

**DRAFT
ENVIRONMENTAL ASSESSMENT**

**NELLIS AIR FORCE BASE SCHOOL INITIATIVE
NELLIS AIR FORCE BASE
CLARK COUNTY, NEVADA**



January 2015

Draft
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

1. Name of Action

NELLIS AIR FORCE BASE SCHOOL INITIATIVE, NELLIS AIR FORCE BASE, CLARK COUNTY, NEVADA

2. Description of Proposed Action and Action Alternatives

Proposed Action:

The U.S. Air Force (USAF) proposes to construct a new school in Area III to replace the existing Nellis Air Force Base (AFB) on-base school in Area I, Lomie Gray Heard School, to make available land in Area I for future mission-specific development. The intent is to lease base property to a private sector charter school company to design and construct the new school building and operate the school program. The Proposed Action would provide a new, centrally located school within the base housing community in Area III. The lease to the Clark County School District (CCSD) on the antiquated Lomie Gray Heard School in Area I would then be allowed to expire in April 2016, freeing up the land for emerging mission-specific development, as indicated in the current Nellis AFB Area Development Plan (ADP).

A new school would be constructed in Area III to accommodate approximately 800 to 1,000 students in kindergarten through eighth grade. It would be constructed on one of four possible sites available in Area III (Optional Sites 1 through 4). All of the optional school sites are located in the family housing area near the Youth Center on Stafford Drive. Optional Sites 1, 2, and 3 are currently occupied by baseball and softball fields. Optional Site 4 is not developed and is an area that has been set aside in the on-base housing development as a future school location. All housing units, roads, infrastructure, and miscellaneous structures have been removed from Optional Site 4. The site has also been cleared of all vegetation and covered with crushed stone to prevent erosion.

The reconstruction of the main housing area in Area III currently makes transportation of students from Area III to the existing school in Area I challenging. The challenge includes increased traffic at the gates during peak hours, increased emissions from the additional traffic, and a more overburdened infrastructure. Security concerns are also increased as a result of peak-hour traffic. With construction of a new school in Area III, traffic in Area I would be reduced since the majority of students live in Area III. Peak-hour traffic and security concerns in Area III would also be reduced since students who reside on-base would be able to walk to school or would have a much shorter transportation route.

Although traffic in Area I would be greatly reduced, off-base traffic transporting students to and from the new school in Area III would likely increase. Exact traffic patterns and

1 numbers of vehicles transporting students to and from the new school cannot be
2 estimated until the school is constructed, students are admitted, and it is operational.
3 However, the new school would provide education to approximately 800 to 1,000
4 students, up to 400 more students than the existing school serves. As a worst case
5 scenario, it is estimated that up 400 additional vehicles could transport students to and
6 from the school in Area III, and these vehicles would be on-base twice a day (i.e., in the
7 morning for the start of the school day and in the afternoon at the end of the school
8 day). Safe access and pick-up and drop-off areas would be established by expanding
9 Stafford Drive or parking areas. Security would be provided by base security forces at
10 the access gates to Area III.

11
12 Construction would consist of a single- or multi-story, approximately 70,000-square-foot
13 facility with classrooms, a gymnasium, playground, 300-space parking lot, and
14 landscaping, located on an approximately 3- to 10-acre site. The new school would be
15 connected to existing communication, electrical, gas, water, and sewer lines. No
16 asbestos-containing or lead-containing materials would be used in construction of the
17 new school, and all water fixtures would be lead-free.

18

19 **Action Alternatives:**

20

21 **Alternative 1 (Preferred Alternative)**

22 Alternative 1 (Preferred Alternative) would allow Nellis AFB to lease base property to a
23 private sector charter school company to develop, construct, and operate a new charter
24 school centrally located within the base housing community in Area III of Nellis AFB on
25 one of four possible sites. The lease of the Lomie Gray Heard School in Area I to
26 CCSD would be allowed to expire in April 2016. As a consequence of the lease
27 expiration, the Lomie Gray Heard School would be closed and would be demolished
28 and be replaced by mission-related facilities. Alternative 1 (Preferred Alternative) would
29 result in one new charter school on-base that would provide kindergarten through eighth
30 grade education for approximately 800 to 1,000 students, and would close the existing
31 CCSD public school on Nellis AFB.

32

33 According to current State of Nevada charter school rules, a new charter school must
34 be established as a public school and comply with applicable state and federal laws
35 regarding public schools (Nevada State Public Charter School Authority [SPCSA] 2014).
36 Because a newly created public school on Nellis AFB would not have any previously
37 enrolled students, all students would need to apply for admission. The charter school
38 must inform the community of its public school status and have a fair and open
39 admissions process. A charter school must use a lottery if more students apply for
40 admission than can be admitted.

41

42 The CCSD student population has markedly increased over the past few years and
43 local schools are experiencing overcrowding. Schools near Nellis AFB are among
44 those that have experienced excessive overcrowding. A charter school in Area III
45 would not ameliorate these conditions since there is potential that children throughout
46 the CCSD would attend the charter school, and an unknown number of children

1 currently attending Lomie Gray Heard School may need to be absorbed into
2 overcrowded CCSD schools adjacent to Nellis AFB if more students apply to the new
3 charter school than the school can accommodate.

4
5 **Alternative 2**

6 Alternative 2 would lease base property to a private sector charter school company to
7 develop, construct, and operate a new charter school in Area III of Nellis AFB on one of
8 the Optional Sites described in the Proposed Action and would follow the admissions
9 process outlined in Alternative 1 (Preferred Alternative). Alternative 2 would also
10 negotiate a short-term lease to CCSD to continue to operate the existing Lomie Heard
11 Elementary School in Area I on Nellis AFB. CCSD has offered to enhance the existing
12 school curriculum with a STEM (Science, Technology, Engineering, Math) or STEAM
13 (Science, Technology, Engineering, Arts, Math) curriculum, if requested by Nellis AFB.
14 No military funds would be used to improve the school. Responsibility for
15 administration, teachers, staff, maintenance, upkeep, upgrades, or improvements would
16 lie completely with CCSD. Student attendance at Lomie Gray Heard School would
17 remain the same, approximately 600 students made up of military dependents who live
18 on-base, 100 military dependents who reside off-base, and 20 students whose parents
19 are school administrators and staff. Alternative 2 would result in two schools, a new
20 privately sponsored charter school and the existing CCSD-operated school, on Nellis
21 AFB.

22
23 Although it does not completely meet the purpose of and need for the Proposed Action,
24 Alternative 2 is being pursued concurrently with Alternative 1 (Preferred Alternative) in
25 case a new school in Area III cannot be constructed before the end of the existing
26 lease. The short-term lease would be for at least 10 years and would follow the fair
27 market value requirements, with an option for Nellis AFB to cancel the lease on short
28 notice.

29
30 **Alternative 3**

31 Alternative 3 would allow Nellis AFB to lease property to CCSD to develop, construct,
32 and operate a new public school in Area III of Nellis AFB on one of the Optional Sites
33 described in the Proposed Action and would not renew the lease to CCSD for the Lomie
34 Gray Heard School. Alternative 3 would result in a new CCSD public school on-base
35 and would close the existing CCSD-operated public school on Nellis AFB. Nellis AFB
36 would request modification of the proposed new school to increase the population to
37 approximately 800 students, including grades six through eight, with a STEM curriculum
38 offered. No military funds would be used to improve the school. Responsibility for
39 administration, teachers, staff, maintenance, upkeep, upgrades, or improvements would
40 lie completely with CCSD. Student attendance at the new CCSD public school would
41 remain restricted to military dependents who live on-base, military dependents who
42 reside off-base, and students whose parents are school administrators and staff.
43 Alternative 3 is not currently possible due to CCSD budget restrictions.

1 **Alternative 4**

2 Alternative 4 would involve the construction of a new public school by CCSD in Area III
3 on one of the four possible sites and would negotiate a short-term lease to CCSD for
4 the Lomie Gray Heard School. The short-term lease would be for at least 10 years and
5 would follow the fair market value requirements, with an option for Nellis AFB to cancel
6 the lease on short notice. Student attendance at Lomie Gray Heard School would
7 remain at approximately 600 and continue to be restricted to military dependents who
8 live on-base, military dependents who reside off-base, and students whose parents are
9 school administrators and staff. This alternative would result in two CCSD public
10 schools on Nellis AFB. Alternative 4 is not currently possible due to CCSD budget
11 restrictions.

12
13 **Alternative 5**

14 Alternative 5 would renew the lease to CCSD for the Lomie Gray Heard School, but
15 would not construct a new school. The lease would be renewed for at least 10 years
16 and would follow the fair market value requirements, with an option for Nellis AFB to
17 cancel the lease on short notice. Student attendance at Lomie Gray Heard School
18 would remain the same, restricted to military dependents living on-base, military
19 dependents residing off-base, and children of the school's administration and staff.
20 Alternative 5 would result in one CCSD public school on-base in Area I, the existing
21 Lomie Gray Heard School.

22
23 Alternative 5 would not meet the purpose and need for the Proposed Action, as it would
24 not open land in Area I that is planned for the siting of mission-related facilities.
25 Likewise, traffic and security problems on-base would persist since children would
26 continue to be transported to Lomie Gray Heard School in Area I. The CCSD would
27 also continue to incur higher maintenance costs to maintain the aging existing school.

28
29 **No Action Alternative**

30 The No Action Alternative would allow the current lease for Lomie Gray Heard School to
31 expire in April 2016, and Nellis AFB would take no action to replace the school on-base.
32 The No Action Alternative would create transportation and logistical challenges for
33 parents and would disperse the approximately 600 students who currently attend the
34 Lomie Gray Heard School to other CCSD schools in the area, which would further
35 overburden the already overcrowded schools resulting in a negative impact on the
36 education of both the military students and the civilian students.

37
38 Under this alternative, no schools would operate on Nellis AFB. The Lomie Gray Heard
39 School property and buildings would remain with Nellis AFB, and the site would be used
40 for base mission objectives. The No Action Alternative does not meet the purpose of
41 and need for the Proposed Action, as on-base military dependents would not have a
42 convenient school to attend on-base and overcrowding of the CCSD schools in the area
43 would be increased.

1 **3. Summary of Environmental Resources and Impacts**
2

3 **Biological Resources:** No native vegetation exists on any of the four optional school
4 sites or the existing school property, and there would be no significant impacts on
5 vegetation. Impacts on wildlife populations would be minimal. To avoid impacts on
6 ground-nesting birds, surveys for active nests or nesting activity would be conducted
7 prior to construction should clearing and grubbing occur during the nesting season, and
8 appropriate mitigation would be completed, if necessary.
9

10 **Cultural Resources:** Because no cultural resources sites have been identified on any
11 of the Proposed Action Optional Sites in Area III, no impacts would occur. The Lomie
12 Gray Heard School buildings would be assessed for historical value, and impacts would
13 be mitigated if the buildings are removed. All appropriate Nevada State Historical
14 Preservation Office (SHPO) consultation would be completed. Therefore, no significant
15 cultural resource impacts would occur.
16

17 **Land Use Resources:** Development of Optional Sites 1 through 3 would convert
18 current land use from recreation to a developed school use. Loss of the recreational
19 fields could be mitigated by relocating the ball fields to another location nearby.
20 Optional Site 4 was designated for use as a new school in the current ADP, so there
21 would be no land use impacts on that site.
22

23 With the closure and demolition of the Lomie Gray Heard School, land use in Area I
24 would change from school use to military mission-related facilities, as defined in the
25 current ADP. The site of the existing school would be made available for the
26 construction of virtual training facilities on Nellis AFB in support of its military mission.
27 Overall, minor impacts on land use resources would occur.
28

29 **Air Quality:** Short-term, minor impacts on air quality would occur during construction,
30 but dust suppression and appropriate vehicle maintenance would minimize impacts.
31

32 **Water Resources:** Minor impacts on surface water would occur during construction of
33 the new school buildings and parking in Area III. A Stormwater Construction Permit
34 would be acquired from the Nevada Department of Environmental Protection (NDEP)
35 prior to construction. A Stormwater Pollution Prevention Plan (SWPPP) would be
36 developed as part of that permit process.
37

38 **Transportation:** Exact traffic patterns and numbers of vehicles transporting students to
39 and from the new school in Area III cannot be estimated until the school is constructed,
40 students are admitted, and it is operational. However, the new school would provide
41 education to approximately 800 to 1,000 students, up to 400 more students than the
42 existing school serves.
43

44 As a worst case scenario, it is estimated that up 400 additional vehicles could transport
45 students to and from the school in Area III, and these vehicles would be on-base twice a
46 day (i.e., in the morning for the start of the school day and in the afternoon at the end of

1 the school day). Minor to moderate impacts on traffic at entrance gates for Area III
2 would result from Alternative 1 (Preferred Alternative), but modification of security and
3 entrance procedures would mitigate those impacts.

4
5 **Utilities and Infrastructure:** All required utilities are available either on the Optional
6 Sites or along the adjacent roads and rights-of-way. Construction and operation of a
7 new school in Area III would not involve an excessive use of any utility resources that
8 would exceed the capacity for delivery by the local authorities. Since utility resources
9 currently used by the Lomie Gray Heard School would be discontinued, this would offset
10 any increase in utility resources use by the new school. Therefore, there would be no
11 significant impacts on utilities and infrastructure.

12
13 **Socioeconomics:** Minor impacts on community cohesion could result for on-base
14 military dependents if not all current Lomie Gray Heard School students are accepted to
15 the new charter school. The No Action Alternative would result in moderate impacts on
16 students, the local community, and CCSD if current Lomie Gray Heard School students
17 are dispersed to already overcrowded CCSD schools outside of Nellis AFB.

18
19 **Environmental Justice and Protection of Children:** No impacts on environmental
20 justice issues or child protection would result from Alternative 1 (Preferred Alternative).
21 The No Action Alternative would result in moderate impacts on protection of children
22 when additional students are added to overcrowded CCSD schools. Overall, no
23 significant impacts would occur.

24
25 **Noise:** A total of 136 sensitive noise receptors would be temporarily impacted by noise
26 in Area III during construction, after which the noise environment would return to current
27 conditions. No significant impacts would occur.

28
29 **Cumulative Impacts:** No significant adverse cumulative impacts would result from the
30 Proposed Action or Action Alternatives. The No Action Alternative would result in
31 moderate cumulative impacts on students in the CCSD as a result of adding students to
32 overcrowded school system facilities.

1 **4. Conclusions**

2

3 Based on the analysis of the Proposed Action and Action Alternatives and conclusions
4 presented in the Environmental Assessment (EA), conducted in accordance with the
5 requirements of the National Environmental Policy Act, the Council on Environmental
6 Quality regulations, and Air Force Environmental Impact Analysis Process, as
7 promulgated in Title 32 of the Code of Federal Regulations Part 989, and after careful
8 review of the potential impacts, I conclude that implementation of the Proposed Action
9 or the Action Alternatives would result in no significant impacts on the quality of the
10 human or natural environments. Therefore, a Finding of No Significant Impact (FONSI)
11 is warranted, and an Environmental Impact Statement (EIS) is not required.

12

13

14

15

16

17 _____
18 RICHARD H. BOUTWELL
19 Colonel, USAF
Commander, 99th Air Base Wing

Date

1 DRAFT
2 ENVIRONMENTAL ASSESSMENT
3 FOR
4 NELLIS AIR FORCE BASE SCHOOL INITIATIVE
5 NELLIS AIR FORCE BASE
6 CLARK COUNTY, NEVADA
7
8

- 9 a. Responsible Agency: U.S. Air Force (USAF)
- 10
- 11 b. Proposed Action: The USAF proposes to lease property to an educational
12 program to construct and operate a new school in Area III to replace the
13 existing Nellis AFB on-base school in Area I, Lomie Gray Heard School.
14 Construction of a new school in Area III would make land available in Area
15 I for future mission-specific development. The Proposed Action would
16 provide a centrally located school within the base housing community in
17 Area III, and the intent is to lease base property to an educational program
18 to design and construct the new school building and operate the school
19 program. The lease to Clark County School District (CCSD) on the
20 antiquated Lomie Gray Heard School in Area I would then be allowed to
21 expire in April 2016. As a consequence of the lease expiration, the school
22 would be demolished to make way for mission-related activities.
23
- 24 c. Written comments and inquiries regarding this document should be
25 directed to:
26
27 99 ABW Public Affairs
28 4430 Grissom Ave, Suite 107
29 Nellis AFB, NV 89191
30
- 31 In addition, the document can be viewed and downloaded from the World
32 Wide Web at: www.nellis.af.mil/library/environmental.asp
33
- 34 A hard copy is available for review at:
35 Las Vegas Library, Reference Department
36 833 Las Vegas Boulevard North
37 Las Vegas, NV 89101
38
- 39 d. Report Designation: Draft Environmental Assessment (EA)
- 40
- 41 e. Abstract: This EA evaluates the effects from all reasonable alternatives to
42 construct and operate a new elementary school in Area III on Nellis AFB.
43 A new school would be constructed to accommodate approximately 800 to
44 1,000 students in kindergarten through eighth grade. It would be
45 constructed on one of four possible sites available in Area III (Optional
46 Sites 1 through 4). All of the optional school sites are located in the family
47 housing area near the Youth Center on Stafford Drive. Construction of a

1 new school within Area III would provide a centrally located school within
2 the base housing community, and the intent is to lease base property to
3 an educational program to construct the new school building and operate
4 the school program. The lease of the Lomie Gray Heard School in Area I
5 to CCSD would be allowed to expire in April 2016. As a consequence of
6 the expiring lease, the Lomie Gray Heard School would be demolished
7 and be replaced by mission-related facilities.
8

9 This EA has been prepared in accordance with the *National*
10 *Environmental Policy Act* (NEPA) and 32 Code of Federal Regulations
11 (CFR) 989, the *Air Force Environmental Impact Analysis Process* (EIAP),
12 to analyze the potential environmental consequences of the Proposed
13 Action and Action Alternatives.
14

15 Alternative 1 (Preferred Alternative) would allow Nellis AFB to lease base
16 property to a private sector charter school company to develop, construct,
17 and operate a new charter school centrally located within the base
18 housing community in Area III of Nellis AFB on one of four possible sites.
19 The lease of the Lomie Gray Heard School in Area I to CCSD would be
20 allowed to expire in April 2016. As a consequence of the lease expiration,
21 the Lomie Gray Heard School would be closed and would be demolished
22 and be replaced by mission-related facilities. Alternative 1 (Preferred
23 Alternative) would result in one new charter school on-base that would
24 provide kindergarten through eighth grade education for approximately
25 800 to 1,000 students, and would close the existing CCSD public school
26 on Nellis AFB.
27

28 According to current State of Nevada charter school rules, a new charter
29 school must be established as a public school and comply with applicable
30 state and federal laws regarding public schools (Nevada State Public
31 Charter School Authority [SPCSA] 2014). Because a newly created public
32 school on Nellis AFB would not have any previously enrolled students, all
33 students would need to apply for admission. The charter school must
34 inform the community of its public school status and have a fair and open
35 admissions process. A charter school must use a lottery if more students
36 apply for admission than can be admitted.
37

38 Alternative 2 would lease base property to a private sector charter school
39 company to develop, construct, and operate a new charter school in Area
40 III of Nellis AFB on one of the Optional Sites described in the Proposed
41 Action and would follow the admissions process outlined in Alternative 1
42 (Preferred Alternative). Alternative 2 would also negotiate a short-term
43 lease to CCSD to continue to operate the existing Lomie Heard
44 Elementary School in Area I on Nellis AFB. CCSD has offered to enhance
45 the existing school curriculum with a STEM (Science, Technology,
46 Engineering, Math) or STEAM (Science, Technology, Engineering, Arts,

1 Math) curriculum, if requested by Nellis AFB. No military funds would be
2 used to improve the school. Responsibility for administration, teachers,
3 staff, maintenance, upkeep, upgrades, or improvements would lie
4 completely with CCSD. Student attendance at Lomie Gray Heard School
5 would remain the same, approximately 600 students made up of military
6 dependents who live on-base, 100 military dependents who reside off-
7 base, and 20 students whose parents are school administrators and staff.
8 Alternative 2 would result in two schools, a new privately sponsored
9 charter school and the existing CCSD-operated school, on Nellis AFB.

10
11 Although it does not completely meet the purpose of and need for the
12 Proposed Action, Alternative 2 is being pursued concurrently with
13 Alternative 1 (Preferred Alternative) in case a new school in Area III
14 cannot be constructed before the end of the existing lease. The short-
15 term lease would be for at least 10 years and would follow the fair market
16 value requirements, with an option for Nellis AFB to cancel the lease on
17 short notice.

18
19 Alternative 3 would allow Nellis AFB to lease property to CCSD to
20 develop, construct, and operate a new public school in Area III of Nellis
21 AFB on one of the Optional Sites described in the Proposed Action and
22 would not renew the lease to CCSD for the Lomie Gray Heard School.
23 Alternative 3 would result in a new CCSD public school on-base and
24 would close the existing CCSD-operated public school on Nellis AFB.
25 Nellis AFB would request modification of the proposed new school to
26 increase the population to approximately 800 students, including grades
27 six through eight, with a STEM curriculum offered. No military funds
28 would be used to improve the school. Responsibility for administration,
29 teachers, staff, maintenance, upkeep, upgrades, or improvements would
30 lie completely with CCSD. Student attendance at the new CCSD public
31 school would remain restricted to military dependents who live on-base,
32 military dependents who reside off-base, and students whose parents are
33 school administrators and staff. Alternative 3 is not currently possible due
34 to CCSD budget restrictions.

35
36 Alternative 4 would involve the construction of a new public school by
37 CCSD in Area III on one of the four possible sites and would negotiate a
38 short-term lease to CCSD for the Lomie Gray Heard School. The short-
39 term lease would be for at least 10 years and would follow the fair market
40 value requirements, with an option for Nellis AFB to cancel the lease on
41 short notice. Student attendance at Lomie Gray Heard School would
42 remain at approximately 600 and continue to be restricted to military
43 dependents who live on-base, military dependents who reside off-base,
44 and students whose parents are school administrators and staff. This
45 alternative would result in two CCSD public schools on Nellis AFB.
46 Alternative 4 is not currently possible due to CCSD budget restrictions.

1 Alternative 5 would renew the lease to CCSD for the Lomie Gray Heard
2 School, but would not construct a new school. The lease would be
3 renewed for at least 10 years and would follow the fair market value
4 requirements, with an option for Nellis AFB to cancel the lease on short
5 notice. Student attendance at Lomie Gray Heard School would remain the
6 same, restricted to military dependents living on-base, military dependents
7 residing off-base, and children of the school's administration and staff.
8 Alternative 5 would result in one CCSD public school on-base in Area I,
9 the existing Lomie Gray Heard School.

