



DEPARTMENT OF THE AIR FORCE  
377TH AIR BASE WING (AFGSC)



Colonel Eric H. Froehlich  
377 ABW/CC  
2000 Wyoming Blvd SE  
Kirtland AFB NM 87117-5000

AUG 24 2016

Mr. John Kieling, Bureau Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe NM 87505-6303

Dear Mr. Kieling

Kirtland Air Force Base (KAFB) requests a variance from the New Mexico Environment Department's (NMED's) Residential Soil Screening Levels (SSLs) and Vapor Intrusion Screening Levels (VISLs) to NMED Industrial and Construction worker SSLs and Industrial VISLs (NMED 2015) for the on-base portion of the Bulk Fuels Facility (BFF) site (Solid Waste Management Unit ST-106/SS-111). Part 6.2.3.3 of KAFB's Hazardous Waste Treatment Facility Operating Permit (HWTf Permit No. NM9570024423) "*Cleanup Levels for Soil Contaminants (Other than PCBs and Lead)*" requires the Permittee to propose cleanup levels based on a total human health excess cancer risk level of  $10^{-5}$  and for noncarcinogenic contaminants a total hazard quotient of one for residential use. This "*Request for Variance from Residential Soil Cleanup Levels for the Former Bulk Fuels Facility Source Area*" is submitted pursuant to Part 6.2.3.8, "*Requests for Variance from Cleanup Levels*", which allows the Permittee to request a variance from residential cleanup levels based upon a demonstration that the achievement of residential cleanup levels is impracticable.

The Air Force has removed 4,822 tons of fuel-contaminated soil in the BFF area. In 2014 where technically practicable, soils were removed to a 20 foot depth that achieved Residential SSLs for fuel-related constituents (CBI 2015). A total of one-third acre of fuel-contaminated soil in four different locations was left in place due to the presence of existing utilities or other infrastructure that made excavation impracticable. The excavated and un-excavated areas are shown in the attached Figures 3-1 and 3-2 from the excavation report (CBI 2015):

- The northeast corner of the preliminary excavation area west of the Pump House (Building 1033) was not excavated (Direct Push [DP]-082, DP-083, and DP-085) due to the presence of two existing wells (Soil Vapor Extraction Well [SVEW]-04 and SVEW-05) located directly northeast of the grids;
- Only the southern half of excavation grid DP-024 was excavated due to the location of existing soil vapor monitoring (SVM) well SVM-09. The grid could not be excavated without compromising the existing well that is used for quarterly monitoring;
- The area just west of the Pump House (Building 1033), encompassing six small areas of contaminated soil (DP-106, DP-116, DP-119, DP-121, DP-125, and DP-130), was not excavated because it was located underneath the main road used by trucks off-loading fuel at the current off-



loading racks. Cutting off access to this road would negatively affect the delivery of fuel to the BFF and impact KAFB missions; and

- The area just south of the Pump House (Building 1033), encompassing four small areas of contaminated soil (DP-157, DP-163, DP-174, and DP-177), was not excavated due to existing underground electric utility lines and existing aboveground Former Fuel Off-Loading Rack (FFOR) infrastructure.

The area surrounding the BFF leak is adjacent to current fueling operations for KAFB. The current "*Installation Development Plan*" (IDP, March 2016) is the guidance document for all development decisions at KAFB for the next 20 to 30 years. As shown on Figure 9.8 from the IDP the fueling operations are located within the "Flightline District". The allowable uses in this area are primarily industrial, with limited administrative use. Medical, lodging, and residential uses are prohibited (see Table 9.6 from the IDP). The Air Force is in control of land use on the Base and is committed to prohibiting residential use in this area. Based upon current and reasonably foreseeable future land use in this area will be industrial; thus NMED Industrial and Construction worker SSLs and Industrial VISLs are protective of workers in this area.

Part 6.2.3.8 "*Requests for Variance from Cleanup Levels*" requires the Permittee to propose action to be taken if the Department approves the impracticability demonstration. The proposed action "*shall include, but is not limited to, completion of a site-specific risk assessment and identification of alternate clean-up levels*". As outlined above, if the impracticability demonstration is not approved any additional soil removal would have to be deferred indefinitely because of the presence of critical existing infrastructure for Base operations. In addition, it is not necessary to a complete or identify a site-specific risk assessment or alternative clean-up levels due to the majority of fuel-contaminated soil at the BFF area has been removed to Residential SSLs. Furthermore, land use at present and for the foreseeable future at the BFF site will remain industrial.

KAFB is committed to performing a risk assessment that will be submitted as part of the Resource Conservation and Recovery Act Facility Investigation and will document the evaluation of on-base potential risk to both operational and construction workers at the BFF from soil and soil vapor. Post-excavation confirmation soil data and soil data from unexcavated areas at the BFF will be used to evaluate risk, along with recent soil vapor data.

