

# **Pierce Transit Building 6**

## **Facility Utilization Report**

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December 2017

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# 1 EXECUTIVE SUMMARY

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## 1.1 PROBLEM STATEMENT

The purpose of the facility utilization study is to test potential uses for the existing building at 9622 40<sup>th</sup> Ave SW (Building 6), and to select a preferred alternative that best suits the building and identified Agency goals.

## 1.2 AGENCY GOALS

The acquisition of Building 6 will provide additional usable interior and exterior space for Agency expansion and flexibility. In discussing potential uses and immediate needs, the stakeholders developed the following goals for building use. The selected program should:

- Reduce congestion on the main base as soon as possible.
- Optimize Building 6 for the best long-term use, providing a higher ROI.
- Identify a self-contained solution that incorporates all staffing, parking and vehicle needs on the Building 6 site.
- Accommodate current and future (2040) space needs for the selected use (if possible)

## 1.3 EXISTING CONDITIONS

### 1.3.1 SITE CONDITIONS

The Building 6 site is located at 9622 40<sup>th</sup> Ave SW in Lakewood, Washington, within a small commercial district approximately ½ mile from the Pierce Transit Lakewood Base. The existing site is 1.05 acres with two access points on the east side of the property. Access to the site is limited along the north side of the building, where a joint use agreement for access and maintenance of 9' exists on either side of the property line. The site is fully paved with limited landscaping along the street side, and is partially fenced.

### 1.3.2 BUILDING CONDITIONS

The existing building is an 11,300 square-foot pre-engineered metal building, built on site in 1978 and in overall fair condition, however the hot mop over metal roof is in poor condition. The building is divided into two distinct areas, a high-bay rear space and a lower front office area. The prior use was a clothing manufacturer. Two main entries are located on the street and south side, with egress doors provided along the rear from the high-bay space. The building is conditioned by individual rooftop mounted mechanical units. There is minimal fire protection equipment and no automatic sprinklers or fire alarm system installed. Interior finishes, ceilings, lighting are adequate but beyond their intended lifespan.

A review of the existing building systems, structure, and utilities was specifically excluded from the utilization study at the request of the Agency. Building systems should be evaluated during the design phase of the proposed renovation once a scope and direction is finalized.

The level of renovation also has a significant impact on the required level of code compliance applied by the code official. The existing use and building construction type/size do not comply with contemporary codes. A pre-application meeting with the building code official will be required to fully define the scope of life safety system improvements needed depending on the level of alteration. A detailed code analysis can be found in the Appendix and is summarized in section 2.

## 1.4 PROGRAM ANALYSIS

The Agency identified four potential program uses for Building 6 for the team to evaluate. Through site tours and departmental interviews a program for each use was developed and a test to fit site and building plan was developed for evaluation by the stakeholders. The following programs were tested and evaluated: Vanpool, Facilities Maintenance, Communications Technology and NRV/ Vanpool Maintenance. Program tables and test-to-fit site and building plans for each along with a program description can be found in section 3.

## 1.5 PREFERRED OPTION

The group selected a two-part strategy for the use of Building 6. In the short term, the building will be renovated and will house the Vanpool program in order to free up space on the South Base. In the long term, Facilities Maintenance will move into the building in order to maximize the use of the available square footage and to provide flexibility for later phases of the master plan.

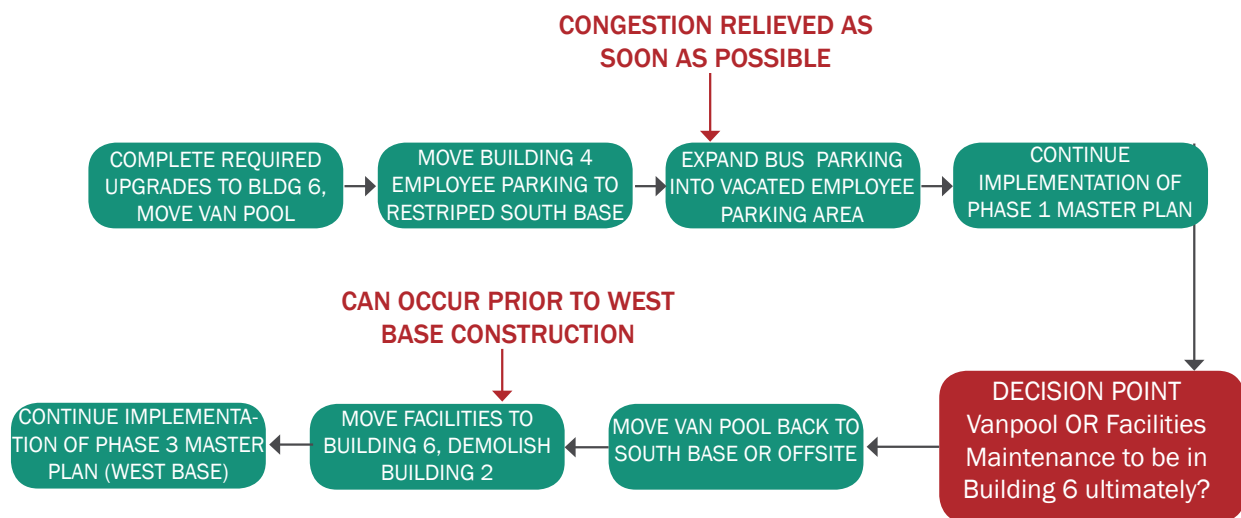


Figure 1-2 Flowchart The following diagram illustrates the selected approach:

The team was able to demonstrate that in the short term the existing south base (with restriping and minor lighting layout changes) could accommodate all the employee parking north of building 4 without an immediate major expansion of the south base parking area. This makes Vanpool a preferable short-term use and creates flexibility in the order of the initial phases of the Base Master Plan.

Moving Facilities Maintenance to building 6 in the long term has the benefit of vacating building 2 on the main base, eliminating the inherent conflict between the non-revenue vehicles (NRV) and the bus parking there. Relocating Facilities Maintenance will also reduce the size of the required west base building, as that program is currently projected to occupy the first floor of the new building in Phase 3 of the master plan. It is assumed that at this point in the base development the south base parking expansion will be complete and vanpool operations (and fleet storage) can feasibly return to building 5 on the South Base. This sequence is summarized in the flowchart found in Figure 1-2.

## 1.6 COST ESTIMATE

The cost estimate is divided into two parts, a short term option that includes the initial site and building improvements required along with the cost of the Vanpool tenant improvements. The second part represents the approximate cost to then convert Building 6 at a later date for use as a Facilities Maintenance building.

Item	Estimated Cost
Phase 1 Vanpool Renovation and Systems Improvements	\$947,896
Phase 2 Facilities Maintenance Tenant Improvements	\$364,945
<b>Total Construction Cost (all phases)</b>	<b>\$1,313,000</b>

Note that these estimates are not escalated. A table can be found in the Appendix to estimate the degree of escalation to be applied depending on the anticipated completion schedule. Both estimates include a 20% design contingency.

The ultimate extent of required upgrades to building systems is dependent upon their current condition and the flexibility of the building official.





## 2 EXISTING CONDITIONS ANALYSIS

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**Figure 2-1** Existing Building

This section includes a description of the existing building 6 site and facility as observed during the site visit on June 20, 2017 and the documents provided by Pierce Transit. Also included is a preliminary code summary and needs analysis based on the test-to-fit options developed with the project stakeholders.

### 2.1 EXISTING SITE

The building 6 site is located at 9622 40<sup>th</sup> Ave SW in Lakewood Washington, within a small commercial district approximately ½ mile from the Pierce Transit Lakewood Base. The site is approximately 1.05 acres in size and is primarily surfaced with asphalt paving, though there is a limited landscape buffer along 40<sup>th</sup> Ave SW contains signage, mulching and some vegetation.

The site is partially fenced with two access points along the eastern edge of the property. The northern access point is shared with the adjacent commercial property, while the south access point is dedicated to the subject property. An 18' wide joint use easement extends along the north edge of the property to allow access to both properties. This easement restricts development of the northernmost 9' of the subject property, affecting 3,360 square feet (.077 acres) of site area.

The asphalt parking lot is in good condition, sloped to drain to four area drains. There are no discernible storm water retention or water quality components on site. The routing and current condition of this existing site infrastructure is beyond the scope of this report, however, all appeared functional at the time of the visit. The drains may share piping with adjacent properties and their condition and routing should be verified.

The south side of the building includes an exterior canopy, and 90-degree parking along a primary drive aisle that provides access to the rear of the site. A fence separates the parking area from the adjacent commercial property which has separate dedicated access.

The street frontage is unimproved gravel edge with no curbs or curb cuts. This condition is consistent along all of the adjacent properties.

Two pad mount electrical transformers are located along the north side of the building, and pole lighting is placed in the existing parking lot for exterior illumination. An electrical and a water connection/meter is present within the landscaped area.

## **2.2 EXISTING BUILDING**

The existing single-story building is an approximately 11,250 square feet in size, and is currently unoccupied. The building massing is divided into two major areas, a high bay manufacturing portion towards the rear (west) side of the site and a lower bay office area towards the front (east) side of the site. There are two primary entry doors, one along the east side and the other in the south. Secondary egress doors exist around the perimeter at regular intervals. A single 10' wide roll up door for deliveries sits within the lower volume space along the east wall.

The building is a pre-engineered steel building, built on site. According to county records, the building was originally built in 1978 making it approximately 40 years old. The overall exterior condition is fair with some observed degradation. Parts of the roof appear to be original and is beyond its useful life. No observable leaking was seen during the site tour or was reported by the current owner.

Exterior cladding is corrugated metal panels with exposed fasteners, windows are tinted aluminum frame, and the roof appears to be a combination of corrugated metal panels and a built-up hot-mop roof. The exterior cladding system appears to extend all the way to grade, and it is unclear whether a knee wall to resist moisture intrusion exists along the base of the exterior wall. In some areas rust was observed where the metal panels meet the grade with no flashing or separation. The floor is slab-on-grade with a minimal door threshold.

