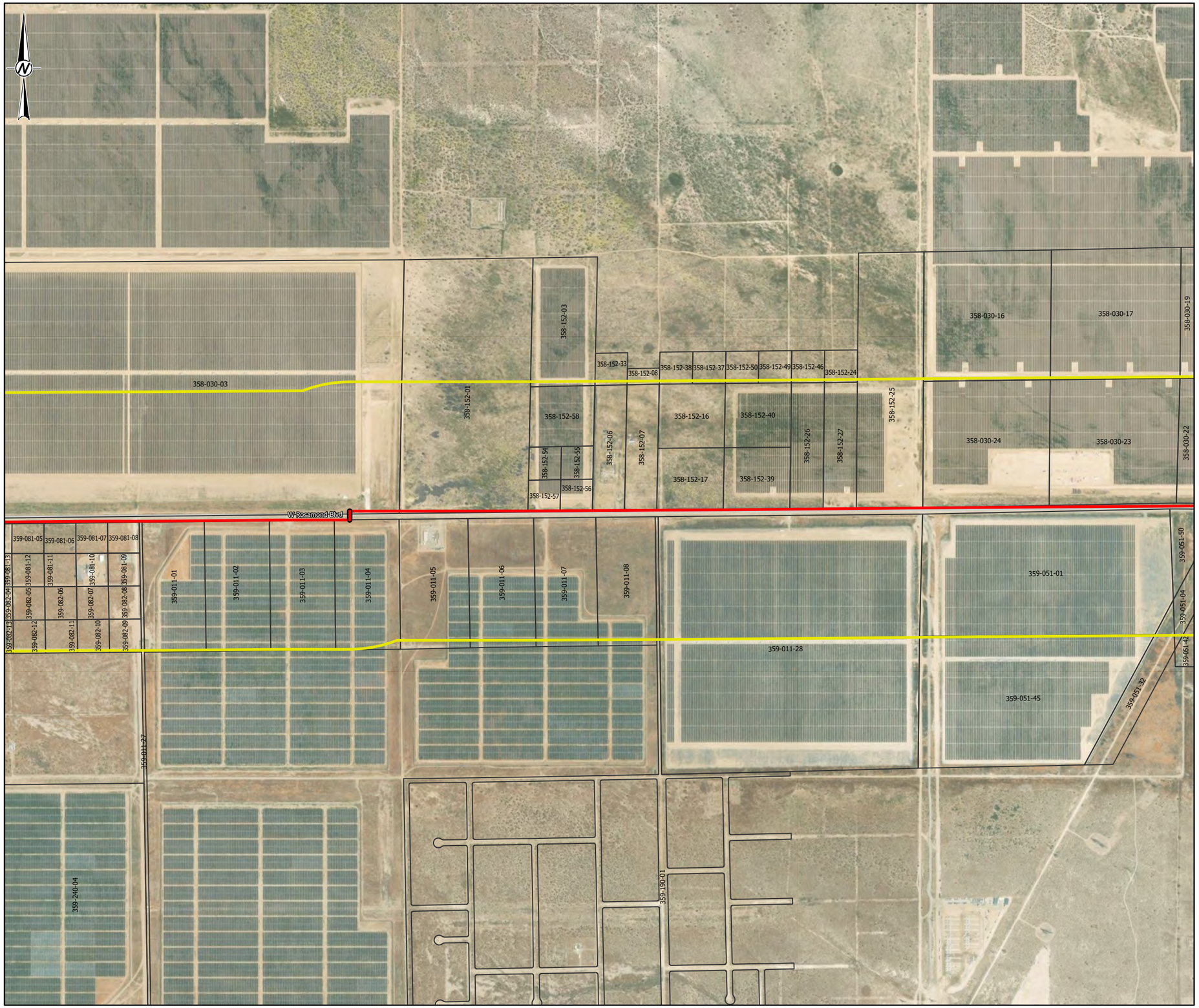
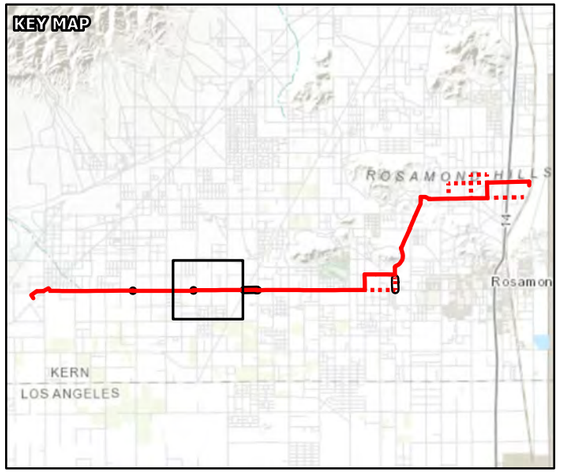


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-8

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_HydrostorAnsellLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:51 PM

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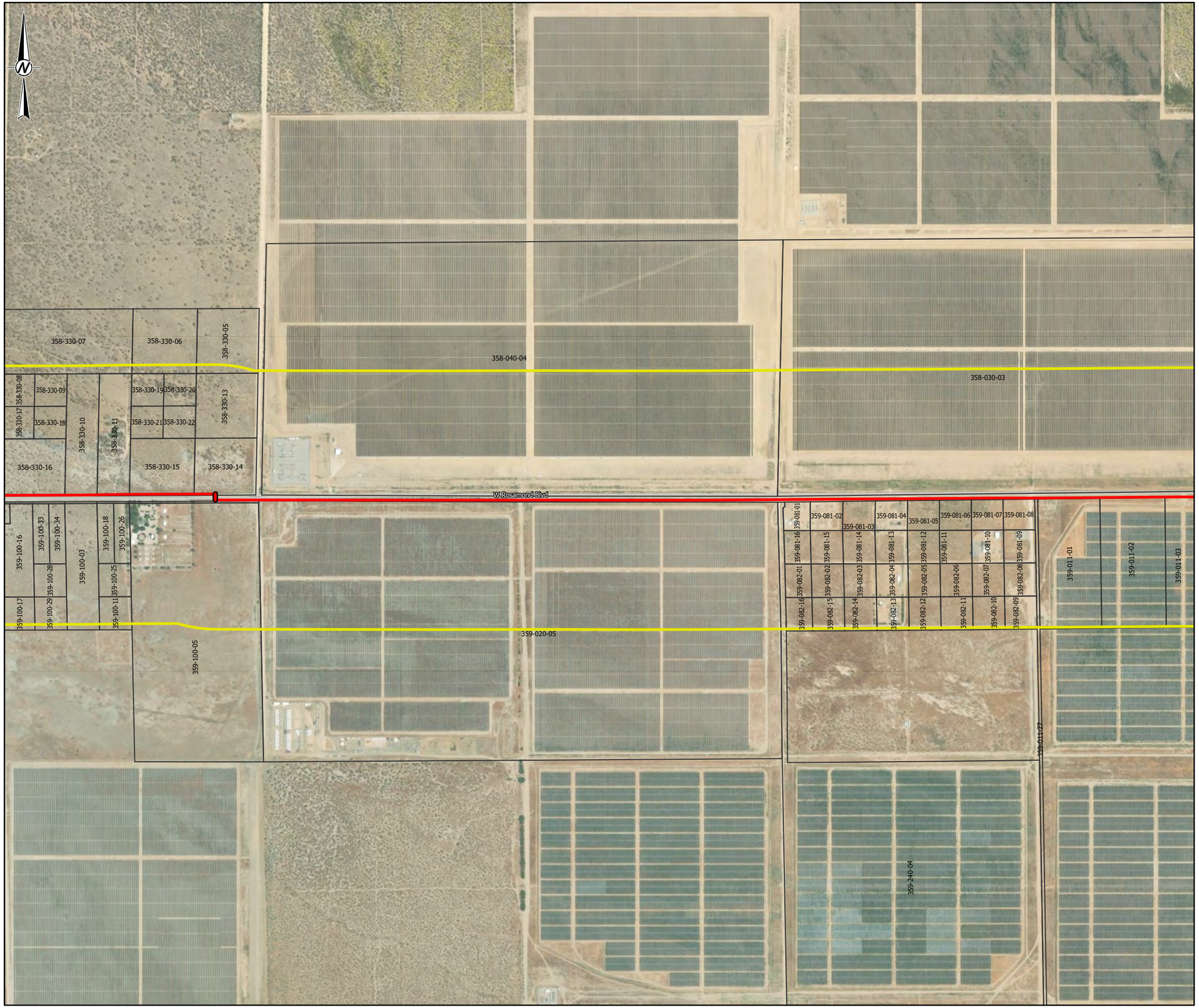
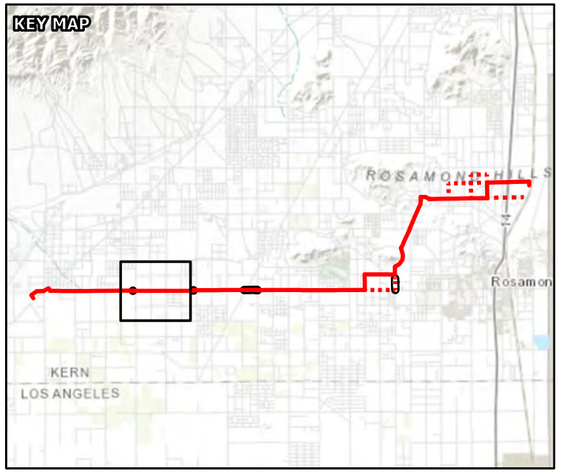


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
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2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

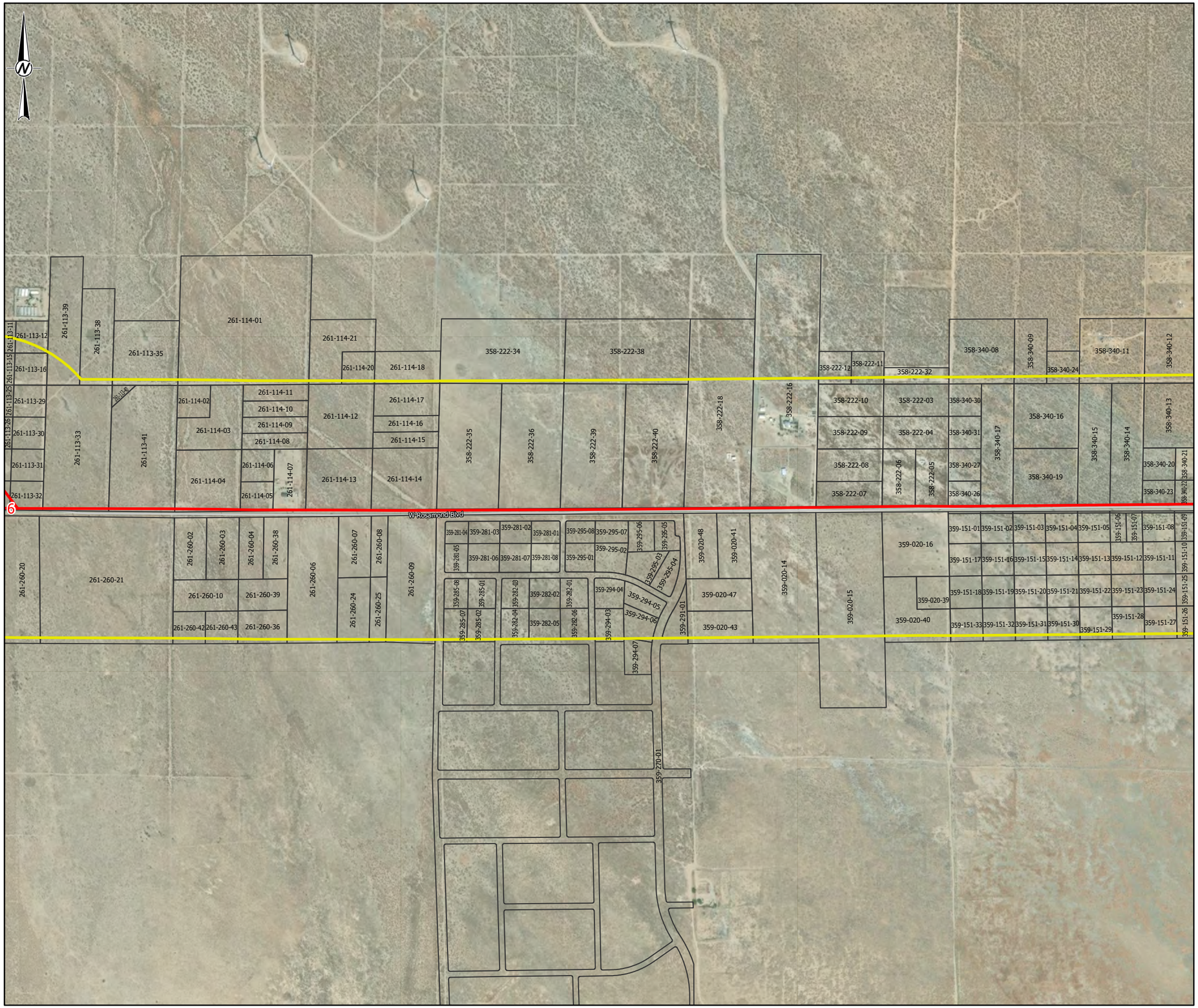
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-4-9

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_HydrostorAnsellLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:37:58 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

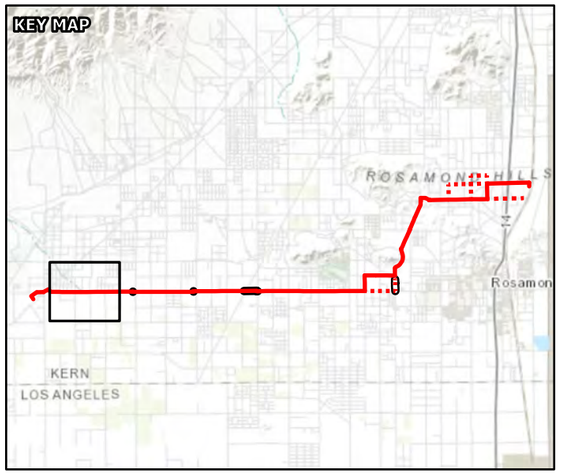


LEGEND

- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-4-10

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\Ansel\Land\Use\HY04.LU.LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:38:05 PM

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25mm
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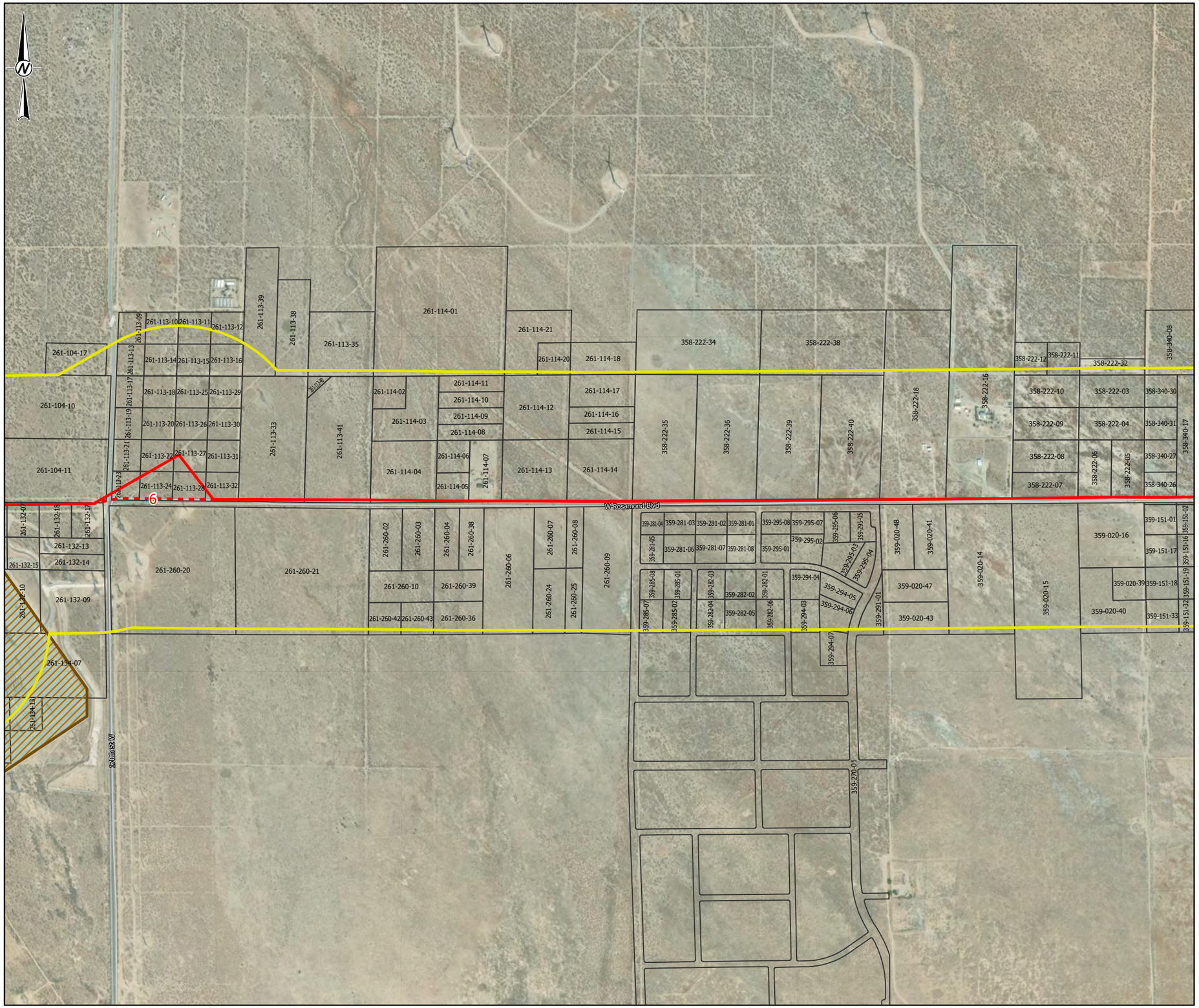
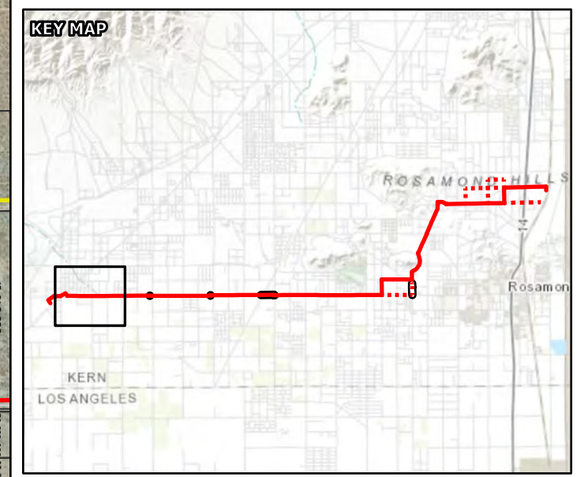


LEGEND

- SCE WHIRLWIND SUBSTATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-4-11

PATH: G:\Hydrostor\Ariel\99_PROJECTS\31406639.003_Hydrostor\Ariel\Land\Use\HY04.LU.LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:38:12 PM

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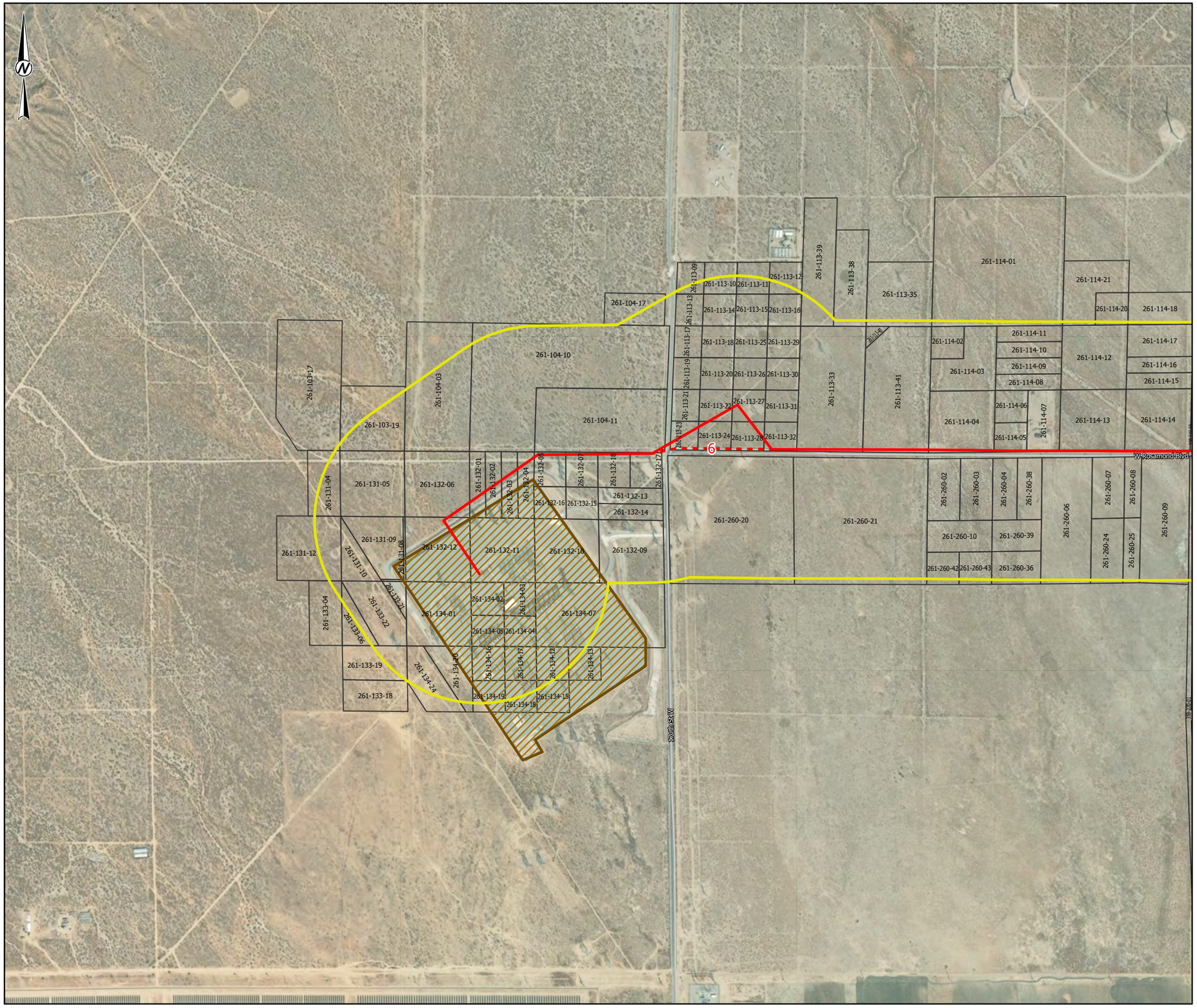
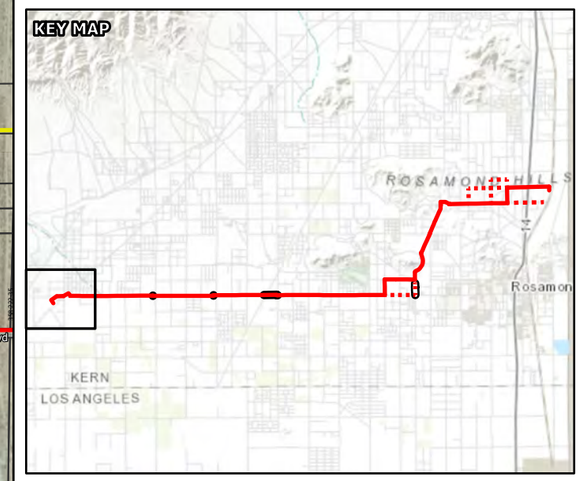


LEGEND

- SCE WHIRLWIND SUBSTATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- OTHER PARCELS NOT INCLUDED IN THE PROJECT

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



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0 600 1,200 2,400 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021
2. PARCEL BOUNDARIES - KERN COUNTY, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PARCEL BOUNDARY MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-4-12

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_Hydrostor\Ansel\Land\Use\HY04 LU LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_004_F5.6A-4_Rev0_Parcels.aprx PRINTED ON: AT: 1:38:20 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

LEGEND

- AIRPORTS
- ROADS
- RAILS
- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

KEY MAP

1:97,000

0 4,000 8,000 16,000 Feet

NOTE(S)
SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)
AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
TRANSPORTATION SYSTEM MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-5

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_Hydrostor\Ansell\Land\Land\Land\HY04.LU.LBR_Land\Land\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_005_F5.6A-5_Rev0_Transportation.aprx PRINTED ON: AT: 9:49:54 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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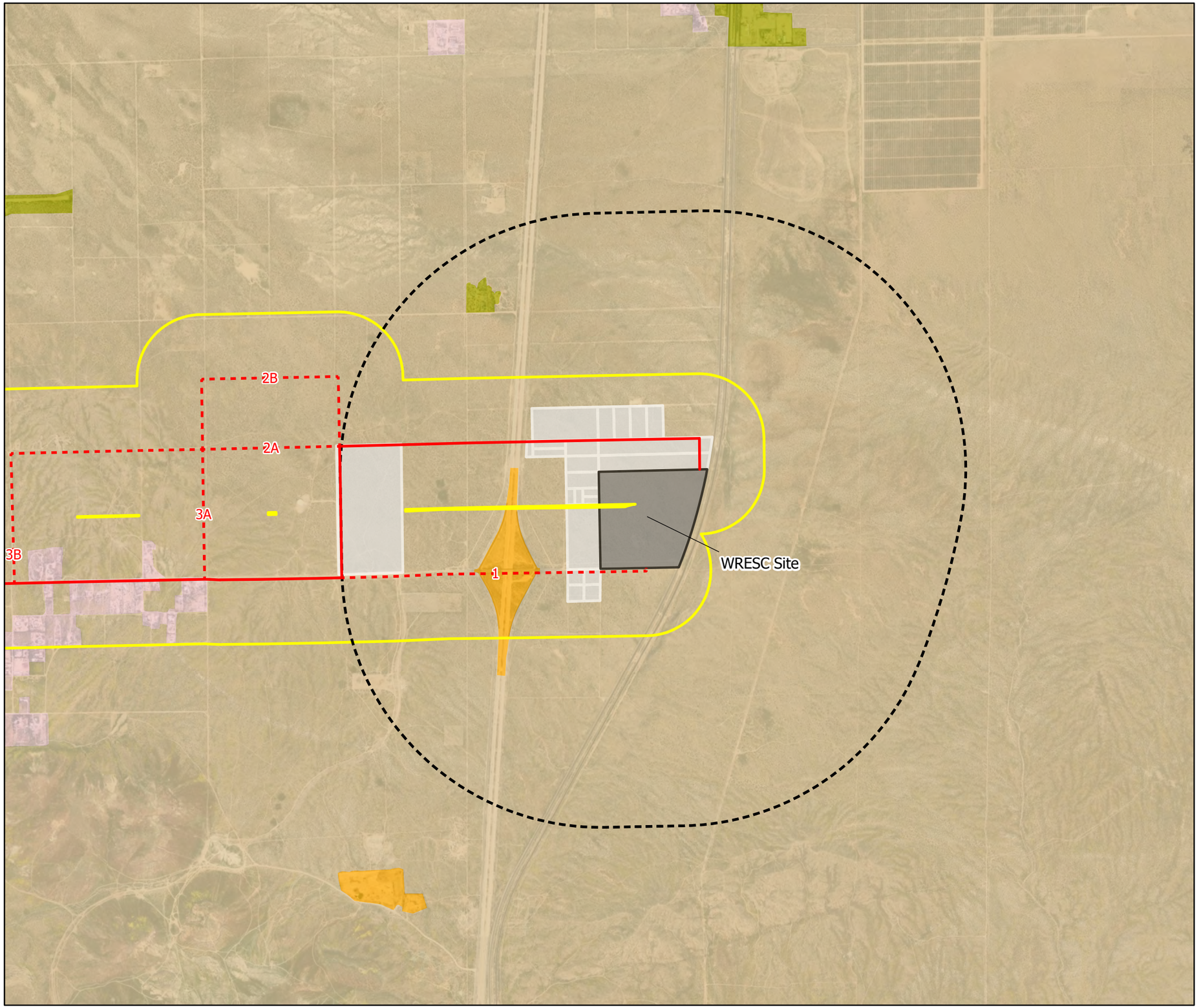


LEGEND

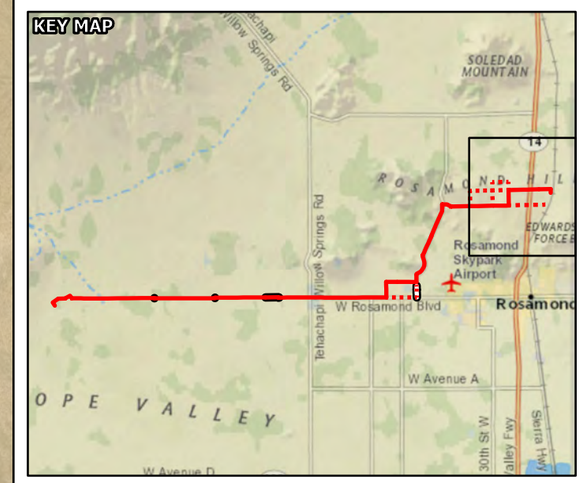
- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

AGRICULTURE TYPE

- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AGRICULTURE - WITH ROUTE OPTIONS
MAP 1 OF 6

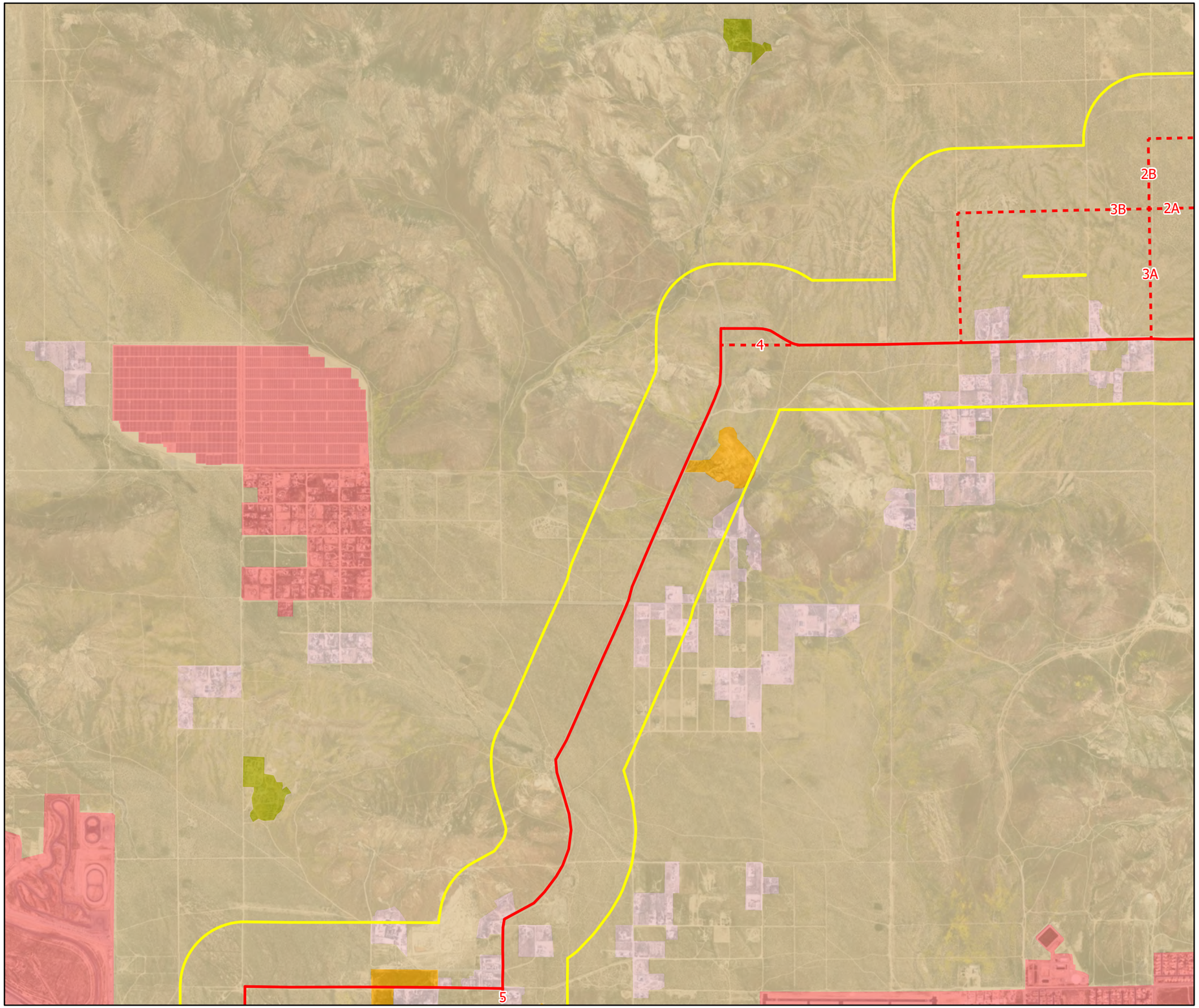
CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.6A-6-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
PATH: G:\Hydrostor\Arsenl\09_PROJECTS\31406639.000_HydrostorArsenlLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 1:56:30 PM



LEGEND

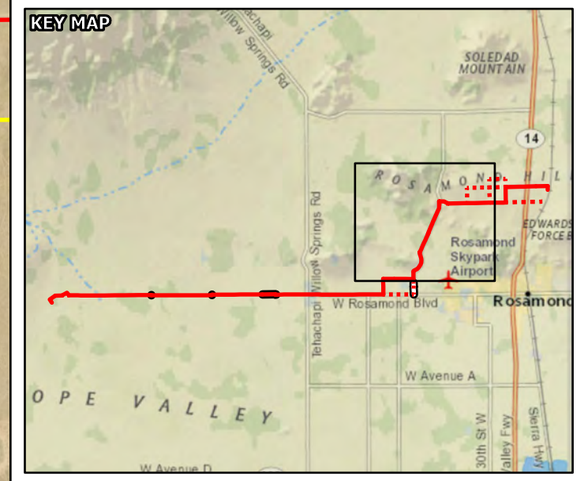
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

AGRICULTURE TYPE

- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND
- URBAN AND BUILT-UP LAND



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

AGRICULTURE - WITH ROUTE OPTIONS
MAP 2 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.6A-6-2

PATH: G:\Hydrostor\Ansell\99_PROJECTS\31406639.000_HydrostorAnsellLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 1:56:39 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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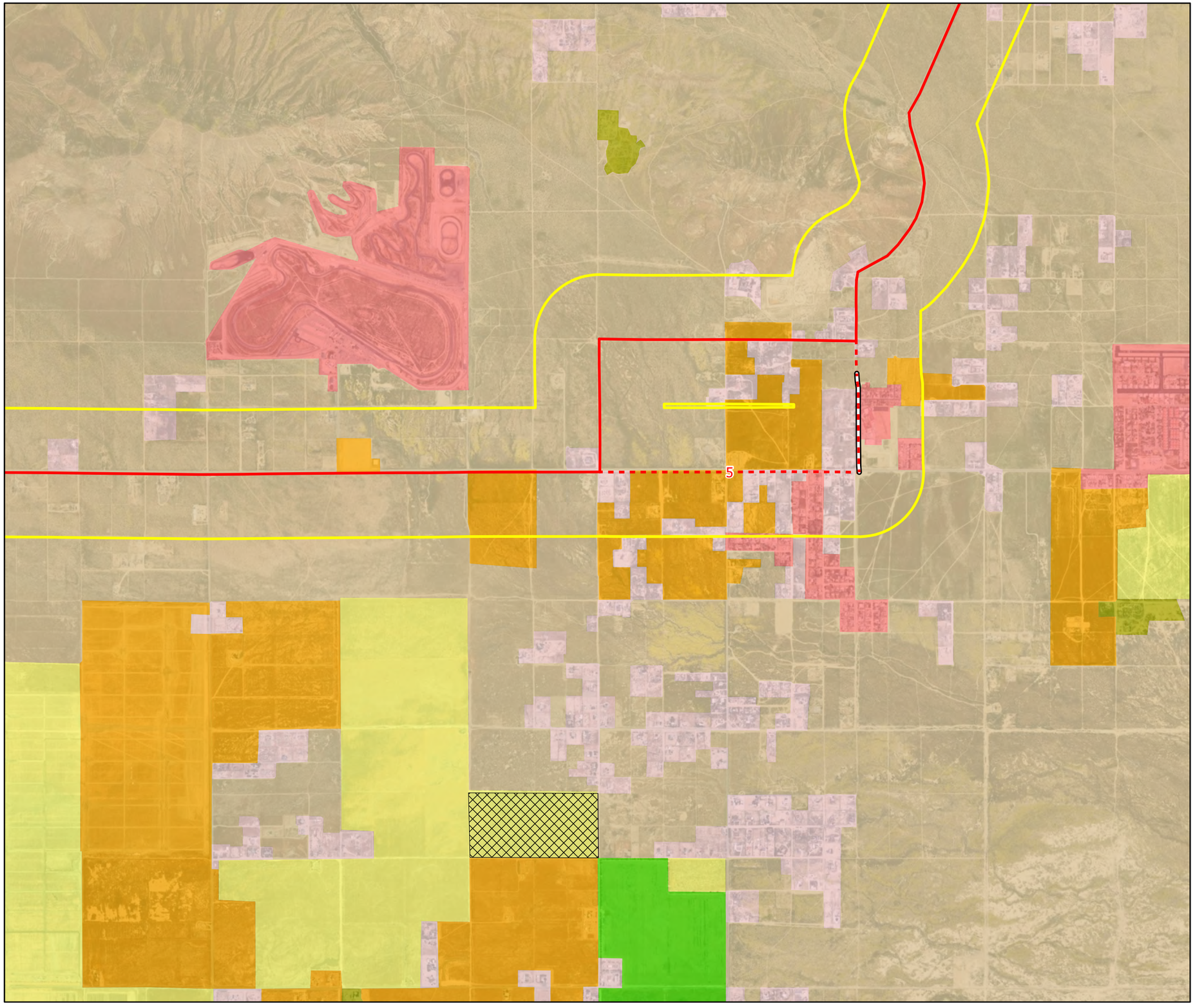