10
11 Alternative 5 would not meet the purpose and need for the Proposed
12 Action, as it would not open land in Area I that is planned for the siting of
13 mission-related facilities. Likewise, traffic and security problems on-base
14 would persist since children would continue to be transported to Lomie
15 Gray Heard School in Area I. The CCSD would also continue to incur
16 higher maintenance costs to maintain the aging existing school.

17
18 The No Action Alternative would allow the current lease for Lomie Gray
19 Heard School to expire in April 2016, and Nellis AFB would take no action
20 to replace the school on-base. The No Action Alternative would create
21 transportation and logistical challenges for parents and would disperse the
22 approximately 600 students who currently attend the Lomie Gray Heard
23 School to other CCSD schools in the area, which would further
24 overburden the already overcrowded schools resulting in a negative
25 impact on the education of both the military students and the civilian
26 students. Under this alternative, no schools would operate on Nellis AFB.
27 The Lomie Gray Heard School property and buildings would remain with
28 Nellis AFB, and the site would be used for base mission objectives. The
29 No Action Alternative does not meet the purpose of and need for the
30 Proposed Action, as on-base military dependents would not have a
31 convenient school to attend on-base and overcrowding of the CCSD
32 schools in the area would be increased.

33
34 The environmental resources potentially affected by the Proposed Action
35 and Action Alternatives are biological resources, cultural resources, land
36 use, air quality, water resources, transportation and traffic, utilities and
37 infrastructure, socioeconomics, environmental justice, and noise. Based
38 on an analysis of affected resources and mitigation measures to be
39 employed, no significant impacts on any of the affected resources would
40 occur. Further, socioeconomic benefits would accrue to Nellis AFB and
41 CCSD with the addition of new classroom space in the school district and
42 a reduction in school operating costs. The No Action Alternative,
43 however, would result in moderate socioeconomic impacts on Nellis AFB
44 and CCSD.

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ACRONYMS AND ABBREVIATIONS

1		
2		
3	A CHP	Advisory Council on Historic Preservation
4	ACM	asbestos-containing materials
5	ACS	American Community Survey
6	ADP	Area Development Plan
7	BAQ	Bureau of Air Quality
8	BEA	Bureau of Economic Analysis
9	bgs	below ground surface
10	BLS	Bureau of Labor Statistics
11	BMP	best management practice
12	CCSD	Clark County School District
13	CDP	Census Designated Place
14	CEQ	Council on Environmental Quality
15	CFR	Code of Federal Regulations
16	COC	Community of Comparison
17	CREDO	Center for Research on Education Outcomes (Stanford University)
18	CWA	Clean Water Act
19	DCNR	Department of Conservation and Natural Resources
20	DoD	Department of Defense
21	EA	Environmental Assessment
22	EIAP	Environmental Impact Analysis Process
23	EIS	Environmental Impact Statement
24	EO	Executive Order
25	ERP	Environmental Restoration Program
26	FONSI	Finding of No Significant Impact
27	GSRC	Gulf South Research Corporation
28	I-15	Interstate 15
29	ICRMP	Integrated Cultural Resources Management Plan
30	LBP	lead-based paint
31	LEA	Local Education Agency
32	mg/m ³	milligrams per cubic meter
33	MSA	Metropolitan Statistical Area
34	N ₂ O	nitrous oxide
35	NAAQS	National Ambient Air Quality Standards
36	NDCNR	Nevada Department of Conservation and Natural Resources
37	NDEP	Nevada Department of Environmental Protection
38	NEPA	National Environmental Policy Act
39	NOA	Notice of Availability
40	NPDES	National Pollutant Discharge Elimination System
41	NPS	National Park Service
42	NRHP	National Register of Historic Places
43	NRS	Nevada Revised Statutes
44	NTTR	Nevada Test and Training Range
45	NO ₂	nitrogen dioxide
46	O ₃	ozone

1	P4	Public-Public/Public-Private Partnership
2	Pb	lead
3	PCI	Per Capita Income
4	PL	Public Law
5	PM-2.5	particulate matter equal or less than 2.5 microns in diameter
6	PM-10	particulate matter equal or less than 10 microns in diameter
7	ppb	parts per billion
8	ppm	parts per million
9	ROI	Region of Influence
10	SO ₂	sulfur dioxide
11	SF ₆	sulfur hexafluoride
12	SPCCP	Spill Prevention, Control, and Countermeasures Plan
13	SPCSA	State Public Charter School Authority
14	STEAM	Science, Technology, Engineering, Arts, Math
15	STEM	Science, Technology, Engineering, Math
16	SWPPP	Stormwater Pollution Prevention Plan
17	µg/m ³	micrograms per cubic meter
18	U.S.	United States
19	U.S.C.	United States Code
20	USCB	U.S. Census Bureau
21	USAF	U.S. Air Force
22	USEPA	U.S. Environmental Protection Agency
23	USFWS	U.S. Fish and Wildlife Service

SECTION 1.0
PURPOSE AND NEED OF ACTION



1.0 PURPOSE AND NEED OF ACTION

This Environmental Assessment (EA) was prepared by the U.S. Air Force (USAF) in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [U.S.C.] 4321-4347) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), as well as 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)* for the USAF, and other pertinent environmental statutes, regulations, and compliance requirements. The authorities described will be addressed in various sections throughout this EA when relevant to particular environmental resources and conditions.

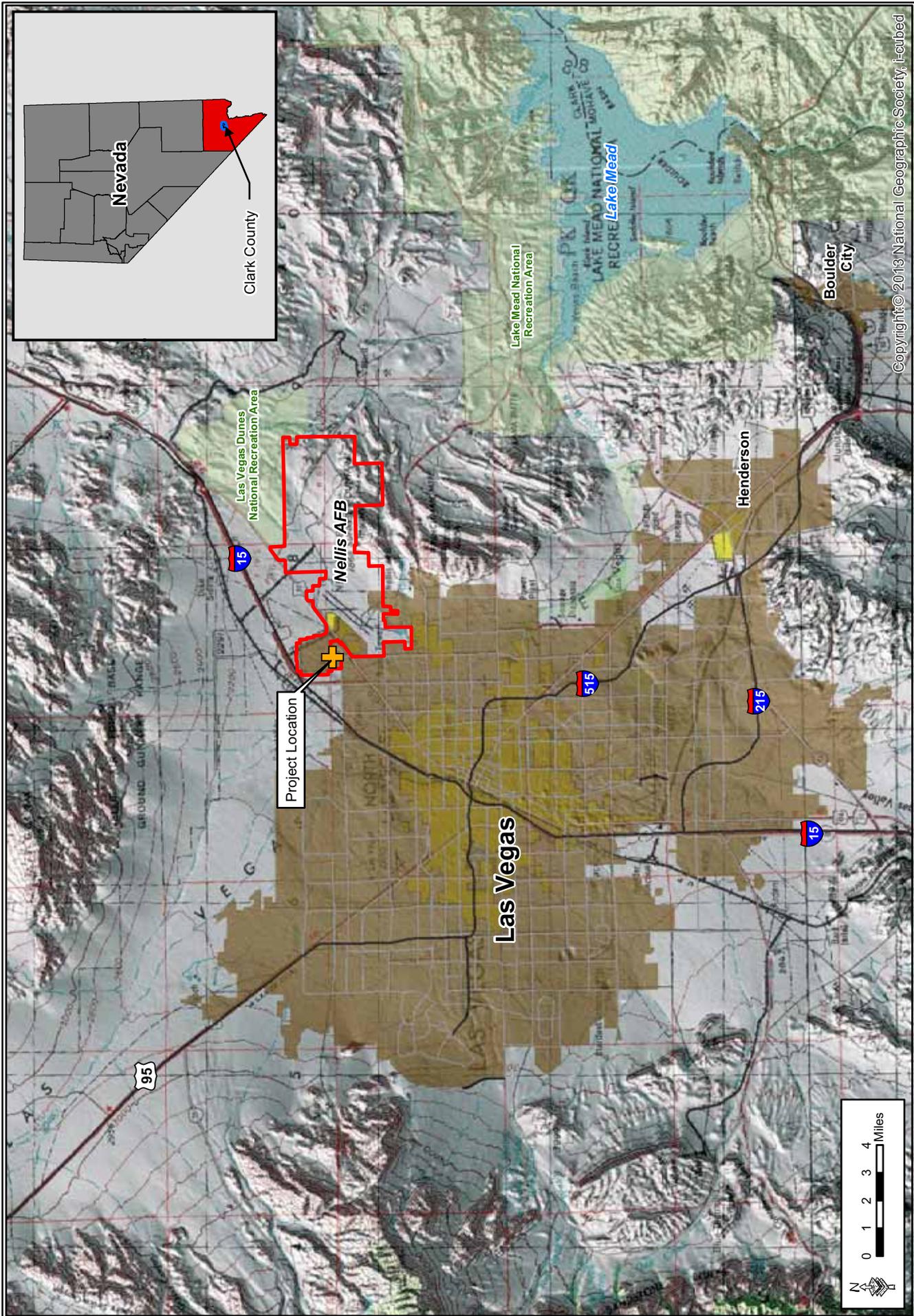
1.1 INTRODUCTION

The USAF has prepared this EA addressing the potential effects from all reasonable alternatives, beneficial and adverse, resulting from the construction and operation of a new school in Area III on Nellis Air Force Base (AFB) (Figure 1-1). Alternative 1 (Preferred Alternative) would allow Nellis AFB to lease base property to a private sector charter school company to develop, construct, and operate a new charter school centrally located school within the base housing community in Area III of Nellis AFB on one of four possible sites. The lease of the Lomie Gray Heard School in Area I to the Clark County School District (CCSD) would be allowed to expire in April 2016. As a consequence of the lease expiration, the Lomie Gray Heard School would be closed and demolished and be replaced by mission-related facilities.

1.2 BACKGROUND

In August 2005, an EA, resulting in a Finding of No Significant Impact (FONSI), was completed for the realignment and privatization of Nellis AFB military family housing (Nellis AFB 2005). The EA proposed that older housing units in Area I would be demolished, and new homes would be built in Area III (Nellis AFB 2005). The 2005 EA notes that discussions between CCSD and the USAF included future plans to provide an elementary school within the housing area where the majority of the military families would then be living and the majority of students would reside, and that this could create beneficial efficiencies. Since 2005, older homes have been demolished, and new homes have been built in Area III, but a new school has not been constructed. The majority of students now living in Area III continue to be transported by bus to Lomie Gray Heard School in Area I (Figure 1-2).

Lomie Gray Heard School currently provides kindergarten through fifth grade education to approximately 600 students made up of military dependents and approximately 20 children of school administrators and staff. CCSD leases the 12-acre parcel on which the school is situated from the USAF, but owns the school buildings. The lease will expire in April 2016, and, if not renewed, ownership of the school buildings would be transferred to the USAF per the terms of the lease.



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Figure 1-1. Vicinity Map

1 The USAF constructed the original school, named Nellis AFB Elementary School, in
2 1953. In 1970, the school buildings were transferred to CCSD to comply with Public
3 Law 89-750, Section 228. In 1971, the school was renamed Lomie Gray Heard
4 Elementary School in honor of the school's first principal, who retired in that year.
5 CCSD has completed improvements and maintained the buildings since that time. Due
6 to the age of the facility, annual maintenance costs are excessive when compared to
7 more modern school facilities, with increased costs attributed to the annual
8 maintenance costs for the aging heating, ventilation, and air conditioning (HVAC)
9 system and lack of modern classroom insulation. In the last 4 years alone, on average,
10 more than \$61,000 has been spent annually to maintain the 61-year-old school.

11
12 Since the majority of base housing is now located in Area III, the current Area
13 Development Plan (ADP) reserved the school parcel in Area I for mission-related
14 activities, as the property is also located on the primary military mission side of Nellis
15 AFB and could be better used for mission operations. If Lomie Gray Heard School were
16 to remain at its current location, the day-to-day school operations and lack of space for
17 new facilities could impact the Nellis AFB mission.

18
19 Nellis AFB is taking this opportunity to prepare for future mission growth by planning the
20 relocation of the base school from Area I to a more suitable site in Area III. Nellis AFB
21 is submitting this request as part of the solution that will enable a new school to be
22 operational in Area III for the 2016/2017 school year and that will not add additional
23 students to the already overburdened CCSD schools in the vicinity of Nellis AFB.

24
25 Nellis AFB consulted with CCSD concerning support of a new Science, Technology,
26 Engineering, and Math (STEM)-based school on Nellis AFB. CCSD stated that they
27 would not accept applications for new charter schools, but did not object to Nellis AFB
28 pursuing a charter school on Nellis AFB through the State of Nevada Charter School
29 Department. Nellis AFB contacted the State Office of Charter Schools, and was then
30 directed to the local charter school association. After consulting with state and local
31 charter school experts, Nellis AFB revised its plan for a new charter school program on
32 Nellis AFB to include education for students in kindergarten through eighth grade,
33 instead of the current kindergarten through fifth grade curriculum.

34
35 Nellis AFB held an open house meeting to gauge interest among Nellis AFB residents in
36 a new charter school on-base. Nellis AFB also held an Industry Day on-base to seek
37 advice, data, concerns, and recommendations from all the current in-state charter
38 school programs to assist in the decision making process of whether a charter school
39 would be appropriate, and to better understand how a charter school may be built and
40 operated on Nellis AFB. Many charter school companies attended and provided
41 valuable information to Nellis AFB.

42
43 Nellis AFB has concurrently had conversations with various financial companies that
44 work with charter school programs to gain a better understanding of the funding and
45 construction processes, as well as how a charter program makes its business case.
46 Additionally, Nellis AFB has been in fact-finding conversations with various bases that

1 currently have charter schools to understand basic information about how the schools
2 operate on-base and why the other bases chose to construct charter schools on-base.
3 There are currently eight charter schools on Air Force bases throughout the U.S., and
4 all have unique situations and conditions. Through conversations with other bases,
5 Nellis AFB has gained a much better understanding of the charter school challenges
6 and rewards.
7

8 Because the possibility exists that Nellis AFB residents would not be interested in a new
9 charter school on-base, Nellis has also begun to initiate a new lease with CCSD to keep
10 Nellis AFB students in the existing Lomie Gray Heard School while continuing to work
11 with CCSD or other private entities to obtain funding for a new school. CCSD has
12 indicated that they would like to renew the lease on Lomie Gray Heard School, since
13 CCSD has no budget available to construct a new school in Area III by the time the
14 lease expires in 2016.
15

16 Nellis AFB initially approached CCSD to discuss closing the existing aged elementary
17 school at its current location and constructing a new school at a site in Area III, with the
18 knowledge that the lease is due to expire in April 2016. Included in the discussion of
19 closing the existing school and constructing a new school was the requirement that a
20 new school building would be constructed and prepared for the first day of classes in fall
21 2016. CCSD responded with the constraint that it is unable to accommodate Nellis
22 AFB's request due to the lack of construction funds. The availability of new construction
23 funds would depend on approval in the next election cycle, and there is no guarantee
24 that the request for funding would pass. Even if the funding request were to pass,
25 Lomie Gray Heard School is a high-quality school, based on its Five Star Rating, and is
26 certainly not the worst school in the CCSD system, so the availability of funds to
27 construct a new school on Nellis AFB would still be questionable.
28

29 In reponse to Nellis AFB's request, CCSD also outlined a chain of events that would
30 occur if the lease for the existing school were not renewed, which included incorporating
31 the 600 current Lomie Gray Heard School students into three existing elementary
32 schools off-base and further overburdening the already overcrowded CCSD schools.
33 Nellis AFB reviewed the CCSD's recommendations and prepared a series of options to
34 avoid sending current Lomie Gray Heard School students off-base to overburdened
35 schools. Nellis AFB's options include construction of a new charter school on-base,
36 construction of a new public school on-base, renewing the existing lease with CCSD,
37 and letting the lease expire, as well as several combinations of those options.
38

39 In efforts to acquire a new school in Area III, Nellis AFB determined that pursuit of a
40 Public-Public/Public-Private Partnership (P4) initiative could achieve that goal through a
41 charter school. CCSD indicated that they had no interest in establishing a new charter
42 school, but the State of Nevada Department of Education, State Public Charter School
43 Association, expressed support and recommended soliciting interest from existing state-
44 approved charter schools. Nellis AFB sent a solicitation of interest letter to the State
45 Public Charter School Association, who distributed it via e-mail to members. Several
46 charter schools have contacted Nellis AFB regarding the potential partnership; however,

1 no contract or proposal can be considered until the NEPA process for the Proposed
2 Action and Action Alternatives has been completed. If no action is taken and the
3 current lease expires, or if no charter school program offers to run a new school
4 program on-base, existing Nellis AFB students would be required to attend school at
5 existing, overcrowded CCSD schools off-base.
6

7 **1.3 STUDY LOCATION**

8

9 Nellis AFB is located northeast of Las Vegas in Clark County, Nevada (see Figure 1-1).
10 Area I of Nellis AFB is located south of Las Vegas Boulevard North, and Area III is
11 located north of Las Vegas Boulevard North, which is a heavily traveled four-lane
12 highway (see Figure 1-2). The main entrance gate for Nellis AFB is located at the
13 intersection of East Craig Road and Las Vegas Boulevard North. Additional base
14 entrances are located at the Range Road-Las Vegas Boulevard North intersection, at
15 the entrance to the Area III base housing development on Salmon Drive, and at the
16 intersection of Tyndall Avenue and North Nellis Boulevard (see Figure 1-2). The Lomie
17 Gray Heard School is located in Area I on Baer Drive adjacent to the junior enlisted
18 housing development. The Youth Center, adjacent to where the new school is
19 proposed, is located on Stafford Drive in Area III, where most on-base, school-age
20 dependents reside (see Figure 1-2).
21

22 **1.4 PURPOSE AND NEED OF ACTION**

23

24 The Proposed Action is to construct a new school in Area III to replace the existing
25 Nellis AFB on-base school, Lomie Gray Heard School, in Area I. The purpose of this
26 action is to replace the existing Nellis AFB on-base school, which was built in 1953, to
27 make land available in Area I for future mission-specific development. Construction of a
28 new school would provide a centrally located school within the base housing community
29 in Area III, and the intent is to lease base property to an educational program to build
30 the new school buildings and operate the school program. The lease of the Lomie Gray
31 Heard School in Area I to CCSD would be allowed to expire in April 2016. As a
32 consequence of the lease expiration, the Lomie Gray Heard School would be closed
33 and demolished and be replaced by mission-related facilities.
34

35 The need for the Proposed Action is to provide the following:

- 36
- 37 • a new school that meets the health, safety, energy conservation, and
- 38 sustainability standards that other CCSD schools meet
- 39 • a new school that is centrally located within the main housing area in Area III of
- 40 Nellis AFB
- 41 • a new school that frees up space in Area I of Nellis AFB for future mission-
- 42 related facilities
- 43 • a new school in a location that decreases on-base traffic and increases security
- 44 at the gates during peak hours
- 45 • a new school that decreases vehicle air emissions from school-bound traffic on-
- 46 base

- a new school that allows the majority of on-base students to continue to attend an on-base school

The current on-base school, Lomie Gray Heard School, is one of the oldest elementary schools in the CCSD and is more expensive to maintain and repair than the district's newer elementary schools, particularly because of the aging HVAC system and lack of modern classroom insulation. As mentioned previously, the average annual maintenance costs have been more than \$61,000 for the Lomie Gray Heard School. Newer CCSD schools in the area, including Henry & Evelyn Bozarth Elementary School, constructed in 2009, and Evelyn Stuckey Elementary School, constructed in 2010, have on an annual basis spent approximately \$23,000 and \$19,000, respectively, for maintenance over the last 4 years. In addition, because of its age, Lomie Gray Heard School does not meet the health, safety, energy conservation, and sustainability standards that other CCSD schools currently meet.

Moreover, with the ever-changing mission of the USAF, and Nellis AFB in particular, the existing school is no longer centrally located since the main housing area has been privatized and rebuilt in Area III. As a result, the site of the existing school is now more suitable for new and emerging mission requirements, and a new school is needed in the main housing area.

The reconstruction of the main housing area in Area III currently makes transportation of students from Area III to the existing school in Area I challenging. Approximately 600 students currently attend Lomie Gray Heard School, made up of military dependents who live on-base, 100 military dependents who reside off-base, and 20 students whose parents are school administrators and staff. CCSD operates bus services to transport students from Area III on Nellis AFB to the school in Area 1. CCSD operates a total of six buses, and approximately 480 students who reside on-base generally ride the CCSD buses. The remaining approximately 120 students, those residing off-base and those of school administrators and staff, are transported to and from school by means other than CCSD buses.

Transporting students from Area III to Area I has increased traffic at the gates during peak hours, increased emissions from the additional traffic, and has resulted in a more overburdened infrastructure. Security concerns have also increased as a result of peak-hour traffic. With construction of a new school in Area III, bus and vehicle traffic in Area I would be reduced since the majority of students live in Area III. Peak-hour traffic and security concerns in Area III would also be reduced since students would be able to walk to school or would have much a shorter transportation route. Although traffic in Area I would be greatly reduced, off-base traffic transporting students to and from the new school in Area III would likely increase.

Additionally, the current CCSD lease expires in April 2016, and there is a need to resolve the lease situation prior to that time. Nellis AFB is taking this opportunity to prepare for future mission growth by planning the relocation of the school to a more suitable site in Area III. The desired goal is the opening of the new school in time for

1 the first day of class in the fall 2016 that allows the majority of on-base students to
2 continue to attend an on-base school.

3
4 Nellis AFB has been monitoring the CCSD challenges, including too many students and
5 not enough schools. Nellis AFB is concerned that CCSD is rezoning the Las Vegas
6 valley to balance the schools so that no one school is adversely overburdened
7 compared to another. This overburdening is inclusive of the schools around the base.
8 If a resolution to the on-base school situation is not reached and the base students are
9 required to attend the off-base schools, they will add to the overburdening of the student
10 population, resulting in a negative impact on the education of both the military students
11 and the civilian students.

12 13 **1.5 SCOPE**

14
15 The scope of this EA includes the analysis of effects from all reasonable alternatives to
16 construct and operate a new elementary school in Area III on Nellis AFB for attendance
17 by military personnel dependents residing on- and off-base, as well as children whose
18 parents are school administrators and staff. The EA will identify, document, and
19 evaluate the Proposed Action and all Action Alternatives and the potential effects on the
20 natural and human environments in the Clark County Region of Influence (ROI).