### **2.2.1 INTERIOR**

The interior of the building is divided into a front office portion and a high-bay open floor fabrication area at the rear. The office portion is divided into several smaller rooms by partition walls that extend just above the ACT ceiling. The building contains a kitchen area, and separate men's and women's toilet rooms, both in fair to poor condition. The toilet rooms have been improved somewhat since their original construction and include accessible toilet fixtures, grab bars and minimal accessories. The existing sinks are NOT currently accessible and should be replaced. The kitchen includes built-in laminate counter-tops and base cabinet storage.

Partition walls are GWB over metal stud. Flooring is primarily carpet in the office area and vinyl tile on the manufacturing floor and loading areas. The existing acoustical ceiling tile is 2x2 or 2x4 lay in regular tiles in some areas, and decorative panels in others. The high-bay manufacturing space also has a lay-in ACT ceiling.

### **2.2.2 CONSTRUCTION TYPE**

The building construction type appears to be Type V-B, unprotected, and 1995 permit documents identified the building as a Type V-N building at the time (consistent with a Type V-B under contemporary codes. However, some plan and section details in the high-bay space appear to show a 1-hour



rating for both the ceiling and structural elements. This 1-hour rating is inconsistent with the Type V-N or Type V-B construction type and may correspond with the original Assembly use. Similar protection is not present in the visible portions of the lower volume.

Permit and building construction information provided is very incomplete so a definitive conclusion cannot be drawn on the building type or existing assemblies. Type V-B is assumed (unprotected, combustible) for the purpose of code analysis and review.

## **2.3 BUILDING SYSTEMS**

Mechanical, electrical, fire protection, telecom, and structural design consultants and evaluations were specifically excluded from this report at the request of Pierce Transit. A complete assessment of the existing mechanical, electrical, telecom, plumbing, structural, fire alarm and fire protection system is therefore beyond the scope of this report as a result. Technical consultants should be retained at a later date to fully assess and evaluate the existing building systems once a direction on renovation is selected by the Agency. The following observations were made during the June 20, 2017 site visit.

The building appears to include water, sewer, electrical and telephone services only. No existing telecom infrastructure was observed. The building does not have an automatic sprinkler system or contemporary fire alarm system. The building includes limited ventilation and conditioning systems.

The building does have some fire alarm protection in the form of smoke detectors and pull stations at the egress doors. This system likely does not meet notification and communicating requirements of contemporary systems and may not be capable of connection to other fire protection equipment. System condition and functionality should be confirmed prior to renovation and occupancy. Depending on the level of renovation and the building code official, fire alarm systems may need to be replaced or upgraded as a condition of occupancy.

There are several electrical and alarm panels located along the north wall of the lower office area space. Lighting throughout is lay-in 2x4 fluorescent fixtures with a variety of trims and lensing. Light levels should be assessed to confirm adequate egress and task lighting once the scope of renovation is defined.

The building mechanical system appears to consist of several independent rooftop mechanical units that serve non-separated zones within the occupied spaces. In the high-bay areas these units discharge directly into the space. In the office area there appears to be ducted distribution with 2x2 supply and return diffusers to provide ventilation and conditioned air. Individual thermostats were observed throughout the building that likely control individual units on the roof. The condition, age or suitability of the existing mechanical systems is unknown and beyond the scope of this report. Assessment by a qualified mechanical engineer or contractor is recommended prior to renovation or occupancy to confirm that the existing equipment is functional and appropriate to the intended use.

## **2.4 CODE NOTES**

A detailed set of code notes that summarizes the relevant Land Use and Building Code provisions that apply to this building and proposed projects is included in the Appendix. Once a definitive scope of work is selected by the Agency, an updated code analysis should be prepared. Because of the sub-

jective nature of the existing building code thresholds, a pre-application meeting with the Authority Having Jurisdiction (AHJ) should be scheduled as soon as possible to confirm code assumptions and thresholds.

#### 2.4.1 PRIOR USES & PERMITS

Information on prior uses of the building is limited. According to county permit records, the building was originally developed as an assembly space for use as a bingo hall. Later uses included mercantile and clothing manufacturing. The last permitted use on the site was for TM Athletics, a local apparel manufacturer. Tenant improvements undertaken in 1995 for this use appear to be the last major improvements made to the existing building. The permit associated with the last renovation is permit #196957.

The TM Athletics use was classified under the 1991 Universal Building Code as a “B-2” use as a “small factory that uses materials not highly flammable or combustible”. This use classification no longer exists, but the prior use can be classified under the current 2015 IBC as equivalent to the F-1 use category. The building construction type at that time was identified as a Type V-N (unprotected, combustible), which can be classified under the current IBC as Type V-B. The land use designation is unclear.

#### 2.4.2 LAND USE CODE

The Building 6 site is located within a Commercial 2 (C2) zone per the Lakewood Municipal Code. This zoning designation is different from the zoning of the main base parcels and has different use and setback standards. Commercial zoning districts are intended to promote employment, services, retail, and business uses serving and linking neighborhoods to Lakewood’s major transportation networks. The geographic relationship of the commercial corridors to major road networks and their limited integration with adjacent neighborhoods promote employment, services, retail, and business/light industrial uses linked to access the major transportation networks.

The municipal code defines a set of allowable and conditional uses. The two proposed uses (vanpool or facilities maintenance) can be designated at Transportation Level 3 or 4, respectively. Neither of these uses is allowed outright in the C2 zone, and will require a conditional use permit or approval through the Master Plan review process.

Commercial Zoning Districts also include the following basic development standards that apply to new development on the site:

- No minimum lot size;
- 100% building coverage and impervious surface is allowed;
- Zero front, rear and side setbacks;
- 90’ feet maximum building height

Repair or restriping of the existing parking lot surface will likely not trigger additional improvements to the parking lot or street frontage. Similarly construction of fences less than or equal to 6’ in height are exempt from develop standards per LMC 18A.02.145, Item B if undertaken independently. More extensive modifications, or site development associated with a permit application may trigger

landscaping and street edge requirements of the C2 district as outlined in LMC 18A.50 for Design, Tree Preservation, Landscaping, Parking and Signage. All new work must comply with these land use development standards.

### 2.4.3 EXISTING BUILDING CODE

The 2015 International Existing Building Code (IEBC) has been adopted by the City of Lakewood to govern proposed improvements to existing buildings. The IEBC provides a method to classify projects based on level of alteration. Depending on the level of alteration designation, only portions or the International Building Code (IBC) are applied to the proposed project. The existing building code also provides a mechanism to interpret changes of use based on relative hazard (IEBC Chapter 10).

#### IEBC ALTERATION LEVELS:

There are three levels of alteration defined in the International Existing Building Code (IEBC):

Level 1 alterations are defined as “the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose”. Level 1 requirements are the least intensive. Level 1 alterations must comply with the provisions of Chapter 7 of the IEBC, and generally may maintain the protection levels of the existing building provided the changes does not make an existing building less safe (or more hazardous). Chapter 7 also includes requirements for addressing accessibility. Any renovation must improve an accessible route to any area of Primary Function, including replacement on non-accessible fixtures or restrooms where technically feasible. Up to 20% of the total project cost can be applied to these improvements before they can be deemed infeasible.

Level 2 alterations are defined as “projects that involve any space reconfiguration, door or window replacement, or the extension of any building system”. Level 2 alterations require compliance with Chapter 7 & Chapter 8 of the IEBC. Chapter 8 adds requirements for fire protection review, and life safety. Fire sprinkler protection must only be evaluated if the total number of occupants exceeds 30, or if the work area exceeds 50% of the floor area. If the use and work area would require sprinklers for new construction under the IBC then they must be provided. Chapter 8 includes an exception to this requirement that allows the use of an automatic smoke detection system in lieu of sprinklers if the municipal water is insufficient without a fire pump.

Level 3 alterations are defined as projects where the work area simply exceeds 50% of the total building area. These projects must comply with Chapters 7, 8 & 9 of the IEBC. Chapter 9 adds a more stringent fire protection and evaluation component. Buildings must be evaluated as new construction without exception.

#### CHANGES OF USE

The IEBC also includes an additional set of requirements triggered by a change of use. These are defined on Chapter 10 of the IEBC. Any change of use (regardless of scale) is required to obtain a certificate of occupancy and code official approval. If the use changes, and the use has different fire protection thresholds in chapter 9 of the IBC (the IFC), then the project must meet the requirements defined in chapter 10 (section 1012), which provides a methodology for evaluating the relative hazard of the current and proposed use to evaluate whether a proposed use is more hazardous. If a proposed use can be demonstrated to be less hazardous or of equal hazard to the current use, then the height and area of the *existing building* can be deemed acceptable (IEBC 1012.5.2).

### PRESCRIPTIVE COMPLIANCE

The IEBC also includes a prescriptive compliance option, as defined in IEBC Chapter 4. This stipulates that alterations must comply with the provisions of the current IBC, and that those alterations must not make the existing building less conforming to the provisions of the IBC than the building was prior to renovation. Section 407 of this chapter also includes provisions for changes of occupancy that may apply. Subject to code official approval, the occupancy may be changed without full conformance to the requirements of the code, as long as the new use is less hazardous than the existing use. WAC 51-50-480407 adds additional language to this section, indicating that *“the hazard tables of Chapter 10 may be used to demonstrate the relative fire and life risk of the existing and the new proposed uses”*. This may also provide a mechanism to avoid a complete building overhaul of building 6.

### CODE SCENARIOS

The two likely renovation scenarios identified for the Building 6 site may have different implications for how the associated tenant improvements will navigate the code. Accommodating vanpool only in the existing lower volume space, with minimal changes to the existing building may qualify as a level 2 or even a level 1 alteration. Whole building renovation, associated with vanpool and development of the flex space, or renovation to accommodate facilities maintenance may trigger level 3 compliance.

If the building were to be newly constructed today, both of the proposed uses would not comply given the building area without the addition of automatic sprinklers. Per the IBC, Table 506.2, the allowable area without sprinklers for Construction Type 5B is 9,000 SF for Occupancy B. Storage Group S-1 includes moderate-hazard storage including some of the following: furniture, lumber, motor vehicle repair garages complying with Table 307.1 of the IBC, and bulk tire storage. Per the IBC, Table 506.2, the allowable area without sprinklers for Construction Type 5B is 9,000 SF for Occupancy S-1. Factory Industrial Group F-1 includes moderate-hazard uses including some of the following: automobiles and other motor vehicles, engines (includes rebuilding), furniture, machinery, metals, and woodworking. Per the IBC, Table 506.2, the allowable area without sprinklers for Construction Type 5B is 8,500 SF for Occupancy F-1.