LEGEND

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

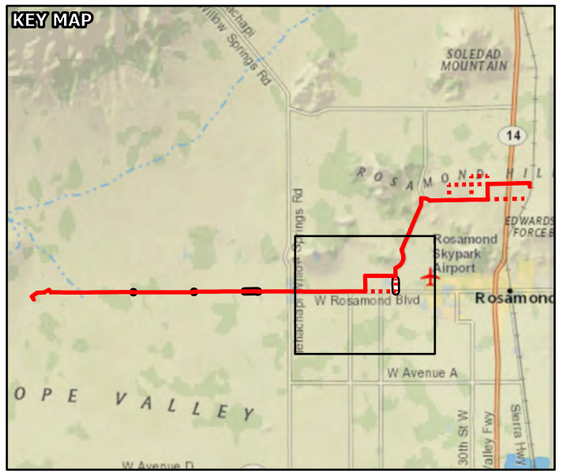
- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

CROP TYPE

- NOT CROPPED, OR UNCLASSIFIED AT THE TIME OF REMOTE-SENSING ANALYSIS. IDLE STATUS NOT DETERMINED

AGRICULTURE TYPE

- PRIME FARMLAND
- GRAZING LAND
- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND
- URBAN AND BUILT-UP LAND



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AGRICULTURE - WITH ROUTE OPTIONS
MAP 3 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.6A-6-3

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.003_Hydrostor\Ansel\LandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 1:56:48 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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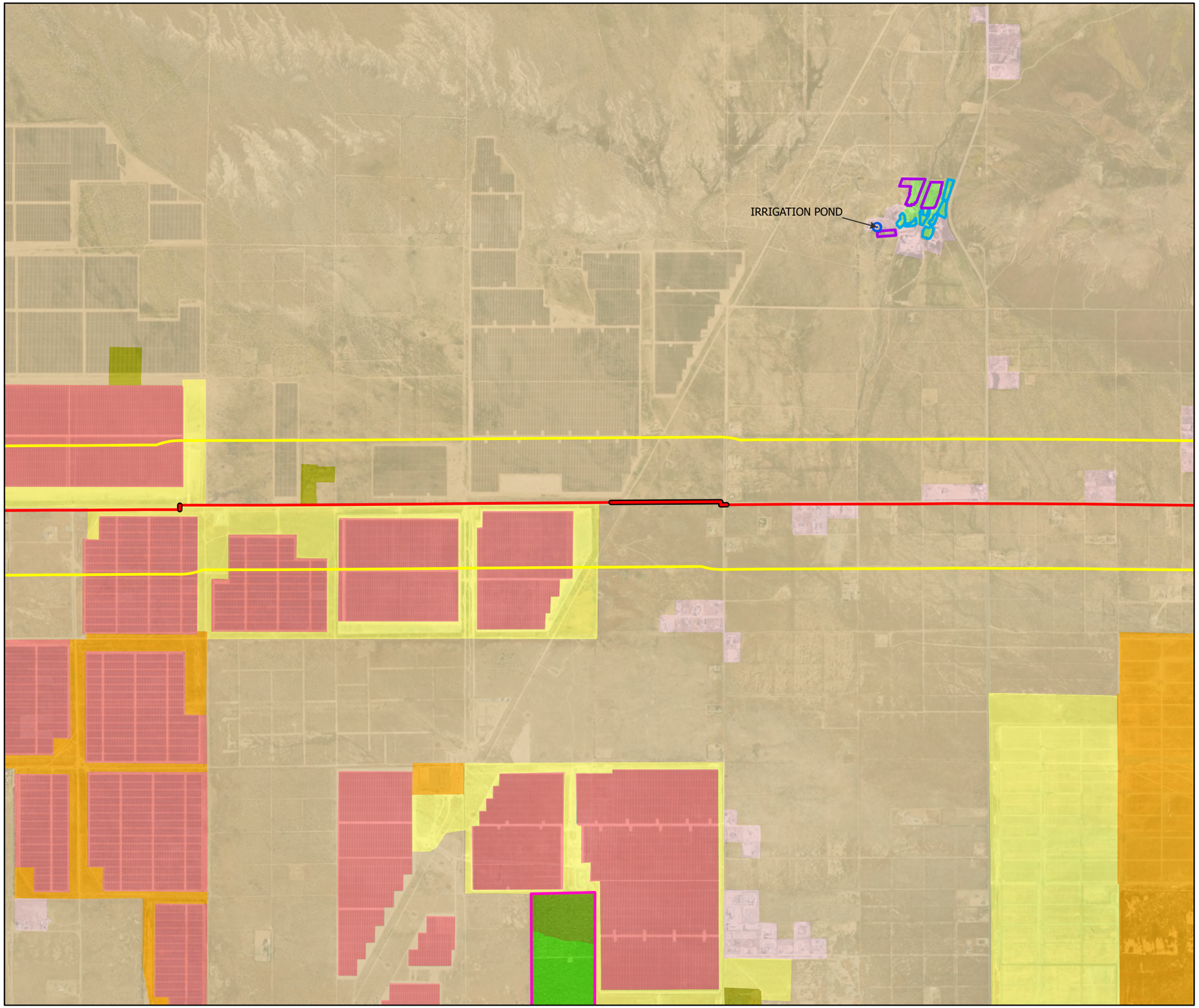


LEGEND

- IRRIGATION POND
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

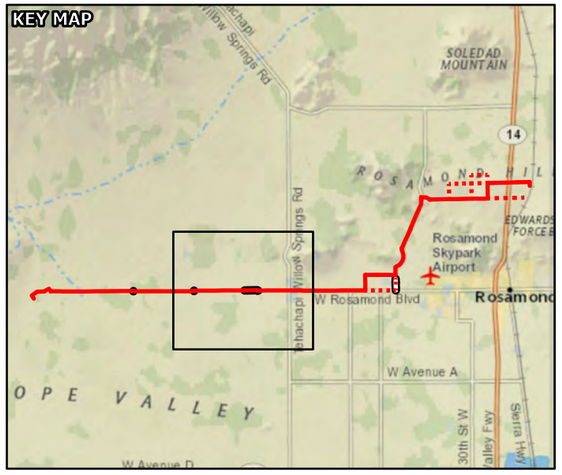
- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND

CROP TYPE

- PLUMS
- VINEYARDS - NO SUBCLASS
- PEACHES

AGRICULTURE TYPE

- PRIME FARMLAND
- FARMLAND OF STATEWIDE IMPORTANCE
- UNIQUE FARMLAND
- GRAZING LAND
- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND
- URBAN AND BUILT-UP LAND



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AGRICULTURE - WITH ROUTE OPTIONS
MAP 4 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.6A-6-4

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_Hydrostor\Ansel\Land\Land\HY04.LU.LBR_Land\Land\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 1:56:56 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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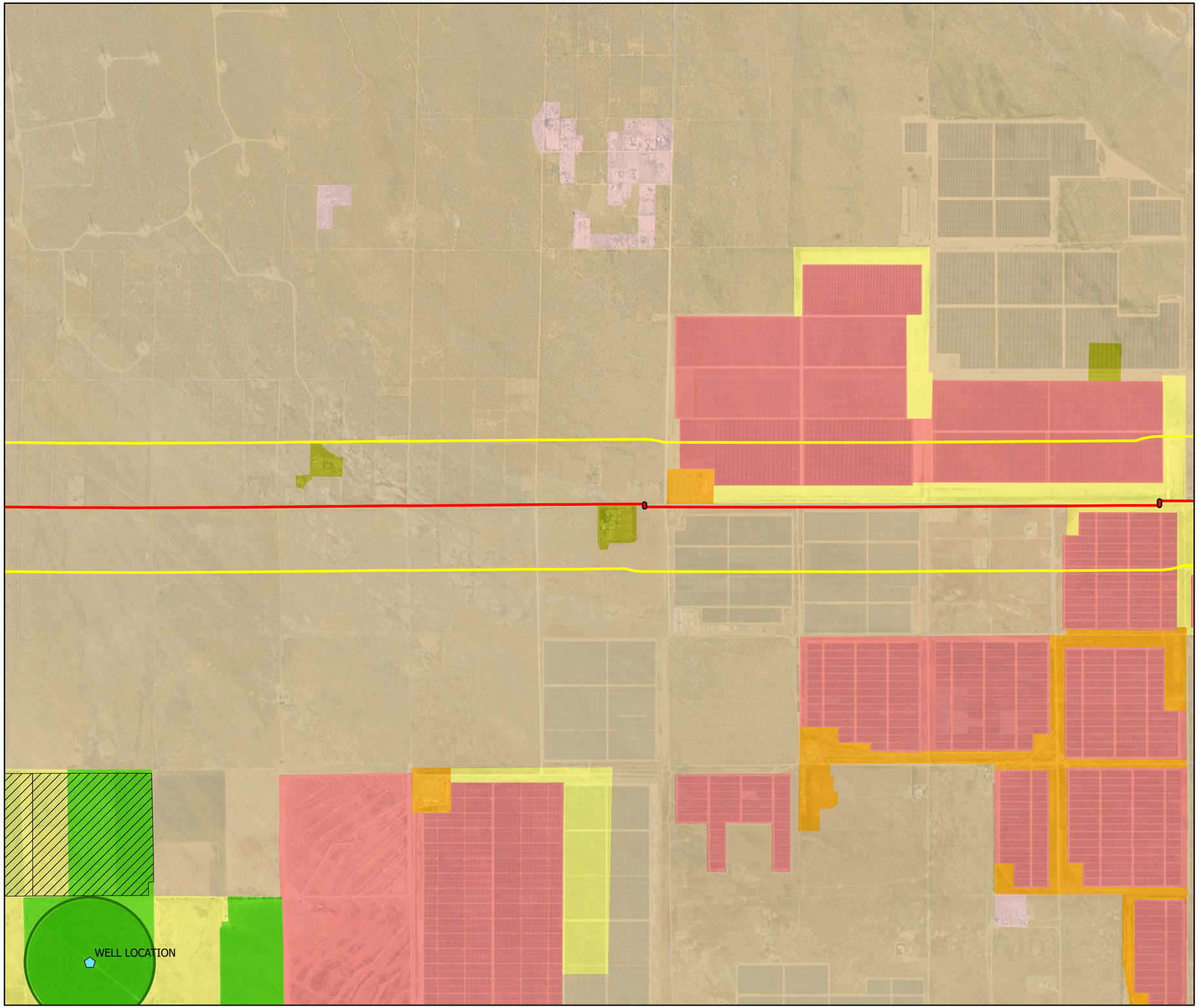


LEGEND

- WELL LOCATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

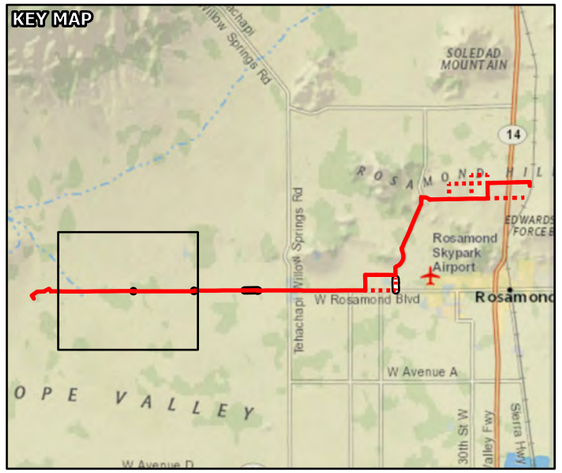
- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND

CROP TYPE

- IDLE - LONG TERM - LAND CONSISTENTLY IDLE FOR FOUR OR MORE YEARS
- GRASS

AGRICULTURE TYPE

- PRIME FARMLAND
- GRAZING LAND
- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND
- URBAN AND BUILT-UP LAND



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AGRICULTURE - WITH ROUTE OPTIONS
MAP 5 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.6A-6-5

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_Hydrostor\Ansel\LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 1:57:05 PM

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25mm
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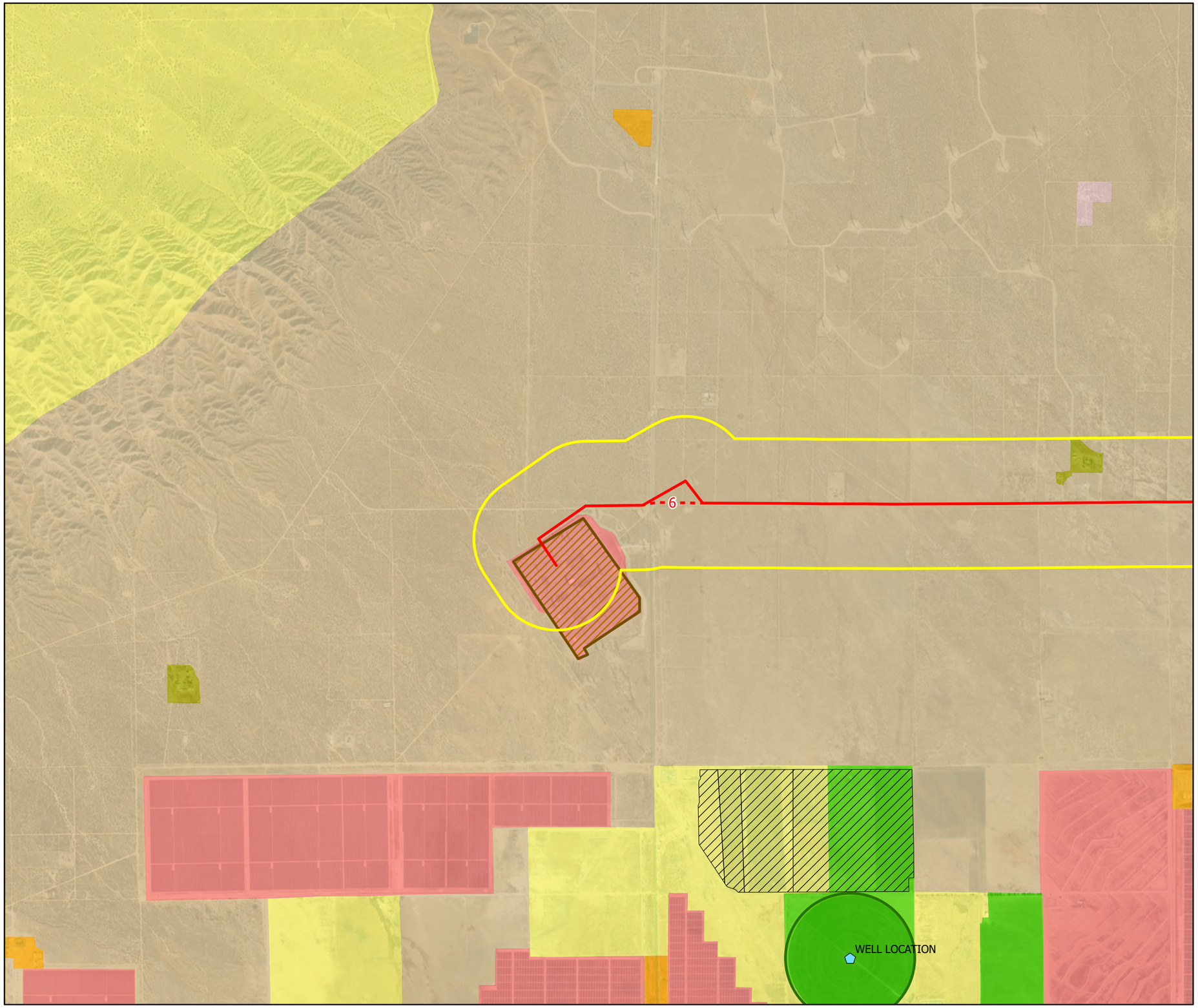


LEGEND

- WELL LOCATION
- SCE WHIRLWIND SUBSTATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

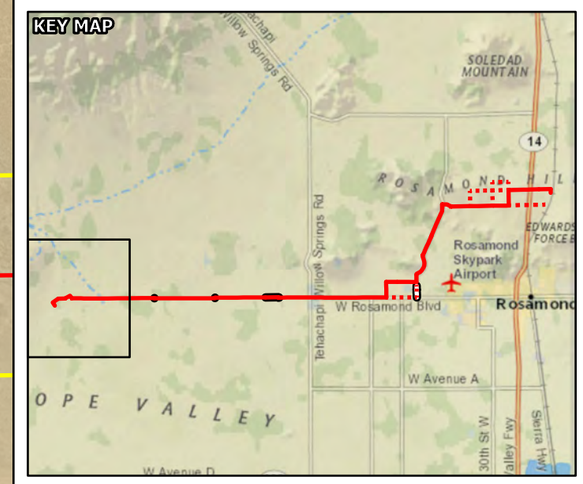
- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

CROP TYPE

- IDLE - LONG TERM - LAND CONSISTENTLY IDLE FOR FOUR OR MORE YEARS
- GRASS

AGRICULTURE TYPE

- PRIME FARMLAND
- GRAZING LAND
- NONAGRICULTURAL OR NATURAL VEGETATION
- VACANT OR DISTURBED LAND
- RURAL RESIDENTIAL LAND
- SEMI-AGRICULTURAL AND RURAL COMMERCIAL LAND
- URBAN AND BUILT-UP LAND



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. CALIFORNIA DEPARTMENT OF CONSERVATION, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AGRICULTURE - WITH ROUTE OPTIONS
MAP 6 OF 6

CONSULTANT

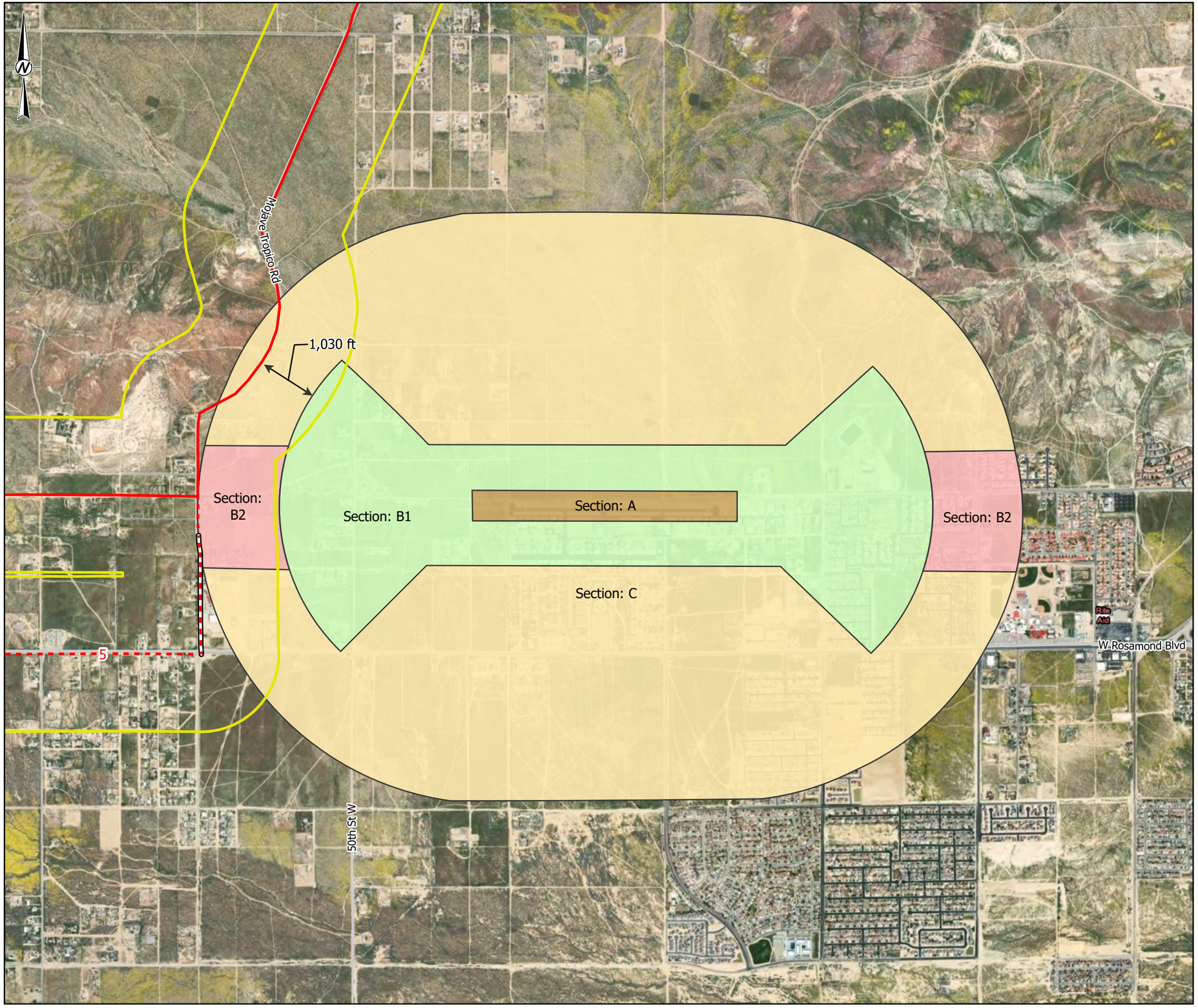
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.6A-6-6

PATH: G:\Hydrototo\Ansel\09_PROJECTS\31406639.000_Hydrototo\Ansel\LandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.6A-6_Rev0_Agriculture.aprx PRINTED ON: AT: 15:7:13 PM

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

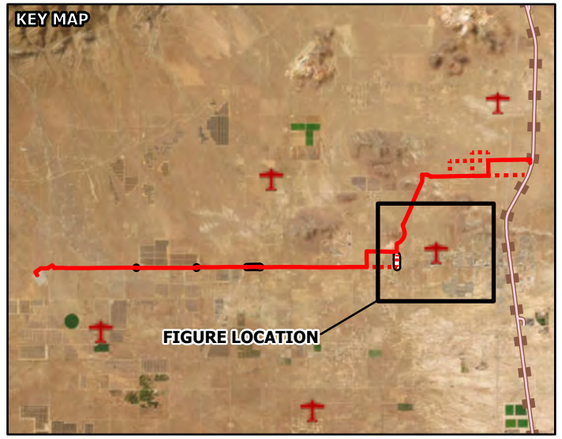
0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

AIRPORT LAND USE PLAN

- SECTION A
- SECTION B1
- SECTION B2
- SECTION C



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. AIRPORT LAND USE PLAN- KERN COUNTY, 2024

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
AIRPORT LAND USE PLAN - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-7

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_HydrostorAnselLandUse\HYD4.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_006_F5.7A-7_Rev0_AirportLandUsePlan.aprx PRINTED ON: AT: 1:58:30 PM

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25mm
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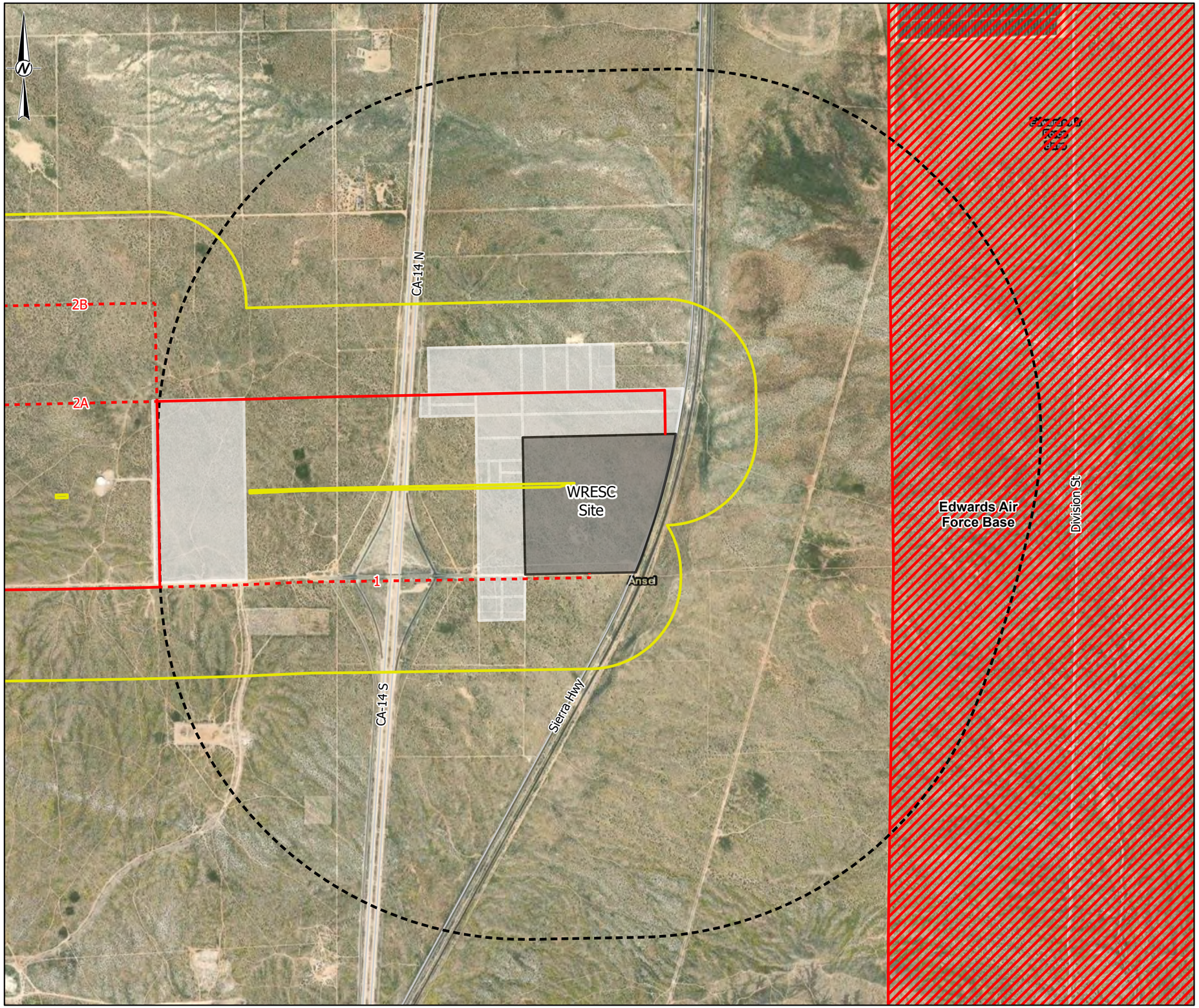
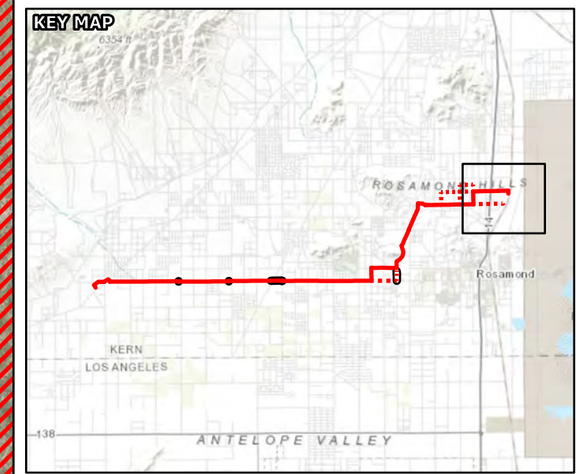


LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE
- EDWARDS AIR FORCE BASE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND



1:17,000

0 500 1,000 2,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

3. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. EAFB BOUNDARY - KERN COUNTY PLANNING GIS, 2023

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
EDWARD AIRFORCE BASE MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-8

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\Ansel\LandUse\HY04.LU.LBR_Landuse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639.003_01_008_F5.6A-8_Rev0_EAFB.aprx PRINTED ON: AT: 10:13:51 AM

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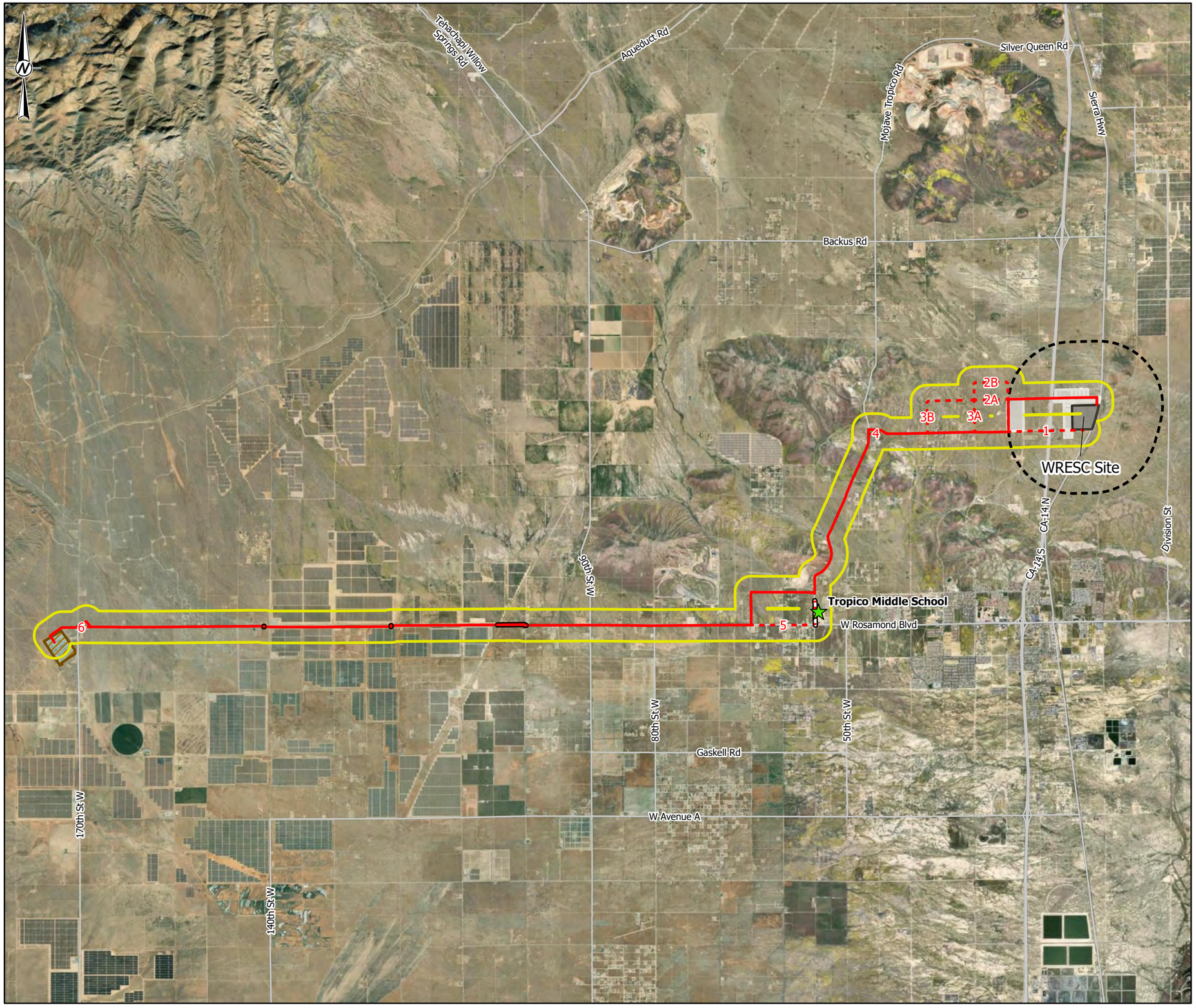

LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PREFERRED ROUTES

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

SENSITIVE RECEPTORS

- SCHOOL

1:97,000

0 4,000 8,000 16,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
SENSITIVE RECEPTORS MAP - WITH ROUTE OPTIONS

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-9

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_Hydrostor\Ansell\LandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_009_F5.6A-9_Rev0_SensitiveReceptors.aprx PRINTED ON: AT 2:01:24 PM

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25mm
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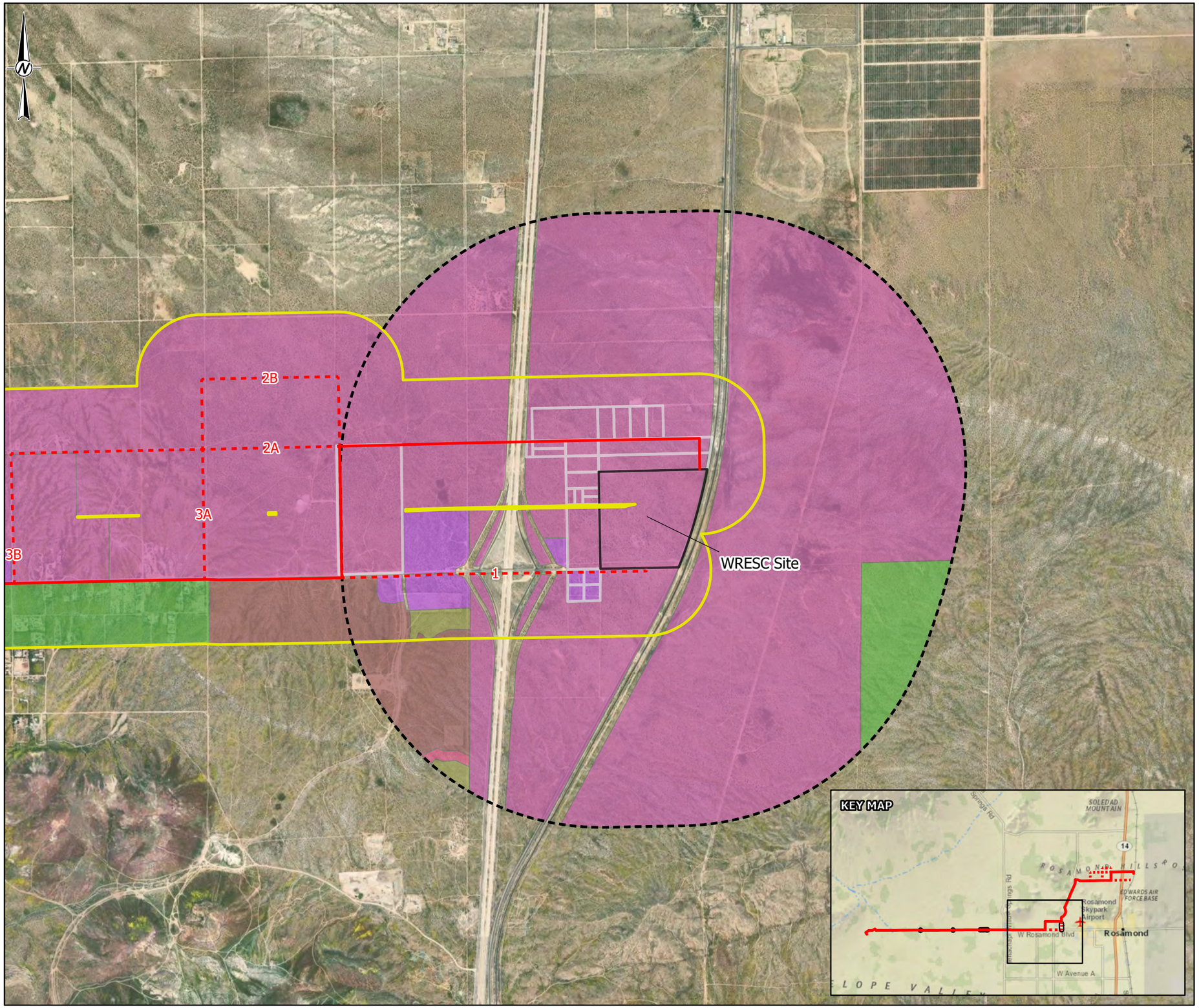

LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND

ZONE CLASS

- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 10 ACRES
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- HIGH DENSITY RESIDENTIAL, PRECISE DEVELOPMENT COMBINING
- LIMITED AGRICULTURE
- LIMITED AGRICULTURE, AIRPORT APPROACH HEIGHT COMBINING
- LOW DENSITY RESIDENTIAL
- LOW DENSITY RESIDENTIAL, GEOLOGIC HAZARD COMBINING

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. ZONING DATA - KERN COUNTY, 2023. SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
ZONING MAP - WITH ROUTE OPTIONS
MAP 1 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.6A-10-

PATH: G:\Hydrostor\Arsel\99_PROJECTS\31406639.000_HydrostorAnselLandUse\HY04-LU-LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-10_Rev0_Zoning.aprx PRINTED ON: AT: 12:58:02 PM