SECTION 2.0
PROPOSED ACTION AND ACTION ALTERNATIVES



2.0 PROPOSED ACTION AND ACTION ALTERNATIVES

2.1 PROPOSED ACTION

The USAF proposes to construct a new school in Area III to replace the existing Nellis AFB on-base school in Area I, Lomie Gray Heard School, to make land in Area I available for future mission-specific development. The intent is to lease base property to an educational program, either a private charter company or CCDS, to design and construct the new school building and operate the school program. The Proposed Action would provide a new, centrally located school within the base housing community in Area III. The lease of the Lomie Gray Heard School in Area I to CCSD would be allowed to expire in April 2016. As a consequence of the lease expiration, the Lomie Gray Heard School would be closed and demolished and be replaced by mission-related facilities after the new school is operational. The plan would be to remove the school, since it does not meet any current mission uses, and the site would become available in Area I for the construction of future mission-related facilities to meet the needs of the mission and the USAF. All existing utilities and infrastructure would be removed and replaced with current standard material and construction techniques.

The new school would be constructed in Area III to accommodate approximately 800 to 1,000 students in kindergarten through eighth grade. Construction would consist of a single- or multi-story, approximately 70,000-square-foot facility with classrooms, gymnasium, playground, 300-space parking lot, and landscaping, located on an approximately 3- to 10-acre site. The new school would be connected to existing communication, electrical, gas, water, and sewer lines. No asbestos-containing or lead-containing materials would be used in construction of the new school, and all water fixtures would be lead-free.

The operational plan for the new school would be to share fitness/recreation resources with the existing Youth Center and ball fields in Area III for physical fitness curriculum requirements. Coordination would be required with the current base housing contractor to assess and mitigate any impact on the housing community, including traffic flow and other support services, such as base security at the access gates.

The only locations suitable for construction of a new school on Nellis AFB are in Area III, adjacent to the main on-base housing development. The following selection standards were used to reach this conclusion:

- Location within or near the housing area where the majority of on-base students reside
- Ability for students to walk to the school or to have a short commute without crossing any major off-base roadways
- No conflict with existing or planned mission activities and construction
- No current or potential hazardous materials impacts

- Access available through multiple Nellis AFB gates capable of handling the extra school traffic
- Away from the runway to avoid excessive noise impacts

Sites within Area I for a new school were eliminated due to proximity to the runway, excessive distance from the main base housing area, and designation for mission activities in the current ADP. Sites within Area II were eliminated due to excessive distance from the main base housing area, designation for mission activities in the current ADP, and potential impacts from hazardous materials. As such, the new school would be constructed within the boundaries of the privatized housing area at one of four optional sites on Nellis AFB land in Area III (Optional Sites 1 through 4). The Optional Sites are bounded to the east by a seven-foot-tall boundary wall. The sites are bounded to the west by a park and to the south by privatized housing units.

Optional Site 1: This site consists of approximately 2.5 acres east of the Youth Center, adjacent to the north side of Stafford Drive (Photograph 2-1; Figure 2-1). It contains a little league baseball field that would be removed or relocated to allow for construction of the new school. An existing parking lot on the west side of the site would be expanded and used for school parking.

Optional Site 2: This site consists of approximately 3 acres located on the west side of the Youth Center and currently contains a softball field (Photograph 2-2; Figure 2-1). The softball field would be removed to allow for construction of the new school.



Photograph 2-1. Optional Site 1



Photograph 2-2. Optional Site 2

Optional Site 3: This site consists of approximately 3 acres located on the north side of a small drainage channel that runs through the Youth Center recreation area (Photograph 2-3; Figure 2-1). It contains a full-size baseball field, which would be removed and possibly relocated to allow for construction of the new school. Access to the site would require a new access drive across the drainage channel.

Optional Site 4: This site consists of approximately 10 acres set aside in the on-base housing development for a school location. It is located on the south side of Stafford Drive adjacent to the base boundary fence. All housing units, roads, infrastructure, and



Figure 2-1. Proposed Action Optional Sites

1 miscellaneous structures have been removed from Optional Site 4. The site has also
2 been cleared of all vegetation and covered with crushed stone to prevent erosion
3 (Photograph 2-4; Figure 2-1). Underground utilities are in place within the property.
4



Photograph 2-3. Optional Site 3



Photograph 2-4. Optional Site 4

5
6 Electrical and communications lines would be provided at all Optional Sites by overhead
7 poles. An undetermined length of underground trenching, which would be dependent
8 upon specific conditions at each site, would be required to connect to the new school
9 with existing electrical and communication lines. Sewer lines exist at the sites and
10 would be reconfigured to meet the needs of the final design of the school. Water and
11 gas lines currently run along Stafford Drive and can be extended once a design is
12 finalized.

13

14 **2.1.1 Public Involvement in Proposed Action Development**

15 The USAF invites public participation in the NEPA process. Consideration of the views
16 and information of all interested persons promotes open communication and enables
17 better decision making. The USAF has set forth a public participation process that
18 informs local, state, tribal, and federal agencies of proposed projects. All agencies,
19 organizations, and members of the public with a potential interest in the Proposed
20 Action, including minority, low-income, disadvantaged, and Native American groups, are
21 urged to participate in the decision-making process.

22

23 A public information meeting was held at the Holiday Inn Express, 4035 North Nellis
24 Boulevard, Las Vegas, Nevada, on August 12, 2014. The notice of the meeting was
25 published in the *Las Vegas Review-Journal* and *El Tiempo* newspapers in English and
26 Spanish. In addition, over 3,800 individual meeting notices were mailed to residents
27 within a 1-mile radius of Lomie Gray Heard School.

28

29 A total of 22 persons attended the meeting, including Nellis AFB representatives. The
30 public was provided with information about the Proposed Action and asked to provide
31 input on alternatives to Alternative 1 (Preferred Alternative), as well as information
32 concerning sensitive resources in the area. The USAF provided the public with the
33 ability to submit oral and written comments during and after the meeting; however, no

1 formal comments were received at the meeting. To date, no written or email comments
2 have been received since the meeting.

3
4 Coordination and consultation with stakeholder agencies and other potentially affected
5 parties was initiated in August 2014 during the initial planning stages of this project.
6 USAF has also issued agency coordination letters to potentially affected federal, state,
7 and local agencies inviting their participation and input regarding this EA. In addition, all
8 pertinent federal and state agencies, including the U.S. Fish and Wildlife Service
9 (USFWS), have been contacted, notified of the project, and their input on the project
10 requested.

11
12 Copies of the coordination letters and any responses or additional correspondence
13 generated during this project are included in Appendix A. Per 40 Code of Federal
14 Regulations (CFR) Sections 1501.7 and 1502.25, coordination and consultation were
15 conducted with the following:

- 16
- 17 • Bureau of Land Management
- 18 • USFWS
- 19 • Nevada State Clearinghouse
- 20 • Regional Transportation Commission of Southern Nevada
- 21 • Southern Nevada Regional Planning Coalition
- 22 • Clark County Commission
- 23 • Clark County Department of Air Quality & Environmental Management
- 24 • Clark County Department of Comprehensive Planning
- 25 • Clark County School District
- 26 • City of North Las Vegas
- 27

28 Public participation opportunities with respect to the EA and decision making on the
29 viable alternatives are guided by 32 CFR Part 989. A draft of this EA and Finding of No
30 Significant Impact (FONSI) will be released for a 30-day public review on January 11,
31 2015. A Notice of Availability (NOA) will be published in the *Las Vegas Review-Journal*
32 and *El Tiempo*, in English and Spanish, on January 11, 2015 to announce the public
33 comment period and the availability of the draft EA and FONSI (Exhibit 1-1). The Draft
34 EA and FONSI will also be available to view and download from the World Wide Web
35 at: www.nellis.af.mil/library/environmental.asp. In addition, a hard copy is available for
36 review at Las Vegas Library, 833 Las Vegas Boulevard North, Las Vegas, Nevada, from
37 January 11, 2015 to February 10, 2015. USAF provided copies of the draft SEA and
38 FONSI to all coordinating state and federal agencies for review and comment. At the
39 end of the 30-day public review period, the USAF will consider any comments submitted
40 by individuals, agencies, or organizations in the decision. Comments and letters
41 received in response to the 30-day public notice will be included in Appendix A.

1
2

Exhibit 1-1. Notice of Availability

NOTICE OF AVAILABILITY

U.S. Air Force invites the public to provide comments on the draft Environmental Assessment for the Nellis Air Force Base School Initiative, Nellis Air Force Base, Clark County, Nevada.

The U.S. Air Force announces the availability of a draft Environmental Assessment for the construction and operation of a charter school in Area III on Nellis Air Force Base (AFB). Alternative 1 (Preferred Alternative) would allow Nellis AFB to lease base property to a private sector charter school company to develop, construct, and operate a new charter school in the centrally located Area III of Nellis AFB on one of four possible sites.

You may view the draft Environmental Assessment and draft Finding of No Significant Impact beginning January 11, 2015, at www.nellis.af.mil/library/environmental.asp or request a copy from the address below. Copies will also be available for review at the Las Vegas Library, Reference Department, 833 Las Vegas Boulevard North, Las Vegas, NV 89191. Please provide any comments by February 10, 2015 to:

**Nellis Air Force Base
99 ABW Public Affairs
4430 Grissom Ave, Suite 107
Nellis AFB, NV 89191**

For general information, contact 99 ABW/PA at: (702) 652-2750

AVISO DE DISPONIBILIDAD

La Fuerza Aérea de los Estados Unidos invita al público a presentar comentarios sobre el borrador de la Evaluación Ambiental para la iniciativa escolar de Nellis Air Force Base Clark County, Nevada.

La fuerza Aérea de Estados Unidos anuncia la disponibilidad de un borrador de la Evaluación Ambiental para la construcción y operación de una escuela charter en el área III de Nellis Air Force Base (AFB). Alternativa 1 (la Alternativa Preferida) permitiría Nellis AFB a arrendar propiedad del base a una empresa privada de escuelas charter a desarrollar, construir y operar una escuela nueva de carácter. La escuela nueva será localizada al centro de Zona III de Nellis AFB en uno de cuatro sitios posibles.

Puede ver el borrador de la Evaluación Ambiental y el borrador de Búsqueda de Impacto No Significativo comenzando 11 enero, 2015, a www.nellis.af.mil/library/environmental.asp, o puede solicitar una copia de la siguiente dirección. También estará disponibles para su revisión en la biblioteca de Las Vegas, Reference Department, 833 Las Vegas Boulevard North, Las Vegas, NV 89191. A favor de presentar cualquier comentarios por 10 febrero, 2015 a:

**Nellis Air Force Base
99 ABW Public Affairs
4430 Grissom Ave, Suite 107
Nellis AFB, NV 89191**

Para obtener más información, póngase en contacto con 99 ABW/PA a: (702) 652-2750

3

1 **2.2 ACTION ALTERNATIVES**

2
3 Alternatives to implement the Proposed Action were evaluated based on the purpose
4 and need outlined in 1.4. Five Action Alternatives and the No Action Alternative were
5 evaluated:

- 6
7 1. Alternative 1 (Preferred Alternative) – design, construction, and operation of a
8 charter school in Area III and no lease renewal to CCSD for the Lomie Gray
9 Heard School
10 2. Alternative 2 – design, construction, and operation of a charter school in Area III
11 and short-term lease to CCSD for the Lomie Gray Heard School
12 3. Alternative 3 – design, construction, and operation of a public school by CCSD
13 school in Area III and no lease renewal to CCSD for the Lomie Gray Heard
14 School
15 4. Alternative 4 – design, construction, and operation of a public school by CCSD in
16 Area III and short-term lease to CCSD for the Lomie Gray Heard School
17 5. Alternative 5 – lease renewal to CCSD for the Lomie Gray Heard School and no
18 new school construction
19 6. No Action Alternative – no lease renewal to CCSD and no new school
20 construction

21
22 Some of the evaluated alternatives would require actions by outside entities in order to
23 be implemented, and those required actions are explained for each alternative
24 evaluated.

25
26 **2.2.1 Alternative 1 (Preferred Alternative) – Design, Construction, and Operation**
27 **of a Charter School in Area III and No Lease Renewal to CCSD for the**
28 **Lomie Gray Heard School**

29 Alternative 1 (Preferred Alternative) would allow Nellis AFB to lease base property to a
30 private sector charter school company to develop, construct, and operate a new charter
31 school in Area III of Nellis AFB on one of the Optional Sites described in the Proposed
32 Action. Alternative 1 (Preferred Alternative) would result in one new charter school on-
33 base for approximately 800 to 1,000 students and would close the existing CCSD public
34 school on Nellis AFB.

35
36 According to current State of Nevada charter school rules, a new charter school must
37 be established as a public school and comply with applicable state and federal laws
38 regarding public schools (Nevada State Public Charter School Authority [SPCSA] 2014).
39 Because a newly created charter school would not have any previously enrolled
40 students, all students would need to apply for admission. The charter school must
41 inform the community of its public school status and have a fair and open admissions
42 process.

43
44 A charter school must use a lottery if more students apply for admission than can be
45 admitted. A lottery is a random selection process by which applicants are admitted to
46 the charter school (20 U.S.C. 7221i[1][H]). A charter school with fewer applicants than

1 spaces available does not need to conduct a lottery (20 U.S.C. 7221i[1][H]). Weighted
2 lotteries (i.e., lotteries that give additional weight to individual students who are
3 identified as part of a specified set of students, but do not reserve or set aside seats for
4 individual students or sets of students) are permitted only in certain circumstances.
5 However, weighted lotteries may not be used for the purpose of creating schools
6 exclusively to serve a particular subset of students (SPCSA 2014).
7

8 A charter school may exempt from the lottery only those students who are deemed to
9 have been admitted to the charter school already and, therefore, do not need to reapply.
10 A charter school may also exempt certain categories of applicants from the lottery and
11 admit them automatically. Specifically, the following categories of applicants may be
12 exempted from the lottery (SPCSA 2014):
13

- 14 • Students who are enrolled in a public school at the time it is converted
15 into a public charter school;
- 16 • Students who are eligible to attend, and are living in the attendance area
17 of, a public school at the time it is converted into a public charter school;
- 18 • Siblings of students already admitted to or attending the same charter
19 school;
- 20 • Children of a charter school's founders, teachers, and staff (so long as the
21 total number of students allowed under this exemption constitutes only a
22 small percentage of the school's total enrollment); and
- 23 • Children of employees in a work-site charter school, (so long as the total
24 number of students allowed under this exemption constitutes only a
25 small percentage of the school's total enrollment).
26

27 CCSD would not provide bus transportation services for a charter school on Nellis AFB,
28 and it would be incumbent upon the charter school to provide its own bus service or for
29 parents to transport the students to school and pick them up. The new charter school
30 would change the traffic patterns on Nellis AFB, which may affect access to the school.
31 The traffic in Area I would be reduced since the majority of students reside in Area III
32 and would attend school in Area III. Although traffic in Area I would be greatly reduced,
33 off-base traffic transporting students to and from the new school in Area III would likely
34 increase.
35

36 Exact traffic patterns and numbers of vehicles transporting students to and from the new
37 school cannot be estimated until the school is constructed, students are admitted, and it
38 is operational. However, the new school would provide education to approximately 800
39 to 1,000 students, up to 400 more students than the existing school serves. As a worst
40 case scenario, it is estimated that up to 400 additional vehicles could transport students
41 to and from the school in Area III, and these vehicles would be on-base twice a day (i.e.,
42 in the morning for the start of the school day and in the afternoon at the end of the
43 school day).
44

45 Possible alternatives to the existing Area III access gate may be required. Security
46 would be provided by base security forces at the access gates. The new school would

1 share fitness/recreation resources with the existing Youth Center and ball fields in Area
2 III for physical fitness curriculum requirements. A before-school and after-school
3 daycare program may be offered, but that is unknown at this time. Extracurricular
4 activities such as sports would not be offered.

5
6 The CCSD student population has markedly increased over the past few years and
7 local schools are experiencing overcrowding. Schools near Nellis AFB are among
8 those that have experienced excessive overcrowding. A charter school in Area III
9 would not ameliorate these conditions since there is potential that children throughout
10 the CCSD would attend the charter school, and an unknown number of children
11 currently attending Lomie Gray Heard School may need to be absorbed into
12 overcrowded CCSD schools adjacent to Nellis AFB if more students apply to the new
13 charter school than the school can accommodate.

14
15 The lease of the Lomie Gray Heard School in Area I to CCSD would be allowed to
16 expire in April 2016. As a consequence of the lease expiration, the Lomie Gray Heard
17 School would be closed and demolished and be replaced by mission-related facilities.
18 Since it does not meet any current mission uses, the existing 61-year-old school would
19 be demolished after the new school is operational, and mission-related facilities would
20 be built in its place. A separate NEPA analysis by the USAF would be performed for
21 these facilities.

22 23 **2.2.2 Alternative 2 – Design, Construction, and Operation of a Charter School in** 24 **Area III and Short-term Lease to CCSD for the Lomie Gray Heard School**

25 Alternative 2 would lease base property to a private sector charter school company to
26 develop, construct, and operate a new charter school in Area III of Nellis AFB on one of
27 the Optional Sites described in the Proposed Action and would follow the admissions
28 process outlined in Alternative 1 (Preferred Alternative). Alternative 2 would also
29 negotiate a short-term lease to CCSD to continue to operate the existing Lomie Heard
30 Elementary School in Area I on Nellis AFB. No military funds would be used to improve
31 the school. Responsibility for administration, teachers, staff, maintenance, upkeep,
32 upgrades, or improvements would lie completely with CCSD. Student attendance at
33 Lomie Gray Heard School would remain the same, approximately 600 students made
34 up of military dependents who live on-base, 100 military dependents who reside off-
35 base, and 20 students whose parents are school administrators and staff. Alternative 2
36 would result in two schools, a new privately sponsored charter school and the existing
37 CCSD-operated school, on Nellis AFB.

38
39 The CCSD student population has markedly increased over the past few years, and
40 local schools are experiencing overcrowding. Schools near Nellis AFB are among
41 those that have experienced excessive overcrowding. A charter school in Area III
42 would not ameliorate these conditions since there is potential that children throughout
43 the CCSD would attend the charter school.

44
45 The lease to CCSD for Lomie Gray Heard School would be renewed for at least 10
46 years, with an option for Nellis AFB to cancel the lease on short notice. CCSD has
47 offered to enhance the existing school curriculum with a STEM (Science, Technology,

1 Engineering, Math) or STEAM (Science, Technology, Engineering, Arts, Math)
2 curriculum, if requested by Nellis AFB. This CCSD program is similar to the charter
3 school program, but in a public school with a zoned attendance area. There are no
4 plans to upgrade or improve the existing school since CCSD has no additional funding
5 available. Students who reside on-base would continue to be transported by bus from
6 Area III to the school in Area I.

7
8 Because current regulations require any lease of Department of Defense (DoD)
9 property to be negotiated for a fair market value of the property, the new lease would
10 significantly increase the cost of the lease for CCSD. Fair market value for a new lease
11 on the 12.17 acres of land in Area I would be \$31,000 per year, as compared with the
12 current nominal lease cost of \$1 per year. In order to minimize lease costs to CCSD,
13 Nellis AFB is considering decreasing the acreage to be leased. Also under
14 consideration is USAF use of the school facilities outside of school hours for meetings
15 and other mission activities. In the event that the Proposed Action is implemented after
16 the CCSD lease is renewed, the CCSD lease could be revoked.

17
18 Alternative 2 was developed as a result of the intergovernmental/ interagency
19 coordination for the Proposed Action and Action Alternatives. Although it does not meet
20 the purpose and need for the Proposed Action, Nellis AFB and CCSD determined that it
21 would be advantageous to examine the potential for renewing a long-term lease with
22 CCSD for Lomie Gray Heard Elementary School in addition to developing, constructing,
23 and operating a new charter school centrally located within the base housing community
24 in Area III of Nellis AFB.

25
26 Alternative 2 would not open land in Area I that is planned for the siting of training
27 facilities. Likewise, traffic would potentially increase on Nellis AFB since students would
28 be transported to Lomie Gray Heard School in Area I and additional students would be
29 transported to the new charter school in Area III. The CCSD would also continue to
30 incur higher maintenance costs to maintain the aging existing school. However, this
31 alternative is necessary in case a new school in Area III cannot be constructed before
32 the end of the existing lease.

33 34 **2.2.3 Alternative 3 – Design, Construction, and Operation of a Public School by** 35 **CCSD in Area III and No Lease Renewal to CCSD for the Lomie Gray Heard** 36 **School**

37 Alternative 3 would allow Nellis AFB to lease property to CCSD to develop, construct,
38 and operate a new public school in Area III of Nellis AFB on one of the Optional Sites
39 described in the Proposed Action and would not renew the lease to CCSD for the Lomie
40 Gray Heard School. Alternative 3 would result in a new CCSD public school on-base
41 and would close the existing CCSD-operated public school on Nellis AFB. Nellis AFB
42 would request modification of the proposed new school to increase the population to
43 800 students, including grades six through eight, with a STEM curriculum offered, while
44 keeping the current zoning to only military students and students whose parents are
45 school administrators and staff. Responsibility for administration, teachers, staff,

1 maintenance, upkeep, and upgrades or improvements would remain completely with
2 CCSD. No military funds would be used to construct or improve the school.

3
4 The lease of the Lomie Gray Heard School in Area I to CCSD would be allowed to
5 expire in April 2016. As a consequence of the lease expiration, the Lomie Gray Heard
6 School would be closed. Since it does not meet any current mission uses, the existing
7 61-year-old school would be demolished after the new school is operational, and
8 mission-related facilities would be built in its place. A separate NEPA analysis by the
9 USAF would be performed for these facilities.

10
11 Alternative 3 is not currently possible due to CCSD budget restrictions. Funding for the
12 new school is dependent upon passage of a school building request. Elections were
13 held in November 2014, and no additional school funding was approved by voters.
14 CCSD has chosen not to present a funding request in the 2015 election cycle, as the
15 passage of the request is not likely. CCSD would re-examine a new construction
16 funding election question in 2017.

17 18 **2.2.4 Alternative 4 – Design, Construction, and Operation of a Public School by** 19 **CCSD in Area III and Short-term Lease Renewal to CCSD for the Lomie** 20 **Gray Heard School**

21 Under this alternative, Nellis AFB would lease property to CCSD to develop, construct,
22 and operate a new public school in Area III of Nellis AFB on one of the Optional Sites
23 described in the Proposed Action and would also negotiate a short-term lease to CCSD
24 to continue to operate the existing Lomie Heard Elementary School in Area I on Nellis
25 AFB. The lease renewal to CCSD would follow the fair market value requirements
26 outlined in Alternative 2. Student attendance at Lomie Gray Heard School would
27 remain the same, as outlined in Alternative 2.

28
29 Nellis AFB would request modification of the proposed new school to increase the
30 population to 800 students, including grades six through eight, with a STEM curriculum
31 offered, while keeping the current zoning to only military students and students whose
32 parents are school administrators and staff. Responsibility for administration, teachers,
33 staff, maintenance, upkeep, and upgrades or improvements would remain completely
34 with CCSD. No military funds would be used to improve the school. However,
35 Alternative 4 is not currently possible due to CCSD budget restrictions.