The existing use can be classified as a Factory/Industrial-1 (F-1) use under the 2015 IBC, and the new uses are either B (in the case of vanpool) or S-1/F-1 and B (in the case of a facilities maintenance renovation). Both new uses are of equal or lower hazard than the existing use which may allow elements of the building to remain unimproved per IEBC Chapter 10. Once the renovation scope of defined and documented in the design phase, a pre-application meeting with the code official should be held to confirm their interpretation of these complex code requirements and provisions. Significant latitude is granted to the code official in these matters.

A detailed code summary can be found in the Appendix.





## 3 PROGRAM ANALYSIS

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This section includes a description of the methodology used, a list of the overall goals established for the report by the stakeholders, a description of the departmental programs considered for the short and long term uses in the building, and a comparison of the primary test-to-fit options developed by the consultant team during the workshop phase. All of the test-to-fit plans developed during the process can be found in the Appendix.

### 3.1 PLANNING GOALS

The group identified the following planning goals for the use of Building 6:

- Reduce congestion on the main base as soon as possible.
- Optimize Building 6 for the best long-term use, providing a higher ROI.
- Identify a self-contained solution that incorporates all staffing, parking and vehicle needs on the Building 6 site.
- Accommodate current and future (2040) space needs for the selected use (if possible)

### 3.2 METHODOLOGY

The team was tasked with evaluating the suitability of several potential uses for Building 6 within the context of the overall base Master Plan. The agency suggested up to four different programs as defined below: Vanpool Operations, NRV/Vanpool Maintenance, Facilities Maintenance, and the IT/Communications Shop.

Representatives from each department were included in the stakeholder group and invited to visit the site. Working with each department via email or in person, the consultant team then defined a space program including a list of rooms, activities, and space needs projections for each department use. This program was reviewed with the stakeholders and agency representatives.

Once the program needs were defined via the space program tables, a series of site and building test-to-fits was developed. Over the course of two workshops, the stakeholder group evaluated the test-to-fit plans and adjusted them to come up with the best fit for each department in Building 6. After weighing the pros and cons of each option, a preferred use for Building 6 in the short and long term was then selected.

The preferred option was then documented in a final test-to-fit concept plan and a cost estimate was generated on that basis.

A description of each program along with test-to-fit plans and advantages and disadvantages can be found on the pages that follow. Program tables for each department program can be found later in the same section.

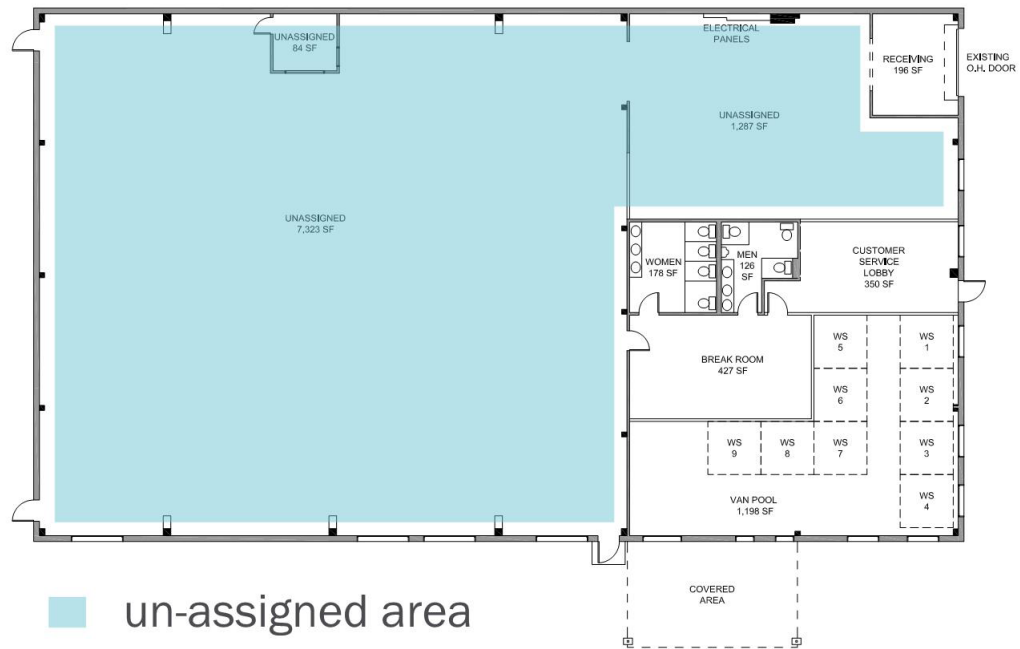


Figure 3-1 Vanpool Floor Plan

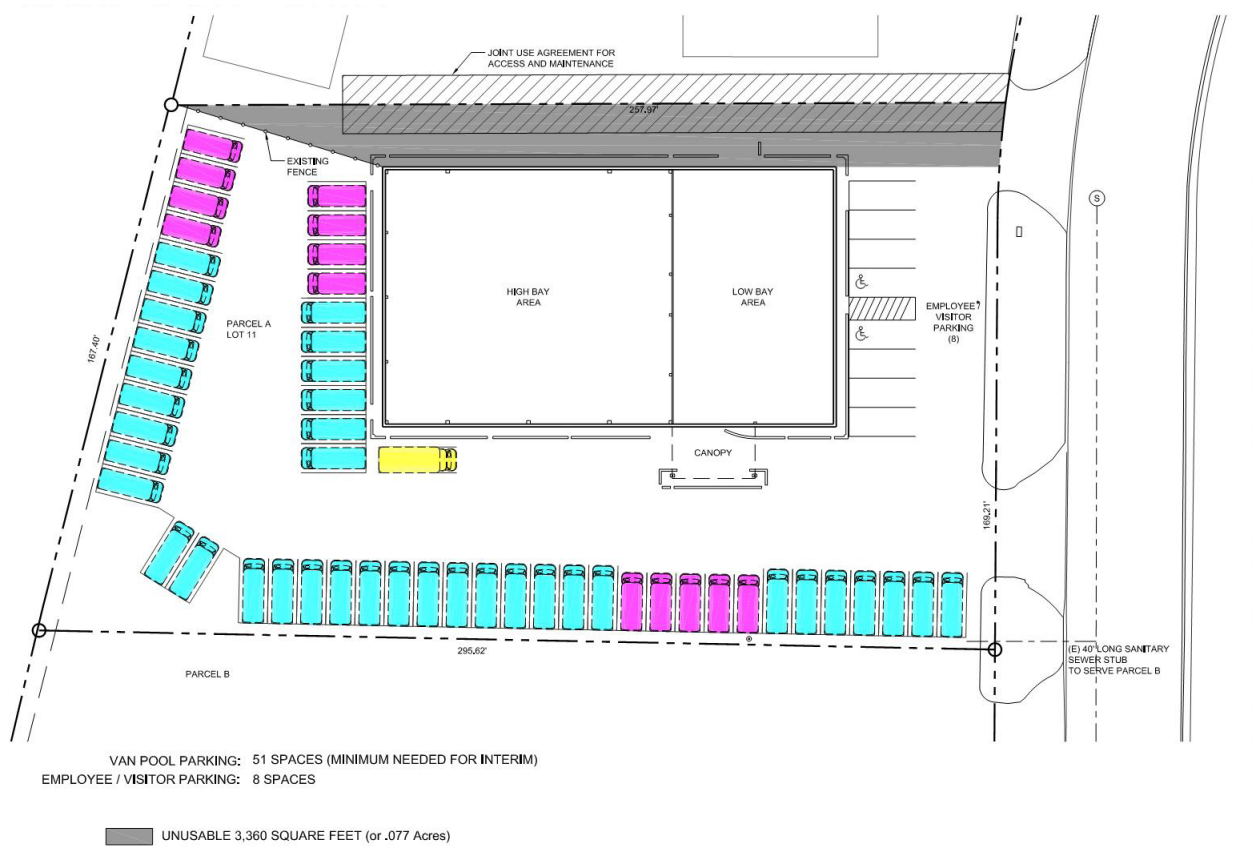


Figure 3-2 Vanpool Site Plan

### 3.3 VANPOOL PROGRAM

This department provides vanpool services directly supporting the use of vanpool vehicles. The staff interacts with the Maintenance team daily. In addition, the staff frequently interacts with Risk Management, Legal, Marketing and the Accounting departments. Vanpool oversees Adult Day Health Express service, a contracted, Demand Response service.

The vanpool staff is currently located in Building 5 on the South Base portion of the Lakewood Base. On a day-to-day basis, staff interacts directly with the public through vanpool vehicle pickup and dropoff, a primary function of this group. Vans for pickup and space for dropoff are currently stored in the South Base parking lot alongside staff vehicles. Access to this parking area is via card-key. The 2040 Master Plan identifies a need for up to 80 parking stalls long term to accommodate the vanpool active fleet. This cannot be accommodated on the existing building 6 site. Working with the stakeholders, the current baseline need for active fleet was evaluated, and the Agency determined that parking for a minimum total of 51 active vehicles are required for vanpool operations today. These vehicles vary slightly in make, model and size as noted below in the site program table.

The vanpool office space must accommodate the vanpool staff, a waiting area for members of the public, a key storage area, and typical office function spaces including storage, conference room, kitchen and break room space. The current vanpool staffing level is eight full time staff members. Per the staffing projection developed for the master plan, this number is anticipated to grow to a maximum of 13 staff members by 2040. The conference room should accommodate 12-16 people. The waiting area needs to accommodate 24/7 pickup and drop-off capability to allow users to complete self-service pickups. The office space must accommodate room for storage of up to 1,100 vehicle keys in a secure rack or location.

#### 3.3.1 TEST TO FIT PLAN

The test-to-fit site and floor plans on the facing page were developed to accommodate the desired vanpool program.