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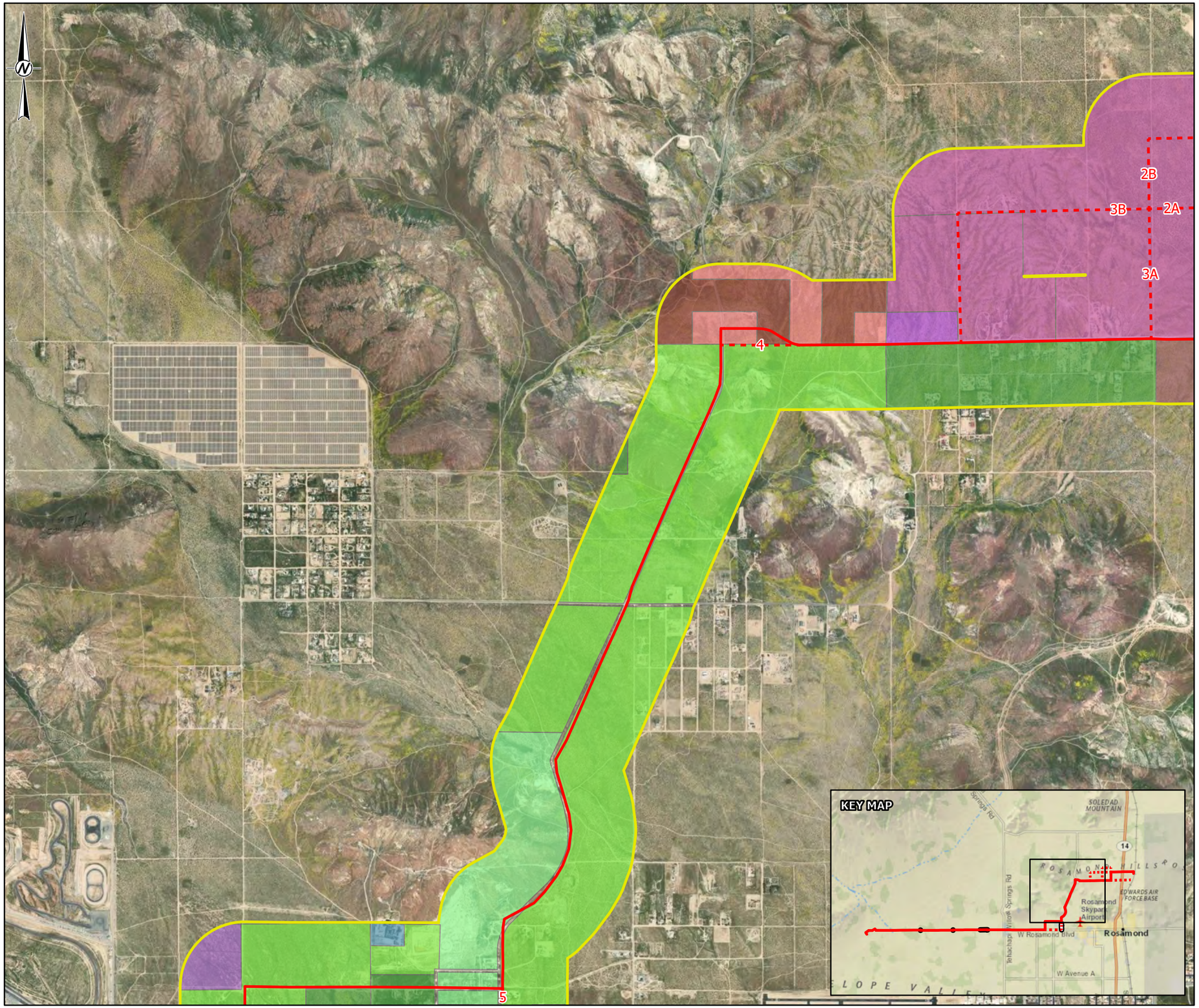


LEGEND

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

PREFERRED ROUTE - ABOVEGROUND

ROUTE OPTIONS 1-6 - ABOVEGROUND

ZONE CLASS

- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 10 ACRES
- EXCLUSIVE AGRICULTURE
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- LIMITED AGRICULTURE
- LOW DENSITY RESIDENTIAL
- PLATTED LANDS, RESIDENTIAL SUBURBAN COMBINING
- RECREATION FORESTRY

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. ZONING DATA - KERN COUNTY, 2023. SYMBOLIZED AND GROUPED BY WSP USA.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

ZONING MAP - WITH ROUTE OPTIONS
MAP 2 OF 6

CONSULTANT

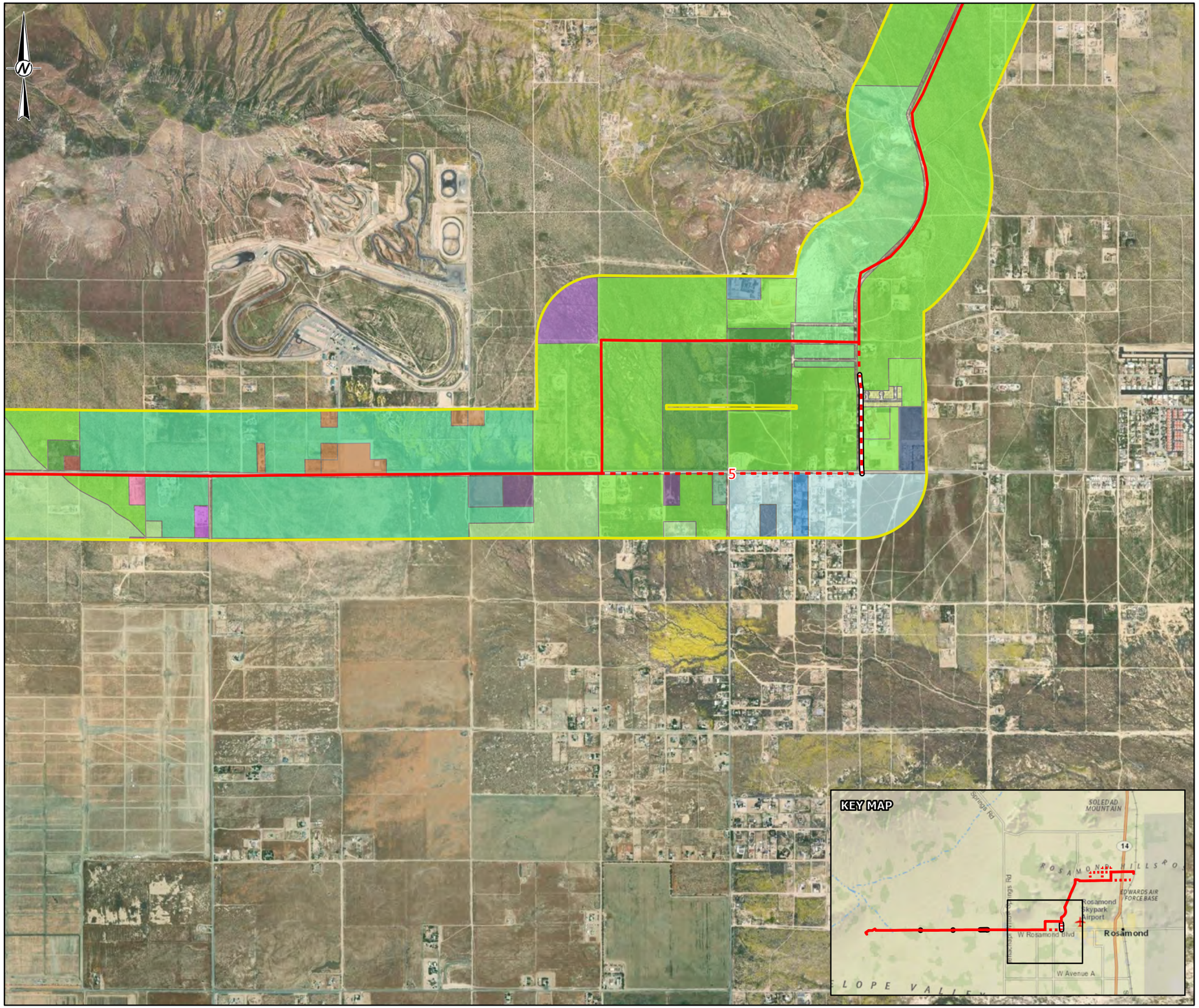
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.6A-10-

PATH: G:\Hydrostor\Arnel\99_PROJECTS\31406639.000_Hydrostor\Arnel\LandUse\HY04 LU LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-10_Rev0_Zoning.aprx PRINTED ON: AT: 12:58:08 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0



LEGEND

0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

- PREFERRED ROUTE - ABOVEGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

ZONE CLASS

- ESTATE .25 ACRES
- ESTATE .25 ACRES, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- EXCLUSIVE AGRICULTURE
- EXCLUSIVE AGRICULTURE, GEOLOGIC HAZARD COMBINING, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- LIGHT INDUSTRIAL, PRECISE DEVELOPMENT COMBINING
- LIGHT INDUSTRIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- LOW DENSITY RESIDENTIAL, AIRPORT APPROACH HEIGHT COMBINING
- MOBILEHOME PARK
- NATURAL RESOURCE 5 ACRES
- NEIGHBORHOOD COMMERCIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- OPEN SPACE
- RECREATION FORESTRY

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

ZONING MAP - WITH ROUTE OPTIONS
MAP 3 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO. 31406639.003

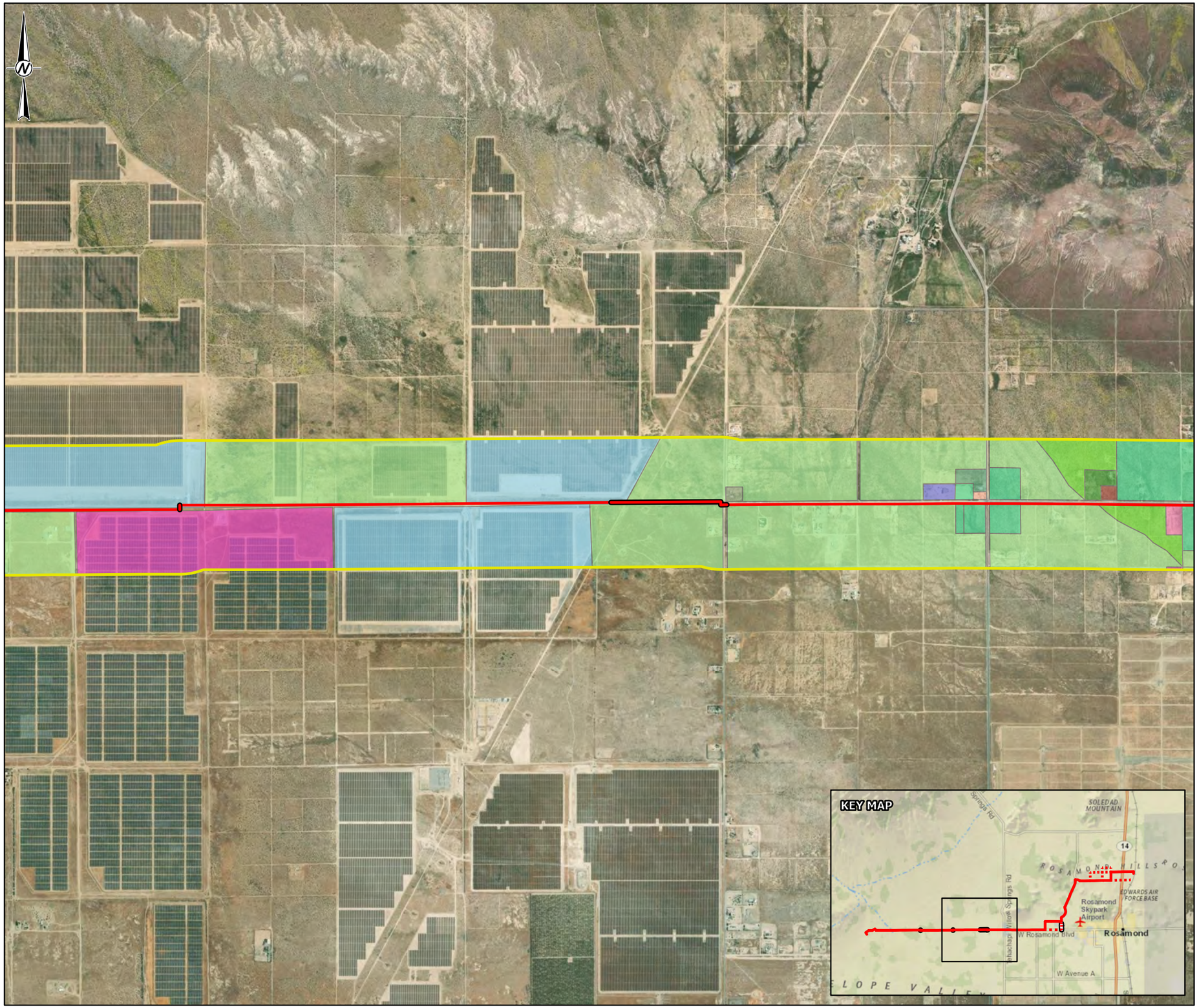
FIGURE 5.6A-10-3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

PATH: G:\Hydrostor\Ansell\99_PROJECTS\31406639.000_Hydrostor\AnsellLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-10_Rev0_Zoning.aprx PRINTED ON: AT: 12:58:14 PM



LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

ZONE CLASS

- ESTATE .25 ACRES
- ESTATE .25 ACRES, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 10 ACRES
- ESTATE 10 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 20 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE
- EXCLUSIVE AGRICULTURE, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE, GEOLOGIC HAZARD COMBINING, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- HIGH DENSITY RESIDENTIAL, PRECISE DEVELOPMENT COMBINING

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
ZONING MAP - WITH ROUTE OPTIONS
MAP 4 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

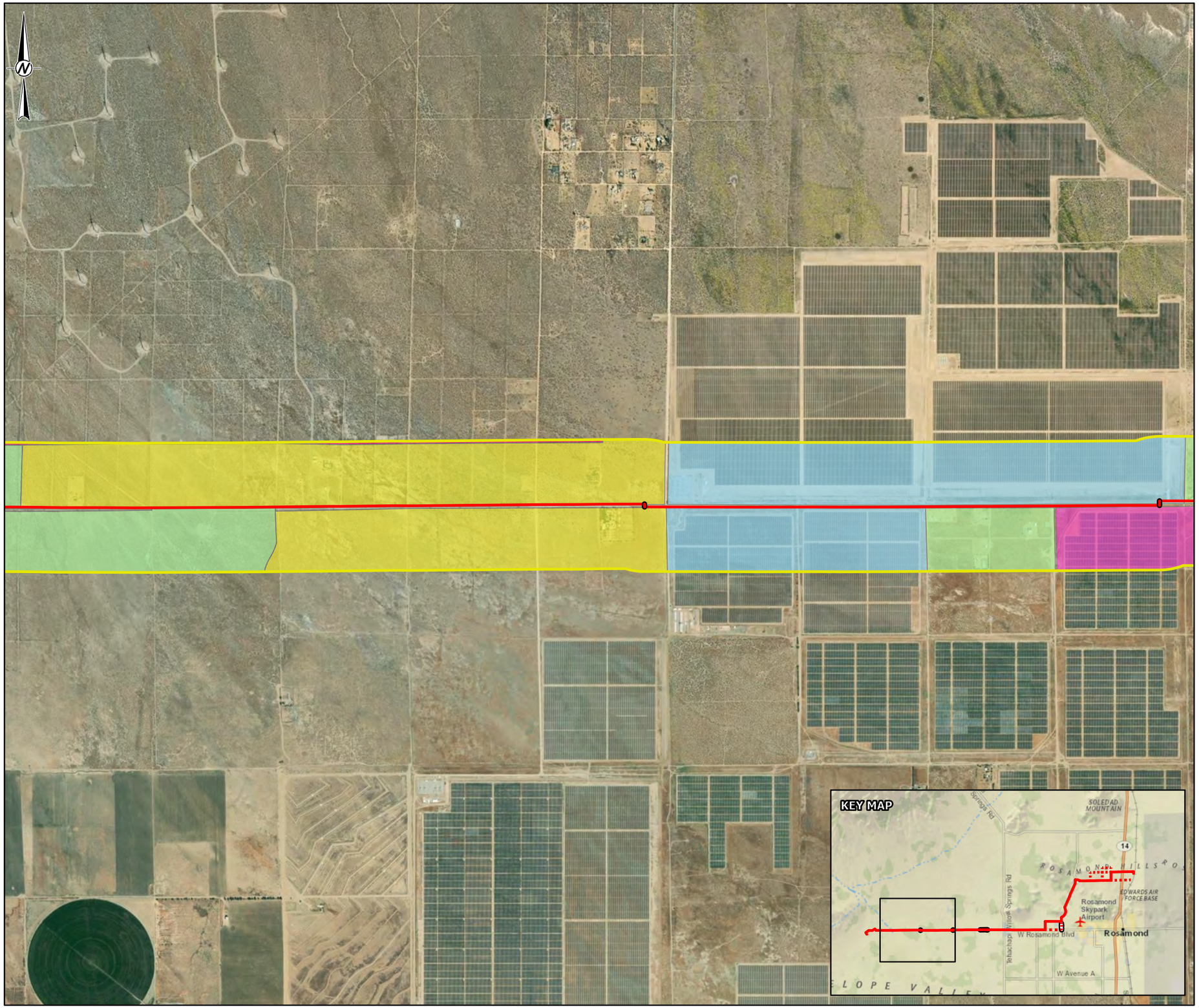
PROJECT NO.
31406639.003

FIGURE
5.6A-10-

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_Hydrostor\Ansel\LandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-10_Rev0_Zoning.aprx PRINTED ON: AT: 12:58:21 PM



LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

ZONE CLASS

- ESTATE .25 ACRES
- ESTATE .25 ACRES, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 10 ACRES
- ESTATE 10 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 20 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE
- EXCLUSIVE AGRICULTURE, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE, GEOLOGIC HAZARD COMBINING, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- HIGH DENSITY RESIDENTIAL, PRECISE DEVELOPMENT COMBINING

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
ZONING MAP - WITH ROUTE OPTIONS
MAP 5 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.6A-10-5

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_Hydrostor\Ansell\Land\Land\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-10_Rev0_Zoning.aprx PRINTED ON: AT: 12:58:27 PM

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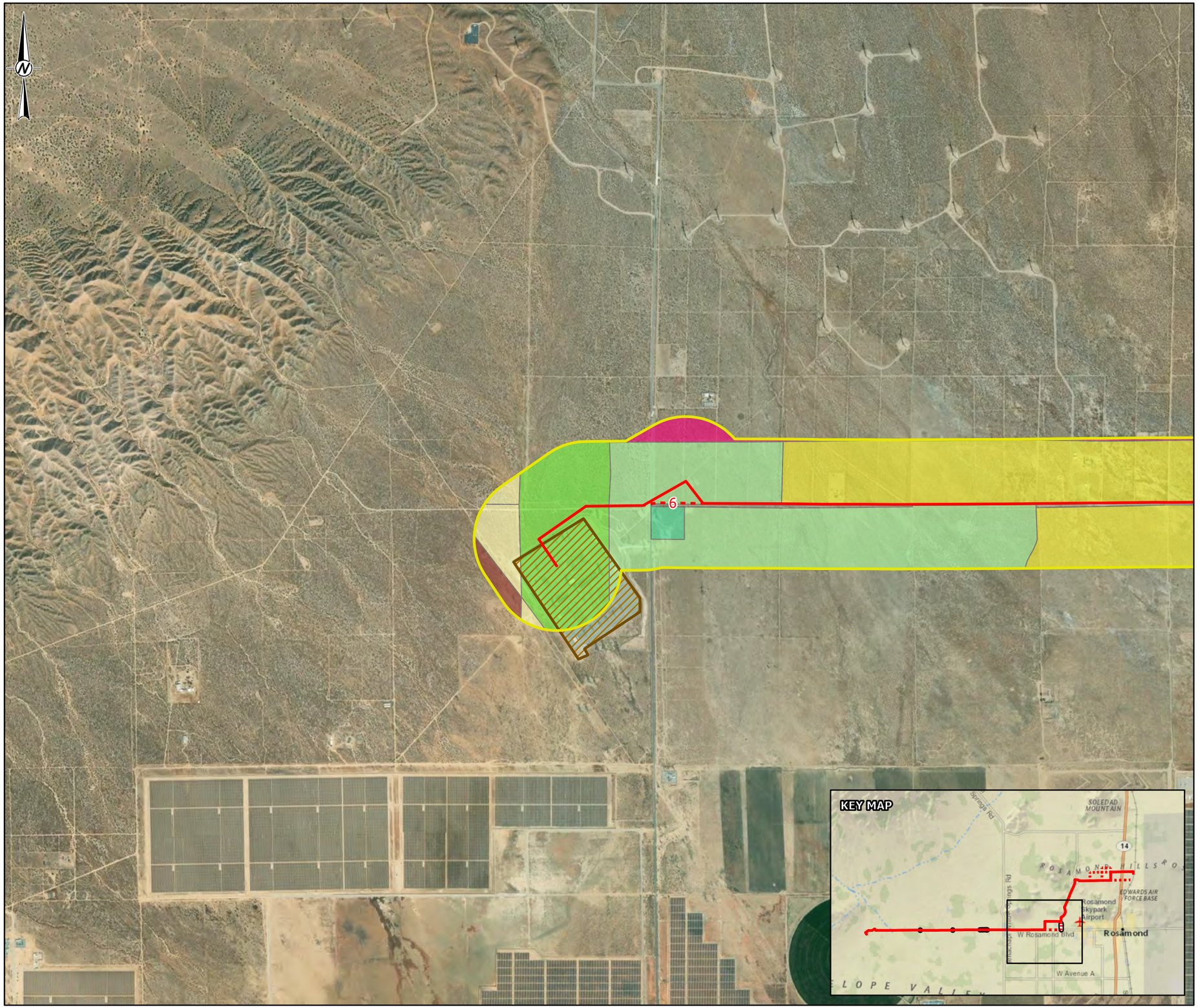

LEGEND

- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

PROPOSED TRANSMISSION LINE

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND

ZONE CLASS

- ESTATE .25 ACRES
- ESTATE .25 ACRES, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE .25 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 1 ACRE, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING
- ESTATE 2.5 ACRES, RESIDENTIAL SUBURBAN COMBINING, MOBILEHOME COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 5 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- ESTATE 10 ACRES
- ESTATE 10 ACRES, RESIDENTIAL SUBURBAN COMBINING
- ESTATE 20 ACRES, RESIDENTIAL SUBURBAN COMBINING, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE
- EXCLUSIVE AGRICULTURE, FLOODPLAIN SECONDARY COMBINING
- EXCLUSIVE AGRICULTURE, GEOLOGIC HAZARD COMBINING, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, FLOODPLAIN SECONDARY COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING
- GENERAL COMMERCIAL, PRECISE DEVELOPMENT COMBINING, FLOODPLAIN SECONDARY COMBINING
- HIGH DENSITY RESIDENTIAL, PRECISE DEVELOPMENT COMBINING

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
ZONING MAP - WITH ROUTE OPTIONS
MAP OF 6

CONSULTANT

YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	MK
REVIEWED	KD
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.6A-10-6

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25mm
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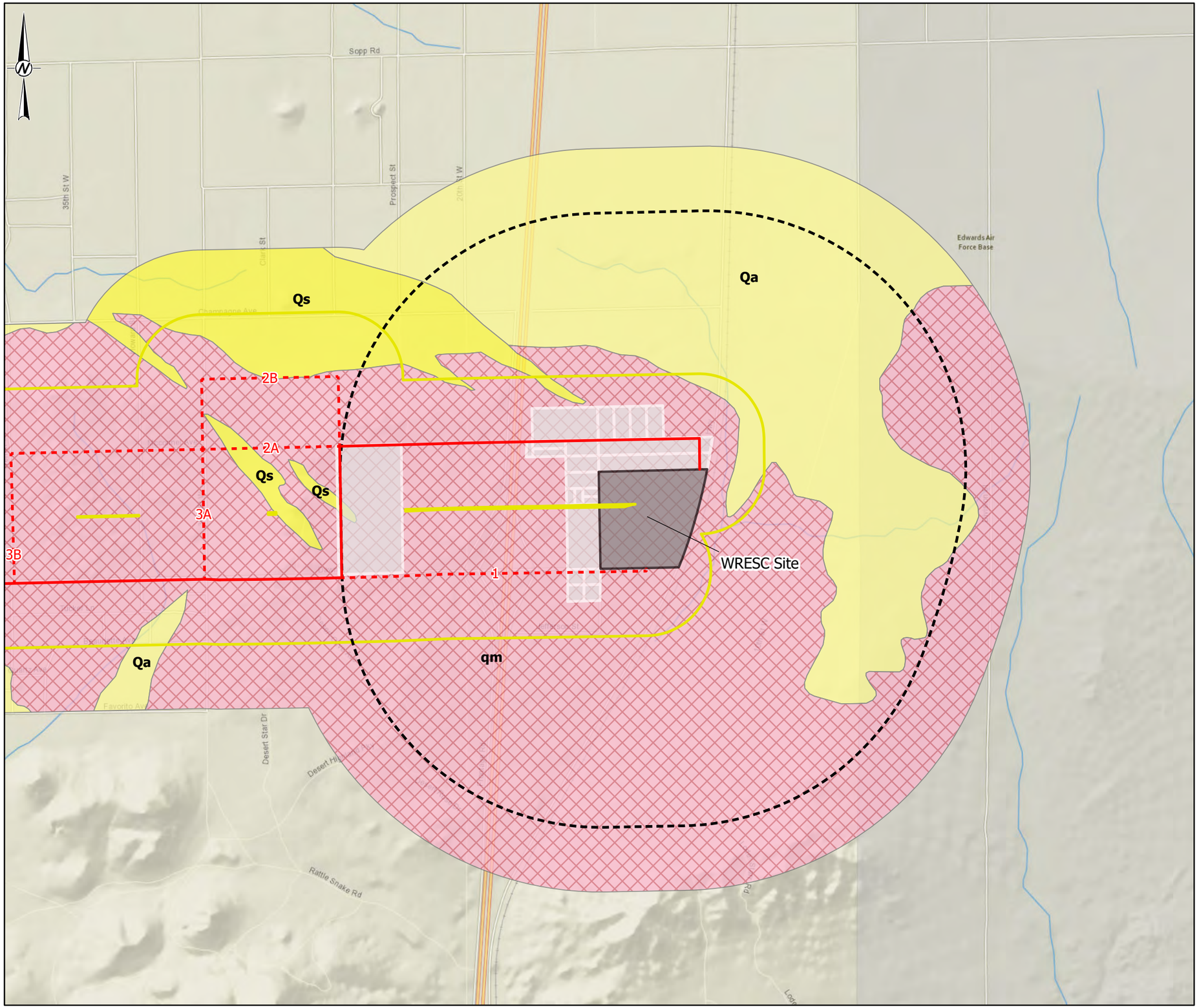
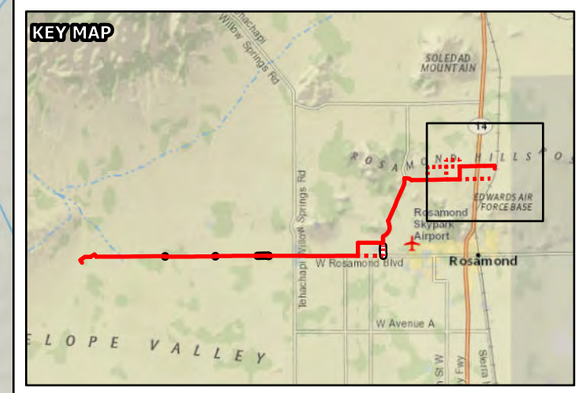


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 1 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-11-1

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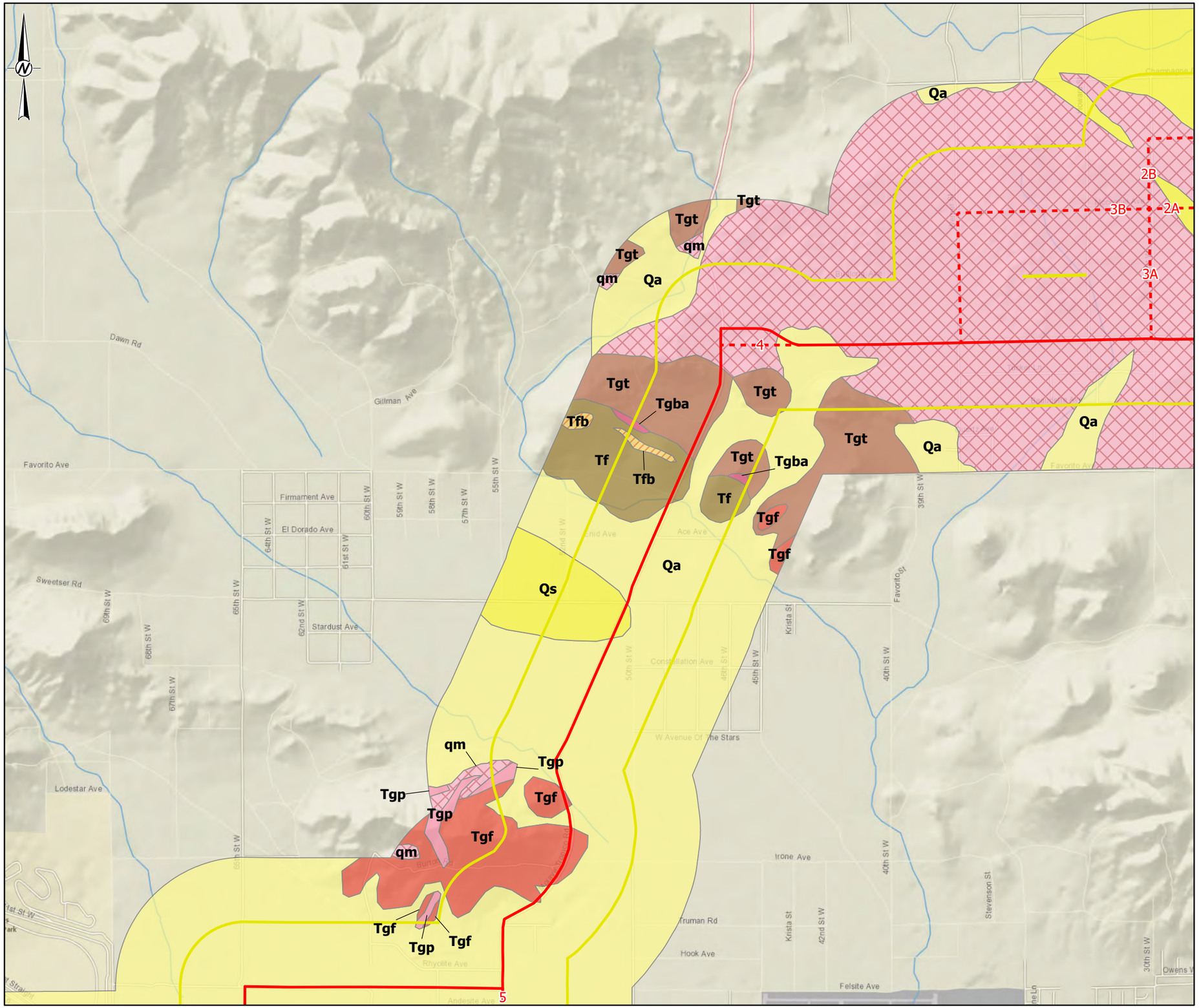
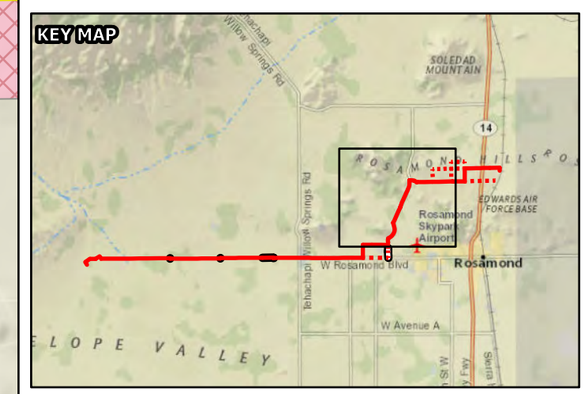


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

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REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 2 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-11-2

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\Ansel\LandUse\HY04 LU LBR_Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:04 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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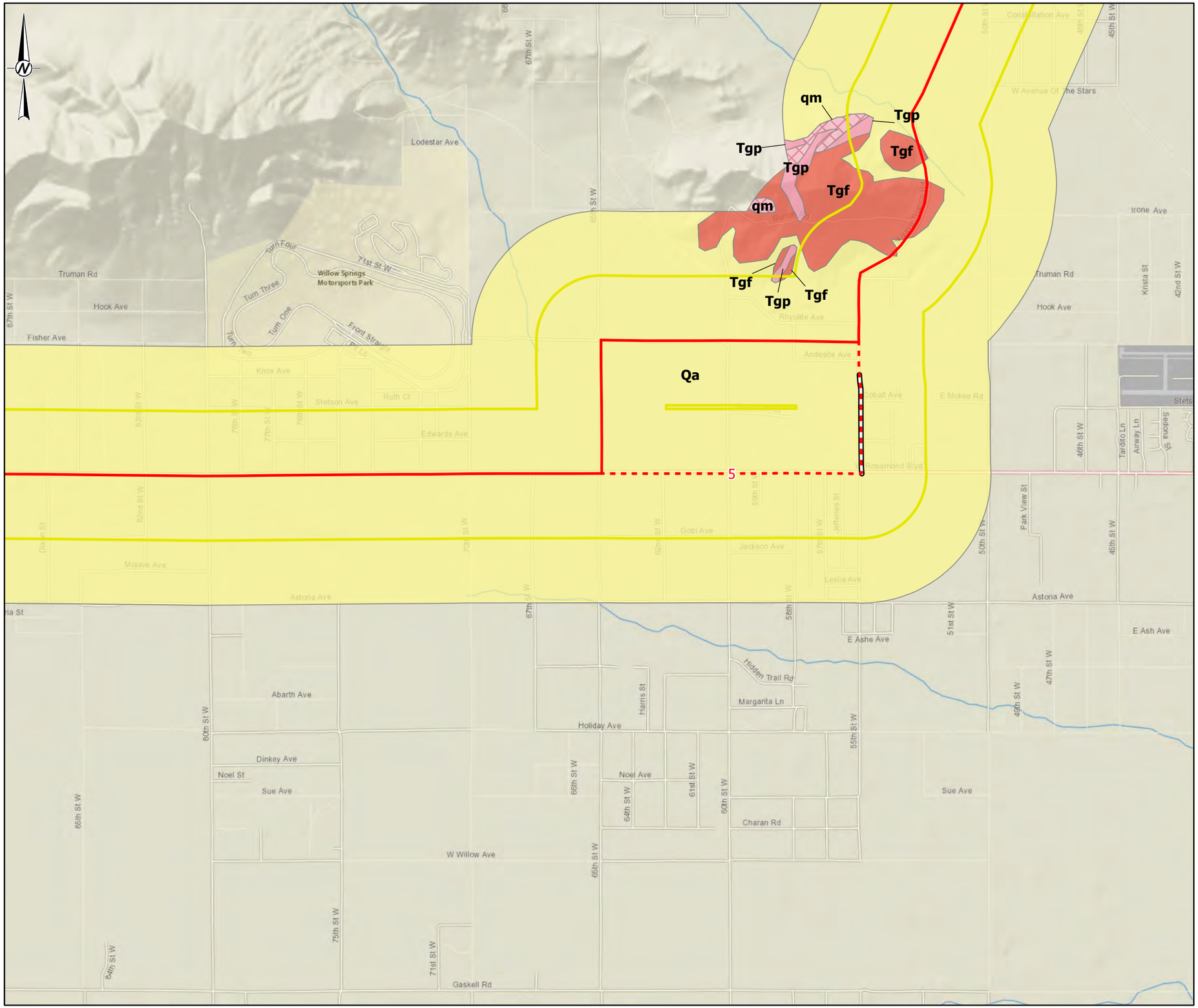
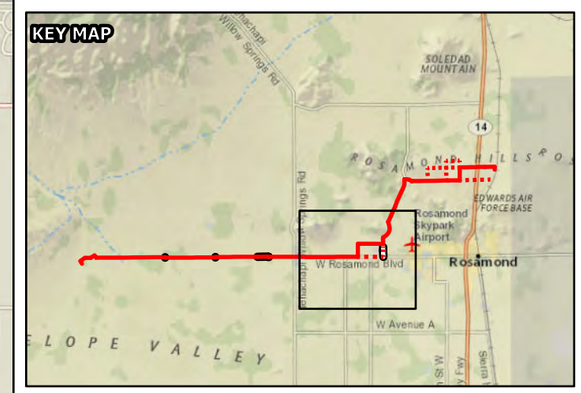


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

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CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 3 OF 6