If you have any question or concerns, please contact Ms. Kathryn Lynnes at (505) 846-8703 or at [kathryn.lynnes@us.af.mil](mailto:kathryn.lynnes@us.af.mil), or Mr. L. Wayne Bitner at (505) 853-3484 or at [ludie.bitner@us.af.mil](mailto:ludie.bitner@us.af.mil).

Sincerely



ERIC H. FROEHLICH, Colonel, USAF  
Commander

**Reference:**

CBI 2015. Kirtland Air Force Base, Albuquerque NM, Former Fuel Offloading Rack, Excavation Report, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111, AR Doc #3783, LWB, 3-6-2015, CB&I Federal Services, prepared for US Army Corps of Engineers, Albuquerque NM

**NMED 2015. Risk Assessment Guidance for Site Investigations and Remediation, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, New Mexico Environment**

**Attachment:**

**Figures 3-1 and 3-2 from FFOR Excavation Report dated February 2015**

**Figure 9.8 and Table 9.6 from IDP dated March 2016**

**cc:**

**NMED-EHD (Roberts, McQuillan), letter/CD**

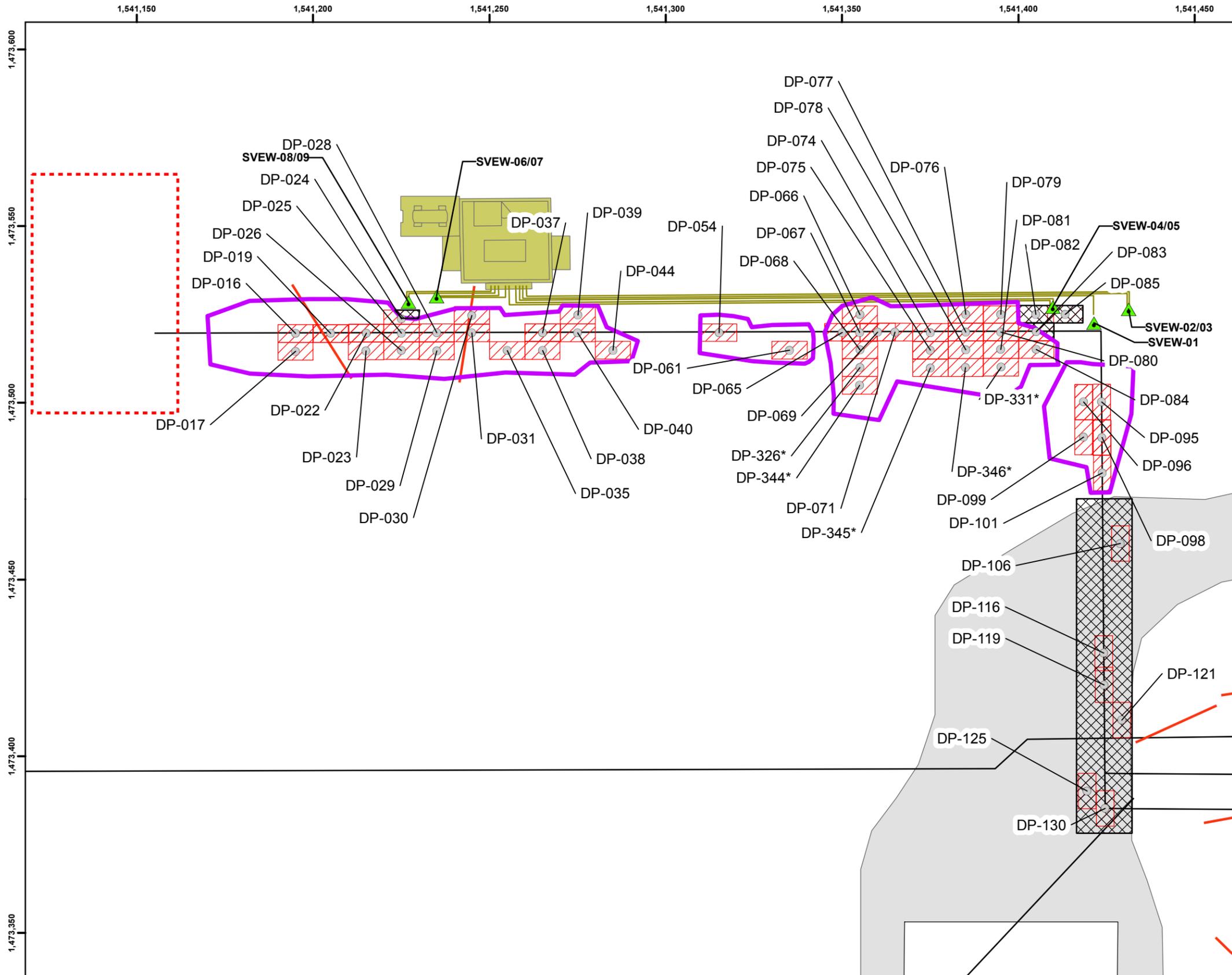