#### 3.3.2 PRIMARY ADVANTAGES/DISADVANTAGES

- Accommodates current entire active vanpool fleet on one site
- Provides adequate staff, office and public lobby space.
- Can provide immediate congestion relief on south and main base by relocating vanpool vehicle storage function from south base, could allow south base to function as primary staff parking earlier in the BMP sequence.
- Could be combined with other programs in the future if parcel B is also acquired (see below).
- If parcel B is not acquired, site does not accommodate growth in the vanpool program (site area) in the long term.
- May require significant building upgrades for relatively small program.
- Does not maximize the use of Building 6 interior area.

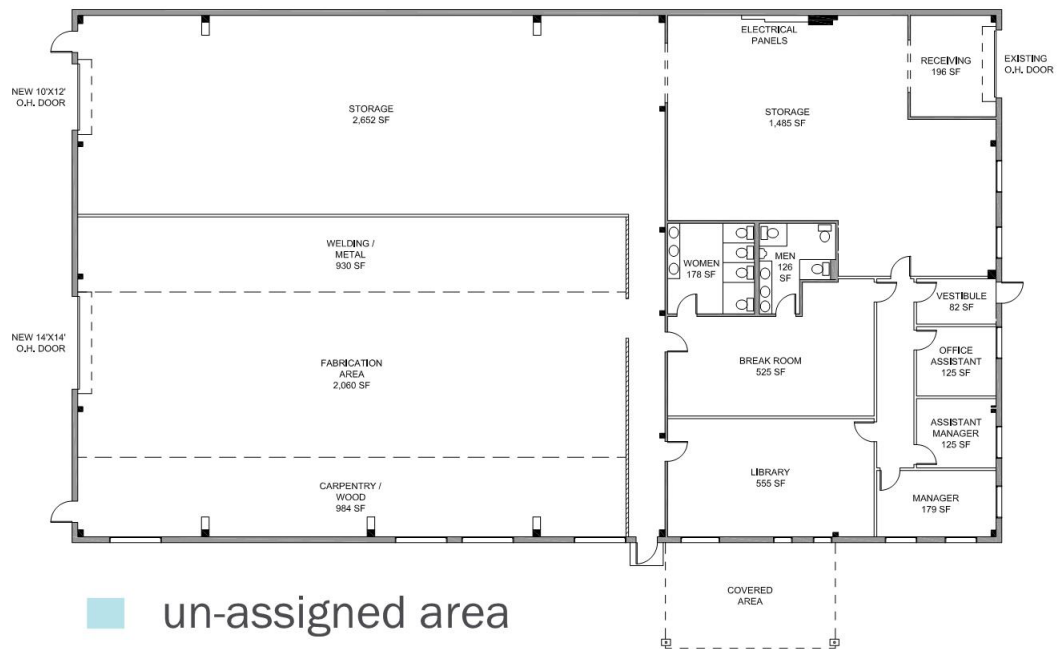


Figure 3-3 Facilities Plan

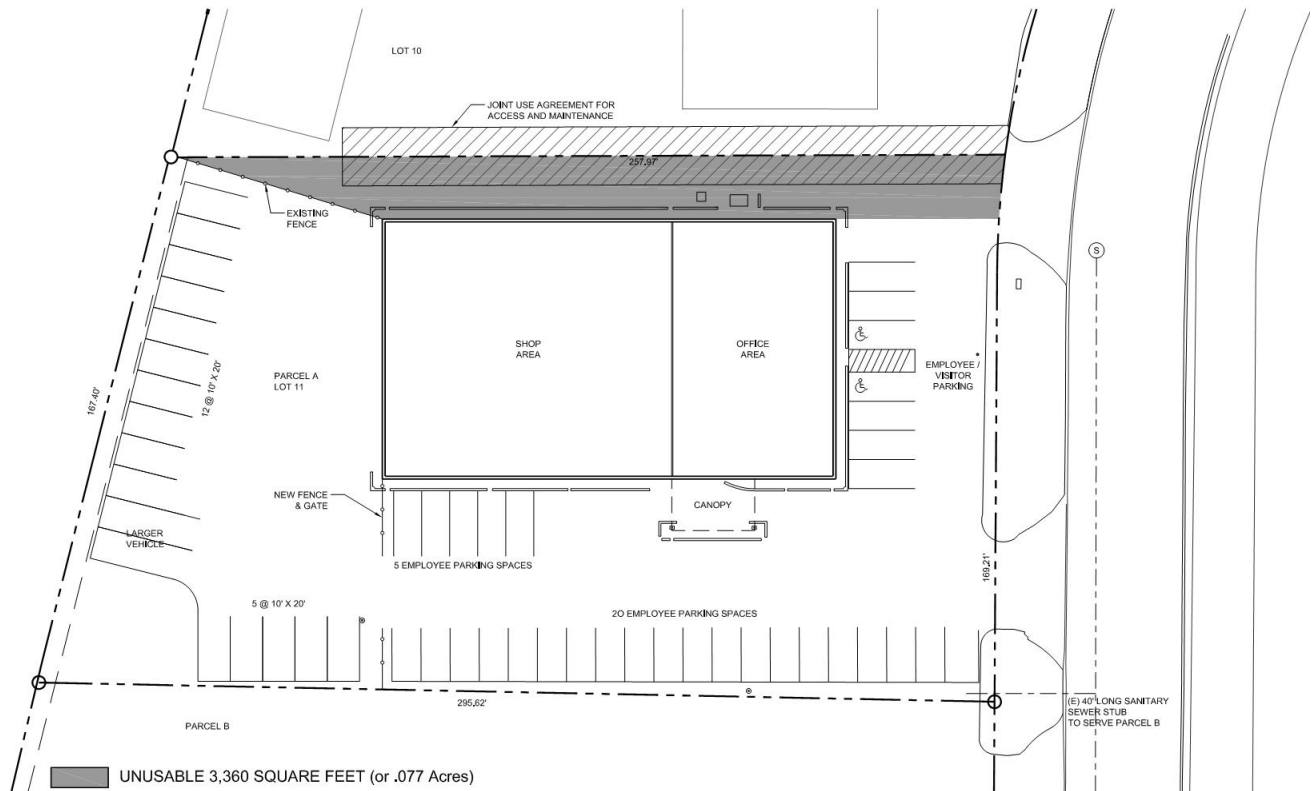


Figure 3-4 Facilities Site Plan

### **3.4 FACILITIES MAINTENANCE PROGRAM**

The Facilities Department interacts with all other departments in the agency on a regular, and often daily, basis. They provide routine and preventative maintenance service, meeting set up, event support, emergency response for facility and bus stop related issues. Facilities manages the custodial, landscape maintenance, and portable toilet contracts. The department works with staff on office furniture requests, move, add, and change requests for office space and painting. The department also supports the bus stop program including over 2500 stops with approximately 600 that include bus shelters. They install and maintain all of the bus stop improvements including sign installation and changes based on service changes, installation and maintenance of bus stop amenities such as shelters, trash receptacles, and seating.

Facilities is currently located on the Main Base portion of the Lakewood base in Building 2. The facilities group has a variety of medium to large service vehicles and equipment that are accessed daily. These vehicles are currently stored on the Main Base within the revenue vehicle parking area. The current vehicle fleet includes 21 non-revenue vehicles (10 Route trucks, 6 Service vans, 1 sweeper, 2 pressure washer trucks, 2 flatbed trucks. Employee parking is needed for 26 employees at any given time.

The Facilities department requires office space for the facilities full and part time staff, a building maintenance shop area with storage, a breakroom, library, and dedicated workstation for the SCADA system. Site needs include space for non-revenue vehicle fleet parking, employee parking, and a roll-of dumpster and compactor (currently on the Main Base).

#### **3.4.1 TEST TO FIT PLAN**

The facing page test-to-fit site and floor plans were developed to accommodate the desired facilities program.

#### **3.4.2 PRIMARY ADVANTAGES/DISADVANTAGES**

- An excellent fit for the site and the building, especially the high bay space.
- Facilities was identified as a good long-term use of the Building 6 site
- Relocation of facilities from building 2 would reduce conflicts on the revenue vehicle lot and would allow demolition of that building earlier in the BMP schedule
- Moving facilities does not accelerate the movement of the admin parking to the South base.