CONSULTANT

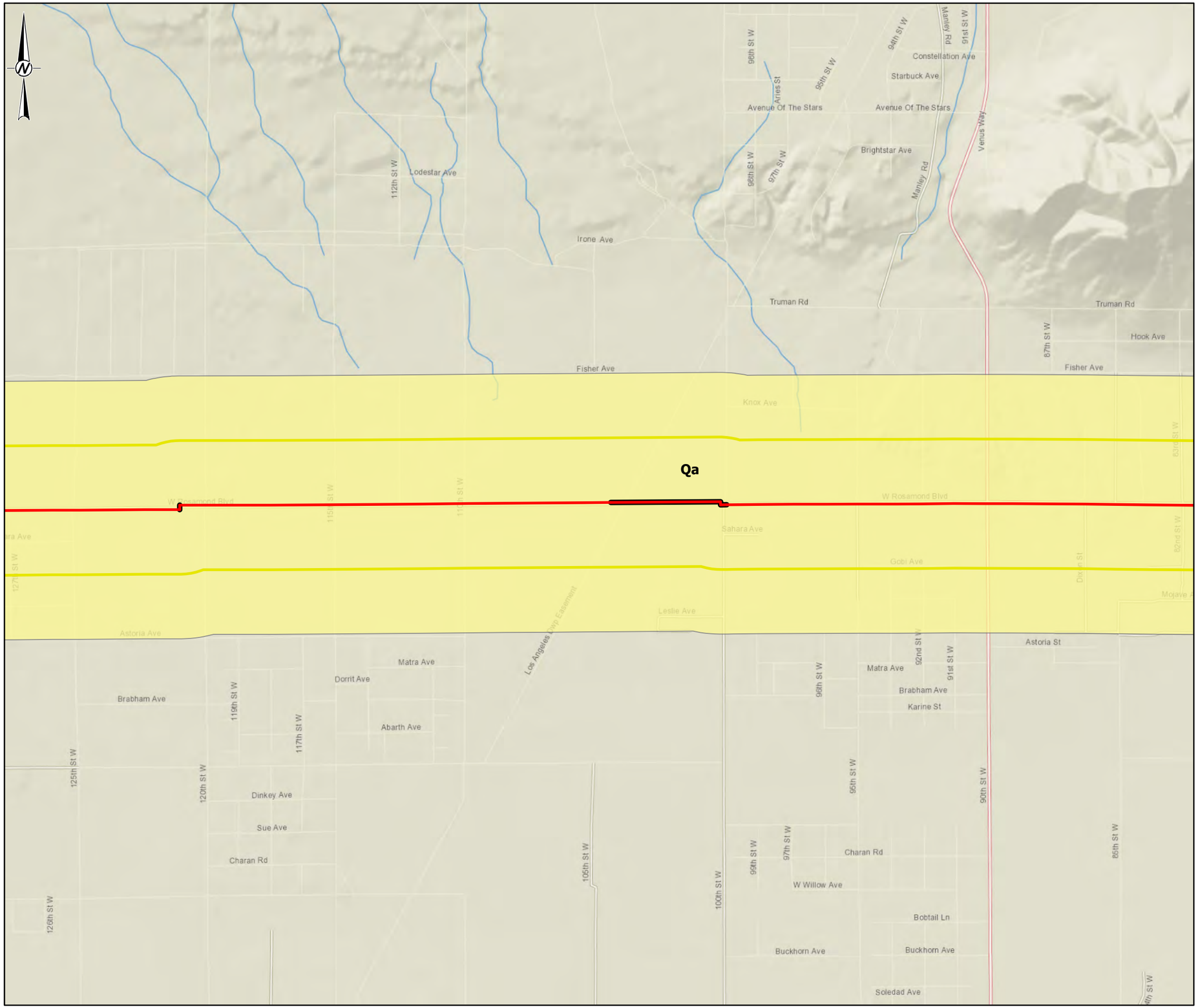
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.6A-11-3

PATH: G:\Hydrostor\Ansell\99_PROJECTS\31406639.000_Hydrostor\Ansell_LandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:07 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

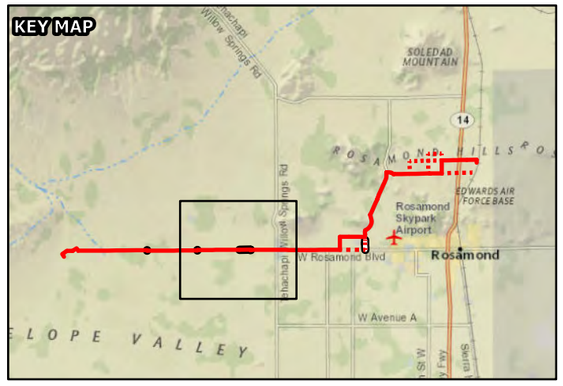


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 4 OF 6

CONSULTANT

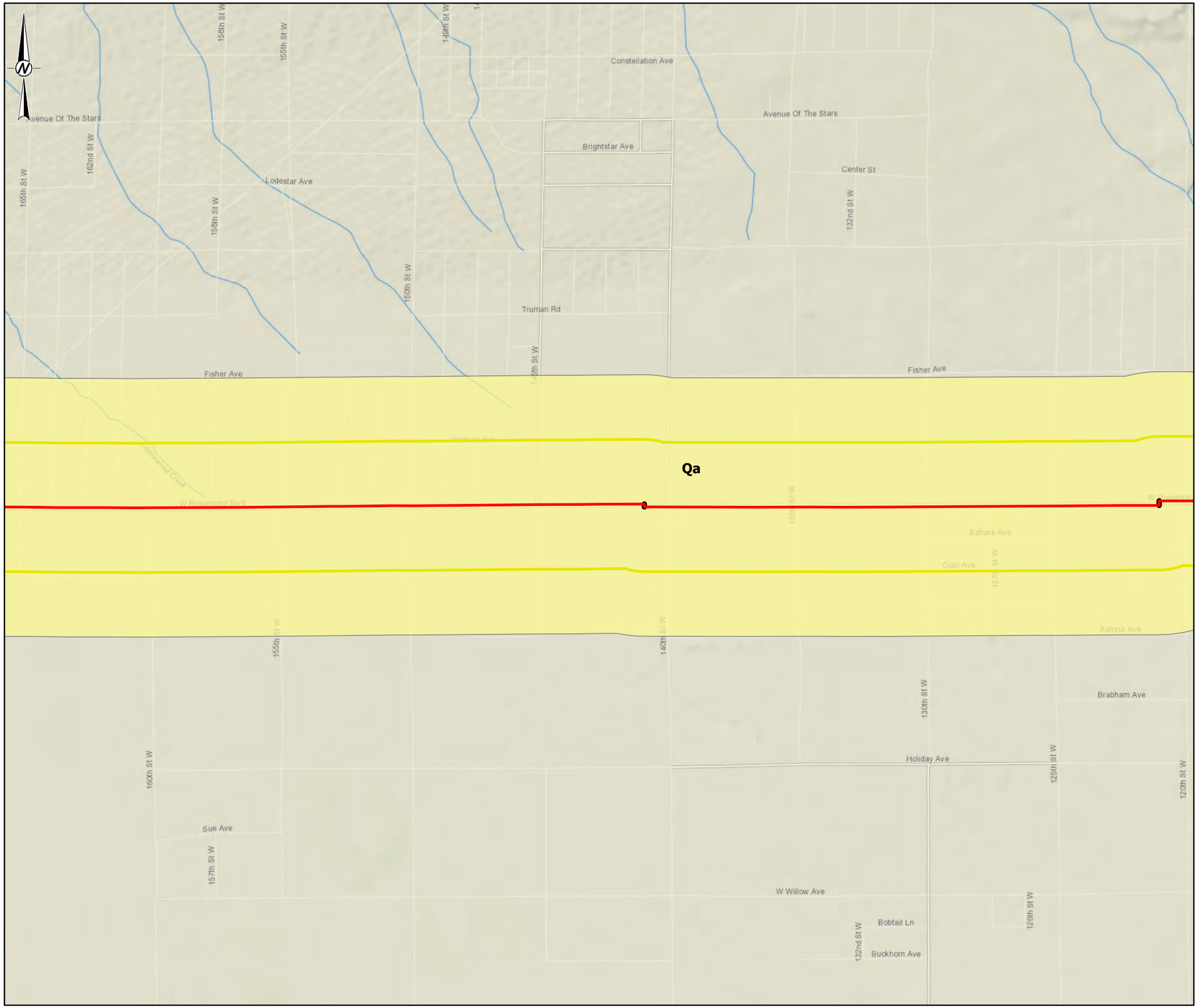
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-11-4

PATH: G:\Hydrostor\Ariel\99_PROJECTS\31406639.000_Hydrostor\Ariel\Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:10 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE WAS BEEN MODIFIED FROM: ANSI B
25mm

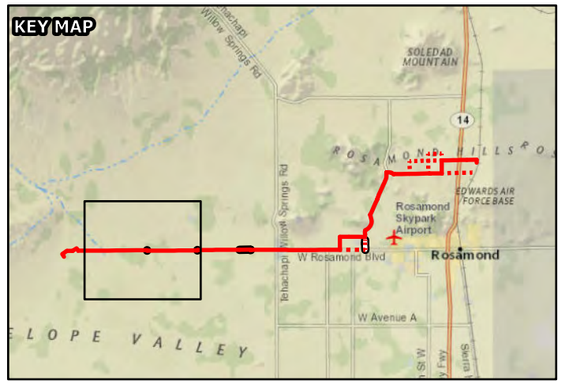


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 5 OF 6

CONSULTANT

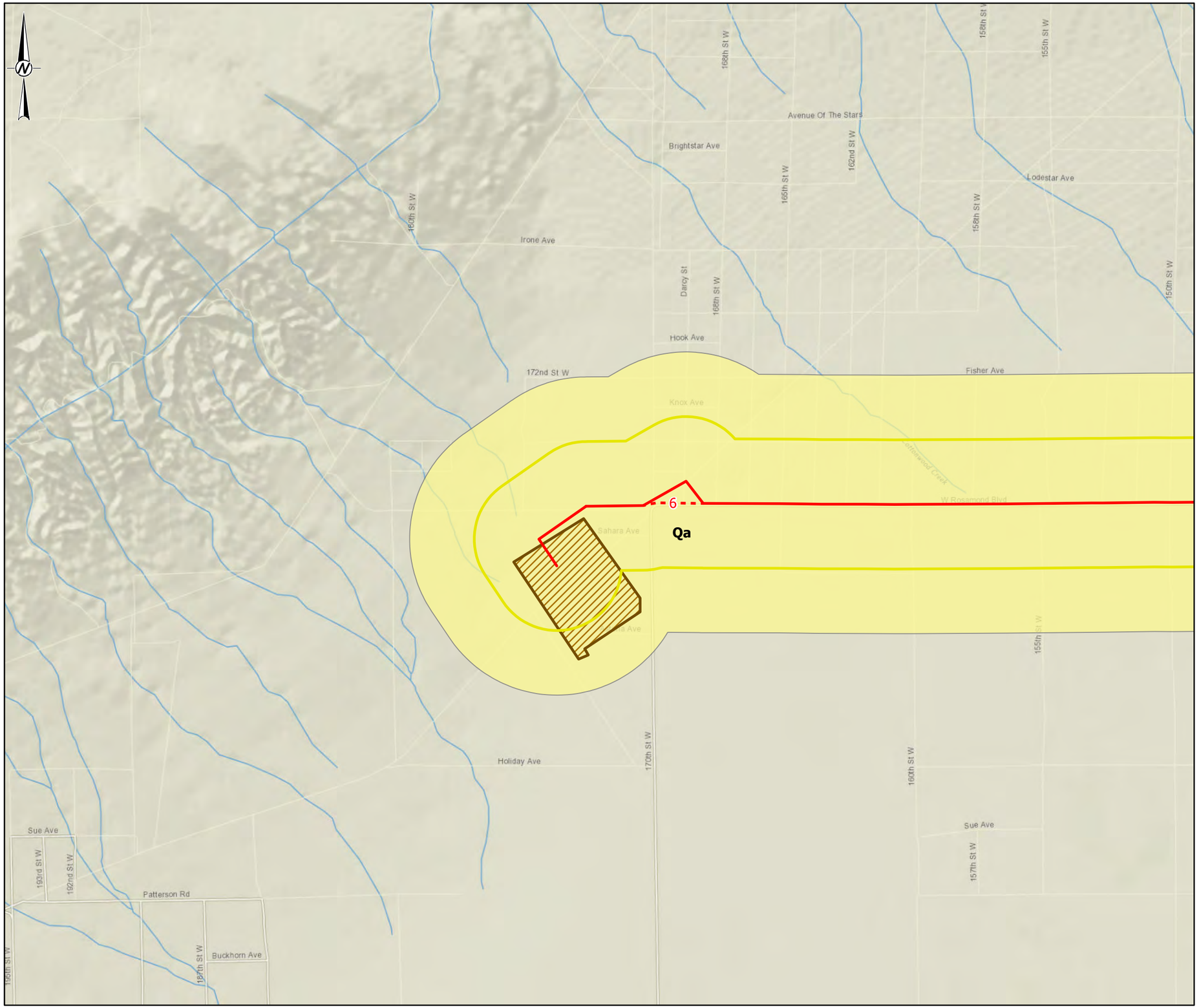
YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-11-5

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_HydrostorAnselLandUse\HY04-LU-LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:13 PM

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE WAS BEEN MODIFIED FROM: ANSI B



LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - ABOVEGROUND
- ALTERNATE ROUTE (OPTIONS 1-6) - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
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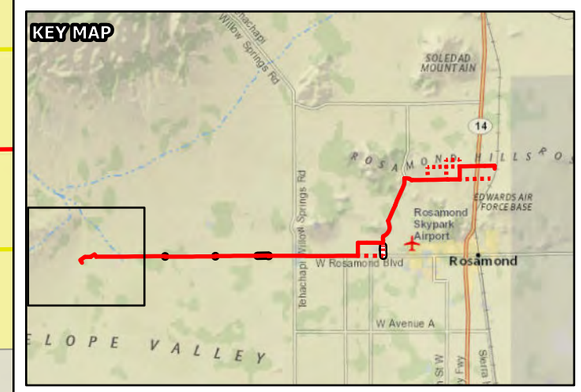
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 6 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.6A-11-6

PATH: G:\Hydrostor\Arsel\99_PROJECTS\31406639.000_Hydrostor\Arsel\Land\Use\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:16 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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APPENDIX 5.6B

Residences within the Gen-Tie Line Study Area

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
47108111	Single house and accessory buildings	0.02	South	3024 DAWN RD, ROSAMOND
47108112	Single house and accessory buildings	0.09	South	Not Available
47108110	Single house and accessory buildings	0.3	South	3078 DAWN RD, ROSAMOND
47108109	Multi buildings	0.08	South	3108 DAWN RD, ROSAMOND
47108107	Single house and accessory buildings	0.01	South	3200 DAWN RD, ROSAMOND
47108106	Single house	0.02	South	3230 DAWN RD, ROSAMOND
47108105	Multi buildings	0.01	South	3254 DAWN RD, ROSAMOND
47108104	Single house and accessory buildings	0.01	South	3322 DAWN RD, ROSAMOND
47108103	Multi buildings	0.01	South	3350 DAWN RD, ROSAMOND
47108102	Multi buildings	0.03	South	3424 DAWN RD, ROSAMOND
47108101	Multi buildings	0.03	South	3460 DAWN RD, ROSAMOND
47107209	Single house and accessory buildings	0.05	South	512 DAWN RD, ROSAMOND
47107206	Single house and accessory buildings	0.03	South	3622 DAWN RD, ROSAMOND
47108116	Single house and accessory buildings	0.14	South	3150 STONE AV, ROSAMOND
47108119	Multi buildings	0.14	South	3195 GILLMAN AV, ROSAMOND
47108121	Multi buildings	0.14	South	3227 GILLMAN AV, ROSAMOND
47107210	Multi buildings	0.14	South	3517 BEAUDETTE AV, ROSAMOND
47107211	Multi buildings	0.14	South	Not Available
47107212	Multi buildings	0.14	South	Not Available
47107214	Single house and accessory buildings	0.15	South	Not Available
47107217	Single house and accessory buildings	0.16	South	3645 BEAUDETTE AV, ROSAMOND
47107215	Single house and accessory buildings	0.15	South	5856 WERNER AV, ROSAMOND
47107109	Single house and accessory buildings	0.21	South	3847 GILLMAN AV, ROSAMOND
25201509	Multi buildings	0.1	East	5512 MOJAVE TROPICO RD, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
25224009	Single house	0.02	East	5200 MOJAVE TROPICO RD, ROSAMOND
25224028	Multi buildings	0.23	East	4653 ACE AV, ROSAMOND
25224029	Multi buildings	0.34	East	4555 ACE AV, ROSAMOND
25224032	Multi buildings	0.15	East	4875 SWEETSER RD, ROSAMOND
25223101	Multi buildings	0.07	East	4954 SWEETSER RD, ROSAMOND
25223102	Single house	0.14	East	4884 SWEETSER RD, ROSAMOND
25223114	Single house	0.2	East	4901 TOBACCO RD, ROSAMOND
25223113	Multi buildings	0.26	East	4908 TOBACCO RD, ROSAMOND
25223117	Single house and accessory buildings	0.11	East	4848 50TH STREET WEST, ROSAMOND
25223217	Single house and accessory buildings	0.22	East	4584 W 50TH ST, ROSAMOND
25208016	Multi buildings	0.07	East	5426 TRUMAN RD, ROSAMOND
25208023	Single house and accessory buildings	0.17	East	5320 TRUMAN RD, ROSAMOND
25208024	Single house	0.15	East	3640 CAGEL ST, ROSAMOND
25209101	Multi buildings	0.02	East	3478 TROPICO RD, ROSAMOND
25252103	Single house	0.01	East	4555 ACE AV, ROSAMOND
25252102	Single house	0.01	East	4875 SWEETSER RD, ROSAMOND
25252101	Single house	0.01	East	4954 SWEETSER RD, ROSAMOND
25252104	Single house	0.04	East	4884 SWEETSER RD, ROSAMOND
25252105	Single house	0.04	East	4901 TOBACCO RD, ROSAMOND
25252106	Single house	0.04	East	4908 TOBACCO RD, ROSAMOND
25253101	Single house	0.07	East	4848 50TH STREET WEST, ROSAMOND
25253102	Single house	0.07	East	4584 W 50TH ST, ROSAMOND
25253103	Single house	0.07	East	5426 TRUMAN RD, ROSAMOND
25253104	Single house	0.1	East	5320 TRUMAN RD, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
25253105	Single house	0.1	East	3640 CAGEL ST, ROSAMOND
25253106	Single house	0.1	East	3478 TROPICO RD, ROSAMOND
25253110	Single house	0.12	East	4555 ACE AV, ROSAMOND
25253109	Single house	0.12	East	4875 SWEETSER RD, ROSAMOND
25253107	Single house	0.12	East	3271 EMERALD ST, ROSAMOND
25253201	Single house	0.15	East	3294 EMERALD ST, ROSAMOND
25253202	Single house	0.15	East	3286 EMERALD ST, ROSAMOND
25253203	Single house	0.15	East	3278 EMERALD ST, ROSAMOND
25253204	Single house	0.15	East	3270 EMERALD ST, ROSAMOND
25252212	Single house	0.01	East	5448 COBALT AV, ROSAMOND
25252211	Single house	0.02	East	5440 COBALT AV, ROSAMOND
25252210	Single house	0.03	East	5432 COBALT AV, ROSAMOND
25252209	Single house	0.04	East	5424 COBALT AV, ROSAMOND
25252208	Single house	0.05	East	5416 COBALT AV, ROSAMOND
25252207	Single house	0.06	East	5408 COBALT AV, ROSAMOND
25252206	Single house	0.07	East	5400 COBALT AV, ROSAMOND
25252205	Single house	0.08	East	5348 COBALT AV, ROSAMOND
25252204	Single house	0.09	East	5340 COBALT AV, ROSAMOND
25252203	Single house	0.11	East	5332 COBALT AV, ROSAMOND
25253302	Single house	0.15	East	5308 COBALT AV, ROSAMOND
25253301	Single house	0.16	East	5300 COBALT AV, ROSAMOND
25209118	Mobile Home Community	0.16	East	Not Available
37534101	Multi buildings	0.01	South	5335 ROSAMOND BL, ROSAMOND
37534105	Single house	0.1	South	2941 55TH ST W, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
37534106	Single house and accessory buildings	0.13	South	Not Available
37534107	Single house and accessory buildings	0.13	South	2833 W 55TH ST, ROSAMOND
37534104	Multi buildings	0.11	South	2858 JEFFRIES LN, ROSAMOND
37534102	Multi buildings	0.01	South	5554 ROSAMOND BL, ROSAMOND
37534144	Single house and accessory buildings	0.02	South	5570 ROSAMOND BL, ROSAMOND
37534145	Single house and accessory buildings	0.02	South	5616 ROSAMOND BL, ROSAMOND
37534143	Single house and accessory buildings	0.05	South	2989 JEFFRIES LN, ROSAMOND
37534142	Multi buildings	0.06	South	2925 JEFFRIES LN, ROSAMOND
37534141	Multi buildings	0.13	South	2859 JEFFRIES ST, ROSAMOND
37534140	Multi buildings	0.18	South	2769 JEFFRIES ST, ROSAMOND
37534236	Single house and accessory buildings	0.01	South	5636 ROSAMOND BL, ROSAMOND
37534239	Single house and accessory buildings	0.07	South	2931 57TH ST, ROSAMOND
37534238	Single house and accessory buildings	0.07	South	Not Available
37534240	Single house and accessory buildings	0.1	South	2891 57TH ST, ROSAMOND
37534241	Single house and accessory buildings	0.1	South	2880 DAVENPORT ST, ROSAMOND
37534243	Multi buildings	0.14	South	2867 57TH STREET WEST, ROSAMOND
37534242	Multi buildings	0.14	South	2864 DAVENPORT ST, ROSAMOND
37534244	Multi buildings	0.17	South	2815 57TH ST, ROSAMOND
37534245	Multi buildings	0.17	South	2830 DAVENPORT ST, ROSAMOND
37534237	Multi buildings	0.22	South	2767 57TH ST, ROSAMOND
37534251	Single house and accessory buildings	0.05	South	2935 DAVENPORT ST, ROSAMOND
37534248	Single house and accessory buildings	0.06	South	2940 W 58TH ST, ROSAMOND
37534246	Single house and accessory buildings	0.08	South	2899 DAVENPORT ST, ROSAMOND
37534254	Single house and accessory buildings	0.13	South	2870 58TH STREET WEST, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
37534253	Single house and accessory buildings	0.15	South	2837 DAVENPORT ST, ROSAMOND
37534255	Single house and accessory buildings	0.15	South	2866 58TH STREET WEST, ROSAMOND
37534256	Single house and accessory buildings	0.19	South	2803 DAVENPORT ST, ROSAMOND
37534259	Single house and accessory buildings	0.19	South	2812 58TH STREET WEST, ROSAMOND
37534257	Single house and accessory buildings	0.22	South	5711 GOBI AV, ROSAMOND
37534258	Single house	0.22	South	2776 58TH STREET WEST, ROSAMOND
37508405	Single house	0.01	South	Not Available
37508416	Multi buildings	0.22	South	5791 GOBI AV, ROSAMOND
37508415	Multi buildings	0.22	South	5801 GOBI AV, ROSAMOND
37508404	Single house and accessory buildings	0.01	South	5834 ROSAMOND BL, ROSAMOND
37508403	Single house and accessory buildings	0.01	South	5846 ROSAMOND BL, ROSAMOND
37508418	Single house	0.01	South	2941 W 59TH ST, ROSAMOND
37508419	Single house	0.04	South	2951 W 59TH ST, ROSAMOND
37508420	Single house	0.06	South	2921 59TH ST, ROSAMOND
37508421	Single house	0.1	South	2895 59TH ST, ROSAMOND
37508412	Multi buildings	0.13	South	2866 60TH WEST ST, ROSAMOND
37508413	Single house	0.15	South	2830 60TH WEST ST, ROSAMOND
37508414	Multi buildings	0.24	South	2764 60TH ST, ROSAMOND
37522007	Single house	0.05	South	2941 W 60TH ST, ROSAMOND
37522028	Single house	0.23	South	2763 60TH STREET WEST, ROSAMOND
37522033	Multi buildings	0.1	South	Not Available
37522052	Single house	0.22	South	6171 GOBI AV, ROSAMOND
37522051	Single house	0.22	South	6209 GOBI AV, ROSAMOND
37522039	Multi buildings		South	2851 62ND WEST ST, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
37522030	Single house and accessory buildings	0.05	South	6410 ROSAMOND BL, ROSAMOND
37522046	Single house and accessory buildings	0.05	South	2944 65TH ST, ROSAMOND
37522047	Single house and accessory buildings	0.07	South	2918 65TH ST, ROSAMOND
37522049	Single house	0.16	South	2820 65TH ST, ROSAMOND
37522032	Single house	0.22	South	Not Available
37403110	Single house and accessory buildings	0.2	South	Not Available
37403109	Single house and accessory buildings	0.02	South	Not Available
37407207	Multi buildings	0.02	South	2857 85TH STREET WEST, ROSAMOND
37407201	Multi buildings	0.02	South	8738 ROSAMOND BL, ROSAMOND
37407111	Multi buildings	00.2	South	
37404208	Single house and accessory buildings	0.02	South	2973 95TH ST, ROSAMOND
37404207	Single house and accessory buildings	0.02	South	9580 ROSAMOND BL, ROSAMOND
37404239	Single house and accessory buildings	0.02	South	9650 W ROSAMOND BL, ROSAMOND
37404211	Single house and accessory buildings	0.1	South	9655 SAHARA AV, ROSAMOND
37404212	Single house and accessory buildings	0.08	South	2902 97TH STREET WEST, ROSAMOND
37404203	Single house and accessory buildings	0.02	South	9714 ROSAMOND BL, ROSAMOND
37404104	Single house and accessory buildings	0.07	South	9871 SAHARA AV, ROSAMOND
37404109	Multi buildings	0.14	South	2860 W 100TH ST, ROSAMOND
35905130	Single house	0.09	South	2929 100TH ST, ROSAMOND
35910005	Single house and accessory buildings	0.05	South	14154 ROSAMOND BL, ROSAMOND
43109029	Single house and accessory buildings	0.04	North	3237 DAWN RD, ROSAMOND
43109028	Multi buildings	0.1	North	Not Available
43109020	Single house and accessory buildings	0.03	North	3609 DAWN RD, ROSAMOND
43109019	Single house and accessory buildings	0.03	North	3641 DAWN RD, MOJAVE

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
25208002	Multi buildings	0.01	North East	Not Available
25210017	Multi buildings	0.05	North East	3759 MOJAVE TROPICO RD, ROSAMOND
25210003	Multi buildings	0.05	East	3733 TROPICO RD, ROSAMOND
25210005	Single house and accessory buildings	0.05	North	3609 MOJAVE-TROPICO RD, ROSAMOND
25210006	Multi buildings	0.04	North	5521 RHYOLITE AV, ROSAMOND
25210007	Multi housing	0.02	North	3545 MOJAVE-TROPICO RD, ROSAMOND
25210018	Multi housing	0.05	North	Not Available
25210011	Multi buildings and housing	0.17	North	3718 60TH ST, ROSAMOND
25244019	Single house	0.17	North	3637 66TH STREET WEST, ROSAMOND
25244007	Single house	0.05	East	6423 ROSAMOND BL, ROSAMOND
25211006	Single house	0.02	East	3201 MOJAVE TROPICO RD, ROSAMOND
25211005	Multi buildings	0.08	East	1645 TROPICO RD, ROSAMOND
25211007	Single house and accessory buildings	0.05	East	3123 MOJAVE TROPICO RD, ROSAMOND
25211009	Multi buildings	0.,05	East	5511 ROSAMOND BL, ROSAMOND
25211011	Single house and accessory buildings	0.05	North	5615 ROSAMOND BL, ROSAMOND
25211012	Single house and accessory buildings	0.02	North	Not Available
25211020	Multi buildings	0.11	North	3424 60TH ST, ROSAMOND
25211028	Single House	0.02	North	5900 FELSITE AV, ROSAMOND
25241035	Single House and accessory buildings	0.3	North	3265 60TH ST, ROSAMOND
25241034	Single House and accessory buildings	0.3	North	3301 60TH ST, ROSAMOND
25244007	Single house	0.04	North	6423 ROSAMOND BL, ROSAMOND
25214206	Single house	0.15	North	3126 78TH ST, ROSAMOND
25233117	Multi buildings	0.11	North	3105 W 85TH ST, ROSAMOND

Parcel ID (APN)	Single or Multi Residential	Distance from Route	Location in Relationship to the Route	Address (if available)
25233116	Multi buildings	0.11	North	3100 DIXON ST, ROSAMOND
25233119	Multi buildings	0.03	North	8543 ROSAMOND BL, ROSAMOND
25233118	Multi buildings	0.04	North	3020 DIXON ST, ROSAMOND
25235233	Single house	0.06	North	9009 ROSAMOND BL, ROSAMOND
25215232	Multi buildings	0.03	North	3022 100TH ST, ROSAMOND
25215216	Multi buildings	0.17	North	3144 100TH STREET WEST, ROSAMOND
35815227	Single house with accessory buildings	0.02	North	11137 ROSAMOND BL, ROSAMOND
35822216	Single house	0.16	North	15259 ROSAMOND BL, ROSAMOND

APPENDIX 5.6C

Email Communications Between Hydrostor and Department of Defense

Paris, Jeremy

Subject: RE: CMLUCA Military Services Notification for Willow Rock Energy Storage Center Project

From: Laurel Lees <laurel.lees@hydrostor.ca>
Sent: Tuesday, January 30, 2024 8:40 PM
To: david.bell.3@us.af.mil; Reed.p.haney2@usace.army.mil; tom.caughlan@usmc.mil; steve.u.chung@navy.mil
Cc: Stein, David <david.stein@wsp.com>
Subject: CMLUCA Military Services Notification for Willow Rock Energy Storage Center Project

Good evening,

The purpose of this email is to notify you of Hydrostor's proposed Willow Rock Energy Storage Center Project (project) located in the Mojave-Rosamond region of eastern Kern County, California. The project facility is proposed on a location referred to as the "Zevsar Site" on APN 431-022-13 and surrounding properties near the intersection of Dawn Road and State Route 14.

The project includes construction and operations of an Advanced-Compressed Air Energy Storage (A-CAES) facility and a 19-mile 230 kV transmission line with interconnection to the existing Whirlwind Substation. When fully charged, this long duration energy storage A-CAES facility is designed to provide 500MW for an 8-hour period (4,000 MWh) at the point of interconnection.

Per the California Military Land Use Compatibility Analyst mapping tool, the project is located within 1000 feet of an area of military special use airspace (Figure 1) and, as such, we are contacting the Military Points of Contact listed on the SB 1462 Point of Contact list (updated August 2018). The results of the mapping tool are summarized below for reference.

This location IS WITHIN:

- 1000 feet of an area of military special use airspace.
- 4000 feet of an area of military special use airspace.

This location IS NOT WITHIN:

- 1000 feet of a military installation.
- 1000 feet of a military training flight route.
- 4000 feet of a military installation.
- 4000 feet of a military training flight route.

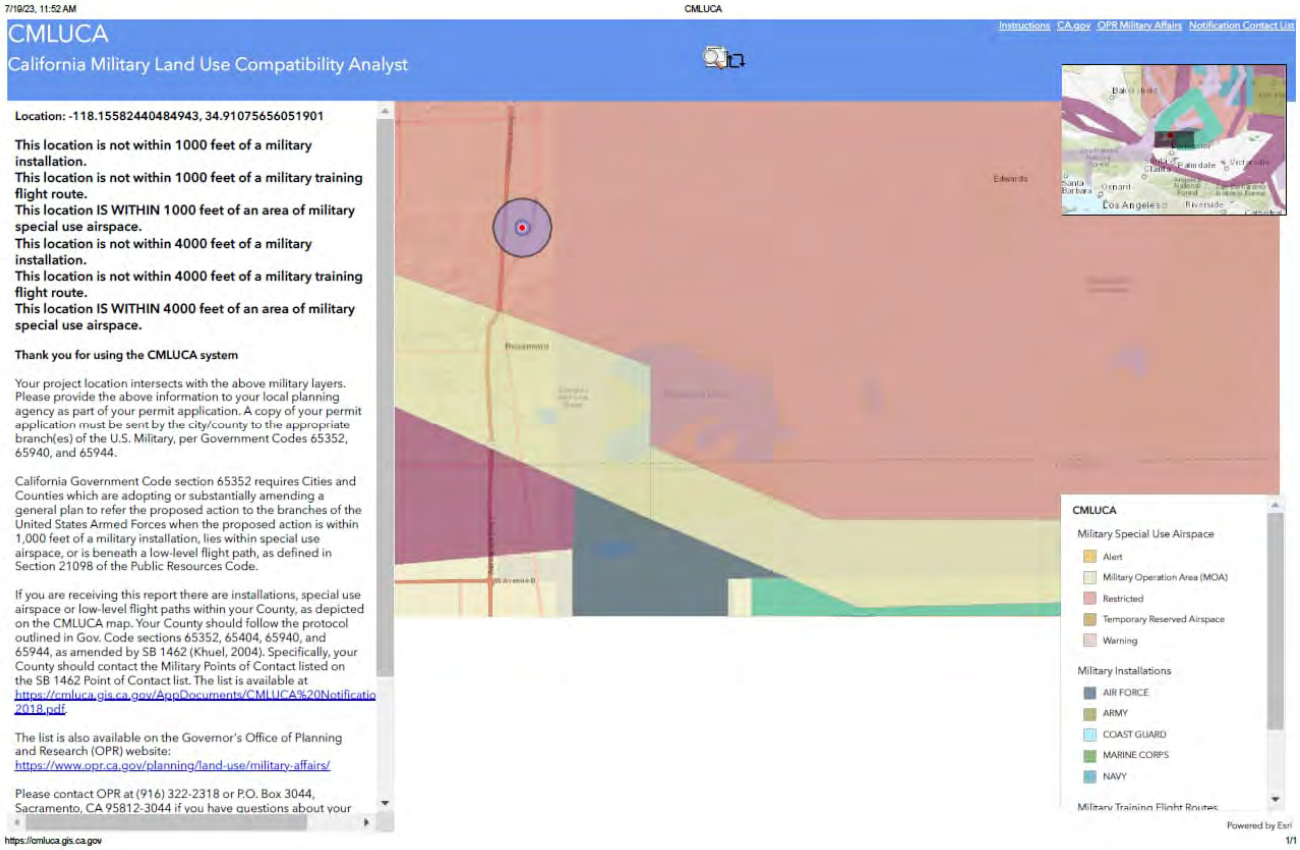

Figure 1. CMLUCA Results for the Zevsar Site (July 19, 2023)

Similarly, the project is located within an area mapped by Kern County with military review requirements for proposed projects that include structures over 100 feet (Figure 2). Although all structures are proposed to be less than 100 feet and formal consultation is not required, Hydrostor has conducted introductory/informal meetings with personnel at Edwards Air Force Base and provided them the map shown in Figure 2. We continue to work with Edwards AFB as part of ongoing stakeholder engagement.

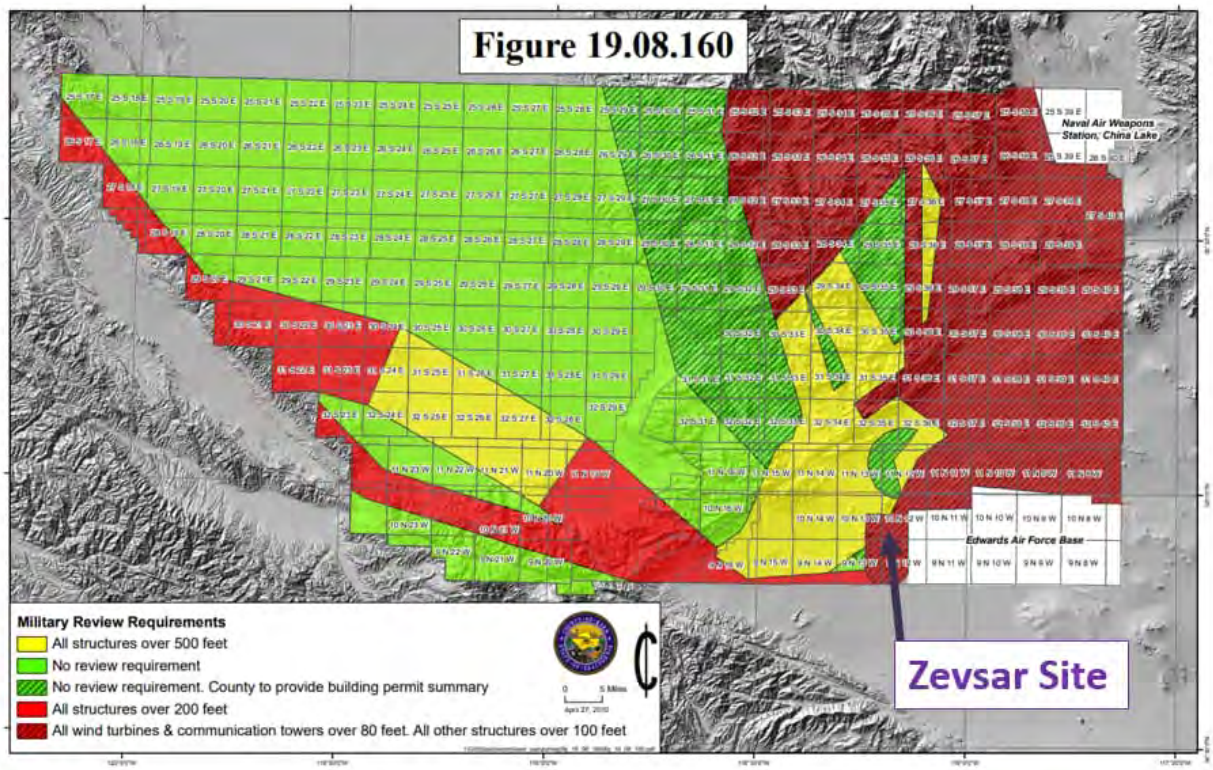

Figure 2. Kern County Military Review Requirements for the Zevsar Site

In terms of next steps, a reference to this consultation will be docketed in the California Energy Commission proceedings (21-AFC-02) to demonstrate compliance with Public Resources Code 25519.5. This filing is anticipated within Q1 2024. Please let us know if you have questions or comments on the matter.

Thank you for receiving this information as stakeholders in the project.

