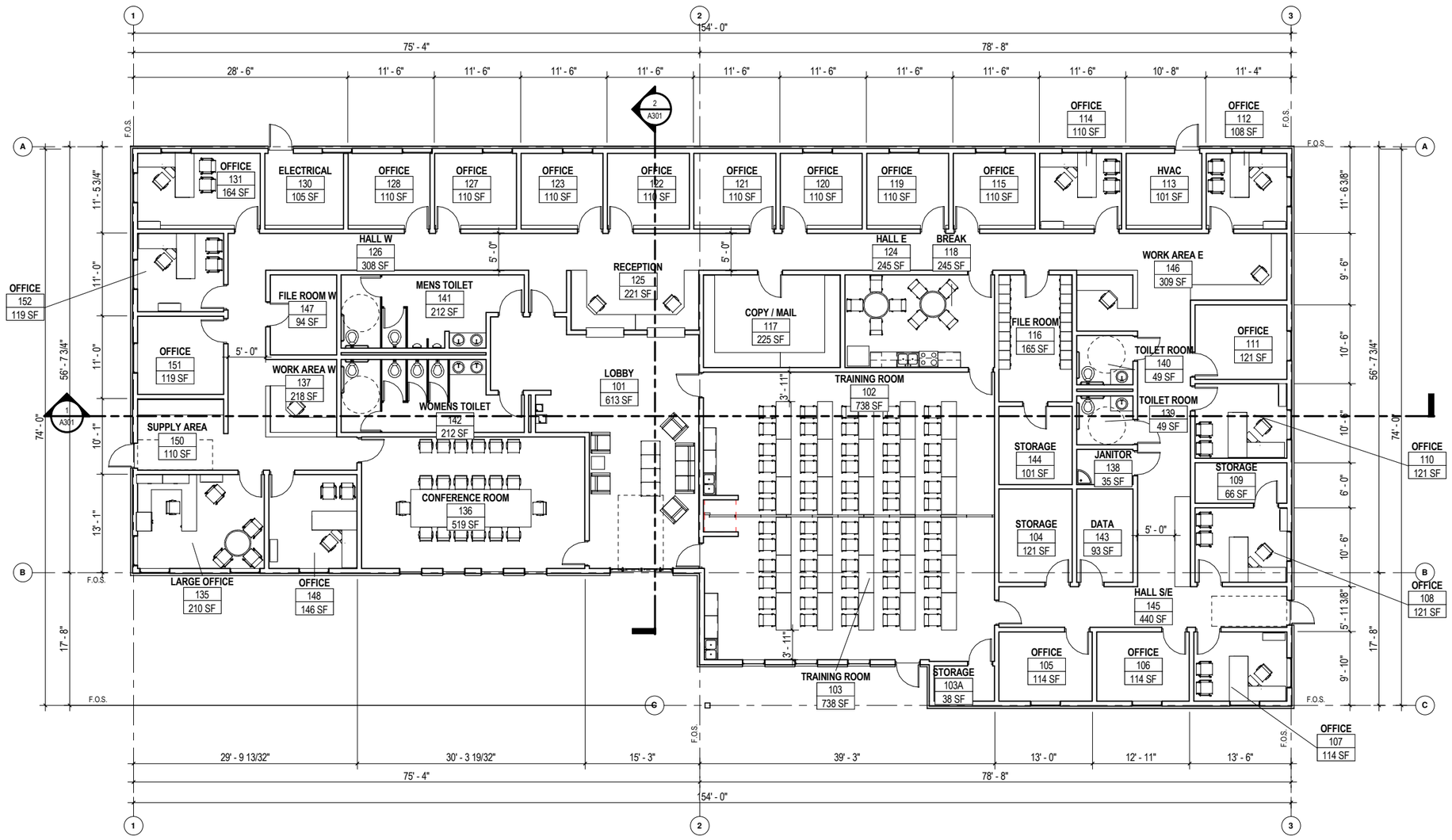
APPENDIX A

Building Floor Plans and Elevations, URS, September 2, 2014.



1 FLOOR PLAN
1/8" = 1'-0"

N

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	LOBBY	613 SF
102	TRAINING ROOM	738 SF
103	TRAINING ROOM	738 SF
103A	STORAGE	38 SF
104	STORAGE	121 SF
105	OFFICE	114 SF
106	OFFICE	114 SF
107	OFFICE	114 SF
108	OFFICE	121 SF
109	STORAGE	66 SF
110	OFFICE	121 SF
111	OFFICE	121 SF
112	OFFICE	108 SF
113	HVAC	101 SF
114	OFFICE	110 SF
115	OFFICE	110 SF
116	FILE ROOM	165 SF
117	COPY / MAIL	225 SF
118	BREAK	245 SF
119	OFFICE	110 SF
120	OFFICE	110 SF
121	OFFICE	110 SF
122	OFFICE	110 SF
123	OFFICE	110 SF
124	HALL E	245 SF
125	RECEPTION	221 SF
126	HALL W	308 SF
127	OFFICE	110 SF
128	OFFICE	110 SF
129	OFFICE	Not Placed
130	ELECTRICAL	105 SF
131	OFFICE	164 SF
135	LARGE OFFICE	210 SF
136	CONFERENCE ROOM	519 SF
137	WORK AREA W	218 SF
138	JANITOR	35 SF
139	TOILET ROOM	49 SF
140	TOILET ROOM	49 SF
141	MENS TOILET	212 SF
142	WOMENS TOILET	212 SF
143	DATA	93 SF
144	STORAGE	101 SF
145	HALL S/E	440 SF
146	WORK AREA E	309 SF
147	FILE ROOM W	94 SF
148	OFFICE	146 SF
150	SUPPLY AREA	110 SF
151	OFFICE	119 SF
152	OFFICE	119 SF
Grand total		8,929 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	10,039 SF	10,052 SF

Rev. | Date | Description | Approved

Date: 01.17.2013
Design File no.: TBD
Drawing Code: 30% Design
File name:
Plot date: 04/28/10
Plot scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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DGS CALIFORNIA Department of General Services

BUTTE COUNTY FIRE STATION
CALIFORNIA DEPARTMENT OF FORESTRY
BUTTE COUNTY FIRE STATION FACILITY
SCHEMATIC PLANS

ADMINISTRATION
FLOOR PLAN

Sheet reference number:
A101
of 107

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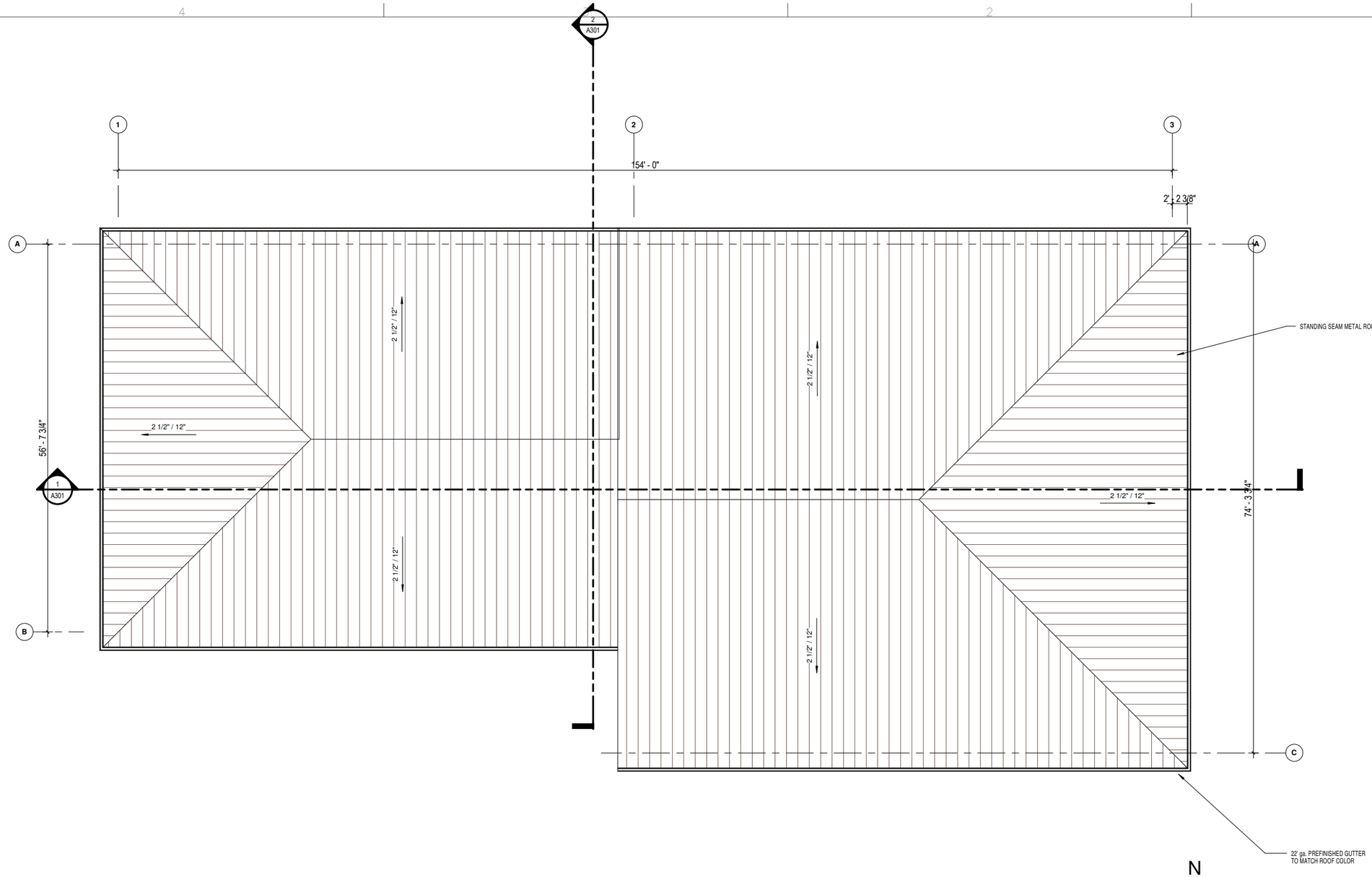

1 ROOF PLAN
1/8" = 1'-0"

Rev.	Date	Description	Approved

Date: 01.17.2013
Design File No.: TBD
Drawing Code: 30% Design
File date: 04/28/10
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Page code: AL_001D

Designed by: Designer
Dwn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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ADMINISTRATION
ROOF PLAN

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A121
of 107

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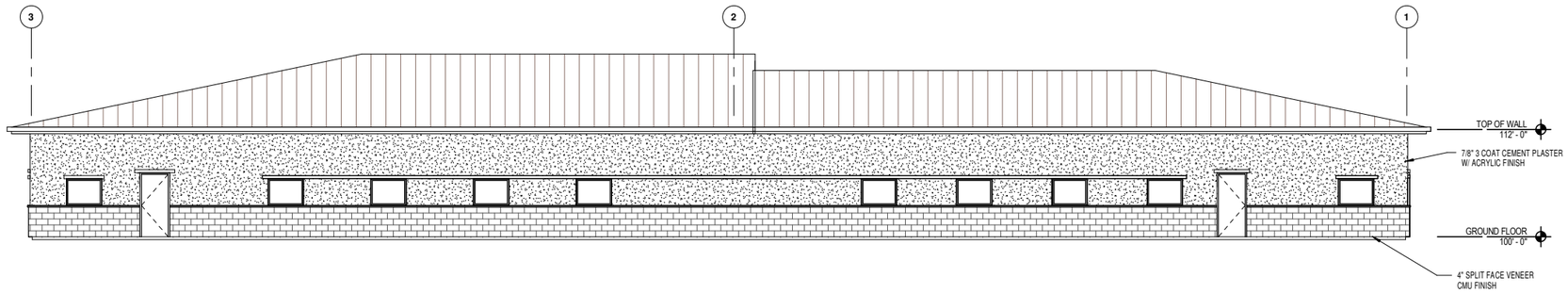
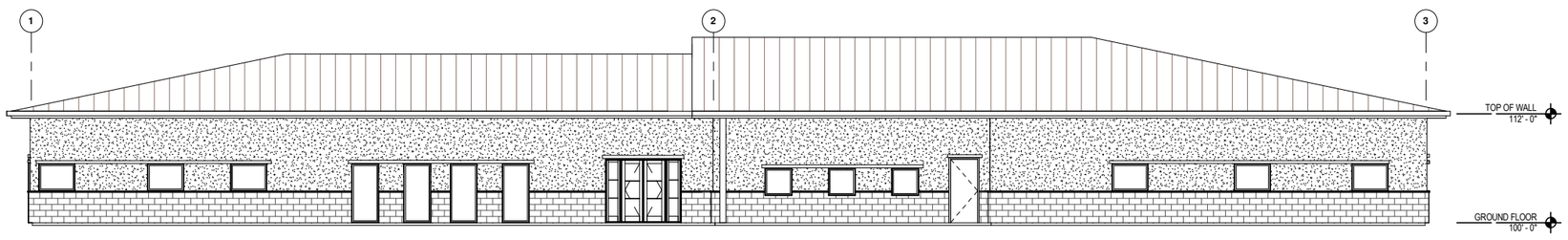


1 NORTH ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

No.	Description	Approved	Date

Date: 01.17.2013
Rev:
Design File no.: TBD
Spec. No.: TBD
Drawing Code: 30% Design
File name:
Plot date: 06/20/14
Plot scale: 24_X_0.710

Designed by: Designer
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Reviewed by: R. MALESTER
Submitted by: URS Corporation

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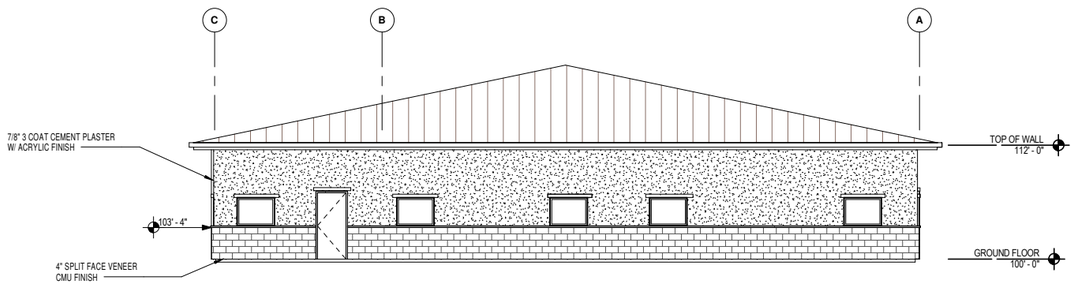
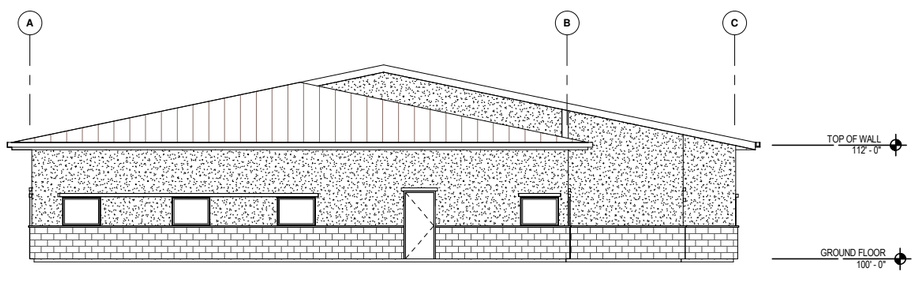
SCHEMATIC PLANS

ADMINISTRATION
EXTERIOR ELEVATIONS

Sheet reference number:
A201
of 107



1 EAST OVERALL ELEVATION
1/8" = 1'-0"



2 WEST OVERALL ELEVATION
1/8" = 1'-0"

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Date: 01.17.2013
Design File no.: TBD
Drawing Code: 30% Design
File date:
Plot date: 06/20/14
Plot scale: 1/4"=1'0"

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Submitted by: URS Corporation

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CALIFORNIA
ADMINISTRATION
EXTERIOR ELEVATIONS

Sheet reference number:
A202
of 107

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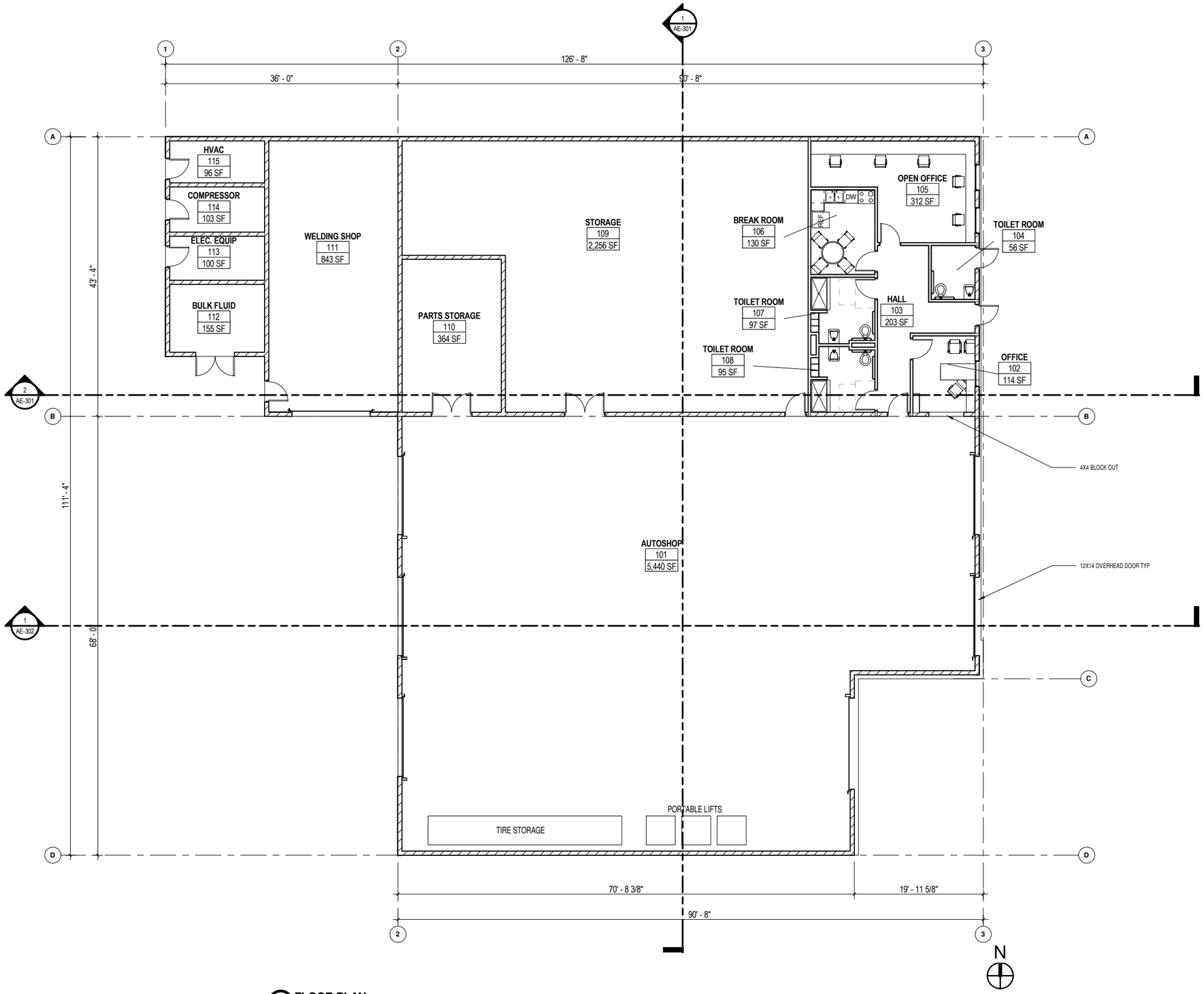

1 FLOOR PLAN
1/8" = 1'-0"

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	AUTOSHOP	5,440 SF
102	OFFICE	114 SF
103	HALL	203 SF
104	TOILET ROOM	56 SF
105	OPEN OFFICE	312 SF
106	BREAK ROOM	130 SF
107	TOILET ROOM	97 SF
108	TOILET ROOM	95 SF
109	STORAGE	2,256 SF
110	PARTS STORAGE	364 SF
111	WELDING SHOP	843 SF
112	BULK FLUID	155 SF
113	ELEC. EQUIP	100 SF
114	COMPRESSOR	103 SF
115	HVAC	96 SF
Grand total		10,363 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	11,026 SF	11,163 SF

Date	Description	Approved

Rev:

Date: 01.17.2013
Design File no: TBD
Spec. No.: TBD
Drawing Scale: 30% Design
File name:
Plot date: 04/28/10
Plot scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Reviewed by: R. WALESTER
Submitted by: URS Corporation

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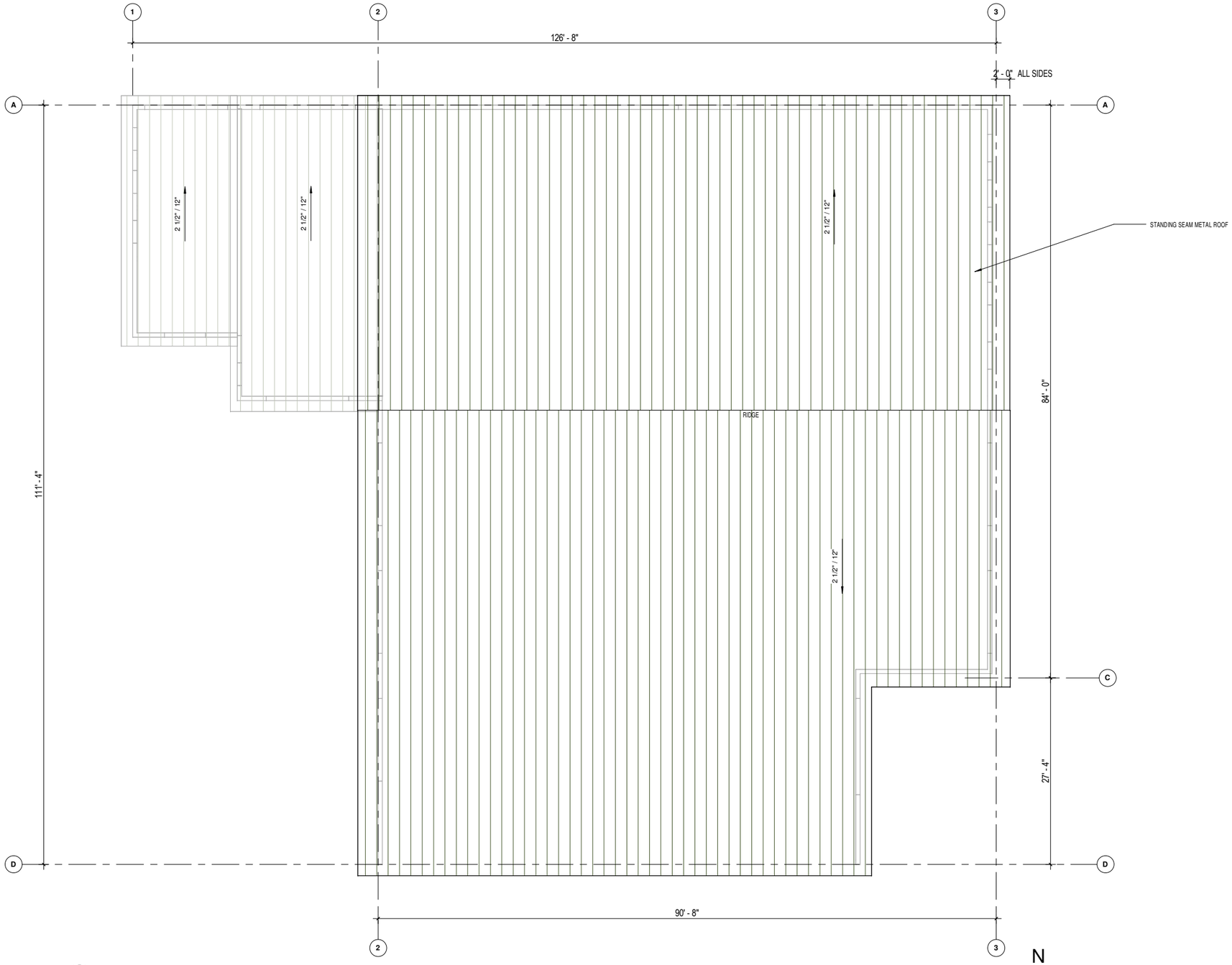
AUTO SHOP
FLOOR PLAN

Sheet reference number:
A101
of 107



1 ROOF PLAN
1/8" = 1'-0"

Rev.	Date	Description	Approved

Date: 01.17.2013
Design File no.: TBD
Spec No.: TBD
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File date:
Plot date: 04/28/10
Pag scale: AL_ANTID

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AUTO SHOP
ROOF PLAN

Sheet reference number:
A121
of 107

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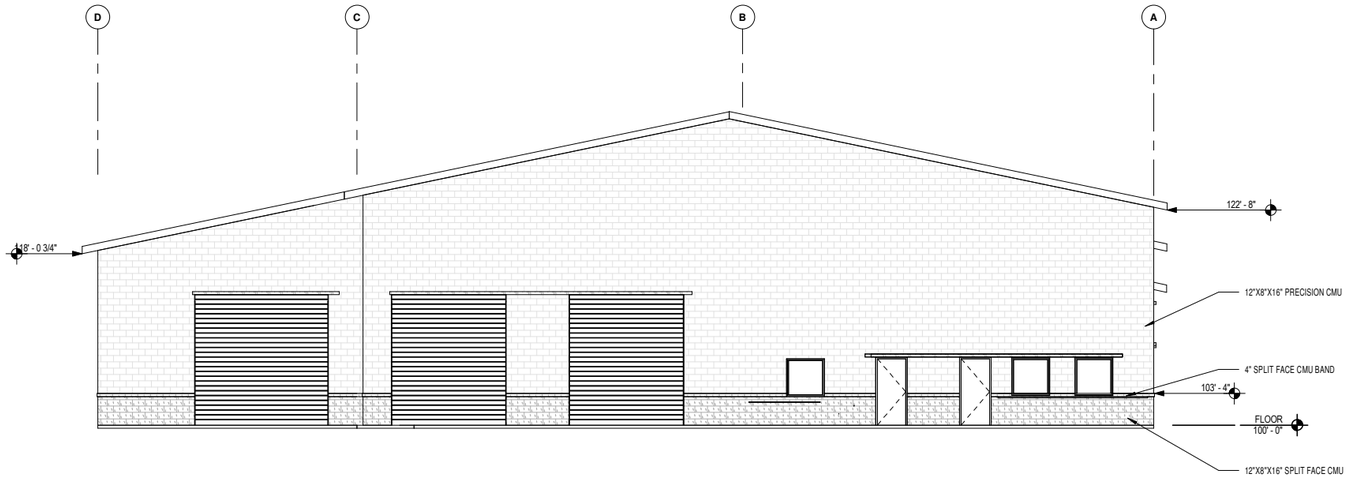
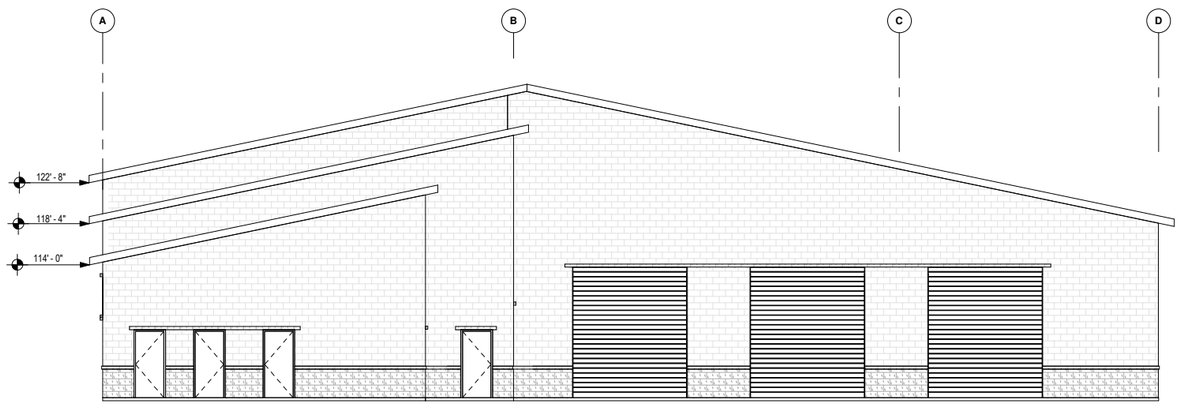


1 East Elevation
1/8" = 1'-0"



2 West Elevation
1/8" = 1'-0"

Rev:	Date	Description	Approved

Date: 01.17.2013
Design File no.: TBD
Drawing Code: 30% Design
File date: 06/12/14
Plot date:
Page code: 9L_0010

Designed by: Designer
Drawn by: Author
Type No.: TBD
Reviewed by: R. WALESTER
Submitted by: URS Corporation

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CALIFORNIA

AUTO SHOP
East/ West Elevation

Sheet reference number:
A-201
of 107

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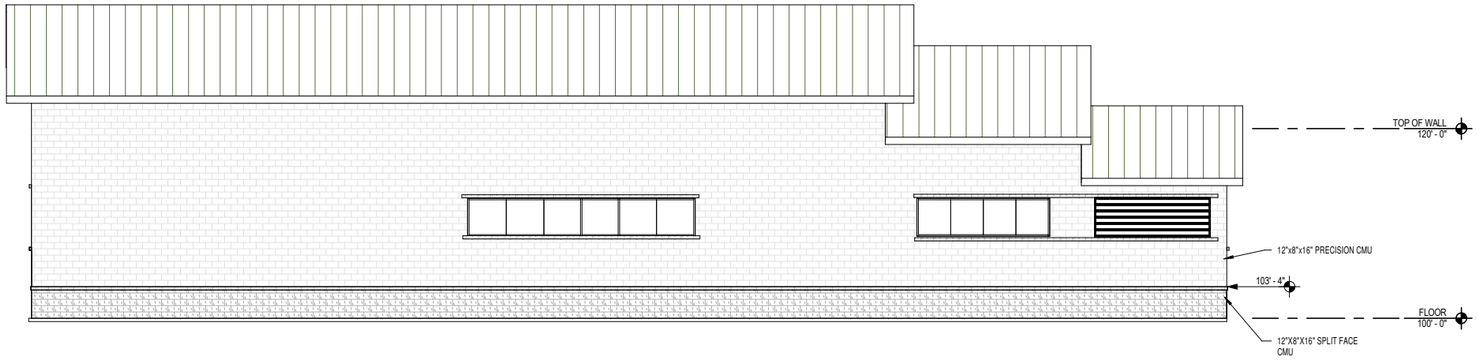
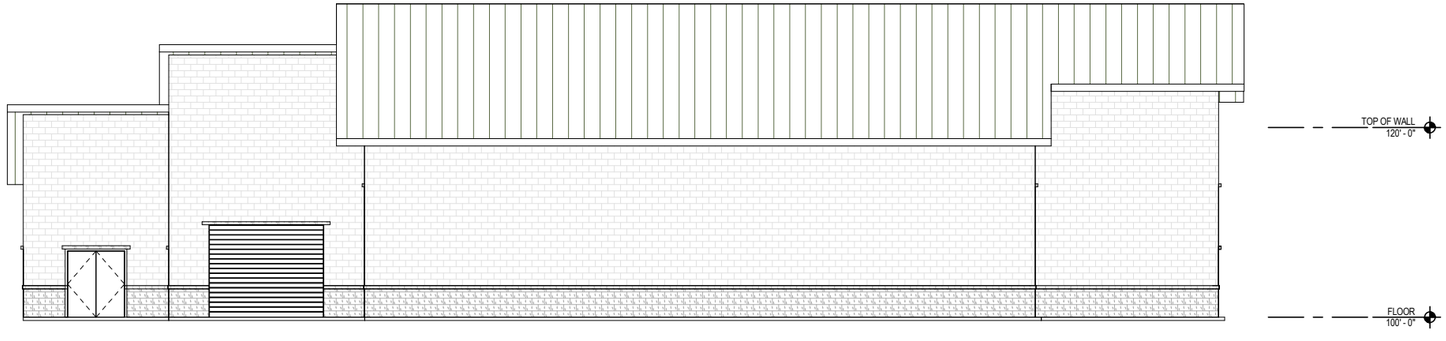


1 North Elevation
1/8" = 1'-0"



2 South Elevation
1/8" = 1'-0"

Rev:	Description	Date	Approved

Date: 01.17.2013
Design File no: TBD
Drawing Code: 30% Design
File date: 06/12/14
Plot date:
Plot scale: VL_OKTID

Designed by: Designer
Dwn by: Author
Sheet No.: TBD
Reviewed by: R. WALESTER
Submitted by: URS Corporation

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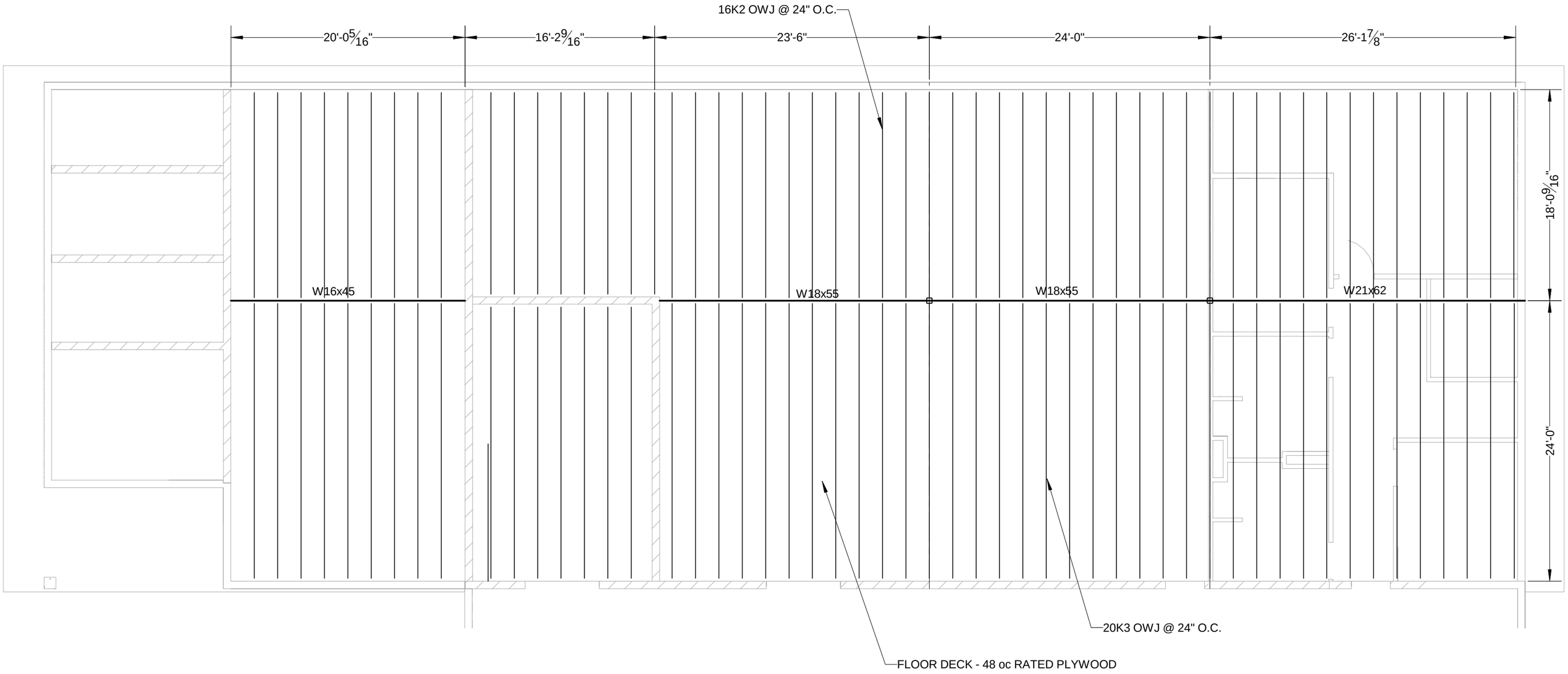
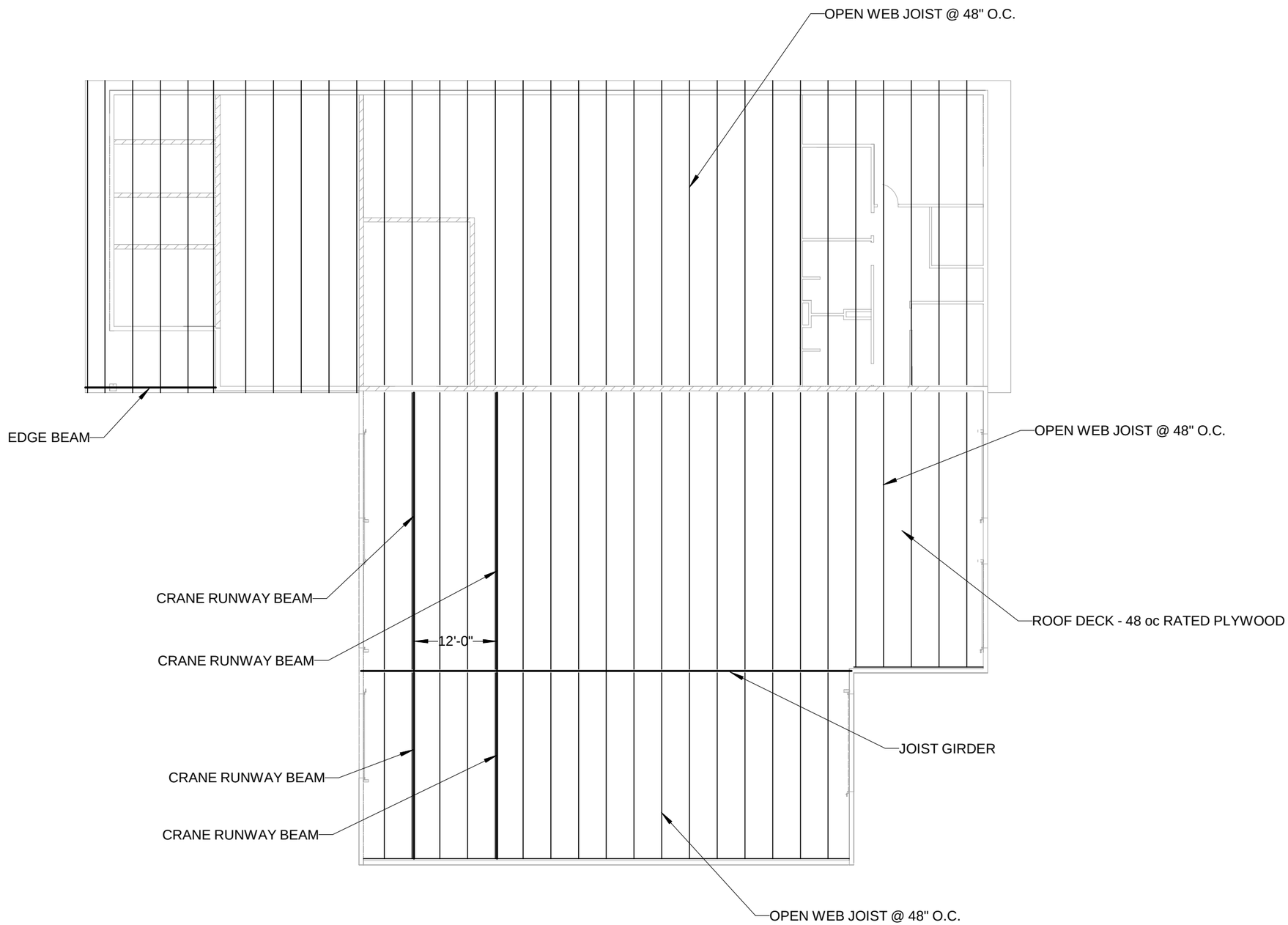
SCHEMATIC PLANS
AUTO SHOP
North/South Elevation

Sheet reference number:
A-202
of 107

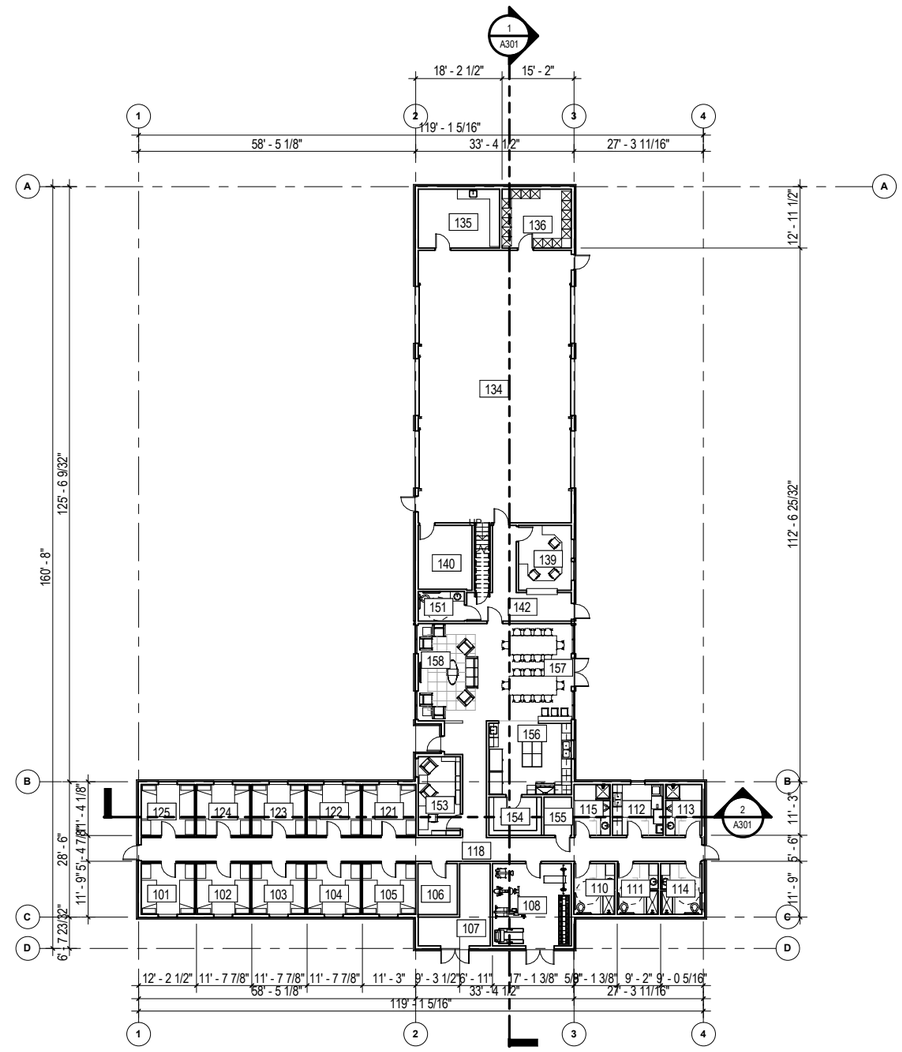
IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE SHEET ACCORDINGLY.