36
37 Alternative 4 would not open land in Area I that is planned for the siting of mission-
38 related facilities. Traffic would potentially increase on Nellis AFB since students would
39 be transported to Lomie Gray Heard School in Area I and additional students would be
40 transported to the new public school in Area III. The CCSD would also continue to incur
41 higher maintenance costs to maintain the aging existing school.

42 43 **2.2.5 Alternative 5 – Long-Term Lease Renewal to CCSD for the Lomie Gray** 44 **Heard School and No New School Construction**

45 This alternative would renew the lease to CCSD for the Lomie Gray Heard School, but
46 would not construct a new school. The lease renewal to CCSD would follow the fair

1 market value requirements outlined in Alternative 2. Student attendance at Lomie Gray
2 Heard School would remain the same, as outlined in Alternative 2.

3
4 Alternative 5 would not meet the purpose and need for the Proposed Action, as it would
5 not open land in Area I that is planned for the siting of mission-related facilities. Traffic
6 and security problems on-base would persist since children would continue to be
7 transported to Lomie Gray Heard School in Area I. The CCSD would also continue to
8 incur higher maintenance costs to maintain the aging existing school.

9
10 **2.2.6 No Action Alternative**

11 The No Action Alternative would allow the current lease for Lomie Gray Heard School to
12 expire in April 2016, and Nellis AFB would take no action to replace the school on-base.
13 The No Action Alternative would create transportation and logistical challenges for
14 parents and would disperse the approximately 600 students who currently attend the
15 Lomie Gray Heard School to other CCSD schools in the area, which would further
16 overburden the already overcrowded schools, resulting in a negative impact on the
17 education of both the military students and the civilian students.

18
19 Under this alternative, no schools would operate on Nellis AFB. The Lomie Gray Heard
20 School property and buildings would remain with Nellis AFB, and the site would be used
21 for base mission objectives. The No Action Alternative does not meet the purpose of
22 and need for the Proposed Action, as on-base military dependents would not have a
23 convenient school to attend on-base and overcrowding of the CCSD schools in the area
24 would be increased.

25
26 **2.3 REGULATORY COMPLIANCE AND PERMIT REQUIREMENTS**

27
28 The Proposed Action would require permits from various regulatory agencies. A
29 Stormwater Construction permit would be required prior to construction, since the
30 disturbed area for a new school would be greater than 1 acre. A stationary source air
31 permit would be required for gas-powered heating and air conditioning units. For
32 operation of new charter school, an operating permit would be obtained from the
33 SPCSA.

34
35 **2.4 SUMMARY OF ENVIRONMENTAL IMPACTS**

36
37 Table 2-1 presents a summary of the impacts anticipated under the Action and No
38 Action Alternatives.

Table 2-1. Summary of Environmental Impacts

Affected Resource	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	No Action Alternative
Biological Resources	Possible minor impacts on ground-nesting bird habitat	Possible minor impacts on ground-nesting bird habitat	Possible minor impacts on ground-nesting bird habitat	Possible minor impacts on ground-nesting bird habitat	No impacts, no change from current conditions	No impacts, no change from current conditions
Cultural Resources	Minor impacts on possible historic school structures, would be mitigated	No impacts, no change from current conditions	Minor impacts on possible historic school structures, would be mitigated	No impacts, no change from current conditions	No impacts, no change from current conditions	Minor impacts on possible historic school structures, would be mitigated
Land Use	Minor impacts in Area III on Optional Sites 1 through 3, change from recreation to school use; Minor impact in Area I, change from school to mission utilization	Minor impacts in Area III on Optional Sites 1 through 3, change from recreation to school use	Minor impacts in Area III on Optional Sites 1 through 3, change from recreation to school use; Minor impact in Area I, change from school to mission utilization	Minor impacts in Area III on Optional Sites 1 through 3, change from recreation to school use	No impacts, no change from current conditions	Minor impact in Area I, change from school to mission utilization
Air Quality	Minor impacts during new construction	Minor impacts during new construction	Minor impacts during new construction	Minor impacts during new construction	No impacts, no change from current conditions	No impacts
Water Resources	Minor impacts due to increased stormwater runoff	Minor impacts due to increased stormwater runoff	Minor impacts due to increased stormwater runoff	Minor impacts due to increased stormwater runoff	No impacts, no change from current conditions	No impacts
Transportation	Minor to moderate impacts due to increased traffic to Area III	Minor to moderate impacts due to increased traffic to Area III	Minor to moderate impacts due to increased traffic to Area III	Minor to moderate impacts due to increased traffic to Area III	No impacts, no change from current conditions	Minor impacts due to increased student attendance off-base

Table 2-1, continued

Affected Resource	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	Alternative 4	Alternative 5	No Action Alternative
Utilities and Infrastructure	No impacts, increase in utility resource use by the new school would be offset by utility resource use discontinuation with closing of the Lomie Gray Heard School	Minor impacts due to increased demand in Area III	No impacts, increase in utility resource use by the new school would be offset by utility resource use discontinuation with closing of the Lomie Gray Heard School	Minor impacts due to increased demand in Area III	No impacts, no change from current conditions	Possible minor impacts due to increased mission use in Area I
Socioeconomics	Minor beneficial effects due to increased student space; new school would be available to CCSD community	Minor beneficial effects due to increased student space; new school would be available to CCSD community	Minor beneficial effects due to increased student space; new school would be available to on-base military students	Minor beneficial effects due to increased student space; new school would be available to on-base military students	No impacts, no change from current conditions	Minor impacts due to increased student attendance off-base, loss of one school
Environmental Justice and Protection of Children	Minor beneficial effects due to availability of an additional school for public attendance	Minor beneficial effects due to availability of an additional school for public attendance	Minor beneficial effects due to availability of an additional school for on-base military students	Minor beneficial effects due to availability of an additional school for on-base military students	No impacts, no change from current conditions	Moderate impacts due to increased attendance at off-base schools

SECTION 3.0
AFFECTED ENVIRONMENT



3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes the existing environmental conditions at and surrounding the Proposed Action Optional Sites in Area III, and the existing Lomie Gray Heard School site in Area I. It provides a baseline from which to identify and evaluate changes resulting from the proposed lease of land for the design, construction, and operation of a new school in Area III, and demolition of the existing school in Area I.

Only those resources that have a potential to be affected are discussed as per CEQ guidance (40 CFR 1501.7[3]). Therefore, the following resources will not be discussed for the following reasons:

- **Climate** – The project would not affect, or be affected by, climate.
- **Farmlands** – No farmlands exist on or near the project sites.
- **Wilderness** – The project sites are not located in or near a wilderness area.
- **Wild and Scenic Rivers** – No wild and scenic rivers exist in proximity to the projects sites.
- **Fire Management** – The project sites are not located in a fire risk area, and local building codes would regulate fire control following construction.
- **Floodplain** – The project sites are not located within a floodplain and would not affect other floodplain designations.
- **Geology and Soils** – No excavation would occur to a depth that would impact subsurface geology or alter existing soils at the project sites.

3.2 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats in which they occur. For the purpose of this EA, these resources are divided into three categories: vegetation, wildlife including migratory birds, and protected species including federally listed and state-listed species, candidate species, and other sensitive species listed by the Nevada Department of Wildlife. Site reconnaissance surveys were conducted on July 8, 2014, at all Proposed Action Optional Sites and on August 12, 2014, at the Lomie Gray Heard School site.

3.2.1 Vegetation

The Lomie Gray Heard School site (Photograph 3-1) and the Optional Sites (see Photographs 2-1 through 2-4) do not contain any native vegetation. All vegetation is maintained grasses and landscape plantings.



Photograph 3-1. Lomie Gray Heard School Site

1 **3.2.2 Wildlife**

2 The Lomie Gray Heard School site is enclosed by a security fence, within a developed
3 on-base housing development, which would preclude the presence of any native wildlife
4 on the site, except for birds. Transient local and common bird species might utilize the
5 trees planted on the school property, but the presence of students and faculty
6 throughout the year would discourage any resident species.
7

8 The Proposed Action Optional Sites are located in the middle of the base housing
9 development, and consist of cleared recreational fields and vacant land (see
10 Photographs 2-1 through 2-4). No trees are present on the sites, and the only wildlife
11 that may be present would reside in and along the drainage channel running behind the
12 Youth Center. No wildlife was present at the sites during the July 8, 2014 site
13 reconnaissance. Wildlife present could include small mammals. Small mammal
14 burrows and potential ground-nesting migratory bird habitat were identified on or near
15 Optional Sites 1, 2, and 3.
16

17 **3.2.3 Protected Species**

18 During the July 8, 2014, site reconnaissance, no federally listed species were present
19 on any of the Optional Sites. However, habitat is present at the Optional Sites that
20 could support the western burrowing owl (*Athene cunicularia*), a state-protected species
21 and Bureau of Land Management Sensitive Species. This habitat was noted along the
22 drainage channel running through the Youth Center recreational fields. No burrowing
23 owls were observed during reconnaissance, and the small mammal burrows observed
24 were too small for occupation by burrowing owls.
25

26 **3.3 CULTURAL RESOURCES**

27
28 Cultural resources are prehistoric and historic sites, districts, structures, artifacts, or any
29 other physical evidence of human activity considered important to a culture, subculture,
30 or community for scientific, traditional, religious, or other reasons. A historic district is
31 an area that “possesses a significant concentration, linkage, or continuity of sites,
32 buildings, structures, or objects united historically or aesthetically by plan or physical
33 development” (National Park Service [NPS] 1997).
34

35 Nellis AFB operates under an Integrated Cultural Resources Management Plan
36 (ICRMP) (USAF 2012), which identifies all known cultural resources on the base and
37 defines a management plan for protection of those resources. All of Nellis AFB, which
38 includes Area I, Area II, and Area III, and the Small Arms Range, has been surveyed for
39 archaeological resources, and all sites evaluated. One NRHP-eligible site, a quarry, is
40 located on Nellis AFB. All other sites were determined to be ineligible for nomination
41 through the Nevada State Historic Preservation Office (SHPO) consultation (letter dated
42 April 12, 2001). No sites exist within the project area. IN 2001, the Nevada SHPO
43 concurred with this determination. Native American Tribal consultation was completed
44 through the Nellis AFB Native American Program Document Review Committee; tribal
45 representatives concurred with the cultural resources inventory report
46 recommendations.

1 The Lomie Gray Heard School buildings were constructed in 1953 and 1956. In 1995,
2 Mariah Associates, Inc. completed a preliminary evaluation, interpretation, and
3 prioritization of Cold War facilities for 27 ACC bases throughout the U.S. The primary
4 Nellis AFB Cold War mission was to train Air Training Command and Tactical Air
5 Command pilots. Buildings and collections recommended for additional research at that
6 time included the Threat Facility, the Red Flag air combat training center, the Weapons
7 School Facility, the Thunderbirds maintenance hangar, the Command Center, and
8 certain document collections (Mariah Associates, Inc. 1995).

9
10 In 2007, an historic building inventory was completed on Nellis AFB that included
11 evaluation of potential Cold War significance. Three storage igloos were determined
12 eligible for nomination to the National Register of Historic Places (Geo-Marine, Inc.
13 2007). However, neither the Nevada SHPO nor the NPS National Register of Historic
14 Places Program concurred with this determination. They determined that Nellis AFB
15 should expand the scope of evaluation to include all buildings constructed prior to the
16 end of the Cold War (1989), other facilities such as runways and aprons, potential for
17 historic districts, and regional historic significance of the installations. An inventory
18 addressing these recommendations is currently underway and will include Lomie Gray
19 Heard School buildings. The buildings are being assessed for historical value. If they
20 were to be removed, all appropriate Nevada SHPO consultation would be completed.

21 22 **3.4 LAND USE RESOURCES**

23
24 The term "land use" refers to either natural conditions or the type of development
25 occurring on the land. Land use is often dictated by local zoning laws, regulations, or
26 designations. All of the Optional Sites are located on Nellis AFB land within the
27 perimeter security fence. The Lomie Gray Heard School site is currently used as an
28 active elementary school, and has been used for that purpose since 1953. Proposed
29 Action Optional Sites 1 through 3 are used for recreational purposes with ball fields
30 present on each site. Optional Site 4 was previously used for base housing, but is
31 currently vacant land.

32 33 **3.5 AIR QUALITY**

34
35 The U.S. Environmental Protection Agency (USEPA) established National Ambient Air
36 Quality Standards (NAAQS) for specific pollutants determined to be of concern with
37 respect to the health and welfare of the general public. Ambient air quality standards
38 are classified as either "primary" or "secondary." The major pollutants of concern, or
39 criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide
40 (NO₂), ozone (O₃), particulate matter less than 10 microns (PM-10), particulate matter
41 less than 2.5 microns (PM-2.5) and lead. NAAQS represent the maximum levels of
42 background pollution that are considered safe, with an adequate margin of safety, to
43 protect the public health and welfare. The NAAQS are included in Table 3-1.

1

Table 3-1. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Times
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ⁽¹⁾	None	
	35 ppm (40 mg/m ³)	1-hour ⁽¹⁾		
Lead	0.15 µg/m ³ ⁽²⁾	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m ³	Quarterly Average	Same as Primary	
Nitrogen Dioxide	53 ppb ⁽³⁾	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour ⁽⁴⁾	None	
Particulate Matter (PM-10)	150 µg/m ³	24-hour ⁽⁵⁾	Same as Primary	
Particulate Matter (PM-2.5)	15.0 µg/m ³	Annual ⁽⁶⁾ (Arithmetic Average)	Same as Primary	
	35 µg/m ³	24-hour ⁽⁷⁾	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour ⁽⁸⁾	Same as Primary	
	0.08 ppm (1997 std)	8-hour ⁽⁹⁾	Same as Primary	
	0.12 ppm	1-hour ⁽¹⁰⁾	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour ⁽¹⁾
	0.14 ppm	24-hour ⁽¹⁾		
	75 ppb ⁽¹¹⁾	1-hour	None	

Source: USEPA 2014a at <http://www.epa.gov/air/criteria.html>

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb - 1 part in 1,000,000,000) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

⁽¹⁾ Not to be exceeded more than once per year.

⁽²⁾ Final rule signed October 15, 2008.

⁽³⁾ The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

⁽⁴⁾ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

⁽⁵⁾ Not to be exceeded more than once per year on average over 3 years.

⁽⁶⁾ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁷⁾ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

⁽⁸⁾ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

⁽⁹⁾ (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) USEPA is in the process of reconsidering these standards (set in March 2008).

⁽¹⁰⁾ (a) USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

⁽¹¹⁾ (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

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1 A conformity analysis is the process used to determine whether a federal action meets
2 the requirements of the General Conformity Rule. It requires the responsible federal
3 agency to evaluate the nature of a proposed action and associated air pollutant
4 emissions and calculate emissions that may result from the implementation of the
5 Proposed Action. If the emissions exceed established limits, known as *de minimis*
6 thresholds, the proponent is required to perform a conformity determination and
7 implement appropriate mitigation measures to reduce air emissions. The air quality in
8 Clark County is in attainment for all NAAQS except PM-10, and the USEPA has
9 designated Clark County as in serious non-attainment for PM-10 due to the dry climate
10 and potential for wind-blown dust (USEPA 2014b).

11 12 **3.5.1 Greenhouse Gases and Climate Change**

13 Global climate change refers to a change in the average weather on the earth.
14 Greenhouse gases (GHG) are gases that trap heat in the atmosphere. They include
15 water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), fluorinated
16 gases including chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HFC), and
17 halons, as well as ground-level O₃ (California Energy Commission 2007).

18
19 The major GHG-producing sectors in society include transportation, utilities (e.g., coal
20 and gas power plants), industry/manufacturing, agriculture, and residential. End-use
21 sector sources of GHG emissions include transportation (40.7 percent), electricity
22 generation (22.2 percent), industry (20.5 percent), agriculture and forestry (8.3 percent),
23 and other (8.3 percent) (California Energy Commission 2007). The main sources of
24 increased concentrations of GHG due to human activity include the combustion of fossil
25 fuels and deforestation (CO₂), livestock and rice farming, land use and wetland
26 depletions, landfill emissions (CH₄), refrigeration system and fire suppression system
27 use and manufacturing (i.e., CFC), and agricultural activities, including the use of
28 fertilizers.

29 30 **3.5.2 Greenhouse Gases Regulatory Framework**

31 The regulatory framework for GHG has changed rapidly over the past few years. The
32 USEPA has issued the Final Mandatory Reporting of Greenhouse Gases Rule. The
33 rule requires large sources that emit 25,000 metric tons or more per year of GHG
34 emissions to report GHG emissions in the U.S., collect accurate and timely emissions
35 data to inform future policy decisions, and submit annual GHG reports to the USEPA.

36
37 On December 7, 2009, the USEPA Administrator signed two findings regarding GHG
38 under Section 202(a) of the CAA:

- 39
- 40 • **Endangerment Finding:** The Administrator finds that the current and projected
41 concentrations of the six key well-mixed GHG (CO₂, CH₄, N₂O, HFCs,
42 perfluorocarbons [PFCs], and sulfur hexafluoride [SF₆]) in the atmosphere
43 threaten the public health and welfare of current and future generations.
 - 44 • **Cause or Contribute Finding:** The Administrator finds that the combined
45 emissions of these well-mixed GHG from new motor vehicle engines contribute
46 to the GHG pollution, which threatens public health and welfare.

1 These findings individually do not impose any requirements on industry or other
2 entities. However, this action is a prerequisite to finalizing the USEPA's proposed GHG
3 standards for light-duty vehicles, which were jointly proposed by the USEPA and the
4 Department of Transportation's National Highway Safety Administration (NHTSA) on
5 September 15, 2009.

6
7 Executive Order (EO) 13514, Federal Leadership in Environmental, Energy, and
8 Economic Performance, signed on October 5, 2009, directs federal agencies to reduce
9 GHG emissions and address climate change in NEPA analysis. It expands upon the
10 energy reduction and environmental performance requirements of EO 13423,
11 *Strengthening Federal Environmental, Energy, and Transportation Management*. The
12 new EO establishes GHG emission reductions as an overarching, integrating
13 performance metric for all federal agencies and requires a deliberative planning
14 process.

15
16 CEQ provided draft guidance for determining meaningful GHG decision-making
17 analysis. CEQ GHG guidance is currently undergoing public comment at this time;
18 however, the draft guidance states that if the proposed action would be reasonably
19 anticipated to cause direct emissions of 25,000 metric tons or more of equivalents of
20 CO₂ GHG emissions on an annual basis, agencies should consider this an indicator that
21 a quantitative and qualitative assessment may be meaningful to decision makers and
22 the public. For long-term actions that have annual direct emissions of less than 25,000
23 metric tons of CO₂ equivalents, CEQ encourages federal agencies to consider whether
24 the action's long-term emissions should receive similar analysis. CEQ does not
25 propose this as an indicator of a threshold of significant effects, but rather as an
26 indicator of a minimum level of GHG emissions that may warrant some description in
27 the appropriate NEPA analysis for agency actions involving direct emissions of GHG
28 (CEQ 2010).

29 30 **3.6 WATER RESOURCES**

31
32 Water resources include both surface and subsurface water. Surface water includes all
33 lakes, ponds, rivers, streams, impoundments, and wetlands within a defined area or
34 watershed. Subsurface water, commonly referred to as groundwater, is typically found
35 in certain areas with aquifers. Aquifers are areas of relatively high-porosity soil and rock
36 where water can be stored between soil particles and within pore spaces. Groundwater
37 is usually recharged during precipitation events and is withdrawn for domestic,
38 agricultural, and industrial purposes. The CWA of 1972 is the primary federal law that
39 protects the Nation's waters, including lakes, rivers, aquifers, and coastal areas. The
40 primary objective of the CWA is to restore and maintain the integrity of the Nation's
41 waters. Other issues relevant to water resources include watershed areas affected by
42 existing and potential runoff and hazards associated with floodplains.

43
44 Water resources analyzed in this section include the surface water and watersheds
45 associated with the project footprint where proposed ground-disturbing activities would
46 occur.

1 **3.6.1 Surface Water**

2 The primary drainage for Proposed Action Optional Sites 1 through 4 is a drainage
3 channel that flows into a stormwater detention basin south of Stafford Drive. The
4 detention basin empties into a drainage conveyance that eventually flows into the Sloan
5 Channel and subsequently into Lake Mead. The drainage channel collects stormwater
6 runoff from the surrounding base housing development during rain events. During other
7 times, it is dry. By virtue of the defined bed and banks of the channel, it could be
8 considered a jurisdictional waters of the U.S., subject to regulation under the CWA.
9

10 It is also subject to regulation for stormwater control to prevent development on-base
11 from affecting nearby areas in Clark County with excess stormwater runoff during rain
12 events.
13

14 **3.7 TRANSPORTATION AND TRAFFIC**

15
16 This transportation and traffic section describes the roadways and highways in the
17 vicinity of the project alternatives that could have an impact on access to the school
18 facilities or could be impacted by construction or operation of the new school facilities.
19 It does not cover air or rail transportation, as neither air nor rail transportation would be
20 expected to impact or be impacted by any of the alternatives.
21

22 Major transportation arteries in the area around Nellis AFB were shown previously in
23 Figure 1-2. Las Vegas Boulevard North runs northeast-southwest through Nellis AFB
24 and separates Area I from Area III. It is a major regional artery connecting the base
25 area with downtown Las Vegas. The Range Road Gate on Las Vegas Boulevard North
26 provides access to Area III. East Craig Road intersects Las Vegas Boulevard North at
27 the Nellis AFB Craig Road Gate (main base gate). It also is a major artery that funnels
28 traffic from Interstate 15 north of the base to Las Vegas Boulevard North. The main
29 gate to the Area III on-base housing is on East Craig Road. Area I of Nellis AFB is
30 bounded on the west by North Nellis Boulevard, which is a major north-south road that
31 connects south Las Vegas with the city of North Las Vegas and Nellis AFB. The
32 Tyndall Avenue Gate provides access from North Nellis Boulevard to Area I.
33

34 Nellis AFB has five restricted access control points (gates) to maintain security. In
35 addition, there are two access gates to the Area III housing and the hospital that are
36 currently closed. Currently, traffic to the Lomie Gray Heard School accesses the base
37 through the Craig Road Gate and the Tyndall Avenue Gate. Almost all of the school
38 traffic comes from the Area III housing. Baer Drive, in front of Lomie Gray Heard
39 School, has expanded vehicle and bus lanes and parking to accommodate the school
40 traffic. There is no school traffic blocking lanes on streets outside the base.