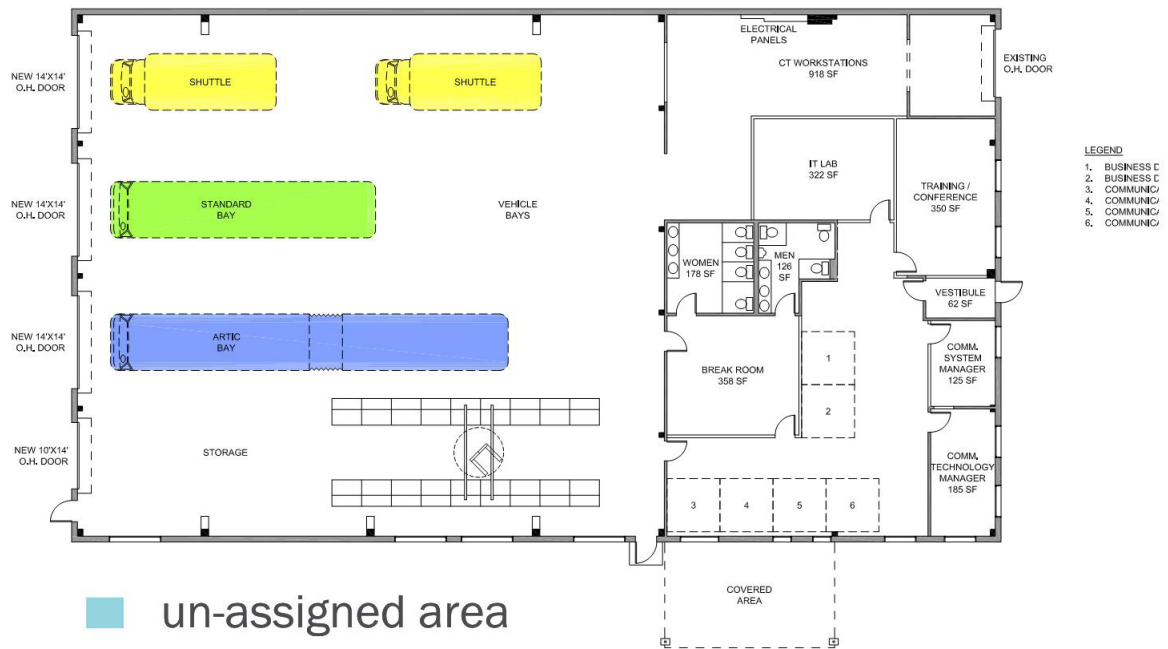


Figure 3-5 Com Tech Plan

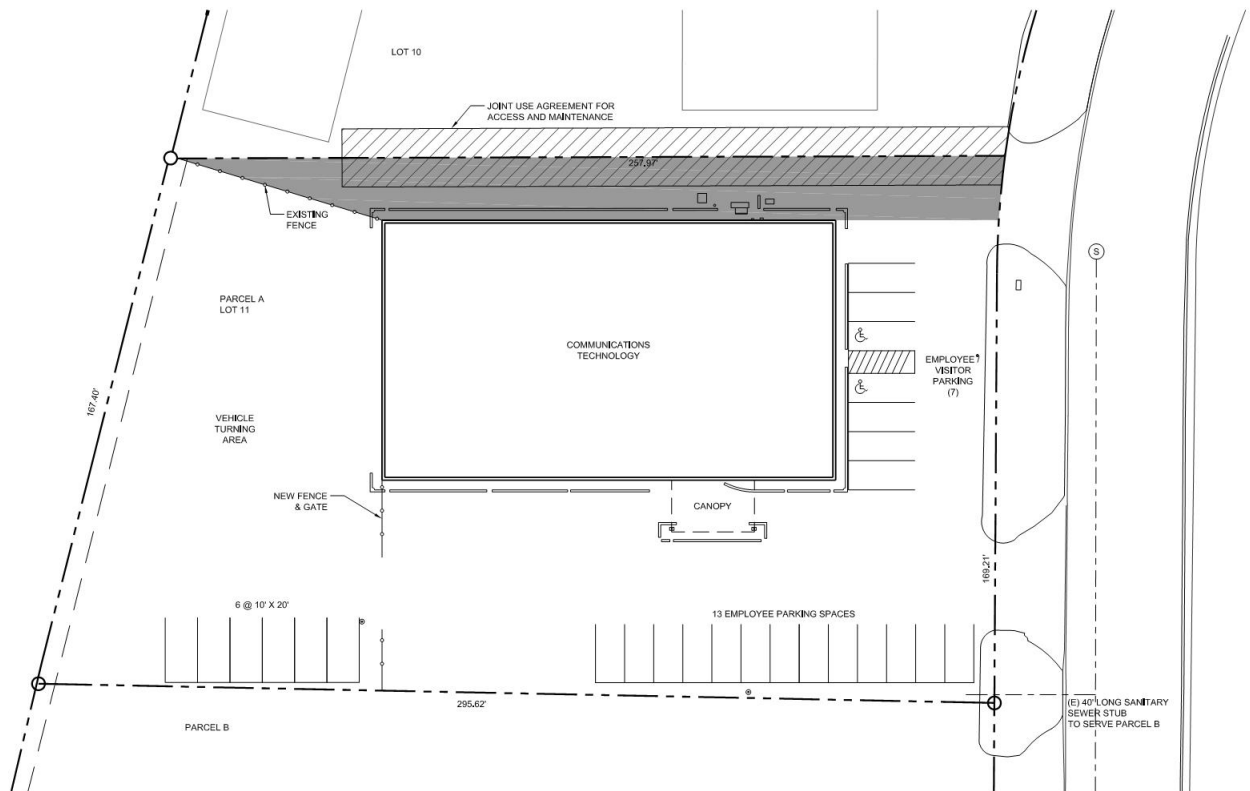


Figure 3-6 Com Tech Site Plan

### **3.5 COMMUNICATION TECHNOLOGY/RADIO SHOP PROGRAM**

IT interacts with all departments throughout the agency on a daily basis. They support most technology including desktops, servers, software, core business systems, telephones, cell phones, routers/switches/firewalls, network cabling, wireless, CCTV, CCTV on bus, and the ORCA farecard system. A subset of the IT department called Communication Technology focuses on installation and management of on-board communications, radio, and emergency communication equipment. This sub-group currently operates from office space located in Building 1 on Main Base and a radio shop space located on the West Base area of the Lakewood Base.

The needs of this group (if consolidated) includes office/workstations for the Communication Technology office, a training room, shop space including space for equipment building and breakdown, as well as vehicle bays for installation, and secure inventory storage. Card reader access is preferred, a system not currently installed in Building 6. Ideally two vehicle bays for equipment swapping side by side would be provided. These vehicle bays would have workstation space and benching for equipment. High-density storage is already purchased for inventory use, and plan dimensions for the preferred system were provided by the Agency and are shown on the plans. Ideally a roll up door for forklift access would also be added and accommodated within the high-bay space.

Equipment used and installed by this group is expensive and potentially sensitive. Attention to building security needs or hardening, and monitoring should be undertaken during the design phase if this program were to be selected.

#### **3.5.1 TEST TO FIT PLAN**

The facing page test-to-fit site and floor plans were developed to accommodate the desired communication technology/radio shop program.

#### **3.5.2 PRIMARY ADVANTAGES/DISADVANTAGES**

- The communications program fits the building well, but under-utilizes the site area
- The building must be modified to fit larger vehicles
- A work area could be located in the high-bay space
- Turning radii and access to the high bay space is challenging for larger vehicles
- Consolidating the com program into a single building would have operational benefits (right now scattered in several buildings)
- Moving communications does not accelerate the movement of the admin parking to the South base or affect the BMP
- Higher level of security and monitoring may be required

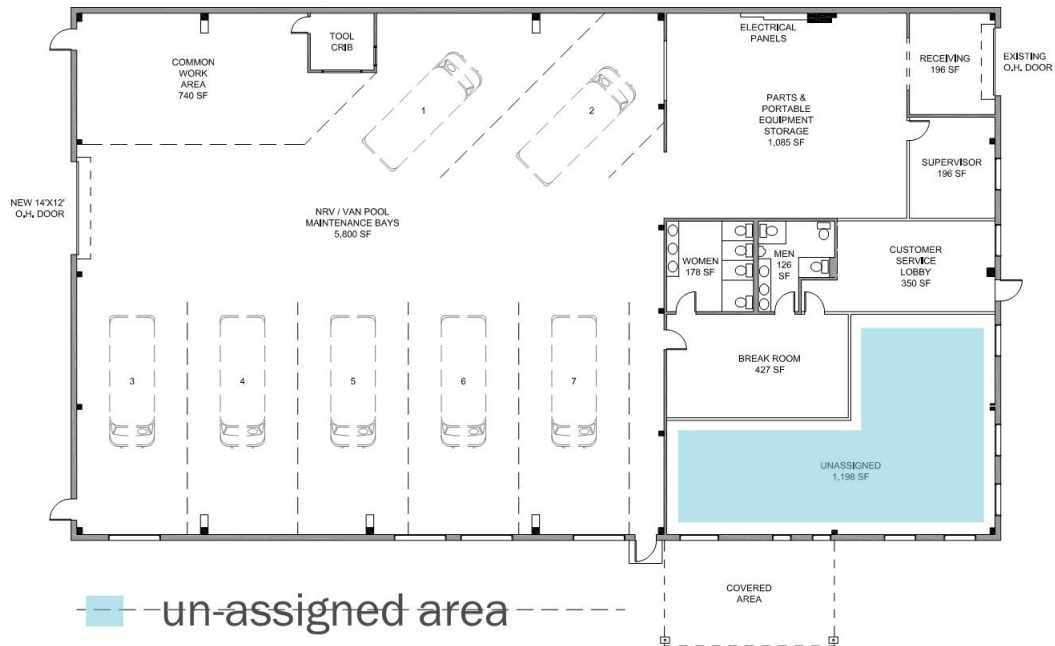


Figure 3-7 NRV/VANPOOL Maintenance Plan

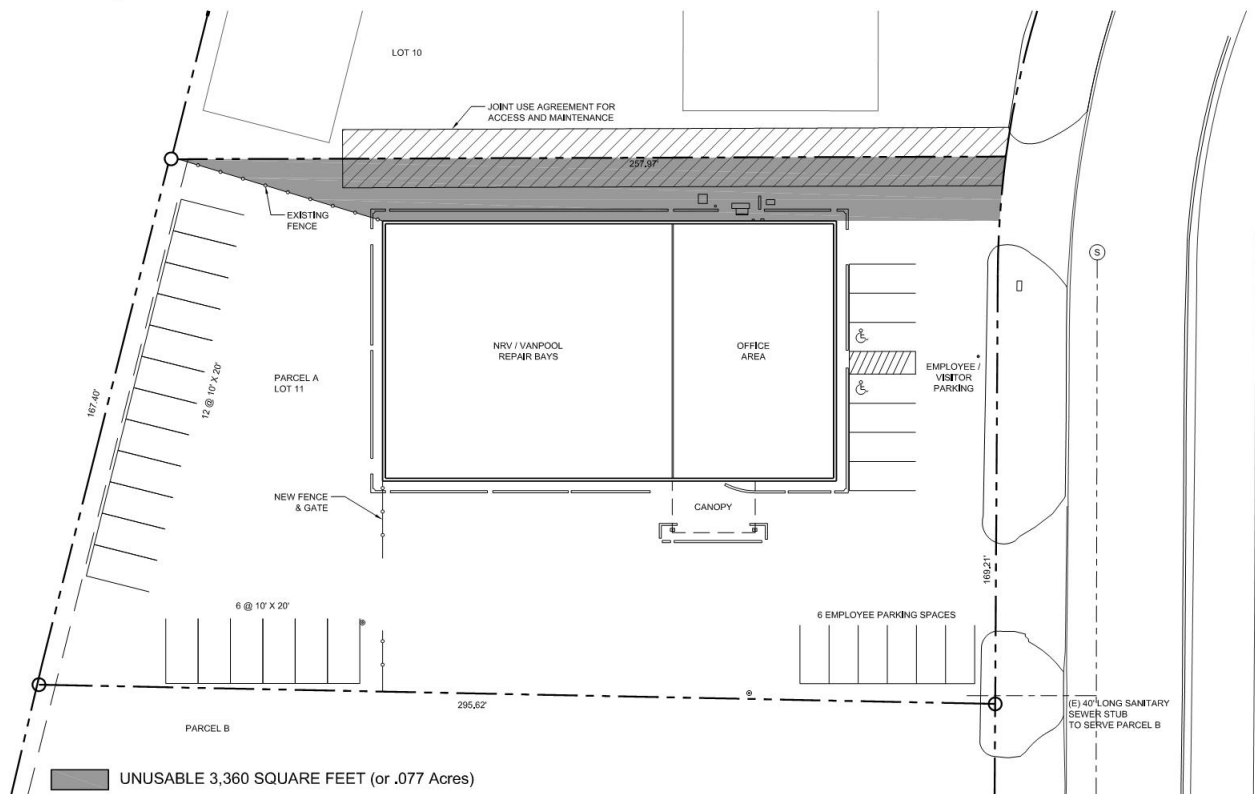


Figure 3-8 NRV/VANPOOL Maintenance Site Plan



### **3.6 NRV/VANPOOL MAINTENANCE PROGRAM**

This subgroup's primary role is repair and maintenance on all of Pierce Transit SHUTTLE vans, support vehicles, and vanpool vans. This group interacts with Operations, SHUTTLE, Vanpool, Radio team, and the Communications Center on a daily basis. This group is currently located in Building 1 on the Main Base area of the Lakewood Base. This program concept involves relocation of the vehicle maintenance bays to Building 6. This program would occupy the high-bay space in the existing building for up to five dedicated NRV/Vanpool repair bays, equipment storage and a common work area. Site needs would include staging for vehicles undergoing repair and employee parking.