PRELIMINARY STORAGE MEZZANINE AT AUTO SHOP
ALTERNATE STEEL JOIST DESIGN



PRELIMINARY ROOF PLAN - MONOSLOPE ROOF OPTION



A201 2

1 A201

1 APPARATUS / BARRACKS OVERALL FLOOR PLAN

1/16" = 1'-0"

2 A202

N

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	BED RM	121 SF
102	BED RM	121 SF
103	BED RM	121 SF
104	BED RM	121 SF
105	BED RM	121 SF
106	STORAGE	89 SF
107	MECH	165 SF
108	PHYSICAL TRAINING	289 SF
110	TOILET RM	92 SF
111	TOILET RM	92 SF
112	LAUNDRY	115 SF
113	TOILET RM	80 SF
114	TOILET RM	92 SF
115	TOILET RM	80 SF
118	HALL	740 SF
121	BED RM	122 SF
122	BED RM	121 SF
123	BED RM	121 SF
124	BED RM	121 SF
125	BED RM	121 SF
134	APPARATUS BAY	1,902 SF
135	WORK ROOM	213 SF
136	LOCKER ROOM	181 SF
139	OFFICE	152 SF
140	EXTRACTOR	153 SF
142	CORRIDOR / PUBLIC ENTRY	204 SF
151	TOILET RM	61 SF
152	LOFT	582 SF
153	LIBRARY	147 SF
154	PANTRY	89 SF
155	ELEC	47 SF
156	KITCHEN	266 SF
157	DINING ROOM	347 SF
158	DAY ROOM	314 SF
Grand total		7,707 SF

GROSS AREA	DESIGNED	BUDGETED
APPARATUS	3,099 SF	3,100 SF
BARRACKS	4,771 SF	4,649 SF
TOTAL	7,870 SF	7,749 SF

Rev.	Date	Description	Approved

Designed by: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation
Date: 01.17.2013
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Drawing Code: 30% Design
File name:
Plot date: 04/28/10
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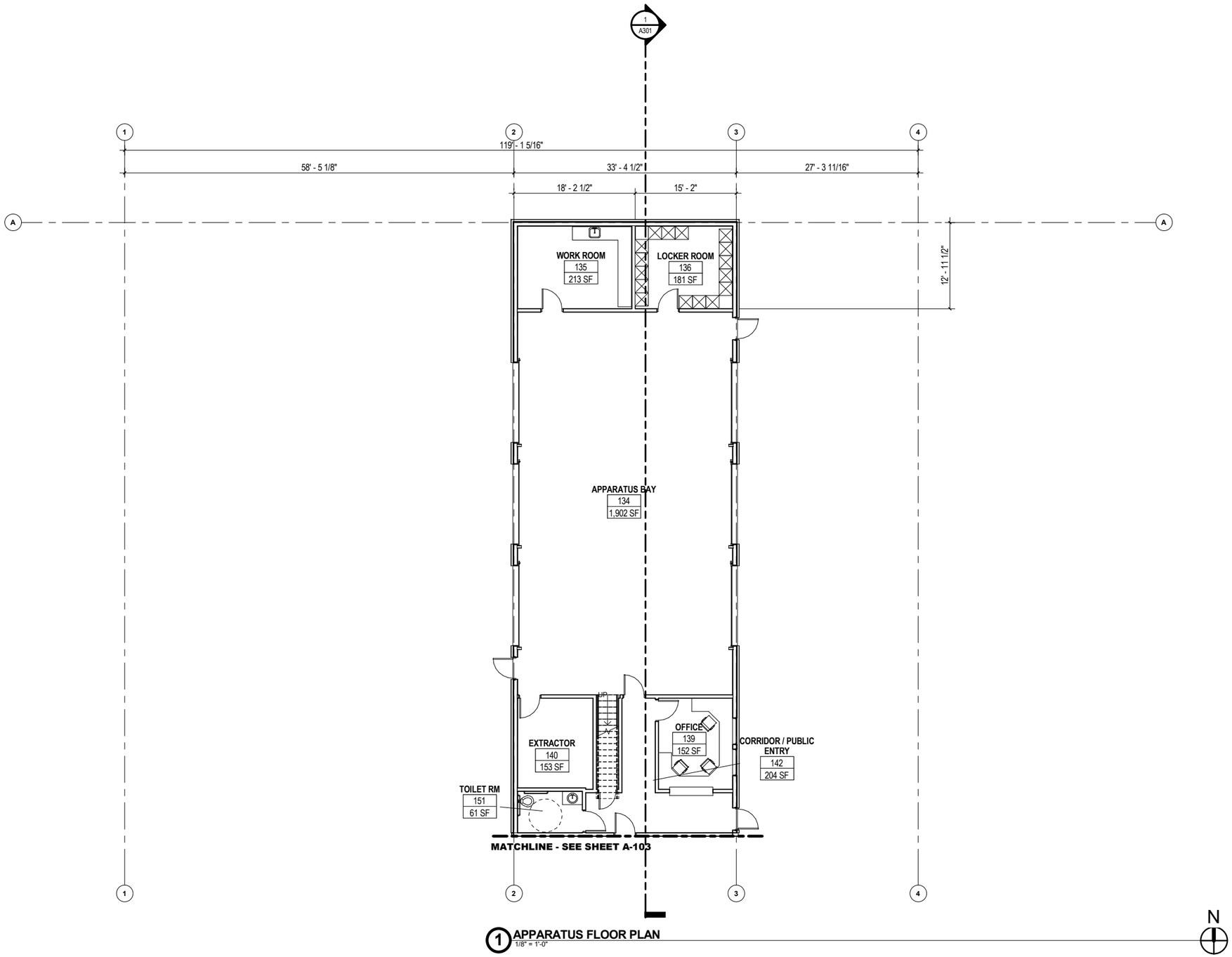
SCHEMATIC PLANS

CALIFORNIA

BARRACKS/APPARATUS
OVERALL FLOOR PLAN

Sheet reference number:
A101
of 107



1 APPARATUS FLOOR PLAN
1/8" = 1'-0"

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	BED RM	121 SF
102	BED RM	121 SF
103	BED RM	121 SF
104	BED RM	121 SF
105	BED RM	121 SF
106	STORAGE	89 SF
107	MECH	165 SF
108	PHYSICAL TRAINING	289 SF
110	TOILET RM	92 SF
111	TOILET RM	92 SF
112	LAUNDRY	115 SF
113	TOILET RM	80 SF
114	TOILET RM	92 SF
115	TOILET RM	80 SF
118	HALL	740 SF
121	BED RM	122 SF
122	BED RM	121 SF
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155	ELEC	47 SF
156	KITCHEN	266 SF
157	DINING ROOM	347 SF
158	DAY ROOM	314 SF
Grand total		7,707 SF

GROSS AREA	DESIGNED	BUDGETED
APPARATUS	3,099 SF	3,100 SF
BARRACKS	4,771 SF	4,649 SF
TOTAL	7,870 SF	7,749 SF

Date: 01.17.2013
Rev:
Designer: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation
Design File no: TBD
Project No.: TBD
Drawing Scale: 30% Design
File date: 05/13/14
Plot date:
Plot scale: AS_NOTED

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Revision	Description	Date	Approved

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BARRACKS/APPARATUS
APPARATUS FLOOR PLAN

Sheet reference number:
A102
of 107

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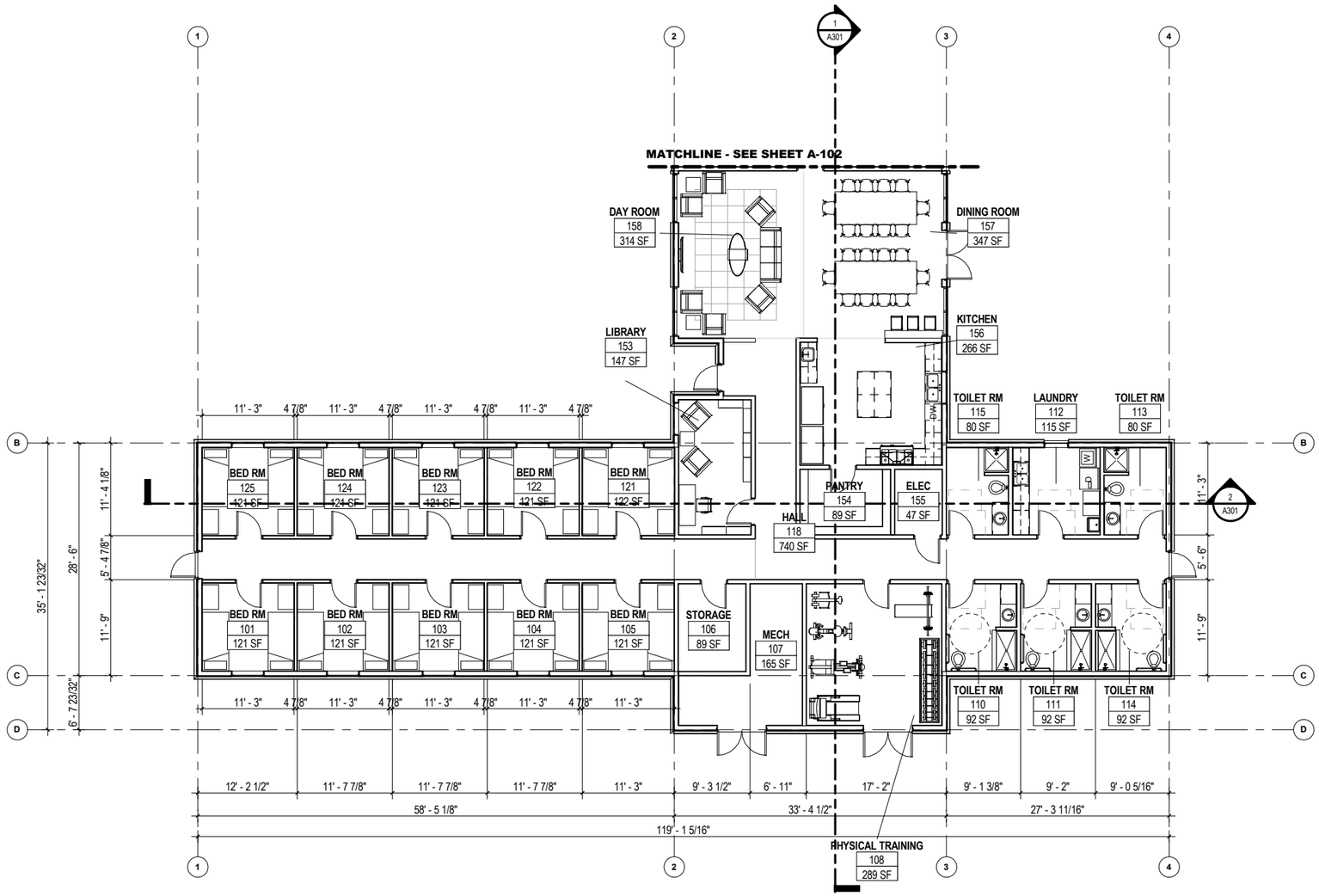

1 BARRACKS FLOOR PLAN
1/8" = 1'-0"

N

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	BED RM	121 SF
102	BED RM	121 SF
103	BED RM	121 SF
104	BED RM	121 SF
105	BED RM	121 SF
106	STORAGE	89 SF
107	MECH	165 SF
108	PHYSICAL TRAINING	289 SF
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157	DINING ROOM	347 SF
158	DAY ROOM	314 SF
Grand total		7,707 SF

GROSS AREA	DESIGNED	BUDGETED
APPARATUS	3,099 SF	3,100 SF
BARRACKS	4,771 SF	4,649 SF
TOTAL	7,870 SF	7,749 SF

Date: Rev.
01.17.2013
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation
Drawing Code: 30% Design
File name: 05/13/14
Plot date: 4L.DWTD
Plot scale: 1:1
Approved
Date
Description

Designed by: Designer
Type No.: TBD
Design File no.: TBD

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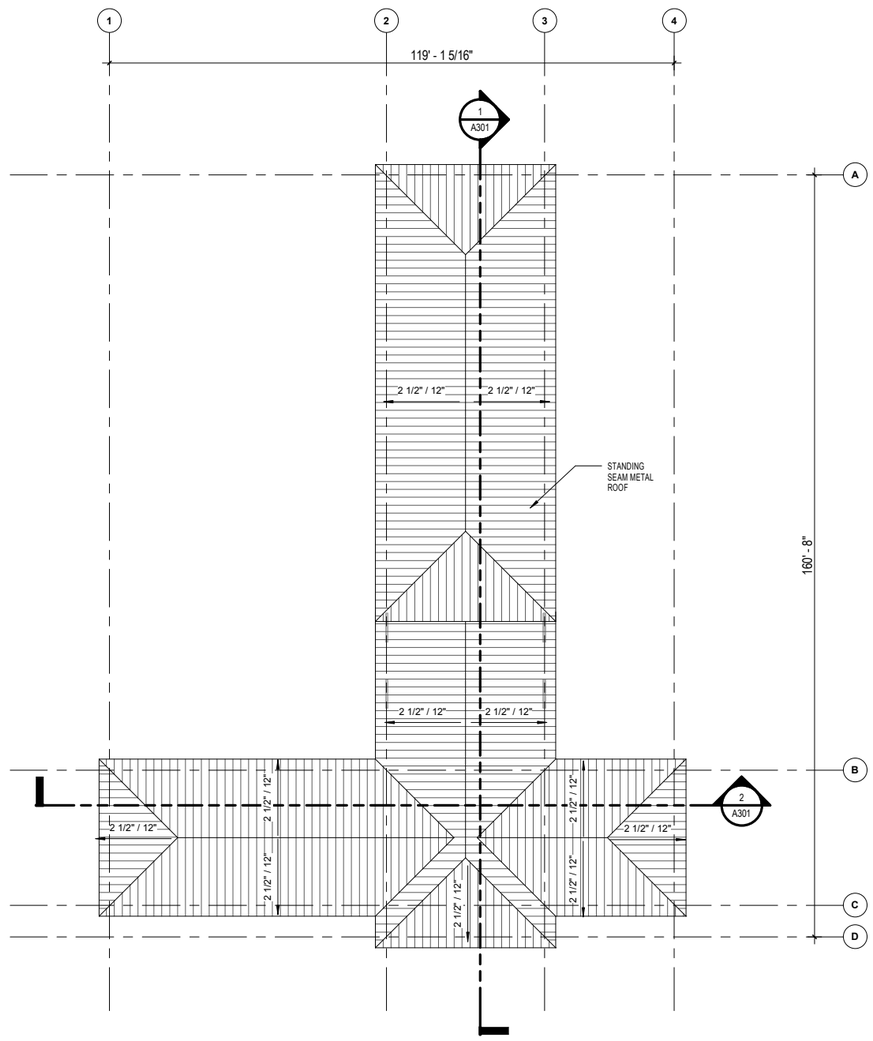
BARRACKS/APPARATUS
BARRACKS FLOOR PLAN

Sheet reference number:
A103
of 107



1 ROOF PLAN
1/16" = 1'-0"

N

Rev.	Description	Date	Approved

Date: 01.17.2013
Design File no.: TBD
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File date:
Plot date:
Plot scale: 04/28/10
AL_001D

Designed by: Designer
Type No.: TBD
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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CALIFORNIA
BARRACKS/APPARATUS
ROOF PLAN

Sheet reference number:
A121
of 107

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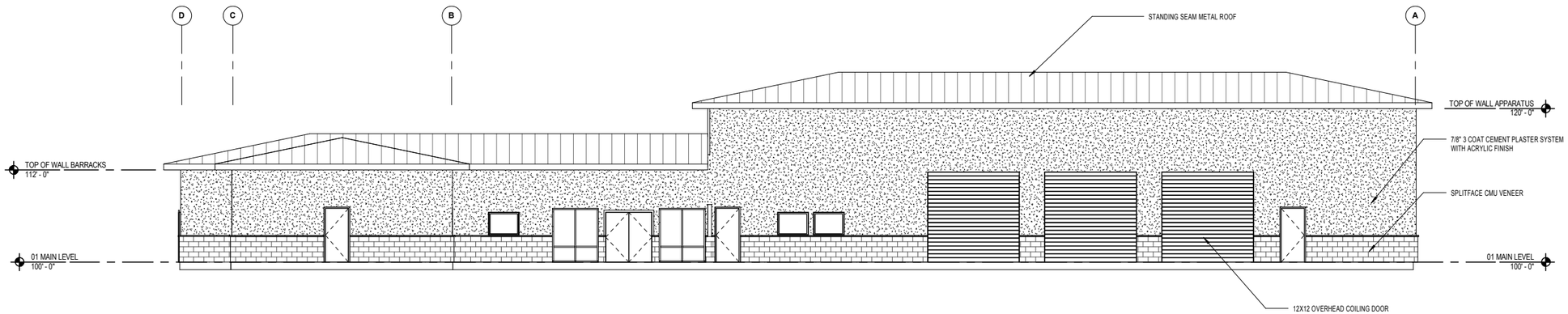
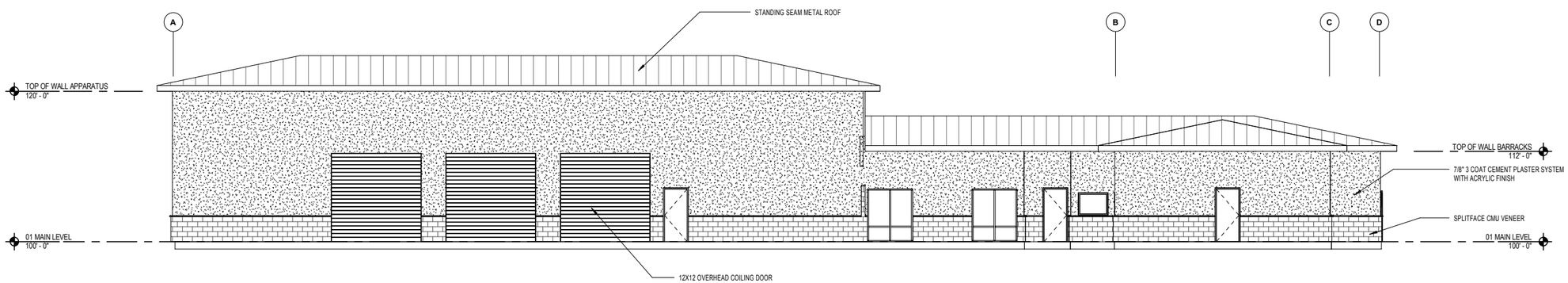
IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE SHEET ACCORDINGLY.



1 EAST ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Rev.
Design File no.: TBD
Drawing Code: 30% Design
File date: 06/20/14
Plot date:
Page code: 9L.A01D

Designed by: Designer
Dwn by: Author
Spec No.: TBD
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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BUTTE COUNTY FIRE STATION
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BUTTE COUNTY FIRE STATION FACILITY
SCHEMATIC PLANS

BARRACKS/APPARATUS
EXTERIOR ELEVATIONS

Sheet reference number:
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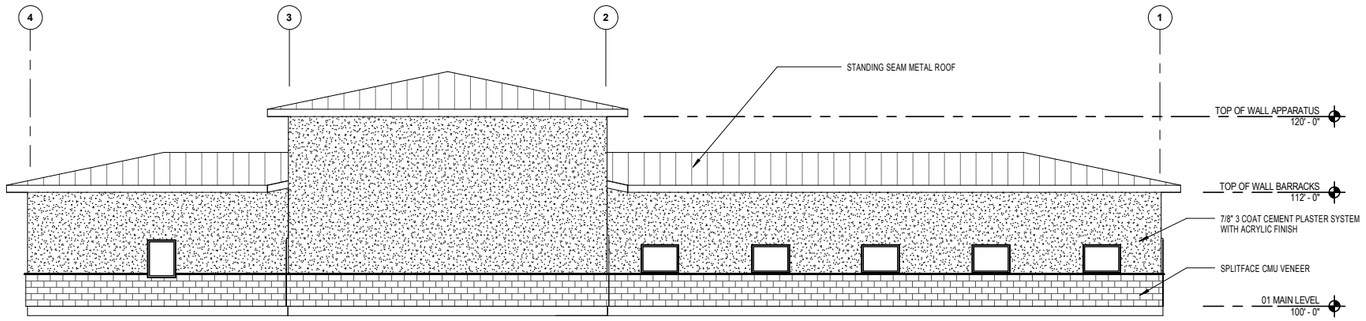
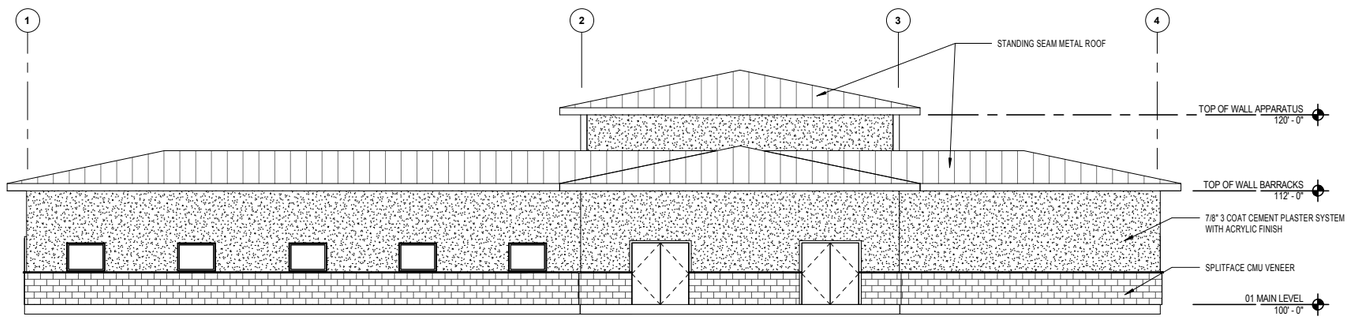


1 NORTH ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

Date	Description	Approved

Rev:

Date: 01.17.2013
Design File No.: TBD
Drawing Scale: 30% Design
File date:
Plot date: 06/20/14
Plot scale: 24_X_36TID

Designed by: Designer
Drawn by: Author
Reviewed by: R. WALESTER
Submitted by: URS Corporation

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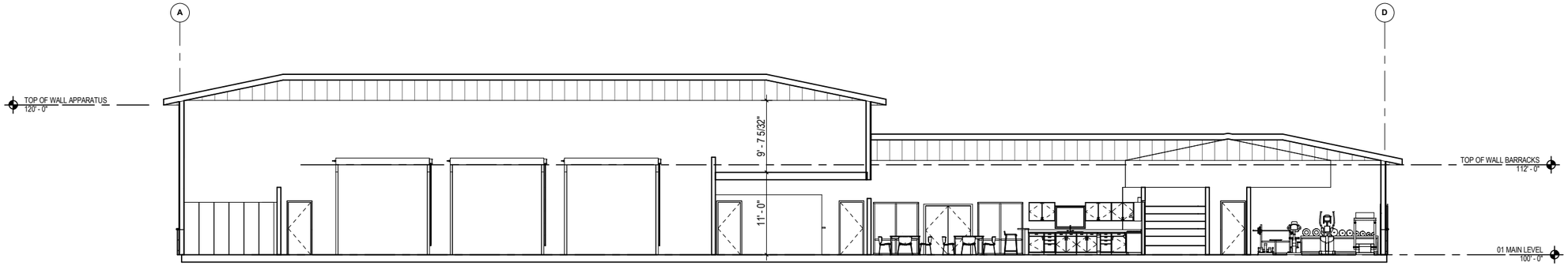
SCHEMATIC PLANS

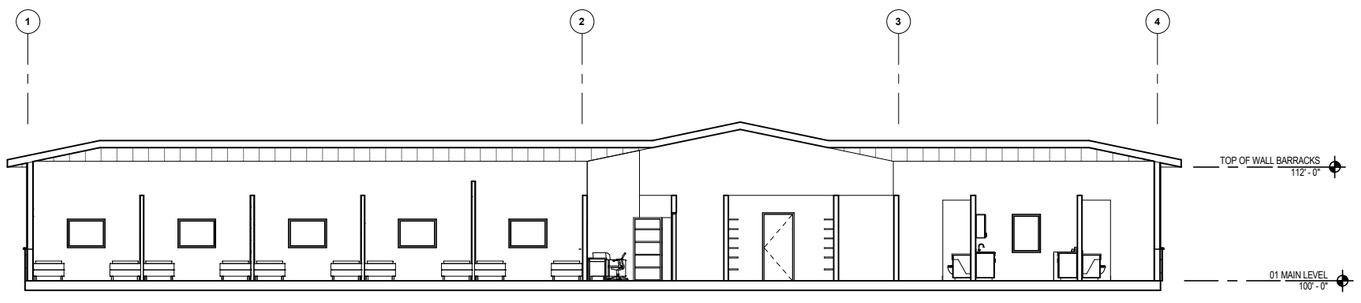
CALIFORNIA

BARRACKS/APPARATUS
EXTERIOR ELEVATIONS

Sheet reference number:
A202
of 107



1 NORTH/ SOUTH ELEVATION
1/8" = 1'-0"



2 EAST/ WEST ELEVATION
1/8" = 1'-0"

Approved
Date
Description
Mark

Rev:

Date: 01.17.2013
Design File no.: TBD
Drawing Code: 30% Design
File date: 06/20/14
Plot date:
Pkg code: 14_0010

Designed by: Designer
Drawn by: Author
Project No.: TBD
Reviewed by: R. WALESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS

CALIFORNIA

BARRACKS/APPARATUS
SECTIONS

Sheet reference number:
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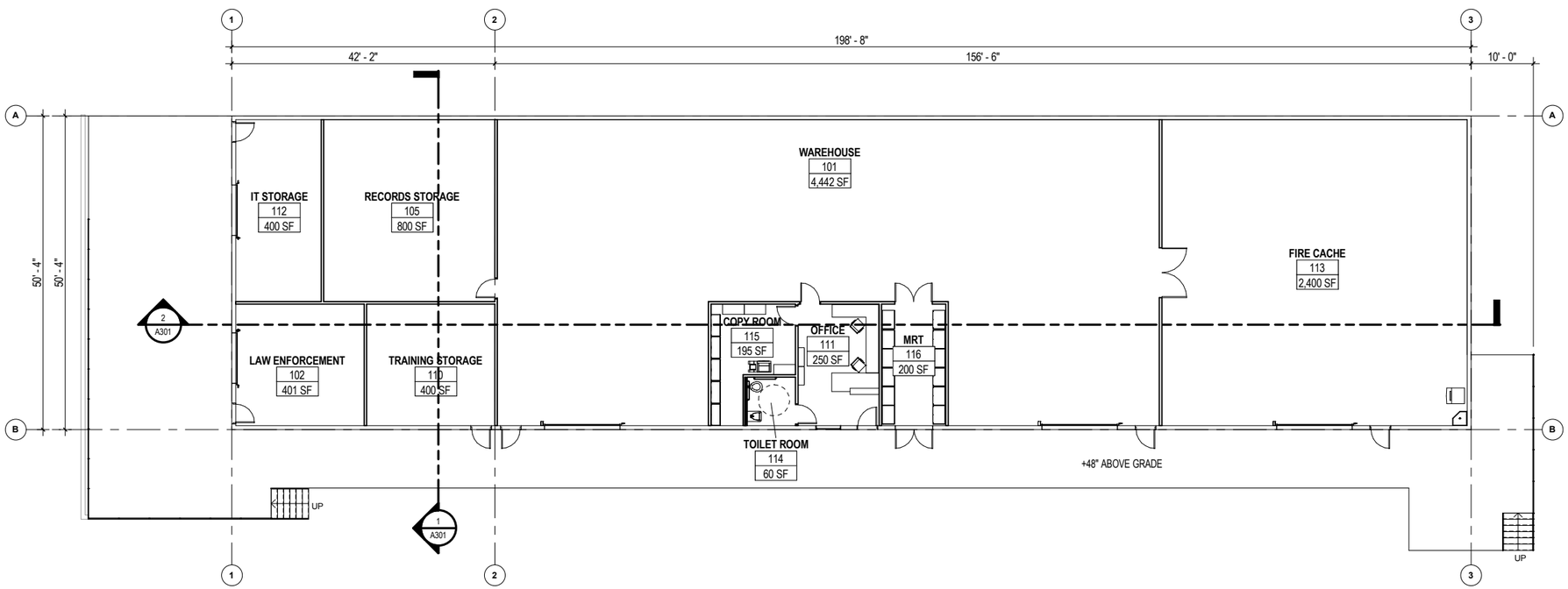
of 107



1 FLOOR PLAN
3/32" = 1'-0"

N

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	WAREHOUSE	4,442 SF
102	LAW ENFORCEMENT	401 SF
105	RECORDS STORAGE	800 SF
110	TRAINING STORAGE	400 SF
111	OFFICE	250 SF
112	IT STORAGE	400 SF
113	FIRE CACHE	2,400 SF
114	TOILET ROOM	60 SF
115	COPY ROOM	195 SF
116	MRT	200 SF
Grand total		9,549 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	10,000 SF	10,000 SF

Rev.	Description	Date	Approved

Date: 01.17.2013
Design file no: TBD
Drawing scale: 30% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Spec No.: TBD
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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BUTTE COUNTY FIRE STATION FACILITY
SCHEMATIC PLANS

CALIFORNIA

WAREHOUSE
FLOOR PLAN

Sheet reference number:
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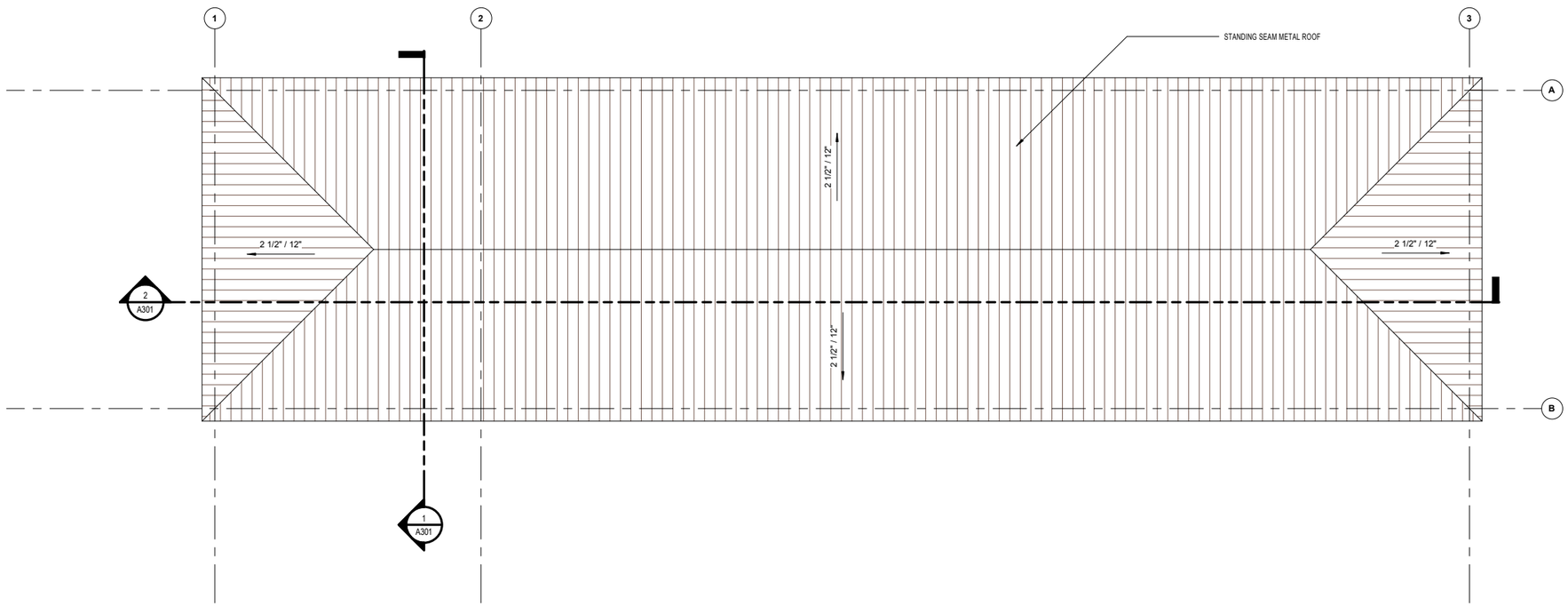
of 107



1 ROOF PLAN
3/32" = 1'-0"

N

Revisions			
		Description	Date	Approved

Date: 01.17.2013
Rev:
Design file no: TBD
Drawing code: 30% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Spec No.: TBD
Dwn by: Author
Reviewed by: R. MALSTER
Submitted by: URS Corporation

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SCHEMATIC PLANS

WAREHOUSE
ROOF PLAN

Sheet reference number:
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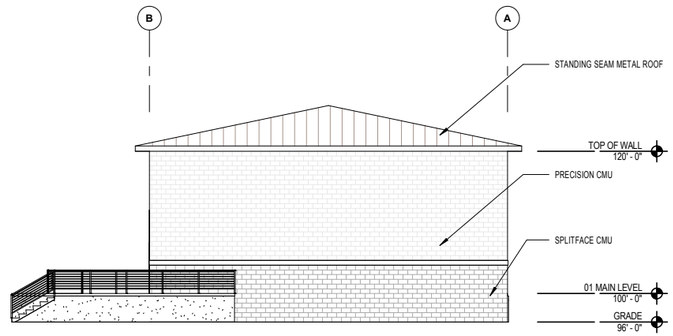
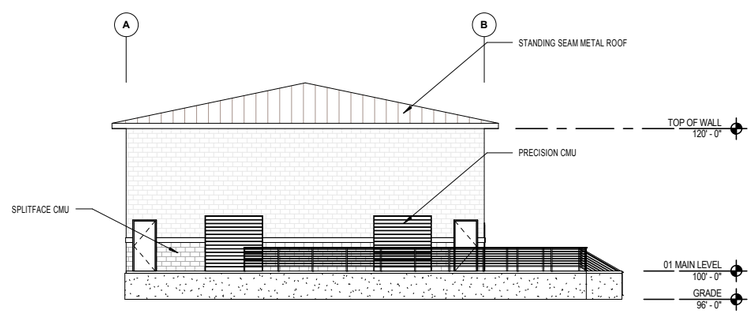
of 107



1 EAST ELEVATION
3/32" = 1'-0"



2 WEST ELEVATION
3/32" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Design file no: TBD
Spec. No.: TBD
Drawing code: 3.0% Design
File name:
Plot date: 06/20/14
Dwg code: A3_NOTE

Designed by: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS
WAREHOUSE
EXTERIOR ELEVATIONS

Sheet reference number:
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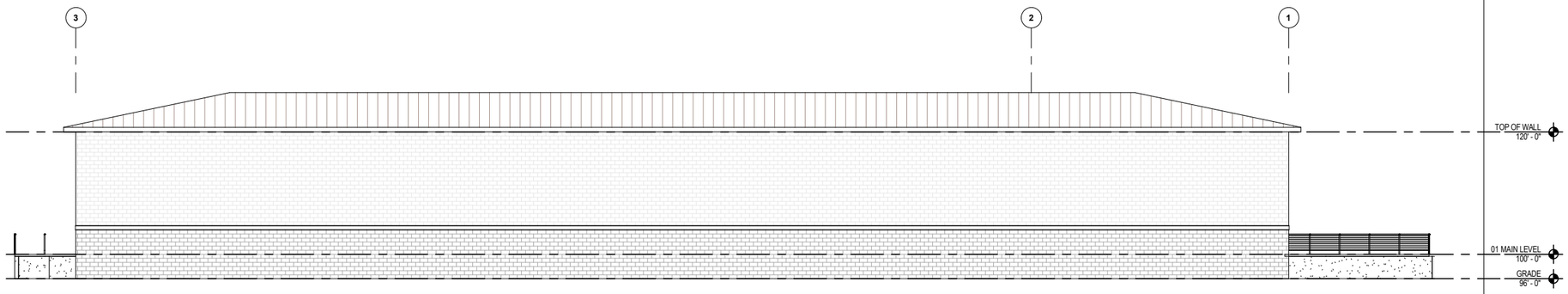
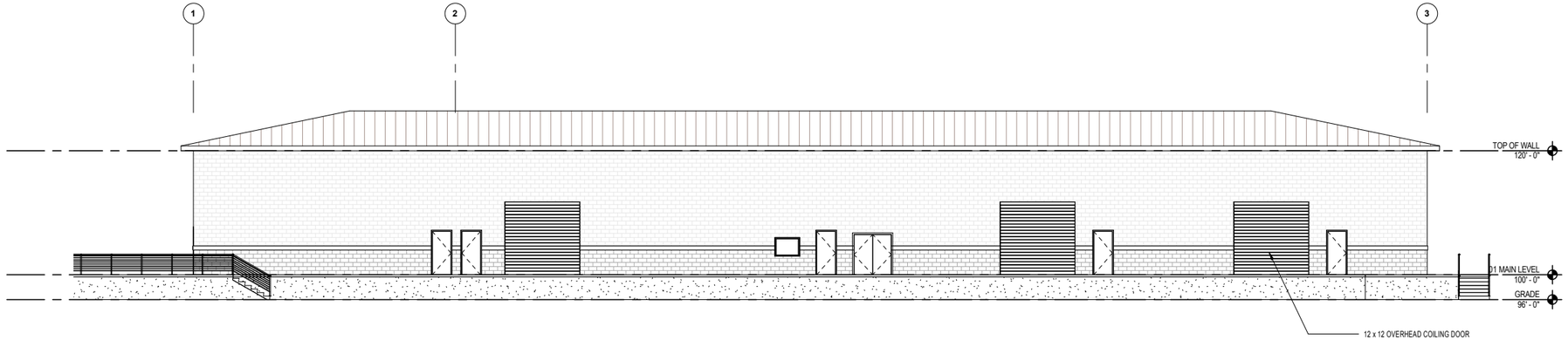
of 107



1 NORTH ELEVATION
3/32" = 1'-0"



2 SOUTH ELEVATION
3/32" = 1'-0"

Approved	Date	Description

Rev.

Date: 01.17.2013
Design file no: TBD
Drawing scale: 3/32" Design
File name:
Plot date: 06/20/14
Dwg scale: AS_NOTED

Designed by: Designer
Spec No.: TBD
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS

WAREHOUSE
EXTERIOR ELEVATIONS

Sheet reference number:
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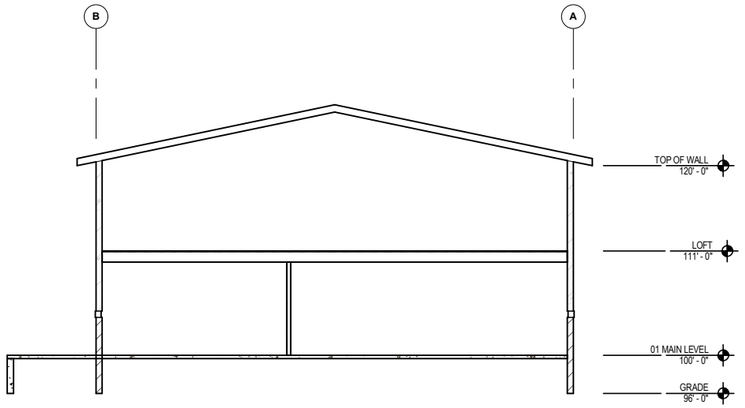
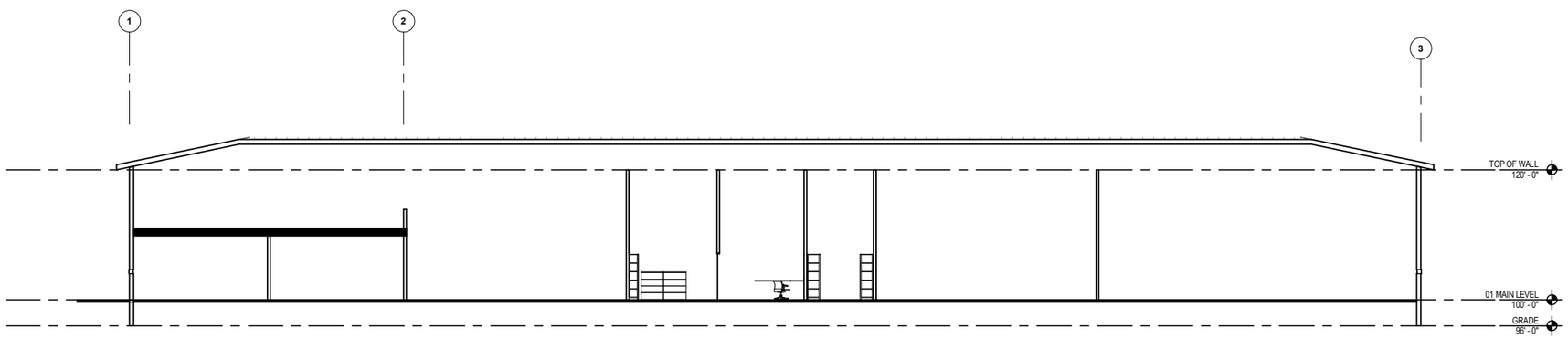
of 107



1 Section 1
1/8" = 1'-0"



2 Section 2
3/32" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Design file no: TBD
Drawing scale: 3.0% Design
File name:
Plot date: 06/20/14
Dwg scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Spec No.: TBD
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS
WAREHOUSE
SECTIONS

Sheet reference number:
A301
of 107

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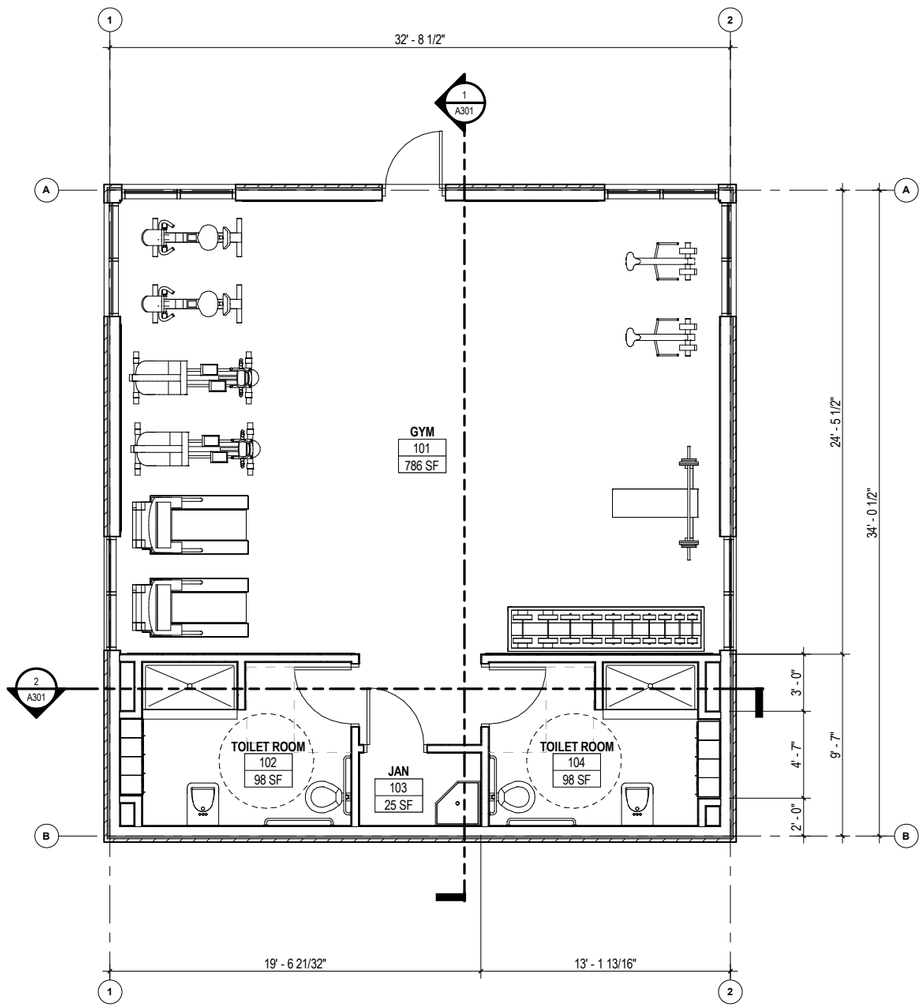

1 FLOOR PLAN
1/4" = 1'-0"

N

ROOM AREAS

ROOM #	ROOM NAME	NET AREA
101	GYM	786 SF
102	TOILET ROOM	98 SF
103	JAN	25 SF
104	TOILET ROOM	98 SF
Grand total		1,007 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	1,113 SF	1,125 SF

Rev.	Date	Description	Approved

Date: 01.17.2013
Design file no: TBD
Drawing scale: 30% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Spec No.: TBD
Reviewed by: R. WALSTER
Submitted by: URS Corporation

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BUTTE COUNTY FIRE STATION FACILITY
SCHEMATIC PLANS

FITNESS CENTER
FLOOR PLAN

Sheet reference number:
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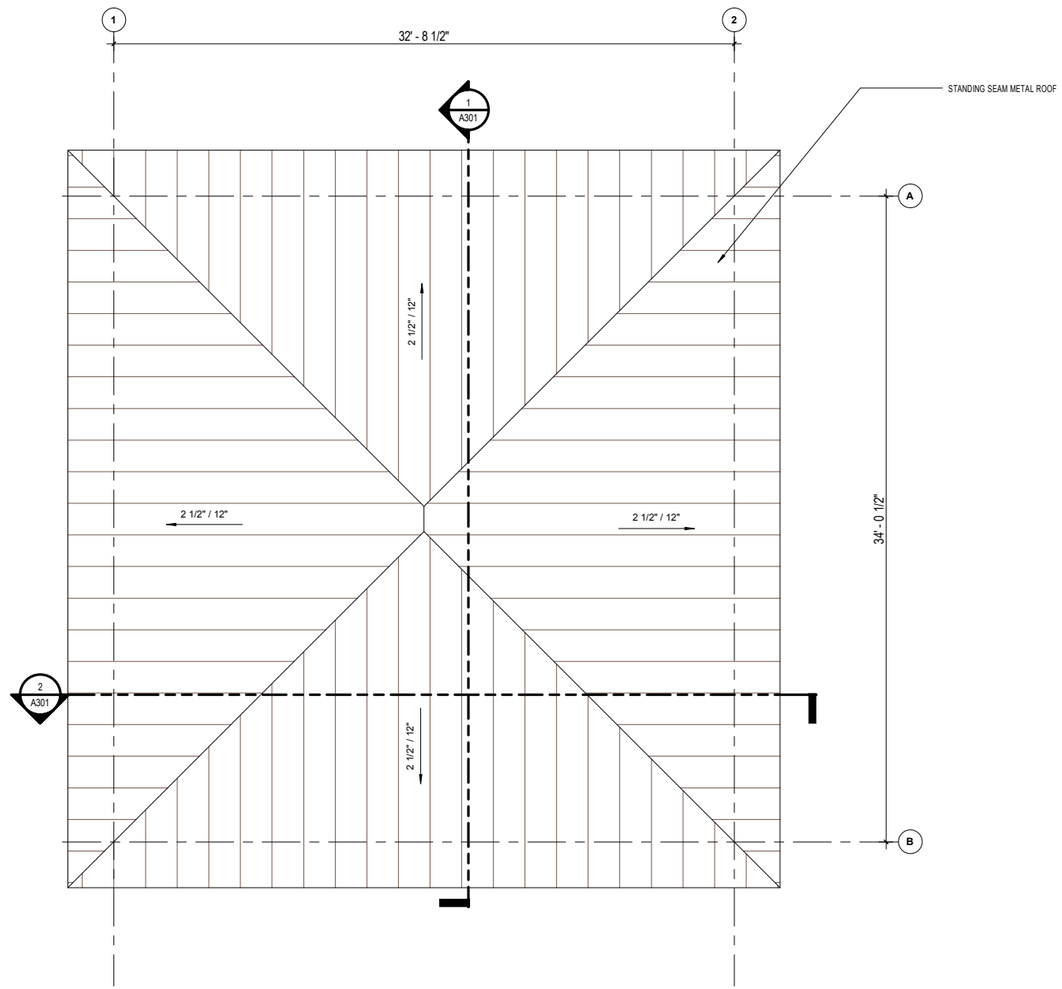
of 107



1 ROOF PLAN
1/4" = 1'-0"

N

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IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE SHEET ACCORDINGLY.

Approved	Date	Description

Date: 01.17.2013
Rev:
Design file no: TBD
Drawing scale: 30% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Spec No.: TBD
Drawn by: Author
Reviewed by: R. MAESTER
Submitted by: URS Corporation

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BUTTE COUNTY FIRE STATION FACILITY
SCHEMATIC PLANS

CALIFORNIA

FITNESS CENTER
ROOF PLAN

Sheet reference number:
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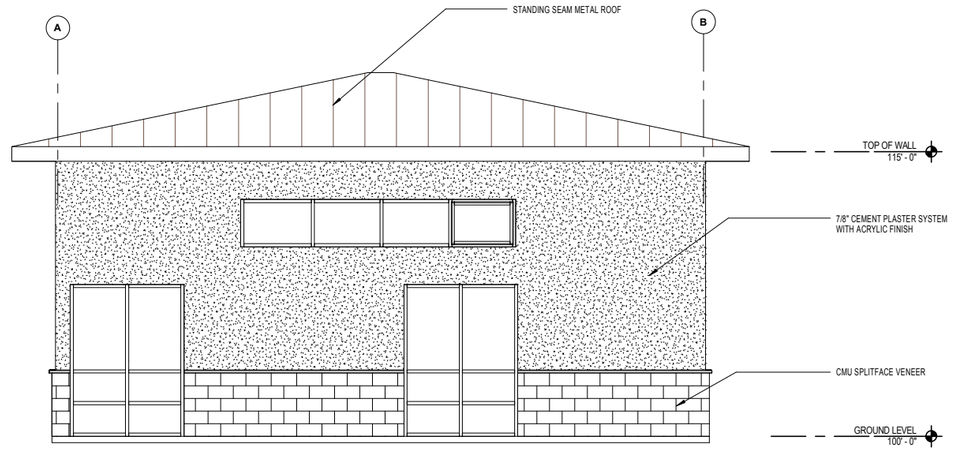
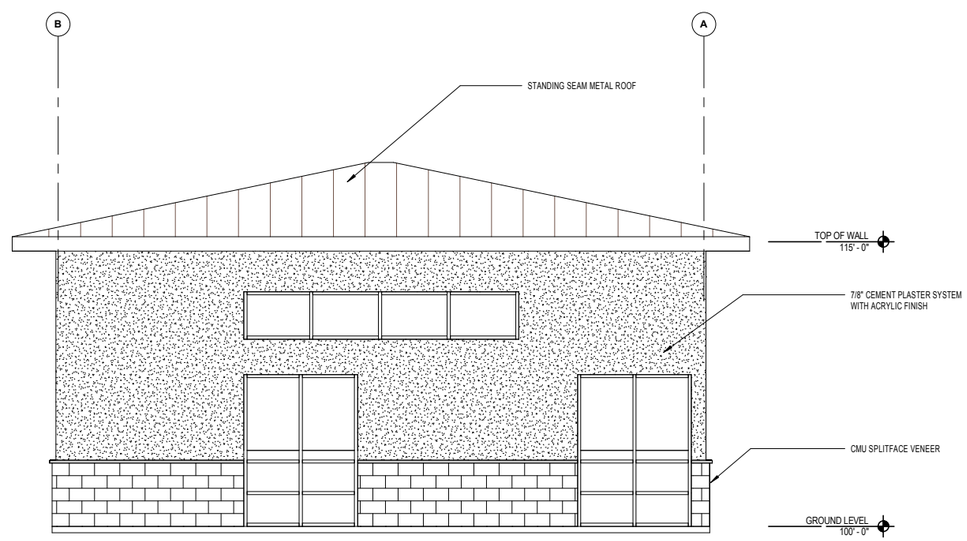
of 107



1 EAST ELEVATION
1/4" = 1'-0"



2 WEST ELEVATION
1/4" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Sheet No.: TBD
File name:
Plot date: 06/20/14
Designed by: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Plot scale: AS_NOTED

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SCHEMATIC PLANS
FITNESS CENTER
EXTERIOR ELEVATIONS

Sheet reference number:
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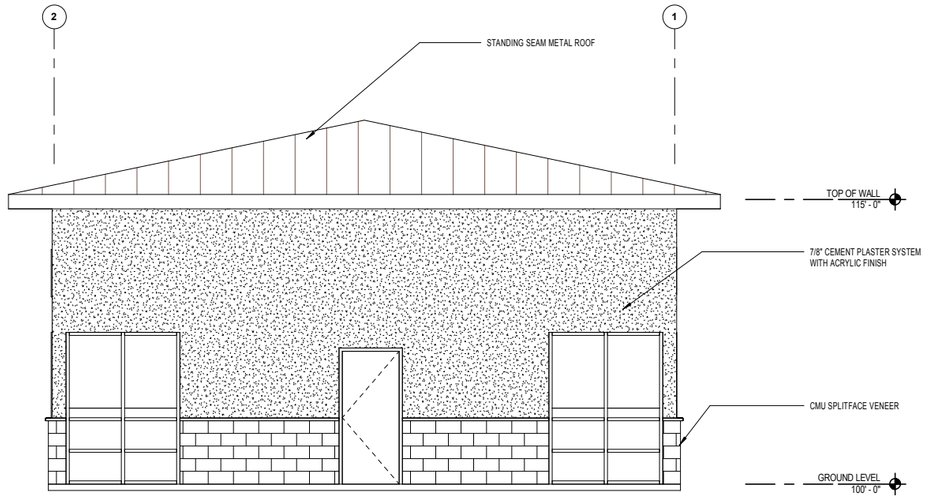
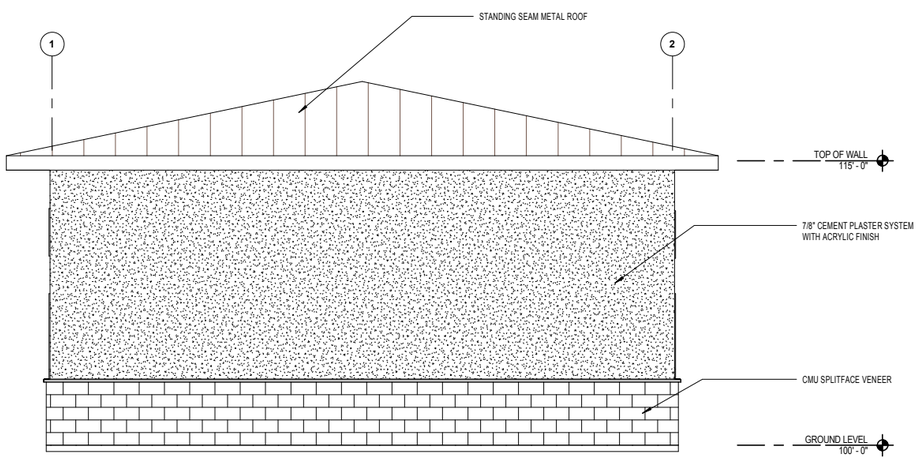
of 107



1 NORTH ELEVATION
1/4" = 1'-0"



2 SOUTH OVERALL ELEVATION
1/4" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Designed by: Designer
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation
Design File No: TBD
Sheet No.: TBD
Drawing Scale: 3/32" Design
File name:
Plot date: 06/20/14
Bwg scale: AS_NOTED

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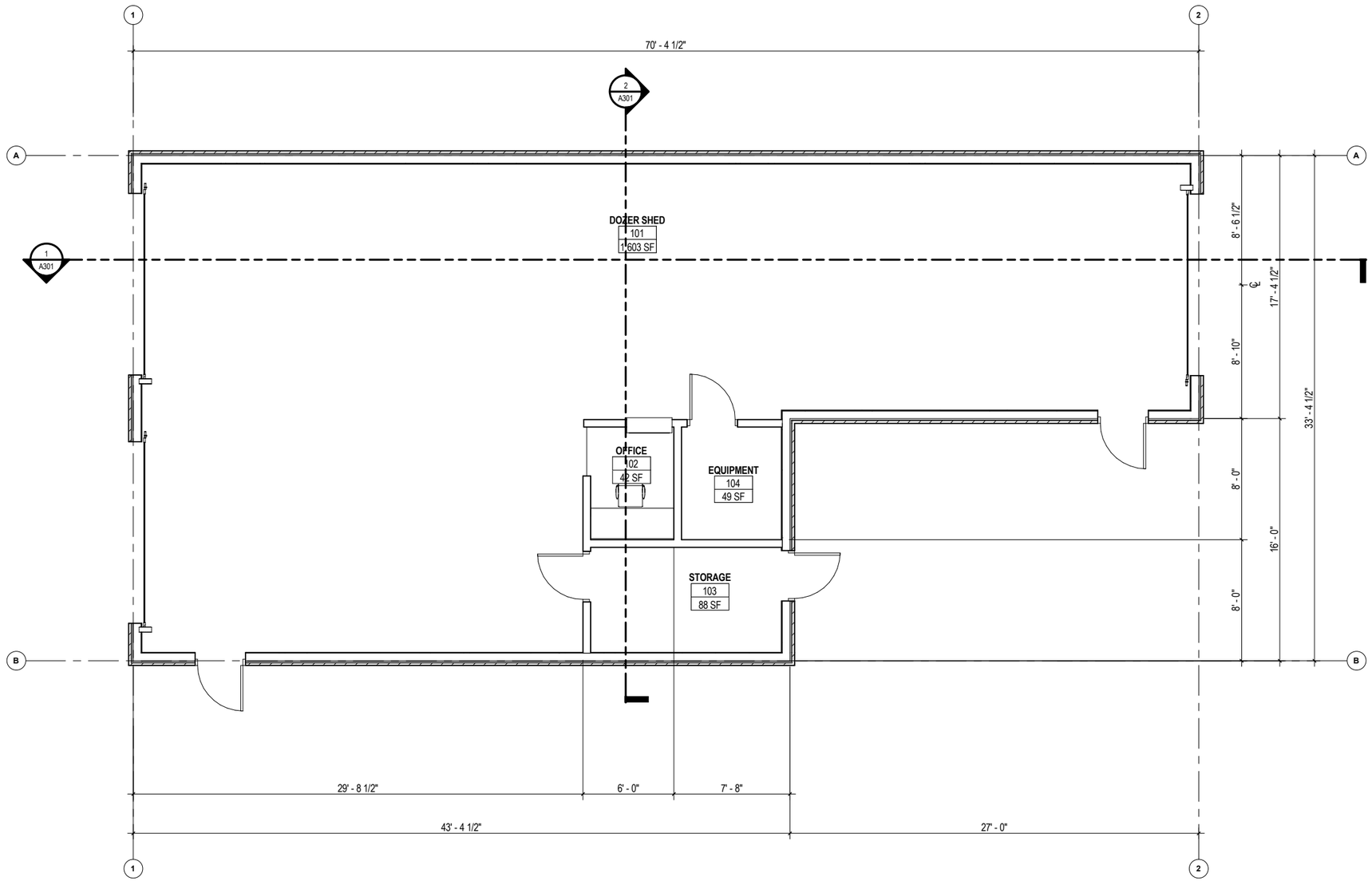
CALIFORNIA