Very Respectfully,

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APPENDIX 5.6D

Applicable Kern County Revised 2022 Zoning Ordinances and Acceptable Land Uses

Permitted Land Uses Associated with the Limited Agriculture (A-1) Zoning Designation Under Chapter 19.14 -

The WRESC facility will be constructed on land designated as A-1 (Limited Agriculture). The following uses and all others determined to be like these uses pursuant to Sections 19.08.030 through 19.08.080 of this title are allowable in A-1 District:

> Agricultural Uses, Residential Uses, Commercial Uses, Utility and Communication Facilities, Resource Extraction and Energy Development Uses, Institutional Uses, and various miscellaneous uses. (Kern County 2022)

The 2022 Kern County Zoning Ordinance defines the allowable uses as follows:

- **A. Agricultural Uses**:
  - Growing and Harvesting Crops
    - Berry crops
    - Bush crops
    - Christmas trees
    - Field crops, dryland
    - Field crops, irrigated
    - Flowers and horticultural specialties, wholesale only
    - Greenhouse, wholesale only
    - Hydroponically grown plants
    - Nursery, plant, wholesale only
    - Nut and fruit trees
    - Timber
    - Vegetables
    - Vine crops
  - Breeding and Raising Animals
    - Bee keeping
    - Beef cattle or livestock grazing pursuant to Section 19.14.130 of this chapter [of the 2022 Kern County Zoning Ordinance]
    - Birds, including show or racing pigeons and other small fowl
    - Dairy stock pursuant to Section 19.14.130 of this chapter
    - Hogs pursuant to Section 19.14.130 of this chapter
    - Horses, donkeys, llamas, and mules pursuant to Section 19.14.130 of this chapter
    - Poultry, for the domestic use of the resident/occupant only (not including poultry ranches)
    - Rabbits and fur-bearing animals
    - Sheep and goats pursuant to Section 19.14.130 of this chapter
    - Vermiculture, pursuant to Subsection 19.14.130.H
- **B. Residential Uses**:
  - Accessory dwelling unit, pursuant to Chapter 19.90.
  - Manufactured home, mobile home, or recreational vehicle, temporary, during construction of a single-family home pursuant to Section 19.16.130 of this chapter

- Manufactured home, pursuant to Section 19.14.130.G of this chapter
- Residential accessory structures
- Residential facility, serving six (6) or fewer persons

- **C. Commercial Uses**:
  - General Retail Sales
  - Christmas trees, temporary
  - Fruit stand, temporary, pursuant to Section 19.14.130 of this chapter
- **D. Utility and Communication Facilities**: Transmission lines and supporting towers, poles, and underground facilities for gas, water, electricity, telephone, or telegraph service owned and operated by a public utility company or other company under the jurisdiction of the California Public Utilities Commission pursuant to Section 19.08.090 of this title
  - Utility substations
- **E. Resource Extraction and Energy Development Uses**:
  - Mineral exploration
  - Oil or gas exploration and production pursuant to Chapter 19.98 of this title, including the temporary installation of commercial coaches as accessory to this activity, not to exceed a 2-year period
  - Solar energy electrical generator which are accessory to a permitted or conditionally permitted use and where the power generated does not exceed the total on-site power demand
  - Small wind energy system, pursuant to Section 19.08.415
- **F. Institutional Uses**: Public agency or public utility buildings and facilities
- **G. Miscellaneous Uses**:
  - Accessory buildings, including up to two cargo containers, if incidental and accessory to a permitted use. Three or more cargo containers shall require the processing of a conditional use permit (CUP) as set forth in Chapter 19.104 of this title.
  - Commercial coach, when incidental and accessory to a permitted use, not exceeding 6 months
  - Day-care home, large family, pursuant to Chapter 19.96 of this title
  - Day-care home, small family
  - Drainage sump, if proposed and approved as part of a tentative subdivision map or tentative parcel map, or if accessory to a permitted use
  - Flood control facilities
  - Garage or yard sales pursuant to Subsection F of Section 19.14.130 of this chapter
  - Home occupation pursuant to Chapter 19.94 of this title
  - Liquid fuel storage tanks, above ground, for dispensing purposes
  - Water storage or groundwater recharge facilities
  - Water system, small or large
  - Wildlife or nature preserve

Land Uses Allowable Under a Conditional Use Permit Associated with the Limited Agriculture

Subject to securing a CUP in accordance with the standards and procedures set out in Chapter 19.104 of this title, the following uses and all others determined to be similar to these uses pursuant to Sections 19.08.030 through 19.08.080 of this title are allowable in the A-1 District:

- **A. Agricultural Uses**:
  - Breeding and Raising of Animals

  - Fish and frogs
  - Poultry, including hatching, breeding, butchering, processing, or shipping of chickens, ostriches, turkeys, or other fowl or poultry, including eggs
  - Vermiculture, except as permitted by Subsection 19.14.020.A 2.
- Agricultural Industries
  - Agricultural trucking facilities
  - Cold storage facility for agricultural products
  - Contract harvesting
  - Fruit, vegetable, and plant product processing

- **B. Residential Uses**:
  - Additional single-family dwellings, not to exceed a density of one (1) dwelling unit 2.5 acres (net) and not to exceed the maximum density permitted by the applicable General or Specific Plan. A maximum of two mobilehomes may be permitted on any one lot, and one of the mobilehomes shall be owner occupied
  - Community care facility
  - Farm labor housing for on-site farm employees
  - Manufactured home or mobilehome, pursuant to Section 19.14.130.G.6 of this chapter
  - Single-family dwelling, with a width of 16 feet or less
- **C. Recreation, entertainment, and tourist facilities**:

  Camps and campgrounds
  - Circus or carnival, temporary
  - Country club
  - Equestrian establishment
  - Fishing or fly casting pond
  - Golf course
  - Golf driving range
  - Lakes, private, for recreational skiing or boating
  - Park or playground
  - Racetrack or test track, automobile, bicycle, horse, or motorcycle
  - Recreational vehicle park
  - Simulated war games or similar activities
  - Trade fairs and exhibitions, temporary (14-day maximum), excluding flea markets and swap meet
- **D. Commercial Uses**:
  - General Retail Sales
    - Firewood
    - Fruit stand, permanent
    - Nursery, plant – retail
  - Services
    - Agricultural supply services
    - Equestrian services
    - Landscape contractor
    - Veterinary

- **E. Transportation Facilities:**
  - Airport private,
  - airport public use,
  - heliport.
- **F. Utility and Communications Facilities**: Radio, television, microwave, or commercial communications transmitter, receiver, or translator, except as specified in Subsection D of Section 19.14.020 of this chapter.
- **H. Resource Extraction and Energy Development Uses**:
  - Cogeneration facility, primarily intended for production of oil or gas
  - Concrete or asphalt batch plant, temporary
  - Electrical power generating plant, excluding nuclear or coal powered
  - Mining and mineral extraction pursuant to Chapter 19.100 of this title
  - Solar energy electrical generators when not accessory to a permitted or conditionally permitted use
  - Wind-driven electrical generators, commercial
- **I. Waste Facilities**:
  - Community septic disposal system
  - Septage disposal site
  - Sewage treatment plant
  - Transfer station, small volume
- **J. Institutional Uses**: Auditorium, cemetery, mausoleum, columbarium, or mortuary, charitable or public service organization, church, club or lodge, community or senior citizens center, community or regional correctional and similar involuntary detention facilities, convalescent hospital, crematory in conjunction with a cemetery, mausoleum, columbarium, or mortuary, hospital, museum, rehabilitation facilities, sanitarium, water treatment plant, zoo
- **K. Educational Institutions and Schools**:
  - General: preschool, elementary school, junior high school, senior high school, college, or university
- **L. Miscellaneous Uses**: Animal shelter, commercial coach, when incidental and accessory to a permitted use, day-care center, with or without extended overnight services, drainage sump, kennel or dog training facilities, railroad caboose and similar accessory structures, rescue/Sanctuary Animal Facility, temporary revival, noncommercial skateboard ramps, wild animal keeping

Prohibited Uses with the Study Area are all other uses not permitted by Sections 19.14.020 and 19.14.030 of this chapter or accessories thereto under Section 19.08.110 are prohibited in the A-1 District (Kern County 2022).

Permitted Land Uses Associated with the Agriculture (A) Zoning Designation under Chapter 19.12

The following uses and all others determined to be similar to these uses pursuant to Sections 19.08.030 through 19.08.080 of this title are permitted in the A district:

- **A. Agricultural Uses.**
- **1. Growing and harvesting crops:**
  - Berry crops
  - Bush crops
  - Christmas trees
  - Field crops, dryland
  - Field crops, irrigated
  - Flowers and horticultural specialties, wholesale only

- Greenhouse, wholesale only
- Herbs
- Hydroponically grown plants
- Nursery, plant, wholesale only
- Nut and fruit trees
- Timber
- Vegetables
- Vine crops,

2. **Breeding and raising animals:**
   - Alpacas
   - Beekeeping
   - Beef cattle or livestock grazing
   - Birds, including show or racing pigeons and other small fowl
   - Commercial poultry farms, in which poultry are kept in confined quarters for the purpose of hatching, breeding, processing, butchering, and egg or other poultry by-product production for retail or wholesale purposes, pursuant to subsection (E) of Section 19.12.130 (see also subsection (A) of Section 19.12.030)*
   - Dairy stock grazing
   - Fish and frogs
   - Hogs, excluding a hog farm or ranch
   - Horses, donkeys, llamas, or mules
   - Poultry, including chickens, ostriches, turkeys, or other fowl, excluding commercial poultry farms or ranches in which poultry are kept in confined facilities, as determined by the planning director
   - Rabbits or fur-bearing animals
   - Sheep or goats
   - Vermiculture, pursuant to subsection (F) of Section 19.12.130,

3. **Agricultural industries:**
   - Agricultural services, when incidental and secondary to the primary use of the premises for agriculture
   - Agricultural services laboratory, with a maximum of five (5) employees and one thousand (1,000) square feet of building area
   - Animal products processing, including meat packing, canning, and shipping, when the livestock is produced or grown by the owner of the processing facility on the premises or on land leased, rented or owned by the owner of the processing facility and within a reasonable distance of the facility
   - Cotton gin*
   - Fruit, vegetable and plant products processing, including cold storage, packing, preserving, canning and shipping*
   - Grain elevator or storage
   - Honey extraction
   - Noncommercial livestock feed storage, wholly enclosed
   - Winery, rough, when located one (1) mile or more from any residential or commercial zoning;

B. Residential Uses.

- Accessory dwelling unit, pursuant to Chapter 19.90

- Farm labor housing for on-site employees, including the installation and/or use of recreational vehicles for a period not exceeding one hundred twenty (120) days in any calendar year
- Farm labor housing, contract labor, twelve (12) or fewer employees
- Manufactured home or mobilehome, occupied by the owner or full-time on-site employee
- Residential accessory structures
- Residential facility, serving six (6) or fewer persons
- Single-family dwelling, occupied by the owner or full-time on-site employee

C. Commercial Uses.

1. General retail sales:
   - Christmas trees, temporary
   - Fruit stand, temporary, pursuant to subsection (A) of Section 19.12.130 of this chapter;
2. Services:
   - Animal husbandry instruction and classes
   - Horse boarding and training;

D. Utility and Communications Facilities.

- Transmission lines and supporting towers, poles and underground facilities for gas, water, electricity, telephone or telegraph service owned and operated by a public utility company or other company under the jurisdiction of the California Public Utilities Commission pursuant to Section 19.08.090 of this title
- Utility substation;

E. Resource Extraction and Energy Development Uses.

- Electrical power generating plant in conjunction with a biogas recovery system associated with a confined animal facility, subject to the criteria specified in Section 19.12.130(G)
- Explosives storage, temporary
- Mineral exploration
- Oil or gas exploration and production pursuant to Chapter 19.98 of this title
- Solar energy electrical generators which are accessory to a permitted or conditionally permitted use and where the power generated does not exceed the total on-site power demand
- Small wind energy system, pursuant to Section 19.08.415, except when all criteria specified below for wind-driven electrical generators will be satisfied, in which case a small wind energy system permit pursuant to Section 19.08.415 shall not be required
- Wind-driven electrical generators when accessory to a permitted or conditionally permitted use where:
  - The system employed is designed to supplement other electricity sources, or as an accessory use to existing buildings or facilities, wherein the power generated is used primarily for on-site consumption.
  - The wind generators are located a minimum distance of one times (1×) the overall machine height from any property line.
  - The parcel on which the wind generators will be erected does not abut a residential zoning district.
  - The wind generator(s) will be located a minimum of one and one-half (1½) times the overall height to any off-site dwelling.
  - The proposed height of the wind turbines does not exceed the maximum heights specified in Figure 19.08.160.

F. Miscellaneous Uses.

- Accessory buildings, including cargo containers, if incidental and accessory to a permitted use
- Commercial coach, when incidental and accessory to a permitted use

- Corporate or administrative offices, when the combined square footage does not exceed ten thousand (10,000) square feet, in conjunction with, and accessory to, a use permitted or conditionally permitted in this chapter
- Day care home, large family, pursuant to Chapter 19.96
- Day care home, small family
- Drainage sump, if proposed and approved as part of a tentative subdivision map or tentative parcel map, or if accessory to a permitted use
- Flood control facilities
- Garage or yard sales pursuant to subsection (C) of Section 19.12.130
- Home occupation pursuant to Chapter 19.94
- Hunting or fishing club, not involving structures
- Liquid fuel storage tanks, above ground, for dispensing purposes
- Managed wetlands
- Water storage or groundwater recharge facilities
- Water system, small or large
- Wildlife or nature preserve.

* These uses shall be subject to development standards and a plot plan review pursuant to Sections 19.80.030 and 19.80.040 of this title.

Land Uses Allowable Under a Conditional Use Permit for Parcels Zoned Agricultural (A)

The following uses and all others determined to be similar to those uses pursuant to Sections 19.08.030 through 19.08.080 of this title are permitted in the A district subject to securing a conditional use permit in accordance with the standards and procedures set out in Chapter 19.104 of this title:

A. Agricultural Uses.

1. Breeding and raising of animals:
   - Beef cattle or livestock feed lot or stock auction or sales yard
   - Commercial poultry farms, in which poultry are kept in confined quarters for the purpose of hatching, breeding, processing, butchering and egg or other poultry by-product production for retail or wholesale purposes, except as permitted by subsection (A) of Section 19.12.020
   - Hogs, including hog farms and ranches
   - Vermiculture, except as permitted by subsection (A) of Section 19.12.020

2. Agricultural industries:

- Agricultural by-product processing
- Alcohol distillery
- Agricultural chemical storage and repackaging
- Agricultural pesticide and herbicide, blending and distribution
- Agricultural services laboratory
- Agricultural trucking facilities
- Animal products processing, including slaughter
- Brewery

- Biomass energy conversion
- Commercial livestock feed storage
- Contract harvesting
- Creamery
- Dairy, except within the officially established sphere of influence of any city while that city has an ordinance in effect barring the expansion of existing dairies or the approval of new dairies within their city limits
- Dead animal and fat rendering
- Ethanol plant, not involving the outside storage of feedstock
- Farm machinery and equipment repair
- Fertilizer manufacture and storage for agricultural use only
- Flour mill
- Glucose processing
- Oil extraction, nonmineral
- Saw or planing mill
- Soil amendment, not involving liquid chemicals or organic materials, including blending, and distribution
- Winery
- Wool pulling and scouring;

B. Residential Uses.

- Additional single-family dwellings, not to exceed a density of one (1) dwelling unit per twenty (20) acres, except for properties subject to a Williamson Act Land Use Contract requiring a minimum lot size of eighty (80) acres where the maximum permitted density shall be one (1) dwelling unit per eighty (80) acres
- Community care facility
- Farm labor housing for contract labor;

C. Commercial Uses.

1. General retail sales:

- Fruit stands, permanent,

2. Services:

- Agricultural supply services
- Equestrian services
- Farm labor contractor
- Veterinary, large animal, which may also include small animal facilities;

D. Recreation, Entertainment and Tourist Facilities.

- Bed and breakfast inn, pursuant to Subsection 19.12.130(D) of this chapter
- Equestrian establishment
- Golf course and golf driving ranges
- Guest ranch, when accessory to a commercial ranching operation
- Hunting dog field trial training and competitions
- Lakes, private, for recreational skiing or boating

- Park or playground
- Racetrack or test track, automobile, bicycle, horse or motorcycle
- Recreational vehicle park
- Retreat, church or nonprofit organization owned and operated
- Shooting range or gun club, simulated war games, or similar activities, outdoor only
- Thermal pools and hot springs
- Trade fairs, exhibitions and festivals, excluding flea markets and swap meets
- Whitewater rafting launch or landing site;

E. Transportation Facilities.

- Airport, private
- Airport, public use
- Heliport;

F. Utility and Communications Facilities.

- Radio, television or commercial communications transmitter, receiver or translator, microwave towers;

G. Resource Extraction and Energy Development Uses.

- Backfilling of surface mines with inert, nonorganic fill material, limited to construction and demolition wastes, where a solid waste facility permit is not required
- Cogeneration facility or steam generators, primarily intended for production of oil or gas
- Concrete or asphalt batch plant
- Dam, small hydro
- Dam, large hydro
- Electrical power generating plant
- Explosives storage, permanent
- Mining and mineral extraction pursuant to Chapter 19.100 of this title
- Rock, gravel, sand, concrete, aggregate, or soils crushing, processing, or distribution
- Solar energy electrical generators when not accessory to a permitted or conditionally permitted use
- Wind-driven electrical generators when accessory to a permitted or conditionally permitted use which do not comply with the installation standards specified in Section 19.12.020(E);

H. Waste Facilities.

- Agricultural green waste composting, except when incidental and accessory to a permitted use and which does not involve the importation of feedstock or bulking agents, except those produced as a normal and incidental part of the agricultural operation and where there is no commercial export of the finished material
- Animal waste composting, except when incidental and accessory to a permitted use which generates animal waste
- Animal waste product processing
- Green-waste collection, recovery, and composting
- Hazardous waste disposal facility
- Nonhazardous oil production and/or oily waste disposal facility
- Nonhazardous oilfield waste treatment or recycling
- Sanitary landfill, private landfill or monofill

- Septage disposal site
- Sewage sludge composting
- Sewage treatment plant
- Soil reclamation or remediation for soils contaminated with nonhazardous materials
- Transfer station, large volume
- Transfer station, small volume
- Waste-to-energy facility;

I. Institutional Uses.

- Cemetery, mausoleum, columbarium or mortuary
- Charitable or public service organization
- Church
- Community or regional correctional and similar involuntary detention facilities
- Crematory, when in conjunction with a cemetery, mausoleum, columbarium or mortuary
- Fire or police station
- Government office or building
- Public agency or public utility buildings and facilities
- Rehabilitation facilities
- Water treatment plant
- Zoo;

J. Educational Institutions and Schools.

1.General:

- Preschool
- Elementary school
- Junior high school
- Senior high school
- College or university,

2.Specialized:

- Agricultural schools and instruction
- Police/security training facility;

K. Miscellaneous Uses.

- Animal shelter
- Construction staging and equipment storage, temporary
- Corporate or administrative offices in excess of ten thousand (10,000) square feet in conjunction with, and accessory to, a use permitted or conditionally permitted in this chapter
- Drainage sump
- Hunting or fishing club
- Kennel or dog training facilities
- Liquefied petroleum gas, bulk storage or distribution, in excess of two thousand (2,000) gallons capacity
- Railroad caboose and similar accessory structures

- Wild animal keeping.

All other uses not permitted by Sections 19.12.020 and 19.12.030 of this chapter or accessory thereto under Section 19.08.110 are prohibited, including final map subdivisions.

Permitted Land Uses Associated with the General Commercial (C-2) Zoning Designation

The purpose of the General Commercial (C-2) district is to designate areas for the widest range of retail commercial activities, including regional shopping centers and heavy commercial uses. The C-2 district may also be combined with the Cluster (CL) combining district to achieve innovative, creative office or commercial development. The C-2 district should be located on major highways.

The following uses and all others determined to be similar to these uses pursuant to Sections 19.08.030 through 19.08.080 of this title are permitted in accordance with the standards and procedures set out in Chapter 19.80 of this title:

- **A. Residential uses:**
  - Bed and breakfast inn
  - Community care facility
  - Dwelling units located entirely above the ground floor of a commercial building as specified in Section 19.32.130(C)
  - Emergency shelter
  - Manager, caretaker or proprietor quarters
  - Retirement or rest home
  - Supportive or transitional housing;
- **B. Recreation, entertainment, and tourist facilities:**
  - Batting cage
  - Bingo parlor
  - Bowling alley
  - Circus or carnival, temporary, not to exceed four (4) days
  - Dance hall, ballroom, or discotheque
  - Golf driving range
  - Health club
  - Hotel or motel
  - Miniature golf course
  - Movie theater, walk-in
  - Pool or billiard parlor
  - Skateboard arenas, enclosed
  - Skating rink, roller or ice
  - Tennis or swim club
  - Theater, live
  - Video games arcade;
- **C. Commercial Uses.**

  1. Offices:
     - Business or professional

- Financial, including bank, savings and loan, or credit union
- Real estate
- Research and development,

2. General Retail Sales:

- Antiques, provided there is no outside display
- Appliances, including service and repair, provided there is no outside storage
- Art gallery
- Auto leasing
- Auto, new
- Auto parts and accessories
- Auto tire, including service, pursuant to Subsection 19.32.130(D)
- Auto, used
- Bicycle, including rental and service
- Boat, including service and parts when incidental to sales
- Bookstore, general
- Christmas tree, temporary
- Clothing and apparel
- Computer, including service and repair
- Department store
- Drugs and pharmaceuticals
- Electric appliances, including service and repair
- Electric equipment, including service and repair
- Feed, provided there is no outside storage
- Fireworks stand, temporary
- Floor covering, drapery, or upholstery
- Florist
- Fruit stand
- Furniture
- Gardening and landscaping supply, provided there is no outside storage
- Gift and card
- Gun, including repair
- Hardware, general, including lumber sales, provided areas devoted to outside storage of materials are screened from public view
- Hobby supplies
- Home or office furnishings
- Ice vending machine
- Jewelry and watches
- Lapidary
- Lawnmower, including repair, when located entirely within a building

- Leather goods and luggage
- Locksmith or key and lock shop
- Military surplus, provided there is no outside storage
- Mobilehome, including rental and service
- Motorcycles, including service and repair
- Musical instruments (including repair)
- Newspaper or magazine stand
- Nursery, plant
- Office machines and equipment
- Paint and wallpaper
- Pawn shop
- Pet store
- Photographic supply or camera
- Plumbing supply, provided there is no outside storage
- Pottery
- Recreational vehicles, including service
- Shoes
- Sporting goods and athletic equipment
- Stationery and office supply
- Tobacco
- Toys
- Truck, including rental
- Used clothing and household goods, provided there is no outside storage
- Variety
- Video and audio tape sales and rentals,

3. Food and Beverage Retail Sales:

- Bakery
- Catering
- Convenience market
- Drive-in food market or dairy
- Farmers' market
- Food store
- Liquor store
- Specialized, including meat, vegetables, health foods, or candy,

4. Eating and Drinking Establishments:

- Bar, tavern, or cocktail lounge
- Ice cream parlor
- Restaurant, cafe, or coffee shop
- Restaurant, fast-food,

5. Services:

- Ambulance
- Appliance repair
- Artist studio
- Auto body repair and painting
- Auto rental
- Auto service or repair
- Auto service station
- Auto wash
- Auto wash, self-service
- Barber or beauty shop
- Bath house, including sauna, spa, Turkish, steam, or tanning
- Carpet cleaning
- Chiropractic or massage therapy
- Clinic, medical or physical therapy, out-patient only
- Equipment, small, rental
- Furniture cleaning, refinishing, or upholstery
- Interior decorator
- Janitorial service
- Laboratory, medical, dental, optical, or biological
- Laboratory, testing, classifying, or experimental, not involving the use of explosives or hazardous materials
- Laundromat, self-service
- Laundry, drop off and pick up only
- Miniwarehouse, for storage of personal household goods, provided there is no outside storage; excludes cargo containers and other temporary storage structures
- Mortuary or funeral parlor
- Packaging and mailing services
- Pest control, administrative offices only
- Pet grooming
- Photography studio
- Picture framing
- Printing, lithography, or blueprinting
- Shoe repair
- Shoe-shine stand
- Smog inspection station
- Tailor or dressmaker
- Tanning salons
- Tattoo parlor and body piercing
- Taxidermist

- Telegraph
- Ticket agency
- Travel agency
- Truck fueling station, without repair facilities
- Veterinary, household pets only, provided there are no outside kennels
- Wedding chapel;

D. Utility and Communications Facilities.

- —Transmission lines and supporting towers, poles, pipelines and underground facilities for gas, water, electricity, telephone or telegraph service owned and operated by a public utility company under the jurisdiction of the California Public Utilities Commission pursuant to Section 19.08.090 of this title
- —Utility substation;

E. Institutional Uses.

- Auditorium, public
- Charitable or public service organization
- Church
- Club or lodge
- Community or senior citizen's center
- Convalescent hospital
- Fire or police station
- Government office or building
- Hospital
- Labor union hall
- Library
- Museum, indoor only
- Public agency or utility buildings and facilities
- Post office
- Rehabilitation facilities
- Sanitarium;

F. Educational Institutions and Schools.

1. General:
   - Preschool
   - Elementary school
   - Junior high school
   - Senior high school,
2. Specialized schools:
   - Art, craft or music school
   - Business or trade school, provided that all instruction is conducted within a building and that there is no outside storage of materials or supplies associated with the school
   - Dance school

- Driving school
- Martial arts school
- Swim school;

G. Resource Extraction and Energy Development Uses.

- Solar energy electrical generators which are accessory to a permitted or conditionally permitted use and where the power generated does not exceed the total on-site power demand
- Small wind energy system, pursuant to Section 19.08.415;

H. Miscellaneous Uses.

- Adult day-care
- Commercial coach, temporary, not exceeding six (6) months
- Community garden pursuant to Section 19.32.130 of this chapter
- Construction trailer, temporary, during construction activity only
- Day-care center, without extended overnight services
- Drainage sump, if proposed and approved as part of a tentative subdivision map or tentative parcel map, or if accessory to a permitted use
- Flea market or swap meet, wholly conducted within an enclosed building
- Revival, temporary, not to exceed fourteen (14) days
- Studio, radio, television, recording, or movie
- Water storage or groundwater recharge facilities
- Water system, small or large.

Land Uses Allowable Under a Conditional Use Permit for Parcels Zone C-2

The following uses and all others determined to be similar to these uses pursuant to Sections 19.08.030 through 19.08.080 of this title are permitted in accordance with the standards set out in Chapter 19.80 of this title and subject to securing a conditional use permit in accordance with the standards and procedures set out in Chapter 19.104 of this title:

A. Residential Uses.

- Apartment
- Boarding or rooming house
- Fraternity or sorority house
- Mobilehome, maximum of two (2) per lot
- Residential accessory structures
- Residential hotel
- Single-family dwelling;

B. Recreation, Entertainment and Tourist Facilities.

- Amusement park
- Card room
- Circus or carnival
- Equestrian establishment
- Movie theater, drive-in
- Park or playground

- Racetrack or test track, automobile, motorcycle or horse
- Recreational vehicle park
- Shooting range or gun club
- Skateboard arenas, unenclosed
- Sports arena, indoor
- Sports arena, outdoor
- Swimming pool, public
- Thermal pools and hot springs
- Trade fairs and exhibitions, temporary (fourteen (14) day maximum), excluding flea markets and swap meets
- Whitewater rafting launch or landing site;

C. Commercial Uses.

1. Services:
   - Mini-warehouse, for storage of personal household goods and vehicles, including outside storage
   - Veterinary, including veterinary hospital;

D. Industrial Uses.

- Contractor's storage yard, when accessory and incidental to a contractor's business office and wholly enclosed within a solid screening fence as approved by the planning director
- Feed and wood
- Photographic processing plant or wholesale supply
- Recyclable materials, collection and storage, provided there is no more than three thousand (3,000) square feet of outside storage, and all compression and bailing operations are conducted wholly within an enclosed structure;

E. Transportation Facilities.

- Airport, private
- Airport, public use
- Auto parking garage or lot
- Bus depot
- Heliport
- Taxi depot, including service and storage;

F. Utility and Communications Facilities.

- Radio, television, microwave, or commercial communications transmitter, receiver or translator;

G. Waste Facilities.

- Community septic disposal system
- Sewage treatment plant
- Transfer station, small volume
- Waste-to-energy facility;

H. Resource Extraction and Energy Development Uses.

- Oil or gas exploration and production pursuant to Chapter 19.98 of this title
- Wind-driven electrical generators, commercial or domestic;

I. Institutional Uses:

- Cemetery, mausoleum, or columbarium
- Community or regional correctional and similar involuntary detention facilities
- Crematory, when in conjunction with a cemetery, mausoleum, columbarium, or mortuary
- Museum, with outdoor exhibits
- Zoo;

J. Educational Institutions and Schools.

- College or university;

K. Miscellaneous Uses.

- Cargo containers, when accessory to a permitted use
- Commercial coach, exceeding six (6) months
- Day care center, with extended overnight services
- Drainage sump
- Flea market or swap meet, except within an enclosed building pursuant to Section 19.32.020(H) of this title
- Flood control facilities
- Water treatment plant.

19.32.040 Prohibited uses.

All other uses not permitted by Sections 19.32.020 and 19.32.030 of this chapter or accessory thereto under Section 19.08.110 are prohibited in the C-2 district.

APPENDIX 5.7A

Sound Level Meter Calibration Reports

Calibration Certificate

Certificate Number 2023000705

Customer:
WSP

,

Model Number	824	***Procedure Number***	D0001.8442		
Serial Number	A3106	***Technician***	Sean Childs		
Test Results	**Pass**	***Calibration Date***	18 Jan 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	18 Jan 2024		
		Temperature	23.54	°C	± 0.01 °C
Description	Larson Davis Model 824	***Humidity***	50.1	%RH	± 0.5 %RH
	Firmware Revision: 4.290	***Static Pressure***	86.22	kPa	± 0.03 kPa

Evaluation Method Tested electrically using Larson Davis PRM902 S/N 3275 and an ADP005 input adaptor substituted for the microphone.
Data reported in dB re 20 µPa assuming a microphone sensitivity of 44.5 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards:

IEC 61672:2002 Class 1	ANSI S1.4-1983 Type 1
IEC 61260:2001 Class 1	ANSI S1.11-1986 Type 1D
IEC 60651:2001 Type 1	IEC 60804:2000 Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with JCGM 100:2008 (ISO/IEC Guide 98-3:2008) Evaluation of measurement data - Guide to the expression of uncertainty in measurement. A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Hart Scientific 2626-H Temperature Probe	08/25/2021	02/25/2023	006798
SRS DS360 Ultra Low Distortion Generator	08/23/2022	08/23/2023	007710

Calibration Certificate

Certificate Number 2023000588

Customer:
WSP

Model Number	CAL200	***Procedure Number***	D0001.8386
Serial Number	5636	***Technician***	Scott Montgomery
Test Results	**Pass**	***Calibration Date***	17 Jan 2023
Initial Condition	Adjusted	***Calibration Due***	17 Jan 2024
		Temperature	23 °C ± 0.3 °C
Description	Larson Davis CAL200 Acoustic Calibrator	***Humidity***	36 %RH ± 3 %RH
		Static Pressure	101.1 kPa ± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	07/07/2022	07/07/2023	001021
Larson Davis Model 2900 Real Time Analyzer	03/31/2022	03/31/2023	001051
Microphone Calibration System	02/23/2022	02/23/2023	005446
1/2" Preamplifier	08/23/2022	08/23/2023	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2022	08/08/2023	006507
1/2 inch Microphone - RI - 200V	03/24/2022	03/24/2023	006511
Hart Scientific 2626-S Humidity/Temperature Sensor	11/14/2022	05/14/2024	006943
Pressure Sensor	11/02/2022	11/02/2023	007827

Calibration Certificate

Certificate Number 2023000713

Customer:
WSP

,

Model Number	2560	***Procedure Number***	D0001.8387	
Serial Number	3424	***Technician***	Abraham Ortega	
Test Results	**Pass**	***Calibration Date***	18 Jan 2023	
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	18 Jan 2024	
Description	1/2 inch Microphone - RI - 200V	***Temperature***	23.9 °C	± 0.01 °C
		Humidity	45.4 %RH	± 0.5 %RH
		Static Pressure	101.34 kPa	± 0.03 kPa

Evaluation Method Tested electrically using an electrostatic actuator.

Compliance Standards Compliant to Manufacturer Specifications.

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

For microphone sensitivity measurements, simple acceptance criteria is used with an expanded uncertainty not to exceed 0.25 dB for microphone sensitivities above 1 mV/Pa and 0.65 dB for microphone sensitivities below 1 mV/Pa.

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Calibration Certificate

Certificate Number 2023000702
Customer:
WSP

,

Model Number	PRM902	***Procedure Number***	D0001.8383		
Serial Number	3275	***Technician***	Sean Childs		
Test Results	**Pass**	***Calibration Date***	18 Jan 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	18 Jan 2024		
		Temperature	23.59	°C	± 0.01 °C
Description	Larson Davis 1/2" Preamplifier 7-pin LEMO	***Humidity***	49.9	%RH	± 0.5 %RH
		Static Pressure	86.22	kPa	± 0.03 kPa

Evaluation Method Tested electrically using an 18.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level. Tests are considered to pass when the measured value is within the acceptance limits, which are derived from industry standards.

Simple acceptance criteria is used with an expanded uncertainty not to exceed 0.20 dB for all measurements below 100 kHz and 0.50 dB for measurements above 100 kHz.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	01/10/2023	01/10/2024	003062
Hart Scientific 2626-H Temperature Probe	08/25/2021	02/25/2023	006798
Agilent 34401A DMM	06/27/2022	06/27/2023	007172
SRS DS360 Ultra Low Distortion Generator	08/23/2022	08/23/2023	007710

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Provo, UT 84601, United States
716-684-0001

ACCREDITED CERT #3622.01

LARSON DAVIS A PCB DIVISION

Calibration Certificate

Certificate Number 2023004660
Customer:
WSP

,

Model Number	831	***Procedure Number***	D0001.8378		
Serial Number	0001314	***Technician***	Jacob Cannon		
Test Results	**Pass**	***Calibration Date***	17 Apr 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	17 Apr 2024		
		Temperature	23.77	°C	± 0.25 °C
Description	Larson Davis Model 831 Class 1 Sound Level Meter Firmware Revision: 2.403	***Humidity***	49.2	%RH	± 2.0 %RH
		Static Pressure	85.42	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRM831 S/N 0480 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis Model 831 Sound Level Meter Manual, I831.01 Rev S, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa; Reference Range: 0 dB gain

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 / ANSI/ASA S1.4-2014/Part3.

Calibration Certificate

Certificate Number 2023004659
Customer:
WSP

,

Model Number	PRM831	***Procedure Number***	D0001.8383		
Serial Number	0480	***Technician***	Jacob Cannon		
Test Results	**Pass**	***Calibration Date***	17 Apr 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	17 Apr 2024		
		Temperature	23.78	°C	± 0.01 °C
Description	Larson Davis 1/2" Preamplifier for Model 831 Type 1	***Humidity***	48.6	%RH	± 0.5 %RH
		Static Pressure	85.43	kPa	± 0.03 kPa

Evaluation Method Tested electrically using a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 50.0 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level. Tests are considered to pass when the measured value is within the acceptance limits, which are derived from industry standards.

Simple acceptance criteria is used with an expanded uncertainty not to exceed 0.20 dB for all measurements below 100 kHz and 0.50 dB for measurements above 100 kHz.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	01/20/2023	01/20/2024	001188
Hart Scientific 2626-H Temperature Probe	08/25/2021	05/25/2023	006798
Agilent 34401A DMM	05/04/2022	05/04/2023	007115
SRS DS360 Ultra Low Distortion Generator	05/04/2022	05/04/2023	007117

Calibration Certificate

Certificate Number 2023004825

Customer:
WSP

Model Number	377B20	***Procedure Number***	D0001.8387		
Serial Number	137680	***Technician***	Abraham Ortega		
Test Results	**Pass**	***Calibration Date***	20 Apr 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	20 Apr 2024		
Description	1/2 inch Microphone - RI - 0V	***Temperature***	23.1	°C	± 0.01 °C
		Humidity	24.6	%RH	± 0.5 %RH
		Static Pressure	101.73	kPa	± 0.03 kPa

Evaluation Method Tested electrically using an electrostatic actuator.

Compliance Standards Compliant to Manufacturer Specifications.

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

For microphone sensitivity measurements, simple acceptance criteria is used with an expanded uncertainty not to exceed 0.25 dB for microphone sensitivities above 1 mV/Pa and 0.65 dB for microphone sensitivities below 1 mV/Pa.

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Calibration Certificate

Certificate Number 2023004844
Customer:
WSP

Model Number	831	***Procedure Number***	D0001.8384
Serial Number	0001314	***Technician***	Jacob Cannon
Test Results	**Pass**	***Calibration Date***	20 Apr 2023
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	20 Apr 2024
Description	Larson Davis Model 831 Class 1 Sound Level Meter Firmware Revision: 2.403	***Temperature***	23.51 °C ± 0.25 °C
		Humidity	48.9 %RH ± 2.0 %RH
		Static Pressure	86.67 kPa ± 0.13 kPa

Evaluation Method

Tested with:
Larson Davis CAL291. S/N 0108
Larson Davis PRM831. S/N 0480
Larson Davis CAL200. S/N 9079
PCB 377B20. S/N 137680

Data reported in dB re 20 µPa.

Compliance Standards

Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.11 (R2009) Class 1
IEC 61260:2001 Class 1	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis Model 831 Sound Level Meter Manual, I831.01 Rev S, 2019-09-10

For 1/4" microphones, the Larson Davis ADP024 1/4" to 1/2" adaptor is used with the calibrators and the Larson Davis ADP043 1/4" to 1/2" adaptor is used with the preamplifier.