1 Traffic measured at each Nellis AFB gate in 2011 is shown in Table 3-2.

2
3

Table 3-2. 2011 Traffic Counts at Nellis AFB Gates

Gate Location	Vehicles per Week
Main Gate (Craig Road)	53,314
Tyndall Avenue	21,095
Beale Avenue	14,875
Salmon Drive (Area III housing)	11,727
I-215 (north Area III gate)	5,079
Range Road (south Area III gate)	29,221
Minot Avenue	5,090

Nellis AFB 2011

4
5

6 A new school in Area III would require base entry through the Salmon Drive gate on
7 East Craig Road (non-signal intersection) or the Range Road Gate on Las Vegas
8 Boulevard North (signal intersection). The base housing gate has a 350-foot left turn
9 lane on East Craig Road, and the Range Road Gate has a 650-foot left turn lane on Las
10 Vegas Boulevard North. Proposed Action Optional Sites 1 through 4 are located on
11 Stafford Drive, a two-lane street that extends from Range Road into the Area III housing
12 development, a distance of 1.1 miles. Range Road extends a distance of 1 mile north
13 from the Stafford Drive intersection to the north I-215 gate, near Interstate 15.

14

15 Daily traffic on East Craig Road, Las Vegas Boulevard North, and North Nellis
16 Boulevard is relatively heavy on weekdays, particularly during morning and evening
17 commute times for base personnel. Average Daily Traffic (ADT) counts for these
18 streets are 13,000 for Las Vegas Boulevard North at the Range Road Gate, 21,500 for
19 East Craig Road at the Salmon Drive Gate, and 19,500 for North Nellis Boulevard at the
20 Tyndall Gate (Nevada Department of Transportation 2013).

21

22 **3.8 UTILITIES AND INFRASTRUCTURE**

23

24 The Lomie Gray Heard School is currently served by electrical, water, sewer, gas, and
25 communications utilities. The Proposed Action Optional Sites 1 through 3 have access
26 to electrical, water, sewer, gas, and communications utilities by virtue of their location
27 adjacent to the Youth Center in the middle of the Area III housing development. There
28 are various utilities connections and access covers for electricity, telecommunications,
29 gas, water, and sewer buried utilities on Optional Site 4 as a result of the previous
30 construction of base housing.

31

32 If a charter school is constructed in Area III on Nellis AFB, the private charter school
33 company would reimburse the government for utilities per AFI 32-1061.

1 **3.9 SOCIOECONOMICS**

2
3 This socioeconomics section outlines the basic attributes of population and economic
4 activity within the ROI for Nellis AFB and vicinity. The ROI is Clark County, which is
5 also the county that makes up the Las Vegas/Henderson/Paradise Metropolitan
6 Statistical Area (MSA).
7

8 **Population**

9 Clark County has grown dramatically since 1990 (Table 3-3). Beginning in the 1990s
10 and continuing through 2007, Clark County experienced population growth rates that far
11 outpaced the average population growth rates for the Nation. Growth rates decreased
12 noticeably beginning in 2008, as unemployment increased substantially as a result of
13 the National recession. In 2013, Clark County had a population of approximately 2
14 million (U.S. Census Bureau 2013). Clark County’s population is approximately 52
15 percent minority (U.S. Census Bureau 2010).
16
17

Table 3-3. Population

	City of Las Vegas		Clark County/ROI		Nevada		United States	
	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate	Population	Average Annual Growth Rate
2013	603,488	1.1%	2,027,868	1.3%	2,790,136	1.1%	316,128,839	0.8%
2010	583,756	2.2%	1,951,269	4.2%	2,700,551	3.5%	308,745,538	1.0%
2000	478,434	8.5%	1,375,765	8.6%	1,998,257	6.6%	281,421,906	1.3%
1990	258,295		741,459		1,201,833		248,709,873	

18 Source: U.S. Census Bureau 2000, U.S. Census Bureau 2010, and U.S. Census Bureau 2013

19
20 More than 32,000 active duty military, dependents, Reserve/Air National Guard, and
21 civilian and contract employees are associated with Nellis AFB, Creech AFB, and the
22 Nevada Test and Training Range (NTTR) (Table 3-4), and annual payroll exceeds \$900
23 million. Approximately 20 percent of active duty military and their dependents live on-
24 base, with the remaining 80 percent living in the region (Nellis AFB 2012).
25

26 **Table 3-4. Personnel at Nellis AFB, Creech AFB, and the**
27 **Nevada Test and Training Range 2012**

	Living On-Base	Living Off-Base	Total
Active-Duty Military	1,913	6,273	8,186
Military Dependents	3,826	16,405	20,231
Reserve/Air National Guard		289	289
Civilian and Contract Employees		4,085	4,085
Total	5,739	27,052	32,791

28 Source: Nellis AFB 2012

Housing

Housing characteristics are presented in Table 3-5. U.S. Census estimates show that housing vacancy rates for both homeowner and rental housing for the 2007-2012 time period were well above the national average. The percentage of homes that are owner-occupied for both Clark County and the State of Nevada are well below the U.S. average of 65.5 percent. Almost 16 percent of the housing units in Clark County are vacant, well above the national average of 12.5 percent.

Table 3-5. Housing

	Clark County	Nevada	U.S.
Total Units	838,894	1,171,300	131,642,457
Owner-occupied	55.7%	57.8%	65.5%
Renter-occupied	44.3%	42.2%	34.5%
Vacant Units			
Number	132,857	178,404	16,415,655
Percent	15.8	15.2	12.5
Homeowner Vacancy Rate (Percent)	4.6	4.1	2.3
Rental Vacancy Rate (Percent)	11.7	11.2	7.5
Median Value	\$186,700	\$190,900	\$181,400

Source: U.S. Census Bureau 2012a

*Homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale."

** Rental vacancy rate is the proportion of the rental inventory that is vacant "for rent."

Employment

Labor force and employment data are shown in Table 3-6. The labor force in Clark County averaged more than 990,000 in 2013. The average 2013 unemployment rate of 10.0 percent in the ROI/Clark County was slightly greater than the average unemployment rate for Nevada (9.8 percent), and both were substantially above the 7.4 percent national average unemployment rate.

Table 3-6. Labor Force and Employment

	Clark County	Nevada	U.S.
Labor Force (2013 Annual Average)	990,212	1,373,000	155,389,000
Employed	891,483	1,238,000	143,929,000
Unemployed	98,729	135,000	11,460,000
Unemployment Rate (2013 Annual Average)	10.0%	9.8%	7.4%
Unemployment Rate (August 2014)	7.7	7.6%	6.1%

Source: U.S. Bureau of Labor Statistics (BLS) 2013a and BLS 2013b; BLS 2014

County Business Patterns data and information on the region's largest employers show that employment in the area is dominated by the Accommodation and Food Services sectors, which is a reflection of the importance of the hotel/casino industry in the region. The Accommodation and Food Services sector accounts for 34 percent of employment in Clark County and 29 percent of employment in the State of Nevada, compared to only 10 percent for the Nation (U.S. Census Bureau 2012b).

1 The largest employer in Clark County is the CCSD, which is reported to have 30,000 to
 2 39,999 employees. Nellis AFB/Creech AFB/NTTR together are the second largest
 3 employer in the region with approximately 12,500 employees in 2012, and Clark County
 4 employs 8,000 to 8,499. Other employers with more than 5,000 employees include a
 5 number of hotel/casinos, including Wynn Las Vegas, with 8,000 to 8,499 employees;
 6 Aria Resort and Casino, Bellagio, and MGM Grand Hotel/Casino each with 7,500 to
 7 7,999 employees; Mandalay Bay Resort and Casino (6,500 to 6,999 employees), and
 8 Caesar’s Palace, with 6,000 to 6,499 employees. The University of Nevada Las Vegas
 9 reportedly has 5,000 to 5,499 employees (City of Las Vegas 2014).

10
 11 **Income and Poverty**

12 Personal income data for 2012 for the ROI are shown in Table 3-7. Per capita personal
 13 income (PCPI) for the ROI/Clark County (\$36,676) is below the PCPI for the state
 14 (\$38,221) and only 84 percent of the U.S. PCPI of \$43,735 (U.S. Bureau of Economic
 15 Analysis [BEA] 2012). The relatively high unemployment rate, as well as the
 16 predominance of the Accommodation and Food Services industry, a sector that typically
 17 relies heavily on low-wage jobs, combine to cause the relatively low per capita income
 18 in the region. Median household income in Clark County (\$54,218) is slightly above the
 19 median household income for the State of Nevada (\$54,083) and the U.S. (\$53,046)
 20 (U.S. Census Bureau 2012), which shows that in spite of a relatively large number of
 21 unemployed and low-wage workers, the region includes substantial wealth.

22
 23 **Table 3-7. Income and Poverty 2012**

	Clark County	Nevada	U.S.
Per capita personal income (PCPI) (dollars)	\$36,676	\$38,221	\$43,735
PCPI as a percent of U.S.	83.9%	87.4%	100
Median Household Income	\$54,218	\$54,083	\$53,046
Persons of all ages below poverty level	14.2%	14.2%	14.9%

24 Source: U.S. Bureau of Economic Analysis (BEA) 2012 and U.S. Census Bureau 2012a

25
 26 **Schools**

27 The Nevada Education Data Book 2013 provides data on school systems in Nevada.
 28 Data show that the CCSD is the fifth largest school district in the Nation. In the 2012-
 29 2013 school year, there were 327,770 students enrolled in Clark County public schools,
 30 accounting for 74 percent of all public school students in the state (Nevada Legislative
 31 Council Bureau 2013). CCSD has a total of 356 schools, including 217 elementary
 32 schools, 56 middle schools, 49 high schools, 26 alternative schools, and eight special
 33 schools/programs (CCSD 2014).

34
 35 Legislation authorizing charter schools was first passed in Nevada in 1997. That
 36 legislation allowed local school boards, the State Board of Education, and institutions of
 37 the Nevada System of Higher Education to sponsor charter schools. In 2011, the
 38 Nevada legislature created the State Public Charter School Authority (SPCSA) to
 39 oversee charter schools previously operated under the State Board of Education. The
 40 SPCSA sponsors some of the state’s charter schools and serves as a model for best
 41 practices for charter schools in the state (Nevada Legislative Council Bureau 2013).

1 The SPCSA is a Local Education Agency (LEA) for the schools under its jurisdiction,
2 which allows it to receive and distribute state and federal funds (e.g., Title 1) to the
3 charter schools. The SPCSA annually issues a “Call for Quality Charter Schools,”
4 which states that the goals of a charter school sponsor are to “enhance public education
5 opportunities and quality.”
6

7 As the sponsoring authority, the SPCSA accepts applications from governing boards
8 seeking to establish a new charter school. Nevada law (Nevada Revised Statutes
9 [NRS] 386.520 and 386.549) specifies the types of members required on the governing
10 board, which is composed of five to nine members with experience and expertise in
11 education, facilities, real estate, finance, and law, and also includes parents of potential
12 students. Charter school applications require specific, detailed information on the
13 governing board’s education plan, organizational plan, and business plan. The
14 application process is used to ensure that the applicant organization understands all
15 aspects of operating a high-quality charter school that “meet[s] the identified educational
16 needs of pupils and will serve to promote the diversity of public educational choices in
17 this State” (NRS 386.515 4. [b]). The governing board is responsible for overall
18 operation of the school and for ensuring compliance with all federal and state statutes
19 and regulations, including requirements related to student achievement and proficiency.
20

21 There are 18 SPCSA-sponsored charter schools and eight CCSD-sponsored charter
22 schools located in Clark County (CCSD, Office of Charter Schools).
23

24 **Community Cohesion**

25 Community cohesion is the unifying force of conditions that provide commonality within
26 a group. It has also been used to describe patterns of social networking within a
27 community. Community cohesion refers to the common vision and sense of belonging
28 within a community that is created and sustained by the extensive development of
29 individual relationships that are social, economic, cultural, and historical in nature. The
30 degree to which these relationships are facilitated and made effective is contingent
31 upon the spatial configuration of the community itself; the functionality of the community
32 owes much to the physical landscape within which it is set. The viability of community
33 cohesion is compromised to the extent to which these physical features are exposed to
34 interference from outside sources.
35

36 Military bases are transient places in the sense that soldiers, sailors, and airmen are
37 commonly transferred to and from them. Schools commonly provide a stable
38 environment for children. A school on a military base would be expected to provide one
39 of the most stable environments for children who move often and whose parents may
40 sometimes live apart from them as a result of deployment.
41

42 Lomie Gray Heard School serves as a stable, unifying force in the community,
43 especially for elementary school-age children and their families. Children go to school
44 with other children who move frequently or may have (or have had) a parent deployed,
45 and many live near each other on-base.

1 In addition to providing a quality education, Lomie Gray Heard School administrators
2 focus on providing a stable environment for learning. Faculty and staff are attuned to
3 special needs of children whose home life is impacted in some way by a parent's
4 military service. Extra time and resources are devoted to counseling, and special
5 counseling is provided for students with a parent deployed overseas. School
6 administrators and teachers also provide flexibility for students when parents are
7 leaving for or returning from a remote assignment and for phone calls from a parent
8 calling from a remote location.

9 10 **3.10 ENVIRONMENTAL JUSTICE**

11 **Environmental Justice**

12 EO 12898, Federal Actions to Address Environmental Justice in Minority Populations
13 and Low-Income Populations, was issued by President Clinton on 11 February 1994. It
14 was intended to ensure that proposed federal actions will not have disproportionately
15 high and adverse human health and environmental effects on minority and low-income
16 populations and to ensure greater public participation by minority and low-income
17 populations. It requires each agency to develop an agency-wide environmental justice
18 (EJ) strategy. A Presidential Transmittal Memorandum issued with the EO states that
19 "each Federal Agency shall analyze the environmental effects, including human health,
20 economic and social effects, of federal actions, including effects on minority
21 communities and low-income communities, when such analysis is required by the NEPA
22 42 U.S.C. section 4321, et. seq." (USAF 1997). DoD has directed that NEPA will be
23 used to implement the provisions of the EO.
24

25
26 EO 12898 does not provide guidelines as to how to determine concentrations of
27 minority or low-income populations. However, analysis of demographic data on race
28 and ethnicity and poverty provides information on minority and low-income populations
29 that could be affected by the proposed actions at Nellis AFB. Environmental impacts
30 resulting from the action would be expected to occur within Clark County, which,
31 because the charter school would be required by law to accept applications for
32 enrollment from students from throughout Clark County, is the smallest governmental or
33 geopolitical unity that encompasses the impact footprint, and so is the Community of
34 Comparison (COC).
35

36 A potential disproportionate impact may occur when the percent minority or low-income
37 in the study area exceeds 50 percent of the population. Additionally, a disproportionate
38 impact may occur when the percent minority and/or low-income in the study area are
39 greater than those in the COC. The U.S. Census Bureau defines a "poverty area" as a
40 Census tract with 20 percent or more of its residents below the poverty threshold and an
41 "extreme poverty area" as one with 40 percent or more below the poverty level.
42

43 The environmental justice analysis focused on the areas where there could be adverse
44 environmental impacts, which are areas within the impact footprint. The impact footprint
45 would be Clark County, since students at the charter school could be drawn from
46 throughout the county. Table 3-8 presents data on minority and low-income populations

1 for Clark County and for Census Tracts 7800 and 6100, which cover the population
2 living on Nellis AFB.
3

4 **Table 3-8. Minority and Low-Income**

Geographic Unit	Percent Minority	Percent Low-Income
U.S.	36.3	14.9
Nevada	45.9	14.2
Clark County (COC)	52.0	14.2
Census Tract 6001*	63.2	14.2
Census Tract 7800*	41.2	39.6

5 Sources: U.S. Census Bureau 2010 Census and U.S. Census Bureau 2012a

6 *Census tracts 6100 and 7800 include Nellis AFB
7

8 **Protection of Children**

9 EO 13045 requires that each federal agency “identify and assess environmental health
10 risks and safety risks that may disproportionately affect children,” and “ensure that its
11 policies, programs, activities, and standards address disproportionate risks to children
12 that result from environmental health risks or safety risks.” This EO was prompted by
13 the recognition that children, still undergoing physiological growth and development, are
14 more sensitive to adverse environmental health and safety risks than adults. The
15 potential for impacts on the health and safety of children is greater where projects are
16 located near residential areas. This EA is focused on an elementary school on Nellis
17 AFB, and as such, all of the alternatives will impact children.
18

19 **3.11 NOISE**

20
21 Noise is generally described as unwanted sound, which can be based either on
22 objective effects (i.e., hearing loss, damage to structures, etc.) or subjective judgments
23 (e.g., community annoyance). Sound is usually represented on a logarithmic scale with
24 a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level.
25 The threshold of human hearing is approximately 0 dB, and the threshold of discomfort
26 or pain is approximately 120 dB.
27

28 Noise levels occurring at night generally produce a greater annoyance than do the
29 same levels occurring during the day. An A-weighted decibel (dBA) is a measure of
30 noise at a given, maximum level or constant state level louder than the same level of
31 intrusive noise during the day, at least in terms of its potential for causing community
32 annoyance. It is generally agreed that people perceive A-weighted intrusive noise at
33 night as being 10 dBA louder than the same level of intrusive noise during the day. This
34 perception is largely because background environmental sound levels at night in most
35 areas are also approximately 10 dBA lower than those during the day.
36

37 Noise levels are computed over a 24-hour period and adjusted for nighttime
38 annoyances to produce the day-night average sound level (DNL). DNL is the
39 community noise metric recommended by the USEPA and has been adopted by most
40 federal agencies (USEPA 1974). A DNL of 65 dBA is the level most commonly used for

1 noise planning purposes and represents a compromise between community impact and
2 the need for activities like construction. Acceptable DNL noise levels have been
3 established by the U.S. Department of Housing and Urban Development (HUD) for
4 construction activities in residential areas (HUD 1984):
5

- 6 • **Acceptable** (not exceeding 65 dBA) – The noise exposure may be of some
7 concern, but common building construction will make the indoor environment
8 acceptable and the outdoor environment will be reasonably pleasant for
9 recreation and play.
- 10
- 11 • **Normally Unacceptable** (above 65 but not greater than 75 dBA) – The noise
12 exposure is significantly more severe. Barriers may be necessary between the
13 site and prominent noise sources to make the outdoor environment acceptable.
14 Special building constructions may be necessary to ensure that people indoors
15 are sufficiently protected from outdoor noise.
- 16
- 17 • **Unacceptable** (greater than 75 dBA) – The noise exposure at the site is so
18 severe that the construction costs to make the indoor noise environment
19 acceptable may be prohibitive, and the outdoor environment would still be
20 unacceptable.
21

22 As a general rule, noise generated by a stationary noise source, or “point source,” will
23 decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for
24 each doubling of the distance. For example, if a noise source produces a noise level of
25 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level
26 would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance
27 of 200 feet, and so on. To estimate the attenuation of the noise over a given distance,
28 the following relationship is utilized:
29

30 Equation 1: $dBA_2 = dBA_1 - 20 \log (d_2/d_1)$

31
32 Where:

- 33 dBA_2 = dBA at distance 2 from source (predicted)
- 34 dBA_1 = dBA at distance 1 from source (measured)
- 35 d_2 = Distance to location 2 from the source
- 36 d_1 = Distance to location 1 from the source
- 37 Source: California Department of Transportation 1998
38

39 3.11.1 Existing Conditions

40 Lomie Gray Heard School in Area I is located within the 70 dBA noise contour for
41 aircraft operations at Nellis AFB; however, actual noise levels within classrooms at the
42 school during aircraft operations were observed to be low enough to allow normal
43 uninterrupted conversation, presumably due to added insulation and other noise
44 abatement measures implemented by CCSD. The proposed new school sites in Area
45 III are located partially within the 65 dBA noise contour for aircraft operations, and
46 outdoor noise levels were observed to be low enough to allow for normal conversation.

- 1 Both the existing school and the proposed school sites are located adjacent to Nellis
- 2 AFB housing developments. Figure 3-1 presents the current Nellis AFB aircraft noise
- 3 contours and the locations of the project sites.

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES



4.0 ENVIRONMENTAL CONSEQUENCES

This section addresses potential impacts on environmental resources within or near the proposed project sites. An impact (consequence or effect) is defined as a modification of the human or natural environment that would result from the implementation of an action. The impacts can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct impacts are those effects that are caused by the action and occur at the same time and place (40 CFR 1508.8[a]). Indirect impacts are those effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8[b]). The effects can be temporary, short in duration (short-term), long lasting (long-term), or permanent. For purposes of this EA, temporary effects are defined as those that would last for the duration of the construction period; short-term impacts would last from the completion of construction to 3 years. Long-term impacts are defined as those impacts that would occur from 3 to 10 years after construction, while permanent impacts indicate an irretrievable loss or alteration.

Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. Significant impacts are those effects that would result in substantial changes to the environment (40 CFR 1508.27) and should receive the greatest attention in the decision-making process. Minor impacts are those that would result in minimal changes to the environment. The significance of the impacts presented in this EA is based upon existing regulatory standards, scientific and environmental knowledge, and best professional opinions.

4.1 BIOLOGICAL RESOURCES

4.1.1 Alternative 1 (Preferred Alternative)

Because there is no native vegetation on any of the Optional Sites, including the Lomie Gray Heard School site, there would be only minor impacts on landscape vegetation with conversion of the sites to school buildings or mission support buildings and parking.

While no wildlife was observed on any of the Optional Sites, there is a potential for ground-nesting birds, including burrowing owls, to be present at the Optional Sites in Area III. Breeding birds could also utilize the small planted trees around the Lomie Gray Heard School for nesting. A nesting bird survey would be required prior to ground disturbance at any of the Optional Sites during the nesting season (March 15 to August 30).

Small burrowing rodents may be present at the Optional Sites in Area III, but loss of those common animals during construction would represent only a minor impact. Therefore, impacts on vegetation and wildlife would be less than significant.

1 **4.1.2 Alternative 2**

2 Construction of a new charter school in Area III while retaining the Lomie Gray Heard
3 School in Area I would have the same impacts on biological resources as Alternative 1
4 (Preferred Alternative).

5
6 **4.1.3 Alternative 3**

7 Construction of a new public school in Area III by CCSD would have the same impacts
8 on biological resources as Alternative 1 (Preferred Alternative).

9
10 **4.1.4 Alternative 4**

11 Construction of a new public school in Area III by CCSD while retaining the Lomie Gray
12 Heard School in Area I would have the same impacts on biological resources as
13 Alternative 1 (Preferred Alternative).

14
15 **4.1.5 Alternative 5**

16 Retaining the Lomie Gray Heard School in Area I and not constructing a new school
17 would result in no impacts on biological resources because there would be no change
18 from the current conditions.

19
20 **4.1.6 No Action Alternative**

21 Because the No Action Alternative would result in the demolition of the Lomie Gray
22 Heard School, biological impacts on that site would be the same as those for Alternative
23 1 (Preferred Alternative).