FITNESS CENTER
EXTERIOR ELEVATIONS

Sheet reference number:
A202
of 107



1 FLOOR PLAN
1/4" = 1'-0"

N

ROOM AREAS		
ROOM #	ROOM NAME	NET AREA
101	DOZER SHED	1,603 SF
102	OFFICE	42 SF
103	STORAGE	88 SF
104	EQUIPMENT	49 SF
Grand total		1,781 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	1,951 SF	1,982 SF

Approved	Date	Description

Date: 01.17.2013
Rev:
Design file no: TBD
Drawing scale: 30% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Own by: Author
Spec No.: TBD
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS
CALIFORNIA

DOZER
FLOOR PLAN

Sheet reference number:
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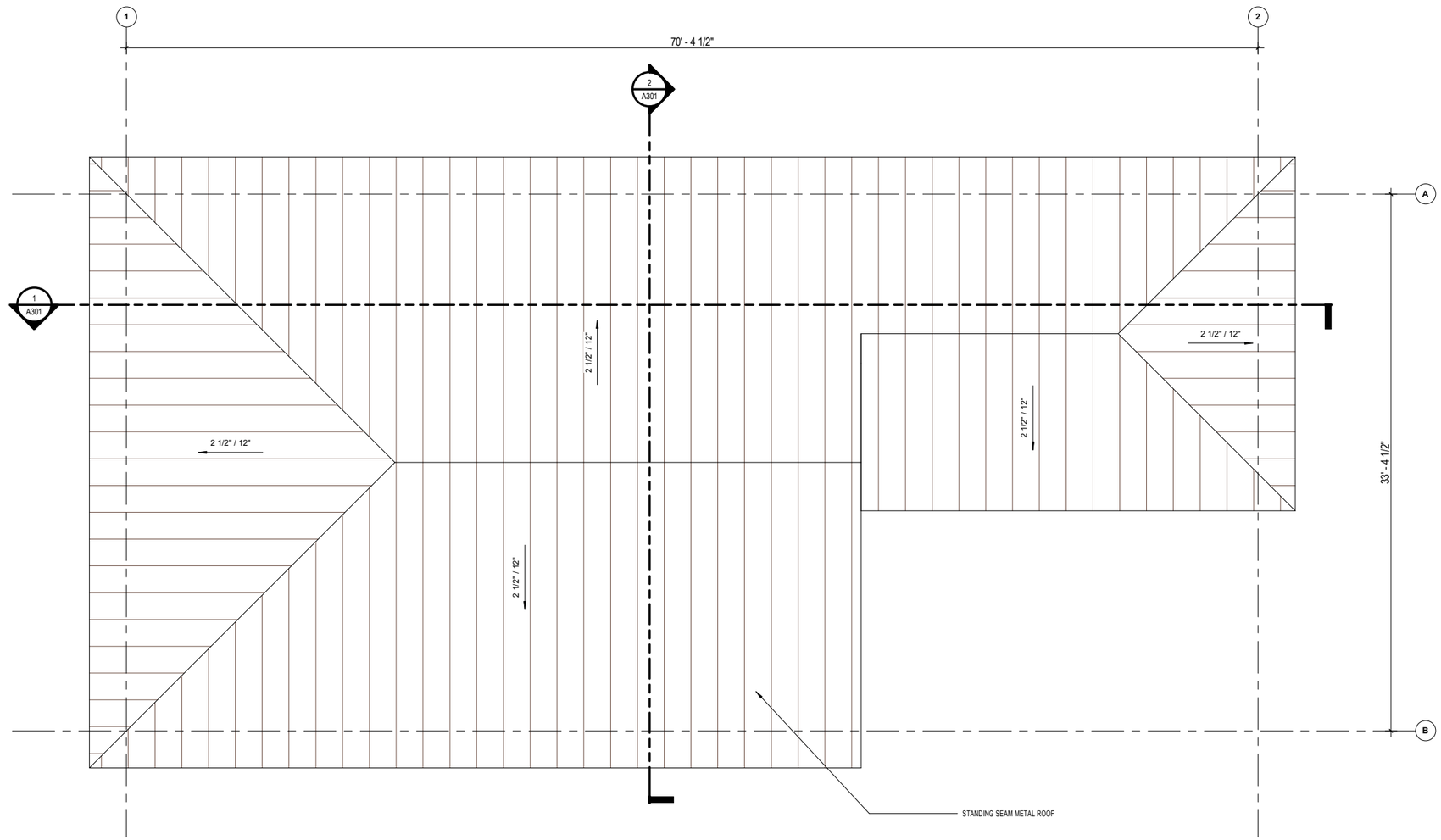
of 107



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1 ROOF PLAN
1/4" = 1'-0"

Rev.	Date	Description	Approved

Date: 01.17.2013
Drawing Title: 3.0% Design
File name:
Plot date: 04/28/10
Dwg scale: AS_NOTED

Designed by: Designer
Spec No.: TBD
Drawn by: Author
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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SCHEMATIC PLANS
DOZER
ROOF PLAN

Sheet reference number:
A121
of 107

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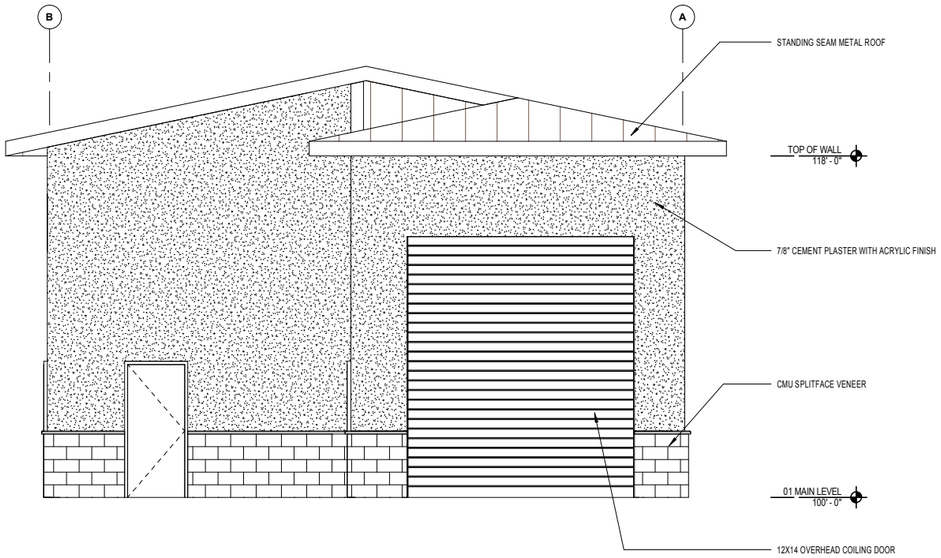
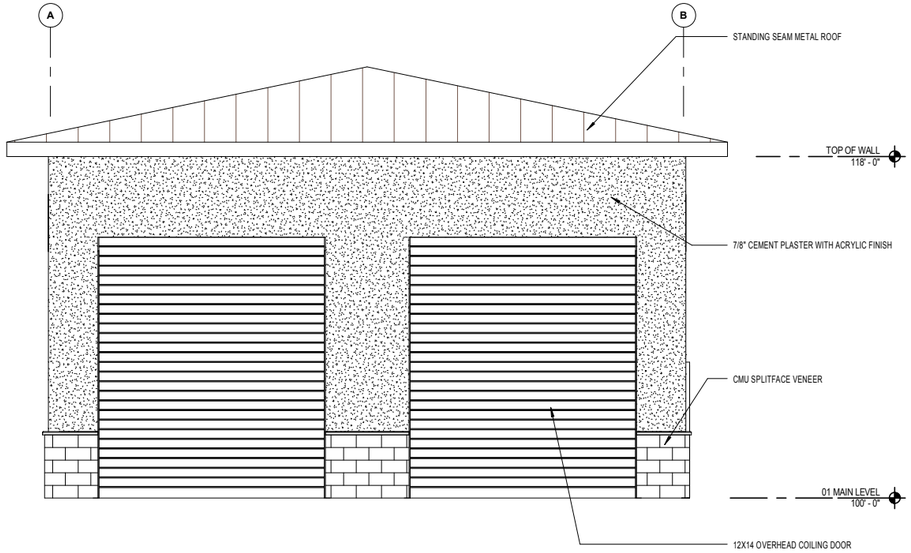


1 EAST ELEVATION
1/4" = 1'-0"



2 WEST ELEVATION
1/4" = 1'-0"

Rev.	Description	Date	Approved

Date: 01.17.2013
Designer File No: TBD
Sheet No.: TBD
Drawing Scale: 3/32" Design
Reviewed by: R. McLESTER
File name:
Plot date: 06/20/14
Dwg scale: AS_NOTED

Designed by: Designer
Drawn by: Author

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Submitted by: URS Corporation

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SCHEMATIC PLANS
DOZER
EXTERIOR ELEVATIONS

Sheet reference number:
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of 107

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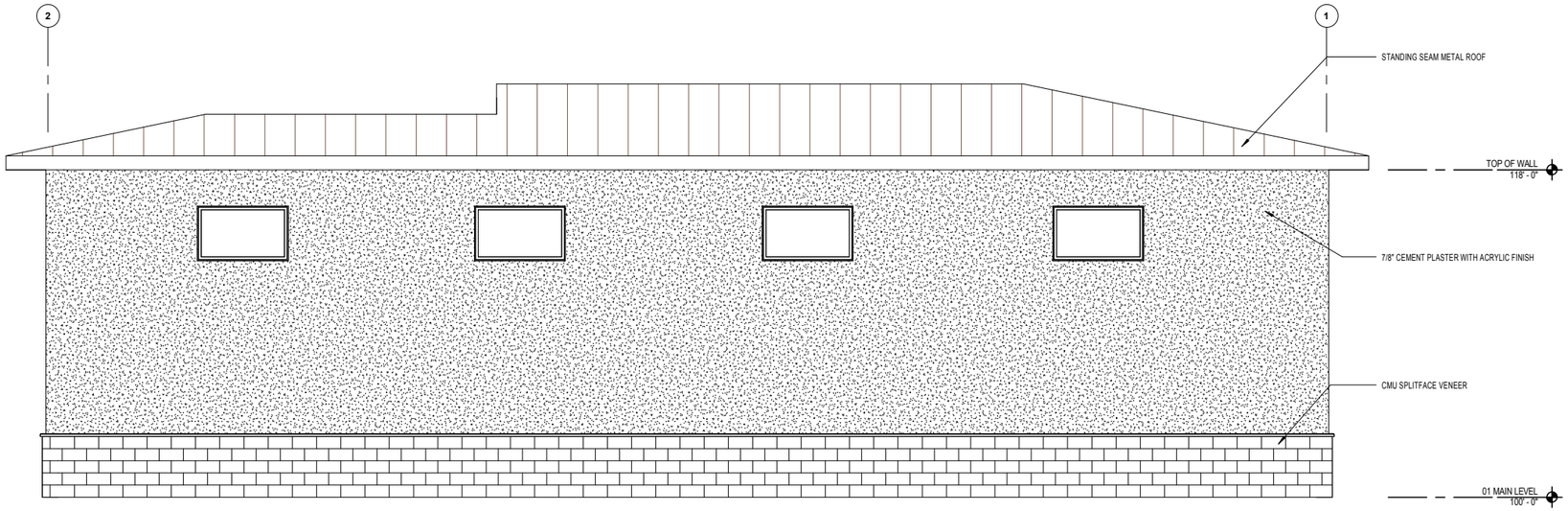
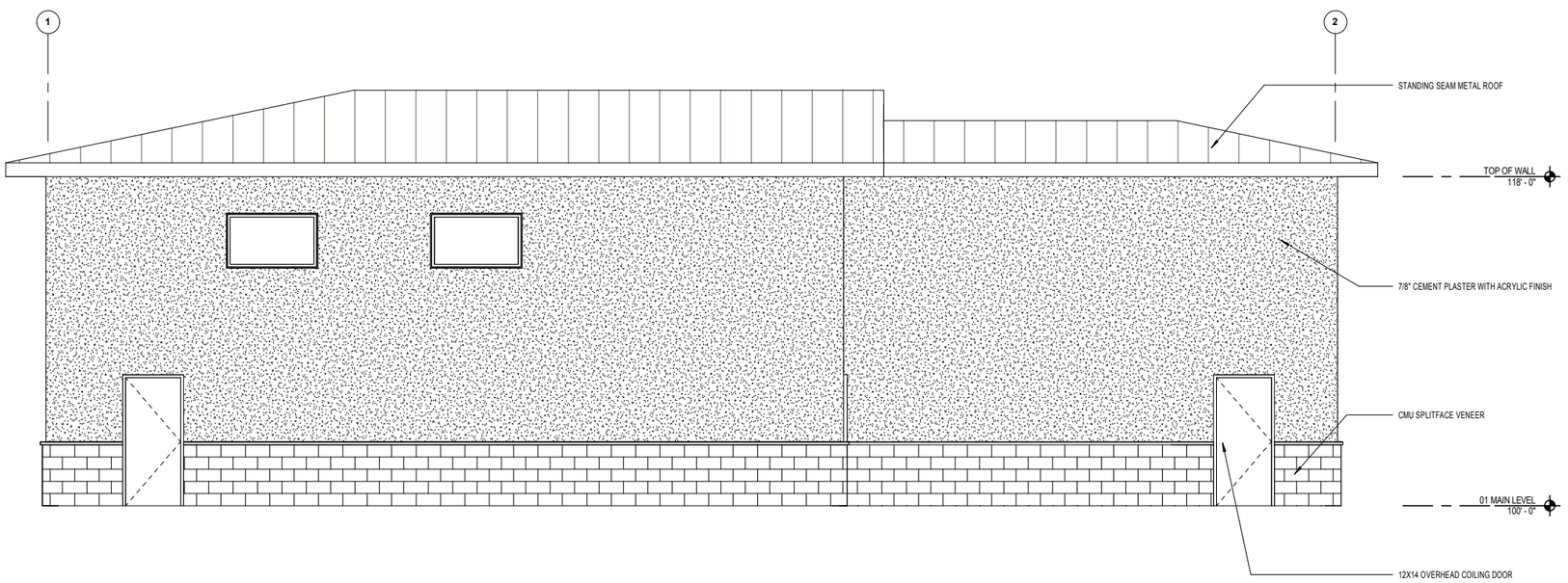


1 NORTHOVERALL ELEVATION
1/4" = 1'-0"



2 SOUTH ELEVATION
1/4" = 1'-0"

Approved	Date	Description

Rev.

Date: 01.17.2013
Design file no: TBD
Drawing scale: 30% Design
File name:
Plot date: 06/20/14
Dwg scale: AS_NOTED

Designed by: Designer
Drawn by: Author
Spec. No.: TBD
Reviewed by: R. McLESTER
Submitted by: URS Corporation

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EXTERIOR ELEVATIONS

Sheet reference number:
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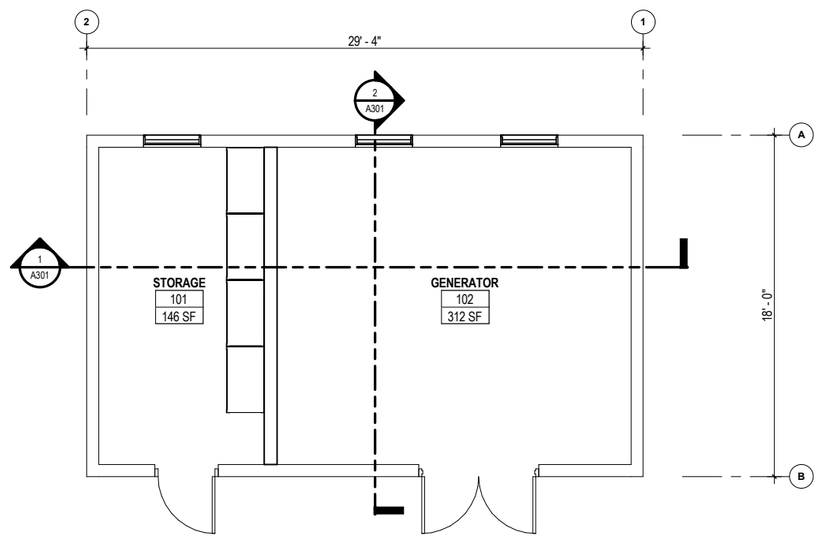

1 FLOOR PLAN
1/4" = 1'-0"

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ROOM AREAS		
ROOM #	ROOM NAME	NET AREA
101	STORAGE	146 SF
102	GENERATOR	312 SF
Grand total		458 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	528 SF	528 SF

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GENERATOR
FLOOR PLAN
CALIFORNIA

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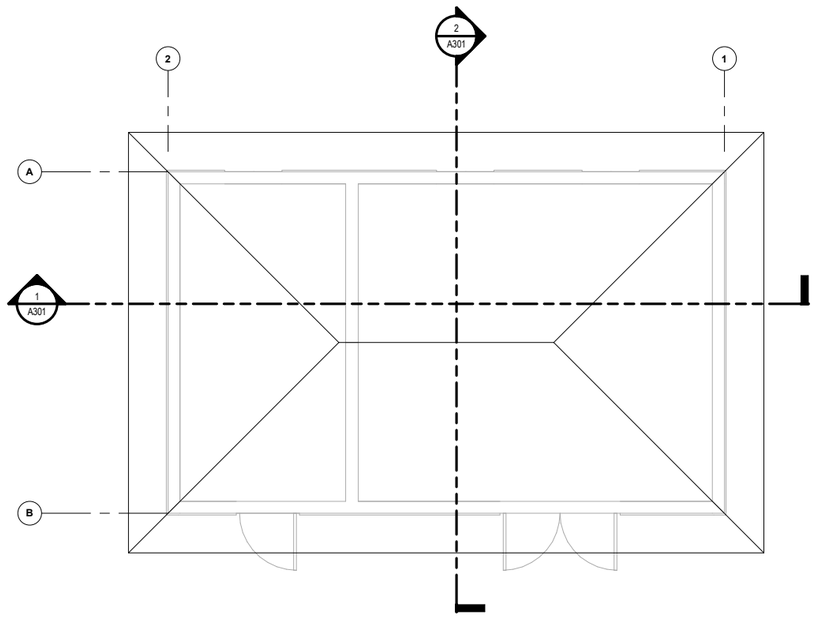

1 ROOF PLAN
1/4" = 1'-0"

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GENERATOR
ROOF PLAN

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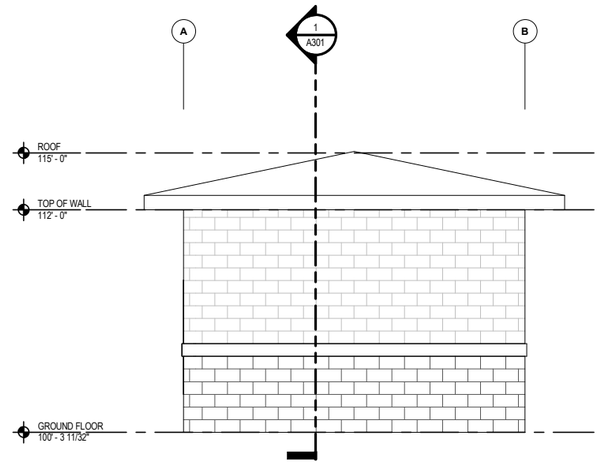

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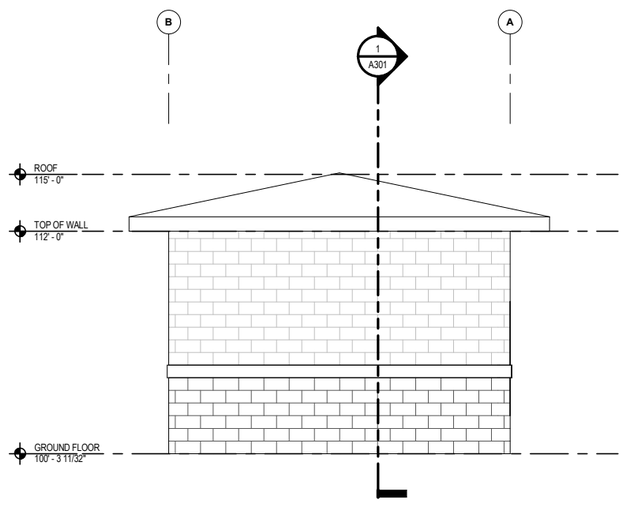

2 WEST ELEVATION
1/4" = 1'-0"

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Plot date: 06/20/14
Plot scale: 1/4"=1'0"

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Dwn by: Author
Reviewed by: R. WALESTER
Submitted by: URS Corporation
Sheet No.: TBD

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GENERATOR
EXTERIOR ELEVATIONS

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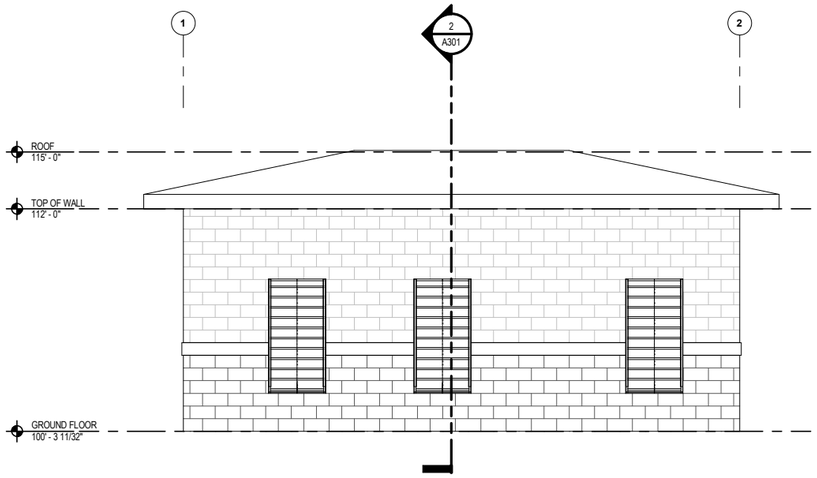

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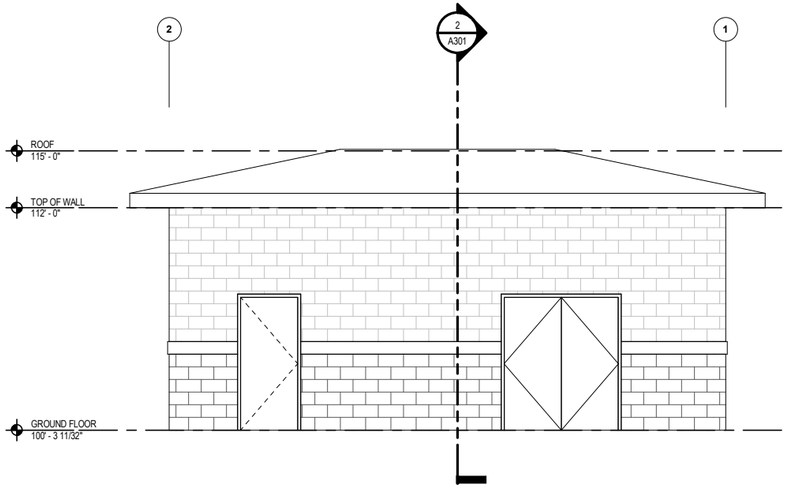

2 SOUTH OVERALL ELEVATION
1/4" = 1'-0"

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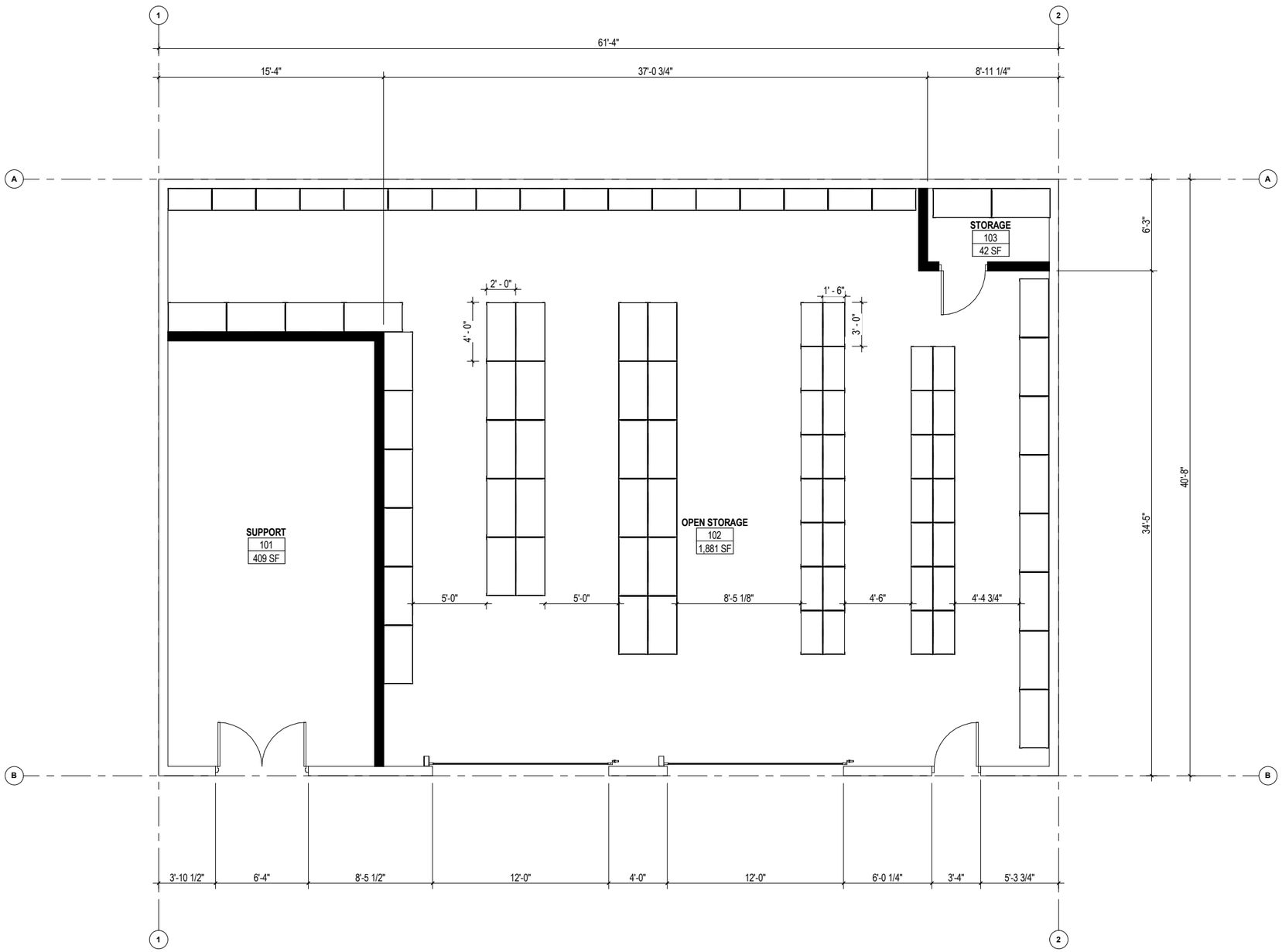

1 FLOOR PLAN
1/4" = 1'-0"

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ROOM AREAS		
ROOM #	ROOM NAME	NET AREA
101	SUPPORT	409 SF
102	OPEN STORAGE	1,881 SF
103	STORAGE	42 SF
Grand total		2,331 SF

GROSS AREA	DESIGNED	BUDGETED
BUILDING	2,494 SF	2,498 SF

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MAINTENANCE
FLOOR PLAN

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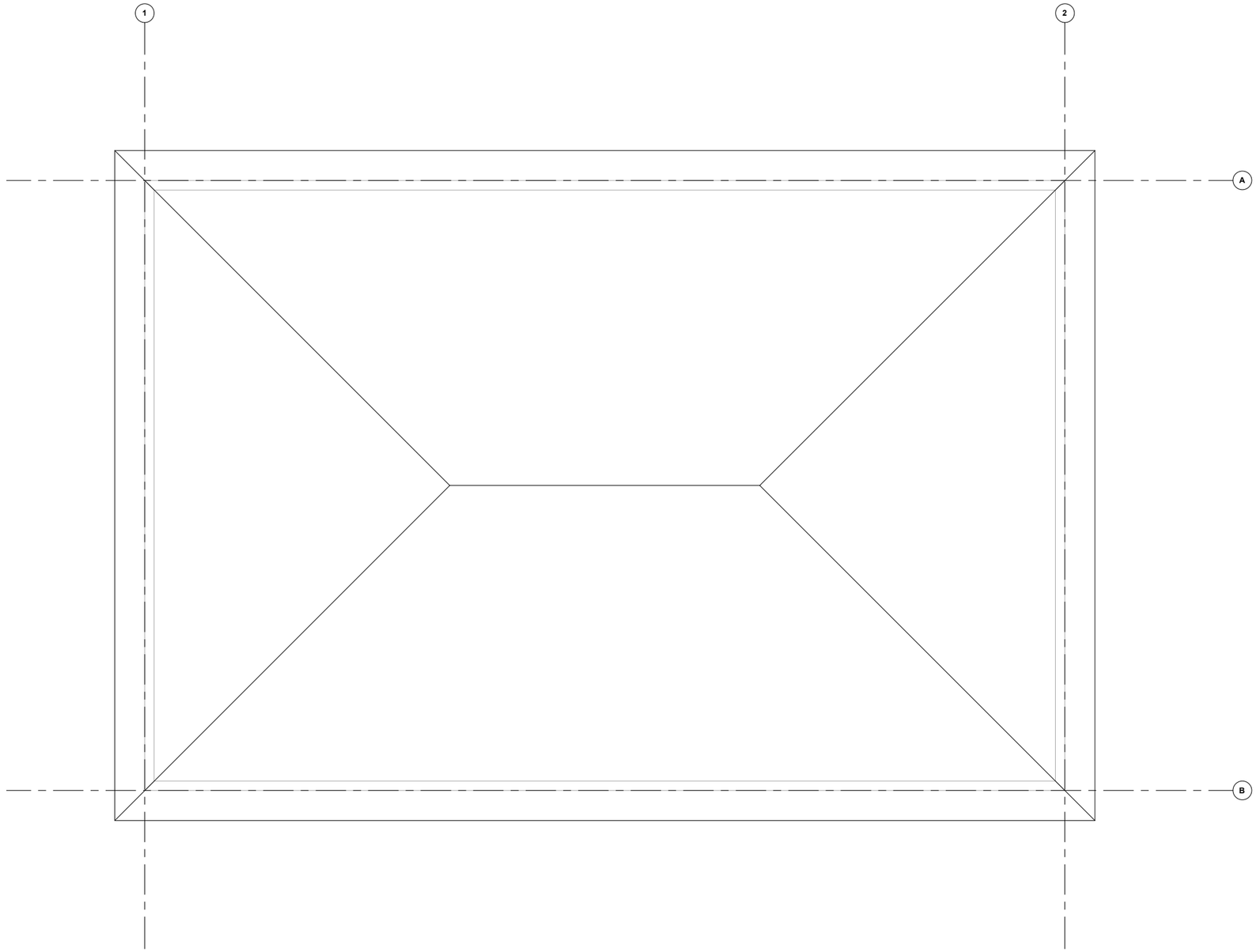

1 ROOF PLAN
1/4" = 1'-0"

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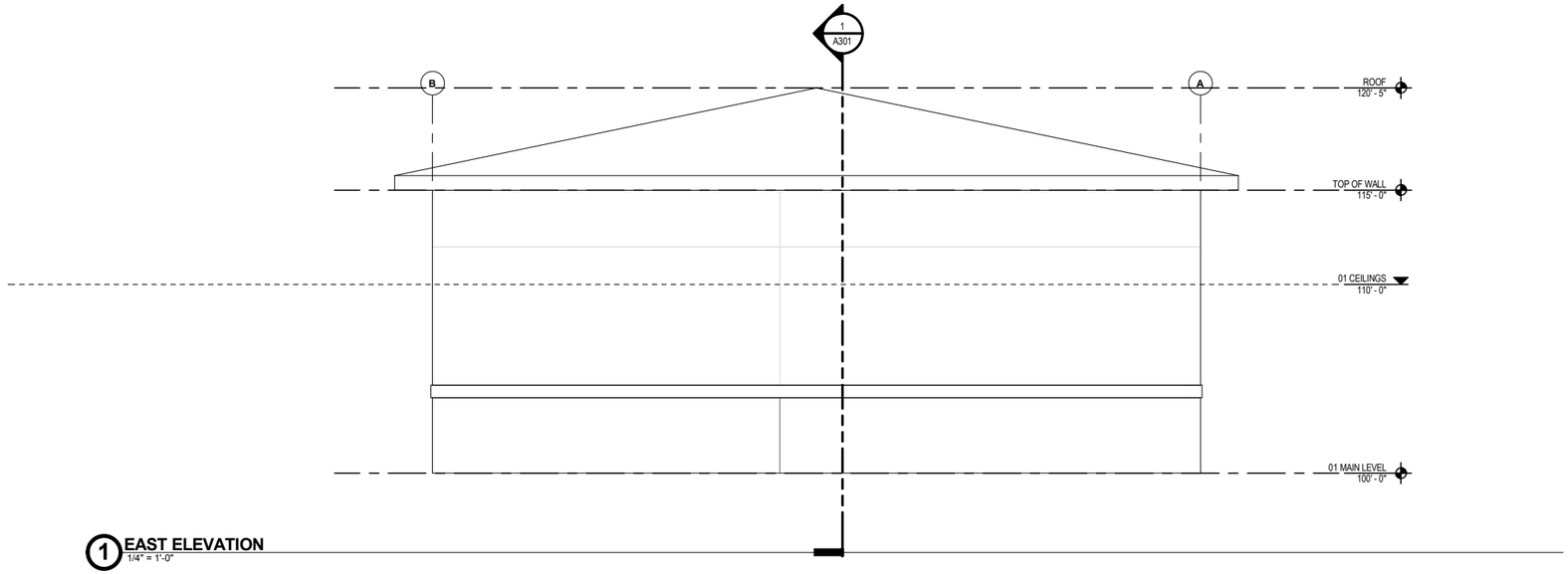

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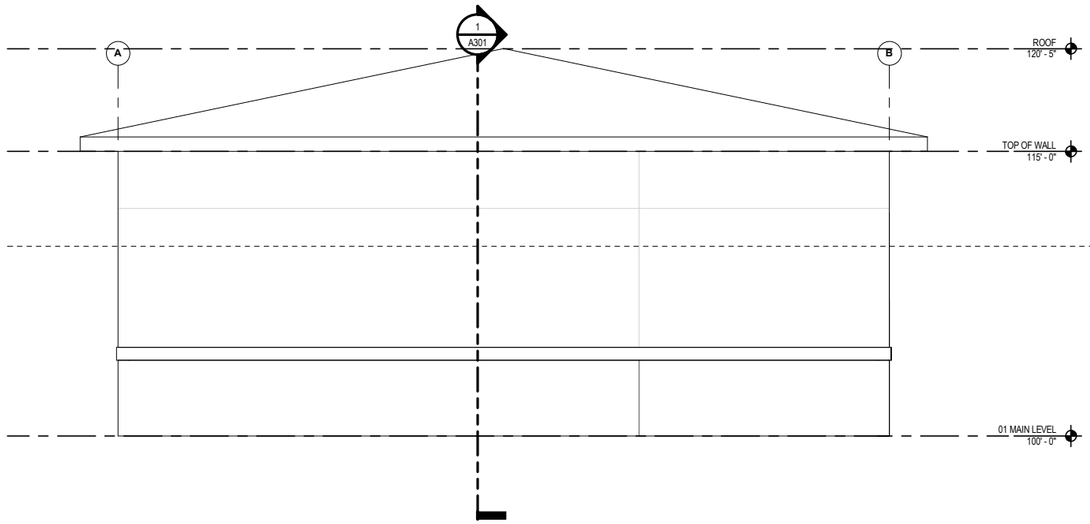

2 WEST ELEVATION
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MAINTENANCE
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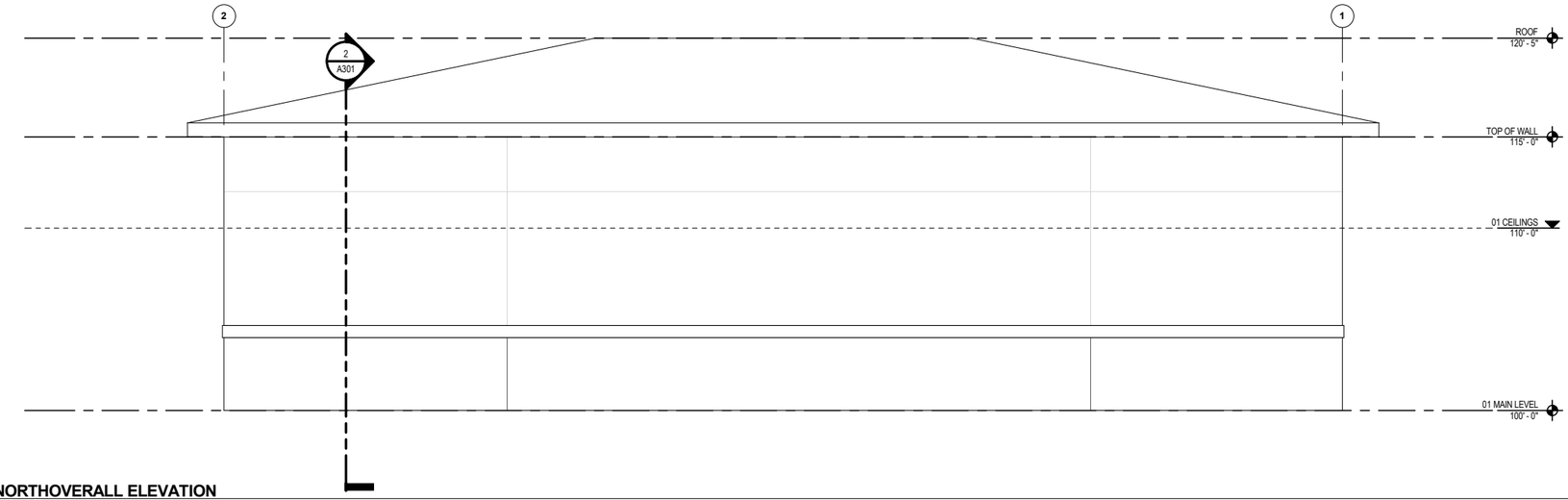

1 NORTHOVERALL ELEVATION
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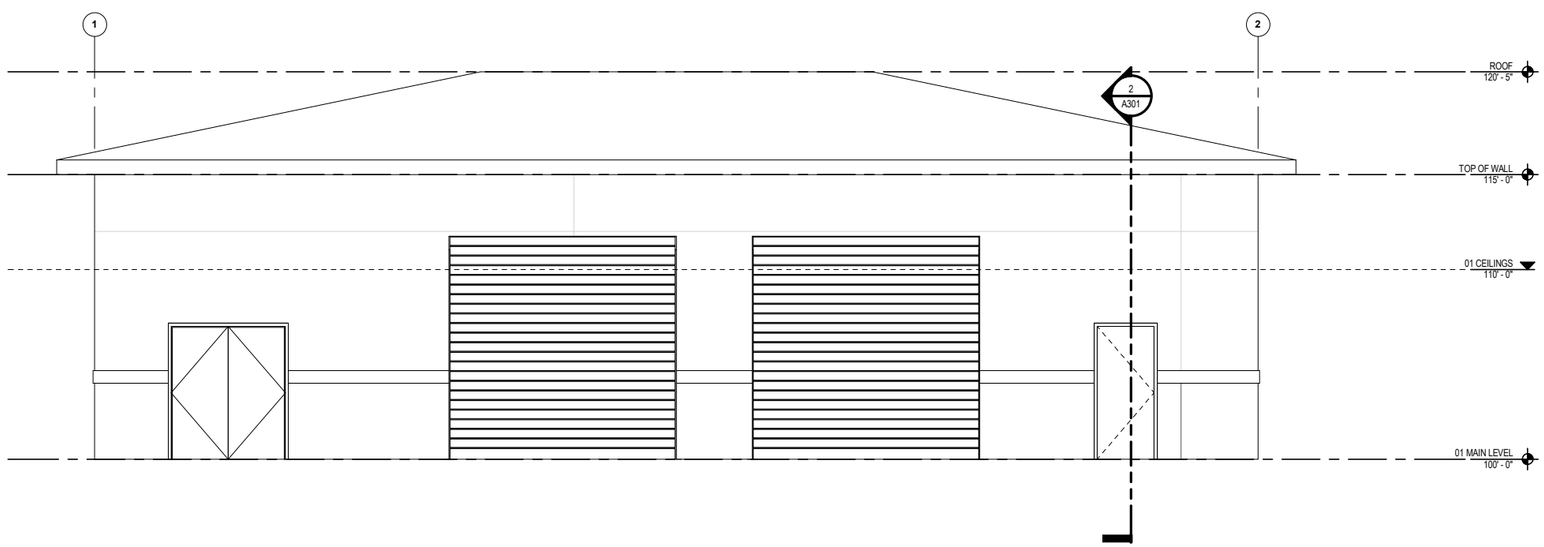

2 SOUTH OVERALL ELEVATION
1/4" = 1'-0"

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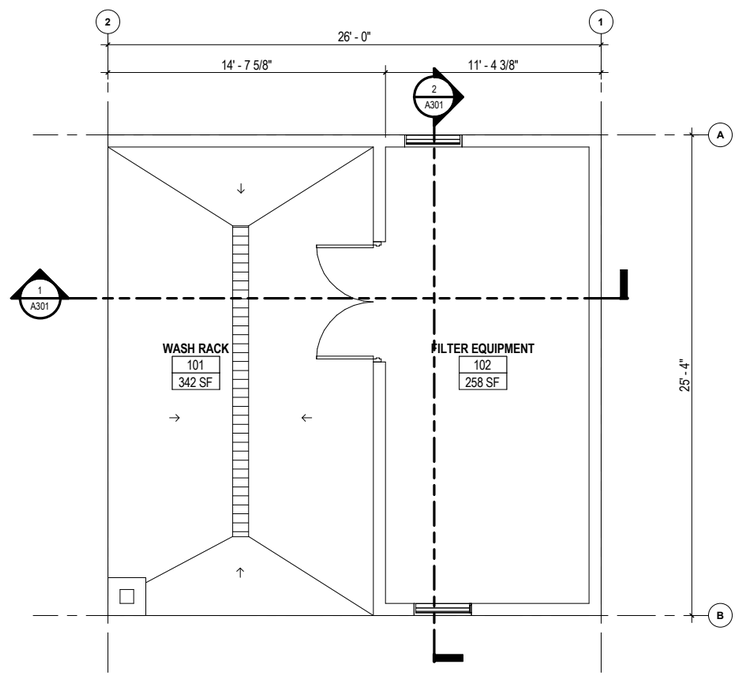

1 FLOOR PLAN
1/4" = 1'-0"

ROOM AREAS		
ROOM #	ROOM NAME	NET AREA
101	WASH RACK	342 SF
102	FILTER EQUIPMENT	258 SF
Grand total		600 SF
GROSS AREA	**DESIGNED**	**BUDGETED**
BUILDING	659 SF	658 SF

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WASH RACK
FLOOR PLAN

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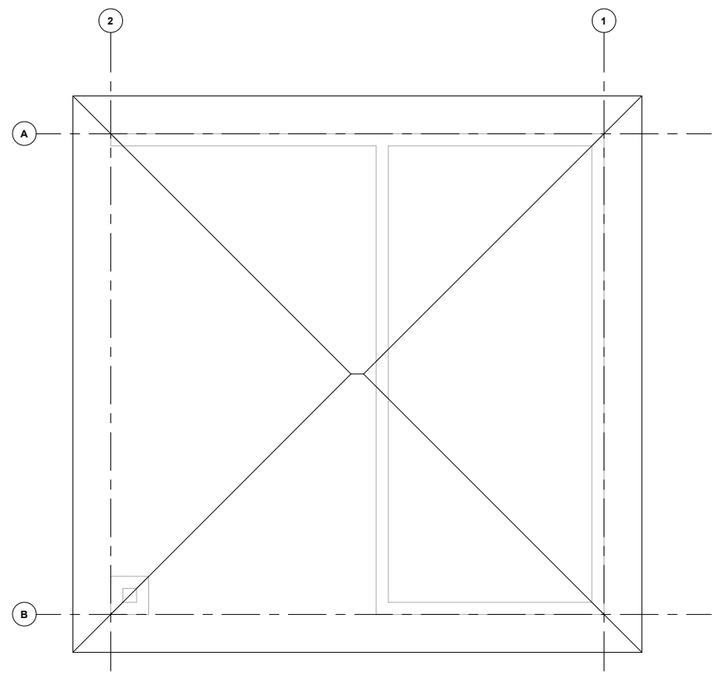

1 ROOF PLAN
1/4" = 1'-0"

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WASH RACK
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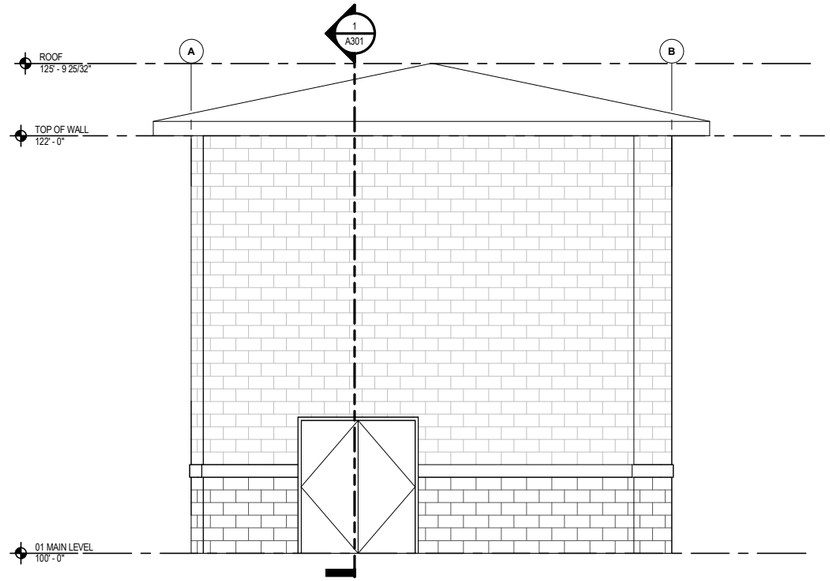

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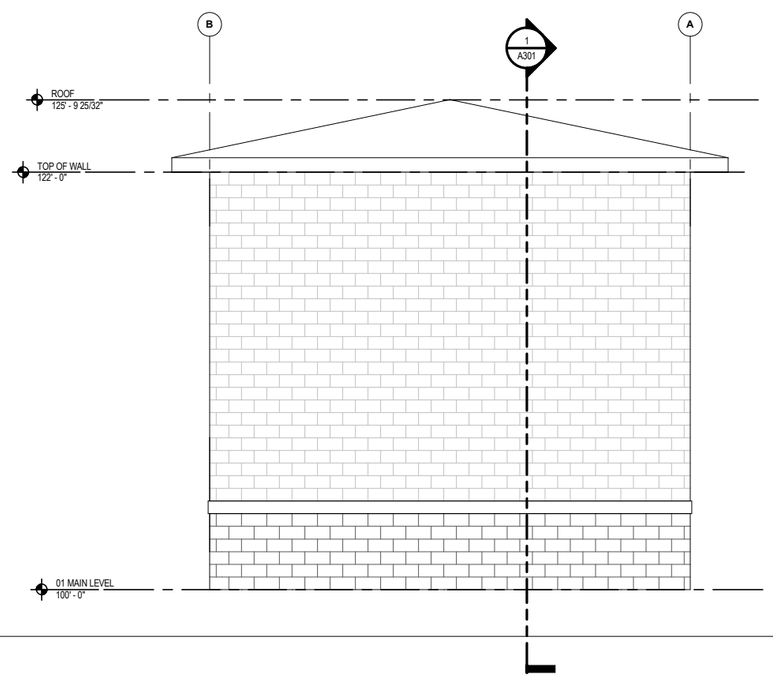

2 WEST ELEVATION
1/4" = 1'-0"

CAL FIRE

Description	Date	Approved

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01.17.2013

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EXTERIOR ELEVATIONS

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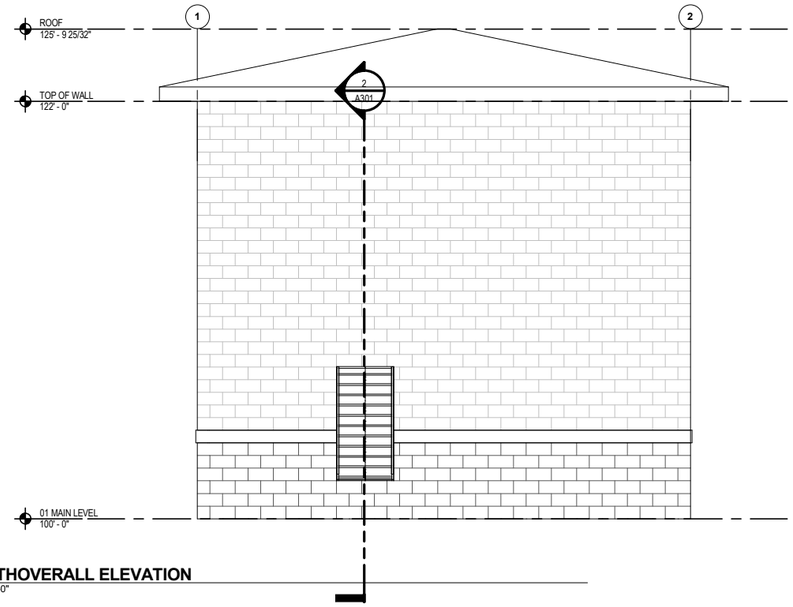

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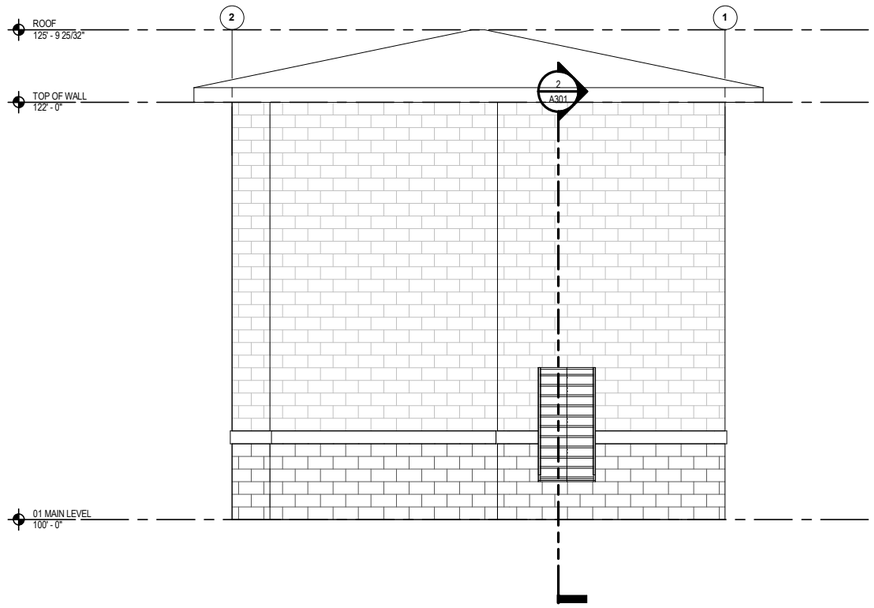

2 SOUTH OVERALL ELEVATION
1/4" = 1'-0"

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WASH RACK
EXTERIOR ELEVATIONS

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of 107

APPENDIX B

Air Quality Study, KD Anderson & Associates, September 12, 2014.