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A PCB DIVISION

Calibration Certificate

Certificate Number 2023004788

Customer:
WSP

Model Number	CAL200	***Procedure Number***	D0001.8386		
Serial Number	4318	***Technician***	Scott Montgomery		
Test Results	**Pass**	***Calibration Date***	19 Apr 2023		
Initial Condition	AS RECEIVED same as shipped	***Calibration Due***	19 Apr 2024		
		Temperature	22	°C	± 0.3 °C
Description	Larson Davis CAL200 Acoustic Calibrator	***Humidity***	38	%RH	± 3 %RH
		Static Pressure	101.2	kPa	± 1 kPa

Evaluation Method The data is aquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017.
Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the organization issuing this report.

Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	07/07/2022	07/07/2023	001021
Larson Davis Model 2900 Real Time Analyzer	03/31/2023	03/31/2024	001051
Microphone Calibration System	02/22/2023	02/22/2024	005446
1/2" Preamplifier	08/23/2022	08/23/2023	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/08/2022	08/08/2023	006507
1/2 inch Microphone - RI - 200V	10/05/2022	10/05/2023	006510
Hart Scientific 2626-S Humidity/Temperature Sensor	11/14/2022	05/14/2024	006943
Pressure Sensor	11/02/2022	11/02/2023	007827

CERTIFICATE OF ENVIRONMENTAL TEST

Certificate # 2023-0503-1

Test Date:	03 May 2023		
Sound Level Meter:	831	**Serial #:**	0001314
Preamplifier Model:		**Serial #:**	
Microphone Model:		**Serial #:**	
Temperature Range:	-40° C to 70°C	**Humidity Range:**	50% to 95%

Calibrated Equipment used durring Test:

Type	Mfg.	Model	Serial	Trace #	Cal Due
Humidity Chamber	Thermotron	SE-1000L	36541	2023-1209-1	8 Dec 2023

ENVIROMENTAL CONDITIONS:

Temperature:	23 °C
Relative Humidity:	25 %
Barometric Pressure:	85 kPa

This "Certificate of Environmental Test" verifies that this system has been tested to the Larson Davis environmental specifications appropriate for the instrument. Copies of the test data are attached for customer review.

This calibration complies with the requirements of ISO 9001.

The results documented in this certificate relate only to the system that was verified and tested. Calibration interval assignment and adjustment is the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of Larson Davis.

Eric Olson, Technician

Test preformed at: Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North, Provo Utah 84601

Larson Davis, a division of PCB Piezotronics, Inc
Tel: 716 684-0001 www.LarsonDavis.com

APPENDIX 5.7B

Hourly Weather Data – Kestrel Onsite Weather Station

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/22/2023 16:40	192	11	9.6	84.8	35.2	64.8	27.26	27.26	2552
5/22/2023 16:50	223	14.3	9.9	84.4	36	64.8	27.26	27.26	2552
5/22/2023 17:00	200	15.9	5.3	83.2	35.9	63.9	27.26	27.26	2548
5/22/2023 17:10	199	11	3.6	83.2	35.8	63.7	27.26	27.26	2554
5/22/2023 17:20	187	12.9	1.6	82.7	35.6	63.3	27.25	27.25	2557
5/22/2023 17:30	217	6.7	4	82.9	35.4	63.5	27.25	27.25	2561
5/22/2023 17:40	216	6.4	3.7	81.7	35.2	62.4	27.25	27.25	2557
5/22/2023 17:50	220	6.9	4.4	82	35	62.6	27.26	27.26	2552
5/22/2023 18:00	211	8.9	4.6	80.8	34.8	61.7	27.26	27.26	2548
5/22/2023 18:10	211	10.9	5.5	79.9	34.5	60.8	27.27	27.26	2542
5/22/2023 18:20	192	11.5	2.4	79.8	34.3	60.8	27.27	27.27	2539
5/22/2023 18:30	234	7.8	6.3	80	34.2	60.8	27.27	27.27	2539
5/22/2023 18:40	211	10.4	5.3	79.8	33.9	60.6	27.27	27.28	2533
5/22/2023 18:50	203	5.7	2.2	79.1	33.7	60.1	27.27	27.27	2536
5/22/2023 19:00	196	5.7	1.6	78.8	33.4	59.7	27.27	27.27	2536
5/22/2023 19:10	214	8.2	4.5	78.7	33.2	59.5	27.27	27.27	2539
5/22/2023 19:20	211	4.3	2.2	78.6	33.2	59.5	27.27	27.26	2542
5/22/2023 19:30	198	3.2	1	78.4	33.1	59.3	27.27	27.27	2542
5/22/2023 19:40	226	8.7	6.2	77.9	32.9	58.8	27.27	27.27	2539
5/22/2023 19:50	206	5.1	2.2	76.8	32.8	58.1	27.27	27.26	2545
5/22/2023 20:00	226	6.9	4.9	76.4	32.7	57.7	27.27	27.26	2545
5/22/2023 20:10	239	3.5	3	75.5	32.4	56.8	27.27	27.27	2539
5/22/2023 20:20	229	4.5	3.4	74.7	32.2	56.3	27.27	27.27	2536
5/22/2023 20:30	217	5.7	3.4	74.5	32.1	56.1	27.27	27.27	2533
5/22/2023 20:40	209	2	1	73.5	32	55.2	27.28	27.28	2530
5/22/2023 20:50	244	5	4.5	73.1	32	55	27.28	27.28	2527
5/22/2023 21:00	194	5.9	1.6	72.2	41.2	57.2	27.28	27.28	2527
5/22/2023 21:10	183	3.3	0.2	71.8	41.3	56.8	27.28	27.28	2527
5/22/2023 21:20	174	5.6	0.6	71.8	41.3	56.8	27.28	27.28	2524
5/22/2023 21:30	196	3.1	0.9	71.3	41.3	56.5	27.28	27.28	2524
5/22/2023 21:40	216	3.2	1.9	70.9	41.4	56.3	27.28	27.28	2524
5/22/2023 21:50	210	2.2	1.1	70.5	41.5	55.9	27.28	27.28	2524
5/22/2023 22:00	195	3.9	1	70.1	41.7	55.7	27.29	27.29	2518

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/22/2023 22:10	196	2.7	0.8	69.4	42	55.2	27.29	27.29	2524
5/22/2023 22:20	186	2.9	0.3	68.9	42.4	54.8	27.29	27.29	2521
5/22/2023 22:30	194	2.5	0.6	68.6	43	55	27.29	27.29	2524
5/22/2023 22:40	261	2.1	2.1	68.9	43.8	55.4	27.29	27.29	2521
5/22/2023 22:50	186	4	0.4	69	44.7	55.7	27.28	27.28	2524
5/22/2023 23:00	207	2.9	1.3	69.5	45.6	56.5	27.29	27.29	2518
5/22/2023 23:10	157	4.9	1.9	68.1	46.2	55.4	27.29	27.29	2518
5/22/2023 23:20	187	3.4	0.4	67.3	46.7	54.8	27.29	27.29	2518
5/22/2023 23:30	181	2.2	0	66.4	47.1	54.3	27.29	27.29	2518
5/22/2023 23:40	178	1.4	0.1	66.2	47.4	54.1	27.29	27.29	2521
5/22/2023 23:50	214	1.6	0.9	67.1	47.8	55	27.29	27.29	2521
5/23/2023 0:00	204	4.3	1.7	68.1	48.2	55.9	27.29	27.29	2521
5/23/2023 0:10	205	2.8	1.2	68.6	48.7	56.5	27.28	27.28	2524
5/23/2023 0:20	224	9.2	6.4	70.6	49.2	58.3	27.29	27.29	2521
5/23/2023 0:30	238	6.8	5.8	68.2	49.6	56.3	27.29	27.29	2518
5/23/2023 0:40	240	3.8	3.3	68	50	56.3	27.29	27.29	2524
5/23/2023 0:50	232	4.3	3.4	68.2	50.4	56.6	27.29	27.29	2521
5/23/2023 1:00	230	7	5.4	68.4	50.6	56.8	27.28	27.28	2527
5/23/2023 1:10	225	4	2.8	68	50.5	56.5	27.28	27.28	2533
5/23/2023 1:20	240	7.9	6.8	67.7	50.5	56.1	27.28	27.28	2527
5/23/2023 1:30	211	6.5	3.4	68.2	50.4	56.6	27.28	27.28	2524
5/23/2023 1:40	222	4.8	3.2	67.3	50.3	55.7	27.28	27.28	2524
5/23/2023 1:50	251	0	0	66.2	50.2	54.8	27.29	27.29	2524
5/23/2023 2:00	263	0	0	63.9	50.1	53	27.29	27.29	2521
5/23/2023 2:10	262	0	0	65	49.9	53.9	27.29	27.29	2521
5/23/2023 2:20	261	0	0	63.1	50	52.3	27.29	27.29	2524
5/23/2023 2:30	180	4.9	0	65	50.2	53.9	27.28	27.28	2527
5/23/2023 2:40	229	2.5	1.8	64.8	50.4	53.8	27.28	27.28	2533
5/23/2023 2:50	221	1.5	1	64.4	50.7	53.4	27.27	27.27	2533
5/23/2023 3:00	217	0	0	61.6	50.8	51.4	27.28	27.28	2533
5/23/2023 3:10	220	2.2	1.4	62.7	50.9	52.3	27.27	27.27	2533
5/23/2023 3:20	187	5.3	0.6	64.1	51.2	53.4	27.27	27.27	2536
5/23/2023 3:30	187	3.5	0.4	65	51.5	54.3	27.27	27.27	2536

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/23/2023 3:40	183	2.4	0.1	64.1	51.9	53.6	27.28	27.28	2533
5/23/2023 3:50	232	2.9	2.3	65.3	52.4	54.7	27.27	27.27	2533
5/23/2023 4:00	214	3.4	1.9	65.1	52.8	54.7	27.27	27.27	2533
5/23/2023 4:10	224	5.3	3.6	65.5	53.2	55	27.27	27.27	2533
5/23/2023 4:20	187	2.7	0.4	63.8	53.5	53.8	27.27	27.27	2533
5/23/2023 4:30	163	2.9	0.8	62.7	53.7	52.9	27.27	27.27	2536
5/23/2023 4:40	155	2.7	1.1	63.6	53.9	53.6	27.27	27.27	2536
5/23/2023 4:50	179	4.9	0.1	64.1	54	54.1	27.27	27.27	2536
5/23/2023 5:00	185	5.4	0.5	62.9	54.1	53.2	27.27	27.26	2542
5/23/2023 5:10	219	5.3	3.3	64.2	54.4	54.3	27.27	27.27	2542
5/23/2023 5:20	202	3.5	1.3	63.7	54.6	53.9	27.27	27.26	2545
5/23/2023 5:30	178	5.2	0.1	63.6	54.9	53.8	27.27	27.26	2545
5/23/2023 5:40	180	3.7	0	63.1	55.1	53.6	27.27	27.26	2542
5/23/2023 5:50	207	3.8	1.7	63	55.4	53.6	27.27	27.27	2542
5/23/2023 6:00	203	5.4	2.1	63.2	55.8	53.8	27.27	27.26	2542
5/23/2023 6:10	163	4.5	1.3	63	56.2	53.6	27.26	27.26	2545
5/23/2023 6:20	191	3.2	0.6	62.9	56.8	53.9	27.27	27.26	2545
5/23/2023 6:30	180	4.3	0	63	57.6	53.9	27.26	27.26	2548
5/23/2023 6:40	191	5.7	1.1	64.3	58.5	55.2	27.27	27.26	2545
5/23/2023 6:50	180	6.6	0	64.1	59.3	55.2	27.26	27.26	2548
5/23/2023 7:00	189	7.6	1.2	64.5	60.2	55.7	27.26	27.26	2548
5/23/2023 7:10	188	7.6	1	65.1	61.1	56.6	27.26	27.26	2552
5/23/2023 7:20	177	6.7	0.4	66.1	62	57.7	27.26	27.26	2554
5/23/2023 7:30	196	4.3	1.1	69.3	62.9	60.8	27.25	27.25	2554
5/23/2023 7:40	198	5.6	1.7	69.3	64	61	27.25	27.25	2557
5/23/2023 7:50	209	5.3	2.6	70.4	64.8	62.4	27.25	27.25	2554
5/23/2023 8:00	202	5.2	2	71.4	65.7	63.3	27.25	27.25	2554
5/23/2023 8:10	214	4.9	2.7	71	66.7	63.3	27.26	27.26	2552
5/23/2023 8:20	193	4.5	1	73.7	67.9	66	27.25	27.25	2557
5/23/2023 8:30	221	4.7	3.1	73.9	68.7	66.4	27.26	27.26	2554
5/23/2023 8:40	197	6.2	1.8	75	68.8	67.5	27.26	27.26	2552
5/23/2023 8:50	230	8.7	6.6	76.1	68.4	68.2	27.26	27.26	2545
5/23/2023 9:00	226	6.1	4.3	75.7	68	67.8	27.26	27.26	2552

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/23/2023 9:10	207	8.9	4	75.9	67.5	67.8	27.25	27.25	2554
5/23/2023 9:20	190	6	1.1	78.3	67.2	70	27.25	27.25	2561
5/23/2023 9:30	204	7.2	2.9	79.7	66.3	70.9	27.25	27.25	2564
5/23/2023 9:40	247	6.7	6.2	80.2	65.1	71.1	27.26	27.26	2554
5/23/2023 9:50	195	5.2	1.3	81.1	63.8	71.4	27.25	27.25	2557
5/23/2023 10:00	237	5.4	4.6	81.1	62	70.9	27.25	27.25	2557
5/23/2023 10:10	244	8.2	7.3	80.8	60.3	70.2	27.25	27.25	2564
5/23/2023 10:20	200	7.6	2.7	84.3	58.8	72.7	27.25	27.25	2564
5/23/2023 10:30	203	9.2	3.7	83.2	57	71.1	27.25	27.25	2564
5/23/2023 10:40	196	7.1	2	82.1	54.9	69.4	27.24	27.24	2566
5/23/2023 10:50	185	5.3	0.5	82.1	52.7	68.9	27.24	27.24	2566
5/23/2023 11:00	212	9.5	5	84.6	50	70.2	27.24	27.24	2566
5/23/2023 11:10	228	5.5	4.1	86.5	48	70.9	27.24	27.24	2570
5/23/2023 11:20	196	9.6	2.7	85.1	46.1	69.1	27.24	27.24	2566
5/23/2023 11:30	212	9.1	4.8	85.8	43.4	68.7	27.25	27.25	2564
5/23/2023 11:40	209	8.6	4.2	85.2	41.5	67.5	27.25	27.25	2564
5/23/2023 11:50	219	4.5	2.9	86.1	40.2	67.8	27.24	27.24	2566
5/23/2023 12:00	215	12.4	7	84.8	39.2	66.4	27.24	27.24	2566
5/23/2023 12:10	179	10.3	0.2	86.4	38.2	67.1	27.24	27.24	2566
5/23/2023 12:20	203	15.7	6.1	84.5	37	65.3	27.24	27.24	2566
5/23/2023 12:30	183	14.8	0.9	84.7	36	65.1	27.24	27.24	2566
5/23/2023 12:40	214	10.4	5.7	85.7	35.6	65.7	27.24	27.24	2570
5/23/2023 12:50	196	8.4	2.3	88.2	35.5	67.5	27.24	27.24	2570
5/23/2023 13:00	218	11.1	6.9	85.3	35.5	65.3	27.24	27.24	2573
5/23/2023 13:10	206	20.7	8.8	83.7	27	60.8	27.25	27.25	2561
5/23/2023 13:20	205	7.6	3.2	84.3	28	61.5	27.24	27.24	2570
5/23/2023 13:30	196	7.8	2.2	85.1	28.4	62.2	27.24	27.23	2573
5/23/2023 13:40	209	9	4.4	82.6	28.7	60.6	27.24	27.24	2570
5/23/2023 13:50	202	10.3	3.9	83.3	29.1	61.3	27.24	27.24	2573
5/23/2023 14:00	185	9.9	0.9	84.4	29.4	62.2	27.24	27.24	2570
5/23/2023 14:10	185	11.5	1	82.4	29.4	60.8	27.24	27.24	2570
5/23/2023 14:20	228	19.2	14.4	82.3	29.9	61	27.24	27.24	2564
5/23/2023 14:30	206	7.4	3.2	81.8	30.2	60.8	27.23	27.23	2574

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/23/2023 14:40	202	9.2	3.4	82	30.4	60.8	27.24	27.23	2574
5/23/2023 14:50	227	6.4	4.7	83.1	30.9	61.9	27.24	27.23	2574
5/23/2023 15:00	209	16.5	7.9	82.1	31.1	61.2	27.24	27.24	2573
5/23/2023 15:10	216	5.3	3.1	82.7	31.7	61.9	27.23	27.23	2577
5/23/2023 15:20	219	13.2	8.2	81.5	32.2	61.3	27.23	27.23	2574
5/23/2023 15:30	184	16.3	1.1	81.2	33.3	61.5	27.23	27.23	2577
5/23/2023 15:40	212	11.6	6.1	79.4	34	60.2	27.23	27.23	2583
5/23/2023 15:50	198	12	3.7	80	34.7	61	27.23	27.23	2580
5/23/2023 16:00	206	15	6.6	79.8	35.5	61.2	27.22	27.22	2587
5/23/2023 16:10	209	8.4	4.1	80.7	36.2	62.2	27.21	27.22	2593
5/23/2023 16:20	227	12.3	9	79.8	36.8	61.7	27.21	27.22	2593
5/23/2023 16:30	241	15.7	13.7	80.2	37.2	62.1	27.21	27.21	2595
5/23/2023 16:40	208	17.5	8.1	78.1	37.3	60.4	27.22	27.22	2589
5/23/2023 16:50	197	11.8	3.4	79.1	37.3	61.3	27.22	27.22	2589
5/23/2023 17:00	193	14.8	3.3	77.3	37.3	60.1	27.22	27.22	2587
5/23/2023 17:10	216	6.4	3.8	78.6	37.3	60.8	27.22	27.22	2589
5/23/2023 17:20	219	11.6	7.2	77.3	37.4	60.1	27.22	27.22	2589
5/23/2023 17:30	210	6	3	79.5	37.4	61.5	27.21	27.21	2595
5/23/2023 17:40	221	10.5	6.9	76.4	37.2	59.2	27.21	27.21	2595
5/23/2023 17:50	224	11.5	7.9	76.3	36.9	59	27.21	27.21	2593
5/23/2023 18:00	205	7.9	3.4	76.9	36.7	59.3	27.21	27.21	2598
5/23/2023 18:10	200	11.3	4	76.2	36.5	58.8	27.21	27.21	2595
5/23/2023 18:20	186	6.5	0.7	75.6	36.1	58.3	27.21	27.21	2595
5/23/2023 18:30	223	13.4	9.3	73.2	35.8	56.3	27.22	27.22	2589
5/23/2023 18:40	186	15.1	1.7	70.8	35.5	54.5	27.23	27.23	2583
5/23/2023 18:50	221	14.3	6.6	69.6	49.7	57.5	27.24	27.23	2573
5/23/2023 19:00	208	12.5	4.8	69.7	46.6	56.8	27.23	27.23	2577
5/23/2023 19:10	207	5.2	2.4	69.7	46.4	56.6	27.23	27.23	2580
5/23/2023 19:20	209	6.4	3.1	69.9	46.2	57	27.23	27.23	2580
5/23/2023 19:30	226	5.6	4.1	69.3	46.1	56.3	27.23	27.23	2580
5/23/2023 19:40	209	3.8	1.8	68.6	45.9	55.7	27.23	27.23	2577
5/23/2023 19:50	207	7.2	3.3	67.6	45.4	54.8	27.24	27.24	2573
5/23/2023 20:00	229	6	4.5	66.8	44.8	53.9	27.24	27.24	2570

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/23/2023 20:10	206	7	3.1	65.5	44	52.7	27.25	27.25	2564
5/23/2023 20:20	217	11.1	6.7	64.5	43.6	51.8	27.25	27.25	2557
5/23/2023 20:30	202	10	3.7	64.5	42.8	51.8	27.25	27.25	2557
5/23/2023 20:40	226	11.3	8.2	63.8	42.4	51.1	27.26	27.26	2548
5/23/2023 20:50	223	8.6	5.8	63.1	42.4	50.5	27.26	27.26	2554
5/23/2023 21:00	221	8.1	5.4	62.8	42.4	50.2	27.25	27.25	2557
5/23/2023 21:10	204	8.2	3.3	62.4	42.5	50	27.26	27.26	2552
5/23/2023 21:20	217	4.9	3	61.5	42.8	49.4	27.26	27.26	2545
5/23/2023 21:30	205	12.4	5.2	60.9	43.4	48.9	27.27	27.27	2536
5/23/2023 21:40	200	13.4	4.6	60.9	43.8	48.9	27.27	27.27	2536
5/23/2023 21:50	208	8.7	4	60.5	44.2	48.9	27.28	27.28	2527
5/23/2023 22:00	212	8.5	4.5	60.3	44.5	48.7	27.28	27.28	2530
5/23/2023 22:10	191	14.5	2.7	60	44.6	48.5	27.29	27.29	2524
5/23/2023 22:20	221	6.4	4.2	59.4	44.8	48	27.29	27.29	2521
5/23/2023 22:30	207	3.9	1.8	58.9	45.1	47.8	27.29	27.29	2518
5/23/2023 22:40	208	10.4	4.9	58.4	45.5	47.5	27.29	27.29	2524
5/23/2023 22:50	227	9.9	7.2	58.7	45.5	47.6	27.28	27.28	2527
5/23/2023 23:00	228	8.7	6.4	58.5	45.5	47.5	27.28	27.28	2524
5/23/2023 23:10	232	5.6	4.5	57.8	45.6	47.1	27.28	27.28	2527
5/23/2023 23:20	212	4.7	2.5	58	45.5	47.1	27.28	27.28	2533
5/23/2023 23:30	224	6	4.2	58.8	45.6	47.8	27.28	27.28	2527
5/23/2023 23:40	236	6.3	5.3	57.6	45.7	46.7	27.28	27.28	2527
5/23/2023 23:50	236	3.7	3.1	56.5	46.2	46	27.28	27.28	2527
5/24/2023 0:00	231	4.2	3.2	56.6	46.7	46.4	27.28	27.28	2530
5/24/2023 0:10	229	1.2	0.9	54.8	47.1	44.9	27.27	27.27	2533
5/24/2023 0:20	206	4	1.8	55.2	47.6	45.3	27.27	27.27	2533
5/24/2023 0:30	200	2.3	0.8	55	48.4	45.3	27.27	27.27	2533
5/24/2023 0:40	202	2.6	1	55.1	49.2	45.5	27.27	27.27	2539
5/24/2023 0:50	223	2.1	1.4	55.3	50.1	46	27.27	27.27	2539
5/24/2023 1:00	231	2.8	2.2	56.1	50.6	46.7	27.27	27.27	2539
5/24/2023 1:10	221	5.1	3.4	55.7	50.9	46.4	27.27	27.27	2542
5/24/2023 1:20	251	6.1	5.7	55.1	51.1	46	27.27	27.27	2542
5/24/2023 1:30	216	3.4	2	54.1	51	45.1	27.26	27.26	2545

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/24/2023 1:40	199	2.1	0.7	51.8	50.8	43.1	27.26	27.26	2548
5/24/2023 1:50	198	0	0	51.6	50.5	43	27.27	27.26	2545
5/24/2023 2:00	197	0	0	49.8	50.3	41.3	27.26	27.26	2548
5/24/2023 2:10	197	0	0	48.2	50.1	40.1	27.26	27.26	2552
5/24/2023 2:20	196	0	0	49.9	50	41.3	27.26	27.26	2554
5/24/2023 2:30	196	0	0	47.6	49.8	39.5	27.25	27.25	2557
5/24/2023 2:40	196	0	0	50.5	49.9	41.9	27.25	27.25	2557
5/24/2023 2:50	197	0	0	49.8	50	41.3	27.25	27.25	2561
5/24/2023 3:00	196	0	0	47.9	50.2	39.7	27.25	27.25	2561
5/24/2023 3:10	196	0	0	50.7	50.4	42.1	27.25	27.25	2561
5/24/2023 3:20	197	1.4	0.4	51.1	50.4	42.6	27.24	27.25	2564
5/24/2023 3:30	197	0	0	50.7	50.4	42.1	27.25	27.25	2561
5/24/2023 3:40	197	1.8	0.5	51.6	50.3	43	27.25	27.25	2564
5/24/2023 3:50	195	2.4	0.6	49	50.1	40.8	27.24	27.24	2564
5/24/2023 4:00	160	4.8	1.6	49.2	50	40.8	27.24	27.24	2564
5/24/2023 4:10	157	3	1.2	48.5	50	40.4	27.25	27.25	2561
5/24/2023 4:20	157	1.5	0.6	46.1	49.9	38.3	27.24	27.24	2566
5/24/2023 4:30	157	0	0	43.6	49.8	36.1	27.24	27.24	2570
5/24/2023 4:40	163	1.5	0.5	45.9	50.2	38.1	27.24	27.24	2566
5/24/2023 4:50	162	0	0	45.7	50.5	38.1	27.24	27.24	2566
5/24/2023 5:00	231	2.2	1.7	49.3	51.1	41.2	27.25	27.25	2564
5/24/2023 5:10	204	4	1.6	48.7	51.7	40.8	27.24	27.24	2566
5/24/2023 5:20	219	4.1	2.6	49.2	52.3	41.2	27.24	27.24	2566
5/24/2023 5:30	227	3.1	2.3	49.2	52.9	41.3	27.25	27.25	2564
5/24/2023 5:40	220	2.7	1.7	49.5	53.5	41.5	27.25	27.25	2564
5/24/2023 5:50	215	0	0	48.1	53.9	40.8	27.25	27.25	2557
5/24/2023 6:00	215	0	0	46.5	54.2	39.4	27.25	27.25	2557
5/24/2023 6:10	215	0	0	47.2	54.9	40.1	27.26	27.26	2554
5/24/2023 6:20	215	0	0	47.6	55.4	40.4	27.26	27.26	2552
5/24/2023 6:30	219	0.8	0.5	50.7	56.8	43.3	27.26	27.26	2548
5/24/2023 6:40	218	1.2	0.7	52.1	58.3	44.8	27.27	27.27	2539
5/24/2023 7:00	320	0	0	56.2	61	48.9	27.25	27.25	2564
5/24/2023 7:10	189	0	0	56.7	60.5	49.1	27.28	27.28	2533

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/24/2023 7:20	191	0	0	56.8	60.3	49.4	27.27	27.28	2533
5/24/2023 7:30	248	9	8.2	58.2	58.4	50.2	27.22	27.22	2589
5/24/2023 7:40	231	4.9	3.8	56.5	62.5	49.4	27.22	27.22	2589
5/24/2023 7:50	219	6.9	4.3	57.1	60.4	49.6	27.22	27.22	2589
5/24/2023 8:00	235	5.3	4.4	60.3	57.4	51.6	27.22	27.22	2587
5/24/2023 8:10	242	6.8	6	60.8	57.7	52.1	27.22	27.22	2593
5/24/2023 8:20	229	9.6	7.2	59.9	58.7	51.8	27.21	27.21	2593
5/24/2023 8:30	238	6.4	5.5	62.2	60.1	53.9	27.22	27.22	2593
5/24/2023 8:40	234	10.4	8.5	63.8	61.3	55.6	27.21	27.21	2595
5/24/2023 8:50	208	14	6.5	61.7	62	53.8	27.21	27.21	2593
5/24/2023 9:00	233	13.6	10.9	63	62.8	55.2	27.21	27.21	2593
5/24/2023 9:10	196	15.1	4.2	62.7	63.6	55.2	27.21	27.21	2598
5/24/2023 9:20	211	11.9	6.2	64.1	64.1	56.3	27.21	27.21	2598
5/24/2023 9:30	220	9.3	6	65.3	64.4	57.7	27.21	27.21	2595
5/24/2023 9:40	232	10.4	8.2	65.2	64.2	57.4	27.21	27.21	2595
5/24/2023 9:50	174	8.7	0.9	65.9	63.9	57.9	27.21	27.2	2605
5/24/2023 10:00	228	14.2	10.6	66.3	63.6	58.3	27.21	27.21	2602
5/24/2023 10:10	219	7.7	4.8	67.8	63.4	59.7	27.21	27.2	2605
5/24/2023 10:20	237	7.2	6.1	68.1	63.2	59.9	27.21	27.2	2602
5/24/2023 10:30	217	10.6	6.4	66.9	62.6	58.6	27.21	27.21	2602
5/24/2023 10:40	222	13.7	9.3	68.3	61.9	59.5	27.21	27.21	2602
5/24/2023 10:50	192	14.7	3.2	68.9	60.9	59.9	27.21	27.21	2598
5/24/2023 11:00	243	9.5	8.4	70.6	60.3	61.2	27.21	27.21	2598
5/24/2023 11:10	247	11.3	10.4	71.1	60.2	61.7	27.21	27.2	2602
5/24/2023 11:20	248	4.8	4.5	74	59.6	64.2	27.21	27.2	2602
5/24/2023 11:30	224	7.4	5.2	72.7	58.8	62.8	27.21	27.2	2602
5/24/2023 11:40	216	12.4	7.3	70.6	57.9	60.6	27.21	27.21	2598
5/24/2023 11:50	213	9.3	5.1	72.1	56.8	61.5	27.21	27.21	2602
5/24/2023 12:00	197	14.8	4.4	71.3	55.9	60.6	27.21	27.21	2602
5/24/2023 12:10	255	9.3	9	73	55.1	61.9	27.21	27.2	2602
5/24/2023 12:20	201	13.9	4.9	71.6	54.2	60.4	27.21	27.21	2602
5/24/2023 12:30	224	12.2	8.5	74.8	53	63	27.2	27.2	2608
5/24/2023 12:40	218	11.1	6.9	74	52.6	62.1	27.2	27.2	2611

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/24/2023 12:50	202	9.6	3.5	73.5	51.6	61.3	27.2	27.2	2614
5/24/2023 13:00	210	14.3	7.2	73.2	51.2	61	27.2	27.2	2611
5/24/2023 13:10	208	12.2	5.7	74.9	50.4	62.2	27.19	27.19	2614
5/24/2023 13:20	221	15.4	10.1	74.8	49.4	61.7	27.19	27.19	2614
5/24/2023 13:30	217	11.7	7.1	76.6	48.2	63	27.19	27.19	2617
5/24/2023 13:40	246	10.3	9.5	76.4	47.2	62.4	27.19	27.19	2620
5/24/2023 13:50	214	16.6	9.4	75.6	45.6	61.2	27.19	27.19	2617
5/24/2023 14:00	212	11.1	5.9	76.1	44.5	61.3	27.19	27.19	2620
5/24/2023 14:10	215	7.1	4.1	78.9	44.2	63.5	27.19	27.18	2626
5/24/2023 14:20	198	17.4	5.3	75.8	43	60.6	27.19	27.19	2617
5/24/2023 14:30	210	8.5	4.3	80	42.3	63.7	27.18	27.18	2626
5/24/2023 14:40	227	15.9	11.6	77.2	41	61	27.18	27.18	2626
5/24/2023 14:50	211	6.7	3.4	79.5	40.8	62.8	27.18	27.17	2632
5/24/2023 15:00	201	8.2	2.9	76.9	40.4	60.6	27.17	27.17	2635
5/24/2023 15:10	226	11.7	8.4	78	39.6	61.3	27.17	27.17	2638
5/24/2023 15:20	227	9.3	6.8	77.7	39.2	60.8	27.17	27.17	2638
5/24/2023 15:30	206	14.7	6.4	78.6	38.7	61.3	27.18	27.17	2635
5/24/2023 15:40	248	12	11.1	76.9	38.4	59.9	27.17	27.17	2641
5/24/2023 15:50	242	12.9	11.4	76.9	38.6	60.1	27.17	27.17	2641
5/24/2023 16:00	221	13.9	9.2	77.3	38.6	60.2	27.17	27.17	2641
5/24/2023 16:10	238	11.7	9.9	77.1	38.4	60.1	27.16	27.16	2642
5/24/2023 16:20	214	16.6	6.8	76.1	31.6	57.2	27.16	27.16	2645
5/24/2023 16:30	224	8.1	6	75.3	34.8	57.5	27.16	27.16	2652
5/24/2023 16:40	215	19.7	11.4	74.8	33.1	56.6	27.16	27.16	2645
5/24/2023 16:50	218	10.1	6.2	75.8	33.4	57.4	27.16	27.16	2652
5/24/2023 17:00	202	7.2	2.6	75.8	33.4	57.4	27.16	27.16	2652
5/24/2023 17:10	187	6.7	0.8	76	33.7	57.7	27.15	27.15	2654
5/24/2023 17:20	199	10.2	3.3	74.4	33.6	56.5	27.16	27.16	2652
5/24/2023 17:30	221	19.9	12.9	72.4	33.8	55	27.16	27.16	2642
5/24/2023 17:40	212	17.8	9.3	72.3	33.8	55	27.16	27.16	2645
5/24/2023 17:50	241	15.4	13.4	72.8	34	55.4	27.16	27.16	2648
5/24/2023 18:00	186	17.9	1.9	71.8	34	54.7	27.16	27.16	2645
5/24/2023 18:10	221	10.6	7	70.9	34	54.1	27.16	27.15	2652

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/24/2023 18:20	228	11.5	8.6	70.4	34.2	53.8	27.15	27.15	2654
5/24/2023 18:30	232	15	11.8	69.7	34.3	53.2	27.16	27.16	2648
5/24/2023 18:40	236	16.7	13.8	68.9	34.6	52.7	27.16	27.16	2645
5/24/2023 18:50	239	8.3	7.1	68.1	34.9	52.3	27.16	27.15	2654
5/24/2023 19:00	191	12.4	2.3	67.6	35.2	52	27.16	27.16	2648
5/24/2023 19:10	220	14.3	9.1	66.9	35.4	51.4	27.16	27.16	2645
5/24/2023 19:20	223	14.5	10	65.9	35.6	50.7	27.16	27.16	2642
5/24/2023 19:30	212	6	3.2	65.3	35.7	50.3	27.16	27.16	2648
5/24/2023 19:40	212	8.4	4.5	64.8	35.5	49.8	27.16	27.16	2648
5/24/2023 19:50	210	10.6	5.2	64	35.3	49.3	27.16	27.16	2642
5/24/2023 20:00	201	12.2	4.3	63.2	35.3	48.7	27.16	27.16	2645
5/24/2023 20:10	211	8.2	4.2	62.5	35.1	48.2	27.16	27.16	2642
5/24/2023 20:20	233	18	14.4	62.5	34.9	48.2	27.17	27.17	2641
5/24/2023 20:30	221	10.5	6.9	61.9	34.9	47.6	27.17	27.17	2641
5/24/2023 20:40	228	16.4	12.2	61.4	35	47.3	27.17	27.17	2638
5/24/2023 20:50	205	10.3	4.3	60.6	35.2	46.6	27.16	27.16	2645
5/24/2023 21:00	221	8.6	5.6	60	35.5	46.2	27.17	27.17	2641
5/24/2023 21:10	228	4	3	59.6	35.6	46	27.17	27.17	2641
5/24/2023 21:20	228	8.7	6.4	59.9	35.4	46.2	27.18	27.17	2632
5/24/2023 21:30	213	7	3.8	59.4	35.2	45.8	27.18	27.18	2632
5/24/2023 21:40	216	11.1	6.5	60.2	35.2	46.4	27.18	27.18	2629
5/24/2023 21:50	216	6.9	4	59.7	35.5	46	27.18	27.18	2632
5/24/2023 22:00	240	9.4	8.2	60	36.8	46.7	27.18	27.18	2629
5/24/2023 22:10	229	7.5	5.6	59.8	38.4	46.9	27.18	27.18	2629
5/24/2023 22:20	235	8.2	6.7	59.6	40	47.3	27.19	27.18	2623
5/24/2023 22:30	235	12.4	10.1	59.7	41.2	47.5	27.19	27.19	2620
5/24/2023 22:40	269	7.4	7.4	58.5	42.3	46.7	27.18	27.18	2629
5/24/2023 22:50	231	11.9	9.3	58.7	43.5	47.3	27.19	27.18	2626
5/24/2023 23:00	231	6.5	5	58.6	44.7	47.3	27.18	27.18	2626
5/24/2023 23:10	232	4.9	3.9	58	45.6	47.1	27.18	27.18	2626
5/24/2023 23:20	240	8.8	7.6	57.4	46.4	46.7	27.18	27.18	2626
5/24/2023 23:30	225	3.4	2.4	56.1	47	45.8	27.18	27.18	2629
5/24/2023 23:40	227	4.3	3.2	56	47.6	45.8	27.18	27.18	2629