#### **3.6.1 TEST TO FIT PLAN**

The following test-to-fit site and floor plans were developed to accommodate the desired NRV/vanpool maintenance program.

#### **3.6.2 PRIMARY ADVANTAGES/DISADVANTAGES**

- NRV vanpool maintenance fits the building well
- 7 of 8 desired maintenance bays fit in the high-bay space
- NRV can't use a two post lift and splitting the NRV fleet would raise issues as splitting the NRV maintenance staff would be problematic
- A two-post lift should work in the high bay space but that type of lift doesn't work with the current vehicles

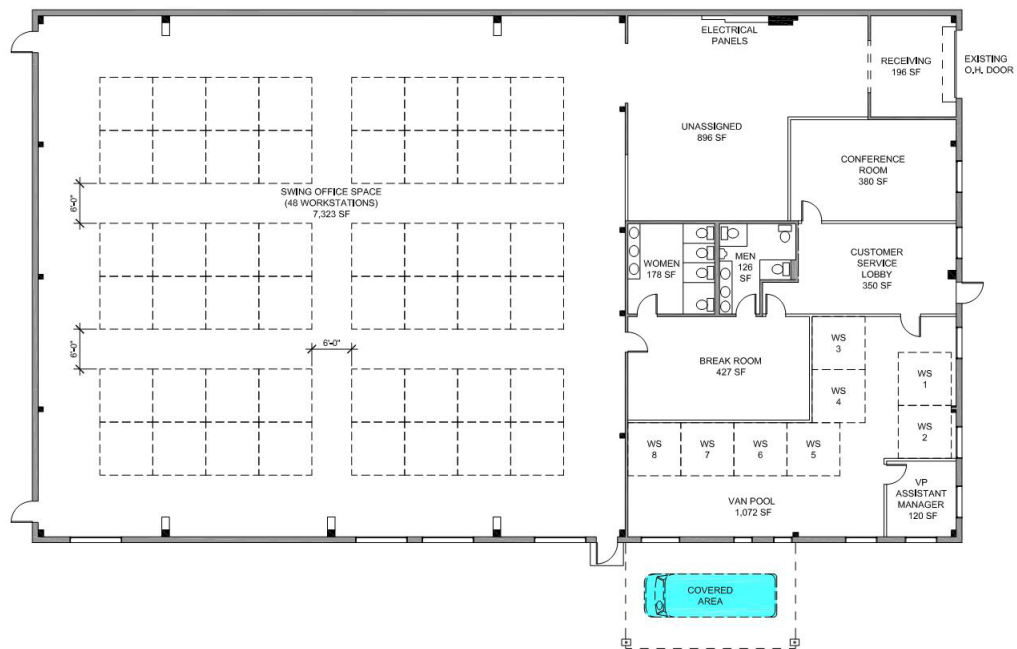


Figure 3-9 VANPOOL with Flex Space Plan

### 3.7 FLEX SPACE

During the course of the workshops, a fifth potential program need was identified in the form of flex or expansion space. The Base Master Plan identifies a series of renovations to buildings 1, 4 & 5 over the course of the next 10 years. These renovations are not fully defined, but will likely require staff to relocate temporarily to other areas while they are completed. One potential use for Building 6 would be flexible space to accommodate temporary workstations or office space for these users.

To provide this flexible space, the existing power, data, and building systems would need to be assessed and upgraded. Individuals using this flex space could share the existing restroom, kitchen and break room facilities already in use by the permanent occupants. A simple test-to-fit plan was generated demonstrating that up to 48 7'x7' workstations would fit within the high-bay space.

Employee parking becomes a significant challenge with this scenario, and depending on the selected permanent use in the building may not be available at this site. On a temporary basis, employees could continue to use the South Base parking lot and either shuttle or walk the half-mile or so to the existing employee parking area.

#### 3.7.1 TEST TO FIT PLAN

The following test-to-fit site and floor plans were developed to accommodate the desired NRV/van-pool maintenance program.

#### 3.7.2 PRIMARY ADVANTAGES/DISADVANTAGES

- Use as a temporary flex space could help accelerate or minimize costs of elements of the BMP
- Requires additional power, data and systems infrastructure
- May require additional restroom and kitchen facilities to accommodate larger occupant loading
- Site parking is inadequate, which would require shuttle or walking from the south base employee lot during flex space use

### 3.8 PROGRAM TABLES

The following pages contain the program tables developed for each of the departments considered above. The program table format matches that of the Base Master Plan (BMP), and includes existing, 2017 baseline and a 2040 projection for each element of the program. A quantity, net square foot-age and total is included for each room type.

Figure 3-10 Facilities Maintenance Program

Description	Space Standard	Existing		2017 Baseline PT & ST		2040 PT Only		Remarks
		Qty.	Area	Qty.	Area	Qty.	Area	
Facilities Maintenance								
Lead Maintenance Mechanic	[E]			1	240			
Assistant Maintenance Manager	[E]			1	113			
Restroom, Unisex	[E]	8	x 8	64	1	67	1	64
Safety Officer	[E]			1	306			See Administration (Risk)
Office	[E]			1	165			
Office	[E]			1	66			
Office	[E]			1	88			
Facilities Manager	[E]	10	x	15	150		1	150
Office Assistant	[E]	10	x	12	120		1	120
Facilities Assistant Manager	[E]	10	x	12	120		1	120
SCADA Workstation	[WS]	8	x	8	64		1	64
Building Maintenance Shop	[E]			1	1,610			
Carpentry / Wood Working Area		20	x	50	1,000		1	1,000
Fabrication Area		20	x	50	1,000		1	1,000
Welding / Metal Working Area		20	x	50	1,000		1	1,000
Building Maintenance Storage	[E]			4,000	1	684	1	4,000
Building Maint. Storage Mezz.					1	320		
Building Maintenance Breakroom	[E]	15	x	20	300		1	300
Building Maintenance Library	[E]	20	x	30	600		1	600
Building Maintenance Mezzanine					1	944		
Storage (Chuck Wagon) Structure	[E]				1	2,784		
Subtotal						7,387		8,418
Circulation Factor				20%		964		1,684
Total Facilities Maintenance						8,351		10,102

Figure 3-11 Vanpool Program

Description	Space Standard			Existing		2017 Baseline PT & ST		2040 PT Only		Remarks
				Qty.	Area	Qty.	Area	Qty.	Area	
Van Pool										
Vanpool										
Assistant Manager	WS2		64	1			1	64	1	64
Vanpool Coordinators	WS2		64	6			6	384	6	384
Vanpool Specialist	WS2		64	1			1	64	1	64
Additional Office	WS2		64	-			1	64	5	320
Conference Room	16	x	25	400	-		1	400	1	400
Waiting Area	12	x	16	192	-		1	192	1	192
Copy / Printer				50	1		1	50	1	50
Vanpool Key / File Storage				250	1		1	250	1	250
Subtotal								1,468		1,724
Circulation Factor			30%					440		517
Total Van Pool								1,908		2,241
Total Van Pool Staff				8		9		13		

Figure 3-12 Communication Technology Program

Description	Space Standard	Existing		2017 Baseline PT & ST		2040 PT Only		Remarks
		Qty.	Area	Qty.	Area	Qty.	Area	
Communication Technology								
Communication Technology Mgr. [E]	12 x 12	144		1	144	1	144	
Communication System Manager [E]	10 x 12	120		1	120	1	120	
Communication Technology Office [WS]								Workstations in one space
Communication System Technologist	8 x 8	64		1	64	4	256	
Business Development Administrator	8 x 8	64		1	64	1	64	
Business Development Assistant	8 x 8	64		1	64	1	64	
Training / Conference Room	15 x 25	375		1	375	1	375	15 people
Shop Space								
CT Workstation	20 x 20	400	1	278	1	400	1	Adj. to vehicle bays
CT Vehicle Bays	20 x 75	1,500			4	6,000	4	6,000
IT Lab	15 x 20	300			1	300	1	300
Storage Space	20 x 40	800			1	800	1	800
Subtotal				278		8,331		8,523
Circulation Factor		20%				1,666		1,705
Total Communication Technology				278		9,997		10,228

Figure 3-13 NRV / Vanpool Program

Description	Space Standard				Existing		2017 Baseline PT & ST		2040 PT Only		Remarks
					Qty.	Area	Qty.	Area	Qty.	Area	
NRV / Van Pool Maintenance											
NRV / Van Pool Repair Bay	20	x	35	700			5	3,500	8	5,600	One per 100 vehicles
Bay 64	18	x	55	990	1	990					
Portable Equipment Storage	20	x	35	700			1	700	1	700	Existing outside of repair bays
Common Work Area	20	x	35	700			1	700	1	700	
Subtotal						990		4,900		7,000	
Circulation Factor				20%		198		980		1,400	
Total NRV / Van Pool Maint.						1,188		5,880		8,400	