**NMED-HWB (Agnew), letter/CD**

**EPA Region 6 (King, Ellinger), letter/CD**

**AFCEC/CZ (Bodour, Bitner, Clark), letter only**

**USACE-ABQ District Office (Simpler, Phaneuf, Dreeland, Sanchez, Salazar), letter only**

**Public Info Repository, Administrative Record/Information Repository (AR/IR) and File**



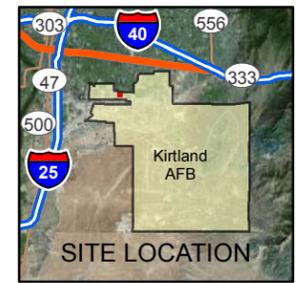
**Legend**

- SVE Well
- Soil Investigation DPT Boring
- Contaminated Soil Stockpile Location
- Final Excavation Boundary
- Non-Excavated Area due to Pre-Existing Utilities and Infrastructure
- Preliminary Excavation Boundary
- SVE Subsurface Piping
- Electric Utility Line
- FFOR 16 in Fuel Line
- SVE Manifold
- Concrete or Asphalt

\*Step-Out Location

AFB = Air Force Base  
 DPT = Direct Push Technology  
 FFOR = Former Fuel Offloading Rack  
 SVE = Soil Vapor Extraction  
 SVEW = Soil Vapor Extraction Well

Note: Final excavation boundary includes shallow, benched, and ramped areas associated with excavation activities.



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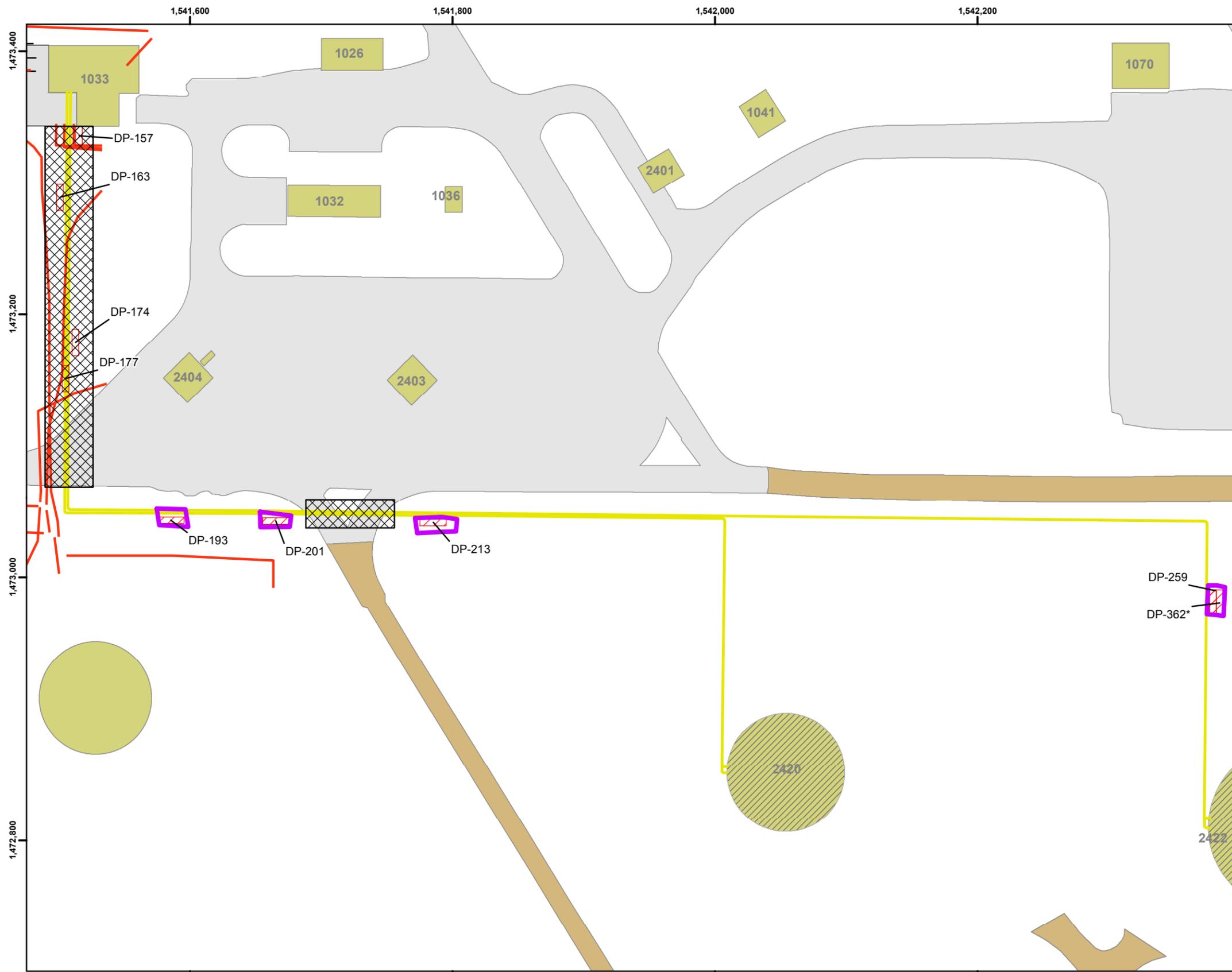
Revision Date: 12/01/14