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/24/2023 23:50	207	3.4	1.5	55	48.1	45.3	27.18	27.18	2629
5/25/2023 0:00	211	4.1	2.1	54	47.4	44.2	27.18	27.17	2635
5/25/2023 0:10	183	4.1	0.2	53.8	47.3	44	27.18	27.17	2635
5/25/2023 0:20	184	2.6	0.2	53.5	47.4	43.7	27.17	27.17	2641
5/25/2023 0:30	184	4.1	0.3	53.6	47.9	44	27.17	27.17	2641
5/25/2023 0:40	184	0	0	51.7	48.1	42.6	27.17	27.17	2642
5/25/2023 0:50	219	4.7	2.9	53.5	48.9	44.2	27.17	27.17	2641
5/25/2023 1:00	213	2.5	1.3	52.9	49.7	43.9	27.17	27.17	2642
5/25/2023 1:10	192	4.9	1	51.9	49.8	43.1	27.17	27.17	2641
5/25/2023 1:20	183	4.1	0.2	51.9	49.8	43.1	27.17	27.17	2642
5/25/2023 1:30	195	6.1	1.6	51.6	50.2	42.8	27.16	27.16	2645
5/25/2023 1:40	214	6.8	3.8	51.4	50.8	43	27.16	27.16	2645
5/25/2023 1:50	207	4.3	1.9	51.4	51.4	43	27.16	27.16	2648
5/25/2023 2:00	224	9.3	6.4	52.3	52.1	43.9	27.16	27.16	2645
5/25/2023 2:10	200	10.5	3.5	51.5	52.1	43.1	27.16	27.16	2648
5/25/2023 2:20	221	11.2	7.3	51.2	52.4	43	27.16	27.16	2652
5/25/2023 2:30	203	8.9	3.5	51	53	43	27.15	27.15	2657
5/25/2023 2:40	210	14.3	7.2	50.8	53.6	43	27.15	27.15	2657
5/25/2023 2:50	205	8.3	3.6	50.8	54.2	43	27.15	27.15	2657
5/25/2023 3:00	204	11.2	4.6	50.6	54.6	42.8	27.15	27.14	2663
5/25/2023 3:10	199	11.5	3.8	50.4	55	42.8	27.14	27.14	2666
5/25/2023 3:20	217	7.9	4.8	50.3	55.4	42.8	27.15	27.14	2663
5/25/2023 3:30	195	6.8	1.7	49.8	55.8	42.4	27.14	27.14	2663
5/25/2023 3:40	206	7	3	49.5	56.1	42.2	27.15	27.14	2663
5/25/2023 3:50	180	4.6	0	49.1	56.4	41.9	27.14	27.14	2663
5/25/2023 4:00	206	5.8	2.5	49	56.5	41.9	27.14	27.14	2663
5/25/2023 4:10	209	5.3	2.5	49.8	56.5	42.6	27.15	27.14	2663
5/25/2023 4:20	200	5.8	2	49.7	56.6	42.4	27.15	27.14	2663
5/25/2023 4:30	209	7.4	3.6	49.9	56.9	42.8	27.15	27.15	2660
5/25/2023 4:40	208	4.7	2.2	49.8	57.3	42.6	27.15	27.14	2660
5/25/2023 4:50	196	5.3	1.5	50.2	57.6	43	27.15	27.14	2663
5/25/2023 5:00	203	4.9	1.9	49.7	57.8	42.6	27.14	27.14	2663
5/25/2023 5:10	218	2.5	1.5	49.1	58	42.2	27.15	27.14	2663

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/25/2023 5:20	201	1.9	0.7	48.4	58.1	41.5	27.14	27.14	2663
5/25/2023 5:30	201	2.5	0.9	48.1	58.1	41.5	27.14	27.14	2666
5/25/2023 5:40	232	4.9	3.9	49.2	58.5	42.4	27.14	27.14	2669
5/25/2023 5:50	232	1.6	1.3	48.6	58.9	41.9	27.14	27.14	2666
5/25/2023 6:00	219	8.1	5	49.7	59.5	42.8	27.15	27.14	2660
5/25/2023 6:10	241	6.6	5.8	49.8	60.5	43.3	27.15	27.15	2657
5/25/2023 6:20	213	7.1	3.9	50	61.6	43.5	27.15	27.15	2657
5/25/2023 6:30	216	8	4.7	50.3	62.5	43.9	27.15	27.15	2654
5/25/2023 6:40	211	8.9	4.6	50.6	63.3	44.6	27.15	27.15	2654
5/25/2023 6:50	207	11.1	4.7	52.2	73.6	47.6	27.16	27.16	2648
5/25/2023 7:00	232	8.3	6.5	53	72.2	48.2	27.16	27.16	2648
5/25/2023 7:10	209	10.7	5.1	53.2	72.3	48.4	27.16	27.16	2652
5/25/2023 7:20	234	5.4	4.4	54.6	72.8	49.8	27.16	27.15	2654
5/25/2023 7:30	238	8.2	6.9	55.5	73.4	50.7	27.16	27.16	2652
5/25/2023 7:40	239	8.7	7.4	55.7	74	51.1	27.16	27.16	2652
5/25/2023 7:50	247	10.6	9.7	56.5	74.4	51.8	27.16	27.16	2652
5/25/2023 8:00	213	11.5	6.3	57.3	74.9	52.5	27.16	27.15	2652
5/25/2023 8:10	235	10.5	8.6	57.8	75.2	53.2	27.16	27.16	2648
5/25/2023 8:20	226	7.2	5.2	58.6	75.7	53.9	27.15	27.15	2654
5/25/2023 8:30	222	11.1	7.5	58.7	76	54.3	27.15	27.15	2657
5/25/2023 8:40	212	8	4.3	60.9	76.3	56.1	27.16	27.15	2654
5/25/2023 8:50	240	11.2	9.7	61	76.5	56.3	27.16	27.15	2654
5/25/2023 9:00	196	9	2.5	61.5	76.5	56.8	27.16	27.15	2652
5/25/2023 9:10	229	6.3	4.7	64.1	76.8	59.3	27.16	27.15	2654
5/25/2023 9:20	212	8.3	4.4	63.3	77.1	58.8	27.15	27.15	2654
5/25/2023 9:30	209	9	4.3	62.8	77	58.3	27.16	27.15	2652
5/25/2023 9:40	230	10.7	8.2	65.1	77.1	60.2	27.16	27.16	2652
5/25/2023 9:50	220	7.6	4.9	63.9	76.8	59.2	27.15	27.15	2654
5/25/2023 10:00	227	8.1	5.9	65	76.3	60.1	27.16	27.16	2648
5/25/2023 10:10	222	15.8	10.6	64.9	75.9	59.9	27.16	27.16	2642
5/25/2023 10:20	211	8.8	4.5	65.8	75.5	60.4	27.16	27.16	2648
5/25/2023 10:30	212	8.2	4.4	67.1	74.8	61.5	27.16	27.16	2652
5/25/2023 10:40	214	17	9.5	65.8	74.1	60.4	27.16	27.16	2645

Device Name:	WEATHER - 2189720
Device Model:	5500L
Serial Number:	2189720

FORMATTED DATE-TIME	Wind Direction	Wind Speed	Crosswind Speed	Temperature	Relative Humidity	Psychro Wet Bulb Temperature	Station Pressure	Barometric Pressure	Altitude
(YYYY-MM-DD HH:MM:SS)	(Degrees)	(mph)	(mph)	(°F)	(%)	(°F)	(inHg)	(inHg)	(ft)
5/25/2023 10:50	222	5.5	3.7	67.5	73.3	61.5	27.16	27.15	2654
5/25/2023 11:00	213	9.7	5.3	66.3	72.5	60.4	27.16	27.15	2654
5/25/2023 11:10	191	11.4	2.2	68.3	71.6	62.1	27.16	27.15	2652
5/25/2023 11:20	217	10.1	6.1	70.3	70.9	63.7	27.16	27.16	2652
5/25/2023 11:30	202	11.1	4.1	67.7	69.9	61	27.16	27.15	2652
5/25/2023 11:40	209	6.4	3.2	71.5	69.1	64.2	27.16	27.15	2654
5/25/2023 11:50	213	10	5.4	68.7	68	61.5	27.16	27.16	2652
5/25/2023 12:00	196	8.2	2.3	72.1	67.2	64.4	27.16	27.16	2652
5/25/2023 12:10	174	11.7	1.2	70.3	66.2	62.4	27.16	27.15	2652
5/25/2023 12:20	196	8.7	2.4	71.4	65.1	63.3	27.15	27.15	2654
5/25/2023 12:30	228	9.7	7.3	69.9	64	61.5	27.15	27.15	2657
5/25/2023 12:40	221	8.5	5.6	71.6	62.9	62.8	27.15	27.14	2660
5/25/2023 12:50	190	9.5	1.7	74.4	61.9	65.1	27.14	27.14	2663
5/25/2023 13:00	215	7.7	4.4	73.4	60.8	63.9	27.14	27.14	2666
5/25/2023 13:10	240	9.8	8.5	75	59.7	64.9	27.14	27.14	2669
5/25/2023 13:20	228	10.9	8	72.4	58.3	62.2	27.14	27.14	2669
5/25/2023 13:30	187	14.6	1.8	73.1	57.5	62.6	27.14	27.14	2669
5/25/2023 13:40	223	12.7	8.6	74.6	57	63.9	27.13	27.13	2675
5/25/2023 13:50	194	9.5	2.3	74.9	56.5	63.9	27.13	27.13	2678
5/25/2023 14:00	196	8.5	2.4	75.3	55.7	64	27.13	27.13	2678
5/25/2023 14:10	199	12.2	3.9	74.4	55.2	63.1	27.13	27.13	2678
5/25/2023 14:20	197	7.7	2.2	76.6	54.6	64.8	27.13	27.13	2681
5/25/2023 14:30	214	11.9	6.7	75.7	54.2	63.9	27.13	27.13	2678
5/25/2023 14:40	231	15.9	12.3	74.7	53.7	63	27.13	27.13	2681
5/25/2023 14:50	214	10.7	6	74.2	52.8	62.2	27.12	27.12	2684
5/25/2023 15:00	207	10.6	4.9	74	51.9	61.9	27.12	27.12	2687
5/25/2023 15:10	245	14.9	13.5	72.4	51.3	60.2	27.13	27.12	2684
5/25/2023 15:20	226	10.1	7.3	73.4	50.7	61	27.12	27.12	2687
5/25/2023 15:30	191	16.3	3.1	73.9	50.1	61.2	27.12	27.12	2684
5/25/2023 15:40	232	17.6	13.8	72.6	49.9	60.2	27.12	27.12	2687
5/25/2023 15:50	221	14	8	72.5	39	56.8	27.12	27.12	2690
5/25/2023 16:00	211	12.7	5.4	73.7	36.9	57	27.12	27.11	2690

APPENDIX 5.7C

Willow Rock Construction Noise Model Inputs/Noise Model Receptors

Construction Noise Model Inputs

Name	Sel.	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
Diesel Gen - 8Hr			8Hr	114	114	114	59.1	59.1	59.1	Lw	DieselGen		0	0	0				480	0	0	0		(none)			
Pick-up Trucks - 4 Hr			4	117.6	117.6	117.6	62.7	62.7	62.7	Lw	PickupTrucks		0	0	0				240	0	0	0		(none)			
SurfaceWork - 4 Hr			5	134.9	134.9	134.9	79.8	79.8	79.8	Lw	SurfaceWork		0	0	0				240	0	0	0		(none)			
Welders - 6 Hr			6	113	113	113	61	61	61	Lw	Welders		0	0	0				360	0	0	0		(none)			
Primary & Structural Equp - 8 hours			8	124.6	124.6	124.6	74.5	74.5	74.5	Lw	CraneWelders		0	0	0				480	0	0	0		(none)			
Forklift - 12 Hrs			12	95.5	95.5	95.5	42.7	42.7	42.7	Lw	Forklift		0	0	0				660	60	0	0		(none)			
Haul Truck Ops - 18 Hr			18	116.6	116.6	116.6	61.6	61.6	61.6	Lw	ShaftConst		0	0	0				660	240	180	0		(none)			
Front End Loader - 20 Hr			20	116	116	116	61.1	61.1	61.1	Lw	FrontEndLoader		0	0	0				660	240	300	0		(none)			
Hoist - 24 Hr			24	105.8	105.8	105.8	62.4	62.4	62.4	Lw	ShaftNoise		0	0	0							0		(none)			
Berm_Conveyor			10	68.7	68.7	68.7	15.3	15.3	15.3	Lw	Conveyor		0	0	0				600	0	0	0		(none)			
Berm_Crusher			6	112.2	112.2	112.2	58.8	58.8	58.8	Lw	CrusherOps		0	0	0				360	0	0	0		(none)			
Berm_Hoppers			5	115.8	115.8	115.8	62.4	62.4	62.4	Lw	Hopper		0	0	0				300	0	0	0		(none)			
Berm_Mobile			6	119.4	119.4	119.4	66	66	66	Lw	Berm_Mobile		0	0	0				360	0	0	0		(none)			
BlindBore_20			20	112.4	112.4	112.4	69	69	69	Lw	BB_20Hr		0	0	0				600	240	300	0		(none)			
BlindBore_24			24	108.8	108.8	108.8	65.4	65.4	65.4	Lw	BB_24Hr		0	0	0							0		(none)			
BlindBore_12			12	120.6	120.6	120.6	77.3	77.3	77.3	Lw	BB_12Hr		0	0	0				660	60	0	0		(none)			
BlindBore_10			10	120	120	120	76.6	76.6	76.6	Lw	BB_10Hr		0	0	0				600	0	0	0		(none)			
BlindBore_6			6	105	105	105	61.6	61.6	61.6	Lw	BB_6Hr		0	0	0				360	0	0	0		(none)			
BlindBore_4			4	115.4	115.4	115.4	72.1	72.1	72.1	Lw	BB_4Hr		0	0	0				240	0	0	0		(none)			

Construction Noise Model Receptors

Name	Sel.	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
				Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
				(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
NSA 1			1	46.8	33.5	0	0		x	Total	2	r	393485.11	3865090.4	796.88
NSA 2			2	43.8	30.3	0	0		x	Total	2	r	393562.11	3865777.4	794.48
NSA 3			3	39.5	26.2	0	0		x	Total	2	r	394828.11	3866830.4	784.53
NSA 4			4	39.5	26.1	0	0		x	Total	2	r	395337.11	3866746.4	781.12
NSA 5			5	38.2	24.4	0	0		x	Total	2	r	395622.11	3860685.4	753.39
NSA 6			6	38.7	24.9	0	0		x	Total	2	r	394440.11	3860596.4	790.56
NSA 7			7	40.5	27.3	0	0		x	Total	2	r	391706.11	3863398.4	799.78

APPENDIX 5.7D

Controlled Detonations Impact and Vibration Estimates

Montreal, September 20th 2023

Gage Miller

Senior Environmental Scientist

WSP

Hydrostore proposes to construct, own, and operate the 500-megawatt Willow Rock Energy Storage Center (Willow Rock/WRESC), an Advanced Compressed Air Energy Storage facility, in Kern County, California.

This new project has been designed to deliver up energy and reliability services with no fossil fuel combustion or related air quality impacts.

The realization of this mega project foresees the construction of 2 shafts of 2,000 feet depth each and an underground compressed air storage cavern of over 1.1 million cubic yards of rock to be excavated.

Since this work must be carried out in hard rock, the excavation of the rock will have to be carried out using the drilling and blasting method.

The construction of the infrastructures of this project is planned in an isolated sector and thus favorable to minimizing the environmental impacts related to the blasting. Consequently, the perception of the blasts by the residents is considered minor.

However, to ensure full control and safety of the blasting, specific and particular measures must be established and prescribed in the specs before the work is carried out.

These must allow the control of the following items:

- Blast vibration
- Blasting flyrock
- Over-break and tolerances
- Blast fumes (NOx)
- Type of explosives (water contamination by ammonium nitrate products)

The blasting work must be carried out in accordance with the Code of Federal Regulations ''715.19'' for the use of explosives, the California Fire Code ''article 5607 – Blasting'' and any other legal requirements in effects at the time of the work.

For the construction of the cavern located 2000 feet underground in hard rock, max. blasting vibrations are anticipated to be in the range of 0.025 in/sec for the closest residence located in surface 8360 feet away from the excavation area which corresponds to vibrations barely perceptible to residents.

The estimated blasting vibration as presented in this study are for different types of blasts (shaft sinking, cavern top heading and benching) considering standard blasting methods with the use of standard explosives products such as bulk emulsion explosive and standard non-electric detonator (Nonel).

For blast overpressure, this factor will depend on the drilling and blasting parameters and mainly on the weather conditions at the moment of the blast. Under normal weather conditions, we anticipate that at a surface distance over 1300 feet, the blast overpressure should be below the threshold of 120 dBL.

Considering an overburden cover of more than 50 feet thick, we do not anticipate any problem related to air overpressure for the excavation of the shafts. However, in consideration of the proximity of highways 14 and Sierra from the future project site, we recommend covering the shaft blasts with blast mats to avoid any problematic flyrock.

In consideration of compliance with the standards in force relating to blasting work and the isolated site on which the new infrastructures will be built, we are more than confident that the blasting should have a minor impact on residents and structures surrounding the project.

Hydrostore Project – California
Willow Rock Energy Storage Center

Blast Vibration Estimate

For the blasting vibration estimate, we considered 3 different types of blast;

1. Top heading tunnelling for the main cavern
2. Bench blasting for the lower benches of the main cavern
3. Shaft sinking

For each type of blast, we are considering the following parameters;

1) Cavern Excavation

1.1 Top heading - Tunnel

Drilling parameters

Borehole size : 2.0 in. (50 mm)

Advance per round: 20 ft. (6.1 m)

Blasting parameters

Collar length: 1.5 ft. (0,45 m)

Loaded length: 18.5 ft. (5.65 m)

Explosive used: Bulk emulsion at 1.25 g/cc density

Charge per hole: 31.5 lbs (14.2 kg)

Standard Nonel detonators

Nb of holes initiated per delay: 8 holes

Charge/delay 252.0 lbs (113.6 kg)

1.2 Bench blasting

Drilling parameters

Borehole size : 3.5 in. (90 mm)

Bench height: 33 ft. (10.0 m)

Sub drilling: 2 ft. (0.6 m)

Drill length: 35 ft. (10.6 m)

Blasting parameters

Collar length: 6 ft. (1,8 m)

Loaded length: 29.0 ft. (8.8 m)

Explosive used: Bulk emulsion at 1.25 g/cc density

Charge per hole: 151.0 lbs (68.3 kg)

Standard Nonel detonators

Nb of holes initiated per delay: 2 holes

Explosive charge per delay: 302 lbs (136.6 kg)

2) Shaft excavation

Drilling parameters

Borehole size : 3.0 in. (75 mm)

Advance per round: 20 ft. (6.1 m)

Blasting parameters

Collar length: 5.0 ft. (1.5 m)

Loaded length: 15.0 ft. (4.6 m)

Explosive used: Bulk emulsion at 1.25 g/cc density

Charge per hole: 58.9 lbs (26.7 kg)

Standard Nonel detonators

Nb of holes initiated per delay: 4 holes

Explosive charge per delay: 235.6lbs (106.8 kg)

3) Formula – USBM

For vibration estimates, we use the following known formula;

$$V = K\,(d/w^{1/2})^{\beta}$$

où V: Peak particle velocity (in./sec or mm/s)

w: Max. explosive charge per delay (lbs or kg)

d: Distance from blast to structure (ft. or m)

K Blasting constant

β Ground attenuation constant

4) Vibration Estimate

Using the previous drilling and blasting parameters for each type of blast, we can calculate and estimate vibration for each surrounding structure as presented below:

Top Heading					
Location	Distance (ft)	Charge/delay (lbs)	K imp.	ß	PPV (in/sec)
Highway 14	2329	251.1	560	-1.6	0.19
Sierra highway	2001	251.1	560	-1.6	0.24
3024 Dawn road	8364	251.1	560	-1.6	0.02
1333 Bradford ave.	11152	251.1	560	-1.6	0.02

Benching					
Location	Distance (ft)	Charge/delay (lbs)	K imp.	ß	PPV (in/sec)
Highway 14	2329	301.9	200	-1.6	0.08
Sierra highway	2000	301.9	200	-1.6	0.10
3024 Dawn road	8364	301.9	200	-1.6	0.01
1333 Bradford ave.	11152	301.9	200	-1.6	0.01

Shaft					
Location	Distance (ft)	Charge/delay (lbs)	K imp.	ß	PPV (in/sec)
Highway 14	1279	236.0	475	-1.6	0.40
Sierra highway	1574	236.0	475	-1.6	0.29
3024 Dawn road	8102	236.0	475	-1.6	0.02
1333 Bradford ave.	11152	236.0	475	-1.6	0.01

5) Conclusion

The purpose of this study is to analyze the potential impacts of blasting on structures and residents located in the periphery of the Hydrostor project.

This study considers the different types of blasting required for the construction of the infrastructures of the Hydrostor project according to standard methods and parameters for this type of work.

For blast vibrations, the large distances of the construction site from neighboring structures and residences confirm that no blasting impacts are to be considered. The vibrations estimated at the residences confirm that they only should be barely perceptible by the residents.

For blast overpressure, and particularly considering an overburden thickness of more than 50 feet, we do not anticipate any blasting related problem.

However, to ensure the protection of Highways 14 and Sierra from flyrocks, we recommend covering the whole surface of the shaft blasts.

Hydrostor Project

Blast Vibration Estimate

Shaft					
Location	Distance (m)	Charge/delay (kg)	K	ß	**PPV** (mm/sec)
Highway 14	390	106.8	3400	-1.6	10.2
Sierra highway	480	106.8	3400	-1.6	7.32
Dawn road	121	106.8	3400	-1.6	66.36
3024 Dawn road	2470	106.8	3400	-1.6	0.53
1333 Bradford ave.	3400	106.8	3400	-1.6	0.32

Shaft						
Location	Distance (ft)	Charge/delay (lbs)	K	K imp.	ß	PPV
Highway 14	1279	236.0	3400	473	-1.6	0.4015748
Sierra highway	1574	236.0	3400	478	-1.6	0.28818898
Dawn road	397	236.0	3400	475	-1.6	2.61259843
3024 Dawn road	8102	236.0	3400	474	-1.6	0.02086614
1333 Bradford ave.	11152	236.0	3400	476	-1.6	0.01259843

Top Heading					
Location	Distance (m)	Charge/delay (kg)	K	ß	**PPV** (mm/sec)
Highway 14	710	113.6	4000	-1.6	4.83
Sierra highway	610	113.6	4000	-1.6	6.16
Dawn road	610	113.6	4000	-1.6	6.16
3024 Dawn road	2550	113.6	4000	-1.6	0.63
1333 Bradford ave.	3400	113.6	4000	-1.6	0.39

Top Heading						
Location	Distance (ft)	Charge/delay (lbs)	K	K imp.	ß	PPV
Highway 14	2329	251.1	4000	560	-1.6	0.19015748
Sierra highway	2001	251.1	4000	560	-1.6	0.24251969
Dawn road	2001	251.1	4000	560	-1.6	0.24251969
3024 Dawn road	8364	251.1	4000	560	-1.6	0.02480315
1333 Bradford ave.	11152	251.1	4000	555	-1.6	0.01535433

Benching					
Location	Distance (m)	Charge/delay (kg)	K	ß	**PPV** (mm/sec)
Highway 14	710	136.6	1200	-1.6	1.68
Sierra highway	610	136.6	1200	-1.6	2.14
Dawn road	610	136.6	1200	-1.6	2.14
3024 Dawn road	2550	136.6	1200	-1.6	0.22
1333 Bradford ave.	3400	136.6	1200	-1.6	0.14

Benching						
Location	Distance (ft)	Charge/delay (lbs)	K	K imp.	ß	PPV
Highway 14	2329	301.9	1200	194	-1.6	0.06614173
Sierra highway	2001	301.9	1200	193	-1.6	0.08425197
Dawn road	2001	301.9	1200	193	-1.6	0.08425197
3024 Dawn road	8364	301.9	1200	198	-1.6	0.00866142
1333 Bradford ave.	11152	301.9	1200	198	-1.6	0.00551181

APPENDIX 5.7E

Willow Rock Operational Noise Model Inputs

Willow Rock Operational Noise Model Inputs - Point Sources

Name	Sel	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
				Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
				(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
Stack 01			!01!	85.5	85.5	85.5	Lw	HRSGStack2		0	0	0							0		Chimney (VDI 3733)	38.1	r	394672.99	3863968.3	818.33
Stack 02			!01!	85.5	85.5	85.5	Lw	HRSGStack2		0	0	0							0		Chimney (VDI 3733)	38.1	r	394645.49	3863874.2	818.1
Stack 03			!01!	85.5	85.5	85.5	Lw	HRSGStack2		0	0	0							0		Chimney (VDI 3733)	38.1	r	394602.73	3863727.7	818.1
Stack 04			!01!	85.5	85.5	85.5	Lw	HRSGStack2		0	0	0							0		Chimney (VDI 3733)	38.1	r	394575.13	3863633.4	818.1
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394696.98	3864026.5	784.01
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394707.16	3864023.5	784.03
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394679.88	3863929.4	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394670.51	3863932.2	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394636.27	3863782.5	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394626.79	3863785.3	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394609.68	3863689.7	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394599.74	3863693.1	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394758	3864008.2	784.15
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394730.04	3863915	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394726.06	3863949.5	783.32
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394655.8	3863708.7	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394698.04	3863855.3	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394688.95	3863767.8	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394628.31	3863615	783
Transformer 125 MVA			!00!	102.3	102.3	102.3	Lw	GTGX1		0	0	0							0		(none)	3	r	394659.52	3863673.6	783
Primary Closed Cooling Water Pump 1			!00!	102.8	102.8	102.8	Lw	CoolingCirc_pump		0	0	0							0		(none)	2	r	394562.79	3864015.4	782.12
Primary Closed Cooling Water Pump 2			!00!	102.8	102.8	102.8	Lw	CoolingCirc_pump		0	0	0							0		(none)	2	r	394566.35	3864014.3	782.13
Reserve Closed Cooling Water Pump 1			!00!	102.8	102.8	102.8	Lw	CoolingCirc_pump		0	0	0							0		(none)	2	r	394599.53	3864006.3	782.23
Reserve Closed Cooling Water Pump 2			!00!	102.8	102.8	102.8	Lw	CoolingCirc_pump		0	0	0							0		(none)	2	r	394603.14	3864005	782.24
Air Dryer 1			!00!	103.2	103.2	103.2	Lw	AirDryer		0	0	0							0		(none)	2	r	394686.3	3864034.7	783.04
Air Dryer 2			!00!	103.2	103.2	103.2	Lw	AirDryer		0	0	0							0		(none)	2	r	394658.69	3863940	782
Air Dryer 3			!00!	103.2	103.2	103.2	Lw	AirDryer		0	0	0							0		(none)	2	r	394615.37	3863793.9	782
Air Dryer 4			!00!	103.2	103.2	103.2	Lw	AirDryer		0	0	0							0		(none)	2	r	394588.19	3863700	782
Cold Thermal Fluid Pump 1			!00!	103.5	103.5	103.5	Lw	Pump_2000Hp		0	0	0							0		(none)	2	r	394509.22	3863843.1	782
Cold Thermal Fluid Pump 2			!00!	103.5	103.5	103.5	Lw	Pump_2000Hp		0	0	0							0		(none)	2	r	394512.53	3863842.1	782
Cold Thermal Fluid Pump 3			!00!	103.5	103.5	103.5	Lw	Pump_2000Hp		0	0	0							0		(none)	2	r	394516.08	3863841.1	782
Cold Thermal Fluid Pump 4			!00!	103.5	103.5	103.5	Lw	Pump_2000Hp		0	0	0							0		(none)	2	r	394519.29	3863840.1	782
Transformer 350/420 MVA			!00!	104.3	104.3	104.3	Lw	STGX1		0	0	0							0		(none)	3	r	394685.23	3863810.8	783
Transformer 350/420 MVA			!00!	104.3	104.3	104.3	Lw	STGX1		0	0	0							0		(none)	3	r	394688.81	3863820.4	783
HP Turbine Motor 1			!03!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394693.19	3863962.1	785.27
HP Turbine Motor 2			!03!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394665.81	3863868.3	785
HP Turbine Motor 3			!03!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394623.26	3863722.1	785
HP Turbine Motor 4			!03!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394595.81	3863627.9	785
HP/IP Motor 1			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394702.12	3864005.4	785.8
HP/IP Motor 2			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394674.7	3863911.3	785
HP/IP Motor 3			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394631.97	3863764.6	785
HP/IP Motor 4			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394604.54	3863670.4	785
LP Motor 1			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394716.87	3864000.9	785.84
LP Motor 2			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394689.35	3863906.8	785
LP Motor 3			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394646.65	3863760.2	785
LP Motor 4			!02!	106.6	106.6	106.6	Lw	Motor_Gen		0	0	0							0		(none)	5	r	394619	3863666.2	785
TMS Discharge Phase Control Pumps			!00!	106.8	106.8	106.8	Lw	ThermalCirc_pump		0	0	0							0		(none)	2	r	394590.1	3863880.2	782
HP Compressor 1			!02!	108.5	108.5	108.5	Lw	HP_Compressor		0	0	0							0		(none)	5	r	394694.94	3864007.3	785.78
HP Compressor 2			!02!	108.5	108.5	108.5	Lw	HP_Compressor		0	0	0							0		(none)	5	r	394668.03	3863912.9	785
HP Compressor 3			!02!	108.5	108.5	108.5	Lw	HP_Compressor		0	0	0							0		(none)	5	r	394624.6	3863766.4	785
HP Compressor 4			!02!	108.5	108.5	108.5	Lw	HP_Compressor		0	0	0							0		(none)	5	r	394596.85	3863672.4	785
IP Compressor 1			!02!	116.9	116.9	116.9	Lw	IP_Compressor		0	0	0							0		(none)	5	r	394694.81	3864009.5	785.81
IP Compressor 2			!02!	116.9	116.9	116.9	Lw	IP_Compressor		0	0	0							0		(none)	5	r	394667.62	3863915.1	785
IP Compressor 3			!02!	116.9	116.9	116.9	Lw	IP_Compressor		0	0	0							0		(none)	5	r	394624.18	3863768.5	785
IP Compressor 4			!02!	116.9	116.9	116.9	Lw	IP_Compressor		0	0	0							0		(none)	5	r	394596.44	3863674.6	785
HP Turbine 1-A			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394703.34	3863958.7	785.29
HP Turbine 1-B			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394701.07	3863959.5	785.29
HP Turbine 1-C			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394698.94	3863960.3	785.29
HP Turbine 2-A			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394676.8	3863864.4	785
HP Turbine 2-B			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394674.36	3863865	785
HP Turbine 2-C			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394671.89	3863866	785
HP Turbine 3-A			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394634.25	3863718.2	785
HP Turbine 3-B			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394631.82	3863718.8	785
HP Turbine 3-C			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394629.35	3863719.8	785
HP Turbine 4-A			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394606.8	3863624.3	785
HP Turbine 4-B			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394604.23	3863624.8	785
HP Turbine 4-C			!03!	118	118	118	Lw	STLP_Mar		0	0	0							0		(none)	5	r	394601.9	3863625.9	785
LP Compressor 1			!02!	136.5	136.5	136.5	Lw	LP_Compressor		0	0	0							0		(none)	5	r	394725.11	3863999.5	785.87
LP Compressor 2			!02!	136.5	136.5	136.5	Lw	LP_Compressor		0	0	0							0		(none)	5	r	394697.83	3863905.3	785
LP Compressor 3			!02!	136.5	136.5	136.5	Lw	LP_Compressor		0	0	0							0		(none)	5	r	394654.86	3863758.9	785
LP Compressor 4			!02!	136.5	136.5	136.5	Lw	LP_Compressor		0	0	0							0		(none)	5	r	394627.73	3863664.5	785

Willow Rock Operational Noise Model Inputs - Horizontal Area Sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
Thermal Coolers - 39			108.5	108.5	108.5	72.3	72.3	72.3	Lw	ThermalCooler39		0	0	0							0		(none)			
Thermal Coolers - 39			108.5	108.5	108.5	72.3	72.3	72.3	Lw	ThermalCooler39		0	0	0							0		(none)			
Thermal Coolers - 42			108.8	108.8	108.8	72.5	72.5	72.5	Lw	ThermalCooler42		0	0	0							0		(none)			

Willow Rock Operational Noise Model Inputs - Vertical Area Sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night			
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)	
Air Inlet 01		!02!	103.2	103.2	103.2	85.8	85.8	85.8	Lw	GE_InletFilter		0	0	0							3		(none)
Air Inlet 03		!02!	103.2	103.2	103.2	85.8	85.8	85.8	Lw	GE_InletFilter		0	0	0							3		(none)
Air Inlet 02		!02!	103.2	103.2	103.2	85.8	85.8	85.8	Lw	GE_InletFilter		0	0	0							3		(none)
Air Inlet 04		!02!	103.2	103.2	103.2	85.8	85.8	85.8	Lw	GE_InletFilter		0	0	0							3		(none)

Sychronous Motor (50 MW) and Generator (100 MW) Sound Power Calculations

If power of motor is greater than 300 kW (i.e., greater than 402 hp) use this section			
Motor power [kW]		100000	** input the motor power rating in kW that was provided by client/vendor/supplier
Motor RPM		3600	** input the motor RPM - if unknown, enter 1800
Motor power [kW]		100000	
Adjustment [dB]		3	** for motors between 300 and 750 kW subtract 3 dB; for motors above 4000 kW add 3 dB - see section 11.14.2 in (Bies and Hansen 2003)

Octave-Band Frequency		31.5	63	125	250	500	1000	2000	4000	8000		Total	
Raw PWL 1800 or 3600 RPM [dB]		94	96	98	98	98	98	98	95	88		106.2153	** see Table 11.25 from (Bies and Hansen 2003)
Raw PWL 1200 RPM [dB]		88	90	92	93	93	93	98	88	81		102.11336	** see Table 11.25 from (Bies and Hansen 2003)
Raw PWL 900 RPM [dB]		88	90	92	93	93	96	96	88	81		102.02089	** see Table 11.25 from (Bies and Hansen 2003)
Raw PWL <720 RPM [dB]		88	90	92	93	93	98	92	83	75		101.85599	** see Table 11.25 from (Bies and Hansen 2003)
Motor PWL [dB]		97	99	101	101	101	101	101	98	91		109.2	
A-weights [dB]		-39.4	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1			** see Table 3.1 from (Bies and Hansen 2003)
Motor PWL [dBA]		57.6	72.8	84.9	92.4	97.8	101	102.2	99	89.9		106.6	** these values can be used directly in a computer model or in indoor-outdoor calculation

Referece: Bies, D.A., and C.H. Hansen [2003]. Engineering Noise Control 3 rd Ed. Spon Press: New York, NY.

Cooling Medium Cooler - Propeller-Type Cooling Tower Sound Power Calculations, 40 Horse Power

		Fan 1	Fan 2	Fan 3	Fan 4	
Fan Horse Power		40	40	40		** input the horse power that was provided by client/vendor/supplier
Motor PWL [dB]		96.6	96.6	96.6		
Motor PWL [dBA]		87.6	87.6	87.6		

Octave-Band Frequency		31.5	63	125	250	500	1000	2000	4000	8000		Total	
Frequency Adjustment		-8	-5	-5	-8	-11	-15	-18	-21	-29			** see Table 7 from (Guyer, 2013)
Raw PWL Fan 1 [dB]		88.6	91.6	91.6	88.6	85.6	81.6	78.6	75.6	67.6		97.0	
Raw PWL Fan 2 [dB]		88.6	91.6	91.6	88.6	85.6	81.6	78.6	75.6	67.6		97.0	
Raw PWL Fan 3 [dB]		88.6	91.6	91.6	88.6	85.6	81.6	78.6	75.6	67.6		97.0	
Thermal PWL [dB]		93.4	96.4	96.4	93.4	90.4	86.4	83.4	80.4	72.4		101.8	
A-weights [dB]		-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1			
Motor PWL [dBA]		52.2	68.4	78.5	83.0	85.4	84.6	82.8	79.6	69.5		92.6	** these values can be used directly in a computer model or in indoor-outdoor calculation

Reference: Guyer, J. Paul [2013]. An Introduciton to Sound Level Data for Mechancal and Electrical Equipment. Continuing Education and Development, Inc.: Stony Point, NY.

Willow Rock Operational Noise Model Receptors

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
NSA 1		1	49.5	49.5	0	0		x	Total	2	r	393485	3865090	796.88
NSA 2		2	43.2	43.2	0	0		x	Total	2	r	393562	3865777	794.48
NSA 3		3	40.1	40.1	0	0		x	Total	2	r	394828	3866830	784.49
NSA 4		4	41.5	41.5	0	0		x	Total	2	r	395337	3866746	781.12
NSA 5		5	41.2	41.2	0	0		x	Total	2	r	395622	3860685	753.47
NSA 6		6	40.1	40.1	0	0		x	Total	2	r	394440	3860596	789.81
NSA 7		7	40.6	40.6	0	0		x	Total	2	r	391706	3863398	799.81

APPENDIX 5.8A

Willow Rock Energy Storage Center Paleontological Resources

(*This Appendix Is Filed Under a Request for Confidential Designation*)

APPENDIX 5.9A

List of Sensitive Receptors

Table 5.9A-1 Sensitive Receptors and Distances from Site

(all sites and coordinates from Google Earth unless otherwise noted) Image Date: 4/29/2017

HydroStor WRESC

Receptor ID	Direction	UTM Em	UTM Nm	Distance from Generator Yard meters	feet	miles
Site *		**394629.40**	**3863844.70**	na	na	
Residence		391706.00	3863401.00	2956.9	9701.0	1.84
Residence		393427.00	3865201.00	1812.5	5946.7	1.13
Residence		391704.00	3863704.00	2928.8	9608.9	1.82
Residence		391622.00	3863381.00	3042.9	9983.4	1.89
Residence		395635.00	3860695.00	3306.3	10847.6	2.05
Residence		394463.00	3860205.00	3643.5	11953.7	2.26
High School		392025.00	3858690.00	5775.3	18947.8	3.59
Residence		394800.00	3867048.00	3207.8	10524.4	1.99
Residence		394940.00	3867051.00	3221.3	10568.6	2.00
High School		391909.00	3858709.00	5811.7	19067.3	3.61
Elementary School		393137.00	3858789.00	5271.4	17294.5	3.28
Day Care (residence)		391989.00	3859516.00	5070.4	16635.3	3.15
Elementary School		390792.00	3857076.00	7780.8	25527.6	4.83
Day Care (residence)		390711.00	3857327.00	7604.9	24950.4	4.73
Airport		389771.00	3859248.00	6688.3	21943.3	4.16
School		387695.00	3858939.00	8494.2	27868.2	5.28
Middle School		387697.00	3858860.00	8538.5	28013.3	5.31
WWTP		391278.00	3859440.00	5534.7	18158.6	3.44

* Site: the coordinates are for the middle unit of the three large generators, not from the nearest fenceline. Distances of sensitive receptors based on the modeling grids may differ from the above due to measurements derived from the property fenceline, not the center point as noted above.