24
25 **4.2 CULTURAL RESOURCES**

26
27 **4.2.1 Alternative 1 (Preferred Alternative)**

28 Because no cultural resources sites exist on any of the Optional Sites in Area III, no
29 impacts on cultural resources would occur. The Lomie Gray Heard School buildings
30 would be assessed for historical significance, and SHPO consultation would be
31 completed prior to proposed demolition. Any mitigation measures, if required, to
32 preserve or record historical significance would be implemented. Therefore, no
33 significant impacts would occur.

34
35 **4.2.2 Alternative 2**

36 Because no cultural resources sites exist on any of the Optional Sites in Area III, no
37 impacts would occur on those sites. No cultural or historical resources would be
38 impacted by renewal of the CCSD lease on Lomie Gray Heard School.

39
40 **4.2.3 Alternative 3**

41 The impacts on cultural and historical resources for this alternative would be the same
42 as for Alternative 1 (Preferred Alternative).

43
44 **4.2.4 Alternative 4**

45 The impacts on cultural and historical resources for this alternative would be the same
46 as for Alternative 1 (Preferred Alternative).

1 **4.2.5 Alternative 5**

2 Retaining the Lomie Gray Heard School in Area I and not constructing a new school
3 would result in no impacts on cultural and historical resources because there would be
4 no change from the current conditions.
5

6 **4.2.6 No Action Alternative**

7 The No Action Alternative would involve demolition of the Lomie Gray Heard School
8 buildings; therefore, the impacts and any required mitigation would be the same as for
9 Alternative 1 (Preferred Alternative).
10

11 **4.3 LAND USE**

12
13 **4.3.1 Alternative 1 (Preferred Alternative)**

14 Implementation of Alternative 1 (Preferred Alternative) would convert land around the
15 Youth Center to use as a school and parking lots. Development of Optional Sites 1
16 through 3 would convert current use for recreation to a developed school use. Loss of
17 the recreational fields could be mitigated by relocating the ball fields to another location
18 nearby. Impacts would be less than significant, since other recreational fields are
19 available in the area, as well as space to relocate any fields displaced by the new
20 school. Optional Site 4 was designated for use as a new school when the Area III
21 housing was built, so there would be no land use impacts on that site. No significant
22 impacts on land use resources would occur under this alternative.
23

24 With the closure and demolition of the Lomie Gray Heard School, land use would
25 change from school use to military mission-related facilities in Area I, as defined in the
26 current ADP. The site of the existing school would be made available for the
27 construction of virtual training facilities on Nellis AFB in support of its military mission.
28 With recent base realignment and closure (BRAC) Commission recommendations
29 consolidating military training and troops across the U.S., airspace time and space at
30 Nellis AFB, like many other bases, is more limited than in the past. In order to save
31 time and money, and to continue to fulfill its military mission, Nellis AFB relies on virtual
32 training and would use land in Area I to construct additional training facilities. Overall,
33 Alternative 1 (Preferred Alternative) would result in less than significant, minor impacts
34 on land use resources.
35

36 **4.3.2 Alternative 2**

37 Land use in Area I and Area III would not change with a renewal of the CCSD lease for
38 Lomie Gray Heard School, but the land could not be used for the purpose designated in
39 the current ADP. If Lomie Gray Heard School were to remain open at its current
40 location, the day-to-day school operations and lack of space for new mission-related
41 facilities would potentially impact the Nellis AFB mission.
42

43 **4.3.3 Alternative 3**

44 The impacts on land use for this alternative would be the same as for Alternative 1
45 (Preferred Alternative).

1 **4.3.4 Alternative 4**

2 Construction of a new school in Area III while retaining the Lomie Gray Heard School in
3 Area I would have the same impacts on land use in Area III as Alternative 1 (Preferred
4 Alternative). However, the land use for Area I would not change to accommodate the
5 use designated in the current Nellis AFB ADP, and the day-to-day school operations
6 and lack of space for new mission-related facilities would potentially impact the Nellis
7 AFB mission.

8
9 **4.3.5 Alternative 5**

10 Retaining the Lomie Gray Heard School in Area I and not constructing a new school
11 would not change current land use, so there would be no land use impacts. However,
12 this alternative would not adhere to the current ADP, and the day-to-day school
13 operations and lack of space for new mission-related facilities in Area I would potentially
14 impact the Nellis AFB mission.

15
16 **4.3.6 No Action Alternative**

17 The No Action Alternative would close the Lomie Gray Heard School, and land use
18 would change from school use to military mission-related facilities in Area I, as defined
19 in the current ADP. Under this alternative, there would be less than significant, minor
20 impacts on land use resources.

21
22 **4.4 AIR QUALITY**

23
24 **4.4.1 Alternative 1 (Preferred Alternative)**

25 Temporary and minor increases in air pollution and GHG would occur from the use of
26 construction equipment (i.e., combustion emissions) and the disturbance of soils (i.e.,
27 fugitive dust) during site grading and construction of the new school. The following
28 paragraphs describe the air calculation methodologies utilized to estimate air emissions
29 produced by the Proposed Action. Fugitive dust emissions were calculated using the
30 emission factor of 0.19 ton per acre per month (Midwest Research Institute 1996),
31 which is a more current standard than the 1985 PM-10 emission factor of 1.2 tons per
32 acre per month presented in AP- 42 Section 13 Miscellaneous Sources 13.2.3.3
33 (USEPA 2001).

34
35 USEPA's NONROAD Model (USEPA 2005a) was used, as recommended by USEPA's
36 *Procedures Document for National Emission Inventory, Criteria Air Pollutants, 1985-*
37 *1999* (USEPA 2001), to calculate emissions from construction equipment. Combustion
38 emission calculations were made for standard construction equipment, such as front-
39 end loaders, backhoes, bulldozers, and cement trucks. Assumptions were made
40 regarding the total number of days each piece of equipment would be used and the
41 number of hours per day each type of equipment would be used based on a 1-year
42 construction period for the new school (Appendix C).

43
44 Construction workers would temporarily increase the combustion emissions in the
45 airshed during their commute to and from the project site. Emissions from delivery
46 trucks contribute to the overall air emission budget. Emissions from delivery trucks and

1 construction workers' commute to the job site were calculated using the USEPA
2 MOBILE6.2 Model (USEPA 2005b, 2005c and 2005d).

3
4 The total air quality emissions were calculated for the Proposed Action to compare to
5 the General Conformity Rule *de minimis* threshold of 70 tons per year of PM-10 and 100
6 tons per year for CO, VOCs, and NO₂. The *de minimis* threshold (70 or 100 tons per
7 year) is the point at which air emissions are significant. If air emissions exceed that
8 threshold, they are considered a "major" impact. Summaries of the total emissions for
9 the Proposed Action are presented in Table 4-1. Details of the analyses are presented
10 in Appendix C.

11
12 **Table 4-1. Total Air Emissions (tons/year) from**
13 **Construction Activities vs. *de minimis* Levels**

Pollutant	Total	<i>de minimis</i> Thresholds ⁽¹⁾
CO	13.33	100
VOC	11.52	100
NO ₂	30.58	100
PM-10	3.50	70
PM-2.5	2.65	NA
SO ₂	3.81	NA
GHG	22,012	25,000

14 Source: USEPA 2014b, 40 CFR 51.853, and GSRC modeled air emissions (Appendix C).

15 (1) Clark County is in serious non-attainment for PM-10.

16
17 Several sources of air pollutants contribute to the overall air impacts of the construction
18 project. The air calculations in Appendix C and in the summary table included
19 emissions from:

- 20
21 1. Combustion engines of construction equipment
22 2. Construction workers' commute to and from work
23 3. Supply trucks delivering materials to construction site
24 4. Fugitive dust from job site ground disturbances
25

26 As can be seen from Table 4-1, PM-10 air emissions from the Proposed Action do not
27 exceed the *de minimis* threshold and, thus, do not require a Conformity Determination.
28 As there are no violations of air quality standards and no conflicts with the state
29 implementation plans, impacts on air quality would not be considered major in the
30 context of the General Conformity Rule.

31
32 During the construction of the new school, proper and routine maintenance of all
33 vehicles and other construction equipment would be implemented to ensure that
34 emissions are within the design standards of all construction equipment. Dust
35 suppression methods would be implemented to minimize fugitive dust. In particular,
36 wetting solutions would be applied to the construction area to minimize the release of
37 fugitive dust. The construction plan must include a Clark County Dust Control Permit for
38 Construction Activities. By using these BMPs, air emissions impacts from constructing

1 the new school would be temporary, and potential effects on air quality in Clark County
2 would be minimal.

3 4 **4.4.1.1 Operational Air Emissions**

5 Operational air emissions refer to air emissions that may occur after the school has
6 been constructed and that would include employee and student commuter vehicles
7 traveling to the school during the week. The calculations for air emissions from these
8 operational sources are presented in Appendix C as less than *de minimis*; however,
9 until the school is constructed and the student population has been established, no
10 accurate emissions calculations can be made.

11
12 Following construction of the new school, operations would involve new gas-fired HVAC
13 equipment, which would require a stationary source permit from the local air quality
14 board. Until the school is designed by the selected charter school company, emission
15 types and quantities cannot be estimated. Procurement and compliance with the air
16 permit will be the responsibility of the selected charter school company and would keep
17 operations emissions below *de minimis* levels.

18
19 Demolition of the Lomie Gray Heard School would involve possible disturbance of a
20 minimal amount of asbestos-containing materials (ACM) remaining hidden in pipe
21 insulation. Regulatory requirements and BMPs would be followed during demolition and
22 debris disposal to prevent dispersal of ACM in the environment, resulting in minor air
23 quality impacts. No timetable has been established for the dates or duration of
24 demolition activities, but demolition should be accomplished within 2 months; therefore,
25 combustion emissions for equipment would be much less those calculated for
26 construction of the new school in Area III.

27 28 **4.4.2 Alternative 2**

29 Renewal of the CCSD lease for Lomie Gray Heard School would not involve any ground
30 disturbance or demolition, so the construction-related air quality impacts would be the
31 same as for Alternative 1 (Preferred Alternative).

32 33 **4.4.3 Alternative 3**

34 The impacts on air quality for this alternative would be the same as for Alternative 1
35 (Preferred Alternative).

36 37 **4.4.4 Alternative 4**

38 Construction of a new school in Area III while retaining the Lomie Gray Heard School in
39 Area I would have the same impacts on air quality as Alternative 1 (Preferred
40 Alternative) in Area III; however, there would be no impacts in Area I.

41 42 **4.4.5 Alternative 5**

43 Retaining the Lomie Gray Heard School in Area I and not constructing a new school
44 would not change current air quality conditions, so there would be no impacts.

1 **4.4.6 No Action Alternative**

2 The No Action Alternative would remove the Lomie Gray Heard School, so impacts due
3 to ACM would be the same as for Alternative 1 (Preferred Alternative) in Area I.
4

5 **4.4.7 GHG Emissions**

6 GHG emissions were calculated for the construction of the new school in Area III over a
7 time period of 12 months. After construction is completed, operational emissions of
8 GHG would be limited to the HVAC system for the school building. As can be seen in
9 Table 4-1, GHG emissions from all sources are below the 25,000 tons/year level that
10 would require reporting. GHG emissions from the HVAC system for a 70,000 square
11 foot building would also be expected to be below 25,000 tons/year; however, exact
12 calculations cannot be made until the building is designed.
13

14 **4.5 WATER RESOURCES**

15
16 **4.5.1 Alternative 1 (Preferred Alternative)**

17 Alternative 1 (Preferred Alternative) would have minimal impacts on surface water
18 quality. Because the entire area of Optional Sites 1 through 4 drains into the
19 stormwater detention basin south of Stafford Drive prior to stormwater exiting the base,
20 any temporary rain event during construction would be contained by that basin.
21 Construction at any of the Optional Sites would impact stormwater flow through the site;
22 however, stormwater would be conveyed across the site with no impact on adjacent
23 lands.
24

25 A Stormwater Construction Permit would be acquired from the Nevada Department of
26 Environmental Protection (NDEP) prior to construction. A Stormwater Pollution
27 Prevention Plan (SWPPP) would be developed as part of that permit process. The
28 SWPPP would incorporate an analysis of projected stormwater runoff for the new
29 school site, and the stormwater detention basin would be modified to accommodate the
30 increased hard surface runoff volume. Incorporation of post-construction stormwater
31 controls, including a detention basin and revegetation, would minimize long-term
32 impacts on surface water associated with excess stormwater runoff during rain events.
33

34 A minimal amount of fuel, lubricants, and other potentially hazardous materials would be
35 used during construction of the new school, and spill contingency plans would be in
36 place to prevent and clean up spills. Stabilization of disturbed soils after construction
37 would minimize erosion at the new school site.
38

39 Potable water use by the new school would be offset by the reduction in water use at
40 the Lomie Gray Heard School, so no new impacts on water use would occur. Overall,
41 water resources impacts would be minor.
42

43 **4.5.2 Alternative 2**

44 Construction of a new school in Area III while retaining the Lomie Gray Heard School in
45 Area I would have minor impacts on potable water resources in Area III with the addition
46 of the new students and staff. There would be no impacts in Area I, as water use at

1 Lomie Gray Heard School would remain the same. Overall, water resources impacts
2 from Alternative 2 would be minor.

3 4 **4.5.3 Alternative 3**

5 The water resources impacts for Alternative 3 would be the same as Alternative 1
6 (Preferred Alternative).

7 8 **4.5.4 Alternative 4**

9 Impacts on water resources would be the same as for Alternative 2.

10 11 **4.5.5 Alternative 5**

12 There would be no impacts under Alternative 5, as water use at Lomie Gray Heard
13 School would remain the same.

14 15 **4.5.6 No Action Alternative**

16 The demolition of Lomie Gray Heard School would have minimal impacts on surface
17 water resources (stormwater runoff) if a rain event were to occur during removal of the
18 school buildings and parking lots.

19 20 **4.6 TRANSPORTATION**

21 22 **4.6.1 Alternative 1 (Preferred Alternative)**

23 Because the proposed new school would be located within the housing area where the
24 majority of current Lomie Gray Heard School students reside, the bus transportation of
25 students from Area III to Area I would not occur, and traffic at the Tyndall Gate and the
26 Craig Road Gate would be reduced during morning and afternoon commuting times.
27 Traffic on Stafford Drive, however, would increase substantially during those times as
28 students are transported to the new school in Area III. Modifications to Stafford Drive or
29 parking areas would need to be implemented to provide for drop-off and pick-up zones
30 for students at the new school. There is ample space along Stafford Drive for
31 expansion, and new parking can be constructed as needed, so the impacts would be
32 minor.

33
34 Although traffic in Area I would be greatly reduced under Alternative 1 (Preferred
35 Alternative), off-base traffic transporting students to and from the new school in Area III
36 would likely increase. Exact traffic patterns and numbers of vehicles transporting
37 students to and from the new school cannot be estimated until the school is
38 constructed, students are admitted, and it is operational. However, the new school
39 would provide education to approximately 800 to 1,000 students, up to 400 more
40 students than the existing school serves. As a worst case scenario, it is estimated that
41 up to 400 additional vehicles could transport students to and from the school in Area III,
42 and these vehicles would be on-base twice a day (i.e., in the morning for the start of the
43 school day and in the afternoon at the end of the school day).

44
45 Depending on the number of new students commuting to the new school from off-base,
46 there could be a backup of traffic on East Craig Road and Las Vegas Boulevard North

1 during the commuting hours. Access to the new school would be through existing
2 security gates for Area III from those two streets. The existing turn lanes at those two
3 gates may be sufficient for the increased traffic. Current security clearance measures at
4 the Area III gates would need to be modified to prevent an excess backup of traffic on
5 East Craig Road and Las Vegas Boulevard North.

6
7 The exact security clearance gate changes required will not be known until the new
8 school is operating and the number of off-base commuting students is known.
9 However, the influx of off-base students enrolled in the new school would impact current
10 gate operations. Suggested changes may include express gate clearance during
11 certain hours, open gates during certain hours, and opening of additional gates for
12 school access during certain hours. Implementation of gate security changes for the
13 new school would prevent significant traffic problems from commuting students, and the
14 overall impacts would be minor to moderate.

15 16 **4.6.2 Alternative 2**

17 Construction of a new charter school in Area III while retaining the Lomie Gray Heard
18 School in Area I would have the same impacts on transportation in Area III as
19 Alternative 1 (Preferred Alternative). There would be no impacts in Area I; however,
20 traffic from Area III to Area I would continue as students are transported to Lomie Gray
21 Heard School. Transportation impacts would be minor to moderate.

22 23 **4.6.3 Alternative 3**

24 Impacts for Alternative 3 would be similar to those for Alternative 1 (Preferred
25 Alternative), in that traffic would be reduced at the Tyndall and Craig Road gates
26 accessing Area I. Since the new school would be operated by CCSD with an
27 attendance area zoned for on-base students and children of the school's administrators
28 and staff only, there would be no traffic problems at the Area III gates on East Craig
29 Road or Las Vegas Boulevard North with students commuting from off-base. Similar
30 modifications on Stafford Drive may still be needed for drop-off and pick-up of students
31 at the new school. Transportation impacts would be minor to moderate.

32 33 **4.6.4 Alternative 4**

34 Since the new school would be operated by CCSD with an attendance area zoned for
35 on-base students and children of the school's administrators and staff only, there would
36 be no traffic problems at the Area III gates on East Craig Road or Las Vegas Boulevard
37 North with students commuting from off-base. Similar modifications on Stafford Drive
38 may still be needed for drop-off and pick-up of students at the new school. There would
39 be no impacts in Area I; however, traffic from Area III to Area I would continue as
40 students are transported to Lomie Gray Heard School. Overall, transportation impacts
41 would be minor to moderate.

42 43 **4.6.5 Alternative 5**

44 There would be no change in traffic or transportation patterns with Alternative 5, so
45 there would be no impacts.

1 **4.6.6 No Action Alternative**

2 The No Action Alternative would require that all students currently attending Lomie Gray
3 Heard School be transferred to other CCSD elementary schools near Nellis AFB. The
4 addition of over 600 students to the surrounding schools would increase traffic around
5 those schools during student commuting times. Additional bus routes would also be
6 required for transporting on-base students from Area III to the schools off-base.
7 Depending on the transportation methods used for the new students, off-base traffic
8 problems and impacts could occur, but the impacts cannot be determined until schools
9 are chosen for the existing Lomie Gray Heard School students. It is likely that there
10 would be minor impacts.

11
12 **4.7 UTILITIES AND INFRASTRUCTURE**

13
14 **4.7.1 Alternative 1 (Preferred Alternative)**

15 All required utilities are available either on the Optional Sites or along the adjacent
16 roads and rights-of-way. Construction and operation of a new school in Area III would
17 not involve an excessive use of any utility resources that would exceed the capacity for
18 delivery by the local authorities. Since utility resources currently used by the Lomie
19 Gray Heard School would be discontinued, this would offset any increase in utility
20 resource use by the new school. No significant impacts would occur.

21
22 **4.7.2 Alternative 2**

23 Impacts on utilities from construction of a new school in Area III would result in the
24 same impacts as for Alternative 1 (Preferred Alternative). However, there would be no
25 offset to the increase in utility resource use by the new school since no change in
26 utilization of utility resources with Alternative 2 would occur at Lomie Gray Heard
27 School, which would continue to operate in the current location with the same
28 resources. No significant impacts would occur.

29
30 **4.7.3 Alternative 3**

31 The impacts on utility resources use for this alternative would be the same as for
32 Alternative 1 (Preferred Alternative).

33
34 **4.7.4 Alternative 4**

35 Construction of a new school in Area III while retaining the Lomie Gray Heard School in
36 Area I would have the same impacts on utilities and infrastructure as Alternative 2.

37
38 **4.7.5 Alternative 5**

39 The Lomie Gray Heard School would continue to operate in the current location with the
40 same resources, so no impacts would occur.

41
42 **4.7.6 No Action Alternative**

43 Since the No Action Alternative would result in the closure of Lomie Gray Heard School,
44 utility resource use for that facility would decrease, resulting in a decreased demand for
45 electricity, gas, water, and wastewater disposal on Nellis AFB.

1 **4.8 SOCIOECONOMICS**

2
3 Because a newly created charter school would not have any previously enrolled
4 students, all students would need to apply for admission and would have to be selected
5 by lottery if there are more applicants than spaces available. Similarly, the charter
6 school must inform the community of its public school status and have a fair and open
7 admissions process. In the event of a lottery, details such as criteria for selecting
8 students to attend the proposed STEM-focused charter school to be built in Area III of
9 the base are not yet known; however, Nevada state law requires that state-sponsored
10 charter schools be open to any student in the county who qualifies for entry. Further,
11 there are no provisions in Nevada law allowing preference for on-base or military
12 students to attend an on-base charter school.

13
14 **4.8.1 Alternative 1 (Preferred Alternative)**

15 As a state charter school, the new school would be required to accept students from
16 throughout Clark County. In each grade, if more students applied to the school than
17 there were spaces, a lottery would be held to determine which students would be
18 allowed to enroll. As a result, there would be no guarantee that children now attending
19 Lomie Gray Heard School would be able to attend the new charter school. Students not
20 admitted would be sent to other nearby schools, many of which have lower-quality
21 ratings than the existing Lomie Gray Heard School. However, a new charter school
22 (2,230 students, grades kindergarten through 12) has opened less than 2 miles from
23 Nellis AFB that would likely enroll most of the CCSD students in the area who wish to
24 attend a charter school.

25
26 Socioeconomic impacts resulting from construction of the charter school and parking
27 facilities would be temporary and minor. Residents of the area would temporarily
28 experience additional traffic around the construction site as construction workers access
29 the site and materials and equipment are delivered to the site. Minor beneficial
30 temporary impacts in the form of jobs and income for area residents, revenues to local
31 businesses, and sales taxes to Clark County and the State of Nevada from locally
32 purchased building materials could be realized if construction materials are purchased
33 locally and local construction workers are hired for land preparation and facility
34 construction. Beneficial effects would also include additional classrooms added to the
35 CCSD by the new charter school, which would help to relieve overcrowding in the
36 district.

37
38 The Lomie Gray Heard School is a focal point for the on-base military community, and
39 the school provides a support system for the children and their families. Children are in
40 school with others who move often and whose parents may be deployed, and staff
41 understands the stresses, home situations, and special needs of these children.

42
43 If some of the children are able to enroll in the new charter school and others are not,
44 community bonds would be adversely impacted. If the on-base charter school were to
45 provide the additional counseling and understanding related to military life the children
46 at Lomie Gray Heard School now receive, children at the new school would continue to

1 receive the support and services. However, those children who are transferred to
2 overcrowded, possibly lower-quality schools in the community would be unlikely to have
3 the support system and services now available to them at the Lomie Gray Heard School
4 and so would be adversely impacted.