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

FORMER FUEL OFFLOADING RACK  
 EXCAVATION REPORT  
 BULK FUELS FACILITY  
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3-1

EXCAVATION OVERVIEW  
 WEST OF PUMP HOUSE,  
 ALL DEPTHS

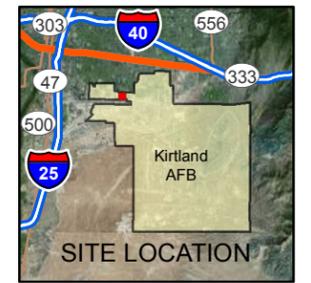


**Legend**

- Soil Investigation DPT Boring
- ▭ Final Excavation Boundary
- ▨ Non-Excavated Area due to Pre-Existing Utilities and Infrastructure
- ▭ Preliminary Excavation Boundary
- Electric Utility Line
- FFOR 16 in Fuel Line
- Former Fuel Transfer Line
- ▨ Previously Existing Structure
- Existing Structure
- Graded Gravel
- Concrete or Asphalt

\*Step-Out Location  
 AFB = Air Force Base  
 DPT = Direct Push Technology  
 FFOR = Former Fuel Offloading Rack

Note: Final excavation boundary includes shallow, benched, and ramped areas associated with excavation activities.



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Revision Date: 12/02/14

0 40 80 160  
 Feet  
 1 inch = 80 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

FORMER FUEL OFFLOADING RACK  
 EXCAVATION REPORT  
 BULK FUELS FACILITY  
 KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3-2

EXCAVATION OVERVIEW  
 SOUTH OF PUMP HOUSE, ALL DEPTHS



MARCH 2016



# INSTALLATION DEVELOPMENT PLAN

KIRTLAND AIR FORCE BASE, NEW MEXICO

## KAFB Planning District I FLIGHTLINE DISTRICT

Planning District 1—the Flightline District—is composed of areas north and south of Runway 08/26. The Sunport operates the runways and shares them with KAFB, which provides aircraft crash rescue and fire-fighting services. Figure 9.7 identifies the general boundaries of this district.

Facilities within this district include aircraft hangars, aircraft maintenance units (AMU), squadron operations, aerospace ground equipment (AGE), back shops, the ATCT, Hot Cargo Pad 5, and administrative facilities directly related to flight operations or aircraft maintenance. This district is primarily industrial and utilitarian in nature, with facilities and land uses dedicated to the support of airfield ops.

The designated Airfield Administration and Operations Zone lies directly north of the 58 SOW aircraft hangars. Buildings within this zone are primarily occupied by the 58 SOW, and they include facilities for training, administration, simulators, and hangars of various sizes.

### Relationship to Overall Future Development

Future development of this district should seek to retain the ability to expand aircraft parking apron space in the long-range future. Additional aircraft parking apron space may be needed for mission growth and/or beddown of an additional flying mission(s). Space is available for “infill” apron development north of Parking Apron ‘D’ and between Parking Aprons ‘B’ and ‘E,’ and the potential exists to connect Parking Apron ‘E’ with the NMANG parking apron without impacting the fuel farm. A significant parcel of land is also available immediately south of Runway 08/26 and should be preserved for future missions.

Additionally, the Flightline District must continue to provide a secure and functionally effective environment for airfield ops, while remaining accessible to pilots and maintenance crews living and training nearby. Although the character of this district will remain utilitarian with a mixture of large- and small-scale facilities, new construction should seek to maintain consistent design and siting of buildings to create a harmonious development pattern while reducing operating and maintenance costs and improving operational/unit effectiveness.

Future planning should create distinctive reference points within this campus and carefully consider both vehicle parking and pedestrian access. Buildings and landscape should be organized to allow students and visitors to easily find their way in this zone.