AIR QUALITY STUDY
FOR THE
BUTTE FIRE STATION AND
UNIT HEADQUARTERS REPLACEMENT PROJECT

Prepared for:

ECORP Consulting, Inc.

Prepared by:

KD Anderson & Associates
3853 Taylor Road, Suite G
Loomis, CA 95650
916/660-1555

Project #2610-18

September 12, 2014

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4. Site Plan
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TECHNICAL APPENDIX

Butte County Air Quality Management District Best Available Mitigation Measures
CalEEMod Model Output Files

EXECUTIVE SUMMARY

This *Executive Summary* is a brief overview of the analysis presented in this *Air Quality Study*. It is not intended to be a comprehensive description of the analysis. For more details, the reader is referred to the full description presented in this study.

The proposed Butte Fire Station and Unit Headquarters Replacement (FS and UHQ) Project would involve replacement of all facilities associated with the Butte FS and UHQ, except for the emergency command center (ECC) buildings and ECC tower. The Proposed Project is located in the City of Oroville, Butte County, California. The City of Oroville is located in the southern portion of Butte County, approximately 65 miles north of the City of Sacramento and approximately 22 miles southwest of the City of Chico.

This *Air Quality Study* presents an evaluation of the construction-related and operational impacts of the Proposed Project on the air quality environment.

The project would be located within the Sacramento Valley Air Basin (SVAB). The project site is designated a nonattainment area for both state and federal ozone standards. The area is a state nonattainment area for inhalable particulate matter smaller than 10 microns in diameter (designated PM_{10}). The project site is in a nonattainment area for federal and state standards for fine particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$). The area is designated attainment or unclassified for carbon monoxide (CO), nitrogen dioxide (NO_x), and sulfur dioxide (SO_2).

Implementation of the Butte FS and UHQ Project would result in the generation of short-term construction-related air pollutant emissions. With implementation of mitigation measures, the Proposed Project is considered to have a less than significant impact on construction-related emissions.

The Butte FS and UHQ Project would result in the demolition of existing structures on the Project site. As a result, the Project could potentially cause the release of asbestos fibers. This is considered a significant impact. Implementation of mitigation measures would reduce this impact to a less-than-significant level.

Because the Butte FS and UHQ Project would result in a net increase in the number of vehicle trips generated, the Proposed Project would increase the amount of long-term operational criteria pollutant emissions. With implementation of mitigation measures, operation of the project is considered to have a less-than-significant impact on criteria pollutant air quality.

An assessment of the effects of the Butte FS and UHQ Project on global climate change was conducted. The project-related change in emissions of greenhouse gases was quantified. The project is determined to have a less-than-significant impact on global climate change.

SECTION 1
INTRODUCTION

This *Air Quality Study* has been prepared to assess the air quality impacts of the Butte FS and UHQ Project. This study contains information that will be used in the preparation of a California Environmental Quality Act (CEQA) Initial Study for this project. The State of California Department of Forestry and Fire Protection (CAL FIRE) is the CEQA Lead Agency for the project environmental review.

The purpose of this *Air Quality Study* is to provide documentation of the air quality resources in the project area, and an assessment of the impacts of the project on the air quality environment.

This *Air Quality Study* presents an assessment of the localized air quality impacts of the Proposed Project, the impacts of the project on regional air quality, construction-related impacts of the project, and the impacts on global climate change.

Following this *Introduction* section, this *Air Quality Study* presents a description of:

- the Proposed Project,
- air quality standards and existing air quality conditions,
- short-term construction-related impacts,
- long-term operational impacts, and
- impacts on global climate change and greenhouse gases.

SECTION 2
PROJECT DESCRIPTION

The following is a description of the Butte FS and UHQ Project.

2.1 SURROUNDING LAND USES

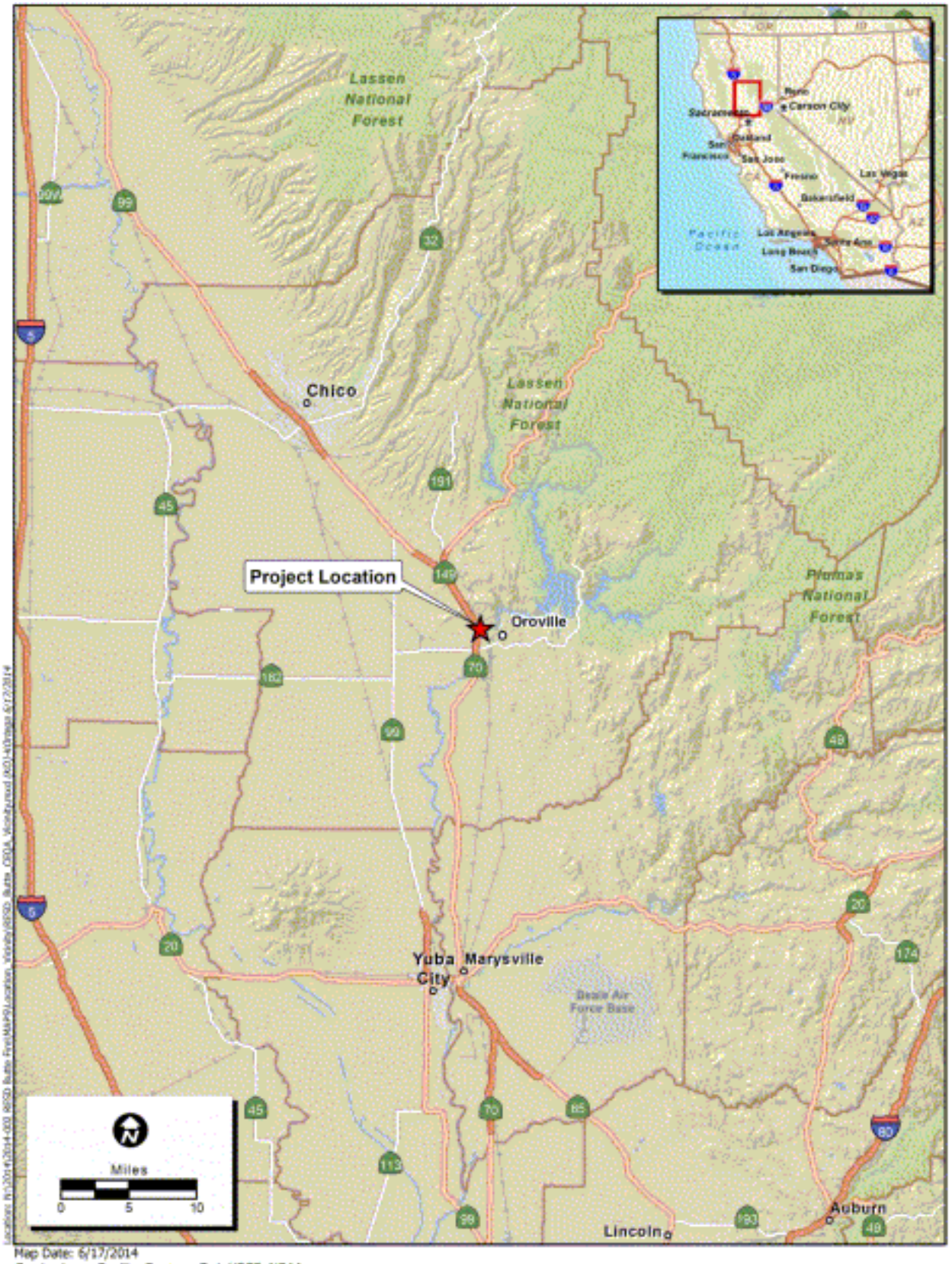
The Proposed Project is located in the City of Oroville, Butte County, California (**Figure 1. Project Vicinity**). The City of Oroville is located in Butte County, approximately 65 miles north of the City of Sacramento and approximately 22 miles southeast of the City of Chico. The Project site consists of the existing CAL FIRE Butte Fire Station and Unit Headquarters, located at 176 Nelson Avenue, Oroville, California 95965. Access to the Project site is provided via Nelson Avenue and Del Oro Avenue.

The Project site corresponds to a 4.36-acre parcel east of Highway 70 off Nelson Avenue between County Center Drive and Del Oro Avenue (**Figure 2. Project Location**). The Project site is bound by Butte County-owned land consisting of residential homes (previously physician homes for the County Hospital) and a storage yard for the Butte County Fire Department on the north, the County of Butte government complex on the west across County Center Drive, the Home Depot and land under development for the Butte County Clerk-Recorder Complex (aka Hall of Records) on the south across Nelson Avenue, and residential homes and an apartment complex on the east across Del Oro Avenue.

The Project site is currently developed and contains the existing Butte FS and UHQ. The Butte FS and UHQ consists of an administrative building, equipment garage (with vehicle bays) and headquarters office, main equipment auto shop (with vehicle bays), equipment/maintenance building (with vehicle bays), two ECC buildings and ECC tower, barracks, galley (mess hall/kitchen), warehouse/service center, fire suppression building, gas and oil house, fuel tanks, and parking areas (**Figure 3. Existing Facilities**).

The existing topography of the site is relatively steep and slopes to the southwest approximately 30 feet across the site. The Project site is almost entirely paved except for a small unpaved area in the northwestern corner of the site. This area is primarily compacted dirt with a gravel path connecting the site to the Butte County Fire Department-owned land to the north. This area is primary used for storage by CAL FIRE.

There are four entrance/exit driveways: two off Nelson Avenue (one in the southwestern corner of the site and the second in the center of the southern boundary of the site) and two off Del Oro Avenue (one in the southeastern corner of the site and the second in the northeastern corner of the site).



Map Date: 6/17/2014
Service Layer Credits: Sources: Esri, USGS, NOAA

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Figure 1. Project Vicinity

2014-002 RESD Butte Fire

VICINITY MAP

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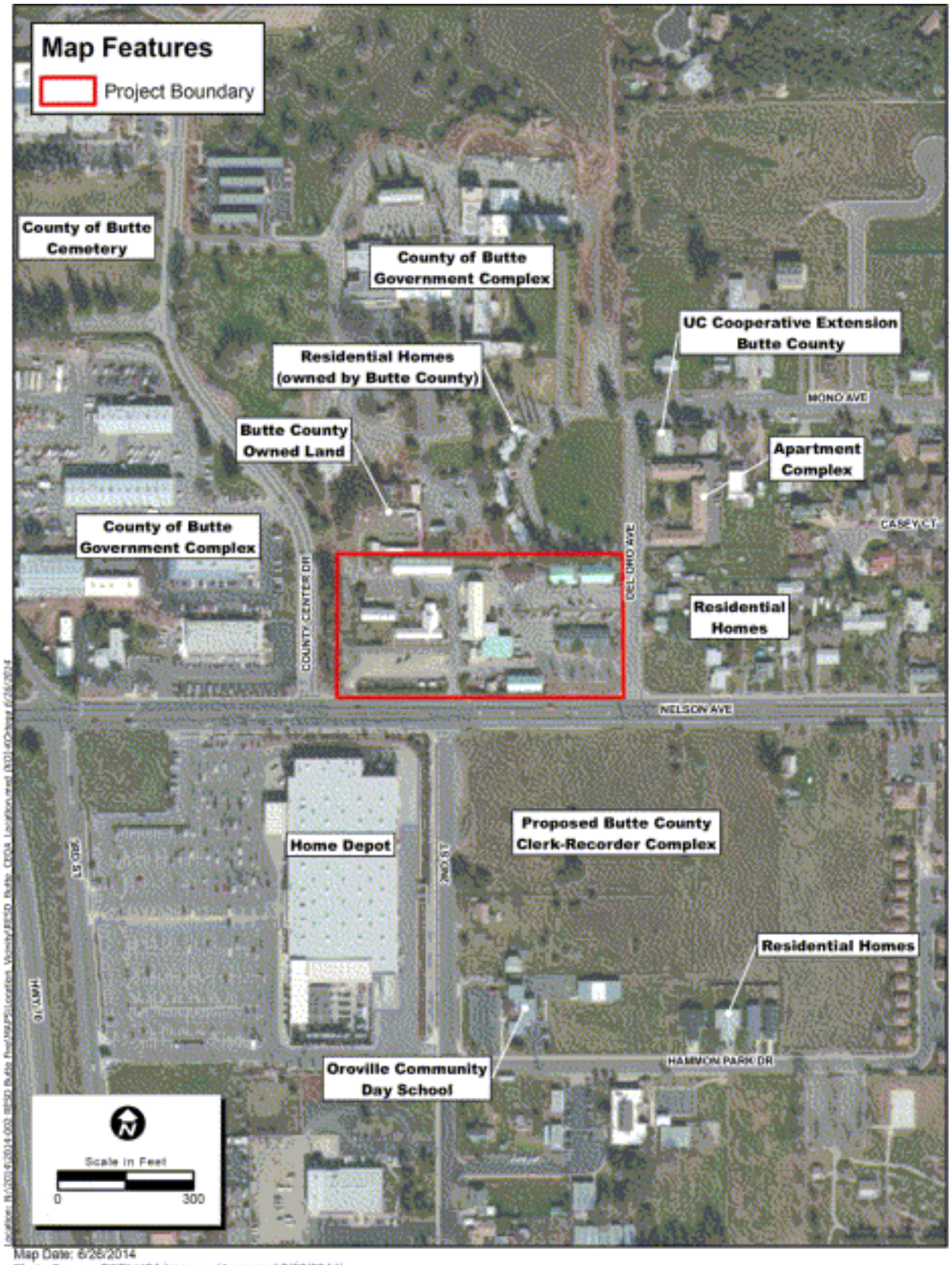
2610-18 LT 9/12/2014

Butte Fire Station and Unit Headquarters Replacement Project
Air Quality Study

figure 1



Map Date: 6/26/2014
Photo Source: ESRI USA Imagery (Accessed 6/26/2014)

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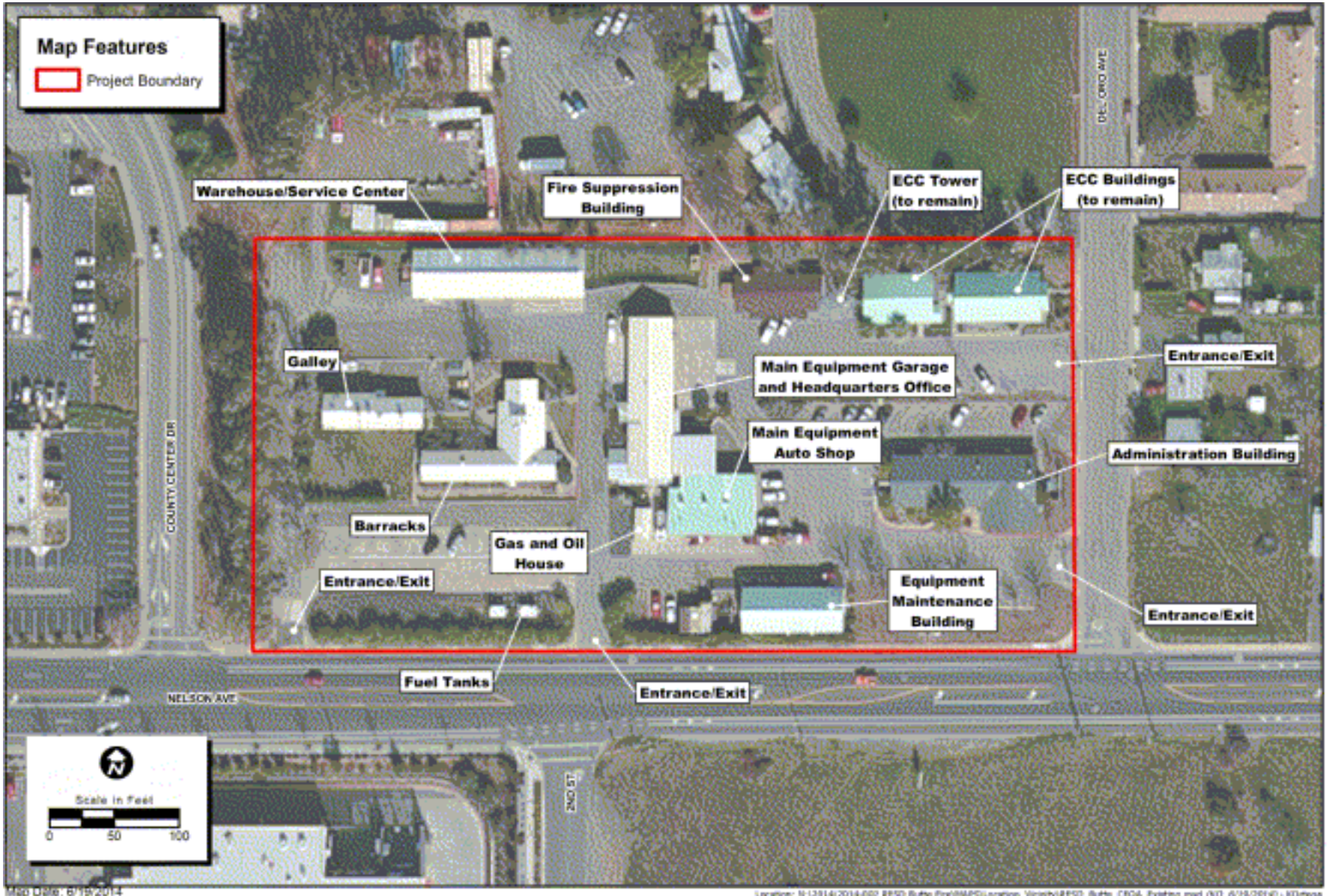
Figure 2. Project Location

2014-002 RESD Butte Fire

PROJECT LOCATION



Map Date: 6/19/2014
Photo Source: ESRI USA Imagery (Accessed 6/19/2014)

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Figure 3. Existing Facilities

2014-002 RESD Butte Fire

2.2 PROJECT BACKGROUND

CAL FIRE is proposing to replace all facilities associated with the Butte FS and UHQ, except for the ECC buildings and ECC tower. Replacement of the Butte FS and UHQ will provide necessary fire protection needs to the local area and region for the next 50 years.

The Butte FS and UHQ are co-located at this site. The Butte Unit acts dually as the Butte County Fire Department and serves all unincorporated areas of Butte County, the City of Biggs and the City of Gridley. In addition, the Butte Unit serves the City of Oroville, the City of Chico, and the town of Paradise through a mutual aid agreement.

The Butte FS and UHQ was constructed over a period of several decades, starting in 1937, with primary construction occurring in the early 1960s. In the 1960s, a major shift in the facilities use occurred, as the property was transformed from solely a vehicle repair and storage facility to the Butte County Fire Station and Unit Headquarters. All facilities were built by 1994, with the exception of the ECC buildings, which were built sometime after 1994. In addition, the majority of the buildings within the complex were renovated in the 1980s.

Currently, the Butte FS and UHQ operates year-round, with six months out of the year operating at a higher capacity (summer staffing). Three fire engines and one bulldozer operate 24 hour response. The station averages over 1,500 emergency responses per year. There is a maximum of 15 firefighters on-site during summer staffing (May 1st through November 1st), with a maximum of 13 firefighters "hot bunking" in the barracks. There are usually four firefighters on-site during the rest of the year. In addition to the firefighters, the auto shop staffs three maintenance employees and there are 23 administrative staff employees working in the administrative building year-round.

2.3 PROJECT OBJECTIVES

The following are the objectives for the Proposed Project:

- replace the existing Butte FS and UHQ with a new facility to better provide fire protection needs to the local area and region; and

- continue to improve and maintain high quality firefighting equipment, apparatus, and facilities for CAL FIRE's statewide fire protection system.

2.4 PROJECT CHARACTERISTICS

The Proposed Project would include demolition of the existing Butte FS and UHC, and construction of replacement facilities.

2.4.1 Demolition, Grading and Paving

Site demolition would include all buildings on-site except for the two ECC buildings and the ECC tower located in the northeast corner of the Project site. Clearing, grubbing, and tree removal would occur as required within the limits of the Project site.

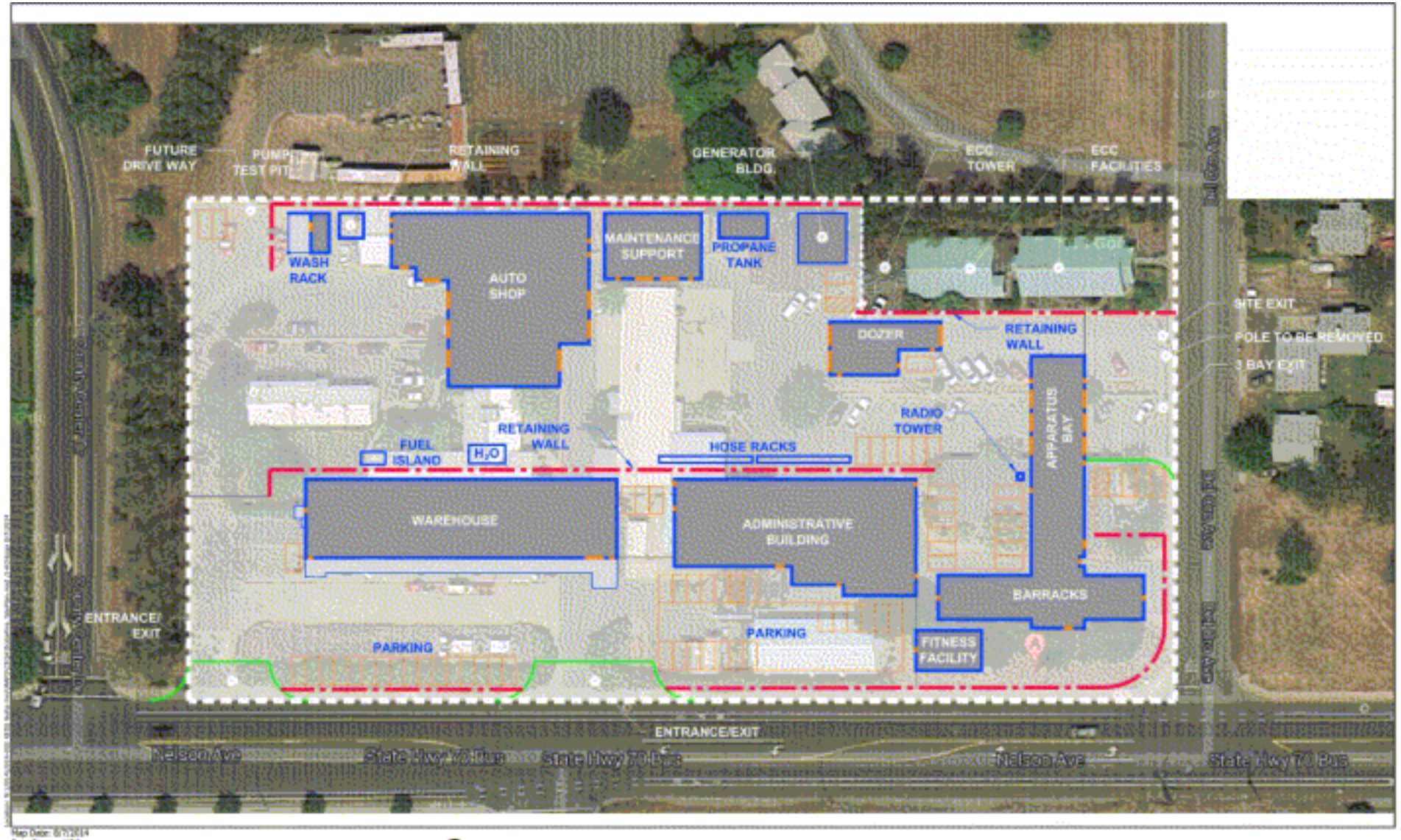
The site would first have a rough grade to level areas for the buildings, paving, and flatwork. New concrete paving for access drives and parking areas would be installed. New curbs, gutters, and sidewalks would be installed throughout the site and along Nelson Avenue and Del Oro Avenue.

2.4.2 New Butte Fire Station and Unit Headquarters

The Proposed Project would construct a new fire station and unit administrative headquarters complex. Construction of new facilities would include: administrative building, three-bay fire apparatus building, 20-bed barracks/mess hall, warehouse/service center, two-bay dozer shed, auto shop, covered vehicle wash rack with filtration system, maintenance support building, physical fitness building, a generator/storage building, a fire pump test pit and several other site improvements (**Figure 4. Site Plan** and **Figure 5. Site Plan – Detail**).

All buildings would be designed to meet the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver rating requirements; however, only the administrative building would be registered and certified. Detailed descriptions of the proposed facilities and improvements are provided below.

Administrative Building. The administrative building would be approximately 10,130 square feet and would be located near the center of the Project site, just east of the proposed central entrance/exit off Nelson Avenue. Covered parking spaces for the administration building would be located south of the building. Additional parking spaces and hose racks would be located north of the administrative building.



Map Date: 8/13/2014
Base Source: SRS

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Figure 4. Site Plan

2014-002 RESD Butte Fire

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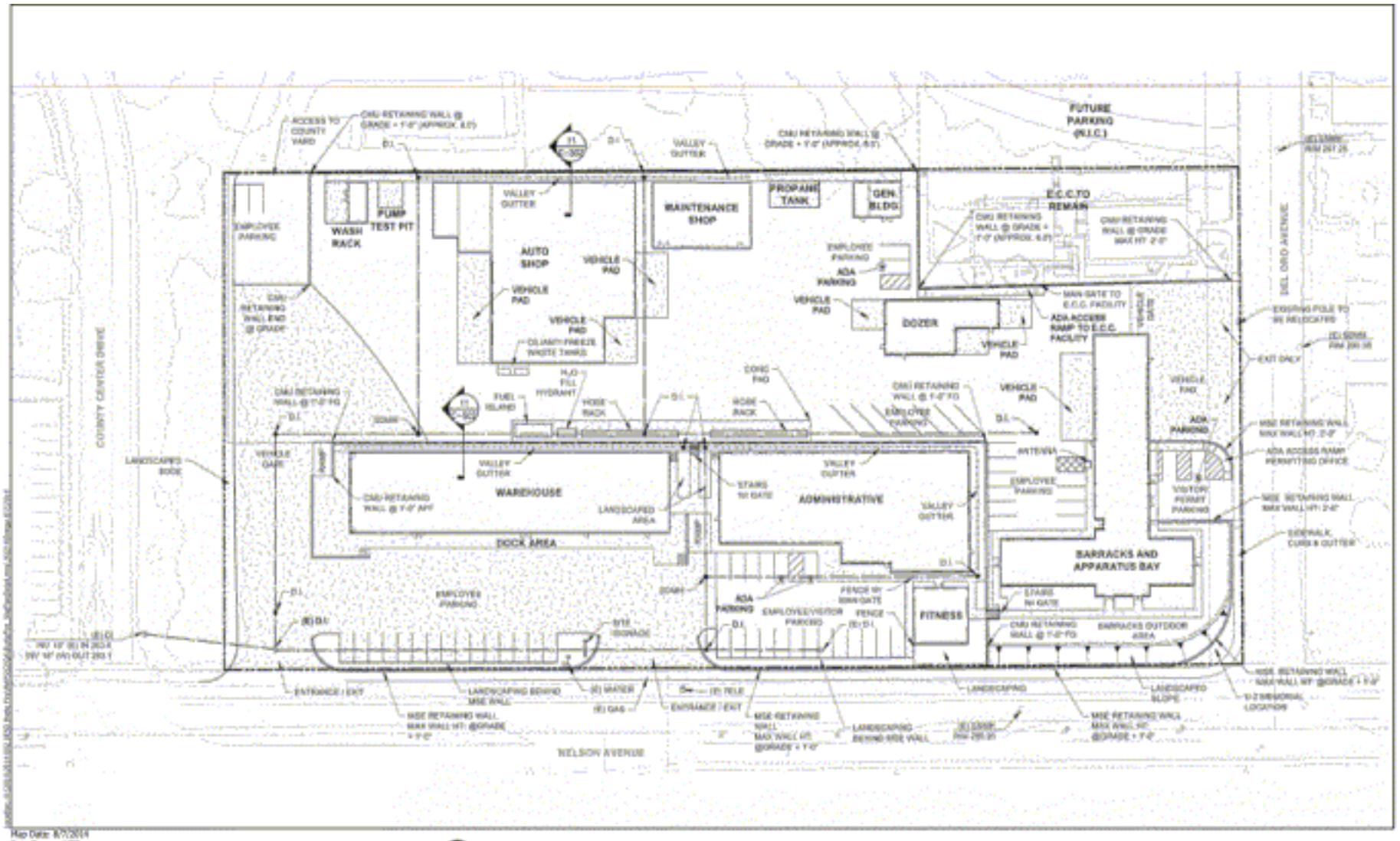
SITE PLAN

2610-18 LT 9/12/2014

Butte Fire Station and Unit Headquarters Replacement Project
Air Quality Study

figure 4



Map Date: 8/7/2014
Base Source: LRS

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Figure 5. Site Plan - Detail

2014-002 RESD Butte Fire

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SITE PLAN - DETAIL

2610-18 LT 9/12/2014

Butte Fire Station and Unit Headquarters Replacement Project
Air Quality Study

figure 5

Three-Bay Fire Apparatus Building and 20-Bed Barracks/Mess Hall. The three-bay fire apparatus building and 20-bed barracks/mess hall would be connected to each other and located in the southeastern corner of the Project site. The building would be approximately 8,687 square feet and shaped as a "T." The barracks portion of the building would be parallel to the southern site boundary and the apparatus bay portion of the building would be parallel to the western site boundary (see **Figure 4. Site Plan**). The mess hall would separate the barracks portion from the apparatus portion and contain a fully equipped kitchen. The barracks would have individual bathrooms and a laundry room and would sleep a maximum of 20 people. The building would be equipped with an air compressor, a tailpipe connected diesel exhaust extractor system and building mounted exterior flood lighting to allow for work after hours outside the apparatus bays. Parking for the building would be located between this building and the administrative building, with a few spaces located adjacent to the proposed entrance/exist off Del Oro Avenue.

Fitness Building. The fitness building would be approximately 1,160 square feet. The building would be located adjacent to the administrative building covered parking area, south of the barracks along the southern site boundary.

Warehouse/Service Center. The warehouse/service center would be approximately 12,234 square feet and would be located to the west of the administrative building in the southwestern portion of the Project site. A fuel island and water tank would be located north of the warehouse/service center.

Auto Shop. The auto shop would be approximately 14,928 square feet and would be located north of the warehouse/service center in the northwestern portion of the Project site. The auto shop would have three pull through bays and one bay for the dozer. The auto shop would be equipped with a 10,000 pound (lb) crane, 12,000 lb fixed vehicle lift, 40,000 lb fixed vehicle lift, 60,000 lb portable vehicle lift, service fluid delivery system, air compressor, tailpipe connected diesel exhaust extraction system, vehicle parts storage rack, and a tire storage rack.

Maintenance Support Building. The maintenance support building would be approximately 2,500 square feet and would be located adjacent to and east of the auto shop. The building would be equipped with ready rack turnout gear storage racks, commercial clothes washer/extractor and commercial gas clothes dryer. The building would also have two one-way vehicle bays.

Generator/Storage Building. The generator/storage building would be approximately 534 square feet and would be located east of the maintenance/support building. A propane tank would separate the two buildings.

Covered Vehicle Wash Rack with Filtration System. The covered vehicle wash rack would be approximately 302 square feet and would be located west of the auto shop. An advanced bio remediation (ABS) wastewater treatment filtration system would fully treat the water for a 100 percent recyclable water treatment system. Therefore, the vehicle wash rack would have minimal water demand and no waste water would be released from the system. A proposed future driveway with access to the Butte County-owned land to the north and two parking spaces would be adjacent to the vehicle wash rack on the west.

Two-Bay Dozer Shed. The two-bay dozer shed would be approximately 1,990 square feet and would be located just south of the ECC tower in the northeastern portion of the Project site. The dozer shed would be equipped with air compressor, a tailpipe connected diesel exhaust extraction system and building mounted exterior flood lighting for after-hours work. Three parking spaces would be located just north between the dozer shed and the generator/storage building, and one parking space would be located on the south side of the building.

Other Site Improvements. A six-foot high chain link fence with barbed wire would be installed around portions of the perimeter, with sliding auto gates at all entrances/exits. A free-standing fuel island would be located north of the warehouse/service center and would contain an 8,000-gallon tank, split for 4,000 gallons of diesel and 4,000 gallons of unleaded gasoline, and one 500-gallon, above-ground tank for E-85 ethanol.

2.4.3 Operations and Maintenance

Operations of the new Butte FS would be similar to the existing operations and employee positions would be the same as those described in Section 2.2 of this *Air Quality Study*, *Project Background*. Descriptions of operations for the fire station, auto shop, warehouse and administrative building are provided below.

Fire Station. The number of firefighters staffed would vary throughout the year depending on demand. A maximum of 20 people would sleep on-site during prime fire seasons (six months, summer). The fire station would operate 24 hours a day, seven days a week, year round. On average, the fire station would generate eight vehicle trips per day during the winter, 20 vehicle trips per day during the summer and 30 or more vehicle trips per day during a peak emergency event. On average, there are approximately 10 peak events per year. A peak event would include several additional fire control apparatus staging at the fire station and/or utilizing the station facilities (auto shop, warehouse). Additional equipment could include up to 10 fire engines, two dozers, six fire crew "buses", and other miscellaneous vehicles.

Auto Shop. The auto shop would staff three employees and would operate from 7:00 a.m. to 6:00 p.m., seven days a week, year round. On average, the auto shop would generate five vehicle trips per day during the winter, 10 vehicle trips per day during the summer, and 15 or more during a peak emergency event. The auto shop would service on average five to six vehicles per day during the winter and summer and, depending on the size of the emergency event, five to 50 or more vehicles per day during a peak emergency event.

Warehouse. On average, 12 United Parcel Service (UPS) and/or FedEx trucks and three 18-wheeler trucks would make deliveries every week to the warehouse.

Administrative Building. Currently the administrative building staffs 23 employees. The new administrative building would staff an additional three to five employees, resulting in a total of 26-28 employees. Daily operations would include providing basic information to the public regarding fire prevention and education, fire activity, employment, training opportunities, forest practice laws and enforcement, building and fire inspections and conducting station tours.

2.5 PROJECT CONSTRUCTION AND TIMING

The Proposed Project would be constructed as a single phased project with CAL FIRE vacating the entire site except for the ECC, which will remain in service during construction. The duration from start of construction to substantial completion is expected to be 18 months. **Table 1** describes the construction stages and duration.

Table 1. Construction Stages

Description of Activity	Duration (Approximate)
Stage 1 – Hazardous Materials Abatement Removal of lead based paint and asbestos containing materials: mastic, tile, and light ballasts	Two weeks
Stage 2 – Demolition Demolition of structures; removal of asphalt, concrete, and retaining walls	Three weeks
Stage 3 – Grading Removal of materials and compaction of site to a rough grade (four weeks); finish grading in conjunction with installation of retaining walls and site underground work (four weeks)	Eight weeks
Stage 4 – Final Construction On-going backfilling and compaction at the retaining walls and return of disrupt earth work on-site; construction of buildings and other on-site improvements	14 months and 3 weeks
TOTAL	18 months

SECTION 3
AIR QUALITY STANDARDS AND EXISTING CONDITIONS

The following is a description of ambient air quality standards and existing air quality conditions in the Butte FS and UHQ Project study area.

3.1 AIR POLLUTANTS AND AMBIENT STANDARDS

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards indicate levels of contaminants that represent safe levels, to avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and state ambient air quality standards are presented in **Table 2**. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent, as is the case for ozone, PM_{10}, and $PM_{2.5}$.

There are three basic designation categories: nonattainment, attainment, and unclassified. A "nonattainment" designation indicates that the air quality violates an ambient air quality standard. Although a number of areas may be designated as nonattainment for a particular pollutant, the severity of the problem can vary greatly. To identify the severity of the problem and the extent of planning required, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe). In contrast to nonattainment, an "attainment" designation indicates that the air quality does not violate the established standard. Finally, an "unclassified" designation indicates that there are insufficient data for determining attainment or nonattainment. EPA combines unclassified and attainment into one designation for ozone, CO, PM_{10} and $PM_{2.5}$.

3.2 POLLUTANTS OF CONCERN

For projects similar to the Butte FS and UHQ Project, criteria pollutants that are of greatest concern are ozone, particulate matter, and CO. In addition, this *Air Quality Study* presents an analysis of the project-related effects on asbestos and global climate change.

Table 2. Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)[8]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[8]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[9]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[11,12]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (6/4/13)

Table 2. Ambient Air Quality Standards (Continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (6/4/13)**

3.2.1 Ozone

Prior to 2005, both state and federal standards for ozone were set for a one-hour averaging time. The state ozone standard is 0.09 parts per million (ppm), not to be exceeded. The federal one-hour standard was 0.12 ppm and was not to be exceeded more than three times in any three-year period. A federal eight-hour standard for ozone was issued in July 1997 by Executive Order of the President. The eight-hour ozone standard has been set at a concentration of 0.075 ppm ozone measured over eight hours.

As of June 15, 2005, the federal one-hour ozone standard was revoked. In setting the eight-hour ozone standard, EPA concluded that replacing the existing one-hour standard with an eight-hour standard was appropriate to provide adequate and more uniform protection of public health from both short-term (one to three hours) and prolonged (six to eight hours) exposures to ozone.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gas (ROG) and nitrogen oxides (NO_x), react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Once formed, ozone remains in the atmosphere for one or two days. It is then eliminated through chemical reaction with plants, and by rainout and washout.

3.2.2 Particulate Matter

State and federal standards for particulate matter are based on micrograms per cubic meter ($\mu g/m^3$) for a 24-hour average and as an annual geometric mean.

PM_{10} is sometimes referred to as “inhalable particulate matter” or “respirable particulate matter”. The state standards for PM_{10} are 50 $\mu g/m^3$ 24-hour average, and 20 $\mu g/m^3$ annual geometric mean. The federal PM_{10} standard is a 24-hour average of 150 $\mu g/m^3$.

A federal standard for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) was issued in July 1997 by Executive Order of the President. $PM_{2.5}$ is sometimes referred to as “fine particulate matter”. The $PM_{2.5}$ standard has been set at a concentration of 15 $\mu g/m^3$ annually and 35 $\mu g/m^3$ daily. The federal standards for PM_{10} are being maintained so that relatively larger, courser particulate matter continues to be regulated. The state $PM_{2.5}$ standard is an annual average of 12 $\mu g/m^3$.

PM_{10} and $PM_{2.5}$ can reach the lungs when inhaled, resulting in health concerns related to respiratory disease. Suspended particulate matter can also affect vision or contribute to eye irritation. PM_{10} can remain in the atmosphere for up to seven days before removal by gravitational settling, rainout and washout.

3.2.3 Carbon Monoxide

State and federal CO standards have been set for both one-hour and eight-hour averaging times. The state one-hour standard is 20 ppm by volume, while the federal one-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the eight-hour averaging period. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

3.2.4 Asbestos

In addition to criteria pollutants, a pollutant of concern for the project is asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals. Naturally occurring asbestos (NOA) is found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California.

When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

In the past, asbestos was used as a fire retardant and insulation in some structures. As a result, demolition of older structures can result in the release and entrainment of asbestos fibers.

3.2.5 Greenhouse Gases

The average surface temperature of the Earth has risen by about one degree Fahrenheit in the past century, with most of that occurring during the past two decades (World Meteorological Organization, 2005). There is evidence that most of the warming over the last 50 years is due to human activities. Human activities, such as energy production and internal combustion vehicles, have increased the amount of climate-changing gases in the atmosphere, which in turn is causing the Earth's average temperature to rise. Rises in average temperature are leading to changes in climate patterns, shrinking polar ice caps and a rise in sea level, with a host of corresponding impacts to humans and ecosystems.

Gases which affect global climate are referred to as greenhouse gases (GHG). Greenhouse gases are atmospheric gases that act as global insulators by reflecting visible light and infrared radiation back to Earth. Some GHG, such as water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), occur naturally and are emitted to the atmosphere through natural

processes. Although CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From 1750 to 2004, concentrations of CO_2, CH_4, and N_2O have increased globally by 35, 143, and 18 percent, respectively. Other greenhouse gases, such as fluorinated gases, are created and emitted solely through human activities. (U.S. Environmental Protection Agency 2006)

The principal GHG that enter the atmosphere because of human activities are CO_2, CH_4, N_2O, and fluorinated gases. Carbon dioxide is the gas that is most commonly referenced when discussing climate change because it is the most commonly emitted gas. While some of the less common gases do make up less of the total GHG emitted to the atmosphere, some have more effect per molecule than CO_2.

Carbon Dioxide. The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution. Carbon dioxide was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. Prior to the industrial revolution, concentrations were fairly stable at 280 ppm. Today, they are around 370 ppm, an increase of well over 30 percent (U.S. Environmental Protection Agency 2006). Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 535 ppm by 2100 as a direct result of anthropogenic (manmade) sources. This could result in an average global temperature rise of at least two degrees Celsius (Intergovernmental Panel on Climate Change 2007). The California Energy Commission (CEC) estimates that CO_2 emissions account for 84 percent of California's anthropogenic GHG emissions, nearly all of which is associated with fossil fuel combustion (California Energy Commission 2005).

Methane. Methane is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10 – 12 years), compared to some other GHG (such as CO_2, N_2O, and chlorofluorocarbons). Methane has both natural and anthropogenic sources. Landfills, natural gas distribution systems, agricultural activities, fireplaces and wood stoves, stationary and mobile fuel combustion, and gas and oil production fields categories are the major sources of these emissions (U.S. Environmental Protection Agency 2006). The CEC estimates that CH_4 emissions from various sources represent 6.2 percent of California's total GHG emissions (California Energy Commission 2005).

Nitrous Oxide. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizers that contain nitrogen. Use of these fertilizers has increased over the last century. Global concentration for N_2O in 1998 was 314 parts per billion (ppb), and in addition to agricultural sources for the gas, some industrial processes (fossil fuel fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load (U.S. Environmental Protection Agency 2006). The CEC estimates that N_2O emissions from various sources represent 6.6 percent of California's total GHG emissions (California Energy Commission 2005).

Fluorinated Gases (HFCS, PFCS, and SF_6). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6), are powerful GHG emissions that are emitted from a variety of industrial processes. Fluorinated gases are occasionally used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone destroying potential. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but each molecule can have a much greater global warming effect. Therefore, fluorinated gases are sometimes referred to as High Global Warming Potential (GWP) gases (U.S. Environmental Protection Agency 2006). The primary sources of fluorinated gas emissions in the United States include the production of HCFC-22 electrical transmission and distribution systems, semiconductor manufacturing, aluminum production, magnesium production and processing, and substitution for ozone-depleting substances. The CEC estimates that fluorinated gas emissions from various sources represent 3.4 percent of California's total GHG emissions (California Energy Commission 2005).

3.3 AIR QUALITY MONITORING

Table 3 presents air quality monitoring data for ozone and CO. **Table 4** presents monitoring data for PM_{10}, and $PM_{2.5}$. Data for the latest available three-year period (2011 through 2013) are presented for the monitoring stations closest to the Project site.

Table 3 shows recent exceedances of the state and federal ozone air quality standards, and shows no recent exceedances of the state or federal CO standards. **Table 4** shows recent exceedances of the state and federal 24-hour standards for PM_{10} and $PM_{2.5}$.

3.4 ATTAINMENT DESIGNATIONS

The current air quality attainment designations for Butte County are summarized in **Table 5**

As shown in **Table 5**, Butte County is designated nonattainment for the state and federal ozone standards.

Butte County is designated nonattainment for the state PM_{10} and $PM_{2.5}$ standards, and for the federal $PM_{2.5}$ standard.

Butte County is designated either attainment or unclassified for the remaining federal and state air quality standards.

Table 3. Ozone and Carbon Monoxide Air Quality Monitoring Results

Pollutant Type, Station and Measurement	Air Quality Standard	Pollutant Concentration by Year 2011	2012	2013
Ozone at Paradise - 4405 Airport Road				
Highest 1-Hour Average (parts per million)	0.09	0.094	0.088	0.100
Second Highest 1-Hour Average (parts per million)	(State)	0.089	0.086	0.086
Highest 8-Hour Average (parts per million)	0.070	0.081	0.081	0.094
Second Highest 8-Hour Average (parts per million)	(State)	0.079	0.080	0.080
Carbon Monoxide at Chico - Manzanita Avenue				
Highest 8-Hour Average (parts per million)	9.0	2.14	1.71	- -
Second Highest 8-Hour Average (parts per million)	(State)	1.73	1.70	- -

Source: California Air Resources Board website: http://www.arb.ca.gov/

Note: Dashes (" - - ") indicate insufficient data or no data are available.

Table 4. Particulate Matter Air Quality Monitoring Results

Pollutant Type, Station and Measurement	Air Quality Standard	Pollutant Concentration by Year 2011	2012	2013
Inhalable Particulate Matter (PM_{10}) at Chico - East Avenue				
Highest 24-Hour Average (micrograms/cubic meter)	50	- -	55.4	61.1
Second Highest 24-Hour Average (micrograms/cubic meter)	(State)	- -	45.2	50.1
Annual Average (micrograms/cubic meter)	20 (State)	- -	16.8	24.3
Fine Particulate Matter ($PM_{2.5}$) at Gridley - Cowee Avenue				
Highest 24-Hour Average (micrograms/cubic meter)	35	48.6	36.4	37.7
Second Highest 24-Hour Average (micrograms/cubic meter)	(Federal)	41.1	31.1	35.1
Annual Average (micrograms/cubic meter)	12 (State)	- -	7.7	- -

Source: California Air Resources Board website: http://www.arb.ca.gov/

Note: Dashes (" - - ") indicate insufficient data or no data are available.

Table 5. Air Quality Attainment Status Designations - Butte County

Pollutant	State Standard	Federal Standard
Ozone (1-Hour Standard)	Nonattainment	No Standard
Ozone (8-Hour Standard)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Inhalable Particulate Matter (PM_{10})	Nonattainment	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment

Source: Butte County Air Quality Management District 2014.

3.5 EMISSIONS INVENTORY

Table 6 presents estimates of emissions currently generated in Butte County. **Table 7** presents a forecast of emissions expected to be generated in Butte County in the year 2035. The information presented in both tables is divided into emission source categories.

For both current emissions shown in **Table 6**, and 2035 emissions shown in **Table 7**, the major source category that generates the largest amount of ROG emissions in Butte County is Solvent Evaporation. The largest subcategory within this category is Asphalt Paving/Roofing. The major source category that currently generates the largest amount of CO emissions is On-Road Motor Vehicles. In 2035, the major source category that generates the largest amount of CO emissions is Miscellaneous Processes. The largest subcategory within this category is Residential Fuel Consumption. For both current emissions and 2035 emissions, the major source category that generates the largest amount of NO_x emissions is On-Road Motor Vehicles. For both current emissions and 2035 emissions, the major source category that generates the largest amount of PM_{10} emissions is Miscellaneous Processes. The largest subcategory within this category is Farming Operations. For both current emissions and 2035 emissions, the major source category that generates the largest amount of $PM_{2.5}$ emissions is Miscellaneous Processes. The largest subcategory within this category is Residential Fuel Combustion.

Table 8 presents estimates of GHG emissions generated in California during the years 2000 through 2012. The data are expressed as "million tonnes of CO_2 equivalent" per year. One tonne is sometimes referred to as a "metric ton" and is equal to 2,204.6 pounds.

While CO_2 is the most common component of GHG, several different compounds are components of overall GHG. The different compounds contribute to climate change with varying intensities. The term "CO_2 equivalent" (CO_2e) refers to a weighted composite of these several compounds, expressed as the equivalent amount of CO_2.

Table 8 presents estimates of GHG emissions disaggregated into the following seven major source categories, which are further disaggregated into minor source categories.

- Transportation,
- Electric Power,
- Commercial and Residential,
- Industrial,
- Recycling and Waste,
- High GWP, and
- Agriculture.

As shown in **Table 8**, Transportation and Electric Power are the two larger major source categories of GHG emissions in California. Industrial, and Commercial and Residential activities are relatively smaller sources of GHG emissions.

Table 9 presents forecasts of GHG emissions expected to be generated in California during the years 2008 through 2020.