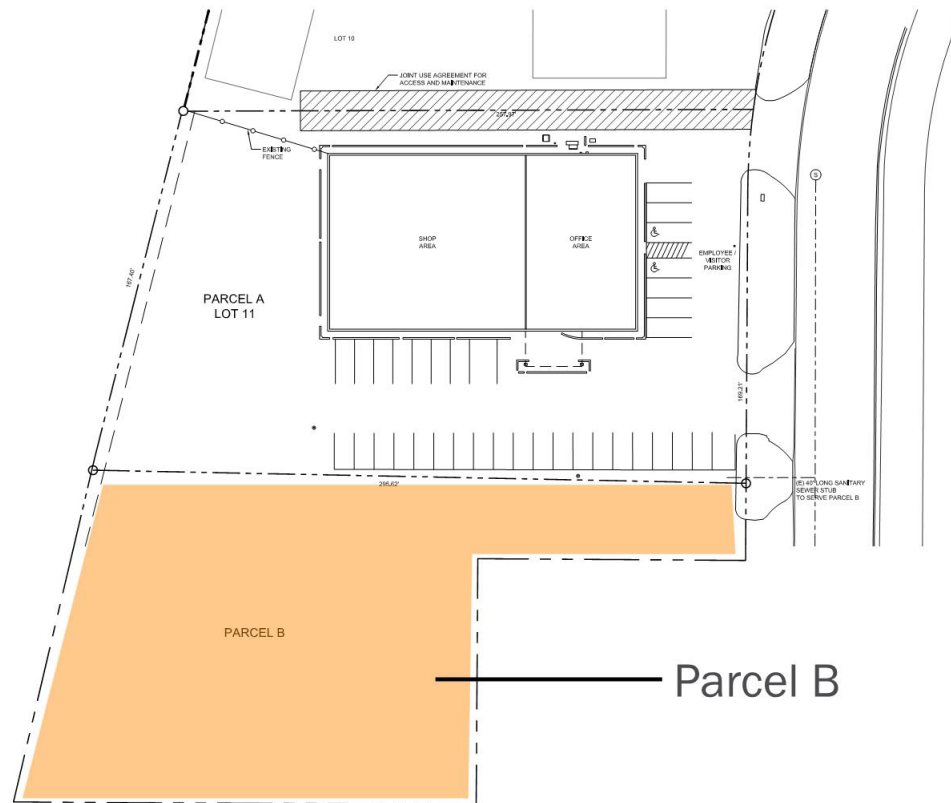


Figure 3-14 Site Plan with Parcel B

### 3.8.1 PARCEL B / PROGRAM COMBINATIONS

The current site parcel (parcel A) is limited in area and access, and while the building area may accommodate multiple uses, the site area quickly becomes the primary constraint for most program combinations. For example, Vanpool occupies 100% of the available site area, but only 15% of the available building area. The adjacent site parcel to the south (parcel B) is currently owned by the seller of Building 6. This parcel is in active use now by a compressed gas vendor for loading/unloading, however this use is a lease and considered temporary by the current Owner.

If this parcel becomes available in the future and could be purchased by Pierce Transit, a series of use combinations would be possible at the building 6 site. It would also be possible for Vanpool to remain on this site as the fleet grows in size. The team was asked to explore a series of site/building combinations that could be applied if parcel B is acquired. The following test to fit combinations were developed and shared with the group:

- Vanpool Only - Larger Fleet
- Vanpool & Communication Technology
- Vanpool & NRV Vanpool Maintenance
- Vanpool & Facilities Maintenance

the site and floor plans developed for these options can be found in the Appendix.





## 4 PREFERRED SCENARIO

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This section includes a description of the development plan selected by the stakeholder group for building 6, updated plan and site diagrams that illustrate that plan, and a cost estimate summary.

### 4.1 OVERVIEW

The stakeholder group met twice over a two day period to evaluate each of the potential programs and test-to-fits for building 6 in order to select a preferred alternative for development of the building and site. The discussion led to further analysis of the South base parking capacity and the sub-project order of phase 1 of the BMP in order to test ideas to accelerate relief of congestion on the Main Base.

Ultimately the group selected the Vanpool program as the preferred short term plan. This initial move has significant immediate benefit by freeing up parking space on the south base currently occupied by vanpool's active fleet vehicles. The team was able to demonstrate that in the short term the existing south base (with restriping and minor lighting layout changes) could then accommodate all the employee parking north of building 4 without an immediate major expansion of the south base parking area. This makes Vanpool a preferable short term use and creates flexibility in the order of the initial phases of the Base Master Plan.

Over the long term, Vanpool is projected to grow beyond the site capacity of building 6 which will require a second upgrade or decision point for the Agency. If the Vanpool program is relocated again (either back to the expanded south base or off-site) then the group determined that Facilities Maintenance was the best fit for continued building 6. This program fits well both on the site and in the building and would maximize the long term use of building 6.

Moving Facilities Maintenance to building 6 also has the additional benefit of vacating building 2 on the main base, eliminating the inherent conflict between the non-revenue vehicles (NRV) and the bus parking. Relocating Facilities Maintenance will also reduce the size of the required west base building, as that program is currently projected to occupy the first floor of the new building in Phase 3. It is assumed that at this point in the base development the south base parking expansion will be complete and vanpool operations (and fleet storage) can feasibly return to building 5 on the South Base. This sequence is summarized in the flowchart found in figure 4-3.

## Preferred Scenario - Overview

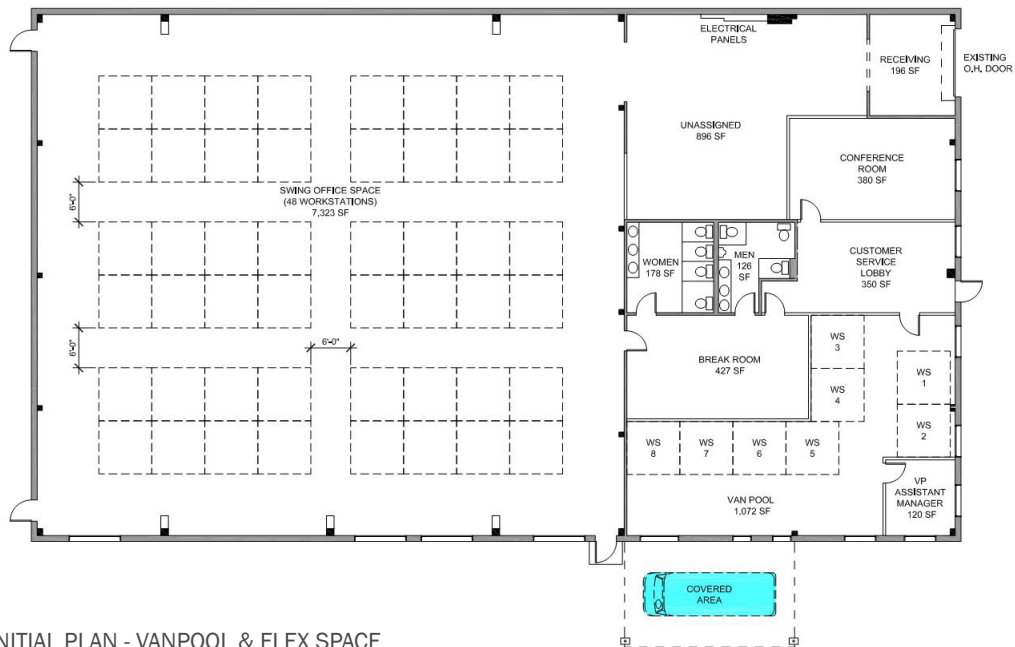


Figure 4-1 INITIAL PLAN - VANPOOL & FLEX SPACE

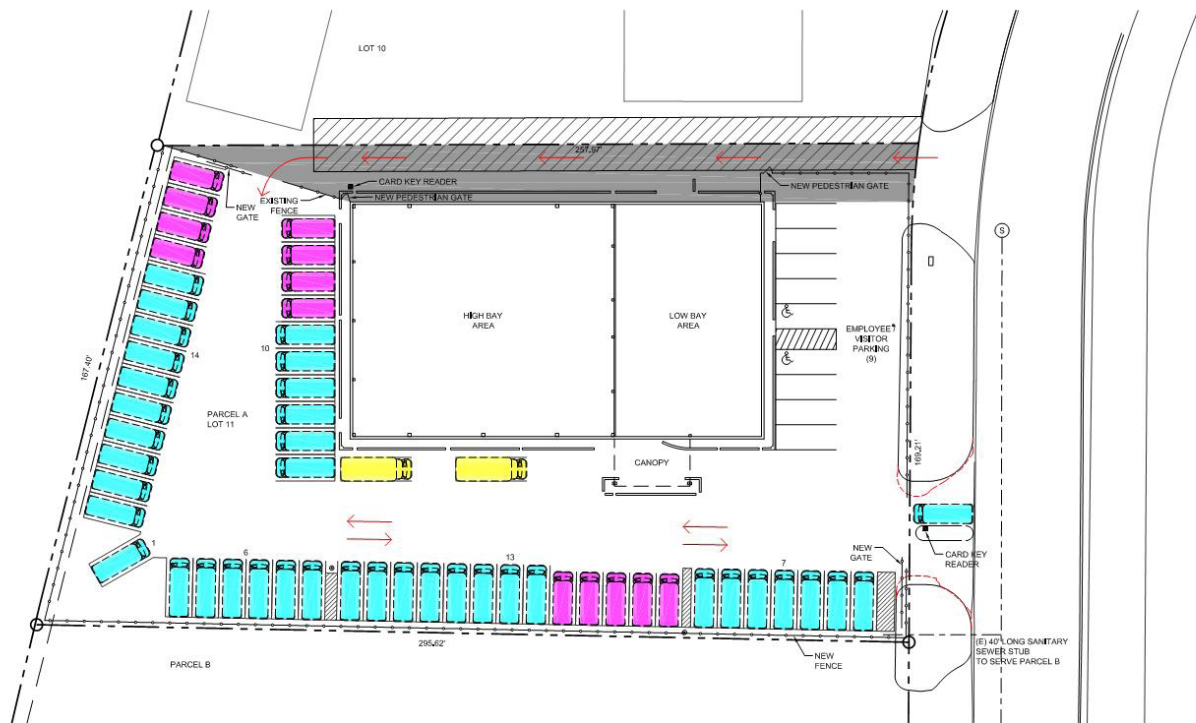
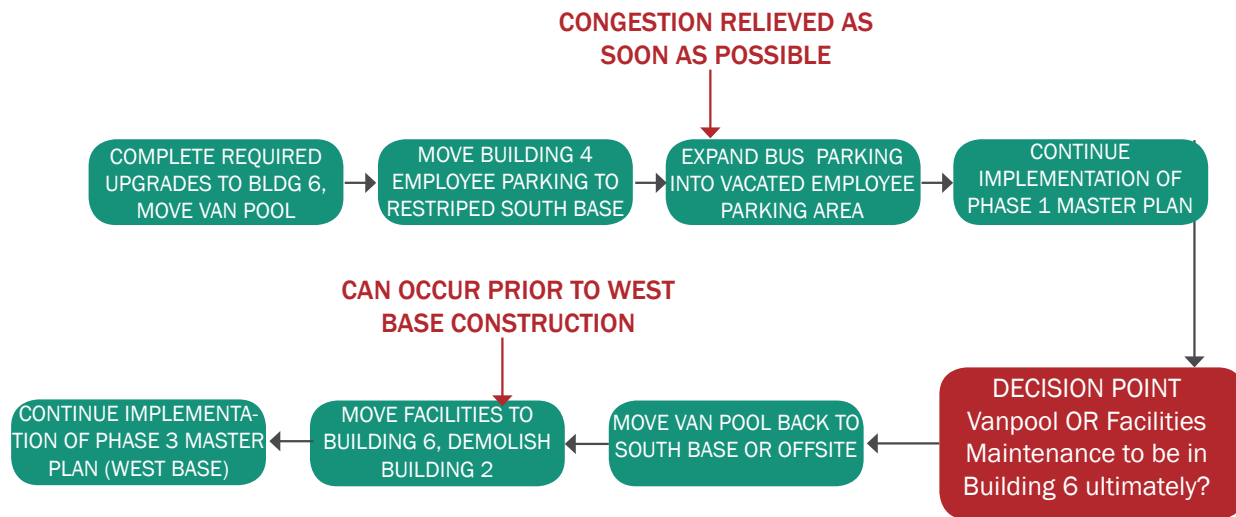