### Existing Planning Studies

The following references, or completed planning studies, may serve as a foundation to build upon during the course of follow-on planning efforts:

- ◆ Albuquerque International Sunport, Airport Master Plan, Vols. I and II, September 2002.
- ◆ Albuquerque International Sunport Sustainable Airport Master Plan, Draft Submittal, November 2015.
- ◆ Airfield Pavements Condition Index (PCI) Survey Report, Kirtland AFB, October 2014.

- ◆ 150 SOW, New Mexico Air National Guard, Installation Development Plan, Kirtland AFB, 2015.
- ◆ 58 SOW Training Complex Facilities Improvement Plan, Kirtland AFB, February 2001.
- ◆ **NOTE:** The 58 SOW is in the process of developing a Consolidation Plan with the intent of creating a world class AETC campus that supports new mission requirements, recapitalizes enduring facilities, and is fiscally executable. The Consolidation Plan will consolidate existing functions and facilities by optimizing two primary functional areas – the Flightline and the Academic Campus – to meet goals and objectives of the IDP. Upon completion, the 58 SOW Consolidation Plan will be included in the IDP.

### Existing Conditions

A number of existing conditions serve to establish a fundamental baseline that future planning actions may build upon. Additionally, a number of actions have been determined and are moving forward.

- ◆ Primary runways are 08/26 and 03/21; Runway 12/30 is primarily used for general aviation.
- ◆ Three hot cargo pads exist on the south side of Taxiway Echo; Pad 5 located near the end of Runway 26 is the one most frequently used.
- ◆ The ATCT is located in Building 329 and is operated by the Sunport; DOD personnel are in the tower when hot cargo pads are in use.
- ◆ An Aviation Center for Excellence (ACE) planned for the northern area of closed Runway 17/35 will be a mixed use aviation/commercial district.

### Issues

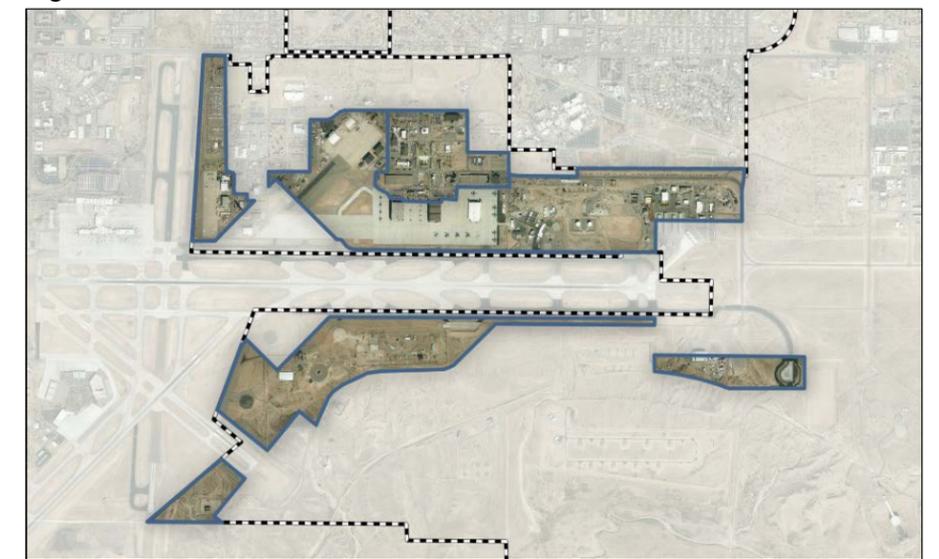
A number of planning-based issues have been identified through stakeholder interviews and during the Vision Workshop. Issues are identified below, and many of them are graphically depicted on Figure 9.8 included on the following page.

- ◆ According to the most recent PCI Report, Hot Cargo Pad 5 pavements are in very poor condition.
- ◆ The airfield is based on FAA clearance criteria. However, land use planning for KAFB takes DOD clearance criteria into account.
- ◆ FAA Part 150 Study was completed when the NMANG was flying F-16s and, as such, is outdated.
- ◆ The Sunport Airport Layout Plan (ALP) is currently in the process of being updated and will not be available until 2017-18.
- ◆ According to the PCI Report, airfield pavements are in Fair condition; many asphalt sections are experiencing weathering and block cracking.
- ◆ Airfield pavements comprising Parking Apron ‘C’ and Hot Cargo Pad 5 are in very poor condition.
- ◆ Many aging flightline facilities are inadequate for future mission needs and are not configured to support mission growth.
- ◆ There remains a desire to attract an *operational* flying mission to KAFB.
- ◆ The Fire Department has response-time concerns for some portions of the Installation and is requesting two new fire stations to ensure coverage to the southern portion of the Installation.