Table 6. Butte County Emissions Inventory for 2012

Emission Category	Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Fuel Combustion					
Electric Utilities	0.05	8.86	0.75	0.22	0.20
Cogeneration	0.00	0.01	0.01	0.00	0.00
Manufacturing and Industrial	0.01	0.03	0.18	0.01	0.01
Food and Agricultural Processing	0.05	0.31	0.64	0.03	0.03
Service and Commercial	0.02	0.07	0.38	0.01	0.01
Other (Fuel Combustion)	0.02	0.03	0.06	0.00	0.00
Subtotal	**0.15**	**9.31**	**2.02**	**0.27**	**0.25**
Waste Disposal					
Sewage Treatment	0.00	- -	- -	- -	- -
Landfills	- -	- -	- -	- -	- -
Incinerators	0.00	0.00	0.02	0.00	0.00
Other (Waste Disposal)	- -	- -	0.00	0.00	- -
Subtotal	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**
Cleaning and Surface Coatings					
Laundering	0.03	- -	- -	- -	- -
Degreasing	0.56	- -	- -	- -	- -
Coatings and Related Process Solvents	0.34	0.01	0.00	0.00	0.00
Printing	0.04	- -	- -	- -	- -
Adhesives and Sealants	0.09	- -	- -	- -	- -
Subtotal	**1.06**	**0.01**	**0.00**	**0.00**	**0.00**
Petroleum Production and Marketing					
Oil and Gas Production	0.08	0.01	0.01	0.00	0.00
Petroleum Marketing	0.37	- -	- -	- -	- -
Other (Pertoleum Production and Marketing)	0.11	0.00	0.00	- -	- -
Subtotal	**0.56**	**0.01**	**0.01**	**0.00**	**0.00**
Industrial Processes					
Chemical	0.00	- -	- -	- -	- -
Food and Agriculture	0.00	0.00	0.01	1.70	0.96
Mineral Processes	0.01	0.01	0.00	0.32	0.09
Metal Processes	- -	- -	- -	0.00	0.00
Wood and Paper	0.02	- -	- -	0.05	0.03
Other (Industrial Processes)	0.00	- -	- -	0.00	0.00
Subtotal	**0.03**	**0.01**	**0.01**	**2.07**	**1.08**

Table 6. Butte County Emissions Inventory for 2012 (Continued)

Emission Category	Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Solvent Evaporation					
Consumer Products	1.19	- -	- -	- -	- -
Architectural Coatings & Related Process Solvents	0.70	- -	- -	- -	- -
Pesticides/Fertilizers	0.48	- -	- -	- -	- -
Asphalt Paving / Roofing	2.83	- -	- -	- -	- -
Subtotal	**5.20**	**- -**	**- -**	**- -**	**- -**
Miscellaneous Processes					
Residential Fuel Combustion	2.01	11.36	0.61	1.45	1.40
Farming Operations	0.32	- -	- -	4.93	0.74
Construction and Demolition	- -	- -	- -	1.11	0.11
Paved Road Dust	- -	- -	- -	1.15	0.17
Unpaved Road Dust	- -	- -	- -	3.79	0.38
Fugitive Windblown Dust	- -	- -	- -	0.26	0.04
Fires	0.01	0.12	0.00	0.01	0.01
Managed Burning and Disposal	0.87	8.84	0.60	1.16	1.08
Cooking	0.04	- -	- -	0.11	0.07
Other (Miscellaneous Processes)	- -	- -	- -	- -	- -
Subtotal	**3.25**	**20.32**	**1.21**	**13.97**	**4.00**
On-Road Motor Vehicles					
Light Duty Vehicles	2.25	20.56	2.13	0.22	0.10
Medium Duty Trucks	0.64	7.26	0.98	0.05	0.02
Heavy Duty Trucks	0.71	4.82	5.98	0.24	0.18
Motorcycles	0.24	1.64	0.07	0.00	0.00
Buses	0.03	0.35	0.22	0.01	0.00
Motor Homes	0.02	0.39	0.08	0.00	0.00
Subtotal	**3.89**	**35.02**	**9.46**	**0.52**	**0.30**
Other Mobile Sources					
Aircraft	0.57	5.27	0.29	0.02	0.02
Trains	0.10	0.42	1.72	0.05	0.04
Recreational Boats	0.58	1.89	0.11	0.04	0.03
Off-Road Recreational Vehicles	0.23	0.49	0.01	0.00	0.00
Off-Road Equipment	0.85	7.91	1.24	0.09	0.08
Farm Equipment	0.41	2.59	2.10	0.12	0.12
Fuel Storage and Handling	0.10	- -	- -	- -	- -
Subtotal	**2.84**	**18.57**	**5.47**	**0.32**	**0.29**
COUNTY TOTAL	**17.02**	**83.26**	**18.20**	**17.18**	**5.95**

Notes: Does not include emissions from Natural Sources.
All values are in tons per day. Dashes ("- -") indicate no data are available.
The sum of values may not equal total shown due to rounding.
Source: California Air Resources Board (CARB) website: http://arb.ca.gov

Table 7. Butte County Emissions Forecast for 2035

Emission Category	Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Fuel Combustion					
Electric Utilities	0.09	13.93	1.19	0.34	0.32
Cogeneration	0.00	0.01	0.01	0.00	0.00
Manufacturing and Industrial	0.00	0.03	0.15	0.01	0.01
Food and Agricultural Processing	0.01	0.26	0.16	0.01	0.01
Service and Commercial	0.02	0.08	0.40	0.01	0.01
Other (Fuel Combustion)	0.03	0.02	0.05	0.00	0.00
Subtotal	**0.15**	**14.33**	**1.96**	**0.37**	**0.35**
Waste Disposal					
Sewage Treatment	0.00	- -	- -	- -	- -
Landfills	- -	- -	- -	- -	- -
Incinerators	0.00	0.00	0.02	0.01	0.01
Other (Waste Disposal)	- -	- -	0.00	0.00	0.00
Subtotal	**0.00**	**0.00**	**0.02**	**0.01**	**0.01**
Cleaning and Surface Coatings					
Laundering	0.04	- -	- -	- -	- -
Degreasing	0.62	- -	- -	- -	- -
Coatings and Related Process Solvents	0.38	0.01	0.00	0.00	0.00
Printing	0.05	- -	- -	- -	- -
Adhesives and Sealants	0.08	- -	- -	- -	- -
Subtotal	**1.17**	**0.01**	**0.00**	**0.00**	**0.00**
Petroleum Production and Marketing					
Oil and Gas Production	0.05	0.01	0.01	0.00	0.00
Petroleum Marketing	0.59	- -	- -	- -	- -
Other (Petroleum Production and Marketing)	0.11	0.00	0.00	- -	- -
Subtotal	**0.75**	**0.01**	**0.01**	**0.00**	**0.00**
Industrial Processes					
Chemical	0.01	- -	- -	0.00	- -
Food and Agriculture	0.00	0.00	0.02	2.47	1.39
Mineral Processes	0.01	0.02	0.01	0.54	0.15
Metal Processes	- -	- -	- -	0.00	0.00
Wood and Paper	0.02	- -	- -	0.06	0.04
Other (Industrial Processes)	0.00	- -	- -	0.01	0.01
Subtotal	**0.04**	**0.02**	**0.03**	**3.08**	**1.59**

Table 7. Butte County Emissions Forecast for 2035 (Continued)

Emission Category	Reactive Organic Gases	Carbon Monoxide	Nitrogen Oxides	Inhalable Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)
Solvent Evaporation					
Consumer Products	1.44	- -	- -	- -	- -
Architectural Coatings & Related Process Solvents	0.73	- -	- -	- -	- -
Pesticides/Fertilizers	0.51	- -	- -	- -	- -
Asphalt Paving / Roofing	2.86	- -	- -	- -	- -
Subtotal	**5.54**	**- -**	**- -**	**- -**	**- -**
Miscellaneous Processes					
Residential Fuel Combustion	2.41	13.63	0.73	1.30	1.25
Farming Operations	0.32	- -	- -	5.22	0.78
Construction and Demolition	- -	- -	- -	1.17	0.12
Paved Road Dust	- -	- -	- -	1.16	0.17
Unpaved Road Dust	- -	- -	- -	3.80	0.38
Fugitive Windblown Dust	- -	- -	- -	0.22	0.04
Fires	0.01	0.13	0.00	0.02	0.02
Managed Burning and Disposal	0.88	8.95	0.62	1.17	1.09
Cooking	0.05	- -	- -	0.15	0.09
Other (Miscellaneous Processes)	- -	- -	- -	- -	- -
Subtotal	**3.67**	**22.71**	**1.35**	**14.21**	**3.94**
On-Road Motor Vehicles					
Light Duty Vehicles	0.33	3.96	0.29	0.35	0.15
Medium Duty Trucks	0.23	1.74	0.17	0.08	0.03
Heavy Duty Trucks	0.33	2.59	2.08	0.18	0.09
Motorcycles	0.31	2.00	0.11	0.00	0.00
Buses	0.01	0.15	0.09	0.01	0.00
Motor Homes	0.00	0.01	0.03	0.00	0.00
Subtotal	**1.21**	**10.45**	**2.77**	**0.62**	**0.27**
Other Mobile Sources					
Aircraft	0.64	5.88	0.32	0.02	0.02
Trains	0.04	0.81	0.98	0.02	0.02
Recreational Boats	0.29	2.43	0.11	0.02	0.01
Off-Road Recreational Vehicles	0.24	0.60	0.01	0.00	0.00
Off-Road Equipment	0.69	9.12	0.61	0.04	0.04
Farm Equipment	0.11	2.49	0.36	0.01	0.01
Fuel Storage and Handling	0.04	- -	- -	- -	- -
Subtotal	**2.05**	**21.33**	**2.39**	**0.11**	**0.10**
COUNTY TOTAL	**14.59**	**68.88**	**8.55**	**18.42**	**6.28**

Notes: 2035 is the furthest horizon year available from the California Air Resources Board (CARB).
All values are in tons per day. Dashes ("- -") indicate no data are available.
The sum of values may not equal total shown due to rounding.
Source: CARB website: http://arb.ca.gov

Table 8. California Greenhouse Gas Inventory for 2000 - 2012

California Environmental Protection Agency
Air Resources Board

California Greenhouse Gas Inventory for 2000-2012 — by Category as Defined in the 2008 Scoping Plan

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessement Report's Global Warming Potentials)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Transportation	176.21	176.62	183.80	183.52	186.88	189.08	189.18	189.27	178.02	171.47	170.46	168.13	167.38
On Road	162.88	163.46	169.64	168.81	171.48	172.68	172.37	172.41	163.00	158.46	157.38	154.91	154.06
Passenger Vehicles	130.10	129.97	134.46	132.91	133.34	132.75	131.79	130.80	124.27	122.41	121.39	118.85	118.28
Heavy Duty Trucks	32.78	33.50	35.19	35.90	38.13	39.92	40.58	41.61	38.73	36.04	36.00	36.06	35.78
Ships & Commercial Boats	3.39	3.21	3.56	3.78	3.84	4.12	4.20	4.31	4.04	3.68	3.71	3.72	3.83
Aviation (Intrastate)	4.15	4.07	4.12	4.25	4.50	4.50	4.57	4.98	4.51	4.04	3.85	3.75	3.72
Rail	1.88	1.89	2.50	2.70	2.91	3.34	3.53	3.17	2.38	1.94	2.33	2.49	2.48
Off Road [1]	2.63	2.79	2.77	2.84	3.03	3.22	3.32	3.18	2.82	2.25	2.03	2.13	2.23
Unspecified	1.28	1.19	1.21	1.13	1.13	1.22	1.20	1.22	1.27	1.10	1.16	1.14	1.06
Electric Power	104.86	122.01	108.65	112.82	115.20	107.86	104.54	113.94	120.15	101.32	90.30	88.04	95.09
In-State Generation	58.96	62.99	49.69	48.06	49.16	45.06	49.86	54.13	54.32	53.28	46.71	41.18	51.02
Natural Gas	50.92	55.46	42.17	40.92	42.40	38.11	43.07	47.12	48.02	46.08	40.59	35.92	45.77
Other Fuels	6.85	6.36	6.37	5.99	5.60	5.78	5.64	5.86	5.16	5.85	5.02	4.01	4.44
Fugitive and Process Emissions	1.18	1.16	1.15	1.15	1.16	1.16	1.15	1.16	1.14	1.34	1.10	1.25	0.82
Imported Electricity	45.90	59.02	58.96	64.56	66.04	62.80	54.68	59.81	65.82	48.04	43.59	46.86	44.07
Unspecified Imports	14.27	25.42	26.92	32.05	32.92	30.01	27.95	32.73	37.92	14.99	13.45	15.52	17.48
Specified Imports	31.64	33.59	32.04	32.51	33.13	32.79	26.73	27.08	27.90	33.05	30.14	31.34	26.59
Commercial and Residential	42.33	41.20	43.17	41.54	42.90	41.24	41.89	42.11	42.44	42.65	43.82	44.32	42.28
Residential Fuel Use	29.70	28.77	28.93	28.47	29.51	28.22	28.58	28.73	29.07	28.69	29.42	29.89	28.09
Natural Gas	28.03	27.43	27.54	26.67	27.38	25.98	26.60	26.73	26.67	26.31	27.04	27.51	25.76
Other Fuels	1.67	1.34	1.39	1.80	2.12	2.25	1.98	2.01	2.40	2.38	2.39	2.38	2.33
Commercial Fuel Use	11.54	11.37	13.18	12.82	12.77	12.61	12.89	12.88	13.00	13.04	13.49	13.65	13.44
Natural Gas	10.07	10.10	11.90	11.38	11.16	10.94	11.62	11.49	11.16	11.02	11.19	11.33	11.24
Other Fuels	1.47	1.27	1.28	1.43	1.61	1.67	1.27	1.40	1.83	2.02	2.29	2.32	2.19
Commercial Cogeneration Heat Output	1.09	1.05	1.06	0.26	0.62	0.40	0.42	0.49	0.37	0.92	0.92	0.78	0.76
Industrial	95.01	93.18	93.14	92.47	94.48	92.29	90.28	87.10	87.54	84.95	88.51	88.34	89.16
Refineries	28.47	29.04	29.20	29.83	29.08	29.75	29.65	29.21	28.42	28.34	30.39	30.12	29.88
General Fuel Use	20.20	19.04	20.28	16.49	17.03	16.01	15.96	14.77	16.00	15.56	17.98	19.14	18.87
Natural Gas	16.82	14.62	15.18	11.97	12.80	12.72	12.38	11.56	12.37	11.46	13.46	14.48	14.30
Other Fuels	3.38	4.42	5.09	4.52	4.23	3.28	3.58	3.20	3.63	4.10	4.52	4.66	4.56
Oil & Gas Extraction [2]	18.71	19.08	17.65	20.21	19.90	18.59	16.94	17.00	18.22	17.12	16.18	16.22	16.86
Fuel Use	17.53	17.76	16.51	19.03	19.20	17.91	15.75	15.78	17.03	15.92	15.01	14.91	15.50
Fugitive Emissions	1.18	1.32	1.14	1.17	0.71	0.69	1.19	1.21	1.20	1.20	1.17	1.31	1.36
Cement Plants	9.41	9.52	9.62	9.71	9.81	9.91	9.74	9.14	8.63	5.72	5.56	6.14	6.92
Clinker Production	5.43	5.52	5.60	5.68	5.77	5.85	5.80	5.55	5.28	3.60	3.46	4.08	4.65
Fuel Use	3.98	4.00	4.01	4.03	4.05	4.06	3.95	3.59	3.34	2.12	2.10	2.06	2.26
Cogeneration Heat Output	11.73	10.48	10.65	10.60	12.92	12.41	12.17	11.16	10.40	12.55	12.60	11.14	10.82
Other Fugitive and Process Emissions	6.49	6.00	5.74	5.62	5.74	5.62	5.83	5.83	5.87	5.65	5.80	5.59	5.82

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Table 8. California Greenhouse Gas Inventory for 2000 – 2012 (Continued)

California Environmental Protection Agency
Air Resources Board

California Greenhouse Gas Inventory for 2000-2012 — by Category as Defined in the 2008 Scoping Plan

million tonnes of CO2 equivalent - (based upon IPCC Fourth Assessement Report's Global Warming Potentials)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Recycling and Waste	7.35	7.49	7.43	7.57	7.57	7.75	7.80	7.93	8.09	8.23	8.34	8.42	8.49
Landfills [3]	7.11	7.23	7.14	7.26	7.24	7.40	7.42	7.53	7.66	7.78	7.86	7.92	7.97
Composting	0.24	0.26	0.29	0.31	0.33	0.36	0.38	0.40	0.43	0.45	0.47	0.50	0.52
High GWP	8.03	7.99	8.14	8.83	9.56	10.36	11.08	11.78	12.87	13.99	15.89	17.35	18.41
Ozone Depleting Substance (ODS) Substitutes	7.00	7.17	7.37	8.06	8.87	9.71	10.41	11.16	12.24	13.49	15.36	16.58	17.73
Electricity Grid SF6 Losses [4]	0.33	0.32	0.30	0.29	0.30	0.29	0.28	0.26	0.27	0.26	0.24	0.24	0.23
Semiconductor Manufacturing [3]	0.70	0.50	0.47	0.48	0.40	0.36	0.39	0.36	0.36	0.23	0.29	0.53	0.45
Agriculture	32.52	32.75	35.99	36.50	36.26	36.54	37.75	37.03	37.99	35.84	35.73	36.34	37.86
Livestock	19.66	20.44	21.06	21.63	21.06	21.81	22.22	23.73	24.09	23.88	23.35	23.38	23.92
Enteric Fermentation (Digestive Process)	10.26	10.45	10.74	10.89	10.78	11.14	11.24	11.93	11.89	11.71	11.51	11.49	11.78
Manure Management	9.40	10.00	10.32	10.75	10.28	10.67	10.98	11.80	12.20	12.17	11.84	11.89	12.14
Crop Growing & Harvesting	9.05	8.48	10.54	10.49	10.67	10.11	10.20	9.50	9.98	9.31	9.57	9.30	10.22
Fertilizers	7.01	6.73	8.56	8.57	8.49	8.09	8.01	7.49	8.04	7.32	7.58	7.25	8.16
Soil Preparation and Disturbances	1.96	1.69	1.91	1.86	2.11	1.95	2.12	1.94	1.87	1.92	1.91	1.98	1.98
Crop Residue Burning	0.08	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08
General Fuel Use	3.82	3.83	4.39	4.38	4.53	4.63	5.33	3.80	3.92	2.65	2.81	3.66	3.72
Diesel	2.52	2.70	3.05	3.11	3.18	3.41	3.87	2.68	3.00	1.79	1.99	2.37	2.47
Natural Gas	0.98	0.75	0.94	0.85	0.82	0.70	0.88	0.79	0.75	0.69	0.65	0.68	0.70
Gasoline	0.31	0.38	0.41	0.41	0.52	0.52	0.57	0.32	0.17	0.17	0.17	0.63	0.55
Other Fuels	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions	466.32	481.23	480.32	483.05	492.86	485.13	482.52	489.16	487.10	458.44	453.06	450.94	458.68

[1] Includes equipment used in construction, mining, oil drilling, industrial and airport ground operations
[2] Reflects emissions from combustion of natural gas, diesel, and lease fuel plus fugitive emissions
[3] These categories are listed in the Industrial sector of ARB's GHG Emission Inventory sectors
[4] This category is listed in the Electric Power sector of ARB's GHG Emission Inventory sectors

Source: California Air Resources Board website http://www.arb.ca.gov

Table 9. California Greenhouse Gas Emissions Forecast (2008 – 2020)

Last Updated: 10/28/2010 — *Million tonnes of CO2 equivalent*

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Grand Total	**474.64**	**457.65**	**462.04**	**463.23**	**470.37**	**480.40**	**487.35**	**492.01**	**494.66**	**497.88**	**500.76**	**503.76**	**506.78**
Total (Capped)	**403.15**	**387.60**	**389.18**	**387.94**	**392.58**	**400.14**	**404.56**	**406.71**	**406.89**	**407.61**	**407.99**	**408.41**	**408.84**
Total Narrow Scope (Capped)	***174.54***	***168.54***	***166.26***	***165.84***	***165.85***	***167.26***	***168.07***	***168.84***	***169.63***	***170.40***	***171.10***	***171.82***	***172.57***
Electricity Generation (Capped)	***43.82***	***40.85***	***39.47***	***38.89***	***38.65***	***39.70***	***40.44***	***41.18***	***41.93***	***42.67***	***43.37***	***44.08***	***44.82***
Electricity Generation (In-State)	43.82	40.85	39.47	38.89	38.65	39.70	40.44	41.18	41.93	42.67	43.37	44.08	44.82
Imported Electricity (Capped)	***55.03***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***	***53.53***
AZ	6.62	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90
CO	3.20	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
NM	4.70	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67
NV	3.18	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
UT	13.57	13.52	13.52	13.52	13.52	13.52	13.52	13.52	13.52	13.52	13.52	13.52	13.52
ID	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
MT	1.29	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
OR	3.19	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01
WA	4.74	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58
Tribal	8.80	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07	9.07
MEX	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
CAN	2.69	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
Industrial (Capped)	***75.69***	***74.15***	***73.26***	***73.42***	***73.66***	***74.03***	***74.10***	***74.12***	***74.17***	***74.20***	***74.20***	***74.21***	***74.21***
Cement Plants	8.64	8.64	8.64	8.64	8.64	8.64	8.64	8.63	8.63	8.63	8.63	8.63	8.63
Cogeneration Facilities	11.13	10.37	10.02	9.87	9.81	10.08	10.27	10.46	10.65	10.83	11.01	11.19	11.38
Hydrogen Plants	2.22	2.20	2.18	2.18	2.18	2.18	2.18	2.17	2.17	2.17	2.17	2.17	2.17
Petroleum Refining	34.58	34.24	33.89	33.89	33.87	33.85	33.82	33.80	33.77	33.75	33.72	33.69	33.66
Other	0.21	0.20	0.20	0.21	0.22	0.23	0.23	0.23	0.24	0.24	0.24	0.25	0.25
General Stationary Combustion	18.91	18.50	18.32	18.63	18.94	19.06	18.97	18.83	18.70	18.57	18.43	18.28	18.13
Added Broad Scope Fuels (Capped)	***228.61***	***219.07***	***222.92***	***222.10***	***226.73***	***232.87***	***236.49***	***237.87***	***237.26***	***237.21***	***236.88***	***236.59***	***236.28***
Gasoline	130.62	128.83	131.88	130.56	133.43	137.41	139.50	138.98	137.51	135.64	133.47	131.48	129.33
Distillate	38.59	36.57	37.95	37.89	38.88	40.07	40.99	42.28	42.48	43.63	44.88	45.99	47.06
Propane	4.29	3.44	3.45	3.46	3.45	3.45	3.45	3.45	3.45	3.45	3.44	3.44	3.44
Natural Gas	55.11	50.23	49.65	50.20	50.97	51.94	52.55	53.16	53.82	54.49	55.09	55.69	56.44
Ethanol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (Uncapped)	**71.49**	**70.05**	**72.86**	**75.29**	**77.80**	**80.26**	**82.79**	**85.30**	**87.77**	**90.28**	**92.78**	**95.35**	**97.94**
Electricity Generation & Industrial	25.83	21.22	21.84	22.06	22.24	22.29	22.44	22.59	22.74	22.91	23.10	23.29	23.50
Transportation	5.58	5.27	5.64	5.85	6.02	6.18	6.37	6.61	6.83	7.07	7.28	7.54	7.73
Ag & Forestry	20.44	21.15	21.20	21.41	21.71	22.06	22.43	22.82	23.23	23.67	24.11	24.57	25.11
Commercial	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Residential	0.25	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
High GWP Gases	13.89	16.95	18.69	20.44	22.18	23.92	25.66	27.40	29.15	30.89	32.63	34.37	36.11
Ethanol	5.46	5.15	5.27	5.22	5.34	5.50	5.58	5.56	5.50	5.42	5.34	5.26	5.17

Notes:

The emission factor used for unspecified imported electricity in this forecast is WCI's preliminary factor of 959.7 lbs/MWh. This factor was recently updated and may be obtained from the Western Climate Initiative (WCI) website: http://www.westernclimateinitiative.org/component/remository/Electricity-Team-Documents/Default-Emission-Factor-Calculators/

Because of the difference in emission factors for unspecified imported electricity, the emissions total for 2008 in this forecast differs from the 2008 emissions total in the statewide GHG inventory: http://www.arb.ca.gov/cc/inventory/data/data.htm

Source: California Air Resources Board website http://www.arb.ca.gov

3.6 REGULATORY SETTING

Air quality management responsibilities exist at local, state, and federal levels of government. Air quality management planning programs developed during the past few decades have generally been in response to requirements established by the federal Clean Air Act (CAA). However, the enactment of the California Clean Air Act of 1988 (CCAA) has produced additional changes in the structure and administration of air quality management programs in California.

3.6.1 Federal Clean Air Act

The 1970 amendments to the federal CAA established a joint state and federal program to control air pollution. Pursuant to Sections 109 and 110 of the amendments, the EPA established federal air quality standards (see **Table 2**). The amendments also required that states submit state implementation plans (SIPs) providing for attainment of the federal standards within certain periods of time. The SIP for California is, to a large degree, a compilation of regional air quality plans. Because many of the original SIPs failed to bring about attainment, the CAA was amended in 1977. The federal CAA amendments of 1977 required all states to attain the federal standards by December 31, 1987. These amendments required states to submit plans that demonstrated attainment of the applicable standards by the statutory deadline.

Again, certain areas of the nation failed to meet the December 1987 deadline. In 1990, new federal CAA amendments were signed into law. Depending on the severity of an area's air pollution problem, the new amendments provided from 5 to 20 years for areas to attain the federal standards. The amendments also set new planning requirements for federal non-attainment areas.

3.6.2 California Clean Air Act

The CCAA substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA establishes an air quality management process that generally parallels the federal process. The CCAA, however, focuses on attainment of the state ambient air quality standards that, for certain pollutants and averaging periods, are more stringent than the comparable federal standards.

The CCAA requires that air districts prepare an air quality attainment plan if the district violates state air quality standards for CO, sulfur dioxide (SO_2), NO_x, or ozone. No locally prepared attainment plans are required for areas that violate the state PM_{10} standards. The CCAA requires that the state air quality standards be met as expeditiously as practicable, but it does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards. The least stringent requirements are set for areas expected to achieve air quality standards by the end of 1994. The most stringent requirements are set for areas that cannot achieve the standards until after 1997.

The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control

districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

3.6.3 Local Air Quality Management

Local air quality agencies have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of CARB and the EPA. These agencies adopt and enforce rules and regulations to achieve state and federal ambient air quality standards and enforce applicable state and federal law.

The following description of local air quality agencies is from the *Oroville 2030 General Plan Draft Environmental Impact Report* (City of Oroville, 2008).

The Butte County Air Quality Management District (AQMD) is the local air district in Butte County. Butte County AQMD, along with the CARB, is responsible for implementing the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), and for ensuring that these standards are met. The Butte County Association of Governments (BCAG) is coordinating with the Butte County AQMD to implement strategies for air quality improvement through implementation of the regional transportation plan (RTP). Because of the regional nature of the ozone conditions in the Sacramento Valley, the Butte County AQMD is also coordinating efforts with the Sacramento Valley Air Basin Control Council's Technical Advisory Committee, the Sacramento Area Council of Governments (SACOG), and the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Through its permitting authorities, the Butte County AQMD enforces limitations on criteria pollutant emissions and toxic air contaminants. Other Butte County AQMD responsibilities include monitoring air quality, preparation of clean air plans, and responding to citizen air quality complaints.

3.6.4 Global Climate Change and Greenhouse Gas Emissions

Plans, policies, regulations, and laws related to GHG have been developed during the last several years by federal, state, and local agencies. These mechanisms continue to develop. The following is a summary of these mechanisms.

AB 1493 – Greenhouse Gas Emission Standards for Automobiles. California Assembly Bill (AB) 1493 in 2002 required CARB to develop and adopt the nation's first GHG emission standards for automobiles. The legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in the state. It cited several risks that California faces from climate change, including reduction in the state's water supply, increased air pollution creation by higher temperatures, harm to agriculture and increase in wildfires, damage to the coastline, and economic losses caused by higher food, water, energy, and insurance prices. Further, the legislature stated that technological solutions to reduce GHG emissions would stimulate California economy and provide jobs.

The State of California in 2004 submitted a request for a waiver from federal clean air regulations (as the State is authorized to do under the Clean Air Act) to allow the State to require reduced tailpipe emissions of CO_2. In late 2007, the EPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against EPA related to this denial.

A CARB study (California Air Resources Board 2008a) showed that in calendar year 2016, AB 1493 (also referred to as the Pavley standard or the Pavley rules) would reduce California's GHG annual emissions by 16.4 million metric tons (MMT) of CO_2e. This is almost 50% more than the 11.1 MMT reduction produced by federal fleet average standards for model years 2011 – 2015.

Further, by 2020, California is committed to implement revised, more stringent GHG emission limits, the Pavley Phase 2 rules. California's requirements would reduce California GHG emissions by 31.7 million tons of CO_2e ($MTCO_2e$) in calendar year 2020, 45 percent more than the 21.9 MMTs reductions under the federal rules in that year. Since the California rules are significantly more effective at reducing GHGs than the federal CAFE (fuel economy) program, they also result in better fuel efficiency – roughly 43 miles per gallon (mpg) in 2020 for the California vehicle fleet as compared to the new CAFE standard of 35 mpg.

Executive Order S-3-05. Executive Order S-3-05 was the precursor to Assembly Bill 32 (AB 32 is described in the next section) and was signed by Governor Schwarzenegger in June 2005. This Executive Order was significant because of its clear declarative statements that climate change poses a threat to the State of California. The Executive Order states that California is "particularly vulnerable" to the impacts of climate change, and that climate change has the potential to reduce Sierra snowpack (a primary source of drinking water), exacerbate existing air quality problems, adversely impact human health, threaten coastal real estate and habitat by causing sea level rise, and impact crop production. The Executive Order also states that "mitigation efforts will be necessary to reduce greenhouse gas emissions".

To address the issues described above, the Executive Order established emission reduction targets for the state: reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020 and to 80% below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency was named as coordinator for this effort, and the Executive Order required a progress report by January 2006 and biannually thereafter. As a result, the Climate Action Team was created by the California Environmental Protection Agency. The first report from the Climate Act Team was released in March of 2006, which proposed to meet the emissions targets through voluntary compliance and state incentive and regulatory programs.

Currently only the 2020 target has been adopted by the state through legislation (see Assembly Bill 32, below). As a result, all of the impact discussions, mitigation, and strategies are based on meeting the 2020 target, not the longer-term 2050 target.

Assembly Bill 32. In September 2006, AB 32 was signed by Governor Schwarzenegger. AB 32 requires that California GHG emissions be reduced to 1990 levels by the year 2020, just like Executive Order S-3-05. However, AB 32 is a comprehensive bill that requires the CARB to adopt regulations requiring the reporting and verification of statewide greenhouse gas emissions,

and it establishes a schedule of action measures. AB 32 also requires that a list of emission reduction strategies be published to achieve emissions reduction goals.

The following is a list of critical path items incorporated into AB 32 – deadlines that cannot be extended unless the Governor agrees there are "extraordinary circumstances", and then only for one year:

- January 1, 2007: AB 32 goes into effect;
- June 30, 2007: CARB must publish "a list of discrete early action GHG emission reduction measures" (Cal. Health & Safety Code § 38560.5(a)); this list is not just advisory - the measures must be implemented by regulations by 2010;
- January 1, 2008: CARB must establish the 1990 baseline of statewide GHG emissions that will be the cap to be implemented by 2020 (id. at § 38550);
- January 1, 2008: CARB must also adopt regulations requiring the monitoring and annual reporting of GHG emissions from all significant sources (id. at § 38530);
- January 1, 2009: CARB must prepare and approve a "scoping plan" for "achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHG gases by 2020" (id. at § 38561); this scoping plan will be the template for the regulations that will be adopted by 2011;
- January 1, 2010: CARB must "adopt regulations to implement" the list of reduction measures that it publishes by June 30, 2007 (id. at § 38560.5(b));
- January 1, 2011: CARB must adopt regulations establishing "GHG emission limits and emission reduction measures" (id. at § 38562(a)); and
- January 1, 2012: the 2011 regulations must become operative.

The first six critical path items have been completed. AB 32 is in effect and the list of early action measures was adopted by the CARB on June 21, 2007 (Resolution 07-25), and many other measures were added at a hearing on October 25, 2007. The Scoping Plan was adopted on December 11, 2008. On the seventh item, some regulations to establish GHG limits have been adopted, including a cap and trade program adopted in December of 2010.

Senate Bill 375. On September 30, 2008, Senate Bill (SB) 375 was signed by Governor Schwarzenegger. SB 375 combines regional transportation planning with sustainability strategies in order to reduce GHG emissions in California's urbanized areas. Existing law requires each regional transportation planning agency to adopt a Regional Transportation Plan. SB 375 requires that the Regional Transportation Plan must now include a "sustainable communities strategy". To this end, the CARB must provide regional transportation planning agencies with GHG emissions reduction targets by June 30, 2010; these targets were provided and were adopted in September of 2010.

Senate Bill 97 Chapter 185, Statutes of 2007. Senate Bill 97 (SB 97) requires the Office of Planning and Research (OPR) to prepare guidelines to submit to the California Resources

Agency regarding feasible mitigation of greenhouse gas emissions or the effects of GHG emissions as required by CEQA. The California Resources Agency is required to certify and adopt these revisions to the State CEQA Guidelines by January 1, 2010. The Natural Resources Agency adopted the amendments on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

Endangerment Finding. On December 7, 2009, the U.S. EPA made an Endangerment Finding and a Cause or Contribute Finding related to GHG emissions. The U.S. EPA Administrator found that the current and projected concentrations of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 in the atmosphere threaten the public health and welfare of current and future generations (Endangerment). The Administrator also found that the combined emissions of these GHG from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare (Cause or Contribute).

State of California Emission Reduction/Adaptation Strategies. Several strategies to reduce vehicle emissions have been identified by the California Environmental Protection Agency's Climate Action Team. These include, but are not limited to, the following:

> **Vehicle Climate Change Standards.** With the passage of AB 1493, Pavley, Chapter 200, Statutes of 2002, California moved to the forefront of reducing vehicle climate change emissions. This bill required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the CARB in September 2004. The CARB analysis of this regulation indicates emissions savings of one $MMTCO_2e$ by 2010 and 30 $MMTCO_2e$ by 2020.
>
> **Diesel Anti-Idling.** Reduced idling times and the electrification of truck stops can reduce diesel use in trucks by about four percent, with major air quality benefits. In July 2004 the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling. AB 32 analysis indicates that anti-idling measures could reduce climate change emissions by 1.2 $MMTCO_2e$ in 2020.
>
> **Other New Light Duty Vehicle Technology Improvements.** In September 2004 the CARB approved regulations to reduce climate change emissions from new motor vehicles. The regulations apply to new passenger vehicles and light duty trucks beginning with the 2009 model year. The standards adopted by CARB phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009 – 2012) standards will result in about a 22 percent reduction as compared to the 2002 fleet, and the mid-term (2013 – 2016) standards will result in about a 30 percent reduction.
>
> New standards would be adopted to phase in beginning in the 2017 model year (following up on the existing mid-term standards that reach maximum stringency

in 2016). Assuming that the new standards call for about a 50 percent reduction, phased in beginning in 2017, this measure would achieve about a four MMT reduction in 2020. The reduction achieved by this measure would significantly increase in subsequent years as clean new vehicles replace older vehicles in the fleet – CARB staff estimate a 2030 reduction of about 27 MMT.

Executive Order S-01-07. This Executive Order was signed by Governor Schwarzenegger on January 18, 2007 and directed the Climate Action Team to determine whether the items in the Order could be established as an early action measure pursuant to AB 32 – which the Climate Action Team has now done. The Executive Order states that the State of California relies on petroleum-based fuels for 96 percent of its transportation needs, there were more than 24 million motor vehicles registered in California, and statewide gasoline consumption was almost 16 billion gallons in 2005. To address the carbon emitted by this use of fuel, the Executive Order states that a statewide goal must be established to reduce the "Carbon intensity of California's transportation fuels" by at least 10% by the year 2020 and that a Low Carbon Fuel Standard for transportation fuels be established. The Low Carbon Fuel Standard applies to all "refiners, blenders, producers or importers of transportation fuels in California".

California Climate Adaptation Strategy. In December 2009, the California Resources Agency, in coordination and partnership with multiple other state agencies, released their California Climate Adaptation Strategy. This document summarizes the best known science on climate change impacts in seven specific sectors, including: public health, biodiversity-habitat, ocean & coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure. The strategy provides recommendations on how to manage against threats to these sectors. The strategy is in direct response to Governor Schwarzenegger's November 2008 Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events.

3.7 REGIONAL CLIMATE AND METEOROLOGY

The following description of regional climate and meteorology is from the *Oroville 2030 General Plan Draft Environmental Impact Report* (City of Oroville, 2008).

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources. Meteorological and topographical conditions are also important factors. Atmospheric conditions, such as wind speed, wind direction, frequency of rain events, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

Oroville is located in central Butte County, in the SVAB. The SVAB includes Butte, Sacramento, Sutter, and Yolo Counties and parts of Solano, Placer, and El Dorado Counties. The SVAB is bounded on the west by the Coast Ranges and on the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin is located to the south. Oroville, although north of the Sacramento metropolitan area, often suffers from transport of pollutants from the Sacramento area.

The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During summer, the wide, flat expanse of the Central Valley provides an ideal environment for the formation of photochemical smog. Hot, cloudless days of low-velocity winds allow sunlight to combine with photochemically reactive ozone precursors. These precursors, ROG and NO_x, are produced throughout the Valley, resulting in an increase in ozone, particularly during late afternoons. Winds arising later may help dispel pollutants, but may also transfer it to other areas from Sacramento to Oroville.

During winter, the north Pacific storm track intermittently dominates valley weather, and fair weather alternates with periods of extensive clouds and precipitation. Also characteristic of winter weather in the valley are periods of dense and persistent low-level fog, which is most prevalent between storms. The frequency and persistence of heavy fog in the valley diminishes with the approach of spring. The average yearly temperature range for the Sacramento Valley is 20–115 degrees Fahrenheit, with summer high temperatures often exceeding 90 degrees Fahrenheit and winter low temperatures occasionally dropping below freezing.

In general, the prevailing wind in the Sacramento Valley is from the southwest because of marine breezes flowing through the Carquinez Strait. The Carquinez Strait is the major corridor for air moving into the Sacramento Valley from the west. Incoming airflow strength varies daily with a pronounced diurnal cycle. Influx strength is weakest in the morning and increases in the evening. The Schultz Eddy, an eddy formed when incoming marine air is diverted by mountains on the valley's western side, is associated with the influx of air through the Carquinez Strait. The eddy contributes to the formation of a low-level southerly jet between 500 and 1,000 feet above the surface that is capable of speeds in excess of 35 miles per hour (mph). This jet is important for air quality in the Sacramento Valley because of its ability to transport air pollutants over large distances.

The SVAB's climate and topography contribute to the formation and transport of photochemical pollutants throughout the region. The region experiences temperature inversions that limit atmospheric mixing and trap pollutants, resulting in high pollutant concentrations near the ground surface. Generally, the lower the inversion base height from the ground and the greater the temperature increase from base to top, the more pronounced the inhibiting effect of the inversion will be on pollutant dispersion. Consequently, the highest concentrations of photochemical pollutants occur from late spring to early fall, when photochemical reactions are greatest because of more intense sunlight and the lower altitude of daytime inversion layers. Surface inversions (0 to 500 feet above sea level) are most frequent during winter, and subsidence inversions (1,000 to 2,000 feet above sea level) are most common in summer.

SECTION 4
SHORT-TERM CONSTRUCTION IMPACTS

Implementation of the Butte FS and UHQ Project would result in construction activity, which would generate air pollutant emissions. Construction activities such as grading, excavation and travel on unpaved surfaces would generate dust, and can lead to elevated concentrations of PM_{10} and $PM_{2.5}$. The operation of construction equipment results in exhaust emissions, which include ROG and NO_x.

4.1 SIGNIFICANCE THRESHOLDS

The following describes significance thresholds applied in this *Air Quality Study*.

4.1.1 Criteria Pollutant Emissions

The following describes significance thresholds applied in this *Air Quality Study* to criteria pollutant emissions associated with both short-term construction as well as long-term operations. As a result, the descriptions of significance thresholds presented in Section 5, *Long-Term Operational Impacts* of this *Air Quality Study* refer back to the following description.

In this *Air Quality Study*, thresholds used to determine the significance of impacts associated with ozone precursors and PM_{10} emissions are from the Butte County AQMD document *CEQA Air Quality Handbook* (Butte County Air Quality Management District 2008).

As described in the handbook, the Butte County AQMD recommends use of a three-level tiered approach based on the overall amount of emissions generated by the project. The handbook describes the three levels as Level A, Level B, and Level C. **Table 10** shows the threshold amounts for the each of the three levels, for ROG, NO_x, and PM_{10} emissions.

Using the approach presented in the *CEQA Air Quality Handbook*, all projects are initially considered to be either potentially significant or significant. No projects are considered initially less-than-significant. Mitigation measures are specified for all levels of projects. In this *Air Quality Study*, application of the mitigation measures specified in the handbook is considered to reduce the impact to a less-than-significant level. Emissions meeting Level A thresholds will require basic mitigation measure, emissions in the Level B range will require more extensive mitigation measures; and emissions which exceed Level C thresholds will require the most extensive mitigation measures.

Table 10. Air Quality Significance Thresholds for Criteria Pollutants

Project Size Level	Nitrogen Oxides (NO_x)	Reactive Organic Gas (ROG)	Inhalable Particulate Matter (PM_{10})
Level A	$\leq$ 25	$\leq$ 25	$\leq$ 80
Level B	> 25 and $\leq$ 137	> 25 and $\leq$ 137	> 80 and $\leq$ 137
Level C	> 137	> 137	> 137

Notes: All values are expressed as pounds per day.
Source: Butte County Air Quality Management District 2008

The following describes the *CEQA Air Quality Handbook* approach for determining the mitigation measures required to reduce impacts to a less-than-significant level:

Level A. As specified in the *CEQA Air Quality Handbook*, Level A emissions are considered initially potentially significant. Application of standard mitigation measures identified in the handbook is considered to reduce this impact to a less-than-significant level. The following is the description of short-term construction-related measures presented in Chapter 6 of the handbook (Butte County Air Quality Management District 2008).

Standard Mitigation Measures for Construction Equipment.

- Maintain all construction equipment in proper tune according to manufacturer's specifications.

- Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.

Land Clearing/Earth Moving. Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.

Haul vehicles transporting soil into or out of the property shall be covered.

A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.

On-site vehicles limited to a speed which minimizes dust emissions on unpaved roads.

Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the District shall also be visible to ensure compliance with District Rule 200 & 205 (Nuisance and Fugitive Dust Emissions).

Visibly Dry Disturbed Soil Surface Areas. All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emission.

Paved Road Track-Out. Existing roads and streets adjacent to the project will be cleaned at least once per day unless conditions warrant a greater frequency.

Visibly Dry Disturbed Unpaved Roads. All visibly dry disturbed unpaved roads surface areas of operation shall be watered to minimize dust emission.

Unpaved roads may be graveled to reduce dust emissions.

A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.

On-site vehicles limited to a speed which minimizes dust emissions on unpaved roads.

Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.

Vehicles Entering/Exiting Construction Area. Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.

Employee Vehicles. Construction workers shall park in designated parking areas(s) to help reduce dust emissions.

Soil Piles. Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required to further reduce dust emissions.

The following are long-term operational measures presented in Chapter 5 of the *CEQA Air Quality Handbook*.

Residential Projects Standard Site Design Measures. Standard mitigation recommendations for residential projects include the following site design standards:

- Link or minimize cul-de-sacs and dead-end streets, to encourage pedestrian and bicycle travel.
- Traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds, thus encouraging pedestrian and bicycle travel.
- Synchronize traffic signals along streets impacted by project development.
- Provide continuous sidewalks separated from the roadway by landscaping and on-street parking.
- Provide adequate lighting for sidewalk, along with crosswalks at intersections.

Residential Projects Standard Energy Efficiency Measures. Standard mitigation recommendations for residential projects include the following energy efficiency standards:

- Increase the building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).

Commercial and Industrial Projects. Standard mitigation recommendations for commercial and industrial projects include the following site design and energy efficiency standards:

- Increase building energy efficiency rating by 10% above what is required by Title 24 requirements. This can be accomplished in a number of ways (increasing attic, wall or floor insulation, etc.).
- Improvement of thermal efficiency of commercial and industrial structures as appropriate by reducing thermal load with automated and timed temperature controls, or occupancy load limits.

- Incorporate shade trees, adequate in number and proportional to the project size, throughout the project site to reduce building heating and cooling requirements.

- Use fleet vehicles that run on clean-burning fuels as may be practicable.

Level B. As specified in the *CEQA Air Quality Handbook*, Level B emissions are considered initially potentially significant. In addition to the standard mitigation measures described above in Section 4.1.1, application of Best Available Mitigation Measures (BAMM) is considered to reduce this impact to a less-than-significant level. The extent of BAMM required to reduce Level B impacts to a less-than-significant level is described below.

Appendix C of the *CEQA Air Quality Handbook* presents the Butte County AQMD BAMM. Appendix C is included in the *Technical Appendix* of this *Air Quality Study*. A "Mitigation Value" or "Mitigation Points" are assigned to each of the BAMM. As stated in the handbook,

> "Mitigation points are used to quantify the approximate emission reduction factor associated with a particular mitigation measure. The points are equivalent to a percentage of emission reduction associated with using a particular measure in a project. For example, implementing mitigation measures in a project that adds up to 15 mitigation points means that the measures are anticipated to make a 15% reduction in the projects anticipated operational emissions." (Butte County Air Quality Management District 2008).

Consistent with the approach described in the *CEQA Air Quality Handbook*, the impact of emissions in the Level B range are considered to be reduced to a less-than-significant level by the application of BAMM which would reduce emissions by 10 percent or, that is, application of BAMM with 10 mitigation points. An example calculation of mitigation points needed to reduce the impact of Level B emissions to a less-than-significant level is presented in Appendix C of the *CEQA Air Quality Handbook*, included in the *Technical Appendix* of this *Air Quality Study*.

In this *Air Quality Study*, application of mitigation measures which reduce emissions to Level A is also considered to reduce impacts to a less-than-significant level. With this approach, reducing impacts to a less-than-significant level would also require application of standard mitigation measures.

Level C. As specified in the *CEQA Air Quality Handbook*, Level C emissions are considered initially significant. In addition to the standard mitigation measures described above in Section 4.1.1, application of BAMM is considered to reduce this impact to a less-than-significant level. The extent of BAMM required to reduce Level C impacts to a less-than-significant level is described below.

Consistent with the approach described in the *CEQA Air Quality Handbook*, the impact of emissions in the Level C range are considered to be reduced to a less-than-significant level by the application of BAMM which would reduce emissions to 137 pounds per day (ppd). The percentage values for each of the BAMM is applied to emissions before mitigation to determine

the set of BAMM adequate to reduce emissions to 137 ppd. An example calculation of mitigation points needed to reduce the impact of Level C emissions to a less-than-significant level is presented in Appendix C of the *CEQA Air Quality Handbook*, included in the *Technical Appendix* of this *Air Quality Study*.

4.1.2 Asbestos

Asbestos has been identified as a toxic air contaminant (TAC) by the ARB. No quantitative significance thresholds have been set for asbestos. However, the California Department of Conservation provides a map that may be used as a screening-level indicator of the likelihood of NOA being present on the project site. The map, *A General Location Guide For Ultramafic Rocks In California - Areas More Likely To Contain Naturally Occurring Asbestos* (California Department Of Conservation 2000) is available at the Department internet website (http://www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx).

The asbestos screening map,

> "shows the areas more likely to contain natural occurrences of asbestos in California. Its purpose is to inform government agencies, private industry and the public of the areas in the State where natural occurrences of asbestos may be an issue. In these areas, consideration of the implications of the presence or absence of asbestos through examination of more detailed maps and site-specific investigations could be warranted as part of public or private decision making." (California Department of Conservation 2000)

If a project site is located outside of all the areas considered to be more likely to contain NOA, it may be considered to have a relatively lower probability of containing NOA and, in this *Air Quality Study*, will be considered to have a less-than-significant impact.

If a project site is located within an area considered more likely to contain NOA, it may be considered to have an elevated probability of containing NOA and, in this *Air Quality Study*, will be considered to have a significant impact. On-site soil sampling, and the implementation of mitigation measures may be required to reduce the impact to a less-than-significant level.

Asbestos is a naturally occurring mineral that has been added to various types of building construction materials to increase fire resistance, strength, and durability. While the use of asbestos as a building material has declined recently, the addition of asbestos to building materials has never been completely banned (http://www.arb.ca.gov/enf/advs/advs443.pdf). Because use of asbestos as a building material has declined recently, older structures are sometimes presumed to contain asbestos. Uncontrolled demolition activities that may expose people to airborne asbestos is considered a significant impact in this *Air Quality Study*.

4.2 METHODOLOGY

4.2.1 Criteria Pollutant Emissions

The amount of project-related criteria pollutant emissions was calculated using the CalEEMod emissions model (South Coast Air Quality Management District 2013). CalEEMod is a land use emissions computer model designed to provide a platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

More detailed information on the CalEEMod model is available at the internet website http://caleemod.com/.

Output files from the CalEEMod model are presented in the *Technical Appendix* of this *Air Quality Study*.

The amount and timing of construction activity assumed in the calculation of construction-related emissions is presented in the *Project Description* section of this *Air Quality Study*.

4.2.2 Asbestos

The map, *A General Location Guide For Ultramafic Rocks In California - Areas More Likely To Contain Naturally Occurring Asbestos* (California Department Of Conservation 2000) is used in this *Air Quality Study* to identify areas considered to have elevated risk of exposure to NOA.

4.3 IMPACTS

The following is a description of construction-related air quality impacts of the Butte FS and UHQ Project.

4.3.1 Criteria Pollutant Emissions

Implementation of the Proposed Project would result in construction activity, which would generate air pollutant emissions. Construction activities such as grading, excavation and travel on unpaved surfaces would generate dust, and can lead to elevated concentrations of particulate matter emissions PM_{10}. The operation of construction equipment results in exhaust emissions, which include ozone precursors ROG and NO_x. Paving and the application of architectural coatings (e.g., paint) results in ROG emissions. **Table 11** presents estimates of construction-related ROG, NO_x, and PM_{10} emissions.