5
6 For families transferred to Nellis AFB during the school year, if there is space in the
7 grades needed, children would be allowed to enroll in the charter school. However, if
8 the appropriate grades are full, the children would be transported off-base to schools.
9 This would put children into schools that might have few military children, likely without
10 counseling targeted to their needs, and since most of the nearby schools have lower-
11 quality ratings than the Lomie Gray Heard School, could have lower-quality ratings than
12 the new charter school. Community cohesion would be impacted, and family stress
13 levels increased.

14
15 Families could also end up with children attending different schools. That would happen
16 if some grades at the charter school had openings, while other grades were full. While
17 the family could choose to put all the children at an off-base school, charter schools
18 typically give priority to siblings. If a family wanted to get the children into the charter
19 school, the chances would improve if they enroll at least one child at the school.

20
21 In addition, impacts on the quality of education the students receive from the operation
22 of the proposed STEM charter school could be negative. The Lomie Gray Heard School
23 is also a high-quality school, based on its Five Star Rating. If the charter school is at
24 least as high-quality as the Lomie Gray Heard School and it provides the services
25 students currently receive, operation of the school could result in positive benefits to
26 students living on-base and from throughout Clark County who attend the school. On-
27 base students would continue to attend a high-quality school, and it would be located
28 closer to their homes. Clark County students from off-base would have a new, high-
29 quality school available for them to attend.

30
31 However, charter schools are not necessarily better schools, as evidenced by numerous
32 examples from across the country (Center for Research on Education Outcomes
33 [CREDO] 2009). If the new school was not as good as the Lomie Gray Heard School,
34 students living on-base could end up at a lower quality school, adversely impacting on-
35 base children and families. The degree to which the children and their families would
36 be impacted would be related to the quality of the new charter school.

37
38 High-quality schools and good school situations are important to parents. Issues with
39 schools add stress, which impacts the quality of life for families and the ability of families
40 moving into an area to integrate into the new community and develop new friends and
41 relationships that help families remain healthy and military personnel function well. A
42 new school that does not keep all the children together with faculty and staff who
43 understand their situation would be expected to have moderate adverse impacts on the
44 children and their families.

1 **4.8.2 Alternative 2**

2 Under Alternative 2, a new charter school would be constructed in Area III, and the
3 lease to CCSD for the Lomie Gray Heard School would continue. Impacts from
4 construction of a new charter school in Area III would have the same impacts as
5 Alternative 1 (Preferred Alternative). The children who now attend Lomie Gray Heard
6 School would continue to attend the school, and new children whose parents are
7 transferred to Nellis AFB would be able to attend the school. While the school is older
8 and may be more costly to maintain, its Five Star quality rating indicates that it is an
9 academically superior school. In addition, faculty and staff at the school are attuned to
10 the needs of children in military families, and children with parents who are deployed
11 receive special counseling. Under Alternative 2, children would continue to require
12 travel from one area of the base to another, but no significant socioeconomic impacts
13 would occur.

14
15 **4.8.3 Alternative 3**

16 Construction of a new public school in Area III would provide new facilities near the area
17 where the students live. Impacts from Alternative 3 would be similar to those for
18 Alternative 1 (Preferred Alternative), except that on-base students would continue to
19 attend school with other military students whose families move often and whose parents
20 may be deployed. Parents would also have the option to apply for their child to attend
21 the STEM charter school located in Area III. Parents would be able to assess the
22 quality of both schools and the best fit for each child, and have options. There would be
23 no adverse socioeconomic impacts, and the added options could potentially be
24 beneficial for families. The additional school would also be beneficial to CCSD, as it
25 would add classroom space available for students who are now attending overcrowded
26 schools.

27
28 Benefits associated with the Lomie Gray Heard School, including counseling tailored to
29 the needs of military children, would be discontinued since the lease would expire and
30 the school would close.

31
32 There is currently no funding for a new CCSD school, and future funding would depend
33 on Clark County voters approving funding for new schools. It would be at least 2017,
34 after the existing Lomie Gray Heard School lease expires, before this election could
35 take place.

36
37 **4.8.4 Alternative 4**

38 Construction of a new public school in Area III would provide new facilities near the area
39 where the students live, and impacts from new school construction would be the same
40 as for Alternative 3. The children who now attend Lomie Gray Heard School would
41 continue to attend the school, and impacts would be the same as those for
42 Alternative 2.

1 **4.8.5 Alternative 5**

2 Under Alternative 5, children who now attend the Lomie Gray Heard School could
3 continue to attend the school, and no new school would be built. Therefore, there would
4 be no impacts on socioeconomics.

5
6 **4.8.6 No Action Alternative**

7 The No Action Alternative would allow the current lease for Lomie Gray Heard School to
8 expire, and the students would be dispersed among existing CCSD schools in the
9 vicinity of Nellis AFB.

10
11 There are approximately 600 students at Lomie Gray Heard School, and most of the
12 students are neighbors, residing in a relatively small area on Nellis AFB. If the students
13 are sent to several different schools, there would be moderate adverse impacts on
14 community cohesion. In addition to dividing the community physically, the children
15 would have longer travel times to schools off-base that are located farther from their
16 homes, and they would likely be transferred to schools that are of lower academic
17 quality. The CCSD school system is currently 14 percent overcrowded (CCSD 2013).
18 Adding the 600 Lomie Gray Heard School students to already overcrowded schools
19 would be an adverse impact for the Lomie Gray Heard School students and for the
20 students at the schools to which they are transferred. In addition, the schools to which
21 the students transfer are unlikely to have the services and attention they now receive at
22 Lomie Gray Heard School, thereby creating additional stress for the children and their
23 families.

24
25 **4.9 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

26
27 **4.9.1 Alternative 1 (Preferred Alternative)**

28 Since the new charter school proposed under Alternative 1 (Preferred Alternative) would
29 be open to students throughout Clark County, there would be no disproportionate
30 impacts on minority or low-income populations, and there would be no environmental
31 justice impacts. Under Alternative 1 (Preferred Alternative), there would be no
32 environmental health risks or safety risks that would disproportionately affect children.

33
34 **4.9.2 Alternative 2**

35 The new charter school proposed under Alternative 2 would be open to students
36 throughout Clark County, and the Lomie Gray Heard School would continue to operate
37 as in the past with an additional option for children to attend the new charter school.
38 Therefore, there would be no environmental justice impacts and no environmental
39 health risks or safety risks that would disproportionately affect children.

40
41 **4.9.3 Alternative 3**

42 There would be no environmental justice impacts and no environmental health risks or
43 safety risks that would disproportionately affect children, as the new school would be
44 operated by CCSD in the same manner as the Lomie Gray Heard School.

1 **4.9.4 Alternative 4**

2 There would be no environmental justice impacts and no environmental health risks or
3 safety risks that would disproportionately affect children, as the new school would be
4 operated by CCSD in the same manner as the Lomie Gray Heard School and the Lomie
5 Gray Heard School would continue to operate as in the past.
6

7 **4.9.5 Alternative 5**

8 There would be no additional environmental justice impacts and no additional
9 environmental health risks or safety risks as the Lomie Gray Heard School would
10 continue to operate as in the past.
11

12 **4.9.6 No Action Alternative**

13 The No Action Alternative would close the Lomie Gray Heard School and move
14 students into other, CCSD-operated schools off-base. This redistribution of students
15 within the district would not cause disproportionate impacts on minority or low-income
16 populations, so there would be no environmental justice impacts. If the Lomie Gray
17 Heard School were closed, the students would be transported by bus from their homes
18 to schools off-base, instead of from their homes to the Lomie Gray Heard School on-
19 base. Consequently, there is the potential for minor adverse impacts on the safety of
20 the children who now attend the Lomie Gray Heard School.
21

22 **4.10 NOISE**

23
24 **4.10.1 Alternative 1 (Preferred Alternative)**

25 All Optional Sites in Area III are located partially within the Nellis 65 dB DNL noise
26 contour, and the Lomie Gray Heard School site is located within the 70 dB DNL noise
27 contour (see Figure 3-1). The noise levels from aircraft sound are different than noise
28 levels produced by construction equipment. Aircraft noise is loud but intermittent;
29 whereas construction noise is typically quieter, but more constant. Sensitive noise
30 receptors near the project site may experience irritation due to the construction noise
31 despite the fact that they are presently exposed to louder intermittent noise levels
32 produced by aircraft operating out of Nellis AFB.
33

34 Common construction equipment would be required to prepare the ground surface and
35 construct the new school building. Excavators, dump trucks, backhoes, and front end
36 loaders would be used to grade land. Delivery trucks, concrete trucks, and construction
37 erection equipment would be used to build the new school. Noise levels from common
38 construction equipment were modeled and are described in Table 4-2.
39

40 Assuming a worst case noise emission scenario (i.e., an excavator with an 82 dBA
41 sound level at a distance of 50 feet), the noise model projected that noise levels of 82
42 dBA from a point source would have to travel 110 feet before the noise would attenuate
43 to a level of 75 dBA. However, at 360 feet from the point source, noise from the
44 excavator would be attenuated to a normally acceptable level of 65 dBA.

Table 4-2. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances¹

Noise Source	50 feet	100 feet	200 feet	500 feet	1,000 feet
Dump truck	76	70	64	56	50
Excavator	82	76	70	62	56
Front end loader	79	73	67	59	53
Concrete mixer truck	79	73	67	59	53
Pneumatic tools	81	75	69	61	55
Backhoe	78	72	66	58	52
Generator	81	75	69	61	55

Source: Federal Highway Administration (FHWA) 2007 and GSRC

1. The dBA at 50 feet is a measured noise emission (FHWA 2007).
The 100 to 1,000 foot results are GSRC modeled estimates.

The construction noise was modeled, and the 65 dBA and 75 dBA noise contours were overlaid on a map of the proposed project site and adjacent neighborhoods. In addition to construction noise, residential homes may experience higher noise levels from large trucks delivering materials to the project site during daylight hours. Deliveries would likely be made along Stafford Drive from the east, and truck noise would therefore be minimized.

Residential homes that may be exposed to noise levels greater than 75 dBA are located east, north, west, and southwest of the project Optional Sites. The 75 dBA noise level would be experienced by residential homes if excavation work (such as conduit trenching) occurs immediately adjacent to the project boundary. Levels of noise exposure on residential homes would decrease as construction activity moves away from the individual project site boundaries. Table 4-3 summarizes the number of sensitive noise receptors that may be affected by noise levels (worst case scenario) produced by project site excavation and construction activities.

Table 4-3. Sensitive Noise Receptors in Proximity to General Construction Activities

Noise Receptor	Number of Units	Distance from Construction Site	Noise Exposure
Residential Homes in Area III	113	Within 360 feet	Greater than 65 dBA and less than 75 dBA
Residential Homes in Area I	22	Within 360 feet	Greater than 65 dBA and less than 75 dBA
Parks and Recreational Areas	2	Within 360 feet	Greater than 65 dBA and less than 75 dBA
Residential Homes in Area III	23	Within 110 feet	Greater than 75 dBA
Residential Homes in Area I	1	Within 110 feet	Greater than 75 dBA
Residential Homes off-base	7	Within 360 feet	Greater than 65 dBA and less than 75 dBA

1 Approximately 23 residential homes may be temporarily exposed to unacceptable noise
2 levels greater than 75 dBA when excavation activities are occurring at the Optional
3 Sites in Area III. A total of 113 residential homes may be temporarily exposed to
4 normally unacceptable noise levels in Area III greater than 65 dBA, along with seven
5 homes outside the base adjacent to the south base perimeter fence. The affected
6 homes off-base are already within the 65 dBA noise contour for aircraft operations.
7 Construction activities would last for only 12 months, after which noise levels would
8 return to ambient levels. Construction activity would be limited to daylight hours. Noise
9 impacts would be minor and temporary with the implementation of these timing
10 restrictions. No significant impacts would occur.

11
12 Demolition activities at Lomie Gray Heard School in Area I would temporarily subject 22
13 homes to noise levels greater than 65 dBA and one home to noise levels greater than
14 75 dBA. The demolition of the old school buildings would probably be accomplished
15 within 2 months. The recreational areas near the Youth Center and Lomie Gray Heard
16 School would also be temporarily impacted by noise levels greater than 75 dBA.
17 Therefore, the noise impacts associated with Alternative 1 (Preferred Alternative) would
18 be less than significant and would not impair the noise environment in the
19 neighborhoods adjacent to the project sites.

20
21 **4.10.2 Alternative 2**
22 Noise impacts associated with construction of a new charter school in Area III would
23 have the same impacts as for Alternative 1 (Preferred Alternative). There would be no
24 noise impacts in Area I.

25
26 **4.10.3 Alternative 3**
27 Noise impacts would be the same as those for Alternative 1 (Preferred Alternative).

28
29 **4.10.4 Alternative 4**
30 Noise impacts associated with construction of a new charter school in Area III would
31 have the same impacts as for Alternative 1 (Preferred Alternative). There would be no
32 noise impacts in Area I.

33
34 **4.10.5 Alternative 5**
35 There would be no noise impacts since the Lomie Gray Heard School would continue to
36 operate as in the past, no new school would be constructed.

37
38 **4.10.6 No Action Alternative**
39 Noise impacts would be the same as those for Alternative 1 (Preferred Alternative) in
40 Area I, but there would be no noise impacts in Area III.

41 42 **4.11 CUMULATIVE IMPACTS**

43
44 A cumulative impact is defined in 40 CFR 1508.7 as “the impact on the environment
45 which results from the incremental impact of the action when added to other past,
46 present, and reasonably foreseeable future actions regardless of what agency (federal

1 or non-federal) or person undertakes such other actions.” By Memorandum dated June
2 24, 2005, from the Chairman of the CEQ to the Heads of federal agencies, entitled
3 “Guidance on the Consideration of Past Actions in Cumulative Effects Analysis”, CEQ
4 made clear its interpretation that “generally, agencies can conduct an adequate
5 cumulative effects analysis by focusing on the current aggregate effects of past actions
6 without delving into the historical details of individual past actions”, and that the “CEQ
7 regulations do not require agencies to catalogue or exhaustively list and analyze all
8 individual past actions.”
9

10 Several projects have recently been constructed on Nellis AFB. The city of North Las
11 Vegas completed construction of a Wastewater Recycling Facility (WRF) located at the
12 southeast corner of Area I on Nellis AFB lands. A new gym and fitness center was
13 recently completed in Area I south of Lomie Gray Heard School. A solar photovoltaic
14 system has been approved for construction at the south end of Area I. A new fire
15 station is planned for Area III. Numerous small repair, modification, and replacement
16 projects are scheduled for Nellis AFB in general (Nellis AFB 2013). All capital
17 improvement projects on Nellis AFB comply with NEPA requirements to minimize
18 impacts on human and natural resources.
19

20 The city of North Las Vegas is continually repairing and improving roads in the city,
21 including some roads in the vicinity of Nellis AFB. The city is also planning to construct
22 a pipeline within the Sloan Channel to convey effluent from the new WRF on Nellis AFB
23 to the Las Vegas Wash (Clark County 2014).
24

25 **4.11.1 Biological Resources**

26 All actions and construction on Nellis AFB comply with NEPA requirements to minimize
27 impacts on native biological resources. Because of the sparse presence of natural or
28 native biological resources on any of the sites affected by the Proposed Action or Action
29 Alternatives, the impacts on biological resources would not contribute to any cumulative
30 impacts resulting from other actions on Nellis AFB or the local area.
31

32 **4.11.2 Cultural Resources**

33 All projects on Nellis AFB are conducted in accordance with the ICRMP to minimize
34 impacts on cultural and historic resources on the base. Mitigation of cultural resources
35 impacts on the Lomie Gray Heard School buildings following the ICRMP requirements
36 would eliminate cultural resources impacts, resulting in no contribution to cumulative
37 impacts on Nellis AFB.
38

39 **4.11.3 Land Use**

40 There would be no significant, adverse land use impacts as a result of Alternative 1
41 (Preferred Alternative) or Alternative 3. All other alternatives would result in less than
42 significant, minor impacts due to noncompliance with the current ADP, but cumulative
43 land use impacts on Nellis AFB would not be significant.

1 **4.11.4 Air Quality**

2 Mitigation of air quality impacts through BMPs for the Action Alternatives would
3 minimize any cumulative air quality impacts on Nellis AFB and the Clark County area.
4 Cumulative impacts would be minimal.
5

6 **4.11.5 Water Resources**

7 No impacts on subsurface water resources would result from any of the Action
8 Alternatives, and surface water impacts would be mitigated through appropriate NDEP
9 permits. Incorporation of post-construction stormwater controls, including the retention
10 basin and revegetation, would minimize long-term impacts on surface water associated
11 with excess stormwater runoff during rain events, so only minimal cumulative impacts
12 on water resources would result from any of the action alternatives.
13

14 **4.11.6 Transportation**

15 Implementation of the Action Alternatives would result in minor to moderate impacts on
16 traffic levels for East Craig Road and Las Vegas Boulevard North. Mitigation of these
17 impacts would minimize the traffic problems at the access gates for Area III; however,
18 there would be minor cumulative impacts on transportation and traffic for off-base
19 streets in the vicinity of the access gates for Area III.
20

21 **4.11.7 Utilities and Infrastructure**

22 There would be no impacts on utilities and infrastructure with implementation of any of
23 the Action Alternatives; therefore, there would be no cumulative impacts.
24

25 **4.11.8 Socioeconomics**

26 Implementation of the Action Alternatives would have no cumulative impacts on
27 socioeconomics. The No Action Alternative would have a moderate negative
28 cumulative impact on the general overcrowding of CCSD schools, since there would be
29 one less school in the system. Implementation of Alternative 4 would have a positive
30 cumulative impact on the overcrowding of CCSD schools with the addition of a new
31 school to the area.
32

33 **4.11.9 Environmental Justice and Protection of Children**

34 Implementation of any of the Action Alternatives would have no cumulative impacts on
35 environmental justice or child protection issues. The No Action Alternative, however,
36 would have minor cumulative impacts on children in the CCSD attendance zone around
37 Nellis AFB with the addition of new students to already overcrowded schools.
38

39 **4.11.10 Noise**

40 All noise generated by the Action Alternatives would be temporary, limited to the
41 duration of construction. Therefore, there would be no permanent change to the noise
42 environment on Nellis AFB and no cumulative impacts.

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SECTION 7.0
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APPENDIX A
INTERAGENCY AND PUBLIC COORDINATION



Proof of Publication

STATE OF NEVADA)
COUNTY OF CLARK) SS:

**GSRC
8081 INNOVATION PARK DR
BATON ROUGE LA 70820**

**Account # 106071
Ad Number 0000256948**

Stacey M. Lewis, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for, was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 07/27/2014 to 07/27/2014, on the following days:

07 / 27 / 14

ISI

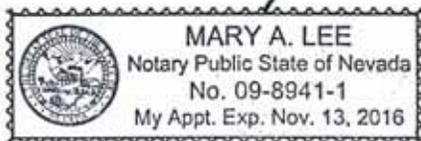
Stacey M. Lewis

LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 28th day of July, 2014

Notary

Mary Lee



NELLIS AIR FORCE BASE - PUBLIC MEETING NOTICE

August 12, 2014: 6:30 to 9:00 pm

**Holiday Inn Express-Nellis
4035 North Nellis Boulevard
Las Vegas, Nevada**

Nellis Air Force Base (AFB) will host a public information meeting to discuss plans for construction and operation of a charter school in Area III of Nellis AFB, north of North Las Vegas Boulevard, serving grades kindergarten through eighth grade, with a capacity of 800 students. The new school would replace the Lomie Gray Heard School currently operating in Area I, south of North Las Vegas Boulevard, which would be closed as part of this action. The public is invited to review the proposed action and present comments and concerns for consideration in the environmental review process. Subject matter experts will be present at the meeting to answer questions and take comments.

NELLIS AIR FORCE BASE - AVISO DE LA REUNIÓN PÚBLICA

12 De Agosto, 2014: 6:30 a 9:00 de la Noche

**Holiday Inn Express-Nellis
4035 North Nellis Boulevard
Las Vegas, Nevada**

Nellis Air Force Base (AFB) tendrá una reunión de información pública para discutir los planes para la construcción y operación de una escuela charter en el Área III de Nellis AFB, al norte de North Las Vegas Boulevard, sirviendo los grados kindergarten hasta grado octavo, con una capacidad de 800 estudiantes. La nueva escuela, sustituya a la Escuela Lomie Gray Heard que operan actualmente en el Área I, al sur de North Las Vegas Boulevard, y la que cerrar como parte de esta acción. Se invita a la publica a revisar las propuestas de medidas y presentar observaciones y preocupaciones para su examen en el proceso de revisión ambiental. Los expertos en la materia estarán presentes en la reunión para responder a sus preguntas y comentarios.