### Recommendations

- ◆ Preserve installation expansion capacity through compact, land-efficient development along the flightline.
- ◆ Carefully evaluate the ACE development concept proposed by the Sunport on the northern end of closed Runway 17/35 to ensure there are minimal impacts to mission operations or potential expansion capacity.
- ◆ Repair Hot Cargo Pad 5.
- ◆ Demolish aging, obsolete facilities east of Parking Apron ‘E’ to make room for long-range apron expansion.
- ◆ Consider long-range relocation of Fire Station 2 to better satisfy structural/crash response and to allow future Apron ‘E’ expansion.
- ◆ Relocate and consolidate all RV parking to the former stables near the golf course. Project would be contingent on NAF funding.
- ◆ Demolish aging, obsolete facilities south of Runway 08/26 to allow space for a future flying mission.
- ◆ Provide a heavy equipment staging area for 210 Red Horse Squadron (RHS) near the Base Exercise Evaluation and Skills Training (BEEST).
- ◆ Replace Buildings 915, 917, 922 & 924 with a new VOQ on the east side by the Mountain View Club.
- ◆ Establish a hierarchy of land uses beginning with consideration of the flightline. Aircraft operations/maintenance is the land use with the highest functional relationship compatibility with the flightline, while administrative and community land uses should serve as a buffer between the flightline and residential use.
- ◆ Relocate the Test Cell out of the CZ for Runway 12/30, into a more appropriate location within the Flightline District.
- ◆ Replace Buildings 1032 and 1036 with a consolidated LRS Fuels Facility in the vicinity of the bulk fuels area north of the airfield.

Figure 9.7  
Flightline District



**KAFB Planning District I**  
**FLIGHTLINE DISTRICT**

Table 9.6 // Flightline District – Permitted Uses

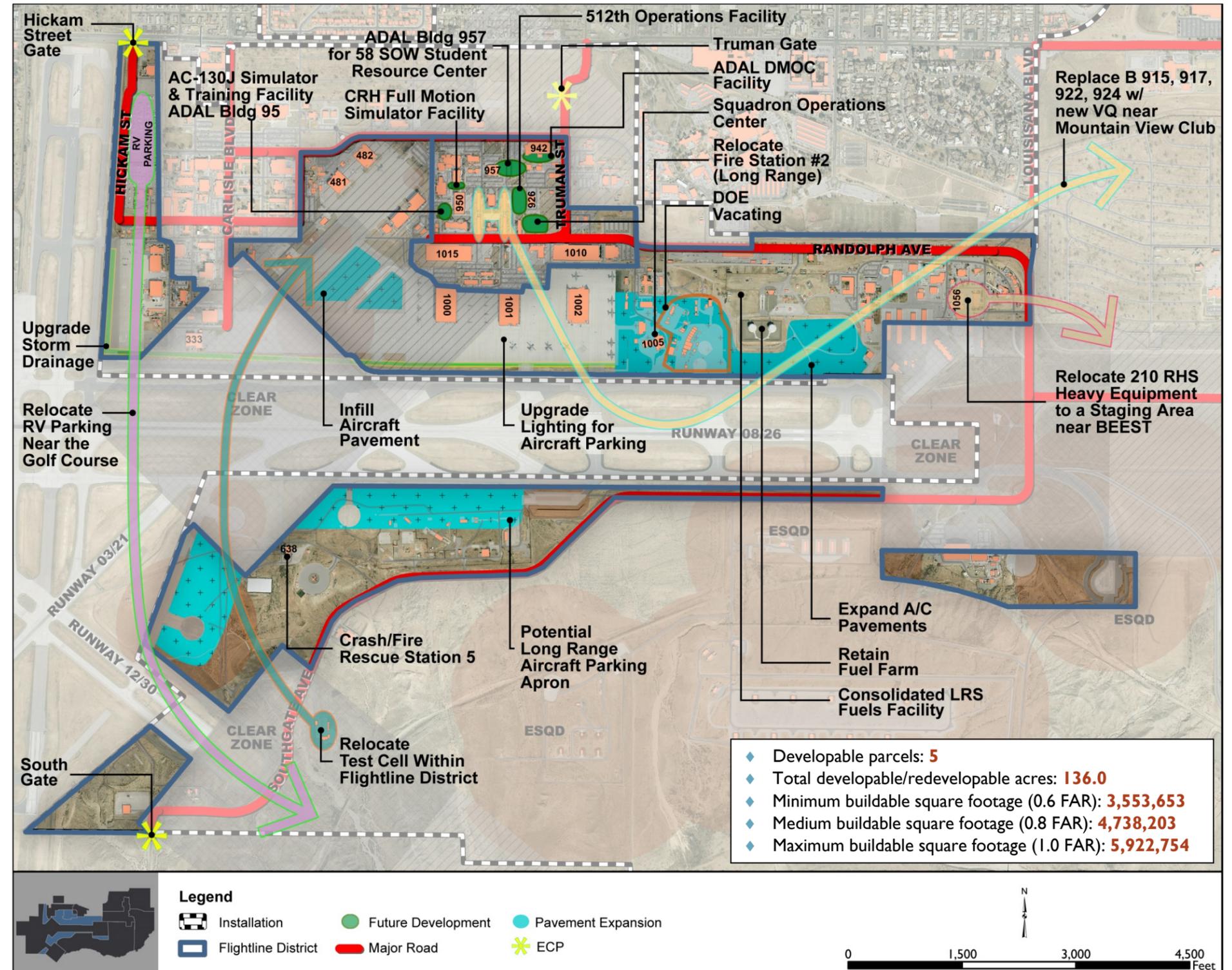
Permitted Uses within the Flightline District	
<b>Munitions Storage</b>	Restricted
<b>Airfield Operations and Maintenance:</b> squadron operations, hangars, aircraft maintenance units, control towers, passenger terminal	Permitted
<b>Industrial:</b> warehouse, liquid fuel systems, maintenance, vehicle maintenance and/or storage	Permitted
<b>Light Industrial:</b> warehouse, maintenance, storage	Permitted
<b>Administrative:</b> headquarters, office, operations, research, testing, warehouse, training, educational	Permitted with restrictions
<b>Small-Scale Administrative:</b> less than 50,000 square feet	Permitted with restrictions
<b>Medical:</b> base hospital, clinic, dental services, flight medicine, pharmacy	Permitted
<b>Community Commercial:</b> base exchange, commissary	Restricted
<b>Community Service:</b> fitness center, child development center, recreation and community center, youth center	Restricted
<b>Small-Scale Retail and Service:</b> less than 50,000 square feet	Restricted
<b>Lodging:</b> hotel, temporary lodging facilities, visitors quarters	Restricted
<b>Residential – Attached:</b> multistory, dormitories	Restricted
<b>Residential – Detached:</b> single-family homes, townhomes	Restricted
<b>Outdoor Recreation and Historic Preservation</b>	Permitted with restrictions
<b>Open Space:</b> Undeveloped, Park Space	Permitted with restrictions