As shown in **Table 11**, during construction of the Butte FS and UHQ project:

- The maximum daily amount of ROG emissions during all phases of construction would be 36.86 ppd. As shown in **Table 10**, this would be in the Level B range.

- The maximum daily amount of NO_x emissions during all phases of construction would be 22.78 ppd. As shown in **Table 10**, this would be in the Level A range.

- The maximum daily amount of PM_{10} emissions during all phases of construction would be 2.73 ppd. As shown in **Table 10**, this would be in the Level A range.

As described in Section 4.1, *Significance Thresholds*, of this *Air Quality Study*, all projects are initially considered either potentially significant or significant. Therefore, the Butte FS and UHQ project is considered to have a potentially significant construction-related impact on criteria pollutant emissions.

As shown in **Table 11**, the maximum amount of ROG emissions would occur during the Architectural Coating phase of construction. The ROG emissions during this phase are largely due to evaporation of ROG from the architectural coating (i.e., paint). To reduce the amount of ROG emissions during the Architectural Coating phase, the following mitigation measure should be implemented:

- **Mitigation Measure 1 – Apply Low Volatile Organic Compound Architectural Coatings.** During construction, use architectural coatings with a low volatile organic compound (VOC) content. The project-wide average VOC content of architectural coatings should be 50 grams per liter (g/l) or less.

Table 12 shows construction-related emissions with implementation of Mitigation Measure 1. As shown in **Table 12**, with implementation of Mitigation Measure 1, the maximum daily amount of ROG emissions during all phases of construction would be 18.51 ppd. As shown in **Table 10**, this would be in the Level A range. The CalEEMod model was used to quantify the effectiveness of these mitigation measures. The CalEEMod output files are presented in the *Technical Appendix* of this *Air Quality Study*.

Table 11. Construction-Related Criteria Pollutant Emissions Without Mitigation Measures

Construction Phase	Time Period	Reactive Organic Gases	Nitrogen Oxides	Inhalable Particulate Matter
Demolition	Summer	2.36	22.65	2.73
	Winter	2.37	22.78	2.73
	Highest	2.37	22.78	2.73
Site Preparation	Summer	0.39	3.96	0.41
	Winter	0.39	3.97	0.41
	Highest	0.39	3.97	0.41
Grading	Summer	0.80	7.76	2.18
	Winter	0.79	7.77	2.18
	Highest	0.80	7.77	2.18
Building Construction	Summer	3.36	21.58	1.92
	Winter	3.37	21.82	1.92
	Highest	3.37	21.82	1.92
Paving	Summer	2.12	16.55	1.17
	Winter	2.11	16.57	1.17
	Highest	2.12	16.57	1.17
Architectural Coating	Summer	36.86	0.78	0.14
	Winter	36.86	0.79	0.14
	Highest	**36.86**	0.79	0.14
Level A Significance Thresholds		25	25	80

Notes: All values are in pounds per day. Bold font indicates value exceeds Level A Significance Threshold.
Source: Butte County Air Quality Management District 2008, CalEEMod emissions model, and KD Anderson & Associates.

Table 12. Construction-Related Criteria Pollutant Emissions With Low-VOC Content Architectural Coating Mitigation Measure

Construction Phase	Time Period	Reactive Organic Gases	Nitrogen Oxides	Inhalable Particulate Matter
Demolition	Summer	2.36	22.65	2.73
	Winter	2.37	22.78	2.73
	Highest	2.37	22.78	2.73
Site Preparation	Summer	0.39	3.96	0.41
	Winter	0.39	3.97	0.41
	Highest	0.39	3.97	0.41
Grading	Summer	0.80	7.76	2.18
	Winter	0.79	7.77	2.18
	Highest	0.80	7.77	2.18
Building Construction	Summer	3.36	21.58	1.92
	Winter	3.37	21.82	1.92
	Highest	3.37	21.82	1.92
Paving	Summer	2.12	16.55	1.17
	Winter	2.11	16.57	1.17
	Highest	2.12	16.57	1.17
Architectural Coating	Summer	18.51	0.78	0.14
	Winter	18.50	0.79	0.14
	Highest	18.51	0.79	0.14
Level A Significance Thresholds		25	25	80

Notes: All values are in pounds per day. Bold font indicates value exceeds Level A Significance Threshold.
"VOC" = volatile organic compounds.
Source: Butte County Air Quality Management District 2008, CalEEMod emissions model, and KD Anderson & Associates.

With implementation of Mitigation Measure 1, the levels of ROG, NO_x, and PM_{10} emissions would all be in the Level A range, as shown in **Table 10**. To reduce construction-related ROG, NO_x, and PM_{10} impacts to a less- than- significant level, the following mitigation measure should be implemented:

- **Mitigation Measure 2 – Standard Construction-Related Mitigation Measures**: As specified in the *CEQA Air Quality Handbook*, standard mitigation measures should be implemented during construction of the Butte FS and UHQ project. These mitigation measures are summarized in Section 4.1.1 of this *Air Quality Study*.

According to methods described in the *Significance Thresholds* section of the *Air Quality Study*, application of Mitigation Measure 1, and Mitigation Measure 2 would reduce construction-related criteria pollutant emissions to a less-than-significant level.

4.3.2 Naturally Occurring Asbestos

Portions of Butte County contain a type of rock referred to as "ultramafic". As a result, these areas are considered to be more likely to contain NOA. Emissions of NOA have been attributed to soil-disturbing activities, including construction activities. Project-related construction activities would entrain NOA into the air, exposing on-site sensitive uses and other land uses in areas surrounding the project site to NOA.

A screening evaluation of potential impacts associated with NOA was conducted for this *Air Quality Study* based on a review of the California Department of Conservation map *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos* (California Department of Conservation 2000).

Based on information presented in the *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*¸ the areas more likely to contain NOA which are nearest to the Butte FS and UHQ Project site are approximately two miles north of Lake Oroville and approximately 5 miles east of Lake Oroville.

Because no portion of the Project site is in an area considered more likely to contain NOA, the impact of the project on NOA is considered less-than-significant and no mitigation measures are required.

4.3.3 Demolition-Related Asbestos

As shown in **Table 1** of this *Air Quality Study*, Stage 1 of construction of the Proposed Project includes removal of asbestos-containing material. The potential for asbestos to be present in the building material in existing structures on the Project site would be consistent with the age of the structures. Demolition of these structures, if uncontrolled, may have the potential to release and entrain asbestos fibers. The release and entrainment of asbestos fibers would be considered a significant impact.

Under existing regulations, demolition of structures containing asbestos is governed at the local, state, and federal levels. At the local level, Butte County AQMD Rule 1000 incorporates California State Airborne Toxic Control Measures (ATCM). Rule 1000 specifically incorporates the *Asbestos ATCM for Construction, Grading, Quarrying and Surfacing Mining Operations* (17 CCR 93105). At the federal level, the National Emission Standards for Hazardous Air Pollutants (NESHAP) includes 40 CFR Part 61 Subpart M, *National Emissions Standard for Asbestos*. 40 CFR Part 61 Subpart M describes requirements for controlling asbestos during demolition activities.

Compliance with Butte County AQMD Rule 1000, the *Asbestos ATCM for Construction, Grading, Quarrying and Surfacing Mining Operations*, and 40 CFR Part 61 Subpart M during demolition activities would control the potential release of asbestos fibers, and would be considered to reduce this impact to a less-than-significant level.

SECTION 5
LONG-TERM OPERATIONAL IMPACTS

Operation of the Butte FS and UHQ Project has the potential to have a long-term effect on air quality by generating criteria pollutant emissions. This section of this *Air Quality Study* assesses the long-term operational impact of project-related emissions on air quality.

5.1 SIGNIFICANCE THRESHOLDS

Section 4.1, *Significance Thresholds*, of this *Air Quality Study*, describes significance thresholds recommended by the Butte County AQMD and applied in this study to both construction-related and operational criteria pollutant emissions.

5.2 METHODOLOGY

The amount of project-related criteria pollutant emissions was calculated using the CalEEMod emissions model (South Coast Air Quality Management District 2011). CalEEMod is a land use emissions computer model designed to provide a platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

More detailed information on the CalEEMod model is available at the internet website http://caleemod.com/.

The calculation of operational emissions is based on information presented in the *Project Description* section of this *Air Quality Study*, and vehicle trip generation estimates presented in the traffic assessment prepared for the Butte FS and UHQ project (KD Anderson & Associates 2014).

Output files from the CalEEMod model are presented in the *Technical Appendix* of this *Air Quality Study*.

5.3 IMPACTS

The following is a description of long-term operational impacts of the Butte FS and UHQ Project on criteria pollutant emissions.

The Proposed Project would involve the replacement of the existing Butte FS and UHQ. The large majority of activities that would generate long-term operational emissions are already occurring at the Project site, and would not be affected by the proposed replacement Project. With implementation of the Proposed Project, these activities would continue as they currently occur. As described in KD Anderson & Associates 2014, the Proposed Project would result in a net change in travel. The Project would result in a net increase of 10 vehicle trips per day.

The project-related net change in vehicle travel would result in the following:

- The net change in ROG emissions would be 2.32 ppd. As shown in **Table 10**, this would be in the Level A range.

- The net change in NO_x emissions would be 4.16 ppd. As shown in **Table 10**, this would be in the Level A range.

- The net change in PM_{10} emissions would be 1.50 ppd. As shown in **Table 10**, this would be in the Level A range.

As described in Section 4.1, *Significance Thresholds*, of this *Air Quality Study*, all projects are initially considered either potentially significant or significant. Therefore, the Butte FS and UHQ project is considered to have a potentially significant construction-related impact on criteria pollutant emissions.

To reduce construction-related ROG, NO_x, and PM_{10} impacts to a less-than-significant level, the following mitigation measure should be implemented:

- **Mitigation Measure 3 – Standard Long-Term Operational Mitigation Measures**: As specified in the *CEQA Air Quality Handbook*, standard mitigation measures should be implemented during long-term operation of the Butte FS and UHQ project. These mitigation measures are summarized in Section 4.1.1 of this *Air Quality Study*.

According to methods described in the *Significance Thresholds* section of the *Air Quality Study*, application of Mitigation Measure 3 would reduce operational criteria pollutant emissions to a less-than-significant level.

SECTION 6
LOCAL CARBON MONOXIDE IMPACTS

The Butte FS and UHQ Project would generate vehicle trips, which would generate some amount of CO emissions. The proposed project, therefore, could potentially affect CO concentrations.

6.1 SIGNIFICANCE THRESHOLDS

In this *Air Quality Study*, thresholds used to determine the significance of impacts associated with CO are from the *CEQA Air Quality Handbook* (Butte County Air Quality Management District 2008).

Carbon monoxide concentrations are strongly associated vehicle traffic. Elevated concentrations of CO occur in close proximity to roadways with high traffic volumes and high levels of traffic congestion. In traffic impact studies, traffic congestion is most commonly expressed using levels of service (LOS). The letters A through F are used to describe LOS, with LOS A being conditions without congestion, and LOS F being conditions with substantial congestion. As noted in the *CEQA Air Quality Handbook*,

> "If either of the following criteria is true of any intersection affected by the project traffic, then the project can be said to have the potential to create a violation of the CO standard:
>
> - "A traffic study for the project indicates that the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to an unacceptable LOS (typically LOS E or F, with A being best and F being worst); or
>
> - "A traffic study indicates that the project will substantially worsen an already existing peak-hour LOS F on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included."

The above approach specified in the handbook is used as a screening method. Consistent with the approach described in Sections 4.7.3 and 4.7.4 of the *Transportation Project-Level Carbon Monoxide Protocol* (University of California Davis, Institute of Transportation Studies 1996), in this *Air Quality Study* the approach is applied to signalized intersections.

6.2 METHODOLOGY

A traffic assessment was prepared for the Butte FS and UHQ Project (KD Anderson & Associates 2014). Using methods described above in Section 6.1, *Significance Thresholds*, of this *Air Quality Study*, the traffic assessment was reviewed and used to identify the potential for significant project-related impacts on CO air quality.

6.3 IMPACTS

The Butte FS and UHQ traffic assessment presents analysis of LOS at three intersections. These intersections were analyzed under a.m. peak hour and p.m. peak hour conditions. The intersections would be signalized under future year conditions. All three intersections would operate at LOS D or better. Therefore, at these intersections, the impact of the proposed project on CO air quality is considered less-than-significant. No mitigation measures are required.

SECTION 7
GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS IMPACTS

Short-term construction and long-term operation of the Butte FS and UHQ Project would generate emissions which are associated with global climate change. These GHG emissions include CO_2, CH_4, and N_2O. This section of this *Air Quality Study* describes the effects of the Butte FS and UHQ Project on global climate change and GHG emissions.

7.1 SIGNIFICANCE THRESHOLDS

This *Air Quality Study* applies a quantitative threshold for determining the significance of project-related impact on global climate change. The threshold is based on the amount of GHG emissions that would be generated by the Proposed Project.

Neither the Butte County AQMD nor the City of Oroville has adopted quantitative significance thresholds for GHG emissions. Therefore, the threshold used in this *Air Quality Study* is based on a threshold developed by the California Air Pollution Control Officers Association (CAPCOA). The CAPCOA document *CEQA & Climate Change – Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (California Air Pollution Control Officers Association 2008) presents a 900 metric ton per year (MT/yr) of CO_2e screening threshold. The CAPCOA threshold is considered a conservative threshold set at a level to "capture" or define 90 percent of land use development projects as significant. The CAPCOA document notes,

> "A single quantitative threshold was developed in order to ensure capture of 90 percent or more of likely future discretionary developments. The objective was to set the emission threshold low enough to capture a substantial fraction of future residential and nonresidential development that will be constructed to accommodate future statewide population and job growth, while setting the emission threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions."

In this *Air Quality Study*, if the Proposed Project would generate more than 900 MT/yr of CO_2e, the project is considered to have a significant impact on global climate change. If the project would generate 900 MT/yr of CO_2e or less, the project is considered to have a less-than-significant impact on global climate change. The 900 MT/yr of CO_2e threshold is applied in this *Air Quality Study* to both construction-related emissions and operational GHG emissions.

7.2 METHODOLOGY

The amount of project-related GHG emissions was calculated using the CalEEMod emissions model (South Coast Air Quality Management District 2013). CalEEMod is a land use emissions computer model designed to provide a platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

More detailed information on the CalEEMod model is available at the internet website http://caleemod.com/.

The amount of construction activity and the construction schedule used in the analysis of construction-related emissions has been previously described in the *Project Description* section of this *Air Quality Study*. The calculation of operational emissions is based on information presented in the *Project Description* section and vehicle trip generation estimates presented in the traffic assessment prepared for the Butte FS and UHQ project (KD Anderson & Associates 2014).

Output files from the CalEEMod model are presented in the *Technical Appendix* of this *Air Quality Study*.

7.3 IMPACTS

The following is a description of impacts of the Butte FS and UHQ Project on global climate change and GHG emissions.

7.3.1 Construction-Related Emissions

The Butte FS and UHQ Project would result in 290.87 MT/yr of construction-related CO_2e emissions in 2016, and 118.40 MT/yr of CO_2e emissions in 2017. The total for the 18-month-long construction period would be 409.26 MT. All of these values are less than the 900 MT/yr of CO_2e significance threshold. Therefore, the impact of the Butte FS and UHQ Project on construction-related GHG emissions is considered less-than-significant and no mitigation measures are required.

7.3.2 Operational Emissions

As described earlier in this *Air Quality Study*, the Proposed Project would result in a net increase of 10 vehicle trips. This would result in the generation of GHG emissions associated with operation of the facility. The Butte FS and UHQ Project result in a net increase of 329.37 MT/yr of CO_2e emissions. This value is less than the 900 MT/yr of CO_2e significance threshold. Therefore, the impact of the Butte FS and UHQ Project on operational GHG emissions is considered less-than-significant and no mitigation measures are required.

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TECHNICAL APPENDIX

Butte Fire Station and Unit Headquarters Replacement Project
Air Quality Study Technical Appendix

This technical appendix includes the following:

- Butte County Air Quality Management District *CEQA Air Quality Handbook* Excerpt: Appendix C – Best Available Mitigation Measures

- CalEEMod Output File - Summer Daily Period

- CalEEMod Output File - Summer Daily Period – with Mitigation Measure for Use of Low VOC Content Architectural Coatings

- CalEEMod Output File - Winter Daily Period

- CalEEMod Output File - Winter Daily Period – with Mitigation Measure for Use of Low VOC Content Architectural Coatings

- CalEEMod Output File - Annual Period

Butte County Air Quality Management District
CEQA Air Quality Handbook Excerpt:
Appendix C – Best Available Mitigation Measures

CEQA

AIR QUALITY HANDBOOK

GUIDELINES FOR ASSESSING
AIR QUALITY IMPACTS
FOR PROJECTS SUBJECT TO CEQA REVIEW

January 2008

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CEQA
AIR QUALITY HANDBOOK

APPENDIX C

BEST AVAILABLE MITIGATION MEASURES

Best Available Mitigation Measures (BAMM)

The mitigation measures listed in the following table are divided into categories based on the project's anticipated end use: R= Residential; C= Commercial; or M=Mixed-use.

Mitigation points are used to quantify the approximate emission reduction factor associated with a particular mitigation measure. The points are equivalent to a percentage of emission reduction associated with using a particular measure in a project. For example, implementing mitigation measures in a project that adds up to 15 mitigation points means that the measures are anticipated to make a 15% reduction in the projects anticipated operational emissions.

Voluntary Offsite Mitigation Projects

Funding for offsite mitigation projects is done on a voluntary process by which a project proponent may offer to contribute funds or to sponsor an air pollution emission reduction project approved by the District in order to receive mitigation credit. All funding arrangements occur between the District and the project proponent.

All projects should utilize the most current URBEMIS Model to estimate the project's emission. Any mitigation measures selected from within the URBEMIS analysis must not overlap with measures selected from outside of the URBEMIS Model to ensure that double credit is not taken. All proponents should utilize the BAMM with point value list and/or other mitigation measures for which an approved emission reduction value has been assigned first, and then implement all standard mitigation measures and any air district recommended measures to reduce the emission deficit as much as possible prior to proposing voluntary contributions for an offsite mitigation project.

Example Project Level B

A project is proposed to construct 200 single family residences. The project proponent enters the project details into the URBEMIS Model to determine the project's long-term Area/Operational Phase emission impacts. It is determined that the sum of the Area/Operational Reactive Organic Gas (ROG), pounds per day emissions for the project exceeds the 25 pounds per day and that the PM10 is less than the 80 pound per day threshold (Level B). The ROG emission estimates are at 40 pounds per day (lbs/day) and will therefore be the target number to use in determining the mitigation reductions to be achieved. The mitigation factor for project emission impacts above Level B is 10% or 0.10. Potential ROG emission of 40 lbs/day – 25 lbs/day (Level B) = 15 lbs/day x .10 = 1.5.

Table C-1 Example Equation

Threshold Level	Mitigation Factor	Example Equation
Level B	10% or 0.10	40 (Estimated Emissions from URBEMIS) – 25 (Level B) x 0.10 (Mitigation Factor) = 1.5
Level C	100% or 1.0	150 (Estimated Emissions from URBEMIS) – 137 (Level C) x 1.0 (Mitigation Factor) = 13

The project proponent then begins the process of selecting feasible mitigation measures from the BAMM point-value list and other District-approved resources until the necessary emission reductions have been achieved to mitigate the project. If the necessary emission reductions have been achieved, in this case reduced by 1.5 points then the District would recommend a mitigated negative declaration assuming that all selected measures have been approved first by the Lead Agency, or District if the lead agency prefers, and submitted in writing in the form of a Mitigation Monitoring Plan as a component of the environmental review document.

Example Project Level C

A mixed-use project is proposed to construct 700 single family residences, 200 multi family units, a commercial office park, and other large commercial buildings. The project proponent enters the project details into the URBEMIS Model to determine the project's long-term Area/Operational Phase emission impacts. It is determined that the sum of the Area/Operational Nitrogen Oxide (NOx), pounds per day emissions for the project exceeds the 137 pounds per day, Level C. The NOx emission estimates are at 150 lbs/day (after applying URBEMIS mitigation measures) and will therefore be the target number to use in determining the emission reductions to be achieved. The mitigation factor for project emission impacts above Level C is 100% or 1.0. Potential NOx emissions of 150 lbs/day –137 lbs/day (Level C, significant impacts threshold) = 13 lbs/day or 13.

The project proponent then begins the process of selecting feasible mitigation measures from the BAMM point-value list and other District-approved resources until the necessary emission reductions have been achieved to mitigate the project. If the necessary emission reductions have been achieved, in this case reduced by 13 points then the District would recommend a less than significant impact for the EIR assuming that all selected measures have been approved first by the Lead Agency, or District if the lead agency prefers, and submitted in writing in the form of a Mitigation Monitoring Plan as a component of the environmental review document.

Example of Voluntary Off-site Mitigation

Assume that the proponent has exhausted the list of all feasible measure from the above example and will only be capable of implementing measures totaling 3 points as approved by the District and the Lead Agency. An additional 10 points in reduction is needed to get below the significance threshold of 137 pounds per day. At this point the NOx pounds per day emission rate needs to be converted to a NOx tons per year value based on a 180-day Ozone season. Therefore, 10 pounds per day x 180 days/2000 pounds per ton = 0.90 tons of NOx to be mitigated.

Table C-2 Example Equation

Additional Mitigation Reduction Required	Mitigation Factor Conversions	Example Equation
10 lbs/day NOx	ROG, NOX or PM10 = 180 days/2000 lbs/ton	10 lbs/day NOx (Emission Reduction Required) x 180 days/2000 lbs/ton (Emission Factor Conversion) = 0.90 (NOx tons Mitigation Required)

The District uses the State Carl Moyer Program Guidelines (release date January 6, 2006) cost-effectiveness value of $14,300 per ton of NOx, ROG and PM10 for projects to be funded. Cost-effectiveness is a measure of the dollars provided to a project for each ton of emission reductions. The project proponent could propose to voluntarily donate $12,870 (0.90 tons x $14,300 per ton = $12,870) towards qualifying, approved emission reduction projects from the BAMM point value list provided by the District. The project proponent could also locate a qualifying District-approved project(s) on their own behalf that achieves the necessary emission reductions for less funds, or a highly desired community project that may not be cost-effective short-term but provides a means to achieve long-term emissions reductions, such as transit infrastructure projects. The project proponent should work out the details and submit a proposal in writing to the District for review and approval.

Table C-3 Example Equation

Tons of Mitigation Required	ROG, NOX or PM10 Cost Effectiveness Value	Example Equation
0.90 NOx	$14,300 per Ton	0.90 NOx (Tons of Mitigation Required) x $14,300 (Cost Effectiveness $/ton) = $12,870 (Voluntary Cost to Mitigate 0.90 tons of NOx)

Best Available Mitigation Measures with point values

Measure #	Title	Use	Description	Mitigation Value
Bicycle/Pedestrian/Transit				
1	Bike parking	C,M	Project provides one bike rack space per 10 vehicle/employee parking spaces.	0.5
2	Showers, lockers	C,M	Project provides four clothes lockers and one shower for every 80 employees.	0.5
3	Bicycle parking at apartments or condos	R	Project provides one long-term bicycle locker or locked room with standard racks, or a standard rack in a location that is staffed or monitored.	0.5
4	Project is located within ½ mile of Class I or Class II bike lane	R,C,M	Project design includes a designated bicycle route connecting all units, on-site and off-site bicycle facilities to existing Class I or Class II bike lanes within ½ mile.	1.0
5	Pedestrian network	R,C,M	Project provides a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site.	1.0
6	Pedestrian barriers minimized	R,C,M	Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated.	1.0
7	Bus shelter for existing transit service	R,C,M	Bus service provides headways of one hour or less for stops within ¼ mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting; must be coordinated with B-Line Transit).	0.5
8	Bus shelter for planned transit service	C	Project provides transit stops with safe and convenient bicycle/pedestrian access. Project provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting) in anticipation of future transit service (must be coordinated with B-Line Transit).	0.25
9	Display or kiosk	R,C,M	Project provides a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents (must be coordinated with B-Line Transit).	0.5
10	Traffic calming	R,C,M	Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features which may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, and roundabouts or mini-circles.	0.25 – 1.0

11	Mixed uses within ¼ mile of existing transit	R,C,M	Planned infrastructure must be in General Plan, Specific Plan or Community Plan (maximum credit is 1.0).	1.0
12	Mixed uses within ¼ miles of planned transit	R,C,M	Planned transit must be in Transit Masterplan, General Plan, Specific Plan or Community Plan (maximum credit is 1.0; cannot get points for both #11, #12).	1.0
Parking Measures				
13	Paid parking	R,C,M	Employee and/or customer paid parking system (must be coordinated with B-Line Transit).	3.0 – 6.0
14	Minimum parking	R,C,M	Provide minimum amount of parking required.	0.5
15	Provide parking reduction	C,M	Office 25%, Medical office 8%, Commercial 5%, Industrial 10%, Additional 10 -20% if located along transit station (special review of parking is required; may require city/county variance or revision to ordinance).	2.5
16	Pedestrian pathway through parking	R,C,M	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.	0.5
17	Off street parking	R,C,M	Parking facilities are not adjacent to street frontage (.1 - not connected to pedestrian or bicycle access ways and not high density; 1.0 – parking facilities that face street frontage feature ground floor retail along street frontage; 1.5 – parking facilities not sited adjacent to public roads contiguous with project site, pedestrian entrances are located along street frontage.	0.1, 1.0, 1.5
18	Parking lot shading	R,C,M	Increase parking lot shading by 20% over code utilizing low pollution-emitting trees. Consult BCAQMD for low ozone forming potential shrubs and trees.	1.0
19	Electric vehicle charging	R,C,M	Provide electric vehicle charging facilities.	1.0
20	Preferential parking	C	Provide preferential parking for carpool/vanpools; covered carpool/vanpool spaces near entrance to building(s); loading and unloading facilities for transit and carpool/vanpool users.	0.5 – 1.5
21	‘Park and Ride’ lot	R	Project is located within one mile of a ‘Park and Ride’ lot, fosters public transit use for the workplace commute.	0.5
22	Vehicle idling policy	C	Adopt a Vehicle Idling Policy requiring all vehicles under company control to adhere to a 5 minute idling policy. Also enforce an onsite idling policy of 5 minutes or less including company owned contact, vendor and delivery vehicles. BCAQMD approved written company policy, vendor contractual language, onsite signage and enforcement procedures required.	0.5

Site Design Measures				
23	Office/mixed-use density	C,M	Project provides high density office or mixed-use proximate to transit. Mitigation value based on project density and proximity to transit. project must provide safe and convenient pedestrian and bicycle access to all transit stops within ¼ mile.	1 – 3.0
24	Orientation to **existing** transit, bikeway, or pedestrian corridor	R,C,M	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance is reduced to minimum allowed under jurisdiction code. Primary entrances to buildings are located along public street frontage.	1.0
25	Orientation to **planned** transit, bikeway, or pedestrian corridor	R,C,M	Project is oriented towards planned transit, bicycle, or pedestrian corridor. Setback distance is reduced to minimum allowed under jurisdiction code. Primary entrances to buildings are located along public street frontage. Cannot get points for both this measure and measure #24.	0.5
26	Residential density	R	Exceed density requirements by local jurisdiction.	1.0 – 5.0
27	Street grid	R,C,M	Multiple and direct street routing (grid style). Full credit for internal connectivity factor (CF) > 0.70, and average ¼ mile or less between external connections. [CF = # of intersections/(# of cul-de-sacs + intersection)].	1.0
28	Secondary units	R	Secondary units (granny units) which promote infill land use.	1.0
29	Neighborhood electric vehicle access	R,C,M	Make physical development consistent with requirements for neighborhood electric vehicles (NEV). Project design includes designated NEV routes and facilities. Roadways internal to project site are designed to accommodate NEVs. 0.5 – internal connections only; 1.0 – internal and external connections to surrounding neighborhoods; 1.5 – internal NEV connections and connections to other existing NEV networks.	0.5 – 1.5
Mixed Use				
30	Mixed use credit	M	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional and residential are combined in a single building or on a single site. A single site may include contiguous properties. Cannot get points for both this measure and any “convenience services” measures. Also mutually exclusive with #31.	3.0
31	Partial mixed use credit	R,C,M	Have a least 3 of the following on site and/or within ¼ mile: Residential development, retail development, personal services, open space, office. Also mutually exclusive with #30.	1.0 – 3.0
32	Other mixed use credit	R,M	Neighborhood serving as focal point with parks, school and civic uses within ¼ mile. Does not have to be a mixed use project to apply this measure.	0.5

33	Bicycle and pedestrian paths	R,C,M	Separate, safe and convenient bicycle and pedestrian paths connecting residential, commercial, and office uses. Does not have to be a mixed use project to apply this measure.	2.0
34	Development pattern	R,C,M	Project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation. Does not have to be a mixed use project to apply this measure.	1.0
Convenience Services				
35	Day care facilities	R,C,M	Day care facilities are provided on site (1.0) or within ¼ mile of site (0.5).	0.5; 1.0
36	Restaurant or cafeteria	R,C,M	Restaurant or cafeteria on site or within ¼ mile of site.	0.2
37	Bank or ATM	R,C,M	Bank or ATM on site or within ¼ mile of site.	0.2
38	Dry cleaners	R,C,M	Dry cleaners on site or within ¼ mile of site (non-perchloroethylene).	0.2
39	Post office	R,C,M	Post office on site or within ¼ mile of site.	0.2
40	Recreation	R,C,M	Recreation facility or fitness center on site or within ¼ mile of site.	0.2
Building Component Measures				
41	Residential wood burning	R	No residential wood burning appliances.	1.0
42	Furnaces	R,C,M	Install lowest emitting commercially available furnace.	0.5
43	Ozone destruction catalyst	R,C,M	Install ozone destruction catalyst on air conditioning systems.	2.5
44	Energy Star roof	C	Install Energy Star labeled roof materials.	0.5
45	Green roof	C	Install a vegetated roof that covers at least 50% of roof area.	0.5
46	Fiber optics	R,C,M	Provide fiber optic wiring and connections.	0.5
47	T1 Internet	R,C,M	Provide T1 wiring and connections.	0.5
48	Solar	R,C,M	Install roof photovoltaic energy systems (2.5 – if offered as a standard on all homes).	0.5
49	Energy-efficient technologies	R,C,M	Provide innovative energy-efficient technologies (i.e., Energy Star Home energy standards).	1.0
50	Solar orientation	R	Orient 75 or more percent of homes and/or buildings to face either north or south (within 30 degrees of N/S).	0.5
Miscellaneous Measures				
51	Video conferencing	C,M	Install videoconferencing system.	0.5
52	Teleworking	C,M	Promote teleworking and implement an employee-telework policy.	1.0
53	Telework terminal	R	Provide free-access telework terminals in multi-family projects	1.0 – 3.0

54	Clean air business practices	C	Examples: Using electric or low-emission light duty fleet vehicles, contracting with alternative-fuel waste hauling companies, contracting with carrier, delivery, security, or other services utilizing electric, low-emission, alternative fuel, or utilizing heavy-duty vehicles that are CARB certified to optional low-emission standards for NOx.	To be determined (tbd)*
55	Electric lawnmower	R	Provide a complimentary electric lawnmower to each residential buyer.	tbd
56	Transit subsidy	C	Provide transit pass subsidy and/or commute alternative allowance. Point value based on 100% subsidy.	tbd
Mitigation Funding				
80	Mitigation funds (MF)	R,C,M	Provide funding and/or resources to develop or improve Park and Ride lots. Coordinate with BCAQMD and BCAG.	tbd
81	MF	R,C,M	Provide funding to existing transit services. Coordinate with BCAQMD and BCAG.	tbd
82	MF	R,C,M	Provide funding to implement projects identified in city or county Bicycle Master Plans.	tbd
83	MF	C	Subsidize vanpool programs.	tbd
84	MF	C	Subsidize transportation alternative incentive programs.	tbd
85	MF	R,C,M	Contribute to the paving of off-site roadways and alleys.	tbd
86	MF	R,M	Contribute funding to retrofit residential wood burning appliances.	tbd
87	MF	R,M	Contribute funding to electric lawnmower exchange program.	tbd
88	MF	R,M	Contribute funding to vehicle scrappage program.	tbd
89	MF	R,M	Retrofit existing homes in the project area with energy-efficient devices.	tbd
90	MF	R,M	Retrofit existing business in the project area with energy-efficient devices.	tbd
91	MF	C,M	Construct satellite worksites.	tbd
92	MF	R,C,M	Provide funding to BCAQMD Carl Moyer Program (i.e., repower heavy-duty on/off road diesel vehicles, repower diesel agricultural pumps).	tbd
93	MF	R,C,M	Provide funding to BCAQMD Clean Air Funds (i.e., reduce motor vehicle emission, public education).	tbd
94	MF	R,C,M	Provide funding for Low Emission School Buses.	tbd
Innovative Strategies				
99	Other	R,C,M	Other proposed strategies, in consultation with project lead agency and BCAQMD.	tbd

*To be determined (tbd): each category to be evaluated on a project-by-project specific basis.

CalEEMod Output File
Summer Daily Period

Butte Fire Station & Unit Headquarters Replacement Project

Butte County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	66.35	1000sqft	1.52	66,349.00	0
Automobile Care Center	52.44	1000sqft	1.20	52,435.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	71
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - For operational, use Mobile source only. Mobile source based on net change in vehicle trips. As a replacement project, Area and Energy sources are not valid estimates of net change.

Land Use - Building square feet from Project Description. Paved area estimated for CalEEMod.

Construction Phase - Construction schedule per Project Description. Schedule is longer than default. Therefore, equipment use rates are reduced a commensurate amount.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment -

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Demolition - All structures except ECC buildings.

Grading - Per Project Description.

Architectural Coating - Per Butte County AQMD Rule 230, 100 g/l VOC content used.

Vehicle Trips - Project-related change = net increase of 10 trips per day per traffic assessment.

Consumer Products - No area source emissions

Area Coating - Per Butte County AQMD Rule 230, VOC content of 100 g/l used.

Landscape Equipment - No area source emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissoins.

Area Mitigation - Per Butte county AQMD Rule 230, VOC content of 100 g/l used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	280.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-11
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24NG	17.92	0.00
tblGrading	AcresOfGrading	2.50	2.72
tblGrading	AcresOfGrading	3.75	2.72
tblLandscapeEquipment	NumberSummerDays	180	0.01
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	200.32	0.00
tblVehicleTrips	ST_TR	62.00	10.00
tblVehicleTrips	SU_TR	62.00	10.00
tblVehicleTrips	WD_TR	62.00	10.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	4,933,613.28	0.00
tblWater	OutdoorWaterUseRate	3,023,827.49	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3550	22.6526	18.9437	0.0310	1.7451	1.3316	2.7336	0.8684	1.2505	1.4840	0.0000	2,895.9512	2,895.9512	0.4821	0.0000	2,906.0746
2017	36.8622	19.8989	17.8319	0.0310	0.6096	1.1764	1.7859	0.1651	1.1232	1.2883	0.0000	2,853.1524	2,853.1524	0.5421	0.0000	2,864.5361
Total	**40.2171**	**42.5515**	**36.7756**	**0.0619**	**2.3547**	**2.5079**	**4.5196**	**1.0335**	**2.3737**	**2.7723**	**0.0000**	**5,749.1036**	**5,749.1036**	**1.0241**	**0.0000**	**5,770.6107**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3550	22.6526	18.9437	0.0310	1.7451	1.3316	2.7336	0.8684	1.2505	1.4840	0.0000	2,895.9512	2,895.9512	0.4821	0.0000	2,906.0745
2017	36.8622	19.8989	17.8319	0.0310	0.6096	1.1764	1.7859	0.1651	1.1232	1.2883	0.0000	2,853.1524	2,853.1524	0.5421	0.0000	2,864.5361
Total	**40.2171**	**42.5515**	**36.7756**	**0.0619**	**2.3547**	**2.5079**	**4.5196**	**1.0335**	**2.3737**	**2.7723**	**0.0000**	**5,749.1036**	**5,749.1036**	**1.0241**	**0.0000**	**5,770.6106**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Total	**2.9666**	**3.7126**	**16.8920**	**0.0250**	**1.4548**	**0.0448**	**1.4996**	**0.3892**	**0.0412**	**0.4304**		**2,132.3421**	**2,132.3421**	**0.0945**	**0.0000**	**2,134.3270**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Total	**2.9666**	**3.7126**	**16.8920**	**0.0250**	**1.4548**	**0.0448**	**1.4996**	**0.3892**	**0.0412**	**0.4304**		**2,132.3421**	**2,132.3421**	**0.0945**	**0.0000**	**2,134.3270**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/4/2016	5	25	
2	Site Preparation	Site Preparation	2/5/2016	3/3/2016	5	20	
3	Grading	Grading	3/4/2016	3/31/2016	5	20	
4	Building Construction	Building Construction	4/1/2016	4/27/2017	5	280	
5	Paving	Paving	4/28/2017	5/11/2017	5	10	
6	Architectural Coating	Architectural Coating	5/12/2017	6/22/2017	5	30	

Acres of Grading (Site Preparation Phase): 2.72

Acres of Grading (Grading Phase): 2.72

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 178,176; Non-Residential Outdoor: 59,392 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Site Preparation	Graders	1	1.00	174	0.41
Site Preparation	Scrapers	1	1.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Graders	1	2.00	174	0.41
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Building Construction	Welders	3	6.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	137.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	45.00	19.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246		1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**		**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1037	1.3734	1.0643	4.0900e-003	0.0957	0.0221	0.1177	0.0262	0.0203	0.0465		411.9199	411.9199	2.9200e-003		411.9812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0809	0.0858	1.0614	1.6000e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		130.1415	130.1415	7.5500e-003		130.3000
Total	**0.1846**	**1.4592**	**2.1257**	**5.6900e-003**	**0.2197**	**0.0232**	**0.2428**	**0.0591**	**0.0213**	**0.0804**		**542.0614**	**542.0614**	**0.0105**		**542.2812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246	0.0000	1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**	**0.0000**	**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1037	1.3734	1.0643	4.0900e-003	0.0957	0.0221	0.1177	0.0262	0.0203	0.0465		411.9199	411.9199	2.9200e-003		411.9812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0809	0.0858	1.0614	1.6000e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		130.1415	130.1415	7.5500e-003		130.3000
Total	**0.1846**	**1.4592**	**2.1257**	**5.6900e-003**	**0.2197**	**0.0232**	**0.2428**	**0.0591**	**0.0213**	**0.0804**		**542.0614**	**542.0614**	**0.0105**		**542.2812**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774		315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**		**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0528	0.6531	9.9000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		80.0871	80.0871	4.6400e-003		80.1846
Total	**0.0498**	**0.0528**	**0.6531**	**9.9000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**80.0871**	**80.0871**	**4.6400e-003**		**80.1846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774	0.0000	315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**	**0.0000**	**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0528	0.6531	9.9000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		80.0871	80.0871	4.6400e-003		80.1846
Total	**0.0498**	**0.0528**	**0.6531**	**9.9000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**80.0871**	**80.0871**	**4.6400e-003**		**80.1846**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979		555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**		**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0660	0.8164	1.2300e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		100.1088	100.1088	5.8100e-003		100.2307
Total	**0.0623**	**0.0660**	**0.8164**	**1.2300e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**100.1088**	**100.1088**	**5.8100e-003**		**100.2307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979	0.0000	555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**	**0.0000**	**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0660	0.8164	1.2300e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		100.1088	100.1088	5.8100e-003		100.2307
Total	**0.0623**	**0.0660**	**0.8164**	**1.2300e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**100.1088**	**100.1088**	**5.8100e-003**		**100.2307**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102		1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**		**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2372	2.2416	2.3448	6.2900e-003	0.1805	0.0400	0.2205	0.0513	0.0368	0.0881		631.3034	631.3034	4.7100e-003		631.4024
Worker	0.2801	0.2969	3.6739	5.5400e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		450.4898	450.4898	0.0261		451.0383
Total	**0.5173**	**2.5384**	**6.0187**	**0.0118**	**0.6096**	**0.0438**	**0.6534**	**0.1651**	**0.0402**	**0.2054**		**1,081.7931**	**1,081.7931**	**0.0308**		**1,082.4407**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102	0.0000	1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**	**0.0000**	**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2372	2.2416	2.3448	6.2900e-003	0.1805	0.0400	0.2205	0.0513	0.0368	0.0881		631.3034	631.3034	4.7100e-003		631.4024
Worker	0.2801	0.2969	3.6739	5.5400e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		450.4898	450.4898	0.0261		451.0383
Total	**0.5173**	**2.5384**	**6.0187**	**0.0118**	**0.6096**	**0.0438**	**0.6534**	**0.1651**	**0.0402**	**0.2054**		**1,081.7931**	**1,081.7931**	**0.0308**		**1,082.4407**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890		1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**		**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2085	1.9649	2.1121	6.2800e-003	0.1804	0.0337	0.2141	0.0513	0.0310	0.0823		620.3016	620.3016	4.3600e-003		620.3931
Worker	0.2358	0.2574	3.1491	5.5300e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		432.5238	432.5238	0.0231		433.0089
Total	**0.4443**	**2.2223**	**5.2612**	**0.0118**	**0.6096**	**0.0372**	**0.6468**	**0.1651**	**0.0342**	**0.1993**		**1,052.8253**	**1,052.8253**	**0.0275**		**1,053.4020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890	0.0000	1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**	**0.0000**	**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2085	1.9649	2.1121	6.2800e-003	0.1804	0.0337	0.2141	0.0513	0.0310	0.0823		620.3016	620.3016	4.3600e-003		620.3931
Worker	0.2358	0.2574	3.1491	5.5300e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		432.5238	432.5238	0.0231		433.0089
Total	**0.4443**	**2.2223**	**5.2612**	**0.0118**	**0.6096**	**0.0372**	**0.6468**	**0.1651**	**0.0342**	**0.1993**		**1,052.8253**	**1,052.8253**	**0.0275**		**1,053.4020**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0858	1.0497	1.8400e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		144.1746	144.1746	7.7000e-003		144.3363
Total	**0.0786**	**0.0858**	**1.0497**	**1.8400e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**144.1746**	**144.1746**	**7.7000e-003**		**144.3363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0858	1.0497	1.8400e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		144.1746	144.1746	7.7000e-003		144.3363
Total	**0.0786**	**0.0858**	**1.0497**	**1.8400e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**144.1746**	**144.1746**	**7.7000e-003**		**144.3363**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578		93.8160	93.8160	9.9000e-003		94.0240
Total	**36.8150**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0515	0.6298	1.1100e-003	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		86.5048	86.5048	4.6200e-003		86.6018
Total	**0.0472**	**0.0515**	**0.6298**	**1.1100e-003**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**86.5048**	**86.5048**	**4.6200e-003**		**86.6018**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578	0.0000	93.8160	93.8160	9.9000e-003		94.0240
Total	**36.8150**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**	**0.0000**	**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0515	0.6298	1.1100e-003	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		86.5048	86.5048	4.6200e-003		86.6018
Total	**0.0472**	**0.0515**	**0.6298**	**1.1100e-003**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**86.5048**	**86.5048**	**4.6200e-003**		**86.6018**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Unmitigated	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	524.35	524.35	524.35	683,005	683,005
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	524.35	524.35	524.35	683,005	683,005

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	10.52	10.52	10.52	33.00	48.00	19.00	21	51	28
Other Asphalt Surfaces	10.52	10.52	10.52	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.401090	0.057402	0.218057	0.159623	0.073713	0.007834	0.014978	0.051818	0.001710	0.001145	0.007524	0.000849	0.004257

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Unmitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Output File
Summer Daily Period
with Mitigation Measure for Use of Low VOC Content Architectural Coatings

Butte Fire Station & Unit HQ Repl Proj - Mitigated

Butte County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	66.35	1000sqft	1.52	66,349.00	0
Automobile Care Center	52.44	1000sqft	1.20	52,435.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	71
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - For operational, use Mobile source only. Mobile source based on net change in vehicle trips. As a replacement project, Area and Energy sources are not valid estimates of net change.

Land Use - Building square feet from Project Description. Paved area estimated for CalEEMod.

Construction Phase - Construction schedule per Project Description. Schedule is longer than default. Therefore, equipment use rates are reduced a commensurate amount.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment -

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Demolition - All structures except ECC buildings.

Grading - Per Project Description.

Architectural Coating - Mitigation measure: use architectural coating with VOC content of 50 g/l or less.

Vehicle Trips - Project-related change = net increase of 10 trips per day per traffic assessment.

Consumer Products - No area source emissions.

Area Coating - Per Butte County AQMD Rule 230, VOC content of 100 g/l used.

Landscape Equipment - No area source emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissoins.

Area Mitigation - Per Butte county AQMD Rule 230, VOC content of 100 g/l used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	280.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-11
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24NG	17.92	0.00
tblGrading	AcresOfGrading	2.50	2.72
tblGrading	AcresOfGrading	3.75	2.72
tblLandscapeEquipment	NumberSummerDays	180	0.01
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	200.32	0.00
tblVehicleTrips	ST_TR	62.00	10.00
tblVehicleTrips	SU_TR	62.00	10.00
tblVehicleTrips	WD_TR	62.00	10.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	4,933,613.28	0.00
tblWater	OutdoorWaterUseRate	3,023,827.49	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3550	22.6526	18.9437	0.0310	1.7451	1.3316	2.7336	0.8684	1.2505	1.4840	0.0000	2,895.9512	2,895.9512	0.4821	0.0000	2,906.0746
2017	18.5101	19.8989	17.8319	0.0310	0.6096	1.1764	1.7859	0.1651	1.1232	1.2883	0.0000	2,853.1524	2,853.1524	0.5421	0.0000	2,864.5361
Total	**21.8650**	**42.5515**	**36.7756**	**0.0619**	**2.3547**	**2.5079**	**4.5196**	**1.0335**	**2.3737**	**2.7723**	**0.0000**	**5,749.1036**	**5,749.1036**	**1.0241**	**0.0000**	**5,770.6107**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3550	22.6526	18.9437	0.0310	1.7451	1.3316	2.7336	0.8684	1.2505	1.4840	0.0000	2,895.9512	2,895.9512	0.4821	0.0000	2,906.0745
2017	18.5101	19.8989	17.8319	0.0310	0.6096	1.1764	1.7859	0.1651	1.1232	1.2883	0.0000	2,853.1524	2,853.1524	0.5421	0.0000	2,864.5361
Total	**21.8650**	**42.5515**	**36.7756**	**0.0619**	**2.3547**	**2.5079**	**4.5196**	**1.0335**	**2.3737**	**2.7723**	**0.0000**	**5,749.1036**	**5,749.1036**	**1.0241**	**0.0000**	**5,770.6106**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Total	**2.9666**	**3.7126**	**16.8920**	**0.0250**	**1.4548**	**0.0448**	**1.4996**	**0.3892**	**0.0412**	**0.4304**		**2,132.3421**	**2,132.3421**	**0.0945**	**0.0000**	**2,134.3270**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Total	**2.9666**	**3.7126**	**16.8920**	**0.0250**	**1.4548**	**0.0448**	**1.4996**	**0.3892**	**0.0412**	**0.4304**		**2,132.3421**	**2,132.3421**	**0.0945**	**0.0000**	**2,134.3270**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/4/2016	5	25	
2	Site Preparation	Site Preparation	2/5/2016	3/3/2016	5	20	
3	Grading	Grading	3/4/2016	3/31/2016	5	20	
4	Building Construction	Building Construction	4/1/2016	4/27/2017	5	280	
5	Paving	Paving	4/28/2017	5/11/2017	5	10	
6	Architectural Coating	Architectural Coating	5/12/2017	6/22/2017	5	30	

Acres of Grading (Site Preparation Phase): 2.72

Acres of Grading (Grading Phase): 2.72

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 178,176; Non-Residential Outdoor: 59,392 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Site Preparation	Graders	1	1.00	174	0.41
Site Preparation	Scrapers	1	1.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Graders	1	2.00	174	0.41
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Building Construction	Welders	3	6.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	137.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	45.00	19.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246		1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**		**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1037	1.3734	1.0643	4.0900e-003	0.0957	0.0221	0.1177	0.0262	0.0203	0.0465		411.9199	411.9199	2.9200e-003		411.9812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0809	0.0858	1.0614	1.6000e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		130.1415	130.1415	7.5500e-003		130.3000
Total	**0.1846**	**1.4592**	**2.1257**	**5.6900e-003**	**0.2197**	**0.0232**	**0.2428**	**0.0591**	**0.0213**	**0.0804**		**542.0614**	**542.0614**	**0.0105**		**542.2812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246	0.0000	1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**	**0.0000**	**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1037	1.3734	1.0643	4.0900e-003	0.0957	0.0221	0.1177	0.0262	0.0203	0.0465		411.9199	411.9199	2.9200e-003		411.9812
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0809	0.0858	1.0614	1.6000e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		130.1415	130.1415	7.5500e-003		130.3000
Total	**0.1846**	**1.4592**	**2.1257**	**5.6900e-003**	**0.2197**	**0.0232**	**0.2428**	**0.0591**	**0.0213**	**0.0804**		**542.0614**	**542.0614**	**0.0105**		**542.2812**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774		315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**		**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0528	0.6531	9.9000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		80.0871	80.0871	4.6400e-003		80.1846
Total	**0.0498**	**0.0528**	**0.6531**	**9.9000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**80.0871**	**80.0871**	**4.6400e-003**		**80.1846**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774	0.0000	315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**	**0.0000**	**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0498	0.0528	0.6531	9.9000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		80.0871	80.0871	4.6400e-003		80.1846
Total	**0.0498**	**0.0528**	**0.6531**	**9.9000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**80.0871**	**80.0871**	**4.6400e-003**		**80.1846**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979		555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**		**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0660	0.8164	1.2300e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		100.1088	100.1088	5.8100e-003		100.2307
Total	**0.0623**	**0.0660**	**0.8164**	**1.2300e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**100.1088**	**100.1088**	**5.8100e-003**		**100.2307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979	0.0000	555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**	**0.0000**	**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0660	0.8164	1.2300e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		100.1088	100.1088	5.8100e-003		100.2307
Total	**0.0623**	**0.0660**	**0.8164**	**1.2300e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**100.1088**	**100.1088**	**5.8100e-003**		**100.2307**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102		1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**		**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2372	2.2416	2.3448	6.2900e-003	0.1805	0.0400	0.2205	0.0513	0.0368	0.0881		631.3034	631.3034	4.7100e-003		631.4024
Worker	0.2801	0.2969	3.6739	5.5400e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		450.4898	450.4898	0.0261		451.0383
Total	**0.5173**	**2.5384**	**6.0187**	**0.0118**	**0.6096**	**0.0438**	**0.6534**	**0.1651**	**0.0402**	**0.2054**		**1,081.7931**	**1,081.7931**	**0.0308**		**1,082.4407**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102	0.0000	1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**	**0.0000**	**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2372	2.2416	2.3448	6.2900e-003	0.1805	0.0400	0.2205	0.0513	0.0368	0.0881		631.3034	631.3034	4.7100e-003		631.4024
Worker	0.2801	0.2969	3.6739	5.5400e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		450.4898	450.4898	0.0261		451.0383
Total	**0.5173**	**2.5384**	**6.0187**	**0.0118**	**0.6096**	**0.0438**	**0.6534**	**0.1651**	**0.0402**	**0.2054**		**1,081.7931**	**1,081.7931**	**0.0308**		**1,082.4407**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890		1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**		**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2085	1.9649	2.1121	6.2800e-003	0.1804	0.0337	0.2141	0.0513	0.0310	0.0823		620.3016	620.3016	4.3600e-003		620.3931
Worker	0.2358	0.2574	3.1491	5.5300e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		432.5238	432.5238	0.0231		433.0089
Total	**0.4443**	**2.2223**	**5.2612**	**0.0118**	**0.6096**	**0.0372**	**0.6468**	**0.1651**	**0.0342**	**0.1993**		**1,052.8253**	**1,052.8253**	**0.0275**		**1,053.4020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890	0.0000	1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**	**0.0000**	**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2085	1.9649	2.1121	6.2800e-003	0.1804	0.0337	0.2141	0.0513	0.0310	0.0823		620.3016	620.3016	4.3600e-003		620.3931
Worker	0.2358	0.2574	3.1491	5.5300e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		432.5238	432.5238	0.0231		433.0089
Total	**0.4443**	**2.2223**	**5.2612**	**0.0118**	**0.6096**	**0.0372**	**0.6468**	**0.1651**	**0.0342**	**0.1993**		**1,052.8253**	**1,052.8253**	**0.0275**		**1,053.4020**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0858	1.0497	1.8400e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		144.1746	144.1746	7.7000e-003		144.3363
Total	**0.0786**	**0.0858**	**1.0497**	**1.8400e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**144.1746**	**144.1746**	**7.7000e-003**		**144.3363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0786	0.0858	1.0497	1.8400e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		144.1746	144.1746	7.7000e-003		144.3363
Total	**0.0786**	**0.0858**	**1.0497**	**1.8400e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**144.1746**	**144.1746**	**7.7000e-003**		**144.3363**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.3521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578		93.8160	93.8160	9.9000e-003		94.0240
Total	**18.4629**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0515	0.6298	1.1100e-003	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		86.5048	86.5048	4.6200e-003		86.6018
Total	**0.0472**	**0.0515**	**0.6298**	**1.1100e-003**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**86.5048**	**86.5048**	**4.6200e-003**		**86.6018**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.3521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578	0.0000	93.8160	93.8160	9.9000e-003		94.0240
Total	**18.4629**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**	**0.0000**	**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0515	0.6298	1.1100e-003	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		86.5048	86.5048	4.6200e-003		86.6018
Total	**0.0472**	**0.0515**	**0.6298**	**1.1100e-003**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**86.5048**	**86.5048**	**4.6200e-003**		**86.6018**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995
Unmitigated	2.3243	3.7125	16.8796	0.0250	1.4548	0.0448	1.4996	0.3892	0.0411	0.4303		2,132.3161	2,132.3161	0.0945		2,134.2995

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	524.35	524.35	524.35	683,005	683,005
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	524.35	524.35	524.35	683,005	683,005

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	10.52	10.52	10.52	33.00	48.00	19.00	21	51	28
Other Asphalt Surfaces	10.52	10.52	10.52	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.401090	0.057402	0.218057	0.159623	0.073713	0.007834	0.014978	0.051818	0.001710	0.001145	0.007524	0.000849	0.004257

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Unmitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Output File
Winter Daily Period

Butte Fire Station & Unit Headquarters Replacement Project

Butte County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	66.35	1000sqft	1.52	66,349.00	0
Automobile Care Center	52.44	1000sqft	1.20	52,435.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	71
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - For operational, use Mobile source only. Mobile source based on net change in vehicle trips. As a replacement project, Area and Energy sources are not valid estimates of net change.