Figure 4-2 INITIAL SITE PLAN



**Figure 4-3** Flowchart The following diagram illustrates the selected approach:

## 4.2 MASTER PLAN IMPLICATIONS

The use of Building 6 first for Vanpool and later for Facilities Maintenance creates flexibility in the sequence and scope of other base improvements. If vanpool is relocated to building 6 first, then the administrative parking lot demolition and building 4 parking lot improvements could be undertaken prior to expansion of the South Base parking lot. This decouples the South Base parking expansion and the revenue vehicle lot expansion. This has the potential to shorten the overall BMP schedule and allow permitting and mitigation on the south base parcel to proceed during the revenue vehicle lot expansion, accomplishing a primary goal of relieving congestion on the main base as soon as possible.

The downside of this approach is the congestion on the South Base parking lot. This will reach maximum capacity in the short term, and does not eliminate the long term need or employee parking expansion.

Moving Facilities later has similar implications for the Phase 3 scope of the Master Plan, by decoupling the demolition of building 2 from the completion of the West Base Maintenance building. By the time the West Base is in development, only Facilities Maintenance will occupy Building 2. If that function is relocated to Building 6, then it no longer needs to be included in the West Base building program, and Building 2 can be demolished sooner, freeing up additional valuable revenue vehicle parking area. A cost-benefit analysis of this long-term sequence can be tested when Phase 3 of the master plan is developed in greater detail.



Figure 4-4 Existing South Base parking allocation

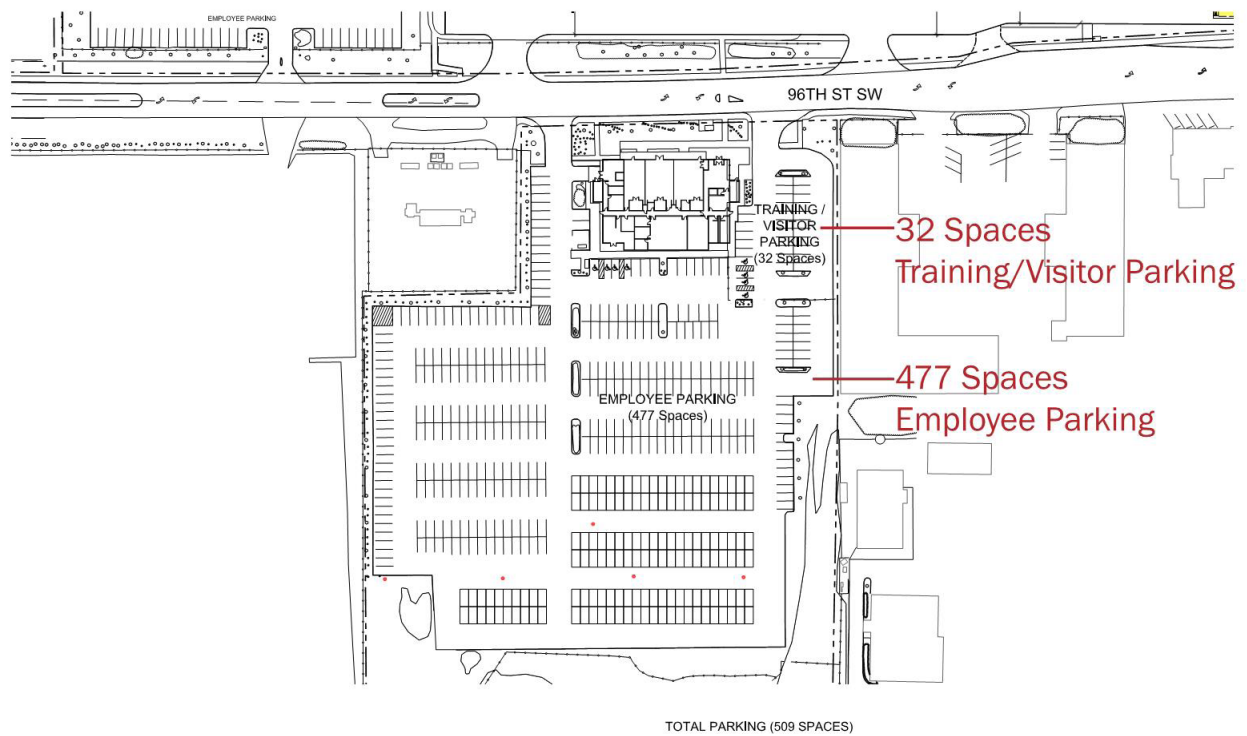


Figure 4-5 Restriping concept to maximize employee parking

### 4.3 SOUTH BASE PARKING ANALYSIS

Critical to facilitating the earlier shift of administrative parking to the existing South lot is the ability of the existing South Base lot to hold enough vehicles once Vanpool relocates. To test this scenario the team revisited and established the number of required employee parking (short and long term) in the BMP. Then, options for restriping the south portion of the existing parking lot to pick up relocated employee vehicle spaces were tested.

The analysis indicated that there was adequate space to fit all current employee vehicles on a restriped existing south base lot, making this approach feasible. If the administrative parking lot north of Building 4 is closed, then a total of 469 employee parking spaces would be needed on the South Base. If Vanpool is relocated, and the entire parking lot were dedicated and restriped for employee vehicle parking, an approximate total of 509 spaces can be provided.

This assumes that the temporary revenue vehicle storage and vanpool vehicle storage currently on the South Base parking area could be relocated to either an off-site facility or to the West Base. Similarly, the disaster storage trailer would need to be removed. Light poles in conflicting locations need to be removed and replaced elsewhere on the lot as well in order to maximize efficiency. A summary of the South Base parking calculations can be found in the Appendix, and an existing and proposed (after restriping) parking plan is shown in Figure 4-6 and 4-7.

As the Agency grows, the congestion on the South Base lot will increase. Any reduction in the number of employee parking spaces required will allow this arrangement to be prolonged. This could be accomplished through incentivized ridesharing, use of public transportation, or implementation of a fee-to-park system.

### 4.4 IMPROVEMENT COSTS

The cost estimate is divided into two parts that corresponding with the anticipated short and long term uses assigned to the building. Part 1 includes a complete interior renovation of the lower bay portion of the building, including upgrades to the existing building systems and fire protection, ceilings, finishes and lighting. Site improvements to secure and access the site for the Vanpool fleet are also included. Part 2 includes tenant improvements in the high-bay space and modification required to accommodate the Facilities Maintenance shop and non-revenue vehicle storage on the same lot. The Part 1 scope and Part 2 scope are not mutually exclusive, the scope of work outline for Part 2 assumes that the work outlined in Part 1 has been completed.

The estimated construction cost of Phase 1 needed to accommodate vanpool is estimated as \$947,896. The estimated construction cost of reconfiguring the renovated building at a later date for facilitates maintenance (assuming that the improvements made for the vanpool renovation still can be re-used) is estimated at \$364,945.

Item	Estimated Cost
Phase 1 Vanpool Renovation and Systems Improvements	\$947,896
Phase 2 Facilities Maintenance Tenant Improvements	\$364,945
<b>Total Construction Cost (all phases)</b>	<b>\$1,313,000</b>

**Figure 4-6** South Base Parking Calculations

Note that these estimates are not escalated. A table can be found in the Appendix to estimate the degree of escalation to be applied depending on the anticipated completion schedule. Both estimates include a 20% design contingency. The ultimate extent of required upgrades to building systems is dependent upon their current condition and the flexibility of the building official.

## **5 APPENDIX**

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### **5.0 SITE & BUILDING CONCEPT PLANS (SHORT AND LONG TERM)**

### **5.1 COST ESTIMATE**

### **5.2 EXISTING BUILDING PLANS**

### **5.3 CODE REVIEW**

### **5.4 INITIAL CASE STATEMENT PRESENTATION**

### **5.5 WORKSHOP 1 PRESENTATION**

### **5.6 WORKSHOP 2 PRESENTATION**