Restricted    
  Permitted with restrictions    
  Permitted

Table 9.7 // Flightline District Planned Demolition

Facility No. – Description – SF	Facility No. – Description – SF
243 – SCI LAB LASER – 9,411	244 – HQ SPECIFIED– 2,553
253 – PETRO OPS BLDG – 750	254 – REC PAVILION – 282
255 – PETRO OPS BLDG – 1,600	378 – HAZARD STOR BSE – 1,408
462 – HQ SPECIFIED – 2,450	464 – SCIENCE LAB LASER – 1,800
467 – RSCH TEST LAB – 2,286	469 – HAZARDOUS STORAGE – 800
902 – RADIATION SCIENCE LAB – 1,800	639 – SHED SUP & EQUIP BSE – 1,000
640 – SHED SUP & EQUIP BSE – 1,000	734 – WHSE SUP & EQUIP BSE – 11,177
924 – DORM VOQ – 17,290	1009 – SHP AIRCRAFT MAINT – 2,184
1032 – PETRO OPS BLDG – 1,400	1035 – ELEC PWR BLD – 150
1036 – PETRO OPS BLDG – 196	1103 – BE STOR SHED – 750
2426 – PETR OPS BLDG – 544	
<b>Total SF to be removed = 60,831</b>	<b>% of existing GSF at KAFB: 0.7%</b>

Figure 9.8  
Flightline District Planning Analysis



**Developable Areas**

Figure 9.5 presents developable areas of property at KAFB. This map identifies 42 parcels that, together, contain approximately 870 acres that are potentially available for new development or redevelopment. Development capacity on these parcels has been quantified utilizing an example FAR template. A FAR of 0.6 represents 60 percent of the parcel area covered with development, or 30 percent of the parcel area covered by two-story development. FAR is utilized in the IDP Districts analysis to provide developable area estimates, as displayed in Table 9.4.

Variations in FAR are a result of the height of a future facility, which could be between one and three stories at KAFB. Considering AT/FP standoff requirements, a FAR of 1.0 is impossible to achieve with 1-story construction. A FAR of 1.0 becomes possible with multi-story construction, as demonstrated in FAR concepts b and c below. Obviously, site requirements will differ according to the proposed project and development footprint available. FAR is simply used as a planning standard to explore how developable acreage may translate to developed facility square footage.