Land Use - Building square feet from Project Description. Paved area estimated for CalEEMod.

Construction Phase - Construction schedule per Project Description. Schedule is longer than default. Therefore, equipment use rates are reduced a commensurate amount.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment -

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Demolition - All structures except ECC buildings.

Grading - Per Project Description.

Architectural Coating - Per Butte County AQMD Rule 230, 100 g/l VOC content used.

Vehicle Trips - Project-related change = net increase of 10 trips per day per traffic assessment.

Consumer Products - No area source emissions

Area Coating - Per Butte County AQMD Rule 230, VOC content of 100 g/l used.

Landscape Equipment - No area source emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissoins.

Area Mitigation - Per Butte county AQMD Rule 230, VOC content of 100 g/l used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	280.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-11
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24NG	17.92	0.00
tblGrading	AcresOfGrading	2.50	2.72
tblGrading	AcresOfGrading	3.75	2.72
tblLandscapeEquipment	NumberSummerDays	180	0.01
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	200.32	0.00
tblVehicleTrips	ST_TR	62.00	10.00
tblVehicleTrips	SU_TR	62.00	10.00
tblVehicleTrips	WD_TR	62.00	10.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	4,933,613.28	0.00
tblWater	OutdoorWaterUseRate	3,023,827.49	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3718	22.7845	19.6772	0.0302	1.7451	1.3316	2.7337	0.8684	1.2508	1.4841	0.0000	2,834.4886	2,834.4886	0.4821	0.0000	2,844.6127
2017	36.8552	20.1057	18.5813	0.0302	0.6096	1.1767	1.7862	0.1651	1.1235	1.2886	0.0000	2,793.8852	2,793.8852	0.5421	0.0000	2,805.2689
Total	**40.2270**	**42.8903**	**38.2584**	**0.0605**	**2.3547**	**2.5083**	**4.5199**	**1.0335**	**2.3743**	**2.7727**	**0.0000**	**5,628.3737**	**5,628.3737**	**1.0242**	**0.0000**	**5,649.8816**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3718	22.7845	19.6772	0.0302	1.7451	1.3316	2.7337	0.8684	1.2508	1.4841	0.0000	2,834.4886	2,834.4886	0.4821	0.0000	2,844.6127
2017	36.8552	20.1057	18.5813	0.0302	0.6096	1.1767	1.7862	0.1651	1.1235	1.2886	0.0000	2,793.8852	2,793.8852	0.5421	0.0000	2,805.2689
Total	**40.2270**	**42.8903**	**38.2584**	**0.0605**	**2.3547**	**2.5083**	**4.5199**	**1.0335**	**2.3743**	**2.7727**	**0.0000**	**5,628.3737**	**5,628.3737**	**1.0242**	**0.0000**	**5,649.8816**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Total	**2.7849**	**4.1601**	**20.5210**	**0.0229**	**1.4548**	**0.0453**	**1.5001**	**0.3892**	**0.0416**	**0.4308**		**1,952.3818**	**1,952.3818**	**0.0947**	**0.0000**	**1,954.3715**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Total	**2.7849**	**4.1601**	**20.5210**	**0.0229**	**1.4548**	**0.0453**	**1.5001**	**0.3892**	**0.0416**	**0.4308**		**1,952.3818**	**1,952.3818**	**0.0947**	**0.0000**	**1,954.3715**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/4/2016	5	25	
2	Site Preparation	Site Preparation	2/5/2016	3/3/2016	5	20	
3	Grading	Grading	3/4/2016	3/31/2016	5	20	
4	Building Construction	Building Construction	4/1/2016	4/27/2017	5	280	
5	Paving	Paving	4/28/2017	5/11/2017	5	10	
6	Architectural Coating	Architectural Coating	5/12/2017	6/22/2017	5	30	

Acres of Grading (Site Preparation Phase): 2.72

Acres of Grading (Grading Phase): 2.72

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 178,176; Non-Residential Outdoor: 59,392 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Site Preparation	Graders	1	1.00	174	0.41
Site Preparation	Scrapers	1	1.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Graders	1	2.00	174	0.41
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Building Construction	Welders	3	6.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	137.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	45.00	19.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246		1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**		**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1217	1.4844	1.5355	4.0800e-003	0.0957	0.0221	0.1178	0.0262	0.0204	0.0466		410.9526	410.9526	2.9600e-003		411.0147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0703	0.1067	0.9426	1.3900e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		113.3841	113.3841	7.5500e-003		113.5425
Total	**0.1921**	**1.5911**	**2.4781**	**5.4700e-003**	**0.2197**	**0.0233**	**0.2429**	**0.0591**	**0.0214**	**0.0805**		**524.3366**	**524.3366**	**0.0105**		**524.5573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246	0.0000	1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**	**0.0000**	**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1217	1.4844	1.5355	4.0800e-003	0.0957	0.0221	0.1178	0.0262	0.0204	0.0466		410.9526	410.9526	2.9600e-003		411.0147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0703	0.1067	0.9426	1.3900e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		113.3841	113.3841	7.5500e-003		113.5425
Total	**0.1921**	**1.5911**	**2.4781**	**5.4700e-003**	**0.2197**	**0.0233**	**0.2429**	**0.0591**	**0.0214**	**0.0805**		**524.3366**	**524.3366**	**0.0105**		**524.5573**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774		315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**		**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0433	0.0657	0.5801	8.6000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		69.7748	69.7748	4.6400e-003		69.8723
Total	**0.0433**	**0.0657**	**0.5801**	**8.6000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**69.7748**	**69.7748**	**4.6400e-003**		**69.8723**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774	0.0000	315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**	**0.0000**	**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0433	0.0657	0.5801	8.6000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		69.7748	69.7748	4.6400e-003		69.8723
Total	**0.0433**	**0.0657**	**0.5801**	**8.6000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**69.7748**	**69.7748**	**4.6400e-003**		**69.8723**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979		555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**		**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0821	0.7251	1.0700e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		87.2185	87.2185	5.8100e-003		87.3404
Total	**0.0541**	**0.0821**	**0.7251**	**1.0700e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**87.2185**	**87.2185**	**5.8100e-003**		**87.3404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979	0.0000	555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**	**0.0000**	**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0821	0.7251	1.0700e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		87.2185	87.2185	5.8100e-003		87.3404
Total	**0.0541**	**0.0821**	**0.7251**	**1.0700e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**87.2185**	**87.2185**	**5.8100e-003**		**87.3404**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102		1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**		**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2906	2.4084	3.4893	6.2800e-003	0.1805	0.0404	0.2208	0.0513	0.0371	0.0884		627.8472	627.8472	4.8100e-003		627.9481
Worker	0.2435	0.3693	3.2628	4.8200e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		392.4833	392.4833	0.0261		393.0319
Total	**0.5341**	**2.7778**	**6.7521**	**0.0111**	**0.6096**	**0.0442**	**0.6538**	**0.1651**	**0.0406**	**0.2057**		**1,020.3305**	**1,020.3305**	**0.0309**		**1,020.9800**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102	0.0000	1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**	**0.0000**	**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2906	2.4084	3.4893	6.2800e-003	0.1805	0.0404	0.2208	0.0513	0.0371	0.0884		627.8472	627.8472	4.8100e-003		627.9481
Worker	0.2435	0.3693	3.2628	4.8200e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		392.4833	392.4833	0.0261		393.0319
Total	**0.5341**	**2.7778**	**6.7521**	**0.0111**	**0.6096**	**0.0442**	**0.6538**	**0.1651**	**0.0406**	**0.2057**		**1,020.3305**	**1,020.3305**	**0.0309**		**1,020.9800**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890		1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**		**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2531	2.1095	3.2496	6.2600e-003	0.1804	0.0340	0.2144	0.0513	0.0313	0.0826		616.8901	616.8901	4.4500e-003		616.9836
Worker	0.2010	0.3197	2.7609	4.8100e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		376.6681	376.6681	0.0231		377.1531
Total	**0.4541**	**2.4292**	**6.0105**	**0.0111**	**0.6096**	**0.0376**	**0.6471**	**0.1651**	**0.0345**	**0.1996**		**993.5581**	**993.5581**	**0.0276**		**994.1367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890	0.0000	1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**	**0.0000**	**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2531	2.1095	3.2496	6.2600e-003	0.1804	0.0340	0.2144	0.0513	0.0313	0.0826		616.8901	616.8901	4.4500e-003		616.9836
Worker	0.2010	0.3197	2.7609	4.8100e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		376.6681	376.6681	0.0231		377.1531
Total	**0.4541**	**2.4292**	**6.0105**	**0.0111**	**0.6096**	**0.0376**	**0.6471**	**0.1651**	**0.0345**	**0.1996**		**993.5581**	**993.5581**	**0.0276**		**994.1367**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0670	0.1066	0.9203	1.6000e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		125.5560	125.5560	7.7000e-003		125.7177
Total	**0.0670**	**0.1066**	**0.9203**	**1.6000e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**125.5560**	**125.5560**	**7.7000e-003**		**125.7177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0670	0.1066	0.9203	1.6000e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		125.5560	125.5560	7.7000e-003		125.7177
Total	**0.0670**	**0.1066**	**0.9203**	**1.6000e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**125.5560**	**125.5560**	**7.7000e-003**		**125.7177**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578		93.8160	93.8160	9.9000e-003		94.0240
Total	**36.8150**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0639	0.5522	9.6000e-004	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		75.3336	75.3336	4.6200e-003		75.4306
Total	**0.0402**	**0.0639**	**0.5522**	**9.6000e-004**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**75.3336**	**75.3336**	**4.6200e-003**		**75.4306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.7043					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578	0.0000	93.8160	93.8160	9.9000e-003		94.0240
Total	**36.8150**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**	**0.0000**	**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0639	0.5522	9.6000e-004	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		75.3336	75.3336	4.6200e-003		75.4306
Total	**0.0402**	**0.0639**	**0.5522**	**9.6000e-004**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**75.3336**	**75.3336**	**4.6200e-003**		**75.4306**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Unmitigated	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	524.35	524.35	524.35	683,005	683,005
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	524.35	524.35	524.35	683,005	683,005

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	10.52	10.52	10.52	33.00	48.00	19.00	21	51	28
Other Asphalt Surfaces	10.52	10.52	10.52	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.401090	0.057402	0.218057	0.159623	0.073713	0.007834	0.014978	0.051818	0.001710	0.001145	0.007524	0.000849	0.004257

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Unmitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Output File
Winter Daily Period
with Mitigation Measure for Use of Low VOC Content Architectural Coatings

Butte Fire Station & Unit HQ Repl Proj - Mitigated

Butte County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	66.35	1000sqft	1.52	66,349.00	0
Automobile Care Center	52.44	1000sqft	1.20	52,435.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	71
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - For operational, use Mobile source only. Mobile source based on net change in vehicle trips. As a replacement project, Area and Energy sources are not valid estimates of net change.

Land Use - Building square feet from Project Description. Paved area estimated for CalEEMod.

Construction Phase - Construction schedule per Project Description. Schedule is longer than default. Therefore, equipment use rates are reduced a commensurate amount.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment -

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Demolition - All structures except ECC buildings.

Grading - Per Project Description.

Architectural Coating - Mitigation measure: use architectural coating with VOC content of 50 g/l or less.

Vehicle Trips - Project-related change = net increase of 10 trips per day per traffic assessment.

Consumer Products - No area source emissions.

Area Coating - Per Butte County AQMD Rule 230, VOC content of 100 g/l used.

Landscape Equipment - No area source emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissoins.

Area Mitigation - Per Butte county AQMD Rule 230, VOC content of 100 g/l used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	280.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-11
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24NG	17.92	0.00
tblGrading	AcresOfGrading	2.50	2.72
tblGrading	AcresOfGrading	3.75	2.72
tblLandscapeEquipment	NumberSummerDays	180	0.01
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	200.32	0.00
tblVehicleTrips	ST_TR	62.00	10.00
tblVehicleTrips	SU_TR	62.00	10.00
tblVehicleTrips	WD_TR	62.00	10.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	4,933,613.28	0.00
tblWater	OutdoorWaterUseRate	3,023,827.49	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3718	22.7845	19.6772	0.0302	1.7451	1.3316	2.7337	0.8684	1.2508	1.4841	0.0000	2,834.4886	2,834.4886	0.4821	0.0000	2,844.6127
2017	18.5031	20.1057	18.5813	0.0302	0.6096	1.1767	1.7862	0.1651	1.1235	1.2886	0.0000	2,793.8852	2,793.8852	0.5421	0.0000	2,805.2689
Total	**21.8749**	**42.8903**	**38.2584**	**0.0605**	**2.3547**	**2.5083**	**4.5199**	**1.0335**	**2.3743**	**2.7727**	**0.0000**	**5,628.3737**	**5,628.3737**	**1.0242**	**0.0000**	**5,649.8816**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.3718	22.7845	19.6772	0.0302	1.7451	1.3316	2.7337	0.8684	1.2508	1.4841	0.0000	2,834.4886	2,834.4886	0.4821	0.0000	2,844.6127
2017	18.5031	20.1057	18.5813	0.0302	0.6096	1.1767	1.7862	0.1651	1.1235	1.2886	0.0000	2,793.8852	2,793.8852	0.5421	0.0000	2,805.2689
Total	**21.8749**	**42.8903**	**38.2584**	**0.0605**	**2.3547**	**2.5083**	**4.5199**	**1.0335**	**2.3743**	**2.7727**	**0.0000**	**5,628.3737**	**5,628.3737**	**1.0242**	**0.0000**	**5,649.8816**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Total	**2.7849**	**4.1601**	**20.5210**	**0.0229**	**1.4548**	**0.0453**	**1.5001**	**0.3892**	**0.0416**	**0.4308**		**1,952.3818**	**1,952.3818**	**0.0947**	**0.0000**	**1,954.3715**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Total	**2.7849**	**4.1601**	**20.5210**	**0.0229**	**1.4548**	**0.0453**	**1.5001**	**0.3892**	**0.0416**	**0.4308**		**1,952.3818**	**1,952.3818**	**0.0947**	**0.0000**	**1,954.3715**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/4/2016	5	25	
2	Site Preparation	Site Preparation	2/5/2016	3/3/2016	5	20	
3	Grading	Grading	3/4/2016	3/31/2016	5	20	
4	Building Construction	Building Construction	4/1/2016	4/27/2017	5	280	
5	Paving	Paving	4/28/2017	5/11/2017	5	10	
6	Architectural Coating	Architectural Coating	5/12/2017	6/22/2017	5	30	

Acres of Grading (Site Preparation Phase): 2.72

Acres of Grading (Grading Phase): 2.72

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 178,176; Non-Residential Outdoor: 59,392 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Site Preparation	Graders	1	1.00	174	0.41
Site Preparation	Scrapers	1	1.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Graders	1	2.00	174	0.41
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Building Construction	Welders	3	6.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	137.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	45.00	19.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246		1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**		**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1217	1.4844	1.5355	4.0800e-003	0.0957	0.0221	0.1178	0.0262	0.0204	0.0466		410.9526	410.9526	2.9600e-003		411.0147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0703	0.1067	0.9426	1.3900e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		113.3841	113.3841	7.5500e-003		113.5425
Total	**0.1921**	**1.5911**	**2.4781**	**5.4700e-003**	**0.2197**	**0.0233**	**0.2429**	**0.0591**	**0.0214**	**0.0805**		**524.3366**	**524.3366**	**0.0105**		**524.5573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1824	0.0000	1.1824	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	2.1799	21.1934	16.1235	0.0184		1.3084	1.3084		1.2246	1.2246	0.0000	1,865.3472	1,865.3472	0.4716		1,875.2507
Total	**2.1799**	**21.1934**	**16.1235**	**0.0184**	**1.1824**	**1.3084**	**2.4908**	**0.1790**	**1.2246**	**1.4036**	**0.0000**	**1,865.3472**	**1,865.3472**	**0.4716**		**1,875.2507**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1217	1.4844	1.5355	4.0800e-003	0.0957	0.0221	0.1178	0.0262	0.0204	0.0466		410.9526	410.9526	2.9600e-003		411.0147
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0703	0.1067	0.9426	1.3900e-003	0.1240	1.1100e-003	0.1251	0.0329	1.0000e-003	0.0339		113.3841	113.3841	7.5500e-003		113.5425
Total	**0.1921**	**1.5911**	**2.4781**	**5.4700e-003**	**0.2197**	**0.0233**	**0.2429**	**0.0591**	**0.0214**	**0.0805**		**524.3366**	**524.3366**	**0.0105**		**524.5573**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774		315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**		**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0433	0.0657	0.5801	8.6000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		69.7748	69.7748	4.6400e-003		69.8723
Total	**0.0433**	**0.0657**	**0.5801**	**8.6000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**69.7748**	**69.7748**	**4.6400e-003**		**69.8723**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1442	0.0000	0.1442	0.0156	0.0000	0.0156			0.0000			0.0000
Off-Road	0.3427	3.9038	2.2952	3.0300e-003		0.1929	0.1929		0.1774	0.1774	0.0000	315.0700	315.0700	0.0950		317.0657
Total	**0.3427**	**3.9038**	**2.2952**	**3.0300e-003**	**0.1442**	**0.1929**	**0.3371**	**0.0156**	**0.1774**	**0.1930**	**0.0000**	**315.0700**	**315.0700**	**0.0950**		**317.0657**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0433	0.0657	0.5801	8.6000e-004	0.0763	6.8000e-004	0.0770	0.0202	6.2000e-004	0.0209		69.7748	69.7748	4.6400e-003		69.8723
Total	**0.0433**	**0.0657**	**0.5801**	**8.6000e-004**	**0.0763**	**6.8000e-004**	**0.0770**	**0.0202**	**6.2000e-004**	**0.0209**		**69.7748**	**69.7748**	**4.6400e-003**		**69.8723**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979		555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**		**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0821	0.7251	1.0700e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		87.2185	87.2185	5.8100e-003		87.3404
Total	**0.0541**	**0.0821**	**0.7251**	**1.0700e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**87.2185**	**87.2185**	**5.8100e-003**		**87.3404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.6498	0.0000	1.6498	0.8431	0.0000	0.8431			0.0000			0.0000
Off-Road	0.7345	7.6902	5.0594	5.3400e-003		0.4324	0.4324		0.3979	0.3979	0.0000	555.0484	555.0484	0.1674		558.5643
Total	**0.7345**	**7.6902**	**5.0594**	**5.3400e-003**	**1.6498**	**0.4324**	**2.0822**	**0.8431**	**0.3979**	**1.2410**	**0.0000**	**555.0484**	**555.0484**	**0.1674**		**558.5643**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0821	0.7251	1.0700e-003	0.0954	8.5000e-004	0.0962	0.0253	7.7000e-004	0.0261		87.2185	87.2185	5.8100e-003		87.3404
Total	**0.0541**	**0.0821**	**0.7251**	**1.0700e-003**	**0.0954**	**8.5000e-004**	**0.0962**	**0.0253**	**7.7000e-004**	**0.0261**		**87.2185**	**87.2185**	**5.8100e-003**		**87.3404**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102		1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**		**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2906	2.4084	3.4893	6.2800e-003	0.1805	0.0404	0.2208	0.0513	0.0371	0.0884		627.8472	627.8472	4.8100e-003		627.9481
Worker	0.2435	0.3693	3.2628	4.8200e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		392.4833	392.4833	0.0261		393.0319
Total	**0.5341**	**2.7778**	**6.7521**	**0.0111**	**0.6096**	**0.0442**	**0.6538**	**0.1651**	**0.0406**	**0.2057**		**1,020.3305**	**1,020.3305**	**0.0309**		**1,020.9800**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8377	19.0437	12.9250	0.0191		1.2656	1.2656		1.2102	1.2102	0.0000	1,814.1581	1,814.1581	0.4216		1,823.0111
Total	**2.8377**	**19.0437**	**12.9250**	**0.0191**		**1.2656**	**1.2656**		**1.2102**	**1.2102**	**0.0000**	**1,814.1581**	**1,814.1581**	**0.4216**		**1,823.0111**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2906	2.4084	3.4893	6.2800e-003	0.1805	0.0404	0.2208	0.0513	0.0371	0.0884		627.8472	627.8472	4.8100e-003		627.9481
Worker	0.2435	0.3693	3.2628	4.8200e-003	0.4292	3.8300e-003	0.4330	0.1138	3.4700e-003	0.1173		392.4833	392.4833	0.0261		393.0319
Total	**0.5341**	**2.7778**	**6.7521**	**0.0111**	**0.6096**	**0.0442**	**0.6538**	**0.1651**	**0.0406**	**0.2057**		**1,020.3305**	**1,020.3305**	**0.0309**		**1,020.9800**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890		1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**		**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2531	2.1095	3.2496	6.2600e-003	0.1804	0.0340	0.2144	0.0513	0.0313	0.0826		616.8901	616.8901	4.4500e-003		616.9836
Worker	0.2010	0.3197	2.7609	4.8100e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		376.6681	376.6681	0.0231		377.1531
Total	**0.4541**	**2.4292**	**6.0105**	**0.0111**	**0.6096**	**0.0376**	**0.6471**	**0.1651**	**0.0345**	**0.1996**		**993.5581**	**993.5581**	**0.0276**		**994.1367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5550	17.6766	12.5707	0.0192		1.1391	1.1391		1.0890	1.0890	0.0000	1,800.3271	1,800.3271	0.4043		1,808.8167
Total	**2.5550**	**17.6766**	**12.5707**	**0.0192**		**1.1391**	**1.1391**		**1.0890**	**1.0890**	**0.0000**	**1,800.3271**	**1,800.3271**	**0.4043**		**1,808.8167**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2531	2.1095	3.2496	6.2600e-003	0.1804	0.0340	0.2144	0.0513	0.0313	0.0826		616.8901	616.8901	4.4500e-003		616.9836
Worker	0.2010	0.3197	2.7609	4.8100e-003	0.4292	3.5400e-003	0.4327	0.1138	3.2400e-003	0.1171		376.6681	376.6681	0.0231		377.1531
Total	**0.4541**	**2.4292**	**6.0105**	**0.0111**	**0.6096**	**0.0376**	**0.6471**	**0.1651**	**0.0345**	**0.1996**		**993.5581**	**993.5581**	**0.0276**		**994.1367**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423		1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**		**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0670	0.1066	0.9203	1.6000e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		125.5560	125.5560	7.7000e-003		125.7177
Total	**0.0670**	**0.1066**	**0.9203**	**1.6000e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**125.5560**	**125.5560**	**7.7000e-003**		**125.7177**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6402	16.4619	12.0566	0.0176		1.0230	1.0230		0.9423	0.9423	0.0000	1,777.4745	1,777.4745	0.5344		1,788.6966
Paving	0.3982					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0384**	**16.4619**	**12.0566**	**0.0176**		**1.0230**	**1.0230**		**0.9423**	**0.9423**	**0.0000**	**1,777.4745**	**1,777.4745**	**0.5344**		**1,788.6966**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0670	0.1066	0.9203	1.6000e-003	0.1431	1.1800e-003	0.1442	0.0379	1.0800e-003	0.0390		125.5560	125.5560	7.7000e-003		125.7177
Total	**0.0670**	**0.1066**	**0.9203**	**1.6000e-003**	**0.1431**	**1.1800e-003**	**0.1442**	**0.0379**	**1.0800e-003**	**0.0390**		**125.5560**	**125.5560**	**7.7000e-003**		**125.7177**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.3521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578		93.8160	93.8160	9.9000e-003		94.0240
Total	**18.4629**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0639	0.5522	9.6000e-004	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		75.3336	75.3336	4.6200e-003		75.4306
Total	**0.0402**	**0.0639**	**0.5522**	**9.6000e-004**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**75.3336**	**75.3336**	**4.6200e-003**		**75.4306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.3521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1108	0.7283	0.6227	9.9000e-004		0.0578	0.0578		0.0578	0.0578	0.0000	93.8160	93.8160	9.9000e-003		94.0240
Total	**18.4629**	**0.7283**	**0.6227**	**9.9000e-004**		**0.0578**	**0.0578**		**0.0578**	**0.0578**	**0.0000**	**93.8160**	**93.8160**	**9.9000e-003**		**94.0240**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0639	0.5522	9.6000e-004	0.0858	7.1000e-004	0.0865	0.0228	6.5000e-004	0.0234		75.3336	75.3336	4.6200e-003		75.4306
Total	**0.0402**	**0.0639**	**0.5522**	**9.6000e-004**	**0.0858**	**7.1000e-004**	**0.0865**	**0.0228**	**6.5000e-004**	**0.0234**		**75.3336**	**75.3336**	**4.6200e-003**		**75.4306**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439
Unmitigated	2.1426	4.1600	20.5086	0.0229	1.4548	0.0453	1.5001	0.3892	0.0416	0.4308		1,952.3558	1,952.3558	0.0947		1,954.3439

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	524.35	524.35	524.35	683,005	683,005
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	524.35	524.35	524.35	683,005	683,005

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	10.52	10.52	10.52	33.00	48.00	19.00	21	51	28
Other Asphalt Surfaces	10.52	10.52	10.52	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.401090	0.057402	0.218057	0.159623	0.073713	0.007834	0.014978	0.051818	0.001710	0.001145	0.007524	0.000849	0.004257

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Unmitigated	0.6423	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1900e-003	1.2000e-004	0.0124	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0260	0.0260	7.0000e-005		0.0275
Total	**0.6423**	**1.2000e-004**	**0.0124**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0260**	**0.0260**	**7.0000e-005**		**0.0275**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CalEEMod Output File
Annual Period

Butte Fire Station & Unit Headquarters Replacement Project

Butte County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	66.35	1000sqft	1.52	66,349.00	0
Automobile Care Center	52.44	1000sqft	1.20	52,435.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	71
Climate Zone	3			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - For operational, use Mobile source only. Mobile source based on net change in vehicle trips. As a replacement project, Area and Energy sources are not valid estimates of net change.

Land Use - Building square feet from Project Description. Paved area estimated for CalEEMod.

Construction Phase - Construction schedule per Project Description. Schedule is longer than default. Therefore, equipment use rates are reduced a commensurate amount.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Off-road Equipment -

Off-road Equipment - Hours/Day reduced commensurate with longer-than-default construction schedule.

Demolition - All structures except ECC buildings.

Grading - Per Project Description.

Architectural Coating - Per Butte County AQMD Rule 230, 100 g/l VOC content used.

Vehicle Trips - Project-related change = net increase of 10 trips per day per traffic assessment.

Consumer Products - No area source emissions

Area Coating - Per Butte County AQMD Rule 230, VOC content of 100 g/l used.

Landscape Equipment - No area source emissions.

Energy Use - No operational emissions.

Water And Wastewater - No operational emissions.

Solid Waste - No operational emissoins.

Area Mitigation - Per Butte county AQMD Rule 230, VOC content of 100 g/l used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	280.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	1E-11
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24NG	17.92	0.00
tblGrading	AcresOfGrading	2.50	2.72
tblGrading	AcresOfGrading	3.75	2.72
tblLandscapeEquipment	NumberSummerDays	180	0.01
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblSolidWaste	SolidWasteGenerationRate	200.32	0.00
tblVehicleTrips	ST_TR	62.00	10.00
tblVehicleTrips	SU_TR	62.00	10.00
tblVehicleTrips	WD_TR	62.00	10.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	4,933,613.28	0.00
tblWater	OutdoorWaterUseRate	3,023,827.49	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.3674	2.5315	2.1649	3.3800e-003	0.0943	0.1513	0.2456	0.0276	0.1439	0.1715	0.0000	289.8535	289.8535	0.0482	0.0000	290.8650
2017	0.6883	0.9358	0.8311	1.4000e-003	0.0265	0.0554	0.0819	7.1900e-003	0.0528	0.0600	0.0000	117.9950	117.9950	0.0191	0.0000	118.3963
Total	**1.0557**	**3.4673**	**2.9960**	**4.7800e-003**	**0.1208**	**0.2067**	**0.3275**	**0.0348**	**0.1967**	**0.2314**	**0.0000**	**407.8485**	**407.8485**	**0.0673**	**0.0000**	**409.2613**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.3674	2.5315	2.1649	3.3800e-003	0.0943	0.1513	0.2456	0.0276	0.1439	0.1715	0.0000	289.8533	289.8533	0.0482	0.0000	290.8648
2017	0.6883	0.9358	0.8311	1.4000e-003	0.0265	0.0554	0.0819	7.1900e-003	0.0528	0.0600	0.0000	117.9949	117.9949	0.0191	0.0000	118.3962
Total	**1.0557**	**3.4673**	**2.9960**	**4.7800e-003**	**0.1208**	**0.2067**	**0.3275**	**0.0348**	**0.1967**	**0.2314**	**0.0000**	**407.8482**	**407.8482**	**0.0673**	**0.0000**	**409.2610**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1170	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.3687	0.7195	3.1822	4.2400e-003	0.2538	8.1800e-003	0.2620	0.0681	7.5100e-003	0.0757	0.0000	329.0411	329.0411	0.0156	0.0000	329.3685
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4857**	**0.7195**	**3.1822**	**4.2400e-003**	**0.2538**	**8.1800e-003**	**0.2620**	**0.0681**	**7.5100e-003**	**0.0757**	**0.0000**	**329.0411**	**329.0411**	**0.0156**	**0.0000**	**329.3685**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1170	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.3687	0.7195	3.1822	4.2400e-003	0.2538	8.1800e-003	0.2620	0.0681	7.5100e-003	0.0757	0.0000	329.0411	329.0411	0.0156	0.0000	329.3685
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4857**	**0.7195**	**3.1822**	**4.2400e-003**	**0.2538**	**8.1800e-003**	**0.2620**	**0.0681**	**7.5100e-003**	**0.0757**	**0.0000**	**329.0411**	**329.0411**	**0.0156**	**0.0000**	**329.3685**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/4/2016	5	25	
2	Site Preparation	Site Preparation	2/5/2016	3/3/2016	5	20	
3	Grading	Grading	3/4/2016	3/31/2016	5	20	
4	Building Construction	Building Construction	4/1/2016	4/27/2017	5	280	
5	Paving	Paving	4/28/2017	5/11/2017	5	10	
6	Architectural Coating	Architectural Coating	5/12/2017	6/22/2017	5	30	

Acres of Grading (Site Preparation Phase): 2.72

Acres of Grading (Grading Phase): 2.72

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 178,176; Non-Residential Outdoor: 59,392 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Site Preparation	Graders	1	1.00	174	0.41
Site Preparation	Scrapers	1	1.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Graders	1	2.00	174	0.41
Grading	Rubber Tired Dozers	1	2.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Building Construction	Welders	3	6.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	2.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	137.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	45.00	19.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	12.54	10.52	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0273	0.2649	0.2015	2.3000e-004		0.0164	0.0164		0.0153	0.0153	0.0000	21.1527	21.1527	5.3500e-003	0.0000	21.2650
Total	**0.0273**	**0.2649**	**0.2015**	**2.3000e-004**	**0.0148**	**0.0164**	**0.0311**	**2.2400e-003**	**0.0153**	**0.0176**	**0.0000**	**21.1527**	**21.1527**	**5.3500e-003**	**0.0000**	**21.2650**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3800e-003	0.0182	0.0157	5.0000e-005	1.1500e-003	2.8000e-004	1.4300e-003	3.2000e-004	2.5000e-004	5.7000e-004	0.0000	4.6665	4.6665	3.0000e-005	0.0000	4.6672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.1900e-003	0.0114	2.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3287	1.3287	9.0000e-005	0.0000	1.3305
Total	**2.2300e-003**	**0.0194**	**0.0271**	**7.0000e-005**	**2.6300e-003**	**2.9000e-004**	**2.9300e-003**	**7.1000e-004**	**2.6000e-004**	**9.8000e-004**	**0.0000**	**5.9952**	**5.9952**	**1.2000e-004**	**0.0000**	**5.9977**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0273	0.2649	0.2015	2.3000e-004		0.0164	0.0164		0.0153	0.0153	0.0000	21.1527	21.1527	5.3500e-003	0.0000	21.2650
Total	**0.0273**	**0.2649**	**0.2015**	**2.3000e-004**	**0.0148**	**0.0164**	**0.0311**	**2.2400e-003**	**0.0153**	**0.0176**	**0.0000**	**21.1527**	**21.1527**	**5.3500e-003**	**0.0000**	**21.2650**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3800e-003	0.0182	0.0157	5.0000e-005	1.1500e-003	2.8000e-004	1.4300e-003	3.2000e-004	2.5000e-004	5.7000e-004	0.0000	4.6665	4.6665	3.0000e-005	0.0000	4.6672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	1.1900e-003	0.0114	2.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.3287	1.3287	9.0000e-005	0.0000	1.3305
Total	**2.2300e-003**	**0.0194**	**0.0271**	**7.0000e-005**	**2.6300e-003**	**2.9000e-004**	**2.9300e-003**	**7.1000e-004**	**2.6000e-004**	**9.8000e-004**	**0.0000**	**5.9952**	**5.9952**	**1.2000e-004**	**0.0000**	**5.9977**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4400e-003	0.0000	1.4400e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4300e-003	0.0390	0.0230	3.0000e-005		1.9300e-003	1.9300e-003		1.7700e-003	1.7700e-003	0.0000	2.8583	2.8583	8.6000e-004	0.0000	2.8764
Total	**3.4300e-003**	**0.0390**	**0.0230**	**3.0000e-005**	**1.4400e-003**	**1.9300e-003**	**3.3700e-003**	**1.6000e-004**	**1.7700e-003**	**1.9300e-003**	**0.0000**	**2.8583**	**2.8583**	**8.6000e-004**	**0.0000**	**2.8764**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	5.8000e-004	5.6100e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.4000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6541	0.6541	4.0000e-005	0.0000	0.6550
Total	**4.2000e-004**	**5.8000e-004**	**5.6100e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6541**	**0.6541**	**4.0000e-005**	**0.0000**	**0.6550**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4400e-003	0.0000	1.4400e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4300e-003	0.0390	0.0230	3.0000e-005		1.9300e-003	1.9300e-003		1.7700e-003	1.7700e-003	0.0000	2.8583	2.8583	8.6000e-004	0.0000	2.8764
Total	**3.4300e-003**	**0.0390**	**0.0230**	**3.0000e-005**	**1.4400e-003**	**1.9300e-003**	**3.3700e-003**	**1.6000e-004**	**1.7700e-003**	**1.9300e-003**	**0.0000**	**2.8583**	**2.8583**	**8.6000e-004**	**0.0000**	**2.8764**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	5.8000e-004	5.6100e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.4000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6541	0.6541	4.0000e-005	0.0000	0.6550
Total	**4.2000e-004**	**5.8000e-004**	**5.6100e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6541**	**0.6541**	**4.0000e-005**	**0.0000**	**0.6550**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0165	0.0000	0.0165	8.4300e-003	0.0000	8.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3500e-003	0.0769	0.0506	5.0000e-005		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	5.0353	5.0353	1.5200e-003	0.0000	5.0672
Total	**7.3500e-003**	**0.0769**	**0.0506**	**5.0000e-005**	**0.0165**	**4.3200e-003**	**0.0208**	**8.4300e-003**	**3.9800e-003**	**0.0124**	**0.0000**	**5.0353**	**5.0353**	**1.5200e-003**	**0.0000**	**5.0672**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	7.3000e-004	7.0200e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8176	0.8176	5.0000e-005	0.0000	0.8187
Total	**5.2000e-004**	**7.3000e-004**	**7.0200e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8176**	**0.8176**	**5.0000e-005**	**0.0000**	**0.8187**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0165	0.0000	0.0165	8.4300e-003	0.0000	8.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3500e-003	0.0769	0.0506	5.0000e-005		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	5.0353	5.0353	1.5200e-003	0.0000	5.0672
Total	**7.3500e-003**	**0.0769**	**0.0506**	**5.0000e-005**	**0.0165**	**4.3200e-003**	**0.0208**	**8.4300e-003**	**3.9800e-003**	**0.0124**	**0.0000**	**5.0353**	**5.0353**	**1.5200e-003**	**0.0000**	**5.0672**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	7.3000e-004	7.0200e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8176	0.8176	5.0000e-005	0.0000	0.8187
Total	**5.2000e-004**	**7.3000e-004**	**7.0200e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8176**	**0.8176**	**5.0000e-005**	**0.0000**	**0.8187**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2781	1.8663	1.2667	1.8800e-003		0.1240	0.1240		0.1186	0.1186	0.0000	161.2861	161.2861	0.0375	0.0000	162.0732
Total	**0.2781**	**1.8663**	**1.2667**	**1.8800e-003**		**0.1240**	**0.1240**		**0.1186**	**0.1186**	**0.0000**	**161.2861**	**161.2861**	**0.0375**	**0.0000**	**162.0732**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.2315	0.2740	6.2000e-004	0.0171	3.9400e-003	0.0210	4.8700e-003	3.6200e-003	8.4900e-003	0.0000	55.9964	55.9964	4.2000e-004	0.0000	56.0053
Worker	0.0231	0.0322	0.3094	4.9000e-004	0.0403	3.8000e-004	0.0407	0.0107	3.4000e-004	0.0111	0.0000	36.0578	36.0578	2.3200e-003	0.0000	36.1066
Total	**0.0481**	**0.2637**	**0.5835**	**1.1100e-003**	**0.0573**	**4.3200e-003**	**0.0616**	**0.0156**	**3.9600e-003**	**0.0196**	**0.0000**	**92.0542**	**92.0542**	**2.7400e-003**	**0.0000**	**92.1119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2781	1.8663	1.2667	1.8800e-003		0.1240	0.1240		0.1186	0.1186	0.0000	161.2859	161.2859	0.0375	0.0000	162.0730
Total	**0.2781**	**1.8663**	**1.2667**	**1.8800e-003**		**0.1240**	**0.1240**		**0.1186**	**0.1186**	**0.0000**	**161.2859**	**161.2859**	**0.0375**	**0.0000**	**162.0730**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.2315	0.2740	6.2000e-004	0.0171	3.9400e-003	0.0210	4.8700e-003	3.6200e-003	8.4900e-003	0.0000	55.9964	55.9964	4.2000e-004	0.0000	56.0053
Worker	0.0231	0.0322	0.3094	4.9000e-004	0.0403	3.8000e-004	0.0407	0.0107	3.4000e-004	0.0111	0.0000	36.0578	36.0578	2.3200e-003	0.0000	36.1066
Total	**0.0481**	**0.2637**	**0.5835**	**1.1100e-003**	**0.0573**	**4.3200e-003**	**0.0616**	**0.0156**	**3.9600e-003**	**0.0196**	**0.0000**	**92.0542**	**92.0542**	**2.7400e-003**	**0.0000**	**92.1119**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1073	0.7424	0.5280	8.0000e-004		0.0478	0.0478		0.0457	0.0457	0.0000	68.5956	68.5956	0.0154	0.0000	68.9191
Total	**0.1073**	**0.7424**	**0.5280**	**8.0000e-004**		**0.0478**	**0.0478**		**0.0457**	**0.0457**	**0.0000**	**68.5956**	**68.5956**	**0.0154**	**0.0000**	**68.9191**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4000e-003	0.0869	0.1080	2.6000e-004	7.3100e-003	1.4200e-003	8.7300e-003	2.0900e-003	1.3100e-003	3.3900e-003	0.0000	23.5800	23.5800	1.7000e-004	0.0000	23.5835
Worker	8.2300e-003	0.0120	0.1130	2.1000e-004	0.0173	1.5000e-004	0.0174	4.5900e-003	1.4000e-004	4.7300e-003	0.0000	14.8323	14.8323	8.8000e-004	0.0000	14.8507
Total	**0.0176**	**0.0989**	**0.2210**	**4.7000e-004**	**0.0246**	**1.5700e-003**	**0.0261**	**6.6800e-003**	**1.4500e-003**	**8.1200e-003**	**0.0000**	**38.4123**	**38.4123**	**1.0500e-003**	**0.0000**	**38.4343**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1073	0.7424	0.5280	8.0000e-004		0.0478	0.0478		0.0457	0.0457	0.0000	68.5956	68.5956	0.0154	0.0000	68.9190
Total	**0.1073**	**0.7424**	**0.5280**	**8.0000e-004**		**0.0478**	**0.0478**		**0.0457**	**0.0457**	**0.0000**	**68.5956**	**68.5956**	**0.0154**	**0.0000**	**68.9190**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4000e-003	0.0869	0.1080	2.6000e-004	7.3100e-003	1.4200e-003	8.7300e-003	2.0900e-003	1.3100e-003	3.3900e-003	0.0000	23.5800	23.5800	1.7000e-004	0.0000	23.5835
Worker	8.2300e-003	0.0120	0.1130	2.1000e-004	0.0173	1.5000e-004	0.0174	4.5900e-003	1.4000e-004	4.7300e-003	0.0000	14.8323	14.8323	8.8000e-004	0.0000	14.8507
Total	**0.0176**	**0.0989**	**0.2210**	**4.7000e-004**	**0.0246**	**1.5700e-003**	**0.0261**	**6.6800e-003**	**1.4500e-003**	**8.1200e-003**	**0.0000**	**38.4123**	**38.4123**	**1.0500e-003**	**0.0000**	**38.4343**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.0823	0.0603	9.0000e-005		5.1100e-003	5.1100e-003		4.7100e-003	4.7100e-003	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	1.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0102**	**0.0823**	**0.0603**	**9.0000e-005**		**5.1100e-003**	**5.1100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.7000e-004	4.4800e-003	1.0000e-005	6.9000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.5886	0.5886	3.0000e-005	0.0000	0.5893
Total	**3.3000e-004**	**4.7000e-004**	**4.4800e-003**	**1.0000e-005**	**6.9000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.5886**	**0.5886**	**3.0000e-005**	**0.0000**	**0.5893**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.0823	0.0603	9.0000e-005		5.1100e-003	5.1100e-003		4.7100e-003	4.7100e-003	0.0000	8.0625	8.0625	2.4200e-003	0.0000	8.1134
Paving	1.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0102**	**0.0823**	**0.0603**	**9.0000e-005**		**5.1100e-003**	**5.1100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**8.0625**	**8.0625**	**2.4200e-003**	**0.0000**	**8.1134**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.7000e-004	4.4800e-003	1.0000e-005	6.9000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.5886	0.5886	3.0000e-005	0.0000	0.5893
Total	**3.3000e-004**	**4.7000e-004**	**4.4800e-003**	**1.0000e-005**	**6.9000e-004**	**1.0000e-005**	**6.9000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.5886**	**0.5886**	**3.0000e-005**	**0.0000**	**0.5893**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.5522**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	8.5000e-004	8.0700e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0595	1.0595	6.0000e-005	0.0000	1.0608
Total	**5.9000e-004**	**8.5000e-004**	**8.0700e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0595**	**1.0595**	**6.0000e-005**	**0.0000**	**1.0608**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5506					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.5522**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	8.5000e-004	8.0700e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0595	1.0595	6.0000e-005	0.0000	1.0608
Total	**5.9000e-004**	**8.5000e-004**	**8.0700e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0595**	**1.0595**	**6.0000e-005**	**0.0000**	**1.0608**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3687	0.7195	3.1822	4.2400e-003	0.2538	8.1800e-003	0.2620	0.0681	7.5100e-003	0.0757	0.0000	329.0411	329.0411	0.0156	0.0000	329.3685
Unmitigated	0.3687	0.7195	3.1822	4.2400e-003	0.2538	8.1800e-003	0.2620	0.0681	7.5100e-003	0.0757	0.0000	329.0411	329.0411	0.0156	0.0000	329.3685

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	524.35	524.35	524.35	683,005	683,005
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	524.35	524.35	524.35	683,005	683,005

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	10.52	10.52	10.52	33.00	48.00	19.00	21	51	28
Other Asphalt Surfaces	10.52	10.52	10.52	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.401090	0.057402	0.218057	0.159623	0.073713	0.007834	0.014978	0.051818	0.001710	0.001145	0.007524	0.000849	0.004257

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1170	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.1170	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1170**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1170					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1170**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX C

Biological Resources Assessment, ECORP Consulting, Inc., September 3, 2014.

Biological Resources Assessment

Butte Fire Station and Unit Headquarters Replacement Project

Butte County, California

Prepared For:

State of California-Real Estate Services Division

September 3, 2014

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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1.0 INTRODUCTION

At the request of the State of California-Real Estate Services Division (RESD), ECORP Consulting, Inc. (ECORP) has conducted a biological resource assessment for the Butte Fire Station and Unit Headquarters Replacement Project (Butte FS and UHQ), in Butte County, California. The 4.6±-acre Property includes an administrative building, a mess hall, barracks, warehouse, auto shop, a storage building, fuel tanks, a garage, parking areas, and other associated facilities. The Property is located in northern Oroville, California. The purpose of the assessment was to collect information on the biological resources present within the Property and to determine any potential biological constraints to site construction.

California Department of Forestry and Fire Protection (CAL FIRE) is proposing to replace all facilities associated with Butte FS and UHQ, except for the Emergency Command Center (ECC) buildings and ECC tower. The Butte FS and UHQ was constructed over a period of several decades, starting in 1937, with primary construction occurring in the early 1960s. The initial complex consisted of only two buildings: the main equipment garage and office building and the equipment maintenance building. Initial construction began in 1937 and continued until 1940. After the initial construction period, additional construction continued in the 1950s and 1960s. In the 1960s, a major shift in the facilities use occurred, as the property was transformed from solely a vehicle repair and storage facility to the Butte FS and UHQ. All facilities were built by 1994, with the exception of the ECC buildings, which were built sometime after 1994. In addition, the majority of the buildings within the complex were renovated in the 1980s.

1.1 Property Location

The Butte FS and UHQ is located north of Nelson Avenue, east of County Center Drive, west of Del Oro Avenue, and south of Mono Avenue (Figure 1. *RESD Butte Fire Station Location and Vicinity*). The site corresponds to Section 7, Township 19 North, and Range 4 East of the "Oroville, California" 7.5-minute quadrangle (USGS 1970). The center of the Butte FS and UHQ complex is located approximately at 39° 31' 29" and -121° 34' 09" within the Honcut Headwaters-Lower Feather Watershed (Hydrologic Unit Code [HUC] #18020159 [USGS 1978]).