PROOF OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:

GSRC
8081 INNOVATION PARK DR
BATON ROUGE LA 70820

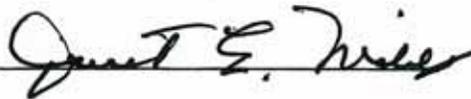
Account # 106071
Ad Number 0000258125

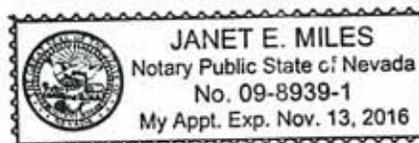
Erin Dell, being 1st duly sworn, deposes and says: That she is the Legal Clerk for El Tiempo, a weekly newspaper regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for, was continuously published in said El Tiempo in 1 edition(s) of said newspaper issued from 08/01/2014 to 08/01/2014, on the following days:

08 / 01 / 14

/s/ 
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 1st day of August, 2014

Notary 



LAS VEGAS REVIEW-JOURNAL

Ad Number 0000258125-01
Ad Type LV-ROP-BROAD

Production Method New Build
Production Notes

External Ad Number Ad Attributes

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Pick Up 0000256948-01

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Color

Ad Content

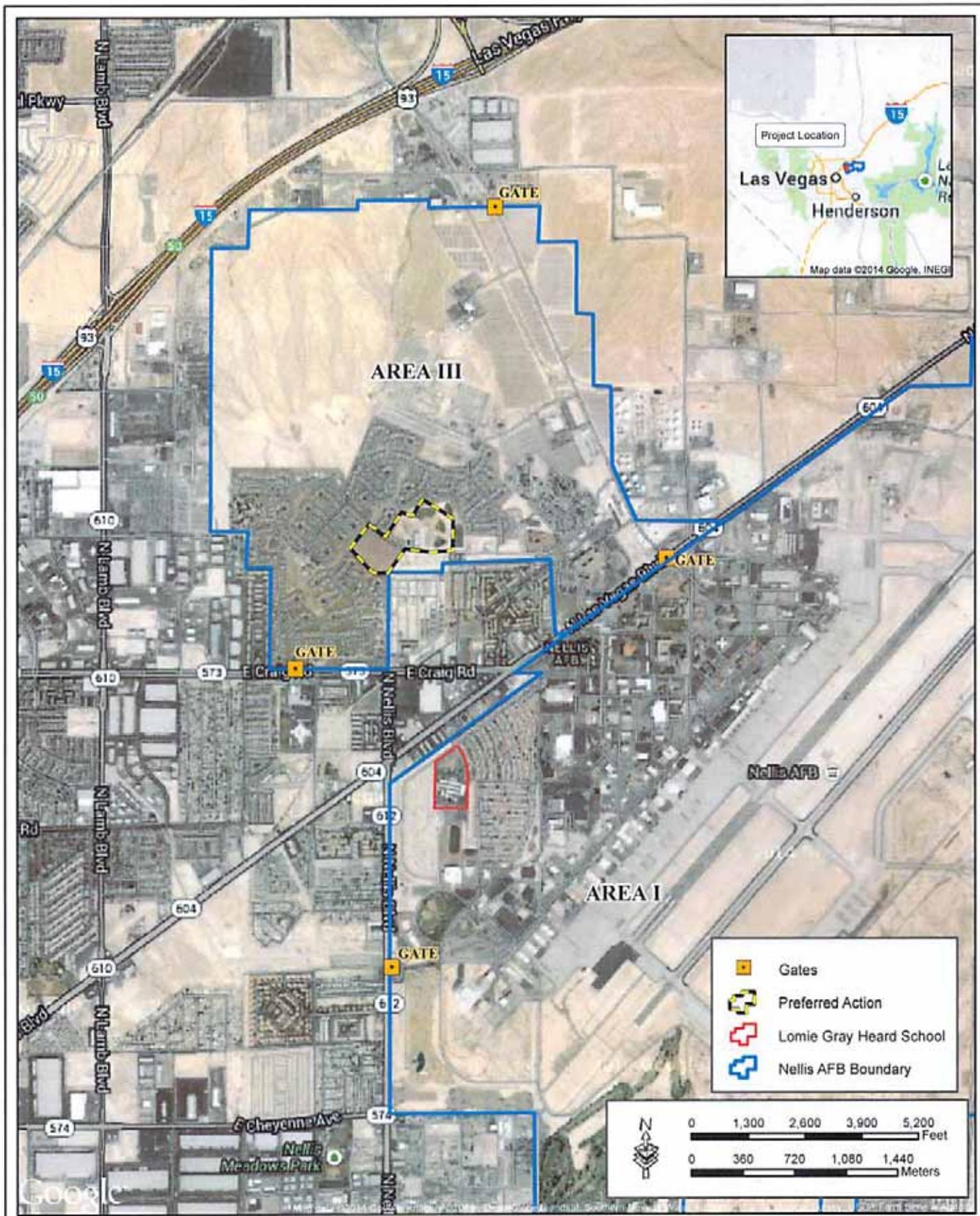
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School Locations Map



**DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA**

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

Mr. John Mendoza
Senior Planner
Clark County Department of Air Quality & Environmental Management
500 S. Grant Central Parkway
P.O. Box 555210
Las Vegas, NV 89155

Dear Mr. Mendoza,

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The preferred action is to replace the existing CCSD school in Area I by constructing and establishing a state charter school on Nellis AFB in Area III that would accommodate 800 to 1,000 students from kindergarten through eighth grade. The curriculum would emphasize a Science, Technology, Engineering, and Mathematics (STEM) program. If local students expressing interest in attending the school exceed capacity, students would be selected through a lottery system.

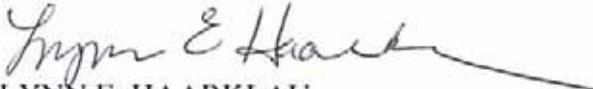
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The EA will assess the potential environmental consequences associated with the preferred action and alternatives. Potential impacts could include traffic increases on Las Vegas Blvd North and Nellis AFB, impacts to air quality, and socioeconomic impacts. The EA will also examine the cumulative effects when combined with past, present, and any future proposals. In support of this process, we request your input in identifying general or specific issues or areas of concern you feel should be addressed in the EA.

The Nellis AFB point of contact for Environmental Planning is Mr. Tod Oppenborn. Please send him your comments and concerns at 6020 Beale Ave, Nellis AFB, NV, 89191, or by e-mail at tod.oppenborn@us.af.mil. Though we will consider comments received at any time during the environmental impact analysis process to the extent possible, we would like to hear from you within 30 days of receipt of this letter. Thank you in advance for your assistance in this effort.

Respectfully,



LYNN E. HAARKLAU
Chief, Portfolio Optimization

Attachment:
School Locations Map



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99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA**

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

Commissioner Steve Sisolak, Chairperson
Clark County Commission
500 Grand Central Parkway
Las Vegas, NV 89109

AUG 26 2014

Chairman Sisolak,

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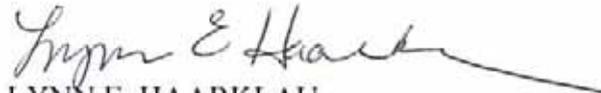
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NELLIS AIR FORCE BASE NEVADA

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

Mr. Mario Bermudez, Planning Manager
Clark County Department of Comprehensive Planning
500 S. Grand Central Parkway, First Floor
Las Vegas, NV 89155

Dear Mr. Bermudez,

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NELLIS AIR FORCE BASE NEVADA

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

Carolyn Edwards
Trustee, District F
Clark County School District
5100 W. Sahara Ave
Las Vegas, NV 89146

AUG 26 2014

Dear Ms. Edwards,

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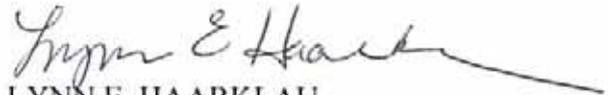
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99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

Mr. Skip Canfield
Nevada State Clearinghouse
Department of Administration
Division of Budget & Planning
209 East Musser Street, Room 200
Carson City, NV 89701-4298

Dear Mr. Canfield,

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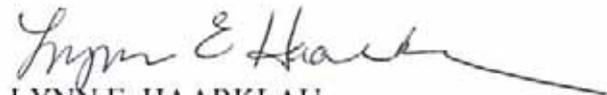
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99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

City of North Las Vegas
Community Development, Planning & Zoning Division
2200 Civic Center Drive
North Las Vegas, NV 89030

To Whom it May Concern,

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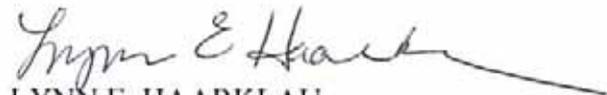
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The Nellis AFB point of contact for Environmental Planning is Mr. Tod Oppenborn. Please send him your comments and concerns at 6020 Beale Ave, Nellis AFB, NV, 89191, or by e-mail at tod.oppenborn@us.af.mil. Though we will consider comments received at any time during the environmental impact analysis process to the extent possible, we would like to hear from you within 30 days of receipt of this letter. Thank you in advance for your assistance in this effort.

Respectfully,



LYNN E. HAARKLAU
Chief, Portfolio Optimization

Attachment:
School Locations Map



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

Mr. Martyn James
Director of Planning Services
RTC
600 S. Grand Central Pkwy
Las Vegas, NV 89106

Dear Mr. James,

The United States Air Force is preparing an Environmental Assessment (EA) for the Nellis AFB School Initiative, Nellis Air Force Base, Nevada. The need for the School Initiative is that acreage on which the current Clark County School District (CCSD) Lomie Gray Heard Elementary School is located is needed for mission-related purposes. The school, built in the 1950s, has exceeded its expected useful life, making maintenance and utility costs excessive. In addition, the majority of students now live in Area III on Nellis AFB and require vehicle transport to the school, which is located in Area I. Attached is a map showing the current school location and proposed location of the new school.

The preferred action is to replace the existing CCSD school in Area I by constructing and establishing a state charter school on Nellis AFB in Area III that would accommodate 800 to 1,000 students from kindergarten through eighth grade. The curriculum would emphasize a Science, Technology, Engineering, and Mathematics (STEM) program. If local students expressing interest in attending the school exceed capacity, students would be selected through a lottery system.

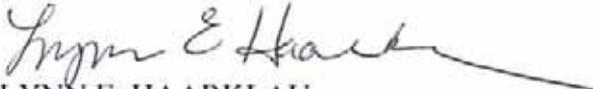
An alternative to the preferred action is renewal of the lease to CCSD for Lomie Gray Heard Elementary School and potentially establishing a STEM curriculum. Another alternative is to work with CCSD to construct a new school in Area III. The no action alternative would be to let the current lease expire in 2015; Lomie Gray Heard students would be incorporated into the existing CCSD schools near Nellis AFB.

The first alternative would not meet the objective of moving the school from acreage needed for mission purposes and closer to the students. The second alternative is not feasible at this time due to CCSD budgetary constraints. The no action alternative is undesirable because the student populations in the existing schools near Nellis AFB already exceed capacity; the addition of 800 students to these schools would exacerbate overcrowding.

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School Locations Map



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99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

99 CES/CENP
6020 Beale Avenue
Nellis AFB, NV 89191-6520

AUG 26 2014

Ms Jennifer Olsen
Southern Nevada Regional Planning Coalition
240 Water Street, Mail Stop 115
Henderson, NV 89009

Dear Mr. Olsen,

The United States Air Force is preparing an Environmental Assessment (EA) for the Nellis AFB School Initiative, Nellis Air Force Base, Nevada. The need for the School Initiative is that acreage on which the current Clark County School District (CCSD) Lomie Gray Heard Elementary School is located is needed for mission-related purposes. The school, built in the 1950s, has exceeded its expected useful life, making maintenance and utility costs excessive. In addition, the majority of students now live in Area III on Nellis AFB and require vehicle transport to the school, which is located in Area I. Attached is a map showing the current school location and proposed location of the new school.

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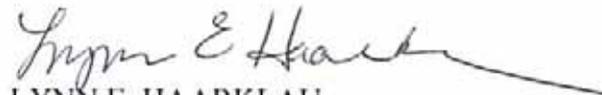
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The EA will assess the potential environmental consequences associated with the preferred action and alternatives. Potential impacts could include traffic increases on Las Vegas Blvd North and Nellis AFB, impacts to air quality, and socioeconomic impacts. The EA will also examine the cumulative effects when combined with past, present, and any future proposals. In support of this process, we request your input in identifying general or specific issues or areas of concern you feel should be addressed in the EA.

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Respectfully,



LYNN E. HAARKLAU
Chief, Portfolio Optimization

Attachment:
School Locations Map

***APPENDIX B
DRAFT EA PUBLIC AND AGENCY COMMENTS***



Appendix B will be included in the Final EA.

APPENDIX C
AIR QUALITY CALCULATIONS



CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

Assumptions for Combustion Emissions						
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs	
Water Truck	1	300	8	90	216,000	
Diesel Road Compactors	0	100	8	0	-	
Diesel Dump Truck	2	300	8	90	432,000	
Diesel Excavator	1	300	8	90	216,000	
Diesel Hole Trenchers	1	175	8	90	126,000	
Diesel Bore/Drill Rigs	0	300	8	0	-	
Diesel Cement & Mortar Mixers	2	300	8	90	432,000	
Diesel Cranes	1	175	8	260	364,000	
Diesel Graders	1	300	8	90	216,000	
Diesel Tractors/Loaders/Backhoes	2	100	8	90	144,000	
Diesel Bulldozers	2	300	8	90	432,000	
Diesel Front-End Loaders	2	300	8	260	1,248,000	
Diesel Forklifts	2	100	8	260	416,000	
Diesel Generator Set	3	40	8	260	249,600	

Type of Construction Equipment	Emission Factors ¹						
	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO ₂ g/hp-hr	CO ₂ g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bulldozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front-end Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Forklifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

1. Emission factors (EF) were generated using USEPA's preferred model for nonroad sources, the NONROAD2008 model. Emissions were modeled for the 2007 calendar year. The VOC EFs include exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2008 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2008 model is based on the population in U.S. for the 2007 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO ₂ tons/yr	CO ₂ tons/yr
Water Truck	0.105	0.493	1.307	0.098	0.095	0.176	127.585
Diesel Road Paver	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Dump Truck	0.209	0.985	2.614	0.195	0.190	0.352	255.170
Diesel Excavator	0.081	0.309	1.095	0.076	0.074	0.176	127.657
Diesel Hole Cleaners/Trenchers	0.071	0.339	0.807	0.064	0.061	0.103	74.397
Diesel Bore/Drill Rigs	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Cement & Mortar Mixers	0.290	1.104	3.466	0.229	0.224	0.348	252.171
Diesel Cranes	0.176	0.521	2.294	0.136	0.132	0.293	212.678
Diesel Graders	0.083	0.324	1.126	0.079	0.076	0.176	127.657
Diesel Tractors/Loaders/Backhoes	0.294	1.303	1.146	0.217	0.211	0.151	109.669
Diesel Bulldozers	0.171	0.657	2.266	0.157	0.152	0.352	255.313
Diesel Front-end Loaders	0.523	2.132	6.876	0.481	0.468	1.018	737.434
Diesel Forklift	0.908	3.557	3.924	0.637	0.619	0.436	316.685
Diesel Generator Set	0.333	1.034	1.642	0.201	0.195	0.223	161.542
Total Emissions	3.244	12.759	28.563	2.570	2.498	3.803	2757.958

Conversion factors	
Grams to tons	1.102E-06

MOVES2010a MODEL ON-ROAD TRANSPORTATION AIR EMISSIONS-
DELIVERY MATERIALS AND COMMUTING DURING CONSTRUCTION ACTIVITIES

MOVES 2010a						
Source	Fuel type	Number of vehicles	Miles traveled per day	Days of travel per year	Miles traveled per year	
Passenger cars	Gasoline	20	50	260	260,000	
Passenger truck	Gasoline	30	50	260	390,000	
Light commercial truck	Diesel	1	50	260	13,000	
Short-haul truck	Diesel	1	50	260	13,000	
Long-haul truck	Diesel	1	50	260	13,000	

Emission Factors (MOVES 2010a Emission Rates) ¹							
Source	VOC (g/mile)	CO (g/mile)	NOx (g/mile)	PM-10 (g/mile)	PM-2.5 (g/mile)	SO ₂ (g/mile)	CO ₂ and CO ₂ Equivalents (g/mile)
Passenger cars	8.497	2.892	0.576	0.019	0.018	0.005	320
Passenger truck	3.645	5.449	1.168	0.027	0.025	0.007	439
Light commercial truck	4.460	2.158	2.986	0.164	0.190	0.005	609
Short-haul truck	2.438	2.273	6.095	0.270	0.313	0.007	929
Long-haul truck	2.519	3.610	14.776	0.625	0.726	0.016	2,020

Total Emission for On-Road Construction Activities (tons/year)							
Source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂	CO ₂ and CO ₂ Equivalents
Passenger cars	2.434	0.829	0.165	0.006	0.005	0.001	92
Passenger truck	1.567	2.342	0.502	0.012	0.011	0.003	189
Light commercial truck	0.064	0.031	0.043	0.002	0.003	0.000	9
Short-haul truck	0.035	0.033	0.087	0.004	0.004	0.000	13
Long-haul truck	0.036	0.052	0.212	0.009	0.010	0.000	29
Total	4.136	3.286	1.009	0.032	0.033	0.005	331

Key:

Short-haul trucks category includes trucks such as dump trucks and cement trucks.
Long-haul trucks category includes trucks such as semi-trailers (18-wheelers).

1. Emission factors were generated by the USEPA preferred model MOVES2010a. MOVES simulates daily motor vehicle operations and produces emission rates. MOVES emission rates include sources from engine combustion, tire wear, brake wear, evaporative fuel permeation, vapor venting and leaking (running and parking), and crankcase loss. Emission rates are daily averages for each of the criteria pollutants. The averages are from a combination of vehicle operations such as stop and go, highway travel, acceleration at on-ramps, parking, start-up, extended idle, etc.

MOVES2010a MODEL ON-ROAD TRANSPORTATION AIR EMISSIONS- ONGOING OPERATIONS

MOVES 2010a						
Source	Fuel type	Number of vehicles	Miles traveled per day	Days of travel per year	Miles traveled per year	
Passenger cars	Gasoline	20	50	260	260,000	
Passenger truck	Gasoline	30	50	260	390,000	
Light commercial truck	Diesel	1	50	260	13,000	
Short-haul truck	Diesel	1	50	260	13,000	
Long-haul truck	Diesel	1	50	260	13,000	

Emission Factors (MOVES 2010a Emission Rates) ¹							
Source	VOC (g/mile)	CO (g/mile)	NOx (g/mile)	PM-10 (g/mile)	PM-2.5 (g/mile)	SO ₂ (g/mile)	CO ₂ and CO ₂ Equivalents (g/mile)
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Short-haul truck	2.438	2.273	6.095	0.270	0.313	0.007	929
Long-haul truck	2.519	3.610	14.776	0.625	0.726	0.016	2,020

Total Emission for On-Road Commuter Activities (tons/year)							
Source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂	CO ₂ and CO ₂ Equivalents
Passenger cars	2.43	0.83	0.16	0.01	0.01	0.00	92
Passenger truck	1.57	2.34	0.50	0.01	0.01	0.00	189
Light commercial truck	0.06	0.03	0.04	0.00	0.00	0.00	9
Short-haul truck	0.03	0.03	0.09	0.00	0.00	0.00	13
Long-haul truck	0.04	0.05	0.21	0.01	0.01	0.00	29
Total	4.14	3.29	1.01	0.03	0.03	0.00	331

Key:

Short-haul trucks category includes trucks such as dump trucks and cement trucks.
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CALCULATION SHEET-FUGITIVE DUST-CONSTRUCTION

Assumptions for Combustion Emissions

Construction Fugitive Dust Emission Factors		Emission Factor	Units	Source
General Construction Activities	0.19 ton PM-10/acre-month			MRI 1996; EPA 2001; EPA 2006
New Road Construction	0.42 ton PM-10/acre-month			MRI 1996; EPA 2001; EPA 2006

PM-2.5 Emissions
 PM-2.5 Multiplier 0.10 (10% of PM-10 emissions assumed to be PM-2.5) USEPA 2001; USEPA 2006

Control Efficiency
 0.50 (assume 50% control efficiency for PM-10 and PM-2.5 emissions) USEPA 2001; USEPA 2006

Construction Area (0.19 ton PM-10/acre-month)		Conversion Factors
Duration of Soil Disturbance in Project	3 months	0.000022957 acres per feet
Length	0.068 miles	5280 feet per mile
Length (converted)	361.50 feet	
Width	361.5 feet	
Area	3.00 acres	

Staging Areas	
Duration of Construction Project	12 months
Length	miles
Length (converted)	feet
Width	feet
Area	0.10 acres

* Assume that construction activities during road modification are limited to 10 miles area during any given construction day.

	Project Emissions (tons/year)	
	PM-10 uncontrolled	PM-10 controlled
Construction Area (0.19 ton PM-10/a)	1.71	0.86
Staging Areas	0.02	0.01
Total	1.73	0.86
		PM-2.5 uncontrolled
		0.17
		PM-2.5 controlled
		0.00
		0.09

References:
 USEPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.
 USEPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.
 MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

Assumptions for Fugitive Emissions

General Construction Activities Emission Factor

0.19 ton PM-10/acre-month Source: MRI 1996; USEPA 2001; USEPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM-10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM-10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions from Construction Operations, calculated the 0.19 ton PM-10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM-10/acre-month) and 75% of the average emission factor (0.11 ton PM-10/acre-month).

The 0.19 ton PM-10/acre-month emission factor is referenced by the USEPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (USEPA 2001; USEPA 2006). The 0.19 ton PM-10/acre-month emission factor represents a refinement of USEPA's original AP-42 area-based total suspended particle (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the USEPA, this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the USEPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaired roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM-10 and PM-2.5 in PM nonattainment areas.

New Road Construction Emission Factor

0.42 ton PM-10/acre-month Source: MRI 1996; USEPA 2001; USEPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM-10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM-10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (USEPA 2001; USEPA 2006).

PM-2.5 Multiplier

PM-2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM-10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (USEPA 2006).

Control Efficiency for PM-10 and PM-2.5

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM-10 and PM-2.5 in PM nonattainment areas. Wetting controls will be applied during project construction (USEPA 2006).

References:

USEPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.
USEPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.
MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

GENERATOR EMISSIONS

Assumptions for Combustion Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Propane Generator Set Back-up	0	25	4	24	0
Propane Generator Set-Primary	0	25	8	365	0

Emission Factors ¹							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO ₂ g/hp-hr	CO ₂ g/hp-hr
Propane Generator Set Back-up	2.03	31.91	9.93	0.06	0.06	0.01	653.9
Propane Generator Set-Primary	2.03	31.91	9.93	0.06	0.06	0.01	653.9

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO ₂ tons/yr	CO ₂ tons/yr
Propane Generator Set Back-up	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Propane Generator Set-Primary	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Conversion factors	
Grams to tons	0.00

1. Emission factors (EF) were generated using USEPA's preferred model for nonroad sources, the NONROAD2008 model. Emissions were modeled for the 2007 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2008 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2008 model is based on the population in U.S. for the 2007 calendar year.

CALCULATION SHEET-SUMMARY OF EMISSIONS

Summary of Emissions (tons/year)										
Emission Source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂	CO ₂	CO ₂ Equivalents	Total CO ₂	
Combustion Emissions	3.24	12.76	28.56	2.57	2.50	3.80	2757.96	8,964	11,722	
Construction Site-Fugitive PM-10	NA	NA	NA	0.86	0.09	NA	NA	NA	NA	
Construction Workers Commuter & Trucking	4.14	3.29	1.01	0.03	0.03	0.00	NA	331	331	
Total Emissions-CONSTRUCTION	7.38	16.04	29.57	3.47	2.62	3.81	2758	9,296	12,054	
Operational Emissions	4.14	3.29	1.01	0.03	0.03	0.00	NA	331	331	
Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	
Total Operational Emissions	4.14	3.29	1.01	0.03	0.03	0.00	-	331	331	
<i>De minimis</i> Threshold (1)	100	100	100	70	100	100	NA	NA	25,000	

1. Note that Clark County is a severe non-attainment area for PM-10 (USEPA 2014).

Carbon Equivalents	Conversion Factor
N ₂ O or NOx	311
Methane or VOCs	25

Source: USEPA 2010 Reference, Tables and Conversions, Inventory of U.S. Greenhouse Gas Emissions and Sinks; <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>