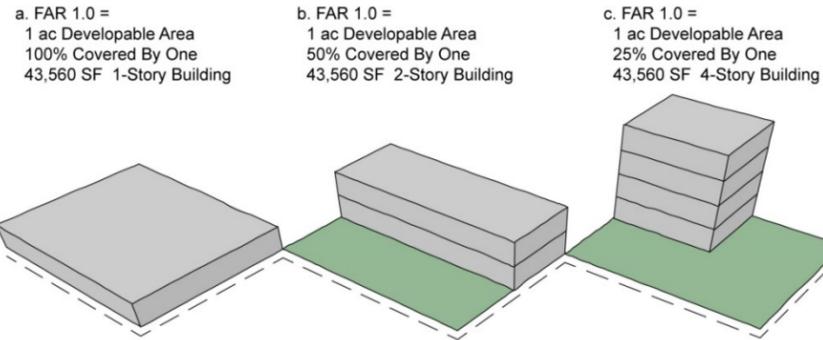


Table 9.4 // Developable and Redevelopment Areas

Parcel ID	Acres	Opportunity Type	Medium Buildable SF (0.6 FAR)	Medium Buildable SF (0.8 FAR)	Maximum Buildable SF (FAR 1.0)
Flightline District					
1	16.9	Developable	441,455.4	588,607.2	735,759.0
2	23.4	Redevelopable	611,746.6	815,662.1	1,019,577.6
3	18.6	Developable	487,185.8	649,581.0	811,976.3
4	51.5	Redevelopable	1,346,653.0	1,795,537.3	2,244,421.6
5	25.5	Redevelopable	666,611.9	888,815.9	1,111,019.8
Science and Technology District					
6	9.9	Developable	258,561.3	344,748.4	430,935.5
7	2.5	Redevelopable	65,705.9	87,607.8	109,509.8
8	0.3	Redevelopable	7,211.5	9,615.3	12,019.1
9	0.3	Redevelopable	7,211.5	9,615.3	12,019.1
10	1.9	Redevelopable	48,533.4	64,711.3	80,889.1
11	1.3	Developable	34,612.2	46,149.6	57,686.9
12	3.6	Developable	93,854.3	125,139.1	156,423.8
13	2.1	Developable	56,111.2	74,814.9	93,518.6
14	54.6	Redevelopable	1,426,535.2	1,902,046.9	2,377,558.6
15	85.7	Redevelopable	2,240,957.7	2,987,943.6	3,734,929.5
16	21.6	Developable	564,857.1	753,142.8	941,428.6
17	4.7	Developable	124,081.9	165,442.5	206,803.1

Table 9.4 // Developable and Redevelopment Areas – continued

Medical District					
18	23.7	Developable	619,244.0	825,658.7	1,032,073.4
Industrial District					
19	44.6	Redevelopable	1,166,676.1	1,555,568.1	1,944,460.1
20	18.1	Developable	471,900.2	629,200.2	786,500.3
21	32.1	Developable	839,911.8	1,119,882.5	1,399,853.1
22	30.3	Developable	790,959.9	1,054,613.1	1,318,266.4
23	16.1	Developable	420,789.6	1,054,613.1	701,316.0
Community District					
24	24.9	Redevelopable	651,392.5	868,523.3	1,085,654.1
25	1.9	Developable	49,536.2	66,048.2	82,560.3
26	2.9	Developable	76,636.7	102,182.3	127,727.9
27	23.1	Developable	603,797.2	805,062.9	1,006,328.7
28	23.3	Developable	609,202.1	812,269.5	1,015,336.9
29	26.7	Redevelopable	697,008.1	929,344.1	1,161,680.1

Table 9.4 // Developable and Redevelopment Areas– continued

30	29.1	Developable	759,574.0	1,012,765.3	1,265,956.6
31	10.6	Developable	276,514.7	368,686.2	460,857.8
32	9.2	Developable	240,157.6	320,210.1	400,262.6
Enterprise District					
33	137.9	Redevelopable	3,604,490.2	4,805,987.0	6,007,483.7
34	1.3	Developable	33,078.9	44,105.2	55,131.5
35	0.8	Developable	19,647.7	26,197.0	32,746.2
36	1.9	Developable	49,516.6	66,022.1	82,527.6
37	64.3	Redevelopable	1,680,329.5	2,240,439.3	2,800,549.2
38	5.3	Developable	138,525.2	184,700.3	230,875.3
39	3.1	Developable	81,639.6	108,852.8	136,066.0
40	11.8	Developable	308,686.9	411,582.5	514,478.1
41	1.1	Developable	27,853.6	37,138.2	46,422.7
42	1.6	Developable	42,659.2	56,878.9	71,098.6
<b>TOTAL</b>	<b>870.1</b>		<b>22,741,613.6</b>	<b>30,322,151.4</b>	<b>37,902,689.3</b>

Figure 9.5  
Developable and Redevelopment Areas