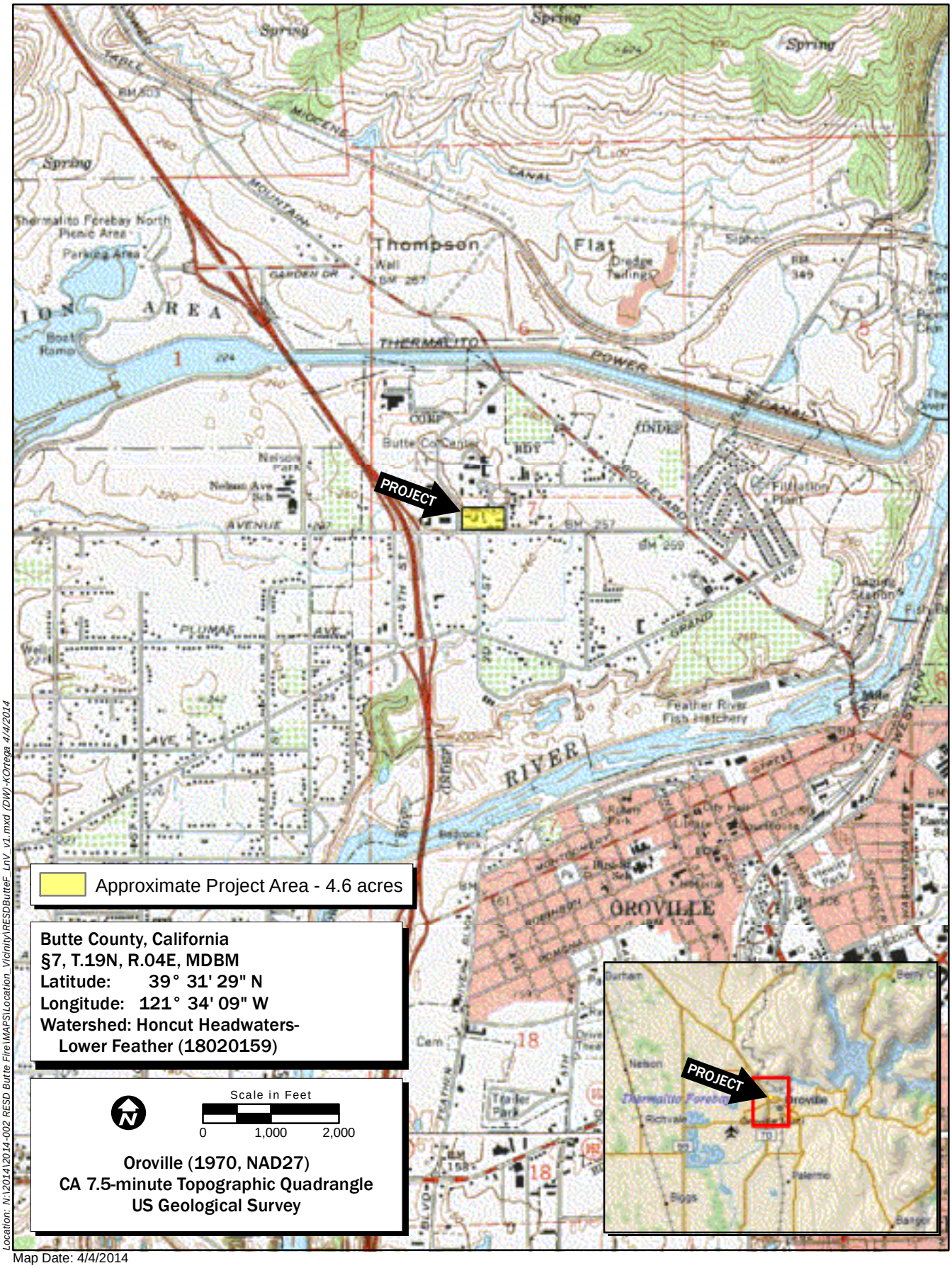
1.2 Project Description

The following are the objectives for the Proposed Project:

- Replace the existing Butte FS and UHQ with a new facility to better provide fire protection needs to the local area and region; and
- Continue to improve and maintain high quality firefighting equipment, apparatus, and facilities for CAL FIRE's statewide fire protection system.

1.2.1 Demolition of Existing Butte Fire Station and Unit Headquarters

Site demolition would include all buildings on-site except for the two ECC buildings and the ECC tower located in the northeast corner of the Project site. In addition to building demolition, the existing hose rack, fuel tanks and propane tanks, all existing utilities and appurtenances including water distribution lines, sewer lines, and gas lines, and existing concrete retaining walls, asphalt concrete paving and concrete sidewalks would be removed. A utility pole located on the eastern boundary would also be



Location: N:\2014\2014-002 RESD Butte Fire\MAPS\Location_Vicinity\RESDButteF_LnV_v1.mxd (DW)-KOrtega 4/4/2014

Map Date: 4/4/2014
Service Layer Credits: Copyright:© 2013 DeLorme

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Figure 1. Project Location and Vicinity *2014-002*

Butte Fire Station and Unit Headquarters Replacement Project

relocated. Lastly, clearing, grubbing, and tree removal would occur as required within the limits of the Project site.

1.2.2 New Butte Fire Station and Unit Headquarters

The Proposed Project would construct a new fire station and unit administrative headquarters complex. Construction of new facilities would include: administrative building, three-bay fire apparatus building, 20-bed barracks/mess hall, warehouse/service center, two-bay dozer shed, auto shop, covered vehicle wash rack with filtration system, maintenance support building, physical fitness building, a generator/storage building, a fire pump test pit and several other site improvements

The administrative building would be approximately 10,130 square feet and would be located near the center of the Project site, just east of the proposed central entrance/exit off Nelson Avenue. The administrative building would be adjacent to the warehouse/service center on the west and the barracks/apparatus bay on the east. Covered parking spaces for the administration building would be located south of the building. Additional parking spaces and hose racks would be located north of the administrative building.

The three-bay fire apparatus building and 20-bed barracks/mess hall would be connected to each other and located in the southeastern corner of the Project site. The building would be approximately 8,687 square feet and shaped as a “T.” The barracks portion of the building would be parallel to the southern site boundary and the apparatus bay portion of the building would be parallel to the western site boundary. The mess hall would separate the barracks portion from the apparatus portion and contain a fully equipped kitchen. The barracks would have individual bathrooms and a laundry room and would sleep a maximum of 20 people. The three bays located in the fire apparatus portion of the building would open on both sides of the building (east and west) and would be accessible directly from the proposed entrance/exit off Del Oro Avenue. The building would be equipped with an air compressor, a tailpipe-connected diesel exhaust extractor system and building mounted exterior flood lighting to allow for work after hours outside the apparatus bays. Floor drains would be provided and routed through a sand/oil interceptor before connecting to the sewer system. Parking for the building would be located between this building and the administrative building, with a few spaces located adjacent to the proposed entrance/exit off Del Oro Avenue. A radio tower would be located adjacent to the apparatus bay, just north of the parking spaces on the west side of the building.

The fitness building would be approximately 1,160 square feet. The building would be located adjacent to the administrative building’s covered parking area, south of the barracks along the southern site boundary. The warehouse/service center would be approximately 12,234 square feet and would be located to the west of the administrative building in the southwestern portion of the Project site. The building would be serviceable by a full-length 18-wheeler truck and would be climate controlled with evaporate coolers. A separate HVAC would be provided for the offices/separate room within the warehouse and the building would be equipped with pallet rack storage. A fuel island and water tank would be located north of the warehouse/service center.

The auto shop would be approximately 14,928 square feet and would be located north of the warehouse/service center in the northwestern portion of the Project site. The auto shop would have three pull through bays and one bay for the dozer. The auto shop would be equipped with lifts, storage for batteries and gasoline and a welding room with a hood and have building mounted exterior flood lighting for after-hours work.

The maintenance support building would be approximately 2,500 square feet and would be located adjacent to and east of the auto shop. The building would be equipped with ready rack turnout gear storage racks, commercial clothes washer/extractor and commercial gas clothes dryer. The building would also have two one-way vehicle bays. The generator/storage building would be approximately 534 square feet and would be located east of the maintenance/support building. A propane tank would separate the two buildings. The building would store two parallel 150 kilowatt (KW) propane emergency power generators (120/208 Volts (V), 3-phase) set up as a 300KW emergency back-up source. In addition, the building would also store hazardous wastes such as gasoline, fuel and paint thinners.

The covered vehicle wash rack would be approximately 302 square feet and would be located west of the auto shop. The single bay vehicle wash rack would be covered with metal roofing panels, have building mounted exterior flood light for after-hours work and be equipped with a high pressure water cleaning system and advanced bio remediation wastewater treatment filtration system. The filtration system fully treats the water for a 100% water treatment system. Therefore, the vehicle wash rack would have minimal water demand and no waste water would be released from the system. A proposed future driveway with access to the Butte County-owned land to the north and two parking spaces would be adjacent to the vehicle wash rack on the west.

The two-bay dozer shed would be approximately 1,990 square feet and would be located just south of the ECC tower in the northeastern portion of the Project site. The dozer shed would be equipped with air compressor, a tailpipe-connected diesel exhaust extraction system and building mounted exterior flood lighting for after-hours work. Three parking spaces would be located just north between the dozer shed and the generator/storage building, and one parking space would be located on the south side of the building.

1.2.3 Other Site Improvements

A six-foot high chain link fence with barbed wire would be installed around portions of the perimeter, with sliding auto gates at all entrances/exits. A free-standing fuel island would be located north of the warehouse/service center and would contain an 8,000-gallon tank, split for 4,000 gallons of diesel and 4,000 gallons of unleaded gasoline, and one 500-gallon, above-ground tank for E-85 ethanol. A 10,000-gallon, three-chambered fire pump test pit would be located in the northwestern portion of the site in between the vehicle wash rack and the auto shop. A 60-foot long hose rack would be installed north of the administrative building and a new foundation for a radio tower would be located adjacent to the apparatus bay on the west. Other site improvements would include new landscaping and irrigation, pole-mounted site lighting and signage.

1.2.4 Utilities

New domestic and fire water distribution systems would be installed from the existing public systems in Nelson Avenue. Domestic and fire water connections are required for each building, and fire hydrants would be spaced throughout the Project site. Water service would be provided by Cal Water. New wastewater collection systems would be installed from the existing public systems in Nelson Avenue. Sewer service would be required for each building and would be provided by the City of Oroville. A new storm water collection system would be installed. The system would include an underground storm drain, drain inlets, drains connecting to building and downspouts, and a connection to the existing drainage system provided by the City of Oroville.

New underground electrical and telephone distribution systems would be installed in Nelson Avenue. The electrical systems would be extended from the new main switchboard at the generator/storage building to each building. Electricity service would be provided by Pacific Gas and Electric (PG&E). Telephone systems would originate at the new minimum point of entry at the administrative building and would connect to each building. Telephone service would be provided by American Telegraph and Telephone Company (AT&T). In addition, new underground raceways for electrical, lighting controls, security, fire alarm, and telephone/data systems would be installed. A new propane tank for the emergency generator and a new natural gas distribution system from the public utility located in Nelson Avenue would also be installed. Natural gas service would be provided by PG&E.

1.2.5 Grading and Paving

The site would first have a rough grade to level areas for the buildings, paving, and flatwork. New concrete paving for access drives and parking areas would be installed. New curbs, gutters, and sidewalks would be installed throughout the site and along Nelson Avenue and Del Oro Avenue. Five new retaining walls would be installed throughout the site. The first would be along the southern boundary of the site between the two entrances/exits off Nelson Avenue, the second would also be along the southern boundary from the central entrance/exit to the barracks, the third along the north side of the warehouse/service center and the administrative building, the fourth along the south side of the ECC Tower and ECC Buildings, and the fifth along the northern boundary from the vehicle wash rack to the generator/storage building. In addition, several temporary and permanent erosion control and sediment control measures would be installed throughout the site.

1.3 Biological Setting

The Butte FS and UHQ is in the northeastern part of the Sacramento Valley California Floristic Province (Baldwin et al. 2012). This is the wetter and cooler area of California's Great Central Valley, and the area is generally characterized by grasslands, marshes, vernal pools, riparian woodlands, and valley oak (*Quercus lobata*) woodlands. The area features a Mediterranean climate with cool, wet winters and hot, dry summers (Orme 2002). The average elevation of the site is 290 feet above mean sea level, and non-developed lands in the region tend to be grassland/vernal pool complexes and oak (*Quercus*) woodland/savannah. The Feather River is located approximately 0.75 mile south of the site, and the Thermolito Diversion Canal is located approximately 0.4 mile north. South Table Mountain, a scenic mesa of volcanic origin, is located approximately 1.6 miles north of the site. Annual precipitation in the area is 28.7 inches (as rainfall) (Western Regional Climate Center 2014). The average minimum temperature is 48.6°F, with December and January as the coldest months. Average maximum temperature is 75.2°F, with July and August being the hottest.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such

conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3. Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

2.2 State Regulations

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of FESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless

otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The CESA of 1984 (Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

2.2.4 California Streambed Alteration Notification/Agreement

Section 1602 of the Fish and Game Code requires that a Streambed Alteration Application (SAA) be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the SAA. Often, projects that require a SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

2.2.5 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.3 Local Regulations

2.3.1 City of Oroville General Plan 2030

The City or Oroville General Plan represents values, ideals and aspirations that will govern Oroville through 2030. It addresses land use, community character, circulation and transportation, open space, natural resources and conservation, public facilities and services, safety and noise, and is designed to be comprehensive, internally consistent, and to provide long-term guidance for the community. The conservation element addresses the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits.

2.3.2 Butte County General Plan 2030

The Butte County General Plan 2030 combines a conservation element and an open space element into a single conservation plan that addresses their similar concerns. The element addresses conservation, development and utilization of natural resources, including forests, soils, rivers and other waters, fisheries, wildlife, minerals, water, and hydrology. The Government Code also identifies a series of six types of open space that must be addressed in the General Plan, including preservation, managed production of resources, outdoor recreation and scenic resources, public health and safety, military, and Native American Sacred sites.

2.3.3 Butte Regional Conservation Plan

Butte County is currently in the planning phase of Butte Regional Conservation Plan (BRCP), a joint Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) that would establish an organized system for permitting and mitigating the incidental take of threatened and endangered species in the Planning area (BRCP 2011; CDFW 2014a). The Proposed Project is located in the City of Oroville which is situated within an Urban Permit Area boundary (UPA) designated by the BRCP (BRCP 2012).

2.3.4 City of Oroville Municipal Code Tree Preservation

The City of Oroville Municipal Code (Section 26-16.060) defines protected trees as any tree on public property, or any tree on private property with a trunk diameter of at least 24 inches and 54 inches above grade. A permit is generally required for removal of protected trees unless personal injury or property damage is threatened.

3.0 METHODS

ECORP conducted a biological reconnaissance of the site on 12 March 2014. Prior to the site visit, CDFW's California Natural Diversity Database (CNDDB) (CDFW 2014b) and California Native Plant Society Electronic Inventory (CNPS 2014) were queried to determine special-status species documented within the five-mile radius surrounding the site. Additional data regarding the potential occurrence of special-status species were gathered from the Calflora online website and a project-specific USFWS species list. Soil types were determined using the United States Department of Agriculture National Resource Conservation Service Web Soil Survey (NRCS 2014).

3.1 Special-Status Species

Using information from the CNDDB, the literature review, and observations in the field, a list of special-status plant and animal species that have the potential to occur on the site was generated (Table 1. *Special-Status Species*). Each of these species was assessed for their potential to occur on-site based on the following criteria guidelines:

- **Present** - Species was observed during the site visit or is known to occur within the project boundary based on documented occurrences within the CNDDB.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the project boundary.
- **Low Potential to Occur -** Marginal or limited habitat occurs and/or the species is not known to occur in the vicinity based on CNDDB records and other documentation.
- **Absent** - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.

Table 1. Special-Status Species

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to Occur On-site
Plants							
Depauperate milk-vetch	*Astragalus pauperculus*	--	--	4	Found in vernally mesic, volcanic areas in chaparral, cismontane woodland, and valley and foothill grassland (197 - 3,986 feet)	March-June	Absent
Mexican mosquito fern	*Azolla microphylla*	--	--	4	An annual/perennial herb that covers marshes and seasonal wetlands (98 – 328 feet)	August	Absent
Big-scale balsamroot	*Balsamorhiza macrolepis var. macrolepis*			1B	Usually found on serpentine soils, in chaparral, cismontane woodland, and valley and foothill grassland from 295 to 5,102 feet	March - June	Absent
Sierra Foothills brodiaea	*Brodiaea sierrae*	--	--	4	Usually occurs on serpentine or gabbro soils in chaparral or cismontane woodland 150 – 2,835 feet	May - August	Absent
Thread-leaved beakseed	*Bulbostylis capillaris*	--	--	4	Occurs in montane coniferous forest, meadows and seeps 1,185 - 6,225 feet	June - August	Absent
Butte County calycadenia	*Calycadenia oppositifolia*	--	--	4	Found in sunny openings on volcanic, granitic or serpentine soils in chaparral, cismontane woodland and valley and foothill grasslands from 270 – 2,835 feet	April - July	Absent
Pink creamsacs	*Castilleja rubicundula var. rubicundula*	--	--	1B	Found on serpentine soils in cismontane woodland, openings in chaparral, meadows and seeps, and valley and foothill grassland (66 - 2,986 feet)	April-June	Absent
Brandegee's clarkia	*Clarkia biloba ssp. brandegeeae*	--	--	4	Found in chaparral and cismontane woodland, lower montane coniferous forest often on roadcuts (246 - 3,002 feet)	May-July	Absent
Recurved larkspur	*Delphinium recurvatum*			1B	A species of chenopod scrub, cismontane woodland, valley and foothill grassland from sea level to 3 – 2,370 feet	March - June	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to Occur On-site
Adobe lily	*Fritillaria pluriflora*			1B	Often found on adobe soils in chaparral, cismontane woodland, and valley and foothill grassland from 180 – 2,115 feet	February - April	Absent
Wooly rose-mallow	*Hibiscus lasiocarpos var. occidentalis*	--	--	1B	Found in freshwater marshes and swamps (0 – 394 feet)	June-September	Absent
Ahart's dwarf rush	*Juncus leiospermus*			1B	Found in mesic depressions in valley and foothill grasslands from 90 - 690 feet	March - May	Absent
Red Bluff dwarf rush	*Juncus leiospermus var. leiospermus*	--	--	1B	Found in vernally mesic areas in chaparral, cismontane woodland, valley and foothill grassland, meadows and seeps, and vernal pools (115 - 3,346 feet)	March-May	Absent
Humboldt lily	*Lilium humboldtii ssp. humboldtii*	--	--	4	Found in sunny openings in chaparral, cismontane woodland, and lower montane coniferous forest 270 to 3,840 feet	May - July	Absent
Butte County meadowfoam	*Limnanthes floccosa ssp. californica*	FE	CE	1B	Found in mesic areas in valley and foothill grassland and vernal pools (151 - 3,051 feet)	March-May	Absent
Ahart's Paronychia	*Paronychia ahartii*	--	--	1B	Found in cismontane woodland, valley and foothill grassland, and vernal pools (98 - 1,673 feet)	February-June	Absent
Sanford's arrowhead	*Sagittaria sanfordii*			1B	Occurs in shallow freshwater marshes and swamps from sea level to 0 – 1,950 feet	May - October	Absent
Butte County golden clover	*Trifolium jokerstii*	--	--	1B	Found in vernal pools in valley and foothill grasslands from 150 to– 1,155 feet	March - May	Absent
Greene's tuctoria	*Tuctoria greenei*	FE	CR	1B	Found in vernal pools from 90 – 3,000 feet	May - September	Absent
Invertebrates							
Vernal pool fairy shrimp	*Branchinecta lynchii*	FT	--	--	Found in vernal pools/wetlands	November-April	Absent
Vernal pool tadpole shrimp	*Lepidurus packardii*	FE	--	--	Found in vernal pools/wetlands	November-April	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to Occur On-site
California linderiella	*Linderiella occidentalis*	--	--	CNDDB	Found in vernal pools/wetlands	November-April	Absent
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT, FPD	--	--	Exclusively uses elderberry shrubs (*Sambucus* sp.) for larval life stages	Any time	Absent
Fish							
Chinook salmon-Central Valley spring-run ESU	*Oncorhynchus tshawytscha*	FT	CT	--	Annual migration in undammed rivers, streams, creeks		Absent
Reptiles							
Western pond turtle	*Actinemys marmorata*	--	--	CSC	The only extant freshwater turtle in California. Uses ponds, streams, detention basins, and irrigation ditches.	April-October	Absent
Giant garter snake	*Thamnophis gigas*	FT	CT	--	A large, aquatic snake of freshwater ditches, sloughs, and marshes in the Central Valley. Almost extinct from the southern parts of its range.	April-Oct	Absent
Birds							
Great blue heron	*Ardea herodias*	--	--	CNDDB	rookery sites occur in large trees in marshes and riparian areas	February - July	Absent
Bald eagle	*Haliaeetus leucocephalus*	Fd	CE (rev)	CFP	Found near lakes and reservoirs with woodlands nearby nests	(February-July); winters in the Central Valley (October-March)	Absent
California black rail	*Laterallus jamaicensis coturniculus*	--	CT	BCC, CFP	Found in freshwater and brackish marsh with extensive tules (Shoenoplectus sp.)	March - July	Absent
Loggerhead shrike	*Lanius ludovicianus*	--	--	BCC, CSC	Found in open grassland and sparse woodlands away from human habitation	March - July	Absent
Yellow warbler	*Dendroica petechia*	--	--	CSC	A species of dense and shrubby riparian areas.	April - July	Absent
Tricolored Blackbird	*Agelaius tricolor*	--	--	BCC, CSC	Forms extensive colonies in freshwater marshes and mesic grasslands	April - June	Absent
White-tailed kite (nesting)	*Elanus leucurus*	--	--	CFP	Nests in large trees in woodlands and grasslands	March-June	Low Potential to Occur
Northern harrier (nesting)	*Circus cyaneus*	--	--	CSC	A ground nester in marshes and grasslands	April-September	Absent

Common Name	Scientific Name	Federal ESA Status	California ESA Status	Other Status	Habitat Description	Approximate Survey Dates	Potential to Occur On-site
Burrowing owl (burrow sites)	*Athene cunicularia*	-	-	BCC, CSC	Found in open grassland-nests on the ground in ground squirrel (*Otospermophilus beecheyi*) burrows	March-August	Absent
Cooper's hawk (nesting)	*Accipiter cooperii*	-	-	CNDDB	Nests in woodlands	April-July	Potential to Occur
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	BCC	Nests in large trees overlooking grasslands and riparian areas	March-August	Low Potential to Occur
Nuttall's woodpecker	*Picoides nuttallii*			BCC	Found in chaparral, wooded canyons, riparian areas with oaks	March-August	Present-observed on-site but breeding habitat probably lacking
Yellow-billed magpie	*Pica nuttalli*			BCC	Found in oak woodland, riparian areas	February-July	Potential to Occur
Oak titmouse	*Baeolophus inornatus*			BCC	Found in oak woodland, riparian areas	March-July	Potential to Occur
Lark sparrow (nesting)	*Chondestes grammacus*	-	-	CNDDB	Found in oak woodland, riparian areas	year round res. (nests April-May)	Low Potential to Occur
Mammals							
Western mastiff bat	*Eumops perotis californicus*			CSC	Uses mines, rocky ledges, structures, vertical cliff faces, and exfoliating rock-forms small colonies	April-September	Low Potential to Occur
Silver-haired bat	*Lasionycteris noctivagans*			CNDDB	Roosts in hollow trees, snags, and under bark	April-September	Low Potential to Occur

Status Codes:

FE	Federal ESA listed, Endangered.	CT	California ESA or Native Plant Protection Act listed, Threatened.
FT	Federal ESA listed, Threatened.	CFP	Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
Fd	Formally Delisted (delisted species are monitored for 5 years).	CSC	California Department of Fish and Game Species of Special Concern (CDFG, updated August 2004).
FPD	Listed under Federal ESA, but formally proposed for delisting.	1B	California Rare Plant Rank/Rare or Endangered in California and elsewhere.
BCC	U. S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2008)	4	California Rare Plant Rank/Plants of Limited Distribution - A Watch List.
CE	California ESA or Native Plant Protection Act listed, Endangered.	CNDDB	Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

Potential Occurrence Codes:

Present - Species was observed during the site visit or is known to occur within the project boundary based on documented occurrences within the CNDDB.

Potential to Occur - Habitat (including soils and elevation requirements) for the species occurs within the project boundary.

Low Potential - Marginal or limited amounts of habitat occurs and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.

Absent - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.

4.0 RESULTS

The biological field reconnaissance was conducted by ECORP biologist Eric Stitt on 12 March 2014. Conditions were ideal for the survey: the temperature was 64°F, a gentle breeze (2-4 mph) was blowing, skies were cloudless, and significant precipitation had occurred within the last two days. Drought conditions were in effect, with the area receiving significantly less than average rainfall in the months leading up to the survey. Representative site photos are shown in Attachment A.

4.1 Site Characteristics and Land Use

The Butte FS and UHQ is comprised of an urban lot with numerous buildings, paved roads, parking areas, lawns, ornamental trees and shrubs, and sidewalks. The site is located in a developed portion of Oroville, Butte County, and is east of Highway 70. The surrounding parcels to the west and north are developed with county administrative offices. Small-lot residential housing occurs to the east, an open (undeveloped) grassy lot occurs to the southeast, and a large retail store (Home Depot) and associated parking lot occurs to the southwest. A relatively busy city street (Nelson Avenue) bounds the property to the south, and County Center Drive and Del Oro Avenue bound the western and eastern edges of the property, respectively. These roads provide access to Butte County administrative offices west and north of the property.

4.2 Plant Communities

Plant communities on-site are typical of developed urban infrastructure. Numerous ornamental trees including plum (*Prunus* sp.), Zelkovia (*Zelkovia* sp.), juniper (*Juniperus* sp.), European olive (*Olea europa*), silk tree (*Albizia julibrissin*), ornamental pine (*Pinus* sp.), Eucalyptus (*Eucalyptus* sp.), and small native blue oak (*Quercus douglasii*) occur in planters and at the perimeter of the property. Shrubs, including boxwood (*Buxus sempervirens)*, Chinese photinia (*Photinia serrulata*), oleander (*Nerium oleander)*, bottlebrush (*Callistemon* sp.), firethorn (*Pyrocantha* sp.), and pittosporum (*Pittosporum* sp.), are abundant, and ground covers, including English ivy (*Hedera helix*) and rosemary (*Rosmarinus officinalis*) underlay shrubs in places. Annual weedy species including mustards (Brassicaceae), scarlet pimpernel (*Anagallis arvensis*), grasses (*Avena fatua*, *Bromus diandrus*, *Festuca perrenis*), storksbill (*Erodium botrys*), ragwort (*Scenecio vulgaris*), hairy hawkbit (*Leontodon taraxicoides*), and dandelion (*Taraxicoides* sp.) occur under trees in unpaved areas and planters.

4.3 Wildlife

The Butte FS and UHQ is located within a generally urban setting, with government buildings, maintenance facilities, offices and residences surrounding the property to the west, north, and east. The property itself is fully developed with buildings, pavement, planter boxes and lawns, and utility infrastructure. Wildlife habitat on-site consists of planted ornamental and native trees and shrubs which provide nesting and foraging habitat for birds including mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), Northern mockingbird (*Mimus polyglottos*), European starling (*Sturnella neglecta*), and other human commensal species. Planter boxes and unpaved edge areas provide habitat for western fence lizard (*Sceloporus occidentalis*), deer mouse (*Peromyscus maculatus*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*).

Relatively large eucalyptus trees occur at the western and northern edge of the property. These trees may provide suitable nesting habitat for raptors, although, none were observed during the reconnaissance survey conducted in March 2014. Other birds that may nest in these trees and understory

shrubs include white-breasted nuthatch (*Sitta carolinensis*), house finch (*Haemorhous mexicanus*), and American robin (*Turdus migratorius*). The eaves under the lesser-used buildings on-site provide potential nesting habitat for black phoebe (*Sayornis nigricans)* and several other species. Most birds, including these common species, are protected under the MBTA during their nesting periods.

4.4 Soils

There is one soil unit mapped within the site (Figure 2. *Natural Resources Conservation Service Soil Types*) (U.S. Department of Agriculture, Natural Resources Conservation Service [NRCS] 2014). This soil is (318) Thompsonflat – Oroville Complex, 0 – 9% slopes. This soil is not known to contain hydric inclusions (U.S. Department of Agriculture, NRCS 2001).

4.5 Waters of the U.S.

The site is completely developed and no Waters of the U. S. occur on the site.

4.6 Special-Status Plants

No special-status plants have been found or are expected within the Butte FS and UHQ property. The site is completely developed and dominated by ornamental trees, lawn, and roadside weeds.

4.6.1 Tree Preservation

An arborist survey has not been conducted, but the site supports several large eucalyptus trees along the western and northern boundaries, which may be covered under the local tree ordinance. Eucalyptus trees along the western edge appear to be within the city easement and a permit may be required prior to removal. Eucalyptus within the northern boundary appear to be smaller than 24 inches in diameter and may not be covered under the Oroville tree ordinance, although an arborist should confirm. Large-stature native trees including mature oaks (*Quercus* sp.) were not documented within the property, although small oaks are present.

4.7 Special-Status Wildlife

Although no determinate-level surveys have been conducted on the subject property, no special-status animal species were found within the Project site during the field reconnaissance. Given the degree of historical and current disturbance at this active fire station site, most special status species documented from the surrounding area are not expected on-site. However, several special-status species have been documented to occur within five miles of the Project (Figure 3. *California Natural Diversity Database Occurrences of Special-Status Species*) (CDFW 2014b). Table 1 includes these and other special-status animals that may occur in the vicinity. The proposed project site does not support aquatic habitat for special-status aquatic invertebrates, fish, reptiles, or wading birds so these will not be discussed further. In addition, the site does not have any undeveloped ground or soil characteristics required by rare plant species known from the general area. Elderberry shrubs (*Sambucus* sp.), the obligate host plant for the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)(VELB), are not present on-site, so this species is considered absent.

Location: N:\2014\2014-002 RESD Butte Fire\MAPS\Soils_and_Geology\Soils\ButteFire_Soils.mxd (KO)-KOrtega 4/4/2014

Map Date: 4/4/2014
Photo Source: NAIP 2009

Figure 2. Natural Resources Conservation Service Soil Types

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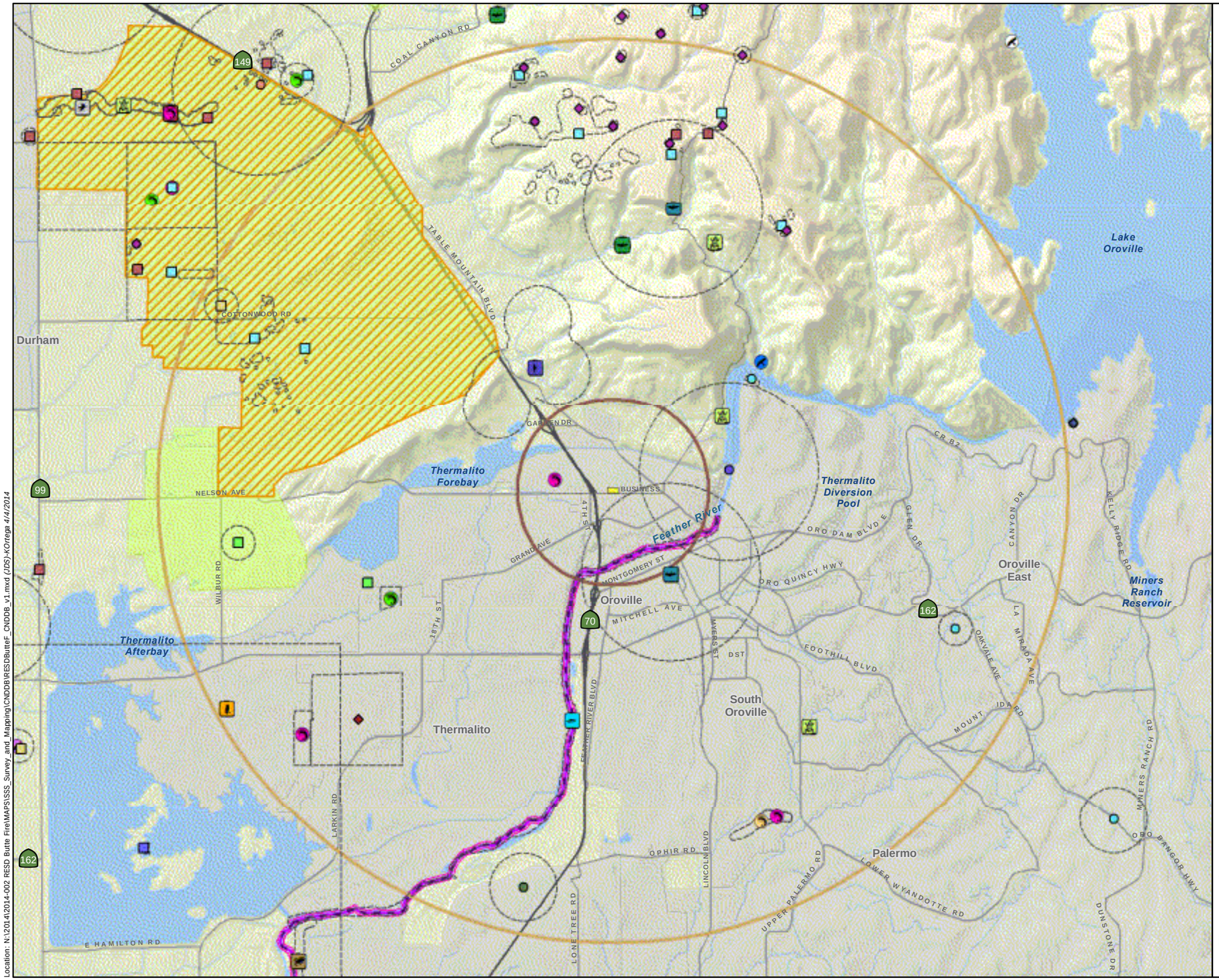
Figure 3.
CNDDB Occurrences of Special-Status Species



Distance From Project
- 1 mile
- 5 miles

Boundaries
- Project Boundary [1]

CNDDB Occurrences [2]
- CNDDB Polygon Extent

Plants
- Woolly Rose-mallow
- Big-scale Balsamroot *
- Pink Creamsacs
- Brandegee's Clarkia
- Recurved Larkspur
- Butte County Fritillary
- Adobe-lily *
- Ahart's Dwarf Rush
- Red Bluff Dwarf Rush
- Butte County Meadowfoam
- Ahart's Paronychia
- Sanford's Arrowhead
- Butte County Golden Clover
- Greene's Tuctoria

Invertebrates
- Vernal Pool Fairy Shrimp
- California Linderiella
- Vernal Pool Tadpole Shrimp
- Valley Elderberry Longhorn Beetle

Fish
- Chinook Salmon Spring-run Klamath-trinity Rivers Pop.

Amphibians/Reptiles
- Western Pond Turtle
- Giant Garter Snake *^

Birds
- Great Blue Heron
- Northern Harrier
- Bald Eagle
- Osprey
- California Black Rail
- Burrowing Owl
- Loggerhead Shrike
- Yellow Warbler
- Tricolored Blackbird

Mammals
- Silver-haired Bat
- Western Mastiff Bat

Critical Habitat
- Butte County Meadowfoam [3]
- Vernal Pool Tadpole Shrimp [3]
- Central Valley Spring-run Chinook [4]
- Central Valley Steelhead [4]

This map may include multiple species' occurrences at each location, some of which may not be visible on this graphic. The CNDDB occurrences shown may not reflect the actual location of the occurrence.

**** Species occurrence is represented solely by a polygon. The centroid point is not visible within the map extents.***

^ Location is suppressed. Placement only indicates presence on quad.

[1] Project Boundary: Boundary is approximate and is based on PDF exhibit.
[2] CDFW California Natural Diversity Database (CNDDB), March 2014 Update (GIS Shapefile)
[3] USFWS
[4] NOAA/NMFS
CNDDB Occurrences Located on CA USGS 7.5' Quadrangles: Bangor, Biggs, Oroville, Oroville Dam, Palermo, Shippee

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Location: N:\2014\2014-002 RESD Butte Fire\MAPS\SSS_Survey_and_Mapping\CNDDB\RESDButteF_CNDDB_v1.mxd (JDS)-KOrtega 4/4/2014

2014-002 Butte Fire Station and Unit Headquarters Replacement Project

Miles
0 1 2

Map Date: 4/4/2014

4.7.1 Birds

Special-status birds documented near the Butte FS and UHQ that have some potential to use the site include white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), Nuttall's woodpecker (*Picoides nuttallii*-observed during site reconnaissance), yellow-billed magpie (*Pica nuttalli*), oak titmouse (*Baeolophus inornatus*), and lark sparrow (*Chondestes grammacus*). Of these, white-tailed kite, Nuttall's woodpecker, Swainson's hawk, and lark sparrow are considered to have low potential for nesting given the on-site conditions and marginal quality of habitat available for these species. Following are accounts of species considered in this assessment

White-tailed kite

White-tailed kite (*Elanus leucurus*) has no special status pursuant to either CESA or FESA. However, white-tailed kite are fully protected according to the Fish and Game Code of California Section 3511. Kites nest in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range typically during May through August (Dunk 1995). White-tailed kite forage within open grassland, savannah, and agricultural cropland habitats, mainly on rodents, but may also take insects, reptiles, amphibians, and birds. Trees along the northern and western edge of the property represent potential nesting habitat for this bird.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either CESA or FESA, but is a CDFW "watch list" species and is tracked in the CNDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawks nest throughout California from Siskiyou County to San Diego County, including the Central Valley (Rosenfield and Bielefeldt 2006). Breeding occurs during March through August, with a peak from May through July. Cooper's hawk was not observed during the reconnaissance survey, but trees along the northern and western edge represent potential nesting and foraging habitat for Cooper's hawks.

Swainson's Hawk

The Swainson's hawk (Buteo swainsoni) is listed as a threatened species and is protected pursuant to CESA. This species nests in North America (Canada, western United States, and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard *et al.* 2010). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel, ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* spp.). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

Although not observed within five miles of the site, they have been documented nesting along the Feather River to the south of the project property. The larger Eucalyptus trees along the west and north

edge of the property represent potential nesting habitat, and the annual grassland south of the site represents potential foraging habitat for Swainson's hawks.

Nuttall's woodpecker

The Nuttall's woodpecker (*Picoides nuttallii*) is not listed and protected under either CESA or FESA, but is considered a USFWS bird of conservation concern. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities that they excavate themselves (primary cavity nesters). They occur primarily within oak woodlands but also can be found in riparian woodlands (Lowther 2000). Breeding occurs during March through June. Although heard and observed during the reconnaissance survey, the eucalyptus trees on-site probably do not represent potential nesting habitat for Nuttall's woodpeckers due to the hardness of their bark.

Yellow-billed magpie

The yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures, or cropland. Nest building begins in late-January to mid-February, and nest building may take up to six to eight weeks to complete (Koenig and Reynolds 2009). The young leave the nest approximately 30 days after hatching (Koenig and Reynolds 2009). Yellow-billed magpies are highly susceptible to West Nile Virus, which caused death of thousands of magpies during 2004-2006 (Koenig and Reynolds 2009). The trees in the western and northern edge of the property represent potential nesting habitat for yellow-billed magpies.

Oak titmouse

The oak titmouse (*Baelophus inornatus*) is not listed pursuant to either CESA or FESA, but is considered a USFWS bird of conservation concern. Oak titmouse are usually found in association with oak trees, but may also be found in conifers (Cicero 2000). Nesting occurs during March through July. These birds are secondary cavity nesters, using cavities vacated by woodpeckers. The trees in the western and northern portion of the property represent potential nesting habitat for oak titmouse.

Lark sparrow

The lark sparrow (*Chondestes grammacus*) is not listed and protected pursuant to either CESA or FESA. However, this species' nest sites are tracked by CDFW in the CNDDB. Lark sparrows can be found throughout California, from Siskiyou County south to Nevada County through the Central Valley and Coast Range to the Pacific Coast (Martin and Parrish 2000). They nest within a wide variety of communities, including oak woodland, chaparral, and oak savannah. Their nests are constructed on ground, in small trees, or shrubs. The nesting season generally occurs from April through June. Trees in the western and northern portion of the site represent potential nesting habitat for lark sparrows.

4.7.2 Mammals

The Butte FS and UHQ site does not provide potential habitat for any special-status terrestrial mammals. However, two bats species, western mastiff bat (*Eumops perotis californicus*) and silver-haired bat (*Lasionycteris noctivagans*), are considered to have low potential to occur. Both have been documented

nearby. The western mastiff bat is not listed pursuant to either CESA or FESA, but is considered a species of special concern by CDFW. This species usually uses rocky ledges, cliff faces and exfoliating rock for roosting, but they occasionally use structures with awnings, ledges, and open rafters. Although unlikely, suitable habitat may be present in and around some of the lesser-used buildings and structures on the project site. The silver-haired bat is a species of trees, tree cavities, snags, and exfoliating bark. It is not listed pursuant to either CESA or FESA, but is tracked by CNDDB. The large eucalyptus along the west and north edges of the property may provide roosting habitat for this species.

4.7.3 Wildlife Movement/Corridors

The Butte FS and UHQ is fenced and located within an urban city center, with government buildings and residential housing occurring to the west, north, and east. A large builders' supply store and associated parking lot occur to the southwest, and a busy road bounds the project site to the south. The site probably does not function as a movement or migratory corridor except generally for common avian species.

5.0 RECOMMENDATIONS

5.1 Waters of the U.S.

The project site does not support Waters of the U.S.; thus, no mitigation measures are recommended to minimize potential impacts to Waters of the U.S.

5.2 Special-Status Plants

The Butte FS and UHQ does not support potential habitat for special-status plants; thus, no mitigation measures are recommended to minimize potential impacts to special-status plants.

5.3 Tree Preservation

The site supports several large eucalyptus trees along the western and northern boundaries which may be covered under the local tree ordinance. Eucalyptus along the western edge appear to be within the city easement and a permit may be required prior to removal. Eucalyptus at the northern boundary appear to be smaller than 24 inches in diameter and may not be covered under the Oroville tree ordinance, although an arborist should confirm that assertion.

The following mitigation measures will ensure that there are no significant impacts to protected trees:

- Conduct an arborist survey to determine if there are any protected trees.
- If protected trees are present and proposed for impact, prepare a City of Oroville tree permit application.

5.4 Invertebrates

The project site does not contain aquatic habitat for vernal pool invertebrates (vernal pool fairy shrimp, vernal pool tadpole shrimp, and California linderiella). Elderberry shrubs, required habitat for VELB, are not present on-site. No mitigation measures are recommended to minimize potential impacts to special-status invertebrates.

5.5 Nesting Raptors

All raptors, including white-tailed kite, Cooper's hawk, and their active nests are protected under the California Fish and Game Code and Federal MBTA. To ensure that there are no impacts to protected active nests, the following mitigation measures are recommended:

- Conduct a pre-construction nesting bird survey of all suitable habitat on the project within 14 days of the initiation of construction activity during the nesting season (February 1 through August 31).
- If active nests are found, the active nests will be monitored for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations for buffer distances relative to the species identified. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the proposed project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction raptor nesting surveys are not required for construction activity outside the nesting season.
- If no active raptor nests are found, no further measures pertaining to raptor nests are necessary.

5.6 Swainson's Hawk

To minimize impacts to protected Swainson's hawks and their nests, the following mitigation measures are recommended:

- If possible, initiate site construction activities during the non-breeding season (September 1 through February 28).
- Conduct a pre-construction nesting bird survey of all suitable habitats on the project within 14 days of the initiation of construction activity during the nesting season (March 1 through August 31).
- If active nests are found, the active nests will be monitored for the first 24 hours prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in accordance with CDFW's recommendations. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the Proposed Project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction Swainson's hawk nesting surveys are not required for construction activity outside the nesting season.
- If no active Swainson's hawk nests are found, no further measures pertaining to Swainson's hawk nests are necessary.

5.7 Birds Covered Under Migratory Bird Treaty Act, including Nuttall's Woodpecker, Yellow-billed Magpie, Oak Titmouse, and Lark Sparrow

The Butte FS and UHQ supports potential nesting habitat for one special-status woodpecker and three special-status passerine bird species: yellow-billed magpie (USFWS conservation concern), oak titmouse (USFWS conservation concern), and lark sparrow (CNDDB-tracked species). Additionally, most birds, including commonly occurring species, are protected under the Fish and Game Code and the Federal MBTA. A complete of birds protected can be found in 50 CFR 10.13. To ensure that there are no impacts to protected birds or their active nests, the following mitigation measures are recommended:

- Conduct a pre-construction nesting bird survey of all suitable habitats on the project within 14 days of the initiation of construction activity during the nesting season (February 1 through August 31).
- If active nests are found, they will be monitored prior to any construction-related activity to establish a behavioral baseline. A no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. Once construction activities commence on-site, all nests will be monitored by a qualified biologist to detect any behavioral changes as a result of construction of the proposed project. If behavioral changes are observed that may result in adverse effects to the success of breeding, the work causing that change shall cease and consultation with CDFW shall be initiated to identify potential avoidance and minimization measures. Pre-construction bird nesting surveys are not required for construction activity outside the nesting season.
- If no special-status birds are found, no further measures pertaining to special-status birds are necessary.

5.8 Mammals

Rarely-used structures and the trees at the western and northern edges of the site support potential roosting habitat for western mastiff bat and silver-haired bat, respectively. To ensure that there are no impacts to active bat roosts, the following mitigation measures are recommended:

- A qualified biologist shall conduct a dusk emergence survey (start one hour before sunset and last three hours), followed by a pre-dawn re-entry survey (start one hour before sunrise and last for two hours), in addition to a daytime visual inspection of all potential bat roosting habitat on the Project site included as part of the pre-construction clearance survey.
- If roosting special-species bats are found on-site during the surveys, avoid direct and indirect impacts to roosting sites by establishing a no-disturbance buffer of 100 feet around roost sites, in consultation with CDFW.
- Clearing and grubbing adjacent to a roost site and use of lighting near a roost site where it would shine on the roost or interfere with bats entering or leaving the roost shall be prohibited.
- Operation of internal combustion equipment, such as generators, pumps, and vehicles within 100 feet of a roost site shall be prohibited.

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LIST OF ATTACHMENTS

Attachment A – Representative Site Photographs

Attachment B – Plants Observed On-Site (12 March 2014)

Attachment C – Wildlife Observed On-Site (12 March 2014)

ATTACHMENT A

Representative Site Photographs

Looking west along southern edge (Nelson Ave.) of the RESD Butte Fire Station Property.

Looking west from southern parking lot on the property. Oleander (*Nerium oleander*) shrub is at left of photograph, and large, sparsely foliated *Eucalyptus* in background.

Large Eucalyptus at western edge of the property, looking north.

Looking southeast into northwest corner of property showing cargo containers, storage, staged materials and pallets.

At middle-eastern edge of RESD Butte Fire Station property showing typical building on-site, landscaping, and parking lot typical of most of the site.

ATTACHMENT B

Plants Observed On-Site (12 March 2014)

Attachment B. Plants Observed On-Site 12 March 2014

Scientific Name	Common Name
APOCYNACEAE	**Dogbane Family**
Nerium oleander	Oleander
ARALIACEAE	**Aralia Family**
Hedera helix	English ivy
ASTERACEAE	**Sunflower Family**
Centaurea solstitialis	Yellow star-thistle
Leontodon taraxicoides	Hairy hawkbit
Scenecio vulgaris	Ragwort
Taraxicoides sp.	Dandelion
BRASSICACEAE	**Mustard Family**
Brassica sp.	Mustard
BUXACEAE	**Boxwood Family**
Buxus sempervirens	Boxwood
CUPRESSACEAE	**Cypress Family**
Juniperus sp.	Juniper
FABACEAE	**Pea Family**
Albizia julibrissin	Silk tree
FAGACEAE	**Beech Family**
Quercus douglasii	Blue oak
GERANIACEAE	**Geranium Family**
Erodium botrys	Storksbill
LAMIACEAE	**Mint Family**
Rosmarinus officinalis	Rosemary
MYRTACEAE	**Myrtle Family**
Eucalyptus sp.	Eucalyptus
Callistemon sp.	Bottlebrush
OLEACEAE	**Olive Family**
Olea Europa	European olive
PINACEAE	**Pine Family**
Pinus sp.	Ornamental pine
PITTOSPORACEAE	**Pittosporum Family**
Pittosporum sp.	Pittosporum
PRIMULACEAE	**Primrose Family**
Anagallis arvensis	Scarlet pimpernel
ROSACEAE	**Rose Family**
Prunus sp.	Plum
Chinese photinia	Photinia serrulata
Pyrocantha sp.	Firethorn
ULMACEAE	**Elm Family**
Zelkovia serrata	Japanese Zelkovia

ATTACHMENT C

Wildlife Observed On-Site (12 March 2014)

Attachment B – Plants Observed On-Site 12 March 2014

Scientific Name	Common Name
APOCYNACEAE	**Dogbane Family**
Nerium oleander	Oleander
ARALIACEAE	**Aralia Family**
Hedera helix	English ivy
ASTERACEAE	**Sunflower Family**
Centaurea solstitialis	Yellow star-thistle
Leontodon taraxicoides	Hairy hawkbit
Scenecio vulgaris	Ragwort
Taraxicoides sp.	Dandelion
BRASSICACEAE	**Mustard Family**
Brassica sp.	Mustard
BUXACEAE	**Boxwood Family**
Buxus sempervirens	Boxwood
CUPRESSACEAE	**Cypress Family**
Juniperus sp.	Juniper
FABACEAE	**Pea Family**
Albizia julibrissin	Silk tree
FAGACEAE	**Beech Family**
Quercus douglasii	Blue oak
GERANIACEAE	**Geranium Family**
Erodium botrys	Storksbill
LAMIACEAE	**Mint Family**
Rosmarinus officinalis	Rosemary
MYRTACEAE	**Myrtle Family**
Eucalyptus sp.	Eucalyptus
Callistemon sp.	Bottlebrush
OLEACEAE	**Olive Family**
Olea Europa	European olive
PINACEAE	**Pine Family**
Pinus sp.	Ornamental pine
PITTOSPORACEAE	**Pittosporum Family**
Pittosporum sp.	Pittosporum
PRIMULACEAE	**Primrose Family**
Anagallis arvensis	Scarlet pimpernel
ROSACEAE	**Rose Family**
Prunus sp.	Plum
Chinese photinia	Photinia serrulata
Pyrocantha sp.	Firethorn
ULMACEAE	**Elm Family**
Zelkovia serrata	Japanese Zelkovia