APPENDIX 5.9B

Screening HRA for Construction Phase

Construction HRA Summary Tables for

Berm and No Berm Options

Table 5.9B-1: Health Risk Assessment Summary for the Construction Phase

Berm Option						
Type of Risk	**Receptor Type**	**Exposure Duration**	**Risk**	**Receptor ID**	**UTM E (meters)**	**UTM N (meters)**
Cancer	PMI	5 Years	2.25E-04	47	394752.77	3863698.79
	MEIR		1.99E-06	5973	393510.00	3865110.00
	MEIS		4.36E-07	3301	393160.00	3858860.00
	MEIW	5 Years	2.35E-07	5973	393510.00	3865110.00
Chronic HI	PMI	Annual	0.0981	47	394752.77	3863698.79
	MEIR		0.000868	5973	393510.00	3865110.00
	MEIS		0.00019	3301	393160.00	3858860.00
	MEIW		0.000868	5973	393510.00	3865110.00

MEIR = maximum exposed individual residential; MEIS = maximum exposed individual sensitive; MEIW = maximum exposed individual worker; PMI = point of maximum impact; UTM = Universal Transverse Mercator

Table 5.9B-2: Health Risk Assessment Summary for the Construction Phase

No-Berm Option						
Type of Risk	**Receptor Type**	**Exposure Duration**	**Risk**	**Receptor ID**	**UTM E (meters)**	**UTM N (meters)**
Cancer	PMI	5 Years	2.73E-04	10	394735.08	3863647.43
	MEIR		3.05E-06	5815	393510.00	3865110.00
	MEIS		7.11E-07	3232	393,160.00	3,858,860.00
	MEIW	5 Years	3.60E-07	5815	393510.00	3865110.00
Chronic HI	PMI	Annual	0.1192	10	394735.08	3863647.43
	MEIR		0.00133	5815	393510.00	3865110.00
	MEIS		0.00031	3232	393,160.00	3,858,860.00
	MEIW		0.00133	5815	393510.00	3865110.00

Source: HARP2 (ADMRT 22118) model run by ADI, December 2023
MEIR = maximum exposed individual residential; MEIS = maximum exposed individual sensitive; MEIW = maximum exposed individual worker; PMI = point of maximum impact; UTM = Universal Transverse Mercator

APPENDIX 5.9C

Screening HRA for Operations Phase

Operations HRA Summary Tables for the Berm and No Berm Options

Table 5.9 C-1: Health Risk Assessment Summary for the Operations Phase

Architectural berm Option						
Type of Risk	Receptor Type	Exposure Duration	Risk	Receptor ID	UTM E (meters)	UTM N (meters)
Cancer	PMI	30 Years	3.16E-06	61	394,832.36	3,863,973.48
	MEIR		1.77E-08	4,494	393,510.00	3,865,110.00
	MEIS		8.84E-09	1,911	393,160.00	3,858,860.00
	MEIW	25 Years	5.20E-09	4,494	393,510.00	3,865,110.00
Chronic HI	PMI	Annual	7.14E-04	61	394,832.36	3,863,973.48
	MEIR		4.00E-06	4,494	393,510.00	3,865,060.00
	MEIS		2.00E-06	1,911	393,160.00	3,858,860.00
	MEIW		4.00E-06	4494	393,510.00	3,865,110.00

Source: HARP2 (ADMRT 22118) model run by ADI, January 2024
The PMI in both scenarios is located on the eastern fence line and is not a residential receptor.
The MEIS in both scenarios is the Rosamond Elementary School.
MEIR = maximum exposed individual residential; MEIS = maximum exposed individual sensitive; MEIW = maximum exposed individual worker; PMI = point of maximum impact; UTM = Universal Transverse Mercator

Table 5.9 C-2: Health Risk Assessment Summary for the Operations Phase

No-Architectural berm Option						
Type of Risk	Receptor Type	Exposure Duration	Risk	Receptor ID	UTM E (meters)	UTM N (meters)
Cancer	PMI	30 Years	3.16E-06	40	394,833.27	3,863,977.23
	MEIR		1.77E-08	4,388	393,480.00	3,865,110.00
	MEIS		8.84E-09	1,848	393,160.00	3,858,860.00
	MEIW	25 Years	5.20E-09	4,388	393,480.00	3,865,110.00
Chronic HI	PMI	Annual	7.14E-04	40	394,833.27	3,863,977.23
	MEIR		4.00E-06	4,388	393,480.00	3,865,110.00
	MEIS		2.00E-06	1,848	393,160.00	3,858,860.00
	MEIW		4.00E-06	4,388	393,480.00	3,865,110.00

Source: HARP2 (ADMRT 22118) model run by ADI, January 2024
The PMI in both scenarios is located on the eastern fence line and is not a residential receptor.
The MEIS in both scenarios is the Rosamond Elementary School.
MEIR = maximum exposed individual residential; MEIS = maximum exposed individual sensitive; MEIW = maximum exposed individual worker; PMI = point of maximum impact; UTM = Universal Transverse Mercator

APPENDIX 5.9D

HRA Support Data

Appendix 5.9D Table 5.9D-1

Health Risk Assessment Methodology

Methodology/Parameter	Construction	Operation
Dispersion Models Used	See Air Quality Section 5.1 for a detailed discussion of the models used, options, and parameters, etc. Also consult Appendices 5.1A through 5.1E.	See Air Quality Section 5.1 for a detailed discussion of the models used, options, and parameters, etc. Also consult Appendices 5.1A through 5.1E.
Risk Assessment Methodology	See Public Health Section 5.9 for a detailed discussion of the models used, options, and parameters, etc. Also consult Appendices 5.9A through 5.9C, and 5.9E.	See Public Health Section 5.9 for a detailed discussion of the models used, options, and parameters, etc. Also consult Appendices 5.9A through 5.9D.
Risk Assessment Model Used	HARP2, ADMRT Version 22118	HARP2, ADMRT Version 22118
HRA Toxics Evaluated	DPM (CAS 9901)	DPM (CAS 9901)
ADMRT 22118 Options Used	Cancer Risk Calculated	Cancer Risk Calculated
	Chronic Hazard Index Calculated	Chronic Hazard Index Calculated
	Residential/Sensitive Receptor Analysis 5 Yr Exposure/3rd Trimester Start FAH = Off	Residential/Sensitive Receptor Analysis 30 Yr Exposure/3rd Trimester Start FAH = Off Cancer burden assessed based on 70 Yr. exposure
	Worker Receptor Analysis 5 Yr Exposure FAH = Off Worker Adjustment Factor = 4.2	Worker Receptor Analysis 25 Yr Exposure FAH = Off Worker Adjustment Factor = 4.2
	Pathways (Inhalation, Dermal, Soil Ingestion,	Pathways (Inhalation, Dermal, Soil Ingestion,

	Breast Milk Consumption, Homegrown Produce	Breast Milk Consumption, Homegrown Produce
ADMRT 22118 Options Used (cont'd)	Deposition Velocity = 0.02 m/sec	Deposition Velocity = 0.02 m/sec
Risk Analysis Type	OEHHA Derived Method	OEHHA Derived Method
Receptor Types	Individual (Resident) and Worker	Individual (Resident) and Worker
AERMOD Version	22112	22112
AERMET Version	18081	18081
AERMAP Version	22112	22112
BPIP-Prime Version	04274	04274
Construction/Operation Options	Berm and No Berm	Berm and No Berm

Figure 5.9D-1
30-Year One in a Million Cancer Risk
(With Berm) Operations

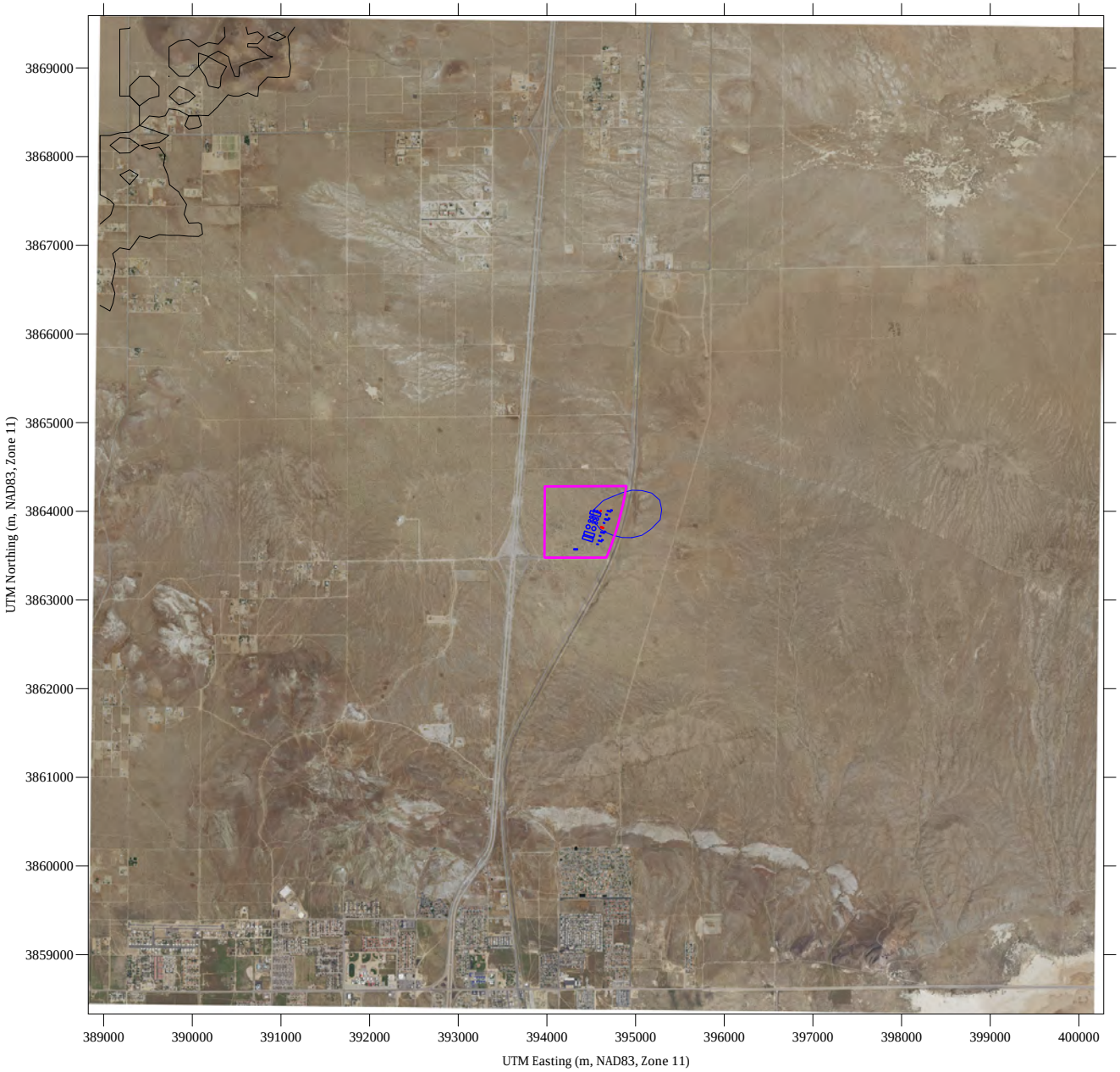


Figure 5.9D-2
30-Year One in a Million Cancer Risk
(No Berm) Operations

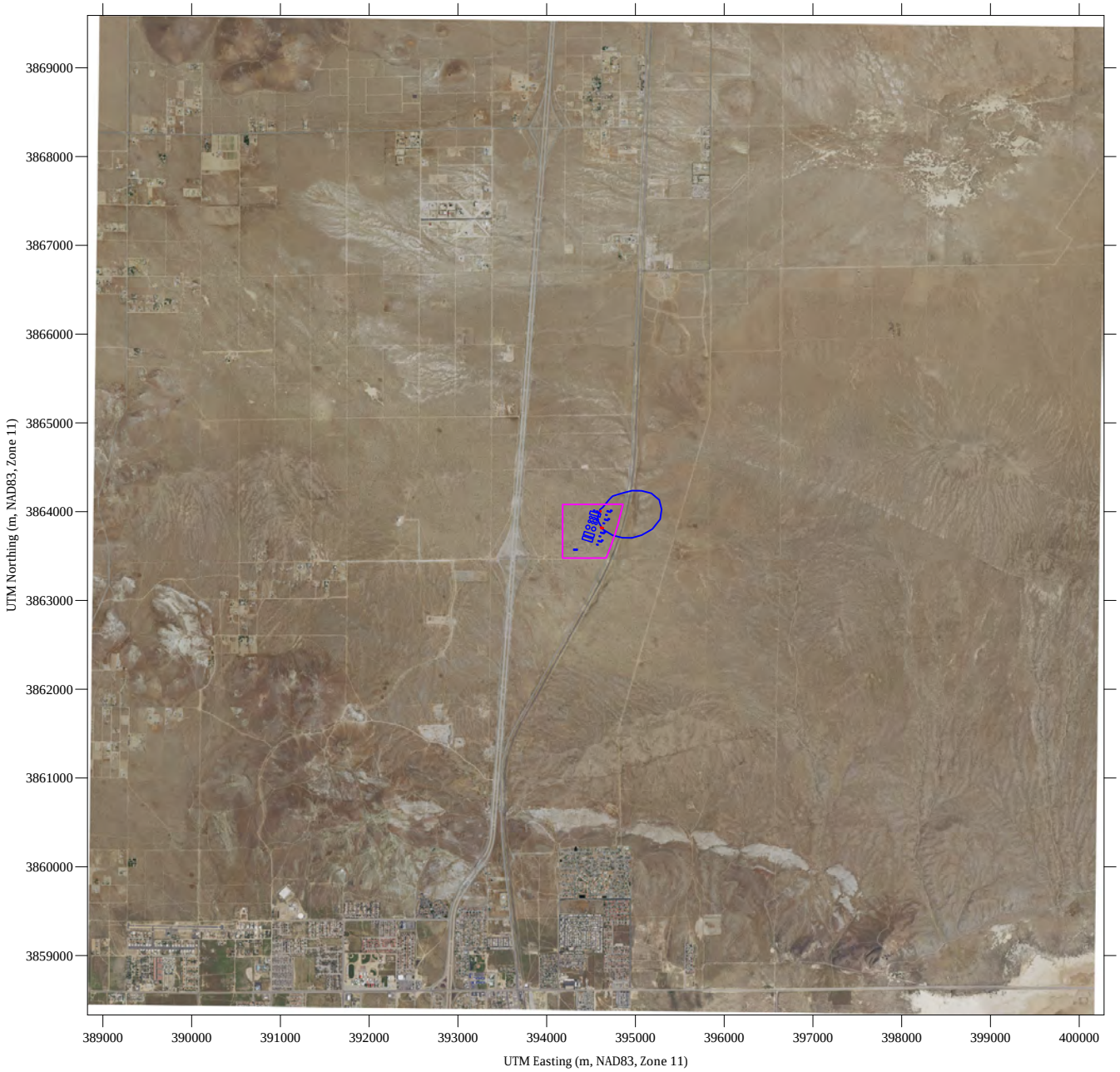


Figure 5.9D-3
70-Year Acutal and Projected One in a Million Cancer Burden
(No Berm) Operations

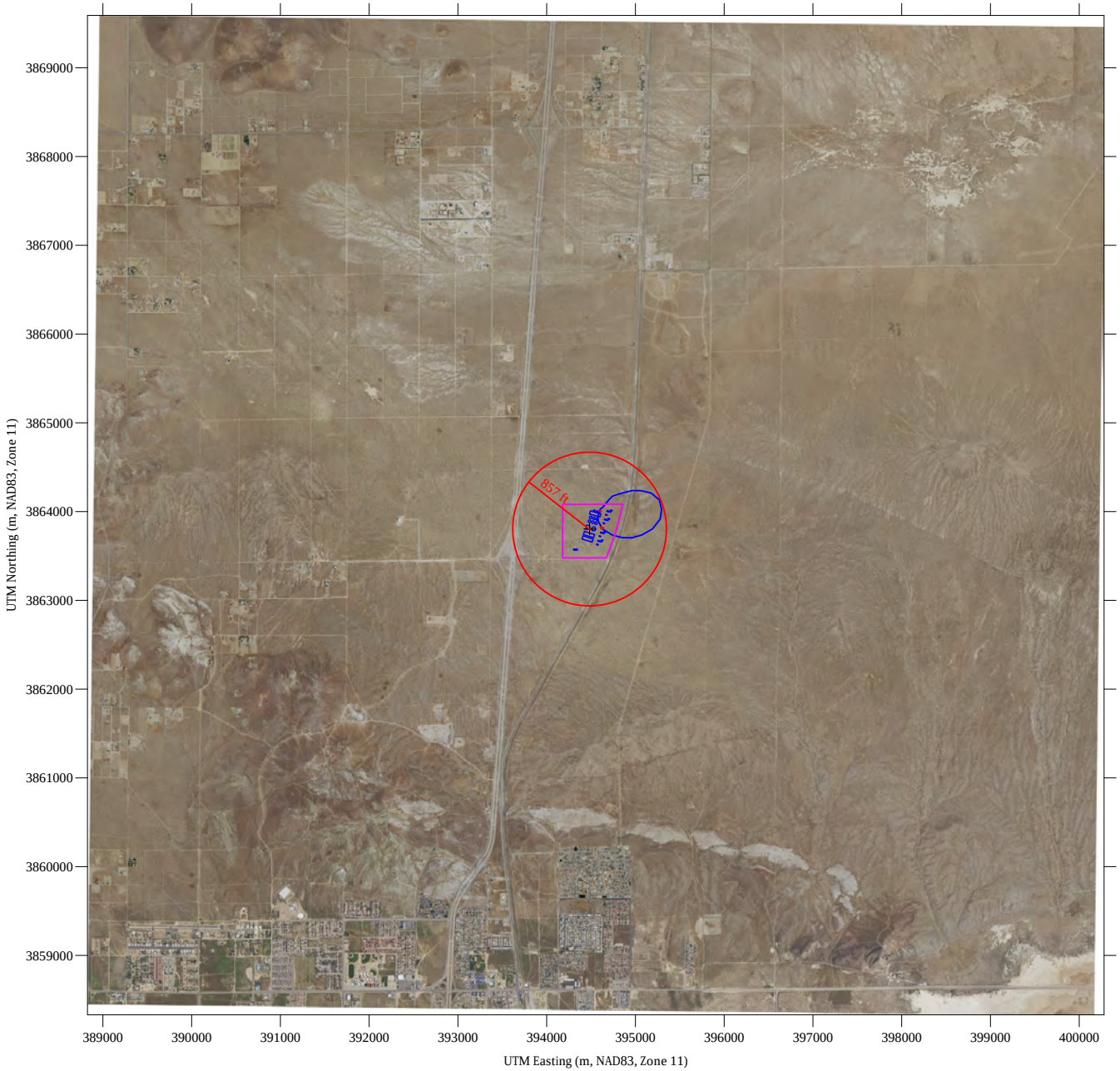


Figure 5.9D-4 CalEnviroScreen Overburdened Community Map

WRESC

Legend

CalEnviroScreen 4.0 Results

- > 90 - 100 (Highest Scores)
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10 (Lowest Scores)

CalEnviroScreen 4.0 High Pollution, Low Population

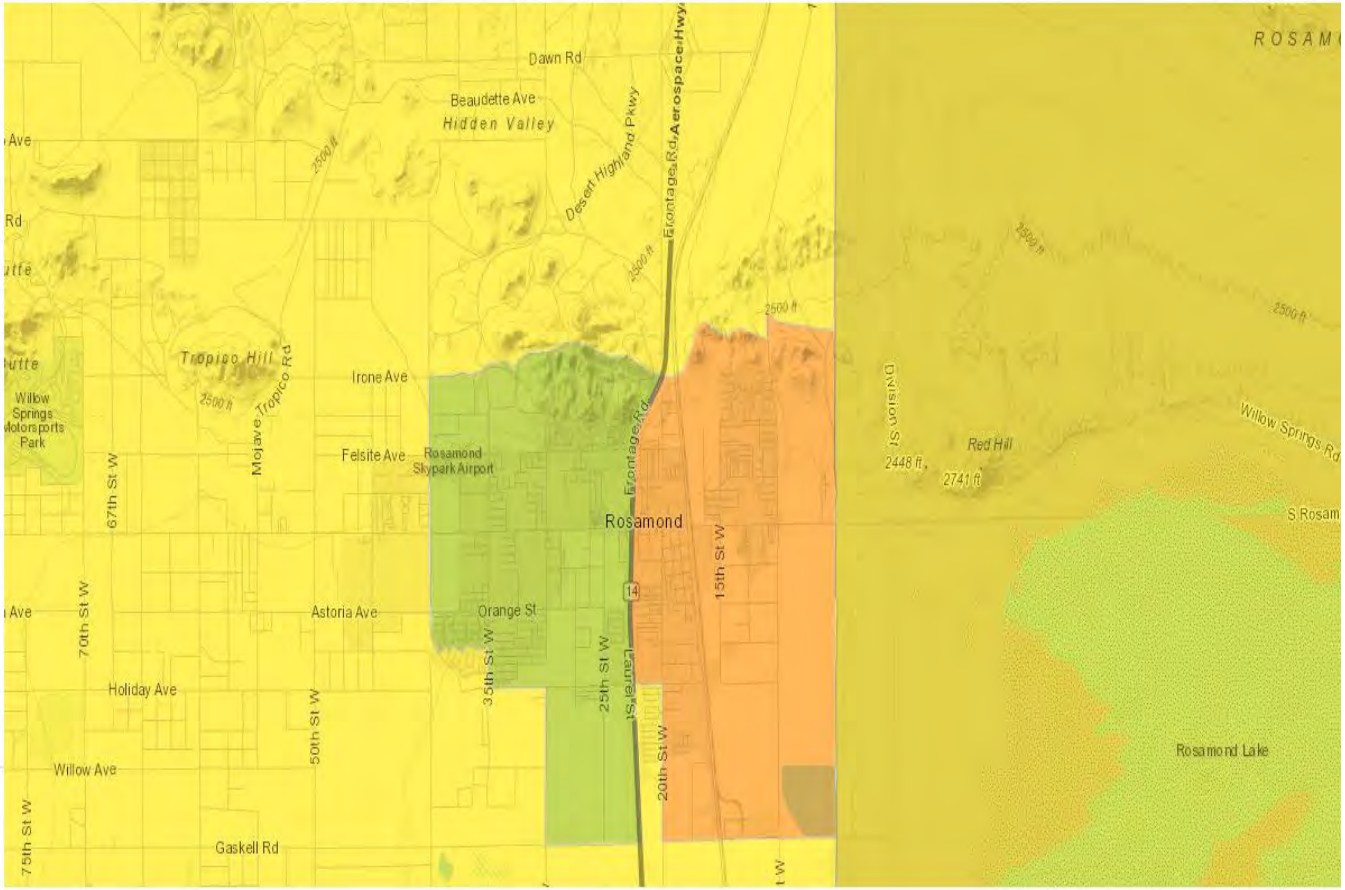
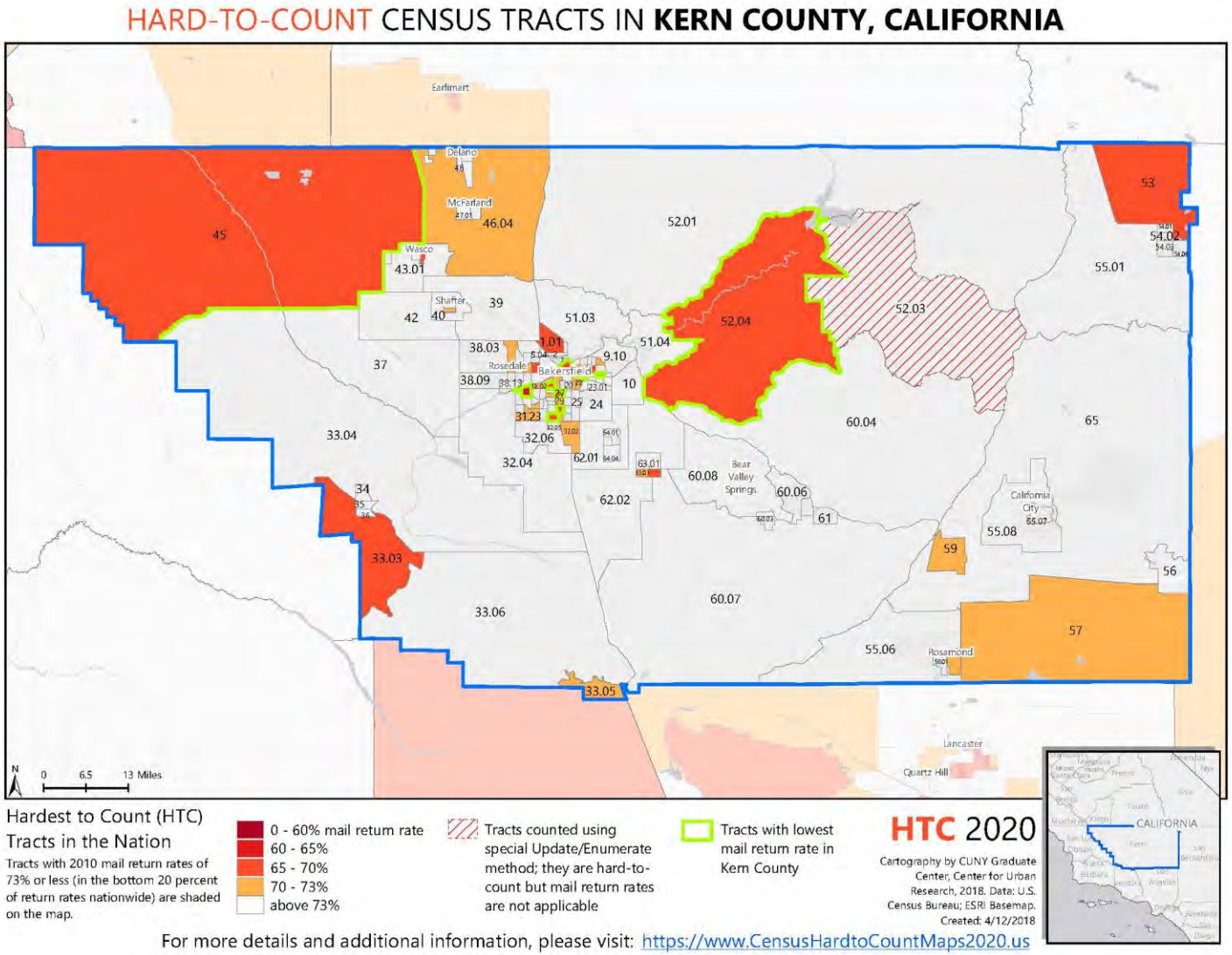


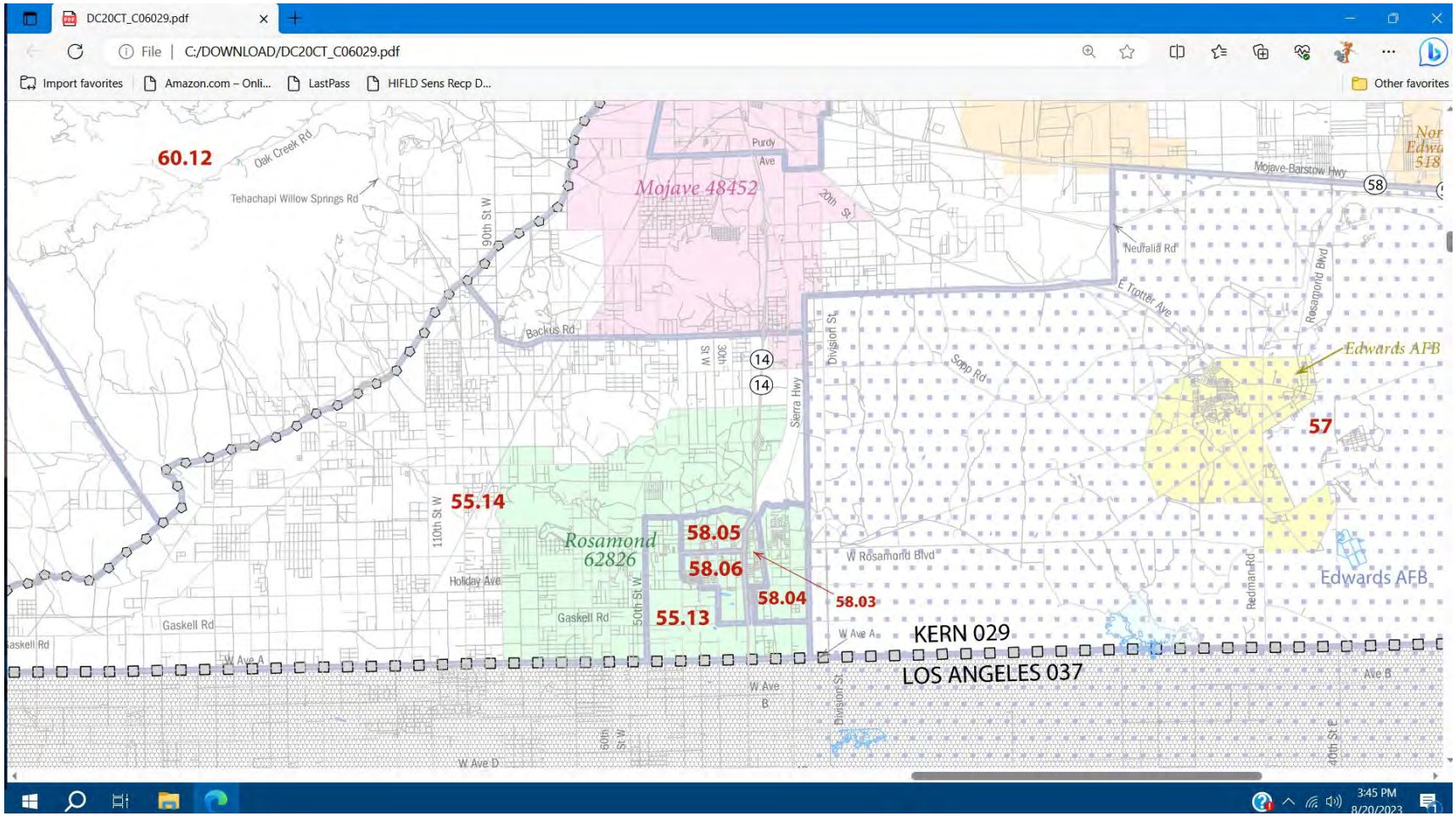
Figure 5.9D-5

Kern County HTC Census Tract Map



Tract 55.06 is now Tract 55.14 per the 2020 census.

Figure 5.9D-6 Census Tract 55.14 (2020 Census Maps-US Census Bureau) – WRESC is Located in Tract 55.14



APPENDIX 5.9E

Electronic Modeling Files (submitted electronicaly)

Appendix 5.9E
Electronic Files

Health Risk Assessment
Input and Output Files

(These files have been supplied to CEC staff as a separate submittal.)

APPENDIX 5.10A

Environmental Justice

INTRODUCTION

This report was prepared in compliance with Presidential Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994. The purpose of this report is to determine whether disproportionately high and adverse human health or environmental effects of the proposed WRESC are likely to fall on people of color (POC) and/or low-income populations. This report focuses on the populations that are located within the area potentially affected by the WRESC Project.

Studies Performed and Coordination Conducted

Overview of Executive Order 12898

EO 12898, issued by President Clinton in 1994, requires that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…." In his memorandum transmitting EO 12898 to federal agencies, President Clinton further specified that, "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the National Environmental Policy Act of 1969" (Clinton 1994). The Council on Environmental Quality (CEQ) has issued guidance on how to implement EO 12898 and conduct an EJ analysis (CEQ 1997).

Methodology and Approach

In accordance with California Energy Commission (CEC) siting regulations, this report presents an evaluation of the WRESC project for compliance with EO 12898. This environmental justice (EJ) analysis involved an evaluation of the following three criteria.

1. A determination is made as to which impacts of the project are high and adverse.

The series of environmental analyses prepared for the WRESC AFC were reviewed, and discussions with the environmental professionals who prepared these sections were conducted to determine which environmental or human health impacts could reach the level of high and adverse after proposed mitigation measures were implemented. Neither EO 12898, nor any of the environmental justice guidance documents, contain official guidance on the definition of "high and adverse." For purposes of this analysis, adverse impacts identified by the professional analysts working on this AFC as "significant" under the CEQA are synonymous with high and adverse impacts as described in EO 12898.

2. A determination is made as to whether POC or low-income populations exist within the high and adverse impact zones.

For information on the distribution of POC and low-income populations in the WRESC Project Area, this EJ analysis reviewed 2010 census data and the 2017–2021 ACS 5-year data (U.S. Census Bureau 2023a, 2023b). The analysis involved reviewing census tract level POC data and census tract income data.

Tables 5.10A-1 and **5.10A-2**, below, show the distribution of the populations that intersect the 10-mile radius buffer by POC and income, respectively.

3. The spatial distribution of high and adverse impacts is reviewed to determine if these impacts are likely to fall disproportionately on the POC or low-income population.

As a result of there being no anticipated high and adverse human health or environmental effects from the construction and operation of the WRESC project, a final determination of impacts on low-income and POC populations is not required. However, this report presents a summary of the census tract data for the POC and low-income populations that intersect the 10-mile radius buffer.

Outreach to POC and Low- Income Populations

EO 12898 requires federal agencies to ensure effective public participation and access to information. Consequently, a key component of compliance with EO 12898 is outreach to the potentially affected POC and/or low-income population to identify issues of importance that may not otherwise be apparent. As part of the AFC process, the CEC will provide information to residents in the area and provide opportunities for their involvement.

The CEC typically:

- Mails written notice to all property owners within 1,000 feet of the site and within 500 feet of the centerline of all linear corridors.
- Publishes notice in the local newspaper announcing public workshops and hearings.
- Provides access to information by submitting copies of key documents to local libraries and providing materials via a web page.
- Holds hearings and workshops in the local community.
- Assigns a public advisor to assist the public in participating in the process.

Demographic Analysis

Distribution of the People of Color Population

Based on the census and ACS data used by the U.S. EPA EJScreen Mapper, the total population within a 10-mile radius of the WRESC Site is approximately 24,376 (U.S. EPA n.d.). As indicated in **Table 5.10A-1**, the POC population within the census tracts that intersect the 10-mile radius buffer comprises approximately 60 percent of this total population. The POC population data is based on the U.S. Census Bureau's 2020 Decennial Census data (U.S. Census Bureau 2023a).

Figure 5.10-1 identifies the POC population percentages of census tracts within 10 miles of the WRESC. As shown in **Figure 5.10-1**, six of the census tracts in the vicinity of the WRESC are above 50 percent POC populations (U.S Census Bureau 2021a). As such, six of the census tracts within the 10-mile radius of the WRESC Site would meet the CEQ guidance for identifying POC populations (CEQ 1997).

Distribution of the Low-Income Population

Based on the 2017–2021 ACS 5-year estimates dataset, the total population for whom poverty status is determined within the census tracts that intersect the 10-mile radius buffer around the WRESC Site was approximately 31,776. As indicated in **Table 5.10A-2**, the low-income population within the census tracts that intersects the 10-mile radius buffer makes up about 35 percent of the total population. **Figure 5.10-2** identifies the low-income population percentages of census tracts in the vicinity of the WRESC Site.

Unlike the CEQ 1997 guidance on POC population, none of the EJ guidance documents contain a quantitative definition of how many low-income individuals it takes to establish a low-income population. In the absence of guidance, for this analysis the density used to identify POC populations (i.e., 50 percent or greater) was also used to identify low-income populations. As shown on **Figure 5.10A-2**, no census tracts contained more than 50 percent low-income populations.

Results and Conclusion

As discussed in the Methodology and Approach section above, for purposes of this analysis, CEQA significant adverse impacts are synonymous with high and adverse impacts as described in EO 12898. As reported in the series of environmental analyses prepared for the WRESC Application for Certification, no significant adverse impacts will occur after GEM implements proposed mitigation measures. Consequently, none of the impacts of this project are high and adverse in the context of EO 12898. As such, no high and adverse human health or environmental effects will fall disproportionately on POC or low-income populations. The WRESC Project is, therefore, consistent with the policy established in EO 12898.

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Table 5.10A-1: 2020 Census People of Color Data by Census Tract Willow Rock Energy Storage Center 10-mile Radius

Census Tract	Population	White	People of Color	Percentage of People of Color
55.13	2,549	1,188	1,361	53.4
55.14	3,428	2,105	1,323	38.6
57	2,332	1,475	857	36.7
58.03	3,344	1,510	1,834	54.8
58.04	5,271	2,326	2,945	55.9
58.05	2,645	1,341	1,304	49.3
58.06	4,722	2,253	2,469	52.3
59	4,163	1,613	2,550	61.3
65	4,350	1,651	2,699	62.0
9009.02	1,674	1,109	565	33.8
9800.03	0	0	0	0.0

Table 5.10A-2: 2020 American Community Survey Poverty Data for 10-Mile Radius from Willow Rock Energy Storage Center

Census Tract	Population for Whom Poverty Status Is Determined	Percentage below 100 Percent of the Poverty Level
55.13	1,961	11.6
55.14	3,886	6.2
57	2,766	2.2
58.03	3,205	27.6
58.04	5,886	21
58.05	2,231	8.2
58.06	4,698	8.9
59	3,341	17.8
65	2,347	23
9009.02	1,455	11.3
9800.03	0	0.0